MoHPC *The Museum of HP Calculators*

HP Forum Archive 19

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Welcome!

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

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- **New HP 12C Platinum - 2 Batteries???**, Jeff **7 responses**
- **OT: Which non HP Scientific calculator?**, ravwalia **28 responses**
- **Symbolic math with the 35s (well.. sort of)**, Dieter **4 responses**
- **Reverse Polish notation calculator**, Thomas Klemm **0 responses**
- **Scientific, Financial Calculator**, Gerry Schultz **0 responses**
- **HP 35s**, Brian Healy **24 responses**
- **Calculator watch returns**, Bruce Bergman **12 responses**
- **30b, Reviews, HHC2010**, Tim Wessman **6 responses**
- **HP35 exp(ln(x)) bug, a new number found.**, Kiwi Geoff **4 responses**
- **HP 41 to PC possible?**, SpeedyVV **4 responses**
- **The equals sign again**, BruceH **0 responses**
- **Only slightly off-topic**, Dusan Zivkovic **3 responses**
- **Woodstock battery tip**, Michael Meyer **0 responses**
- **Can the HP 41 Read HP 65 Programs**, aj04062 **2 responses**
- **HP71B (Ver. 1BBBB) Date Bug?**, M. Joury **9 responses**
- **12C Key Problem**, Jeff **0 responses**
- **30b - Not Impressed**, Jeff **75 responses**
- **Surveryor needs help with HP 35s program entry**, Stefan Vorkoetter **17 responses**
- **30b programming tips**, Don Shepherd **0 responses**
- **Need help finding info from ace math folks**, Namir **16 responses**
- **HP-97S External Printer?**, Katie Wasserman **6 responses**

- **HP 9845A vs 9845B vs 9845B/A**, Mike **1 response**
- **HP71B Demo Program**, Jerry Raia **7 responses**
- **HP 50g SD card reader problem**, JJB299 **3 responses**
- **Poking a string directly into the 71B as a lex file problems**, Jerry Raia **3 responses**
- **Some 30b Routines**, Jeff O. **15 responses**
- **Interesting idea for a calculator (non-HP, non-RPN)**, Bruce Bergman **4 responses**
- **11C Keyboard Rattle**, Dallas Osborne **3 responses**
- **Unit conversion on the 50G**, Jim Creybohm **2 responses**
- **Why engineers need both scientific and business calculators**, Martin Pinckney **17 responses**
- **HEPAX manual Vol. 2 reprint.**, Diego Diaz **9 responses**
- **30b Built-In Functions**, Jeff **6 responses**
- **HP-12C Clone, New?**, Katie Wasserman **14 responses**
- **48GX**, Robin Shelton **8 responses**
- **How to install/run this program in an Hp 50g.**, Vasheer **2 responses**
- **display compatibility**, alessio136 **2 responses**
- **HP82069B charger, weird ...**, Alberto Fenini **11 responses**
- **HP45 - internal pics**, Alberto Fenini **2 responses**
- **Loops of Addition benchmark for the 41CL**, Monte Dalrymple **8 responses**
- **HP71b - which power supply**, Alberto Fenini **6 responses**
- **HP 35s - scratched screen**, Matt Schilling **7 responses**
- **Oldies and goodies?**, Egan Ford **7 responses**
- **Office Depot - HP30b & HP 12c**, Joe Burwell **18 responses**
- **Where are the Internals for the 50g?**, Jerry Raia **2 responses**
- **Thank you Dave!**, Katie Wasserman **12 responses**
- **HP Hurd 40 million parachute**, designnut **3 responses**
- **Still in awe over HP50g**, Glenn Shields **4 responses**
- **HP 30b finally arrived**, Hubert Weikert **12 responses**
- **HP 9101A Memory Unit**, Rick Bensene **0 responses**
- **Bowling Challenge Variation**, Bill (Smithville, NJ) **8 responses**
- **HP 'boffin' claims million-dollar maths prize**, BruceH **2 responses**
- **70% of US students don't understand the equal sign**, DavidShenk **48 responses**
- **an interesting challenge**, Don Shepherd **49 responses**
- **How to repair my HP 9100A calculator ?**, Jonathan **14 responses**
- **PIL Box - communication with an external HP71B** , Roland Storz **4 responses**
- **Identifying equations on HP 35s**, Richard S **4 responses**
- **Nice price?**, matti **3 responses**
- **P!=NP**, Frank Boehm (Germany) **2 responses**
- **More FPGA progress**, Olivier De Smet **4 responses**
- **Canon's X Mark I Mouse**, Martin Pinckney **5 responses**
- **HP 9845A Printer Problem**, Mike **3 responses**
- **Miss the print key on my HP 46**, Jonathan **3 responses**
- **Mark Hurd resigns**, Bruce Bergman **19 responses**
- **OT: The five trillionth digit of Pi is..... 2!**, Egan Ford **53 responses**
- **on nicads**, db (martinez, ca.) **3 responses**
- **Something for the insomniacs**, BruceH **4 responses**
- **Homebrew graphing calculator**, Bruce Bergman **4 responses**
- **HP thermal printer differences**, Alberto Fenini **2 responses**
- **HP-30b available at Office Depot.....soon**, Don Shepherd **9 responses**
- **TI-30 durability testing (slightly off topic, BTW).**, Michael Meyer **4 responses**
- **Jazz 50G v1.20 release candidate**, Han **0 responses**
- **First impressions HP30B**, bt_schmidt **1 response**
- **Does the HP 10B calculator not support Order of Operation?**, David Adams **22 responses**
- **9-figure 10b**, Gerson W. Barbosa **5 responses**
- **OT: Casio fx9850g Slim on Sale**, Katie Wasserman **12 responses**

- **HP-65 sensor chip failure**, aj04062 **14 responses**
- **RPN Programming**, hpnut **20 responses**
- **ADV or STD HEPAX?**, Diego Diaz **7 responses**
- **HP 32S Successor**, ka6uup **10 responses**
- **New versions of Emu28 and Emu48 available**, Christoph Giesselink **3 responses**
- **The most annoying feature on the 35s**, Tommy **8 responses**
- **The mother of all distributions with HP SOLVER?**, Peter A. Gebhardt **4 responses**
- **HELP with programming the HP50G**, Namir **3 responses**
- **HP-10 repair, strange piece of plastic.**, Kees van der Sanden **2 responses**
- **HP-35s that does not exhibit LOCKUP DEMO bug**, NateB **5 responses**
- **HP-65 repair**, aj04062 **10 responses**
- **finding Df and variation and calculing limite but ...** , wassims **0 responses**
- **HP-28C ROM checksum addresses?**, Christoph Giesselink **0 responses**
- **HP-45 board swap**, kubla **2 responses**
- **New Version of the 41Z**, Angel Martin **11 responses**
- **new book on the Apollo Guidance Computer**, Don Shepherd **38 responses**
- **3421: any tips on calibrating?**, Vieira, Luiz C. (Brazil) **3 responses**
- **HP-71b DTH$() and HTD() commands**, Don Shepherd **3 responses**
- **1996**, Eric Smith **1 response**
- **Do you have to "help" cards through the 97?**, Keith Beyer **9 responses**
- **HP 31, 32 ,33, etc Battery covers**, aj04062 **4 responses**
- **Searching the Database**, aj04062 **6 responses**
- **Thermal paper for the HP-10**, Kees van der Sanden **2 responses**
- **OT: TI Calcs Cartoon**, DaveJ **2 responses**
- **Back on the Forum**, Trent Moseley **1 response**
- **48gx Memory Cards**, Hugh Evans **4 responses**
- **Another dumb HP-41 question**, Monte Dalrymple **13 responses**
- **Stupid question re HP-41 Sigma key...**, Jim L (OHIO) **5 responses**
- **TI bash - and HP too?**, Jim Horn **16 responses**
- **Chewing gum for the 50g**, Glenn Shields **2 responses**
- **almost RPN**, db (martinez, ca.) **0 responses**
- **NoV-64 SW update (RAM2ROM4)**, Diego Diaz **0 responses**
- **HP 41 System I and II**, Casey Drew **0 responses**
- **COMPU-LS and COMPU-DC**, Mike **6 responses**
- **A Most Unusual Number, on the 10c/11c/12c/15c**, Katie Wasserman **8 responses**
- **HP-35 Manuals**, aj04062 **10 responses**
- **[OT] FC5025 USB 5.25" Floppy Controller**, Gerry Schultz **7 responses**
- **Sinclair Calculator Repair**, John Robinson **4 responses**
- **Amazing RPN calculator discovered**, Joerg Woerner **33 responses**
- **HP11C**, Dominique Deprez **2 responses**
- **Mostly OT: What's your experience with LED flashlights?**, Paul Brogger **39 responses**
- **HP 27S - Adjust screen contrast?**, M Tulloch **2 responses**
- **Arrested and charged with "calculating."**, Bill Zimmerly **6 responses**
- **HP 67 card reader error**, Mark Puscas **3 responses**
- **HHC2010 Web Page Is "Open for Business"**, Jake Schwartz **8 responses**
- **a new challenge!**, Don Shepherd **80 responses**
- **HP-41CX halfnut speedup**, Theo Kas (Australia) **4 responses**
- **Replacing dead screen on my HP17BII with one from HP27S?**, John Hinz **10 responses**
- **My First Red LED Machine (HP 45)**, Norman Dziedzic **8 responses**
- **Optimizing programs: Writing a number VS calling a variable**, Pablo P (Spain) **4 responses**
- **HP 50G says the SD card is write protected**, Daniel Perry **4 responses**
- **How would a new HP 15c+ affect 15c market value?**, megarat **5 responses**
- **Self tests: what do they actually do?**, megarat **14 responses**
- **HP 9120A Printer Platen Gone Gooey**, Rick Bensene **0 responses**

- **optimized prime factor finder for HP-32s**, Don Shepherd **6 responses**
- **HP-11C - Amazing Battery Life**, Bill Zimmerly **12 responses**
- **An Agilent patent on a calculator**, Eric Smith **9 responses**
- **CFA Exam and calculators**, Joe Burwell **1 response**
- **Valuing of Calcs and Related Stuff?**, Woody **14 responses**
- **Happy 4th. of Jully, folks!**, Vieira, Luiz C. (Brazil) **31 responses**
- **MLDL2000 update**, Meindert Kuipers **5 responses**
- **HP-41 Games Library near completion**, Ángel Martin **3 responses**
- **DIM LCD HP-11**, aj04062 **11 responses**
- **Russian mathematician turns down $1 million prize**, Don Shepherd **12 responses**
- **HP 85 power failure**, Claudio Perottoni (Brazil) **2 responses**
- **HP Solve Issue 19 available - has several articles by museum forum contributors!**, gene wright **17 responses**
- **97 printer paper not advancing**, Keith Beyer **5 responses**
- **Es un milagro**, Michael de Estrada **2 responses**
- **HP 35s. Base conversions, fast way**, Pablo P (Spain) **0 responses**
- **hp 41 register swap**, Sok-khieng Chum Hun **3 responses**
- **uCalc**, DaveJ **6 responses**
- **Sting curiosity**, Alberto Fenini **12 responses**
- **Help with RPL programs**, N.Bressanin **2 responses**
- **exponential function on hp 12 c?**, Gene Hoelscher **5 responses**
- **Blanknut differences**, Casey Drew **1 response**
- **Woodstock collectors: electrical care/prevention tips and practices?**, megarat **10 responses**
- **Was that an HP50G in a commercial?**, Han **1 response**
- **Protective layer of the aluminium part on voyager series.**, jbssm **7 responses**
- **Re: HP-41CY emulation for NoV-64.**, Antoine M. Couëtte **5 responses**
- **Funny Museum Posts From The Past...**, DavidShenk **3 responses**
- **slip cases for HP 35S**, Gerardo Rincon **4 responses**
- **Owner's Manuals**, Don Shepherd **24 responses**
- **82240B vs 82240A**, Alberto Fenini **4 responses**
- **TI-58 Slimline**, ClausB **13 responses**
- **Dave Britten, please contact me (NT)**, Don Shepherd **0 responses**
- **number of calculators built of each model**, Jose Gonzalez Divasson **2 responses**
- **OT: HP 5036A lab kit**, Johnny Bjoern Rasmussen **0 responses**
- **How many non-HP RPN calculators do you own?**, Michael de Estrada **32 responses**
- **"First Light"**, Monte Dalrymple **23 responses**
- **HP-42S display**, Dick **4 responses**
- **Warning regarding a TAS auction**, Michael de Estrada **10 responses**
- **HP-32s doesn't turn on**, Giovanni Jimenez **4 responses**
- **HP 35s Day of the week program**, Pablo P (Spain) **3 responses**
- **Nice Step by Step 50g (49+/48gii) Tutorial Videos**, Norman Dziedzic **3 responses**
- **HP-35S, display settings for entry line**, Mike (Stgt) **6 responses**
- **New HP-15C simulator**, Greg Hewgill **29 responses**
- **Another PILBox ...**, Juergen Keller **1 response**
- **June issue?**, Glenn Shields **1 response**
- **non hp RPN**, db (martinez, ca.) **10 responses**
- **hp 41**, Sok-khieng Chum Hun **1 response**
- **OT: Blackberry LifeScan barcode capture**, hpnut **3 responses**
- **What it's got in its nassty little pocketses**, Norman Dziedzic **42 responses**
- **Jazz 50G and SysRPL debugger**, Han **4 responses**
- **30B - On The Way - from USA !**, John Stark **32 responses**
- **LIF file viewer for windows ?**, John Robinson **5 responses**
- **Interchanging IC´s in Spices**, Vieira, Luiz C. (Brazil) **2 responses**
- **Interesting HP-32E with comma for decimal point**, Michael de Estrada **2 responses**
- **Loops of addition**, Palmer O. Hanson, Jr. **7 responses**

- **HP-32Sii**, jweisskohl **38 responses**
- **Msg to Vieira, Luiz C**, Jean-Michel **1 response**
- **41 SWAP disk documentation?**, Ángel Martin **0 responses**
- **Re: Hoping my 41CX Found a good home**, Norman Dziedzic **0 responses**
- **Another auction to lust over**, Michael de Estrada **4 responses**
- **Newbie w/ Relay Actuator on HP-IL with 71B**, Miles Willmek **6 responses**
- **HP 30b pdf manual**, hpnut **7 responses**
- **Excellent purchase! (not mine, what a pity)**, Gonzalo Fernandez (Spain) **6 responses**
- **HP 12c Platinum**, Joe Burwell **43 responses**
- **HP 41 batteries**, Peter Creyf **11 responses**
- **6114A power supply initial price (sorry, slightly OT)**, Marc Ferrer (France) **4 responses**
- **Autistic HP-65 needs help!**, Michael Meyer **8 responses**
- **HP-25C needs chips to come back to life**, Jean-Michel **2 responses**
- **HP-15C program to compute 3x3 complex matrix determinant**, Karl Schneider **8 responses**
- **Chalkboard Math**, Chuck **4 responses**
- **The Astro2010 module**, Geir Isene **6 responses**
- **HHC 2010 - Look's like we've got a date and a place! :)**, Bill Zimmerly **5 responses**
- **OT: Jornada 680 communication problem**, Karl-Ludwig Butte **1 response**
- **HP Calc Repurposing**, Gene Dorr **6 responses**
- **16C display problem**, John Robinson **3 responses**
- **HP-41 FOCAL to .ROM for Clonix/NoV's (or any other ROM-box)**, Diego Diaz **6 responses**
- **The CMOS memory has died in my HP-25C**, Michael de Estrada **1 response**
- **Knocking on HP-41s back door :-)**, Juergen Rodenkirchen **3 responses**
- **Any information about Canon f-788dx?**, Manolo Sobrino **4 responses**
- **HP-35 Case**, aj04062 **1 response**
- **HP12C programming primer?**, PatrickR **1 response**
- **41C - Fun Stuff modules soon available**, Ángel Martin **9 responses**
- **Windows7 calc**, Glenn Shields **6 responses**
- **HP 9830A mentioned in recent book "The Quants"**, Scott Newell **0 responses**
- **HP12c repurposing project**, TomL **10 responses**
- **DIY Calc Hardware Platform**, Donald Williams **0 responses**
- **Why hyperbolic functions are critical !**, gene wright **14 responses**
- **Carly runs for the Senate**, Palmer O. Hanson, Jr. **7 responses**
- **7470A Plotter Programming Examples**, DavidShenk **2 responses**
- **hp-80 behaving badly**, kubla **2 responses**
- **hp 50g**, Sok-khieng Chum Hun **2 responses**
- **36-year-old calculator ad**, Don Shepherd **13 responses**
- **Why HP Really bought Palm**, Norman Dziedzic **1 response**
- **Loop of + benchmark now in Articles section**, gene wright **10 responses**
- **HP 30B not in blister pack**, hpnut **16 responses**
- **"OFF g ENTER ON" on 12c platinums**, tony(nz) **4 responses**
- **I knew TI were evil but I never saw it actually advertised**, Norman Dziedzic **4 responses**
- **HP 50g PARTFRAC, INTVX Error/Problem**, Sean Kane **1 response**
- **New addition speed test (updated with results as of 20100602 1pm CDT) ...add machines / methods --- new champion Casio FX-9860g Slim**, gene wright **47 responses**
- **sum of the first n integers**, Gerson W. Barbosa **18 responses**
- **I must be misssing something**, Namir **5 responses**
- **Publisher of HP-related books**, JJB299 **17 responses**
- **New addition speed test (updated with results as of 5pm CDT 20100530) ...add machines / methods not yet included..includes 42s FAST mode**, Gene Wright **35 responses**
- **HP 49g+ USB question**, Guido **1 response**
- **Brute force addition speed test - various models - results?**, Gene Wright **39 responses**
- **pleas help me to send "txt" file to 48sx by usb irda from the computer**, samiroch **9 responses**
- **Was there a 62059D charger?**, John AS (UK) **2 responses**

- **I know it doesn't make sense but ...**, Alberto Fenini **2 responses**
- **10bII, 12c, 12cp, 17b2+ ... these are the ones I see...Poll...how about you?**, Gene Wright **23 responses**
- **Voyager display swapping - any advice ?**, John Robinson **5 responses**
- **Leather case recommendations for HP 48?**, megarat **1 response**
- **1LG9 ROM chip tech info?**, Eric Smith **2 responses**
- **Some news (HP85 now A and B)**, Olivier De Smet **3 responses**
- **Battery problems with an aging 12c**, Peter Schweitzer **0 responses**
- **Hp48G top plastic cover bent?**, Luis Moreno **3 responses**
- **US$30k? Well, it does have Nixies ...**, megarat **9 responses**
- **HP 15C+ - when?**, Jose Gonzalez Divasson **49 responses**
- **Trying to revive an HP-25C**, Mark Henderson **2 responses**
- **Archaeology attack: Rubik's Cube on the 41**, Ángel Martin **17 responses**
- **HP-21 Rides again**, Namir **5 responses**
- **removing alluminium bezel (was restoring an HP11C)**, Alberto Fenini **2 responses**
- **Martin Gardner dies at age 95**, Don Shepherd **13 responses**
- **HP prototypes**, Keith Midson **3 responses**
- **Help request for someone with a real HEPAX**, Eric Smith **12 responses**
- **Interesting analogue calculator on that other site**, Bart (UK) **11 responses**
- **Complex Matrix Determinant on the 15C**, Andrew H. **8 responses**
- **More advertising for HP products**, Palmer O. Hanson, Jr. **0 responses**
- **Commodore PR 100** , Nigel Bamber **1 response**
- **9815A manual**, Joel Setton (France) **0 responses**
- **Go to Google**, BruceH **4 responses**
- **HP-41 2*X-MEM emulation for NoV-64 & Clonix-D**, Diego Diaz **6 responses**
- **HP-34C Excitement**, Mark Henderson **9 responses**
- **Where to find a printed copy of HP 48G AUR**, ferroburak **1 response**
- **O.T. look into your computer**, designnut **2 responses**
- **HHC2010?**, Bill Zimmerly **20 responses**
- **changing the language in an HP18C**, Alberto Fenini **3 responses**
- **HP related with still a bit on-topic**, Frank Boehm (Germany) **0 responses**
- **restoring an HP11C**, Alberto Fenini **0 responses**
- **HP 41 Family Service Manuals**, Gerry Schultz **4 responses**
- **HHC 2009: Guessing**, Etienne Victoria **4 responses**
- **Early calculators that could do x! for x > 69 ?**, Gene Wright **24 responses**
- **Thanks, again!**, J Grim **2 responses**
- **HP 50g newbie question**, Bob Patton **4 responses**
- **Need advice on HP-41C Accessory**, Jeff Kearns **5 responses**
- **O.T. RAM uce in XP OS**, designnut **5 responses**
- **Stephen Hawking's voice. Would he want it back?**, Michael Meyer **7 responses**
- **GRADs in use?**, Tim Wessman **32 responses**
- **HP35s Stopping a program, help!**, Pablo P (Spain) **17 responses**
- **Needed - a little help with my HP-19BII**, Palmer O. Hanson, Jr. **30 responses**
- **Where can I find vintage Sharp and Casio calcs in Tokyo?**, Egan Ford **15 responses**
- **NIST Digital Library of Mathematical Functions**, Eric Smith **6 responses**
- **HP 97 card reader clutch shaft repair**, Ed Sowell **6 responses**
- **Electronic design - 1978 - calculators article** , Didier Lachieze **0 responses**
- **on the trail of the 12c+**, hugh steers **5 responses**
- **42s upgrade**, Paul Dale **22 responses**
- **1972 HP-35 With Bug**, aj04062 **2 responses**
- **OT: Continuously Variable Gear Transmission**, Norman Dziedzic **12 responses**
- **Sex and the City Laptops**, Palmer O. Hanson, Jr. **0 responses**
- **HP 12c as a basic scientific calc for the RPN newbie?**, nick lidakis **40 responses**
- **HP-41CY emulation for NoV-64.**, Diego Diaz **14 responses**
- **Dead Calculator**, Peter Geiser **2 responses**

- **HP 20B Prediction weirdness?**, Joao S Veiga (Brazil) **22 responses**
- **are we becoming zombie-people?**, Don Shepherd **7 responses**
- **ARM Assembler Help Requested...**, Bill Zimmerly **10 responses**
- **Jazz 50G**, Han **3 responses**
- **Sir Clive Sinclair - OT**, Nigel Bamber **9 responses**
- **HP-49G as PIM**, Johnny Bjoern Rasmussen **3 responses**
- **OT:RadioShack**, Egan Ford **7 responses**
- **NoV-64 (ver. 08r) update re-updated.**, Diego Diaz **0 responses**
- **OT: Casio fx-603P**, Jean-Michel **8 responses**
- **A brief history of programming languages**, db (martinez, ca.) **7 responses**
- **Replace HP-67 head**, kubla **9 responses**
- **'New' RPN Windows Calculator**, Martin Pinckney **0 responses**
- **HP10 problem when printing**, Ignacio Sánchez **2 responses**
- **NUT processor NOP's (beginner's question)**, Diego Diaz **5 responses**
- **HP9820A**, Dave Rand **4 responses**
- **HP-50G - Documentation for the Filer Application?**, Bill Zimmerly **2 responses**
- **Surveying Pacs for HP-48**, Jeff Kearns **2 responses**
- **HP-71B FRAM Extension**, Hans Brueggemann **4 responses**
- **How did this happen?**, Wilhelm Taylor **18 responses**
- **HP-41 Programs**, JMBaillard **28 responses**
- **HP app. for Android Phones**, Sören Nilsson **0 responses**
- **For the HP-41 M-coders out there: NoV-64 update... (you'll love it!) ;-)** , Diego Diaz **4 responses**
- **New issue of HP Solve Newsletter posted...with some changes ... new editor is Richard Nelson**, Gene Wright **2 responses**
- **Mini HP meeting**, Art Litka **3 responses**
- **I'm thinking to sell my Red-DOT!!**, Ignazio Cara (Italy) **9 responses**
- **HP-25 update and thank you**, J Grim **2 responses**
- **15C short battery life**, paul spiro **2 responses**
- **CST, SEL, MAR operations (OT ?, maybe)**, Alberto Fenini **5 responses**
- **Suggestion for the Next HP-50G ROM...**, Bill Zimmerly **2 responses**
- **HP71B - Bus** , Raymund Heuvel **8 responses**
- **Finally**, Paul Dale **3 responses**
- **Replacing HP35s batteries**, Dave Shaffer (Arizona) **0 responses**
- **Ex HP Calculator PR Guy on Corporate Leaks and Apple**, Howard Owen **11 responses**
- **IBM 5100 book**, Don Shepherd **22 responses**
- **Reverse engineering the 12C+**, Scott Newell **3 responses**
- **What is wrong with this HP-19C**, Michael de Estrada **3 responses**
- **MBK-04 EPROM Box**, Juergen Keller **5 responses**
- **Small Sunday Afternoon Mini-Challenge**, Gerson W. Barbosa **20 responses**
- **Unit conversion Module Reloaded**, Angel Martin **2 responses**
- **OT - PC's: a tool in search of a need**, David Hayden **34 responses**
- **NEWT?**, Paul Dale **8 responses**
- **ILPer/Emu41/Transferring Files**, Jeff Davis **5 responses**
- **The least rare vintage HP**, Michael de Estrada **6 responses**
- **HP 30b - Thanks Gene and Katie**, Joe Burwell **4 responses**
- **HP 12C+**, Joe Burwell **0 responses**
- **HP41C nuts - how tight ?**, John Robinson **6 responses**
- **HP-19C issue**, Giovanni Jimenez **1 response**
- **cleaning the dust from an HP12C display**, Alberto Fenini **1 response**
- **OT: A Turing machine in the classical style**, Juergen Keller **3 responses**
- **Repair of Woodstock keyboard register problems**, Kees van der Sanden **0 responses**
- **Is this from someone here?**, Vieira, Luiz C. (Brazil) **12 responses**
- **HP purchases Palm, Inc.**, Seth Morabito **10 responses**
- **old computer comercial**, db (martinez, ca.) **22 responses**

- **HP 30b numeric integration program**, Gene Wright **10 responses**
- **OT: Ed Roberts obituary**, Ken Shaw **1 response**
- **12c firmware**, Paul Dale **18 responses**
- **HP Calculator Colors**, aj04062 **24 responses**
- **Repairing a HP41 Printer?**, Dimitri Simitas **4 responses**
- **HP 25 Woodstock**, timw **2 responses**
- **Some progress (HP 85B)**, Olivier De Smet **3 responses**
- **25 and/or 25c Repair**, J Grim **10 responses**
- **Spare Part Needs - Spice Series Battery Cover - More**, aj04062 **11 responses**
- **HP-12C+ source in the US?**, Scott Newell **3 responses**
- **Question about HP-50Gs and Battery Life...**, Bill Zimmerly **4 responses**
- **TI-83 Plus IS> and DS< program commands**, Don Shepherd **3 responses**
- **OT: recurring decimals!**, Nigel J Dowrick **9 responses**
- **OT:iDisk For the Apple II**, Gerry Schultz **1 response**
- **Is there something going on out there? (or Getting Back to My Roots...)**, Vieira, Luiz C. (Brazil) **22 responses**
- **HP 9810A: It's alive**, Thomas Falk **3 responses**
- **HP20b's 1-variable weighted function**, Ric Lombardo **6 responses**
- **x49gp updated**, Egan Ford **2 responses**
- **WAS: HP vs. TI on eBay auctions**, Joerg Woerner **21 responses**
- **HP 82240B. Infra red printer for HP 42---HP 50g**, Stuart Sprott **20 responses**
- **HP97 batteries?**, Keith Midson **9 responses**
- **Faint HP-11 LCD** , aj04062 **7 responses**
- **TI NSPIRE vs HP50**, fabrice **19 responses**
- **Pre-built Windows version of NutStudio tools for HP-41 available**, Håkan Thörngren **5 responses**
- **Wolfram Alpha for iPhone rebate available.**, Pal G. **0 responses**
- **Is the HP 30B for sell or not?**, Gerardo Rincon **2 responses**
- **Yahoo! Finally got me a HP-70**, Michael de Estrada **13 responses**
- **I'm excited**, Dimitri Simitas **2 responses**
- **Multiple business model RPN calculators and not many scientific ones?**, ravwalia **38 responses**
- **35s Modification**, Hugh Evans **19 responses**
- **Problem with HP 110+ / Portable Plus battery charging (+workaround)**, John AS (UK) **2 responses**
- **Anyone seen the 10Bii graphing calculator?**, Keith Midson **2 responses**
- **total solar eclipse Corvallis 2017 !**, hugh steers **7 responses**
- **unable to plot UTPN**, stroran **3 responses**
- **HP-48SX Repair - Diode**, aj04062 **3 responses**
- **HP 97 clutch repair methods compared**, Ed Sowell **13 responses**
- **Rebuilding an HP 41 battery pack**, DavidShenk **12 responses**
- **HP vs. TI on eBay auctions**, Joerg Woerner **25 responses**
- **Somewhere in the PPC Journal...Richard Nelson said...**, Gene Wright **15 responses**
- **Emu71 updated for the PIL-Box**, J-F Garnier **15 responses**
- **15C Spotted on National Geographic Program** , Jeff O. **0 responses**
- **RPNCalc Pro for Android**, palmheads **0 responses**
- **challenge**, Don Shepherd **31 responses**
- **HP-620LX**, Jeff Davis **1 response**
- **Best HP-15C emulator for the iPod/iPad**, Namir **20 responses**
- **Calculator like HP10BII but scientific and RPN**, Gerardo Rincon **24 responses**
- **5.25 --> 3.5 Floppy Disk migration**, Giovanni Jimenez **7 responses**
- **A new 19BII variant...**, Massimo Gnerucci (Italy) **3 responses**
- **17BII+ wobble**, Ryan **10 responses**
- **HP-41 Flat top N cells**, Xavier A. (Brazil) **2 responses**
- **Pure Horror**, Patrick Rendulic **22 responses**
- **Note for NoV-64 users.**, Diego Diaz **4 responses**
- **Pocket Professional Math-Pro**, Norman Dziedzic **1 response**

- **Determining HP 48sx ROM version by SN?**, megarat **27 responses**
- **Low-bat indication continuously on**, Johannes Trepte **1 response**
- **Message output capability of HP35s?**, John H (UK) **16 responses**
- **hp20b hacking: SW reset problem**, hugh steers **21 responses**
- **HP-67 keyboard restoration**, Pierre Brial **4 responses**
- **PICS OF A HP-41C HALFNUT** , Philippe Pizzaferri **5 responses**
- **9114B Battery Replacement?**, Ángel Martin **4 responses**
- **OK - Who just paid $987 for an HP-70?**, Michael de Estrada **29 responses**
- **MLDL2000 V2 update**, Meindert Kuipers **9 responses**
- **HP 48gII displays division as a fraction**, Peter Klein **5 responses**
- **Virus on HP-collection.org ????**, Philippe Pizzaferri **2 responses**
- **HP97 box restore project (you may remember)**, Alberto Fenini **5 responses**
- **OT: Zero feedbackers**, DaveJ **10 responses**
- **HP-67 Battery Pack**, Robert Hollyer **1 response**
- **HP-19C Paper**, Wingman54 **10 responses**
- **More work in progress**, Eric Smith **3 responses**
- **Wanted: Online database for displaying collection**, Johnny Bjoern Rasmussen **8 responses**
- **Ram card**, John Mosand **2 responses**
- **HP82165A and HP82169A**, Willy Janssens **1 response**
- **Got that? [off topic]**, Paul Dale **2 responses**
- **HP45 Original Price**, Bon **12 responses**
- **Funny demotivational pic about HP calculator fans**, bhtooefr **3 responses**
- **TI Selling new TI NSpire Touchpad**, Namir **9 responses**
- **HP 82104A card reader, fork-shaped brass tongues, REPAIR PROBLEM**, Markus Sanke **15 responses**
- **HP 67/97 card reader: O-rings vs. vinyl tubing**, Ed Sowell **10 responses**
- **48SX Soft Menu Key Problem**, J Grim **3 responses**
- **41C - Curve Fitting Revisited**, Ángel Martin **6 responses**
- **HP-10 Adding Machine**, aj04062 **21 responses**
- **Test card for HP 97**, Ed Sowell **21 responses**
- **New MCODE tools available for the HP-41**, Håkan Thörngren **10 responses**
- **Some people have lost the sense of reality...**, Vieira, Luiz C. (Brazil) **4 responses**
- **My Calculator Collection**, Gerardo Rincon **5 responses**
- **keyboard labels and colors**, Han **1 response**
- **Interesting Blog Post (Sci Am, Sept 77)**, Les Bell **1 response**
- **First impressions of new TI-NSpire CAS**, Don Shepherd **13 responses**
- **keys to Woodstock security cradle?**, megarat **14 responses**
- **HP 65 Repair Effort**, ClausB **2 responses**
- **Ed Roberts: 1941 - 2010**, Thomas Chrapkiewicz **0 responses**
- **Math Software that supports BCD?**, Tim Wessman **16 responses**
- **OT: iPhone/iPod Touch WolframAlpha now $2**, Egan Ford **3 responses**
- **Did HP suspend selling the HP-30b?**, Namir **16 responses**
- **HP 65 Service Manual**, ClausB **10 responses**
- **HP-85 cover all yellow**, Johnny Bjoern Rasmussen **5 responses**
- **A new wiki: HP in 10 words** , Allen **13 responses**
- **Battery Cover for HP-38C**, Gerardo Rincon **0 responses**
- **What's the auction world coming to? A 32S sells for more than a 16C**, Bart (UK) **15 responses**
- **HP-01 stylus**, Alberto Fenini **2 responses**
- **Idea for high-end scientific (but not graphing) HP**, bhtooefr **23 responses**
- **Pi wrong?**, Bruce Bergman **13 responses**
- **HP font used in collateral**, Alberto Fenini **2 responses**
- **HP 34C - which way round are the batterys fitted?**, Jon Duke **6 responses**
- **Looking for details on 82033A battery pack**, Clark H Lewis **2 responses**
- **i41CX draws sine curve**, Egan Ford **4 responses**
- **The Future of Graphing Calculators**, bill platt **20 responses**

- **What Would a 30bII Look Like?**, Andrew H. **11 responses**
- **New update for Clonix and NoV's users.**, Diego Diaz **4 responses**
- **Does HP Advertise Their Calculators?**, Jake Schwartz **28 responses**
- **Tastronics TAS012**, Rik Bos **0 responses**
- **The square root of ten revisited**, Palmer O. Hanson, Jr. **2 responses**
- **Grey Carrying Case, Classic Calcs**, aj04062 **5 responses**
- **HP 32SII keyboard - dead column of keys fixed**, Jeff Johnson **2 responses**
- **HP-67/97 cards**, Ed Sowell **4 responses**
- **Mini Challenge from comp.sys.hp48**, Egan Ford **21 responses**
- **MCODE - Unit Conversion**, Ángel Martin **17 responses**
- **[OT] useful feedback search tool for the infamous auction web site**, Pascal **2 responses**
- **Office Max Catalog now features HP 50g**, Eddie W. Shore **0 responses**
- **HP 48GII keyboard**, Han **1 response**
- **HP.45 Keyboard - Dead Row**, John Stark **3 responses**
- **Significant variation in Woodstock keyboards?**, Michael Meyer **2 responses**
- **HP41 models and susceptibility for cracked posts**, Nigel Bamber **2 responses**
- **HP 97, OK I cracked the print head..**, Ed Sowell **11 responses**
- **Hawkeye Bendix: Remember this one ? (2/?) [Long + pictures, Sorry]**, Etienne Victoria **4 responses**
- **HP-67 not displaying decimal point**, Etienne Victoria **3 responses**
- **OT: For Sale: Bill Hewlett's 1987 Chevy Suburban**, Steve Leibson **5 responses**
- **33s or 35s or casio fx-5800 for electronic engineering**, Pablo P (Spain) **35 responses**
- **HP-41 draws sine curve**, Juergen Keller **18 responses**
- **Does this look familiar to any one?**, Gerardo Rincon **4 responses**
- **worth it or not worth it ?**, Alberto Fenini **4 responses**
- **New HP-41 Skin for the free HP-42S!!!**, Namir **0 responses**
- **What is the best financial calculator made by HP**, Jeff Kearns **17 responses**
- **How to transform an HP-25 into an HP-25C ?**, Giovanni Jimenez **5 responses**
- **hp 30b keyboard issue**, Gerardo Rincon **8 responses**
- **Curta calculator**, Bruce Bergman **2 responses**
- **odd serial number on HP97S**, Alberto Fenini **1 response**
- **Running executable on HP 95LX**, B Jong **4 responses**
- **TI-58/9 Case Bottom**, ClausB **1 response**
- **HP 41C and CV boards with some piggy backing from the factory**, Geoff Quickfall **0 responses**
- **Is peace of mind worth $150 ?**, Michael de Estrada **7 responses**
- **Sick HP40G**, Nicholas Cole **0 responses**
- **Thoughts on HP 30b**, Eddie W. Shore **51 responses**
- **Sick HP42S**, Chuck Galloway **2 responses**
- **4 PPC CDs Combined into Single DVD**, Jake Schwartz **2 responses**
- **New Classic Battery Cover Latches For Sale**, aj04062 **10 responses**
- **work in progress**, Eric Smith **16 responses**
- **HHC2010 Schedule???**, Namir **28 responses**
- **O.T. Solar System Formation**, designnut **0 responses**
- **HP 95LX FAQ**, Dan Eicher **2 responses**
- **HP 41C data storage integrated circuit swapping: Maybe Eric could answer this ;-)**, Geoff Quickfall **19 responses**
- **Further to an earlier posting, Method to the madness!**, Geoff Quickfall **6 responses**
- **OT, but where better to ask?**, P.Hart **8 responses**
- **Happy square root of 10 day!**, Gene Wright **9 responses**
- **HP48 One Minute Marvels**, Mark Henderson **3 responses**
- **Re: N cell alkaline batteries, inexpensive**, ClausB **0 responses**
- **HP-97 Card reader reassembly**, Ed Sowell **2 responses**
- **Did We Miss The 20th Anniv. of the HP48SX?**, Jake Schwartz **6 responses**
- **Adjusting card reader eccentric screw**, Ed Sowell **3 responses**
- **HP-34C switch problem**, Giovanni Jimenez **6 responses**

- **Geodat, any info about the ic's and unit?**, Geoff Quickfall **5 responses**
- **Is the HP49G+ that bad?**, Han **7 responses**
- **Happy Pi Day**, Egan Ford **13 responses**
- **Hurray: Just got an HP-85**, Johnny Bjoern Rasmussen **5 responses**
- **Shirt pocket plotter for HP41**, Wilhelm Taylor **3 responses**
- **i41CX+ gets another plus (CAS with editor) [micro review]**, Egan Ford **4 responses**
- **OT: TI-Nspire 2,0 arrived**, Joerg Woerner **13 responses**
- **Repair of HP 11C**, Don Steele **4 responses**
- **Repaired 41C**, ClausB **5 responses**
- **HP41 faster after crash and reset?**, Timo **2 responses**
- **New ILPer version for the PIL-Box**, J-F Garnier **4 responses**
- **HP 30b Business Professional**, Gerardo Rincon **2 responses**
- **Adjusting HP-97 card reader**, Ed Sowell **1 response**
- **One HP-35 back to life**, Jean-Michel **0 responses**
- **Cleaning the goo off card reader**, Ed Sowell **11 responses**
- **Reduce fraction on HP50G**, olivier scalbert **2 responses**
- **HP 19B**, Keith Midson **3 responses**
- **Economical replacement for 42s**, fiveolddogs **29 responses**
- **Gaussian Primes**, Gerry Schultz **1 response**
- **Scientific American Magazine Article**, ClausB **13 responses**
- **Sparcom manuals somewhere?**, matti **2 responses**
- **Latest crazy auction - HP-70 for $660**, Michael de Estrada **16 responses**
- **HP 50G...the last graphing calc from HP?**, juan demin **5 responses**
- **Residuals in HP41 BatteryCompartment**, Timo **1 response**
- **Apollo Soyuz HP 65**, ClausB **4 responses**
- **Graphing Calculator Innovations**, Eddie W. Shore **12 responses**
- **Comparason of Old Computers and Calculators ....**, Dimitri Simitas **11 responses**
- **fair Value on HP-35**, aj04062 **2 responses**
- **OT: New Version of TI-Nspire**, Gerry Schultz **8 responses**
- **Query re. HP 82973A HP-IL Interface card and 82161A Digital Cassette Drive**, John AS (UK) **8 responses**
- **Why no relative pointer in RPL**, David Hayden **5 responses**
- **Battery pack for an HP-35**, Jean-Michel **5 responses**
- **is more valuable a 41cx broken calculator than a good one?**, Gonzalo Fernandez (Spain) **4 responses**
- **16c case refurbishment**, Dan Eicher **5 responses**
- **HP41c rechargeable battery (82120A) circuit diagrams ?**, John Robinson **0 responses**
- **H-P on TV**, Palmer O. Hanson, Jr. **0 responses**
- **Reading and writing text files from/to LIF-files: Two new scripts**, Geir Isene **1 response**
- **Classic USB power cable and replacement connectors**, Mark Henderson **9 responses**
- **Here's a rare HP48GX**, Han **5 responses**
- **Mildly amusing and relevant**, Dave Shaffer (Arizona) **1 response**
- **HP-35S : do the battery last that long?**, Jean-Michel **5 responses**
- **identify old calculator?**, randy bozarth **6 responses**
- **Applied Stats Solutions 1 and 2 documentation**, David Airey **1 response**
- **USB Logic Analyzer**, Thomas Chrapkiewicz **7 responses**
- **HP50g SigmaDat**, Chris **7 responses**
- **An update on Carly**, Palmer O. Hanson, Jr. **13 responses**
- **Classic Calculator Feet/Latch**, aj04062 **0 responses**
- **Wild hack: Synchronize your HP-41 with your mobile phone calendar**, Geir Isene **2 responses**
- **LIF file specification**, Geir Isene **2 responses**
- **Transformer Source? 82002A Charger**, aj04062 **0 responses**
- **db: Double wide ENTER key spotted in the wild**, Joerg Woerner **23 responses**
- **The HP 50G could have been given a large ENTER key**, Han **2 responses**
- **HP-97 printer paper feed cam shaft**, Ed Sowell **7 responses**
- **LogicDart help needed (probes)**, Hrvoje **3 responses**

- **How sweet it is!**, Namir **2 responses**
- **FDIO - floppy drive utility**, John AS (UK) **1 response**
- **A viable vintage data aquisition system?**, Timo **9 responses**
- **Sick HP42S**, Chuck Galloway **4 responses**
- **That old auction business of "disclosure"**, bill platt **6 responses**
- **MLDL2000 Disassembler to SDK - Help**, PeterP **1 response**
- **OT: Bid War**, Egan Ford **1 response**
- **HP owners actually use them?**, Dimitri Simitas **36 responses**
- **There seems to be a very recent bull market...**, bill platt **5 responses**
- **Capricorn CPU microcode**, Olivier De Smet **6 responses**
- **Notes on installing EMU41P on Portable Plus**, John AS (UK) **0 responses**
- **Kitchen timer on 17B/17BII/17BII+/19B/19BII/27S**, y.miyata **1 response**
- **New MLDL2000 Disassembler function**, PeterP **3 responses**
- **30b can be ordered**, Don Shepherd **18 responses**
- **HP41 bugs - testing**, John Robinson **6 responses**
- **HP41 Rechargeable Battery Pack - three pins ?**, John Robinson **2 responses**
- **Repairing a HP 82033 Battery Pack**, Dimitri Simitas **7 responses**
- **Somewhat OT, but not really. Screwy cursor behavior.**, Martin Pinckney **11 responses**
- **HP35s zip cover**, DurbanGuy **25 responses**
- **HP-41 / EMU41P emulator query**, John AS (UK) **4 responses**
- **Parametric and Polar functions on 50G**, Ben **2 responses**
- **N cell alkaline batteries, inexpensive**, Garth Wilson **8 responses**
- **Why are Serial Ports so Annoying? 49G But sort of Off Topic**, bill platt **5 responses**
- **hp48, factorization**, Sok-khieng Chum Hun **15 responses**
- **HP-41: Read/Write XM file from a LIF-file?**, Geir Isene **6 responses**
- **HP-41, HP-71, HP-75, HP-IL or all of the above?**, Dan Grelinger **10 responses**
- **Finally found a new 12C at Fry's; firmware version**, Eric Smith **2 responses**
- **48GII Specifications?**, Thomas Chrapkiewicz **4 responses**
- **OK, Fess Up, Who's the lucky winner? :-)**, bill platt **4 responses**
- **old HP67/97 programs for satellite communications**, Don Shepherd **2 responses**
- **hp 50g won't find 2-line intersect on graph**, Noah Magnuson **5 responses**
- **HP-41: Manual for the ChemUser ROM?**, Geir Isene **2 responses**
- **Off-Topic: Who can solve this?**, Matthias Wehrli **13 responses**
- **Problems with my 40G**, Tanya Poz **3 responses**
- **Power switch repair**, aj04062 **3 responses**
- **EMU41 2.50 released as open source!**, Egan Ford **2 responses**
- **Programmable ?**, Gilles Collas **5 responses**
- **HP-41: Nirvana Setup**, Geir Isene **1 response**
- **82059B/D**, Egan Ford **6 responses**
- **After my two fauxpas; re the HP41C below, here is the book**, Geoff Quickfall **36 responses**
- **HP 30B**, JDonley **1 response**
- **HP67-97 Space Systems User's Guide**, aj04062 **5 responses**
- **HP-55 Value, 3 complete calculators**, aj04062 **0 responses**
- **If you could....**, Dimitri Simitas **14 responses**
- **HP-Emulator 64 bit program versions**, Christoph Giesselink **4 responses**
- **Celestial Navigation softwarer for HP**, juan demin **4 responses**
- **9815 A/S displays available!**, Joel Setton (France) **0 responses**
- **HP11c - Swapping Internals Between Two**, DavidShenk **6 responses**
- **HP70 original box**, Alberto Fenini **8 responses**
- **Card Reader motor - doesn't spin smoothly**, John Robinson **23 responses**
- **HP-35 Bug: highest serial number?**, Mark Henderson **5 responses**
- **Curious question (OT): Green LEDs?**, Maximilian Hohmann **14 responses**
- **non-scientific LED calculator worth more than HP35 red dot?**, Bart (UK) **6 responses**
- **HP-41CX Memory Registers**, Prabhu Bhooplapur **9 responses**

- **HP-41 CX at ebay - reasonable price?**, Timo **5 responses**
- **10BII Display Problems?**, JT **1 response**
- **Sign of a new HP calculators prices inflation?** , Xavier A. (Brazil) **9 responses**
- **Almost a Red-Dot. It seems only to lack the hole!**, Ignazio Cara (Italy) **9 responses**
- **Hardest part about doing taxes**, Michael Meyer **26 responses**
- **HP-41C with unusual serial number ?**, Marc Ferrer (France) **3 responses**
- **HP-41CV with HP82106A**, Dimitri Simitas **7 responses**
- **[OT] Future Calculator Nut?**, Tim Wessman **13 responses**
- **HP-41CX beeps when turned on !!**, Giovanni Jimenez **7 responses**
- **The HP-71B "Math Machine" 25 Years Old**, Marcus von Cube, Germany **1 response**
- **Website update**, Matthias Wehrli **1 response**
- **Lagrangian Interpolation for the HP-67 and HP-41C**, Namir **3 responses**
- **HP200LX Connectivity Pack under Windows 7**, Mike (Stgt) **6 responses**
- **OT: Computer Archeology 2010**, Johnny Bjoern Rasmussen **7 responses**
- **Interesting HP41CV?**, Dimitri Simitas **2 responses**
- **HP logo upside down = DY, happened a long time ago**, Don Shepherd **2 responses**
- **HP-97 Print Intensity Mystery**, Michael de Estrada **4 responses**
- **Squaring the circle: all-MCODE Bessel functions**, Ángel Martin **13 responses**
- **Better fitting case for a HP-41C?**, Dimitri Simitas **7 responses**
- **Heinz Haber and his 35 / german TV show**, Thomas Radtke **0 responses**
- **Serial no of HP48GX**, matti **4 responses**
- **In praise of dirty calculators-- again.**, Michael Meyer **34 responses**
- **xThink Calculator**, hpnut **8 responses**
- **Cleaning HP48 keys NON-INTRUSIVELY**, Angus **6 responses**
- **Barcode generator for Optical Wand?**, Timo **2 responses**
- **HP41 Optical Wand - how to open plug ?**, John Robinson **2 responses**
- **Pictures of Time Module for HP 41 series?**, Timo **2 responses**
- **HP38G/39G/48SX/48GX./49G Emulator now availble for iPhone/iPod Touch**, Steve Simpkin **6 responses**
- **Random Number Generation Challenge (sort of)**, Namir **9 responses**
- **Woodstocks - the new gold standard?**, Michael de Estrada **33 responses**
- **Classic display segment intermittent - cause?**, Mark Henderson **3 responses**
- **Calculator sale value-- will it persist?**, Michael Meyer **15 responses**
- **HP41 MLDL2000 new version of M2kM**, Meindert Kuipers **2 responses**
- **So I got the printed HP35 manual**, Dimitri Simitas **13 responses**
- **For the Door That Has No Equal**, db (martinez, ca.) **6 responses**
- **New Article: HP 41c translator overlay for 71b**, Allen **0 responses**
- **HP-29C Behavior that is odd!**, Jeff Davis **1 response**
- **Any sightings of the 30b yet? (n/t)**, Peter A. Gebhardt **0 responses**
- **Suggestions for HP41C**, Dimitri Simitas **12 responses**
- **Feeling older**, Palmer O. Hanson, Jr. **50 responses**
- **32s won't power on**, Dave Britten **9 responses**
- **HP29C strange behavior**, Alberto Fenini **14 responses**
- **Mysterious HP-19C power-on behavior-- solved with interesting cause.**, Michael Meyer **16 responses**
- **HP-15C Enter Key Behaviour**, Timo **2 responses**
- **Interesting Pairing**, Norman Dziedzic **7 responses**
- **Hp 41C in excellent condition**, Nigel Bamber **7 responses**
- **Plexiglas replacement**, Alberto Fenini **5 responses**
- **Early (Buggy) HP-35 - Insides**, Mark Henderson **3 responses**
- **HP - Quo vadis?**, Frido Bohn **49 responses**
- **Look what I found for $50 USd; off topic but I think you will like the photos.**, Geoff Quickfall **11 responses**
- **SandMath - Reloaded**, Ángel Martin **2 responses**
- **Collection display**, Michel Beaulieu **1 response**
- **PIL-box <- EMU41 <- Dosbox <- Linux**, Geir Isene **1 response**
- **HP gee-whiz question (batteries)**, megarat **8 responses**

- **Symbolic Calculus 50g**, Shu Y Pong **1 response**
- **O.T. runaway car**, designnut **28 responses**
- **OT: Apple iPad**, Don Shepherd **36 responses**
- **Metric vs. US model of HP 50g**, Eric Smith **77 responses**
- **HP41 Mcode: SELPF arguments**, Meindert Kuipers **3 responses**
- **HP-27S Successful LCD transplantation**, Lyuka **0 responses**
- **OT: Retro programmable makes comeback.**, Egan Ford **2 responses**
- **TI RPN Simulator**, db (martinez, ca.) **3 responses**
- **special characters on hp71b + hp-il + 82162a ?**, John Ioannidis **1 response**
- **Future Value Problem, right?**, Anthony Baldwin **10 responses**
- **30b Repurposing Concept**, Jeff O. **23 responses**
- **Refurbished HP calcs?**, DaveJ **1 response**
- **HP-42S work-around for sticking to low contrast LCD problem**, Lyuka **2 responses**
- **"The Swiss Army Knife for nerds"**, David Hayden **26 responses**
- **emu42 on Win7-64bit**, Mike (Stgt) **2 responses**
- **Keyboard Complaints**, Tim Wessman **41 responses**
- **Calendar withdrawls**, Bruce Bergman **5 responses**
- **Another 30b program!**, hugh steers **3 responses**
- **OT: Canon X-07**, Saile (Brazil) **2 responses**
- **HP41C strange display behaviour**, Alberto Fenini **1 response**
- **example of 30b program**, Don Shepherd **14 responses**
- **the 35s pol<>rec program**, db (martinez, ca.) **5 responses**
- **HP-35s in Hex mode**, Joel Setton (France) **8 responses**
- **32sii: FLOOR function**, Dave Britten **21 responses**
- **The forensics algorithm for the 10s**, Palmer O. Hanson, Jr. **4 responses**
- **TI-59 LED intensity**, Michael Meyer **15 responses**
- **48G series ROM question**, Ed Look **2 responses**
- **Almost O.T.: rarity and prices...**, Vieira, Luiz C. (Brazil) **21 responses**
- **HP 97 keyboard and more issue.**, Ignazio Cara (Italy) **6 responses**
- **MCODE (what else?): Creating a new ROM from the 41 --> Transfer?**, Geir Isene **16 responses**
- **Hypothetically - How would you flash a 35s?**, JJB299 **26 responses**
- **= key on HP 33s**, Don Shepherd **2 responses**
- **MCODE tools: Asking for your opinion**, Geir Isene **3 responses**
- **30b missing the mod function?**, hugh steers **19 responses**
- **Ok... Own up! Who amongst you put this 15c description on eBay?**, Mohammed Hadi **13 responses**
- **HP-45, strange key response**, Thomas Radtke **8 responses**
- **OT: Sequential Boolean Analyzer**, Katie Wasserman **4 responses**
- **HP 12C Questions**, Randy Wood **11 responses**
- **HP 35S --- 2*2 lin. solve bug**, Maarten Ambaum (Reading, UK) **17 responses**
- **Which HP calc emulator? Which phone?** , vq **7 responses**
- **HP 35s Hardcase Issue**, Luke Hoffmann **12 responses**
- **HP 34c battery voltage voltage**, Hiawatha Wheelwright **5 responses**
- **HP-41: Has anyone used the Laitram rom?**, Geir Isene **13 responses**
- **SandMath 6 -> NoV: Error**, Geir Isene **3 responses**
- **HP-IL a summary QRG/top 10 commands**, Geir Isene **10 responses**
- **48sx compared to 50g**, Hiawatha Wheelwright **29 responses**
- **OT: Dennis (db) - Your bid is welcome!**, Joerg Woerner **2 responses**
- **ICEBOX version 1H released**, Geir Isene **2 responses**
- **A tribute to Diego Diaz and Ángel Martin**, Geir Isene **3 responses**
- **OT but topical: Youtube and Maths**, bill platt **1 response**
- **30b programming environment**, Don Shepherd **21 responses**
- **HP9830A**, Dylan Watkins **2 responses**
- **HP-35s: Better in ALG mode?**, Silvio A. Bensi **37 responses**
- **HP 35s keyboard weirdness**, Hiawatha Wheelwright **6 responses**

- **Mysterious HP-19C power-on behavior**, Michael Meyer **7 responses**
- **HP-35 and HP-80: Flashing display differences?**, Mark Henderson **3 responses**
- **MLDL2000 Manager software: new BETA version**, Meindert Kuipers **10 responses**
- **48G keyboard weirdness**, Lincoln **5 responses**
- **New 41Z Manual available at last**, Ángel Martin **8 responses**
- **HP-41 turn-on behavior**, Paolo Cipollone **13 responses**
- **Opening HP41C**, Alberto Fenini **2 responses**
- **A humble request, if I may...**, Vieira, Luiz C. (Brazil) **0 responses**
- **Simulate "load" (or whatever) of batteries in classics hooked to chargers?**, Paul Brogger **14 responses**
- **OT: Thommen altimeters**, Ignazio Cara (Italy) **0 responses**
- **classic chassis with a crack**, Alberto Fenini **7 responses**
- **My HP 35s keyboard improvements**, kiril t **25 responses**
- **OT: The uCalc is born**, DaveJ **21 responses**
- **Two Interesting BigNum Stories (Via Slashdot)**, Les Bell **4 responses**
- **HP Viper board spotted on ebay**, john as (UK) **1 response**
- **MK-161**, KoenDV **2 responses**
- **MCODE: Where these last posts are heading: A function called "NSG"**, Geir Isene **12 responses**
- **HP300s smartcalc error**, Scott Smith **8 responses**
- **Fix Spice with unsoldered chips?**, Paul Brogger **9 responses**
- **HP41CV Warranty, Just keep your receipt ...**, Raymund Heuvel **1 response**
- **OT: Phosphor Watches - E Ink Displays**, Gerry Schultz **14 responses**
- **First Pocket Calculator with LED Display?**, Joerg Woerner **9 responses**
- **HEPAX VASM listing?**, Geir Isene **9 responses**
- **HP-01 stylus**, Alberto Fenini **1 response**
- **HP97 restore project**, Alberto Fenini **9 responses**
- **MCODE: Bright idea for executing an address instead of a GOTO ADR (h1E0)?**, Geir Isene **10 responses**
- **HP12C - SST in RUN-Mode doesn't work correctly**, twanke **11 responses**
- **Dropped HP41CX (carpeted floor), no longer working**, jim540 **29 responses**
- **The 20s is apparently faster than the 32sii**, Dave Britten **48 responses**
- **Old brochure from 1982**, Johnny Bjoern Rasmussen **0 responses**
- **I got jinxed: Need help from an Mcode/NoV pro**, Geir Isene **6 responses**
- **Happy 2010**, Walter B **19 responses**
- **ICEBOX.ROM version 1G released + Happy New Year**, Geir Isene **1 response**
- **The best way to save a HEPAX block to mass storage?**, Geir Isene **1 response**
- **50g easter eggs**, Glenn Shields **6 responses**
- **HP nut CPU and illegal instruction sequences**, Håkan Thörngren **9 responses**
- **HP50g switch between USB to SERIAL**, fabrice **8 responses**
- **NiCd Lady Company Review (battery rebuild)**, Egan Ford **1 response**
- **HP 42S simulators on ipod touch--I answered my own question**, bill platt **5 responses**
- **HP-41CX motherboard**, Michel Beaulieu **3 responses**
- **O.T. What kind of math?**, designnut **3 responses**
- **HP 12-C on the Android**, Dale Wyckoff **4 responses**
- **Series 80 site disruption** , Vassilis Prevelakis **1 response**
- **Back to MLDL2000: I did it again...**, Vieira, Luiz C. (Brazil) **2 responses**
- **Where can one get new three-pronged plugs for Classic series chargers? >>**, tim m. **7 responses**
- **OT**, Mad Dog eBaycalcnut **14 responses**
- **How to get a txt file on the stack (50g)**, ferroburak **2 responses**
- **MCODE: Using the HP-16C as a tool**, Geir Isene **6 responses**
- **Meindert, guys: I think you´re gonna like this!**, Vieira, Luiz C. (Brazil) **4 responses**
- **Woodstock Security Cradle - Keys lost**, Alberto Fenini **5 responses**
- **knockoffs**, JDonley **15 responses**
- **HP30b - leapfrogging the competition ...**, Peter A. Gebhardt **10 responses**
- **O.T. planned obsolescence**, db (martinez, ca.) **9 responses**
- **Mathematician of the day**, Bill Zimmerly **4 responses**

- **To Luiz Vieira**, R Lion (Spain) **0 responses**
- **SmartCalc 300s**, Matthias Wehrli **1 response**
- **HP Classic with new electronics (a la uCalc/uWatch?)**, Mark Henderson **26 responses**
- **The best and faster and more sophisticated calculator of the world :-)**, Saile (Brazil) **4 responses**
- **OT: Holes in Stainless**, Paul Brogger **25 responses**
- **hp motherboard**, Karen Smearsoll **4 responses**
- **OT: uCalc proto**, DaveJ **52 responses**
- **630 USD for a 15c on Ebay!**, Jose Gonzalez Divasson **13 responses**
- **Use of Armor-All?**, tim m. **10 responses**
- **hp50g grobs**, Glenn Shields **7 responses**
- **41Z Keyboard Overlay - The Final Cut**, Ángel Martin **5 responses**
- **Display technology**, David Hayden **5 responses**
- **Really really OT**, Don Shepherd **9 responses**
- **Regarding MLDL2000 'cosmetics' & more**, Jeff Davis **1 response**
- **HP 85B tape drive**, Leonard Adcock **2 responses**
- **OT: basic arithmetic functions**, Thomas Klemm **2 responses**
- **Restoring Classics: 409 removed some lettering!**, Mark Henderson **12 responses**
- **My concept for a 20b repurposing project**, Jeff O. **31 responses**
- **SpeedUI - Important update to v. 9.08**, Raymond Del Tondo **1 response**
- **Advice on HP-25 repair, please.**, Michael Meyer **3 responses**
- **TVM bug in HP 20b?**, Daniel Castro **11 responses**
- **hp 35s Odd Behaviour: Fractions in Complex Numbers**, Mohammed Hadi **10 responses**
- **OT: Do 12 yrs old kids need graphing calcs?**, Frank Rottgardt **37 responses**
- **OT: uCalc Processor**, DaveJ **9 responses**
- **Not Clueless**, Doug **2 responses**
- **Wristwatch Gadget [OT ish]**, MikeT. **2 responses**
- **HP ALERT for HP49G+/HP50**, Mike Reed **1 response**
- **Faulty disk drive in 9114B ?**, inaki **6 responses**
- **Broken Rom/Ram switch on RAMCARD**, bill platt **5 responses**
- **OT: Objectified**, Egan Ford **24 responses**
- **42s Statistics Problem**, Norman Dziedzic **11 responses**
- **[O.T.] A collector's question** , Palmer O. Hanson, Jr. **2 responses**
- **HP97 restore project**, Alberto Fenini **2 responses**
- **A little gem in the DVD 7**, J-F Garnier **0 responses**
- **Cosine for fun**, Chuck **6 responses**
- **HP-38E chips layout**, Alberto Fenini **3 responses**
- **HP50G SD card is popping out**, Patrick Rendulic **7 responses**
- **HP17b & it's offsprings - Random Number Generator - How?**, Peter A. Gebhardt **29 responses**
- **Deoxit: now that I have it, how do I use it?**, Michael Meyer **3 responses**
- **Upgrade to HP Museum DVD Set Version 7.0**, Gerry Schultz **1 response**
- **HP 42S - intermittent rows nonfunctional**, Rob Welch **2 responses**
- **An HP-42S fix success, and a contrast problem**, DavidShenk **19 responses**
- **In Praise of Dirty Calculators**, Michael Meyer **2 responses**
- **HP41 system ROM related - versions and compatibility**, Vieira, Luiz C. (Brazil) **14 responses**
- **HP-25 erratic behaviour**, Alberto Fenini **23 responses**
- **Machine accuracy behaviour of the hp-35s and other models**, Mohammed Hadi **42 responses**
- **Dosbox + EMU41 problem**, Geir Isene **3 responses**
- **HP 34C repair**, aurelio **19 responses**
- **Meeting held yesterday in western Denmark**, Johnny Bjoern Rasmussen **3 responses**
- **Why the theta choice for complex number display in polar form on the HP35s ?**, Mohammed Hadi **11 responses**
- **Topcat HP-97 with very dim LEDs**, Michael de Estrada **9 responses**
- **All rightmost keys on HP 22s not working.**, gerry martinez **2 responses**
- **17bII german manual?**, Tim Wessman **9 responses**

- **Are HP and TI cables interchangeable**, ferroburak **5 responses**
- **HP42S battery failure**, Colin McKenzie **0 responses**
- **Happy Thanksgiving**, David Hayden **3 responses**
- **Max degree of polynomial a hp 50g can solve?**, ferroburak **1 response**
- **HP-25 battery pack**, Steven Green **11 responses**
- **How to work Hp50g programs on computer?**, ferroburak **30 responses**
- **ON key worn out on an HP32S2 - is there still hope?**, Mike (Stgt) **4 responses**
- **2012 - Is this the End?**, Joerg Woerner **28 responses**
- **HP calculator electrical engineering**, Frank Boehm (Germany) **1 response**
- **OT: Texas eZ430-Chronos WiFi**, Saile (Brazil) **3 responses**
- **MLDL2000 'cosmetics' & more**, Vieira, Luiz C. (Brazil) **10 responses**
- **Will a micro sd card fit Hp 50g?**, ferroburak **6 responses**
- **50G bug in SEQ command?**, David Hayden **0 responses**
- **#2 key problem, china mfr, hp12c, and/or others**, stephen levine **7 responses**
- **Another University of Houston calculator contest**, David Hayden **5 responses**
- **HP41 ROM images related: I didn´t see that comming...**, Vieira, Luiz C. (Brazil) **7 responses**
- **7470A Plotter Pens/Paper?**, Egan Ford **3 responses**
- **HP 17BII+ Financial Calculator simulator available for iPhone**, Steve Simpkin **2 responses**
- **Rounding errors**, BruceH **4 responses**
- **The new DVD Set Version 7**, Namir **9 responses**
- **Wrist-PDA for Dave**, bill platt **1 response**
- **HP 71B Zenwand Manual Prease**, Saile (Brazil) **2 responses**
- **HP41 ROM module versions: anyone?**, Vieira, Luiz C. (Brazil) **22 responses**
- **Heft**, Palmer O. Hanson, Jr. **15 responses**
- **41Z Red Shift taking shape.**, Ángel Martin **13 responses**
- **TI calculator collection**, Michael Meyer **30 responses**
- **Must be my lucky day.**, Stuart Sprott **35 responses**
- **Hoping my 41CX Found a good home**, Norman Dziedzic **5 responses**
- **For those that did the NIST tour at HHC2009**, BruceH **4 responses**
- **Pioneer series internal photo (17BII, 27S, 42S)** , Lyuka **4 responses**
- **[OT] A couple Casio "Slim" calcs available (for RPN apps)**, Matt Kernal **4 responses**
- **HP 42s Stack Save/Restore Tool**, Dave Britten **2 responses**
- **41 MCODE: RCL Math Summarized**, Ángel Martin **3 responses**
- **An idea for repairing Spice series machines with keyboard problems**, Lincoln R. **17 responses**
- **New (Cheap!) Voyager Emulators For iPhone**, Anders Peterson **7 responses**
- **uCalc**, DaveJ **126 responses**
- **HP41 Coconut: LCD blanks in Standby mode**, Vieira, Luiz C. (Brazil) **3 responses**
- **HEPAX chain broken - and fixed**, Geir Isene **8 responses**
- **RPN-like STO/RCL on RPL calculator**, David Hayden **4 responses**
- **Is the HP33S is the only game in town?**, John Noble **28 responses**
- **32s problems**, Lincoln R. **4 responses**
- **A happy buyer :-)**, Saile (Brazil) **5 responses**
- **alternate documentation for 50G**, Glenn Becker **1 response**
- **Forth Day**, Eric Smith **1 response**
- **Update to m48 HP48GX emulator for the iPhone**, Steve Simpkin **2 responses**
- **A useful HP-50G program to keep the DIRs clean...**, Bill Zimmerly **4 responses**
- **HP17b Solver Function**, Roland Storz **5 responses**
- **16 segment Led display would mimic a HP-41 display?**, Giuseppe Marullo **3 responses**
- **Form factor for calculators**, David Hayden **58 responses**
- **[Completely OT] Capeesh**, Antonio Maschio (Italy) **15 responses**
- **HP 75**, Charles Oxford **2 responses**
- **HP-200lx**, Geoff Quickfall **10 responses**
- **OT -- Ulimate Calculator Design Artcile**, Katie Wasserman **1 response**
- **Why not 49g+?**, ferroburak **19 responses**

- **Direct current circuit analysis program**, ferroburak **3 responses**
- **General Electric CE 93 RPN calculator - and more...**, Joerg Woerner **0 responses**
- **Indefinite integral calculation with 49g+/ 50g** , ferroburak **7 responses**
- **42S on iPod Touch: OFF function behavior (bug?)**, Andrés C. Rodríguez (Argentina) **18 responses**
- **Decimal to octal conversion for the HP-12C**, Kalevipoeg **0 responses**
- **Laplace transforms**, ferroburak **6 responses**
- **OT CASIO FX-5400P $$$**, Saile (Brazil) **3 responses**
- **Lambert W (HP-12C+)**, Gerson W. Barbosa **10 responses**
- **Need help with HP 48sx file transfer**, Martin Pinckney **16 responses**
- **Do other brands also have buggy calcs?**, Jean-Michel **30 responses**
- **University of Houston Calculator Contest**, David Hayden **12 responses**
- **Free42 for iPhone/iPod Touch just landed**, Dave Britten **13 responses**
- **HP67 doesn't turn on without battery pack?**, Gabriele Zaverio **21 responses**
- **HP 41CX release date?**, Egan Ford **1 response**
- **Plugger challenge**, BruceH **7 responses**
- **blowin' shite oop**, db (martinez, ca.) **10 responses**
- **O.T. Are you a plugger?**, Palmer O. Hanson, Jr. **25 responses**
- **HP 9810A - current value?**, DavidShenk **12 responses**
- **CEO of Royal Bank of Scotland uses an HP**, Nigel Bamber **9 responses**
- **Question about how HP Math pacs calculate Bessel Functions!**, Namir **5 responses**
- **HP-41 Bar Code Printing**, Gerry Schultz **8 responses**
- **MLDL2000 update**, Meindert Kuipers **1 response**
- **Trying to contact Michel Beaulieu**, Vieira, Luiz C. (Brazil) **0 responses**
- **Opening a Woodstock external charger?**, John Garza **9 responses**
- **HP 33S Advanced uses of logarithmic functions**, Naseer Norris **17 responses**
- **PIL-Box meet DOSBox**, Egan Ford **3 responses**
- **Need help with HP82164A HP-IL/RS232 Interface**, Ilyas B. **11 responses**
- **DeSoldering SMD Components easily!!! - Chipquik**, Thomas Chrapkiewicz **1 response**
- **HP-15c/12c for google android?**, palmheads **4 responses**
- **OT:Cronus 3-S**, Saile (Brazil) **0 responses**
- **My Collection has Reached the Century Mark**, Michael de Estrada **12 responses**
- **Early HP-80 number keys and front label**, SteveC **0 responses**
- **Repainting silver trim on a 35?**, tim m. **3 responses**
- **Cases for 38E/C**, Peabody **10 responses**
- **a hammer is only a tool**, Don Shepherd **6 responses**
- **OT: I wish all companies listened and responded like this!**, DaveJ **8 responses**
- **HP42s / HP35s Schematics**, Thomas Chrapkiewicz **29 responses**
- **41 "Second Shift"**, Ángel Martin **7 responses**
- **The perfect HP for the kitchen?!**, Mark Edmonds **6 responses**
- **HP9835 system**, Bo in Lund (SE) **2 responses**
- **HP38C "6" key repair**, Peabody **6 responses**
- **the future of programmable calculators?**, Herbert Crepaz (UK) **9 responses**
- **It's come to this . . .**, Martin Pinckney **13 responses**
- **HP-20S Manual?**, Tom McCaffrey **1 response**
- **hp 9815a/s program tapes**, frankabc **3 responses**
- **What calc for my 7 years old son?**, Jose Gonzalez Divasson **22 responses**
- **uBASIC**, Thomas Chrapkiewicz **4 responses**
- **Score one more for the 33s**, Palmer O. Hanson, Jr. **1 response**
- **In Need of Calculator Advice**, Anders Peterson **33 responses**
- **IR link for HP 28s**, Frank Rottgardt **7 responses**
- **MLDL2000, Clonix/NoVRAM/NoV32, PILBox ... Users/Owners? New stuff?**, Vieira, Luiz C. (Brazil) **6 responses**
- **How you know you're getting older...**, Michael Meyer **6 responses**
- **Totally off-topic but still calculator related**, hecube **2 responses**

- **David Shenk´s 'Soldering Upgrades in my 42s': any success?**, Vieira, Luiz C. (Brazil) **5 responses**
- **Circuit Cellar: HP20B, repurposing a development platform**, Hubert Weikert **7 responses**
- **OT: Tutorials for R statistical language**, Namir **8 responses**
- **How about a poll to liven things up (some more!)**, Martin Pinckney **19 responses**
- **Very OT, but calculator anyway**, Johnny Bjoern Rasmussen **17 responses**
- **New book on HP published by Chuck House**, Steve Leibson **0 responses**
- **41: All that HYPe about...**, Ángel Martin **13 responses**
- **HP 17BII+ BUG**, Nacho **3 responses**
- **The solution to the quartic equation on the HP50g (long)**, Crawl **5 responses**
- **Testing an HP82242 IR Module with a digital camera (or...)**, Vieira, Luiz C. (Brazil) **7 responses**
- **At least some companies listen (or check the auctions)**, Jonathan Eisch **58 responses**
- **HP-12C mini-challenge (e^pi)**, Gerson W. Barbosa **30 responses**
- **Soldering Upgrades in my 42s**, DavidShenk **15 responses**
- **HP20b repurposing**, hugh steers **7 responses**
- **>-->-->-->--> HP17BII+ disassembled and...surprise (at least for me)**, Nacho **3 responses**
- **Fibonacci Sequence**, Mike T. **29 responses**
- **W&W RAMBOX 64K with DIP-Switches**, Christoph Giesselink **2 responses**
- **HP 42S sells for < $100 H**l freezes**, Michael de Estrada **25 responses**
- **Questions about speeding up 48sx**, Martin Pinckney **9 responses**
- **HP42S upgrade and opening... pictures ;-)**, geoff quickfall **3 responses**
- **FSI164A hp-il/RS232 Interface Power Supply**, Andy Delano **5 responses**
- **restoring an HP-01 keyboard**, Alberto Fenini **7 responses**
- **41 RCL MATH - 30 years later...**, Ángel Martin **2 responses**
- **Another iPhone/iPod Touch HP-48GX emulator**, Steve Simpkin **1 response**
- **Ignorant TAS Seller!**, Michael de Estrada **5 responses**
- **Connecting HP-110 to a 9122D floppy drive**, John AS (UK) **4 responses**
- **Silver line above on-off swiths Classics**, Ronald **1 response**
- **Programming HP-42S**, Howard Jones **2 responses**
- **Help with credits in the book, please.**, Geoff Quickfall **17 responses**
- **Programming with the 200LX**, R.J. Soto **10 responses**
- **Happy day - Triple speed 15C - after 22 years**, Lyuka **15 responses**
- **Topcats, HP82143A and HP82161/82162 Battery Pack**, Vieira, Luiz C. (Brazil) **7 responses**
- **HP95LX and IrDA / SIR Interfaces**, Thomas Radtke **4 responses**
- **HP 48GX connection to Laptop**, Aubrey (South Africa) **6 responses**
- **Spec of dust in a 16C LCD screen**, R.J. Soto **4 responses**
- **A few more pictures: Spice series**, Vieira, Luiz C. (Brazil) **4 responses**
- **Relying on old technology**, Juan J **29 responses**
- **OT sort-of: Reverse Engineering Calculator OS**, Chuck **4 responses**
- **41CX Startup Program?**, Egan Ford **12 responses**
- **How do you sell your HP calculators?**, R.J. Soto **82 responses**
- **Pil Box ... works like a charm !**, Sean Connor **17 responses**
- **HP-01 adjustable bracelet**, Alberto Fenini **2 responses**
- **10C batteries**, John Mosand **0 responses**
- **HP-01 help needed**, Alberto Fenini **7 responses**
- **HP50G related: is it just me or this is new?**, Vieira, Luiz C. (Brazil) **2 responses**
- **HP20 and USB as showed at HHC**, cyrille de Brebisson **7 responses**
- **HP-35 screw dimension**, Andreas Grund **6 responses**
- **Need advice: 48SX battery leak repair**, Scott Newell **3 responses**
- **The HP-01 of our time**, hecube **11 responses**
- **HP-IL 2009**, Egan Ford **23 responses**
- **Low tech HP calculator on eb****, Martin Pinckney **3 responses**
- **I'm back! (...and HP stuff, of course...)**, Vieira, Luiz C. (Brazil) **8 responses**
- **Is an HP-10 worth $700?**, Michael de Estrada **16 responses**
- **HP 42S Programming**, Howard Jones **3 responses**

- **HP-67 Battery Pack**, AlbertTocarLoseggs **5 responses**
- **Off topic but still electronics...**, Geoff Quickfall **6 responses**
- **Woodstock feet replacements?**, Michael Meyer **6 responses**
- **compiled local variable**, DK2ZA **5 responses**
- **A great HP Watch (15C) replacement?**, artur - brazil **13 responses**
- **Accuracy by chance**, Javier Goizueta **13 responses**
- **HP41C issue: beeps, but the display does not work** , Nenad (Croatia) **12 responses**
- **HCC2009 and the NIST tour**, Geoff Quickfall **1 response**
- **WOW talk about your retro calculator HP 9100A**, Donald Williams **8 responses**
- **LCD displays life expectancy**, hecube **10 responses**
- **Profanity free iPhone calculator application**, BruceH **8 responses**
- **Connecting HP 48GX with PC via Conn4x....help!!!**, juan demin **19 responses**
- **Spice question**, Paul Dale **3 responses**
- **RPS**, Paul Dale **3 responses**
- **9830A Repair**, Sebastian Kelz **4 responses**
- **Warning: GRiD cards ad for 48GX**, Richard Reed **3 responses**
- **Live from HHC2009**, Namir **15 responses**
- **Thought experiment:: creating great hardware assuming software will follow**, Hugh Evans **23 responses**
- **HHC 2009**, sjthomas **8 responses**
- **HP 41CX locked in program mode**, Steve Leibson **7 responses**
- **200LX date format in filer - What determines it's format?**, Peter A. Gebhardt **0 responses**
- **Proposed Small Calculator**, Ron Kok **36 responses**
- **HP 49g+ unit conversion problem**, T.M. Baxter **10 responses**
- **HP-25 Battery Pack**, Andreas Grund **17 responses**
- **Classic LED displays**, John Robinson **5 responses**
- **Tipoff: HP-41 stuff** , Martin Pinckney **2 responses**
- **Well my boss is in space now...**, hecube **2 responses**
- **HP-IL interface cables**, John Pierce **1 response**
- **Say with me: "Natural Complex Entry"**, Ángel Martin **5 responses**
- **[resolved] HP49G+ doesn't turn on**, k.mart **21 responses**
- **If I own a software am I allowed a backup copy** , Charles Oxford **3 responses**
- **Texas HP Module $$$$**, Saile (Brazil) **18 responses**
- **(deleted post)**, deleted **0 responses**
- **Navigation module**, juan demin **0 responses**
- **12C+**, Charles Oxford **1 response**
- **Spice series issues**, Kevin Manley **9 responses**
- **MCODE Keith Numbers**, PeterP **0 responses**
- **HP 34C**, Howard Jones **7 responses**
- **Mini review: m48, another 48GX for the iPhone**, Egan Ford **12 responses**
- **INFORM**, Jan Kromhout **13 responses**
- **Things that surely will condemn us to HP Hell**, Sean Connor **15 responses**
- **HP-41 I/O Circuit Strip**, Stephan Gloor **0 responses**
- **HHC 2009 only 1 week away...who is coming?**, Gene Wright **18 responses**
- **Hp 71b power fault**, Sean Connor **1 response**
- **OT: BA 2 Plus TI** , Nigel Bamber **3 responses**
- **HP-97 diagnostics**, Bruce Bergman **6 responses**
- **Trivia: Which HP can't display its own programs?**, Mark Edmonds **2 responses**
- **hp 9815a/s repair**, frankabc **33 responses**
- **Why is x^2 shifted?**, Frank Rottgardt **25 responses**
- **gamma approximation in 48/49/50?**, Eric Smith **19 responses**
- **N-type Zinc Battery**, Gerson W. Barbosa **2 responses**
- **TI Aims Lawyers at Calculator Hackers**, jacksonconsult **10 responses**
- **(deleted post)**, deleted **2 responses**
- **silver band rubbing off...**, juan demin **11 responses**

- **HP 42S what can we do with a 2nd rom?**, nacho **3 responses**
- **32sii Quality over time...**, Michael Plant **6 responses**
- **"Why Rechargeable Batteries Are Rarely Cost Effective"**, Egan Ford **11 responses**
- **db: You miss an important non-HP RPN calculator!**, Joerg Woerner **4 responses**
- **RPN**, db (martinez, ca.) **18 responses**
- **HP-41Z module ready (at last)**, Ángel Martin **7 responses**
- **Collection Redundancy**, Michael de Estrada **16 responses**
- **Program speed from sd card**, Iqbal **4 responses**
- **Hotel room sharing at conference?**, Eric Smith **0 responses**
- **What type of caps are used in Classic power supply?**, Dan W **8 responses**
- **Are there any calculator manufacturers out there...**, hecube **20 responses**
- **Latest HP-35 with the "bugs"?**, Michael de Estrada **1 response**
- **A ridiculous idea: what if HP sells calculator hardware & software seperately**, KC **36 responses**
- **Working on a 9114B HP-IL Disk Drive**, Gerry Schultz **5 responses**
- **'Begin' message in display**, Stacey Bower (Oregon) **2 responses**
- **HP ALERT for HP49G+/HP50**, Mike Reed **2 responses**
- **Travelling to HHC2009 from outside the US**, Wlodek Mier-Jedrzejowicz **0 responses**
- **Mystery calculator - not a calculator?**, Joerg Woerner **22 responses**
- **Classic Series Logic Board - Desoldering Temp ?**, John Robinson **7 responses**
- **Question about HP-IL Printer**, Namir **9 responses**
- **HP simulator for Nokia smartphones?**, Jim P **2 responses**
- **"Hard Problems" Moves to Television**, Egan Ford **3 responses**
- **Help - broken HP-25**, Paul Dale **12 responses**
- **HP-21 simulator for iPhone/iPod**, Steve Simpkin **7 responses**
- **32SII SQRT(NEG)**, Marnus Malan (RSA) **20 responses**
- **HP's "Blue Mauritius" up for auction**, Rainer Wiedemann (Germany) **10 responses**
- **Restoration of an HP-15C**, Karl-Ludwig Butte **7 responses**
- **Complex Gamma Function... revisited**, Angel Martin **13 responses**
- **If I do this...**, hecube **19 responses**
- **replacement for nylon balls in HP97 card reader**, Alberto Fenini **6 responses**
- **41-MCODE: IND/ST/MATH in prompting**, Ángel Martin **5 responses**
- **Nestler slide rule**, Peter Klein **0 responses**
- **Dirk Dykson of H-P?**, Karl Schneider **9 responses**
- **O.T. Timers**, designnut **4 responses**
- **HP-41CX in Space SpaceLab Exhibit (hecube take note)**, Dan W **17 responses**
- **Woodstock LED Cover Replacement?**, Michael de Estrada **5 responses**
- **Slide Rule Apps for the iPod/iPhone**, Howard Owen **15 responses**
- **Breaking news.**, Pal G. **4 responses**
- **Chess on the HP-200LX**, Xerxes **1 response**
- **Toward a more user-friendly Forum**, Martin Pinckney **9 responses**
- **HPGCC**, Jan Kromhout **0 responses**
- **Old School Calculators Still Do It For Some**, Egan Ford **13 responses**
- **HP48SX accuracy questioned.**, Pal G. **3 responses**
- **High-end calculators in the WSJ**, J-F Garnier **15 responses**
- **spice battery contacts repair (or replacement)**, Alberto Fenini **1 response**
- **Searchable PDFs/HP41 manual/Slightly Off Topic**, Kevin Kitts **13 responses**
- **HP 50 as a stop watch.**, Stuart Sprott **3 responses**
- **Out of curiosity, HP calculators in movies or TV series?**, hecube **6 responses**
- **HP50g - very inaccurate clock?**, Mark Edmonds **13 responses**
- **HP 48 serial cable but no serial port in laptop**, juan demin **10 responses**
- **HP 35s modification: Matte LCD cover (and LCD re-alignment)**, Dallas Osborne **3 responses**
- **Help with HP 29C**, George **5 responses**
- **Designing a calculator housing**, Thomas Radtke **5 responses**
- **Prototype serial numbers**, Keith Midson **3 responses**

- **HPGCC and Steamtable Calculations (IF97)**, Jan Kromhout **7 responses**
- **41C external power options?**, Egan Ford **11 responses**
- **HPAPINE**, Jan Kromhout **3 responses**
- **Mystery calculator**, hecube **5 responses**
- **HP 48G vs HP 50G**, Mendl Lategan **17 responses**
- **Update: ICEBOX 1F**, Geir Isene **3 responses**
- **Challenge: Open-ended Dice on the HP-41**, Geir Isene **2 responses**
- **HPGCC.ORG ??????**, Jan Kromhout **1 response**
- **Has anyone ever seen this? ASTP HP-65 checklist**, hecube **6 responses**
- **Challenge: Keith numbers**, Don Shepherd **13 responses**
- **HP41CX x Psion LZ64.**, Saile (Brazil) **7 responses**
- **Origin of the beep melody**, hecube **0 responses**
- **Need to contact Ed Austin**, Giovanni Jimenez **0 responses**
- **HP71B mains adaptor**, P.Hart **5 responses**
- **HP71B LEX files**, P.Hart **2 responses**
- **Vintage Computer Festival East**, David Hayden **0 responses**
- **For those who are interested in : i59 available on Appstore**, Jean-Michel **8 responses**
- **HPAPINE**, Jan Kromhout **7 responses**
- **HP-42s Memory Upgrade**, DavidShenk **13 responses**
- **To Étienne / Pour Étienne**, hecube **3 responses**
- **On the missing comma as thousand-separator**, Luca **1 response**
- **Women in the Forum?** , Saile (Brazil) **16 responses**
- **HP-75C Magnetic Cards read by HP-71B card reader**, Giovanni Jimenez **2 responses**
- **In praise of hard-copy manuals**, Luca **40 responses**
- **PIL-box connectivity**, Juergen Rodenkirchen **1 response**
- **An addition to my collection**, Palmer O. Hanson, Jr. **1 response**
- **Completing my collection**, Michael de Estrada **14 responses**
- **Does anyone, in all earnest, still use slide rules for work?**, hecube **34 responses**
- **HP 33s much better IMO than the 35s**, Luca **8 responses**
- **Your choice of calculator at work**, hecube **35 responses**
- **Getting items posted from the US to UK**, Richard Reed **10 responses**
- **Lab-Volt (348?) cpu trainer**, peter a walker (papwalker) **0 responses**
- **HP-71b used for fire calculations**, Klaus **3 responses**
- **Slide Rules Back in Production**, Les Bell **8 responses**
- **Anyone have an Android phone?**, Tim Wessman **6 responses**
- **HP 41 X module**, juan demin **1 response**
- **Emu28**, Alexander Wassermann **7 responses**
- **HP 33s display**, Peter Klein **6 responses**
- **HP-35S Case**, Juan J **27 responses**
- **What is this?**, hecube **1 response**
- **HP-01 and iPhone**, hecube **10 responses**
- **what's wrong with this program? / STO error**, hpnewbie **21 responses**
- **World statistics in a new light**, designnut **4 responses**
- **Error message in Hpapine, HPGCC,XP**, Jan Kromhout **2 responses**
- **Extend your 50g with C (HPGCC 2.0 SP2)**, Jan Kromhout **1 response**
- **HP38G Hardware - HC74/ HC112 , Connector**, Thomas Chrapkiewicz **7 responses**
- **Science & Vie Article**, John Cadick **12 responses**
- **So the 50G can print by IR but not link to a 48GX?**, Mark Edmonds **7 responses**
- **My Los Alamos Lab HP-97 looks like Gort**, hecube **12 responses**
- **I got a 33s**, Peter Klein **3 responses**
- **HP-48 Connectivity Kit**, Karl-Ludwig Butte **9 responses**
- **Another 12C+ Bug**, Katie Wasserman **32 responses**
- **HP 67 with some dim leds**, juan demin **10 responses**
- **Who can help me to purchase a HP 12C+?**, Walter Lam **3 responses**

- **Removing the private status of a file (HP-71b)**, Klaus **4 responses**
- **PIL Box Success Stories**, Jeff Davis **3 responses**
- **Young collection growing...**, hecube **33 responses**
- **OT: RPN Casio Guys** , Chuck **6 responses**
- **Challenge: Maximum Partition Product**, Kiyoshi Akima **21 responses**
- **hp 42s restoring**, Antonio (Spain) **0 responses**
- **HP-65 goes for $250,000**, Don Shepherd **3 responses**
- **Before I had HP calculators, I had Sharp calculators**, hecube **7 responses**
- **Halcyon Calc for iPhone/iPod Touch : a clone of an HP-28S ?**, Jean-Michel **4 responses**
- **HP 48G Statistics question**, Ren **3 responses**
- **PScalc95 (48SX sim) on 200LX: Abnormal program termination**, Dave Britten **3 responses**
- **The other side...**, Marnus Malan (RSA) **1 response**
- **fixing my newly acquired HP-48sx**, Hugh Evans **0 responses**
- **Need help with test**, hecube **2 responses**
- **Why do so many sell old HP calc to US users only?**, jotne **30 responses**
- **De-allocating memory locations on HP-35s**, Paul Kleinkramer **7 responses**
- **How do you organize the collection?**, Saile (Brazil) **7 responses**
- **Other brands of calculators in space**, hecube **5 responses**
- **HP and Kinpo - Are you Listening ? [HP-01 Inspiration]**, John Stark **10 responses**
- **Profound saturday afternoon question**, hecube **13 responses**
- **Brown leather pouches history question**, hecube **5 responses**
- **NutIP, a web server and TCP/IP stack for HP-41**, Khanh-Dang Nguyen Thu-Lam **8 responses**
- **42S for iPhone v. 2.2 in App Store**, Les Wright **6 responses**
- **Complex number in HP35S**, KC **9 responses**
- **Knows physics. Knows no fear. Has accurate calculator.**, Peter Klein **3 responses**
- **After the HP-67, I didn't plan on buying anything else for a while but...**, hecube **6 responses**
- **HP 41CV repair - constant Memory Lost message**, Nigel Bamber **2 responses**
- **High precision calculator in Windows 7**, jotne **41 responses**
- **The HP-10BII**, Larry Smith **7 responses**
- **A simple 11c/15c mini-challenge (phi)**, Gerson W. Barbosa **28 responses**
- **Touch Up Paint Pen -Silver Paint**, Alberto Fenini **1 response**
- **Has any HP calc model ever been sold under another brand?**, hecube **7 responses**
- **HP71B Assembler - references** , John Robinson **5 responses**
- **EMU41 BIN files**, Gerry Schultz **1 response**
- **Emu48 v1.49 / Emu48PCC 1.18 released**, Christoph Giesselink **0 responses**
- **I scored a HP-67 for 93 dollars on eBay...**, hecube **39 responses**
- **HP19BII - how to fix the battery compartment**, eddieuk **3 responses**
- **HP 41 high-pitch noise**, Frido Bohn **7 responses**
- **HP-41C tall nut, full nut 2025Axxxxx close up pictures.**, Geoff Quickfall **4 responses**
- **Bug in SIMPLIFY? (hp 50g)**, Luca **6 responses**
- **Print in textbook format**, Marcelo Vanti (Brasil) **2 responses**
- **HP 32SII**, Marnus Malan (RSA) **79 responses**
- **How to prevent automatic substitution during SIMPLIFY**, Luca **2 responses**
- **Help: how to get the hp-50g to work on expressions.**, Luca **2 responses**
- **How to compute the value of symbolic expressions in HP-50g?**, Luca **2 responses**
- **ROM version C-2.15 for HP-50g: what is the benefit?**, Luca **2 responses**
- **41Z Breakthrough: 4-level Complex Stack**, Ángel Martin **26 responses**
- **HP48SX LCD problem...**, Geoff Quickfall **4 responses**
- **the cost of memory**, juan demin **19 responses**
- **Another days between dates challenge for 11c**, Don Shepherd **22 responses**
- **HP-IL/RS-232-C Interface**, Bill Lafferty **2 responses**
- **HP-10bII**, hecube **1 response**
- **HP 65 / 67 magnetic cards**, Juan demin **2 responses**
- **HP-67 with clear (transparent) back cover**, Giovanni Jimenez **2 responses**

- **Weird Voyager Behavior and 12C+ issue**, Katie Wasserman **3 responses**
- **Trivia Question**, Mark Edmonds **24 responses**
- **Days between dates - another solution**, Bart (UK) **10 responses**
- **HP-50g Calculator Tutorial**, Bill (Smithville, NJ) **1 response**
- **Fun with the Casio fx-180p / fx-3600p**, Thomas Radtke **8 responses**
- **Kepler Orbits for the 42S**, Les Wright **5 responses**
- **41C mcode**, Doug **1 response**
- **Improved Internal Accuracy in Newest Version of Free42**, Les Wright **2 responses**
- **HP42S Addendum card.**, Javier Goizueta **1 response**
- **HP48G ROM transplanted in a HP38G**, Thomas Chrapkiewicz **0 responses**
- **OT: "Dekadische Nummerierung" - english translation**, Mike (Stgt) **4 responses**
- **Heat staked keyboards with sticky, bouncy or corrosion present keyboard PCAs**, Geoff Quickfall **12 responses**
- **All We Wanted For Christmas....**, Joerg Woerner **7 responses**
- **HP 42S - Problem**, Michel Lahcem **13 responses**
- **HP-41cx "plastic film" in battery contacts**, Giovanni Jimenez **2 responses**
- **HP-41 question**, Monte Dalrymple **1 response**
- **HP 48 & HP 49...1999 and 2003 releases**, juan demin **17 responses**
- **Days between dates challenge for 11c and 34c**, Don Shepherd **32 responses**
- **HP-11 book** , Larry (Ohio) **2 responses**
- **Anode and cathode driver chips interchangeable on Classics?**, Dan W **0 responses**
- **HP 925 main body color**, mark murphy **3 responses**
- **I'm a bit new around here (the forum anyway)...**, hecube **15 responses**
- **Classic HP SuperCharger**, Dan W **0 responses**
- **Forum Search - help!!**, Mark Edmonds **18 responses**
- **Modified HP-67 Bendix Flight Computer**, Michael de Estrada **1 response**
- **Complex numbers - ideal display representation?**, Mark Edmonds **15 responses**
- **Memory problem on 48G+**, Iqbal **1 response**
- **early HP-80 restoration and Tallnut HP-41C question.**, Geoff Quickfall **20 responses**
- **Looking for Dan McDonald**, Michael Eckstein **1 response**
- **Medical Pac 1 for HP-65**, Matthias Wehrli **2 responses**
- **Geoff Quickfall That is for you !**, Saile (Brazil) **7 responses**
- **Cases, especially for 200LX**, P.Hart **3 responses**
- **What's so special about this 71B?**, Keith Midson **15 responses**
- **Early HP-41C PCA picture as well as memory problem...** , Geoff Quickfall **15 responses**
- **EMU41, Hdrive1 and a 9114**, Gerry Schultz **11 responses**
- **Hypothetical calculator with USB ports**, hecube **26 responses**
- **Los Alamos HP-97: what do you make of this cable?**, hecube **1 response**
- **Thermal Paper - blue print?**, Dan W **0 responses**
- **16C Manual - different version?**, Mark Edmonds **3 responses**
- **Strange 15C behavior**, cyrille de Brébisson **22 responses**
- **Open up HP12cp?**, Mike (Florida) **8 responses**
- **hp100lx**, Charles Oxford **2 responses**
- **48GX - screen is all black - please help!**, Kath **3 responses**
- **free42 for the HTC touch pro 2**, hugh steers **2 responses**
- **Good programming environment for a 200LX?**, Dave Britten **14 responses**
- **HP 33e repair**, Lincoln R. **2 responses**
- **Question on MLDL2k Bankswitching**, Ángel Martin **3 responses**
- **Curve fitting question (OT)**, Walter B **13 responses**
- **HP 12C/15C emulators for iPhone by HP**, Peter Heberer **5 responses**
- **HP or Texas? The difficult decision.**, Saile (Brazil) **14 responses**
- **RPL: Binary to "long ints"?**, Mark Edmonds **2 responses**
- **Voyager series, logic PCA and keyboard PCA**, Geoff Quickfall **7 responses**
- **HP-41cx 'Memeory Lost' for Stefan Vorkoetter**, Steven Benedict **3 responses**

- **HP17bII+ Solver - Payback Period formula**, RMIER **6 responses**
- **Voyager HP-10C restoration and bezel replacement. and the book.**, Geoff Quickfall **11 responses**
- **BATTERY LONGEVITY**, Howard Lazerson **7 responses**
- **(deleted post)**, deleted **1 response**
- **Repaired HP41CV hangs on error.**, Dan Koller **2 responses**
- **HP-IL I/F Card on a New(er) PC - Part IV - SUCCESS!!**, Gerry Schultz **3 responses**
- **Government surplus HP-97**, hecube **10 responses**
- **More 41 birthday fun.**, Egan Ford **98 responses**
- **smartassed ebaby seller**, db (martinez, ca.) **3 responses**
- **Two questions: 38g/39gs aplets and HP ODU**, bbeamer **3 responses**
- **More on the new 12C**, Katie Wasserman **28 responses**
- **New SandMath-5 Module available**, Ángel Martin **0 responses**
- **Here is something to port to a 41**, Frank Boehm (Germany) **2 responses**
- **SPAM**, Howard Owen **0 responses**
- **(O.T.) Happy Pi Approximation Day! 'e*XROOT(12,e^(-3*4)+5.6789)' (N.T.)**, Gerson W. Barbosa **6 responses**
- **Where do all the manuals go?**, Mark Edmonds **15 responses**
- **Is this a 97S on ebay?**, Mark Edmonds **1 response**
- **The meaning of "Mint" in Portugese**, Michael de Estrada **17 responses**
- **I41CX - new version 3.0**, Nigel Bamber **0 responses**
- **20b keys**, Paul Dale **0 responses**
- **Technical question; HP-41CV logic PCA**, Geoff Quickfall **11 responses**
- **Hawkeye: Remember this one? (1/?)**, Etienne Victoria **1 response**
- **In what year was your HP lust kindled?**, hecube **17 responses**
- **HP classic latches**, Tim **10 responses**
- **Printing statistics calc // 46**, Walter B **3 responses**
- **Sanmath-5 ?**, Geir Isene **5 responses**
- **What company now embodies the qualities of the HP of old?**, hecube **4 responses**
- **the top programmable calculators**, juan demin **38 responses**
- **Either he was swindled or he's trying to swindle someone...**, hecube **3 responses**
- **HP calculators and space exploration**, hecube **22 responses**
- **The 43c? :-)**, Egan Ford **2 responses**
- **HP calculators / space flights**, hecube **0 responses**
- **Happy Birthday, HP-41C !!!**, Massimo Gnerucci (Italy) **2 responses**
- **How much will this Red Dot sell for?**, Michael de Estrada **36 responses**
- **NEWT processor update**, Klaus **2 responses**
- **Rounding Revisited**, Rodger Rosenbaum **5 responses**
- **I'm back!**, Dan W **14 responses**
- **Odd sign problem with HP-97**, Dan W **0 responses**
- **Key presses and running programs**, Mike T. **2 responses**
- **integrating on the HP35s**, ezoob **5 responses**
- **20b - Observations**, Thomas Radtke **12 responses**
- **LINUX LIF tools error**, Sean Connor **1 response**
- **20b display problem**, Paul Dale **4 responses**
- **HP-25 turns itself off**, Des McPherson **1 response**
- **HP-41CV retiring / HP-20b entering active duty**, hecube **4 responses**
- **Emu48 update v1.48 / v1.17**, Christoph Giesselink **0 responses**
- **Appcelerator could bring iphone Calculator emulators to T-mobile G1 phones...**, Allen **2 responses**
- **Piezoelectric transducers and the 41C**, Geoff Quickfall **4 responses**
- **HP-IL I/F Card on a New(er) PC - Part III**, Gerry Schultz **19 responses**
- **PILBox initial testing. HP-IL Lives!**, Egan Ford **4 responses**
- **rubber bands hp 41**, ulisse-quadri **1 response**
- **OT: Casio FT-7**, Saile (Brazil) **0 responses**
- **Is this Ebay auction breaking any copyright?**, Mark Edmonds **75 responses**

- **HHC2009 Conference Update**, Namir **0 responses**
- **White spirit for cleaning?**, Mark Edmonds **16 responses**
- **OT: Keyboard with potential**, Egan Ford **1 response**
- **Free42 for Mac OS X**, Les Wright **0 responses**
- **Saving i41cx+ states and configurations--what's the difference?**, Les Wright **1 response**
- **Hey hey what can I say? FACEBOOK!**, Mad Dog ebaycalcnut **2 responses**
- **Math module d´ont works**, Marcelo Vanti (Brasil) **6 responses**
- **Mental juggling: Calculating the day of week**, Thomas Klemm **8 responses**
- **a question of cases ...**, Glenn Becker **5 responses**
- **How do I disassemble a hex number with Jazz?**, Matti Övermark **2 responses**
- **OT: Integrated Circuit 50th Birthday**, Egan Ford **1 response**
- **Hp50g Serial Number**, Quan **3 responses**
- **HP-67 Power trouble**, benitoprat **3 responses**
- **HP 71B versions**, Keith Midson **8 responses**
- **HP-12c Windows emulator shortcut keys**, Don Shepherd **0 responses**
- **Any other non-HP published "How To" books out there?**, Larry (Ohio) **4 responses**
- **41C 30th Birthday Game**, Egan Ford **32 responses**
- **(O.T.) Happy 'XROOT(9,10561572*EXP(2))/sqrtLN(pi)' ! (N.T.)**, Gerson W. Barbosa **8 responses**
- **hp 45 charger**, asher levy **6 responses**
- **HP-35s simulator: Alternate skins?**, Dan Greil **0 responses**
- **Rounding conventions**, Wayne Best **38 responses**
- **20b - ABS?**, Thomas Radtke **1 response**
- **Proprietary HP Brand 15C and 12C iPhone emulators**, Les Wright **4 responses**
- **Upgraded iPhone Simulators in App Store today**, Les Wright **7 responses**
- **OT: Value of a desire II**, Saile (Brazil) **5 responses**
- **HP 50g Programming**, Brian Wort **1 response**
- **HP75 Accessories as new - any value or should I just use them?**, Tony de Groot **0 responses**
- **WIP: hp12c iphone skin.**, Pal G. **1 response**
- **The HP Restoration Guide, progress report**, Geoff Quickfall **3 responses**
- **HP-IL I/F Card on a New(er) PC - Part II**, Gerry Schultz **15 responses**
- **Popularity of the HP-41C Calculator**, Gerry Schultz **5 responses**
- **Surveyors in LA?**, Doug **2 responses**
- **HP calculators on sale - HP 20b excluded**, Joerg Woerner **1 response**
- **Happy Birthday, HP-41C !!!**, Massimo Gnerucci (Italy) **12 responses**
- **Now this is really ridiculous!**, Michael de Estrada **7 responses**
- **Some collecting questions**, Palmer O. Hanson, Jr. **2 responses**
- **HP 35s: Killed by software?**, Peter Niessen **3 responses**
- **HP calculators on sale w/free shipping.**, Martin Pinckney **34 responses**
- **HP 50G LCD problem**, macbxx **2 responses**
- **Exporting Table Values to Stack**, Hal Bitton in Boise **1 response**
- **OT: Mathematica Home Edition**, Howard Owen **3 responses**
- **Spice - asterisk in serial - means?**, Mark Edmonds **9 responses**
- **Nominal power supply for an HP-75D and question about batteries**, Tomás (España) **7 responses**
- **HHC2009 Change of venue**, BruceH **18 responses**
- **To Dave Hicks -- others, please ignore**, Thomas Okken **0 responses**
- **SPICE question - repost**, Michael de Estrada **5 responses**
- **Seeking 42S Inspiration**, Mark Edmonds **26 responses**
- **HP SmartCalc 300s customer complaint**, hpnut **20 responses**
- **HP48s/x connectivity**, bbeamer **9 responses**
- **12C+ Gamma**, Gerson W. Barbosa **8 responses**
- **Which came first? 19B or 27S?**, Mark Edmonds **2 responses**
- **HP-41CX Frozen Up**, Jeff Davis **4 responses**
- **Torsten Manz 15c emulator errors...?**, McBenney **1 response**
- **HP releases multiple emulators for PCs, iPhone, iPod touch**, Steve Leibson **70 responses**

- **a strange '35**, Dana Bingham **2 responses**
- **28/48 used to validate scientific library**, Egan Ford **6 responses**
- **Casio - nice on-line calc, worth looking at**, Mark Edmonds **1 response**
- **HP-IL I/F Module and a New(er) PC**, Gerry Schultz **7 responses**
- **The Dumbest Generation: AOS vs RPN** , Joerg Woerner **32 responses**
- **HP 16c - needs cleaning?**, Glenn Becker **8 responses**
- **SmartCalc 300s manual**, hpnut **6 responses**
- **Spice type 2 question**, Michael de Estrada **0 responses**
- **HP 15c COMLEX MODE**, David Stone **2 responses**
- **HP17bii+ v HP12CP**, Paul **14 responses**
- **HP70 transgenic** , Alberto Fenini **1 response**
- **UPDATE: FOCAL coding standard**, Geir Isene **1 response**
- **UPDATE: HP-41 VIM filetype plugin**, Geir Isene **0 responses**
- **OT: Casio fx-9860g updates**, Katie Wasserman **7 responses**
- **HP 50G Matrix Writer**, Benning **4 responses**
- **HP 8S ?? What's this? Australia only?**, Mark Edmonds **14 responses**
- **Voyager - opening up - small questions please**, Mark Edmonds **12 responses**
- **i41cx+ Time and Date**, Les Wright **3 responses**
- **HP49 with 48series KB...**, nacho **0 responses**
- **iPhone 3.0 OS update does not seem to break 42s or i41cx+**, Les Wright **8 responses**
- **Does the HP-IL module for the HP-41C break the loop?**, Klaus **2 responses**
- **pet peeves: documentation and thermal printed receipts**, Don Shepherd **10 responses**
- **need help from surveyor or property laywer...**, cyrille de Brébisson **18 responses**
- **82143A Printer Output Confirmation Requested**, Egan Ford **2 responses**
- **HP-41: Release: ICEBOX.ROM version 1E: News for NoV Users :-)**, Geir Isene **5 responses**
- **HP 46080A HP-IL Extension module**, ZOleg **2 responses**
- **Another way to restore the silver trim?**, Dave Shaffer (Arizona) **4 responses**
- **Byron Foster's 42s for iPhone v. 2 upgrade in App Store**, Les Wright **35 responses**
- **HP 35s checksum repeatability observed**, JJB299 **0 responses**
- **HP48G Problem**, Jno. Greenslet **7 responses**
- **HP-97S Pod Schematic**, Katie Wasserman **7 responses**
- **HP 92198A video interface problem**, Ilyas B. **2 responses**
- **A tribute to the old manuals (again :)**, Geir Isene **9 responses**
- **OT calculator vidio**, db (martinez, ca.) **1 response**
- **Missing keystrokes**, Quan **7 responses**
- **Brand new HP-35 for sale on eBay $1489**, jotne **9 responses**
- **82104A card reader current measurements?**, Eric Smith **7 responses**
- **SpeedUI units bug?**, Mark Edmonds **2 responses**
- **Help with Free42 + T3 + Ehrling42sm = cut off image?** , htom trites jr **11 responses**
- **HP-15C Mini-Challenge: Magic squares !**, Valentin Albillo **12 responses**
- **HP-41 w/NoV-64: Funny module conflict**, Geir Isene **1 response**
- **Symbolic integration**, Valentin Albillo **6 responses**
- **New Iphone & Itouch calculator - Access RPN and Active RPN**, Nigel Bamber **1 response**
- **HP cassette mass storage device...**, Geoff Quickfall **7 responses**
- **Byron Fosters 42s for iPhone version 2 submitted to Apple App Store**, Les Wright **14 responses**
- **HP-12C+ .... the mistake is back on the back!**, Katie Wasserman **23 responses**
- **HP41CV with missing registers**, Jorge I. Rodriguez (Pasadena, CA) **4 responses**
- **HP48 I/R comms with PC?**, Mark Edmonds **8 responses**
- **35S for $32.95 at Buy.com**, Jeff O. **4 responses**
- **HHC2008 HP Calc Calendar for 2009 Is Now Half Price** , Jake Schwartz **0 responses**
- **HP-41CX Bug?**, Namir **8 responses**
- **Why is complex number support so essential to some of you?**, Mark Edmonds **16 responses**
- **Hp 42s memory upgrade**, Raul de Roux **1 response**
- **HP-15c Powering on**, Giuseppe Marullo **6 responses**

- **O.T. XP RAM utilization**, designnut **1 response**
- **Discussion on RPN in French forum**, Marcus von Cube, Germany **0 responses**
- **hp 35s emulator**, Michele Signorini **15 responses**
- **Celestial Observations: A Brief History of Elgin, Knowles & Senne and their Ephemerides** , Robert Haefele (AUT) **3 responses**
- **HP "Virtual Tech Museum" contest**, Eric Smith **10 responses**
- **OT: Gratuitous non-HP calculator picture** , hugh steers **4 responses**
- **New HP 41CX**, Nigel Bamber **9 responses**
- **The xth root of y on the hp 35s**, Quan **3 responses**
- **the experience of programming: old vs. new**, Glenn Becker **27 responses**
- **HHC2009 HP Conf Attendance 20 and Counting**, Jake Schwartz **0 responses**
- **Restoration Guide, ideas, help, suggestions and etc....**, Geoff Quickfall **33 responses**
- **Configurable Keyboard**, Paul Brogger **8 responses**
- **HP spy photo?**, Pal G. **2 responses**
- **HP71B Entry points**, Raymund Heuvel **6 responses**
- **Troubles connencting Conn4x <--> HP48G**, Matti Övermark **6 responses**
- **HP-41 MLDLs**, Garth Wilson **6 responses**
- **Spice restoration continue, or, how to open a spice without damage!**, Geoff Quickfall **7 responses**
- **The peculiar arithmetic of the SmartCalc 300s**, Javier Goizueta **5 responses**
- **HP 41C LCD/Display**, Damian Rios **10 responses**
- **A coincidence, really, but I just finished restoring this HP 34C!**, Geoff Quickfall **11 responses**
- **HP-34C Spice series keypad**, Robert Hollyer **1 response**
- **Charting Pioneer Differences...**, Mark Edmonds **0 responses**
- **Fast editor for 48SX/GX??**, Mark Edmonds **16 responses**
- **128k Ram modules for HP-85B**, Jeff Davis **3 responses**
- **Matrix software for the 41**, Geir Isene **8 responses**
- **OT: Math question**, KC **14 responses**
- **HP 35 red-dot prototype case, wohooo!!! and other pictures...Had to tell someone!!!**, Geoff Quickfall **6 responses**
- **uWatch2 Front Panel**, DaveJ **3 responses**
- **PPC vs. CCD vs. ZENROM module**, Nik Brem **4 responses**
- **41SIMON [The Game]**, Saile (Brazil) **0 responses**
- **Found a use for a dead 10-B (doing happy dance)**, htom trites jr **4 responses**
- **Video Instructions**, designnut **1 response**
- **HP34C Black Scholes Model**, Ed Austin **2 responses**
- **Did everyone miss this? Wolfram Alpha now LIVE.**, Pal G. **12 responses**
- **HP LED displays**, Richard Ottosen **12 responses**
- **Where the new HP 12C+ ?**, Jose Ernesto **1 response**
- **Atmel ARM7 LCD driver: alphanumeric display**, Michele Signorini **4 responses**
- **HP-71 trouble**, ZOleg **0 responses**
- **OT: DIY Oscilloscope**, Egan Ford **12 responses**
- **Bug in article 893? (HP 35s Triangle solver)**, Dave Britten **0 responses**
- **Checking my daughter's homework**, Sancerre (Phoenix) **5 responses**
- **i41CX+ 2.0 Released.**, Egan Ford **9 responses**
- **OT: Add to the Recommended List**, Paul Brogger **3 responses**
- **50g integration oddity**, dbatiz **15 responses**
- **Where to find HP200LX ROM files ?**, bloo **8 responses**
- **OT: uWatch firmware v1.6.0 Released!**, hugh steers **7 responses**
- **HP 41CV Key Issues**, Michael Lopez **7 responses**
- **HP BASIC for HP86B**, Bill Lafferty **8 responses**
- **HP32E Hardware Question**, Mike T. **2 responses**
- **HP35s Program Memory Quirk**, Thomas Chrapkiewicz **45 responses**
- **HP 100LX and CF cards**, Chris Foley **6 responses**
- **Nice "bug" in one HP-41C Users' Lib**, J-F Garnier **0 responses**

- **how to tell my 12c's manufactured date** , mateo999 **8 responses**
- **Spice Type 1 vs 2 parts interchangeability?**, Michael de Estrada **1 response**
- **HP-41 Flex-PCB (improving replacement)**, Diego Diaz **0 responses**
- **New 12C availability**, Charles Oxford **1 response**
- **Disks for 9114B ?**, Sean Connor **11 responses**
- **My new traction system for Topcat printers.**, Ignazio Cara (Italy) **3 responses**
- **Faulty LED's on HP 55**, Michael de Estrada **8 responses**
- **HP71B PCB interconnection strip**, Tony de Groot **2 responses**
- **A few questions 42S Global Labels**, Egan Ford **4 responses**
- **And finally - a simulator for the HP32E.**, Mike T. **4 responses**
- **What do the following have in common, other than they are used to calculate?**, Geoff Quickfall **15 responses**
- **BASIC 45th anniversary**, Don Shepherd **5 responses**
- **CLTKTD or CLKT Status ?**, Saile (Brazil) **1 response**
- **Rattling 9114B**, Steve (Australia) **1 response**
- **17bII+ keypad problem**, Dewdman42 **4 responses**
- **HP-41: how to extract name of current XM-file?**, Geir Isene **3 responses**
- **HP-41C with Tall Keys?**, Dan Grelinger **10 responses**
- **Advice on buying a HP67**, Nigel Bamber **4 responses**
- **HP-97 Printer Motor keeps spinning**, Gil Gutierrez **6 responses**
- **hp 20B keypad**, JDonley **2 responses**
- **HP35s how to recall last expression?**, hugh steers **3 responses**
- **Customized HP-67, What is it?**, Michael de Estrada **14 responses**
- **COMIC**, Chuck **1 response**
- **Lucky Day**, Chuck **5 responses**
- **uWatch2 128x32 option**, DaveJ **14 responses**
- **New HP-12C Review**, Katie Wasserman **55 responses**
- **The curta Calculator.**, Stuart Sprott **4 responses**
- **HP / Mark Hurd in New York Times today... . ....**, Thomas Chrapkiewicz **0 responses**
- **OT: Math Joke**, John B. Smitherman **46 responses**
- **Plug for the MoHPC forum: 72 hours in a day**, DaveJ **10 responses**
- **Obscure 41 Module - FAC/WC**, Angel Martin **3 responses**
- **Looking for a tester for Free42 on 1st generation iPod touch**, Thomas Okken **2 responses**
- **Scientific notation on 50g**, skroops **7 responses**
- **And now for something completely off topic:**, Geoff Quickfall **9 responses**
- **HP 27S on Christophe Giesselink's Emulator**, bill platt **2 responses**
- **New HP12C (ARM) SDK availability ?**, bloo **8 responses**
- **HP75 HPIL IO**, Tony de Groot **6 responses**
- **HP calculator tattoo?**, Bruce Bergman **6 responses**
- **TVM Program for the 42s**, Jeff Kearns **10 responses**
- **HP-42S faulty keys**, wesjones **16 responses**
- **Proposed Additions to the DVD Version 7**, Allen **0 responses**
- **HP48GX: lost tactile responce in F keys**, Harold A Climer **11 responses**
- **HP50g ROM Version 2.15**, Mike Morrow **24 responses**
- **HP-25C strange behaviour**, Alberto Fenini **14 responses**
- **41c keyboard overlay templates**, Sean Connor **12 responses**
- **Free backpack when you buy the HP 35S calculator**, hpnut **4 responses**
- **OT: Build your own book scanner from trash & cheap cameras**, Marcus von Cube, Germany **0 responses**
- **The HHC2009 HP Conference Web Site Is Open**, Jake Schwartz **4 responses**
- **HP 41 post repairs, yeah been done before but this is simple and it works.....;-)**, Geoff Quickfall **7 responses**
- **OT: Calling all front panel calculator designers...**, DaveJ **60 responses**
- **New 12C question**, Charles Oxford **4 responses**
- **Zenith, the Trans-Oceanic, and some "food for thought"** , Karl Schneider **0 responses**
- **HP-41C on Cover of CQ Magazine**, Jeff Davis **16 responses**

- **Nothing important (my first little hw mod)**, Geir Isene **6 responses**
- **What was the Earliest Touchscreen Handheld?**, Jake Schwartz **8 responses**
- **Old Fan Software**, Ed Look **0 responses**
- **New HP products on the horizon?**, Michael de Estrada **15 responses**
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The Museum of HP Calculators

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

The Main Exhibit Hall

Before HP Calculators (1614-1968)

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

The First HP Calculators (1968)

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

High End Desktop Series (1971)

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

The Classics (1972)

- HP-35 The First Slide Rule Pocket Calculator
- HP-80 The First Business Calculator
- HP-45 Slide Rule++
- HP-65 The First Programmable Handheld
- HP-70 Inexpensive Business Calculator
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Classic Printing Desktop Calculators (1973)

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Second Generation Handheld Calculators (1975)

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- HP-21 Second Generation HP-35
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- HP-25C HP-25 with Continuous Memory
- HP-27 "Do Everything" Model (Sci/Stat/Math/Bus)
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Second Generation Desktop Calculators (1976)

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

Second Generation Mag Card Programmables (1976)

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

In A Class By Itself (1977)

- HP-01 The Hewlett-Packard Calculator Watch

Third Generation of HP Calculators (1978)

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

Small Computers and Computer-like Calculators (1979)

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- HP-80 Series Small Computers
- HP-75C/D Smaller Computer
- HP-71B Even Smaller Computer/Calculator
- HP-94D/E/F Handheld Industrial Computer

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

- HP-10C Basic Scientific Programmable Calculator

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For Sale and Wanted

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

The RPL Family (1986)

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

Some Interesting Later Models (1986)

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

Other Resources

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

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Contact David Hicks

MoHPC *The Museum of HP Calculators*

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Message Index Display Configuration

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F1011A AC/DCAdapter

*Message #1 Posted by **Palmer O. Hanson, Jr.** on 16 Jan 2011, 10:18 p.m.*

This weekend I purchased a HP F1011A AC/DC Adapter in a an original carton from a thrift store for a dollar. A manual was not included. It seemed to me that there should have been an accompanying printer at the store but no such luck.

Re: F1011A AC/DCAdapter

*Message #2 Posted by **Martin Pinckney** on 16 Jan 2011, 11:57 p.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

The devices seem to give out long before the power supplies. I have a box of thirty or so power supplies for everything from cordless phones to HP printers. Hard to throw them away, tried unsuccessfully to sell them on eB** several years ago - maybe I should donate them to your thrift store.

Re: F1011A AC/DCAdapter

*Message #3 Posted by **Allen** on 17 Jan 2011, 6:35 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

The F1011A are compatible with and quite good replacements for the HUGE BRICK 82241A power supply- both the weight and size are less than half the former.

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The lost formula

*Message #1 Posted by **designnut** on 16 Jan 2011, 11:49 a.m.*

I thought the knowledge that this ccould be done migtht inspire someone to find it again. The formula for the resisttance of negative temperature coeffient thermistors. is agonizingly ccomplex and works in a limited range. When I bought my HP65 I was working with thermistors and tried to match the resistance temperature curve by trying various things. I used only 3 constants for the particular one I was trying to match. The part I recall is adding a large number (~1200) to the temperature in C and taking ln. I used one constant to fit the resistance of that particular size device. It was dirt simple and truly accurate over the full range. I looked in my books for marginal references to what I had done and found none. I thought the knowledge that itt had been done might stimulate others to find it. sam

Re: The lost formula

*Message #2 Posted by **Garth Wilson** on 16 Jan 2011, 3:00 p.m.,*
in response to message #1 by designnut

I'm sure it's on the manufacturers' websites.

Re: The lost formula

*Message #3 Posted by **Dan W** on 16 Jan 2011, 6:50 p.m.,*
in response to message #1 by designnut

Are you talking about the Steinhart-Hart equation?

Re: The lost formula

*Message #4 Posted by **John B. Smitherman** on 16 Jan 2011, 7:10 p.m.,*
in response to message #3 by Dan W

A bit of wikipedia: Thermistors

Regards,

John

Re: The lost formula

*Message #5 Posted by **designnut** on 17 Jan 2011, 12:20 a.m.,*
in response to message #4 by John B. Smitherman

On reading something everyone impress it on the matrix of "what they know". There can be nothing new under the sun, everything that can be learned has always been learned. You miss a lot of information that way. The impact of what I wrote is that there is a simple accurate method not disclosed by usual methods. Read the message with an open mind, your brains won't fall out. Sam

Re: The lost formula

*Message #6 Posted by **Walter B** on 17 Jan 2011, 2:05 a.m.,*
in response to message #5 by designnut

Sam,

things which have been (very) tedious in the past may be far easier nowadays and become even easier in the future, caused by new insight or just compilations of older insights. This process goes on and on. As a famous scientist once said: "We are standing on the shoulders of giants."

HTH, Walter

Edited: 17 Jan 2011, 2:09 a.m.

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a challenge related to the 15 puzzle

*Message #1 Posted by **Don Shepherd** on 15 Jan 2011, 7:29 p.m.*

I'm sure most of us have seen the famous 15 puzzle, the little square plastic (usually) 4 by 4 puzzle with the 15 sliding pieces, and the goal is to get the pieces in the correct order. Most versions of the puzzle have interlocking pieces which cannot be removed from the puzzle board, but some versions allow you to remove the pieces and place them back randomly and try to solve the puzzle. However, if the pieces are removeable it turns out that there is a 50/50 chance that the puzzle will be unsolveable, depending upon the mathematics behind the order of the pieces.

The challenge: write a calculator program to determine whether the puzzle is solveable or unsolveable based upon a specific starting arrangement of pieces.

Here are two links that may help (there are many more):

Wikipedia

Wolfram Mathworld

Essentially, the puzzle is solveable if the row number (1-4) of the empty cell plus the number of "inversions" is even. An inversion occurs when a piece to the "right" of a piece has a lesser value. For example, for the arrangement of six pieces:

```
5, 8, 3, 2, 12, 10
```

there are 6 inversions: 2 numbers to the right of 5 are less than 5; 2 numbers to the right of 8 are less than 8; 1 number to the right of 3 is less than 3; 0 numbers to the right of 2 are less than 2; 1 number to the right of 12 is less than 12; 2+2+1+0+1 = 6.

This is a fairly simple problem to implement using BASIC. Using RPN and indirect addressing it is, of course, more complex, but I've written a HP-32sii program for it that works.

I'd like to see some RPL solutions to this problem because I have a feeling that a 4 or 5-liner may do the trick.

Re: a challenge related to the 15 puzzle

*Message #2 Posted by **Glenn Shields** on 16 Jan 2011, 12:42 a.m.,*
in response to message #1 by Don Shepherd

Hi Don, I thought this might be more fun on the 35s, with the indirect registers, but then thought about the "GET" function, and I was too lazy to look back in the manual for the details of "GETI", hence I produced a very "brute force", multi-line program to get the job done.
I just let "0" be the empty space, and then accounted for all the inversions it would cause depending on its "POS", then subtracted that out. Also, I would have liked to use local variables, but in a "RPN" manner used the variables C, E and P then purged them.
Just put the puzzle as a 4x4 matrix in the stack, and hit 'FIFTN': (sorry I don't know how to make paragraphs in this forum)

<<0 'C' STO 1 15 FOR j j GET LASTARG DROP SWAP 'E' STO j 1 + 16 FOR n n GET LASTARG DROP SWAP E IF < THEN 1 'C' STO+ END NEXT NEXT OBJ-> OBJ-> DROP * ->LIST 0 POS DUP 1 - 'C' STO- 'P' STO IF P 4 <= THEN 1 ELSE IF P 8 <= THEN 0 ELSE IF P 12 <= THEN 1 ELSE 0 END END END C IF 2 MOD NOT THEN "SOLVABLE" SWAP DROP ELSE "NOT SOLVABLE" SWAP DROP END {C E P} PURGE >>

Re: a challenge related to the 15 puzzle

*Message #3 Posted by **Glenn Shields** on 16 Jan 2011, 1:32 a.m.,*
in response to message #2 by Glenn Shields

Don, I am so sorry, I didn't beta-test this program (called 'FIFTN'), but to get it to work it needs the matrix stored in a variable called 'PUZZL' which will be saved at the end. Also forgot to add the row test result to C (duh!) So one more try:

<<DUP 'PUZZL' STO 0 'C' STO 1 15 FOR j j GET LASTARG DROP SWAP 'E' STO j 1 + 16 FOR n n GET LASTARG DROP SWAP E IF < THEN 1 'C' STO+ END NEXT NEXT PUZZL OBJ-> OBJ-> DROP * ->LIST 0 POS DUP 1 - 'C' STO- 'P' STO IF P 4 <= THEN 1 ELSE IF P 8 <= THEN 0 ELSE IF P 12 <= THEN 1 ELSE 0 END END END C + IF 2 MOD NOT THEN "SOLVABLE" SWAP DROP ELSE "NOT SOLVABLE" SWAP DROP END {C E P} PURGE >>

Regards, Glenn

Re: a challenge related to the 15 puzzle

*Message #4 Posted by **Allen** on 16 Jan 2011, 1:40 a.m.,*
in response to message #1 by Don Shepherd

Don, here's my listing partially optimized at 87.5 Bytes

```
Input: 16 element list (left to right top to bottom of the 15 square, using 0 for the
space)
Output: 0 if the list is unsolvable otherwise 1


« 0 SWAP REVLIST                          ' start a 0 counter
-7 7 FOR N                                ' -> loop over the list
  DUP HEAD DUP2 < SUMLIST - ROT +         ' | Subtract from N the number of entries < N
  SWAP TAIL NEXT                          ' | set up list for next loop
EVAL +  2 MOD »                           ' add box 1, check for parity
```

Edited: 16 Jan 2011, 2:49 a.m.

Re: a challenge related to the 15 puzzle

*Message #5 Posted by **Glenn Shields** on 16 Jan 2011, 2:58 a.m.,*
in response to message #4 by Allen

Allen, where is the test for the position of the blank? And you output a 1 if solvable, but isn't odd parity a sign of unsolvability? Didn't know about the list comparison capability, that's great, but your program says that these two lists are solvable, but are they? {1 8 9 0 2 7 10 15 3 6 11 14 4 5 12 13} and {1 2 3 4 8 7 6 5 9 10 11 12 0 15 14 13} cheers, Glenn

Re: a challenge related to the 15 puzzle

*Message #6 Posted by **Allen** on 16 Jan 2011, 3:44 a.m.,*
in response to message #5 by Glenn Shields

If you wish to impose the GRID parity for the invariant, add the top two lines to the above program (Total 134.5 Bytes)

```
 « DUP 0 POS                              ' (ADDED) Check for space
1 - DUP #4d / SWAP #1d * XOR B->R         ' (ADDED) Impose GRID Parity
SWAP REVLIST                              ' start counter using the GRID parity above
-7 7 FOR N                                ' -> loop over the list
  DUP HEAD DUP2 < SUMLIST - ROT +         ' | Subtract from N the number of entries < N
  SWAP TAIL NEXT                          ' | set up list for next loop
EVAL +  2 MOD »                           ' add box 1, check for parity
```

Edited: 16 Jan 2011, 3:52 a.m.

Re: a challenge related to the 15 puzzle

*Message #7 Posted by **Don Shepherd** on 16 Jan 2011, 5:35 a.m.,*
in response to message #5 by Glenn Shields

Thanks Allen and Glenn.

Glenn, the way to format code listings on the forum is to precede the code with [pre] and put [/pre] after the code. Then your code listing will look great.

The two sequences you listed are, according to my program, not solvable, with inversion counts 37 and 13 respectively (this count includes the row number of the empty cell). I'll double-check that with another program I have running on the Casio 9860g slim.

Don

Re: a challenge related to the 15 puzzle

*Message #8 Posted by **Allen** on 16 Jan 2011, 8:54 a.m.,*
in response to message #7 by Don Shepherd

Here are some test outputs I get with the two programs

```
#P - Parity program (earlier version)
#G - Grid parity program (later version)
#GS - Glen version program
0= "NOT SOLVABLE"
1= Can be Solved
```

Input	#P	#G	#GS**
{1 8 9 0 2 7 10 15 3 6 11 14 4 5 12 13}	1	0	0
{1 2 3 4 8 7 6 5 9 10 11 12 0 15 14 13}	1	1	0
{1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 0}	1	1	1
{1 2 3 4 5 6 7 8 9 10 11 12 13 15 14 0}	0	0	0
{13 9 2 3 14 0 4 15 10 11 1 7 12 5 6 8}	0	1	0
{13 10 11 6 5 7 4 8 1 12 14 9 3 15 2 0}	0	0	0

```
** NOTE: I use a <<EVAL {4 4} ->ARRAY >> to convert list to square matrix before
running 'FIFTN'.
```

Edited: 16 Jan 2011, 8:55 a.m.

Re: a challenge related to the 15 puzzle

*Message #9 Posted by **Don Shepherd** on 16 Jan 2011, 10:23 a.m.,*
in response to message #8 by Allen

Thanks Allen. Here is what I get when I run your six configurations (in order, inversions includes the row number [1-4] of empty cell):

```
not solvable, 37 inversions
not solvable, 13 inversions
solvable, 4 inversions
not solvable, 5 inversions
not solvable, 57 inversions
not solvable, 63 inversions
```

The best way to test these results is with a real 15 puzzle with removeable tiles. I ordered one a couple of days ago, it should arrive on Tuesday and I'll check these out.

thanks, Don

Re: a challenge related to the 15 puzzle

*Message #10 Posted by **George Litauszky** on 16 Jan 2011, 9:34 a.m.,*
in response to message #1 by Don Shepherd

Hi Don, this is a 50g solution.
Input: A list with the numbers, replace the hole with 0.
I use local variables because I just learning the stack programming. I use the STREAM command to come along the lists only. I tested it with Glenn's and Allen's lists (thanks) and it seems the program is correct.

```
\<< 0. 0. 0.  \-> lst he res pos
\<< lst 0. POS 4. /
    DUP IP SWAP FP
    IF THEN
     1. + 'pos' STO
    ELSE
     'pos' STO
    END
    1. 15. FOR n
     lst
     HEAD DUP 'he' STO
     IF THEN
      lst
      \<< DUP
        IF he < AND 0. > THEN
         1. 'res' STO+
        END \>>
      STREAM DROP
     END
     lst TAIL 'lst' STO
    NEXT
    res pos + 2 MOD
    IF THEN \"Not solvable\"
    ELSE \"Solvable\" END
\>>
\>>
```

Note:
To launch a difficulter chat in english with me: With your own personal risk only, please. :-)

George

Re: a challenge related to the 15 puzzle

*Message #11 Posted by **Glenn Shields** on 16 Jan 2011, 2:00 p.m.,*
in response to message #10 by George Litauszky

Hello George, thank you for your program, it has very interesting use of stream (to skip 0.) and the use of IP/FP to check the row that 0. is in (I couldn't think of how to do that). Fast and efficient. And thanks to Allen for his tabulation of the results, there is much to be learned from all. Don, I'm sure we'll hear more from this challenge (look at the last one!!) Cheers, Glenn

Re: a challenge related to the 15 puzzle

*Message #12 Posted by **Allen** on 16 Jan 2011, 4:16 p.m.,*
in response to message #11 by Glenn Shields

Ahh... after some sleep, I found a bug in the Parity checker for the GRID, now the fixed the program agrees with Glen and Don's findings. Some interesting byte saving tricks I'd forgotten about. In any case noted below,

Here are some test outputs I get with the two programs

```
                    Input                        #P   #G  #GS**  #AT3  #DS
-------------------------------------------------------------------------
{1 8 9 0 2 7 10 15 3 6 11 14 4 5 12 13}    1     0     0    0    0
{1 2 3 4 8 7 6 5 9 10 11 12 0 15 14 13}    1     1     0    0    0
{1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 0}    1     1     1    1    1
{1 2 3 4 5 6 7 8 9 10 11 12 13 15 14 0}    0     0     0    0    0
{13 9 2 3 14 0 4 15 10 11 1 7 12 5 6 8}    0     1     0    0    0
{13 10 11 6 5 7 4 8 1 12 14 9 3 15 2 0}    0     0     0    0    0


** NOTE: I use a <<EVAL {4 4} ->ARRAY >> to convert list to square matrix before
running 'FIFTN'.


#P - Parity program (earlier version)
#G - Grid parity program (later version)
#GS - Glen version program
#AT3 - 3rd version with corrected GRID Parity (see below)
#DS1 - Don's solution


0= "NOT SOLVABLE"
1= "CAN BE SOLVED"
```

The final version which includes both parity checks for the Grid alignment of the space and the number of inversions necessary to permute the puzzle. (Total 104 Bytes on the stack, checksum #16245d)

```
« DUP 0 POS 1 - R->B DUP SR SR XOR B->R       ' (bug fixed) check for space GRID
Parity and start the loop with it on the stack
                                              ' Grid Parity can be calculated by
XOR(Y>>2,Y) where Y is the 0 position - 1 using SR saves bytes over #4d
SWAP REVLIST                                  ' Reverse the list to use HEAD and
TAIL to grab the end
-7 7 FOR N                                    ' Loop Uses -7 to 7 to save 8 bytes
compared to 1 to 15
   DUP HEAD DUP2 < SUMLIST - ROT + SWAP TAIL  'Add the shifts and trim list
NEXT                                          ' Loop
EVAL + 2 MOD »                                ' Add the last element
```

At first glance, it may seem that I'm being sloppy with the calculations, but although the numbers coming out of the loop are all off by 1, they are PREDICTABLY off by 1 (which over a 15-step loop is off by exactly 15). When dealing with parity, it's not necessary to have the right sum, only the right sum MOD2. Accordingly, the math behind the scenes is something like this:

```
                    Input                   DON  GRID  INV  PARITY
-----------------------------------------------------------------
{1 8 9 0 2 7 10 15 3 6 11 14 4 5 12 13}  37 O  03 + 39  O+O=E
{1 2 3 4 8 7 6 5 9 10 11 12 0 15 14 13}  13 O  15 + 21  O+O=E
{1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 0}  04 E  12 + 15  E+O=O
{1 2 3 4 5 6 7 8 9 10 11 12 13 15 14 0}  05 O  12 + 16  E+E=E
```

```
{13 9 2 3 14 0 4 15 10 11 1 7 12 5 6 8}  57 O  04 + 60  E+E=E
{13 10 11 6 5 7 4 8 1 12 14 9 3 15 2 0}  63 O  12 + 74  E+E=E
```

Re: a challenge related to the 15 puzzle

*Message #13 Posted by **Don Shepherd** on 16 Jan 2011, 3:35 p.m.,*
in response to message #1 by Don Shepherd

Here is the program I wrote for the HP-32sii. It is not terribly fast; it takes around 40 seconds to return VALID or INVALID. One thing I learned from writing it is how to store multiple numbers in a register and then retrieve them one at a time. I didn't want to use 16 out of 27 registers just to hold the tile values, so the method I chose used only 4 registers for the 16 values. Thanks to Katie for advising me on that.

```
Program for HP-32sii to check an initial arrangement of number tiles
for the 15 puzzle to see if that configuration is solvable or not.


Prior to running, enter the initial arrangement (with 00 representing the
empty position) into registers A-D with 4 2-digit numbers per register, as follows:


A = 11051407
B = 15020904
C = 06000113
D = 10031208


(this arrangement is solvable, by the way, with 60 inversions)


Then XEQ A.  If the arrangement is solvable, the program will display
VALID, otherwise INVALID.  Press R/S to see the inversion count.


Register usage:
A-D - preset with initial arrangement of tiles
E   - count of number of inversions
F   - loop counter
G   - loop counter
H&I - values of current cells in loops F and G
X   - temp use in routine X


Subroutines:
M   - returns value of cell character x (1-4) row (i)
X   - returns value of cell pointed to in loops F and G


Code:


lbl a      entry point
1.004      begin loop to find row with empty cell
sto i      i will point to register A, B, C, or D
lbl b      outer loop
1.004      begin loop to iterate through 4 numbers in A, B, C, and D
sto f      get value 1, 2, 3, or 4 in A, B, C, D
lbl c      inner loop
rcl f      get value 1, 2, 3, or 4
ip
xeq m      return the value of that cell
x=0        looking for the cell with 00, need that row number
goto d     found it
isg f      inner loop
goto c
isg i      outer loop
goto b
rtn        won't get here unless you goof and don't put 00 in a cell
lbl d      found the 00, use row number to initialize inversion counter
rcl i      row number containing empty cell
ip
sto e      inversion count starts with row# of empty cell
1.015      now start looping to count inversions
sto f      outer loop goes from 1 to 15
lbl e
```

```
rcl f
xeq x
x=0         if outer loop value is 0, iterate outer loop (no need to see
goto j      if inner loop values are less than 0 since it's impossible)
sto h       store outer loop current cell value in h
rcl f       now establish inner loop counter, g goes from f+1 to 16
ip
1.016
+
sto g       inner loop counter
lbl f
rcl g
xeq x
sto I       store inner loop current cell value in I
x=0         if I is 0, ignore this iteration
goto g
rcl h
x<y         if second cell is less than first cell, increment inversions
goto g
1
sto + e     inversion count incremented
lbl g
isg g       inner loop iterate
goto f
lbl j       go here if outer loop value was 0 so don't waste time
isg f       outer loop iterate
goto e
sf 10       to enable message in equation to appear
rcl e       inversion count
2
/           if even, valid else invalid
fp
x=0
goto h
INVALID
rcl e       and display inversion count before stopping
cf 10       clear flag 10
rtn         stop
lbl h
VALID
rcl e
cf 10
rtn         stop
lbl m       subroutine returns value of number in x (1,2,3, or 4) in var (i)
enter
enter       adjust input 1,2,3,4 to get to the correct
1           digit number since you need 2 digits, so 1 points to digit 1,
-           2 points to digit 3, 3 points to digit 5, and 4 points to digit 7
+
9
x<->y
-
rcl (i)     i must be set prior to entering routine m
x<->y       to point to vars A,B,C, or D
10^x
/
fp
100         so you get the 2-digit number, like 05 or 12
x
ip
rtn         returns with the appropriate value in x
lbl x       this subroutine converts numbers 1-16 in the main loops
ip          to the appropriate variable (i) (1,2,3,4) and index (1,2,3,4)
sto x       and then returns the value of that character
3
+
4
/
ip
sto i       so correct variable A,B,C,D will be referenced
rcl x
enter
enter
4
/
ip
4           this will give x mod 4, but if it is 0
x           it needs to be 4
-
x=0
4
```

```
xeq m      now that i and x mod 4 are set, call m to get the value
rtn
```

Re: a challenge related to the 15 puzzle

*Message #14 Posted by **Don Shepherd** on 16 Jan 2011, 8:22 p.m.,*
in response to message #13 by Don Shepherd

The same program on the 32s takes about 32 seconds, a bit faster than the 32sii, which I have observed before. On the 32s, however, I can't display INVALID or VALID since it does not have the algebraic equation solver, so I just show the number of inversions; if the number is even the arrangement is solvable.

Re: a challenge related to the 15 puzzle

*Message #15 Posted by **Allen** on 17 Jan 2011, 7:54 a.m.,*
in response to message #14 by Don Shepherd

I had a question about why the -7...7 loop is more memory efficient than going from 1 to 15. As it turns out, the 48G is not the only place one can use this trick. Several programmable calculators have an exploitable memory trick when it comes to byte conservation.

```
Calc   Memory Trick                                          Ref
-------------------------------------------------------------------
32S    integers 0..99 use 1.5 bytes instead of 9.5     UM, p. 874
32SII  integers 0..254 use 1.5 bytes instead of 9.5    UM, p. 12-22
48G    Built-in objects (int. -9..9, pi) use 2.5 bytes
       instead of 10.5                                 AUM, p. 3-41
48gii  same as 48g                                     AUM, p. 3-30
49G    same as 48g                                     AUM, p. 3-30
49G+   same as 48g                                     AUM, p. 3-30
50G    same as 48g                                     AUM, p. 3-30


UM= USERS MANUAL
AUM= Advanced Users Manual
```

Edited: 17 Jan 2011, 7:57 a.m.

Re: a challenge related to the 15 puzzle

*Message #16 Posted by **Don Shepherd** on 17 Jan 2011, 6:50 a.m.,*
in response to message #1 by Don Shepherd

Here is an interesting article from "The Mathematical Gazette" in 1926 that describes a rather unique way of determining whether a specific configuration is solvable. It assumes that the empty position is always the 16th position, so it won't work for every possible configuration (it seems to me). But it is interesting that somebody figured this out in 1926.

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Update:9100A with no display

*Message #1 Posted by **Richard Wilder** on 15 Jan 2011, 7:25 p.m.*

Still no display... I've verified the KB as OK. Probing on the core data board I found that D3 is not pulsing. All other Dn's are pulsing at the respective sense amp output transistor collectors (labeled D(n) on the schematic.) The inhibit FF's (F20 - F25) are all toggling except F25 which is D3's inhibit. K25 is toggling but J25 is not. J25 is the OR of BAddrE' and SC4 and a couple other signals. BAddrE' and SC4 are both toggling but at any given time one is a logic 1 so J25 is stuck at 1 (0V). And now I'm hoplessly lost... ;^P

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HP-67 advice needed

*Message #1 Posted by **Alberto Fenini** on 15 Jan 2011, 5:34 p.m.*

Dear All,
I'm restoring an HP67, which was in bad to very bad conditions.
Battery contacts missing, very dirty and with a lot of oxidation.
I've cleaned the keys, the faceplate, and put all the electronics
in some vinegar for few hours.
I have recovered a couple of new battery contacts from an HP97
power pack and I have put some pieces back together.

I'm using a working HP-67 for the troubleshooting.
If I install the working board in the cleaned keyboard this is what I get

Would you think of a bad soldered pin on the cathode or anode drivers or something more serious ??
Also, the back of the keyboard plate had some corrosion and has been partially recovered, now it looks now like :

Could this also be responsible for the bad display ??

If I put the cleaned board

into the working HP67 all I get is the low battery led turned on.
I'm planning to do some seriuso rework in this unit,
desoldering everything an polishing the pcb, unless you have
a better idea.

As always, thanks in advance for any suggestion given
take care, Alberto

Re: HP-67 advice needed

*Message #2 Posted by **Geir Isene** on 15 Jan 2011, 6:14 p.m.,*
in response to message #1 by Alberto Fenini

Sorry that I cannot offer any tips or help.

But I couldn't resist offering some admiration. That is one deep dive. I wish I had the skills and patience to do the same.

Re: HP-67 advice needed

*Message #3 Posted by **aj04062** on 15 Jan 2011, 10:43 p.m.,*
in response to message #1 by Alberto Fenini

Can you light all the LED modules? I had a 65 with a similar problem, but it was only one module that was bad.

I'd have to go back to the schematic on the module, but I'd suspect a bad module.

Re: HP-67 advice needed

*Message #4 Posted by **Randy** on 16 Jan 2011, 9:50 a.m.,*
in response to message #1 by Alberto Fenini

Use a better test value, key in 8888888888 EEX 88 CHS

If you cannot enter the test value, check for operation of the bottom 4 x 4 grid of keys on the keyboard: all numeric keys and the 4 basic math functions. Start troubleshooting any inoperative keys looking for open traces as the keyboard scan lines and display cathodes are multiplexed.

Don't forget this: HP-67 Internals

Re: HP-67 advice needed

*Message #5 Posted by **Alejandro Paz (Germany)** on 16 Jan 2011, 10:01 a.m.,*
in response to message #1 by Alberto Fenini

What is that symbol on the lower left corner ?... mine has an HP symbol there (I think). That board sure looks terrible :(.

Re: HP-67 advice needed

*Message #6 Posted by **Alberto Fenini** on 16 Jan 2011, 5:26 p.m.,*
in response to message #1 by Alberto Fenini

ciao a tutti
first let me tell that I'm able to light all the segments, and all do look like the first three shown in the picture.
As far as for the display, I have desoldered both the drivers and soldered them back again, but it didn't change a bit
I'll try to do what Randy suggests, but as far as I could remember, keys were operating correctly.

I have stripped all the components from the PCB :

and with the help of a 600 sandpaper and water, carefully tried to bring some connectivity back

I have then resoldered all the components back.
Red circles show damaged traces and I will restore those connections with a very thin isolated wire later.
However, using it as it is, in the working unit I have, it behaves exactly like yesterday ...

I think I'm going to keep the case as spare parts .... :) but I'll do any test that you would suggest

take care and thanks again Alberto

Re: HP-67 advice needed

*Message #7 Posted by **Randy** on 16 Jan 2011, 8:09 p.m.,*
in response to message #6 by Alberto Fenini

We have a misunderstanding due to the terms you have used.

A classic display has 15 ***digits***. There are 3 LED packages of 5 digits each. Each digit has 7 ***segments*** plus the decimal point.

The original picture you posted has "0.00" displayed but each digit that is illuminated is missing segments c, e and f. If every digit illuminates but it is missing the same segments (c,e and f), the problem is open traces or bad transistors within the 1858-0050 IC on the keyboard assembly. It would be a simple matter to test each transistor with an ohmmeter using Tony's information on the 67 Internals article that I referenced in my previous post.

You may also find this of some help: http://www.classiccmp.org/calcmuseum/clasdisp.htm

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hp-41C: Statistic pac overlay??

*Message #1 Posted by **Ignacio Sánchez** on 15 Jan 2011, 11:05 a.m.*

Hello everybody,

I have seen a HP-41CV statistics PAC module for sale. The question is if this module has, or not, keyboard overlays? The Math PAC i.e. has a pair of overlays, but I don't know about the Statistics one? Thank you!

Ignacio

Re: hp-41C: Statistic pac overlay??

*Message #2 Posted by **Allen** on 15 Jan 2011, 12:08 p.m.,*
in response to message #1 by Ignacio Sánchez

there is no overlay for that pac- only the quick ref guide.

Edited: 15 Jan 2011, 12:09 p.m.

Re: hp-41C: Statistic pac overlay??

*Message #3 Posted by **Ignacio Sánchez** on 15 Jan 2011, 12:11 p.m.,*
in response to message #2 by Allen

thank you very much for your prompt answer!!

Ignacio

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programming HP35s in algebraic mode, please.

*Message #1 Posted by **Kip Hopkins** on 14 Jan 2011, 8:19 p.m.*

I have a carpentry trigonometric program written in algebraic mode. I got it to go in RPN, but programmed in the original algebraic, I only get "syntax error" as the result. HP35s should do both?

Re: programming HP35s in algebraic mode, please.

*Message #2 Posted by **Martin Pinckney** on 14 Jan 2011, 9:02 p.m.,*
in response to message #1 by Kip Hopkins

From the 35s manual:

> Quote:
>
> **Selecting a Mode**
>
> Programs created and saved in RPN mode should be edited and executed in RPN mode, and programs or steps created and saved in ALG mode should be edited and executed in ALG mode. If not, the result may be incorrect.

Re: programming HP35s in algebraic mode, please.

*Message #3 Posted by **Kip Hopkins** on 15 Jan 2011, 12:16 a.m.,*
in response to message #2 by Martin Pinckney

I tried to do all steps and execution in algebraic. I switch mode to algebraic....get it in programming mode. The program reads something like: Sto D, x,Rcl A, +,....etc...So, I hit Sto D and it shows a right arrow and the D, and so I hit enter and fill in the next line or command. RPN mode displayed "Sto D", not right arrow D, but there may be a different display language in algebraic. I followed the program in this carpentry book and it just displays "syntax error". I had translated the book's algebraic to RPN by some forum's help, years ago, and the program is fantastic. The calculator is supposed to do both and a calculator in my childish algebraic would be less thought on the job. Oh, and I did remember the Rtn. command.

Re: programming HP35s in algebraic mode, please.

*Message #4 Posted by **David Hayden** on 15 Jan 2011, 8:36 a.m.,*
in response to message #3 by Kip Hopkins

Kip,

Can your reduce the program to a small example that shows the problem that you're having? If we can see something specific, we can probably help.

Dave

Re: programming HP35s in algebraic mode, please.

*Message #5 Posted by **Dieter** on 15 Jan 2011, 9:18 a.m.,*
in response to message #3 by Kip Hopkins

I'm not sure if I got your point, and to me all this sounds much more complicated than it actually is, so maybe it's a good idea to simply recall some basics here:

1. The 35s can be used in RPN as well as in ALG mode. Just as manual operation in these modes is completely different, so is programming: Every program you write has to be written explicitely *either* for RPN-mode execution *or* for ALG-mode execution, and it also has to be entered in this mode. If you're changing modes frequently it's a good a idea to place a RPN resp. ALG command right at the beginning of your program to make sure it's executed correctly.

2. If you're familiar with RPN but all you got is a program written for ALG-mode, you do not have to rewrite the program. Simply insert an ALG command at the very beginning so that the program runs as intended, and put a RPN command right at the end to switch back to your preferred RPN mode.

3. In some cases programs can be written in a way that allows correct execution both in ALG and RPN mode. This can be done by using equations and/or storage/recall arithmetics. For instance like this (Pythagorean theorem):

```
Classic version        Using equations


LBL C                  LBL C
RCL A                  SQRT(A^2+B^2)>C   equation: ">C" is "STO C"
X^2                    VIEW C
STO C                  RTN
RCL B
X^2
RCL+C
SQRT
STO C
VIEW C
RTN
```

   The classic version *must be entered in RPN mode!* Otherwise STO-instructions will be recorded as equations with these solid right-arrows you already mentioned, leading to syntax errors! The equation-based solution can be entered and executed in both modes.

If all this still doesn't solve your problem please give a specific example so that we're able to help.

Dieter

Re: programming HP35s in algebraic mode, please.

*Message #6 Posted by **Kip Hopkins** on 15 Jan 2011, 5:41 p.m.,*
in response to message #5 by Dieter

Thank you for your responses. Don't go overboard for me....protect your time, if you need to. But I'm reading and will be trying. At the end of this I will put down the full programs and their intent. And printing what you've put down and bringing that to my kid's tutor has already gotten me there, undoubtedly. Dieter's post starting: " I'm not sure..." will probably be over my head, but let me address something. Point #1, On changing modes frequently, I may never go to RPN, again, if I can program and run algebraic and so explaining "RPN resp. ALG" may be time wasted. "resp." may mean respond as, but I don't find that as a button or key. Point#2: I think that my former small

successes in RPN had the display TOP as top of the list. I only will do this one "rake wall" program, so I'm not labeling my program. It sounds like I could leave my great RPN program in there and line one could be that ALG command, but what buttons to push. But...I shouldn't go down that road, huh? I think Dieter's point#1, and line starting "Every program..." is what I need to plod towards. And this guy can help me, I'm sure. I prefer this as a project with you guys, but I have 4 day blocks off the computer, so don't feel ignored. That "Classic version..and Using equations" almost looks like I could learn that with some quiet hours. Or that guy. Thanks. Program from "Carpentry Layout", Ken Todd, '88. I assume ALG. STO D, x, RCL A, +, RCL C, =, STO E, RCL D, x,RCL B, =, STO F The book leaves out RTN, but I assume it's needed. And this program needed Height Multipier in MEM A: 2/12=0.1666667, STO A. And the Rake Multiplier in MEM B: 2 squared + 12 squared=an answer, square root of, /12=1.0137938, STO B. And the height or length of the first stud...maybe 92.25, STO C. When out of program mode, put in the short point of the first stud, say 15.25", hit R/S for Run and you get the distance along the rake or hypotenuse. Hit RCL E and you get short point length of that stud. With a forum's help I think that I learned how to interpret that into RPN. It works for me, but I yearn for the ALG. So, it's: STO D, RCL A, x, RCL C, +, Enter, STO E, RCL D, RCL B, x, Enter, STO F, RTN. And remember that all is over my head and I just need to get the one program in ALG, or, heck, I can always just this last in RPN. Still a good day. Thanks for reading, if nothing else. Right now Carmel Valley is warmer than my house and so I have the doors wide open in January.

Re: programming HP35s in algebraic mode, please.

*Message #7 Posted by **bill platt** on 15 Jan 2011, 6:58 p.m.,*
in response to message #6 by Kip Hopkins

Thank you for your responses. Don't go overboard for me....protect your time, if you need to. But I'm reading and will be trying. At the end of this I will put down the full programs and their intent.

And printing what you've put down and bringing that to my kid's tutor has already gotten me there, undoubtedly. Dieter's post starting: " I'm not sure..." will probably be over my head, but let me address something.

Point #1, On changing modes frequently, I may never go to RPN, again, if I can program and run algebraic and so explaining "RPN resp. ALG" may be time wasted. "resp." may mean respond as, but I don't find that as a button or key.

Point#2: I think that my former small successes in RPN had the display TOP as top of the list. I only will do this one "rake wall" program, so I'm not labeling my program. It sounds like I could leave my great RPN program in there and line one could be that ALG command, but what buttons to push. But...I shouldn't go down that road, huh? I think Dieter's point#1, and line starting "Every program..." is what I need to plod towards. And this guy can help me, I'm sure.

I prefer this as a project with you guys, but I have 4 day blocks off the computer, so don't feel ignored. That "Classic version..and Using equations" almost looks like I could learn that with some quiet hours. Or that guy. Thanks.

Program from "Carpentry Layout", Ken Todd, '88.

I assume ALG.

```
STO D,
X,
RCL A,
+,
RCL C,
=,
```

```
STO E,
RCL D,
x,
RCL B,
=,
STO F

The book leaves out RTN, but I assume it's needed.
```

And this program needed Height Multipier in MEM A: 2/12=0.1666667, STO A.

And the Rake Multiplier in MEM B: 2 squared + 12 squared=an answer, square root of, /12=1.0137938, STO B.

And the height or length of the first stud...maybe 92.25, STO C.

When out of program mode, put in the short point of the first stud, say 15.25", hit R/S for Run and you get the distance along the rake or hypotenuse. Hit RCL E and you get short point length of that stud.

With a forum's help I think that I learned how to interpret that into RPN. It works for me, but I yearn for the ALG.

So, it's:

```
STO D,
RCL A,
x,
RCL C,
+,
Enter,
STO E,
RCL D,
RCL B,
x,
Enter,
STO F,
RTN.
```

And remember that all is over my head and I just need to get the one program in ALG, or, heck, I can always just this last in RPN. Still a good day. Thanks for reading, if nothing else. Right now Carmel Valley is warmer than my house and so I have the doors wide open in January.

Re: programming HP35s in algebraic mode, please.

*Message #8 Posted by **Dieter** on 15 Jan 2011, 7:06 p.m.,*
in response to message #6 by Kip Hopkins

Since the original program is from '88 it obviously wasn't programmed on a 35s which appeared almost 20 years later. Many things are different today - for instance there is no "="-key to finish a calculation, ENTER is used instead. Anyway - without extensive explanations, simply try this:

- Press GTO . . to place the calculator at the top of program memory (GTO followed by 2x decimal point). Make sure ALG mode is on by pressing MODE 4.
- Switch the 35s to program mode (blue shift R/S) to see PRGM TOP
- Enter the following program (of course without the line numbers)

```
0001 LBL A   (blue shift key, XEQ key, A)
0002 STO D
0003 RCLx A  (Press RCL, multiply, A)
0004 RCL+ C
0005 STO E
```

```
0006 RCL D
0007 RCLx B
0008 STO F
0009 RTN     (yellow shift key, XEQ key)


Quit program mode.
```

- Test in ALG Mode:

```
2 / 12 ENTER  STO A ENTER  result is 0,1667, display shows LASTx>A
2 y^x 2 + 12 y^x 2 ENTER   display shows 2^2+12^2, result is 148
squareroot LASTx ENTER     "LASTx" is blue-shift ENTER,
                           result is 12.1655
/ 12 ENTER                 divide this by 12, result is 1.0138
STO B ENTER                display shows "LASTx>B"
92,25 STO C ENTER          display shows 92.25>C


Press GTO .. again - just to be sure.
```

- Enter 15,25 and press R/S (or XEQ A), get the result 15.4604
- Press RCL E ENTER and see that E is 94.7917

This program will work both in ALG mode as well as in RPN mode.

All this just scratches the surface of what your HP35s can do for you. You will have to read the manual and get more accustomed to it to use its full potential. Your carpentry program could be much more powerful and way easier to use. ;-)

Dieter

Re: programming HP35s in algebraic mode, please.

*Message #9 Posted by **Kip Hopkins** on 16 Jan 2011, 12:04 a.m.,*
in response to message #8 by Dieter

I can't write in columns. Not savvy. Sorry. I did:GTO decimal decimal.....MODE 4....blue shift R/S...and saw PRGM TOP. LBL A went well. That line 0002, though, is heading me down that old path. I did STO D and got that solid right arrow and a D and a blinking space that I can only kill with an ENTER. I can make it read like Dieter's, but only in RPN, which may be what Dieter meant. In that ALG MODE test, just below in Dieter's post, I put it into ALG and at that MEM B, I got the Syntax Error.

Re: programming HP35s in algebraic mode, please.

*Message #10 Posted by **Dieter** on 16 Jan 2011, 8:32 a.m.,*
in response to message #9 by Kip Hopkins

> Quote:
>
> I can't write in columns.

You can. For a new paragraph simply press Return twice. Or press the "newline" button below the edit window, this will insert a [nl]. If you want to look everything the way you entered (like the program listing above) use the "preformatted" button or enclose that section in [pre] ... [/pre] tags.

> Quote:

> I did:GTO decimal decimal.....MODE 4....blue shift R/S...and saw PRGM TOP. LBL A went well. That line 0002, though, is heading me down that old path. I did STO D and got that solid right arrow and a D and a blinking space that I can only kill with an ENTER. I can make it read like Dieter's, but only in RPN, which may be what Dieter meant.

Right - my fault. Although the program can run both in ALG and RPN mode, it has to be entered in RPN mode, not in ALG. So press MODE 5 (not 4), then switch to program mode, enter the listing, quit program mode and switch back to ALG with MODE 4.

> Quote:
>
> In that ALG MODE test, just below in Dieter's post, I put it into ALG and at that MEM B, I got the Syntax Error.

What "MEM B"? There is no such key on the 35s. To store a number use the STO key, to recall a number use the RCL key. The "MEM" is something completely different, it shows the memory used for variables and programs.

Just try again, set MODE 5, enter the program, switch back to MODE 4 and everything should work as expected.

Dieter

Re: programming HP35s in algebraic mode, please.

*Message #11 Posted by **Kip Hopkins** on 16 Jan 2011, 6:28 p.m.,*
in response to message #10 by Dieter

Wow. I was reading Dieter's 2y,up arrow, x, 2 as the x2 button, but then I recouped after 45 mins. of Syntax Error and spied the y-thing button. It works.....It works! Thank you, Dieter. None of my TI-30xA had that....no, I see it. Just never really saw it. My next move will be to try to understand how all those STO E's...etc....really work. The Program. You got me as far as I'd intended to go, but I like your idea of spending time with that manual tome.
I just tried the newline thing and I'll spy back and see if it worked.

Return twice worked? I'm doubting that one.Preformat? Try.

```
REPLACE THIS TEXT WITH YOUR LISTING
```

line 1 line 2 ...doubt..not important. line 3...etc
Thank you guys, so much. Doubt I'm welcome back. All your bruised foreheads!

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Printing quality on HP-97

*Message #1 Posted by **Christophe Dubreuil** on 14 Jan 2011, 8:18 a.m.*

I just repaired the magnetic card reader of my HP-97. It is now working !

But after re-assembling it, the print quality drop down : * Globally lighter. * A line is sometimes missing..

I looked after contacts and positionning but i don't see anything wrong.

Does anybody have any idear what i might have unvoluntarily modified ?

Thanks

Christophe Dubreuil

Re: Printing quality on HP-97

*Message #2 Posted by **Ignazio Cara (Italy)** on 14 Jan 2011, 11:35 a.m.,*
in response to message #1 by Christophe Dubreuil

Hello Christophe, can you post an image of the printed lines? We will able to help you for sure. Regards

Ignazio

Re: Printing quality on HP-97

*Message #3 Posted by **Christophe Dubreuil** on 14 Jan 2011, 11:50 a.m.,*
in response to message #2 by Ignazio Cara (Italy)

I will scan two printings (before and after).

What is the best way to post images on this forum ?

Re: Printing quality on HP-97

*Message #4 Posted by **Ignazio Cara (Italy)** on 14 Jan 2011, 5:07 p.m.,*
in response to message #3 by Christophe Dubreuil

You can share your images going to the Forum Message index page, select 'Account' and then 'Guest file management".

HTH

Ignazio

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OT - Collecting: calculators, ... and what else?

*Message #1 Posted by **Nenad (Croatia)** on 14 Jan 2011, 4:34 a.m.*

Hi to all. After several months I am back here to this wonderful forum.

Meanwhile, I have developed an additional addiction except collecting of calculators: collecting invaluable engineering information such as international (ISO, EN, CEN) and national (BS, DIN, VDI, VDA) standards, just for my personal education. Actually, with a little effort, the majority of these standards can be found free on the Web.

My try to find out if this is an information (the availability of free standards on the Web) well known to everybody did not give any outcome. So, I ask you here: is it something commonly known?

Thinking that there are many engineers here who may be interested in this topic, I will be glad to share my experience here, but subject to the following:

If you find this post inappropriate in any aspect (discussing about something that can violate copyright), the currator is welcome to delete this thread immediatelly.

Re: OT - Collecting: calculators, ... and what else?

*Message #2 Posted by **Walter B** on 14 Jan 2011, 7:34 a.m.,*
in response to message #1 by Nenad (Croatia)

AFAIK, in Germany it's very limited fun looking for free standards of the kinds you mentioned. There is one large publisher and some smaller ones taking care of their income ... There may be other ways, though.

Re: OT - Collecting: calculators, ... and what else?

*Message #3 Posted by **Martin Pinckney** on 14 Jan 2011, 9:12 a.m.,*
in response to message #1 by Nenad (Croatia)

In the U.S., it is somewhat similar to what Walter said. Government agencies do distribute free (usually) their standards via the Web. In times past you had to pay for printed standards to cover the cost of printing, at least. The Internet has changed all that. Examples are Army Corps of Engineers, Naval Facilities Command, Federal Highway Administration, state transportation departments.

On the other hand, NGO's that promulgate standards are almost always provided for a fee. Examples are American National Standards Institute, American Concrete Institute, American Society for Testing Materials.

There are exceptions, such as Underwriters Laboratories, or trade groups supported by their members. Some of these provide some standards for free, charge for others.

Corrected one word. See Karl's post.

Edited: 14 Jan 2011, 1:37 p.m. after one or more responses were posted

(deleted post)

*Message #4 Posted by **deleted** on 14 Jan 2011, 10:34 a.m.,*
in response to message #3 by Martin Pinckney

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: OT - Collecting: calculators, ... and what else?

*Message #5 Posted by **Martin Pinckney** on 14 Jan 2011, 1:27 p.m.,*
in response to message #4 by deleted

Yes, sorry, Karl.

Re: OT - Collecting: calculators, ... and what else?

*Message #6 Posted by **Walter B** on 14 Jan 2011, 11:40 a.m.,*
in response to message #3 by Martin Pinckney

> Quote:
>
> On the other hand, NGO's that promulgate standards are almost always provided for a fee. Examples are American National Standards Institute, ...

Assume you were talking about NIST here, I had a different understanding of the abbreviation "NGO" so far.

Re: OT - Collecting: calculators, ... and what else?

*Message #7 Posted by **Dave Shaffer (Arizona)** on 14 Jan 2011, 11:43 a.m.,*
in response to message #6 by Walter B

"NGO" = non-government organizations

Re: OT - Collecting: calculators, ... and what else?

*Message #8 Posted by **bill platt** on 14 Jan 2011, 1:45 p.m.,*
in response to message #6 by Walter B

NIST is the National Institute of Standards and Technology and is a federal agency "NIST is a non-regulatory federal agency within the U.S. Department of Commerce. NIST's mission is to promote U.S. innovation and industrial competitiveness by advancing measurement science, standards, and technology in ways that enhance economic security and improve our quality of life."

```
Examples of NGO would include but not be limited to:
SAE
ANSI
AISI
AISC
ASTM
etc
```

There are a lot of engineering requirements free in the CFR (code of federal regulations).

Then there are free standards at most of these:

```
BV
LR
DNV
GL
ABS
RINA
```

Re: OT - Collecting: calculators, ... and what else?

*Message #9 Posted by **John B. Smitherman** on 14 Jan 2011, 11:14 a.m.,*
in response to message #1 by Nenad (Croatia)

It's ironic - so much effort is expended to create standards and then they are almost shrouded in secrecy by not being made freely and widely available.

John

Re: OT - Collecting: calculators, ... and what else?

*Message #10 Posted by **Martin Pinckney** on 14 Jan 2011, 1:34 p.m.,*
in response to message #9 by John B. Smitherman

> Quote:
>
> ...almost shrouded in secrecy by not being made freely and widely available.

John, I think they are widely available, just not freely. Anyway, I believe it's about cost, not secrecy. After all, the only reason the government-promulgated standards are "free" is because our taxes already paid for developing them.

Re: OT - Collecting: calculators, ... and what else?

*Message #11 Posted by **Nenad (Croatia)** on 14 Jan 2011, 2:12 p.m.,*
in response to message #9 by John B. Smitherman

> Quote:
>
> It's ironic - so much effort is expended to create standards and then they are almost shrouded in secrecy by not being made freely and widely available.
>
> John

This is exactly the point, John. Experts delegated by companies/nations into Technical Committees and paid by their companies create standards in one or several years debate with a great effort and after that someone else (e.g. ISO Geneva) sells them worldwide through their webpage for a signifficant amount of money.

But there is another (easy!) approach, instead of giving a lot of money to someone who is the document owner, though did not create it ... Is it correct that I say something about it here? Would this information violate moHP policy? Are you, dear engineers, interested in reading standards you don't have available?

I know something I would tell, I would tell, I would tell, ...

Re: OT - Collecting: calculators, ... and what else?

*Message #12 Posted by **Martin Pinckney** on 14 Jan 2011, 2:39 p.m.,*

in response to message #11 by Nenad (Croatia)

> Quote:
>
> (discussing about something that can violate copyright)

Now your original post makes more sense.

Discussing is one thing, actually violating is another. From previous experience, I would say most posters here respect copyright laws.

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Green LED HP 45?

*Message #1 Posted by **ClausB** on 13 Jan 2011, 10:33 p.m.*

Auction

Interesting story. Is it true?

Re: Green LED HP 45?

*Message #2 Posted by **Martin Pinckney** on 13 Jan 2011, 10:54 p.m.,*
in response to message #1 by ClausB

My guess is yes. Too much plausible detail to be made up. Unless a very sophisticated con artist. Anyway easily debunked if untrue.

This may end up being the "$9000 Red - err - Green Dot(s)."

Re: Green LED HP 45?

*Message #3 Posted by **db (martinez, ca.)** on 13 Jan 2011, 11:20 p.m.,*
in response to message #1 by ClausB

> Quote:
>
> Bill Hewlett used it for a few months and gave it back to my Department Head, Dr. Paul Green. Bill's comment was "You have to go into the Men's room and turn off the light to be able to use it"

I've been in Bill's office, which along with Dave's is kept as they used them. Window walls - lots of light. I can see the problem. I didn't go into the (shared if i remember correctly) bathroom.

I hope the buyer submits a good photo to the Museum.

Re: Green LED HP 45?

*Message #4 Posted by **robert rozee** on 14 Jan 2011, 5:08 a.m.,*
in response to message #1 by ClausB

regarding the current consumption (running for 20 minutes), technically is very true. early green LEDS were extremely inefficient compared to red, hence why red was almost universally used back then. now, today the matter is quite different.

i have a couple of moderately scruffy 31E units with defective displays (bubbles in the plastic lens - probably since new) that i'm considering doing a similar sort of operation to, except replacing the displays with much larger orange LED digits of 1/2" height.

rob :-)

Re: Green LED HP 45?

*Message #5 Posted by **Martin Pinckney** on 14 Jan 2011, 1:44 p.m.,*
in response to message #1 by ClausB

I was expecting a lot more comments on this one. I guess half the forum membership is planning on bidding on it, so no one wants to talk it up |:~)

Re: Green LED HP 45?

*Message #6 Posted by **Mark Henderson** on 14 Jan 2011, 3:40 p.m.,*
in response to message #5 by Martin Pinckney

I'm torn between bidding and making my own...!

Re: Green LED HP 45?

*Message #7 Posted by **Katie Wasserman** on 14 Jan 2011, 6:15 p.m.,*
in response to message #5 by Martin Pinckney

I'll talk! I just bid $250, $400, $500 to test the reserve -- that was it. My guess is that this will go for $5,000+ to someone in Europe.

Re: Green LED HP 45?

*Message #8 Posted by **Martin Pinckney** on 14 Jan 2011, 6:50 p.m.,*
in response to message #7 by Katie Wasserman

So if he only had $500 reserve, he may be somewhat surprised when all is said and done.

Re: Green LED HP 45?

*Message #9 Posted by **Keith Midson** on 15 Jan 2011, 3:22 a.m.,*
in response to message #7 by Katie Wasserman

Actually I don't think the auction is available outside USA. I can't find it in TAS through key word search (Australia), but only through the direct link from this thread or item number. Something I'd normally bid on too ;) Keith

Re: Green LED HP 45?

*Message #10 Posted by **Walter B** on 15 Jan 2011, 1:06 p.m.,*
in response to message #9 by Keith Midson

It IS available outside of the USA. Censorship in Australia?? ;)

Edited: 15 Jan 2011, 1:06 p.m.

Re: Green LED HP 45?

*Message #11 Posted by **Ernst Fueloep** on 15 Jan 2011, 4:28 p.m.,*
in response to message #10 by Walter B

Sorry, Walter, but the auction clearly says Ships to: United States.

So, it is not available outside the US.

Regards, Ernst

Re: Green LED HP 45?

*Message #12 Posted by **Walter B** on 15 Jan 2011, 4:49 p.m.,*
in response to message #11 by Ernst Fueloep

Sorry, Ernst, the question was different. The *auction* is accessible/available worldwide, the *item* offered will be shipped to the US of A only - so far. Apparently the seller doesn't want to make as much money as possible, and nobody asked him for shipment to a location outside the USA yet.

Re: Green LED HP 45?

*Message #13 Posted by **Raymond Del Tondo** on 15 Jan 2011, 6:42 p.m.,*
in response to message #12 by Walter B

> Quote:
>
> [..] Apparently the seller doesn't want to make as much money as possible, and nobody asked him for shipment to a location outside the USA yet.

You don't _know_ whether he has been asked or not;-)

Re: Green LED HP 45?

*Message #14 Posted by **Maximilian Hohmann** on 16 Jan 2011, 6:06 a.m.,*
in response to message #13 by Raymond Del Tondo

Good morning!

> Quote:
>
> You don't _know_ whether he has been asked or not;-)

And, what did he say?

Anyway, if the final price for this thing will go anywhere near to where we expect it to go, it will be cheaper to travel to the US and collect it in person than to pay the inevitable import tax into the European Union if it gets shipped by mail.

Cheers, Max

Edited: 16 Jan 2011, 6:06 a.m.

Re: Green LED HP 45?

*Message #15 Posted by **Keith Midson** on 16 Jan 2011, 5:27 p.m.,*
in response to message #10 by Walter B

When an item is listed for sale within its country of origin it won't come up in search results for other countries sites unless it is listed for shipping to other countries. You can enter the item ID

to get the item to come up so you can still view it, but you need to know that it's there. You can even bid (well I did on this item!!), but if it's not offered for sale within that country then it won't show up in that country's TAS site (in my case e*ay.com.au, also eb*y.co.uk, *bay.co.nz, etc) then it won't come up in a search result that's all. Nothing to do with censorship. Cheers, Keith

Edited: 16 Jan 2011, 5:28 p.m.

Re: Green LED HP 45?

*Message #16 Posted by **Walter B** on 17 Jan 2011, 2:19 a.m.,*
in response to message #15 by Keith Midson

Keith,

you can avoid this by searching on the local website(s) of TAS yourself. IMO the US-site is worthwhile browsing, a few others as well - <5 in total on this planet. BTW, did you see the ;) in my posting above?

HTH, Walter

Re: Green LED HP 45?

*Message #17 Posted by **Keith Midson** on 17 Jan 2011, 5:17 a.m.,*
in response to message #16 by Walter B

Walter ;) I did miss that, but I've seen it now! I am a frequent visitor to TAS.com Cheers, Keith

Re: Green LED HP 45?

*Message #18 Posted by **Donald Williams** on 14 Jan 2011, 7:43 p.m.,*
in response to message #5 by Martin Pinckney

I suppose it might have some small historical interest, but in the end it is just another modified calculator. While the mods were not trivial, they are not rocket science either. I'll pass.

Re: Green LED HP 45?

*Message #19 Posted by **Katie Wasserman** on 14 Jan 2011, 8:35 p.m.,*
in response to message #18 by Donald Williams

> Quote:
>
> but in the end it is just another modified calculator

I don't see it that way at all, it's a prototype that never made it into production, I think that makes it quite valuable.

I think it would be more than difficult to mod an HP-45 to have a green display. Finding any displays, much less green ones, that fit and look right in the classic calculators would be extremely difficult. More likely impossible, if this didn't come from HP. At the time HP had an entire division producing similar displays but not this one. So this is both a prototype calculator and a prototype display.

Re: Green LED HP 45?

*Message #20 Posted by **Martin Pinckney** on 14 Jan 2011, 8:57 p.m.,*
in response to message #19 by Katie Wasserman

> Quote:
>
> I suppose it might have some small historical interest...
>
> I don't see it that way at all, it's a prototype that never made it into production, I think that makes it quite valuable.

If the story is true, to a *serious* collector, it's value must derive from both its uniqueness and its direct association to Bill Hewlett.

Re: Green LED HP 45?

*Message #21 Posted by **Donald Williams** on 15 Jan 2011, 12:30 a.m.,*
in response to message #20 by Martin Pinckney

I suppose I should reconsider my objection's. I think I might just start "dumpster diving" at the Apple headquarters in Cupertino. If I can salvage some of the failed prototype's that Steve Jobs has recently rejected, maybe the income from the auctions can support me in my old age.

Re: Green LED HP 45?

*Message #22 Posted by **Gerson W. Barbosa** on 14 Jan 2011, 8:20 p.m.,*
in response to message #5 by Martin Pinckney

Really not interested. Too green for my taste :-)

Re: Green LED HP 45?

*Message #23 Posted by **Alan Andrews** on 16 Jan 2011, 11:36 a.m.,*
in response to message #22 by Gerson W. Barbosa

Hi Everyone,

I am the guy selling the Green display HP-45. My normal profile on EBAY is for shipping only to the U.S. I got a request from a Calculator museum in Europe and changed my profile to allow international shipping. I tried to edit the listing to drop the "U.S. only" but editing is not allowed once the reserve has been exceeded. So yes, I will ship it internationally. I cannot explain about Australia.

My story is true. Sincerely, Alan

Edited: 16 Jan 2011, 1:36 p.m. after one or more responses were posted

Re: Green LED HP 45?

*Message #24 Posted by **Martin Pinckney** on 16 Jan 2011, 12:50 p.m.,*
in response to message #23 by Alan Andrews

Alan,

Thanks for chiming in. A remarkable story. Best of luck on the auction.

By the way, be sure to send photos to Dave Hicks before you ship it!

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HP 17BII Dropped!

*Message #1 Posted by **Mike D** on 12 Jan 2011, 5:40 p.m.*

I have a 17BII that I dropped on a ceramic tile floor. Now the calculator works but the keys on the right side do not work. I have read some material in this forum on how to open the caluclator, but not how to repair the problem keys, if that is possible. Please point me in the right direct for information on how to repair the keys.

Sorry if this is redundant, but I did see anything in the archive posts. I was also reading about Geoff Quickfall's book on restoration, but didn't know where or how to buy it.

Thanks for the help,

Mike D

Re: HP 17BII Dropped!

*Message #2 Posted by **Martin Pinckney** on 12 Jan 2011, 8:36 p.m.,*
in response to message #1 by Mike D

Mike, I have not tried any repair, and there are many members of the forum you have, but since they are a little slow to respond, you might try this or even this.

Re: HP 17BII Dropped!

*Message #3 Posted by **Allen** on 12 Jan 2011, 10:07 p.m.,*
in response to message #1 by Mike D

They are relatively inexpensive and abundant on ebay, why spend time and money repairing? If it were a 42s it would be a different matter.

Have you tried pressing on the bezel while you press the keys?

Re: HP 17BII Dropped!

*Message #4 Posted by **Walter B** on 13 Jan 2011, 4:09 a.m.,*
in response to message #1 by Mike D

FYI, Geoff's book is not available yet.

Re: HP 17BII Dropped!

*Message #5 Posted by **Jim Yohe** on 13 Jan 2011, 10:08 p.m.,*
in response to message #4 by Walter B

And that's unfortunate. :-P

Patience grasshopper, patience!

*Message #6 Posted by **Geoff Quickfall** on 13 Jan 2011, 11:17 p.m.,*
in response to message #5 by Jim Yohe

nt

Re: Patience grasshopper, patience!

*Message #7 Posted by **db (martinez, ca.)** on 14 Jan 2011, 1:21 a.m.,*
in response to message #6 by Geoff Quickfall

George; I don't think i have a current email for you. I've wrote you three times at the old one. Drop me a line & tell me how the 10 is going, will ya? No hurry on the book from me - but i have my checkbook out. -db

---

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Running an HP7475A plotter on the HP-IL Loop

*Message #1 Posted by **Richard L. Taylor** on 11 Jan 2011, 10:14 p.m.*

Hi; I am working on a computer project. It involves the Hewlett Packered HP41cx handheld computer. I would like to use my HP41CX to drive my HP7475A plotter that has an HP-IB interface. I have the following items:

```
1.  HP41CX
2.  HP 5061-5238 PLOTTER MODULE
3.  HP 82160A HP-IL I/O MODULE
4.  HP 82183A EXTENDED I/O MODULE
5.  HP 82169A HP-IL / HP-IB INTERFACE UNIT
6.  HP 9114B  3.5 INCH FLOPPY DRIVE
7.  HP 82161A DIGITAL CASSETTE DRIVE WITH MINI CASSETTES
8.  HP 82162A THERMAL PRINTER
9.  A NUMBER OF HP-IL CABLES
10. HP 7475A PLOTTER WITH AN HPIB INTERFACE
11. L-com CMP SERIES - IEEE - 488 GPIB CABLE TO CONNECT THE PLOTTER TO THE HP-IL / HP-IB
INTERFACE UNIT
```

The HP-IL loop works just fine with the floppy drive, cassette drive and the printer. I just can't get any response from the plotter. The plotter is on the end of the HP-IL loop

```
3.5 INCH FLOPPY DRIVE                    =  HP-IL address 1
DIGITAL CASSETTE DRIVE                 = HP-IL address 2
THERMAL PRINTER                           = HP-IL address 3
HP-IL / HP-IB INTERFACE UNIT      = (HP-IL ?) address 4 ---- Here I set the dip switches
PLOTTER                                                 = (HP-IL ?) address 5 ---- Here I set the
dip switches
```

I have tried every thing that I can think of to get the plotter to responed to the HPGL commands sent through the HP41cx and no luck. I tried Sending the HPGL commands with or with out an ESC character (ascii no. 27) with the HP-IL command OUTA. Can any one help me with this? I would be very greatful.

Re: Running an HP7475A plotter on the HP-IL Loop

*Message #2 Posted by **Garth Wilson** on 12 Jan 2011, 12:30 p.m.,*
in response to message #1 by Richard L. Taylor

I have done tons of I/O with the 41cx through multiple instruments on the other side of the 82169A HPIL-to-HPIB interface converter, although not in recent years, and not with the plotter. Can you post some 41cx code? Did you put it in MANIO and use SELECT to select the plotter's address? Does the plotter seem to respond to the IN (initialize) command? Do you have the plotter manual?

As I remember, setting the DIP switches on the 82169A is only necessary if the controller is on the HPIB side. I don't think I ever touched them for controlling it from the HPIL side. If the plotter is at address 5, its DIP switches will be set to 00101. The plotter can have any address above the 82169A's address though. It does not have to be 5. After you get onto HPIB, the addresses do not have to be consecutive.

This is a continuation of the topic on TOS --> forum --> HPIL --> "Using an HP7475 plotter that has an HPIB interface."

Re: Running an HP7475A plotter on the HP-IL Loop

*Message #3 Posted by **Tony Duell** on 13 Jan 2011, 4:46 a.m.,*
in response to message #1 by Richard L. Taylor

I think the problem may be the DIP switch settings on the HP82169 interface.

What you want to do is set the 82169 to 'translator' mode, not 'mailbox' mode. The latter is for use when you have a controller (such as a computer or calculator) on both the HPIL and HPIB sides.

The simplest configuration has the 82169 as the last device on the HPIL loop -- that is the 'output' connector of the 82169 goes back to the calculator. Then set the plotter (or other HPIB devices) address switches to a number higher than the number of HPIL devices (here, you need to set it to 5 or higher). And then simply address the plotter as that device from the HPIL side.

I've never tried a 7475 plotter, but I've had no problems runnign a 7440 Colorpro plotter this way, using the HP41 plotter ROM.

Re: Running an HP7475A plotter on the HP-IL Loop

*Message #4 Posted by **Richard L. Taylor** on 14 Jan 2011, 2:48 p.m.,*
in response to message #3 by Tony Duell

Tony, I wonder if my plotter problem is with the plotters handshake parodical. I have the plotters HP-IB manual. I don't understand the handshake parodical commands Also, I wonder if it has something to do with the HP41cx flag 53 the I/O flag. I can"t work on this project to much because of my health (chronic pain) in my shoulders.

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nano gloat or nanny goat?

*Message #1 Posted by **Ren** on 11 Jan 2011, 9:00 p.m.*

Today I was given an HP-18C. ($0.00)

It looks "minty", but the batteries were dead, so I don't know it if works.

Re: nano gloat or nanny goat?

*Message #2 Posted by **db (martinez, ca.)** on 11 Jan 2011, 11:23 p.m.,*
in response to message #1 by Ren

they make great battery door doners for the 28 and 19bii.

funny. i just saw one with a 19b at the flea on Sunday.

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Mechanical BRUNSVIGA calculator

*Message #1 Posted by **Jean-Michel** on 11 Jan 2011, 1:29 p.m.*

Hi all,

if anyone is interested: //http://www.leboncoin.fr/informatique/152637376.htm?ca=12_s 15€ is the final price, no auction.

Shipping cost may exceed the price of the calculator itself, though...

(I'm not the seller nor one of his relatives)

Kind regards.

Jean-Michel.

Edited: 12 Jan 2011, 7:50 a.m. after one or more responses were posted

Re: Mechanical BRUNSVIGA calculator

*Message #2 Posted by **Jeff Kearns** on 11 Jan 2011, 2:21 p.m.,*
in response to message #1 by Jean-Michel

The link is non-functional. Can you please edit your post and try again? You have one too many http's in there!

Jeff

Edited: 11 Jan 2011, 2:23 p.m.

Re: Mechanical BRUNSVIGA calculator

*Message #3 Posted by **Mark Harman** on 11 Jan 2011, 4:34 p.m.,*
in response to message #2 by Jeff Kearns

It will still work if you just delete the extra http:// from the address bar. Although, it would still be helpful if the link were edited.

Regards,

Mark

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Multimeter HP 3468A, CMOS RAM battery replacement

*Message #1 Posted by **Frido Bohn** on 11 Jan 2011, 3:09 a.m.*

Hello,

the multimeter (HP-3468A) has a 3V lithium battery to prevent the deletion of the CMOS RAM while turned off. This is crucial because otherwise the calibration data would be erased.
My point now, is to ask whether someone has ever replaced this battery while maintaining the calibration data. According to the service manual, the CMOS RAM gets its supply voltage from the grid while the machine is turned on. So it would be obvious to do some soldering and replace the battery when the multimeter is turned on.
Another idea would be to keep the old battery. Then, to connect the new battery in parallel, and eventually, to disconnect the old battery.
However, I am afraid to produce some shorts or whatsoever which could drain the contents of the RAM anyway, or even worse, damage some other part of the multimeter.

Does anyone have some ideas or comments on this?
Any help is appreciated.

Best regards
Frido

Re: Multimeter HP 3468A, CMOS RAM battery replacement

*Message #2 Posted by **Ren** on 11 Jan 2011, 9:06 p.m.,*
in response to message #1 by Frido Bohn

Although I have calibrated and repaired HP multimeters in the the past, I am unfamiliar with that model or any that contain a lithium battery.

You may have posted this in desperation, or were you unaware this forum is for HP calculators?

I suggest posting your question the to sci.electronics.repair newsgroup, or Google search

Sincerely,

Ren

dona nobis pacem

Re: Multimeter HP 3468A, CMOS RAM battery replacement

*Message #3 Posted by **Eric Smith** on 11 Jan 2011, 9:24 p.m.,*
in response to message #2 by Ren

The 3468A has an HP-IL interface, so it was commonly used with the HP-41, HP-71, and HP-75. (Meters with an HP-IB interface could be used, but required the 82169A IL/IB translator.)

The 3468A calibration is stored in battery backed RAM. If the battery dies, you lose the calibration. Unfortunately mine had a dead battery when I received it.

Re: Multimeter HP 3468A, CMOS RAM battery replacement

*Message #4 Posted by **Martin Pinckney** on 11 Jan 2011, 11:07 p.m.,*
in response to message #3 by Eric Smith

> Quote:
>
> The 3468A has an HP-IL interface, so it was commonly used with the HP-41, HP-71, and HP-75.

Does this then, allow an "in" for Frido to ask the question here?

I know nothing about this unit, but just on general principles, it would seem that soldering a new battery in parallel (with the unit off), then removing the old would be preferable to doing any modifications while the unit is turned on.

Re: Multimeter HP 3468A, CMOS RAM battery replacement

*Message #5 Posted by **Katie Wasserman** on 12 Jan 2011, 12:49 a.m.,*
in response to message #4 by Martin Pinckney

I know nothing about this meter either, but found the service manual here.

The schematic shows that the memory is powered by diode steering logic going to the +5V supply and the 3.6 volt battery. Either will power memory. There's also a .1uf capacitor at the junction so even with no battery and the +5 volt supply off, memory will be preserved for at least a short while.

If I were going to replace the 3.6 volt battery I'd: (1) disconnect it from the AC power; (2) hook up an external 3.6 volt power supply thru a third (temporary) diode to this junction point using some good micro-clips; (3) remove the old battery by just clipping the leads (it's faster than desoldering); (4) solder in the new battery to those cut leads.

The reason for using 3.6 volts and going thru a third diode is just in case the your external power supply quits or is shorted out, you'd still have the .1uf cap to hold memory for a bit.

Edited: 12 Jan 2011, 1:15 a.m.

Re: Multimeter HP 3468A, CMOS RAM battery replacement

*Message #6 Posted by **Frido Bohn** on 12 Jan 2011, 4:32 a.m.,*
in response to message #5 by Katie Wasserman

Thank you, Katie!

I believe that your suggestion is the most sophisticated way to resolve the problem.

I know that the item is somewhat OT as it was stated by Ren. However, as Eric remarked, the multimeter has an HP-IL interface and may be considered as a peripheral of those HP calculators which support that interface. Therefore, I thought that it was not too remote to believe that someone in this forum could give some advice. Indeed, I purchased a used HP-3468A because I was curious to use it with my HP-41.
It works fine currently, and a loop together with a IL-printer can be established which then

serves as a logger. The issue with the battery does not urge. I use to check the voltage yearly and I planned to replace the battery when the voltage drops.
As I am only a medic whith no in-depth knowledge about electrical engineering I just wanted to be prepared for the day X. Also, I do not have the equipment for a new calibration, and because of that an *in vivo* replacement of the battery seemed to be a good option.
Apologies if I may have caused discomfort.

Best regards
Frido

Re: Multimeter HP 3468A, CMOS RAM battery replacement

*Message #7 Posted by **Ren** on 12 Jan 2011, 8:36 a.m.,*
in response to message #6 by Frido Bohn

Frido, I wasn't opposed to your posting, I wondered if there wasn't a better place to get the information you sought. Katie has certainly shown me otherwise!

Ren

dona nobis pacem

Re: Multimeter HP 3468A, CMOS RAM battery replacement

*Message #8 Posted by **Alejandro Paz (Germany)** on 13 Jan 2011, 3:46 p.m.,*
in response to message #5 by Katie Wasserman

Just a small note: That 0.1 uF capacitor will not hold the memory contents, not even for a second. Katie's suggestion of a parallel through a diode is certainly the way to go.

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Calculators as amusement

*Message #1 Posted by **designnut** on 10 Jan 2011, 5:21 p.m.*

I have discovered undocumented calculator actions by trying key manipulations. I have found solutions undreamed of in pure math. I don't use fractions but found their manipulation amusing. Has anyone turned to their calculator as a passtime? sam

Re: Calculators as amusement

*Message #2 Posted by **Michael Meyer** on 10 Jan 2011, 5:38 p.m.,*
in response to message #1 by designnut

Does obsession count?

Re: Calculators as amusement

*Message #3 Posted by **Namir** on 10 Jan 2011, 7:24 p.m.,*
in response to message #1 by designnut

Care to share some examples?

Re: Calculators as amusement

*Message #4 Posted by **designnut** on 11 Jan 2011, 1:13 a.m.,*
in response to message #3 by Namir

Do you know of the undocumented clock in the HP45? I must have shown that to 10 astonished owners.No I didn;t discover it. I did discover that when constants are displayed in the 33s and 35s keying number 1-6 selects the constant and enters it into x. I found the solution to the output resistancer of a resisttive divider by playing witth sequences when Iknew the answer. Thqt opened a wider truth in resistive jubctions. Sam

Re: Calculators as amusement

*Message #5 Posted by **Geir Isene** on 10 Jan 2011, 7:28 p.m.,*
in response to message #1 by designnut

> Quote:
>
> I have discovered undocumented calculator actions by trying key manipulations. I have found solutions undreamed of in pure math. I don't use fractions but found their manipulation amusing. Has anyone turned to their calculator as a passtime? sam

Has anyone? I do it all the time.

Re: Calculators as amusement

*Message #6 Posted by **db (martinez, ca.)** on 10 Jan 2011, 7:43 p.m.,*
in response to message #1 by designnut

NO!
NEVER

OF COURSE NOT

-sent from a river in Egypt

Re: Calculators as amusement

*Message #7 Posted by **Crawl** on 10 Jan 2011, 8:32 p.m.,*
in response to message #1 by designnut

One time I used fractions on a calculator and it made me travel through time.

Re: Calculators as amusement

*Message #8 Posted by **Palmer O. Hanson, Jr.** on 10 Jan 2011, 11:27 p.m.,*
in response to message #1 by designnut

> Quote:
>
> I have discovered undocumented calculator actions by trying key manipulations.

I haven't done any of that with HP machines. Back in the early 1980's I was very active with that sort of thing with the TI-57, TI-59 and TI-66.

When the TI-66 came out page F-3 of the manual stated "There are no HIR commands or other hidden features on the TI-66 that you may have accessed on the TI-58/58C/59 through illegal key sequences." The first issue of TI PPC Notes published after the release of the TI-66 included some results with illegal sequences.

Re: Calculators as amusement

*Message #9 Posted by **Crawl** on 11 Jan 2011, 6:48 a.m.,*
in response to message #8 by Palmer O. Hanson, Jr.

Okay, seriously, I did discover how to do some limited programming on some Casio models (115ms and es, I think), which is not documented in the manual.

It's very limited because there's no conditional branching, and looping isn't automatic. But I've gotten use out of it for summing series, or using Newton's method in two dimensions.

Re: Calculators as amusement

*Message #10 Posted by **Paul Gaster** on 11 Jan 2011, 8:57 a.m.,*
in response to message #9 by Crawl

I would be interested in hearing more about what can be done with the FX-115 models if you could share. What I would really like is to be able to somehow enter the TVM equation into the FX-115ES

and solve for a variable, like on the 33S or 35S.

Re: Calculators as amusement

*Message #11 Posted by **Crawl** on 11 Jan 2011, 12:25 p.m.,*
in response to message #10 by Paul Gaster

Boy, I don't know. If you had a specific problem in mind, I could see if the 115 could solve it.

But like I said, there's no branching, so you wouldn't be able to choose what variable to solve for from a single multi-purpose program. There's also no long term program storage, which would also defeat the purpose of something like that.

Then some of the variables could be solved for simply by using the calculator's built in solver, I think.

So, yeah, I think it really depends on what you specifically want to do.

Re: Calculators as amusement

*Message #12 Posted by **Ron Ross** on 11 Jan 2011, 8:08 p.m.,*
in response to message #10 by Paul Gaster

That should be easily possible as the FX115 has a solver with six variables. The downside is that this calculator loses this function the minute it is turned off. Therefore not a machine you want to enter complex work on.

Re: Calculators as amusement

*Message #13 Posted by **Paul Gaster** on 12 Jan 2011, 11:03 a.m.,*
in response to message #12 by Ron Ross

I was just thinking along the lines of the FE and PE test that I hear usually have some TVM questions. With a 33S or 35S you can input the TVM equation and be ready to go. I think I also read somewhere that the materials provided on test day have equations and TVM tables that can be used. I did pass the FE about 15 years ago, but I don't remember much and I am sure things have changed. So it seems you can use the tables, have a programmed HP, or use the solver in the FX-115ES. If you have an FX-115ES now I know you can use that solver, but maybe the TVM tables are faster.

Overall my mind just got off on a tangent. I really like the FX-115ES and would like to know more about it. The HP offerings first need some programming to even match the FX-115ES in features, but of course with programming and equation storage you can eventually do more with an HP. The FX-115ES is a great calculator though, especially considering the low cost.

Re: Calculators as amusement

*Message #14 Posted by **ClausB** on 11 Jan 2011, 12:25 p.m.,*
in response to message #8 by Palmer O. Hanson, Jr.

Back then I had not seen TI PPC Notes but I heard rumors about hidden keycodes. Now I enjoy reading the old issues on-line (as well as 65 Notes and 52 Notes).

I got into the spirit a few decades late and posted some PPC Notes style articles on Viktor's site. Look on the bottom of this page:

R/S Library

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OT Just for fun

*Message #1 Posted by **Alberto Fenini** on 10 Jan 2011, 12:20 p.m.*

Directly from a TAS listing :

The LCD screen shows damage on the far left hand side - you are unable to see the far left hand digit (usually not a problem - how many times do you use an 8 digit number anyway?).

Made me laugh, thought it was worth to share ....
take care Alberto

Re: OT Just for fun

*Message #2 Posted by **Martin Pinckney** on 10 Jan 2011, 1:48 p.m.,*
in response to message #1 by Alberto Fenini

My HP's all enter numbers in the display from left to right. But I seem to remember some calcs that enter numbers from right to left (such as TI-59). Could that be what the seller meant?

Re: OT Just for fun

*Message #3 Posted by **Alberto Fenini** on 10 Jan 2011, 4:04 p.m.,*
in response to message #2 by Martin Pinckney

Eheheheh,
actually it was try to minimize the fact that the display had a problem
although you couldsee it from the pics, so it was kinf od fair to the bidders
but it was fun because it reminded me of some car sellers :
the steering wheel is locked, but how often do you steer .... take care Alberto

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HP65 (card reader) magnetic head

*Message #1 Posted by **Alberto Fenini** on 10 Jan 2011, 12:02 p.m.*

ciao a tutti (*Hello everyone*)
what chances I have to successfully replace an HP65 card reader head
with one coming from an HP75 ???

Thanks for help and take care Alberto

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Can I assume a Spice Calc with S/N 22xxxx is soldered?

*Message #1 Posted by **Ernst Fueloep** on 10 Jan 2011, 8:29 a.m.*

Hi,

Can I assume a Spice calculator with a serial number of > 22xxxx is a soldered model?

Is it known at which serial number production of the Spice family switched from solderless to soldered?

Thanks.

Regards, Ernst

Re: Can I assume a Spice Calc with S/N 22xxxx is soldered?

*Message #2 Posted by **Randy** on 10 Jan 2011, 8:55 a.m.,*
in response to message #1 by Ernst Fueloep

No and no.

The simple solution is to weigh the unit without batteries. IIRC, ~140 grams is soldered, ~175g is solderless.

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OT: Canon Pocketronic rebuild advice

*Message #1 Posted by **Michael Meyer** on 9 Jan 2011, 8:48 p.m.*

I'm finally getting around to rebuilding a Pocketronic in beautiful condition. Fortunately, the batteries did not leak much. Unfortunately, I do not have a charger, and I don't like rebuilding with rechargeables anyway. I'd like to rebuild it with non-rechargeable lithium cells. There is an assortment of cells inside, including a double and triple cell (2.4v, 3.6v) I have some Duracell photo AA's that are 3v. Does anyone see a problem with me mixing 1.5v lithium cells with 3v cells? I only plan to keep it on long enough to show it off (if I can even get it to fire up), so I don't think I'll overheat the cells. Any advice?

Re: OT: Canon Pocketronic rebuild advice

*Message #2 Posted by **Palmer O. Hanson, Jr.** on 9 Jan 2011, 9:14 p.m.,*
in response to message #1 by Michael Meyer

Somewhere in my collection I have an inoperattive Pocketronic so I will be interested in any advice.

I have found the mint condition 20 ampere high speed battery charger which came with it including the carton. Not suprisingly it is a big beast for a battery charger -- about 2" x 2" x 5".

Re: OT: Canon Pocketronic rebuild advice

*Message #3 Posted by **Katie Wasserman** on 9 Jan 2011, 11:21 p.m.,*
in response to message #1 by Michael Meyer

Michael,

I have a couple of Pocketronics and a Monroe 10 (the same thing in a slightly different case). Like you, I've retrofitted virtually all my calculators to use Energizer lithium cells.

The Pocketronic uses two voltages : 7 x 2/3AA nicads (8.4 volts nominally) and 6 x AA nicads (7.2 volts nominally). The trick is to come up with battery holders for AAA size cells that can both fit in the provided spaces and can be wired in series to provide adequate voltages. I was able to do this using the following (I'm doing this from memory, so don't hold me to it):

```
1 2xAAA holder where the cells are front to back (not side by side)
2 1xAAA holders (side by side)
1 4xAAA holder (side by side)
1 3xAAA holder (side by side)
```

(Mouser sells these, the 2xAAA holder front to back is hard to find elsewhere.)

That's a total of 11 cells: 6 for the 8.4 volt nominal supply and 5 for the 7.2 volt nominal supply. There's only one way you can position these 5 battery holders in the Pocketronic cavities but there are several ways you could wire them up in series -- have fun with that!

Also, in case you loose track of the current wiring in the process of replacing the cells, it's this:

```
violet color wire is the common for both voltages
```

```
green color wire gets +7.2 volts
orange color wire get -8.4 volts
```

The craziest color scheme I've come across in a calculator but they are very consistent from unit to unit (I've rebuilt several of these over the years) even in the Monroe 10.

-Katie

Edited: 9 Jan 2011, 11:58 p.m.

Re: OT: Canon Pocketronic rebuild advice

*Message #4 Posted by **robert rozee** on 10 Jan 2011, 4:57 a.m.,*
in response to message #3 by Katie Wasserman

hi, any chance of a photo of the machine? if going for non-rechargeables for just demo purposes i'd consider using a pair of 9v batteries, with a few diodes in series with each to drop down the excess voltage. provided, of course, they would fit in the available space - or you can leave the two battery snaps hanging out a convenient hole.

but do also consider that ni-cads will peak at 1.5 volts each when fully charged, so you will likely be ok just using the 9 volts direct. non-rechargeables don't have nearly so high a peak when brand new.

i remember once re-wiring an electric excavating arm that was used for demo purposes at a place where i worked (a JV with caterpillar). it had a reach of about 1.5 metres, with some hefty motors running it. i amazed everyone by running it off two little tiny 9v batteries in series while carrying out testing... worked fine, though obviously drained the batteries extremely quickly.

cheers, rob :-)

Edited: 10 Jan 2011, 5:01 a.m.

Re: OT: Canon Pocketronic rebuild advice

*Message #5 Posted by **Katie Wasserman** on 10 Jan 2011, 3:43 p.m.,*
in response to message #4 by robert rozee

I'm away form my collection for some time, but I'll try to post a pic in a week or two. Two 9V batteries might not work, the print head and drive motor both draw a ton of current in very short pulses. AAA lithium cells are more than up to the task but I don't think that a 9V alkaline battery is.

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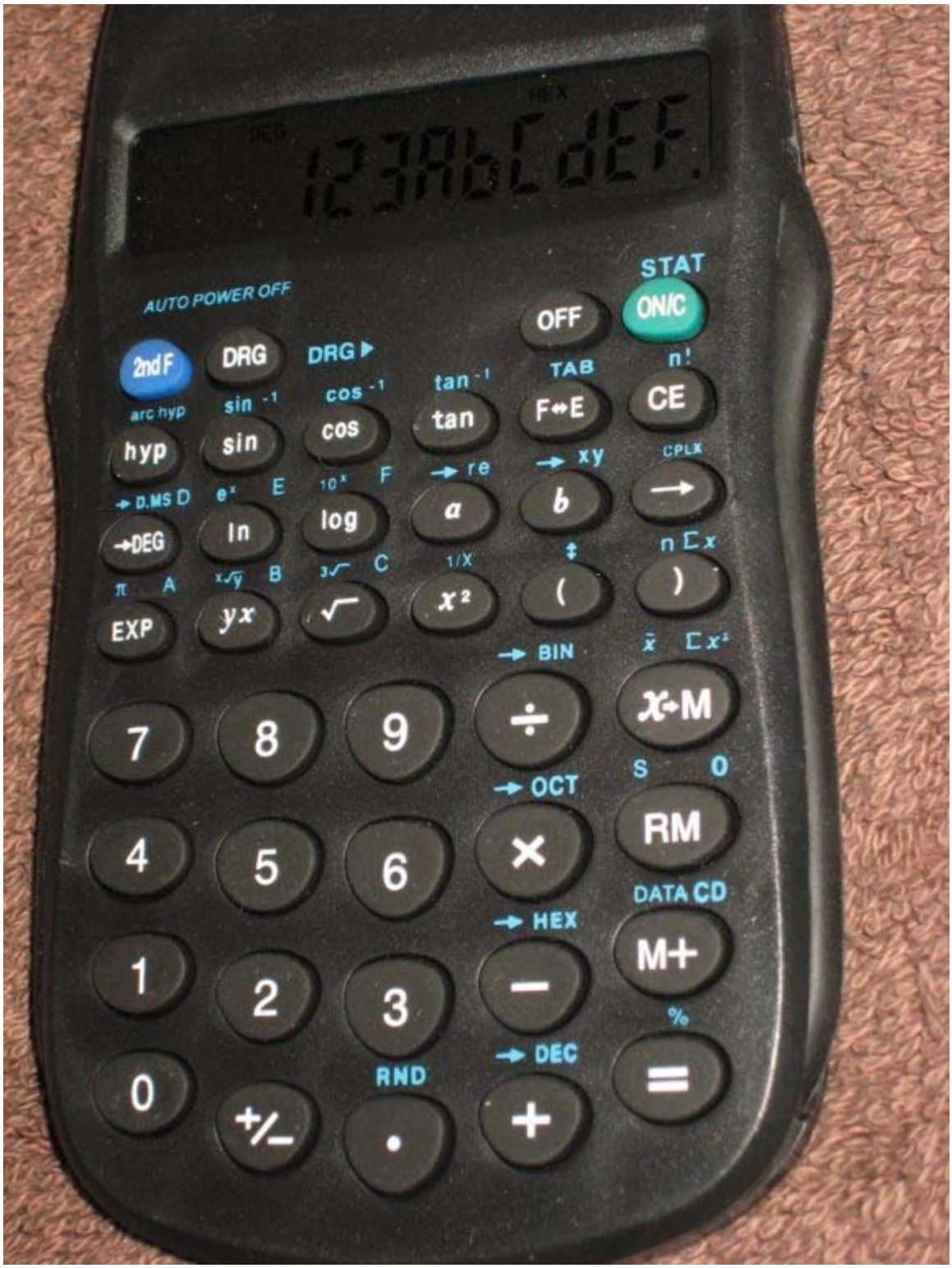
OT: Most sophisticated 99cent calculator

*Message #1 Posted by **Mike Ingle** on 9 Jan 2011, 1:36 a.m.*

The 99 cent store has sold 4-function calculators for a while. When I saw a "scientific" on the shelf I had to pick it up and look, and I got a real surprise:



Hex, octal and binary conversions. Ten digits. Parentheses. Complex numbers. Coordinate conversions. Deg.min.sec conversion. Single variable stats. For a buck? Really?

I bought one and tried it out. The functions all work, no missing display segments, and the keys all work and are quite usable for rubber keys.

The complex numbers appear to be just for four-function and coordinates, not for scientific functions. You press for example 2nd CPLX 1 a 2 b X 4 a 8 b = to do a complex multiply, then a and b to see the real and complex parts.

The hex mode is 40 bits (1-2 gives 10 Fs) so it understands two's complement. I was impressed and bought several

to give out to the coders at work.

Here's what the package looks like: Package photo

Here are scans of the two sides of the one-page manual (zoom to read): Side 1 Side 2

Re: OT: Most sophisticated 99cent calculator

*Message #2 Posted by **Bart (UK)** on 9 Jan 2011, 4:34 a.m.,*
in response to message #1 by Mike Ingle

Looks like another clone of the 1980's Sharp EL-506P.
There are many variations of this clone on the market.

Here is a more detailed manual I did for a Staples clone.

Re: OT: Most sophisticated 99cent calculator

*Message #3 Posted by **bill platt** on 9 Jan 2011, 10:40 a.m.,*
in response to message #1 by Mike Ingle

The only problem with these sorts--and I have bought a few when they are $1.00 but not when they are $4.00--is that they are very poorly made and will suddenly stop working correctly. I have never had one last more than a couple months.

Re: OT: Most sophisticated 99cent calculator

*Message #4 Posted by **Palmer O. Hanson, Jr.** on 9 Jan 2011, 9:21 p.m.,*
in response to message #3 by bill platt

> Quote:
>
> I have never had one last more than a couple months.

That may be mmore cost effective than keeping the batteries in a 33s or 35s. Is the keyboard really that good?

Re: OT: Most sophisticated 99cent calculator

*Message #5 Posted by **bill platt** on 10 Jan 2011, 8:00 a.m.,*
in response to message #4 by Palmer O. Hanson, Jr.

The ones I've had had terrible keyboards. Probably vary a lot.

I just bought a stash of batteries from a battery dealer. I think they were 38c a piece for the 2032.

Edited: 10 Jan 2011, 8:00 a.m.

Re: OT: Most sophisticated 99cent calculator

*Message #6 Posted by **Palmer O. Hanson, Jr.** on 14 Jan 2011, 10:22 p.m.,*
in response to message #5 by bill platt

> Quote:

> I just bought a stash of batteries from a battery dealer. I think they were 38c a piece for the 2032.

This afternoon I bought a card of nine CR-2032's for $3.99 at ACE Hardware. That's about 44 cents apiece. They are Made in China and distributed by JMK, whoever they are.

Re: OT: Most sophisticated 99cent calculator

*Message #7 Posted by **bill platt** on 15 Jan 2011, 9:09 a.m.,*
in response to message #6 by Palmer O. Hanson, Jr.

Mine are Panasonic.

Re: OT: Most sophisticated 99cent calculator

*Message #8 Posted by **Ren** on 10 Jan 2011, 8:15 p.m.,*
in response to message #1 by Mike Ingle

What does the "parent thesis" key mentioned in the instructions do?

B^)

Re: OT: Most sophisticated 99cent calculator

*Message #9 Posted by **Martin Pinckney** on 10 Jan 2011, 9:45 p.m.,*
in response to message #8 by Ren

I've heard of a "parent term paper", but parent thesis? This has gone way too far.

Re: OT: Most sophisticated 99cent calculator

*Message #10 Posted by **Walter B** on 11 Jan 2011, 4:56 a.m.,*
in response to message #8 by Ren

Ren, as soon as you type as good Chinese as those folks type English, you are free to critizice zhi ge ren 8)

Re: OT: Most sophisticated 99cent calculator

*Message #11 Posted by **Martin Pinckney** on 11 Jan 2011, 10:59 a.m.,*
in response to message #10 by Walter B

I doubt if Ren is marketing products to the Chinese, but I could be wrong.

Reminds me of the '60s when we we actually could purchase Japanese-made electronics. We used to get a kick out of some of the grammar in the instruction books. At the time I remember thinking, they have an American distributor for their products, why can't they cough up a few bucks for a technical writer? But then we would not have had the enjoyment.

Of course this was for meaningful products, not a $1 calculator.

Re: OT: Most sophisticated 99cent calculator

*Message #12 Posted by **Walter B** on 11 Jan 2011, 11:59 a.m.,*
in response to message #11 by Martin Pinckney

Quote:

Reminds me of the '60s when we we actually could purchase Japanese-made electronics. We used to get a kick out of some of the grammar in the instruction books.

1. Well you know what happened then ... now there is only minimum US consumer electronics left. So it probably was the right strategy.

2. Quote:

   I doubt if Ren is marketing products ...

   :) We have an old saying here: "People in a greenhouse shall not throw stones." ;)

Re: OT: Most sophisticated 99cent calculator

*Message #13 Posted by **Alejandro Paz (Germany)** on 11 Jan 2011, 12:36 p.m.,*
in response to message #11 by Martin Pinckney

Some years ago I bought a CD-ROM reader for a PC and the installation manual was translated to many languages, spanish among them. The spanish description of that small pin hole to extract the CD in the case the door does not open was described as "Emergency ejaculation". Sometimes "not even close synonyms" can bring you some problems ;-)

Re: OT: Most sophisticated 99cent calculator

*Message #14 Posted by **Mike Morrow** on 15 Jan 2011, 9:19 p.m.,*
in response to message #13 by Alejandro Paz (Germany)

I have a book describing WWII German submarine technical details. It is a translation from the original German into English. There are several paragraphs discussing generator "agitation". It didn't take but a few seconds to realize that the intended English term should have been "excitation" (the DC current flow in a generator rotor).

Such is always a possibility when the translator doesn't understand the details of the subject being translated.

So...what "99 cent store" is selling these scientific calculators for that price? All we have around this part of the US is "Dollar General".

Re: OT: Most sophisticated 99cent calculator

*Message #15 Posted by **Martin Pinckney** on 15 Jan 2011, 9:48 p.m.,*
in response to message #14 by Mike Morrow

I've seen several different brands of "dollar" stores. Most mean what most people would expect - that everything sells for $1 or less. But there is one brand where it means everything sells for a whole dollar amount, no cents!

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Power management and deep sleep

*Message #1 Posted by **Tim Wessman** on 8 Jan 2011, 12:01 p.m.*

Hello,

I was thinking about power consumption and so on earlier this week and realized that I really don't have much knowledge on just what earlier calcs used to be so good at sipping power. Does anyone have any links or useful info on any of the techniques that were used? Custom chips helps a lot, but I know there was more than that.

For example, I just found out that the 41s had a deep sleep mode (yeah, I know. . . I'm a young'un). Is that similar to the 48 deep sleep? In what ways was it different? When was the deep sleep first introduced?

I know that was used to ship the thing in the box to make sure it would have batteries when you pulled it out, but are there any links or info anyone can point me to about how/when this was implemented?

Thanks!

TW

Edited: 8 Jan 2011, 12:03 p.m.

Re: Power management and deep sleep

*Message #2 Posted by **Katie Wasserman** on 8 Jan 2011, 12:36 p.m.,*
in response to message #1 by Tim Wessman

Tim,

I don't know about "deep sleep" modes, but if you're talking about the current HP ARM-based designs I believe that the only way to drop power consumption enough for really long-term storage is to power off the chip. In power-off mode the AT91SAM7L128 will consume 100na verses 3.5ua in the next lowest power mode (which I think you use now). Waking up form power-off mode can only be done using the FWUP pin which could be tied to the "ON" button on the calculator through a diode switch.

Alternatively, you could use a "hardware" solution by putting a small piece of Tyvek between the bottom of the battery and the contact on the calculator. Have a short tab stick out of the battery compartment telling the new owner to "pull this out" when ready to use the calculator. --- I just tried this on the 12C+ and it works quite well.

-Katie

Re: Power management and deep sleep

*Message #3 Posted by **Tim Wessman** on 8 Jan 2011, 12:50 p.m.,*
in response to message #2 by Katie Wasserman

Yeah, I'm familiar with what can and can't be done with the current ARMs. I am just feeling more interested from a historical/technical/personal interest.

TW

Re: Power management and deep sleep

*Message #4 Posted by **Andrés C. Rodríguez (Argentina)** on 8 Jan 2011, 2:29 p.m.,*
in response to message #3 by Tim Wessman

Just for the record, my HP-41C (1980) came with a small box (located under the calculator) with four "N" batteries; so no batteries came installed. I think my HP-42S (1990) came with the batteries already installed.

Re: Power management and deep sleep

*Message #5 Posted by **Garth Wilson** on 8 Jan 2011, 4:38 p.m.,*
in response to message #4 by Andrés C. Rodríguez (Argentina)

My 41cx's alkaline batteries would go about two years until I got the double extended memory module, and now they only go about six months. Obviously one of the memories is a bit leaky. CMOS circuits theoretically take absolutely no current at all however when they are not switching. Even in the mid-1980's I remember having a 10uF capacitor holding a SRAM's memory intact for 24 hours or more. So if the processor has a stop instruction, and it has an on-board clock oscillator so it can even shut that down, and then you can wake it up with an interrupt, it can sleep on virtually no power. The 41 can wake itself up with alarms, an in fact my 41cx is my only alarm clock (although it was more cool 20 years ago when I was using it to wake itself up and take data periodically, log it, and put itself back to sleep). I don't know how much current the timer module takes, but it's obviously peanuts, like a wrist watch.

Re: Power management and deep sleep

*Message #6 Posted by **Didier Lachieze** on 8 Jan 2011, 6:50 p.m.,*
in response to message #3 by Tim Wessman

Hi Tim, the HP-41 power management is described in details in the HP- Service Manual under Theory of Operation - System Operation.

In summary there are 3 different modes:

RUN: CPU is working and display is active
STANDBY: CPU clock is off - display is active
SLEEP: CPU clock is off - display is off

When you press a key the HP-41 goes in RUN mode, executes the associated code and goes back in STANDBY mode, after ~10mn without activity or if you press ON the HP-41 goes to SLEEP.

Re: Power management and deep sleep

*Message #7 Posted by **Håkan Thörngren** on 9 Jan 2011, 7:19 a.m.,*
in response to message #1 by Tim Wessman

I believe hunting for low power was with the HP-41, LCD and use of CMOS. The processor just shuts off, the power consumed is to hold the RAM which at least from the beginning was separate circuits.

I once had the batteries out of a HP-41C (no extra memories) for a week, then realized that I had not saved the program I wrote on it. I put the batteries back and the memory contents was intact!

The HP-10 series uses basically the same CPU, but running at half voltage and lower clock frequency.

There were no real time clock in the 10-series, the HP-41 introduced it later.

I am not so familiar with the Saturn that came after it, but remember that the HP-28S could hold memory for amazing periods of time by going into coma, dropping the clock update. I had one for years in a drawer with batteries going flat before I resurrected it by putting in new batteries and the memory was still there. The clock was off though. I ended up selling it and eventually got a HP-48GX. I believe there is some key sequence at least on HP-48 to put it into coma. This was to allow it to be shipped with batteries installed without affecting the batteries much.

The HP-41 shipped with batteries in a separate box. I do not remember whether the 10-series or the early Saturns shipped with installed or separate batteries.

> Quote:
>
> Hello,
>
> I was thinking about power consumption and so on earlier this week and realized that I really don't have much knowledge on just what earlier calcs used to be so good at sipping power. Does anyone have any links or useful info on any of the techniques that were used? Custom chips helps a lot, but I know there was more than that.
>
> For example, I just found out that the 41s had a deep sleep mode (yeah, I know. . . I'm a young'un). Is that similar to the 48 deep sleep? In what ways was it different? When was the deep sleep first introduced?
>
> I know that was used to ship the thing in the box to make sure it would have batteries when you pulled it out, but are there any links or info anyone can point me to about how/when this was implemented?
>
> Thanks!
>
> TW

Re: Power management and deep sleep

*Message #8 Posted by **Christoph Giesselink** on 9 Jan 2011, 5:09 p.m.,*
in response to message #1 by Tim Wessman

Power Management on Saturn CPU based calculators

Normally whe distinguish between 4 modes, but most of the power consumpting units can be separately switched on or off.

1) Running Operation

The calculator is doing normal operation at nominal crystal speed, the CPU decodes opcodes, display is on, timers are on, 1ms keyboard scanning on and the Clarke/Yorke chip the card detection updating every 122uS.

2) Idle State

This is the state where the calculator is on and is waiting for input. In this case the Saturn CPU is powered down by the SHUTDN opcode, display is on, the timers are on, 1ms keyboard scanning is on and on the Clarke/Yorke chip the card detection updating every 122uS.

3) Light Sleep

This is the standard off mode. In this case the Saturn CPU is powered down by the SHUTDN opcode, display is off, the timers are on, 1ms keyboard scanning is off and on the Clarke/Yorke chip the card detection updating every 1mS.

4) Deep Sleep (aka Coma mode or storage mode)

In this case the Saturn CPU is powered down by the SHUTDN opcode, display is off, the timers are off, 1ms keyboard scanning is off and on the Clarke/Yorke chip the card detection is off.

```
Enter HP28S/HP48 Coma/Storage Mode
----------------------------------

High End Pioneers: <ON> <+> <SK6>

HP28S:             <ON> <ENTER> <<->

HP48SX/GX:         <ON> <SPC>
```

Beware that the HP28S has a bug in the hardware design around the Lewis chip, so the calculator is consuming more power in coma mode than in light sleep mode.

Here's an extract of

```
Path:
lth.se!sunic!uupsi!rpi!dali.cs.montana.edu!uakari.primate.wisc.edu!sdd.hp.com!caen!uflorida!haven!umbc3!gmuvax2!peraino
From: peraino@gmuvax2.gmu.edu (Bob Peraino)
Newsgroups: comp.sys.handhelds
Subject: HP28 power study
Message-ID: <3017@gmuvax2.gmu.edu>
Date: 30 Nov 90 21:59:50 GMT
Organization: George Mason Univ., Fairfax, Va.
Lines: 290


       Power Consumption Statistics for the HP-28 Scientific Calculator
       ----------------------------------------------------------------
                                Robert Peraino
                               Scott Hutchinson

                               January 18, 1990
       ----------------------------------------------------------------


...


Standard Modes
--------------

         Off           -   13.5  uAMPS
         "Storage mode"-  106.2
         On/idle       -  446.0
         On/running    - 2412.0
```

Christoph

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HP-67 battery questions

*Message #1 Posted by **Thomas Okken** on 7 Jan 2011, 8:37 p.m.*

Hi all,

I have an HP-67 that I bought on eBay a couple of years ago. All I have is the calculator, the soft case, and quick reference guide; I have no battery pack, no charger, nor any of the other things that came with the calculator originally.
The calculator has been sitting in a drawer ever since I bought it, but now, finally, I'm starting to feel the itch to bring this thing back to life and run some programs on it.
I figure I'll send it to Randy for some general good lovin' once he's ready to accept new jobs, but until then, I would at least like to see if the darn thing even still works.
I figure I can just take three AA batteries, and with some wire and some tape to hook them up to the terminals in the battery compartment, I'll be able to find out if the calculator is still a calculator, so to speak.
Before I do that, though, I think I should ask some of the more experienced people on this forum for advice, specifically: (1) is it OK to power an HP-67 with three NiMH or Alkaline batteries, given that those have a somewhat higher voltage than the NiCd batteries that the calculator was designed for, and (2) which of the terminals in the battery compartment is (+) and which is (-)?

Thank you -- and have a great weekend!

- Thomas

Re: HP-67 battery questions

*Message #2 Posted by **db (martinez, ca.)** on 7 Jan 2011, 9:48 p.m.,*
in response to message #1 by Thomas Okken

Thomas; You probably know all this but:
-Yes, randy is da man, period. Good choice.
-This guy is the only source for after market chargers.
-Waterhosko has sold batteries for years on ebaby and just by word-of-mouth. His stuff works.
-The overlap between the 67 and woodstock series is well documented. Since i have gotten good service out of nimh cells in my 21/25/27/29 i would trust them in a 67. Besides; the specs are just about identical.
-Someone who knows more than me once posted that it would be safer to burn slightly-used alkaline cells (if you want to use throw-aways) in calcs that expect rechargeables, for obvious reasons. I've had good luck doing this but i don't know if i would have had bad luck not doing it. Like the lady said; "couldn't hoit"
db

edited to turn the original into english

Edited: 8 Jan 2011, 3:23 p.m. after one or more responses were posted

Re: HP-67 battery questions

*Message #3 Posted by **Thomas Okken** on 8 Jan 2011, 2:44 p.m.,*
in response to message #2 by db (martinez, ca.)

Hi db,

This is very useful information! I have an HP-25 that I use with batteries that I recharge outside the calculator, but with the HP-67, that seems like a much more awkward approach, because of how the battery pack is built and also because most battery chargers won't charge 3 batteries at a time... So it is good to know that it is still possible to get a battery pack that I can just leave inside the calculator, and get a charger that I can use to charge the batteries while they're inside the calculator.

Regarding the polarity of the battery pack, after googling a bit more diligently, I found this (at this site, where else? *facepalm*) so I can now go and find out if the calculator is still working, before doing anything else.

> Quote:
>
> Like the lady said; "couldn't hoit"

Was the lady from Noo Joisey by any chance? :-)

Anyway, thank you very much for your advice!

- Thomas

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OT but leds are leds ...

*Message #1 Posted by **Alberto Fenini** on 7 Jan 2011, 5:22 p.m.*

ciao a tutti,
first of all forgive me if this is too much OT, if this is the case please delete this post.
I have purchased some Bulova parts, with the idea of putting them together and make at least one working N6 Computron out of these.
Unfortunately, it wasn't such an easy task, and the following photos will show what remains :

Well, the cases ARE working :), and so the modules, or at least one module.
What had suffered most from the manipulation are the LEDs,so the question is :
how difficult is to recover the missing segments, given that at least one of the two display was entirely working before I had a chance to work on it ??
Did anybody had a similar (bad) experience ??

Thanks for any help, take care Alberto

Re: OT but leds are leds ...

*Message #2 Posted by **Thomas Falk** on 7 Jan 2011, 6:08 p.m.,*
in response to message #1 by Alberto Fenini

Sorry to bring bad news ... but you may not have a chance to swap segments from one display to the other.

It can not be seen from the pictures if the segments are single chips or all segements of a digit are on one chip. In any case the chips are glued to a pad by conductive glue and bonded with wires which connect to another pad.

I assume that the bonding wires are broken, because they are not protected by anything. If you can't find a fully working display, your only chance is to use the one with the most working segments. If you are **very** lucky, you may bend the wire in such a way that it gets contact to the display. But this required a steady hand, patience and good eyes and it will probably not work for a long time.

You may look for a company which does chip bonding. If you find one, they may even be able to repair both displays.

Have you checked the displays? With a 3V voltage source and an 3.3k Resistor you should be able to test which segements are working.

Electronic watches are an very impressive technology but even more difficult to repair than calculators.

Greetings,

Thomas

Re: OT but leds are leds ...

*Message #3 Posted by **Alberto Fenini** on 7 Jan 2011, 6:17 p.m.,*
in response to message #2 by Thomas Falk

Ciao Thomas
the back of the display PCBs include the chip, which is covered by what seems back epoxy resin.
The display PCBs were connected to the main modules (hosting the trim and the quartz) by a small flat cable which broke off
I was able to swap the PCBs, they are from to identical watches, only the led layout is slightly different since one is newer.
The first unit I had received had a blank piece of plastic covering the ultrathin wires.
However, during the work, the plastic protection came off, and some segments, I should say most, went off.
I have read some posts, and posted as well, on the www.dwf.nu where I hope someone can sell me a working module.
Is bounding the thin wires really so tough ??? (I was kind of knew it was bad news...)
Thanks anyway, greetings from Italy

Re: OT but leds are leds ...

*Message #4 Posted by **Walter B** on 8 Jan 2011, 1:00 a.m.,*
in response to message #3 by Alberto Fenini

Ciao Alberto,

> Quote:
>
> Is bonding the thin wires really so tough ???

IIRC for wire bonding you need at least a professional tool. We did such work nearly 20 years ago, so my memory may fail, but bonding means micro-welding so it was definitively not for amateurs.

Cordialmente,
Walter

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enduring market for high end calculators-

*Message #1 Posted by **db (martinez, ca.)** on 7 Jan 2011, 1:41 p.m.*

-even if it is aimed straight at the classroom, even though it does look a bit goofy, and in spite of it's second rate logic/entry system.

New Casio

Re: enduring market for high end calculators-

*Message #2 Posted by **Don Shepherd** on 7 Jan 2011, 2:00 p.m.,*
in response to message #1 by db (martinez, ca.)

Yeah, I've had one of those for about a month now, evaluating it as a teacher (one of the few benefits of being a teacher and a calculator nut). I have to return it next week, and I don't think I'll buy one now. It's essentially like the Casio 9860gii I think it is, except this one has a great color screen and the ability to create functions from points you identify on pictures of objects.

I don't think the Prizm will replace the TI-84's and NSpires that most high schools use now. But I have to admit, that screen is easy on the eyes!

I wouldn't be surprized if the next update to the TI NSpire includes a color screen like this one.

Re: enduring market for high end calculators-

*Message #3 Posted by **Martin Pinckney** on 7 Jan 2011, 2:14 p.m.,*
in response to message #1 by db (martinez, ca.)

This calculator was covered in a lengthy thread a few months ago - started by Tim Wessman, of all people - but due to either this site's antiquated search engine, or my own density, I can't find it.

Re: enduring market for high end calculators-

*Message #4 Posted by **Don Shepherd** on 7 Jan 2011, 2:35 p.m.,*
in response to message #3 by Martin Pinckney

Here 'tis.

And here is Namir's thread.

Edited: 7 Jan 2011, 4:36 p.m. after one or more responses were posted

Re: enduring market for high end calculators-

*Message #5 Posted by **Namir** on 7 Jan 2011, 4:03 p.m.,*
in response to message #4 by Don Shepherd

I also started another thread to give my initial impression of the calculator.

Re: enduring market for high end calculators-

*Message #6 Posted by **db (martinez, ca.)** on 7 Jan 2011, 9:55 p.m.,*
in response to message #5 by Namir

Sorry for rehashing the already-hashed. I saw this in an overview of the consumer electronics show in Las Vegas and didn't realize that it was not a N E W model.

Re: enduring market for high end calculators-

*Message #7 Posted by **Don Shepherd** on 8 Jan 2011, 2:36 a.m.,*
in response to message #6 by db (martinez, ca.)

Well, it is pretty new. When Casio announced it they said it would be available in January, but they apparently beat that estimate by a month or so. If HP would use this display for a new scientific grapher, that would be of GREAT interest to this group, I'm sure.

Re: enduring market for high end calculators-

*Message #8 Posted by **Walter B** on 8 Jan 2011, 3:26 a.m.,*
in response to message #7 by Don Shepherd

> Quote:
>
> If HP would use this display for a new scientific grapher, that would be of GREAT interest to this group, I'm sure.

Well, depends IMHO. Personally, I won't show up in any meeting with such an oversized calc - and in my office I have a laptop at hand.

Ceterum censeo: HP, launch a 43S (with a reasonable LCD as discussed here ad nauseam)

HTH, Walter

Re: enduring market for high end calculators-

*Message #9 Posted by **designnut** on 9 Jan 2011, 11:52 a.m.,*
in response to message #8 by Walter B

I would like you to comment on whether this type of calculator is just for 'prestige' only. I cannot program in RPL, there is a very steep learning curve. I have seen occasions where calculators are carried for prestige only and not used beyond simple calculations. Comment please. Sam

Re: enduring market for high end calculators-

*Message #10 Posted by **Walter B** on 9 Jan 2011, 1:15 p.m.,*
in response to message #9 by designnut

Sam,

such a graphic calculator may be most useful at university, if you study engineering, physics, chemistry or mathematics. Perhaps, if you're very well trained on it, you

may continue benefitting from it working in R&D. That's it IMHO. I cannot tell if such a graphic calc is really necessary at any of these locations, however, personally I doubt it. A reliable, compact, rugged pocket calc did and does the job in my studies and professional life - programmability is nice to have now for some repeated calculations, but I did use this feature a lot more some 30 years ago (though far inferior than the applications other forumers create here).

My personal 20m€ only, FWIW
Walter

Edited: 9 Jan 2011, 1:19 p.m.

Re: enduring market for high end calculators-

*Message #11 Posted by **Eric Smith** on 9 Jan 2011, 4:08 p.m.,*
in response to message #9 by designnut

A very steep learning curve is a good thing! If the curve was shallow, it would take a very long time to learn to use it!

Re: enduring market for high end calculators-

*Message #12 Posted by **designnut** on 9 Jan 2011, 11:37 p.m.,*
in response to message #11 by Eric Smith

O.K., truth time, how many can really program their RPL calculators. It starts with introducing a lot of new jargon and there is an immense amount to commit to memory. I give up. sam

Re: enduring market for high end calculators-

*Message #13 Posted by **Karl Schneider** on 10 Jan 2011, 1:17 a.m.,*
in response to message #12 by designnut

> Quote:
>
> O.K., truth time, how many can really program their RPL calculators. It starts with introducing a lot of new jargon and there is an immense amount to commit to memory.

Indeed, the real problem with RPL programming is the *height* of the required learning curve, not its slope, which depends upon the time taken for learning.

Speaking of which, a steep learning curve *achieved without excessive effort* is desirable, while a steep *required* learning curve can be daunting.

Here's my 'great' accomplishment in RPL programming, which worked on my first effort:

```
"<< IF A B < THEN A 360 + 'A' STO END >>"
```

-- Karl

Re: enduring market for high end calculators-

*Message #14 Posted by **robert rozee** on 10 Jan 2011, 5:06 a.m.,*
in response to message #13 by Karl Schneider

... one reason why there is a lot to be said for 'that' language - BASIC (please excuse the profanity). through school i used extensively a sharp pc-1211 basic pocket computer, while at university switched back to a more humble casio fx-82 style calculator.

rob :-)

Re: enduring market for high end calculators-

*Message #15 Posted by **Palmer O. Hanson, Jr.** on 10 Jan 2011, 8:56 p.m.,*
in response to message #12 by designnut

> Quote:
>
> O.K., truth time, how many can really program their RPL calculators. It starts with introducing a lot of new jargon and there is an immense amount to commit to memory. I give up.
> sam

I have an 28S and a 48S. I have made several attempts to do something original in RPL but have always given up in frustration. I have successfully modified two RPL programs written by others.

My first modification was to the iterative refinement program on page 69 of the HP-28S Reference Manual to provide two iteratioins rather than one. Not exactly a big whoop for that!

My second modification was to an analysis program by Rodger Rosenbaum to strip out a quadratic solver as a stand alone program. Has anyone heard from Rodger lately?

Re: enduring market for high end calculators-

*Message #16 Posted by **Martin Pinckney** on 10 Jan 2011, 8:21 a.m.,*
in response to message #9 by designnut

For once, I agree with you, Sam. I have not even attempted RPL. For me, learning the built-in (already programmed, if you will) functionality of the 48 series is daunting enough.

Re: enduring market for high end calculators-

*Message #17 Posted by **David Hayden** on 10 Jan 2011, 9:45 a.m.,*
in response to message #9 by designnut

I agree that programming in RPL is very difficult. RPN and post-fix operations (e.g. 1 'X' STO instead of 1 STO 'X') are great when evaluating expressions on the keyboard, but they are not easy to *read* in a program. We grow up reading in-fix operations so the switch is very hard.

Note that I'm talking about the usability and learning curve of RPL, not the functionality. RPL is extremely flexible and compact. That's great for programming

gurus who are writing applications, but for the average user, a simple-to-understand, simple-to-read language would be better.

BTW, this is one reason why I often recommend the 48gii. For most people who need a high-end calculator, this will do the trick and it's much cheaper than the 50g.

Dave

Re: enduring market for high end calculators-

*Message #18 Posted by **Martin Pinckney** on 10 Jan 2011, 1:23 p.m.,*
in response to message #17 by David Hayden

> Quote:
>
> RPN and post-fix operations (e.g. 1 'X' STO instead of 1 STO 'X') are great when evaluating expressions on the keyboard...

I suppose it is what one is used to? Somehow the mixed infix/postfix of both traditional RPN and traditional ALG machines just seems more natural.

For example, RPN machines usually had infix STO and RCL, as you point out. Similarly, ALG machines used to have postfix unary operations, such as 30 SIN and 40 1/X. This all flows naturally for me.

But the "pure" postfix or infix of the newer machines I don't like so much. 1 'X' STO and INV(40) just seem awkward. Really awkward are infix conversions like MILE(45).

Re: enduring market for high end calculators-

*Message #19 Posted by **Walter B** on 10 Jan 2011, 1:56 p.m.,*
in response to message #18 by Martin Pinckney

IMHO it depends on what you are acustomed to. While most people are taught parameters following function names like in *f(x)* or *f(x,y,...)*, far less think reverse and even less write reverse. So *SDEV(x,y,z,...)* looks natural, while anything like *x,y,z ... SDEV* looks awkward to the vast majority.

RPN requires us handling only one parameter per step the reverse way, e.g. 3 ENTER 17 / or 123 STO 7, which seems being achievable at least for the many enthusiastic users of this logic - and even becoming natural after some training (else we won't find as many missionaries of RPN).

RPL further proceeds in this "awkward" direction, and apparently goes beyond what most people are willing to accept.

These are no statements about the qualities of the methods mentioned, only observations.

Edited: 10 Jan 2011, 4:50 p.m.

Re: enduring market for high end calculators-

*Message #20 Posted by **Daniel Oliva** on 10 Jan 2011, 3:06 p.m.,*

in response to message #9 by designnut

I can program in RPL (in a basic/intermediate level) and do not understand RPN programming as in classic HP calculators (I'm not saying it's hard, I never tried to learn). But I admire people solving complicated problems in the old classics, it shows the real power of these machines. Many people (including myself) couldn't solve those problems even with the most modern computers available.

Re: enduring market for high end calculators-

*Message #21 Posted by **Martin Pinckney** on 10 Jan 2011, 3:42 p.m.,*
in response to message #20 by Daniel Oliva

> Quote:
>
> I ... do not understand RPN programming as in classic HP calculators (I'm not saying it's hard, I never tried to learn).

Well, at it's most fundamental level, RPN programming is nothing more than just recording the keystrokes you would use while solving the problem from the keyboard. Not much to learn there. Of course it can get more complicated, with conditional branching and indirect addressing, etc. When you get to the 41 series, there's much more to learn.

Edited: 10 Jan 2011, 4:14 p.m.

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Repairing HP82066B charger

*Message #1 Posted by **Timo** on 7 Jan 2011, 11:40 a.m.*

Dear forum members,

after helping me so well with my request regarding charging times of the HP41 battery pack here, I now came across a different problem when I tried to actually charge the pack.

It seems that the charger is broken down. Indications: - No reaction of the HP41 after inserting the "charged" pack, - charger does not warm up during charging and - I can not measure an output voltage when the charger is inserted into a power receptacle.

My question is: Has anybody ever repaired an HP82066B charger? For example, my first problem is to get past the casing whithout damaging it too much (I can not find any screws). Another idea would be to build a new charger on my own. As far as I know, all I have to do is provide the battery pack rectifier circuit with 3VA, 8VAC. Does anybody know where I can find a circuit diagram of the original charger that I could use to identify the required components?

Kind thanks for your help in advance!

Best regards, Timo

Edited: 7 Jan 2011, 11:41 a.m.

Re: Repairing HP82066B charger

*Message #2 Posted by **Dieter** on 7 Jan 2011, 2:48 p.m.,*
in response to message #1 by Timo

Hi again. :-)

> Quote:
>
> My question is: Has anybody ever repaired an HP82066B charger?

For my part: no, and I'd say: don't even think about it. The AC adapter (no, that's not a charger) cannot be opened without breaking it. I cannot be reassembled in a way that ensures safe operation.

> Quote:
>
> As far as I know, all I have to do is provide the battery pack rectifier circuit with 3VA, 8VAC.

The original 82066A provides something like 14 Volts AC while the battery pack is charged, and the charging current is something like 15 or maybe 20 mA. There's nothing even close to 3 Watts. Remember: the 82066A

also had to power other devices like the printer and its charging ciruit for its much bigger batteries.

In the meantime you know the electronics inside the 82120A battery pack. You immediately realize that the whole thing essentially runs on the 12 V provided by the 78L12 voltage regulator. This IC performs best with an input voltage a few Volts higher, e.g. 15 V. Taking into accout the four rectifier diodes and the 100 Microfarad capacitor, this means that the whole thing should be able to run from a simple AC-adapter with 12 V output - AC as well as DC. If a cheap AC-adapter without voltage regulation is used, its nominal output voltage can be as low as 9 Volts since the effective (!) voltage is significantly higher than the nominal value: the whole charging circuit requires only a few mA, way below the adapter's max. rating like, say, 300 or 500 mA. That's also the reason why the 82066A is rated at 8 Volts: it provides this voltage *if* it is connected to a 375 mA load. With just 20 mA load the output voltage is much higher.

However, I'm not an electronics expert. So beware and correct me if I'm wrong. ;-)

Dieter

Re: Repairing HP82066B charger

*Message #3 Posted by **Dieter** on 8 Jan 2011, 8:50 a.m.,*
in response to message #2 by Dieter

Two remarks:

> Quote:
>
> The original 82066A ...

Of course it's the 82066B. Sorry. ;-)

> Quote:
>
> ...this means that the whole thing should be able to run from a simple AC-adapter with 12 V output - AC as well as DC

With a usual AC adapter (i.e. constant (smoothed) direct current) a higher voltage like the mentioned 15 V is required. As Paul said, the minimum is 12 + 1,7 = 13,7 V, in this case plus the voltage drop caused by the rectifier diodes, leading to about 14,5 V altogether. 12 V AC (or *pulsating* DC) will result in about 1,4*(12 - 0,7) = 15,8 V which is fine.

Addendum: I just measured my two own 82066Bs. Connected to 230 VAC and *with no load*, both of them give the same output voltage of 11,5 Volts AC.

Dieter

Edited: 8 Jan 2011, 1:41 p.m.

Re: Repairing HP82066B charger

*Message #4 Posted by **Paul Berger (Canada)** on 7 Jan 2011, 4:55 p.m.,*
in response to message #1 by Timo

You say no output from the charger when it is connected to the battery pack, so I am guessing that you have checked and found that there is AC present at the end of the cord when it is not connected to the battery pack? If so looking in the schematic for the battery pack posted in the other thread one of my first suspects would be

100uF capacitor on the input side of the 78L12. Electrolytic capacitors are a common point of failure and can fail short, or partially short which may pull down the input voltage to the 78L12. According to one of my data books the drop out voltage for a 78L12 is 1.7V this means that the input voltage must be at least 1.7V greater than the output.

Re: Repairing HP82066B charger

*Message #5 Posted by **Timo** on 8 Jan 2011, 11:37 a.m.,*
in response to message #4 by Paul Berger (Canada)

Thanks for all the very helpful answers!

Paul: What I meant was that I checked the AC output at the cord when the adapter was pluged into a 230VAC receptacle. I did not measure any voltage there so I'd say it is dead.

I wouldn't consider myself someone with a very good background in electronics. I do know a bit more than basics though (at least I can recognize the hot end of the soldering iron when I see one, so to speak ;)).

So summing up your answers it seems, that building a "self-made" AC adapter for the battery pack sounds quite managable to me. I checked the datasheet of the 78L12 here and the recommended operating conditions are an input voltage of 8-20V. So a simple AC source with a voltage of approx. 15VAC as you recommend should work indeed. Maybe a fuse to limit the output voltage of this adapter in order to protect the battery pack circuit would come in handy as well...

However, I do have some colleagues at work which are really knowledgable when it comes to electronics, so I will try and show them the battery pack circuit diagram. Maybe they have some additonal inputs as well.

I'll give you some feedback once (and if) we've found a workable solution. In the meantime thank you very much again for your replies and best regards!

Timo

Re: Repairing HP82066B charger

*Message #6 Posted by **Dieter** on 8 Jan 2011, 12:47 p.m.,*
in response to message #5 by Timo

Well, the 78L12 may handle input voltages as low as 8 Volts, but in this case it won't provide the desired 12 V output of course... ;-)

Building a home-brew AC adapter may be fun, but on the other hand working solutions are cheap and readily available. In your case your local Conrad shop may be worth a visit: take a look at this 15 V AC adapter for instance - for less than 10 Euros you get stabilized 15 V DC. The maximum load (800 mA) even is way higher than required. For a few Euros more you'll get an adjustable solution for voltages between 9 and 24 V, again stabilized and with enough power to handle even higher loads, making it an universal solution for various other applications.

Simply connect one of these with the 82066B's cable, either directly or with a self-made adapter that connects the AC adapter's plug with the HP-cable.

Dieter

Re: Repairing HP82066B charger

*Message #7 Posted by **Dave Shaffer (Arizona)** on 8 Jan 2011, 3:12 p.m.,*
in response to message #6 by Dieter

A few more alternatives:

Do you have any old PC power supplies lying around (if you have as many old PCs as I do, the price is right: zero!). They are wonderful sources of +/-12 VDC, +/-5 VDC, and maybe others (all nicely regulated, and in the case of +12 VDC, at currents up to 10s of amps). You usually have to short out the right pair of pins somewhere on the motherboard power supply plug to fool the power supply into thinking that its PC is turned ON. Check the web for pin outs (i.e. search "PC power supply pin connections" or something similar).

Are there stores in Europe similar to Goodwill in the US? These are places, usually connected with some sort of charity, that resell items that people bring in and give to the store just to get the stuff out of their house - and get a tax deduction. (Sort of like ebay - except you GIVE your stuff to them and they keep ALL the sales price.) The stores here have many of the little power supply "wall warts" that plug into the AC line and supply power for all of our modern gizmos (calculators, modems, telephones, etc.). They might sell for as much as $1 and they come in all varieties of AC or DC output voltage (read the label!) but are easily hacked by cutting off the power tip and replacing it with what you need or have.

Re: Repairing HP82066B charger

*Message #8 Posted by **Timo** on 8 Jan 2011, 4:22 p.m.,*
in response to message #6 by Dieter

My golly, that penny took a while to drop!

I was so pinned on an AC power supply that it wasn't before reading Dieters message with the Conrad-Links that it dawned on me. Of course the diode bridge in the rectifier doesn't care if you supply DC voltage to it, it's simply that one of the branches of the bridge isn't used at all... Oh dear!

Dieter, Dave thanks for your tips. I have indeed an old PC as well as an additional old PC power supply. However, I think I also have some old AC adapters lying around here that deliver the required 15VDC output. I thinks that's the solution I will go for. Nice and easy, all I have to do is replace the cord of the new AC adapter with that of the old HP-adapter. And above all, it's by far the safest way of dealing with the 230VAC connection that is required...

Many thanks for your continued support, I really appreciate your input!

Regards, Timo

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HP-41cx battery connection

*Message #1 Posted by **Ignacio Sánchez** on 7 Jan 2011, 4:53 a.m.*

Hello everybody and happy New Year!

The thing is that I have purchased a HP41CX, in good condition except for the fact that one of the four the battery connections is broken. The question is if I could replace this four battery connection block for one coming from a HP41CV (if it helps both are fullnut models).

Thank you!!

Ignacio Sánchez (Valencia, Spain)

Re: HP-41cx battery connection

*Message #2 Posted by **John Robinson** on 9 Jan 2011, 5:43 p.m.,*
in response to message #1 by Ignacio Sánchez

Yes, fully compatible.

Cheers, John

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HP35 for $9K?

*Message #1 Posted by **Wilhelm Taylor** on 6 Jan 2011, 9:06 a.m.*

Anybody interested in this item: ebay item 280610917257

VINTAGE - WORKING - HP 35 - SCIENTIFIC CALCULATOR

Starting bid $9000. Yes, $9K! With dead battery.

And just to add insult: $150 shipping.

Re: HP35 for $9K?

*Message #2 Posted by **Don Shepherd** on 6 Jan 2011, 9:31 a.m.,*
in response to message #1 by Wilhelm Taylor

There is already a thread below discussing this auction.

Re: HP35 for $9K?

*Message #3 Posted by **Namir** on 6 Jan 2011, 9:55 a.m.,*
in response to message #1 by Wilhelm Taylor

Indeed ... look at previous thread please.

<yawn>

Namir

Edited: 6 Jan 2011, 9:55 a.m.

Re: HP35 for $9K?

*Message #4 Posted by **Keith Midson** on 6 Jan 2011, 1:27 p.m.,*
in response to message #1 by Wilhelm Taylor

Shipping to Australia is only $106!!! Interesting that overseas shipping is cheaper when he's based in the states. I wonder when the bidding frenzy will start?! Keith

Re: HP35 for $9K?

*Message #5 Posted by **Namir** on 6 Jan 2011, 4:04 p.m.,*
in response to message #4 by Keith Midson

When or where? I say in a parallel universe!

Re: HP35 for $9K?

*Message #6 Posted by **Keith Midson** on 6 Jan 2011, 5:28 p.m.,*
in response to message #5 by Namir

A universe where only a select few HP-35's are chosen as gods.

Re: HP35 for $9K?

*Message #7 Posted by **Gerson W. Barbosa** on 6 Jan 2011, 5:58 p.m.,*
in response to message #4 by Keith Midson

Mine came from Tasmania five or six years ago, close serial number. It cost me about 160 AUD, air shipping from the other side of the world included. It's a similar set, except that the latch in the travel case is missing (and the battery pack now does hold a charge). Investmentwise, beyond my wildest expectations :-)

Re: HP35 for $9K?

*Message #8 Posted by **Keith Midson** on 7 Jan 2011, 2:05 a.m.,*
in response to message #7 by Gerson W. Barbosa

Did you buy that from me Gerson? Tasmania is my home and I've sold a few 35's over the years. Cheers, Keith

Re: HP35 for $9K?

*Message #9 Posted by **Gerson W. Barbosa** on 7 Jan 2011, 10:00 a.m.,*
in response to message #8 by Keith Midson

Hello Keith,

I remember I was overbidden in another HP-35 auction. I contacted the seller and he said he was going to list another one the following week. I felt he was a trustworthy person and ended up buying it off-ebay. He sent me some nice high-resolution pictures, shot by a Cannon camera if I am not wrong, but I can't find them anymore. It arrived three weeks later to my address (Curitiba, Brazil) and surely over exceeded my expectations. Your first name sounds familiar, but I am not sure about the last one.

Cheers,

Gerson.

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Charging times for HP-41 rebuilt battery pack

*Message #1 Posted by **Timo** on 6 Jan 2011, 7:56 a.m.*

Hi there, it's been quite a while since I last posted here on the Forum but only recently I came across a question regarding a rebuilt HP41 battery pack that I purchased. More precise, the question concers the charging time required to charge it to full capacity again.

The pack contains 4 150mAh KAN (NiMH) accumulators and I'd like to charge it using the standard HP charger. Now, the charger has the well known 3VA 8VAC output which translates in a current of 375mA. However, it's AC and it's converted to DC by the rectifier built into the pack. Since I do not know which type of rectifier is used in the pack I can't really figure out how much DC current is effectively used for charging the cells, therefore I can not judge how long I have to charge the pack.

Can anybody give me a helping hand in figuring out the charging time?

Thanks a lot in advance for your efforts and best regards, Timo

Re: Charging times for HP-41 rebuilt battery pack

*Message #2 Posted by **Dieter** on 6 Jan 2011, 2:10 p.m.,*
in response to message #1 by Timo

Timo, the rating of 3VA and 8 Volts is just a nominal value, and of course the charging current provided by the small PCB inside the battery pack is much, much lower. Just imagine the original 70 mAh batteries being charged with 375 mA... #-)

As far as I know (and also measured by a friend who rebuilt such a battery pack some time ago) the original charging circuit is set to a charging current of 15 mA, maybe a tiny bit higher. For a 150-mAh-battery this means that a completely empty battery pack requires a charging time of 150 * 1.2 / 15 = about 12 hours. Assuming the original PCB was not modified.

By the way - the schematics of the PCB inside the original HP battery pack can be found somewhere out there "on the net". For instance here. The Zener diode limits the voltage to not much more than 6 Volts when the 41 is powered from the AC-adapter. You can also see a small voltage regulator IC for 12 V output and 100 mA max. current. Another reason why "8 V at 375 mA" is far off. :-)

Dieter

Re: Charging times for HP-41 rebuilt battery pack

*Message #3 Posted by **Timo** on 7 Jan 2011, 11:31 a.m.,*
in response to message #2 by Dieter

Hi Dieter!

Well, thanks a lot for this detailed answer. Especially that circuit diagram explains a lot. I did not rebuild the pack myself. However, I can not remember that the guy who sold it to me mentioned modifications of

the charging circuit. This would have been dumb anyway since he sold me the original HP charger as well... ;)

Anyway, in the meantime it seems that I also have a problem with the charger. I have started another thread about this, maybe you can help me out with this one as well.

But thanks again for your help on this problem!

Best regards, Timo

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a new challenge

*Message #1 Posted by **Don Shepherd** on 5 Jan 2011, 11:19 p.m.*

A new year deserves a new challenge!

Write a program on whatever calculator you like to answer the following question: Are there 4 consecutive 4-digit integers that are each evenly divisible by the sum of their digits? If so, list them (there MAY be more than one set, and I probably wouldn't pose this challenge if there were no sets).

For example, if 1001 is evenly divisible by 2 and 1002 is evenly divisible by 3 and 1003 is evenly divisible by 4 and 1004 is evenly divisible by 5, you've got a set. Of course, only one of those 4 conditions is true in this example, so 1001-1004 don't work.

So post your program and tell how long it took. This challenge has no practical value that I can think of other than it's just fun to develop the algorithm and get it to work, and that's reason enough for me.

Re: a new challenge

*Message #2 Posted by **Paul Dale** on 6 Jan 2011, 12:29 a.m.,*
in response to message #1 by Don Shepherd

How about this for the 12c:

```
01-        9    9
02-        9    9
03-        9    9
04-        9    9
05-     44 1    STO 1
06-       35    clx
07-     44 0    STO 0
08-        9    9
09-     44 5    STO 5
10-        9    9
11-     44 4    STO 4
12-        9    9
13-     44 3    STO 3
14-        9    9
15-     44 2    STO 2
16-     45 1    RCL 1
17-     45 2    RCL 2
18-     45 3    RCL 3
19-       40    +
20-     45 4    RCL 4
21-       40    +
22-     45 5    RCL 5
23-       40    +
24-       10    /
25-    43 24    FRAC
26-    43 35    x=0?
27-43,33 55     GTO 55
28-       35    Clx
29-     44 0    STO 0
30-        1    1
31- 44 30 1     STO- 1
32- 44 30 2     STO- 2
33-       16    CHS
34-     45 2    RCL 2
35-    43 34    x<=y?
```

```
36-43,33 38    GTO 38
37-43,33 16    GTO 16
38- 44 40 3    STO+ 3
39-    45 3    RCL 3
40-   43 34    x<=y?
41-43,33 43    GTO 43
42-43,33 14    GTO 14
43- 44 40 4    STO+ 4
44-    45 4    RCL 4
45-   43 34    x<=y?
46-43,33 48    GTO 48
47-43,33 12    GTO 12
48-    45 5    RCL 5
49-       1    1
50-      30    -
51-   43 35    x=0?
52-43,33 00    GTO 00
53-    44 5    STO 5
54-43,33 10    GTO 10
55-       1    1
56- 44 40 0    STO+ 0
57-    45 0    RCL 0
58-       4    4
59-   43 34    x<=y?
60-43,33 62    GTO 62
61-43,33 30    GTO 30
62-    45 1    RCL 1
63-   43 31    PSE
64-       3    3
65-    44 0    STO 0
66-43,33 30    GTO 30
```

It finds three solutions in about 80 seconds on my current model (i.e. fast) 12c. I'll leave the solutions as an exercise for the reader :-) However, I've verified them as being correct. Only the smallest of the four values is displayed.

It would be easy to speed this up to about thirty seconds by changing line 01 and line 08 to 3. If you are only interested in a single solution, change the pause to GTO 00 and watch it speed up even more.

- Pauli

[edit: wrote largest instead of smallest]

Edited: 6 Jan 2011, 12:30 a.m.

Re: a new challenge

*Message #3 Posted by **Don Shepherd** on 6 Jan 2011, 4:59 a.m.,*
in response to message #2 by Paul Dale

Good work Paul. I love the 12c, and especially the super-fast new one.

I solved this first on the 32sii, then on the 30b. I'll post the code in a day or so. The speed of the 30b revealed some 5-digit solutions that would have taken much too long on the 32sii (probably require a new set of batteries!).

Hint: one of the 4-digit solutions is an IBM mainframe! That can't be a coincidence.

Don

Re: a new challenge

*Message #4 Posted by **Paul Dale** on 6 Jan 2011, 6:21 a.m.,*
in response to message #3 by Don Shepherd

Quote:

> The speed of the 30b revealed some 5-digit solutions that would have taken much too long on the 32sii (probably require a new set of batteries!).

Seven of them??

Thirty nine six digit ones. And 234 seven digit ones :-)

I didn't do this on a calculator though.

- Pauli

Re: a new challenge

*Message #5 Posted by **Don Shepherd** on 6 Jan 2011, 8:18 a.m.,*
in response to message #4 by Paul Dale

> Quote:
>
> Seven of them??

Actually, I stopped it at 45,639 and it had found 4 5-digit series solutions by then. I was hoping to find more than 4 consecutive numbers somewhere, have you found that yet?

Did you use Mathematica or something?

Don

Re: a new challenge

*Message #6 Posted by **Oliver Unter Ecker** on 6 Jan 2011, 1:00 p.m.,*
in response to message #5 by Don Shepherd

Hi Don,

> Quote:
>
> I was hoping to find more than 4 consecutive numbers somewhere, have you found that yet?

In the range from 10 to 1E6, there're indeed only two 5-consecutive sets: starting at 131052 and 491424. There're 22 more, if you go to 1E7.

In the range from 10 to 1E8, I found only 9 6-consecutive sets. (First one at 10000095.) Two of which are actually 7-consecutive (10000095 and 41441423).

After 3 minutes I found one 9-consecutive set at 12432xxxx. The last digits have vanished. Maybe to give your hp 30b something to do. ;-)

Oliver

Edited: 6 Jan 2011, 1:08 p.m.

Re: a new challenge

*Message #7 Posted by **Don Shepherd** on 6 Jan 2011, 1:20 p.m.,*
in response to message #6 by Oliver Unter Ecker

> Quote:
>
> After 3 minutes I found one 8-consecutive set at 12432xxxx. The last digits have vanished. Maybe to give your hp 30b something to do. ;-)

Well, my 30b was indeed up to the task! There are actually 9 consecutive numbers, beginning at 124324220 and going to 124324228.

Amazing!

Re: a new challenge

*Message #8 Posted by **Oliver Unter Ecker** on 6 Jan 2011, 4:22 p.m.,*
in response to message #7 by Don Shepherd

Don,

Yes, I noticed the jump from 7 to 9 consecutive numbers and found it intriguing enough to hunt a little more.

Feed your 30b this number 62162100000000 to make him feel great! (This one is a starting point, not a solution.)

:-)

Edited: 6 Jan 2011, 4:23 p.m.

Re: a new challenge

*Message #9 Posted by **Don Shepherd** on 6 Jan 2011, 6:36 p.m.,*
in response to message #8 by Oliver Unter Ecker

Wow, another niner'.

Amazing.

Re: a new challenge

*Message #10 Posted by **Oliver Unter Ecker** on 6 Jan 2011, 11:33 a.m.,*
in response to message #4 by Paul Dale

Paul,

I'm curious.

Would you care to post your "non-calculator" program and timings?

On my Mac using CalcPad, the MorphEngine implementation reported for ND1 finds the 7-digit solutions in 10.8s, and the 1383 solutions for 8-digit numbers in 120s.

Cheers.

[EDIT: For completeness: With the improved algorithm, the timings are 0.6s and 6.1s, respectively.]

Edited: 8 Jan 2011, 3:13 p.m. after one or more responses were posted

Re: a new challenge

*Message #11 Posted by **Paul Dale** on 6 Jan 2011, 6:56 p.m.,*
in response to message #10 by Oliver Unter Ecker

> Quote:
>
> Would you care to post your "non-calculator" program and timings?

Sure. The code is not in the least bit elegant and is trading copious amounts of memory for speed. It is in c++ for the bit vector library support.

Here is my initial version that does the problem as stated in essentially zero time on my old slow laptop:

```
#include <vector>
#include <stdio.h>


#define MAX 10000


int main() {
        std::vector<bool> v(MAX, false);
        for (int n = 1000; n<MAX; n++) {
                int d1 = n%10;
                int d2 = (n/10)%10;
                int d3 = (n/100)%10;
                int d4 = (n/1000)%10;
                int ds = d1+d2+d3+d4;
                if (n % ds == 0)
                        v[n] = true;
        }
        for (int n = 1003; n<MAX; n++)
                if (v[n-3] && v[n-2] && v[n-1] && v[n])
                        printf("%d : %d\n", n-3, n);
        return 0;
}
```

Here is a version that checks from 10,000,000 up to 100,000,000 in under 4 seconds on my rather old mac laptop:

```
#include <vector>
#include <stdio.h>


#define MAX 100000000


int main() {
        std::vector<bool> v(MAX, false);
        for (int n = 10000000; n<MAX; n++) {
                int d1 = n%10;
                int d2 = (n/10)%10;
                int d3 = (n/100)%10;
                int d4 = (n/1000)%10;
                int d5 = (n/10000)%10;
                int d6 = (n/100000)%10;
                int d7 = (n/1000000)%10;
                int d8 = (n/10000000)%10;
                int ds = d1+d2+d3+d4+d5+d6+d7+d8;
                if (n % ds == 0)
                        v[n] = true;
        }
```

```
        for (int n = 1006; n<MAX; n++)
                if (v[n-6] && v[n-5] && v[n-4] && v[n-3] && v[n-2] && v[n-1]
&& v[n])
                        printf("%d : %d\n", n-3, n);
        return 0;
}
```

The extension to search for the nine sequences should be obvious. That program takes about forty five seconds.

- Pauli

Re: a new challenge

*Message #12 Posted by **Oliver Unter Ecker** on 6 Jan 2011, 8:29 p.m.,*
in response to message #11 by Paul Dale

Nice, Paul! Thanks. I was hoping for Mathematica (as I'd like to see how it's done there) but this, too, is clean, compact and easy to read.

Re: a new challenge

*Message #13 Posted by **Paul Dale** on 6 Jan 2011, 8:54 p.m.,*
in response to message #12 by Oliver Unter Ecker

Here is another version that much more closely mimics the 12c program above (counting up not down though):

```
#include <stdio.h>


int main() {
        unsigned int a, b, c, d, e, f, g, h, i;
        unsigned int n = 100000000;
        unsigned int count = 0;
        for (a=1; a<10; a++)
        for (b=0; b<10; b++)
        for (c=0; c<10; c++)
        for (d=0; d<10; d++)
        for (e=0; e<10; e++)
        for (f=0; f<10; f++)
        for (g=0; g<10; g++)
        for (h=0; h<10; h++)
        for (i=0; i<10; i++) {
                const unsigned int s = a+b+c+d+e+f+g+h+i;
                if (n % s == 0) {
                        count++;
                        if (count >= 9)
                                printf("%u - %u\n", n-count+1, n);
                } else
                        count = 0;
                n++;
        }
        return 0;
}
```

Seven seconds to find both 9 sequences.

- Pauli

Re: a new challenge

*Message #14 Posted by **Paul Dale** on 6 Jan 2011, 6:47 p.m.,*
in response to message #2 by Paul Dale

For reference my program does the full iteration from 9999 down to 1000. The timings I've given are for

the entire range.

- Pauli

Re: a new challenge

*Message #15 Posted by **Oliver Unter Ecker** on 6 Jan 2011, 11:24 a.m.,*
in response to message #1 by Don Shepherd

Here's an implementation and timings for ND1.

This function finds the next solution vector, given a starting number:

```
function (x) { // arg is starting number
  function crossSumOfDecDigits(x) {
      var v = String(x);
      var sum = 0;
      for (var i=v.length-1; i>=0; i--)
        sum += v[i] * 1.0;
      return sum;
  }


  function nextNCrossSumDivisibles(n, x) {
      var solutionVec = [];
      do {
        if (!(x % crossSumOfDecDigits(x)))
            solutionVec.push(x); // add candidate num to solution
        else
            solutionVec = []; // reset solution
        ++x;
     }
     while (solutionVec.length < n);


     return solutionVec;
  }


  return nextNCrossSumDivisibles(4, x);
}
```

Given the starting point 1E5, the first solution vector, [10307 10308 10309 10310], comes up after 5ms.
Given the starting point 1E6, the first solution vector, [1010022 1010023 1010024 1010025], comes up after 0.17s.

The following function uses the function above (named "crossSumDivisibles" in the same user folder) and returns a vector of solution vectors, given a search range, and reports timings:

```
function (start, end) {
  Bench.start();

  var solutions = [];
  for (var i=start; i<end; i++) {
    var solution = crossSumDivisibles(i);
    solutions.push(solution);
    i = solution[0];
  }
  solutions.pop(); // we're computing one solution too many; drop it


  Bench.elapsedMsg();


  return solutions;
}
```

The 3 solutions for 4-digit numbers, as per challenge, are found in 0.13s, but somehow, mysteriously, are kept secret.

The 7 solutions for 5-digit numbers are found in 1.3s.
The 39 solutions for 6-digit numbers are found in 14.2s.
The 234 solutions for 7-digit numbers are found in 149s.

That's on my iPhone 3GS.

RPL on ND1 would run significantly slower on this task. (But I shall try running it, if someone posts a UserRPL solution.)

Cheers.

Edited: 6 Jan 2011, 12:34 p.m.

Re: a new challenge

*Message #16 Posted by **Don Shepherd** on 6 Jan 2011, 12:50 p.m.,*
in response to message #15 by Oliver Unter Ecker

> Quote:
>
> The 3 solutions for 4-digit numbers, as per challenge, are found in 0.13s, but somehow, mysteriously, are kept secret.

Maybe you'll have to pay Steve Jobs a couple of million $ to unlock the secret!

Very nice work. It really shows the fundamental differences between the new breed of "app" calculators running on i-devices and Androids versus the traditional dedicated RPN calculators.

Thanks.

Don

Re: a new challenge

*Message #17 Posted by **Oliver Unter Ecker** on 7 Jan 2011, 8:57 p.m.,*
in response to message #15 by Oliver Unter Ecker

I was able to speed up this implementation by a factor 20, by
- maintaining a running count of the digit sum instead of deriving it from x
- no longer using an array to hold candidates

The new code is

```
function (x) {   // arg is starting number
    function digitSumOf(x) {
        var s = String(x);
        var sum = 0;
        for (var i=s.length-1; i>=0; i--)
            sum += s[i] * 1.0;
        return sum;
    }

    function nextNivenSequence(n, x) {
        var digitSum = digitSumOf(x);
        var sequenceLength = 0;
        do {
            if (!(x % digitSum))
                ++sequenceLength;
            else
                sequenceLength = 0;
```

```
            if (++x % 10)
                ++digitSum;
            else {
                if (x % 100)
                    digitSum -= 8;
                else if (x % 1000)
                    digitSum -= 17;
                else if (x % 10000)
                    digitSum -= 26;
                else
                    digitSum = digitSumOf(x);
            }
        }
        while (sequenceLength < n);

        return x-sequenceLength;
    }


    return nextNivenSequence(4, x);
}
```

The algorithm retains the ability to start the search from any given number, is not confined to a certain number of digits, and will look for an adjustable count of consecutive numbers.

New timings:

The 3 4-digit solutions: 8ms
The 234 7-digit solutions: 6.5s

Edited: 8 Jan 2011, 5:23 a.m.

Re: a new challenge

Message #18 Posted by ***Gerson W. Barbosa*** *on 6 Jan 2011, 3:42 p.m.,*
in response to message #1 by Don Shepherd

Hello Don,

Interesting problem!

I was glad my first HP-33s program found the solution in less than five seconds... until I read Paul Dale's post and realized there were three sets of them. Not so nice, too many labels, not so optimized, anyway this second try finds the three sets in about 260 seconds (after 3 s, 132 s and 260 s, respectively).

```
C0001 LBL C
C0002 CLx
C0003 STO S
C0004 STO T
C0005 1000
D0001 LBL D
D0002 CF 1
D0003 RCL T
D0004 4
D0005 -
D0006 x=0?
D0007 GTO E
F0001 LBL F
F0002 x<>y
F0003 ENTER
F0004 ENTER
F0005 ENTER
F0006 10
F0007 INT/
F0008 STO+ S
F0009 LASTx
F0010 INT/
F0011 STO+S
F0012 LASTx
F0013 INT/
```

```
F0014 STO+S
F0015 Rv
F0016 RCS S
F0017 9
F0018 *
F0019 -
F0020 RMDR
F0021 0
F0022 x#y?
F0023 STO T
F0024 STO S
F0025 Rv
F0026 x=0?
F0027 SF 1
F0028 CLx
F0029 1
F0029 FS? 1
F0031 STO+ T
F0032 +
F0033 GTO D
E0001 LBL E
E0002 x<>y
E0003 LASTx
E0004 -
E0005 STOP
E0006 LASTx
E0007 +
E0008 x<>y
E0009 GTO F
```

Reference:

http://oeis.org/A007953

http://oeis.org/A054899

Re: a new challenge

*Message #19 Posted by **George Litauszky** on 6 Jan 2011, 3:45 p.m.,*
in response to message #1 by Don Shepherd

It's a HP 50g solution but slow a bit. The 3 solutions: 52 sec, and the full loop from 1001 to 9999 is 3 min 50 sec.

```
\<< 0. {} 'CLST' STO
  1001. 9999.
  FOR M
   M
   DUP
   1000. /
   DUP IP SWAP FP
   1. 2. FOR N
    10. *
    DUP IP SWAP FP
   NEXT
   10. * + + + MOD
   IF NOT THEN
    1. + DUP
    IF 4. == THEN
     M 3. - 'CLST' STO+
     DUP  -
    END
   ELSE
     DUP  -
   END
  NEXT
  DROP CLST REVLIST
\>>
```

Re: a new challenge

*Message #20 Posted by **George Litauszky** on 7 Jan 2011, 12:41 p.m.,*

in response to message #19 by George Litauszky

A restructured 50g version. A bit faster. The solution: from 52 sec reduced to 44 sec and the full loop from 3' 50" to 3' 14".

```
\<<
  {} 'CLST' STO 0.
  1. 9. FOR A
   0. 9. FOR B
    0. 9. FOR C
     0. 9. FOR D
      A 1000. * B 100 *
      C 10 * D + + + DUP
      A B C D + + + MOD
      IF NOT THEN
       SWAP
       1. + DUP
       IF 4. == THEN
        SWAP 3. - 'CLST' STO+
        DUP -
       ELSE
        SWAP DROP
       END
      ELSE
       SWAP DROP DUP -
      END
     NEXT
    NEXT
   NEXT
  NEXT
  DROP CLST REVLIST
\>>
```

Re: a new challenge

*Message #21 Posted by **Oliver Unter Ecker** on 8 Jan 2011, 6:34 a.m.,*
in response to message #20 by George Litauszky

George: I bet if you find a way to write this without STO+, this'll run ~10 faster.

Re: a new challenge

*Message #22 Posted by **George Litauszky** on 8 Jan 2011, 8:24 a.m.,*
in response to message #21 by Oliver Unter Ecker

Thanks Oliver. But in this case this STO+ playing three times only till the program is running.

Re: a new challenge

*Message #23 Posted by **Oliver Unter Ecker** on 8 Jan 2011, 9:40 a.m.,*
in response to message #22 by George Litauszky

George,

Sorry about the bad lead! I didn't read your code properly and was just parsing it for slow instructions to explain the unexpected slow speed. (Surely a 50g must run this faster than a 12c!)

What about changing "B 100" to "B 100." and "C 10" to "C 10."?

Oliver

Edited: 8 Jan 2011, 9:43 a.m.

Re: a new challenge

*Message #24 Posted by **George Litauszky** on 8 Jan 2011, 11:45 a.m.,*
in response to message #23 by Oliver Unter Ecker

The "B 100 and C 10" it's a text mistake only, I'm sorry for it. My 50g is in Approx mode and the program ran with "B 100. C 10." values. The low speed related the level of my knowledge I think.

Re: a new challenge

*Message #25 Posted by **George Litauszky** on 9 Jan 2011, 5:57 a.m.,*
in response to message #24 by George Litauszky

This is my third HP 50g version. I just found an interesting topic on the HP48 forum about the local variables. With this method the three solutions was found in 31" and the full loop's time was 2' 15".

```
\<< 1000. 1. \-> up dn
\<< {} 'CLST' STO 0.
  1. 9. FOR A
   0. 9. FOR B
    0. 9. FOR C
     0. 9. FOR D
      1. up + 'up' STO
      1. dn + 'dn' STO
      up dn MOD
      IF NOT THEN
       1. + DUP
       IF 4. == THEN
        up 3. - 'CLST' STO+
        DUP -
       END
      ELSE
       DUP -
      END
     NEXT
     -9. dn + 'dn' STO
    NEXT
    -9. dn + 'dn' STO
   NEXT
   -9. dn + 'dn' STO
  NEXT
  DROP CLST REVLIST
\>>
\>>
```

Thanks Don for this challange. I'm waiting for the next one.

Re: a new challenge

*Message #26 Posted by **George Litauszky** on 9 Jan 2011, 6:09 a.m.,*
in response to message #25 by George Litauszky

It seems I missed the link.
https://groups.google.com/d/topic/comp.sys.hp48/Ujngf2y134A/discussion
With this link and with Raymund's method made my last version

Re: a new challenge

*Message #27 Posted by **Gerson W. Barbosa** on 10 Jan 2011, 1:32 p.m.,*
in response to message #25 by George Litauszky

Programs that used only the stack used to be faster on the HP-48G/GX and the HP-

49G. Since the original Saturn microprocessor is emulated on the HP-49G+/50g, I don't think this applies to the HP-50g. The 50g program below is base on the Turbo Pascal code somewhere else in this thread and takes roughly one minute to find all three solutions, starting at 1000. On my HP-48GX it took about 150 seconds, that is, the 50g is only 2.5 times faster in this case.

Regards,

Gerson.

```
%%HP: T(3)A(D)F(,);
\<< 0, ROT CLLCD
  DO DUP DUP 0, OVER
    DO 10, / IP SWAP OVER + SWAP DUP
    UNTIL 10, <
    END DROP 9, * - MOD
    IF NOT
    THEN SWAP 1, + DUP
      IF 4, \>=
      THEN OVER 2, DISP 1, WAIT
      END SWAP
    ELSE NIP 0, SWAP
    END 1, + 3, PICK OVER
  UNTIL <
  END 3, DROPN
\>>


On the HP-48G/GX, replace NIP with SWAP DROP.


<< << 1000. 3035. DC >> TEVAL >>  -> s: 60.1381
```

Re: a new challenge

*Message #28 Posted by **George Litauszky** on 10 Jan 2011, 3:29 p.m.,*
in response to message #27 by Gerson W. Barbosa

Thanks for the nice program, Gerson. It takes one minute for me too. In this moment I don't know what is it doing but I will visit it's run with my debugger. :-) It seems my third version with the local variables is faster. If you modify it's middle section:

```
       IF 4. == THEN
        up 3. - 'CLST' STO+
        DUP -
        CLST SIZE IF 3. == THEN KILL END      <---- Here.
       END
```

In this case the program takes 31 seconds and the three solutions are in the list named CLST.

Re: a new challenge

*Message #29 Posted by **Gerson W. Barbosa** on 10 Jan 2011, 9:12 p.m.,*
in response to message #28 by George Litauszky

George,

At half a minute, it looks like you're reaching the limit of the HP-50g for the particular algorithm you've been using. Well done!

> Quote:

> In this moment I don't know what is it doing but I will visit it's run with my debugger. :-)

I haven't written any remarks, instead I am providing a Turbo Pascal program which has virtually the same structure, so it can be more easily followed. The bold-face text in the RPL listing is borrowed code from hpsolo I found at comp.sys.hp48 ("sum of digits" contest).

Gerson.

```
%%HP: T(3)A(D)F(,);
\<< 0, ROT CLLCD
  DO DUP DUP MANT 0,
    DO OVER IP + SWAP FP MANT SWAP
    UNTIL OVER NOT
    END + MOD
    IF NOT
    THEN SWAP 1, + DUP
      IF 4, \>=
      THEN OVER 2, DISP 1, WAIT
      END SWAP
    ELSE NIP 0, SWAP
    END 1, + 3, PICK OVER
  UNTIL <
  END 3, DROPN
\>>


<< << 1000. 3035. DC >> TEVAL >>  -> s: 55.3735
```

```
Program Niven;
var n1, n2, n: real;
      c, i, m: byte;
            k: char;
function Sod(x: Real): byte;
var s, t: real;
begin
  s:=0;
  t:=x;
  repeat
    t:=Int(t/10);
    s:=s+t
  until t<10;
  Sod:=Trunc(x-9*s)
end;
begin
  ClrScr;
  Write('n1, n2, m: ');
  ReadLn(n1, n2, m);
  WriteLn;
  n:=n1;
  c:=0;
  repeat
    if Frac(n/Sod(n)) = 0
      then
        begin
          c:=c+1;
          if c>=m then WriteLn (n-i+1:18:0)
        end
      else
        c:=0;
    n:=n+1;
  until n=n2
end.
```

Re: a new challenge

*Message #30 Posted by **George Litauszky** on 11 Jan 2011, 1:36 p.m.,*
in response to message #29 by Gerson W. Barbosa

Gerson,
Thanks for the lists. I visited the first one. It was a good occasion to learn the stack manipulation. On trial i change the older DUP DUP and 3.

PICK commands with the subsequent DUPDUP and PICK3 ones. The program's run time reduced with three hard seconds. :-)

Edited: 11 Jan 2011, 5:25 p.m.

Re: a new challenge

*Message #31 Posted by **Gerson W. Barbosa** on 11 Jan 2011, 11:11 p.m.,*
in response to message #30 by George Litauszky

A small improvement and a version for the HP-28S:

```
HP-50g:


%%HP: T(3)A(D)F(,);
\<< { } 0, 1000,
  DO DUP DUPDUP 10, / IP DUP 10, / IP DUP 10, / IP + + 9,
* - MOD
    IF NOT
    THEN SWAP 1, + DUP
      IF 4, \>=
      THEN UNROT + LASTARG NIP ROT
      END SWAP
    ELSE NIP 0, SWAP
    END 1, + DUP 10000,
  UNTIL >
  END DROP2
\>>


<< DC >> TEVAL   ->       {1017. 2025. 3033.}
                                  s: 171.2803


( 38.3768 seconds when up to 3033)



HP-28S:


\<< { } 0 1000
  DO DUP DUP DUP 10
/ IP DUP 10 / IP DUP
10 / IP + + 9 * -
MOD
    IF NOT
    THEN SWAP 1 +
DUP
      IF 4 \>=
      THEN OVER 4
ROLL + ROT ROT
      END SWAP
    ELSE SWAP DROP 0
SWAP
    END 1 + DUP 3033
  UNTIL >
  END DROP2
\>>


DC   ->    { 3033 2025 1017 }  (after 3.00 minutes)
```

Re: a new challenge

*Message #32 Posted by **George Litauszky** on 12 Jan 2011, 3:11 a.m.,*
in response to message #31 by Gerson W. Barbosa

Gerson,

These lot of program lists are very interesting and instructive me. Thanks, George

Re: a new challenge

*Message #33 Posted by **Gerson W. Barbosa** on 12 Jan 2011, 2:26 p.m.,*
in response to message #32 by George Litauszky

Since positive multiples of 9, except 0, are Niven numbers, they can be skipped in the sum of digits routine. However, for 4-digit numbers it is faster to simply do the sum. This might be useful when testing larger numbers though. The contents THEN and the ELSE statements have been exchanged and the common SWAP instruction is now duely out of the structure. I hope there are no more obvious mistakes.

```
\<< { } 0. 1000.
  DO DUP DUPDUP 10. / IP DUP 10.
/ IP DUP 10. / IP + + 9. * - MOD
    IF
    THEN NIP 0.
    ELSE SWAP 1. + DUP
      IF 4. \>=
      THEN UNROT + LASTARG NIP
ROT
      END
    END SWAP 1. + DUP 3033.
  UNTIL >
  END DROP2
\>>


37.6573 sec




\<< { } 0. 1000,
  DO DUPDUP 9. MOD
    IF
    THEN
    DUPDUP 10. / IP DUP 10.
/ IP DUP 10. / IP + + 9. * - MOD
    ELSE DROP 0.
    END
    IF
    THEN NIP 0.
    ELSE SWAP 1. + DUP
      IF 4. \>=
      THEN UNROT + LASTARG NIP
ROT
      END
    END SWAP 1. + DUP 3033.
  UNTIL >
  END DROP2
\>>


38.5524 sec
```

Re: a new challenge

*Message #34 Posted by **George Litauszky** on 12 Jan 2011, 3:50 p.m.,*
in response to message #33 by Gerson W. Barbosa

> Quote:
>
> I hope there are no more obvious mistakes.

No, the lists are correct. (37.8970 and 39.1434. Your HP is faster a bit. :-)
Gerson, in this case (4 digit numbers) maybe isn't the fastest way: Simple to count the numbers one by one? (Oliver's method for example.)

Re: a new challenge

*Message #35 Posted by **Gerson W. Barbosa** on 12 Jan 2011, 9:10 p.m.,*
in response to message #34 by George Litauszky

George,

I know that is not the best algorithm, I was just trying to optimize for speed the one I had already started. But you're right, there is no need to use a formula in this case. As we can see from the table, the sums of digits follow a quite predictable pattern. In the program below, the sum of digits is computed with that pattern in mind, but then again it is equivalent to a program that simply would sum the digits one by one in the innermost loop. So, no gain this time. The RPL program cycles from 1000 to 4000 and leaves the answers in the stack.

```
%%HP: T(3)A(D)F(.);
\<< 1000. 0. \-> n c
  \<< 0. 2.
    FOR i 0. 9.
      FOR j 0. 9.
        FOR k 1. 10.
          FOR l n i j k l + + + / FP
            IF
            THEN 0. 'c' STO
            ELSE 1. 'c' STO+ c 4. \>= { n }
IFT
            END 1. 'n' STO+
          NEXT
        NEXT
      NEXT
    NEXT
  \>>
\>>


<< DC >> TEVAL  ->          1017.
                            2025.
                            3033.
                      s:59.4524


------------------

  n   SOD(n)      n   SOD(n)      n  SOD(n)
```

```
1000     1      2090    11      3001     4
1001     2      2091    12      3002     5
1002     3      2092    13      3003     6
1003     4      2093    14      3004     7
1004     5      2094    15      3005     8
1005     6      2095    16      3006     9
1006     7      2096    17      3007    10
1007     8      2097    18      3008    11
1008     9      2098    19      3009    12
1009    10      2099    20      3010     4
1010     2      2100     3      3011     5
1011     3      2101     4      3012     6
1012     4      2102     5      3013     7
1013     5      2103     6      3014     8
1014     6      2104     7      3015     9
1015     7      2105     8      3016    10
1016     8      2106     9      3017    11
1017     9      2107    10      3018    12
1018    10      2108    11      3019    13
1019    11      2109    12      3020     5
1020     3      2110     4      3021     6
1021     4      2111     5      3022     7


------------------


Program Niven;


var  c, i, j, k, l, sod: byte;
                         n: integer;


begin
  ClrScr;
  n:=1000;
  c:=0;
  for i:=0 to 9 do
    for j:=0 to 9 do
      for k:=0 to 9 do
        for l:=1 to 10 do
          begin
            sod:=i+j+k+l;
            if Frac(n/sod)=0 then
                begin
                  c:=c+1;
                  if c>=4 then WriteLn(n:4)
                end
              else
                c:=0;
            n:=n+1
          end;
end.



1017
2025
3033


>


------------------
```

Re: a new challenge

*Message #36 Posted by **George Litauszky** on 13 Jan 2011, 1:35 p.m.,*
in response to message #35 by Gerson W. Barbosa

Quote:

> I was just trying to optimize for speed
> the one I had already started.

Gerson,
I visited your programs and I tried to modify the first one from these. It was a good idea from you: to restructure the IF-END part. I changed the DO UNTIL structure to a FOR NEXT one and use the loop variable to count the dividend and so the stack commands decreased a bit.

```
\<< { } 0.
  1000. 3033. FOR n
   n DUPDUP
   10. / IP DUP 10. / IP DUP
   10. / IP + + 9. * -
   MOD
   IF THEN
    DROP 0.
   ELSE
    1. + DUP
    IF 4. \>= THEN
     DROP n 3. - + 0.
    END
   END
  NEXT
  DROP
\>>

34.6757 sec
```

Edited: 13 Jan 2011, 1:44 p.m.

Re: a new challenge

*Message #37 Posted by **Gerson W. Barbosa** on 14 Jan 2011, 1:33 p.m.,*
in response to message #36 by George Litauszky

Great!

A couple of seconds less:

```
\<< { } 0. 1000. 3033.
  FOR n n DUPDUP MANT IP OVER .1
* IP DUP .1 * IP + + 9. * - MOD
    IF
    THEN DROP 0.
    ELSE 1. + DUP
      IF 4. \>=
      THEN DROP n 3. - + 0.
      END
    END
  NEXT DROP
\>>

 32.5687 sec (average of three runs)

145.1378 sec (the whole cycle)
```

Re: a new challenge

*Message #38 Posted by **Gerson W. Barbosa** on 14 Jan 2011, 5:31 p.m.,*

in response to message #37 by Gerson W. Barbosa

Another couple of seconds:

```
\<< { } 0. 1000. 3033.
  FOR n n DUP MANT DUP IP SWAP
FP MANT DUP IP SWAP FP MANT DUP
IP SWAP FP MANT + + + MOD
    IF
    THEN DROP 0.
    ELSE 1. + DUP
      IF 4. \>=
      THEN DROP n 3. - + 0.
      END
    END
  NEXT DROP
\>>


 30.6459 sec (average of three runs)


 141.292 sec (the whole cycle)
```

Re: a new challenge

*Message #39 Posted by **George Litauszky** on 14 Jan 2011, 6:02 p.m.,*
in response to message #38 by Gerson W. Barbosa

Gerson, lenity me please! :-)

I just tried to understand your previous solution. I'll print the whole conversation between us and I'll read it a lot of days. And this link too.

> Quote:
>
> Another couple of seconds:

I understand: Isn't it your real goal, but however it was a nice solution from you.

George

Re: a new challenge

*Message #40 Posted by **Oliver Unter Ecker** on 11 Jan 2011, 2:32 p.m.,*
in response to message #25 by George Litauszky

Here's another RPL version:

```
\<< {} 0 \-> results len \<<
   27
   1000 9999 FOR x


     IF x 10 MOD THEN
       1 +
     ELSE
       IF x 100 MOD THEN 8 -
       ELSE IF x 1000 MOD THEN 17 -
```

```
            ELSE 26 -
            END
        END
      END

      DUP x SWAP
      IF MOD THEN
        0 'len' STO
      ELSE
        IF len 3 == THEN
          'results' x len - STO+
        ELSE
          'len' 1 STO+
        END
      END
    NEXT
    results
\>> \>>
```

This one allows you to adjust the range to search but the initial digit sum (maintained on stack) needs to be in sync. Also, if you want to search into 5 digits, you need to add a "x 10000 MOD" case.

Run-time:
25.8s Emu48-based calculator on iPhone
10.8s ND1 (v1.3) on iPhone
105.3s 50g (thanks, George, for reporting)

Here's the equivalent JavaScript program:

```
function () {
    var results = [], len = 0;
    var digitSum = 27;


    for (var x=1000; x<9999; x++) {
        if (x % 10)
            digitSum += 1;
        else {
            if (x % 100) digitSum -= 8;
            else if (x % 1000) digitSum -= 17;
            else if (x % 10000) digitSum -= 26;
        }

        if (x % digitSum)
            len = 0;
        else {
            if (len == 3)
                results.push(x-len);
            else
                len += 1;
        }
    }

    return results;
}
```

ND1 runs this one in 11ms. That is, 1000x faster than the RPL program. (2500x faster than Emulator on iPhone, ~200x faster than Emu48-emulated 49G on a Mac. ~10,000x faster than 50g!)

I'm working on technology that will transform ("code-morph") UserRPL into JavaScript for the obvious benefit.

Edited: 11 Jan 2011, 4:11 p.m. after one or more responses were posted

Re: a new challenge

*Message #41 Posted by **George Litauszky** on 11 Jan 2011, 3:48 p.m.,*

in response to message #40 by Oliver Unter Ecker

The full loop is from 1000 to 9999: 105.3351 sec. Found the three solutions is: 23.7689 sec. Congratulations Oliver!

Edited: 11 Jan 2011, 3:56 p.m.

Re: a new challenge

*Message #42 Posted by **George Litauszky** on 9 Jan 2011, 4:39 p.m.,*
in response to message #23 by Oliver Unter Ecker

> Quote:
>
> Surely a 50g must run this faster than a 12c!

Oliver, maybe isn't it a 12c with an ARM processor? http://en.wikipedia.org/wiki/HP-10C_series#HP-12C

Re: a new challenge

*Message #43 Posted by **Katie Wasserman** on 9 Jan 2011, 6:17 p.m.,*
in response to message #42 by George Litauszky

You're citing Wikipedia on this instead of this Forum, outrageous! I think that everyone who regularly posts here should be deeply insulted, I know I am :)

Edited: 9 Jan 2011, 6:18 p.m.

Re: a new challenge

*Message #44 Posted by **George Litauszky** on 10 Jan 2011, 2:04 a.m.,*
in response to message #43 by Katie Wasserman

I'm sorry, Katie. I'm a new member and I don't want to insult enybody. I don't do it once more.

George

Re: a new challenge

*Message #45 Posted by **Karl Schneider** on 10 Jan 2011, 2:33 a.m.,*
in response to message #44 by George Litauszky

> Quote:
>
> *You're citing Wikipedia on this instead of this Forum, outrageous! I think that everyone who regularly posts here should be deeply insulted, I know I am :)*
>
> Quote:
>
> I'm sorry, Katie. I'm a new member and I don't want to insult enybody. I don't do it once more.

George --

I'm quite sure that Katie's statement was "tongue-in-cheek" humor, not meant to be taken seriously.

I honestly didn't know about that fairly-new Wikipedia page you cited, and was surprised not to recognize any of the authors.

-- Karl

Edited: 10 Jan 2011, 2:34 a.m.

Re: a new challenge

*Message #46 Posted by **George Litauszky** on 10 Jan 2011, 2:54 a.m.,*
in response to message #45 by Karl Schneider

Ok, Karl. But I'm really a greenhorn here and caution me please if I muss anything. :-)

Re: a new challenge

*Message #47 Posted by **Don Shepherd** on 10 Jan 2011, 6:03 a.m.,*
in response to message #46 by George Litauszky

You're doing fine George, not to worry. Karl is right, Katie was just making some fun, hence her smiley face.

Thanks for your great contributions here (and everyone, really). We all benefit from the insights and knowledge of everyone. It is very interesting to see all of these different approaches to the same problem. Thanks for joining in.

Don

Re: a new challenge

*Message #48 Posted by **Katie Wasserman** on 10 Jan 2011, 3:53 p.m.,*
in response to message #47 by Don Shepherd

George,

Don and Karl have that right, I was just kidding around. Anyway whoever wrote the Wikipedia article got a least some of their information from this site and from members' own sites (Eric Smith's in particular) if not this Forum.

Welcome, and thanks for your contributions!

-Katie

Re: a new challenge

*Message #49 Posted by **George Litauszky** on 10 Jan 2011, 4:43 p.m.,*

in response to message #48 by Katie Wasserman

Katie,

If i had known this! The next time preferably i'll citing the Bible. :-)

George

Re: a new challenge

*Message #50 Posted by **George Litauszky** on 12 Jan 2011, 3:22 a.m.,*
in response to message #48 by Katie Wasserman

In last december 5227 articles were removed from the hungarian Wikipedia site. All of them were copied from a literary history cyclopaedia.

Re: a new challenge

*Message #51 Posted by **Oliver Unter Ecker** on 11 Jan 2011, 4:20 p.m.,*
in response to message #42 by George Litauszky

> Quote:
>
> Oliver, maybe isn't it a 12c with an ARM processor?

George,

Right. The 30b (also ARM) is faster still. Both surprising to me.

I'd love to see a SysRPL implementation...

Oliver

Re: a new challenge

*Message #52 Posted by **Ronald Williams** on 9 Jan 2011, 9:29 p.m.,*
in response to message #19 by George Litauszky

```
I thought I would offer another solution for the hp-49g+ or the hp-50g using User RPL.
I was not concerned with speed but wanted to learn more about programing using lists
and this turned out to be a great learning tool for me.  I only evaluated the 4-digit
case.


I have generated 2 sets of times, one for the emulator and one for the calc.  The
emulator is running on a 32bit Linux laptop under Wine.  Times for full range for 4-
digit numbers is 43 min 34 sec.  A real battery eater!  For the emulator 2 min 57 sec.
The calc is in exact mode.


Listing


«
8996 { 1000 1001 1002 1003} {} {} {}
   n a d1 d2 b
« TIME NEG 1 SF
 1 n FOR k
      a 'd1' STO
```

```
      1 4 FOR j
            d1 j GET 1000 / DUP  @ CHANGE
            IP SWAP FP
            10 * DUP
            IP SWAP FP
            10 * DUP
            IP SWAP FP
            10 *
            + + +  d1 j ROT PUT  'd1' STO  @ CHANGE
      NEXT
      a d1 /  FP 'd2' STO
      CASE
         d2 4 GET 0 > THEN k 2 + 'k' STO 2 SF END  @ CHANGE
         d2 3 GET 0 > THEN k 1 + 'k' STO 2 SF END  @ CHANGE
         d2 2 GET 0 > THEN  2 SF END  @ CHANGE
         d2 1 GET 0 > THEN  2 SF END  @ CHANGE
      END
      IF 2 FC?C THEN
         IF 1 FS?C THEN a 'b' STO
         ELSE a b + 'b' STO END
      END
      { 1000 1001 1002 1003} k ADD 'a' STO
   NEXT
   TIME HMS+ 4 FIX "TIME H.MMSS" + 2 FIX
   b SORT
»
»
```

Re: a new challenge

*Message #53 Posted by **George Litauszky** on 10 Jan 2011, 2:43 a.m.,*
in response to message #52 by Ronald Williams

Ronald, try set the calculator to approx mode. Maybe your program will run faster I think.

Re: a new challenge

*Message #54 Posted by **Ronald Williams** on 10 Jan 2011, 4:07 a.m.,*
in response to message #53 by George Litauszky

George, Thanks for the advice. For some strange reason I can't figure out, when in approximate mode the time for the full set is 1 hr 1 min and 3 sec. Go figure! Again I'm not concerned with speed. I just had a thought that because most of the work is being done on integers that this may cause exact mode to be faster. I don't really know but maybe someone as knowledge with hp calculators as John Myers may have an answer.

Re: a new challenge

*Message #55 Posted by **George Litauszky** on 10 Jan 2011, 1:15 p.m.,*
in response to message #54 by Ronald Williams

I was imprecise I'm sorry. The goal is: Convert every numbers to floating point form in your program. From this: 100 to this: 100.

The easiest way is: First set the HP to Approx, then push your program list to the stack, call it to the edit line and press Enter to push it to the stack again. The floating point number is really faster, try it.

Re: a new challenge

*Message #56 Posted by **Ronald Williams** on 10 Jan 2011, 7:51 p.m.,*
in response to message #55 by George Litauszky

George, Your suggestion proved to be correct. By changing most integers to reals the time

for the full 4-digit range is now 12 min 42 sec. I use reals and approximate mode in the future if I am concerned with speed. Thank you.

Re: a new challenge

*Message #57 Posted by **Ronald Williams** on 10 Jan 2011, 7:21 a.m.,*
in response to message #52 by Ronald Williams

I noticed that the \-> in the second line did not come through. Very important for defining local variables. Sorry I did not catch it before I posted.

Re: a new challenge

*Message #58 Posted by **Don Shepherd** on 6 Jan 2011, 9:04 p.m.,*
in response to message #1 by Don Shepherd

Many thanks to Paul, Oliver, Gerson, and George for posting your solutions to this problem. Very clever work.

I developed solutions for the HP-32sii, HP-30b, and the HP-12c+. Below I show the code for the 32sii and the 30b; the code for the 12c+ is just the same algorithm adjusted slightly for the 12c+ instruction set.

The three solution sets are: (1014, 1015, 1016, 1017), (2022, 2023, 2024, 2025) and (3030, 3031, 3032, 3033).

The 32sii took 9.5 minutes to find the third solution. The 30b took 18 seconds, and the 12c+ took 48 seconds.

Among 4-digit numbers, the highest number of consecutive numbers is 4 (the three solutions shown above). When you open it up to larger numbers, there are some examples of 9 consecutive numbers that meet the criteria. I find that amazing.

Here is the code for the 32sii and 30b:

```
For the 32sii, enter starting number to check then XEQ F


A = sum of digits accumulator
B = number being tested
C = number of consecutive numbers divisible by SOD


lbl F    entry point
clrvars  so A and C are initialized to 0
sto B    current number to test
lbl A    begin loop to get SOD
10
/
fp
sto+A    will x 10 later
lastx
ip
x=/=0
goto A   loop until all digits summed
rcl B
10
rcl*A    gives SOD
/        see if divisible by SOD
fp
x=/=0
goto B   number not divisible by SOD
1
sto+C    is divisible, count
4
rcl C
x<y      if fewer than 4, don't display
goto C
view B   the 4th consecutive number (or 5th or 6th...!) number
view C   the frequency (found at least 4 in a row)
lbl C    get ready to test a new number
```

```
0
sto A    SOD accumulator
1
sto+B    next number to test
rcl B    so it will be in x
goto A   try next number (program never ends until you R/S)
lbl B    this number was not divisible by SOD, so clear C
0
sto C
goto C
```

30b solution:

This is a direct translation of the 32sii program to the 30b.

Reg. 0 = 32sii reg. A
Reg. 1 = 32sii reg. B
Reg. 2 = 32sii reg. C

Label 00 = 32sii label A
Label 01 = 32sii label B
Label 02 = 32sii label C

Press Amort to run after keying in number to start with.

```
(0  Amort)
sto 1
0
sto 0
sto 2
swap
lbl 00
10
/
math up = (yes, all that for fp)
sto+0
ans
math up up = (ip)
0
swap
?=/=
gt 00
rcl 1
10
rcl*0
/
math up =
gt 01
1
sto+2
rcl 2
4
?<
gt 02
rcl 1
r/s
rcl 2
r/s
lbl 02
0
sto 0
1
sto+1
rcl 1
goto 00
lbl 01
0
sto 2
goto 02
```

Re: a new challenge

*Message #59 Posted by **Gerson W. Barbosa** on 6 Jan 2011, 10:02 p.m.,*
in response to message #58 by Don Shepherd

Don,

Thanks for literally giving us some joy (see link below). Thanks also for the didactly explained algorithm.

http://en.wikipedia.org/wiki/Harshad_number

http://oeis.org/A141769

Too bad (or too good) no joy beyond 20 consecutive Harshad numbers :-)

Regards,

Gerson.

Re: a new challenge

*Message #60 Posted by **Don Shepherd** on 6 Jan 2011, 10:15 p.m.,*
in response to message #59 by Gerson W. Barbosa

Thanks for those links Gerson, I wasn't even aware that there was such a thing as a Harshad number. I think my little 30b would have run out of juice looking for that 20th consecutive Harshad number!

Don

Re: a new challenge

*Message #61 Posted by **Gerson W. Barbosa** on 6 Jan 2011, 10:29 p.m.,*
in response to message #60 by Don Shepherd

> Quote:
>
> I wasn't even aware that there was such a thing as a Harshad number.
>
> Quote:
>
> This challenge has no practical value that I can think of other than it's just fun to develop the algorithm and get it to work, and that's reason enough for me.

I wasn't aware of them either. You were quite right about their ludic purpose. Thanks again.

Gerson.

Re: a new challenge

*Message #62 Posted by **Dwight Sturrock** on 7 Jan 2011, 1:02 a.m.,*
in response to message #61 by Gerson W. Barbosa

Using Don's HP32Sii program on my HP42S, it took a dismal 59 minutes to find the third solution. I did realize how slow the old technology is.

Re: a new challenge

*Message #63 Posted by **Gerson W. Barbosa** on 7 Jan 2011, 4:43 p.m.,*
in response to message #62 by Dwight Sturrock

The following is a straightfoward conversion of Don's HP-32SII program to the HP-42S, except for the sum of digits algorithm. All three solutions to his original problem come up instantaneaously on Free42. If line 28 is changed to 5, it will take 4.6 s for the first 5-number sequence solution, starting with 10 (Free42 @ 1.86 GHz)

```
00 { 64-Byte Prgm }
01>LBL "DC"
02 STO 02
03 CLX
04 STO 01
05 STO 03
06>LBL 01
07 RCL 02
08 ENTER
09>LBL 04
10 10
11 /
12 IP
13 STO+ 01
14 X#0?
15 GTO 04
16 X<>Y
17 ENTER
18 ENTER
19 RCL 01
20 9
21 *
22 -
23 MOD
24 X#0?
25 GTO 02
26 1
27 STO+ 03
28 4
29 RCL 03
30 X<Y?
31 GTO 03
32 RCL 02
33 RCL 03
34 STOP
35>LBL 03
36 CLX
37 STO 01
38 1
39 STO+ 02
40 GTO 01
41>LBL 02
42 CLX
43 STO 03
44 GTO 03
45 .END.


Usage:


Starting number XEQ DC for the first solution then R/S for the next ones.
```

Re: a new challenge

*Message #64 Posted by **Gerson W. Barbosa** on 8 Jan 2011, 2:17 p.m.,*
in response to message #62 by Dwight Sturrock

> Quote:
>
> Using Don's HP32Sii program on my HP42S, it took a dismal 59 minutes to find the third solution.

Still based upon Don's program (except for the sum of digits formula), the following does it in one-third of the time:

```
00 { 63-Byte Prgm }
01>LBL "DC"
02 STO 02
03 CLX
04 STO 03
05>LBL 01
06 RCL 02
07 ENTER
08>LBL 00
09 10
10 BASE/
11 STO+ ST Z
12 X#0?
13 GTO 00
14 CLX
15 RCL ST Y
16 9
17 RCL* ST T
18 -
19 MOD
20 X#0?
21 GTO 02
22 1
23 STO+ 03
24 4
25 RCL 03
26 X<Y?
27 GTO 03
28 RCL 02
29 RCL 03
30 STOP
31 GTO 03
32>LBL 02
33 CLX
34 STO 03
35>LBL 03
36 1
37 STO+ 02
38 CLX
39 STO 01
40 GTO 01
41 .END.
```

Keystrokes	Display	Elapsed time
1000 XEQ DC	y: 1,017 x: 4	0 min 11.0 s
R/S	y: 2,025 x: 4	9 min 44.4 s
R/S	y: 3,033 x: 4	19 min 21.2 s

Re: a new challenge

*Message #65 Posted by **Gerson W. Barbosa** on 9 Jan 2011, 4:02 p.m.,*
in response to message #64 by Gerson W. Barbosa

About 15% faster:

```
   HP-42S                                                  HP-12C+

00 { 65-Byte Prgm }
01>LBL "DC"                                              01 STO 2
02 STO 02                                                02 1
03 CLX                                                   03 0
04 STO 03                                                04 STO 0
05>LBL 01                                                05 CLx
06 RCL 02                                                06 STO 1
07 ENTER                                                 07 STO 3
08 ENTER                                                 08 RCL 2
09 10                                                    09 RCL 0
```

```
10>LBL 00                                                    10 /
11 BASE/                                                     11 INTG
12 STO+ ST Z                                                 12 STO+ 1
13 LASTX                                                     13 RCL 0
14 X<=Y?                                                     14 x<=y
15 GTO 00                                                    15 GTO 10
16 Rv                                                        16 RCL 2
17 Rv                                                        17 RCL 2
18 ENTER                                                     18 RCL 1
19 ENTER                                                     19 9
20 9                                                         20 *
21 RCL* ST T                                                 21 -
22 -                                                         22 /
23 MOD                                                       23 FRAC
24 X#0?                                                      24 x=0
25 GTO 02                                                    25 GTO 27
26 1                                                         26 GTO 36
27 STO+ 03                                                   27 1
28 4                                                         28 STO+ 3
29 RCL 03                                                    29 3
30 X<Y?                                                      30 RCL 3
31 GTO 03                                                    31 x<=y
32 RCL 02                                                    32 GTO 38
33 RCL 03                                                    33 RCL 2
34 STOP                                                      34 R/S
35 GTO 03                                                    35 GTO 38
36>LBL 02                                                    36 CLx
37 CLX                                                       37 STO 3
38 STO 03                                                    38 1
39>LBL 03                                                    39 STO+ 2
40 1                                                         40 CLx
41 STO+ 02                                                   41 STO 1
42 CLX                                                       42 GTO 08
43 GTO 01                                                    43 GTO 00
44 .END.


 Keystrokes         Display          Elapsed time           Keystrokes
Display      Elapsed time


1000 XEQ DC    y: 1,017   x: 4     0 min 09.4 s           1000 R/S
1,017.000000    0 min 01.0 s
        R/S    y: 2,025   x: 4     8 min 11.5 s           R/S
2,025.000000    0 min 37.6 s
        R/S    y: 3,033   x: 4    16 min 14.8 s           R/S
3.033.000000    1 min 14.1 s
```

Re: a new challenge

*Message #66 Posted by **Bruce Bergman** on 7 Jan 2011, 12:30 a.m.,*
in response to message #59 by Gerson W. Barbosa

Agreed! This was a pretty cool challenge, and I loved seeing the different implementations and timings.

Thanks Don!

Bruce

Re: a new challenge

*Message #67 Posted by **Oliver Unter Ecker** on 7 Jan 2011, 9:28 p.m.,*
in response to message #59 by Gerson W. Barbosa

Yes, thanks for those links! Nice to read up on this after getting one's hands dirty.

I was only able to give Don a 14-digit number yesterday, because I tripped over an obvious pattern after finding the first 9-consecutive numbers:

```
  X{0}n2[0-8]
```

where

```
     X: special numbers { 1243242, 6216210, 21135114, 31081050, ... }
  {0}n: 0 to n "0" digits
 [0-8]: the digits "0" through "8", making the set

Example: 310810500000020, 310810500000021, 310810500000022, ...
```

That is, there're infinitely many 9-consecutive numbers following this pattern. (The Wikipedia page confirms this in general.)

All 9-consecutive Niven numbers I found are Nivenmorphic. (They also shared the same digit sum, 20.)

Anyone with a mathematical mind who cares to prove, or disprove, that this applies to all 9- (and higher?) consecutive Niven numbers?
The Wikipedia page is silent on that...

Re: a new challenge

*Message #68 Posted by **Gerson W. Barbosa** on 8 Jan 2011, 7:58 p.m.,*
in response to message #67 by Oliver Unter Ecker

> Quote:
>
> I was only able to give Don a 14-digit number yesterday, because I tripped over an obvious pattern after finding the first 9-consecutive numbers:
>
> ```
>   X{0}n2[0-8]
> ```

Nice finding! I think my HP notebook (T2350 @ 1.86GHz) would have to be at least 1,000 times faster to check all through the 1e14 to 1e15 range for these sequences in a day's time, using the TurboBCD program below. Perhaps I little less if I switched to C :-)

```
Program Niven;


var n1, n2, n: real;
      c, i, m: byte;
            k: char;


function Sod(x: Real): byte;


var s, t: real;


begin
  s:=0;
  t:=x;
  repeat
    t:=Int(t/10);
    s:=s+t
  until t<10;
  Sod:=Trunc(x-9*s)
end;


begin
  ClrScr;
  Write('n1, n2, m: ');
  ReadLn(n1, n2, m);
```

```
  WriteLn;
  n:=n1;
  c:=0;
  repeat
    if Frac(n/Sod(n)) = 0
      then
        begin
          c:=c+1;
          if c>=m then
            begin
              for i:=m downto 1 do
                WriteLn (n-i+1:18:0);
              repeat
                read(kbd,k)
              until not KeyPressed;
              WriteLn
            end;
        end
      else
        c:=0;
    n:=n+1;
  until n=n2
end.



----------------------------------------


n1, n2, m: 3.108105e14 3.108106e14 9


   310810500000020
   310810500000021
   310810500000022
   310810500000023
   310810500000024
   310810500000025
   310810500000026
   310810500000027
   310810500000028
```

Re: a new challenge

*Message #69 Posted by **Raymund Heuvel** on 7 Jan 2011, 10:53 a.m.,*
in response to message #1 by Don Shepherd

```
Good old HP41C:


Somewhat different approach: No digit counting.
The divisor is increased and decreased in line with the increasing dividend. Correction
with -9 at each 10/100/1000 cycle.


I watched until solution 2 (202x .. 202y), then my battery died
So I did not test it to the end!


01LBL "D0111"
 02 TIME
 03 CLA
 04 FIX 4
 05 ATIME
 06 AVIEW
 07 FIX 0
 08 CLA
 09 1.01
 10 STO 01
 11 STO 02
 12 STO 03
 13 STO 04
 14 STO 05
 15 1.004
 16 STO 06
 17 STO 07
 18 STO 08
```

```
 19 0
 20 STO 09
 21 999
 22 STO 10
 23LBL 01
 24 RCL 05
 25 STO 06
 26 1
 27 ST+ 09
 28 ST+ 10
 29 RCL 10
 30 RCL 09
 31 /
 32 FRC
 33 X=0?
 34 GTO 03
 35 RCL 08
 36 STO 07
 37 GTO 02
 38LBL 03
 39 ISG 07
 40 GTO 02
 41 CLA
 42 FIX 4
 43 TIME
 44 ATIME
 45 FIX 0
 46 RCL 10
 47 3
 48 -
 49 ": "         (Remark: Append)
 50 ARCL X
 51 " .. "       (Remark: Append)
 52 ARCL 10
 53 AVIEW
 54 1
 55 ST- 07
 56LBL 02
 57 ISG IND 06
 58 GTO 01
 59 9
 60 ST- 09
 61 RCL 05
 62 STO IND 06
 63 ISG 06
 64 GTO 02
 65 .END.
```

BR. Raymund

Re: a new challenge

*Message #70 Posted by **Raymund Heuvel** on 7 Jan 2011, 11:16 a.m.,*
in response to message #69 by Raymund Heuvel

```
The same approach as my previous post but a solution in C.
Looks as a candidate for a recursive approach with a variabele amount of digits....


void func2()
{
    int Dividend = 999;
    int Divisor = 0;
    int Hit = 0;
    for(int i=0; i<=9; i++){
        for(int j=0; j<=9; j++){
            for(int k=0; k<=9; k++){
                for (int l=0; l<=9; l++) {
                    Dividend++;
                    Divisor++;
                    int r = Dividend%Divisor;
                    if(!r)
                    {
                        Hit ++;
                        if(Hit == 4)
                        {
                            printf("%d .. %d\n",Dividend-3,Dividend);
```

```
                            Hit--;
                        }
                    }
                    else
                    {
                        Hit = 0;
                    }
                }
                Divisor -= 9;
            }
            Divisor -= 9;
        }
        Divisor -= 9;
    }
}

BR. Raymund
```

Re: a new challenge

*Message #71 Posted by **Patrice** on 7 Jan 2011, 12:03 p.m.,*
in response to message #70 by Raymund Heuvel

> Quote:
>
> for(int i=0; i<=9; i++){

???? shouldn't it be replaced with

for(int i=1; i<=9; i++){

?

it is a 10% optimizing

Patrice

Re: a new challenge

*Message #72 Posted by **Raymund Heuvel** on 8 Jan 2011, 12:44 p.m.,*
in response to message #71 by Patrice

Hello Patrice

Since we have 10 digits we need 10 steps from 0 up to and including 9. Therefore from 0 .. <=9. Variant: from 1 .. <=10 but this doesn't cover the digits - although it has the same functionality.

And .. I tried your proposal to ckeck if my considerations are OK (was not 100% sure). Result, starting with 1 doesn't lead to the solution (with the program as presented).

Thanks for the review comment, it forced me to think about my assumption!

BR. Ray

Re: a new challenge

*Message #73 Posted by **Patrice** on 8 Jan 2011, 3:49 p.m.,*
in response to message #72 by Raymund Heuvel

Hi Raymound,

add

printf("%d\n",Dividend);

at the end of your program, I think you will have a surprise!

Patrice

Re: a new challenge

*Message #74 Posted by **Raymund Heuvel** on 8 Jan 2011, 6:32 p.m.,*
in response to message #73 by Patrice

Hi Patrice,

Yes! a surprise. I'll look at it next week. Thanx !!

I'm pleased to know that this is not the first bug (TheFirstBug)

BR

Raymund

Re: a new challenge

*Message #75 Posted by **Raymund Heuvel** on 8 Jan 2011, 6:47 p.m.,*
in response to message #73 by Patrice

Hi Patrice

of course, starting at 1000 .... Yes, your remark

> Quote:
>
> for(int i=1; i<=9; i++){

is fully correct!

BR and good night

Ray

Re: a new challenge

*Message #76 Posted by **Don Shepherd** on 8 Jan 2011, 3:39 a.m.,*
in response to message #1 by Don Shepherd

Hmm, among the 3-digit numbers I find one instance of 4 consecutive integers that satisfy this. It includes a number that any computer scientist would recognize.

Re: a new challenge

*Message #77 Posted by **Glenn Shields** on 8 Jan 2011, 10:55 p.m.,*
in response to message #76 by Don Shepherd

Thanks, Don, for a new mini-challenge -- in trying to understand George's second 50g program, I tried modifying it to search the three-digit numbers, and it got the one solution you mentioned. Just eliminate the D loop and the other D, change "A 1000." etc. to "A 100. * B 10. * C" and eliminate one plus sign in each group of three, and also one NEXT. It took only 15 seconds to find it.

Re: a new challenge

*Message #78 Posted by **George Litauszky** on 9 Jan 2011, 3:20 a.m.,*
in response to message #77 by Glenn Shields

Glenn: Could you post here this modified program list please?

Re: a new challenge

*Message #79 Posted by **Glenn Shields** on 9 Jan 2011, 3:37 p.m.,*
in response to message #78 by George Litauszky

Ok George, now with your new program I am sure to lose some sleep! Here is your "trimmed down" program for 3-digit numbers: << {} 'CLST' STO 0. 1. 9. FOR A 0. 9. FOR B 0. 9. FOR C A 100. * B 10. * C + + DUP A B C + + MOD IF NOT THEN SWAP 1. + DUP IF 4. == THEN SWAP 3. - 'CLST' STO+ DUP - ELSE SWAP DROP END ELSE SWAP DROP DUP - END NEXT NEXT NEXT DROP CLST REVLIST >> Thanks for continuing this challenge! Cheers, Glenn

Re: a new challenge

*Message #80 Posted by **George Litauszky** on 9 Jan 2011, 4:58 p.m.,*
in response to message #79 by Glenn Shields

Thanks Glenn. It's a good challenge, not too easy to discontinue it. :-)

Re: a new challenge

*Message #81 Posted by **LMMT** on 11 Jan 2011, 11:22 a.m.,*
in response to message #76 by Don Shepherd

Hello, maybe I am writing a bit late but for those interested the link http://oeis.org/ offers you the chance to write some numbers and the page tries to find the sequence for them. If you write 1014, 2022, 3033 it finds the answer. Best wishes!

Re: a new challenge

*Message #82 Posted by **Don Shepherd** on 11 Jan 2011, 12:33 p.m.,*
in response to message #81 by LMMT

> Quote:
>
> 1014, 2022, 3033

That didn't work for me, so I tried 1014, 2022, and 3030, that worked. Very interesting site, thanks much.

Don

Re: a new challenge

*Message #83 Posted by **David Hayden** on 16 Jan 2011, 10:52 a.m.,*
in response to message #1 by Don Shepherd

Here is a solution to the challenge in User RPL that takes a completely different approach. On a 50g, it runs in 123 seconds. I haven't attempted any coding optimization - the time is due entirely to the algorithm - so I'm sure it can be improved.

Instead of checking each possible 4-digit number to see whether it's divisible by the sum of its digits, this program starts with a possible sum of digits for four consecutive numbers. It then checks the much smaller set of numbers that can be divided by this set.

For example, the sum of the digits in the first solution (beginning at 1014) are 6,7,8, and 9. It turns out that any set of numbers N, N+1, N+2, N+3 that are divisible by 6,7,8 and 9, must be of the form N = 6 + 504k where k is an integer. So for the sums {6 7 8 9} we only have to check every 504'th number.

The program is quite long and this will be a long explanation. I hope you'll find it interesting. I implemented the program is a directory for simplicity (and debugging!) and I'll refer to the various programs in the directory.

Throughout this explanation, I'll use N, N+1, N+2 and N+3 (or N0, N1, N2 and N3) to refer to the sequential 4-digit numbers, and I'll use s0, s1, s2 and s3 to refer to the sum of the digits in each of these numbers.

Enumerating the sums of digits

To begin, lets figure the possible values for the sum of the digits of four sequential numbers between 1000 and 9999. Clearly the smallest sum is 1 (for 1,000) and the largest sum is 36 (for 9999). So any sum must between 1 and 36.

For most sequences of N, the sum of their digits is also a sequence. E.G, for N = {1001, 1002, 1003, 1004 }, s = {2 3 4 5}. So one possible set of sums is:

```
{s s+1 s+2 s+3} for s= 1 through 33
```

Now consider N = {1207 1208 1209 1210}. The digit sums are s = {10 11 12 4}. In general, when the one's digit rolls over from 9 to 0, you lose 9 in the digit sum, but you gain 1 because the 10's digit increments. So another possible set of sums is:

```
{s s+1 s+2 s-6} for s=8 to 33
```

The roll-over from 9 to 0 could occur anywhere in the sequence, so other possibilities are:

```
(s s+1 s-7 s-6) for s=9 to 34
(s s-8 s-7 s-6) for s=10 to 35
```

The numbers in N can also roll over from 99 to 00 or 999 to 000, these give the possible sums:

```
{s s-17 s-16 s-15} for s=19 to 35
{s s+1 s-16 s-15} for s= 18 to 34
{s s+1 s+2 s-15 } for s= 17 to 33


{s s-26 s-25 s-24} for s=27 to 36
{s s+1 s-25 s-24} for s=26 to 35
{s s+1 s+2 s-24} for s=25 to 34
```

In my solution, all of these lists are calculated by the SUMS program. The result of SUMS is a list of lists where each sublist is 4 numbers that represent the sums of the digits of 4 consecutive numbers.

Restricting the start and end values

The challenge asks us to find a 4-digit number - one that's between 1000 and 9999, but if we start with a possible sum of the digits in N, we can use that information to restrict the upper and lower bounds of the search. For example, suppose we're considering the sums 10, 11, 12, and 13. The smallest 4-digit number whose digits add up to 10 is 1009 and the largest is 9001, so there's no point in checking numbers less than 1009 or larger than 9001.

The subprogram BIGandSMALL calculates the largest and smallest 4-digit numbers whose digits sum to each of the values between 1 and 36. It leaves the results on the stack in two arrays. The main program calls BIGandSMALL once and stores the results in global variables BIGGEST and SMALLEST. For example, BIGGEST[12] is the biggest 4 digit number whose digits sum to 12. Later when we check a particular set of sums, we use BIGGEST and SMALLEST to get the upper and lower bounds of the loop.

Mathematics

Suppose we're given a list {s0 s1 s2 s3} that is a solution for the sequence of numbers {N N+1 N+2 N+3}. That means that N is evenly divisible by s0, N+1 is evenly divisible by s1 etc. Mathmatically:

```
N   == 0 mod s0
N+1 == 0 mod s1
N+2 == 0 mod s2
N+3 == 0 mod s3


or equivalently:
N ==  0 mod s0
N == -1 mod s1
N == -2 mod s2
N == -3 mod s3
```

(I'm using "==" to mean "congruent to," which is usually indicated by a symbol with three horizontal lines).

What are the values of N that satisfy these equations? The first equation means that N = k0*s0 for any integer k0. Plugging that into the second equation gives k0*s0 = -1 mod s1. Can we simplify this into the form k0 = r mod s? The answer is yes.

Solving modulo equations - there's an app for that!

In a more general sense, how do you solve Ax == B mod C? This is done with the Linear Congruence Theorem. The procedure goes like this:

1. If (B / GCD(A,C)) not an integer,then there is no solution
2. Let D = GCD(A,C).
3. Find r and s such that rA + sC = D
4. The solution is x == (rB/D) mod (C/D)

How do you find r and s? It's built-in to the 50G! The IEGCD command does it for you.

Here is the function that solves a single modulo equation:

```
@ This solves an equation of the form ax = b mod n
@ Where "=" really means "is congruent to".
@ It returns r s such that x = r mod s, or
@ equivalently x = s*k + r
@ arguments are a b n (must be integers)
@ Results are r s 1. if there's a solution, or
@ 0. if no solution exists.
@ See http://en.wikipedia.org/wiki/Linear_congruence_theorem
```

```
@ and the IEGCD command for details.
  SLVMOD
  \<< \-> a b n \<<
      @ If GCD(a,n) doesn't divide b evenly then no solution
      IF b a n GCD / DUP IP \=/ THEN
        0.
      ELSE
        @ It's good!
        a n IEGCD DROP
        b * OVER /
        n ROT /
        1. @ Indicates success
      END
    \>>
  \>>
```

Solving simultaneous modulo equations

Let's return to the original problem. We want to find N such that it simultaneously solves:

```
N ==  0 mod s0
N == -1 mod s1
N == -2 mod s2
N == -3 mod s3
```

More generally, suppose we want to solve two simultaneous equations:

```
X == b mod a, and
X == r mod s
```

we do it as follows:

```
X = a*k0 + b          (for any integer k0)
a*k0 + b == r mod s   (substituting for X into the second equation
k0*a == (r-b) mod s   (subtract b)
```

We can use SLVMOD on this equation to find:

```
   k0 == u mod v, or equivalently
   k0 = k1*v + u for any integer k1
```

and substituting for k0 into the equation above:

```
X = a*(k1*v+u) + b
  = (a*v)k1 + (a*u + b)
X == (a*u+b) mod (a*v)
```

The program SSLVMOD solves these simultaneous modulo equations:

```
@ Given two equations:
@  x = r mod s, and
@  x = b0 mod a0
@ This program returns b1 and a1 such that
@  x = b1 mod a1
@ Arguments:  b0 a0 r s
@ results: b1 a1 1. (if there is a solution), or
@          0. if not
  SSLVMOD
  \<< \-> b a r s
    \<< a r b - s
      IF SLVMOD
      THEN a * SWAP a * b + SWAP 1.
      ELSE 0.
      END
    \>>
  \>>
```

Putting it all together

The somewhat poorly named **FACTS program** takes a list of possible sums of digits {s0 s1 s2 s3} and

computes a and b such that N == a mod b and

```
N ==  0 mod s0
N == -1 mod s1
N == -2 mod s2
N == -3 mod s3
```

Remember, this means that if {s0 s1 s2 s3) are a possible sum-of-digits, then the vales N == a mod b are the only possible numbers where N, N+1, N+2 and N+3 are evenly divisible by s0, s1, s2, and s3 respectively.

For example, given the list of possible sums-of-digits {4 5 6 7}, FACTS determines that N == 4 mod 420 are the only values that will work.

The **CHKSUM prorgam** takes a list of possible digit sums and checks for a solution to the challenge that matches that list. In other words, it checks to see if there is a sequence of four 4-digit numbers that are (1) evenly divisible by the numbers in the list, AND (2) whose sum of digits equals the values in the list.

CHKSUM uses FACTS to determine the possible values that satisfy the first criteria. Then it uses the BIGGEST and SMALLEST arrays arrays to look up the largest and smallest numbers that satisfy the sum-of-digits criteria. Finally, it uses a FOR loop to check each of the possible values to see if it matches the sum-of-digits criteria.

The **DIGITS program** takes an integer and computes the sum of its digits.

The **MAINP program** is the main entry point to the algorithm. It computes and stores the biggest and smallest 4-digit numbers for each possible sum. Then it calls SUMS to create the list of all possible sums of digits of sequences of 4-digit numbers. Finally, it uses DOLIST to call CHKSUM on each of these possible sums.

Conclusions

I think this is a good example of how you can squeeze performance out of a program by exploiting the properties of the problem that you're trying to solve. By starting with the potential sum of digits and then working forward to the possible 4-digit number (rather than the other way around), this program cuts down on the work needed:

1. Computing the biggest and smallest numbers with the given sum cuts the range of numbers that you need to check.
2. Computing the possible numbers that satisfy the divisibility test cuts the numbers down even more.

The program also demonstrates that it's worth stepping back from a problem and asking "is there a different approach that might work."

Program Listing

```
%%HP: T(3)A(R)F(.);
DIR
  MAINP
  \<< BIGandSMALL 'SMALLEST' STO 'BIGGEST' STO SUMS 1.
    \<< CHKSUM
    \>> DOLIST
  \>>
  DIGITS
  \<< 0. SWAP
    WHILE DUP
    REPEAT DUP 10. MOD ROT + SWAP 10. / IP
    END DROP
  \>>
  FACTS
  \<< 0. \-> L n
    \<< 0. 1. 1. L 1.
```

```
    \<<
      IF SWAP
      THEN n 'n' 1. STO- SWAP SSLVMOD
      ELSE DROP 0.
      END
    \>> DOLIST
  \>>
\>>
CHKSUM
\<< \-> L
  \<< L
    IF FACTS
    THEN L HEAD { } \-> a b N RES
      \<< SMALLEST N GET a - b / CEIL b * a + BIGGEST N GET
        IF DUP2 \<=
        THEN
          FOR I
            IF I DIGITS N ==
            THEN 1. 1. 3.
              FOR K I K + DIGITS L K 1. + GET == AND
              NEXT
              IF
              THEN I 'RES' STO+
              END
            END b
          STEP
          IF RES SIZE
          THEN RES
          END
        ELSE DROP DROP
        END
      \>>
    END
  \>>
\>>
SUMS
\<< 1. 33.
  FOR i i DUP 1. + DUP 1. + DUP 1. + 4 \->LIST
  NEXT 8. 33.
  FOR i i DUP 1. + DUP 1. + i 6. - 4 \->LIST
  NEXT 9. 34.
  FOR i i DUP 1. + i 7. - i 6. - 4 \->LIST
  NEXT 10. 35.
  FOR i i DUP 8. - DUP 1. + DUP 1. + 4 \->LIST
  NEXT 19. 35.
  FOR i i DUP 17. - DUP 1. + DUP 1. + 4 \->LIST
  NEXT 18. 34.
  FOR i i DUP 1. + DUP 17. - DUP 1. + 4 \->LIST
  NEXT 17. 33.
  FOR i i DUP 1. + DUP 1. + DUP 17. - 4 \->LIST
  NEXT 28. 35.
  FOR i i DUP 26. - DUP 1. + DUP 1. + 4 \->LIST
  NEXT 27. 34.
  FOR i i DUP 1. + DUP 26. - DUP 1. + 4 \->LIST
  NEXT 26. 33.
  FOR i i DUP 1. + DUP 1. + DUP 26. - 4 \->LIST
  NEXT 186. \->LIST
\>>
BIGandSMALL
\<< 0. 36. NDUPN \->ARRY DUP \-> bigres smallres
  \<< 1. 36.
    FOR i 0. 1000. i \-> val mult cur
      \<<
        WHILE cur
        REPEAT cur 9. MIN 'cur' OVER STO- mult * 'val' STO+ 'mult' 10. STO/
        END 'bigres' i val PUT 1. 'mult' STO i 1. - 'cur' STO 1000. 'val' STO
        WHILE cur
        REPEAT cur 9. MIN 'cur' OVER STO- mult * 'val' STO+ 10. 'mult' STO*
        END 'smallres' i val PUT
      \>>
    NEXT bigres smallres
  \>>
\>>
SLVMOD
\<< \-> a b n
  \<<
    IF b a n GCD / DUP IP \=/
    THEN 0.
    ELSE a n IEGCD DROP b * OVER / n ROT / 1.
    END
  \>>
```

```
  \>>
  SSLVMOD
  \<< \-> b a r s
    \<< a r b - s
      IF SLVMOD
      THEN a * SWAP a * b + SWAP 1.
      ELSE 0.
      END
    \>>
  \>>
END
```

Re: a new challenge

*Message #84 Posted by **Don Shepherd** on 16 Jan 2011, 11:26 a.m.,*
in response to message #83 by David Hayden

David, I'm speechless, and that doesn't happen that often. I'm going to print your post and read it carefully, I really like what you did here.

This thread will fade into archive oblivion one day, but your post cannot. This needs to be immediately available for all to see and benefit from. Please enter this post as an article.

This is truly great work and I look forward to reading it in detail, even though I'm not an RPL guy. You (and Allen) may force me to buy and learn the 50g!

Don

Re: a new challenge

*Message #85 Posted by **David Hayden** on 16 Jan 2011, 9:45 p.m.,*
in response to message #84 by Don Shepherd

Thanks Don. I really enjoyed this challenge.

To me, the best part of my solution came at the deepest part of the math when I needed to solve an equation in modulus math. I spent days trying to work out a solution by myself but when I finally turned to wikipedia to see how it's done, it turns out that the 50g has the critical function (IEGCD) built in!

I've posted the challenge and my solution as an article. I noted the dates of the original posts so any curious future readers can find the thread in the archives.

Dave

Re: a new challenge

*Message #86 Posted by **Oliver Unter Ecker** on 16 Jan 2011, 2:31 p.m.,*
in response to message #83 by David Hayden

Beautiful. Thank you for this and the nice presentation.

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HP Forum Archive 19

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HP 65 & HP 67 Program Cards

*Message #1 Posted by **Clayton** on 5 Jan 2011, 4:48 a.m.*

Will the HP 67 read HP 65 magnetic cards without any user alterations being required? Thanks,

Re: HP 65 & HP 67 Program Cards

*Message #2 Posted by **Thomas Chrapkiewicz** on 5 Jan 2011, 2:48 p.m.,*
in response to message #1 by Clayton

The magnetic properties of both cards are compatible.

HP65 coded cards canNOT be read by an HP67. The program codes (ane perhaps the writing methods) are NOT compatible.

TomC

Re: HP 65 & HP 67 Program Cards

*Message #3 Posted by **Ignazio Cara (Italy)** on 6 Jan 2011, 5:12 a.m.,*
in response to message #1 by Clayton

No. In the '65 the instructions are coded on 6 bit, on the '67 on 8 bit.

The magnetic cards (phisically) are the same!

Take care.

Ignazio

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200LX F1021

*Message #1 Posted by **casalgado** on 4 Jan 2011, 6:35 p.m.*

I have a 200LX and a Connectivity Pack F1021C. Unfortunately I lost 3 1/2" HD Disk number one, so now I can't install the program (APP200). Does any one know if HP or any one could provided a copy of this software?.

I will aprecciate your comments.

Re: 200LX F1021

*Message #2 Posted by **Thomas Chrapkiewicz** on 5 Jan 2011, 8:25 a.m.,*
in response to message #1 by casalgado

I can check; drop me an email if you're still interested.

TomC

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HP Forum Archive 19

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OT: Canon X Mark I Premium Calculator

*Message #1 Posted by **Matt Kernal** on 4 Jan 2011, 2:53 p.m.*

This calculator caught my attention for one reason (OK, two reasons)..

1: Double Injection Keytops

http://www.usa.canon.com/cusa/consumer/products/calculators/premium_calculators/x_mark_i_black#Specifications

2: $9.95

http://www.amazon.com/Canon-Premium-Desktop-Calculator-3982B005/dp/B0035MCVA2

A quality four banger for a not-so-premium price .. who'd a thunk'it?

Re: OT: Canon X Mark I Premium Calculator

*Message #2 Posted by **Walter B** on 4 Jan 2011, 4:21 p.m.,*
in response to message #1 by Matt Kernal

Nicely packed, but alas: still only a 4-banger ...

Re: OT: Canon X Mark I Premium Calculator

*Message #3 Posted by **Karl Schneider** on 4 Jan 2011, 10:31 p.m.,*
in response to message #1 by Matt Kernal

Hello, Matt --

Long time no post!

> Quote:
>
> $9.95 ... A quality four banger for a not-so-premium price .. who'd a thunk'it?

Ah, but the original list price of $69.95 is exorbitant indeed. To me, a disqualifying attribute is the "skinny" numerals having a low width-to-height aspect ratio, making them hard to read. Is having 12 digits on a non-scientific calc worth the loss of legibility?

-- Karl

Edited: 4 Jan 2011, 10:43 p.m.

Re: OT: Canon X Mark I Premium Calculator

*Message #4 Posted by **Eric Smith** on 5 Jan 2011, 3:04 a.m.,*
in response to message #1 by Matt Kernal

It does suggest that if Canon can make a calculator with double-shot injection molded keys to sell for under $10, that HP ought to be able to do it for calculators that sell for $40 and up.

I've never believed the claims that double-shot injection molding was too expensive. It is obviously somewhat more expensive, but the added cost has to be well under $1 per calculator.

Re: OT: Canon X Mark I Premium Calculator

*Message #5 Posted by **Walter B** on 5 Jan 2011, 3:12 a.m.,*
in response to message #4 by Eric Smith

> Quote:
>
> I've never believed the claims that double-shot injection molding was too expensive. It is obviously somewhat more expensive, but the added cost has to be well under $1 per calculator.

Depends on the total amount of keys made with one set of tools ...

Re: OT: Canon X Mark I Premium Calculator

*Message #6 Posted by **Martin Pinckney** on 5 Jan 2011, 8:46 a.m.,*
in response to message #4 by Eric Smith

> Quote:
>
> It does suggest that if Canon can make a calculator with double-shot injection molded keys to sell for under $10, that HP ought to be able to do it for calculators that sell for $40 and up.

Apparently the Canon was intended to sell at $69.95, not $10. This seems to be a close-out or something.

Re: OT: Canon X Mark I Premium Calculator

*Message #7 Posted by **Eric Smith** on 5 Jan 2011, 5:25 p.m.,*
in response to message #6 by Martin Pinckney

OK, then it is at least proof that double-shot injection molded keys can be used in calculators that sell for $70 and up. That price range includes the 17BII and the 38/39/40, and 48/49/50 families.

Re: OT: Canon X Mark I Premium Calculator

*Message #8 Posted by **Matt Kernal** on 7 Jan 2011, 11:45 a.m.,*
in response to message #7 by Eric Smith

You saw what I saw..

Premium calculator, double-injected keys, and low price (most likely due to low wages).

HP, if you're listening, I'd pay extra for 1970's/1980's calculator quality... Canon is proving this is possible in today's economy (even without the high price).

Re: OT: Canon X Mark I Premium Calculator

*Message #9 Posted by **Frido Bohn** on 5 Jan 2011, 4:20 a.m.,*

in response to message #1 by Matt Kernal

Hello Matt,

quite interesting product indeed.
What also attracts my attention is the statement on the Canon site:
"Display lens made from Canon Digital Cameras' Recycled Pre-consumer materials"

So, we are confronted with a by-product of the camera manufacturing branch of Canon.
Not to say, a product made of parts which formerly would have disappeared in the waste basket, and now contributes to the Green labeling of the company.
What kind of calculators would we have to expect as a by-product of, let's say, Rolls-Royce, Coca-Cola or Boeing?
Or even Hewlett Packard? :-))

Regards
Frido

P.S.: What in the heck is "Pre-consumer"? Is there a life form beneath of the consumer?

industrial waste

*Message #10 Posted by **Frank Boehm (Germany)** on 5 Jan 2011, 8:13 a.m.,*
in response to message #9 by Frido Bohn

I'd say this is industrial waste from the manufacturing process - not from a finished-and-returned-product, allowing for "sortenrein" (dang, my english fails on me today) recycling, aka "as good as new".

Re: OT: Canon X Mark I Premium Calculator

*Message #11 Posted by **Katie Wasserman** on 5 Jan 2011, 11:05 a.m.,*
in response to message #9 by Frido Bohn

How about a hyper-premium calculator from HP made from recalled and recycled HP-95C's? That would sell for a pretty penny I'll bet :)

Re: OT: Canon X Mark I Premium Calculator

*Message #12 Posted by **Pal G.** on 5 Jan 2011, 9:05 p.m.,*
in response to message #9 by Frido Bohn

What caught my attention was the "Grand Total" function (GT key). I've never heard of that. I had to read the manual to see how that works.

Re: OT: Canon X Mark I Premium Calculator

*Message #13 Posted by **Martin Pinckney** on 6 Jan 2011, 7:16 a.m.,*
in response to message #12 by Pal G.

This used to be fairly common with "adding machines" designed for business/retail. The GT key was accompanied by a ST (subtotal) key, thus allowing summing several subsets of numbers before reaching the "grand" total.

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Strange HP41 battery pack

*Message #1 Posted by **Alberto Fenini** on 4 Jan 2011, 9:41 a.m.*

Happy New Year Everybody !!

Having some spare time at the begining of the year, I was sorting out
some items and I have found this :

Has anyone ever seen a battery pack with three pins ??
What is the third pin for ??
Take care and again, Happy 2011 !! Alberto

Re: Strange HP41 battery pack

*Message #2 Posted by **Raymond Del Tondo** on 4 Jan 2011, 10:36 a.m.,*
in response to message #1 by Alberto Fenini

Happy New Year to you, too:-)

Yes, I have seen batt packs with 3 pins. Some time ago there also was a related thread here in the forum.
And no, I don't know exactly what the central pin is used for, but it *might* have been planned for use with a similar AC adapter as on the classics.

Ray

Re: Strange HP41 battery pack

*Message #3 Posted by **Randy** on 4 Jan 2011, 11:45 a.m.,*
in response to message #2 by Raymond Del Tondo

It is the original design 82120A, later changed to a two pin design.

Think of the 3 pin circuit being the same as the classics, when you plug the charger in, the calculator runs from a separate 5 volt source from within the battery pack while the battery charges. Remove the charger and the calculator runs from battery. The switch is that copper color tab on the center pin of the pack in your photo.

They eliminated the switch in the later design as it could glitch and crash the 41 if it was on when the charger was removed. Any 3 pin packs I rebuild, I modify the circuitry to the later design. This is usually a must as with even minor corrosion, the crazy little flex circuit strip is destroyed beyond reuse. It's easier to toss the extra parts and modify to the later design.

Re: Strange HP41 battery pack

*Message #4 Posted by **Alberto Fenini** on 4 Jan 2011, 12:05 p.m.,*
in response to message #2 by Raymond Del Tondo

Thanks for the clarification,
does anyone know where I can find on TAS the necessary batteries for rebuilding this pack ?
take care Alberto

Re: Strange HP41 battery pack

*Message #5 Posted by **Ernst Fueloep** on 5 Jan 2011, 3:56 a.m.,*
in response to message #4 by Alberto Fenini

Hello Alberto,

I have bought such batteries from the seller pierreh0. He lives in Belgium. You may contact him directly.

Regards, Ernst

Re: Strange HP41 battery pack

*Message #6 Posted by **Giancarlo** on 7 Jan 2011, 12:56 p.m.,*
in response to message #4 by Alberto Fenini

Hello Alberto, i'd like to rebuild a rechargeable battery pack too. If you decide to buy them from this contact, we could group our order together in order to save the shipping costs to Milan.

Please let me know,

Giancarlo

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Thank You Tony Duell

*Message #1 Posted by **Namir** on 4 Jan 2011, 8:13 a.m.*

I have been recently looking at the HP-41C Software library. Most of the applications there were submitted by J-M Baillard and Tony Duell. The ones Tony submitted includes .raw files which can be quickly downloaded into the HP-41C emulator offered by TOS. The documentation for these programs are found on the HP museum DVD and/or TOS. This makes the process of running these programs a breeze since one needs not enter a single line of code! I want to thank Tony for his brilliant contribution that makes it so easy to run HP-41C (and also converted HP-67) programs in the HP-41C AND Tom Okken's HP-42S emulator.

Namir

Re: Thank You Tony Duell

*Message #2 Posted by **Ángel Martin** on 5 Jan 2011, 2:24 a.m.,*
in response to message #1 by Namir

Indded thanks are due to both these gentlemen.

Jean-Marc Baillard has single-handedly written a library of tremendous value, a real achievement that still today continues to grow on his own, dedicated site
http://hp41programs.yolasite.com

It's worth millions to anyone interested in calculator programming and of course Math. Thanks!

Edited: 5 Jan 2011, 2:26 a.m.

... and Merci, Jean-Marc Baillard

*Message #3 Posted by **Walter B** on 5 Jan 2011, 3:08 a.m.,*
in response to message #2 by Ángel Martin

Ángel, thanks for that link!

Re: Thank You Tony Duell

*Message #4 Posted by **Paul Dale** on 5 Jan 2011, 5:11 a.m.,*
in response to message #2 by Ángel Martin

I visit JMB's site frequently to see what new gems he's come up with.

Ángel, when are the quaternion M-code routines appearing?? :-)

- Pauli

Re: Thank You Tony Duell

*Message #5 Posted by **Ángel Martin** on 5 Jan 2011, 1:00 p.m.,*
in response to message #4 by Paul Dale

> Quote:
>
> Ángel, when are the quaternion M-code routines appearing?? :-)

I'll leave it up to Jean-Marc to decide that, but the theme is gaining momentum judging by the recent activity on his site!

Re: Thank You Tony Duell

*Message #6 Posted by **JMBaillard** on 6 Jan 2011, 5:35 p.m.,*
in response to message #4 by Paul Dale

Hi Paul,
I've just added the quaternion M-Code routines.
Best wishes
Jean-Marc.

Re: Thank You Tony Duell

*Message #7 Posted by **Paul Dale** on 6 Jan 2011, 7:01 p.m.,*
in response to message #6 by JMBaillard

Now to incorporate them into something like Ángel's complex stack support but for quaternions...

Unfortunately, I can't currently do M-code on my 41. I'll have to wait for the Newt to reach fruition...

- Pauli

Quaternions Stack

*Message #8 Posted by **Ángel Martin** on 7 Jan 2011, 2:59 a.m.,*
in response to message #7 by Paul Dale

> Quote:
>
> Now to incorporate them into something like Ángel's complex stack support but for quaternions...

While it'd be possible to extend the "complex stack" concept to Quaternions (just by doubling the buffer size and modifying the housekeeping routines) I'm not sure that the benefits would be that noticeable - at least to warrant the programming effort.

Think that inputing quaternions requires the four real stack levels, and that the calculator display is not suited to display the four components together - it barely fits the two complex real and imaginary parts.

Anyway this is just a first-gut thought, maybe Jean-Marc has some suggestions on how it could be handled.

And Pauli, you can always use an emulator to do your MCODE programming... so roll up your

sleeves and get to it! :)

Best, AM

Edited: 7 Jan 2011, 3:00 a.m.

Re: Quaternions Stack

*Message #9 Posted by **Paul Dale** on 7 Jan 2011, 3:33 a.m.,*
in response to message #8 by Ángel Martin

> Quote:
>
> Anyway this is just a first-gut thought, maybe Jean-Marc has some suggestions on how it could be handled.

Just a thought. Complex support is a subset of quaternions so why not do both???

> Quote:
>
> And Pauli, you can always use an emulator to do your MCODE programming... so roll up your sleeves and get to it! :)

Yeah, I know about the emulators. I'd prefer to do it on the real device (which is what I take to work every day). Sadly, I've not bought anything M-code related yet, althought the Newt will be a must have.

BTW: I started assembly in the 1970's on an 8008 and am still doing it to this day on a variety of CPUs. I think I've suffered enough already :-)

- Pauli

Re: Quaternions Stack

*Message #10 Posted by **Walter B** on 7 Jan 2011, 3:55 a.m.,*
in response to message #9 by Paul Dale

> Quote:
>
> I started assembly in the 1970's on an 8008 and am still doing it to this day on a variety of CPUs. I think I've suffered enough already

Recalls memories of my years with pdp assembler 1979 ± 4. I don't want to miss it, but that was enough for me ;)

Re: Quaternions Stack

*Message #11 Posted by **Paul Dale** on 7 Jan 2011, 5:26 a.m.,*
in response to message #10 by Walter B

> Quote:
>
> Recalls memories of my years with pdp assembler 1979 ± 4. I don't want to miss it, but that was enough for me ;)

> 8, 10 or 11?
>
> Suffered through them all :-)
>
> - Pauli

Re: Quaternions Stack

*Message #12 Posted by **Walter B** on 8 Jan 2011, 3:35 a.m.,*
in response to message #11 by Paul Dale

Assembler programming a pdp 11/10 with tremendous 64**k**B memory, 2.5**M**B fixed HDD plus another 2.5MB mobile disk plus 1600bpi magtape. Using other pdp 11 and VAX computers as well as IBM mainframes of that time. No PCs yet. Those where the days ... ;)

Forgot mentioning said pdp 11/10 was then sufficient for fast (i.e. kHz then) online acquisition and analysis of nuclear physics data in accelerator experiments. And - for our younger forumers - that device in a rack 2m high, 0.6m wide and 0.8m deep was mobile computing at that time ;)

FWIW

Edited: 8 Jan 2011, 3:39 a.m.

Re: Quaternions Stack

*Message #13 Posted by **Ángel Martin** on 8 Jan 2011, 5:47 a.m.,*
in response to message #9 by Paul Dale

> Quote:
>
> > Just a thought. Complex support is a subset of quaternions so why not do both???

Well, it's not as simple as that. The complex buffer relies on the (real) stack levels Y&Z for synchronization before and after any complex function. That'd be completely different with quaternions of course. Add to that the fact that quaternion math isn't the same as complex (or real) math, and you'll have right there a couple of serious issues - or at least reasons why the complex buffer implementation isn't valid for quaternions without extensive mods.

Cheers, 'AM

Re: Thank You Tony Duell

*Message #14 Posted by **Namir** on 5 Jan 2011, 6:42 a.m.,*
in response to message #2 by Ángel Martin

I agree. Jean-Marc's work is amazing!! I have contemplated programming some numerical algorithms and said to myself that it would not fly on an HP-41C, only to discover that Jean-Marc has already implemented these algorithms on an HP41C.

Re: Thank You Tony Duell

*Message #15 Posted by **JMBaillard** on 6 Jan 2011, 5:05 p.m.,*
in response to message #14 by Namir

Many thanks to all !

With respect to quaternions,
the module is going to be created.

Is it really useful? I don't know.
May be some quaternionic special functions
are not built-in in Mathematica?
But we can do it with an HP-41 !

All the Best
Jean-Marc.

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9100A with no display

*Message #1 Posted by **Richard Wilder** on 3 Jan 2011, 12:58 a.m.*

Hi Group! I recently got a 9100A into my lab for repair. Symptom is no display. So far I've verified all supply voltages, fuses are all OK, the register display lights come on but the error light doesn't come on with the RUN switch set, pressed STOP, STOP, 1, CHS, SQRT. The error lamp tests OK. I downloaded Tony Duell's incredible schematics for the A model and have tested the display board signals and all the FF outputs with the following results. At this point I don't know which FF's should be toggling. I've also tested all the main ROM and control ROM outputs and I can post those results if anybody thinks that might be usefull. For now here are the FF states. Any assistance troubleshooting this vintage machine would be greatly appreciated! ;^)

```
9100A
Symptom: No display
Fuses: OK
Register illumination lights: Light
-15V, 220V & 3500V all OK


RUN mode, press STOP,STOP,1,CHS,SQRT: No error light, lamp tests OK


On the Vertical amp board:
ZDHD and ZDRD signals are OK, ZDMV and ZDRV are no signal


On the Horizontal amp board:
ZDHL is ON, all of ZDRL, ZDSL, HDRR, ZDFO are no signal


ZACE (blanking) on the gating board is stuck high (0V) (crt trace blanked)


Checked FF's on the TP connectors:


(0 = -V, 1 = 0V, T = toggling)
LH FF    CKT      STATE
F1       ROMA8'   T
F2       ROMA7'   T
F3       ROMA6'   T
F4       ROMA5'   T
F5       ROMA4'   0
F6       ROMA3'   0
F7       ROMA2'   0
F8       ROMA1'   T
F9       ROMA0'   0
F10      F50      0
F11      F51      T
F12      F52      1
F13      F53      1
F14      F54      0
F15      BADDRA'  1
F16      BADDRB'  1
F17      BADDRC'  T
F18      BADDRD'  T
F19      BADDRE'  T
F20      BADDRF'  T


RH FF    CKT      STATE
F1       F25      0
F2       F24      T
F3       F23      T
```

```
F4      F22     T
F5      F21     T
F6      F20     T
F7      F30     T
F8      F31     T
F9      F32     T
F10     F33     T
F11     F34     1
F12     F73     T
F13     F72     T
F14     F71     T
F15     F70     T
F16     F40     T
F17     F41     T
F18     F42     1
F19     F43     1
F20     F44     1
```

Re: 9100A with no display

*Message #2 Posted by **Eric Smith** on 3 Jan 2011, 2:56 a.m.,*
in response to message #1 by Richard Wilder

Hopefully Tony will offer more authoritative advice, but from your description I'd guess that the logic is working correctly and that the fault is in the display electronics. IIRC, that circuitry is covered in the official service manual.

Re: 9100A with no display

*Message #3 Posted by **Richard Wilder** on 3 Jan 2011, 2:46 p.m.,*
in response to message #2 by Eric Smith

Thanks Eric! ;^) I've rung out the display boards but problem is they're missing several of the signals as pointed out in the service manual. Also, the error sequence doesn't turn on the lamp so I'm concentrating on the logic now.

Re: 9100A with no display

*Message #4 Posted by **Tony Duell** on 3 Jan 2011, 5:01 a.m.,*
in response to message #1 by Richard Wilder

I would have said this is a logic (rather than display) fault. The fact you can't get an error light from sqrt(-1) suggests the logic is not doing the right thing. And many of the inputs to the display driver boards are not toggling.

On the other hand, most of the FFs are doing something. So, alas, it's not an obvious fault like the clock generator.

My schematics cover the -B model (since that's all I own :-)). the flip-flop boards are identical, the control logic/microcode board (far left) is similar (same schematic, different ROM programming), the other areas of logic are different. How different I do not know. A fault in almost any part of the logic (even the keyboard!) can kill the display, which makes life a little harder, particularly as I don't have the schematics.

I think what I would do next is to dismantle the machine totally and clean all the edge connectors. Test the diodes on the gating board (it doesn't take long with a DMM :-), they can all be tested in-circuit). Maybe check the transistors on the ROM PCB itself, they can fail, although normally a loss of a ROM drive line will kill the ROM outputs (and stop many of the FFs toggling).

The problem could be core memory related. Have you checked any signals in that area?

Re: 9100A with no display

*Message #5 Posted by **Richard Wilder** on 3 Jan 2011, 2:56 p.m.,*
in response to message #4 by Tony Duell

Thanks Tony! ;^) I've dis/re-assembled the thing but I haven't tested all the logic diodes yet. Today I'll test the KB & also see what's coming out of the core board. On one of your previous posts you mentioned that all of the ROMAn outputs should be toggling. Mine aren't all toggling - should I be concentrating on those FF inputs? (Or maybe the idle state is not necessarily branching all over the ROM...?)

Re: 9100A with no display

*Message #6 Posted by **Tony Duell** on 4 Jan 2011, 4:56 a.m.,*
in response to message #5 by Richard Wilder

Something struck me last night....

The display task is synchronised to the mains (power line) -- there's an AC feed from the secondary of the power transformer to a circuit in the logic assembly. I wonder if this is missing. On the -B, the circuitry is on the right hand 'sideboard', but I have no idea where it is on the -A.

May be worth looking at this, since much of the logic is working.

Re: 9100A with no display

*Message #7 Posted by **Richard Wilder** on 3 Jan 2011, 4:20 p.m.,*
in response to message #4 by Tony Duell

I noticed some wierd timing on some of the core ROM outputs. Here's the output from TBS:

And here's what I would consider a normal looking signal out of SC4:

That < 500ns glitch on TBS doesn't seem right.

Re: 9100A with no display

*Message #8 Posted by **Richard Wilder** on 4 Jan 2011, 2:03 a.m.,*
in response to message #4 by Tony Duell

I checked the KB today: All the strobes are changing with a key press as well as all of K0 - K5. I checked the ST output of the STOP transistor. It's normally -10V and goes to -15V when I press the STOP key. The STOP key generates strobe as well as a keycode on K0-K5. The -10V doesn't seem right - shouldn't it be close to 0V? I tried to follow the ST output from the KB connector on to the logic board but can't find it on any of the schematics. It becomes ISTP on the logic connector but I can't find it anywhere else. Any clues as to where this line goes?

Thanks! ;^)

Re: 9100A with no display

*Message #9 Posted by **Tony Duell** on 4 Jan 2011, 5:05 a.m.,*
in response to message #8 by Richard Wilder

ISTP certainly goes to the rear peripheral connector on the gating board. I am not sure if it goes

anywhere else...

Re: 9100A with no display

*Message #10 Posted by **Eric Smith** on 4 Jan 2011, 3:56 a.m.,*
in response to message #4 by Tony Duell

Apparently I misread it, as I thought he was claiming he did get an error indication. If not, then I agree that it is most likely a logic fault.

Re: 9100A with no display

*Message #11 Posted by **Richard Wilder** on 4 Jan 2011, 10:36 a.m.,*
in response to message #1 by Richard Wilder

Any comments on that glitchy looking TBS signal or the ISTP high level being at -10V instead of 0V?

Re: 9100A with no display

*Message #12 Posted by **Tony Duell** on 5 Jan 2011, 4:30 a.m.,*
in response to message #11 by Richard Wilder

If ISTP doesn't go anywhere other than the I/O connector (and it may well not), then there's no pull-up on that signal. I am not sure what you are measuring it with, but I'd not worry too much about the the odd voltage level. I will check the 9125A plotter schematics (the only peripheral I have) and see how it's used there.

Remember that the inputs to logic circuits on the 9100 are often current, not voltage, driven. This can make signals look odd.

For the TBS signal, remember, again, it's an open-collector signal. It's used (in the 9100B) on sheet 11 of the gating board schematic, were it's effectively ORed with TBA (via diode J1) and then used as an input to one of thr JA5 AND gates. Your glitch may well be the TBA signal.

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HP Forum Archive 19

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$9000 HP-35 on TAS

*Message #1 Posted by **Mark Henderson** on 2 Jan 2011, 1:41 p.m.*

As if the $1900 HP-65 wasn't enough, now there's a $9000 HP-35! And it's not even a Red Dot - looks like a Gen 3 to me ("35" on label)?!?!

Re: $9000 HP-35 on TAS

*Message #2 Posted by **Don Shepherd** on 2 Jan 2011, 2:08 p.m.,*
in response to message #1 by Mark Henderson

The seller has set an opening bid at $9000; nobody has actually bid on it, not surprizingly. And shipping at $150! The seller obviously has a very high opinion of himself. He makes coburlin look like a piker.

Edited: 3 Jan 2011, 12:52 p.m. after one or more responses were posted

Re: $9000 HP-35 on TAS

*Message #3 Posted by **Namir** on 2 Jan 2011, 3:35 p.m.,*
in response to message #2 by Don Shepherd

Freud would say that the the seller has a very inflated ego and a delusional outlook!

Carl Jung would say the seller is charging mythical prices!!

Dr Phil would ask the seller "How is that price working for you?"

The Buddha who tell the seller that his asking price is an illusion!

My own therapist would say "Humpty Dumpty sat of a wall ... Humpty Dumpty will have a great fall"

Saddam would ask "Who do I have to threaten and/or kill to get that calculator?" ... that's the trouble with folks who don't know jack!!

Edited: 2 Jan 2011, 3:42 p.m.

Re: $9000 HP-35 on TAS

*Message #4 Posted by **Gonzalo Fernandez** on 3 Jan 2011, 8:13 a.m.,*
in response to message #3 by Namir

About these people who spends thousands dollars in calc/accesories I wonder how much will recover when from here to 10-15 years go to an antiques shop. 50% of what they payed?

Re: $9000 HP-35 on TAS

*Message #5 Posted by **Martin Pinckney** on 3 Jan 2011, 11:40 a.m.,*
in response to message #4 by Gonzalo Fernandez

Odds are, anyone paying these obscene prices for collectibles won't ever sell them. Their children or grandchildren will, when they clean out the house. Pennies on the dollar. (Or should I say cents on the euro, Walter ;-)).

Re: $9000 HP-35 on TAS

*Message #6 Posted by **Walter B** on 3 Jan 2011, 12:58 p.m.,*
in response to message #5 by Martin Pinckney

> Quote:
>
> Pennies on the dollar. (Or should I say cents on the euro, Walter ;-)).

Cancels down anyway - so why don't you say % ?

Re: $9000 HP-35 on TAS

*Message #7 Posted by **Mark Henderson** on 3 Jan 2011, 4:47 p.m.,*
in response to message #5 by Martin Pinckney

Or, like that fantastic quote I think I saw here and on other collectors sites - "my greatest fear is that my wife will sell it for what I told her I paid for it" :-)

Re: $9000 HP-35 on TAS

*Message #8 Posted by **Namir** on 3 Jan 2011, 6:58 p.m.,*
in response to message #7 by Mark Henderson

That is poetic justice!

Re: $9000 HP-35 on TAS

*Message #9 Posted by **Howard Owen** on 3 Jan 2011, 9:27 p.m.,*
in response to message #7 by Mark Henderson

> Quote:
>
> ".. my greatest fear is that my wife will sell it for what I told her I paid for it"

That is **hilarious!**

Re: $9000 HP-35 on TAS

*Message #10 Posted by **Andrés C. Rodríguez (Argentina)** on 3 Jan 2011, 3:30 p.m.,*
in response to message #1 by Mark Henderson

If it is an HP-35 "S" with readable display, acceptable entry method for non-base-10 values, fixed bugs, and good polar-rectangular functions... it may warrant that price!

Re: $9000 HP-35 on TAS

*Message #11 Posted by **Howard Owen** on 3 Jan 2011, 9:25 p.m.,*
in response to message #10 by Andrés C. Rodríguez (Argentina)

But it's better than that. The machine is from an adjacent dimension where Quantum Mechanics has been applied to computation since Babbage's time. So this puppy will invert a 10^9 square matrix as fast as a 3X3.

Now what would you pay? Wait! There's more! If you bid now, we will throw in (http://www.greenoptimistic.com/2010/12/25/karpen-pile/) a 2nd degree perpetual motion machine for only $100.00!

BEWARE! The site linked to above will cancel your first attempt to navigate away using some Javascript. This annoying behavior is not a threat by itself, but the site does offer fraudulent merchandise for sale. The fairly amusing ad copy may not be worth the risk of malware, especially if you run an older, unpatched version of Windows/IE. (But nobody here does that, do they?)

Edited: 5 Jan 2011, 3:41 p.m. after one or more responses were posted

Re: $9000 HP-35 on TAS

*Message #12 Posted by **Alberto Fenini** on 4 Jan 2011, 9:49 a.m.,*
in response to message #11 by Howard Owen

C'mon, let's try to be positive,
I'm sure it will ships for free .... :)

Re: $9000 HP-35 on TAS

*Message #13 Posted by **Martin Pinckney** on 4 Jan 2011, 11:42 a.m.,*
in response to message #11 by Howard Owen

Beware! The linked site tries to keep you from navigating away from the page.

Re: $9000 HP-35 on TAS

*Message #14 Posted by **Howard Owen** on 5 Jan 2011, 3:43 p.m.,*
in response to message #13 by Martin Pinckney

Thanks for pointing that out, Martin. I've edited my post to remove the clickable link, and to add a warning about the nature of the site.

Re: $9000 HP-35 on TAS

*Message #15 Posted by **Keith Midson** on 4 Jan 2011, 4:05 p.m.,*
in response to message #1 by Mark Henderson

Well coburlin has now listed a 35 with all the trimmings for a 'bargain' $489. Which to buy? Such a tough decision ...

Re: $9000 HP-35 on TAS

*Message #16 Posted by **Michael Meyer** on 5 Jan 2011, 3:47 p.m.,*
in response to message #15 by Keith Midson

Maybe it's a "public service" for sellers. The HP-35 I have in my office was about $30 a year or two ago. Now, suddenly, they seem to have jumped to $150 to $200!

I wonder: if I list a couple of TI-30's for thousands of dollars could I can then sell others for more than

$5.00.....?

It does seem like the "buy it now" prices have driven up the regular auctions' prices some. Or do I have that wrong?

Re: $9000 HP-35 on TAS

*Message #17 Posted by **Allen** on 5 Jan 2011, 5:28 p.m.,*
in response to message #16 by Michael Meyer

In nearly every time case I've seen longer than 15 days or so MAX(price.bidding) > MAX(price.buynow). Every year there are seasonal spikes around December, January, July, and March, dips in May, August, October- especially true for popular models.

You also see some echo sales when one model goes for more than expected, buyer thresholds go up while the max sale is still visible in TAS auction history- then people get their common sense back.

Re: $9000 HP-35 on TAS

*Message #18 Posted by **Keith Midson** on 5 Jan 2011, 9:59 p.m.,*
in response to message #17 by Allen

I agree that prices fluctuate seasonally as well as randomly (depending on when two or more collectors 'have' to have a particular model at the same time thus driving prices up), but I can't figure out what would motivate someone to think that anyone would pay $9,000 for something that they can get for around $200 if they wait a few weeks or so.
I have 4 x 35's, two complete with boxes and all paperwork - two of these were given to me, one cost $90 and the other cost $200 (April this year). The $200 looks like it was never used - I still remember thinking that I paid too much! I have three versions, including one with the famous bug. It's not like it's a 'rare' machine - important model in history yes, but plenty around to keep collectors happy. Maybe if it were a mint red dot it might be possible to ask in the thousands.
Be interesting to see what it gets relisted at after it finishes with no bids!
Cheers, Keith

Edited: 5 Jan 2011, 11:11 p.m.

Re: $9000 HP-35 on TAS

*Message #19 Posted by **db (martinez, ca.)** on 6 Jan 2011, 12:03 a.m.,*
in response to message #18 by Keith Midson

y'all considered that the decimal point on his computer may be defective?

Re: $9000 HP-35 on TAS

*Message #20 Posted by **Keith Midson** on 6 Jan 2011, 12:09 a.m.,*
in response to message #19 by db (martinez, ca.)

No - I asked him! Aparently it's "worth a lot more than that. i saw a red dot, not in this good condition, sell for over $1,900 just sell 4 days ago". So apparently there is something very special about this one that makes it worth MUCH more than any other i've seen.

red dots? where?

*Message #21 Posted by **db (martinez, ca.)** on 6 Jan 2011, 1:33 a.m.,*

in response to message #20 by Keith Midson

thinkin that seller's got red dots all over his thorax like those space bees on the latest Futurama.

Re: red dots? where?

*Message #22 Posted by **Walter B** on 6 Jan 2011, 2:12 a.m.,*
in response to message #21 by db (martinez, ca.)

... or that 35 has a low battery. Many red dots = many times the price of a red dot d;-)

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Is that an HP 9100 in the 1970 version of the Andromeda Strain movie?

*Message #1 Posted by **gene wright** on 1 Jan 2011, 10:00 p.m.*

About 4 minutes in. Shown for a couple seconds while the army recon group is in their van before going into the town of Piedmont.

Sorry I don't have a pic, but I believe it is.

Re: Is that an HP 9100 in the 1970 version of the Andromeda Strain movie?

*Message #2 Posted by **Katie Wasserman** on 1 Jan 2011, 10:06 p.m.,*
in response to message #1 by gene wright

It's the 9100b according to this.

Here's the movie clip.

Edited: 1 Jan 2011, 10:08 p.m.

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OT: 2011 and european trip

*Message #1 Posted by **Andrés C. Rodríguez (Argentina)** on 1 Jan 2011, 8:00 p.m.*

Hi all!, please have our best wishes for the new year!!

I will be in the south of Spain and in Berlin during the second part of January. If someone would like to suggest places to visit, give any advise, and/or just be in contact, please email me to:

a . rodriguez AT ieee . org

(of course, remove spaces and replace the "at" symbol)

Thanks in advance!!

Edited: 1 Jan 2011, 8:01 p.m.

Re: OT: 2011 and european trip

*Message #2 Posted by **Frank Boehm (Germany)** on 2 Jan 2011, 2:42 p.m.,*
in response to message #1 by Andrés C. Rodríguez (Argentina)

I can only speak for Berlin: It's impossible to visit even a tiny bit of the most interesting sites, unless you have a couple of weeks to spend. January is not really a great time to vistit Berlin, I'd rather suggest May or June. What I found quite nice is a public bus, doing a city roundtrip. Not as good as a guided tour (if you have very limited time, that would be your best option), but you can exit the bus if you like, do your visit, take the next bus to continue your tour. I'd suggest to buy a good city guide way before your visit and pick the interesting sites. A couple of places are worth a visit: Brandenburger Tor, e.g. Other sites are "overhyped", like Checkpoint Charlie - seemed like a tourist ripoff to me :)
Unfortunately, Berlin is *huge*, so going from one site to another takes it's time. Btw. if you are staying for a couple of days, you really should be using bus/subway. It's usually much faster than going by car.

Re: OT: 2011 and european trip

*Message #3 Posted by **Frank Balzer** on 2 Jan 2011, 6:03 p.m.,*
in response to message #1 by Andrés C. Rodríguez (Argentina)

If you can't get enough from calculators (and/or the weather is pretty bad), you might want to visit the German technical museum in Berlin

http://www.sdtb.de/Englisch.55.0.html

Frank.

Edited: 2 Jan 2011, 6:10 p.m.

Re: OT: 2011 and european trip

*Message #4 Posted by **Iñigo Rodriguez** on 3 Jan 2011, 12:56 p.m.,*
in response to message #1 by Andrés C. Rodríguez (Argentina)

Hello Andrés: Please contact with me for info about Spain: ira AT claro . es.

Re: OT: 2011 and european trip

*Message #5 Posted by **Walter B** on 3 Jan 2011, 1:06 p.m.,*
in response to message #1 by Andrés C. Rodríguez (Argentina)

For Berlin: May be freezing cold there. So besides enjoying public bus line 100 for a sightseeing tour (good value for little money) it depends on your interests: in addition to what previous posters mentioned there are some famous museums concentrated on the so-called "Museumsinsel" (Isla de Museos) where you can easily spend a day or more.

For Southern Spain: If you happen to touch down in Andalusia, don't miss Granada and Cordoba - worth a journey!

Edited: 3 Jan 2011, 1:08 p.m.

Re: OT: 2011 and european trip - Thank you all!!

*Message #6 Posted by **Andrés C. Rodríguez (Argentina)** on 3 Jan 2011, 1:22 p.m.,*
in response to message #5 by Walter B

Yes, I know January is not the best month for a Berlin trip, but our holidays must be in January (it's summer here, and the university where I teach works from February to December almost non-stop). So there are no options.

I'll take all suggestions into account. Thank you again.

Re: OT: 2011 and european trip

*Message #7 Posted by **Thomas Okken** on 3 Jan 2011, 4:59 p.m.,*
in response to message #5 by Walter B

> Quote:
>
> For Southern Spain: If you happen to touch down in Andalusia, don't miss Granada and Cordoba - worth a journey!

I second that. The Alhambra at Granada is worth a visit to Spain all by itself; winter is not ideal because the gardens probably won't look like much, but the architecture is gorgeous all year round. :-)
Also visit Sevilla if you have a chance.

Re: OT: 2011 and european trip

*Message #8 Posted by **Iñigo Rodriguez** on 4 Jan 2011, 11:09 a.m.,*
in response to message #1 by Andrés C. Rodríguez (Argentina)

Excuse, I will write this post in Spanish. Hola Andrés: Si tu intención es visitar el sur de España, básicamente Andalucia. Tienes que visitar Sevilla, Cordoba y Granada si puedes. En Sevilla puedes ver todo el casco antiguo, barrio de Triana, La Giralda, la Torre del oro y disfrutar de sus bares y restaurantes. Esto último lo puedes hacer en cualquier lugar de España. En Cordoba tienes que visitar, además de la ciudad, la mezquita y la ciudadela. En Granada, además de la ciudad en sí, no te puedes ir sin ver la Alambra. Solo por esta visita

merece la pena el viaje. Habla con tu agencia de viajes y consulta el tema de las entradas para la Alambra, suelen estar muy solicitadas. En Granada también tienes una estación de esqui, Sierra Nevada, que es de las mejores de España. Recuerda que aquí estamos en invierno y aunque el sur es menos frio, tienes que venir preparado. Y recordarte que en Andalucia hay muy buen pescado y marisco. Si necesitas algo, no dudes en ponerte en contacto conmigo. Iñigo

Re: OT: 2011 and european trip

*Message #9 Posted by **Giovanni Jimenez** on 4 Jan 2011, 12:06 p.m.,*
in response to message #1 by Andrés C. Rodríguez (Argentina)

Definitely visit the Alhambra in Granada; the most amazing construction ever made (imho)

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The Fibonacci Triangle - HP-38/39/40 GROB Question

*Message #1 Posted by **Marcus von Cube, Germany** on 1 Jan 2011, 10:14 a.m.*

In this thread in the French MySilicium forum there are several programs to display the Fibonacci sequence as a binary image. The original idea is from this page: http://naivedesign.com/ND1/The_Fib_Triangle.html.

The by far fastest solution runs on a HP50g and uses binary arithmetic and a dynamically built GROB. The HP40gs uses very similar hardware but its programming model is so simplified that I came up with a program which is about 100 times slower than the user RPL program for the 50G. This is a little frustrating. The main problem is that I couldn't find a way to dynamically construct a GROB. I see two possible solutions:

1) There exists a library somewhere in the wild which provides dynamic string and GROB handling.

2) The program is translated to SysRPL. Can I program in SysRPL on the machine or what do I need?

Re: The Fibonacci Triangle - HP-38/39/40 GROB Question

*Message #2 Posted by **Han** on 1 Jan 2011, 11:06 p.m.,*
in response to message #1 by Marcus von Cube, Germany

> Quote:
>
> 2) The program is translated to SysRPL. Can I program in SysRPL on the machine or what do I need?

You can program in SysRPL on the machine by simply typing "256 ATTACH" and using the built-in compiler. You can also download Jazz 50G if you wish to do SysRPL debugging, among other things.

Re: The Fibonacci Triangle - HP-38/39/40 GROB Question

*Message #3 Posted by **Marcus von Cube, Germany** on 2 Jan 2011, 5:28 p.m.,*
in response to message #2 by Han

Han, I'm talking about the 39G (or 39gs/40gs), not the 50g. I don't think I can attach the library on these machines.

Re: The Fibonacci Triangle - HP-38/39/40 GROB Question

*Message #4 Posted by **Han** on 1 Jan 2011, 11:09 p.m.,*
in response to message #1 by Marcus von Cube, Germany

Also, it would be faster to draw directly onto the screen after each computation rather than manipulate everything via strings and GROBs.

Re: The Fibonacci Triangle - HP-38/39/40 GROB Question

*Message #5 Posted by **Marcus von Cube, Germany** on 2 Jan 2011, 5:34 p.m.,*
in response to message #4 by Han

This was my first attempt and it's slower than the GROB version.

Re: The Fibonacci Triangle - HP-38/39/40 GROB Question

*Message #6 Posted by **Tim Wessman** on 2 Jan 2011, 1:06 a.m.,*
in response to message #1 by Marcus von Cube, Germany

Yes, you can program in sysRPL, but it is quite a pain and requires you to understand applet structure, and use a lot of not so nicely integrated tools to do so.

TW

Re: The Fibonacci Triangle - HP-38/39/40 GROB Question

*Message #7 Posted by **Marcus von Cube, Germany** on 2 Jan 2011, 5:33 p.m.,*
in response to message #6 by Tim Wessman

I understand that I can program FOR the machine in SysRPL but obviously not ON the machine.

BTW, is there a SYSEVAL call the does the equivalant of PVIEW to allow interactive scrolling of a GROB of arbitrary size?

Re: The Fibonacci Triangle - HP-38/39/40 GROB Question

*Message #8 Posted by **Oliver Unter Ecker** on 2 Jan 2011, 4:19 p.m.,*
in response to message #1 by Marcus von Cube, Germany

Hi Markus,

> Quote:
>
> The by far fastest solution runs on a HP50g and uses binary arithmetic and a dynamically built GROB.

Fastest, if you don't include the calculator that served as inspiration for this thread. For completeness, ND1, with a run-time of 0.3s for computation and 0.7s for computation and display, is quite a bit faster than the 50g at 170s for this task. :-)

The implementations are really impressive, though.

Oliver

Re: The Fibonacci Triangle - HP-38/39/40 GROB Question

*Message #9 Posted by **Marcus von Cube, Germany** on 2 Jan 2011, 5:30 p.m.,*
in response to message #8 by Oliver Unter Ecker

Can you tell us more about ND1?

Re: The Fibonacci Triangle - HP-38/39/40 GROB Question

*Message #10 Posted by **Oliver Unter Ecker** on 2 Jan 2011, 6:41 p.m.,*

in response to message #9 by Marcus von Cube, Germany

Marcus,

Of course. ND1 is a new calculator in the spirit of the HP-28,-48,-49 lines. A vague mix of HP-28S and HP-50g, it supports RPL but its biggest strength and architectural feature is that it's built on JavaScript and HTML5, and that it's fully programmable and extensible. There's a lot of information on the "app-site" at http://naivedesign.com/ND1 Click on Specs to begin and also see the comparison to HP calcs on the specs page.

An intro to the project, and call for programmer participation, for HP pros is here http://groups.google.com/group/comp.sys.hp48/browse_thread/thread/2b377149669b7fb4# You may also want to check out http://groups.google.com/group/comp.sys.hp48/browse_thread/thread/5bd6e0b2e4691311#

Cheers.

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Re-celling

*Message #1 Posted by **ClausB** on 31 Dec 2010, 1:54 p.m.*

Having replaced the AA NiCds in my HP-45, HP-33E, SR-52, SR-56, and TI-59, I thought I should try some more modern battery technologies. I put 2 AAA NiMHs in a BP7 for my TI-55, -57 and MBA. It works well with the stock TI charger. Then I put a 3.7 V Li Ion battery from a broken cell phone into a modified TI-58. It works well but I have not installed an internal charger.

Have any of you used other battery types to replace NiCds in your LED calculators?

Re: Re-celling

*Message #2 Posted by **designnut** on 1 Jan 2011, 10:26 a.m.,*
in response to message #1 by ClausB

I use Sanyo Eneloop AAA cells in 50G and bought some NiMh with welded tabs to replace nicads in a cell phone. The Sanyo cells have a very low self discharge rate, and have been recebtly improved. The voltages seem to match a nicad cell. I use the Sanyo cells in shavers, toothbrush, flashlights, radios. I used to keep 2 chargers busy replacing the self discharge loss, now I seldom use one. I use the AA cells in a holder to substitute for D cells and get good life. Sam

Re: Re-celling

*Message #3 Posted by **Dieter** on 1 Jan 2011, 11:57 a.m.,*
in response to message #1 by ClausB

> Quote:
>
> Have any of you used other battery types to replace NiCds in your LED calculators?

Yes, I use my good old 34C with two standard Sanyo Eneloop NiMHs. Since the regular HP battery pack uses two NiCds connected with welded tabs, the new solution has to provide some kind of connection as well. I simply use a short piece of metal, or even a piece of aluminium foil folded several times to give the required thickness, fitting snugly into the battery compartment.

Using NiMHs replacing NiCds usually causes no major problems - this was one of the key features pointed out by the battery manufacturers in the early nineties when NiMHs became available to the average consumer. As with NiCds, the standard charging method applies a constant current, charging the battery with a similar efficiency of roughly 80% (for lower charging rates). This means that, in many cases, old LED-calculators with their low-current unsophisticated (and uncontrolled) simple not-exaclty-constant-current chargers can be used for NiHMs as well. However, the same charging time still gives the same operating time. So a full charge of the new cells means that a capacity four times as high also requires four times the charging time. Or four times the charging current for the same time as before. That's one of the reasons why I usually charge my NiMHs in a decent external processor-controlled charger.

NiMHs with low (virtually nonexistent) self discharge are available from several manufacturers, e.g. from

Sanyo as "Eneloop" but also under different brand names. As far as I know these cells are not available with welded soldering tabs, at least not from Sanyo. The standard type has a capacity of 2000 mAh, giving 4x (!) the operation time of the original NiCds. Since there is virtually no self-discharge this kind of battery also is perfect for infrequently used devices. A set of four low-self-discharge NiMHs with a decent four-channel -dU processor-controlled charger can be had for less than 30 EUR/USD.

More information, including several brand names, can be found in this Wikipedia-article.

Dieter

Re: Re-celling

*Message #4 Posted by **BobVA** on 2 Jan 2011, 10:28 a.m.,*
in response to message #3 by Dieter

> Quote:
>
> ... As far as I know these cells are not available with welded soldering tabs, at least not from Sanyo. Dieter

I took some low self-discharge button-top cells to a local battery shop ("Batteries Plus" for USA readers) and had them spot weld and shrink wrap a couple of packs for me for about USD 10 each. Resulting packs are a bit taller than flat-tops with solder tab, but may work for some applications.

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11111011011

*Message #1 Posted by **Walter B** on 31 Dec 2010, 6:35 a.m.*

Since our friends in NZ have entered it already and others down under will do so soon:

Happy 7DB!!
Ein glückliches und erfolgreiches neues Jahr!

Re: 11111011011

*Message #2 Posted by **bill platt** on 31 Dec 2010, 9:37 a.m.,*
in response to message #1 by Walter B

Happy 3733

Re: 11111011011

*Message #3 Posted by **Martin Pinckney** on 31 Dec 2010, 9:48 a.m.,*
in response to message #2 by bill platt

Wish everyone well in 3.3034120706!

Re: 11111011011

*Message #4 Posted by **Gerson W. Barbosa** on 31 Dec 2010, 11:34 a.m.,*
in response to message #3 by Martin Pinckney

Didn't you mean $10^{3.3034120706}$? Thanks, anyway!

http://translate.google.com/translate?u=http%3A%2F%2Fwww.123rezerwacje.pl%2Fliczba-2011&sl=pl&tl=en&hl=&ie=UTF-8

Re: 11111011011

*Message #5 Posted by **Martin Pinckney** on 31 Dec 2010, 11:58 a.m.,*
in response to message #4 by Gerson W. Barbosa

No, I meant to express the number in logarithmic form.

Re: 11111011011

*Message #6 Posted by **Walter B** on 31 Dec 2010, 12:38 p.m.,*
in response to message #5 by Martin Pinckney

Then I'd like 7.60638738977 better - it's simply more natural ;)

Re: 11111011011

*Message #7 Posted by **Martin Pinckney** on 31 Dec 2010, 1:33 p.m.,*
in response to message #6 by Walter B

Walter, I saved that one for you!

Re: 11111011011

*Message #8 Posted by **Ángel Martin** on 1 Jan 2011, 5:15 a.m.,*
in response to message #7 by Martin Pinckney

you can always tell when there's fond friendship in here :-)

Feliz Año Nuevo to all.

ÁM

Re: 11111011011

*Message #9 Posted by **Gerson W. Barbosa** on 31 Dec 2010, 11:05 a.m.,*
in response to message #2 by bill platt

Happy $GB_{(125)}$

Re: 11111011011

*Message #10 Posted by **John B. Smitherman** on 31 Dec 2010, 11:32 a.m.,*
in response to message #9 by Gerson W. Barbosa

Yes, Happy MMXI!

John

Re: Happy New Year

*Message #11 Posted by **Ren** on 31 Dec 2010, 12:45 p.m.,*
in response to message #9 by Gerson W. Barbosa

> Quote:
>
> Happy $GB_{(125)}$

I'm sorry, I don't get this...

Will some kind soul explain?

Ren

dona nobis pacem

P.s. Happy New Year to forum members!

Re: Happy New Year

*Message #12 Posted by **Walter B** on 31 Dec 2010, 12:56 p.m.,*
in response to message #11 by Ren

2011 ENTER 125 / FP 125 * results in 11 corresponding to the "digit" B.

2011 ENTER 125 / IP results in 16 ...

spero pax datum est 8)

Edited: 31 Dec 2010, 12:58 p.m.

Re: Happy New Year

*Message #13 Posted by **Dieter** on 1 Jan 2011, 12:14 p.m.,*
in response to message #12 by Walter B

Well, the one or other RPN-user might prefer to write this as...

```
2011 ENTER 125 RMDR  =>  11 = B
2011 ENTER 125 INT/  =>  16 = G
```

I love all those numeric functions that make things more elegant, more precise or just shorter. :-)

However, in this case the final solution of course is writing "2011" as a base-2011-number: a simple "10". B-)

Dieter

Re: Happy New Year

*Message #14 Posted by **Walter B** on 3 Jan 2011, 9:11 a.m.,*
in response to message #13 by Dieter

> Quote:
>
> However, in this case the final solution of course is writing "2011" as a base-2011-number: a simple "10". B-)

A bit trivial, don't you think so?

Re: Happy New Year

*Message #15 Posted by **Dieter** on 3 Jan 2011, 3:01 p.m.,*
in response to message #14 by Walter B

> Quote:
>
> A bit trivial, don't you think so?

Well... a bit late maybe. I later realized someone else had that idea with $2011 = 11_{2010}$ a few hours earlier. #-)

Dieter

Re: Happy New Year

*Message #16 Posted by **Don Shepherd** on 3 Jan 2011, 5:04 p.m.,*
in response to message #13 by Dieter

Base 2011 means you have 2,011 unique symbols to represent numbers. What are the other 2009 symbols? :)

Re: Happy New Year

*Message #17 Posted by **Ken Shaw** on 31 Dec 2010, 12:57 p.m.,*
in response to message #11 by Ren

Base 125.

G represents 16. B represents 11.

(G*125^1)+(B*125^0) = 2011.

Re: Happy New Year

*Message #18 Posted by **Marcus von Cube, Germany** on 31 Dec 2010, 1:02 p.m.,*
in response to message #17 by Ken Shaw

So we can likewise use base 250 and get $8B_{(250)}$ or even simpler $11_{(2010)}$

Edited: 31 Dec 2010, 1:07 p.m.

Re: Happy New Year

*Message #19 Posted by **Martin Pinckney** on 31 Dec 2010, 1:33 p.m.,*
in response to message #18 by Marcus von Cube, Germany

Clever, indeed!

Re: Happy New Year

*Message #20 Posted by **Gerson W. Barbosa** on 31 Dec 2010, 1:45 p.m.,*
in response to message #18 by Marcus von Cube, Germany

Yes, but somehow I thought GB would look better :-)

Happy New Year!

Gerson **B**arbosa.

Re: Happy New Year

*Message #21 Posted by **Marcus von Cube, Germany** on 31 Dec 2010, 1:49 p.m.,*
in response to message #20 by Gerson W. Barbosa

You can't do that with M v and C. ;) At least I can't.

Re: Happy New Year

*Message #22 Posted by **Gerson W. Barbosa** on 31 Dec 2010, 2:00 p.m.,*

in response to message #21 by Marcus von Cube, Germany

In only three years we'll reach $MC_{(91)}$. We'll have to wait a little longer for $MVC_{(32)}$, though. :-)

Edited: 31 Dec 2010, 2:02 p.m.

Re: Happy New Year

*Message #23 Posted by **Walter B** on 31 Dec 2010, 3:38 p.m.,*
in response to message #20 by Gerson W. Barbosa

Ok, I think I've got a chance to repeat my wishes in another base:

Happy $WB_{(62.5)}$

Re: Happy New Year

*Message #24 Posted by **Gerson W. Barbosa** on 31 Dec 2010, 3:49 p.m.,*
in response to message #23 by Walter B

> Quote:
>
> Happy $WB_{(62.5)}$

Yet another utility of non-integer bases!

Re: Happy New Year

*Message #25 Posted by **Xavier A. (Brazil)** on 1 Jan 2011, 6:15 a.m.,*
in response to message #18 by Marcus von Cube, Germany

> Quote:
>
> even simpler 11(2010)

I like this: simplicity relative to base.

Une bonne année à tous! (Fbase)

Re: Happy New Year

*Message #26 Posted by **Eric Smith** on 31 Dec 2010, 1:57 p.m.,*
in response to message #11 by Ren

Happy New Decade!

Re: Happy New Year

*Message #27 Posted by **Martin Pinckney** on 31 Dec 2010, 4:16 p.m.,*
in response to message #26 by Eric Smith

Quite right!

Re: 11111011011
*Message #28 Posted by **Thomas Okken** on 1 Jan 2011, 6:23 a.m.,*
in response to message #2 by bill platt

Happy 2002220.01220002...

Re: 11111011011
*Message #29 Posted by **Eddie W. Shore** on 1 Jan 2011, 12:41 p.m.,*
in response to message #1 by Walter B

Happy New Year everyone!

Re: 11111011011
*Message #30 Posted by **Iqbal** on 1 Jan 2011, 1:33 p.m.,*
in response to message #29 by Eddie W. Shore

From Trinidad and Tobago Happy New Year everyone.

Re: 11111011011
*Message #31 Posted by **Chuck** on 1 Jan 2011, 2:18 p.m.,*
in response to message #30 by Iqbal

I'm a little late for the New Year, but happy 11:11:11 1/1/11.

Re: 11111011011
*Message #32 Posted by **Dave Shaffer (Arizona)** on 1 Jan 2011, 2:27 p.m.,*
in response to message #31 by Chuck

I can hardly wait until November 11!

Re: 11111011011
*Message #33 Posted by **JMBaillard** on 1 Jan 2011, 5:30 p.m.,*
in response to message #32 by Dave Shaffer (Arizona)

Happy New Year 2011
Bonne Annee 182 (base 41)

Re: 11111011011
*Message #34 Posted by **Norman Dziedzic** on 3 Jan 2011, 7:27 a.m.,*
in response to message #1 by Walter B

Also Happy: 157+163+167+173+179+181+191+193+197+199+211

(11 consecutive prime numbers)

Shamelessly lifted from this site: http://republicofmath.wordpress.com/2011/01/01/happy-mathematical-new-year-2011-is-the-sum-of-11-consecutive-prime-numbers/

Re: 11111011011

*Message #35 Posted by **bill platt** on 3 Jan 2011, 9:02 a.m.,*
in response to message #34 by Norman Dziedzic

That's pretty clever.

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30b Learning Modules PDF?

*Message #1 Posted by **Norman Dziedzic** on 30 Dec 2010, 6:19 p.m.*

Got a 30b under the tree for me !!!

Does anyone know if the learning modules are available as pdf files like they are for the 35s? It would be great if they have them all zipped together for single download.

Thanks

Re: 30b Learning Modules PDF?

*Message #2 Posted by **Mark Harman** on 30 Dec 2010, 6:47 p.m.,*
in response to message #1 by Norman Dziedzic

Here you go:

Manual:

30b Full Manual PDF

Learning modules:

30b Learning Modules (zip file)

I love the 30b. I've had mine since August and think it is a terrific calculator. If you have any questions about it, feel free to ask me.

Regards,

Mark

Edited: 30 Dec 2010, 6:49 p.m.

Re: 30b Learning Modules PDF?

*Message #3 Posted by **Norman Dziedzic** on 30 Dec 2010, 7:21 p.m.,*
in response to message #2 by Mark Harman

Wow, that was fast! Much Thanks.

Did I miss the link to these on the HP web site?

Edited: 30 Dec 2010, 7:22 p.m.

Re: 30b Learning Modules PDF?

*Message #4 Posted by **Mark Harman** on 30 Dec 2010, 9:45 p.m.,*

in response to message #3 by Norman Dziedzic

Strangely enough, the PDF versions of the learning modules aren't on HP's site - yet they are HP-produced PDFs. These are on the hpcalc.org commerce site. The ones on the HP site, as Gene mentioned, are XML versions. I'm thinking that hpcalc.org likely got a hold of them when Tim Wessman posted a temporary link to them and then they loaded them on their own server.

Regards,

Mark

Re: 30b Learning Modules PDF?

*Message #5 Posted by **gene wright** on 30 Dec 2010, 6:59 p.m.,*
in response to message #1 by Norman Dziedzic

If you like the learning modules in PDF rather than online XML website material, be sure to tell HP.

Re: 30b Learning Modules PDF?

*Message #6 Posted by **David Hayden** on 31 Dec 2010, 9:23 a.m.,*
in response to message #1 by Norman Dziedzic

Norman,

Be sure to find and attach the clear plastic keyboard overlay for the programming commands. I think it's in the back of the quick start guide. It's easy to miss it and throw it away with the packaging.

The 30b is a lot of fun. I really like the split display (dot matrix on top, 7-segment down below). They keyboard has a nice feel and it's really fast.

Re: 30b Learning Modules PDF?

*Message #7 Posted by **Mike Morrow** on 1 Jan 2011, 2:09 p.m.,*
in response to message #6 by David Hayden

> Quote:
>
> Be sure to find and attach the clear plastic keyboard overlay for the programming commands.

Also, be sure to NEVER rub the print on the overlay. The ink has been applied to the exposed surface of the overlay. It rubs away very very easily, beginning with the initial act of applying the overlay sheet to the keyboard. One would have thought a little better attention to detail would have been warranted.

The functions on the overlay are accessed from the keyboard by pressing and holding the blue shift key while depressing the desired function. The same technique is required to program an UP or DOWN function. Otherwise, pushing those keys scrolls through the program.

> Quote:
>
> The 30b is a lot of fun....The keyboard has a nice feel and it's really fast.

The HP 30b itself is an amazing device. It's the fastest handheld anyone has ever produced.

Here is a HP 30b version of the well-known Savage Benchmark.

In Prgm 0:
1 STO 0
2 0
3 Input
4 Lbl 00
5 1
6 +
7 sqrt
8 x^2
9 LN
10 e^x
11 Math
12 Input
13 UP
14 TAN
15 DSE 0
16 Gto 00
17 Stop
(Checksum 22.085)

Set the HP 30b for RPN, RADIANS, and FIX 11. Then execute:
2500
Input
Prgm 0
=

The result is 2499.99946106 (perfect would be 2500). Execution time (from a stopwatch) is 6.5 seconds! That is the same numerical result from the HP 50g, which takes 65 seconds to do the same.

The HP 30b is ten times faster than the HP 50g! (At least for this application.)

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HP 65 programmable

*Message #1 Posted by **designnut** on 30 Dec 2010, 6:15 p.m.*

My dad showed me the method of successive trials to solve intractable problems. When I had my HP65 I found I could enter the variables in storage and do a repeatted solution without effort. I was working with negatice temperature coefficient thermistors and had tabulated resistances but no formula. I tried until I found that adding a large number to the temperature and take the Ln I could match the slope of the resistance temperature curve over the complete range. I could refine the precision by repeated trials. To date this has not been discovered, but an extremely compleex method is used and they are not going to change. I thought I could match other graphs I used in electrical engineering and by trial and error matched many of them. I was interested in retirement and matched income tax in my renge, and made varied assumptions of inflation, return on investments, raises and solved them year by year. I found all you needed was to make more money than you spent and you could pay your way. I did not depend on SS or retirement benefits, I thought them unworkable schemes. So I'm good at 82 and will leave an income for my niece to sustain her.

Re: HP 65 programmable

*Message #2 Posted by **Eric Smith** on 31 Dec 2010, 2:27 a.m.,*
in response to message #1 by designnut

There were programs for most HP programmables to do curve fitting, including logarithmic curves. It sounds like that was what you were doing manually.

As far as I can see, if you don't make more money than you spend, there isn't any retirement plan that will work.

Re: HP 65 programmable

*Message #3 Posted by **designnut** on 31 Dec 2010, 12:17 p.m.,*
in response to message #2 by Eric Smith

If simple regression analysis would do it, they would not be using a complex solution (from the factory). What I was illustrating was that the ease of repeated trials can enlarge the range of problems you can undertake. "Go where no man has gone before." Sam a chum said If sidney darlington can have a coupound transistor namedafter him, we should be able to name a compound FET after you. Har Har.

Re: HP 65 programmable

*Message #4 Posted by **Walter B** on 31 Dec 2010, 3:15 a.m.,*
in response to message #1 by designnut

Sam,

> Quote:
>
> I found all you needed was to make more money than you spent and you could pay your way.

IMHO, by your experimental method you found the basic law of living, also applicable beyond - ummh, before retirement. I suggest we call it **Sam's Law** from now on.

Happy and prosperous New Year!

Re: HP 65 programmable

*Message #5 Posted by **Thomas Okken** on 1 Jan 2011, 3:22 a.m.,*
in response to message #1 by designnut

> Quote:
>
> I found all you needed was to make more money than you spent and you could pay your way.

May we all always be able to make more money than we need to spend.
Happy new year!

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HP 35 ... top row buttons

*Message #1 Posted by **Jeff Kearns** on 30 Dec 2010, 3:30 p.m.*

Hi everyone,

I recently purchased on TAS a complete, fine looking 4th version HP 35 s/n 1346A 46XXX. I never fully appreciated, until having examined one, the fine design and construction of this pioneering electronic slide rule (especially the battery door design with sliding clasps/pads). The only cosmetic deficiency is some wearing off of the silver paint above the OFF/ON switch. It is a very nice addition to my collection and will be used as well!

It works well except for the top row of keys which need to be pressed quite forcefully to register. I knew this when I purchased it so no surprises there. The 'on' switch is a little touch and go also, and the x^y and LOG keys are the hardest to get to work consistently. The e^x works the best of the lot (top row only). I believe all of the above issues are related. Seems to be a case of poor contact and shouldn't be a difficult repair job - once I figure out exactly how to do it.

I am not an expert HP calculator electronics tinkerer, having only taken apart a Spice model successfully using the fine explanation at Spice Repair to add some foam to increase pressure on the circuit card. If Geoff Quickfall's book will be out soon, hopefully he can put me on his list of buyers....

In the meantime, can anyone (Geoff??) recommend a repair method for this beauty? I do not want to cause any damage to it! It is my 15th HP RPN model and I guess I will have to start maintaining them on my own at some point.

Thanks! ----- Jeff Kearns

Re: HP 35 ... top row buttons

*Message #2 Posted by **Jeff Kearns** on 30 Dec 2010, 4:28 p.m.,*
in response to message #1 by Jeff Kearns

Maybe this is the best link for me to use: HP 45 Restoration . Any other suggestions? -- Jeff

Re: HP 35 ... top row buttons

*Message #3 Posted by **Jeff O.** on 30 Dec 2010, 7:43 p.m.,*
in response to message #2 by Jeff Kearns

> Quote:
>
> Any other suggestions?

Not sure if it will add anything to Geoff's information, but this thread might be worth a look.

...

Re: HP 35 ... top row buttons

*Message #4 Posted by **Jeff Kearns** on 30 Dec 2010, 7:56 p.m.,*
in response to message #3 by Jeff O.

Jeff -- Your post (which I had seen at some point) is likely the info I am in need of.

Once I get enough courage to peel that label back without damaging it, I will disassemble my 35 and clean it up.

Regards,

Jeff Kearns

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What's special about this one?

*Message #1 Posted by **Keith Midson** on 30 Dec 2010, 2:48 p.m.*

I've been watching this for a few days now: TAS item 320635175981. Does anyone one know what is so special about this HP65 that would make someone bid over US$1,300!! I know it has a lot of extras, and I don't recall seeing a box for a 65 (usually the 65 comes with the plastic hard case - at least that's what i've got).
Happy new year everyone!
Cheers, Keith

Re: What's special about this one?

*Message #2 Posted by **Namir** on 30 Dec 2010, 3:44 p.m.,*
in response to message #1 by Keith Midson

Hi Keith my friend!!!

I paid less for 3 HP-65 (and applications) than what that auction's current bid is!!! This is part of the craziness of TAS!!

Happy New Year!!!

Namir

Re: What's special about this one?

*Message #3 Posted by **Jim Yohe** on 30 Dec 2010, 5:22 p.m.,*
in response to message #2 by Namir

Forgive my ignorance ... what is TAS and how do you get to it. Might be interesting to see some of that craziness.

Re: What's special about this one?

*Message #4 Posted by **Walter B** on 30 Dec 2010, 5:31 p.m.,*
in response to message #3 by Jim Yohe

TAS = That Auction Site which must not be named d;-)

Re: What's special about this one?

*Message #5 Posted by **Norman Dziedzic** on 30 Dec 2010, 6:08 p.m.,*
in response to message #4 by Walter B

I think Voldemort works there ...

Re: What's special about this one?

*Message #6 Posted by **aj04062** on 30 Dec 2010, 9:17 p.m.,*
in response to message #2 by Namir

I think the economy must be picking up as I've seen in succession red dot 35's go for $950 and $1,900 in the last 2 weeks.

Re: What's special about this one?

*Message #7 Posted by **Katie Wasserman** on 30 Dec 2010, 10:03 p.m.,*
in response to message #6 by aj04062

> Quote:
>
> I think the economy must be picking up as I've seen in succession red dot 35's go for $950 and $1,900 in the last 2 weeks.

My theory is not that the economy is picking up so much as most other places to park one's money are just terrible. Banks are paying near zero percent and returns on real estate are worse. Collectibles of all kinds benefit from this lack of good investment vehicles.

Re: What's special about this one?

*Message #8 Posted by **Eric Smith** on 31 Dec 2010, 2:34 a.m.,*
in response to message #7 by Katie Wasserman

> Quote:
>
> Collectibles of all kinds benefit from this lack of good investment vehicles.

Yet another instance of the "Greater Fool" theory.

Generally collectibles are a terrible investment, because it is impossible to predict **which** collectibles will actually gain significant value. Most don't even match the rate of inflation.

There are routinely news stories about people that discover that they have some incredibly valuable collectible, but that's a six-sigma event. The only way it's going to happen to you is if you have a time machine.

Re: What's special about this one?

*Message #9 Posted by **Martin Pinckney** on 31 Dec 2010, 9:36 a.m.,*
in response to message #8 by Eric Smith

> Quote:
>
> Generally collectibles are a terrible investment, because it is impossible to predict **which** collectibles will actually gain significant value. Most don't even match the rate of inflation.

Generally, perhaps so, especially if by "collectibles" you mean the artificially-created ones manufactured for "Greater Fools." But there are fields of collecting that consistently see gains over long time periods. Rare or mint specimens of cameras, for instance. Or guns of almost any type, but especially certain iconic models. Rare coins.

Knowledge is the key. Nevertheless, ultimately there is no way to predict, as you state. But apparently the same is true for any investment vehicle, with the possible exception of physical gold.

Re: What's special about this one?

*Message #10 Posted by **Thomas Okken** on 1 Jan 2011, 3:33 a.m.,*
in response to message #9 by Martin Pinckney

> Quote:
>
> Knowledge is the key.

If anything, **prescience** is the key. I'd call it luck, personally.

You tend to hear much more about people who "just knew" that something was a good investment and made a bundle; you don't hear so much about those who tried to play that game and lost. There's a reporting bias going on there.

The things that have tended to appreciate substantially in my lifetime have included things like art, vintage cars, and some kinds of vintage technical equipment (e.g. some cameras). These are things that aren't worth much in practical terms; they just fetch a lot of money because there are collectors who are able and willing to throw a lot of money at them. It's whatever's fashionable. If that really were predictable, there would be a lot more antiques dealers in the Fortune 500 -- as it is, all we have there is eBay. :-D

Re: What's special about this one?

*Message #11 Posted by **db (martinez, ca.)** on 31 Dec 2010, 6:45 p.m.,*
in response to message #8 by Eric Smith

RE: time machine.

Eric. I've got one. Going to the Bill Graham Civic Auditorium tonight.

The HP-35 and collectibles as investments

*Message #12 Posted by **Karl Schneider** on 31 Dec 2010, 8:42 p.m.,*
in response to message #8 by Eric Smith

> Quote:
>
> *Collectibles of all kinds benefit from this lack of good investment vehicles.*
>
> Quote:
>
> Yet another instance of the "Greater Fool" theory.
>
> Generally collectibles are a terrible investment, because it is impossible to predict which collectibles will actually gain significant value. Most don't even match the rate of inflation.

Perhaps a somewhat-harsh assessment, there.

I suspect that most people who buy collectibles with some of their discretionary income, during times when conventional equity investments seem not very promising, are choosing to indulge some "wants" rather than to invest more heavily in 'serious' things.

As far as collectibles that appreciate or at least hold their value: Never underestimate the allure of things that remind affluent people of their youth, especially things that were expensive and unobtained back in the day. Rarity and condition are also important for determining price, as always.

Now then, to pay US$1000 or more for a "Red Dot" HP-35 seems quite absurd to me. Yes, it's the original edition, and it might have a computational bug, but I never have quite understood its particular desirability. The last (fourth) edition is the best one, anyway...

-- Karl

Edited: 31 Dec 2010, 8:47 p.m.

Re: The HP-35 and collectibles as investments

*Message #13 Posted by **Eric Smith** on 31 Dec 2010, 11:04 p.m.,*
in response to message #12 by Karl Schneider

Oh, I understand collecting for personal interest or sentimental reasons. That's almost totally unrelated to collecting as investment.

Re: The HP-35 and collectibles as investments

*Message #14 Posted by **Karl Schneider** on 1 Jan 2011, 4:45 p.m.,*
in response to message #13 by Eric Smith

> Quote:
>
> Oh, I understand collecting for personal interest or sentimental reasons.
> That's almost totally unrelated to collecting as investment.

Yes, of course. I believe that Katie's statement observed that people tend to redirect some discretionary income to collectibles (and maybe consumer goods, as well), when saving and investing don't appear to offer much return. These expenditures would be made *in lieu of* investing, not necessarily as *alternative* investments.

You and Thomas Okken (above) are absolutely right that to make money investing in collectibles is difficult to achieve systematically. The value of any collectible invariably derives from characteristics other than sheer practicality.

Also, the collectible must be in excellent condition in order to fetch a high price. Anyone who purchases something new, with the expectation that it will be highly valuable in the future, must be prepared to wait a very long time (usually decades) to reap his reward. Moreover, the item must be maintained in pristine condition all that time. Far better to pick up an excellent used one cheap when it is passé, then restore it if necessary.

-- Karl

Re: What's special about this one?

*Message #15 Posted by **Keith Midson** on 31 Dec 2010, 4:39 a.m.,*
in response to message #2 by Namir

Hi Namir, happy new year to you! Hope you enjoyed your trip down under! Cheers, Keith

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Help solving equation
*Message #1 Posted by **Geir Isene** on 29 Dec 2010, 10:16 a.m.*

It would be great if someone here could help me symbolically solve the following equation - it is part of an upcoming program to calculate the "processability" of a business area (i.e. if it is a sound business decision to create a process for a certain area of business). To be able to solve the bigger equation, I need help solving this one:

Solve for x:

(a^x)/x = b

Re: Help solving equation
*Message #2 Posted by **dietmar13** on 29 Dec 2010, 10:25 a.m.,*
in response to message #1 by Geir Isene

wolfram alpha is always your friend...

http://www.wolframalpha.com/input/?i=%28a^x%29%2Fx+%3D+b+solve+for+x

Re: Help solving equation
*Message #3 Posted by **Geir Isene** on 29 Dec 2010, 10:30 a.m.,*
in response to message #2 by dietmar13

Wow. Excellent. Wolfram is a better resource after this.

Re: Help solving equation
*Message #4 Posted by **Geir Isene** on 29 Dec 2010, 12:48 p.m.,*
in response to message #2 by dietmar13

Looking into this further, I am unsure of how I would go about resolving the following in an HP-41 program:

How do I handle the Lambert W-Function in a program?

Re: Help solving equation
*Message #5 Posted by **Massimo Gnerucci (Italy)** on 29 Dec 2010, 1:20 p.m.,*
in response to message #4 by Geir Isene

> Quote:
> I am unsure of how I would go about resolving the following in an HP-41 program

If you really **need** to... :-)
try with HP-41Z module by Ángel.

Greetings,
Massimo

Edited: 29 Dec 2010, 1:22 p.m.

Re: Help solving equation
*Message #6 Posted by **Geir Isene** on 29 Dec 2010, 1:34 p.m.,*
in response to message #5 by Massimo Gnerucci (Italy)

OK, but how?

Re: Help solving equation
*Message #7 Posted by **PeterP** on 29 Dec 2010, 2:37 p.m.,*
in response to message #6 by Geir Isene

This gives a good explanation as well as the numerical evaluation at the bottom

as well as here in Wolfram Alpha

[link:http://www.google.com/url?sa=t&source=web&cd=2&ved=0CCUQFjAB&url=http%3A%2%2Fciteseerx.ist.psu.edu%2Fviewdoc%2Fdownload%3Fdoi%3D10.1.1.86.9305%26rep%3Drep1%26type%3Dpdf&rct=j&q=how%20to%20calculate%20the%20lambert%20W%20function&ei=8o0bTcrBIoLGlQfxh6jJCw&usg=AFQjCNGzCdFCPN-BNVvFeSmeqBIbaY59AA&sig2=-qIe1lZhmayysqt745QTmg&cad=rja]and here if you *really* want to know a whole lot about the W (as well as a last chapter on numerical evaluation)[/link]

Cheers

Peter

Edited: 29 Dec 2010, 2:43 p.m.

Re: Help solving equation
*Message #8 Posted by **Geir Isene** on 29 Dec 2010, 3:17 p.m.,*
in response to message #7 by PeterP

I am looking for a simpler, more basic approximation - see further down on the "math challenge"; An approximation of the original function to make the symbolic solve easier without it becoming recursive and such.

Re: Help solving equation
*Message #9 Posted by **Thomas Klemm** on 29 Dec 2010, 3:23 p.m.,*

in response to message #6 by Geir Isene

Here's the Lambert W function:

```
 01 LBL "W"
 02 STO M
 03 0
 04 STO N
 05 LBL 00
 06 RCL N
 07 ENTER
 08 ENTER
 09 E^X
 10 *
 11 LASTX
 12 1
 13 R^
 14 +
 15 *
 16 LASTX
 17 1/X
 18 1
 19 +
 20 2
 21 /
 22 R^
 23 RCL M
 24 -
 25 ENTER
 26 RDN
 27 *
 28 -
 29 /
 30 ST- N
 31 ABS
 32 RND
 33 X#0?
 34 GTO 00
 35 RCL N
 36 END
```

Here's how to use it:

a ENTER b

```
X<>Y
LN
CHS
STO 00
X<>Y
/
XEQ "W"
RCL 00
/
```

I'm using:

$$x = \frac{W(\frac{-\log a}{b})}{-\log a}$$

HTH
Thomas

Re: Help solving equation
*Message #10 Posted by **Geir Isene** on 29 Dec 2010, 3:52 p.m.,*
in response to message #9 by Thomas Klemm

It sure does :)

Re: Help solving equation
*Message #11 Posted by **Gerson W. Barbosa** on 29 Dec 2010, 6:25 p.m.,*
in response to message #9 by Thomas Klemm

Alternatively, if you have the Advantage Module:

```
 01 LBL 'W
 02 STO 01
 03 CLx
 04 ENTER
 05 10^x
 06 'L
 07 SOLVE
 08 RTN


 01 LBL 'L
 02 e^x
 03 *
 04 RCL 01
 05 -
 06 RTN


Example, using your procedure:

2 ENTER 32

x<>y
LN
CHS
STO 00
x<>y
/
XEQ "W"
RCL 00
/                     -->   0.031949779

2 x<>y y^x LASTx /    -->   31.99999999
```

Another solution is x = 8, but this requires the other real branch of Lambert W.

Regards,

Gerson.

Re: Help solving equation
*Message #12 Posted by **Gerson W. Barbosa** on 31 Dec 2010, 12:29 a.m.,*
in response to message #11 by Gerson W. Barbosa

The following program can be used to compute the second real solution:

```
 01 LBL 'WM
 02 CHS
 03 1/x
 04 STO 01
 05 ENTER
 06 ENTER
 07 ENTER
 08 LBL 00
 09 STO 02
 10 LN
 11 *
 12 RCL 02
 13 x<>y
 14 -
 15 x=0?
 16 GTO 01
 17 CLx
 18 RCL 01
 19 LASTx
 20 GTO 00
 21 LBL 01
 22 LASTx
 23 RCL 01
 24 /
 25 CHS
 26 END


2 ENTER 32

x<>y
LN
CHS
STO 00
x<>y
/
XEQ WM
RCL 00
/                    -->   7.999999999       (x2)

2 x<>y y^x LASTx /   -->   31.99999998
```

Re: Help solving equation
*Message #13 Posted by **Geir Isene** on 1 Jan 2011, 8:18 a.m.,*
in response to message #12 by Gerson W. Barbosa

As this should not fade away to oblivion as programs buried deep into an HP Forum thread, I decided to put the two solutions to the W Lambert fuction into one program here:

http://www.isene.com/isene.cgi?hp-41_WL

Re: Help solving equation
*Message #14 Posted by **Gerson W. Barbosa** on 1 Jan 2011, 11:41 a.m.,*
in response to message #13 by Geir Isene

The program for the second real branch of Lambert's W function above (W_p or W_{-1})is based on this formula, found quite by chance when playing with the RPN stack:

$W_{-1}(-1/x) = -(...x*\ln(x*\ln(x*\ln(x*\ln(x))))...)/x$

This is not a fast method, especially for arguments close to -1/e, it was originally meant for the HP-12C+:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv019.cgi?read=159032

$W_{-1}(-0.367) = -1.070791879$ (about 5 seconds on the HP-12C+ and 2 min 20 sec on the HP-41CX). Actual 10-digit result: -1.070791887.

A faster method for the second branch should be appreciated.

The steps 05 through 07 in the previous program made sense only for manual calculations. This shorter version is better:

```
 01 LBL 'WM
 02 CHS
 03 1/x
 04 STO 01
 05 LBL 00
 06 STO 02
 07 LN
 08 RCL 01
 09 *
 10 RCL 02
 11 x<>y
 12 -
 13 x=0?
 14 GTO 01
 15 LASTx
 16 GTO 00
 17 LBL 01
 18 LASTx
 19 RCL 01
 20 /
 21 CHS
 22 END
```

Edited: 1 Jan 2011, 12:00 p.m. after one or more responses were posted

Re: Help solving equation
*Message #15 Posted by **Geir Isene** on 1 Jan 2011, 12:00 p.m.,*
in response to message #14 by Gerson W. Barbosa

Check out the updated program listing

Re: Help solving equation
*Message #16 Posted by **Gerson W. Barbosa** on 1 Jan 2011, 12:28 p.m.,*
in response to message #15 by Geir Isene

You've been quick! My editing involved checking my result upon Egan's Ford LAMBERTW program for the HP-50g and other minor changes. No changes to the listing have been made. Now, sorry for the dumb question: how to enter STO M, N, on the HP-41? Thanks!

Re: Help solving equation
*Message #17 Posted by **Thomas Klemm** on 1 Jan 2011, 12:52 p.m.,*
in response to message #16 by Gerson W. Barbosa

> Quote:
>
> how to enter STO M, N, on the HP-41?

- Plug in the CCD module.
- cf. HP-41C Synthetic Programming
- Just use register 00 and 01 instead of M and N.

Cheers
Thomas

Re: Help solving equation
*Message #18 Posted by **Gerson W. Barbosa** on 1 Jan 2011, 2:42 p.m.,*
in response to message #17 by Thomas Klemm

> Quote:
>
> - Just use register 00 and 01 instead of M and N.

I'll stick to that :-)

Thanks,

Gerson.

Re: Help solving equation
*Message #19 Posted by **Geir Isene** on 1 Jan 2011, 2:55 p.m.,*
in response to message #18 by Gerson W. Barbosa

Just as well.

Using registers N and M (part of the Alpha register) saves using standard registers that are often used by other programs.

Re: Help solving equation
*Message #20 Posted by **Gerson W. Barbosa** on 3 Jan 2011, 8:25 p.m.,*
in response to message #14 by Gerson W. Barbosa

> Quote:
>
> $W_{-1}(-0.367) = -1.070791879$ (about 5 seconds on the HP-12C+ and 2 min 20 sec on the HP-41CX). Actual 10-digit result: -1.070791887.
>
> A faster method for the second branch should be appreciated.

A much faster program, using the Solver:

```
 01 LBL 'WW
 02 CHS
 03 STO 01
 04 1/X
 05 LN
 06 ENTER
 07 LN
 08 +
 09 ENTER
 10 ENTER
 11 .5
 12 +
 13 'LL
 14 SOLVE
 15 CHS
 16 END

 01 LBL 'LL
 02 e^x
 03 /
 04 RCL 01
 05 -
 06 RTN

-.367 XEQ WW    -->    -1.070791885    (12 seconds). Actual 10-digit result: -1.070791887.
```

Re: Help solving equation
*Message #21 Posted by **Ángel Martín** on 4 Jan 2011, 2:41 a.m.,*
in response to message #20 by Gerson W. Barbosa

WL0 and WL1 are available in the SandMath module. MCODE implementation, not using SOLVE (but internal iteration routine instead).

Re: Help solving equation
*Message #22 Posted by **Geir Isene** on 4 Jan 2011, 4:34 a.m.,*
in response to message #21 by Ángel Martín

Ah, thanks for that.

The Sandmath includes just about everything. Should have checked that listing of course.

Re: Help solving equation
*Message #23 Posted by **Gerson W. Barbosa** on 4 Jan 2011, 2:12 p.m.,*
in response to message #21 by Ángel Martín

Hola Ángel,

I'm sure the SandMath module tackles these and other special functions hands down. I'll try it in an emulator, if this is possible. I was never an HP-41 user, mine is used only occasionally.

Cheers,

Gerson.

Re: Help solving equation
*Message #24 Posted by **Ángel Martin** on 5 Jan 2011, 1:03 p.m.,*
in response to message #23 by Gerson W. Barbosa

Gerson you can use V41 from TOS - it works like a charm.

Cheers, AM

Re: Help solving equation
*Message #25 Posted by **Ángel Martin** on 29 Dec 2010, 2:40 p.m.,*
in response to message #4 by Geir Isene

There´s a WL0 (and WL1 as well) MCODE function in the sandmath, so I´d suggest you use it to program your own expression and then use the Advantage´s SOLVE upon it.

Have you considered taking exponentials on each side of the equation?

Cheers, ÁM

Edited: 29 Dec 2010, 2:42 p.m.

Math Challenge (was: Help solving equation)
*Message #26 Posted by **Geir Isene** on 29 Dec 2010, 2:44 p.m.,*
in response to message #1 by Geir Isene

To elaborate on the task at hand;

I am looking to see if a business area would benefit from a formalized process.

A task has the total cost (C) after N repetitions of c*N (where "c" is the cost of doing the task once). If N = n*y (where "n" is the number of times a task is done per year, and "y" is the number of years), we get the total cost of a task done over a certain number of years (or fraction(s) of years):

C = nyc (pun not intended) [#1]

If introducing a standardized process for the task gives an efficiency ratio of "E" (a number hopefully between 0 and 1), after the process is introduced we get:

C = nycE [#2]

But establishing a process has an initial cost of "I". To recuperate the cost, we get:

nyc - nycE > IR^y [#3]

where "R" is the needed return on investment: R = (1 + r/100) where "r" is the percentage needed as annual return on the investment. In some instances the initial cost is recuperated after a certain time, in other cases, the initial cost is never recuperated and a formalized process is not warranted.

If the task is repeated often and the cost of introducing a process is not too costly, it would be a sound business decision to formalize a process for the task - as is the case with an assembly belt production line. Other more unpredictable and emergent tasks are very seldom repeated and the initial cost is never recuperated.

The challenge is to solve equation #3 for y. Actually it would be good to create a program that would solve for any variable given the other variables in the equation (as in the Ohms Law program discussion recently).

I could settle for approximations instead of wild and complex equations as the real world cases are approximations in any case.

Take this as a math challenge :)

Any suggestions?

Re: Math Challenge (was: Help solving equation)
*Message #27 Posted by **PeterP** on 29 Dec 2010, 2:50 p.m.,*
in response to message #26 by Geir Isene

why dont you just use solve to find the value 'y' for which the left side equals the right side? You can use any number of available 'solve' programs, but probably the MCODE one in AdvantageMod should be just fine. You can even get fancy and use the FOCAL to MCODE program from a module (forgot its name right now) if speed is an issue. That way no fancy math is needed and that's what I probably would do as the required accuracy is probably pretty low and hence convergence would be very fast.

Cheers

Peter

Re: Math Challenge (was: Help solving equation)
*Message #28 Posted by **Geir Isene** on 29 Dec 2010, 2:54 p.m.,*
in response to message #27 by PeterP

I would like a direct approach with a symbolic solving of the equation and not to rely on a brute force SOLVE approach.

Edited: 29 Dec 2010, 2:54 p.m.

Re: Math Challenge (was: Help solving equation)
*Message #29 Posted by **PeterP** on 29 Dec 2010, 2:56 p.m.,*
in response to message #28 by Geir Isene

then wolfram has given you already the symbolic solution of your equation and you can go ahead and program it via one of the numerical procedures mentioned to evaluate W for a particular x. My guess is that this will require a longer and slower Focal program (but I can see the greater appeal in programing the symbolic solution 100%)

Cheers

Peter

Re: Math Challenge (was: Help solving equation)
*Message #30 Posted by **Geir Isene** on 29 Dec 2010, 3:06 p.m.,*
in response to message #29 by PeterP

Right, but I can't get my wits around how to treat the W function in a program - and so I am looking for approximations and creative genius to simplify the (to me) daunting Wolfram answer.

Re: Math Challenge (was: Help solving equation)
*Message #31 Posted by **Thomas Klemm** on 29 Dec 2010, 3:51 p.m.,*
in response to message #30 by Geir Isene

Try to transform the equation so that you can apply the Lambert W function:

$$\frac{a^x}{x} = b$$

$$a^{-x} \cdot x = \frac{1}{b}$$

$$e^{-x \log a} \cdot x = \frac{1}{b}$$

$$e^{-x \log a} \cdot (-x \log a) = \frac{-\log a}{b}$$

Substitution: $u = -x \log a$

$$e^u \cdot u = \frac{-\log a}{b}$$

$$u = W(\frac{-\log a}{b})$$

$$x = \frac{W(\frac{-\log a}{b})}{-\log a}$$

No Wolfram Alpha required. QED.

Best regards
Thomas

Re: Help solving equation
*Message #32 Posted by **Chuck** on 29 Dec 2010, 6:20 p.m.,*
in response to message #1 by Geir Isene

The Lambert-W function can't be written in terms of elementary functions, but may be approximated with a recipe of elementary functions depending on the domain for x you have in mind and the maximum allowable error. Any idea what the domain and error desired is?

CHUCK

Re: Help solving equation
*Message #33 Posted by **Geir Isene** on 29 Dec 2010, 7:14 p.m.,*
in response to message #32 by Chuck

Well, in the equation #3 above, clarified is:

(nc(1-E))/I > (R^y)/y [4]

then from my original equation;

"a" is R

"b" is (nc(1-E))/I

A value for y here would have to lie in the area 0-7 for a sound business decision to be made.

Re: Help solving equation
*Message #34 Posted by **Thomas Klemm** on 30 Dec 2010, 3:47 a.m.,*
in response to message #33 by Geir Isene

I assume *r > 0*, thus *a > 1*.

The function

$$\frac{a^x}{x}$$

has a minimum at:

$$(\frac{1}{\log a}, e \cdot \log a)$$

I suggest you have a look at the graph.

To get real, positive solutions for

$$\frac{a^x}{x} = b$$

b has to be bigger than that:

$$b \geq e \cdot \log a$$

$$nc(1-E) \geq Ie \cdot \log a \approx Ie \cdot \frac{r}{100}$$

In this case you will always get two solutions. The bad thing is, that you will lose in the long term: the exponential function outperforms any polynomial.

So you might want to rethink your model. Why is it that you don't get any interest for what you gain thanks to the more efficient standardized process? At least you could use that to pay back the initial cost.

Cheers
Thomas

Edited: 30 Dec 2010, 10:01 a.m.

Re: Help solving equation
*Message #35 Posted by **Geir Isene** on 30 Dec 2010, 11:54 a.m.,*
in response to message #34 by Thomas Klemm

> Quote:
>
> Why is it that you don't get any interest for what you gain thanks to the more efficient standardized process? At least you could use that to pay back the initial cost.

Now that is a good point. One should of course accumulate interest on the gain per year after the implemented process...

Firstly:

The cost gain per year equals nc - ncE, and that should gain interest:

(n*c - n*c*E)*R

times number of years:

(n*c - n*c*E)*R*y > I*R^y

And then:

n*c*(1-E)*R/I > (R^y)/y

I substitute E = (1-f/100) to make the input in a program more intuitive as "f" would be the percentage of efficiency given by the process. I also substitute R = (1 + r/100) where "r" is the percentage needed as annual return on the investment for a more intuitive use. And to keep with only lower case and to make the initial cost easier to read, I substitute the letter "I" with "i". We get:

ncf(1+r/100)/100i > (1+r/100)^y/y [or: ncf(1+r/100)/100i > (1+r/100)^y/(1+r/100)y]

Seems correct?

Then it is a matter of applying the Lambert W function to this and we get the result...

Re: Help solving equation
*Message #36 Posted by **Geir Isene** on 30 Dec 2010, 2:53 p.m.,*
in response to message #35 by Geir Isene

Oops, not correct.

The compounded interest for the cost saving of the implemented process would actually be:

We need to divide every element by two as one would only get half the gain of each year as the process gets repeated throughout the year.

Now, to solve the resulting equation for the value "y" gets to be hell IMO - and beyond my current skills set. Can we simplify/approximate/make a shortcut somewhere?

Any takers?

Re: Help solving equation
*Message #37 Posted by **PeterP** on 30 Dec 2010, 4:27 p.m.,*
in response to message #36 by Geir Isene

at the risk of sounding like a broken record - what is so bad about using solve for such real life problems problems? Its fast, short and lets you change and adapt the code to fit the actual problem of your client quickly and easily. Given that you are interested in a real-life answer I simply don't see the benefit in writing an analytical solution that will for sure require some special function for which you need to write a numerical approximation etc etc but that's just me...

Cheers

Peter

Re: Help solving equation
*Message #38 Posted by **Geir Isene** on 30 Dec 2010, 4:35 p.m.,*
in response to message #37 by PeterP

I am starting to lean toward your solution... :-/

I would like to write a self-contained program, though.

Re: Help solving equation
*Message #39 Posted by **Marcus von Cube, Germany** on 31 Dec 2010, 3:21 a.m.,*
in response to message #38 by Geir Isene

Looking at the graph, the function seems to be well behaved so writing the solver (e. g. Newton) yourself should not be the problem. You can even use the analytical derivative instead of an approximation in the algorithm because the function to be solved is known in advance.

Processability (Was: Help solving equation)
*Message #40 Posted by **Geir Isene** on 31 Dec 2010, 8:53 a.m.,*
in response to message #1 by Geir Isene

After excellent input here and some pondering and tweaking, I have come to this formula for the processability of a business area (whether an area warrants the formalization of a process):

- p = initial cost of implementing a process
- i = interest rate (return) needed for a sound business decision (as a percentage)
- t = number of time periods (the time period corresponds to "i"; usually yearly)
- n = number of times a task is done per time period (i.e. the number of times a process would get run per time period)
- c = cost of doin the task without a formalized process in place
- f = efficiency benefit from executing the task as a formalized process (as a percentage indicating how much one would benefit from the formalized process)

As long as one can estimate the initial cost (p) and the process efficiency (f), set the time period - usually yearly, the maximum payback time (t), set the required return (i) and estimate the number of times the process would be repeated per time period [per year] (n), the job of calculating whether the area would yield a profit

from introducing a process is pretty straight forward. But if one would attempt to solve for e.g. "t", this gets tough.

How would I go about using SOLVE to solve this equation for "t"?

BTW: A short explanation of the elements in the equation: The first part is the initial cost with the compounded interest for the period evaluated. The second part is the economic gain from an implemented process - the gain comes from each repetition of the process and that gain gets compounded interest as well. The total cost of the implementation minus the total gain for the process should be negative to indicate a profit durin the time period one evaluates for.

Edited: 31 Dec 2010, 11:55 a.m. after one or more responses were posted

Re: Processability (Was: Help solving equation)
*Message #41 Posted by **Walter B** on 31 Dec 2010, 9:41 a.m.,*
in response to message #40 by Geir Isene

First, I'd throw away the unnecessary stuff:

$$p\,(1+i)^t - \sum_{j=1}^{nt-1} cf\,\left(1+\frac{i}{n}\right)^j < 0$$

by expressing i and f in real numbers. Then I'd turn back to your question:

> Quote:
>
> How would I go about using SOLVE to solve this equation for "t"?

Well, I have to admit I don't know how *you* would go about that ... d;->

Re: Processability (Was: Help solving equation)
*Message #42 Posted by **Geir Isene** on 31 Dec 2010, 11:44 a.m.,*
in response to message #41 by Walter B

:)

Well, those elements are unnecessary. But... It's a matter of using the numbers most familiar to a business person ("i" and "f" being percentages and all).

Re: Processability (Was: Help solving equation)
*Message #43 Posted by **Marcus von Cube, Germany** on 31 Dec 2010, 12:41 p.m.,*
in response to message #40 by Geir Isene

If you'd expect to be t a non integer, I must admit I don't have a solution but with t being a (hopefully small) positive integer you can just compute the part left of the "-" by repetitive multiplication and the sum by repetitive addition until the condition is met. You'll do n additions per multiplication.

If you want the result to be exact to the level of single instances of the process, just stop the summation as soon as the condition is met even if j is below n*t. j is then the total number of process executions for the break even.

Re: Processability (Was: Help solving equation)
*Message #44 Posted by **Thomas Klemm** on 2 Jan 2011, 12:23 p.m.,*
in response to message #40 by Geir Isene

Though I'm not familiar with your business process I guess the interest of the economic gain is payed at the end of the time period and not when the task is done. So in fact you have a variant of an ordinary "time value of money" (TVM) problem with the following payment at the end of the period (year):

$$PMT = \sum_{j=0}^{n-1} cf(1+j\frac{i}{n}) = cf(n+\frac{n(n-1)}{2}\frac{i}{n}) = cf(n+\frac{n-1}{2}i)$$

The interest rate *i* in this formula is already divided by 100 as suggested by Walter.

The present value *PV* corresponds to your initial cost of implementing a process while the future value *FV = 0* (break-even). Most solvers (e.g. HP-12C, HP-48GX, ...) use *n* for the number of time periods. So take care because you use this variable for the number of tasks (and that's also the meaning in my formula above). It might be better to use another variable instead.

It appears that the Advantage module contains a TVM-solver adapted from Finance Pac. So you can use either of these.

Best regards
Thomas

Edited: 2 Jan 2011, 12:40 p.m.

Re: Processability (Was: Help solving equation)
*Message #45 Posted by **Geir Isene** on 3 Jan 2011, 1:02 p.m.,*
in response to message #40 by Geir Isene

Thanks for the input, guys - it's highly appreciated. I have now concluded with the following formula:

- p = initial cost of implementing a process
- i = interest rate (return) needed for a sound business decision (as a percentage)
- n = number of time periods (the time period corresponds to "i"; usually yearly)
- r = number of repetitions of the task per time period (i.e. the number of times a process would get run per time period)
- m = maintenance cost of having the process in place per time period (knowledge management cost, training cost)
- c = cost of doing the task without a formalized process in place
- f = efficiency benefit from executing the task as a formalized process (as a percentage indicating how much one would benefit from the formalized process)

With this, we now have a complete formula to identify whether it is an economically sound decision to formalize a process in a business area.

Re: Processability (Was: Help solving equation)
*Message #46 Posted by **Walter B** on 3 Jan 2011, 1:13 p.m.,*
in response to message #45 by Geir Isene

Watch out, this formula won't work with values entered as percenteages. Use real values instead.

Re: Processability (Was: Help solving equation)
*Message #47 Posted by **Geir Isene** on 3 Jan 2011, 1:26 p.m.,*
in response to message #46 by Walter B

I know. I took your advice :)

Re: Processability (Was: Help solving equation)
*Message #48 Posted by **Thomas Klemm** on 3 Jan 2011, 2:44 p.m.,*
in response to message #45 by Geir Isene

Still I think the 3rd term in your equation is wrong.

Taking the additional maintenance cost into account I get:

$$PMT = cf(r + \frac{r-1}{2}i) - m$$

From your formula I assumed *m* is paid at the end of the time period.

Then I used this formula for TVM calculations:

$$\frac{PMT}{i}\left(1 - (1+i)^{-n}\right) + FV(1+i)^{-n} + PV = 0$$

This may be simplified since *FV = 0*:

$$\frac{PMT}{i}(1 - (1+i)^{-n}) + PV = 0$$

In your case *PV* and *PMT* have different signs:

$$PV = -p$$

That's what I end up with:

$$p = \frac{cf(r + \frac{r-1}{2}i) - m}{i}(1 - (1+i)^{-n})$$

Now all you have to do is solve this equation for *n*. You're lucky! This can be done symbolically.

Best regards
Thomas

Edited: 3 Jan 2011, 2:53 p.m.

Re: Processability (Was: Help solving equation)
*Message #49 Posted by **Geir Isene** on 3 Jan 2011, 3:51 p.m.,*
in response to message #48 by Thomas Klemm

The reason I think the third term is correct is that for every time the process is run, one gets the profit "cf", but from then on and out until r*n, one will accrue interest on that one profit. The first profit will result in a total profit of cf(1+i/r)^(nr-1), the next process run will result in a profit with accrued interest of one less, i.e. cf(1+i/r)^(nr-2), all the way until the last process run which will accrue only cf as profit (which means that my third term is actually a tad wrong as it should be summed from j=0 [not j=1] until (nr-1). All those profits with accrued interests are summed up for a total of the process gain over the time periods n.

I have updated the formula above to correct the error found.

Re: Processability (Was: Help solving equation)
*Message #50 Posted by **Thomas Klemm** on 3 Jan 2011, 5:49 p.m.,*
in response to message #49 by Geir Isene

It all depends on when the interest is paid: if it's at the end of the process I agree with you. But that's not how the banks I know handle it: the interest is usually paid at the end of the year. The interest is proportional to the time and of course the interest rate. The annual temporal ratio of the first process is *(r-1)/r* while the last process (still of the first year) doesn't get any interest. Assuming the process is run monthly then *r = 12* and the first process gets interest for 11 months and the last process gets none. If you sum all this up you get the annual payment *PMT*. Only from now on you get compound interest every year. It's up to you to decide whether to subtract the maintenance *m* once at the end of the year (as I did) or monthly. In the latter case the formula will slightly change.

You might also ignore this consideration altogether and use *PMT = cfr - m* instead if you're just interested in a rough approximation of *n*. As long as *i << 1* and *n* is not too big it should still be quiet accuarate.

I hope I could clarify my objection.

Kind regards
Thomas

Bonus question:
What happens with your 3rd expression when *r* gets bigger and bigger but still the annual cost *cr* is constant?

Re: Processability (Was: Help solving equation)
*Message #51 Posted by **Geir Isene** on 4 Jan 2011, 1:30 a.m.,*
in response to message #50 by Thomas Klemm

Yes, you did clarify your objection.

However, from a business viewpoint, you get compounded interest for every process gain as the alternative is not to put the money in the bank (as very few businesses do for investment). The alternative is to invest the money otherwise in the business that would get (also) immediate return/profit.

Do you agree that the formula is correct given that interest is calculated from every process repetition?

Edited: 4 Jan 2011, 2:10 a.m.

Re: Processability (Was: Help solving equation)
*Message #52 Posted by **Thomas Klemm** on 4 Jan 2011, 4:08 a.m.,*
in response to message #50 by Thomas Klemm

> Quote:
>
> You might also ignore this consideration altogether and use *PMT = cfr - m* instead if you're just interested in a rough approximation of *n*.

$$n = -\frac{\log(1 + \frac{ip}{m - cfr})}{\log(1 + i)}$$

Of course you want to use **LN1+X** to calculate that with your HP-41. This should also be a good initial value for a solver of your equation.

Cheers
Thomas

Edited: 4 Jan 2011, 4:25 a.m.

Re: Processability (Was: Help solving equation)
*Message #53 Posted by **Geir Isene** on 4 Jan 2011, 3:57 a.m.,*
in response to message #48 by Thomas Klemm

Rethinking this, I believe you are right - it would be the usual business optimism that interests are accrued after each gain (that would be the maximum of the gain, but not a realistic one). So, unless you have something to add to your formula above, I think we can conclude that your equation is the final answer for this chapter.

The next chapter would be to add Risk Management to the equation; We simply RCS to cf to obtain the gain from each process run, where R is the risk of the task going wrong (real number), C is the cost when/if it goes wrong and S is the security offered by the process (a real number between 0 and 1, where 0.1 indicates a 10% security added by the process). Thus, given that a task has 0.001 chance of failure and the corresponding average cost of such failure is 10000, the added risk cost per task is then 10. If a process would help the security of the process by 10%, the added value of doing the task via a formalized process is then 0.001*10000*0.1 = 1.

I use capital letters for RCS as it indicates a more "virtual" gain through Risk Management.

Viewpoints?

Edited: 4 Jan 2011, 7:31 a.m. after one or more responses were posted

Re: Processability (Was: Help solving equation)
*Message #54 Posted by **Geir Isene** on 4 Jan 2011, 4:29 a.m.,*
in response to message #53 by Geir Isene

And would you agree that the break-even of the equation would be:

Re: Processability (Was: Help solving equation)
*Message #55 Posted by **Geir Isene** on 4 Jan 2011, 12:31 p.m.,*
in response to message #54 by Geir Isene

This equation is easy to solve for all variables, except "i". I'm up against a brick wall on that one.

Re: Processability (Was: Help solving equation)
*Message #56 Posted by **Thomas Klemm** on 4 Jan 2011, 1:51 p.m.,*
in response to message #55 by Geir Isene

cf. Calculating i

Not the solution but shows the way to go.

Re: Processability (Was: Help solving equation)
*Message #57 Posted by **Thomas Klemm** on 4 Jan 2011, 7:49 a.m.,*
in response to message #53 by Geir Isene

What's the meaning of $^2 (or NOK^2) when you multiply cost c with cost C?

Re: Processability (Was: Help solving equation)
*Message #58 Posted by **Geir Isene** on 4 Jan 2011, 7:59 a.m.,*
in response to message #57 by Thomas Klemm

Sorry, changed it to addition, not multiplication - there is an economic gain from efficiency of the process and there is a "virtual" economic gain from the process minimizing failure of the task. Added, not multiplied. Thus, one could justify implementing a process purely from a security perspective or an efficiency perspective or both.

Re: Processability (Was: Help solving equation)
*Message #59 Posted by **Thomas Klemm** on 4 Jan 2011, 2:23 a.m.,*
in response to message #45 by Geir Isene

Still you can use:

$$\sum_{k=0}^{n-1} m(1+i)^k = m\frac{(1+i)^n - 1}{i}$$

$$\sum_{j=0}^{nr-1} cf(1+\frac{i}{r})^j = cfr\frac{(1+\frac{i}{r})^{nr} - 1}{i}$$

Re: Processability (Was: Help solving equation)
*Message #60 Posted by **Geir Isene** on 4 Jan 2011, 3:18 a.m.,*
in response to message #59 by Thomas Klemm

True. And nice.

But how do you account for p(1+i)^n?

I mean, one would get compounded interest over n periods for the initial investment if one would rather invest that cost into something else.

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Thanks to our numerous supporters ...

*Message #1 Posted by **Walter B** on 28 Dec 2010, 7:44 a.m.*

... Pauli and me are proudly looking forward finding this under many Christmas trees in 2011:

Ok, just kidding ;-)
Seriously, we're afraid status is unchanged as reported at HHC 2010 :-(
So anybody willing and capable to help in the transfer and implementation of the software will be highly appreciated :-)

Re: Thanks to our numerous supporters ...

*Message #2 Posted by **Gerson W. Barbosa** on 28 Dec 2010, 10:41 a.m.,*
in response to message #1 by Walter B

> Quote:
>
> Pauli and me are proudly looking forward finding this under many Christmas trees in 2011

So, there is hope for next year. Thank you both!

After watching this video, I expected to find one under mine last Saturday, but it was not there. I thought the culprit was the nasty Frenchie in this other youtube video :-)

Gerson.

Re: Thanks to our numerous supporters ...

*Message #3 Posted by **Dwight Sturrock** on 28 Dec 2010, 11:58 p.m.,*
in response to message #2 by Gerson W. Barbosa

This reminds me of my HP34C...

Re: Thanks to our numerous supporters ...

*Message #4 Posted by **Paul Dale** on 28 Dec 2010, 11:59 p.m.,*
in response to message #3 by Dwight Sturrock

There is a good reason for that....

- Pauli

Re: Thanks to our numerous supporters ...

*Message #5 Posted by **Walter B** on 29 Dec 2010, 7:00 a.m.,*
in response to message #2 by Gerson W. Barbosa

> Quote:
>
> After watching this video, I expected to find one under mine last Saturday, but it was not there.

Our resources are very limited. Nevertheless, user interface and software are ready to be tested on the original HP 30b hardware. That's the status as Jake presented it in the video and that's it - nothing more than kind words came from HHC conference participants and community members so far ...

Hey folks, SW is ready, who will compile it and put it in the real thing?
Earn the credit for making a professional scientific RPN calculator possible!

Edited: 29 Dec 2010, 7:02 a.m.

Re: Thanks to our numerous supporters ...

*Message #6 Posted by **Thomas Chrapkiewicz** on 29 Dec 2010, 9:31 a.m.,*
in response to message #5 by Walter B

Walt:

I've got the hardware, cables, etc. ready; will just need some guidance with compiler required. Drop me an email and let's talk!!!

Regards, TomC

Re: Thanks to our numerous supporters ...

*Message #7 Posted by **Walter B** on 29 Dec 2010, 4:01 p.m.,*
in response to message #6 by Thomas Chrapkiewicz

Tom,

you've got an email from Pauli. If you've got any questions, don't hesitate to ask us.

Re: Thanks to our numerous supporters ...

*Message #8 Posted by **Jake Schwartz** on 31 Dec 2010, 3:29 p.m.,*
in response to message #7 by Walter B

Oh boy, would it be great if this thing could finally make it to the hardware!

Jake

Re: Thanks to our numerous supporters ...

*Message #9 Posted by **Gerson W. Barbosa** on 29 Dec 2010, 10:04 a.m.,*
in response to message #5 by Walter B

Way to go, Walter & Paul!

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Conformal Coating

*Message #1 Posted by **aj04062** on 27 Dec 2010, 9:00 p.m.*

Has anyone applied this to Classics or other versions of HP Calcs?

Would it be dangerous to apply this OVER any corrosion?

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Merry Christmas

*Message #1 Posted by **Iqbal** on 25 Dec 2010, 6:28 p.m.*

Merry Christmas and a happy New Year to everyone. Thanks to Dave for hosting this website, and everyone for all their input throughout the year. From Trinidad and Tobago

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HP-41 Ohms Law Program

*Message #1 Posted by **Jeff Davis** on 24 Dec 2010, 7:38 p.m.*

I have been writing a program to calculate the Ohm's Law Circle. Below is the program. There are three calculations possible for each category based on which two inputs are non zero when the program runs. I am very interested in any feedback as well as program improvements to make the program run smoother and faster.

Please let me know your thoughts.

Thanks, Jeff

```
01*LBL "OL"
02 FIX 4
03 "P,E,R,I,QUIT"
04 AVIEW
05 GETKEY
06 CLD
07 GTO IND X
08*LBL 24 "AMPS"
09 XEQ 05
10 XEQ 04
11 XEQ 03
12 X=0?
13 GTO 01
14 X<>Y
15 X=0?
16 GTO 02
17 /
18 GTO "I1"
19*LBL 01
20 RDN
21 /
22 SQRT
23 GTO "I1"
24*LBL 02
25 RDN
26 /
27*LBL "I1"
28 "AMPS ="
29 XEQ "VW"
30 RTN
31*LBL 52 "Ohms"
32 XEQ 05
33 XEQ 03
34 XEQ 06
35 X=0?
36 GTO 01
37 X<>Y
38 X=0?
39 GTO 02
40 X<>Y
41 /
42 GTO "R1"
43*LBL 01
44 X<>Y
45 X^2
46 X<>Y
47 X<> Z
48 /
49 GTO "R1"
50*LBL 01
51 RDN
52 X^2
53 /
54*LBL "R1"
55 "OHMS ="
56 XEQ "VW"
57 RTN
58*LBL 15 "Volts"
59 XEQ 05
60 XEQ 04
61 XEQ 06
62 X=0?
63 GTO 01
64 X<>Y
65 X=0?
66 GTO 02
```

```
 67 *
 68 GTO "E1"
 69*LBL 01
 70 RDN
 71 *
 72 SQRT
 73 GTO "E1"
 74*LBL 02
 75 RDN
 76 /
 77*LBL "E1"
 78 "VOLTS ="
 79 XEQ "VW"
 80 RTN
 81*LBL 43 "Watts"
 82 XEQ 03
 83 XEQ 04
 84 XEQ 06
 85 X=0?
 86 GTO 01
 87 X<>Y
 88 X=0?
 89 GTO 02
 90 X<>Y
 91 X^2
 92 *
 93 GTO "P1"
 94*LBL 01
 95 X<>Y
 96 X<> Z
 97 X^2
 98 X<>Y
 99 X<> Z
100 /
101 GTO "P1"
102*LBL 02
103 RDN
104 *
105*LBL "P1"
106 "WATTS ="
107 XEQ "VW"
108 RTN
109*LBL 03
110 "VOLTS ?"
111 PROMPT
112 RTN
113*LBL 04
114 "OHMS ?"
115 PROMPT
116 RTN
117*LBL 05
118 "WATTS ?"
119 PROMPT
120 RTN
121*LBL 06
122 "AMPS ?"
123 PROMPT
124 RTN
125*LBL 51
126 CLX
127 FIX 5
128 END
```

Re: HP-41 Ohms Law Program

*Message #2 Posted by **designnut** on 25 Dec 2010, 12:02 a.m.,*
in response to message #1 by Jeff Davis

I wrote a simple program to enter the x value into the stack to fill the t repeating register, it can be used to clear the stack if X is zero, or to enter E into the t repeating register. Keying a resistor and dividing gives I, multiplying then gives EI=W. keying I and dividing gives R. This seemed sufficient for me. Sam

Re: HP-41 Ohms Law Program

*Message #3 Posted by **Namir** on 25 Dec 2010, 4:12 a.m.,*
in response to message #1 by Jeff Davis

I suggest that you design your program using the following labels for the input of values and the calculations of results:

```
label A --> Input P
label B --> Input E
label C --> Input I
label D --> Input R
label E --> Quit
label a --> Calculate P
label b --> Calculate E
```

```
label c --> Calculate I
label d --> Calculate R
label "OL" --> display "P E I R Q" menu above the keys A, B, C, D, and E
```

The program displays the "P E I R Q" menu before each set of calculations. You then proceed to enter any three values and calculate the fourth one. After you view the result, you press the R/S key and have the program jump back to the label "OL" to display the "P E I R Q". Pressing E tells the program to display a termination message like "DONE" or "BYE".

Namir

Edited: 25 Dec 2010, 4:13 a.m.

Re: HP-41 Ohms Law Program

*Message #4 Posted by **Walter B** on 25 Dec 2010, 4:59 a.m.,*
in response to message #3 by Namir

If you want a widespread use and understanding please remember the common letter for voltage is U.

Re: HP-41 Ohms Law Program

*Message #5 Posted by **Garth Wilson** on 27 Dec 2010, 2:19 a.m.,*
in response to message #4 by Walter B

As someone who has been in electronics engineering in the U.S. for the last 25 years, I have never heard of using "U" for "voltage." Karl's link below seems to explain why: it's mostly only in use in Europe. I would not say it's in "widespread use" here.

Edited: 27 Dec 2010, 3:19 a.m.

Re: HP-41 Ohms Law Program

*Message #6 Posted by **Karl Schneider** on 27 Dec 2010, 2:28 a.m.,*
in response to message #4 by Walter B

Here's the post containing the link that Garth referred to:

> Quote:
>
> If you want a widespread use and understanding please remember the common letter for voltage is U.

I've wondered about this, having seen "U" utilized to denote 'voltage' (potential difference) in German and Scandinavian documents. "V" and "E" (electromotive force) are favored in North America, but I have not thought this to be ideal.

- "V" leads to circularities:

  What does it signify? 'Voltage'.
  How is that measured? Volts.
  How is the unit "volt" abbreviated? V.

- "E" can also denote the electric field (normally as a vector), or energy.

However, it also seems that use of "V" for denoting potential difference is not unique to North America. I found a short discussion from five years ago to be reasonable:

http://boards.straightdope.com/sdmb/archive/index.php/t-338522.html

I tried to verify it expediently by reviewing Wikipedia pages in a number of languages that concerned 'potential difference'. However, not having ready access to textbooks from around the world, I couldn't say if the explanation given in the discussion is entirely correct. Perhaps knowledgeable Forum'ers in Britain, Australia, Spain, Italy, France, Netherlands, and Brazil might like to chime in...

-- Karl

Edited: 27 Dec 2010, 3:05 a.m.

Re: HP-41 Ohms Law Program

*Message #7 Posted by **Gerson W. Barbosa** on 27 Dec 2010, 9:56 a.m.,*
in response to message #6 by Karl Schneider

> Quote:
>
> - "V" leads to circularities:
>
>   What does it signify? 'Voltage'.
>   How is that measured? Volts.
>   How is the unit "volt" abbreviated? V.

One of my textbooks (HAYT Jr, William H. & KEMMERLY, Jack E. *Análise de Circuitos em Engenharia*) uses *v* for voltage (and *i* for current). Thus, Ohm's Law is stated as

v = Ri

Also, this notation avoids ambiguity in expressions like *v* = 6 *V*. All my other engineering textbooks use uppercase *V* indistinctly for both voltage and the SI unit, however. Here, some high-school Physics textbooks use *U* for voltage.

Gerson (Brazil).

Re: HP-41 Ohms Law Program

*Message #8 Posted by **Bart (UK)** on 27 Dec 2010, 12:06 p.m.,*
in response to message #7 by Gerson W. Barbosa

Certainly my experience in both South Africa and the UK is V for voltage.

Lowercase *v* & *i* are usually used for instantaneous values (e.g. in AC analysis).

Re: HP-41 Ohms Law Program

*Message #9 Posted by **Walter B** on 27 Dec 2010, 1:37 p.m.,*
in response to message #8 by Bart (UK)

Just checked some Wikipedia articles in different languages:

> Quote:
>
> Le symbole normalisé d'une tension électrique est U.
> Das Formelzeichen der Spannung ist U – abgeleitet vom lat. urgere (drängen, treiben, drücken).
> Symbol veličiny: U
> U = Diferença de potencial ou tensão (Volts).
> Sähköinen jännite (tunnus U, lat. urgere, etenkin amerikkalaisessa tekstissä usein V), eli sähköinen potentiaaliero, kahden pisteen välillä määritellään varatun hiukkasen näiden pisteiden välillä valitsevan potentiaalienergiaeron ja hiukkasen varauksen suhteena.

The latter claims US-Americans use another letter than the international community - as usual ;)

Re: HP-41 Ohms Law Program

*Message #10 Posted by **Les Bell** on 27 Dec 2010, 7:49 p.m.,*
in response to message #9 by Walter B

> Quote:
>
> Just checked some Wikipedia articles in different languages:
>
> The latter claims US-Americans use another letter than the international community - as usual ;)

As former editor of various international editions of an electronics magazine (in the UK, Canada and Australia) I've **never** seen U as a symbol for voltage. It's always been V or equally commonly E (for *electromotive force*, I believe).

One might more properly claim that some parts of Europe use a different letter from the international community - as usual ;)

Best,

--- Les
[http://www.lesbell.com.au]

Re: HP-41 Ohms Law Program

*Message #11 Posted by **Karl Schneider** on 28 Dec 2010, 12:51 a.m.,*
in response to message #9 by Walter B

From the "off-Forum" discussion of 2005 I linked, along with my limited personal experience, I took it as a given that potential difference or 'voltage' was denoted by "U" in the Germanic, Scandinavian, and eastern European countries. It also now seems clear that "V" remains the favored term in British-influenced countries (UK, USA, Canada, Australia, South Africa). But what about the prominent western and Mediterranean countries of Europe (France, Spain, Italy, and Portugal)?

A closer examination of pertinent Wikipedia pages in Romance languages suggests that "U" denotes electric potential *difference*, while "V" denotes electric potential, even though both have the same unit (volt).

At least three of the pages criticized the term 'voltage' in favor of 'tension' -- for the good reason of eliminating circularity of terminology, but 'tension' itself can also mean the physical, weight-bearing load that stresses an overhead electrical line.

Portugese:

> Quote:
>
> ...voltagem *está tecnicamente incorrecto, ... A maioria dos engenheiros eletricistas repudiam o uso do termo* voltagem...

My interpretation: "...'voltage' is technically incorrect .. A majority of electrical engineers repudiate the use of the term 'voltage'..."

French:

> Quote:
>
> *Elle est souvent nommée* voltage *par le grand public, mais ce terme n'est pas utilisé professionnellement car il s'agit d'un anglicisme.*

My interpretation: "It is often popularly called 'voltage', but the term is not used professionally (as an) anglicism."

Italian:

> Quote:
>
> *Sempre nell'ambito elettrico, tale differenza di potenziale è anche chiamata comunemente* tensione *o, più raramente (ed impropriamente),* voltaggio.

(Help?) "... potential difference...'tension', (or the rarer) and improper 'voltage'."

-- Karl

Edited: 30 Dec 2010, 1:08 a.m. after one or more responses were posted

Re: HP-41 Ohm's Law Program

*Message #12 Posted by **Walter B** on 28 Dec 2010, 2:20 a.m.,*
in response to message #11 by Karl Schneider

> Quote:
>
> > Quote:
> >
> > *Sempre nell'ambito elettrico, tale differenza di potenziale è anche chiamata comunemente* tensione *o, più raramente (ed impropriamente),* voltaggio.
>
> (Help?) "... potential difference...'tension', (or the rarer) and improper 'voltage'."

Interpretation Aid: "Always in the electrical area, this difference of potential is also commonly called 'tension' or, more rarely (and improperly), 'voltage'."
Watch out: This is not a "potential difference" = ambiguity of the English language. Please note there's an obvious difference between adjectives and adverbs, too :-/

Addendum 1:

> Quote:
>
> But what about the prominent western and Mediterranean countries of Europe (France, Spain, Italy, and Portugal)?

I hate to repeat, but as stated in my post you responded to, at least French and Portuguese use U. French even inform you (just for the case case you didn't know before) this U is the "standardized symbol" for electrical tension - please check the site of IEC - regards to Les ;)

Addendum 2:

> Quote:
>
> As former editor of various international editions of an electronics magazine (in the UK, Canada and Australia) ...

Please don't confuse "international" with "English speaking country" or "former British colony".

Edited: 28 Dec 2010, 6:08 a.m.

Re: HP-41 Ohm's Law Program

*Message #13 Posted by **Les Bell** on 28 Dec 2010, 7:07 p.m.,*
in response to message #12 by Walter B

As a member of the IEEE, I have to defer to my ancient copy of the "Electronic Engineer's Handbook", Donald G. Fink (ed), McGraw-Hill, 1975. Para 1.27 states:

> Quote:
>
> **Electrostatic Potential and Potential Difference.**
> [...] While it is not possible to specify uniquely the *absolute potential* of any point in an electric field, the *difference in potential* between two points in the field can be determined when the manner in which the electric field strength varies between the points is known.
>
> [...]
>
> The potential difference between two points *a* and *b* in an electric field of strength *E* is, then

> V_{ab} = . . .

I've omitted the rest of the equation - I wish the web and email spoke LaTeX, but it doesn't. ;) And for the rest of this 2.8"-thick (oops: 71mm-thick) book, so it goes - consistently using V to represent voltages (which we all know are potential differences). The word "tension" doesn't appear in the index, and disappeared from electrical English usage around the same time as vacuum tubes.

Now, to business:

> Quote:
>
> French even inform you (just for the case case you didn't know before) this U is the "standardized symbol" for electrical tension - please check the site of IEC - regards to Les ;)

Ah, yes - but if you look one line higher(http://www.iec.ch/zone/si/si_elecmag.htm#si_epo), you'll see:

Electric potential, V

Since you can't measure an absolute potential, there is no unit for it, and the SI unit, the volt, must represent a potential difference. So V and U are the same thing by different names, and the IEC should stick to what it's good at: setting standards for power supply connectors. ;)

> Quote:
>
> Please don't confuse "international" with "English speaking country" or "former British colony".

We had French and (it's been so long I can't remember) either Dutch or German editions as well - and in my occasional communications with them I can't recall "U" being used. I certainly never received any requests to explain our use of "V", but I would certainly have been puzzled if I had seen "U = IR" in the copies of their editions that I occasionally browsed.

My advice is, in any calculator program which has to represent voltage and which you hope will be used internationally, stay away from "U". We all know what "V" is, even if we resent its imperialistic connotations. And for proof that "U" is confusing, just read this thread and those linked from it.

Of course, the prudent programmer will probably wish to determine the Mandarin/Chinese/Japanese character for voltage, since it will probably ultimately trump "V", "E" and "U". But since it probably isn't on the keyboard of the HP-41 (and since they probably use "V" anyway ;)) I'd say you're safe for the time being. And besides, Alessandro Volta deserves the credit.

With tongue planted firmly in cheek,

--- Les
[http://www.lesbell.com.au]

Re: HP-41 Ohm's Law Program

*Message #14 Posted by **Massimo Gnerucci (Italy)** on 28 Dec 2010, 8:48 p.m.,*
in response to message #13 by Les Bell

> Quote:
>
> And besides, Alessandro Volta deserves the credit.

Just to firmly keep this tongue in cheek (and joking on *Volta*'s translation into english):

NO U-TURN, PLEASE!

Greetings,
Massimo

Re: HP-41 Ohm's Law Program

*Message #15 Posted by **Thomas Klemm** on 29 Dec 2010, 4:28 a.m.,*
in response to message #13 by Les Bell

> Quote:
>
> I wish the web and email spoke LaTeX, but it doesn't. ;)

cf. How to use a formula in a post

Re: HP-41 Ohm's Law Program

*Message #16 Posted by **Les Bell** on 29 Dec 2010, 7:34 a.m.,*
in response to message #15 by Thomas Klemm

Ooh - that's handy, Thomas! Thanks for the pointer.

Best,

--- Les
[http://www.lesbell.com.au]

Re: HP-41 Ohm's Law Program

*Message #17 Posted by **John B. Smitherman** on 29 Dec 2010, 12:30 p.m.,*
in response to message #12 by Walter B

> Quote:
>
> Please don't confuse "international" with "English speaking country" or "former British colony".

Walter, I believe that Les' use of international is correct - between or among nations; involving two or more nations.

Regards,

John

Re: HP-41 Ohm's Law Program

*Message #18 Posted by **Walter B** on 30 Dec 2010, 6:03 a.m.,*
in response to message #17 by John B. Smitherman

John, of course you're right. According to what was written above, however, it looked like a subset of "international" was used. If some editors publish their product in Austria, Switzerland and Germany, they may call it an "international magazine" rightfully, but hmmmh ... It seemed to me, Les' international editing was of a similar kind ;)

Re: HP-41 Ohm's Law Program

*Message #19 Posted by **Les Bell** on 30 Dec 2010, 5:28 p.m.,*
in response to message #18 by Walter B

Well, the magazine *was* called "Electronics Today *International*". . .

Best,

--- Les
[http://www.lesbell.com.au]

Re: HP-41 Ohm's Law Program

*Message #20 Posted by **Walter B** on 30 Dec 2010, 5:33 p.m.,*
in response to message #19 by Les Bell

Names and titles are all hollow words d;-)

Re: HP-41 Ohms Law Program

*Message #21 Posted by **Gerson W. Barbosa** on 27 Dec 2010, 2:03 p.m.,*

in response to message #8 by Bart (UK)

> Quote:
>
> Lowercase *v* & *i* are usually used for instantaneous values (e.g. in AC analysis).

You're right! That's exactly what the authors say in the first chapter of the book (Definitions and Units). It's been quite a long time since I last read it, but I do remember my HP-28S was particularly useful then :-)

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=82010

Regards,

Gerson.

Re: HP-41 Ohms Law Program

*Message #22 Posted by **Dieter** on 25 Dec 2010, 8:42 a.m.,*
in response to message #1 by Jeff Davis

Hehe... for decades this kind of calculation has been a classic for any programmable calculator: a set of variables, connected by a set of equations - enter some of them and determine the rest.

For this kind of program I prefer the same approach other HPs use for their TVM calculations: Every variable is assigned to a certain key. Enter the known values in any order, then have the program determine the others, again in any order you like.

I usually did it this way:

- Every variable uses its dedicated key. The self-assigning alpha-labels may be used. In this case for instance

- [A] = voltage (Volts)
- [B] = resistance (Ohms)
- [C] = current (Amperes)
- [D] = power (Watts)
- [E] = Initialisation

- Pressing a key *either* enters this value *or* starts its calculation. This is usually done by checking Flag 22 (data entry). Or the program may check whether the input is zero (start calculation) or not (data entry).

- The program knows which variables have been entered and therefore which others will have to be calculated in which way. This can be done with a simple trick: think of the four variables as bits in a four-digit binary number. So 1001 means that the first and the fourth variable have been entered, and 0110 means the second and third one are known. Each time a variable is entered, the program sets its corresponding bit by adding the respective decimal value, adding up to a unique "variable code":

- Add 1 when U (voltage) is entered
- Add 2 when R (resistance) is entered
- Add 4 when I (current) is entered
- Add 8 when P (power) is entered

In this case (Ohm's law) always two values are known and the two others can be calculated. So we end up with six possible cases, resulting in six different variable codes: 3, 5, 6, 9, 10 and 12.

The rest is easy: a simple indirect jump to label 03, 05, 06, 09, 10 or 12 where the two remaining values are evaluated and stored. For instance, at label 06 the values for R and I are known, so the missing voltage is determined by U = R*I and the unknown power is P = U*I.

I think most of us who are familiar with the HP41 will be able to write such a program whithout major effort. My solution works as described above, for example with U = 24 V and R = 470 Ohms:

Initialize

```
XEQ "OHM"
```

Enter values U and R:

```
24  XEQ A
470 XEQ B
```

Now any key A, B, C or D can be pressed to get the corresponding value:

```
XEQ C   =>  I=0,051
XEQ D   =>  P=1,226
```

All other values can be recalled as well:

```
XEQ A   =>  U=24,000
XEQ B   =>  R=470,000
```

I do not include the listing - I think it's trivial.

Dieter

Re: HP-41 Ohms Law Program

*Message #23 Posted by **Nigel Bamber** on 27 Dec 2010, 3:33 a.m.,*
in response to message #22 by Dieter

> Quote:
>
> I do not include the listing - I think it's trivial.

Not to me it isn't!

What an elegant solution. If you have it can you share it ?

Thanks

Nigel

Re: HP-41 Ohms Law Program

*Message #24 Posted by **Thomas Klemm** on 27 Dec 2010, 6:13 a.m.,*
in response to message #23 by Nigel Bamber

cf. Ohm's Law for the HP-41C/CV/CX

If you don't have a card reader you can replace the following command with **CLΣ** (clear sigma) and set **ΣREG 21**:

```
112 7CLREG
```

Switch to **USER** mode and use the following key-mapping:

- [A] = Initialisation
- [B] = P (power)
- [C] = I (current)
- [D] = U (voltage)
- [E] = R (resistance)

Initialize

```
XEQ A
```

Enter values U and R:

```
24  XEQ D
470 XEQ E
```

Now any key B, C, D or E can be pressed to get the corresponding value:

```
XEQ C   =>  I=0.051
XEQ B   =>  P=1.226
```

All other values can be recalled as well:

```
XEQ D   =>  U=24.000
XEQ E   =>  R=470.000
```

The program doesn't use Dieter's method but instead calculates the value if it is 0. Feel free to modify it to your needs.

Cheers
Thomas

Edited: 2 Jan 2011, 1:24 p.m.

Re: HP-41 Ohms Law Program

*Message #25 Posted by **Dieter** on 27 Dec 2010, 4:13 p.m.,*
in response to message #23 by Nigel Bamber

I used this method about twenty years ago for a triangle calculation program: three sides and three angles are six variables, three of which are given by the user. That's eighteen possible combinations, and here the mentioned method starts making sense.

In this much simpler four-variable-case it gets even more elegant with another method I'm experimenting with at the moment: The 41 has these nice four flag indicators for flags 1 to 4. So the user can see how many and which values were entered. Using four flags instead of four binary digits (1, 2, 4 and 8) also has another advantage: Enter two values, determine the other two by simply pressing the respective key, then change one of the values (or enter a third one), or even remove one, and see how the other values change correspondingly.

Example: Enter U = 24 V and R = 470 Ohms to get I = 0,051 A and P = 1,226 W. Then change P to 1 Watt and see that R now is 576 Ohms. So far so good.
Now change R to 560 Ohms, try to determine I and get an error message since the now three given values U, R and P do not match.
Remove U and recalculate it, giving U = 23,664 V and I = 0,042 A.

I'm working on it. :-)

Dieter

Re: HP-41 Ohms Law Program

*Message #26 Posted by **Thomas Klemm** on 27 Dec 2010, 7:02 p.m.,*
in response to message #25 by Dieter

I guess this is how Sam would solve these problems:

> Quote:
>
> Example: Enter U = 24 V and R = 470 Ohms to get I = 0,051 A and P = 1,226 W.

```
24   ENTER   ENTER   ENTER          24.000
470   /                             0.051
*                                   1.226
```

> Quote:
>
> Then change P to 1 Watt and see that R now is 576 Ohms. So far so good.

```
CLx   1   /   *                   576.000
```

> Quote:
>
> Now change R to 560 Ohms (...) Remove U and recalculate it, giving U = 23,664 V and I = 0,042 A.

```
1   ENTER   ENTER   ENTER            1.000
560   *   SQRT                     23.664
/                                   0.042
```

---

cf. EE calculations, some not obvious

Ohm's law

This may seem simple, but can be used as a rapid verification of dissipation and the voltage and current relation. Remember the little circles of voltage E divided by the IR product.

Key in the voltage repeatedly, and divide by either I or R to see the other value, as in E=IR.

The power in a resistor can be found by keying in the resistor and dividing to get I, then multiplying to get EI. It can be used to solve W=EI, by keying in power repeatedly, and dividing to get either E or I.

Sam, it's a pity your article is hard to read. I think it's a treasure unfortunately well hidden. Above you may find a suggestion to improve its legibility. Add some examples if possible and maybe some explanations or pictures as well.

Best regards
Thomas

Re: HP-41 Ohms Law Program

*Message #27 Posted by **Nigel Bamber** on 27 Dec 2010, 3:33 a.m.,*
in response to message #22 by Dieter

Quote:

Hehe... for decades this kind of calculation has been a classic for any programmable calculator: a set of variables, connected by a set of equations - enter some of them and determine the rest.

For this kind of program I prefer the same approach other HPs use for their TVM calculations: Every variable is assigned to a certain key. Enter the known values in any order, then have the program determine the others, again in any order you like.

I usually did it this way:

- Every variable uses its dedicated key. The self-assigning alpha-labels may be used. In this case for instance

- [A] = voltage (Volts)
- [B] = resistance (Ohms)
- [C] = current (Amperes)
- [D] = power (Watts)
- [E] = Initialisation

- Pressing a key *either* enters this value *or* starts its calculation. This is usually done by checking Flag 22 (data entry). Or the program may check whether the input is zero (start calculation) or not (data entry).

- The program knows which variables have been entered and therefore which others will have to be calculated in which way. This can be done with a simple trick: think of the four variables as bits in a four-digit binary number. So 1001 means that the first and the fourth variable have been entered, and 0110 means the second and third one are known. Each time a variable is entered, the program sets its corresponding bit by adding the respective decimal value, adding up to a unique "variable code":

- Add 1 when U (voltage) is entered
- Add 2 when R (resistance) is entered
- Add 4 when I (current) is entered
- Add 8 when P (power) is entered

In this case (Ohm's law) always two values are known and the two others can be calculated. So we end up with six possible cases, resulting in six different variable codes: 3, 5, 6, 9, 10 and 12.

The rest is easy: a simple indirect jump to label 03, 05, 06, 09, 10 or 12 where the two remaining values are evaluated and stored. For instance, at label 06 the values for R and I are known, so the missing voltage is determined by U = R*I and the unknown power is P = U*I.

I think most of us who are familiar with the HP41 will be able to write such a program whithout major effort. My solution works as described above, for example with U = 24 V and R = 470 Ohms:

Initialize

```
XEQ "OHM"
```

Enter values U and R:

```
24  XEQ A
470 XEQ B
```

Now any key A, B, C or D can be pressed to get the corresponding value:

```
XEQ C   =>  I=0,051
XEQ D   =>  P=1,226
```

All other values can be recalled as well:

```
XEQ A   =>  U=24,000
XEQ B   =>  R=470,000
```

I do not include the listing - I think it's trivial.

Dieter

Re: Ohm's law

*Message #28 Posted by **Ren** on 27 Dec 2010, 11:52 a.m.,*
in response to message #1 by Jeff Davis

For a technoclutz like me, does this HP-41 listing work with an HP-48G?

@Walter, As I've previously noted you and I pronounce (some?) letters of the alphabet differently, U = voltage? Maybe your "u"'s sound like my my "v"'s or vice-versa "woltage", wice-wersa (typed purely in jest, no offense intended)

Ren

Re: Ohm's law drifting off topic

*Message #29 Posted by **Walter B** on 27 Dec 2010, 12:25 p.m.,*
in response to message #28 by Ren

Hi Ren,

dona nobis pacem ;) FYI, AFAIK the letter U employed for voltage has no relation with any pronounciation. It's just a letter commonly used for this physical entity like I is common for the current, L for inductivities etc. And as Karl mentioned, a capital V would be ambiguous, as well as a capital E is since it's employed for the electrical field strength.

Referring to the point you brought up: I dunno where you come from nor live, though the probability for being US-American is pretty elevated in this forum. Since I am definitely no native English speaker I will certainly make some pronounciation errors (among others), though following some decades of experience people in "English" speaking countries understand me quite well (allowing me leading some projects there) - far better than most "English" speakers are understood here (if they bother learning a second language at all).

Since you know "languages" is one of my hobbies, you know there's no offense intended. BTW, is your forum name in any way connected to the Chinese word for man?

Re: Ohm's law

*Message #30 Posted by **Ren** on 28 Dec 2010, 9:20 p.m.,*
in response to message #29 by Walter B

@Walter B.,

I am in Southeastern Minnesota, USA, while I'm not fluent in any other language than English, I have had limited learning experience in Spanish, Arabic, and Chinese Mandarin, which brings me to your question on my name.

I was named after a friend of my dad's, he died in a rodeo while I was very young, so I'm not sure if I ever met him, and never asked him where our name came from. It has been suggested it came from (Saint) Irenaeus.

One of my Mandarin teachers in giving me a Chinese name used the word "kindness" (also pronounced "ren")

Re: Ohm's law

*Message #31 Posted by **Thomas Klemm** on 27 Dec 2010, 1:06 p.m.,*
in response to message #28 by Ren

> Quote:
>
> does this HP-41 listing work with an HP-48G?

With an HP-48G I'd recommend to use the built-in equation library:

2: Electricity
2: Ohm's Law and Power

Or you could install the HP-41E MicroCode Emulator and use the listing.

Cheers
Thomas

Re: Ohm's law

*Message #32 Posted by **designnut** on 27 Dec 2010, 3:21 p.m.,*
in response to message #31 by Thomas Klemm

I admit I felt sad when I first saw a fellow using a programmable calculator for Ohms law.If one can't solve that simple a problem do they really belong in electrical engineering? What happens when you get a hard problem? Panic city? Sam

Re: Ohm's law

*Message #33 Posted by **Martin Pinckney** on 27 Dec 2010, 5:30 p.m.,*
in response to message #32 by designnut

Ouch, Sam!

Though a CE, not an EE, I have written solver routines for similarly simple relations, like the Rational Formula (Q=CiA). For me , its not the difficulty of the problem, its the convenience when doing repetitious calculations that makes these programs useful, particularly when you have the variable names displayed in front of you.

Re: Ohm's law

*Message #34 Posted by **Jeff Davis** on 27 Dec 2010, 6:13 p.m.,*
in response to message #32 by designnut

Thanks to all who have responded. I am not an EE but I do like to program on the HP-41. Since I was currently in a project to calculate a few items I thought it would be fun to write a program. I know it is trivial but fun none the less.

Re: Ohm's law

*Message #35 Posted by **Ren** on 28 Dec 2010, 9:43 p.m.,*
in response to message #32 by designnut

@Sam

Touche'!

In my defense, I was thinking about the "harder to memorize" (for me) equations of Ohm's Law. (Please forgive my lack of HP calculator notation in these examples)

i.e.

Square root(Power divided by Resistance) equals Inductance

or

E (or U, or V) equals Square root (Power times Resistance)

or

E(squared) divided by R equals P

While many subscribers to this forum could probably derive the above examples in their head (knowing that P=IxE and P=I(squared)R, it took me several minutes to work the last one out on paper!

Ren

dona nobis pacem

Re: Ohm's law

*Message #36 Posted by **designnut** on 29 Dec 2010, 1:14 p.m.,*
in response to message #35 by Ren

What I suggest to calculator users for frequently encountered problem is to think about kepstroke procedures rather tthan formulas. There is a kinesthetic sense that can work for you in rapid solutions. Formulas are handed down from generation to generation with no reference to current circumstances. Since the calulator is in everyday use, you must revise your formulas to be useful in the calculator. I solved one resistive divider until I knew all the answers. I played with the soluion and a solution that was usually awkward appeared. I retraced my steps. found the solution easy and tested it for other cases and found it accuate. It is a keystroke solution which has no equivalent in published equations. Here it is: for a resistive divider enter the lower resistor repeatedly to fill the t regtister. Key the upper resistor and add, see the total resistrance, divide and see the divider voltage fraction. Multiply and sutracct and the Thevenin soue resistance of thee divider appears. steps, add, divide, multiply, sutions. so take the book formuas and turn them into procedures useful to you on the keyboard. To be ccontinus. sam

Re: Ohm's law

*Message #37 Posted by **designnut** on 29 Dec 2010, 1:23 p.m.,*
in response to message #36 by designnut

Sorry, my writing kept disappearing on me. The steps are Add, divide, multiply, subtract and the equivalent output resistance appears. when doing RC frwequency corners tthe formulas were R=Xc=1/2(Pi)FC. I changed thatt to 2(Pi)FRC=1, simply multiply the known factors together and invert to find the missing value. Again you can run 2Pi up the stack so it is available repeatedly.

Re: Ohm's law

*Message #38 Posted by **Ren** on 29 Dec 2010, 3:55 p.m.,*
in response to message #37 by designnut

Good advice Sam!

Thanks!

Ren

dona nobis pacem

Re: Ohm's law

*Message #39 Posted by **Martin Pinckney** on 30 Dec 2010, 10:46 a.m.,*
in response to message #36 by designnut

> Quote:
>
> What I suggest to calculator users for frequently encountered problem is to think about keystroke procedures rather than formulas. There is a kinesthetic sense that can work for you in rapid solutions.

Well, I think I understand this, although I [did not] completely follow your examples.

> Quote:
>
> Formulas are handed down from generation to generation with no reference to current circumstances.

Not sure what you mean by this. The formulas we have been discussing are expressions of physical laws that don't change. I see no reason that relations published in textbooks should be revised for particular calculator styles. They are sometimes rewritten in calculator manuals, though.

> Quote:
>
> Since the calculator is in everyday use, you must revise your formulas to be useful in the calculator.

Perhaps yes, for RPN calculators. No doubt when you started out with the early HP's, this made sense. And still may for some people. But the original RPN HP's were developed when memory resources (RAM and ROM) were very expensive. Now there are lots of choices in calculator styles, many of which allow easy evaluation of the formulas in the original form, which makes more sense to some people. This is why we have choices in calculators.

Edited to correct meaning.

Edited: 31 Dec 2010, 10:14 a.m. after one or more responses were posted

Re: Ohm's law

*Message #40 Posted by **designnut** on 30 Dec 2010, 5:43 p.m.,*
in response to message #39 by Martin Pinckney

Martin, I have discovered relations that have not been shown in formulas. They were exposed by the handy number manipulation of the calculator. I suggest it is the difference between the academic approach (everything has been learned that can be learned) and the engineering approach where it is possible to discover something new and incorporate in the lessons. Not only are the formulas copied in content bu in form, however awkward it may be. Yet nothing new is added. Have we learned nothing in the years? I found formulas have not adapted to modern usage and are totally outmoded. I gave the example R=Xc=11/2(Pi)FC. How much handier is 2(Pi)FRC=1. The old form is still in use, copied from book to book. The resonance formula is always F=1/[2(Pi) (LC)]^1/2. I squared it and moved all tthe terms to the left as [2(Pi)]^2LC=1. Then I used the repeeating T register to store 2(Pi)F and solved by muiplying twice to square the term. I adapted the forrmula for rapid use with RPN. If you never use RPN you will not benefit from the change. I've read you use algebraic so you must use archaic formulas and do not benefit from modern methods.

Re: Ohm's law

*Message #41 Posted by **Martin Pinckney** on 30 Dec 2010, 8:57 p.m.,*
in response to message #40 by designnut

Sam,

I acknowledge that you have developed shortcuts that work well with RPN calculators that served you well in your career.

However, to describe these as "modern methods" seems curious to me. I remind you that the early HP calcs were originally designed with RPN because of the limitations of technology at the time. The "change" that occurred in calculator design has gone the *other* way, first to algebraic, then to textbook entry/display. I for one have benefited from this change.

I am not against RPN. I have and use several HP RPN calcs. I am only against presenting RPN as if it were this magical superior system that only the few know how good it is.

Re: Ohm's law

*Message #42 Posted by **designnut** on 30 Dec 2010, 10:53 p.m.,*
in response to message #41 by Martin Pinckney

Martin, we don't need no stinkiin parentheses. I did find relations I have not seen addressed in books, I think if they were known they would be addressed. I discovered them only because of the handy number manipulation available with RPN. I believe they have not been shown because they have not been discovered. Possibly my investigation has been more exhaustive than formerly. While the solution of formulas for any variable is available in calculators, first you muct call the formula and enter each known element and then solve. I find it more adroit to key the data in RPN and get direct solutions. I founnd RPN handy when one realized that a change of units was needed in mid-solution, handy with step by step solution. Also it enables one to sense when one is making a mistake, and mentally follow the calculation and back out an error and revover. I found using the repeating t register in solutions a key to speed and versatility. Sam

Re: Ohm's law

*Message #43 Posted by **Martin Pinckney** on 31 Dec 2010, 9:42 a.m.,*
in response to message #42 by designnut

> Quote:
>
> Martin, we don't need no stinkin' parentheses.

I know. You've said **that** already. But sooner or later you will encounter a complex expression that you can't evaluate directly with RPN unless you use the storage registers. Which I can avoid with my stinkin' parentheses!

Re: Ohm's law

*Message #44 Posted by **Walter B** on 31 Dec 2010, 9:57 a.m.,*
in response to message #43 by Martin Pinckney

Martin,

FYI, the little device shown in that other thread has 8 stack levels as a user settable alternative to traditional 4 levels. Based on several decades of real life experience, I tell you you'll *never* encounter a real formula requiring more than 6 levels. You can design one easily, of course, but it's not our task making life more complicated than it is.

Re: Ohm's law

*Message #45 Posted by **Martin Pinckney** on 31 Dec 2010, 10:10 a.m.,*
in response to message #44 by Walter B

Walter,

Yes, but Sam probably used traditional 4-level HP's.

Re: Ohm's law

*Message #46 Posted by **Ren** on 28 Dec 2010, 9:23 p.m.,*

in response to message #31 by Thomas Klemm

> Quote:
>
> With an HP-48G I'd recommend to use the built-in equation library:
>
> 2: Electricity
> 2: Ohm's Law and Power
>
> Cheers
> Thomas

Doh!

B^)

Ren

dona nobis pacem

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O.T. XP won't use all RAM

*Message #1 Posted by **designnut** on 24 Dec 2010, 2:20 p.m.*

Everyone thinks they can manage the page file in XP from the control panel. Believe me you can't. I have a program that looks into the computer and it resets itself every time. I've tried all the obvious controls, modified the registry most daringly and it still won't use over 256 MB of RAM. I installed 2 GB and it recognizes it, but it still keeps shuffling data onto page file. By loading many places in Google world it can use up to 44%, surely as video memory. Can anyone help me use my RAM in everyday use? Thanks and Merry, and Happy tto all. sam

Re: O.T. XP won't use all RAM

*Message #2 Posted by **Norman Dziedzic** on 24 Dec 2010, 2:34 p.m.,*
in response to message #1 by designnut

I think most modern BIOS' will recognize installed ram but that would be my first stop as it is the closest to the physical memory. Go into your BIOS config when booting up and see if there are any settings there that effect how the system recognizes or uses RAM

Edited: 24 Dec 2010, 2:34 p.m.

Re: O.T. XP won't use all RAM

*Message #3 Posted by **bill wiese** on 24 Dec 2010, 4:17 p.m.,*
in response to message #2 by Norman Dziedzic

Chip design folks that need lotsa *usable* RAM without thrashing are not pleased with this issue on Win boxes. It's been an issue back to NT/2K days, (unsure of the severity levels across the platforms).

There was a company that produced IDE "hard disks" that were really RAM drives. System performance improved markedly; similar results occurred with RAM drive software. It was more valuable to add RAM to a RAM drive than it was to add RAM to the system pool beyond around 512MB.

-Bill

Re: O.T. XP won't use all RAM

*Message #4 Posted by **Raymond Del Tondo** on 26 Dec 2010, 7:26 a.m.,*
in response to message #3 by bill wiese

Nowadays you can simply use a real RAM drive, located in main memory. If your PC has 4GB or more RAM, at least the Gavotte can create a PAE RAM disk automatically (if chipset/BIOS allow)
Then you can set your temp directories to there, which will lead to a big performance gain in many cases.
Consider unpacking a 100MB zip file. Normally it will be unpacked to the current temp dir on the HD, and then copied to the destination. The 1. step, unpacking, will be _much_ faster if you use a RAM disk, and even the copy operation will be faster.
And your web browser will react faster, too, if the cache resides in RAM.

Ray

Re: O.T. XP won't use all RAM

*Message #5 Posted by **Richard Garner** on 24 Dec 2010, 4:22 p.m.,*
in response to message #1 by designnut

A Pagefile is a location setup on your hard drive that Windows uses as temp storage of open programs and data so it can be easly swaped out when the OS needs more RAM for other programs. When you change the amount of disk space that is used you need to click on the SET button to get Windows to accept the change. Windows will then tell you, you must restart the computer for the new settings to take effect. I think most systems default to 2GB but generally recommend 5GB as the minimum. I use allot of CAD and GIS software so I have my minimum at 10GB and maximum at 16GB.

Re: O.T. XP won't use all RAM

*Message #6 Posted by **designnut** on 24 Dec 2010, 11:16 p.m.,*
in response to message #5 by Richard Garner

The program I use to look at all memory use shows me that the sum of memory used would easily fit in 2GB RAM. It slows down all processes when it shuffles data onto disk when it need not. It may be that a BIOS revision is a key. That would obviate having to work with XP. Thanks, sam

Re: O.T. XP won't use all RAM

*Message #7 Posted by **Pascal** on 26 Dec 2010, 2:44 a.m.,*
in response to message #6 by designnut

Have you tried disabling paging file completely ?

Re: O.T. XP won't use all RAM

*Message #8 Posted by **designnut** on 27 Dec 2010, 2:23 p.m.,*
in response to message #7 by Pascal

I have chosen "no page file" and restarted. It notifies me my pagefile is too low and resets it. It is simply reverting to the days when 512M was a lot of RAM. I'll see if an updated BIOS is available. Thanks, sam

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Really OT - with video link

*Message #1 Posted by **Ken Shaw** on 24 Dec 2010, 12:37 p.m.*

Someone just sent me this charmingly geeky YouTube link, which might have some appeal here. It has no Christmas theme.

http://www.youtube.com/watch?v=DK5Z709J2eo

This next one does have a Christmas theme.

http://www.youtube.com/watch?v=GkHNNPM7pJA

Merry Christmas, all.

Re: Really OT - with video link

*Message #2 Posted by **Namir** on 24 Dec 2010, 1:43 p.m.,*
in response to message #1 by Ken Shaw

My bother who lives in Burlington, Ontario, just emailed me the second link. Might well be a big hit in the Ontario area???

:-)

Namir

Re: Really OT - with video link

*Message #3 Posted by **Ken Shaw** on 29 Dec 2010, 11:56 a.m.,*
in response to message #2 by Namir

Probably. A good sense of humor is necessary if you live in Ontario!

:-))

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Really OT

*Message #1 Posted by **Walter B** on 24 Dec 2010, 6:40 a.m.*

It's half past noon, snow is falling gently, so it's about time to start the annual greeting season:

Fröhliche Weihnachten!

Merry Christmas!

Feliz Natál!

Re: Really OT

*Message #2 Posted by **johnny bjoern rasmussen** on 24 Dec 2010, 8:54 a.m.,*
in response to message #1 by Walter B

Christmas Greetings from Denmark

Glædelig Jul

Re: Really OT

*Message #3 Posted by **XYZT** on 24 Dec 2010, 9:07 a.m.,*
in response to message #1 by Walter B

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Re: Really OT

*Message #4 Posted by **aurelio** on 24 Dec 2010, 9:19 a.m.,*
in response to message #3 by XYZT

BUON NATALE A TUTTI!!!

Re: Really OT

*Message #5 Posted by **Marcus von Cube, Germany** on 24 Dec 2010, 9:54 a.m.,*
in response to message #4 by aurelio

Frohes Fest!

Edited: 24 Dec 2010, 9:55 a.m.

Re: Really OT

*Message #6 Posted by **Namir** on 24 Dec 2010, 10:01 a.m.,*

in response to message #5 by Marcus von Cube, Germany

A very Merry Christmas to the folks in Europe and the rest of the world!

Also best wishes for a Happy New Year. May 2011 bring interesting HP calculators!!!

Namir

Re: Really OT

*Message #7 Posted by **JMBaillard** on 24 Dec 2010, 11:11 a.m.,*
in response to message #6 by Namir

Merry Christmas
and best wishes from France.
Jean-Marc.

Re: Really OT

*Message #8 Posted by **Thomas Okken** on 24 Dec 2010, 1:36 p.m.,*
in response to message #7 by JMBaillard

Prettig kerstfeest en een gelukkig nieuwjaar allemaal!

- Thomas

Re: Really OT

*Message #9 Posted by **Israel Otero** on 24 Dec 2010, 3:39 p.m.,*
in response to message #8 by Thomas Okken

Feliz Navidad y un próspero año a todos.

Frohe Weihnachten.

Marry Christmas to all.

All blessings and enjoyment to the fullest to you using all your HP hardware for the next year.

Re: what they said

*Message #10 Posted by **Ren** on 26 Dec 2010, 3:05 p.m.,*
in response to message #9 by Israel Otero

Happy Holy Days!

Re: Really OT

*Message #11 Posted by **Palmer O. Hanson, Jr.** on 27 Dec 2010, 8:49 p.m.,*
in response to message #1 by Walter B

From the years in which my rich Uncle Sam found work for me in Hawaii:

MELE KALIKIMA!

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OT: Is his a real Red Dot? :-), Again

*Message #1 Posted by **XYZT** on 23 Dec 2010, 7:05 p.m.*

I could never imagine that a calculator that Sharp had the sale value.
I have one and I see no feature that makes it stand out from other calculators.

WORLDS RAREST PROGRAMABLE CALCULATOR

Message #5 Posted by Palmer O. Hanson, Jr. on 17 Dec 2010, 10:43 p.m.
in response to message #1 by XYZT

"I have a PC-1201 in mint condition.
It is a nice little device.
I struggled with programming it because I didn't have a manual but I eventually figured it out.
I paid three dollars for it back in 2005.
Perhaps I should hold it and wait for even more appreciation.
The bid of $607 does seema little high but I don't have any real insight as to the rarity o the PC-1201 or how many collectors are interested. I do have a HP-41CV in very good condition with manual, carrying case and carton that I purchased in 1998 for two dollars.
I also have a mint condition HP-41CX with manual, carrying case, and carton that I purchased in 1999 for five dollars.
How does the appreciation of those devices compare with that of the PC-1201? "

Good explanation for the green display and this one?

Sharp Scientific Calculater EL 5103 S

Edited: 23 Dec 2010, 7:10 p.m.

Re: OT: Is his a real Red Dot? :-), Again

*Message #2 Posted by **Chuck** on 24 Dec 2010, 1:04 a.m.,*
in response to message #1 by XYZT

Well, some of my favorite calculators in my collection ARE Sharps. For some reason the sharp-edged metal accents of the Sharps are enticing, sometimes more-so than the brown plastic HP's that most here go ape over. And, the Sharps aren't all that bad of a calculator. Last week I acquired a Sharp 5500III Computer. Nice little machine for about 1/10 the price of any HP (okay, not any, but most.) Not sure if I'd go to the $200 plateau on one, but still I find them interesting.

Edited: 27 Dec 2010, 8:58 p.m.

Re: OT: Is his a real Red Dot? :-), Again

*Message #3 Posted by **Ken Shaw** on 24 Dec 2010, 9:39 a.m.,*
in response to message #1 by XYZT

I have a more advanced version of this calculator, the EL-9000. It's a great calculator, which cost about $120, circa 1988.

I wouldn't pay $200 for it though.

Re: OT: Is his a real Red Dot? :-), Again

*Message #4 Posted by **db (martinez, ca.)** on 24 Dec 2010, 1:50 p.m.,*
in response to message #1 by XYZT

Victor Toth did a concise little page on this unit, complete with a program example at

http://www.rskey.org/detail.asp?manufacturer=Sharp&model=PC-1201

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Firmware update for new HP-12C+

*Message #1 Posted by **Ernst Fueloep** on 23 Dec 2010, 7:35 a.m.*

Hi,

In this thread (HP12C - SST in RUN-Mode doesn't work correctly the latest firmware for the HP-12C+ is mentioned as 2009-11-19.

Now, my HP-12C+ has firmware version 2009-07-02.

Is it possible to update the firmware using a PC? I have the serial cable (many thanks to Tim Wessman). Is it possible to download the latest firmware from somewhere?

The above thread says something about Cyrille may be able to help? How can I contact this person?

Thanks.

Best Regards, Ernst

Re: Firmware update for new HP-12C+

*Message #2 Posted by **Katie Wasserman** on 23 Dec 2010, 10:24 a.m.,*
in response to message #1 by Ernst Fueloep

It's not available for download as far as I know, but Tim should be able to send it to you, especially since he sent you the cable. It's sort of a necessary component, if it's not included with the cable and you're playing with re-purposing you would have lost the 12C functionality.

-Katie

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HP-97 Printer Gear Replacement

*Message #1 Posted by **XYZT** on 23 Dec 2010, 5:01 a.m.*

Someone please tell me know how I got this piece for my HP-97?
Thank's

Edited: 23 Dec 2010, 5:02 a.m.

Re: HP-97 Printer Gear Replacement

*Message #2 Posted by **Ignazio Cara (Italy)** on 23 Dec 2010, 6:35 a.m.,*
in response to message #1 by XYZT

Hello, if you want an original spare printer gear I can send you one for free, otherwise you can purchase a very good metallic gear from an ebay seller for about $25.-. You must find him yourself. Let me know your address if you want the original delrin gear.

Regards and Merry Christmas.

Ignazio

Re: HP-97 Printer Gear Replacement

*Message #3 Posted by **Wanderley Navarro** on 23 Dec 2010, 1:36 p.m.,*
in response to message #1 by XYZT

The seller's usual listing is apparently *off-line* now. But you can contact with him.

Re: HP-97 Printer Gear Replacement

*Message #4 Posted by **XYZT** on 23 Dec 2010, 3:30 p.m.,*
in response to message #3 by Wanderley Navarro

I already got in touch with him but he has no gear.
But thanks anyway for the help.
Merry Christmas to you and all fans of HP

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RIP 46

*Message #1 Posted by **Keith Midson** on 22 Dec 2010, 12:03 a.m.*

A sad day - my "built like a tank" HP46 suddenly decided to pour out grey smoke out the back and make a horrible bang noise before switching itself off forevermore ...
So I guess I will need to get a new calculator now. It will be hard to find something that has the same presence in its case!
Cheers, Keith

Re: RIP 46

*Message #2 Posted by **bill platt** on 22 Dec 2010, 12:19 a.m.,*
in response to message #1 by Keith Midson

Oh NOOOO!

And that is the first time I even remember anyone mentioning the 46! Had to look it up!

Re: RIP 46

*Message #3 Posted by **Katie Wasserman** on 22 Dec 2010, 12:23 a.m.,*
in response to message #1 by Keith Midson

A common problem on the HP-46 is the large electrolytic capacitors in the power supply failing. A loud bang with smoke could very well be an indication of this. Such a failure would likely have also blown the fuse. Open it up for inspection, a blown up capacitor will be obvious. They are easy to replace if you're at all handy with a soldering iron.

Re: RIP 46

*Message #4 Posted by **Keith Midson** on 22 Dec 2010, 1:17 a.m.,*
in response to message #3 by Katie Wasserman

Yes the fuse self destructed quite spectacularly as well. My 7 year old son was devastated! Good to know about the capacitor - I assumed that it had died for good. I will have a look and report what I find.
Cheers, Keith

Re: RIP 46

*Message #5 Posted by **Tony Duell** on 22 Dec 2010, 3:54 a.m.,*
in response to message #4 by Keith Midson

You can get schematics from the Australian Museum site.

I would start by taking off the top and bottom covers and then look for obviously burnt or damaged componets. Yes, some faults do leave a visible trail!. But remember that the burnt part may have been damaged by a fault elsewhere.

Continue by unplugging the transformer secondary edge connector from the back of the logic PCB. Replace the fuse with one of the correct rating and apply mains. If the fuse blows, then you have shorted turns in the mains transformer :-(. If the fuse holds, check the secondary winding voltages.

Then check the PSU components on the logic PCB. Others have mentioned the smoothing capacitors (the value is not too critical, if you can't find a 5000uF, don't worry, a 4700uF is fine). Also check the rectifier diodes (I've had problems with these in other machines) and the pass transistors.

Re: RIP 46

*Message #6 Posted by **bill platt** on 22 Dec 2010, 8:41 a.m.,*
in response to message #3 by Katie Wasserman

Hi Katie,

Remember how Valentin felt strongly that in some period of time, all these wonderful old devices would die? Was he speaking of the simple dead bug pieces like electrolytic caps or was he thinking about something else?

As our machines age, I wonder if it is possible to come up with a "safe pre-test" protocol for checking the machine's capabilities before actually powering up?

Re: RIP 46

*Message #7 Posted by **Mark Storkamp** on 22 Dec 2010, 9:19 a.m.,*
in response to message #6 by bill platt

This is all making me wonder about the possible modes of failure. I know switches are prone to metal fatigue, rubber can deteriorate, capacitors can dry up, and tin whiskers can sprout in chips.

What are the other possibilities? Can P and N regions migrate? Does the O in MOS break down? How long do LCDs last? How many years until 37% of the units have died of natural causes? I suspect the newer models have a shorter life span for a number of reasons.

Re: RIP 46

*Message #8 Posted by **John B. Smitherman** on 22 Dec 2010, 10:34 a.m.,*
in response to message #7 by Mark Storkamp

The newer models have fewer parts which should help with their overall longevity.

John

Re: RIP 46

*Message #9 Posted by **Mark Storkamp** on 22 Dec 2010, 1:28 p.m.,*
in response to message #8 by John B. Smitherman

> Quote:
>
> The newer models have fewer parts which should help with their overall longevity.

But the dies are smaller and more tightly packed, so slight manufacturing tolerances are going to have a greater impact. They typically run at a lower voltage so less variation over time will

put them out of spec. Of course, this is all conjecture.

On the other hand, they also (in my case) tend to just sit collecting dust while the older ones get used far more often.

Re: RIP 46

*Message #10 Posted by **Katie Wasserman** on 22 Dec 2010, 11:51 a.m.,*
in response to message #7 by Mark Storkamp

HP's experiment with NMOS in the HP-27 proved that early NMOS devices fail sooner than PMOS devices of the same era. That's why there are so few working HP-27's around and yet most of the other Woodstocks still work.

> Quote:
>
> and tin whiskers can sprout in chips

... and now they can sprout on every soldered connection since RoHS went into effect. Actually I think the jury is still out on this, but there is great concern from what I've read about this possibility.

> Quote:
>
> "safe pre-test" protocol

As Tony suggests, you could discounted the power supply from the logic and check that first. This would at least limit the damage to just the power supply, which is usually easy to repair. This works on large desktop machines where the power supply is almost always easily separable from the logic. On pocket calculators of unknown condition I power them from a external power supply with current limiting. This allows me to ramp up the current slowly to limit the chances of burning something out. This is a bit tricky to do since the calculator won't usually turn on until you give it enough current, but with practice you learn what's too much and want's about right.

-Katie

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HP 27s - How to set # decimal places displayed?

*Message #1 Posted by **M Tulloch** on 21 Dec 2010, 3:51 p.m.*

I've lost my manual a long time ago, and today when I turned my HP 27s on it made a funny beep (the tone modulated downward) and displayed Memory Lost. Now it shows four zeros after the decimal point, and I want to reset it to two zeros after the decimal point--does anyone know how to do this?

Thanks in advance!

Re: HP 27s - How to set # decimal places displayed?

*Message #2 Posted by **bill platt** on 21 Dec 2010, 3:55 p.m.,*
in response to message #1 by M Tulloch

Yay, I get to help! (we are just such a helpful bunch here)

shift-MODES (key 3) The menu brings up "Select Display Format" when you press the appropriate softkey you are prompted for the decimal places.

remember that when in menus, you back out with EXIT not CLR.

Best regards,

Bill

Re: HP 27s - How to set # decimal places displayed?

*Message #3 Posted by **M Tulloch** on 21 Dec 2010, 4:26 p.m.,*
in response to message #2 by bill platt

That did it, thanks!

Re: HP 27s - How to set # decimal places displayed?

*Message #4 Posted by **Jim Yohe** on 21 Dec 2010, 6:59 p.m.,*
in response to message #1 by M Tulloch

Maybe someone (else) could also point you in the direction of a PDF copy of the HP 27 user manual since I'm not having any luck finding one for you.

Re: HP 27s - How to set # decimal places displayed?

*Message #5 Posted by **bill platt** on 21 Dec 2010, 7:23 p.m.,*
in response to message #4 by Jim Yohe

The museum DVD is the place to go.

I have an actual manual of course...

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How to identify 12C 25th Anniversary Edition

*Message #1 Posted by **Frank Gifford** on 21 Dec 2010, 12:13 a.m.*

I have a an HP 12C Platinum which I am trying to confirm the type. I was told that it is the Anniversary Edition but HP tech support states that all anniversary editions have the marking on the front and back for it where this unit only has the "Platinum" mark on the left of the display. Not sure if serial is any help but it is CNA00204899 which is on a sticker on the back of the unit. There is also what appears to be a model number next to the HP logo in the back as RMN HSTNJ-KN11 right above Made in China. It uses 2 x CR2032 3V coin size batteries. So, my question, is this just the plain Platinum model or is it the 25th Anniversary Edition. Thanks.

Re: How to identify 12C 25th Anniversary Edition

*Message #2 Posted by **Raymond Del Tondo** on 21 Dec 2010, 7:34 a.m.,*
in response to message #1 by Frank Gifford

The Anniversray edition says "Anniversary Edition" on the front and on the back, uses one single coin cell, and has a black keyboard overlay. It was made from 2006 on.

HTH

Re: How to identify 12C 25th Anniversary Edition

*Message #3 Posted by **Allen** on 22 Dec 2010, 7:54 p.m.,*
in response to message #2 by Raymond Del Tondo

AFIK there are several editions of the 12C /12C platinum in order of creation:

```
Major Versions of standard 12c
1) Original 3-cell design 1981*-2001?
2) 1 cell design similar to first 12c Platinum 2001-2009
3) 2 cell "12c+" design 2009/2010 and later


Major Versions of Platinum Calculator
4) "12C Platinum Financial Calculator" with Silver background/1 cell 2003*-2008?
5) "HP 12C Platinum 25th anniversary" - Black background/1 cell) 2006*
6) "HP 12c Platinum Financial Calculator"- black background/2 cell- 2009-2010 and later


Other 12c Versions:
7) "HP 12c Prestige" - Brazil only (1 Cell) 2003*
```

*Source- HHC 2007 Calendar

I've owned all except (7), by far I prefer the 2-cell models because of the faster speed and better quality. In contrast, the 1-cell versions are slow and poorly made.

Edited: 22 Dec 2010, 7:57 p.m.

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x^Y vs. y^X

*Message #1 Posted by **Gerardo Rincon** on 20 Dec 2010, 7:00 p.m.*

I never realized until just recently that the HP-35 exponential function was X^Y. I noticed that it was changed to Y^X on the next models the HP-80 and HP-45. Good thing they did.

Edited: 20 Dec 2010, 7:02 p.m.

Re: x^Y vs. y^X

*Message #2 Posted by **Karl Schneider** on 20 Dec 2010, 7:28 p.m.,*
in response to message #1 by Gerardo Rincon

> Quote:
>
> I never realized until just recently that the HP-35 exponential function was X^Y. I noticed that it was changed to Y^X on the next models the HP-80 and HP-45. Good thing they did.

Gerardo --

This was covered a few years ago, but I didn't bookmark the discussion.

"Y^X" is indeed more consistent with other operations such as division and subtraction, which perform Y/X and Y-X, respectively.

Unlike the HP-45, the HP-35 lacked a "10^X" key. "X^Y" saved a keystroke over "Y^X" when finding common antilogarithms of a computed value on the HP-35:

```
(value) 10 X^Y
```

This is mentioned on the Museum page for the HP-35.

Also, "x raised to the y", like "y over x", may have been considered to be more visually intuitive from the stack representation.

-- Karl

Edited: 21 Dec 2010, 7:11 p.m. after one or more responses were posted

Re: x^Y vs. y^X

*Message #3 Posted by **bill platt** on 20 Dec 2010, 8:31 p.m.,*
in response to message #2 by Karl Schneider

Aha!

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Classic (and other) Keyboard Layout Musings

*Message #1 Posted by **Mark Henderson** on 20 Dec 2010, 5:49 p.m.*

As I admire my HP Classic and LED collection I'm a little surprised at the apparent lack of consistency and standardization in the keyboard layouts and standardization?

There seems to have been little effort made to keep layouts similar from model to model (e.g. grouping the stack manip keys in the same way?), colors vary widely and in some cases it's really hard to see the logic in the colors, the HP-67 has the shifted functions BELOW the keys vs. above for all others (yes, I realize the top row of soft keys mandated this, but it is really confusing as you switch between models!).

Anyone know how this might have come about? Just not an attempt to standardize? Different teams developing different products? Not that it really matters, perhaps except to those of us who switch models daily!

Re: Classic (and other) Keyboard Layout Musings

*Message #2 Posted by **Thomas Okken** on 20 Dec 2010, 9:49 p.m.,*
in response to message #1 by Mark Henderson

> Quote:
>
> As I admire my HP Classic and LED collection I'm a little surprised at the apparent lack of consistency and standardization in the keyboard layouts and standardization?
>
> There seems to have been little effort made to keep layouts similar from model to model

It seems to me that HP did, in fact, try to standardize at least the most heavily used part of the keyboard. The Classics and Woodstocks all have the exact same layout for the number, period, arithmetic, and ENTER keys. The CHS key is just to the right of ENTER on all of those models except the HP-80, and the EEX and R/S keys, on those models that have them, are always in the same positions, as is the CLX key on all except the HP-70.

Regarding the position of the shifted functions on the HP-67, I think you answered your own question. :-)

As far as the color scheme is concerned -- I'd love to hear someone from HP who was actually part of the design process weigh in on this, but having no such insights myself, I'll just state for the record that I think they all look great, and even (especially!) the oddball HP-70 looks like it is perfectly at home in the early '70s when it was created. :-D

> Quote:
>
> but it is really confusing as you switch between models!

Ah, but see, back then, nobody ever did that. Even the HP-25, which had one of the best price/performance ratios of the HP LED calculators, cost today's equivalent of about $800 back then. People didn't buy several

calculators; they bought the one that hit the sweet spot between what they wanted and what they could afford, and that was it -- then they'd stick with that one calculator for years and years.

Re: Classic (and other) Keyboard Layout Musings

*Message #3 Posted by **bill platt** on 20 Dec 2010, 10:49 p.m.,*
in response to message #2 by Thomas Okken

1982 to 1995: one calculator. 2003 to 2010: innumerable calculators. Something happened in 2003 or so.

Re: Classic (and other) Keyboard Layout Musings

*Message #4 Posted by **Walter B** on 21 Dec 2010, 4:53 a.m.,*
in response to message #3 by bill platt

Started earlier: 1977 - 2002 one calculator at a time, just purchased new ones for replacement. 2003 - today: as Bill so I can confirm the observation 2003 must have been special.

Re: Classic (and other) Keyboard Layout Musings

*Message #5 Posted by **Mike Morrow** on 21 Dec 2010, 9:33 a.m.,*
in response to message #2 by Thomas Okken

I bought my first calculator in 1972. Not an HP-35 (which had a 2010 equivalent price of $2100), but a four-function Bomar 901B for $130 (2010 equivalent of $680). It supported my real "calculator", a Dietzgen N1725L slide rule ($35 in 1969, 2010 equivalent of $210, still the finest slide rule ever made).

By 1978, I owned a SR-50, SR-51A, SR-56, TI-58, TI-59, HP-67, and HP-21, and had traded the TI-58 for a used HP-35 Red Dot (that DOT had no special significance to me at the time...I just wanted the early machine that I had so admired a few years earlier).

So, I had a better than average collection of calculators more than a third of a century ago, even when compared to my fellow electrical engineers.

But Thomas is correct...even among engineers there were very few who had more than two calculators back then, and generally only one of the two would have been a high-dollar HP machine or a more modestly-priced TI. (All HPs were really high-dollar then.)

Re: Classic (and other) Keyboard Layout Musings

*Message #6 Posted by **Walter B** on 21 Dec 2010, 5:34 a.m.,*
in response to message #1 by Mark Henderson

> Quote:
>
> There seems to have been little effort made to keep layouts similar from model to model (...), colors vary widely and in some cases it's really hard to see the logic in the colors, the HP-67 has the shifted functions BELOW the keys vs. above for all others

I disagree:

1. Layouts were pretty standardized in each product line up to and including the Pioneers. Thereafter there were no real product lines anymore.
2. The logic in the colours was pretty obvious up to and including the HP-48SX. This topic was discussed here some years ago and also covered in a talk on one HHC, IIRC, but I didn't bookmark that. The

colours chosen for the HP-48G etc. had no technical reason but were only fashionable at that time. Recently, HP returned to better contrast again.

3. On keyboards before the HP-80, labels of shifted functions were generally located above the primary functions. See also typewriter keyboards where the shift key is actually an arrow up. So by mere tradition shifting meant "shifting up" and that was copied. OTOH you stated one reason for all shifted labels below the keys of the HP-67 already. The HP-21 and - recently - the 17bii+, 20b, and 30b show another: it allows the cleanest keyboards. This requires, however, slanted keys which were not featured anymore after the Voyagers until the 35s. I see no reason why you shouldn't have the labels of all the shifted functions below the keys - it would even make keyboards a bit tidier.
4. As Thomas explained above, swapping calculators was no custom when calculators were tools.

HTH,

Walter

Re: Classic (and other) Keyboard Layout Musings

*Message #7 Posted by **bill platt** on 21 Dec 2010, 8:41 a.m.,*
in response to message #6 by Walter B

"Layouts were pretty standardized in each product line up to and including the Pioneers. Thereafter there were no real product lines anymore. "

That would be the 2003 thing.

Re: Classic (and other) Keyboard Layout Musings

*Message #8 Posted by **Walter B** on 21 Dec 2010, 9:29 a.m.,*
in response to message #7 by bill platt

Ok, Bill, so I misunderstood your statement above ...

Re: Classic (and other) Keyboard Layout Musings

*Message #9 Posted by **bill platt** on 21 Dec 2010, 11:12 a.m.,*
in response to message #8 by Walter B

I think 2003 is when HP canceled the whole calculator enterprise. Or was it 2002? Somewhere around then. That's when I suddenly found myself looking for backup machines and that led to becoming a collector...

Re: Classic (and other) Keyboard Layout Musings

*Message #10 Posted by **Michael Meyer** on 21 Dec 2010, 6:21 p.m.,*
in response to message #9 by bill platt

My collecting:

1. First thing I looked up on eBay. Not sure why.

2. Soon after, went to the Smithsonian for my 40th birthday, 10 years ago. Saw their calculator collection. I wanted it. And got it...and more.

Re: Classic (and other) Keyboard Layout Musings

*Message #11 Posted by **bill platt** on 21 Dec 2010, 7:24 p.m.,*
in response to message #10 by Michael Meyer

OOoooooh, I'll have to look for that!

Re: Classic (and other) Keyboard Layout Musings

*Message #12 Posted by **Mark Henderson** on 21 Dec 2010, 7:26 p.m.,*
in response to message #10 by Michael Meyer

What did/does the Smithsonian have in its calculator collection??

Re: Classic (and other) Keyboard Layout Musings

*Message #13 Posted by **Mark Henderson** on 21 Dec 2010, 5:02 p.m.,*
in response to message #6 by Walter B

Well, perhaps I'm more of a nit-picker, but a few examples of what I see is:

Layout inconsistencies (mainly thinking about stack manip keys that are common and hence likely to be standardized?):

HP-45 and HP-55 - above the ENTER line, very little consistency!? (All models) - LASTx wanders around all over the place!

Colors:

HP-55 - very few consistencies or real obvious patterns compared to others?

Maybe it's the odd-ball HP-55 that's throwing me??!

Re: Classic (and other) Keyboard Layout Musings

*Message #14 Posted by **Egan Ford** on 21 Dec 2010, 5:19 p.m.,*
in response to message #1 by Mark Henderson

> Quote:
>
> As I admire my HP Classic and LED collection I'm a little surprised at the apparent lack of consistency and standardization in the keyboard layouts and standardization?

I am sure the same can be said about any emerging technology. E.g. automobiles. I would suspect as features increase and feedback is received coupled with economic restrictions and other give and take that what you are seeing is evolution.

Re: Classic (and other) Keyboard Layout Musings

*Message #15 Posted by **Karl Schneider** on 21 Dec 2010, 6:58 p.m.,*
in response to message #1 by Mark Henderson

Mark --

(Honest, I drafted this and posted it later, not having seen Egan's post.)

Others have already elaborated, but I believe that it was mainly a matter of evolutionary improvement of the

products.

The original production HP-35 -- particularly the earliest models -- still looks to me like a prototype, with buttons too small and poor color contrast. Feedback from users and critical analysis from the engineers surely led to the quick improvements in design.

-- Karl

Edited: 21 Dec 2010, 7:29 p.m. after one or more responses were posted

Re: Classic (and other) Keyboard Layout Musings

*Message #16 Posted by **Mark Henderson** on 21 Dec 2010, 7:25 p.m.,*
in response to message #15 by Karl Schneider

Yeah, I guess evolution does explain it. Hard for me to swallow since the HP-35 was perfect :-) Well, of course it wasn't, but it is a true icon. Lately the one I've been really enjoying is my 19C, very nice machine. But could I choose just one? I doubt it (that's why I need to collect them ALL!!).

Re: Classic (and other) Keyboard Layout Musings

*Message #17 Posted by **Walter B** on 22 Dec 2010, 2:24 a.m.,*
in response to message #15 by Karl Schneider

> Quote:
>
> The original production HP-35 -- particularly the earliest models -- still looks to me like a prototype, with buttons too small and poor color contrast.

The original HP-35 was a shot in the dark - nobody knew whether it would succeed or not. To me, it looks exactly like this: taking the established colors and key sizes of other HP products of that time, double shot moulding for the most basic keys only, blank keys for all other, cheap printing on the keyplate. HP-35V4 did show how it could have looked from the very beginning ... but of course the engineers tried to keep risk low at launch.

Just my 20 m€, of course

Edited: 22 Dec 2010, 4:50 a.m.

Re: Classic (and other) Keyboard Layout Musings

*Message #18 Posted by **Palmer O. Hanson, Jr.** on 27 Dec 2010, 8:57 p.m.,*
in response to message #1 by Mark Henderson

I am quite sure that what follows was discussed in an earlier thread in this forum but I haven't been able to find it,

Starting with with the HP-35 and continuiing through the Classic series, the Woodstock series, the Spice series and ending with the HP-41 the arithmetic keys were at the left side of the calculator and arranged in the order - + x / reading from the top. Starting with the the Voyagers and for nearly all subsequent models the arithmetic keys were moved to the right side of the calculator and arranged in the order / x - + reading from the top. The curious aspect of all of this is that the move resulted in an arrangement which mimicked that which had been used by TI and Sharp for many years.

The exceptions that I know of are the HP-6S, HP-8s, and HP-10s where the arithmetic keys are at the lower

right and placed in a 2x2 array where x / are above + -. This arrangement is similar to that used in many but not all Casio machines.

Re: Classic (and other) Keyboard Layout Musings

*Message #19 Posted by **bill platt** on 27 Dec 2010, 9:47 p.m.,*
in response to message #18 by Palmer O. Hanson, Jr.

> Quote:
>
> The exceptions that I know of are the HP-6S, HP-8s, and HP-10s where the arithmetic keys are at the lower right and placed in a 2x2 array where x / are above + -. This arrangement is similar to that used in many but not all Casio machines.

These were not HP machines. They merely have HP badges.

When HP did the voyagers, I do wonder if someone at HP thought that it would help to get Ti converts, if they re-arranged the keys to match.

Edited: 27 Dec 2010, 9:48 p.m.

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M2kM Software manual updated

*Message #1 Posted by **Meindert Kuipers** on 20 Dec 2010, 1:32 p.m.*

While travelling I have been updating the manual for the M2kM software (now updated to version 1.70). Those with and MLDL2000 will know what is is. It may be found at my website.

If you do not have an MLDL2000, this software may be of use because of the HP41 disassembler (can now disassemble for SDK41, for easy re-assembly) and the manipulation of MOD files.

Meindert

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HHC MMC Programming challenge inC code

*Message #1 Posted by **David Hayden** on 20 Dec 2010, 12:02 a.m.*

The programming challenge at HHC MMX was to write a UserRPL program to sort a list of integers with the odd numbers appearing first and the even numbers appearing second. Entries were scored based on the run-time multiplied by the program size.

Just for fun, I wrote a solution in C code. Although this was clearly an invalid entry for the contest, I wanted to see if the huge increase in size would be offset by the increase in speed.

The UserRPL programs can be found here.

Here are the results. The input lists L10, L100 and L1000 are my own lists of 10, 100, and 1000 random integers. Note that these are not the input lists used by Joe Horn to judge the contest. Size is in bytes and runtime in seconds. Program names are as given in the link above, except that "dh2.c" is my C code implementation.

```
                        PROGRAM
         BVB      PRGM2    PRGM3    PRGM4    PRGM5    dh2.c
size     98.5     90       99       90       141      16433


Run Time:
L10      0.27     0.42     0.40     1.15     0.90     0.05
L100     2.11     5.55     5.58     7.70     9.93     0.09
L1000    40.25    452.00   211.67   114.90   152.30   0.30


Score (run time * size)
L10      26.1     38.1     40.0     103.6    127.4    828.2
L100     208.2    499.3    552.7    693.1    1400.5   1465.8
L1000    3964.5   40680.0  20955.2  10341.1  21474.3  4865.8
```

The C code is more than 100 times bigger than the biggest User RPL solution. For a 10-item list, it runs about 5 to 18 times faster, resulting in a "bytes times seconds" score far worse than any of the other programs. But when the list is 1000 items, it runs more than 100 times faster than the fastest User RPL program, which is itself almost three times faster than the next fastest entry. At 1,000 items, the C code's overall score is a close second place to the Bill Butler's winning program.

Note that with a 50G, it's easy to store the C program on an SD card and access it with a small stub program that just recalls and evaluates it.

Here is the C code:

```
#include <hpgcc49.h>
#include "hpobjects.h"


// Callback function for quicksort. Sort by odd/even then by size
int
cmp(const void *p1, const void *p2)
{
    long long ll1, ll2;
    int mod1, mod2;


    ll1 = *(long long*)p1;
```

```
    ll2 = *(long long*)p2;


    mod1 = ll1 % 2;
    mod2 = ll2 % 2;


    if (mod1 &&  !mod2) {
        // ll1 odd, ll2 even
        return -1;
    } else if (!mod1 && mod2) {
        return 1;
    }


    // both are odd or both are even
    if (ll1 < ll2) return -1;
    if (ll1 > ll2) return 1;
    return 0;
}


int main()
{
    SatAddr oldList, newList;
    SatAddr listOb, iter;
    int size, i, j;
    SatAddr *arr;
    long long *llArray;


    sys_slowOff();
    if (!STACKdepth()) {
        return 0;
    }
    oldList = STACKpop();
    if (!isLIST(oldList)) {
        STACKpush(oldList);
        return 0;
    }


    size = LISTsize(oldList);
    arr = calloc(size, sizeof(SatAddr));
    llArray = calloc(size, sizeof(long long *));


    // Get the objects from the list
    i = 0;
    for (listOb = LISTfirstOb(oldList, &iter);
         listOb;
         listOb = LISTnextOb(&iter)) {


        if (isZINT(listOb)) {
            ZINTdecodell(listOb, &llArray[i++]);
        }
    }


    qsort(llArray, i, sizeof(long long), cmp);


    for (j=0; j < i; ++j) {
        arr[j] = ZINTencodell(llArray[j], 0);
    }
    newList = LISTencodeN(i, arr, 0);
    STACKpush(newList);
    free(llArray);
    free(arr);
    sys_slowOn();
    return 0;
}
```

Re: HHC MMC Programming challenge inC code

*Message #2 Posted by **Oliver Unter Ecker** on 24 Dec 2010, 7:15 p.m.,*
in response to message #1 by David Hayden

David,

Thanks for the interesting read.
It inspired me to find out how ND1 (http://naivedesign/ND1) would do on this challenge.

Here's my would-be entry:

```
f(v)=v.sort(function(a,b){return(a&1&&!(b&1))?-1:(!(a&1)&&b&1?1:a-b)})
```

71 bytes.
This code is MorphEngine's "natural math" syntax for maximum compaction.

Easier to read (but slightly larger; and we're sweating bytes here…), it would be written like this:

```
function(v) {
  return v.sort(function(a, b) { return (a%2 && !(b%2)) ? -1 : (!(a%2) && b%2 ? 1 : a-b);
});
}
```

Run-time for a 1000-element vector is 0.035s on my iPhone 3GS. B*T score would be ~2.5 (71*0.035).

Run-time for the original 64-element vector from the competition is 0.002s. Score: 0.142
(That's almost a factor 1000 higher than the UserRPL winner.)

Run-time for a 100,000-element vector (generated in a little over a second) is 5.9s.

The integer vector is created either through this RPL program

```
\<< \-> n \<< [] 1 n START RAND 2E12 * RND 1E12 - + NEXT \>> \>>
```

or, for higher speed, this equivalent JavaScript program

```
function (n) {
  var v = [];
  for (var i=0; i<n; i++)
    v.push(Math.floor(Math.random()*2e12)-1e12);
  return v;
}
```

Note, that iPhone and 50g use the same CPU architecture (ARM9), but the iPhone is clocked ~10x faster.
Interesting, though, that this advantage is not (at least partially) lost by the interpreter vs. compiled difference.

Re: HHC MMC Programming challenge inC code

*Message #3 Posted by **David Hayden** on 25 Dec 2010, 6:34 a.m.,*
in response to message #2 by Oliver Unter Ecker

> Quote:
>
> Interesting, though, that this advantage is not (at least partially) lost by the interpreter vs. compiled difference.

It's probably using just-in-time compilation. Basically the interpreter compiles blocks of code as it encounters them and caches the results. The next time it encounters that block of code, it can execute the compiled block. This usually results in interpreted code running nearly as fast as compiled code. That's why java applications usually run pretty quickly.

Re: HHC MMC Programming challenge inC code

*Message #4 Posted by **Oliver Unter Ecker** on 26 Dec 2010, 7:18 a.m.,*
in response to message #3 by David Hayden

David,

You're probably right. SquirrelFish Extreme (Nitro) is the JavaScript engine in Safari and, yes, it's JIT'ed. I don't know if Mobile Safari uses the same engine (the older JavaScriptCore engine had no JIT compiler).
I can tell you that in many instances JavaScript code does perform quite a bit slower than C code, as one might expect. I'm working on a bridge that allows me to use C code (specifically, vectorized code) from JavaScript for greater speed.

Re: HHC MMC Programming challenge inC code

*Message #5 Posted by **Glenn Shields** on 26 Dec 2010, 9:46 a.m.,*
in response to message #1 by David Hayden

Hello all, I'm still trying to figure out what is happening in the winning RPL program in the link. They are all amazing, but what is STREAM doing with the stack? It's mysterious, because going step by step leaves a list with the size on top. Debug seems impossible with this parallel list processing. Any help? cheers, Glenn

Re: HHC MMC Programming challenge inC code

*Message #6 Posted by **Thomas Klemm** on 26 Dec 2010, 12:09 p.m.,*
in response to message #5 by Glenn Shields

> Quote:
>
> Debug seems impossible with this parallel list processing

Try adding a **HALT** in the code object which is **STREAM**ed:

```
\<< I\->R SORT DUP SIZE 3. ROT +
  \<< HALT
      DUP R\->I SWAP 2. MOD { OVER ROLLD } { UNROT 1. + } IFTE
  \>> STREAM DROP \->LIST
\>>
```

Now you can **SST** into that code section as well. The top of the stack keeps track of where the odd numbers are inserted. With each even number inserted this pointer is incremented.

HTH
Thomas

PS: Just tested this on a HP-48 emulator, but I assume this is similar on the HP-50.

Re: HHC MMC Programming challenge inC code

*Message #7 Posted by **Glenn Shields** on 28 Dec 2010, 11:24 a.m.,*

in response to message #6 by Thomas Klemm

Thank you Thomas, that did it - I could follow the ifte process, and the use of that counter to let higher odd numbers "hop over" the accumulated even numbers in the stack. Amazing what these RPL experts can do with the tools available. Regards, Glenn

Re: HHC MMC Programming challenge inC code

*Message #8 Posted by **Thomas Klemm** on 28 Dec 2010, 12:03 p.m.,*
in response to message #7 by Glenn Shields

You might want to compare the programs in message #5 and #6 of this previous Programming Challenge.
STREAM (or fold or reduce in other programming languages) is a powerful tool though some consider it harmful.

Cheers
Thomas

Edited: 28 Dec 2010, 12:08 p.m.

Re: HHC MMC Programming challenge inC code

*Message #9 Posted by **David Hayden** on 31 Dec 2010, 9:40 a.m.,*
in response to message #5 by Glenn Shields

> Quote:
>
> Hello all, I'm still trying to figure out what is happening in the winning RPL program in the link. They are all amazing, but what is STREAM doing with the stack? It's mysterious, because going step by step leaves a list with the size on top. Debug seems impossible with this parallel list processing. Any help? cheers, Glenn

Glenn,

I have submitted an article to Datafile that analyzes all five entries to the programming challenge.

Dave

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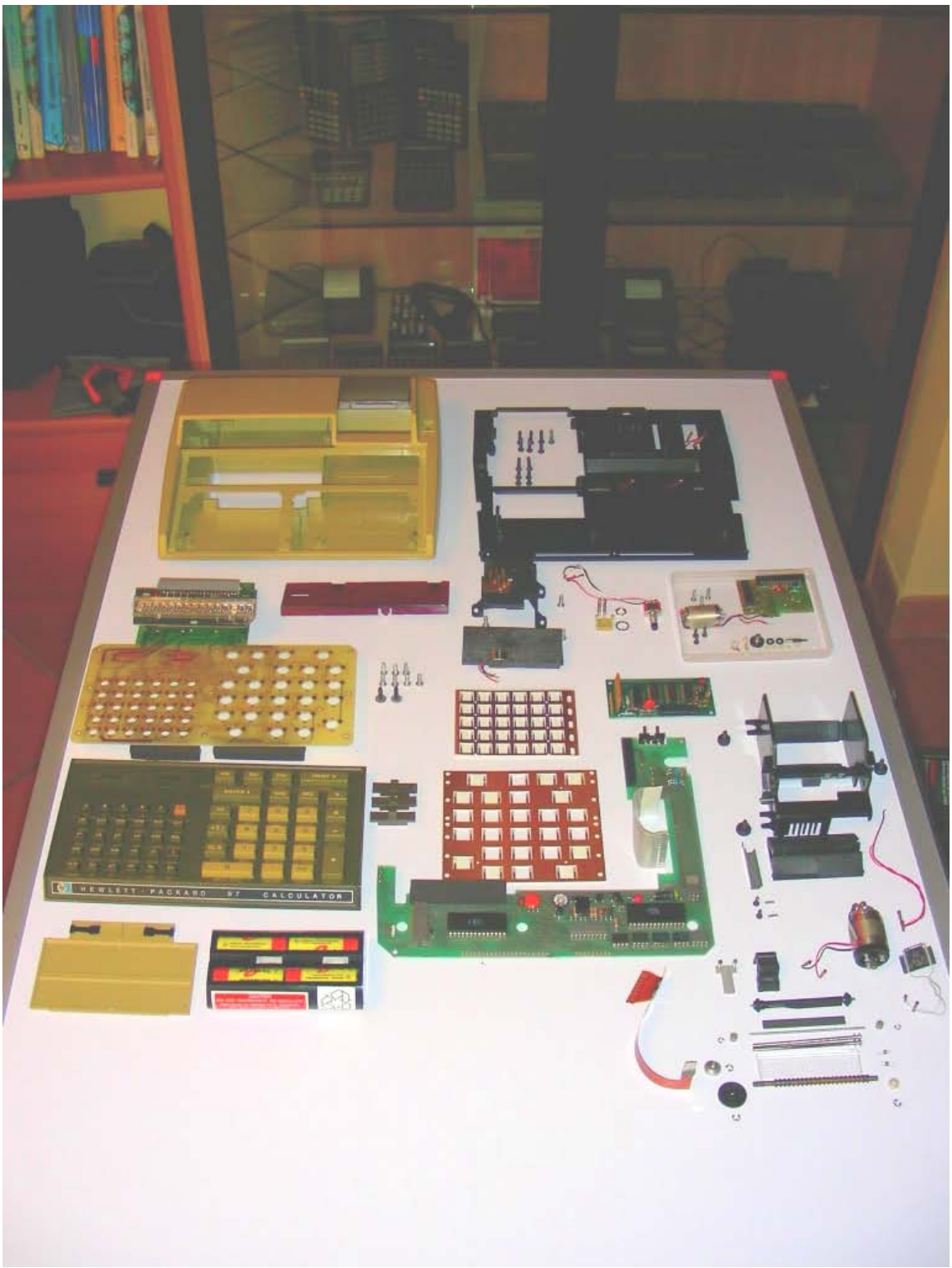
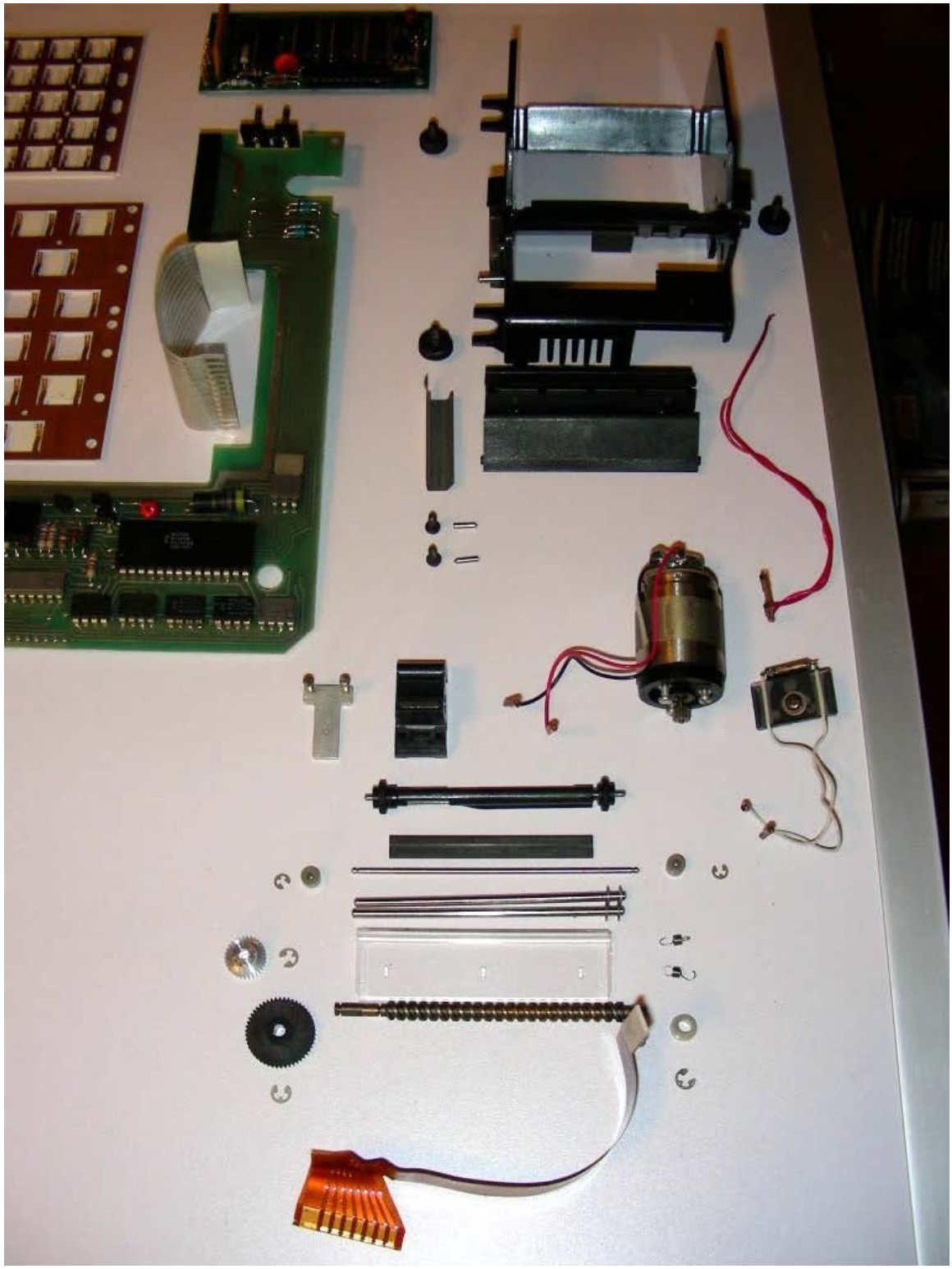
A little Christmas game

*Message #1 Posted by **Ignazio Cara (Italy)** on 19 Dec 2010, 12:02 p.m.*

Hello dear friends, This is a little game for the Christmas's week, if you aren't still gone to holyday. To document my job regard the complete restoring of the HP calculators, in this case an HP-97, I have took a picture of all the calculator's component. This picture will be inserted in my future auctions on the AS. But I have forgot something. Can you find the lacking parts?



HEWLETT · PACKARD 97 CALCULATOR
CAUTION
DO NOT INCINERATE OR MUTILATE



For Katie: detail of the first image.

Have you an happy Christmas and all you need for the new year. Take care...

Ignazio

Edited: 20 Dec 2010, 2:23 p.m. after one or more responses were posted

Re: A little Christmas game

*Message #2 Posted by **Namir** on 19 Dec 2010, 12:22 p.m.,*
in response to message #1 by Ignazio Cara (Italy)

The glue you are going to use to put the HP-97 together!!!

Re: A little Christmas game
*Message #3 Posted by **Ignazio Cara (Italy)** on 19 Dec 2010, 1:22 p.m.,*
in response to message #2 by Namir

Hi Namir,

only elbow oil ;)

Re: A little Christmas game
*Message #4 Posted by **Bruce Bergman** on 19 Dec 2010, 1:37 p.m.,*
in response to message #1 by Ignazio Cara (Italy)

Power cord?

Re: A little Christmas game
*Message #5 Posted by **Ignazio Cara (Italy)** on 19 Dec 2010, 2:02 p.m.,*
in response to message #4 by Bruce Bergman

Hi Bruce, no, The lacking part is an inner component.

Sorry.

Ignazio

Re: A little Christmas game
*Message #6 Posted by **Jim Yohe** on 19 Dec 2010, 3:10 p.m.,*
in response to message #1 by Ignazio Cara (Italy)

Solder

Re: A little Christmas game
*Message #7 Posted by **Michael Meyer** on 19 Dec 2010, 3:47 p.m.,*
in response to message #1 by Ignazio Cara (Italy)

Where are the sheets that are used to insulate the gold-plated key contacts from the buttons and the circuit board?

Re: A little Christmas game
*Message #8 Posted by **Katie Wasserman** on 19 Dec 2010, 3:57 p.m.,*
in response to message #7 by Michael Meyer

What about the slide out metal tab (the manual calls it a 'hasp') that is the attachment point for the optional security cable?

Re: A little Christmas game
*Message #9 Posted by **Walter B** on 19 Dec 2010, 4:39 p.m.,*
in response to message #8 by Katie Wasserman

Katie, I concur - I don't see this part on Ignazio's pictures either.

Re: A little Christmas game
*Message #10 Posted by **Ignazio Cara (Italy)** on 20 Dec 2010, 2:58 a.m.,*
in response to message #8 by Katie Wasserman

Hi Katie, hello Walter,

perhaps it's not visible but I guarantee that it's present. I will insert an image ASAP.

Ignazio

Re: A little Christmas game
*Message #11 Posted by **Ignazio Cara (Italy)** on 20 Dec 2010, 2:50 a.m.,*
in response to message #7 by Michael Meyer

The 4 spacers are beneath the key contact sheet...

Re: A little Christmas game
*Message #12 Posted by **aurelio** on 19 Dec 2010, 4:27 p.m.,*
in response to message #1 by Ignazio Cara (Italy)

Hi Ignazio e Buon Natale!! two springs n.21 of the printer, the pusher ones, maybe

Re: A little Christmas game
*Message #13 Posted by **Ignazio Cara (Italy)** on 20 Dec 2010, 3:12 a.m.,*
in response to message #12 by aurelio

Ciao Aurelio e Buon Natale anche a te! Look carefully at the fourth image, at the right of the paper tear bar.

Take care.

Ignazio

Re: A little Christmas game
*Message #14 Posted by **aurelio** on 20 Dec 2010, 11:05 a.m.,*
in response to message #13 by Ignazio Cara (Italy)

Hi Ignazio, the springs in that picture are only two and , as from the exploded wiev of the manual (I've not a 97 in my collection so that I can't check it personally) there are two kind of spring (n.20 and n.21) 2+2 = 4 ; if I'm not wrong the spring , as I can see, are only 2 on your desktop, let me know, thanks.

PS: Ignazio, where are you from?

Edited: 20 Dec 2010, 11:09 a.m.

Re: A little Christmas game
*Message #15 Posted by **Ignazio Cara (Italy)** on 20 Dec 2010, 11:30 a.m.,*
in response to message #14 by aurelio

Hi Aurelio, I have understood now, but I haven't take apart the holder so you can't see the pusher springs. Try again. Regards

Ignazio

P.S. I'm an HP collector and live in Iglesias (CI)... and I have a lot of HP-97.

Re: A little Christmas game
*Message #16 Posted by **Alberto Fenini** on 19 Dec 2010, 5:05 p.m.,*
in response to message #1 by Ignazio Cara (Italy)

Hello everybody
I would say the paper for testing the printerhead ehehehehe

Merry christmas everybody !!!!

Re: A little Christmas game
*Message #17 Posted by **Ignazio Cara (Italy)** on 20 Dec 2010, 3:16 a.m.,*
in response to message #16 by Alberto Fenini

Hello Alberto, ciao. Sorry, you have to try again... I'm a lucky man, the printer head is good...

Merry Christmas to everybody.

Ignazio

Re: A little Christmas game
*Message #18 Posted by **Katie Wasserman** on 20 Dec 2010, 11:52 a.m.,*
in response to message #17 by Ignazio Cara (Italy)

How about the 3 copper leaf springs that sit under the 3 slide switches to contact the PCB?

Re: A little Christmas game

*Message #19 Posted by **Ignazio Cara (Italy)** on 20 Dec 2010, 12:01 p.m.,*
in response to message #18 by Katie Wasserman

Hi Katie, they are above the keyboard PCA, holded in position by the silicon grease. Look at the second image. I have inserted a detail of the backbone at the bottom of my first post.

Try again, please.

Ignazio

Edited: 20 Dec 2010, 12:02 p.m.

Re: A little Christmas game
*Message #20 Posted by **Katie Wasserman** on 20 Dec 2010, 1:29 p.m.,*
in response to message #19 by Ignazio Cara (Italy)

Ok, here's my last guess...

The copper sheet that forms the contacts for the switches inside the card reader. The nylon balls are in the picture but not the copper.

Re: A little Christmas game
*Message #21 Posted by **aurelio** on 20 Dec 2010, 1:58 p.m.,*
in response to message #20 by Katie Wasserman

Excuse me Ignazio if I answer for you:

Katie, if you see carefully in the fourth picture, copper switches are shown..... now much better...Ignazio has cleared it, increasing the brightness and now the picture shows more detailes..... Cheers

Re: A little Christmas game
*Message #22 Posted by **Ignazio Cara (Italy)** on 20 Dec 2010, 2:18 p.m.,*
in response to message #21 by aurelio

Thanks Aurelio!

Re: A little Christmas game
*Message #23 Posted by **BruceH** on 20 Dec 2010, 1:46 p.m.,*
in response to message #1 by Ignazio Cara (Italy)

Shouldn't there be a little canister of magic smoke in there somewhere?
;-)

Re: A little Christmas game
*Message #24 Posted by **Jim Yohe** on 20 Dec 2010, 2:19 p.m.,*
in response to message #23 by BruceH

Good one Bruce. ;-)

Re: A little Christmas game
*Message #25 Posted by **Ignazio Cara (Italy)** on 20 Dec 2010, 2:34 p.m.,*
in response to message #23 by BruceH

The magic smoke is freed when I remounted and turned on the computer!

Ignazio

Re: A little Christmas game
*Message #26 Posted by **Joel Setton (France)** on 21 Dec 2010, 3:24 a.m.,*
in response to message #25 by Ignazio Cara (Italy)

One of the paper-detect contacts seems to be missing...

Joel

Re: A little Christmas game
*Message #27 Posted by **Ignazio Cara (Italy)** on 21 Dec 2010, 4:34 a.m.,*
in response to message #26 by Joel Setton (France)

Hi Joel, no, sorry, they are both present.

Ignazio

Re: A little Christmas game
*Message #28 Posted by **Randy** on 21 Dec 2010, 9:13 a.m.,*
in response to message #1 by Ignazio Cara (Italy)

Printer bushing 5040-9227 is missing from the left (driven) side of the lead screw.

Re: A little Christmas game
*Message #29 Posted by **Ignazio Cara (Italy)** on 21 Dec 2010, 9:22 a.m.,*
in response to message #28 by Randy

Hi Randy, it's very difficult to see in the third image but it's again inserted in the body of the printer (Housing, 5040-9201).

Try again, you will be more lucky ;)

Thanks for your welcome participation.

Ciao,

Ignazio

Edited: 21 Dec 2010, 9:43 a.m.

Re: A little Christmas game
*Message #30 Posted by **Randy** on 21 Dec 2010, 1:32 p.m.,*
in response to message #28 by Randy

Remove one bushing but not the other? That's not consistent.

So where are you hiding the two 22uf capacitors on the card reader pcb? C1 and C2 - the caps in series with the head windings. Are they under the Christmas Tree?

Re: A little Christmas game
*Message #31 Posted by **Ignazio Cara (Italy)** on 21 Dec 2010, 3:22 p.m.,*
in response to message #30 by Randy

Hi Randy,

Game over!

You are right, the three caps (2*22uF + 1*6,8uF) are missing from the card reader PCB!

You are the winner... but you have won... only a Bravo!

Merry Christmas to everybody and many thanks for your participation and sympathy.

Ignazio

Edited: 23 Dec 2010, 4:41 a.m.

Re: A little Christmas game
*Message #32 Posted by **Ignazio Cara (Italy)** on 21 Dec 2010, 3:32 p.m.,*
in response to message #30 by Randy

Hi Randy,

> Quote:
>
> Remove one bushing but not the other? That's not consistent.

Why you think no consistent leave the bushing in place? Allow me to learn more...thanks.

Ignazio

Re: A little Christmas game

*Message #33 Posted by **Randy** on 22 Dec 2010, 9:20 a.m.,*
in response to message #32 by Ignazio Cara (Italy)

Just my observation of the "game". Both bushings are removable but only one was removed and displayed. The second one was, IMO, not visible in the printer carriage.

Re: A little Christmas game

*Message #34 Posted by **Ignazio Cara (Italy)** on 22 Dec 2010, 1:19 p.m.,*
in response to message #33 by Randy

Hi Randy,

I think you are right, I agree with you. I overlooked that small detail. I apologize to everyone for their inaccuracy. Sorry.

Take care.

Ignazio Cara

Re: A little Christmas game

*Message #35 Posted by **Giancarlo** on 24 Dec 2010, 8:58 a.m.,*
in response to message #34 by Ignazio Cara (Italy)

Hello Ignazio, The only missing piece is a bottle of mirto on the table.

Merry xmas to you (all).

Giancarlo from Milan

Re: A little Christmas game

*Message #36 Posted by **Ignazio Cara (Italy)** on 25 Dec 2010, 6:34 a.m.,*
in response to message #35 by Giancarlo

Hello Giancarlo, of course, you are right. When you came in Sardegna with your mtb we can taste our nectar.

Ciao e augurissimi per un felicissimo Natale.

Merry xstmas to all our friends too.

Ignazio

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HP-67 Emulator for the iPad???

*Message #1 Posted by **Namir** on 19 Dec 2010, 9:27 a.m.*

Hi All,

Any developer out there working on or thinking of writing an HP-67 emulator for the iPad?? I recently got the emulator combo pack for the HP-35, 45, 80, and 55. I downloaded an upgrade last night that added some missing features and made the keys glow when you touch them.

Namir

Edited: 19 Dec 2010, 3:05 p.m. after one or more responses were posted

Re: HP-67 Emulator for the iPad???

*Message #2 Posted by **Egan Ford** on 19 Dec 2010, 9:33 a.m.,*
in response to message #1 by Namir

> Quote:
>
> I recently got the emulator combo pack for the HP-35, 45, 80, and 55. I downloaded an upgrade last night that added some missing features and made the keys glow when you touch them.

What's it called?

Re: HP-67 Emulator for the iPad???

*Message #3 Posted by **Namir** on 19 Dec 2010, 12:19 p.m.,*
in response to message #2 by Egan Ford

VintageRPN

Re: HP-67 Emulator for the iPad???

*Message #4 Posted by **Egan Ford** on 19 Dec 2010, 12:54 p.m.,*
in response to message #3 by Namir

I don't see it in the App store. Perhaps it is not available in the US or got yanked.

Re: HP-67 Emulator for the iPad???

*Message #5 Posted by **Namir** on 19 Dec 2010, 1:15 p.m.,*
in response to message #4 by Egan Ford

Try ClassicHPCalc!! When you install the app it shows VitageRPN as the title.

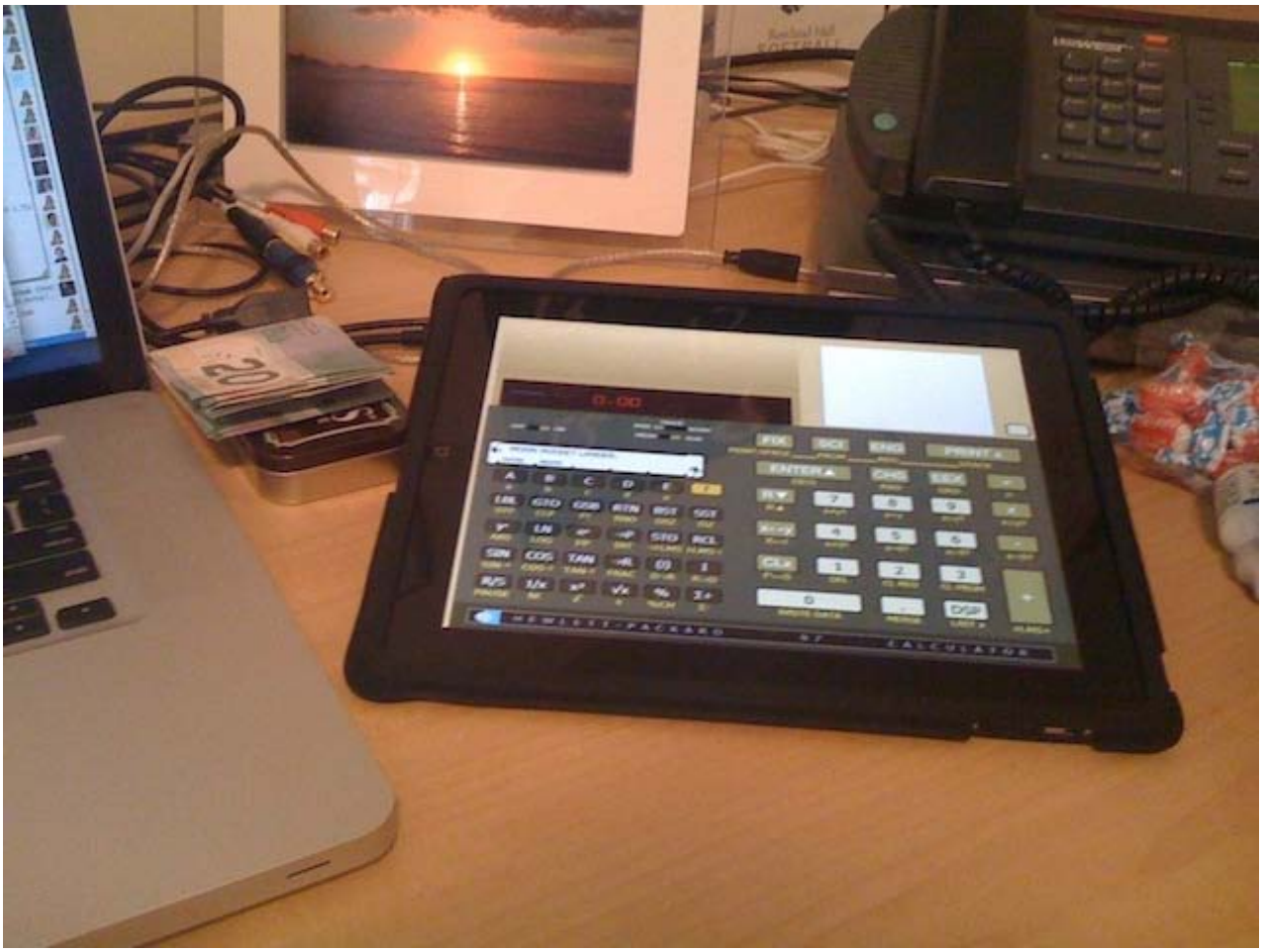
Edited: 19 Dec 2010, 1:17 p.m.

Re: HP-67 Emulator for the iPad???

*Message #6 Posted by **Egan Ford** on 19 Dec 2010, 4:43 p.m.,*
in response to message #5 by Namir

Thanks. Found it. This is from the same developer that has the cheaper Voyagers. Based on the models offered, and that random numbers on the emulated 15C are the same as a real 15C, then I'll assume that this is yet another Nonpareil-based iPhone app using Eric's ROM dumps. So, until Eric gives us a 67, those basing their Apps on Nonpareil will have to wait. BTW, a 97 would be awesome on the iPad (see below).

$15 is a bit steep and they are not universal apps, just iPhone for now. No screen shots on iTunes does not inspire confidence.



Edited: 19 Dec 2010, 4:46 p.m.

Re: HP-67 Emulator for the iPad???

*Message #7 Posted by **Bruce Bergman** on 19 Dec 2010, 1:41 p.m.,*
in response to message #1 by Namir

But this is actually an iPhone app. How does it look on the iPad? So far I'm not impressed with some of the appearances once they show up in the phone emulator on the iPad...

thanks, bruce

Re: HP-67 Emulator for the iPad???

*Message #8 Posted by **Namir** on 19 Dec 2010, 1:44 p.m.,*
in response to message #7 by Bruce Bergman

The upgraded version adds more features. The HP-55 linear regression does not work, for example. You can now program the HP-55. i have not thoroughly tested the emulator for all the four calculators.

Namir

Re: HP-67 Emulator for the iPad???

*Message #9 Posted by **Jean-Michel** on 19 Dec 2010, 3:44 p.m.,*
in response to message #8 by Namir

Hello Namir!

How is it possible you already bought this (expensive!) application AND also downloaded and upgrade when the date of publishing mentionned in the AppStore (at least from France) is just... today (dec. 19th, 2010)?! Just curious. That being said, wouldn't it be that expensive (11,99€), nice app though. Thanks for sharing.

Kind regards.

JM.

Re: HP-67 Emulator for the iPad???

*Message #10 Posted by **Namir** on 19 Dec 2010, 9:34 p.m.,*
in response to message #9 by Jean-Michel

Maybe it was under another name or they reset the release date? Anyway, I am not the only one who bought an early version (See post by Vladan).

As Vladan mentions, the emulators still need work, but it's nice to be heading that way!

So I still hope for HP-67, HP-25C, and HP29C emulators.

Namir

Edited: 19 Dec 2010, 10:23 p.m.

Re: HP-67 Emulator for the iPad???

*Message #11 Posted by **Vladan Dugaric** on 19 Dec 2010, 6:17 p.m.,*
in response to message #8 by Namir

I also bought it a few days ago when HP-55 programming was still broken. The unit conversions did not work in that version either.

Now programming works (as Namir noticed), but there are still some things broken or missing. The degF <-> degC conversion works for some values but not for others (for example, 50 ->C correctly gives 10 and 10 ->F correctly gives 50, but 0 ->C gives 82.22222222 which is wrong (and Nonpareil 55 on which this one is supposedly based gives a correct answer of -17.777778). The R<->P conversion is not yet in the iPhone emulator, even the key label only reads <->.

The previous version had SCI above the second and thr fourth key in the second row, and it did not

work. Now that has been fixed and it works.

There is one annoying problem in the iPhone emulator though (and I hope the author fixes it) - the key target areas are small, likely just the key picture areas. This makes them easy to miss if the finger is not precisely centered over the key. There should not be any dead space between the keys, so that keys would register always. In this (and the previous) version, there are a lot of misses when typing.

The keyboard is also a bit slow, so typing fast enough will result in a lot of missed keystrokes. Needless to say, the Windows version of Nonpareil does not suffer from this problem. To be fair, the problem on the iPhone version might be due to small key target areas and might not exist in reality (I cannot reproduce it always).

The timer mode of the original HP-55 and its Nonpareil emulation is missing in the iPhone version too.

I haven't tested more features. Hopefully, they are just bugs in the implementation of the original Nonpareil code (the way program executes with the flashing display suggests it might be the case).

Vladan

Edited: 19 Dec 2010, 6:27 p.m.

Re: HP-67 Emulator for the iPad???

*Message #12 Posted by **BobVA** on 19 Dec 2010, 11:17 p.m.,*
in response to message #11 by Vladan Dugaric

I just bought the 19 DEC update. No operating problems at all, since it doesn't run :-(

Immediately crashes when I start it on my iPod Touch with 3.x OS. No links to any support site or feedback mechanisms other than posting a review, either. The developers website is just an ad page with no contact info. Hope he's checking in here. Looks like a nice app, but it clearly needs better testing.

Bob

Re: HP-67 Emulator for the iPad???

*Message #13 Posted by **Vladan Dugaric** on 20 Dec 2010, 12:31 p.m.,*
in response to message #12 by BobVA

Both my iPod Touch 2G and iPhone 3GS are running iOS 4.2.1. I haven't tested this app on iOS 3 since it came out long after I upgraded both of my devices to 4.x.

The app runs fine on both.

If you don't have a solid reason to stay with 3.x, I suggest that you upgrade the iPod Touch to 4.2.1. The performance issues of 4.0 to 4.1 are gone in 4.2.1.

Vladan

Edited: 20 Dec 2010, 12:33 p.m.

Re: HP-67 Emulator for the iPad???

*Message #14 Posted by **BobVA** on 20 Dec 2010, 9:40 p.m.,*
in response to message #13 by Vladan Dugaric

> Quote:
>
> The performance issues of 4.0 to 4.1 are gone in 4.2.1.

Excellent! Thanks very much for that - it was precisely the reason I was holding back. I'll give the upgrade a shot and see what happens.

Regards, Bob

Update: Installed 4.2.1 and the emulator now works fine.

Edited: 21 Dec 2010, 10:37 p.m.

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Casio Prizm screenshot

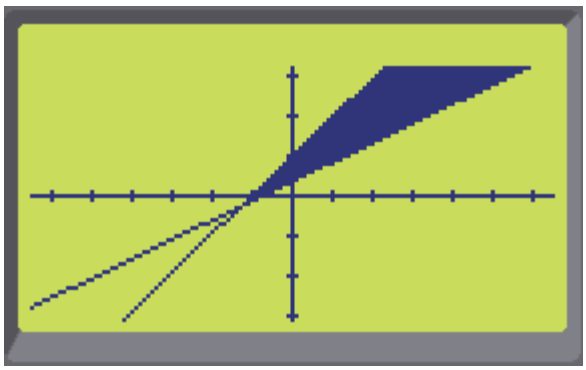
*Message #1 Posted by **Don Shepherd** on 18 Dec 2010, 10:27 p.m.*

Here is a screenshot from the Casio Prizm, showing the graph of two inequalities, y>=x+1 and y<2x+3. The dark shaded area is the solution to both inequalities. The actual screen looks somewhat crisper than the screenshot.

Re: Casio Prizm screenshot

*Message #2 Posted by **Thomas Klemm** on 19 Dec 2010, 2:33 p.m.,*
in response to message #1 by Don Shepherd

What an improvement compared to what we can do with an HP-48G:



Since I'm not that familiar with plotting I had to consult the manual. You need two different plot-types: **TRUTH** and **CONS**. As suggested in the manual I created two variables:

INEQ

```
'Y\>=X+1 AND Y<2*X+3'
```

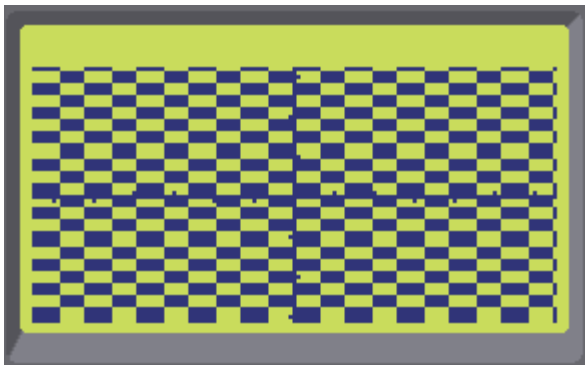
EQNS

```
{ 'Y=X+1' 'Y=2*X+3' }
```

Now you can choose one or the other for **EQ**. Don't **ERASE** the graph after drawing the first plot.

Currently I'm reading the fun of programming. There's a chapter dealing with images (7 Functional images). So I wondered whether I could do that with my HP-48 as well. Here we go:

Checker



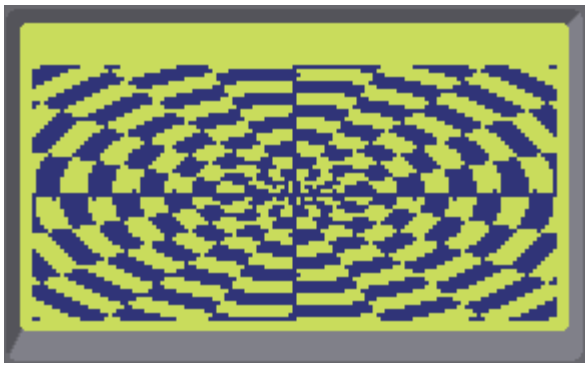
checker

```
\<<
  FLOOR SWAP
  FLOOR +
  2 MOD
  NOT
\>>
```

EQ

```
\<< Y X checker \>>
```

Polar Checker



Make sure you have your calculator in RAD-mode.

toPolar

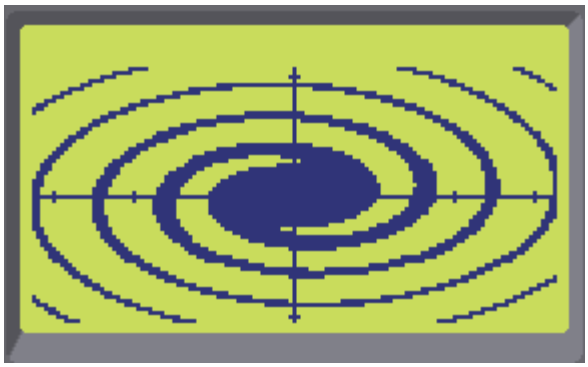
```
\<<
  R\->C DUP
  ABS SWAP ARG
\>>
```

n = 10

EQ

```
\<<
  Y X
  toPolar
  \pi /
  n *
  checker
\>>
```

Swirl Vertical Strip



vstrip

```
\<< ABS .5 \<= \>>
```

fromPolar

```
\<<
  \-> r \Gh
  \<<
    \Gh SIN r *
    \Gh COS r *
  \>>
\>>
```

r = 1

EQ

```
\<<
  Y X toPolar
  OVER
  2 * \pi *
  r / +
  fromPolar
  vstrip
\>>
```

Now this turns out to be **very** slow. Moreover I received an "Insufficent Memory" error and had to plot the image in several runs. Not exactly what you want.

Still I hope these examples might be inspiring.

Best regards
Thomas

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everything old is new again

*Message #1 Posted by **db (martinez, ca.)** on 18 Dec 2010, 9:00 p.m.*

I don't know if this Commodore remake is real, but if it is can an updated PR-100 with usb, flash, optional RPN, and a five line LED screen be far behind?

Re: everything old is new again

*Message #2 Posted by **Namir** on 18 Dec 2010, 9:52 p.m.,*
in response to message #1 by db (martinez, ca.)

Looks very nice! I want one!

Re: everything old is new again

*Message #3 Posted by **Walter B** on 19 Dec 2010, 3:14 a.m.,*
in response to message #1 by db (martinez, ca.)

Looks real, and really nice :)

Re: everything old is new again

*Message #4 Posted by **Egan Ford** on 19 Dec 2010, 1:07 p.m.,*
in response to message #1 by db (martinez, ca.)

I am unimpressed. It's a PC in a funky case running a C64 emulator. It is neither a good PC or a good C64. You can get a real C64 cheaper.

There are some great recreations of 8-bit systems out there that use as-close-to-the-original parts as possible (e.g. http://www.brielcomputers.com/wordpress/?cat=4) or emulate in FPGA (http://www.c64upgra.de/c-one/). I find the FPGA-based solutions interesting because of the low power requirements vs. emulation in a PC.

Re: everything old is new again

*Message #5 Posted by **Thomas Okken** on 20 Dec 2010, 10:17 p.m.,*
in response to message #4 by Egan Ford

> Quote:
>
> You can get a real C64 cheaper.

...and you'll get your money's worth!

I got fed up with the Commodore 64 when my fourth one died. Don't get me wrong, I'm a big fan of the C64, but the hardware was always a bit iffy, and the chips that were the most likely to die were also the ones that were the hardest to replace.

Once I had transferred all my C64 games to my PC, and had a decent C64 emulator to play them all on, I got rid of my C64 hardware, and never looked back. I still play C64 games every once in a while, using CCS64 on my PC and Power64 on my Mac. The only thing I do miss sometimes is my Competition Pro joystick.

Re: everything old is new again

*Message #6 Posted by **bill platt** on 20 Dec 2010, 10:52 p.m.,*
in response to message #5 by Thomas Okken

My uncle was fond of machine language programming. He got on this obsession with increasing the machine's level of precision by doing some sort of clever business in machine or assembler or something (you can tell that I am not an expert at low level code). One day, he got that 64 really cooking--really. It wouldn't power down, got in some sort of loop that exceeded the duty cycle. It started to smoke and he unplugged it.

I can't remember whether he served it for breakfast or lunch.

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HP-41CX Extended Memory

*Message #1 Posted by **Jeff Davis** on 18 Dec 2010, 8:19 p.m.*

I was wondering since the extended memory modules do get rather expensive and are rarely found any more, is there any way to take an old Math pac, for instance as I have one that does not work, and remove the chip and then put together an Double Extended memory module. What chip was originally used? Is there a schematic for the Module anywhere?

Re: HP-41CX Extended Memory

*Message #2 Posted by **Eric Smith** on 19 Dec 2010, 8:24 p.m.,*
in response to message #1 by Jeff Davis

The extended memory module uses four custom HP chips directly bonded to the PCB and encapsulated in epoxy. There is no commercially available memory chip that will work in an HP-41.

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OT: Sharp PC-1270 BASIC Compiler V3.3

*Message #1 Posted by **XYZT** on 18 Dec 2010, 10:42 a.m.*

I can't find a compiler.
PROMSoft does not sell the compiler and Sharp has discontinued that product.
Anyone have a compiler or know where one can be obtained?
Thank's

Edited: 18 Dec 2010, 5:41 p.m. after one or more responses were posted

Re: OT: Sharp PC-1270 BASIC Compiler V3.3

*Message #2 Posted by **Thomas Okken** on 18 Dec 2010, 5:02 p.m.,*
in response to message #1 by XYZT

I hate to nag, but could you not use [pre] tags around your text? I makes it hard to read, especially on small screens.
I'm guessing that you're doing it in order to be able to force line breaks where you want them, but you can do that using [nl].
(To get a paragraph break, use an empty line.)

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OT: Is his a real Red Dot? Again :-)

*Message #1 Posted by **XYZT** on 17 Dec 2010, 1:12 a.m.*

Edited: 23 Dec 2010, 7:04 p.m. after one or more responses were posted

Re: OT: Is his a real Red Dot? :-)

*Message #2 Posted by **Namir** on 17 Dec 2010, 2:39 a.m.,*
in response to message #1 by XYZT

I agree ... maybe worth $75 to $120. Programming features are very primitive.

Re: OT: Is his a real Red Dot? :-)

*Message #3 Posted by **Walter B** on 17 Dec 2010, 2:52 a.m.,*
in response to message #1 by XYZT

Well, I won't pay as much for this - but who else pays what I pay for a good HP ? Just a few - and I guess I know most of them ;)

Re: OT: Is his a real Red Dot? :-)

*Message #4 Posted by **Mark Henderson** on 17 Dec 2010, 10:11 a.m.,*
in response to message #1 by XYZT

I can only think that there are people out there who value those glowing green digits as much as I value my lowing red HP LEDs!!!

Re: OT: Is his a real Red Dot? :-)

*Message #5 Posted by **Palmer O. Hanson, Jr.** on 17 Dec 2010, 10:43 p.m.,*
in response to message #1 by XYZT

> Quote:
>
> I could never imagine that a calculator that Sharp had the sale value. I have one and I see no feature that makes it stand out from other calculators.

I have a PC-1201 in mint condition. It is a nice little device. I struggled with programming it because I didn't have a manual but I eventually figured it out. I paid three dollars for it back in 2005. Perhaps I should hold it and wait for even more appreciation.

The bid of $607 does seema little high but I don't have any real insight as to the rarity o the PC-1201 or how many collectors are interested. I do have a HP-41CV in very good condition with manual, carrying case and carton that I purchased in 1998 for two dollars. I also have a mint condition HP-41CX with manual, carrying case, and carton that I purchased in 1999 for five dollars. How does the appreciation of those devices compare

with that of the PC-1201?

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Program not working with V2.15 for HP50G

*Message #1 Posted by **Iqbal** on 16 Dec 2010, 2:30 p.m.*

Only now realised that my subdivision program stops with the following error : "Bad argument type" while running. The program fouls up with a black and blue 50G using the 2.15 firmware. However, with 2.08 version, it works flawlessly. All flags are the same on both calculators. Any ideas what could cause that?

Re: Program not working with V2.15 for HP50G

*Message #2 Posted by **Namir** on 16 Dec 2010, 4:13 p.m.,*
in response to message #1 by Iqbal

Dear Iqbal,

Can you share the listing for the subdivision program? This might give someone on this web site an insight as to what is wrong. In general (and I really mean in a very general sense) memory-related problems can do this type of errors ... and they drive you nuts!

Namir

Re: Program not working with V2.15 for HP50G

*Message #3 Posted by **Tim Wessman** on 16 Dec 2010, 10:47 p.m.,*
in response to message #1 by Iqbal

There should be no possible incompatibilities as far as I know. That is very surprising. Please do post it.

TW

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Blue HP 50G

*Message #1 Posted by **Iqbal** on 15 Dec 2010, 2:33 p.m.*

Just got myself one of those blue toys. It's very blue. It's pretty different from the older days calculators like the 41CX and 42S, but everyone who saw it, liked it. The keys also feel softer. One of my students who has a black 50G also noticed the softer key feel. The battery cover is loose, so I changed it with a black cover, which fits pretty snug. Maybe just coincidence. I got it from Spain, obviously, since it is only available there. It's a nice variation from the black, for those who want change. One thing I am concerned about is because of the lighter blue the body is in, it may tend to get 'dirty' easier. The black ones would probably hide these flaws, but the blue would show it up. Just my observations.

Edited: 15 Dec 2010, 2:34 p.m.

Re: Blue HP 50G

*Message #2 Posted by **Tim Wessman** on 15 Dec 2010, 5:41 p.m.,*
in response to message #1 by Iqbal

It is definitely very blue. :-)

I haven't seen the final working model, but it does look much better in hand than in any picture. If you just go by that then you will be very worried. Granted, blue will not float everyone's boat, but I do think you hit the nail nicely regarding a selection for those that want it.

That does seem very strange that the keys feel that different. . .

TW

Re: Blue HP 50G

*Message #3 Posted by **Iqbal** on 16 Dec 2010, 5:35 a.m.,*
in response to message #2 by Tim Wessman

This model has a periodic table and Streansmart connection built in in the APPS function. Not sure if this is a recent development, but my black 50G doesnt have that.

Re: Blue HP 50G

*Message #4 Posted by **Marcus von Cube, Germany** on 16 Dec 2010, 8:27 a.m.,*
in response to message #3 by Iqbal

> Quote:
>
> Streansmart

I don't get what that might be.

Re: Blue HP 50G

*Message #5 Posted by **Walter B** on 16 Dec 2010, 8:31 a.m.,*
in response to message #4 by Marcus von Cube, Germany

Should read Streamsmart ;) and is found here. HTH

Re: Blue HP 50G

*Message #6 Posted by **Marcus von Cube, Germany** on 16 Dec 2010, 10:25 a.m.,*
in response to message #5 by Walter B

HP's answer to the data collecting devices from TI and Casio.

Re: Blue HP 50G

*Message #7 Posted by **Paul Berger (Canada)** on 16 Dec 2010, 8:36 a.m.,*
in response to message #3 by Iqbal

Those functions are in the latest firmware for the 50G, enter the command "VERSION" to see what level your black 50G is at. Mine shows "Revision #2.15" and those apps are present. The firmware update is available from HP's website.

Re: Blue HP 50G

*Message #8 Posted by **Iqbal** on 16 Dec 2010, 9:49 a.m.,*
in response to message #7 by Paul Berger (Canada)

Ooops. Yes it is StreamSmart. Blue one is version 2.15, black is 2.08.

Re: Blue HP 50G

*Message #9 Posted by **hpnut** on 16 Dec 2010, 10:39 a.m.,*
in response to message #8 by Iqbal

Mine is black and FW is v 2.15.

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Is his a real Red Dot?

*Message #1 Posted by **Mark Henderson** on 15 Dec 2010, 1:46 p.m.*

TAS Listing

To me it seems like it might be a counterfeit? But the bidders are running it up....

Re: Is his a real Red Dot?

*Message #2 Posted by **bill platt** on 15 Dec 2010, 2:02 p.m.,*
in response to message #1 by Mark Henderson

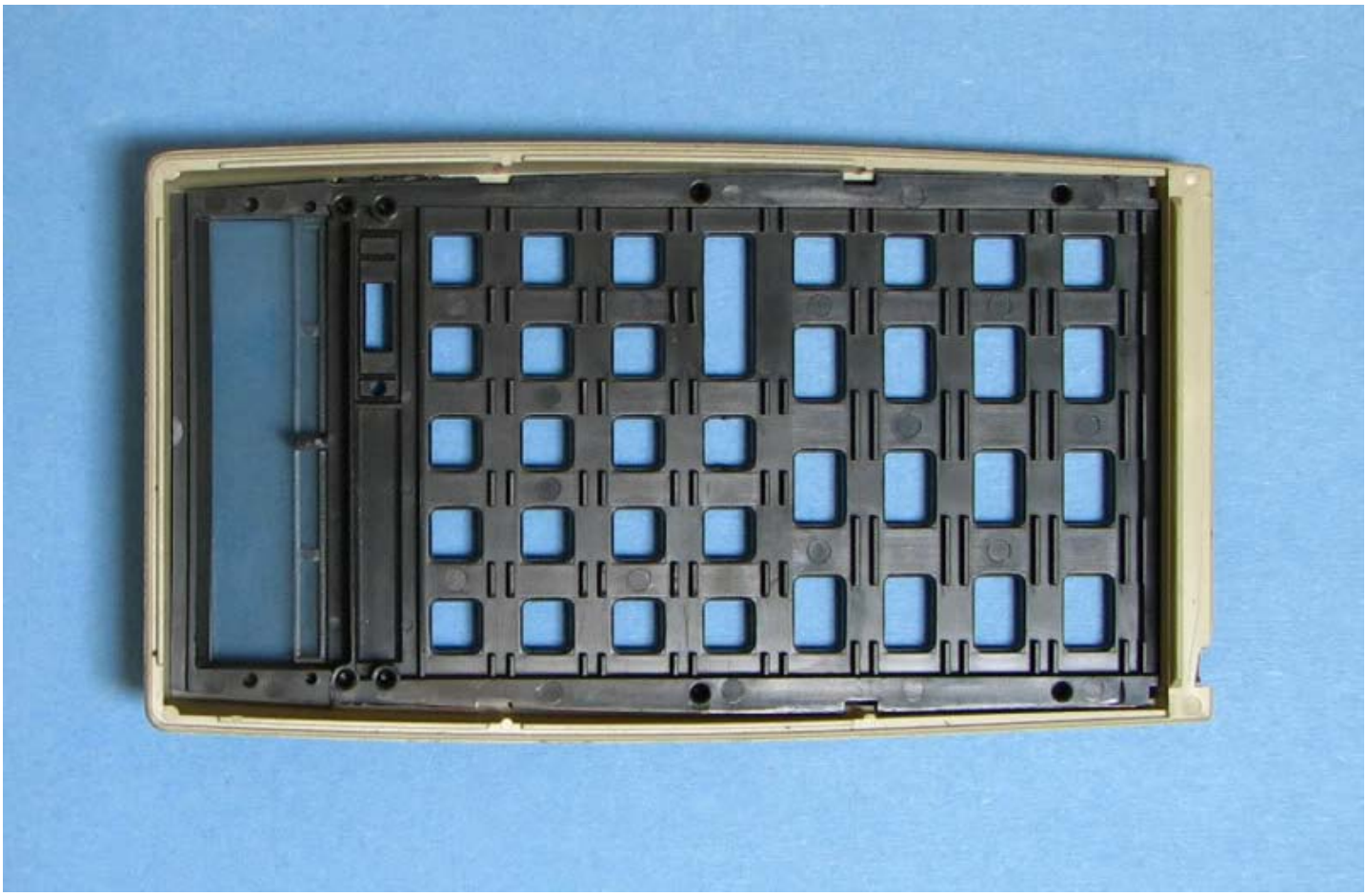
I am very curious why you think this is a counterfeit.

Re: Is his a real Red Dot?

*Message #3 Posted by **Geoff Quickfall** on 15 Dec 2010, 2:29 p.m.,*
in response to message #2 by bill platt

From what I can see, with a cursory visit to google "red dot HP 35" and my prototype 'brown' red-dot case (see images):

```
1.  red dot hole correctly placed inside and out plus
    it appears to be the correct diameter.
2.  serial number falls in the correct range ~< 4000
3.  correct silk screened bezel
```



Also look at this old thread:

red dot talk from 2000

The upshot is, by looking at the inside back where the hole should line up with the frame work. I have seen a fake where the hole is WAY to big and not centred on the switch opening or on the reverse, inside the rigid molded supports.

Would be nice to see the label at the bottom end of the calculator. It should read only "HEWLETT PACKARD" without the 35 added. This is not always a perfect check either, as it was HP's policy to update the label if the original was faded or damaged with a new one in stock on a warranteed repair. They didn't care what was applied as long as it was correct to the calculator. Hence a number of HP 25's running around with HP 25C labels; HP 41 Cs with labels mixed with CV and CX. Got this from an HP repair centre employee.

Cheer, Geoff

Edited: 15 Dec 2010, 2:30 p.m.

Re: Is his a real Red Dot?

*Message #4 Posted by **Walter B** on 16 Dec 2010, 11:03 a.m.,*
in response to message #3 by Geoff Quickfall

> Quote:
>
> Would be nice to see the label at the bottom end of the calculator. It should read only "HEWLETT PACKARD" without the 35 added.

As far as I can read, it reads exactly this 8)

Re: Is his a real Red Dot?

*Message #5 Posted by **Ignazio Cara (Italy)** on 15 Dec 2010, 2:55 p.m.,*
in response to message #1 by Mark Henderson

It's my opinion that this is a genuine Red_Dot: look at the manual cover, it's like the first version released with this calculator.

Take care

Ignazio

Looks like

*Message #6 Posted by **Frank Boehm (Germany)** on 17 Dec 2010, 4:31 a.m.,*
in response to message #1 by Mark Henderson

All signs point to "yes" :)

Re: Looks like

*Message #7 Posted by **Matthias Wehrli** on 17 Dec 2010, 10:06 a.m.,*
in response to message #6 by Frank Boehm (Germany)

Hands up from me, too

Re: Looks like

*Message #8 Posted by **Mark Henderson** on 17 Dec 2010, 10:14 a.m.,*
in response to message #7 by Matthias Wehrli

One of the reasons I raised the question was that the description on the listing doesn't say Red Dot, only "..hole..". Strange that someone who apparently knows the value of the "hole" wouldn't know that the description that would get the most attention (and bidding) would be "red dot". Hmmm.

Re: Looks like

*Message #9 Posted by **Walter B** on 17 Dec 2010, 10:23 a.m.,*
in response to message #8 by Mark Henderson

Hmmmh, I can't see anything red shining through said hole - so why should the seller claim a red dot where there's none to be seen? Do those dots wear off?

red dot

*Message #10 Posted by **Frank Boehm (Germany)** on 17 Dec 2010, 11:30 a.m.,*
in response to message #9 by Walter B

I think they are just stickered on the switch. So they might wear (Matthias might have mre infos) - might be dirt covered, too, since the calculator doesn't look that great. Btw. the V2s sometimes still have the red dot switch, but the red dot is left black. And of course there is no hole to notice this :)

Re: Looks like

*Message #11 Posted by **Martin Pinckney** on 17 Dec 2010, 1:46 p.m.,*
in response to message #8 by Mark Henderson

I think the answer is the seller wasn't aware of the "red dot" moniker. It seems to me he got his description off of Nigel Tout's website, which emphasizes the hole rather than the dot. In fact Nigel calls it a "spot."

Does anyone know what the opening bid was? Perhaps the seller is surprised by how much he landed.

Edited: 17 Dec 2010, 1:54 p.m.

Re: Looks like

*Message #12 Posted by **Walter B** on 17 Dec 2010, 2:43 p.m.,*
in response to message #11 by Martin Pinckney

You find it here easily. :-?

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Emulators from HP

*Message #1 Posted by **Mike (Stgt)** on 15 Dec 2010, 8:37 a.m.*

Once again about this subject. I wanted to get such an emulator as HP offers for PC and other platforms. But the purchasing dept. try to urge me taking a real HP35S as they can not find a supplier that deliveres the emulator in Germany. Poor Germany.

IMHO this must not be true so it can't be true: who delivers the emulated HP35S as offered by HP to a legal entity located in Germany?

Ciao.....Mike

Re: Emulators from HP

*Message #2 Posted by **Walter B** on 15 Dec 2010, 9:03 a.m.,*
in response to message #1 by Mike (Stgt)

Hallo Mike,

erfüllst du denn die Bedingungen, die hierfür genannt werden? Wenn nein, vergiss es. Wenn ja: dann würde mich doch sehr wundern, wenn noch kein Lehrer- oder Dozentenkollege herausgefunden hätte, wie man an diese kostenlose Anwendung kommt d;-)

(Check for fulfilling the conditions stated. If true, your colleagues will know the source.)

HTH

Re: Emulators from HP

*Message #3 Posted by **Mike (Stgt)** on 15 Dec 2010, 11:13 a.m.,*
in response to message #2 by Walter B

Danke, das habe ich schon gesehen, nein es hilft in meinem Falle nicht.

Sorry, no way, I am not a teacher and I do not tell lies, even to HP.

Ciao.....Mike

Re: Emulators from HP

*Message #4 Posted by **Walter B** on 15 Dec 2010, 11:33 a.m.,*
in response to message #3 by Mike (Stgt)

Die PISA-Ergebnisse scheinen doch zu stimmen: mangelndes Textverständnis. Bitte lies meinen Beitrag nochmals und verrate mir, wo ich gesagt hätte, dass du dir einen Emulator erschwindeln solltest :(

Falls du Lehrer wärest, wüssten deine Kollegen garantiert, wie du da kostenlos (= wie von HP angeboten) ran kämst. Da du's aber anscheinend nicht bist, kommst du auch nicht kostenlos dran - ich übrigens auch nicht. - Falls du das aber alles schon gesehen hattest, warum hast du dann hier gefragt??

(Just some internal discussion about understanding of written text)

Edited: 15 Dec 2010, 11:42 a.m.

Re: Emulators from HP

*Message #5 Posted by **Mike (Stgt)** on 16 Dec 2010, 3:29 a.m.,*
in response to message #4 by Walter B

Hä??

Ciao.....Mike <VBG>

Re: Emulators from HP

*Message #6 Posted by **Walter B** on 16 Dec 2010, 4:34 a.m.,*
in response to message #5 by Mike (Stgt)

Exakt! d:D

Re: Emulators from HP

*Message #7 Posted by **George Bailey (Bedford Falls)** on 15 Dec 2010, 9:42 a.m.,*
in response to message #1 by Mike (Stgt)

Would anyone try to explain why HP chooses to sell the emulator to educators only? Why don't they want to make more money by selling it to virtually everyone who wants one?

Do they fear non-educators would make a torrent from it? Maybe so and they would lose some money. But by not selling at all they lose all the money. I frankly don't get it?!?!?

Re: Emulators from HP

*Message #8 Posted by **Don Shepherd** on 15 Dec 2010, 9:49 a.m.,*
in response to message #7 by George Bailey (Bedford Falls)

George, at least a couple of years ago some of the HP emulators were available to everyone, or at least everyone willing to spend about $20 or so. I bought the 12c emulator, and I think there was a 15c emulator as well, for sale by HP to anyone.

Don

Re: Emulators from HP

*Message #9 Posted by **bill platt** on 15 Dec 2010, 2:10 p.m.,*
in response to message #8 by Don Shepherd

Last year I saw you could buy the 15C emulator (or simulator?) for the Ipod Touch/iphone for $30. Maybe you still can.

Re: Emulators from HP

*Message #10 Posted by **Walter B** on 15 Dec 2010, 9:58 a.m.,*
in response to message #7 by George Bailey (Bedford Falls)

Pretty sure they would sell less hardware then ...

Re: Emulators from HP

*Message #11 Posted by **DeboT** on 15 Dec 2010, 9:59 a.m.,*
in response to message #1 by Mike (Stgt)

Do you want it free (for educators only) or willing to buy one? It can be purchased from here. In the drop down boxes choose your currency and language. This is where I purchased mine from and received a link to download the installation file.

Re: Emulators from HP

*Message #12 Posted by **Mike (Stgt)** on 15 Dec 2010, 11:21 a.m.,*
in response to message #11 by DeboT

I want my employer to buy an HP35S emulator from HP for me. Sorry, your link does not work for me, may be it's Alstom's fire wall.

Ciao.....Mike

Re: Emulators from HP

*Message #13 Posted by **Walter B** on 15 Dec 2010, 11:40 a.m.,*
in response to message #12 by Mike (Stgt)

The link works here a least ...

Re: Emulators from HP

*Message #14 Posted by **DeboT** on 15 Dec 2010, 11:45 a.m.,*
in response to message #12 by Mike (Stgt)

> Quote:
>
> ... may be it's Alstom's fire wall.

Possibly, as it is not HP's site, but RegNow / Digital River.

The following information from their website:

Phone ordering
For phone orders and order related questions, our Toll Free Number in the US is 1-877-353-7297.
Internationally you can reach us at 1-(952) 646-5331.
Phone ordering is available 24 hours per day, 7 days a week.

Hope this helps

Re: Emulators from HP

*Message #15 Posted by **Christoph Giesselink** on 15 Dec 2010, 1:36 p.m.,*
in response to message #1 by Mike (Stgt)

The purchase page for some commercial HP emulators is http://h20331.www2.hp.com/hpsub/us/en/calculators/Calculator_Software.html.

There's also a Windows version of the 35S available.

Christoph

Re: Emulators from HP

*Message #16 Posted by **Martin Pinckney** on 15 Dec 2010, 3:14 p.m.,*
in response to message #15 by Christoph Giesselink

Goes to same page as DeboT's link.

Re: Emulators from HP

*Message #17 Posted by **Mike (Stgt)** on 16 Dec 2010, 3:24 a.m.,*
in response to message #15 by Christoph Giesselink

Hi Christoph!

Thank you, but as I was told from the purchasing dept. they need a contractor who deliveres to Germany.

Ciao.....Mike

Re: Emulators from HP

*Message #18 Posted by **robert rozee** on 16 Dec 2010, 7:47 a.m.,*
in response to message #17 by Mike (Stgt)

am in new zealand, and just tried the link:
http://h20331.www2.hp.com/hpsub/us/en/calculators/Calculator_Software.html

takes me to a page with several emulators, the hp35s one then goes off to an outfit called 'digital river inc' where credit card details can be entered. the price can be displayed in a number of currencies, including swiss francs, swedish kronas, pounds sterling and euros.

it seems you can buy this software from anywhere, without restriction. the ONLY problem you may face is if you want to specify an address for physical delivery of media. if you aren't buying the physical media option, you could even enter a false address in the country of your choice.

quite simply, it appears the HP sales folks supplied you with false information. just enter your (or your company's) credit details and download the emulator.

cheers, rob :-)

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praise for the 32sii

*Message #1 Posted by **Don Shepherd** on 13 Dec 2010, 8:07 p.m.*

OK, I know some folks don't like it, but I do, having recently acquired a couple of them. Why I like it:

1. It has the perfect function set, for me anyhow.
2. It has a crystal clear, large display.
3. The keyboard has that classic HP quality, and the key legends are very easy to read.
4. Most functions are not hidden in menus (although the 32s uncluttered keyboard is desirable also).
5. It uses named (A-Z) registers rather than numbered, which improves program usefulness.
6. The INPUT and VIEW commands are great, rather than relying upon the user to remember what to put on the stack when running programs.
7. It has decent programming space, especially integers between 1 and 254 requiring only 1.5 bytes.
8. Navigating program lines shows actual commands, rather than keycodes.
9. It allows programming indirect access to the 6 stats registers.
10. It has relatively fast ISG/DSE looping commands (compared to the slow ones on the 33s).
11. The algebraic equation solver is a pleasure to use.

Nits:

1. It requires two keys to navigate to each line of code, which requires you to look at the keyboard each time.
2. It would have been nice if the L.R. menu (linear regression) didn't kick you out of the L.R. menu when you view the slope (m) and y-intercept (b). The backspace key can be used in some menus to not kick you out, but not L.R.
3. It would have been nice if the designers had not placed the i variable between the regular registers A-Z (1-26) and the 6 stats registers (28-33), so you could have had a continuous block of 33 indirect-access registers.
4. It would have been nice to support infrared printing, like the 17bii.

Having used the calculator for only a few months, I can see why it is highly valued.

Edited: 13 Dec 2010, 8:20 p.m.

Re: praise for the 32sii

*Message #2 Posted by **Karl Schneider** on 13 Dec 2010, 8:55 p.m.,*
in response to message #1 by Don Shepherd

Don --

Nice summary about the HP-32SII; it's my primary calculator.

Some comments about a few items:

> Quote:
>
> It has decent programming space, especially integers between 1 and 254 requiring only 1.5 bytes.

384 bytes (and 390 bytes for the HP-32S) total for programming and data is "decent", albeit less than the 469 bytes offered by the HP-15C. However, even though the HP-32S/SII programming paradigm is good enough to use for permanent-residence programs and equations, its user RAM is insufficient to retain them all while still being able to use SOLVE and INTEG. I wish that these two models had the 2 kB RAM of the original HP-28C, even if the 33 registers A-Z, i, and Stat were permanent.

> Quote:
>
> The algebraic equation solver is a pleasure to use.

It's the one from the HP-22S. One annoyance is the lack of insert/delete editing within the equation, as opposed to the end of it. That was remedied on the HP-35s.

> Quote:
>
> It would have been nice if the L.R. menu (linear regression) didn't kick you out of the L.R. menu when you view the slope (m) and y-intercept (b). The backspace key can be used in some menus to not kick you out, but not L.R.

I don't quite understand. Each menu on the HP-32SII's one-line display is only one level deep, and will exit upon execution so that the full function name and result can be displayed. The regression variables m, b, and r are calculated separately.

> Quote:
>
> It would have been nice if the designers had not placed the i variable between the regular registers A-Z (1-26) and the 6 stats registers (28-33), so you could have had a continuous block of 33 indirect-access registers.

Indirect access to the six stat registers and the indirect register (i) was added to the HP-32SII; it was not present on the HP-32S. Any register can be "cleared" by setting its value to zero; the six stat registers can be cleared *en masse* by a single command (Clear Sigma). I suppose there's no reason why the indirect register could not have been the last one (33rd).

> Quote:
>
> It would have been nice to support infrared printing, like the 17bii.

Only the high-end Pioneers (HP-42S, HP-17B/BII, and HP-27S) got that feature, along with a full-matrix display and a faster processor. Also, the printing commands are too numerous and lengthy to be shown clearly on a lesser display.

The HP-32S/SII and HP-14B were mid-grade models.

For a list of most of the other differences between the HP-32S and HP-32SII, please see this archived post:

HP-32S vs. HP-32SII differences

-- Karl

Edited: 14 Dec 2010, 2:08 a.m. after one or more responses were posted

Re: praise for the 32sii

*Message #3 Posted by **Don Shepherd** on 13 Dec 2010, 10:10 p.m.,*
in response to message #2 by Karl Schneider

Thanks Karl, great comments and I agree with them all. And thanks for that link to the post with the differences between the 32s and 32sii, I've come to really like both of them recently.

Here's what I meant about the L.R. menu. I've spent a lot of time recently using it to prepare problems for my 8th grade students who are studying linear equations. I enter the ordered pairs for two points in the stats registers, then I want to determine the slope and y-intercept of the line that includes those two points. I press L.R. and then m and it displays the slope. What I'd like to do at that point is press the backspace key and have it bring up the L.R. menu

again so I can press b and see the y-intercept, but that won't work. Backspace just clears the display, it doesn't take you back to within the L.R. menu so I could press b. I must press L.R. again and then b to find the y-intercept.

Compare that to the MEM (memory) menu. You press MEM and you see buttons for VAR and PGM. If you press VAR (and you actually have some variables defined), you will see the variables and you can then press backspace and end up back in the MEM menu, so you could then press PGM immediately if you wanted to, without having to bring up the MEM menu again. That's the behavior I'd like to see in the L.R. menu too, it would just make it a tad easier to get slope and y-intercepts. But it's just a nit.

When I see how the 32sii (and 32s) were designed to just work so well, I am amazed at the professionalism of its designers back in the 1980's I guess. In another post I (with Gerson's help) recently tracked down Roy Martin, one of the principal designers of the HP92 I think it was, and I wrote him a letter with some questions and he responded with a letter to me. That was so great. Some of those old guys are still around, and if any of them read this forum I hope they know how much we admire what they did decades ago.

Don

HP-32S/SII: MEM vs. L.R. menus

*Message #4 Posted by **Karl Schneider** on 14 Dec 2010, 2:06 a.m.,*
in response to message #3 by Don Shepherd

> Quote:
>
> I press L.R. and then m and it displays the slope. What I'd like to do at that point is press the backspace key and have it bring up the L.R. menu again so I can press b and see the y-intercept, but that won't work. Backspace just clears the display, it doesn't take you back to within the L.R. menu so I could press b. I must press L.R. again and then b to find the y-intercept.
>
> Compare that to the MEM (memory) menu. You press MEM and you see buttons for VAR and PGM. If you press VAR (and you actually have some variables defined), you will see the variables and you can then press backspace and end up back in the MEM menu, so you could then press PGM immediately if you wanted to, without having to bring up the MEM menu again. That's the behavior I'd like to see in the L.R. menu too, it would just make it a tad easier to get slope and y-intercepts.

I just can't agree with you there, Don.

MEM is a *non-programmable command* that brings up a menu to allow individual variables or program sections to be interactively deleted, via the VAR or PGM lists.

"L.R.", however, brings up a menu of five *programmable functions*, each of which calculates and returns a value to the x-register. If the execution of one of these functions did not exit the menu, the function would not work the same way as any other programmable function accessed via menu.

Keystroking for repeated regression analyses can be reduced by using a display program:

```
Detailed:                 Austere:


LBL L                     LBL L
m      (via L.R. menu)    m
STO M                     R/S
b      (via L.R. menu)    b
STO B                     R/S
r      (via L.R. menu)    r
STO R                     RTN
VIEW M
VIEW B
VIEW R
RTN
```

-- Karl

(Added some detail and minor wordsmithing)

Edited: 14 Dec 2010, 9:53 p.m. after one or more responses were posted

Re: HP-32S/SII: MEM vs. L.R. menus

*Message #5 Posted by **Don Shepherd** on 14 Dec 2010, 12:49 p.m.,*
in response to message #4 by Karl Schneider

Thanks Karl. Yeah, you're right, a simple program can be used to see slope and y-intercept with minimal effort. If I do this regularly I will use a program, as you suggested.

Don

Re: HP-32S/SII: MEM vs. L.R. menus

*Message #6 Posted by **bill platt** on 14 Dec 2010, 2:08 p.m.,*
in response to message #5 by Don Shepherd

The programming paradigm of the 32sii is IDEAL for ad-hoc programs of just this sort. You MUST use the programming memory for that purpose! Elaborate, long programs have no place on a machine with no I/O, no back-up, and tedious interface, by modern standards.

It is one thing to play with these machines in the mind set of 1978. It is another to think of their utility today, for which I think you will agree, the 32sii, and indeed, even Mike Morrow's sacred cow 42s, is a shabby, less than practical or useful tool for any significant programming.

Put it another way: In 1982 when I got my 11c, there was no reliable portable programming of the sort today. You had Sharps, HP, Timex Sinclair, Commodore Vic 16, Atari. Only the Sharps and HP were portable. The 11c/15c and their progeny, the 32s/42s, were never designed for power-programming: the 41C (and later 28S, heir to the 55/65/67) was intended for that purpose.

Trying to justify one's use of these non-I/O machines for serious programming, rather than ad-hoc, would be akin to showing one's blinders to cost/benefit, or trying to justify the unjustifiable. (Not you, but just a point.)

This was even obvious to me in 1982. The longer programs, so beautifully written in the spiral-bound manual seemed, to me, an awful lot of overhead for something that could not be backed up or loaded later. I knew of the 67 and the 41 then--I had used a 67 once--and so I stayed away from heavy duty programming but relished the ad-hoc simple but extremely useful programs one could construct on the fly.

In the mid-70s when there was NO Timex, or Atari or anything, then trying to squeeze a long program into a non I/O machine had real benefit. But by the early 80s that was no longer the case.

Edited: 14 Dec 2010, 2:16 p.m.

Re: HP-32S/SII: MEM vs. L.R. menus

*Message #7 Posted by **Don Shepherd** on 14 Dec 2010, 7:53 p.m.,*
in response to message #6 by bill platt

I don't disagree with you, Bill. Nobody's going to write a payroll program for the 12c (I don't think you could quite do that in 99 lines of program space anyhow).

Gene always said that, for the 30b, the programming capability can best be used to bring commonly-used functions within menus to the keyboard, for quick execution. I would agree.

I've used programs I developed on calculators for simple utilities (like base conversion), games (like hi-lo guess), number theory things (like prime factorization), or just the challenge of implementing the solution to a puzzle or riddle on something like a 12c with its limited programming space. To do that successfully is just eminently satisfying, even though it may have no practical value.

Serious programming work requires a PC or a mainframe.

Re: praise for the 32sii

*Message #8 Posted by **Thomas Klemm** on 14 Dec 2010, 6:59 a.m.,*
in response to message #3 by Don Shepherd

Did you try to enter the L.R. menu twice? At least this works on the somewhat similar HP 42S.

HTH
-- tom

Re: praise for the 32sii

*Message #9 Posted by **Don Shepherd** on 14 Dec 2010, 12:54 p.m.,*
in response to message #8 by Thomas Klemm

Thomas, I had to enter the L.R. menu twice if I wanted to see both slope and y-intercept, and my point was that it would have been nice to not have to do that. That would have required the backspace key to take you back into the L.R. menu after choosing m or b and viewing them, but it doesn't work that way. Karl pointed out that a simple program will do the trick, and I will probably use that if I find myself needing to find m and b repeatedly.

I don't know if the 42s has similar behavior, I've never owned or used one.

This is certainly not a deal-breaker, however. It's still a great calculator.

Don

Re: praise for the 32sii

*Message #10 Posted by **Thomas Klemm** on 14 Dec 2010, 5:51 p.m.,*
in response to message #9 by Don Shepherd

> Quote:
>
> I don't know if the 42s has similar behavior, I've never owned or used one.

Just checked the behavior of the HP-32SII and it's NOT the same as that of the HP-42S: When you know you will use e.g. the PROB-functions a lot you can select that menu twice. Then you won't exit the menu after choosing a function. Instead you have to use the EXIT-key explicitly. From your description I thought you were looking for something like that. I think that this is quiet clever: when you use a function only once you don't want to be forced to use the EXIT-key as well but when you use a group of functions often you don't have to select that menu every time.

You could download Free42 to get an idea how it works. And I agree: both are great calculators.

Best regards
Thomas

Re: praise for the 32sii

*Message #11 Posted by **Don Shepherd** on 14 Dec 2010, 6:48 p.m.,*
in response to message #10 by Thomas Klemm

Thomas, that does sound like neat functionality in the 42s.

Free42, maybe I'll play with that, although today in the mail I got one of the new Casio color Prizm graphing calculators that Namir mentioned recently (math teachers get those free to tryout, on the hopes that hundreds more will be ordered!).

Don

Re: praise for the 32sii

*Message #12 Posted by **Mike Morrow** on 14 Dec 2010, 12:18 a.m.,*
in response to message #1 by Don Shepherd

Major problems:

(1) It has absolutely unspeakably horrible complex number support, just like the later HP33S and HP35S abominations. It seems to have established HP's paradigm for complex number support on small scientific calculators, very unfortunately. That is a huge disappointment from a scientific calculator that appeared four years after the HP42S and ten years after the HP-15C set the standard for natural complex number handling.
(2) It has an extremely small amount of RAM for a calculator from the mid-1990s...less than the HP-15C of ten years earlier.

One positive: It seems to be about 35 percent faster than the HP42S for problems that it can handle.

I've kept that HP32SII mistake...it's like new today, from lack of use. But I acquired a few HP42S units as soon as possible after the HP32SII disappointment. (Excellent machines in daily use 18 years after they were made.)

Re: praise for the 32sii

*Message #13 Posted by **Martin Pinckney** on 14 Dec 2010, 10:22 a.m.,*
in response to message #12 by Mike Morrow

The 42s, offering a convenient subset of the huge 41c system, is well suited to RPN users who want to write their own programs on a pocketable platform. It's deeper than a typical calculator.

The 32sii, on the other hand, fills the role of a traditional calculator, a go-to device for quick calculations with its functions mostly all on the keyboard, but with the capability to go a little deeper with either short programs or solver equations.

So, complex number support aside, the 32sii fills its niche nicely, as many have testified. It ain't a 42s, but not meant to be one.

Re: praise for the 32sii

*Message #14 Posted by **Don Shepherd** on 14 Dec 2010, 12:59 p.m.,*
in response to message #12 by Mike Morrow

Mike, I never use complex numbers, so that is not important to me.

Yes, more memory would be nice, but we can say that (and I think you have) about the 30b too.

I've never had the urge to get a 42s. I know (or have read) it is similar to the 41, but I've never had the urge to get one of those either.

I'd be glad to take that pesky 32sii off your hands for a reasonable price.

:)

Don

Re: praise for the 32sii

*Message #15 Posted by **Jeff O.** on 14 Dec 2010, 1:22 p.m.,*
in response to message #12 by Mike Morrow

Quote:

> (1) It has absolutely unspeakably horrible complex number support, just like the later HP33S and HP35S abominations

I agree about the 33s, but don't think the 35s should be included in the "abominable" group. In my opinion, the 35s implemented a major leap forward regarding complex number support: the inclusion of an "i" key. With a few tweaks it could have been darn near perfect, but even as-is, the 35s does a better job than the 32sii or 33s in handling and calculating with complex numbers.

Re: praise for the 32sii

*Message #16 Posted by **David Hayden** on 14 Dec 2010, 1:29 p.m.,*
in response to message #12 by Mike Morrow

> Quote:
>
> It has absolutely unspeakably horrible complex number support, just like the later HP33S and HP35S abominations. [...]That is a huge disappointment [...] ten years after the HP-15C set the standard for natural complex number handling.

Mike, can you elaborate on this? What do you like about the 15C that isn't in the 32sii and 35s? What would be your ideal complex number support?

I'm not disagreeing with you, I'm just curious to know what you (and others) think is the right way to handle complex numbers.

One thing I like about the 35s that isn't available on the 15C is the ability to store complex numbers in a register.

Thanks, Dave

Re: praise for the 32sii

*Message #17 Posted by **Martin Pinckney** on 14 Dec 2010, 2:24 p.m.,*
in response to message #16 by David Hayden

> Quote:
>
> What would be your ideal complex number support?

Not trying to speak for Mike, but he as already said (many times) - 42s.

This 32sii is great/horrible debate has occurred more times than I can count. It seems to be a perennial topic to liven up the Forum when it gets a little dull. Thanks, Don.

Re: praise for the 32sii

*Message #18 Posted by **Thomas Klemm** on 14 Dec 2010, 6:36 p.m.,*
in response to message #16 by David Hayden

> Quote:
>
> What do you like about the 15C that isn't in the 32sii and 35s?

The ability to calculate asin(2). Once you're in complex mode everything just works as expected.

The HP-32SII doesn't claim full support of complex numbers. You may call it clumsy but it may be usefull.

On the 35s a complex data type is supported but it's restricted to certain functions. And that's something I can hardly understamd after having seen what was possible before with the HP-15C or HP-42S.

> Quote:
>
> One thing I like about the 35s that isn't available on the 15C is the ability to store complex numbers in a register.

One thing I like about the 15C that isn't available on the 35S is the ability to store complex numbers in a matrix.

Best regards
Thomas

HP-35s complex-number functions

*Message #19 Posted by **Karl Schneider** on 14 Dec 2010, 10:41 p.m.,*
in response to message #18 by Thomas Klemm

> Quote:
>
> On the 35s a complex data type is supported but it's restricted to certain functions. And that's something I can hardly understand after having seen what was possible before with the HP-15C or HP-42S.

Thomas --

The historical explanation is that the complex-number functions offered by the HP-32S, HP-32SII, HP-33s, and HP-35s seem to have been based upon the set of keystroke programs on the HP-41 Math Pac of 1980 (and on the Advantage Pac of 1985). What was present on the HP-41 Math Pac is present in microcoded form on the latter-day models; and what wasn't, isn't.

-- Karl

Edited: 15 Dec 2010, 2:07 a.m.

Re: praise for the 32sii

*Message #20 Posted by **bill platt** on 14 Dec 2010, 2:23 p.m.,*
in response to message #12 by Mike Morrow

The 42s is an abysmal failure as a serious programming device, as it has no I/O.

Perhaps it is the Holy Grail of RPN calculators--but it is certainly *not* the holy grail--not even close--of *programmable* calculators (that would have to go to the 41C of course).

For persons in need of the following:

Complex number calculations, Matrix handling, nested numerical integration and other calculations,

then the 42s is the obvious choice of non-or-limited programmable *calculator*.

For those who need none of those in a *calculator* (that same person may be doing those tasks on a computer) then the 32sii is in fact Superior to the 42s.

And a small subset of historically RPN users actually find the 27s to be the best machine of all--for the 32s utility level. If only I had bought one back when they were new!

Edited: 14 Dec 2010, 2:26 p.m.

Re: praise for the 32sii

*Message #21 Posted by **Mike Morrow** on 15 Dec 2010, 9:38 a.m.,*

in response to message #20 by bill platt

> Quote:
>
> The 42s is an abysmal failure as a serious programming device, as it has no I/O.

Even the $1 walmart job has I/O. Or you're ignoring the HP42S keyboard, display, tone, and IR printer I/O devices. :-)

I've used several HP42S units for the past 15 years, including one that goes where I go daily. Even in the early days when I was experimenting with the debugging/system memory display/execution feature that's provided by the HP42S, I have yet to corrupt memory or cause a memory loss on any HP42S.

It would be great if a modern version of the HP42S had a bigger display, much more RAM, a real-time clock/calendar, financial functions, and a micro-SD card. But I don't think that writing to the SD card would be practical in a device powered by button- or coin-sized primary batteries. I suppose that I could live with a thicker design that used N-cells, as long as the battery compartment was better designed than that of the unfortunate HP-28C/S.

> Quote:
>
> Perhaps it is the Holy Grail of RPN calculators--but it is certainly *not* the holy grail--not even close--of *programmable* calculators (that would have to go to the 41C of course).

I've owned several HP-41C models since it first appeared. I still have a HP-41CX with mag card reader and IR print modules that I bought new in 1984. It's a nice machine, in a third-of-a-century-old-technology sort of way. But for RPN programming, the HP42S is far better human factored for accessing functions, it is much much faster, it presents results with several orders of magnitude better precision and accuracy, its built-in firmware supports many functions that the HP-41C could only be programmed to do slowly and less accurately (including numerical integration, a numerical solver, a complete spectrum of complex number handling and matrix functions), it has IR printer output and a two-line "real" alphanumeric display, it comes with several times more RAM than the HP-41C could ever support, it's smaller, and it's much much more battery frugal.

OTOH, the HP-41CX has the best keyboard feel of any calculator I've ever used. The industrial design isn't bad (better than the Pioneers), except that HP decided to eliminate the classic black/blue HP logo found on earlier models. I won't be getting rid of my HP-41CX in my lifetime, but for actual RPN programming, years ago I converted my HP-41C stuff to run on the HP42S and if I write anything new, it goes on the HP42S.

With respect to the ultimate programmer's calculator (that exists today), I believe that honor clearly and unambiguously falls to the HP50G. This includes TI, Casio, and all other HP competition. The superiority of the hardware of the HP50G by itself (including the SD card and the display clarity) is enough to cause wonder about how, say, the latest TI-89 Titanium Hardware Version 4 would be more attractive to any knowledgeable person. (Now, if only the HP50G had the speed of the HP30b, which is about ten times faster.)

Edited: 15 Dec 2010, 10:04 a.m.

Re: praise for the 32sii

*Message #22 Posted by **bill platt** on 15 Dec 2010, 1:49 p.m.,*
in response to message #21 by Mike Morrow

Although I don't have a 50G, I think I agree with you for the current ultimate. I have 48GX and that is pretty darn close.

I didn't know the 30b was *that* fast. Holy smokes!

I knock on wood for you and your 42s data. I've corrupted data in lots of machines, including voyagers...and a 27S which is of course the 42S predecessor in development (at least by dates on Finseth's hpdatabase).

One interesting development is that if you can accept the "virtualness" of emulators and simulators, the 42s and all the other pioneers can be run on a PC now--or in the 42s case on an iphone/ipodtouche--and in that case, you do actually have back-up!

(But like you, I cannot get past the need to feel the keys under my fingers...)

Edited: 16 Dec 2010, 1:19 a.m.

Re: praise for the 32sii

*Message #23 Posted by **Allen** on 14 Dec 2010, 11:22 p.m.,*
in response to message #1 by Don Shepherd

Agreed, all. And really fast with keyboard calculations!

Re: praise for the 32sii

*Message #24 Posted by **Geoff Quickfall** on 15 Dec 2010, 2:36 p.m.,*
in response to message #1 by Don Shepherd

I like it, but I don't require matrix or complex numbers in my line of work.

I REALLY like it because of the cluttered colourful keyboard ;-) It has a wow factor that the menu calcs do not have. I mean, look at the HP 67 with THREE, count them, THREE function keys.

Yep, the 32Sii is the prettiest, most colorful of the Pioneers and therefore, esthetically my favourite Pioneer. My most useful pioneer is the 42S but that is because it takes up less room and is less prone to ESD then my all time favourite; the 41CX.

Re: praise for the 32sii

*Message #25 Posted by **Martin Pinckney** on 15 Dec 2010, 3:07 p.m.,*
in response to message #24 by Geoff Quickfall

> Quote:
>
> I REALLY like it because of the cluttered colourful keyboard ;-)
>
> Yep, the 32Sii is the prettiest,

Well, pretty is in the eye of the beholder, but strangely, I agree with you that the cluttered keyboards have an appeal. It bespeaks more capability than the simpler keyboards, although the reverse is often true.

Re: praise for the 32sii

*Message #26 Posted by **Geoff Quickfall** on 15 Dec 2010, 3:14 p.m.,*
in response to message #25 by Martin Pinckney

Thats the point,

The average Joe or Jane sees an HP32SII and a 42S together and think the 32 is the more capable machine.

My posting was a bit tongue in cheek but hey, look at the mega-commodores with their 60 key plus the colours.

Now they look CAPABLE!

Cheers

Re: praise for the 32sii

*Message #27 Posted by **John B. Smitherman** on 15 Dec 2010, 10:16 p.m.,*
in response to message #26 by Geoff Quickfall

I wish that HP had stayed with placing the +,-,/, and x keys on the left side directly underneath the big ENTER key. Does anyone know when and why they changed this?

John

Re: praise for the 32sii

*Message #28 Posted by **bill platt** on 15 Dec 2010, 10:57 p.m.,*
in response to message #27 by John B. Smitherman

Voyagers, with landscape, moved to the right and followed the standard Ti arrangement. Then Pioneers continued that. All the previous machines had the HP arrangement with arithmetic on the left.

Re: praise for the 32sii

*Message #29 Posted by **Mike Morrow** on 16 Dec 2010, 12:21 a.m.,*
in response to message #27 by John B. Smitherman

I think that having the +-*/ keys on the right side is actually better from an ergonomic standpoint, if like most one is right handed.

Although putting the ENTER key above the +-*/ keys wasn't possible with the (IMHO terrible) landscape layout of the Voyager experiment, all subsequent models could easily have placed the enter key on the right side too, above the re-located +-*/ keys just like the calculator dieties intended.

It is a horrible ergonomic layout for efficient number entry to have the ENTER key located on the side opposite the +-*/ keys.

At least the HP49G+/HP50G have all these keys on the right (and correct) side, it would be an improvement to place the ENTER key ABOVE the +-*/ keys, instead of below them. And make it wider too!

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Ebay: Comedy or Tragedy?

*Message #1 Posted by **uhmgawa** on 12 Dec 2010, 8:27 p.m.*

Someone should be keeping a scrapbook of these deals.

I'm unsure whether the jpeg or the shipping deal is more entertaining.

Edited: 12 Dec 2010, 11:01 p.m. after one or more responses were posted

Re: Ebay: Comedy or Tragedy?

*Message #2 Posted by **Jerry Raia** on 12 Dec 2010, 9:29 p.m.,*
in response to message #1 by uhmgawa

or how long he has been a seller :)

Re: Ebay: Comedy or Tragedy?

*Message #3 Posted by **Dave Shaffer (Arizona)** on 12 Dec 2010, 9:44 p.m.,*
in response to message #1 by uhmgawa

> Quote:
>
> I'm unsure whether the jpeg or the shipping deal is more entertaining.

Maybe Santa Claus delivers it in person!?

PS I saw on ebay today somebody who wanted $20 to ship a camera filter (even more obscene than this)

Re: Ebay: Comedy or Tragedy?

*Message #4 Posted by **Mike Morrow** on 12 Dec 2010, 9:47 p.m.,*
in response to message #1 by uhmgawa

There's a much better way to insert URLs.

Re: Ebay: Comedy or Tragedy?

*Message #5 Posted by **Karl Schneider** on 12 Dec 2010, 10:04 p.m.,*
in response to message #4 by Mike Morrow

> Quote:
>
> There's a much better way to insert URLs.

Yes, the "Link" feature can be utilized to hide a URL if desired, although it can be somewhat of a hassle.

Copying and pasting an unhidden URL into the same window or a new tab is not too difficult.

-- Karl

Edited: 12 Dec 2010, 10:06 p.m.

Re: Ebay: Comedy or Tragedy?

*Message #6 Posted by **Mike Morrow** on 12 Dec 2010, 10:52 p.m.,*
in response to message #5 by Karl Schneider

> Quote:
>
> Copying and pasting an unhidden URL into the same window or a new tab is not too difficult.

It IS indeed a hassle for the reader to get to the URL. You must know that. It's a mind-numbingly simple process for one who makes a post to properly reference a URL that can be reached with one click.

Many will not bother finding an improperly posted URL. If one wishes to maximize the probability that someone will look at the URL that one references, then one must use the method that the list provides. Otherwise one says in effect that it's not very important to see, or "I'm too lazy to do the job correctly".

I NEVER look at URLs that are not *properly* included in a posting. I know I'm not alone.

Edited: 12 Dec 2010, 11:10 p.m.

Re: Ebay: Comedy or Tragedy?

*Message #7 Posted by **Bart (UK)** on 13 Dec 2010, 6:50 p.m.,*
in response to message #6 by Mike Morrow

Well I, on the other hand, PREFER to have the whole URL displayed when referencing an eBay item. eBay.com is blocked at my work, but for example eBay.de isn't. So I can take just the item number and search for it. In a hidden "one click" link as above, I now first have to "copy link location" and paste into Notepad, then select the item number to paste into a search box.

Re: Ebay: Comedy or Tragedy?

*Message #8 Posted by **uhmgawa** on 14 Dec 2010, 2:10 a.m.,*
in response to message #6 by Mike Morrow

> Quote:
>
> Otherwise one says in effect that it's not very important to see, or "I'm too lazy to do the job correctly".

You are entitled to your interpretation, but you're reading a bit too much into the situation.

> Quote:
>
> I NEVER look at URLs that are not *properly* included in a posting. I know I'm not alone.

Taken to its logical conclusion, one so offended by a wayward URL might avoid the associated thread altogether.

Re: Ebay: Comedy or Tragedy?

*Message #9 Posted by **DeboT** on 14 Dec 2010, 5:19 a.m.,*
in response to message #6 by Mike Morrow

Hmmm, now let's see:

> Quote:
>
> Otherwise one says in effect that it's not very important to see, or "I'm too lazy to do the job correctly".
>
> Quote:
>
> I NEVER look at URLs that are not *properly* included in a posting. I know I'm not alone.

Seems to me the battle is between
"I'm too lazy to do the job correctly"
and
"I'm too lazy to follow URLs I don't like the look of"

;-)

Re: Ebay: Comedy or Tragedy?

*Message #10 Posted by **db (martinez, ca.)** on 13 Dec 2010, 1:20 a.m.,*
in response to message #1 by uhmgawa

That reminds me of the story where Gene Roddenberry saw a picture of the starship Enterprise but it was accidentally upside-down, and he thought "it looks better that way".

Re: Ebay: Comedy or Tragedy?

*Message #11 Posted by **BruceH** on 13 Dec 2010, 5:56 p.m.,*
in response to message #1 by uhmgawa

> Quote:
>
> I'm unsure whether the jpeg or the shipping deal is more entertaining.

Shipping from a left-handed, parallel universe will be quite expensive.

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ME PAC HP-97

*Message #1 Posted by **aj04062** on 12 Dec 2010, 8:19 p.m.*

Is anyone willing to copy ME PAC 1 and Math PAC 1 for me? I would send u cards.

I just got the manuals, now I need some cards.

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HP 41c . don't touch if you don't know

*Message #1 Posted by **aurelio** on 12 Dec 2010, 5:34 p.m.*

Hello and greetings from Italy! happy to be back on this board! I opened today a 41c fullnut calculator which I bought used on e-bay quite an year ago; it has a little problem in displayng the second and third characther from the left of the display: any segment not displayed properly, and changing while pressing on it; at the beginning I tryed to forget this problem and delay the fix of it. Yesterday unfortunately I opened the calculator, thinking to find a bad solder joint between the keyboard printed circuit board and the display board or simply with the purpose of trying to clean the contacts (the battery ones were very clean, I wanted to do something. Well, to replace the black paper cover I disconnected the CPU board form the keyboard.....after that the calculator doesn't work at all!! At the beginning I had a lightly bad working calculator and now the display doesn't show anything more I thought that maybe the CPU board was not touching properly the keyboard printed circuit. there is a connector that never I saw before (two white soft plastic or rubber stripes), I tryed to clean it with alchool (the display at that time was still showing something, when moving the claculator:segments letters and numbers). then I thought to fix it with a small amount of superglue around the bottom screw holes, just to hold the two printed boards in touch, but as I told you The display doesn't still show anything

Anybody who can help me to fix this problem, or, at least to make a diagnostics? PS Luiz, Alberto have you experience with this kind of calculator?

Re: HP 41c . don't touch if you don't know

*Message #2 Posted by **John Robinson** on 12 Dec 2010, 6:08 p.m.,*
in response to message #1 by aurelio

This is probably due to the CPU board not making good contact with the keyboard PCB board. From what you describe the connector strips are the elastomeric kind, which as far as I know were not originally used in the 41c model, but used in later CV and CX models. There is another type of connector which looks like a whole bunch of fine wires wrapped around a kind of flexible clear small plastic sausage, and both sides are joined together by thin clear plastic with two holes for the screw posts. So I'd day those strips have been replaced.

Does your 41c use two nuts on the screw posts to hold the pressure on the connectors ? It is hard to get the pressure correct with the screws, and sometime it might be worth replacing with a short length of soft plastic tubing.

Are all the screw posts in good condition, both top and bottom ones ? If the top screw posts are cracked or broken, this can affect the pressure required for the connection of the flexible PCB which carries power to the keyboard PCB.

Do you have any photos to share ?

Cheers, John

Re: HP 41c . don't touch if you don't know

*Message #3 Posted by **aurelio** on 13 Dec 2010, 7:50 a.m.,*
in response to message #2 by John Robinson

Thank you John, first, for the quick answer! Actually you got it! I mean of the 4 screws, two are loosing, better is to say that two posts (one on the left top, the other on the left bottom) are not really broken, but the screw doesn't go to the end, it turns without to reach the end. (Excuse for my poor english)

Now I'm at work, in the evening I will take pictures and I'll share them regards

Re: HP 41c . don't touch if you don't know

*Message #4 Posted by **geoff quickfall** on 13 Dec 2010, 11:04 a.m.,*
in response to message #3 by aurelio

Hello Aurelio

battery post repair link to HP Museum article

try the above link to read an article on battery post repair. You will see a method to repair stripped posts as well as cracked posts.

Hope it helps,

Geoff

P.S, if the posts are not cracked then just add the shavings and glue.

Edited: 13 Dec 2010, 11:09 a.m.

Re: HP 41c . don't touch if you don't know

*Message #5 Posted by **aurelio** on 13 Dec 2010, 6:07 p.m.,*
in response to message #2 by John Robinson

Hello john, here the pictures of my HP 41C

regards

Edited: 13 Dec 2010, 6:44 p.m. after one or more responses were posted

Re: HP 41c . don't touch if you don't know

*Message #6 Posted by **Geoff quickfall** on 13 Dec 2010, 6:18 p.m.,*
in response to message #5 by aurelio

It looks like you have at least two cracked posts from your pictures.

The one on the right:

The bottom two posts keep the pcb to keyboard connector compressed and attached. You can clean the zebra strips with alcohol and a lint free cloth. Also clean the contacts on the keyboard pca side and the logic pca side.

top right:

The top two posts connect the Module and power supply to the keyboard pca. The connection should also be cleaned on the keyboard pca and the logic pca.

Repair the posts as indicated in my previous posting, take a look at the link.

ALL these posts must be intact with threads for the calculator to maintain the contacts.

Cheers, Geoff

Edited: 13 Dec 2010, 6:21 p.m.

Re: HP 41c . don't touch if you don't know

*Message #7 Posted by **aurelio** on 13 Dec 2010, 6:57 p.m.,*
in response to message #6 by Geoff quickfall

Thank-you Geoff for your help I'll read carefully your istructions to fix the cracked posts,

I must find silicon tubes (for the card reader I used in the past o-rings, but I think that silicon tube is better, so that I have to find it anyway) and I have to find a plastic piece to shave; I have not any old memory module cover, so that I must find something working in place of that. As I can understand the tube clamps the post and shavings flake mixed with glue rebuild it!!!

So the connector is the mitic zebra one??

thanks again

Edited: 13 Dec 2010, 6:59 p.m.

Re: HP 41c . don't touch if you don't know

*Message #8 Posted by **geoff quickfall** on 13 Dec 2010, 7:28 p.m.,*
in response to message #7 by aurelio

any type of tubing or orings as long as they have a smaller inner diameter then the outer diameter of the post

any hard plastic, scrap from an old calculator or radio or any rigid plastic leftovers.

One of the connectors is the zebra one. The other resides in the module of the loosely attached to the case back. It is the part that contains the battery module contacts and the rom module plugs. You will notice that the contact that meets the keyboard pca is supported by a foam or silicon strip. the silicon strips are good, the foam strip decomposes with time. So fix all the posts and allow to dry at least 24 hours.

Clean the contacts on the module, keyboard pca and the zebra strips. Blow out the dust. Attach both halves of the calculator with the screws, (do not overtighten). If it works don't worry about the foam insert in the module.

let us know how it works and we can take it from there!

Cheers, Geoff

Re: HP 41c . don't touch if you don't know

*Message #9 Posted by **aurelio** on 16 Dec 2010, 5:04 p.m.,*

in response to message #8 by geoff quickfall

Hello! five minutes ago, I ended the rebuilding phase; now the posts are drying in peace! Tomorrow evening the response..... (moved on the bottom of the post)

Edited: 17 Dec 2010, 12:32 a.m. after one or more responses were posted

Re: HP 41c . don't touch if you don't know

*Message #10 Posted by **geoff quickfall** on 16 Dec 2010, 6:15 p.m.,*
in response to message #9 by aurelio

Looks good so far, did you manage to introduced shaved plastic to the posts.

The glue (sparce amount) is to repair the crack and the shavings introduce new plastic into the tube to replace the plastic removed as the screw stripped the threads.

Make sure you let it dry completely as it looks like there is a liberal amount of glue in each post.

When dry. Just barely screw in a screw with the silicon tubing in place. Then, with a soldering iron (takes a few seconds for the soldering iron to warm the screw), warm the screw. Do not heat the screw so it melts the post, but just enough to soften your glue/heat shaving mixture. Then while the screw is hot, and applying slight downward pressure as you turn it. Screw it into the post about half the length of the screw. Let everything cool, then remove the screw. It will now be set for use with the case back.

So:

```
1 clamp the post with the tubing
2 add glue and shavings.
3 with tubing in place,
  a gently warm the screw (not hot).
  b place the warm crew tip in the post and screw it half way.
  c this has the effect of tapping (adding threads) the post.
4 let cool.
5 remove screw.
6 let assembly sit and cure completely.
7 remove silicon. (if it sticks, use a razor blade to remove it.
```

It is essential that the post be completely cured before you tighten the screws. To tighten the screws:

```
1 place the screw in position.
2 reverse the screw direction (unscrew) until you feel the screw
  seat in the threads.
3 screw in the tightening direction.
4 screw until it just stops and maybe 1/8th of a turn more.
```

Cheers, Geoff

Edited: 16 Dec 2010, 6:17 p.m.

Re: HP 41c . don't touch if you don't know - but how else to learn?

*Message #11 Posted by **Bart (UK)** on 13 Dec 2010, 6:56 p.m.,*
in response to message #1 by aurelio

... fortunately lots of good advice from the proffesionals here :)

Re: HP 41c . don't touch if you don't know

*Message #12 Posted by **Alberto Fenini** on 14 Dec 2010, 4:47 p.m.,*
in response to message #1 by aurelio

ciao Aurelio
welcome back
If the Alberto you mentioned was me, here I'm.
Personally I don't like too much the 41 serie, even if I own
the C (fullnut), CV (halfnut), CX (halfnut) and Blanknut.
reason is, when it comes to repair, it's always trouble ....
I have been helped from a very skilled italian collector (Ignazio thanks thanks thanks)
and I have did something myself as well.
When I have had the zebra connector problem, this is what I did :

I usually take a lot of pride in restoring in a nice way, but in the case of the zebra connector .... well, this way works 100%, Geoff forgive me for I have done ...

I also have had a battery connector to restore, and this is what I have done, once again is not "cool" but it works :

http://www.hpmuseum.org/guest/Fenini/p122a.jpg

I think you have had the best suggestion from one of the most skilled in among the forum, Geoff is relly a master for all of us, but in case is should not work out, well, this is a good option too.

If you mess up with the display, well, you should talk to Ignazio.

ciao a tutti, BTW, what part of Italy are you from ? I'm from Milano

Re: HP 41c . don't touch if you don't know

*Message #13 Posted by **geoff quickfall** on 14 Dec 2010, 8:56 p.m.,*
in response to message #12 by Alberto Fenini

Actually, THAT TAKES GUTS as they say in the spagetti westerns!!!!

Haven't had to do that yet but, there is always a first time and if it resurects an HP, do it. But maybe try the easier route first.

Cheers, Geoff

Re: HP 41c . don't touch if you don't know

*Message #14 Posted by **aurelio** on 15 Dec 2010, 3:50 p.m.,*
in response to message #12 by Alberto Fenini

Ciao Alberto, hello Geoff and thank you both for the help! Yes, Alberto, you are the one I meant in the opening post, I thank you and Luiz again, for the help in fixing a 34C problem. Actually that calculator is stolen in a drawer, waiting for my care but I think to give it soon a new life (!). Actually I prefer older LED calculators to the coconuts, but I love my 41, expecially the 41 (CX) that works very well (halfnut). My first one was a 25c in 1977, still it works very well altough not properly in mint condition (school time was harder than 1000 surveies!!!) Today in the bottom of my briefcase lies a 49+g one, it's really smart and powerful, but compared with its honorable and older grandmas' it looks like a children toy!

Back to the case: I'll try first to apply the Geoff method, then I will consider your advice too "iron solder adventure. Actually I'm not a master in soldering art so that I hope to solve fixing the posts. I live in Savona, if you plane a journey to the sea, give me a call!

Today I bought silicon tubing and liquid cement (the last time I used it was in the assemblyng of an aircraft 30 years ago !) I'm going to start the job!!

Cheers

Edited: 15 Dec 2010, 4:35 p.m.

Re: HP 41c . don't touch if you don't know

*Message #15 Posted by **aurelio** on 17 Dec 2010, 12:30 a.m.,*
in response to message #14 by aurelio

Hello! five minutes ago, I ended the rebuilding phase; now the posts are drying in peace! Tomorrow evening the response.....

Here I post the picture of the work performed, waiting, please, for you opinionions :

In the following picture (only after the camera mgnifying I realized it)you can see that the glue came out of the post. I hope this will not attack the post to the silicon tubing (!) cheers Aurelio

Re: HP 41c . don't touch if you don't know

*Message #16 Posted by **aurelio** on 17 Dec 2010, 3:03 p.m.,*
in response to message #15 by aurelio

Good evening (afternoon overseas)! This first inning was very bad and unsuccesfully, 'cause the rebuild of the two left posts (boottom and top)falided!! maybe lack of flakes (not enough I mean)maybe I did not press them properly inside the hole, really I don't know, so that I've just tryed the second chance, now drying!!

Re: HP 41c . don't touch if you don't know

*Message #17 Posted by **geoff quickfall** on 17 Dec 2010, 3:28 p.m.,*
in response to message #16 by aurelio

Make sure you let the post completely dry.

The tubing seals the and clamps the posts but also does not allow the curing to ocurr quickly. That plus the amount of glue you are appear to be using may prolong the curing process. As the exposed surface of the glue dries it seals the undried glue. This extends the curing process.

Give it sufficient time, maybe two days (48hrs). If you are like me I must have it fixed prior to the repair ;-)

So be patient.

This system fails if the glue and shavings have not bonded correctly to the inside of the post.

Cheers, Geoff

Re: HP 41c . don't touch if you don't know

*Message #18 Posted by **aurelio** on 17 Dec 2010, 3:48 p.m.,*
in response to message #17 by geoff quickfall

> Quote:
>
> This system fails if the glue and shavings have not bonded correctly to the inside of the post.

Tank-you, Geoff, this time I filled the posts with flakes, more carefully I remember when I was a smoker: with the same care with tobacco into my pipe.....I will be so patient as I was smoking it years ago!!!

Re: HP 41c . don't touch if you don't know

*Message #19 Posted by **aurelio** on 23 Dec 2010, 12:44 a.m.,*
in response to message #18 by aurelio

unsuccesfull, again!!!Now I can say,at least, that one of the posts is completely cracked!

Edited: 23 Dec 2010, 2:10 p.m.

Re: HP 41c . don't touch if you don't know

*Message #20 Posted by **Randy** on 24 Dec 2010, 8:51 a.m.,*
in response to message #19 by aurelio

The problem is most likely the pink elastomeric connectors.

They where replaced with the continuous round gold contacts as they proved to be a common failure point. HP always discarded and replaced with the improved part during service. I've seen many a 41 with them that worked until the logic board was removed and re-inserted.

Re: HP 41c . don't touch if you don't know

*Message #21 Posted by **sylvandb** on 25 Dec 2010, 10:49 a.m.,*
in response to message #19 by aurelio

The newly cracked post looks like the glue is not melting the plastic. The added plastic and the post and the remaining glue all seem to be staying separate.

The glue should be a plastic solvent based glue that welds by dissolving the plastic, not a cyanoacrylate and not a two-part resin and hardener (known as epoxy or

perhaps araldite).

However, if you have used a cyanoacrylate glue, the solvent glue will not work very well on the old glue covered pieces and a two-part might be necessary. It is tricky to use as there is not much surface area to glue on the old posts. I have better luck with the slow cure types (hours not minutes) and the more liquid instead of paste or putty types. I usually buy the "J-B Weld" brand. It cures hard enough that it can be drilled, filed, etc.

sdb

Re: HP 41c . don't touch if you don't know

*Message #22 Posted by **aurelio** on 26 Dec 2010, 4:23 a.m.,*
in response to message #21 by sylvandb

Hi Sylvan, I used a "Revell" brand liquid cement, that actually is "a plastic solvent based glue that welds by dissolving the plastic". I checked on the web and found "J-B Weld" brand products, but I've not seen any liquid cement or plastic model cement, only two components epossydic glue or other kinds for motors or marine pourposes.....

Last time I left the post drying at least 72 hrs!

Edited: 26 Dec 2010, 4:25 a.m.

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First Impression of the New Caso Fx-CG10

*Message #1 Posted by **Namir** on 12 Dec 2010, 1:44 p.m.*

Hi All,

Two weeks ago, I received the new Casio Fc-CG10 color graphics calculator. This machine enhances on previous models, the Casio fx-9860G and the Casio fx-9860GII. The main enhancement, as the brief model name may hint at, is the addition of colors. This new features allows you to plot graphs in colors and even list data by varying the color of each list of columnar data.

Like its predecessors, the CG10 uses an menu of icons and each icon leads to a multilevel set of menus. The Exit button serves to go up one level and you get used using the Exit key very quickly.

The calculator supports lists and matrices. You can have up to 26 numbered lists (1 to 26). Also you can store up to six sets of lists internally. The CG10 supports up to 26 matrices, named A to Z.

From programming aspect, the CG10 supports programs only. You can have a program call another as a subroutine. There are no parameters. The single-letter variables, 26 lists, and 26 matrices are accessible to all programs. So the programming model kind of resembles programming in GW-BASIC minus the line numbers. The CG10 supports For-Next loops, While loops, Do-While loops, IF-ELSE-THEN constructs, GOTO and labels, and also the ISZ and DSZ statements. The ISZ and DSZ statements will skip the next statement if the targeted counter (a variable) is zero. In addition to numeric variables, the CG10 programming commands also support a descent set of string operations.

I wrote a few programs to solve for the root of an equation, calculate the square root using Newton's method, and perform multiple linear regression. Emulating functions by calling subroutines was basically programming with a global-only scope of data. You have to choose your variables carefully. The CG10 supports user prompt input and display output statements. The regression program exercised common matrix operations line transpose, invert, and multiply. As I worked with that program I realized it was easier to separately enter the matrices using the matrix editor and then run the program (especially for the sake of debugging and learning how to navigate with the CG10 commands). As I dug into the list of CG10 commands I was able to edit the regression program and make it run smoother and make it easier to use.

The CG10 aalso supports spreadsheets that accepts numeric input or use formulas to calculate the contents of a cell.

The Csaio Fx-CG10 calculator comes with a CD. You can load the Screen Receiver program. When you plug in the USB cable into the calculator and PC, you get a menu giving you options for how to proceed. I used the USB option to have the laptop view the Casio as a drive. This allows me to browse through the different folders and see the various data, graphics, and program files. You can backup these files into your PC. I was able to copy a CSV (Comma-Separated Values) file from the PC into the CG10 and then read that file as a set of list and also as a single matrix. This means that you can start with data in Excel, save the data as a CSV file, and then read it into the Casio. Using the lists you can then perform single or double variable statistics and regression (you can do linear and polynomial regression, sinusoidal, and other types of regressions).

If you choose the screen receiver option while connected to the PC and while running the Screen Receiver software on the PC, then the PC will echo the screen that appears on the CG10. You can then capture screen to your heart's

contents. The software does other things, but I only focused on screen capture in my brief overview of the CG10.

Overall the Casio FX-CG10 is a nice machine with nice computing power. The programming features are OK--not too bad and not spectacular. The ability to connect to a PC and swap data is nice (and is also supported by programmable commands!).

Namir

Re: First Impression of the New Caso Fx-CG10

*Message #2 Posted by **Bruce Bergman** on 12 Dec 2010, 2:19 p.m.,*
in response to message #1 by Namir

Nice review, Namir! I've been wondering about that unit since I saw it a few months back. One of the things I was excited about was the ability to take a picture, upload it, and then plot a curve on it. Did you try anything like that?

Thanks!

Bruce

Re: First Impression of the New Caso Fx-CG10

*Message #3 Posted by **Namir** on 12 Dec 2010, 3:37 p.m.,*
in response to message #2 by Bruce Bergman

Mo, but you are right! The CG10 can display pictures.

Re: First Impression of the New Caso Fx-CG10

*Message #4 Posted by **Nigel J Dowrick** on 13 Dec 2010, 4:19 a.m.,*
in response to message #3 by Namir

One thing that isn't clear to me from the manual is whether you can put your own pictures onto it, or whether you are stuck with pictures that Casio supply. The picture format is something like .g3p, which I haven't come across elsewhere. Do you yet know whether adding your own pictures is possible?

Nigel

Re: First Impression of the New Caso Fx-CG10

*Message #5 Posted by **Marcus von Cube, Germany** on 12 Dec 2010, 2:33 p.m.,*
in response to message #1 by Namir

I haven't seen the machine yet but what you explain about the Casio programming language resembles very much the legacy of the earlier models.

What Casio always messes up between generations of graphics calculators is communication. It's neither reliable nor comfortable nor compatible. The Classpad can't read fx-9860G files and cannot be connected directly to it despite the presence of a three pin port on both machines. The first generation machines (CFX-9800G for example) can only talk to the PC via the unreliable 16 bit program FA-121. No way to communicate between a CFX-9800G and its successor CFX-9850G. Why? Import of first generation *.cas files in the newer comm software works but is one way and well hidden. Neither can an Algebra FX 2.0 communicate with a fx-9680G because of a different baudrate. *FA-124, the PC software, regularly fails in saving data from the Algebra FX 2.0 calculator. {EDIT: FA-124 didn't like my combination Casio RS232*

cable-prolific USB adaptor. A pure USB cable (by Yellow Computing, Germany) works better.} As said before, a total mess.

What you explain about the new CG10 seems to follow the same rules. You're even left without a comfortable way to edit programs on the PC. Can a fx-CG10 talk to a fx-9860 or a Classpad? I doubt it.

Marcus

Edited: 12 Dec 2010, 5:07 p.m. after one or more responses were posted

Re: First Impression of the New Caso Fx-CG10

*Message #6 Posted by **Namir** on 12 Dec 2010, 3:46 p.m.,*
in response to message #5 by Marcus von Cube, Germany

I don't get the impression from the documentation and the connection interface that you can communicate between the CG10 and any other different model. The machine came with a cable that looks like you can connect two CG10 machines.

According to the documentation, you **can** edit a program on your PC, but you have to follow closely the conversion table listed that shows how math symbols, special symbols, and Greek letters translate into plain text. It seems to me that typing a program on the machine is the easier choice.

Re: First Impression of the New Caso Fx-CG10

*Message #7 Posted by **Marcus von Cube, Germany** on 12 Dec 2010, 4:00 p.m.,*
in response to message #6 by Namir

So they implemented the escape syntax used in their transfer software on the calculator platform instead. Thats a possible way to go but a specialized editor makes life easier. It might be possible to implement such a software in Java to make it platform independent. Unicode should provide the symbols needed but you need the right fonts installed.

Where did you get your sample from and at what price?

Re: First Impression of the New Caso Fx-CG10

*Message #8 Posted by **Katie Wasserman** on 12 Dec 2010, 5:21 p.m.,*
in response to message #6 by Namir

Namir,

I read the manual on the fx-CG10 and saw that the functions are almost identical to the fx9860g family with the addition of color, a better PC-based editor, built-in metric conversions and a few other things. What they don't mention in the manual is anything about speed. Is it any faster than say the fx-9860gii in native mode?

-Katie

Re: First Impression of the New Caso Fx-CG10

*Message #9 Posted by **Namir** on 12 Dec 2010, 7:40 p.m.,*
in response to message #8 by Katie Wasserman

Katie,

I got an fx-9860gii SD version but I have not opened yet to compare it with the CG10.

I am not surprised that the CG10's programming commands are a somewhat modest superset of the fx-9860gii.

Namir

Edited: 12 Dec 2010, 7:41 p.m.

Re: First Impression of the New Caso Fx-CG10

*Message #10 Posted by **Marcus von Cube, Germany** on 13 Dec 2010, 7:39 a.m.,*
in response to message #9 by Namir

Speed comparison can be done by playing around with the dynamic graph feature. All pictures are precomputed before the animation starts. This takes considerable time. OTAH, this is very much dependent on the screen resolution. The 2nd generation calcs have a screen of 128x64 pixels (127x63 are used by the graphics.) What does the CG10 provide?

Edit: I've just stumbled across the manual. Screen resolution is roughly 9x the 128x64 of the older models (3x in each direction). But user memory is just the same 64KB as its predecessors if I understand the comparison sheet correctly. Here is the info: http://edu.casio.com/products/cg_series/fxcg10_20/. The calc has a 3pin port which is compatible with the older calculators (fx-7400G+ onwards).

Edited: 13 Dec 2010, 8:12 a.m.

Re: First Impression of the New Casio Fx-CG10

*Message #11 Posted by **Katie Wasserman** on 13 Dec 2010, 12:40 p.m.,*
in response to message #10 by Marcus von Cube, Germany

Some comments:

> Quote:
>
> Speed comparison can be done by playing around with the dynamic graph feature.

I guess so, but I'm more interested in the speed of programs. A simple FOR-NEXT loop would likely be a good enough comparison since they apparently made minimal changes to the programing language.

The manual states that you can use the built in images or download additional content from the Casio website, it makes no mention of being able to import your own image (g3p, g3b) files. I'll guess that someone will figure out the format of those sooner or later and it will become possible to download your own images.

The manual provides a detailed description of what data/programs can be transferred back and forth between the CG-10/20 and earlier models which include the 9860 series, 9850, 9750 and 7400.

Screen resolution is indeed much greater on the CG-10 than previous models. You can now plot points in a 187 x 379 area (almost 1/4 VGA). However, you're still limited to 7 lines of 21 characters of text, very disturbing.

-Katie

Edited: 13 Dec 2010, 12:41 p.m.

Re: First Impression of the New Casio Fx-CG10

*Message #12 Posted by **Nigel J Dowrick** on 13 Dec 2010, 3:48 p.m.,*
in response to message #11 by Katie Wasserman

One slightly worrying fact is the absence to date of an SDK for this new calculator. Does anyone have any knowledge of Casio's intentions here?

Nigel

Re: First Impression of the New Casio Fx-CG10

*Message #13 Posted by **hugh steers** on 13 Dec 2010, 5:56 p.m.,*
in response to message #12 by Nigel J Dowrick

ive been wondering if the 9860g SDK will work on the cg10. basically, you have the same code model.

hitting the screen and reading the keyboard might be different. if i get one, i'll have a go.

anyone know where i can get on in the uk?

Re: First Impression of the New Casio Fx-CG10

*Message #14 Posted by **Katie Wasserman** on 13 Dec 2010, 7:11 p.m.,*
in response to message #13 by hugh steers

Check TAS, at least one major seller will ship anywhere.

Re: First Impression of the New Casio Fx-CG10

*Message #15 Posted by **Don Shepherd** on 14 Dec 2010, 7:21 p.m.,*
in response to message #11 by Katie Wasserman

> Quote:
>
> I'm more interested in the speed of programs

```
simple prime factorization program:
number = 12,501,317 (a prime number)
Prizm: 13 seconds
9860g slim:  6 seconds


Disappointing.


Don
```

Re: First Impression of the New Casio Fx-CG10

*Message #16 Posted by **Mark Harman** on 15 Dec 2010, 1:55 a.m.,*
in response to message #15 by Don Shepherd

HP 30b: 1.08 seconds...

Not at all disappointing!

Cheers!

Mark

Re: First Impression of the New Casio Fx-CG10

*Message #17 Posted by **Don Shepherd** on 15 Dec 2010, 10:12 a.m.,*
in response to message #16 by Mark Harman

Oh, and the 24-year-old HP32sii, using this algorithm: 57 seconds!

Re: First Impression of the New Casio Fx-CG10

*Message #18 Posted by **Marcus von Cube, Germany** on 15 Dec 2010, 7:26 a.m.,*
in response to message #15 by Don Shepherd

Don, can you post the program used to do the factorization?

Edited: 15 Dec 2010, 7:26 a.m.

Re: First Impression of the New Casio Fx-CG10

*Message #19 Posted by **Don Shepherd** on 15 Dec 2010, 8:32 a.m.,*
in response to message #18 by Marcus von Cube, Germany

Yeah, this is what I used. It is a slight modification from the example program shown in the Prizm (and 9860g slim) manual:

```
ClrText
"Input Number"?-->A
2-->B:1-->C
Do
While Frac (A/B)=0
B trianglesymbol
A/B-->A
WhileEnd
B+C-->B:2-->C
LpWhile BxB<=A
If A =/= 1:Then A trianglesymbol
IfEnd
"END"


where --> is the right-arrow "assign to" symbol
and trianglesymbol is Casio's funky output symbol
```

Re: First Impression of the New Casio Fx-CG10

*Message #20 Posted by **Marcus von Cube, Germany** on 17 Dec 2010, 10:46 a.m.,*
in response to message #15 by Don Shepherd

Hi Don,

on my OS 2.0 fx-9860G Slim I get 9 seconds, not six. Do you still have the older OS on your machine? I'll have to test on my other Casios when I'm back from holidays.

Re: First Impression of the New Casio Fx-CG10

*Message #21 Posted by **Donald Williams** on 17 Dec 2010, 11:55 a.m.,*
in response to message #20 by Marcus von Cube, Germany

It is certainly true that VER 2.0 is much slower than VER 1.0, but I cannot determine exactly why that is so. This upgrade added a lot of features, see here

I can only imagine that the large difference in the speed of operations is somehow related to complex number support. Pure speculation on my part though.

Re: First Impression of the New Casio Fx-CG10

*Message #22 Posted by **Don Shepherd** on 17 Dec 2010, 12:07 p.m.,*
in response to message #20 by Marcus von Cube, Germany

Yeah, I'm still running OS 1 on my slim. Katie said that OS 2 is slower, I guess that explains the time difference.

Sometimes older is better (or at least faster!).

Don

Re: First Impression of the New Caso Fx-CG10

*Message #23 Posted by **Don Shepherd** on 17 Dec 2010, 7:44 p.m.,*
in response to message #6 by Namir

> Quote:
>
> According to the documentation, you can edit a program on your PC, but you have to follow closely the conversion table listed that shows how math symbols, special symbols, and Greek letters translate into plain text.

If you have a program you developed on the calculator and you want to edit it on the PC, you must first SAVE AS a .txt file on the calculator. That's easy. Then, when you connect to the PC via the USB cable, the contents of the calculator memory shows up just like on a USB drive, and you don't need any special software installed on your PC to do this; that's nice. You can use Notepad to edit the .txt file. And, yes, you must be careful to use the right character combinations for the special symbols in your program, such as "Disps" for the funky triangle output symbol, and "(CR)" for a carriage return, and "->" for the assignment arrow. That will take some getting used to, but if you do it enough you will remember them. Then, when you terminate the USB connection, the updated .txt file is written back to the calculator memory and the program is automatically updated from the .txt file. It's somewhat labor intensive, but it does work.

Overall, this is much better than the Casio FA-124 software from before, which I never could figure out, frankly. But it is much more work than updating TI-BASIC programs on a PC for the TI-8x series, where the special characters are handled in a much better way and you can check syntax on the PC prior to downloading to the TI calc. Let's hope Casio develops something better in the future for those who want to write programs for this calc.

Edited: 17 Dec 2010, 8:14 p.m.

Re: First Impression of the New Caso Fx-CG10

*Message #24 Posted by **Marcus von Cube, Germany** on 27 Dec 2010, 11:41 a.m.,*
in response to message #5 by Marcus von Cube, Germany

To answer my own question:

> Quote:
>
> Can a fx-CG10 talk to a fx-9860 or a Classpad? I doubt it.

Yes it can without any hazzle. This time I'm a bit impressed. ;) With the 3 pin cable, you can link the Prizm to a fx-9860G (OS 2.0) and move back and forth programs, graph data (even dyna graph data from the CG10 to the 9860, the precomputed images are discarded but the setup is preserved.)

Next thing I have to try is connecting the Prizm through FA-124. USB will not work, but probably my 3 pin USB cable will.

Here is a sample animation I wrote for the fx-9860G. The code here was transferred to the Prizm, converted to TXT format (SAVE-AS) and then transferred to the PC:

```
'ProgramMode:RUN
ClrGraph
ViewWindow (-)5,5,1,(-)6,4.1,1
Y=Type
"1/X*(1-_cos _A)*(.5-(A>2_pi_))+(X_^2_-4)(1+_cos _A)*(.5-(A>_pi_)*(A<3_pi_))"->GraphY7
D SelOn 7
"_(-)_1/X*(1-_cos _A)*(.5-(A>2_pi_))-(X_^2_-4)(1+_cos _A)*(.5-(A>_pi_)*(A<3_pi_))"-
>GraphY8
D SelOn 8
D Var A
0->D Start
2pi->D End
pi/4->D pitch
DrawDyna
```

Since the functions are stored as strings, tokens like 'cos' are escaped: '_cos _'. This is only done in strings, not in normal code.

Re: First Impression of the New Caso Fx-CG10

*Message #25 Posted by **Don Shepherd** on 27 Dec 2010, 12:09 p.m.,*
in response to message #24 by Marcus von Cube, Germany

> Quote:
>
> Next thing I have to try is connecting the Prizm through FA-124. USB will not work, but probably my 3 pin USB cable will.

Marcus, I could never understand that FA-124 thing with my fxCG9860g slim, but I could easily connect the Prizm to my PC with the supplied USB cable. The Prizm essentially shows up as a disk drive, and after connecting you can edit any of your programs (you have to save them on the calc first using "save as" which saves them as an invisible .txt file). When you click the icon at the bottom right (on the PC) to "disconnect USB device", it automatically updates calculator memory and compiles any .txt program into the real program.

I also found that, on the calc, when you "reset main memory", it does not delete the .txt program files, because the next time you connect to the PC the .txt files are still there in the PROGRAMS folder, which is rather convenient. If you really want to get rid of the .txt files on the calc you would have to

remove them from the PROGRAMS folder after connecting to the PC, then they will be gone from the calc as well once you disconnect the USB connection.

I find this USB connection, which does not require any Casio software on your PC, to be great. As I said, I gave up on that FA-124 thing, just too confusing.

I haven't decided yet if I will buy a Prizm (I have one for 30 days through the teacher loaner program). That color screen is very nice!

Don

Re: First Impression of the New Caso Fx-CG10

*Message #26 Posted by **Marcus von Cube, Germany** on 27 Dec 2010, 4:12 p.m.,*
in response to message #25 by Don Shepherd

The USB connection works flawlessly with my Mac. That's a real advantage over the Win only implementations "of old". I used the "save as" feature to present the little program in my previous post. One time, I'll probably write a comfortable editor for the internal files of type g3m that show up on the connected device.

What made me smile is the ability to connect the Prizm to the older devices. I've yet to test with some older implementations like the fx-7400+ or the CFG-9850G. Transferring files back from the Prizm to the fx-9860G is also on my to do list. They probably did it right this time. :)

Re: First Impression of the New Caso Fx-CG10

*Message #27 Posted by **Antonio Maschio (Italy)** on 15 Dec 2010, 11:05 a.m.,*
in response to message #1 by Namir

Hi,

can anyone tell the difference between Fx-CG10 and Fx-CG20?

Thanks.

-- Antonio

Re: First Impression of the New Caso Fx-CG10

*Message #28 Posted by **Don Shepherd** on 15 Dec 2010, 12:14 p.m.,*
in response to message #27 by Antonio Maschio (Italy)

I believe Katie said one is US and the other non-US.

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ILXA ROM for HP-41

*Message #1 Posted by **Jeff Davis** on 12 Dec 2010, 12:25 p.m.*

Does anyone have any documentation for the ILXA ROM? Please let me know.

Thanks, Jeff

Re: ILXA ROM for HP-41

*Message #2 Posted by **Raymond Del Tondo** on 12 Dec 2010, 3:25 p.m.,*
in response to message #1 by Jeff Davis

Yes, I may have some info about that ROM, since I compiled it;-)

The base was the Extended IL, enriched with some functions of the Extended I/O ,
and two custom functions for XMem <-> IL mass storage forth and back transfer.

However I strongly suggest getting and using the Extended IL+ ROM (CK1C) published by Christoph Klug, which is basd on the ILXA, and which contains nearly the same base IL functions, but some more functions covering a wider range of topics.

Raymond

Re: ILXA ROM for HP-41

*Message #3 Posted by **Jeff Davis** on 12 Dec 2010, 3:29 p.m.,*
in response to message #2 by Raymond Del Tondo

Thanks for the reply Raymond. Do you have a pdf of that document or some kind of QRG? Where can I get a copy of the ROM (CK1C) published by Christoph Klug

Let me know,

Jeff

Edited: 12 Dec 2010, 3:47 p.m.

And, this rom should be in Monte's HP 41 unit ...Re: ILXA ROM for HP-41

*Message #4 Posted by **gene wright** on 12 Dec 2010, 6:33 p.m.,*
in response to message #3 by Jeff Davis

In case it isn't already.

Re: And, this rom should be in Monte's HP 41 unit ...Re: ILXA ROM for HP-41

*Message #5 Posted by **Monte Dalrymple** on 13 Dec 2010, 11:24 a.m.,*
in response to message #4 by gene wright

If it isn't on TOS, it isn't included. The closest I can find right now is the "SKWID EXT-IL", but I don't think that's what you're talking about.

Extended IL+ rom by Christoph ... let's help Monte get it on his 41CL board!

*Message #6 Posted by **gene wright** on 13 Dec 2010, 12:09 p.m.,*
in response to message #5 by Monte Dalrymple

Who can get him a copy? :-)

Re: Extended IL+ rom by Christoph ... let's help Monte get it on his 41CL board!

*Message #7 Posted by **Egan Ford** on 14 Dec 2010, 10:38 a.m.,*
in response to message #6 by gene wright

EXT-IL+ is not free. You have to purchase it from Christoph.

Re: Extended IL+ rom by Christoph ... let's help Monte get it on his 41CL board!

*Message #8 Posted by **gene wright** on 14 Dec 2010, 1:44 p.m.,*
in response to message #7 by Egan Ford

Ah, I thought the book had a cost but the ROM was distributed no charge.

Re: And, this rom should be in Monte's HP 41 unit ...Re: ILXA ROM for HP-41

*Message #9 Posted by **Jeff Davis** on 13 Dec 2010, 6:14 p.m.,*
in response to message #5 by Monte Dalrymple

I have seen this discussed here before. The Squid Ext. IL. Is this the same as the ILXA?

Re: ILXA ROM for HP-41

*Message #10 Posted by **Ángel Martin** on 13 Dec 2010, 1:42 a.m.,*
in response to message #2 by Raymond Del Tondo

Is the ROM image available somewhere (TOS?) or is this the "last commercially sold item" perhaps?

Re: ILXA ROM for HP-41

*Message #11 Posted by **Raymond Del Tondo** on 13 Dec 2010, 4:30 a.m.,*
in response to message #10 by Ángel Martin

I uploaded the ILXA to TOS a few years ago.
The Ext IL+ however, is distributed by Christoph as part of his valuable book (IL 2000 Interface System / I/O board), which every serious HP-41 fan should have.
The book is sold commercially, not the ROM, which is a giveaway accompanying the book, and the

book is worth every cent.

HTH

Re: ILXA ROM for HP-41

*Message #12 Posted by **Håkan Thörngren** on 14 Dec 2010, 11:34 a.m.,*
in response to message #11 by Raymond Del Tondo

I bought the IL2000 book some years back and the ROM was not included at that point. Maybe it has changed.

Re: EXT-IL-PLUS ROM for HP-41

*Message #13 Posted by **Christoph Klug** on 14 Dec 2010, 1:38 p.m.,*
in response to message #11 by Raymond Del Tondo

Dear HP-41 enthusiasts,

nice to detect your interest about the EXT-IL-PLUS ROM. As Raymond describes correctly - this ROM is a free of cost giveaway for my two books printed in one voluminous book = "HP-41 Input Output Board" & "IL2000 Interface System".

This reference book for today HP-41 enthusiasts describes mass storage-, data logger-, measurement-, interface- and control- applications beside working with different RAM-Box solutions and ROM Image Files.

The details and software example routines about the EXT-IL-PLUS ROM you find in an own chapter: This ROM includes features from the well known EXT-IL-ROM plus additional Autostart&DUP features, plus advanced functions for working with RAM Box solutions, and some more missing functions...

In Germany you get the book by ebay or from your local book shop. For interested readers in the whole world I offer a special transfer solution to their home address.

With best regards - Christoph Klug

Re: EXT-IL-PLUS ROM for HP-41

*Message #14 Posted by **ZOleg** on 15 Dec 2010, 8:19 p.m.,*
in response to message #13 by Christoph Klug

> Quote:
>
> Dear HP-41 enthusiasts,
> ...
> In Germany you get the book by ebay or from your local book shop. For interested readers in the whole world I offer a special transfer solution to their home address.
>
> With best regards - Christoph Klug

But your book is sold at eBay in German language. Is there a version in English (German language I do not know at all) ?
If yes, ready to buy right now.

Re: EXT-IL-PLUS ROM for HP-41

*Message #15 Posted by **Christoph Klug** on 19 Dec 2010, 1:49 p.m.,*
in response to message #14 by ZOleg

Dear HP-41 & HP-IL enthusiasts,

the complete book is written in English language, furthermore the second Part (= IL2000 Interface System) includes some prefaces from Gary Friedman = Control the World with HP-IL, Tony Duell (=I2C interface for HP-48) and Wlodek Mier-Jedrzejowics (= Extend Your HP-41). Contents over 700 pages, weight 1Kg...

With best regards - Christoph Klug

Re: EXT-IL-PLUS ROM for HP-41

*Message #16 Posted by **ZOleg** on 19 Dec 2010, 9:39 p.m.,*
in response to message #13 by Christoph Klug

> Quote:
>
> ...
>
> In Germany you get the book by ebay or from your local book shop. For interested readers in the whole world I offer a special transfer solution to their home address.
>
> With best regards - Christoph Klug

Can you send the book to Russia?
If yes, how to send you money for a book?

Edited: 19 Dec 2010, 9:42 p.m.

Re: EXT-IL-PLUS ROM for HP-41

*Message #17 Posted by **Christoph Klug** on 20 Dec 2010, 5:58 p.m.,*
in response to message #16 by ZOleg

For book payment I recommend using Paypal. Any other solution from your side ? Please contact me by email :-)

Best regards - Christoph

Re: ILXA ROM for HP-41

*Message #18 Posted by **Ángel Martin** on 14 Dec 2010, 6:16 p.m.,*
in response to message #11 by Raymond Del Tondo

I looked for the image at TOS but no luck :(

Re: ILXA ROM for HP-41

*Message #19 Posted by **Raymond Del Tondo** on 14 Dec 2010, 6:28 p.m.,*
in response to message #18 by Ángel Martin

My fault. I *thought* I did it, but I just looked, and didn't see it either. Hmmm... Maybe I should give it another try next weekend...
however as I indicated before, the ILXA is outdated. The Ext IL+ offers *much* more in the same 4K package.

Re: ILXA ROM for HP-41

*Message #20 Posted by **Ángel Martin** on 14 Dec 2010, 10:34 p.m.,*
in response to message #19 by Raymond Del Tondo

I hope you do Raymond. It's perhaps "outdated" but definitely not lacking value!

Besides it's always a good attribute to be open to the community, as opposed to a commercial item - at least that's what I think.

Cheers, ÁM

Re: ILXA ROM for HP-41

*Message #21 Posted by **XYZT** on 14 Dec 2010, 9:35 a.m.,*
in response to message #10 by Ángel Martin

I need ILXA rom image (mod). Could someone send?

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HMS+, HMS-, HMS, HR: LEX files

*Message #1 Posted by **geoff quickfall** on 12 Dec 2010, 2:04 a.m.*

Playing with my 71B and have written a few programs for it. I am however looking for an augment in the form of a lex command. After searching I found a 2003 thread:

2003 thread link

In it the following lex program is listed;

hmslexp.lex_____(hms+, hms-, hms, hr) or HMSLEX2

A few questions,

```
a) anyone familiar with it?


b) anyone have a text copy of it they can send to me (I have the
   makelex installed)?


c) does one actually invoke the functions with a descrete command
   in the program listing similar to:


   i  HMS(H1,H2)  take a decimal time in H1 and convert it to a
      sexidecimal time in H2.
   ii HR(H1,H2)   take the sexidecimal time in H1 and convert it
      to a decimal time in H2
```

Cheers, Geoff

Edited: 12 Dec 2010, 2:07 a.m.

Re: HMS+, HMS-, HMS, HR: LEX files

*Message #2 Posted by **HrastProgrammer** on 12 Dec 2010, 3:01 a.m.,*
in response to message #1 by geoff quickfall

You can find those LEX files in CHHU archives:

ftp://ftp.hpmuseum.org/hpswap/

HMSLEXP is in CHHU05.GZ ...

Thanks, and the next question is...

*Message #3 Posted by **Geoff Quickfall** on 12 Dec 2010, 3:52 p.m.,*
in response to message #2 by HrastProgrammer

I would like to see the actual file in print, allowing me to input it manually.

OR

How does one without UNIX (using Windows XP) open up a .lif and view it. Does it require an 71B emulator? If so, and being extremely lazy on a Sunday afternoon, does anyone have a step by step method? ?

right now I am using sub routines HMS and HR which I call and convert the sexidecimal to decimal and back again. This is cumbersome and an addition of lex commands would make programming easier.

If anyone actually has the numeric display file available that would be appreciated other wise another day learning another emulator. When will it ever stop

d:-0

so today off to J-Fs site to learn about EMU71! I see another reason to get my pil-box up and running. Looks like my free time is now not so free.

Still, if anyone has a printed copy of the lex file it would get my programing running today!!??

Edited: 12 Dec 2010, 3:56 p.m.

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OT: New incredible shuttle video for space (and LED) nerds

*Message #1 Posted by **Egan Ford** on 11 Dec 2010, 7:54 a.m.*

http://www.youtube.com/watch?v=W2VygftZSCs

Re: OT: New incredible shuttle video for space (and LED) nerds

*Message #2 Posted by **Les Bell** on 11 Dec 2010, 9:44 p.m.,*
in response to message #1 by Egan Ford

And the bonus outtakes are at http://www.youtube.com/watch?v=jsvVU24uDIc

Re: OT: New incredible shuttle video for space (and LED) nerds

*Message #3 Posted by **Jean-Michel** on 13 Dec 2010, 5:36 p.m.,*
in response to message #1 by Egan Ford

Hello Egan,

Thank you very much for sharing this. Very much appreciated.

I am very sad to know that Spaces Shuttles I have seen taking off since the very beginning when I was adolescent will soon stop to do, and more to say, without being replaced by any transportation system having a similar fascinating power.

I think that a major chapter of space exploration has ended. We are loosing all what made us dream: Concorde, Space Shuttles, ... and in another way, fascinating RPN calculators as the 41C was.

This is just my own opinion, and I would be pleased to have yours (You, Egan, and some other nostalgic people)

Kind regards.

JML

Re: OT: New incredible shuttle video for space (and LED) nerds

*Message #4 Posted by **Dan W** on 13 Dec 2010, 9:21 p.m.,*
in response to message #1 by Egan Ford

Spent 10 years of my life on that program. It has to come to an end of course as all things do, but the really sad part is there isn't any replacement coming soon, and the sadder part is no one seems to care anymore about such adventure.

At any rate, I can say my HP-42S played a crucial role in designing one of the Shuttle ascent/abort guidance algorithms.

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November 2010 Issue of HP Solve is out!!!

*Message #1 Posted by **Namir** on 10 Dec 2010, 3:08 p.m.*

Hi All,

The wait is over! HP has posted online the November 2010 issue of HP Solve. I was happy to see my article on the PROOT function for the HP-50G appear!!! Hopefully future articles will bring you more on the subject.

Enjoy!!!

Namir

Re: November 2010 Issue of HP Solve is out!!!

*Message #2 Posted by **Geoff Quickfall** on 10 Dec 2010, 8:29 p.m.,*
in response to message #1 by Namir

Good work to Richard for creating and editing the journal. Many, many thanks!

Namir,

Got to get out my advanced calculus and math dictionary and then purchase a 50g and then try to understand. But really, good article.

And the next time I see Mark, I can put two and two together! By the way Mark, when does 50 calculators not equal a collection? Also thanks again to Jake for more HP input from a veteran.

Cheers and Merry Christmas

Re: November 2010 Issue of HP Solve is out!!!

*Message #3 Posted by **Namir** on 11 Dec 2010, 8:49 a.m.,*
in response to message #2 by Geoff Quickfall

This article, and subsequent ones in the HP Solve newsletter, came as a fruit of studying the various algorithms AND approaches for solving the roots of polynomials. The duplication (or multiplicity) of roots is the worst enemy of many algorithms. The best approach to handle duplicate roots (and you can have several ones too, to make things worse) is to reduce the original polynomial to a simpler form where the duplicate roots are removed. Once you do this then you are pretty much set.

Calculating the roots of polynomials fall into two approaches: sequential and parallel (i.e. simultaneous). The latter work well because you avoid the deflation of polynomial required by the sequential methods (which typically causes round-off errors). The enemy of methods that calculate roots simultaneously is duplicate roots!!

Regarding duplicate roots, I have not seem many polynomials in real-life applications that have (a high number of) duplicate roots. So when solving polynomials in engineering and scientific applications, you

should be fine with using most root-seeking algorithms.

Namir

Edited: 11 Dec 2010, 8:53 a.m.

Re: November 2010 Issue of HP Solve is out!!!

*Message #4 Posted by **reth** on 10 Dec 2010, 10:20 p.m.,*
in response to message #1 by Namir

how exciting ;(

Re: November 2010 Issue of HP Solve is out!!!

*Message #5 Posted by **geoff quickfall** on 10 Dec 2010, 10:44 p.m.,*
in response to message #4 by reth

Sorry Reth,

just don't don't get the negativism!

Merry Christmas

Re: November 2010 Issue of HP Solve is out!!!

*Message #6 Posted by **Namir** on 11 Dec 2010, 2:46 a.m.,*
in response to message #4 by reth

Yeah, why the face. Many people have been waiting for the new issue of HP Solve. With Richard as editor, my hope is that more folks from this website can contribute meaningful articles. Think of what the PP Journal would have been if it was published on the Internet?

Namir

Re: November 2010 Issue of HP Solve is out!!!

*Message #7 Posted by **Walter B** on 11 Dec 2010, 3:27 a.m.,*
in response to message #6 by Namir

I dunno, but maybe Reth wanted to indicate his limited excitement about a bimonthly newsletter appearing 1.5 months delayed? Just speculating, of course - and I perfectly know it's not Richard's fault, and it's showing the same quality as previous issues.

Re: November 2010 Issue of HP Solve is out!!!

*Message #8 Posted by **Bart (UK)** on 11 Dec 2010, 2:52 p.m.,*
in response to message #7 by Walter B

Perhaps Reth's sad "smiley" is in line with his recent announcement that HP is no longer his favourite?

LINK: HP Solve newsletter

*Message #9 Posted by **Karl Schneider** on 11 Dec 2010, 6:29 p.m.,*
in response to message #1 by Namir

Link to list of HP Solve newsletters

The "November 2010" issue is a 5+ MB, 46-page PDF.

Regarding "The PROOT Gem":

> Quote:
>
> *The advent of the HP-48GX/G+/G family of calculators introduced a new function PROOT that replaced the Solver when dealing with polynomials.*

It should be mentioned that the PROOT function debuted ten years earlier on the HP-71B Math Pac, not on the HP-48G series. However, HP-71B's and their accessories are in very limited supply nowadays.

-- Karl

Edited: 11 Dec 2010, 6:50 p.m.

Re: LINK: HP Solve newsletter

*Message #10 Posted by **Jerry Raia** on 11 Dec 2010, 9:22 p.m.,*
in response to message #9 by Karl Schneider

> Quote:
>
> It should be mentioned that the PROOT function debuted ten years earlier on the HP-71B Math Pac, not on the HP-48G series. However, HP-71B's and their accessories are in very limited supply nowadays.

Lucky for us who have them :)

Re: LINK: HP Solve newsletter

*Message #11 Posted by **Namir** on 12 Dec 2010, 1:41 a.m.,*
in response to message #9 by Karl Schneider

There is going to be an upcoming article about the PROOT in the HP71B. It was limited to real-coefficient polynomials. You can use the EMU71 to test the Math ROM PROOT function because the emulator also supports the Math ROW software (available in a link from the emu71 web site)

So stay tuned!

Namir

Edited: 12 Dec 2010, 8:27 a.m. after one or more responses were posted

HP-71B Math Pac: PROOT and other limitations

*Message #12 Posted by **Karl Schneider** on 12 Dec 2010, 7:27 a.m.,*
in response to message #11 by Namir

> Quote:

> .. PROOT in the HP71B .. was limited to real-coefficient polynomials ..

The HP-71B Math Pac routines for the Saturn microprocessor were an initial effort whose complex-number support hadn't reached full development. A more curious limitation is that the inverse functions of trigonometrics and hyperbolics -- ASIN, ACOS, ATAN, ASINH, ACOSH, and ATANH -- did not include complex numbers in their domains or ranges.

Trigonometrics and their inverses were built into the HP-71B for real-valued numbers only. Hyperbolics with domain and range both real and complex, as well as extension of trigonometrics to the complex domain and range, were added by the HP-71B Math Pac. In this way, its functionality went somewhat beyond the keystroke routines of the HP-41 Math ROM, which did not offer complex-number support for the hyperbolic functions.

Didn't the HP-48S series have PROOT in some form -- either the HP-71B Math Pac version or the HP-48G version?

-- Karl

Edited: 12 Dec 2010, 7:54 a.m.

Re: HP-71B Math Pac: PROOT and other limitations

*Message #13 Posted by **Mike Morrow** on 12 Dec 2010, 3:58 p.m.,*
in response to message #12 by Karl Schneider

> Quote:
>
> Didn't the HP-48S series have PROOT in some form...

My HP48SX, ROM version E, does not have a PROOT function. I suspect no HP48S did.

Re: HP-71B Math Pac: PROOT and other limitations

*Message #14 Posted by **Didier Lachieze** on 13 Dec 2010, 12:49 a.m.,*
in response to message #13 by Mike Morrow

The HP-71B PROOT function was made available as an HP 48S/SX object by Bill Wickes in 1992:

"The HP 48 object listed below in ->ASC form is a high-performance polynomial root finder. Those of you who remember the HP 71B Math Pac will recognize this as the same as the PROOT command from that Pac; it is in fact the same assembly-language code, given an RPL front end to operate in the HP 48."

Polynomial Rootfinder repost - comp.sys.hp48
PROOT on hpcalc.org

Re: HP-71B Math Pac: PROOT and other limitations

*Message #15 Posted by **Namir** on 13 Dec 2010, 9:59 a.m.,*
in response to message #14 by Didier Lachieze

I see Wickes offered the PROOT object as a software object and not built-in as is the case with the HP-48G/G+/GX/GII/GII+ and the HP-50G.

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HP 15C

*Message #1 Posted by **Robert Love** on 9 Dec 2010, 2:21 p.m.*

On 24 Nov I dumped a glass of orange juice on my HP 15C calculator.

I contacted the HP Calculator Care Forum asking for the address of a service center that can repair any damage since the address in the owners manual (Corvallis, OR) no longer worked.

As is typical of all HP customer care these days, I have heard nothing in reply.

I rinsed the calculator off immediately with water and dried the keyboard as best I could. No liquid entered the battery compartment.

Questions: 1. How much damage did I likely do? 2. Will the barrier under the keypad remain in tact? 3. Where can I send the calculator for service and cleaning?

Thanks for any help.

Robert love

Re: HP 15C

*Message #2 Posted by **bill platt** on 9 Dec 2010, 2:45 p.m.,*
in response to message #1 by Robert Love

1. I hope you took the batteries out and kept them out.

2. If you look in the archives--or maybe even in the articles--you can see discussions of cleaning. One surprising idea is to immerse the whole machine--without the batteries--in clean warm water and soak thoroughly. Then, you dry thoroughly for a week, with some forced warm air. Apparently, electronics get washed all the time in the factory.

You might find these discussions posted by by Randy.

Re: HP 15C

*Message #3 Posted by **Michel Beaulieu** on 9 Dec 2010, 3:28 p.m.,*
in response to message #2 by bill platt

As Bill wrote, you should completely immerse the calculator in warm soaky water for some time and then rince with distillated water. But you hsould open the back cover before for easier drying and cleaning. I ofen soak old tube radio board before woorking on it. It is very important to let the electronic dry near a source of heat (not to hot)for several days. If you have an air compressor you could also remove the excess of water around keys spacing on the keyboard. Pay attention not to be to close as you can damage the keys with too much air pressure. i always clean my PC keyboard this way after soaking them. Good luck!

Re: HP 15C

*Message #4 Posted by **Michael Meyer** on 9 Dec 2010, 5:41 p.m.,*
in response to message #3 by Michel Beaulieu

I dry all of my electronics on a floor air register. If you have a forced air heating or cooling system and can leave it turned with the fan on, it creates the perfect environment to dry this stuff out from minutes to days (for your 15C).

Re: HP 15C

*Message #5 Posted by **Katie Wasserman** on 9 Dec 2010, 9:02 p.m.,*
in response to message #4 by Michael Meyer

> Quote:
>
> I dry all of my electronics on a floor air register.

You have a routine for drying off electronics? Are you really accident prone or just living in a really wet climate? :)

-Katie

p.s. It's a good tip, I've done this too, but just once!

Re: HP 15C

*Message #6 Posted by **Michael Meyer** on 9 Dec 2010, 9:26 p.m.,*
in response to message #5 by Katie Wasserman

I try to disassemble and clean and reassemble every HP I restore. It makes sure everything is clean and as free of corrosives as possible...and I can't stand dirty keyboards and dirty buttons. Most parts end up in the sink for a good scrubbing, then a good drying before reassembly. I use a big food strainer and make sure the drain has one as well... I don't want to lose any buttons!

It's a bit compulsive, but the end result is beautiful HP's! (I don't do this to Voyagers or Pioneers, of course.)

Re: HP 15C

*Message #7 Posted by **db (martinez, ca.)** on 10 Dec 2010, 11:51 a.m.,*
in response to message #6 by Michael Meyer

So; is OCD in the restoration of old hp calculators *not* a disease? This would be good news for me.

Re: HP 15C

*Message #8 Posted by **Michael Meyer** on 10 Dec 2010, 1:20 p.m.,*
in response to message #7 by db (martinez, ca.)

Well... then I have good news! For OCD to be considered a disease, it has to be intrusive and has to disrupt your life. Being compulsive about doing a single activity right doesn't QUITE meet the definition. Now, if I spent all day worrying that I hadn't done it quite right; intrusive thoughts that I had somehow not cleaned that HP-45 well enough... then that would count.

Re: HP 15C

*Message #9 Posted by **uhmgawa** on 9 Dec 2010, 7:18 p.m.,*
in response to message #1 by Robert Love

Quote:

On 24 Nov I dumped a glass of orange juice on my HP 15C calculator.

We've all had days like that.

Quote:

I rinsed the calculator off immediately with water and dried the keyboard as best I could. No liquid entered the battery compartment.

The battery compartment is the least concern of the incident. It is easily cleaned and even dried OJ is unlikely to cause conduction issues although it will make somewhat of a mess.

Quote:

Questions: 1. How much damage did I likely do?

Likely little to none, qualified with the points below.

Quote:

2. Will the barrier under the keypad remain in tact?

The rubber sheet under the keyboard is a dust shield. The adhesive film bonding the snap domes during manufacture is more/less a liquid barrier. However both are perforated via the enclosure pcb mount heat stakes, which although set under heat/pressure, really don't create a liquid tight seal. Also neither rubber sheet nor adhesive film fully wrap the keyboard so it is possible for liquid seep through.

An easier way for liquid to enter the switch matrix is through the pcb bottom as each dome has a large through via which serves in part as a dome vent. This invites contamination into the exact location where it can do the most damage and is most difficult to remove. This is one reason I'd strongly caution against wholesale dunking a voyager in water in an attempt to flush it out. The inside of the case can accumulate a fair collection of fine dust which can be carried into the dome vent vias by the flush attempt. If it really needed to be flushed I'd remove the enclosure bottom, vacuum off the pcb, flush cautiously while keeping anything from entering the vent vias, and vacuum off the excess flush solution before allowing to air dry. Dust will still be sitting on the upper rubber membrane so it is still possible to dislodge this into unwanted areas.

Quote:

3. Where can I send the calculator for service and cleaning?

The right way to clean this also the most involved as the heat stake heads must be cut and pcb removed. If contamination has entered under the domes, the adhesive film must be removed such that domes and pcb lands can be cleaned. The downside is you'll need to replace the adhesive film and recast the heat stake heads. If digging down this far I'd label the snap dome strips before pulling them out of their known configuration. Doing so you can swap/rotate them to wear level the domes. IOW swap the domes corresponding to the original enter, +, -, x, ON, etc.. keys with those of lower usage keys.

Re: HP 15C
*Message #10 Posted by **David Hayden** on 9 Dec 2010, 9:38 p.m.,*
in response to message #9 by uhmgawa

After you've given it the warm soapy water treatment, you might consider rinsing or submerging it in rubbing alcohol. The alcohol evaporates much faster than water.

WARNING: I haven't actually tried this. If anyone knows that this is bad idea, please correct me.

Dave

Re: HP 15C
*Message #11 Posted by **db (martinez, ca.)** on 10 Dec 2010, 11:46 a.m.,*
in response to message #10 by David Hayden

leaving the display submerged in alcohol overnight can fog the surface of the clear outer protective lens. little droplets of it in tight places will not air-dry very quickly. alcohol is a great cleaner but it should not be the last thing to rinse with.

Re: HP 15C
*Message #12 Posted by **David Hayden** on 10 Dec 2010, 1:29 p.m.,*
in response to message #11 by db (martinez, ca.)

Thanks for setting me straight on that.

Dave

Re: HP 15C
*Message #13 Posted by **db (martinez, ca.)** on 13 Dec 2010, 1:30 a.m.,*
in response to message #12 by David Hayden

less setting you straight
more saving you the trouble of finding four digit sand paper and novus plastic polish like i had to

Re: HP 15C
*Message #14 Posted by **uhmgawa** on 10 Dec 2010, 8:38 p.m.,*
in response to message #11 by db (martinez, ca.)

> Quote:
>
> leaving the display submerged in alcohol overnight can fog the surface of the clear outer protective lens. little droplets of it in tight places will not air-dry very quickly. alcohol is a great cleaner but it should not be the last thing to rinse with.

That's a good point. There is no seal between the LCD glass polarizer and the outer protective window. Anything seeping in between is likely to usher in loose debris and at least leave a watermark. I suppose one can always try and see what happens. But worse case is you'll need to cut the abs heat stakes and remove the pcb to gain cleaning access for anything after the 23xx s/n voyagers.

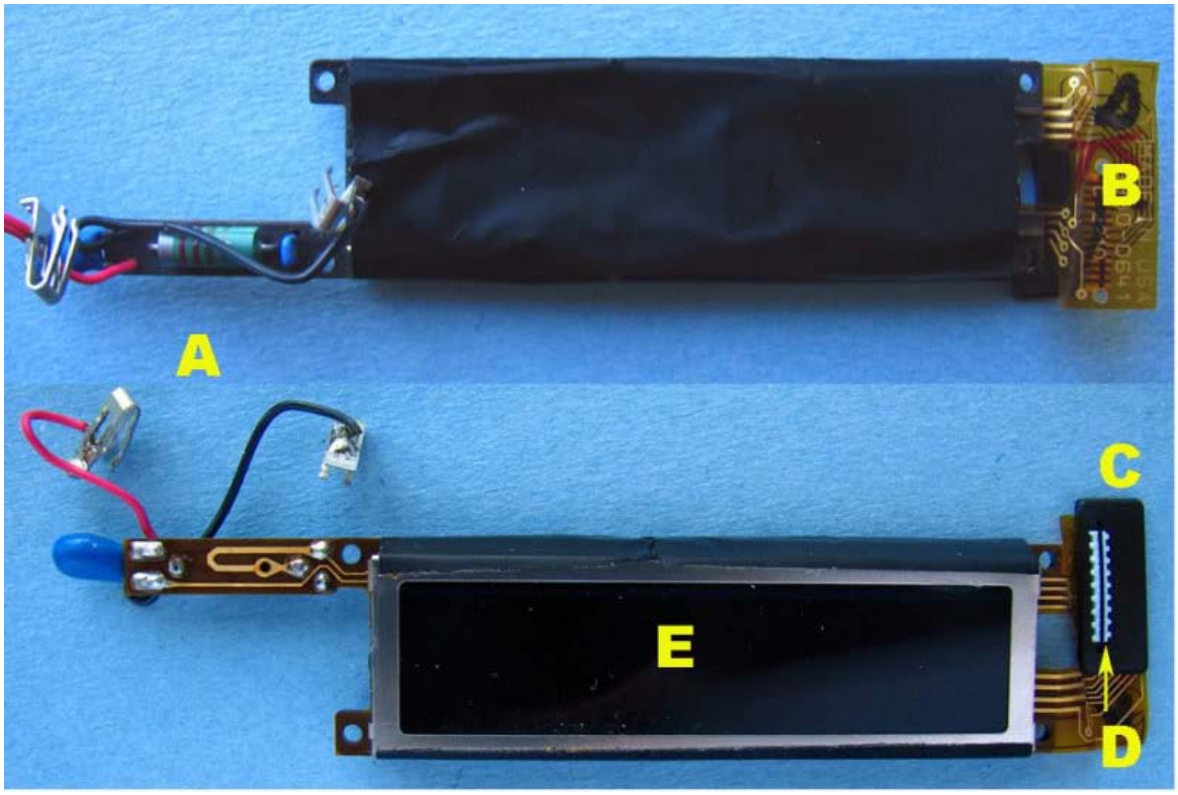
Re: HP 15C
*Message #15 Posted by **geoff quickfall** on 10 Dec 2010, 9:31 p.m.,*
in response to message #14 by uhmgawa

Okay, good advice from all,

The sugars from the OJ will change the resistance on all contacts and especially at minute solder points such as the ICs. Because OJ is water and fruit sugar, water is a good solvent. If some oil or oil based product was spilt then a mild solvent would be required.

Washing is good, HOWEVER, if the LCD panel is clear of any debris or OJ AND it is not the older removable type then immerse the HP 15C in a bowl of water with the LCD panel above the level of the water.

an example of the removable older display.



Remove the back and the batteries.

open up the antistatic wrap (if present),

Start with luke warm water with a drop of liquid detergent and suspend the calculator LCD above the level of the water. Allow to soak for a few minutes. You could agitate the calc while keeping the LCD clear of the liquid.

Next rinse the calculator by immersing the calc in a bowl of water only. Again agitate the calculator while keeping the LCD display clear of the water.

At this point you can rinse with 90% denatured alcohol or rubbing alcohol. This will speed up the drying in the next step but it is not necessary. Again, do not introduce any liquid, be it alcohol, OJ or water to the LCD as it will leave watermarks.

Shake the excess water from the calculator or use a can of air or a photography lens blower:

The drying process. Got a hair dryer with a cold air setting?
Then take a shoe box, cut a hole in one end and at the top.
Insert the dryer into the lower hole as seen in the pictures below.

drying box open:

drying box closed:

Under no circustances should the hair dryer be set for heat. I did that and shocked myself when the HP15C LCD was pure black. After cooling it went clear and suffered no permanent damage (PURELY LUCKY).

Be patient with the drying process. Re-assemble the calc and tell us how it went.

Geoff

Edited: 10 Dec 2010, 9:40 p.m.

Re: HP 15C
*Message #16 Posted by **uhmgawa** on 11 Dec 2010, 1:30 a.m.,*
in response to message #15 by geoff quickfall

> Quote:
>
> Washing is good, HOWEVER, if the LCD panel is clear of any debris or OJ AND it is not the older removable type then immerse the HP 15C in a bowl of water with the LCD panel above the level of the water.

Unless contamination actually entered under the snap domes and the goal was to flush it out, I'd be quite leery about allowing a solution to seep into the dome matrix in any scenario. While one could plug the vias temporarily with a dab of hot glue, the dome matrix itself isn't sealed against a prospective submersion into liquid.

Re: HP 15C
*Message #17 Posted by **geoff quickfall** on 11 Dec 2010, 1:49 a.m.,*
in response to message #16 by uhmgawa

I agree, if the contamination was strictly located on the keyboard side of the snap domes and had not seeped into the domes

I am assuming the worst case scenario; that the orange juice (how much for how long) has seeped in.

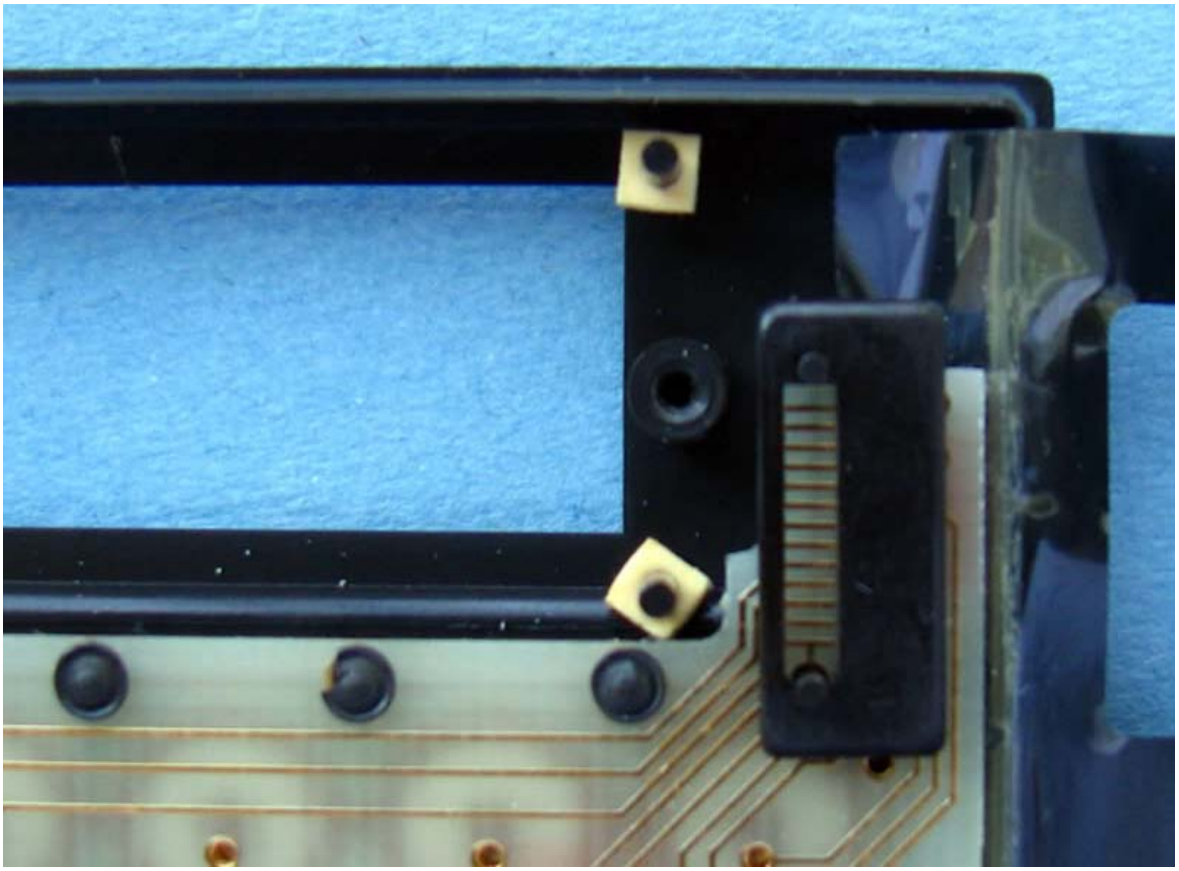
Fortunately there are holes under each dome accessable from the back, or exposed side of the pcb once the back is removed. I have acutally introduced contact cleaner into these holes and also use these holes to blow out the contaminant, contact cleaner, water or other liquid. Interestingly (from experience), the mere fact that I can blow the liquid out of the snap dome without damaging the dome would imply that the dome is not sealed completely. I do this by placing the plastic straw that comes with a can of air over the hole in the back of the snap dome (see the lower three holes in the accompanying picture). This allows liquid contamination in, and conversly, the ability to blow the contaminant out.

I have used this process on about 20 voyagers and all have benefited. Of course this is a last resort before excising the heat stakes

and committing major surgery and due to major contamination.

A mild wash to the face plate under a tap while keeping the LCD display free of the flow of water usually suffices. This has worked for me on minor spills but usually if the calculator buttons are not responding it can be a combination of contaminated ICs as well as the snap domes.

You can just see three of the holes in the pcb back sid at the bottom of this picture.



Cheers, Geoff

Edited: 11 Dec 2010, 1:52 a.m.

Re: HP 15C

*Message #18 Posted by **Walter B** on 12 Dec 2010, 3:15 a.m.,*
in response to message #17 by geoff quickfall

> Quote:
>
> the mere fact that I can blow the liquid out of the snap dome without damaging the dome would imply that the dome is not sealed completely.

Not necessarily. Blowing over the vent hole will reduce static air pressure there so the dome will "breath out" (think of good old velocity measuring devices in airplanes, Mr. Prandtl et al.) so debris may be transported out as well. Stopping the air flow will let the dome "breath in" again - but now only clean air since the debris is blown away already. Repeating this procedure will clean the volume under the dome to some extent. To some extent only, since the static vacuum generated is only an English vacuum, no real physical vacuum - just lower pressure. Hope this is understandable despite the obstacles of a n...l language.

Re: HP 15C

*Message #19 Posted by **Geoff quickfall** on 12 Dec 2010, 1:06 p.m.,*
in response to message #18 by Walter B

Ah, the venturi affect.

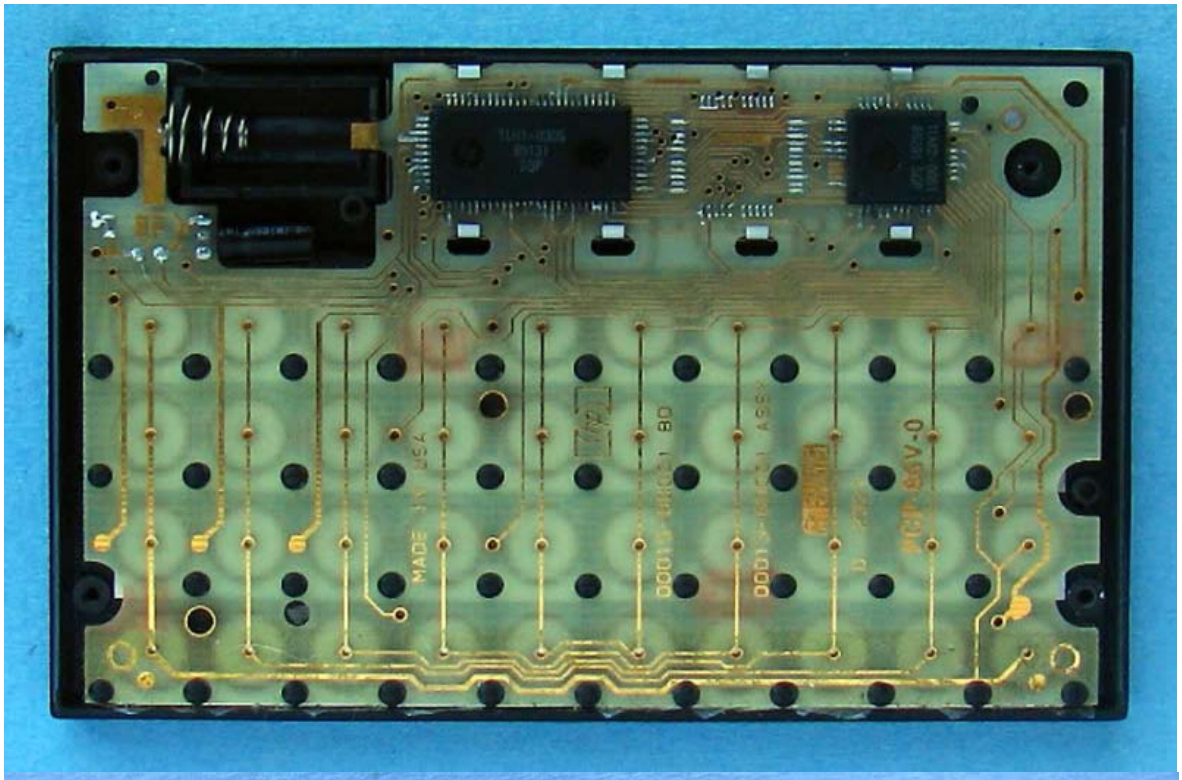
Could be, but when the extended nozzle of the can of air was applied directly to the hole I could swear the liquid migrated out of the snap dome via its edges.

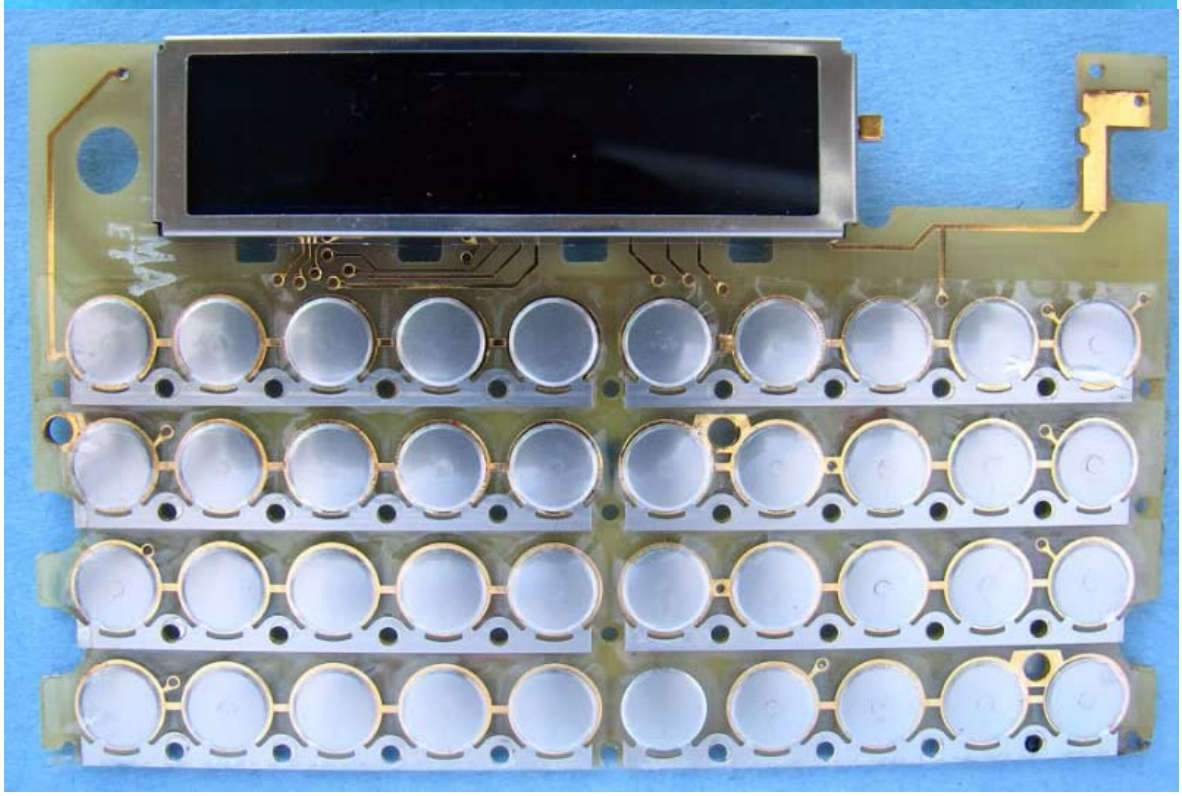
Could be mistaken though! In any case, once dried after the wash and rinse cycle the bouncy keys and non-functional keys were resurrected.

Again, I would say this procedure is a last case manuever to save a calc from death by OJ.

Cheers, Geoff

one should always check ones notes, two images of a pcb
*Message #20 Posted by **Geoff Quickfall** on 12 Dec 2010, 1:41 p.m.,*
in response to message #19 by Geoff quickfall





In the first image, at the extreme bottom of the photo you will see the main obstacle (other then sealed snap domes) for drying the PCB of theis 1989 15C. You can just make out the edge of a polyethelene (?) sheet which is placed over the snap domes and sealed around the edges of the PCB.

Looking at the second image you can see the sheet in place and sealed. This prevents the OJ or ... from actually contacting

the domes depending on its integrity. Therefore a quick rinse of the keys under a tap (LCD kept clear) would suffice on a superficial spill.

When soaking the keyboard this membrane contains the liquid you are using as a solvent (water, soapy water, alcohol). When I had to treat a non functional keyboard I actually had to trim the membrane at the bottom of image one to allow the trapped water to escape from the snap dome side of the PCB. By trimming the edge of the membrane I was able to blow and shake the water to the bottom edge of the PCB and blot it up. This was discovered by trial and effort. Initially after soaking the keyboard I could not release the water from the lower snap domes and they remained squishy (technical term). That was because the liquid had collected at the bottom of the PCB and was sealed in the snap domes by the membrane.

From the above experience I deduced that the snap domes were not sealed all they way around the edge and that the liquid was trapped at the bottom of the PCB by the membrane. Opening the membrane at the position indicated allowed the collected moisture to be released.

The only way to access this membrane is to remove the heat stakes as was done for the lower image.

So the caveat is:

do not soak unless absolutely necessary and once done, the membrane will seal the moisture in place unless it is punctured. OF course this has the negative effect of unsealing the membrane allowing liquid contaminants to penetrate from the keyboard side. So don't spill OJ after this surgery is done!

So there are two impediments to draining and drying, the snap dome design and the membrane barrier.

Cheers, Geoff

Re: one should always check ones notes, two images of a pcb

*Message #21 Posted by **uhmgawa** on 12 Dec 2010, 8:09 p.m.,*
in response to message #20 by Geoff Quickfall

> Quote:
>
> You can just make out the edge of a polyethelene (?) sheet..

I believe it is polyester.

> Quote:
>
> Looking at the second image you can see the sheet in place and sealed. This prevents the OJ or ... from actually contacting the domes depending on its integrity. Therefore a quick rinse of the keys under a tap (LCD kept clear) would suffice on a superficial spill.

From my observation of the housing I didn't see any seat molded into the base of each heat stake which could have created a seal against the rubber dust shield. With 42 heat stakes perforating the polyester film I sort of expected some attempt to reseal the surface.

A related quirk I've found on some voyagers I suspected had worn out domes is the actuator prong of the corresponding key bottom had punctured the rubber film. This caused the key to bear on a much greater area of the dome than intended resulting in the sloppy tactile response. Ironically it seems more of a hassle to repair/replace the rubber shield than replace a single dome.

Re: HP 15C

*Message #22 Posted by **uhmgawa** on 12 Dec 2010, 7:43 p.m.,*
in response to message #17 by geoff quickfall

> Quote:
>
> I am assuming the worst case scenario; that the orange juice (how much for how long) has seeped in.

I'd hazard you'd need to submerge the entire housing to introduce enough contamination into the dome vias in the pcb bottom. Which is sort of why I cringe at the thought of wholesale submerging the calc in any fluid. I'm concerned enough with having a voyager routinely sit open on the bench pcb bottom up, allowing dust to accumulate in the large vent vias, that I cover the board when I'm not working with it.

But I don't mean to exaggerate the problem. It is straightforward enough to free the pcb of the heat stakes for cleaning or repair. The more disagreeable part is getting the adhesive film off the board and domes without creating a major mess. I've tried most everything including heptane, acetone, naphtha, etc.. and I haven't yet found a solvent which would soften the adhesive such that it integrally releases from the pcb and dome strips. All of the above create a mess so I just hit it with carb cleaner afterwards and mop up the resulting goo with paper towels. I usually snap off the display to avoid any ill effects of the above solvents on the polarizer adhesive and zebra strips. But I suppose you could create a jig/barrier to allow leaving the display in place.

> Quote:

> Fortunately there are holes under each dome accessable from the back, or exposed side of the pcb once the back is removed.

Those are the dome vent vias. They're about 42mils and are sized to relieve dome pressure when actuated, otherwise the tactile response is impacted particularly for round domes.

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HP Forum Archive 19

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HP-41C Time Module: Calendar Routines

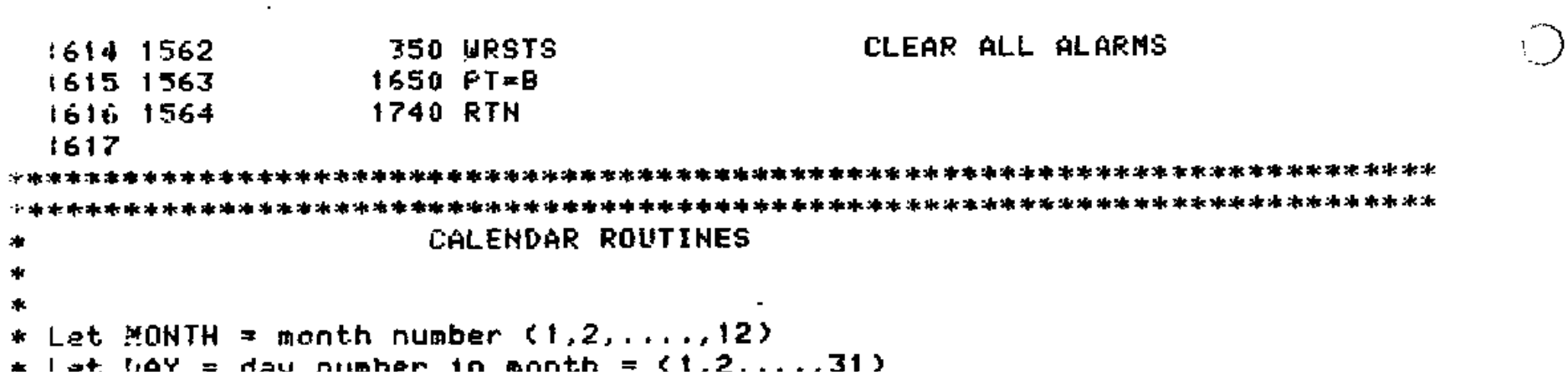
*Message #1 Posted by **Thomas Klemm** on 9 Dec 2010, 1:58 p.m.*

In this thread I've noted:

> Quote:
>
> I haven't analyzed the whole program yet but this algorithm is used:
>
> ```
> if m <= 2:
>    m = m + 12
>    y = y - 1
>
> jd = int(365.25*y)
>    - int(y/100)
>    + int(y/400)
>    + int(30.6001*(m+1))
>    + d
>    - 478164
> ```

In the meantime I had a look at the "Time Module VASM Listing 1C" on TOS. Here's a page of useful comments I found there. Probably I should have better started with that.

Regards
Thomas



```
* Let DAY = day number in month  (1,2,...,31)
* Let YEAR = year number = (1582,1583,...,4320)
* Let DAY# = day number since October 15, 1582    [Oct 15, 1582 = day 0]
*
* Now define the following conditionally depending on the value of MONTH:
*     If MONTH < 3 then let M = MONTH + 13  and let Y = YEAR - 1.
*     If MONTH >= 3  then let M = MONTH + 1  and let Y = YEAR.
*
* Also define the following functions:
*     SUM3(Y) = int(Y * 365.25) - int(Y/100) + int(Y/400)
*     M306(M) = int(M * 30.6001)
*
*
* Mapping DATE to DAY#
*     DAY#(MONTH,DAY,YEAR) = SUM3(Y) + M306(M) + DAY - 578164
*
*
* Mapping DAY# to DATE :
*     Calculate the value of Y0 as follows:
*        Y0 = int( [(DAY# + 578164) - 121.5] / 365.2425)
*        This is an approximation of the correct year.
*     Now calculate M0 as follows:
*        M0 = int( [(DAY# + 578164) - SUM3(Y0)] / 30.6001)
*     If this M0 is less than 4 then Y0 was one too high
*        therefore let Y0 = Y0 - 1 and recalculate M0 using the new Y0.
*     Once M0 >= 4, the values of MONTH, DAY, and YEAR are:
*           DAY = [(DAY# + 578164) - SUM3(Y0)] - M306(M0)
*           If M0 >= 14 then MONTH = M0 - 13 and  YEAR = Y0 + 1
*           If M0 < 14  then MONTH = M0 - 1  and  YEAR = Y0
*************************************************************************
*************************************************************************
* C-YMDD = C REGISTER INPUT -- YEAR,MONTH,DAY TO DAY#     1-23-81  RSW
*
* IN:   C= FLOATING POINT DATE (!!MUST BE VALID FLOATING POINT NUMBER!!)
*          THE LEGAL DATE RANGE IS OCT 15,1582 TO SEPT 10, 4320.    DATES
*          OUTSIDE THIS RANGE, MONTH= 0 OR 13-99, AND ILLEGAL DAY WILL BE
*          DETECTED.
* ASSUME:  NOTHING
* OUT:  R8[13:8]= DAY NUMBER SINCE OCT 15,1582= DDDDDD.......
*            (NOT TRUE FOR ERROR CASE)
*       A= FLOATING POINT DATE          ( M.DY OR D.MY )
```

```
*          !!! THIS DATE MUST BE COMPARED TO THE INPUT DATE.  IF THEY ARE NOT
*              IDENTICAL FLOATING POINT NUMBERS (EXCEPT FOR SIGN) THE INPUT
*              DATE IS NOT VALID (SO R8[13:8] IS TRASH)
*        CHIP 0 ENABLED      (IN ALL CASES)
*        HEXMODE             (IF NO ERROR OCCURRED)
* USES: A,B,C,N,R8[13:6], ACTIVE PT, +1 SUB LEVEL, ARITH MODE,PFAD,DADD
*                      (NO ST, NO TIMER CHIP ACCESS)
*
  1673                    ENTRY   C-YMDD
```

Edited: 9 Dec 2010, 2:42 p.m.

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HP Forum Archive 19

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About squaring a number on my HP...

*Message #1 Posted by **Michel Beaulieu** on 9 Dec 2010, 12:58 p.m.*

When squaring 2.25 i got 5.052499998 on my HP calculator. I know it is normal for a calculator to loose accuracy after "a lot" of calculation (Forensics) steps, but just squaring a number is only one step; why it is not 5.0625 ?

Thanks!

Re: About squaring a number on my HP...

*Message #2 Posted by **Martin Pinckney** on 9 Dec 2010, 1:44 p.m.,*
in response to message #1 by Michel Beaulieu

Don't see how this is possible, unless your 2.25 was really 2.247776679 and your mode was set to FIX 2, but then the square would not be displayed to 9 decimals.

Which HP model?

Re: About squaring a number on my HP...

*Message #3 Posted by **Mark Harman** on 9 Dec 2010, 3:20 p.m.,*
in response to message #1 by Michel Beaulieu

This is a strange result. I, too, am curious about what model you're using. On the three HP calculators I own I get 5.0625.

Mark

Re: About squaring a number on my HP...

*Message #4 Posted by **Walter B** on 9 Dec 2010, 3:21 p.m.,*
in response to message #1 by Michel Beaulieu

Assume you got 5.0**6**2499998 ;) Nevertheless, I don't know any HP model doing something like this, if you started with plain 9/4. So, please tell us what you used.

Re: About squaring a number on my HP...

*Message #5 Posted by **Geoff Quickfall** on 9 Dec 2010, 3:52 p.m.,*
in response to message #4 by Walter B

Looks like he took the. 2* log(2.25) then e^x.

On my 71b the answer for:

log(2.25)* 2=x

exp(x)

Gives 5.06249999999

Geoff

Edited: 9 Dec 2010, 3:53 p.m.

Re: About squaring a number on my HP...

*Message #6 Posted by **Walter B** on 9 Dec 2010, 4:11 p.m.,*
in response to message #5 by Geoff Quickfall

Coming into my mind is a Sinclair Scientific where you may have to calculate this way ;)

Re: About squaring a number on my HP...

*Message #7 Posted by **Michel Beaulieu** on 9 Dec 2010, 3:45 p.m.,*
in response to message #1 by Michel Beaulieu

Their is no model number on it.

It's a calculator that was given to me by my father some months ago. The only indication i can see is Hewlett Packard - 500mW on the back near feets I guess that their was a sticker on the back probably with model number and serial but only glue is still present...

I usually have a HP-41C for RPN but my batteries are dead so i pick up this one. I also have a business HP, but these two gives good answers on squaring.

Re: About squaring a number on my HP...

*Message #8 Posted by **Walter B** on 9 Dec 2010, 3:58 p.m.,*
in response to message #7 by Michel Beaulieu

2 alternate proposals for progressing:

1. Take a picture of the keyboard using your digital camera. Publish it here and let us guess.

2. Compare with the calcs documented in this very museum yourself.

HTH

Re: About squaring a number on my HP...

*Message #9 Posted by **Martin Pinckney** on 9 Dec 2010, 4:38 p.m.,*
in response to message #7 by Michel Beaulieu

> Quote:
>
> The only indication I can see is Hewlett Packard - 500mW on the back...

Sounds like one of the Classics?

Re: About squaring a number on my HP...

*Message #10 Posted by **Walter B** on 9 Dec 2010, 4:50 p.m.,*
in response to message #9 by Martin Pinckney

Hi Martin,

FYI, Woodstocks have the same "Wattage".

Re: About squaring a number on my HP...

*Message #11 Posted by **Nigel J Dowrick** on 10 Dec 2010, 5:31 a.m.,*
in response to message #9 by Martin Pinckney

The sticker of the back of my HP-45 claims a power consumption of 500 **M**W. Those old LED machines certainly went through the batteries quickly!

Nigel

Re: About squaring a number on my HP...

*Message #12 Posted by **Walter B** on 10 Dec 2010, 11:41 a.m.,*
in response to message #11 by Nigel J Dowrick

> Quote:
>
> The sticker of the back of my HP-45 claims a power consumption of 500 **M**W.

A sticker on one of my HP-35 calcs tells at this position something about 500**MV**. Seems not everyone being able to print and attach a sticker is knowledgeable about units (and maybe that was one reason for discarding such stickers on the Spices ;) or those special stickers are simply a fake?) ... for sake of fairness, all other stickers in my collection are correct.

Re: Mostly OT: What's your experience with LED flashlights?

*Message #13 Posted by **Ren** on 10 Dec 2010, 12:55 p.m.,*
in response to message #12 by Walter B

Walter, Maybe because you pronounce a "W" the same way US yanks pronounce a "V" your calc has an MV on it.

B^)

Ren dona nobis pacem

Re: Mostly OT: What's your experience with LED flashlights?

*Message #14 Posted by **bill platt** on 10 Dec 2010, 1:36 p.m.,*
in response to message #13 by Ren

In Austria, they live in peculiarly named places known generically as Willages, and when you go to a quaint shop to buy an alpenhorn, you get out your Wisa card, as they don't take American Express.

Re: Mostly OT: What's your experience with LED flashlights?

*Message #15 Posted by **Martin Pinckney** on 10 Dec 2010, 9:33 p.m.,*

in response to message #14 by bill platt

Anyway, what's with the LED flashlights?

I recently got a Maglite XL100. Really like it.

Re: Mostly OT: What's your experience with LED flashlights?

*Message #16 Posted by **Walter B** on 10 Dec 2010, 1:59 p.m.,*
in response to message #13 by Ren

Oh, do you think these calculators were localized already? So far, I did know local units only over the ocean d8-)

Bill, you'll be better off asking for an Alphorn instead, else I doubt you'll get what you wanted. And chances are better in Switzerland anyway ... (oooh, these foreign countries are complicated, aren't they ;) - but remember: everyone is a foreigner almost everywhere).

Edited: 10 Dec 2010, 2:40 p.m.

Re: Mostly OT: What's your experience with LED flashlights?

*Message #17 Posted by **bill platt** on 10 Dec 2010, 6:31 p.m.,*
in response to message #16 by Walter B

Haha Walter! I thought about the fact that Switzerland is the home of the alphorn--but decided to leave it alone...So far, I've only heard Germans and Austrians say "willage" and "wisa" but perhaps I might hear it in Switzerland, too. I couldn't think quickly of an Austrian tourist trinket, and I like the alphorn. Now you've got me wondering if the alphorn shares a border with Suisse, or if it is on t'other side of Oesterreich.

As for the extra sylylable in alp(en)horn, I guess I just like the sound of it better that way!:-P Like Old Times versus Olden Times.

Haha to your last sentence--so, so true but we don't think that way, even though it IS true!

Edited: 10 Dec 2010, 6:34 p.m.

Re: Mostly OT: What's your experience with LED flashlights?

*Message #18 Posted by **Walter B** on 11 Dec 2010, 3:13 a.m.,*
in response to message #17 by bill platt

> Quote:
>
> I couldn't think quickly of an Austrian tourist trinket, ...

... like a *Sepplhut*, or order a *Jagertee, Einspänner, Almdudler* (these last three are beverages since you were looking for a trinket, if you know what I mean)

> Quote:
>
> ...and I like the alphorn. Now you've got me wondering if the alphorn shares a border with Suisse, or if it is on t'other side of *(??)* Oesterreich.

AFAIK the *Alphorn* lives in *d'r düütsche Schwiiz* (the German speaking part of Switzerland) only and is not endemic *bei d'r armi östriichische Verwandtschaft* (with the poor Austrian relatives) nor anywhere else.

> Quote:
>
> As for the extra sylylable in alp(en)horn, I guess I just like the sound of it better that way!:-P Like Old Times versus Olden Times.

Works different in German: If we want some text looking really old fashioned, we put some "y" and "th" where an "i" or "t" is found now, like e.g. *Nothschrey* instead of *Notschrei* - but that won't work schematically. And we'll use a Gothic font, of course.

> Quote:
>
> Haha to your last sentence--so, so true but we don't think that way, even though it IS true!

Thanks - I think said sentence should show up here in regular intervals.

Edited: 13 Dec 2010, 5:46 a.m.

Re: About squaring a number on my HP...

*Message #19 Posted by **Thomas Klemm** on 9 Dec 2010, 4:53 p.m.,*
in response to message #7 by Michel Beaulieu

It could be an HP-35. At least that would match the following:

- squaring 2.25 you get 5.062499998
- there is no model number on it
- 500mW on the back near feets

Does it have a x^y key? How do you calculate the result? What is the answer for:

```
2.25
ENTER
x
```

As Geoff explained above logarithm and exponential function are internally used by x^y (or y^x on later models). That's why you don't get an exact result.

Best regards
Thomas

Edited: 9 Dec 2010, 4:57 p.m.

Re: About squaring a number on my HP...

*Message #20 Posted by **Martin Pinckney** on 9 Dec 2010, 5:23 p.m.,*
in response to message #19 by Thomas Klemm

OK, you got it. I did not have a 35, only an emulator, which gives the exact result.

Re: About squaring a number on my HP...

*Message #21 Posted by **Michael Meyer** on 9 Dec 2010, 5:47 p.m.,*
in response to message #20 by Martin Pinckney

My 35 here at work gives 5.062499998. Square root returns 2.25.

Re: About squaring a number on my HP...

*Message #22 Posted by **Michel Beaulieu** on 9 Dec 2010, 6:03 p.m.,*
in response to message #1 by Michel Beaulieu

I saw the picture on this wonderful museum and it is an HP-35 that my father gaves me. Probably the algorythm in programming the first scientific calculator was not accurate for exponentiation and log calculation.

Thanks!

Re: About squaring a number on my HP...

*Message #23 Posted by **Thomas Okken** on 9 Dec 2010, 6:36 p.m.,*
in response to message #22 by Michel Beaulieu

If I remember correctly, the first HP calculators that calculated Y^X accurately for integer X were the HP-19C/29C and HP-67/97. The earlier models calculate Y^X as exp(X*log(Y)) for all cases, while the later ones use an iterative squaring/multiplication algorithm when X is an integer. The new algorithm is not complicated, but the earlier calculators didn't have enough ROM space for such niceties.

UPDATE: The iterative algorithm is like this:

```
float pow(float y, int x) {
    if (x == 0)
        return 1;
    if (x < 0) {
        x = -x;
        y = 1 / y;
    }
    float r = 1;
    while (true) {
        if ((x & 1) != 0)
            r *= y;
        x >>= 1;
        if (x == 0)
            return r;
        y *= y;
    }
}
```

I seem to remember reading about this in an HP Journal issue, but I don't remember which one.

Edited: 9 Dec 2010, 6:55 p.m.

Re: About squaring a number on my HP...

*Message #24 Posted by **bill platt** on 9 Dec 2010, 7:00 p.m.,*
in response to message #23 by Thomas Okken

On a 32sii, if you do e^(2*ln(2.25) and then show the mantissa, or fix 11, you see 5.062 499 999 99

If you set fix 10 (that's dot 0), of course it shows 5.062500... Of course y^x has the newer algorithm and so it comes out exact even with showing the mantissa.

Edited: 9 Dec 2010, 7:03 p.m.

Re: About squaring a number on my HP...

*Message #25 Posted by **Thomas Okken** on 9 Dec 2010, 7:23 p.m.,*
in response to message #24 by bill platt

I just tried this on the HP-25: **2 ENTER 2 y^x** returns 3.999999999, and **2 ENTER 3 y^x** returns 8.000000002... exactly the same results as you get when you calculate **2 ln 2 × e^x** and **2 ln 3 × e^x**, respectively.

Oh, and **2.25 ENTER 2 y^x** returns 5.062499998.

Re: About squaring a number on my HP...

*Message #26 Posted by **Martin Pinckney** on 9 Dec 2010, 10:15 p.m.,*
in response to message #25 by Thomas Okken

Well, does any HP give this result with an X^2 key? Or does this only happen with the Y^x (or X^y) key?

The point being it could have helped narrow down the cause if Michel had stated he raised 2.25 to the power of 2 instead of squared 2.25.

Re: About squaring a number on my HP...

*Message #27 Posted by **Thomas Okken** on 9 Dec 2010, 10:22 p.m.,*
in response to message #26 by Martin Pinckney

I don't think any HP gives inaccurate results with the x^2 key, but the HP-35 doesn't have one. :-)

Re: About squaring a number on my HP...

*Message #28 Posted by **Martin Pinckney** on 10 Dec 2010, 5:34 a.m.,*
in response to message #27 by Thomas Okken

I know. This would have also narrowed down the possibilities.

Re: About squaring a number on my HP...

*Message #29 Posted by **Gerson W. Barbosa** on 9 Dec 2010, 9:07 p.m.,*
in response to message #22 by Michel Beaulieu

> Quote:
>
> Probably the algorythm in programming the first scientific calculator was not accurate for exponentiation and log calculation.

It is not a matter of accuracy. The HP-35 log and exp algorithms are accurate enough, it just happens the result of exp(2*ln(2.25)) would be exact only if the computations were carried out with infinite digits. Free42 Decimal, for instance, returns 5.062499999999999999999412 internally, which is of course rounded to 5.0625 when the display is set to ALL.

Gerson.

Re: About squaring a number on my HP...

*Message #30 Posted by **Palmer O. Hanson, Jr.** on 9 Dec 2010, 9:46 p.m.,*
in response to message #29 by Gerson W. Barbosa

It's been a long, long time ago but back in the early days of hand-held calculators didn't we all understand that if we wanted to accurately square a number we should simply multiply the number by itself (e.g., Enter followed by x) rather than use the y^x function?

Re: About squaring a number on my HP...

*Message #31 Posted by **Thomas Okken** on 9 Dec 2010, 10:06 p.m.,*
in response to message #29 by Gerson W. Barbosa

> Quote:
>
> Free42 Decimal, for instance, returns 5.062499999999999999999412 internally

Hi Gerson!

This is a bit OT -- but which release of Free42 are you using?
AFAIK all 1.4.66 versions get 2.25^2 exactly right, regardless of whether you use Decimal or Binary, and regardless of whether you calculate 2.25^2 using ENTER *, X^2, Y^X, LN 2 * E^X, or LOG 2 * 10^X.
What you describe, an error of almost 600 ULP for a simple calculation involving transcendentals, should not happen with any Decimal version >= 1.4.52, and with no Binary version since 1.0.
(The < 1.4.52 Decimal versions evaluated transcendentals to less than full accuracy, guaranteeing at least 20 digits accuracy but not the full 25 digits that all other functions produce... But since 1.4.52 they use one or two additional terms in the Taylor series, and should be accurate to 1 ULP now.)

- Thomas

Edited: 9 Dec 2010, 10:31 p.m.

Re: About squaring a number on my HP...

*Message #32 Posted by **Gerson W. Barbosa** on 9 Dec 2010, 10:40 p.m.,*
in response to message #31 by Thomas Okken

Hello Thomas,

Sorry! That was 1.4.40. I have 1.4.62 version in my notebook, but the shortcut in the windows working area was pointing to that very old version. Version 1.4.62 returns 5.0625 *exactly*.

Regards,

Gerson.

Edited: 9 Dec 2010, 10:48 p.m.

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RPN and students

*Message #1 Posted by **Michel Beaulieu** on 9 Dec 2010, 12:51 p.m.*

I want to show the effectiveness of RPN to my student compare to their TI graphing calculator. Do you have an exemple of a simple arithmetic calculation but with lot of steps and () that i can compete with them?

Thanks

Re: RPN and students

*Message #2 Posted by **Sok-khieng Chum Hun** on 9 Dec 2010, 1:41 p.m.,*
in response to message #1 by Michel Beaulieu

sqrt(5*((((0.2*(350/661.5)^2 + 1)^3.5 - 1)*(1 - 6.875*10^-6*25500)^-5.2656 + 1)^0.286 - 1)) = .8357...

Re: RPN and students

*Message #3 Posted by **Martin Pinckney** on 9 Dec 2010, 2:08 p.m.,*
in response to message #2 by Sok-khieng Chum Hun

This is not a good example, IMO, if you are trying to show the advantage of RPN over ALG. True, the number of keystrokes is less. But the complexity of the expression perhaps tilts the advantage toward ALG?

To quote this site, under **Learning RPN**,

"You can *easily* evaluate more complicated expressions than the one shown above. Just start with the innermost set of parentheses and work outwards as you would to solve the expression with a pencil and paper". [Emphasis added]

For a simple mind like mine, it's too easy to get lost in evaluating such an expression in RPN.

With ALG, I can just start at the left and go to the right. Of course, I have to type it correctly.

Re: RPN and students

*Message #4 Posted by **Chuck** on 9 Dec 2010, 7:42 p.m.,*
in response to message #1 by Michel Beaulieu

The one I use is:

Solve 300=2.45 e^(.025x) +35for x.

Using RPN you can solve it without writing anything down (just perform the inverse operations):

```
300 ENTER
35 -
2.45 /
ln
```

```
.025 /
```

On an algebraic input calculator, you almost have to solve it on paper first (or do some mental gymnastics) in order to see exactly how to type it in:

ln((300-35)/2.45)/.025 = which just looks atrocious.

CHUCK

Edited: 9 Dec 2010, 8:18 p.m.

Re: RPN and students

*Message #5 Posted by **Palmer O. Hanson, Jr.** on 14 Dec 2010, 11:01 p.m.,*
in response to message #4 by Chuck

> Quote:
>
> The one I use is:
>
> Solve 300=2.45 e^(.025x) +35for x.
>
> Using RPN you can solve it without writing anything down (just perform the inverse operations):
>
> ```
> 300 ENTER
> 35 -
> 2.45 /
> ln
> .025 /
> ```
>
> On an algebraic input calculator, you almost have to solve it on paper first (or do some mental gymnastics) in order to see exactly how to type it in:
>
> ln((300-35)/2.45)/.025 = which just looks atrocious.

If the user of a TI-83+ wants to solve by generating the equation for x he does NOT have to derive the equation by using pencil and paper and then enter the derived equation into his machine. Rather, he uses the display as a scratchpad and uses the cursor keys and the insert function to generate the derived equation in the following manner

Place (300-35)/2.45 in the display

Realize he has to insert the ln function at the front. Slew to the left margin, press 2nd INS, press ln and see ln (inserted at the front of the equation.

Slew to the end of the entered equation and press) / .025 and see the derived equation in the display as

ln((300-350/2.45)/.025

and press ENTER to solve. It seem to me that the solution for x isn't atrocious. It is just what it is.

The user of the TI-83+ does NOT have to solve by entering the equation in that manner. Rather, he can solve the problem as follows::

300 - 35 ENTER

/ 2.45 ENTER

LN 2nd ANS ENTER

/ .025 ENTER

which yields the same intermediate displays as would be received with a typical RPN machine. The same sequence will work on any of the TI graphic machines. A similar sequence will work in algebraic mode on the HP-35s.

Re: RPN and students

*Message #6 Posted by **Martin Pinckney** on 15 Dec 2010, 10:58 a.m.,*
in response to message #5 by Palmer O. Hanson, Jr.

I agree, Palmer, there is nothing "atrocious" to me about just keying in the expression the same way you read the problem statement in any published source.

I do see that RPN has some advantages with some types of math problem solving, but I don't think I'll ever understand this seemingly fanatical devotion to it.

Re: RPN and students

*Message #7 Posted by **bill platt** on 15 Dec 2010, 2:04 p.m.,*
in response to message #6 by Martin Pinckney

I think part of it stems from a feeling of remaining connected with the process of solving--of doing the maths rather than letting the machine do it. The formula entry approach is like "the chimp can go to space" whereas RPN is like Mr. Jaeger in the X-15 and the NF-104.

Re: RPN and students

*Message #8 Posted by **Garth Wilson** on 15 Dec 2010, 3:05 p.m.,*
in response to message #6 by Martin Pinckney

> Quote:
>
> there is nothing "atrocious" to me about just keying in the expression the same way you read the problem statement in any published source.

I would reiterate however that that is **not** the way most engineering calculations in real life go. The steps are more commonly figured out in your head as you take a number, do something to it, (see the result), do something else to it, etc., which seldom happens in left-to-right order. (That's not to say it can't be done this way in ALG-- it's just not quite as slick.) If it's already figured out for you (or you've figured it out yourself before), it's probably already in a program waiting for inputs.

> Quote:
>
> I do see that RPN has some advantages with some types of math problem-solving, but I don't think I'll ever understand this seemingly fanatical devotion to it.

I could have gone either way (RPN or ALG), until I started using my 41cx in the late 1980's for equipment control and data acquisition and suddenly RPN came out way ahead. In computer programming languages, once I got into Forth (which is RPN), I never wanted to use an algebraic

language again with its piles of parentheses and punctuation.

Re: RPN and students

*Message #9 Posted by **Palmer O. Hanson, Jr.** on 17 Dec 2010, 10:52 p.m.,*
in response to message #6 by Martin Pinckney

> Quote:
>
> I do see that RPN has some advantages with some types of math problem solving, but I don't think I'll ever understand this seemingly fanatical devotion to it.

Devotion to their mechanization isn't unique to rpners. Back in the 1980's I was the editor of a newsletter for TI machines. We were a least as dismissive of RPN as the rpners are of algebraic. One source of humor was the nomenclature "reverse Polish". It was suggested that an idea like that could only have originated in that old children's book *Inside Outside Upside Down*.

Re: RPN and students

*Message #10 Posted by **Thomas Okken** on 9 Dec 2010, 8:16 p.m.,*
in response to message #1 by Michel Beaulieu

Whatever you do, make sure you just show your students how RPN *can* be easier to work with, but don't try to convince them that RPN is the best system no-matter-what.

http://www.woz.org/letters/general/57.html
See the last "Comment from E-mail" on that page, and Steve Wozniak's response.

Note: I have been an RPN user for nearly 35 years now, and I wouldn't have it any other way -- but I'm not going to try to proselytize. (Same thing with my use of **vi**.) If I hear anyone complain about the tools they're using, *then* I may start to talk, but I'm not going to Preach The Word! :-)

Re: RPN and students

*Message #11 Posted by **David Hayden** on 9 Dec 2010, 9:50 p.m.,*
in response to message #10 by Thomas Okken

How about the quadratic equation? It should be familiar to them.

To me, the key advantage is that you can evaluate an expression that appears in a textbook. If it's already written out on one line with the appropriate parentheses then ALG will be easier, but in textbook form, where the divisors and radicals and subscripts and superscripts all imply orders of operation, RPN reall shines.

For bonus points, show how easy it is to save the intermediate sqrt(b^2 -4ac) in RPN so you can evaluate the second root easily.

Dave

Re: RPN and students

*Message #12 Posted by **bill platt** on 15 Dec 2010, 2:07 p.m.,*
in response to message #11 by David Hayden

> Quote:

> To me, the key advantage is that you can evaluate an expression that appears in a textbook. If it's already written out on one line with the appropriate parentheses then ALG will be easier, but in textbook form, where the divisors and radicals and subscripts and superscripts all imply orders of operation, RPN reall shines.

That is interesting. And true. It really took the "textbook entry" approach before the "algebraic" entry became universally possible for any published equation. Interesting too that the 48G really didn't have a useable textbook sort of entry system until the Metakernel/Erable/ALG48 developments--the original equation editor is really really horrible.

However, many equations worked just fine even with that old infix arithmetic with postfix functions "algebraic" that was used in the Ti SR series, as described by Steve Wozniak.

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41CX-X, say what?

*Message #1 Posted by **Ángel Martin** on 9 Dec 2010, 9:14 a.m.*

Well, extended-expanded in a modest way if you consider adding ONE more function worthwhile.

As it turns out there was room in the FAT for one more entry, and plenty of room in page 3 for some additional code (no need to resort to the bank-switched page). So... you can imagine how tempting such a situation is.

Here's the question: If you had a choice, which one would be the single one and only function to incorporate to the CX function set?

In fact there could be up to three, assuming we'd use the section headers to call the remaining two. Sort of "easter eggs", as it's done on some power-user modules (like the CCD).

Possibly having to do with extended memory management (CLEM, RENMFL, RETYPFL...) or would you go other way?

Let's have a poll!

Edited: 9 Dec 2010, 9:15 a.m.

Re: 41CX-X, say what?

*Message #2 Posted by **HrastProgrammer** on 9 Dec 2010, 9:33 a.m.,*
in response to message #1 by Ángel Martin

CXISA = Read ROM word (address in X) and push it on the stack

Re: 41CX-X, say what?

*Message #3 Posted by **Angel Martin** on 9 Dec 2010, 2:17 p.m.,*
in response to message #2 by HrastProgrammer

interesting choice, I can tell you're a heavy-duty programmer! :)

Re: 41CX-X, say what?

*Message #4 Posted by **HrastProgrammer** on 10 Dec 2010, 9:17 a.m.,*
in response to message #3 by Angel Martin

Otherwise, I agree that some kind of random number generator function would be useful.

Re: 41CX-X, say what?

*Message #5 Posted by **Geir Isene** on 9 Dec 2010, 10:15 a.m.,*
in response to message #1 by Ángel Martin

One would of course have to have a function to call the header easteregg functions as well.

Re: 41CX-X, say what?

*Message #6 Posted by **Ángel Martin** on 9 Dec 2010, 2:16 p.m.,*
in response to message #5 by Geir Isene

Yes of course. We could think about adding XROM as the "official" entry, or rely on having the OS/X or CCD around.

Re: 41CX-X, say what?

*Message #7 Posted by **Geir Isene** on 9 Dec 2010, 5:49 p.m.,*
in response to message #6 by Ángel Martin

I say *self contained* - all the way. SO, XROM is in.

Re: 41CX-X, say what?

*Message #8 Posted by **Håkan Thörngren** on 9 Dec 2010, 11:09 a.m.,*
in response to message #1 by Ángel Martin

What are you up to now? Replacing the 41cx ROM?

If I were in charge when the 41CX ROM was made, I would have added a random number generator.

Since done is done, today I would probably use the space for extended prompting, but that would not take any FAT entry.. :)

Or rather, I think I would leave it alone, done is done, just put the extensions in a separate plug-in module instead.

Re: 41CX-X, say what?

*Message #9 Posted by **Ángel Martin** on 9 Dec 2010, 2:21 p.m.,*
in response to message #8 by Håkan Thörngren

Not after replacing the CX ROM but to extend it (a little bit at least). I like the RNG idea, and would like to suggest using the one you published in PPCCJ way back then.

It uses the time module to produce a credible seed, and is buffer-based and everything, so it's a nice all-round exercise.

But let's see which other inputs we get..

Re: 41CX-X, say what?

*Message #10 Posted by **Geir Isene** on 9 Dec 2010, 5:50 p.m.,*
in response to message #9 by Ángel Martin

I second that.

Re: 41CX-X, say what?

*Message #11 Posted by **db (martinez, ca.)** on 9 Dec 2010, 11:38 a.m.,*
in response to message #1 by Ángel Martin

I think the most glaring omission from the extended function set was the ability to easily store and recall DATA files between mass storage and extended memory. The TDS survey ROM has this function using TDC and THP and it simply makes the whole module useful. Otherwise, one is limited to having one 300 point file, period - or changing file type from data to ascii and back in order to move them.

I never understood why HP would not have given the ability to archive data files from a platform that was being used as a data collector. It stores and retrieves program and ascii files between ex mem and mass storage media. It's as if HP expected users to be using their 41 for word processing but not math.

Anyway; that's my vote.

Re: 41CX-X, say what?

*Message #12 Posted by **Ángel Martin** on 9 Dec 2010, 2:23 p.m.,*
in response to message #11 by db (martinez, ca.)

I sort of agree with you but remember that we're emulator-based, so the HP-IL is not a very useful device... afraid to say.

This is fun, sort of the most-wanted drill all over again.

Re: 41CX-X, say what?

*Message #13 Posted by **Geir Isene** on 9 Dec 2010, 5:51 p.m.,*
in response to message #12 by Ángel Martin

No, no, we're not necessarily emulator-based... I'm not. I'm all for The Real Thing, HP-IL and all.

Re: 41CX-X, say what?

*Message #14 Posted by **Ángel Martin** on 12 Dec 2010, 12:27 p.m.,*
in response to message #11 by db (martinez, ca.)

In retrospect it's true that they gave a lot of emphasis to the ASCII files, way over the data files if one is to judge by the number of functions (with the EDitor being the clearest example). Perhaps too much considering the obvious limitations in the platform for text editing...

at any rate, looks like the poll is over, and the winner is...

Re: 41CX-X, say what?

*Message #15 Posted by **Namir** on 9 Dec 2010, 12:53 p.m.,*
in response to message #1 by Ángel Martin

You asked for three functions, so here is my pick:

1. Random number generator.

2. Write all/range of memory registers to a data file on the PC.

3. Read a data file on the PC into memory to replace all or some of the memory registers.

Namir

Edited: 9 Dec 2010, 12:54 p.m.

Re: 41CX-X, say what?

*Message #16 Posted by **PeterP** on 9 Dec 2010, 3:20 p.m.,*
in response to message #15 by Namir

I think the answer changes tremendously with the reference frame:

For a physical HP-41 back in the day when modules where expensive (or a physical HP-41 today with no clonix) I would have to vote for peekb/pokeb and code/decode. These are very powerful functions that are time-consuming to replicate in pure Focal and they have massive re-use. RAND is useful once in a while for games and the like but it is easily replicated by FOCAL and doesnt really expand what one can do with the HP41. Assuming there is enough space in page 3 for more stuff, one would have to consider allowing sto/rcl/x<> to the system registers a,b,c,d,etc which does not require a FAT entry.

In an emulator world I would vote for saving/retrieving XM to/from a QROM page and/or save/load a user program to a QROM page to free up memory. If there is only 1 FAT entry, a SAVEALL command to save/exchange the complete RAM and XM to 1 (or 2 with full XM) QRAM pages would allow to have a couple of configurations always at hand in ones simulator (say a data collection configuration, a games configuration and a programming configuration)

Basically an additional function should be hard to replicate with already existing functions and combine well with existing functions to create new possible uses.

Cheers

Peter

Edited: 9 Dec 2010, 3:21 p.m.

Re: 41CX-X, say what?

*Message #17 Posted by **Monte Dalrymple** on 9 Dec 2010, 3:42 p.m.,*
in response to message #1 by Ángel Martin

HEX and DEC (and maybe OCT), to toggle between these modes. Like the corresponding keys on the 16c. Then I'd never need anything except my 41. Hmm....

Monte

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HPIL, HPGL

*Message #1 Posted by **Mike (Stgt)** on 8 Dec 2010, 10:20 a.m.*

Two subjects (bad habit, I know).

i) I was told that somebody managed to add HPIL to HP-41 on Nonpareil. Who may point me in the right direction where to find something about it.

ii) I googled for a freeware HPGL viewer w/o luck. Yes, graphic viewer like IrfanView or XnView would do, alas (AFAIK) they both read a file from disk - I look a SW that could take a stream as input. Or what trickles through virtual HPIL <G>. Every hint is appreciated.

Ciao.....Mike

Re: HPIL, HPGL

*Message #2 Posted by **Egan Ford** on 8 Dec 2010, 12:24 p.m.,*
in response to message #1 by Mike (Stgt)

> Quote:
>
> i) I was told that somebody managed to add HPIL to HP-41 on Nonpareil. Who may point me in the right direction where to find something about it.

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv019.cgi?read=157533#157533

Re: HPIL, HPGL

*Message #3 Posted by **Christoph Giesselink** on 8 Dec 2010, 1:25 p.m.,*
in response to message #1 by Mike (Stgt)

> Quote:
>
> i) I was told that somebody managed to add HPIL to HP-41 on Nonpareil. Who may point me in the right direction where to find something about it.

http://kdntl.pagesperso-orange.fr/hp41/nonpareil-patch-doc.html

Christoph

Re: HPIL, HPGL

*Message #4 Posted by **Olivier De Smet** on 9 Dec 2010, 2:20 a.m.,*
in response to message #1 by Mike (Stgt)

Hi,

For HPGL, try this link look for the GPIB toolkit and 7470 stuff.

Olivier

Re: HPIL, HPGL

*Message #5 Posted by **Mike (Stgt)** on 9 Dec 2010, 3:55 a.m.,*
in response to message #4 by Olivier De Smet

TNX 4 all feedback.

Ciao.....Mike

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Generating Permutations

*Message #1 Posted by **Norman Dziedzic** on 8 Dec 2010, 1:36 a.m.*

I have been trying to figure out how to generate permutations of the elements in a list in user RPL w/ my 48gii. I know I can write a brute force generator but it seems there should be some elegant way to do this with P2C and/or C2P and perhaps DOLIST or DOSUB but I'm getting nowhere understanding the cycle notation stuff.

Am I whistling in the wind here or is there a way?

My simple test case is to generate all the permutations of the elements in the list {1 2 3 4}.

Thanks, Norm

Re: Generating Permutations

*Message #2 Posted by **Werner** on 8 Dec 2010, 2:47 a.m.,*
in response to message #1 by Norman Dziedzic

```
@ 119.5 bytes, (48G) #48407d
\<<
  { {} } OVER SIZE 1 SWAP
  FOR j
    OVER j GET ADD
    1
    \<<
      DUP +
      1 j
      START
        TAIL DUP 1 j SUB SWAP
      NEXT
      DROP
    \>>
    DOSUBS
  NEXT
  SWAP DROP
\>>
```

Re: Generating Permutations

*Message #3 Posted by **Norman Dziedzic** on 8 Dec 2010, 7:34 a.m.,*
in response to message #2 by Werner

Brilliant Werner!

I'll be studying this for a while.

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Intesting Auction Site Practice!!!! Read and Learn

*Message #1 Posted by **Namir** on 7 Dec 2010, 9:52 p.m.*

Hi All TAS Bidders,

I bought an HP48GX with accessories from TAS. The seller emailed me asking if I would buy for $15 more a cable for the calculator that he did not include in the auction. I wrote back saying no thank you since I already had several such cables. Next thing I know I get a message from PayPal saying the seller has refunded me my money. I wrote the seller asking why and he said he wanted to re-list the item to include the cable!

I called the auction site by phone and complained about this kind of practice!! They said since I was issued a refund, they could not do anything!!!

So here is a new rule that will fly by TAS!! YOU DON'T LIKE THE SELLING PRICE, THEN REFUND THE MONEY AND RELIST IT. IF YOU CAN LIVE WITH JUST A NEGATIVE FEEDBACK THEN YOU ARE FINE!!!

Namir

PS: TAS knows that I am sharing this message with you all!!

Edited: 7 Dec 2010, 11:10 p.m. after one or more responses were posted

Re: Intesting Auction Site Practice!!!! Read and Learn

*Message #2 Posted by **Jerry Raia** on 7 Dec 2010, 10:15 p.m.,*
in response to message #1 by Namir

What that seller did was so wrong. I hope you left him negative feedback.

Re: Intesting Auction Site Practice!!!! Read and Learn

*Message #3 Posted by **uhmgawa** on 8 Dec 2010, 3:06 a.m.,*
in response to message #1 by Namir

> Quote:
>
> So here is a new rule that will fly by TAS!! YOU DON'T LIKE THE SELLING PRICE, THEN REFUND THE MONEY AND RELIST IT. IF YOU CAN LIVE WITH JUST A NEGATIVE FEEDBACK THEN YOU ARE FINE!!!

According to the above, the seller violated the spirit of an auction and should be sanctioned. But ebay largely being an unpoliced mudpit, the reprimand once again falls into the hands of the alienated buyer. Your one club is the red doughnut negative feedback -- use it with full force. The seller may dispute your feedback but you still have one more follow up after that. The issue is effectively closed for comment after your second feedback submission.

FWIW I've seem sellers cancel an auction before the final 12 hour period because bids were running low and the seller didn't list with (or want to pay for) a reserve. In that case no opportunity exists for would-be buyer feedback as the auction never concluded.

Re: Intesting Auction Site Practice!!!! Read and Learn

*Message #4 Posted by **Namir** on 8 Dec 2010, 4:34 a.m.,*
in response to message #3 by uhmgawa

It was a Buy-It-Now auction, which I promptly responded to. I was able to leave a negative feedback, but could not open a case (due to the full refund). As far as TAS is concerned, that's all I can do since the seller refunded me my purchase. My feeling is that the seller felt he sold the items for a low amount.

Re: Intesting Auction Site Practice!!!! Read and Learn

*Message #5 Posted by **reth** on 8 Dec 2010, 4:48 a.m.,*
in response to message #4 by Namir

I see no problem here. Rules are rules full stop. BTW I'm considering selling all my HP48 stuff. Top class. Just to say goodbye to HP. No longer my favorite.

Re: Intesting Auction Site Practice!!!! Read and Learn

*Message #6 Posted by **Namir** on 8 Dec 2010, 7:37 a.m.,*
in response to message #5 by reth

I am looking for the Math and Calculus application Pacs for the 48. Do you have any?

Namir

Re: Intesting Auction Site Practice!!!! Read and Learn

*Message #7 Posted by **Walter B** on 8 Dec 2010, 9:33 a.m.,*
in response to message #5 by reth

Just for curiosity, what's your favourite now?

Re: Intesting Auction Site Practice!!!! Read and Learn

*Message #8 Posted by **Martin Pinckney** on 8 Dec 2010, 11:01 a.m.,*
in response to message #7 by Walter B

Yes, inquiring minds want to know. Since, even with all its issues, AFAICT HP is still the best of what's out there.

Re: Intesting Auction Site Practice!!!! Read and Learn

*Message #9 Posted by **Allen** on 10 Dec 2010, 7:24 p.m.,*
in response to message #1 by Namir

Namir, This sounds like seller non-performance issue. You should be able to dispute on those grounds.

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How should I clean my hp-15c

*Message #1 Posted by **JJDietrich** on 7 Dec 2010, 9:18 p.m.*

Is it ok to use rubbing alcohol with q-tips? Something else?

Re: How should I clean my hp-15c

*Message #2 Posted by **bill platt** on 7 Dec 2010, 9:38 p.m.,*
in response to message #1 by JJDietrich

Rubbing Alcohol is safe for faceplate. I can't remember about the screen. Start with water in q-tip.

Absolutely No Ketones.

Re: How should I clean my hp-15c

*Message #3 Posted by **Randy** on 8 Dec 2010, 9:49 a.m.,*
in response to message #1 by JJDietrich

I would not use cotton swabs. Might create polished areas and more importantly, they wouldn't touch the gunk around the keys.

My mix is 70/30 isopropyl/di water. Very soft bristle toothbrush. Spray lightly, brush lightly, mop up, canned air dry off. Repeat if needed. The key is not to saturate with liquid, light spray only and repeat when needed. It's like spray painting, two light coats are better than one heavy.

Disclaimer: do not use isopropyl on Classics, it will lift the clear coat.

Re: How should I clean my hp-15c

*Message #4 Posted by **Martin Pinckney** on 8 Dec 2010, 11:05 a.m.,*
in response to message #3 by Randy

Randy, I'm curious. Is isopropyl better than "denatured" (Ethyl/methyl mix, usually) for some technical reason? Or is it the lower cost that makes it attractive?

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HP-65/67 keys not tight anymore after reassembling

*Message #1 Posted by **Juergen Keller** on 5 Dec 2010, 4:48 p.m.*

Most of the time when I disassemble and reassemble an HP-65 or 67, the keys seem to be a little lose and are not as tight as before. What do I wrong? Any hints highly appreciated!

Thanks, Juergen

Re: HP-65/67 keys not tight anymore after reassembling

*Message #2 Posted by **aj04062** on 5 Dec 2010, 8:43 p.m.,*
in response to message #1 by Juergen Keller

did you make sure the alignment pin(s) are in their respective holes?

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Replacement for HP-35S

*Message #1 Posted by **Jean-Michel** on 5 Dec 2010, 3:09 p.m.*

Hello folks,

I consider now to replace the HP-35S of my wife and which will soon cost me more in new batteries than the calculator itself by another less battery-consuming calculator. Since my wife started to feel comfortable with RPN, I want to buy her another HP. Does the 20B suffer from the same "disease"? It looks nice but since I am fed up with buying fresh batteries every now and then, I prefer to ask for opinions first.

Thanks for your help.

Kind regards. Jean-Michel.

P.S.: my wife does not bother with fingerprints on glossy surfaces ;-)

Re: Replacement for HP-35S

*Message #2 Posted by **bill platt** on 5 Dec 2010, 3:55 p.m.,*
in response to message #1 by Jean-Michel

33s. It might use less. Anyone know?

Used 32sii. Common as dirt. Can be had for $50 if you are patient.

Re: Replacement for HP-35S

*Message #3 Posted by **Karl Schneider** on 5 Dec 2010, 4:25 p.m.,*
in response to message #2 by bill platt

> Quote:
>
> 33s. It might use less *(battery power)*. Anyone know?

I suspect that the HP-33s actually uses more power and discharges its cells faster than the HP-35s. The 33s runs faster, and uses the same two Type 2032 cells in parallel. I've noted that battery replcement is more frequent than expected, even during non-use.

Only the old-school HP-41, Voyager-series, and Pioneer-series models had astounding battery life. Those of that group that kept "wall time" -- HP-41CX, HP-41 Time Module, HP-27S, HP-17B/BII -- will have much shorter battery life due to the running of that clock, even while the calc is turned off.

-- Karl

Re: Replacement for HP-35S

*Message #4 Posted by **Walter B** on 6 Dec 2010, 3:11 a.m.,*

in response to message #3 by Karl Schneider

> Quote:
>
> I suspect that the HP-33s actually uses more power and discharges its cells faster than the HP-35s. The 33s runs faster, and uses the same two Type 2032 cells in parallel. I've noted that battery replcement is more frequent than expected, even during non-use.

I've observed the 35s discharges significantly faster than the 33s sitting idly on a shelf. Statistical basis is one of each only, so watch it - but far more sound than suspecting d;-)

Re: Replacement for HP-35S

*Message #5 Posted by **Dieter** on 5 Dec 2010, 4:21 p.m.,*
in response to message #1 by Jean-Michel

Batteries for your 35s will soon cost you more than the calculator itself? I don't think that the 35s uses much battery power. The first set that came with the calculator lasted for at least one year, with daily use and lots of programming with the new toy. The second set was able to power the 35s for 1 1/2 years until the battery announciator came on - again with daily use.

How often do you have to change the batteries in your 35s?

Dieter

Re: Replacement for HP-35S

*Message #6 Posted by **Bruce Bergman** on 5 Dec 2010, 6:16 p.m.,*
in response to message #1 by Jean-Michel

Buy a 30b and skip the 20b completely. It's miles better.

Thanks,

Bruce

Re: Replacement for HP-35S

*Message #7 Posted by **Pal G.** on 5 Dec 2010, 8:26 p.m.,*
in response to message #1 by Jean-Michel

I would buy two or three HP 12Cs if I were you. Someone once said he keeps one by each phone in the house (presumably when folks had land-lines and a phone in almost every room).

You can get 'em cheap and the batteries last forever. However, they don't have scientific functions she may need. In that case, iPod Touch would be a nice gift this time of year ;)

Edited: 5 Dec 2010, 8:26 p.m.

Re: Replacement for HP-35S

*Message #8 Posted by **John B. Smitherman** on 5 Dec 2010, 11:27 p.m.,*
in response to message #1 by Jean-Michel

Hi Jean-Michel. You may have a defective unit if it is using batteries excessively. If it is still under warranty

you should consider contacting HP for a replacement.

Good luck and regards,

John

Re: Replacement for HP-35S

*Message #9 Posted by **Paul Dale** on 6 Dec 2010, 3:35 a.m.,*
in response to message #1 by Jean-Michel

Search eBay for CR2032 batteries. Many to be had for next to nothing. If the link works: eBay link.

Be careful, many of these have high postage to compensate for the trivial cost of the batteries.

- Pauli

Re: Replacement for HP-35S

*Message #10 Posted by **Thomas Chrapkiewicz** on 6 Dec 2010, 7:37 a.m.,*
in response to message #9 by Paul Dale

I've also (surprisingly) been impressed by the relatively low cost of name brand CR2032 cells on commercial sites (such as Digikey) if one purchases quantities of 50 or more.

TomC

Re: Replacement for HP-35S

*Message #11 Posted by **David Hayden** on 6 Dec 2010, 12:42 p.m.,*
in response to message #1 by Jean-Michel

I agree with Bruce, if you're considering a 20b, get a 30b instead. The keyboard on the 20b is really bad (keys sort of squish instead of clicking) and the 30b is programmable.

For functions that aren't on the keyboard, the 30b's menu system is time consuming. You choose the menu and then you have to scroll down through the options to find the function that you want. It's easy to use for sure and ideal for functions that you don't use often, but if your wife frequently uses functions that are on the menu's it can be time consuming. On the other hand, it's pretty easy to assign functions to less frequently keys.

One alternative to consider is the older version of the 48gii. These can be had new on ebay for less than $60.

Dave

Re: Replacement for HP-35S

*Message #12 Posted by **designnut** on 6 Dec 2010, 1:16 p.m.,*
in response to message #11 by David Hayden

I found I could buy 20 cells for the price of 2 retail at auction, so I now stock them. Sam

Battery cells: CR2032 and "button" style

*Message #13 Posted by **Karl Schneider** on 8 Dec 2010, 2:11 a.m.,*
in response to message #12 by designnut

> Quote:
>
> found I could buy 20 *(CR2032?)* cells for the price of 2 retail at auction, so I now stock them. Sam

I once bought a package of cheap imported 13/44/76/357 button cells on eBay, due to the number of Voyager- and Pioneer-series models I have, and the short life of the cells in the models having an operating built-in 'wall clock'.

The cells tended to lose energy with or without use, and I noticed that one of them in my HP-10C started to form crystalline deposits from a leak.

Out they went. 3-packs of quality silver iodide Energizers can now be bought for under US$7. There is no reason to risk expensive collector electronics to shoddy battery cells.

Perhaps cheap CR2032 cells in an HP-33s or HP-35s is worth the risk...

-- KS

Edited: 8 Dec 2010, 10:39 a.m.

Re: Battery cells: CR2032 and "button" style

*Message #14 Posted by **Martin Pinckney** on 8 Dec 2010, 11:25 a.m.,*
in response to message #13 by Karl Schneider

> Quote:
>
> Out they went.

Agreed. Those CCC's (Cheap Chinese Cells) are only a little better than worthless, regardless of the application. Short shelf life, even shorter life in use.

UPDATE: Battery cells: 357 "button" style

*Message #15 Posted by **Martin Pinckney** on 9 Dec 2010, 9:47 a.m.,*
in response to message #13 by Karl Schneider

> Quote:
>
> 3-packs of quality silver iodide Energizers can now be bought for under US$7.

Office Depot is now selling the above for $3.99 per 3-pack. Incredibly, still made in the USA.

Re: UPDATE: Battery cells: 357 "button" style

*Message #16 Posted by **Alex L** on 9 Dec 2010, 3:07 p.m.,*
in response to message #15 by Martin Pinckney

I've purchased 357, 2016, 2025, and 2032 button & coin cells from SwatchBattery.com. Got the Energizers - $10.71/10-pack, except the 2032s which are $8.91/10-pack.

Name brands, shipped quickly. My personal experience only. YMMV.

Re: UPDATE: Battery cells: 357 "button" style

*Message #17 Posted by **Mark Harman** on 9 Dec 2010, 4:50 p.m.,*
in response to message #16 by Alex L

Even though they don't have anywhere near the same selection, BestByte does have better prices than SwatchBattery.com. You can get the Energizer 357 for 84 cents a piece and for greater quantities they charge less. For example, an order of 10 batteries would be $8.10 (81 cents a piece).

Additionally they have the Panasonic CR2032 for 39 cents a piece. The HP 30b ships with Panasonic OEM batteries. The only differences are the writing on the battery and the nominal capacity (higher for non-OEM). The OEM and non-OEM are made in Indonesia and are high quality batteries.

They also ship very quickly.

Regards,

Mark

Re: UPDATE: Battery cells: 357 "button" style

*Message #18 Posted by **bill platt** on 10 Dec 2010, 1:38 p.m.,*
in response to message #17 by Mark Harman

there are sooo many "bestbyte" companies, I have know idea which one you refer to. I also looked at Swatch battery, but they do not stock the 2032.

Re: UPDATE: Battery cells: 357 "button" style

*Message #19 Posted by **Mark Harman** on 10 Dec 2010, 2:21 p.m.,*
in response to message #18 by bill platt

Here are some links:

CR2032 at BestByte.net

357 at BestByte.net

Hope this helps.

Mark

Re: UPDATE: Battery cells: 357 "button" style

*Message #20 Posted by **bill platt** on 10 Dec 2010, 6:35 p.m.,*
in response to message #19 by Mark Harman

Thanks!

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HP15C LCD dust - any way to remove?

*Message #1 Posted by **JJDietrich** on 5 Dec 2010, 10:39 a.m.*

I just bought an HP-15C, serial number 2313A05258. There is a small black speck of who-knows-what on the display and it looks like it's trapped between the outer display and the actual inner LCD display. Is there any way to remove this?

I removed the back, and that's as far as I had the guts to go, so I just put it back together. I suppose I can live with it, but it's annoying! Thanks!

-Jason

Re: HP15C LCD dust - any way to remove?

*Message #2 Posted by **BobVA** on 5 Dec 2010, 5:54 p.m.,*
in response to message #1 by JJDietrich

Check out this thread.

Regards, Bob

Re: HP15C LCD dust - any way to remove?

*Message #3 Posted by **JJDietrich** on 5 Dec 2010, 6:33 p.m.,*
in response to message #2 by BobVA

Thanks! After some fiddling around, I got it, and fixed another little problem I didn't know existed. FYI here's what I did:

1. unscrewed and removed the back panel

2. peeled back the 2 overlapping protective film pieces (slowly, tried not to rip the adhesive tape. Wasn't 100% successful but close)

3. used tweezers to gently pull up the battery terminal clips

4. there were 3 little square bumper type things sitting on little plastic posts on each corner of the LCD area, so I used tweezers to carefully remove them and set them aside - this is the problem I found that I wasn't aware of - there was a 4th bumper sitting loose, which had caused the gap to form originally between the LCD and the plastic screen allowing the original gunk to end up there. Clearly these bumpers are used to gently press the LCD screen against the outer plastic window once you reassemble since the back panel has extensions which fit right over those bumpers - sort of a female version of the post. The LCD circuit board is attached via a flexible piece on the right side, and is not directly/rigidly attached to the rest of the electronics - this is what allowed me to easily accomplish the next step:

4. with the LCD basically free (although still attached at the right side), I gently pulled up the left side, letting a little gap form between the LCD and the outer screen. then I picked the whole thing up, rotated it

backwards, let gravity hold the gap, and reached in with the tweezers and gently touched the gunk which came right out

5. reassembled

Good as new! (well, as new as a 25 year old calculator can be). As I mentioned, those 4 little square bumpers are now back around the LCD, so now there is a nice tight "seal" between the LCD and the outer window.

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Hrast BASIC-4X Discussion

*Message #1 Posted by **HrastProgrammer** on 5 Dec 2010, 5:52 a.m.*

As asked by J-F, I am creating this thread about the BASIC interpreter for HP-48/49 I am currently working on. We can discuss specifications (after I'll have them fixed), ask questions, provide benchmarks etc.

> Quote:
>
> *doesn't allow identifier after NEXT (so, NEXT always closes the inner FOR and FOR/NEXT crossing isn't possible).*
>
> So how do you exit a for loop early????
>
> - Pauli

I must admit that I don't understand your question. How does variable after NEXT help you to exit a FOR loop early?

For example, we have the following program:

```
10 FOR I=1 TO 10
20 DISP I
30 NEXT I
40 DISP "I am out!"
```

How does NEXT I enable a premature exit, compared to NEXT only?

Couldn't you write I=10: GOTO 30 to exit the loop, no matter of NEXT vs. NEXT I?

```
10 FOR I=1 TO 10
15 IF I=6 THEN I=10: GOTO 30
20 DISP I
30 NEXT
40 DISP "I am out!"
```

Of course, BASIC-4X, being a highly structured language, provides EXIT and EXIT FOR statements for such purpose:

```
FOR I=1 TO 10
  IF I=6 THEN EXIT
  DISP I
NEXT
DISP "I am out!"
```

Re: Hrast BASIC-4X Discussion

*Message #2 Posted by **Namir** on 5 Dec 2010, 2:14 p.m.,*
in response to message #1 by HrastProgrammer

Hrast,

Anyway you can setup a PayPal account so that we can purchase the various software you are selling? Sending money through Western Union has a bad taste because of all the scams on the *other auction* site!!

Namir

PS: Your music shows that you are also talented in that area as well as programming.

Re: Hrast BASIC-4X Discussion

*Message #3 Posted by **Howard Owen** on 5 Dec 2010, 6:07 p.m.,*
in response to message #2 by Namir

I second this. My bank goes a little insane every time I send money via Western Union.

Re: Hrast BASIC-4X Discussion

*Message #4 Posted by **HrastProgrammer** on 6 Dec 2010, 1:18 a.m.,*
in response to message #2 by Namir

> Quote:
>
> PS: Your music shows that you are also talented in that area as well as programming.

Thanks Namir! The problem is to find time to do all this, because of other "trivial" activities like work etc. Time is my biggest enemy :-(

In regard to PayPal/Western Union ... When I started with emulators, there wasn't even a sign of PayPal here and last time I checked it still wasn't possible to receive money via PayPal. Perhaps things changed recently, I will check it again.

Re: Hrast BASIC-4X Discussion

*Message #5 Posted by **Eric Smith** on 5 Dec 2010, 9:23 p.m.,*
in response to message #1 by HrastProgrammer

NEXT with a variable name is used for exiting an inner loop:

```
10 FOR I=5 TO 1000 STEP 2
20 FOR J=3 TO SQR(I) STEP 2
30 IF I/J = INT(I/J) THEN 60
40 NEXT
50 PRINT I;
60 NEXT I
```

You might well be able to do this better with your fancy structured BASIC, but this is how it was traditionally done.

Re: Hrast BASIC-4X Discussion

*Message #6 Posted by **Paul Dale** on 6 Dec 2010, 1:19 a.m.,*
in response to message #5 by Eric Smith

Eric got it first go. Being able to exit an inner loop (or two) is useful.

Many Basics pre-evaluate the loop bounds so setting the control variable to the end value didn't always work. It seems this isn't the case with yours though.

- Pauli

Re: Hrast BASIC-4X Discussion

*Message #7 Posted by **HrastProgrammer** on 6 Dec 2010, 1:20 a.m.,*
in response to message #5 by Eric Smith

I see. OK, I will put this feature on my TODO list. Thanks ...

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Re: hp-15c: From my museum to yours..

*Message #1 Posted by **uhmgawa** on 4 Dec 2010, 11:45 p.m.*

Just encountered this latest arrival:

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=190476167188

although it seems to have endured more "road rash" than other recent specimens.

Incidentally I've noticed a trend in 15c auctions where for whatever reason jpegs are apparently being captured while at sea. At least I'd assume so given the apparent difficulty of obtaining an image parallel to the horizon.

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HP-97 keyboard sudden failure

*Message #1 Posted by **BobVA** on 4 Dec 2010, 8:01 p.m.*

Hi: The numeric/arithmetic keys (i.e. the right part of the keyboard) have suddenly stopped working on my HP-97. I opened the case and separated then reseated the gold finger contacts between the keyboard and the logic board, hoping to get lucky, but alas... Appears similar to this problem.

Anyone seen this before or have any pointers? It's pretty difficult to trouble shoot this due to all the disassembly/reassembly required, so I'm hoping for something to narrow down the problem.

No easy explanation for the failure. Worked last month when I balanced my checkbook, took it off the shelf and turned it on this month and no numeric keys. No drops, spills, etc.

Regards, Bob

Edited: 4 Dec 2010, 8:02 p.m.

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NoVRAM / HEPAX MCODE Question

*Message #1 Posted by **Jeff Davis** on 4 Dec 2010, 7:04 p.m.*

Is there any specific procedure to allocate one of the HEPAX RAM pages as a ROM image? I would like to build a ROM image using the HEXEDIT program. If the HEPAX resides in 8-B pages would "B" be the page to allocate? Or is this even possible? I am assuming you could break the link in order to isolate this 4k block. Please let me know.

Re: NoVRAM / HEPAX MCODE Question

*Message #2 Posted by **Geir Isene** on 5 Dec 2010, 6:28 a.m.,*
in response to message #1 by Jeff Davis

Take a look at the ram2rom feature (files in the Clonix package)

Re: NoVRAM / HEPAX MCODE Question

*Message #3 Posted by **Frido Bohn** on 6 Dec 2010, 5:01 a.m.,*
in response to message #1 by Jeff Davis

Hi Jeff,

It is possible to allocate HEPAX memory for other purposes, such as for ROM-creation.
Basically, you have to change the word at address xFF3 to 300h using HEXEDIT, were x denotes one of the pages 8–B. Then, addresses xFE7 and xFE8 have to be 000h. A detailed description can be found in the HEPAX manual Vol. 1, p. 63.
A neat example how to program a user-developed ROM can be found in the HEPAX manual Vol. 2, p. 153.

What Geir described above is the way how to copy the programmed ROM into Page F via ram2rom into the Nov64 system where Page F usually must be flashed, I believe. Thus, it would be the next step after you did your ROM programming.

Best regards
Frido

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RPN for Kids and Poor Guys

*Message #1 Posted by **Joerg Woerner** on 4 Dec 2010, 5:42 p.m.*

The famous HP-35 was neither the calculator for kids nor the choice of poor guys.

And now look at these two RPN calculators introduced in 1975:

The Unitrex 90SC assembled in Hong Kong and not really a high-quality product.

The WhizKid Edition of the National Semiconductor Model 600 obviously named with kids in mind.

Well, times changed!

Have a great weekend,

Joerg

Re: RPN for Kids and Poor Guys

*Message #2 Posted by **Walter B** on 4 Dec 2010, 7:00 p.m.,*
in response to message #1 by Joerg Woerner

The Whiz Kid does it even without an ENTER key - must be either witchcraft or a bit too poor ;)

(Well, I know you can start with a cleared calculator and use + to terminate the first number entry. If that little wizard comes to a point where it needs a single parenthesis, however, the end is near ... ;)

Re: RPN for Kids and Poor Guys- What Memories!

*Message #3 Posted by **John Stark** on 5 Dec 2010, 12:03 p.m.,*
in response to message #1 by Joerg Woerner

The Unitrex 90SC was my FIRST "Scientific" calculator, long before I could afford any of the HP line.

Considered it a vast upgrade from my K& E Slide Rule in 1976.

I have stuck with RPN in one form or another ever since.

My technical and economic migration took me through:

- National Semiconductor Mathemetician

- HP.25 (PROGRAMMABLE !)

- HP.29C (RETAINS PROGRAM IN MEMORY!)

- HP.35 (Traded HP.25 for it; liked classy case design)

- HP.67 (UNIVAC on a Stick and IN YOUR POCKET! - Still have that beast)

And a small but growing collection of Classics today.

Thanks so much for the memory refresh.

Sure is amazing how things have changed today.

Cheers to all..

John Stark

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OT: Can you identify this calculator?

*Message #1 Posted by **Joerg Woerner** on 4 Dec 2010, 2:44 p.m.*

Short question:

What was the purpose of this calculator? Just found it in a larger lot and struggle to come up with the reason behind the two metal hooks...

Any help appreciated. There is no manufacturer stated on the product or the PCB, but it was manufactured in Korea around 1976.

Have a great weekend and happy calculator hunting...

Regards,

Joerg

Re: OT: Can you identify this calculator?

*Message #2 Posted by **Dave Shaffer (Arizona)** on 4 Dec 2010, 2:48 p.m.,*
in response to message #1 by Joerg Woerner

Do those rings snap out? If so, I'll bet those rings were to hold a day-by-day calendar. You flip over the pages as each day goes by.

Re: OT: Can you identify this calculator?

*Message #3 Posted by **Joerg Woerner** on 4 Dec 2010, 2:59 p.m.,*
in response to message #2 by Dave Shaffer (Arizona)

Dave,

They are removeable - but not really easy. They are rather thick and you have to press them together by 5 mm to release them.

Thanks and Regards,

Joerg

Re: OT: Can you identify this calculator?

*Message #4 Posted by **John B. Smitherman** on 4 Dec 2010, 4:26 p.m.,*
in response to message #3 by Joerg Woerner

Hi Joerg. I agree with Dave it looks like a calendar base. Here's a link for a calendar refill:

Calendar Refill

Regards,

John

Re: OT: Can you identify this calculator?

*Message #5 Posted by **Joerg Woerner** on 4 Dec 2010, 5:31 p.m.,*
in response to message #4 by John B. Smitherman

THANKS!!!

Paper fits into the base - questions answered.

Have a great weekend!

Regards,

Joerg

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82143A printer roller replacement

*Message #1 Posted by **James Grenert** on 4 Dec 2010, 12:57 p.m.*

Hello. Has anyone replaced the paper advance rollers in the 82143A printer? Mine have flat spots and are generally not as sticky as they should be. Thanks! -J. P.

Re: 82143A printer roller replacement

*Message #2 Posted by **Ignazio Cara (Italy)** on 4 Dec 2010, 2:38 p.m.,*
in response to message #1 by James Grenert

Hello, I have exchanged the original rollers with a couple of o-ring and made other modify to the plastic supports. You can see the final product of this kind of work in the following pictures:

Of course, you must take apart the printer head assembly but it's a worth time job.

I can send you a complete paper feed cam with my modify if you send me your damaged part. Let me know if you are interested.

Regards

Ignazio

Re: 82143A printer roller replacement

*Message #3 Posted by **James Grenert** on 4 Dec 2010, 3:12 p.m.,*
in response to message #2 by Ignazio Cara (Italy)

Wow, nice work! I don't have a 82143A service manual in the DVD set. Is it easy to open up and disassemble? I have pretty good mechanical skills (repaired a gummy wheel on my card reader).

Thanks for your help and kind offer!

Re: 82143A printer roller replacement

*Message #4 Posted by **Ignazio Cara (Italy)** on 5 Dec 2010, 2:50 p.m.,*
in response to message #3 by James Grenert

Hi James, I have the service manual but it's not usefull for this kind of job; it show only a exploded view of the printer assembly. If you need this image, tomorrow morning I can send you the file. Let me know a mail address.

Regards

Ignazio

Re: 82143A printer roller replacement

*Message #5 Posted by **Ignazio Cara (Italy)** on 6 Dec 2010, 2:23 a.m.,*
in response to message #4 by Ignazio Cara (Italy)

Errata corridge: the service manual describe substitution of the pinch-roller in the printer assembly, sorry. Let me know your e-mail address and I will send you the pdf file (about 9 MB).

Regards

Ignazio

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How to clean a 20B ?

*Message #1 Posted by **Karl-Ludwig Butte** on 4 Dec 2010, 10:08 a.m.*

Dear all,

yesterday my new 20B arrived and its design is awsome. Only one problem: after inserting batteries and testing some of the function there are some fingerprints on the high gloss surface. I tried to wipe them off with a microfibre cloth but couldn't remove them completely.

Has anyone an idea how to clean it without doing any harm to the high gloss surface ?

Any hint will be very much appreciated - thank you very much in advance.

Regards

Karl

Re: How to clean a 20B ?

*Message #2 Posted by **Jeff Brower** on 4 Dec 2010, 7:07 p.m.,*
in response to message #1 by Karl-Ludwig Butte

When it gets too many fingerprints it's time to buy a new, clean one.

Re: How to clean a 20B ?

*Message #3 Posted by **Jim Yohe** on 5 Dec 2010, 12:29 a.m.,*
in response to message #2 by Jeff Brower

LOL

Re: How to clean a 20B ?

*Message #4 Posted by **Walter B** on 5 Dec 2010, 1:59 a.m.,*
in response to message #2 by Jeff Brower

That's marketing ;)

Re: How to clean a 20B ?

*Message #5 Posted by **Martin Pinckney** on 7 Dec 2010, 10:38 a.m.,*
in response to message #1 by Karl-Ludwig Butte

From what I've read on here, the way to "clean" it is to replace it with a 30b.

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HP-12c, November 25, 4046, answer

*Message #1 Posted by **Don Shepherd** on 3 Dec 2010, 7:35 p.m.*

In this thread, I asked the question why does the 12c calendar function have an end date of November 25, 4046. I noted that the number of days between the beginning date of October 15, 1582 and the ending date is exactly 899,999, and I wondered why the specified ending date was chosen by the 12c designers. Thomas Klemm thought it might have something to do with the fact that there is uncertaintly whether the year 4000 will be considered a leap year, so perhaps the designers ended the date range at that point because of that. Gerson Barbosa found a 1977 Hewlett-Packard Journal article by Roy Martin, one of the designers of the HP-92 financial calculator, who stated that the ending date was determined by internal register limitations. Thomas Klemm did some analysis of the actual 12c code and did not see the need for this limitation.

Gerson Barbosa found the current address of Roy Martin and I wrote him a letter asking for clarification on this issue. I received his very nice reply today in the mail. It turns out that Thomas Klemm was correct. Mr. Martin stated that they realized that calendar adjustments needed but not yet decided could cause actual calendar dates to deviate from the calculated results in the year 4000 timeframe, hence the choice of the 900,000 limit on the calendar function on the HP-92 financial calculator (and subsequent HP-12c).

Per Mr. Martin: The claim (in the HP Journal article) that the date was determined by internal register limitations and not any special knowledge of the future was tongue in cheek.

To make a long story short, the designers of the HP-92 limited the calendar days function to around the year 4000 (as opposed to year 9999, for example) because they couldn't know if it would one day be considered a leap year, as Thomas Klemm had proposed.

It is great that at least one vintage HP calculator designer is still around to answer such questions.

Re: HP-12c, November 25, 4046, answer

*Message #2 Posted by **David Hayden** on 4 Dec 2010, 1:22 a.m.,*
in response to message #1 by Don Shepherd

Hmm. This get me thinking. It's my understanding that the source code for some of the older models has been lost. I wonder if we could track down some of the old developers and see if they have copies of the source in their records.

Dave

Re: HP-12c, November 25, 4046, answer

*Message #3 Posted by **Thomas Klemm** on 4 Dec 2010, 8:46 a.m.,*
in response to message #1 by Don Shepherd

Hi Don
It is also great that you could find Mr. Martin and clarify the issue. Many thanks for letting us know.

Best regards

Thomas

PS: It shows we have to take care when reading HP Journal articles. It may well be they wanted to trick us.

Edited: 4 Dec 2010, 8:49 a.m.

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Ángel Martin's 13 digit OS routines up on HP-41 MCODE wiki

*Message #1 Posted by **Geir Isene** on 3 Dec 2010, 3:15 p.m.*

Here goes:

13 digit OS routines

Re: Ángel Martin's 13 digit OS routines up on HP-41 MCODE wiki

*Message #2 Posted by **Angel Martin** on 3 Dec 2010, 3:46 p.m.,*
in response to message #1 by Geir Isene

Wow! Geir, you're the champion of the Wiki editing! :))

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Jean-Michel Lecointre (and news about me...)

*Message #1 Posted by **Vieira, Luiz C. (Brazil)** on 3 Dec 2010, 2:37 p.m.*

Hi all known (and unknown) folks;

for reasons not necessarily needed to be post here (amongst them a non-answered request for a 30-hour day...), I have been 'off-line' for these last months... Sorry! I have not been even able to read the threads (shame on me...). And some relate subjects of my interest.

Jean-Michel: Hi! I've received and answered all of your e-mails! Do you have another e-address we could try (the one I've been sending answers to is wanadoo.fr)? Since I got no error messages, I thought my answers were, at least, redirected to SPAM. I'm sorry if it... 'sounded like' I wasn't answering you.

Cheers. And sorry using this space this way...

Luiz (Brazil)

Re: Jean-Michel Lecointre (and news about me...)

*Message #2 Posted by **Jean-Michel** on 3 Dec 2010, 4:55 p.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

Hello,

You have mail. Kind regards.

JML

Re: Jean-Michel Lecointre (and news about me...)

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 3 Dec 2010, 6:14 p.m.,*
in response to message #2 by Jean-Michel

Hi, Jean-Michel;

I have already read your e-mail (some half hour ago) and have signaled as you requested so you could check at your e-mail SPAM.

Cheers.

Luiz (Brazil)

Re: Jean-Michel Lecointre (and news about me...)

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 3 Dec 2010, 6:21 p.m.,*
in response to message #2 by Jean-Michel

Hi, Jean-Michel;

about both questions of yours: yes, sure, I'm surely interested in both actions, related the HP41 and the HP25 RAM. And it would be even better after the end-of-the-year hollydays. For us, teachers, this is actually an extra-activity period in time... And God knows I'm running out of it quickly.

Cheers.

Luiz (Brazil)

Sent you an e-mail...

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 4 Dec 2010, 7:18 a.m.,*
in response to message #2 by Jean-Michel

... a few minutes ago. Has it been 'delivered'?

Cheers.

Luiz (Brazil)

Re: Jean-Michel Lecointre (and news about me...)

*Message #6 Posted by **Walter B** on 3 Dec 2010, 4:59 p.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

Muito bom dia, Luiz,

good to read you again :) BTW I've got some expansions and suggestions for your HPDotMatrix1 font - so if you got some spare time to look over it, please tell me. If not, I won't bother you with that.

Cumprimentos,

Walter

Re: Jean-Michel Lecointre (and news about me...)

*Message #7 Posted by **Vieira, Luiz C. (Brazil)** on 3 Dec 2010, 6:10 p.m.,*
in response to message #6 by Walter B

Hallo, Walter; wie geht's?

Yes, please! Let me know what you have in mind...

As you may have noticed, the TTF files were mostly created in the mid 90's (it´s been long since...) At that time I used a very simple font manager that allowed me to fill all gaps, in fact it allowed me to insert characters were CorelDRAW! didn't. I actually created the fonts in Corel than I used this other software to rearrange some characters into prohibited positions (codes). I should master it back for I am not sure I still remember how to use it...

In time: I thought all characters at DotMatrix 1 were filled... are there any placeholders to be filled? I remember I wanted to add some characters, like the checkmark (kinda 'V', if you know what I mean) but I found no free code. Well, I'm talking about Windows 95/98/ME font coding, I remember seeing new placeholders in some fonts at Windows XP. Would that be the case? If so, I think I'll need another font manager...

Let me know, OK?

Cheers.

Luiz (Brazil)

Re: Jean-Michel Lecointre (and news about me...)

*Message #8 Posted by **Walter B** on 20 Dec 2010, 3:16 a.m.,*
in response to message #7 by Vieira, Luiz C. (Brazil)

Olá Luiz,

you've got mail.

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Benefits from programming in vintage HP machines

*Message #1 Posted by **Namir** on 2 Dec 2010, 2:36 p.m.*

Hi All,

Now that my collection of vintage HP calculator (as well as graphing HP, TI, and Casio machines) is growing again, I feel compelled to program.play with them to justify their presence. Of course using these old limited machines is no match with today's PCs (even the smallest ones). Yet I feel that working with the limited vintage machine challenges us to program in a lean way. The temptation today is to justify "wasteful" programming, such as extra arrays that store duplicate data that we justify for whatever reasons. And that's just the tip of the iceberg.

Do you feel that programming vintage HP, TI, Casio, Sharp, and other machines is a total, partial, nostalgic waste of time, or a nice reminder and exercise in lean programming?

Namir

Re: Benefits from programming in vintage HP machines

*Message #2 Posted by **Kiyoshi Akima** on 2 Dec 2010, 5:46 p.m.,*
in response to message #1 by Namir

> Quote:
>
> Do you feel that programming vintage HP, TI, Casio, Sharp, and other machines is a total, partial, nostalgic waste of time, or a nice reminder and exercise in lean programming?

Yes. :-)

I enjoy programming the vintage machines, but I also enjoy programming newer machines (and computers, for that matter). But if I need to get something done, I'll use the computer (or at least a 50g).

My first calculator had 49 steps of programming memory, and I thought it was wonderful. I also remember when a big computer had 64K of memory and we managed to get real work done on them. Now as back then, I enjoy the challenge of fitting programs into limited memory.

Anyone else?

Re: Benefits from programming in vintage HP machines

*Message #3 Posted by **David Hayden** on 2 Dec 2010, 5:59 p.m.,*
in response to message #1 by Namir

The calculator imposes three (or more) constraints. Your code most be small, your data must be small, and your algorithms must be fast. All three provide intellectual challenges that can help you to think creatively so in that sense they're all useful traits. But lets compare them to "programming in the real world."

Small code doesn't matter very much any more, unless you're dealing with embedded systems or other small devices (like calculators!). Or maybe I'm just showing my own bias - I program for a large distributed system.

Small data can be important if there is a lot of it.

Fast code is definitely important. A bad algorithm can eat up all the CPU power available today, tomorrow, and for thousands of years to come.

Dave

Re: Benefits from programming in vintage HP machines

*Message #4 Posted by **Michael Meyer** on 2 Dec 2010, 6:46 p.m.,*
in response to message #1 by Namir

I wondered this when I first started collecting. Why would anyone waste their time on old calculators? Well... why would anyone waste their time building furniture with hand tools rather than power tools? Why would anyone waste their time restoring old furniture? Why would anyone want to restore and drive an old car or an old airplane? Why restore mechanical watches or clocks? Why would anyone stick with an older spouse? (Better not go there...)

In addition to the already mentioned benefits, it's simply a love and a passion for some of us-- me, anyway. I know that even college-age programmers get a kick out of learning to use older equipment. And it does also help teach the value of concise and elegant solutions. And I still feel a bit strange to think about the thousands of years of scientists, up to and including Einstein, who would have given anything for a "lowly" HP-35...

Re: Benefits from programming in vintage HP machines

*Message #5 Posted by **Jerry Raia** on 4 Dec 2010, 12:08 a.m.,*
in response to message #4 by Michael Meyer

Ditto :)

Re: Benefits from programming in vintage HP machines

*Message #6 Posted by **Allen** on 2 Dec 2010, 7:46 p.m.,*
in response to message #1 by Namir

I think it's tremendously useful.. Just a few months ago I had to write a program to calculate averages and standard deviations. Rather than using a 200 element array and computing the stdev and average separately like the rest of the class, I just used a three element array and accumulated n,x,x^2 then at the very end calculated the stdev and avg. The idea was inspired by the way my first 32sii calculator could average 2 numbers or 50,000 using the same RAM. i ♥ calculator programming.

Another example, Polynomial multiplication and Discrete Time convolution. Through programming, I realized these are the exact same processes. In that case I arrived at the same answer with different approaches, and learned a math lesson besides.

The skill of writing a 22-byte program is indispensable, and missing from modern computer science.

Re: Benefits from programming in vintage HP machines

*Message #7 Posted by **Martin Pinckney** on 2 Dec 2010, 10:25 p.m.,*
in response to message #1 by Namir

While I don't have any "vintage" HP's (my earliest are Pioneers), the programs I write for them (I include Solver routines) are practical working tools in my profession, civil engineering. Not an academic exercise. No one disputes computers are more powerful. But having the convenience of a handheld on the desk/conf. room table for quick problem solving - can't be beat.

Re: Benefits from programming in vintage HP machines

*Message #8 Posted by **Karl Schneider** on 2 Dec 2010, 10:26 p.m.,*
in response to message #1 by Namir

> Quote:
>
> Yet I feel that working with the limited vintage machine challenges us to program in a lean way...
>
> Do you feel that programming vintage HP, TI, Casio, Sharp, and other machines is a total, partial, nostalgic waste of time, or a nice reminder and exercise in lean programming?

Loaded question, Namir! ;^)

Seriously, a handheld calc is the wrong tool for a big job (see David Hayden's criteria above), but I still prefer to program a vintage HP for straightforward tasks instead of struggling with MS Excel on an PC.

-- KS

Re: Benefits from programming in vintage HP machines

*Message #9 Posted by **reth** on 3 Dec 2010, 4:03 a.m.,*
in response to message #1 by Namir

total waste of time unless you do it for self satisfaction instead of solving sudoku or alike

Re: Benefits from programming in vintage HP machines

*Message #10 Posted by **David Hayden** on 3 Dec 2010, 6:18 a.m.,*
in response to message #9 by reth

> Quote:
>
> total waste of time unless you do it for self satisfaction instead of solving sudoku or alike

Why not do both ? :)

Re: Benefits from programming in vintage HP machines

*Message #11 Posted by **Namir** on 3 Dec 2010, 8:25 a.m.,*
in response to message #9 by reth

If you want to experience the speed or slowness of an algorithm, then implement it on a programmable calculator or even pocket BASIC machine.

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Qunestion about extending the HP-71B BASIC

*Message #1 Posted by **Namir** on 2 Dec 2010, 2:30 p.m.*

As I return to dabble in HP71B BASIC programming I am faced with the limitations on variables' names. The JPC ROM (especially using the EMU71 emulator) offers more structured program flow for the 71B BASIC. These improvements are a welcome sign. Of course the 71B BASIC supports GOTOs and GOSUBs that support named labels, which is a much welcome improvement over line numbers.

My question to 71B extension gurus is "Is there anyway to extend the 71B BASIC to support reasonably long variable names?"

Namir

Re: Question about extending the HP-71B BASIC

*Message #2 Posted by **HrastProgrammer** on 3 Dec 2010, 2:37 a.m.,*
in response to message #1 by Namir

"Is there anyway to extend the 71B BASIC to support reasonably long variable names?"

I tried to extend 71B BASIC with longer variable names when developing my HP-71X emulator for HP-48/49, but eventually I gave up. It seems that HP programmers were totally obsessed with packing a variable name into 3 nibbles, so they forgot about the existence (and usefulness) of longer names. This makes the implementation of longer names almost impossible without a big BASIC ROM rewrite, which wasn't worth a trouble to me, because it would probably break a lot of other things.

The above is one thing that irritates me so much about 71B and I really cannot understand how they couldn't provide a proper variable naming after they provide a lot of other extensions and overcomplicated 71B ROM to a Space Shuttle levels. OK, the speed etc., but they could leave this 3-nibble format for short names and implement longer names that will be slower and will consume more memory, but will be there if you need them.

The other thing that irritates me is the lack of proper integer numbers. Yes, 71B has INTEGER variables but those are just for saving some memory because they, in fact, contain truncated real numbers and the calculator (computer) is dealing internally with real numbers only. Because of those REAL=>"INTEGER" conversion, working with INTEGER variables can actually be slower to some extent than working with REAL variables, what a joke. For some reasons unknown to me, HP insists on that REAL/SHORT/INTEGER variable representation on all BASICs ranging from HP-85 (probably even from HP-9830/9845) via HP-75C to HP-71B.

These are just two reasons that motivated me to start developing my own BASIC (Hrast BASIC-4X) for HP-48/49 series a few months ago ;-)

Re: Question about extending the HP-71B BASIC

*Message #3 Posted by **Namir** on 3 Dec 2010, 3:43 a.m.,*
in response to message #2 by HrastProgrammer

Thank you for your insight an detailed explanation. I was hoping that someone can add an extension to complement the more structured program flow control done by the JPC ROM. If I am not wrong the TI-74 BASIC supports names longer than one or two letters, and I am almost certain that some Sharp and Casio pocket computers also do that.

Namir

Re: Question about extending the HP-71B BASIC

*Message #4 Posted by **HrastProgrammer** on 3 Dec 2010, 4:16 a.m.,*
in response to message #3 by Namir

Yes, TI-74 has variable names of up to 15 characters and Sharp PC-E500 has names of up to 40 characters (not sure 100% => should check manual). Lower Sharps (PC-14xx, etc.) have only 1- or 2-character names but, at least, you can have 2-letter names compared to HP-71B, HP-75C and HP-85 (EDIT: and perhaps some other members of HP-8x family) where only letter+number names are supported.

Edited: 3 Dec 2010, 5:22 a.m. after one or more responses were posted

Re: Question about extending the HP-71B BASIC

*Message #5 Posted by **Olivier De Smet** on 3 Dec 2010, 5:13 a.m.,*
in response to message #4 by HrastProgrammer

Just for sake of truth, the HP86/87 basic has long variable name up to 31 chars with case distinguished.

Olivier

Edited: 3 Dec 2010, 4:01 p.m.

Re: Question about extending the HP-71B BASIC

*Message #6 Posted by **Namir** on 3 Dec 2010, 12:05 p.m.,*
in response to message #4 by HrastProgrammer

I am thinking about writing a Windows-based pre-processor utility that takes a pseudo-HP-71B program with long variable names and generates HP-71B code. The choice I have for this kind of utility is either have a user-defined list of name-translation table or the name translation is done entirely by the utility. The latter can more elaborate since the program has to derive the shorter variable names based on the long ones, device a scheme to deal with overflow in variable names (e.g using up A, A1, ..., A9, A0).

Using a user-defined allows the user to control the mapping of long variable names into short ones, so that he/she can edit/correct the translated program with more ease.

Namir

Re: Question about extending the HP-71B BASIC

*Message #7 Posted by **Marcus von Cube, Germany** on 3 Dec 2010, 3:51 p.m.,*
in response to message #6 by Namir

An automatic approach would simply map the first variable to A, the second to B, the 27th to

A1, and so forth. If you start writing your programs on the PC you should stick to it.

Use EMU71 for testing.

Re: Question about extending the HP-71B BASIC

*Message #8 Posted by **Namir** on 4 Dec 2010, 8:44 a.m.,*
in response to message #7 by Marcus von Cube, Germany

That's one approach, the other one is to take the first letter of the long variable name and append a digit, starting with 0 and going up.

I have implemented an Visual Basic utility that is an HP71B program pre-processor that adds line numbers, converts pseudo-labels into line numbers, and replace variables with long names with shorter one. The approach I am using is to let the program extract the list of long-name variables and give the user an option of manually naming them or let the program name them using the above scheme. Once the program uses <letter>0 through <letter>9 it stops translating and yields a blank name to let the user choose a name. The program avoids renaming long-name variables to single-letter variables (A, B, C, ... Z) as these may be used in the source code.

Namir

Re: Question about extending the HP-71B BASIC

*Message #9 Posted by **Egan Ford** on 3 Dec 2010, 4:03 p.m.,*
in response to message #2 by HrastProgrammer

> Quote:
>
> These are just two reasons that motivated me to start developing my own BASIC (Hrast BASIC-4X) for HP-48/49 series a few months ago ;-)

Awesome.

Re: Question about extending the HP-71B BASIC

*Message #10 Posted by **J-F Garnier** on 4 Dec 2010, 5:10 a.m.,*
in response to message #2 by HrastProgrammer

Hi Hrast,

I second your opinion about the variable naming scheme on the HP-71B, this is definitevly the major weakness of the otherwise excellent HP-71B Basic implementation. As mentionned by Olivier, the HP-85 had the same limitation, that was overcomed in the HP-86/87, together with much larger program space.

The main practical use of INTEGER/SHORT variable types was for memory saving when using large numeric arrays. Independently of the INTEGER type, the HP-85 and HP-75C (but not the HP-71B!) had a fast integer processing using a clever implementation, see Speed comparison

These are just two reasons that motivated me to start developing my own BASIC (Hrast BASIC-4X) for HP-48/49 series a few months ago ;-)

Great! Let us know more soon, a target specification would be very interesting to discuss :-)

J-F

Re: Question about extending the HP-71B BASIC

*Message #11 Posted by **HrastProgrammer** on 4 Dec 2010, 7:47 a.m.,*
in response to message #10 by J-F Garnier

> Quote:
>
> As mentionned by Olivier, the HP-85 had the same limitation, that was overcomed in the HP-86/87, together with much larger program space.

Hi J-F,

Thank you (and Olivier) for clarifying this because I was under impression that HP-86/87 used the same BASIC as HP-85.

> Quote:
>
> Great! Let us know more soon, a target specification would be very interesting to discuss :-)

I don't have the exact specifications yet because this is work in progress and I am experimenting with a lot of things in order to choose optimal solution (in terms of speed and memory consumption). Currently I mainly have goals that I would like to achieve in the final product. I can present those goals in a separate thread if the community is interested in this subject ...

But, despite of the specifications, I can asure you that:

(1) It won't be an ordinary BASIC and in many ways it looks and behaves more like Pascal than BASIC.

(2) It will be fast, and I mean real *fast*.

(3) It will have many fancy and useful things ;-)

I executed your tests from the above link and here are the results:

REAL version (looking almost like your program):

```
10:REM
20:T=TIME
30:X=1
40:FOR I=X TO 1000: NEXT
50:DISP TIME-T
```

Time: 0.943 seconds

In regard to real numbers, Hrast BASIC-4X works internally with 15-digit mantisa/5-digit exponent, all the time. Native REAL variable type is REAL15, but it supports REAL12, as well, and automatically converts REAL15 to REAL12 when storing to REAL12 variable. It also rounds 15-digit mantissa to 12 digits when executing comparision operations.

INTEGER version (looking almost like your program):

```
10:REM
20:T=TIME
```

```
30:X=%1
40:FOR I=X TO 1000: NEXT
50:DISP TIME-T
```

Time: 0.254 seconds

Integer range is -524288..524287.

Native REAL version:

```
REM
T=TIME
X=1
FOR I=X TO 1000 NEXT
DISP TIME-T
```

Time: 0.898 seconds

Native INTEGER version:

```
REM
T=TIME
X=%1
FOR I=X TO 1000 NEXT
DISP TIME-T
```

Time: 0.208 seconds

You can also write it in more packed form:

```
T=TIME:X=1 FOR I=X TO 1000 NEXT DISP TIME-T
```

Timing is the same because FOR/NEXT is inside the same line in all versions. Notice that it doesn't need line numbers or statement separators (except before assignment if you don't use LET) and doesn't allow identifier after NEXT (so, NEXT always closes the inner FOR and FOR/NEXT crossing isn't possible).

All tests were executed on HP-48GX running Hrast BASIC-4X initial "1st step" working prototype ...

Edited: 4 Dec 2010, 11:27 a.m.

Re: Question about extending the HP-71B BASIC

*Message #12 Posted by **J-F Garnier** on 5 Dec 2010, 3:54 a.m.,*
in response to message #11 by HrastProgrammer

This seems excellent, and very fast indeed!

J-F

Re: Question about extending the HP-71B BASIC

*Message #13 Posted by **Paul Dale** on 5 Dec 2010, 4:27 a.m.,*
in response to message #11 by HrastProgrammer

> Quote:
>
> doesn't allow identifier after NEXT (so, NEXT always closes the inner FOR and FOR/NEXT crossing isn't possible).

So how do you exit a for loop early????

- Pauli

Re: Question about extending the HP-71B BASIC

*Message #14 Posted by **Garth Wilson** on 3 Dec 2010, 3:24 p.m.,*
in response to message #1 by Namir

> Quote:
>
> My question to 71B extension gurus is "Is there anyway to extend the 71B BASIC to support reasonably long variable names?"

Once I got my very full-featured text editor going (which used a ton of LEX file material from the Paris user's group), I have written my more complex HP-71 BASIC programs in text. One of the text editor's features uses TRANSFORM to turn it into BASIC, but it also replaces long variable names with the HP-71 kind before the transformation, and additionally adds the line numbers and takes out blank lines and so on. This allows making the program very readable while you're working on it. You can use indentation for conditions, loops, etc., vertical alignment, and other things that make it easier to visually factor. I use a particular character to concatenate lines so even though the HP-71 requires certain things to be kept all on the same line, I can put them on separate lines. I have an extra 160K of RAM, so memory space is not a problem.

Edited: 3 Dec 2010, 3:25 p.m.

Re: Qunestion about extending the HP-71B BASIC

*Message #15 Posted by **Egan Ford** on 3 Dec 2010, 4:09 p.m.,*
in response to message #1 by Namir

> Quote:
>
> Is there anyway to extend the 71B BASIC to support reasonably long variable names?

Have you considered giving FORTH a shot?

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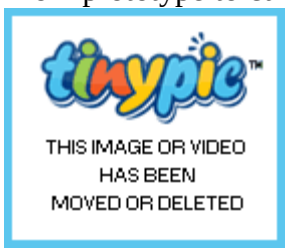
Evolution of the HP17B - prototype to current in pictures

*Message #1 Posted by **Keith Midson** on 1 Dec 2010, 6:54 p.m.*

From prototype to current model! Enjoy. Cheers, Keith



Edited: 1 Dec 2010, 9:40 p.m.

Re: Evolution of the HP17B - prototype to current in pictures

*Message #2 Posted by **John Robinson** on 2 Dec 2010, 2:19 a.m.,*
in response to message #1 by Keith Midson

Nice !!!

Cheers, John

Re: Evolution of the HP17B - prototype to current in pictures

*Message #3 Posted by **Jim Yohe** on 2 Dec 2010, 3:47 a.m.,*
in response to message #1 by Keith Midson

I kind of liked the looks of the second to last one in the lineup than the current. ;-)

Re: Evolution of the HP17B - prototype to current in pictures

*Message #4 Posted by **Johnny Bjoern Rasmussen** on 2 Dec 2010, 5:43 a.m.,*
in response to message #3 by Jim Yohe

Very nice endeed. You are very lucky to have the prototypes.

Johnny

Edited: 2 Dec 2010, 5:43 a.m.

Re: Evolution of the HP17B - prototype to current in pictures

*Message #5 Posted by **Paul** on 2 Dec 2010, 3:10 p.m.,*
in response to message #3 by Jim Yohe

Calculators online (UK) still sell old style 17Bii+. Must say I didn't like it at the time but having not seen on for some time I agree it does now look pretty good. I now have a silver after pouring tea into my trusty

pioneer 17Bii which kind of survives in a squishy sort of way.

Link to Calculators online: http://www.calculators-online.co.uk/subCatAction.do?subCategoryId=prodPage&man=Hewlett%20Packard

Re: Evolution of the HP17B - prototype to current in pictures

*Message #6 Posted by **Martin Pinckney** on 2 Dec 2010, 3:42 p.m.,*
in response to message #5 by Paul

> Quote:
>
> ...after pouring tea into my trusty pioneer 17Bii...

You Brits and your tea. I haven't tried Diet Coke in mine yet.

Re: Evolution of the HP17B - prototype to current in pictures

*Message #7 Posted by **Massimo Gnerucci (Italy)** on 2 Dec 2010, 4:07 p.m.,*
in response to message #1 by Keith Midson

You miss my clear 17C prototype :-).

Greetings,
Massimo

Sorry for the bad image, just a quick shot from the phone.

Edited: 2 Dec 2010, 4:25 p.m.

Re: Evolution of the HP17B - prototype to current in pictures

*Message #8 Posted by **Keith Midson** on 2 Dec 2010, 6:36 p.m.,*
in response to message #7 by Massimo Gnerucci (Italy)

I think I remember seeing one of these on TAS a few years ago - my bid was far too low from memory! Don't suppose you want to sell it to me Massimo? ;)
My prototype seems to be a very early one - there are a few differences from the final design. The battery compartment is very different (batteries slot into the end of the calculator, rather than on the bottom), layout of keys are different, overall size is also slightly smaller. Unfortunately it doesn't work (maybe it never did?).
Cheers, Keith

Re: Evolution of the HP17B - prototype to current in pictures

*Message #9 Posted by **Keith Midson** on 4 Dec 2010, 1:44 a.m.,*
in response to message #8 by Keith Midson

This has got me wondering ... The primative design of my 17B prototype must be one of the first Pioneers. Does anyone know what the first Pioneer was? Cheers, Keith

Re: Evolution of the HP17B - prototype to current in pictures

*Message #10 Posted by **Jake Schwartz** on 5 Dec 2010, 10:37 p.m.,*
in response to message #9 by Keith Midson

> Quote:
>
> Does anyone know what the first Pioneer was?

The HP17B and 27S were both introduced on 4 January 1988, in conjunction with the Winter Consumer Electronics Show that year in Las Vegas. The next "batch" was the 22S and 32S on 1 June 1988 at the Summer CES in Chicago, followed by the 42S and 14B on 31 October 1988; the 20S, 21S and 10B on 3 January 1989; the 17BII on 6 January 1990 and 32SII on 1 March 1991.

Jake Schwartz

Re: Evolution of the HP17B - prototype to current in pictures

*Message #11 Posted by **Keith Midson** on 6 Dec 2010, 6:10 a.m.,*
in response to message #10 by Jake Schwartz

Excellent, thanks Jake. Cheers, Keith

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Which calcs have click-and-rotate keys?

*Message #1 Posted by **Jim Yohe** on 1 Dec 2010, 2:30 p.m.*

Which models of calculators have click-and-rotate keys? I can't seem to find that even on the HP website but I could be using the wrong search term "click-and-rotate".

Re: Which calcs have click-and-rotate keys?

*Message #2 Posted by **Tim Wessman** on 1 Dec 2010, 3:27 p.m.,*
in response to message #1 by Jim Yohe

Everything except the cheapest products. Anything ~30$ or higher (with the exception of the 20b) has hinged keys.

TW

Re: Which calcs have click-and-rotate keys?

*Message #3 Posted by **Jim Yohe** on 1 Dec 2010, 10:56 p.m.,*
in response to message #2 by Tim Wessman

I wonder why I've seen customer comments regarding the 17BII+ having bad keys if it too has the click-and-rotate style keys.

Re: Which calcs have click-and-rotate keys?

*Message #4 Posted by **Tim Wessman** on 2 Dec 2010, 1:36 a.m.,*
in response to message #3 by Jim Yohe

Because ya'll are super picky. ;-)

The real issue boils down to this - a keyboard produced now for a fraction of the cost of one from many years ago won't be as good as an original that cost 3-4 times the price. (this is ignoring potential software problems which are a whole different game)

We try to make them good and it drives *us* (the R&D people) nuts when there are keyboard problems, but unfortunately I am not king of the world. If 99.9% of the customers are happy, marketing and business people are as well.

That .01% is the most vocal though. . .

The fact that the definition of a good keyboard is a subjective thing doesn't help either. I've heard people who think the 48g had a great keyboard, and others who think it is crap. Throw in incositent manufacturing due to everyone trying to save cost, and there is plenty of potential for some units to be perfect, while others aren't.

TW

Edited: 2 Dec 2010, 1:38 a.m.

Key features and picky people

*Message #5 Posted by **Walter B** on 2 Dec 2010, 4:02 a.m.,*
in response to message #4 by Tim Wessman

IMHO keys were - and to some extent still are - one of the "key" features putting HP ahead of the crowd since 1972. The opposite is true as well: if HP would become unable to deliver "good keys" then all calculator manufacturers are equal in this feature, and other points will determine the buyer's choice.

So, again IMHO, **a "good key" basicly is one giving you an unambiguous tactile feedback when that key is pressed and registered.** Nothing more.

Consequence: If you get this tactile feedback, you can rely on the keystroke being registered. BTW, this works fine with all the vintage HP pocket calcs I've experienced so far. Additionally, most of their keyboards were also designed well in respect of function grouping and key locations, but that's another topic and is changed easily - after all, it's only a match table connecting keys and functions. The basic key hardware and registering firmware has to work reliably in any case. After all, a calculator shall be a professional tool.

Corrolary: If you happen to observe a single keystroke being not registered though the tactile feedback was given, you're extremely alarmed since this shakes the basis of your trust in your calculator! So if people would observe this on a true HP calc and talk about it, I won't call them picky but concerned.

As mentioned above, this topic was discussed earlier in this forum already several times, but that's what it all boils down to IMHO.

Ceterum censeo: HP, launch a 43S (with a good keyboard, of course :)

Walter

Edited: 2 Dec 2010, 5:48 a.m.

Re: Key features and picky people

*Message #6 Posted by **Martin Pinckney** on 2 Dec 2010, 10:20 p.m.,*
in response to message #5 by Walter B

> Quote:
>
> So, again IMHO, **a "good key" basicly is one giving you an unambiguous tactile feedback when that key is pressed and registered.** Nothing more.

Walter, I would respectively add one thing **more.** The keyboard should **last!** That's what brought me to HP to begin with - I had two too many TI keyboards fail.

Re: Key features and picky people

*Message #7 Posted by **Walter B** on 3 Dec 2010, 1:50 p.m.,*

in response to message #6 by Martin Pinckney

Martin, you're right of course. OTOH my posting stated exactly this already, since a key will end being a good one as soon as said condition is true no more d;-)

If, however, you were talking about double-shot keys then you're right again: that's another important feature, though I'd rate that slightly lower than the one I stated.

Re: Key features and picky people

*Message #8 Posted by **David Hayden** on 4 Dec 2010, 1:37 a.m.,*
in response to message #5 by Walter B

Quote:

> So, again IMHO, **a "good key" basicly is one giving you an unambiguous tactile feedback when that key is pressed and registered.** Nothing more.

I don't think it's a requirement that you get tactile feedback. I get no such feedback from my computer keyboard but it doesn't bother me because the key always registers.

I would add a couple of other requirements:

- the key registers once when pressed once (i.e., de-bounce).
- the key registers twice when pressed twice (i.e., good de-bounce :))
- pressing a second key registers, even if the first one hasn't yet been released.
- The legend on the keys remains visible after heavy use

Re: Key features and picky people

*Message #9 Posted by **uhmgawa** on 4 Dec 2010, 5:00 p.m.,*
in response to message #8 by David Hayden

Quote:

> I don't think it's a requirement that you get tactile feedback. I get no such feedback from my computer keyboard but it doesn't bother me because the key always registers.

They are different use cases. The very limited travel of a calc keyboard switch benefits from sharp tactile feedback where a computer keyboard comparatively does not. IIRC the latter experiment with pronounced tactile feedback seemed to die off with the original XT keyboard.

Although strictly speaking the molded silicone domes in the garden variety PC keyboards do exhibit some tactile feedback when inverted. But it is nowhere as distinct as a metal dome.

Quote:

> I would add a couple of other requirements: [ul]
> - the key registers once when pressed once (i.e., de-bounce).

- the key registers twice when pressed twice (i.e., good de-bounce :))

TI seems (seemed?) to have an awful time figuring this out. Unsure if the debounce was attempted in HW or SW but the horrid result (at least for models I've owned) rendered the calc effectively useless.

Re: Which calcs have click-and-rotate keys?

*Message #10 Posted by **Karl Schneider** on 2 Dec 2010, 11:09 p.m.,*
in response to message #4 by Tim Wessman

> Quote:
>
> Because ya'll are super picky. ;-)

Well, count me as picky, too -- because I believe that the hinged design that allows the key to move only like a mechanical rocker, regardless of where it is pressed, is far superior to a design that allows the key to wobble as though it is connected to a ball-and-socket joint.

The "vintage" HP-49G's keys have acceptable tactile feedback and reliability, but slow the user down because they wobble when pressed off-center -- and not because they are made of rubber. I use several remote controls that cause me similar exasperation by failing to register key presses.

A mid-1980's TV remote I use, however, has plunger-style buttons that move only up and down -- and always work properly.

I also agree that the reliability and durability of the keyboard will determine the success and acceptance of the calculator.

-- Karl

Re: Which calcs have click-and-rotate keys?

*Message #11 Posted by **bill platt** on 3 Dec 2010, 1:23 a.m.,*
in response to message #10 by Karl Schneider

The ultimate Tactile Feedback keys came with my original black and White Zenith television remote control, the "space command"

"Tactile feedback remote control"

*Message #12 Posted by **Karl Schneider** on 4 Dec 2010, 12:41 a.m.,*
in response to message #11 by bill platt

> Quote:
>
> The ultimate Tactile Feedback keys came with my original black and white Zenith television remote control, the "space command"

A better photo and some history here: (Caution: Ad-laden page that is slow to download)

Ours was the four-button later model from the 1960's for black-and-white sets, similar to

this one for color TV's. In function at least, these didn't change much into the 1970's, until infrared remotes arrived later.

-- Karl

Edited: 4 Dec 2010, 1:00 a.m.

Re: "Tactile feedback remote control" -- OT

*Message #13 Posted by **Katie Wasserman** on 4 Dec 2010, 10:35 a.m.,*
in response to message #12 by Karl Schneider

What great memories this brings back....

We had a few devices that used these ultrasonic remote back in the day: 2 tv's and a slide projector. They generally worked well but were subject to false trigger from other sounds like jingling keys and especially window shades being rolled up/down. Being pretty young at the time, this was actually more fun than annoyance.

Re: Which calcs have click-and-rotate keys?

*Message #14 Posted by **DeboT** on 2 Dec 2010, 5:28 a.m.,*
in response to message #3 by Jim Yohe

> Quote:
>
> I wonder why I've seen customer comments regarding the 17BII+ having bad keys if it too has the click-and-rotate style keys.

AFAIK most of those complaints were about the first 17BII+ (non-silver) (see Kieth Midson's post on "Evolution of the HP17B - prototype to current in pictures", the second last one was apparently the "bad" model), the latest one appears to be better. I believe it was similar with the 10BII (I have the latest model and so far it is OK).

Re: Which calcs have click-and-rotate keys?

*Message #15 Posted by **Walter B** on 1 Dec 2010, 4:33 p.m.,*
in response to message #1 by Jim Yohe

All vintage HP pocket calcs launched before 2000 had hinged keys. I'm not so sure after that date, since I don't know when the first undercover-Casios appeared in HP's portfolio.

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Which calculator passes the first test?

*Message #1 Posted by **Tommy** on 1 Dec 2010, 2:15 p.m.*

First, (-) is the change sign key and (x^2) is the square key.
If you hit (-) 2 x (-) 2 = the answer is 4 on most calculators. But if you hit (-) 2 (x^2) = you probably end up with negative 4. As far as I know, the only non-HP calculator that gives the correct answer is this Sharp .
Do you know about any other non-HP, passing this test?
What about the algebraic HP10s and SmartCalc300s?
/Tommy

Re: Which calculator passes the first test?

*Message #2 Posted by **Jim Yohe** on 1 Dec 2010, 2:34 p.m.,*
in response to message #1 by Tommy

Are you suggesting that HP calculators handle that wrong or that they all do it correctly? My 32SII and 30B both return 4 not -4.

Re: Which calculator passes the first test?

*Message #3 Posted by **Mark Storkamp** on 1 Dec 2010, 2:56 p.m.,*
in response to message #1 by Tommy

I believe -2^2 is -4. Unless you mean $(-2)^2$, which is 4. It's not clear from what you wrote, what you expect the correct answer to be.

Re: Which calculator passes the first test?

*Message #4 Posted by **Tommy** on 1 Dec 2010, 4:22 p.m.,*
in response to message #3 by Mark Storkamp

All my HP:s gives the correct answer 4, but most calcs gives the wrong answer -4. My question is: What other calcs gives the right answer. Negative 2 squared is +4.
/Tommy

Re: Which calculator passes the first test?

*Message #5 Posted by **Tim Wessman** on 1 Dec 2010, 4:40 p.m.,*
in response to message #4 by Tommy

Both wolfram alpha and google disagree. . .

Just saying. :-)

TW

Re: Which calculator passes the first test?

*Message #6 Posted by **Tommy** on 1 Dec 2010, 5:07 p.m.,*
in response to message #5 by Tim Wessman

Do you suggest that all HP are faulty? :-)
Of course, -2^2 is negative 4. But that is not the issue here. I want to know what calcs I can recommend to my students. They receive all kind of random answers when they use the (-) key on their calcs. The Sharp D.A.L is ok in this respect.
HP is out of the question here in Sweden. /Tommy

Re: Which calculator passes the first test?

*Message #7 Posted by **DeboT** on 2 Dec 2010, 6:14 a.m.,*
in response to message #5 by Tim Wessman

But when entering on Wolfram Alpha, you use the minus key. Is there an equivalent "change sign"? When using the "change sign" on a calculator, are you not making the negative a part of the characteristic of the number? When using the minus sign, it is equivalent to "0 - number", in which case "0 - number^2" indeed results in a negative answer. Thus the Wolfram Alpha answer is correct, as you are entering a minus, not a "change sign".

Re: Which calculator passes the first test?

*Message #8 Posted by **Kiyoshi Akima** on 1 Dec 2010, 4:58 p.m.,*
in response to message #4 by Tommy

My HP 35s gives "Syntax Error" when I press +/- 2 x^2 ENTER in ALG mode.

I can get either -4 or +4, depending on whether I calculate -SQ(2) or SQ(-2).

Re: Which calculator passes the first test?

*Message #9 Posted by **DeboT** on 2 Dec 2010, 6:16 a.m.,*
in response to message #8 by Kiyoshi Akima

Restricting the input to -SQ(2) or SQ(-2) seems a clever way to avoid the controversy :)

The 33s in ALG mode: 5, +/-, x^2, ENTER yields:
$(^{-}5)^2=$
25

and MINUS, 5, x^2, ENTER yields:
$0-5^2=$
-25

Exactly what I would expect ;)

Edited: 2 Dec 2010, 9:41 a.m.

Re: Which calculator passes the first test?

*Message #10 Posted by **Martin Pinckney** on 1 Dec 2010, 5:14 p.m.,*
in response to message #4 by Tommy

> Quote:
>
> First, (-) is the change sign key and (x2) is the square key. If you hit (-) 2 x (-) 2 =

I am still not clear what you mean. Are you talking ALG or RPN calcs?

Since you include the = key, I might assume ALG. But I don't understand your notation. You stated that (-) represents the CHS or +/- key. But then in your example, the CHS key *precedes* the argument, while to my knowledge it always *follows* the argument, whether ALG or RPN model.

And does the "x" in your example represent the multiplication key, or the quantity x? I don't see the square appearing in your example.

Re: Which calculator passes the first test?

*Message #11 Posted by **Hal Bitton in Boise** on 1 Dec 2010, 5:28 p.m.,*
in response to message #4 by Tommy

4 is the correct answer only if the expression is (-2)^2. -2^2 is (correctly) seen by most calculators as "the negative of 2 squared", or even "negative 1 times 2 squared", which is -4, as exponentiation takes precedence over multiplication, and there no parenthesis to dictate otherwise. On my 50G in algebraic mode, -2^2 = -4 (correct), and (-2)^2 = 4 (also correct), and finally, SQ(-2) = 4 (correct). I must go now and quickly change my 50G back to RPN mode!! Best regards, Hal.

Re: Which calculator passes the first test?

*Message #12 Posted by **Walter B** on 1 Dec 2010, 5:56 p.m.,*
in response to message #4 by Tommy

The good old math standard precedence is "exponentiation > multiplication > addition" (in German: "hoch vor Punkt vor Strich" - we're more concise here :)), so -2^2 = -4 (if no parentheses are set) regardless of whether you see the unary minus as a multiplication by -1 or something like 0 - ...

(-2)^2 is a different cup of tea :)

Re: Which calculator passes the first test?

*Message #13 Posted by **bill platt** on 1 Dec 2010, 8:18 p.m.,*
in response to message #12 by Walter B

English is even more concise:

```
P E M D A S


Parenthesis
Exponentiation
Multiplication & Division
Addition & Subtraction
```

I looked at this very problem in detail a few years ago. For most calculators and calculator users, the problem originates with a misunderstanding of the way each machine works and especially what the CHS or +/- key does, as compared to the - key.

Some calculators parse a command line. Others operate and never parse. An RPN machine operates, an RPL machine parses. Some ALG or SemiALG machines parse some things but operate

with others. **Edit: note that RPL parses when using an Algebraic Object delimited by single quotations. It operates on stack items or a valid command line object**

The traditional "Alg" machine (which is better described as infix arithmetic with postfix functions) is an operator not a parser. DAL and SVPAM etc are parsers.

Then there are machines which have documented features which may be confusing. The 32sii equation list recognizes a "unary minus" with precedence over exponentiation, but it has a bug when it is in the initial position! See Craig Finseth's HPDatabase. The 33s and 35s eliminated this confusing unary minus feature and they are correctly documented.

Then there is the confusion of the fact that some machines have more than one mode, where one mode has a line interpreter but the other operates (e.g. 17bii, 27s, 32sii, 33s, 35s). Some machines will allow the +/- key to work as an operator only, while others allow it to function as a toggling character key. Some machines treat both the - and the +/- as the same thing, others as different things. And then some machines such as the 35s have a "high" minus sign when you push the +/- and a low one with the - even if there is no functional difference....

It is very confusing and totally MACHINE SPECIFIC. I haven't found any machines that are perfect except for the 48G series and descendants, and the pure RPN machines. I haven't looked at the latest Sharp/Casio/Ti so it may be the case that some of them are clearcut now.

In RPN, there is never an issue, as there is NO PRECEDENCE because there is only operation, not line interpretation/parsing.

[edit: small grammatical error and incorrect reference]

Edited: 8 Dec 2010, 8:18 a.m. after one or more responses were posted

Re: Which calculator passes the first test?

*Message #14 Posted by **Tommy** on 2 Dec 2010, 12:38 a.m.,*
in response to message #13 by bill platt

Thank you, Bill, for straighten this out for me! So my question remains: are there any other clear cut non-RPN calcs out there? /Tommy

Re: Which calculator passes the first test?

*Message #15 Posted by **bill platt** on 2 Dec 2010, 7:26 a.m.,*
in response to message #14 by Tommy

Sure. The 20s is very clear cut. I expect that the old 21s and 22s were also clear.

I can't speak to the non-hp because I don't have any modern ones in front of me at the moment.

I find the 27s clear enough, even though it has two modes.

The biggest problem is a lack of care in the use of the tools. When was the last time you saw a student follow RTFM41?

Edited: 2 Dec 2010, 7:28 a.m.

Re: Which calculator passes the first test?

*Message #16 Posted by **Thomas Klemm** on 2 Dec 2010, 8:14 a.m.,*
in response to message #13 by bill platt

> Quote:
>
> And then some machines such as the 35s have a "high" minus sign when you push the +/- and a low one with the - even if there is no functional difference....

In ALG mode I get a SYNTAX ERROR when using the minus-key:

```
-2
```

On the other hand I get the expected result with the +/- key:

```
¯2
```

So to me there **is** a functional difference.

> Quote:
>
> In RPN, there is never an issue, as there is NO PRECEDENCE because there is only operation, not line interpretation/parsing.

This is not quiet true as entering a number changes the behaviour of the CHS key. Just think of what happens after the EEX key. There's a peculiar behavior in the HP-35: when the key following the CHS is a number key the negative sign is considered part of this number. So the following example will give 3 instead of -3 what probably most of us would expext:

```
5
ENTER
CHS
2
+
```

In addition to that the stack doesn't contain 5 in the Y-register. So you could enter negative numbers as you read them. However I think it was a wise decision to change that in later models.

Re: Which calculator passes the first test?

*Message #17 Posted by **bill platt** on 2 Dec 2010, 8:55 a.m.,*
in response to message #16 by Thomas Klemm

Hi Thomas, Thanks for the reply. I don't have an original HP 35--maybe it is a good thing as that would confuse me! (I am a voyager and forward guy).

I think I am mixing up the 32sii 33s and 35s wrt the high minus. Indeed the 35s is a completely different animal than even the 33s in how it handles entry and interpretation. As I remember, when in ALG mode, it is a parsing machine, whereas the 33s is an operation machine but with the added feature of a history reporting line that shows how it all comes together. (all three are of course parsers within the equation list mode). Later I'll pull the 33s out and have a look. Unfortunately one of my kids lost the 35s so I can't have a look at it!

Edited: 2 Dec 2010, 8:58 a.m.

Re: Which calculator passes the first test?

*Message #18 Posted by **Walter B** on 2 Dec 2010, 9:36 a.m.,*
in response to message #16 by Thomas Klemm

I can confirm this "feature" of the original 35. So I looked what happened to it:

1. HP-35: 5 ENTER CHS 2 + results in 3.
2. HP-45: 5 ENTER CHS 2 + results in 7. So does 55, 65, 80, 21, 22.
3. HP-91: 5 ENTER CHS 2 + results in -3. And so it stays until the 42S. And the "new" calcs including the RPL-machines keep it this way.

Interesting :)

Edited to add some Woodstocks and the HP-91 as first HP calculating the way we are expecting it today. Anybody having some more Woodstocks at hand for checking?

Edited: 2 Dec 2010, 10:07 a.m.

Re: Which calculator passes the first test?

*Message #19 Posted by **Ken Shaw** on 2 Dec 2010, 10:47 a.m.,*
in response to message #18 by Walter B

Interesting. Is the behavior the same if the steps are programmed, rather than from the keyboard?

(I know I'm being lazy, but I also don't have most of the models to try it out.)

Re: Which calculator passes the first test?

*Message #20 Posted by **Ron Ross** on 2 Dec 2010, 11:22 a.m.,*
in response to message #19 by Ken Shaw

None of the above calculators are programmable.

Re: Which calculator passes the first test?

*Message #21 Posted by **Walter B** on 2 Dec 2010, 4:19 p.m.,*
in response to message #20 by Ron Ross

Rubbish: the 55 and 65 are. But right now I don't have access to my calcs, so anyone may verify this instead d:-)

Re: Which calculator passes the first test?

*Message #22 Posted by **Ron Ross** on 2 Dec 2010, 4:57 p.m.,*
in response to message #21 by Walter B

I was talking about the three calculators listed, Hp35, Hp45 and the Hp 91. The calculators mentioned were not the focus of the thread that I responded to.

Of course the mentioned Hp55, Hp65 and Hp42s are all programmable.

Re: Which calculator passes the first test?

*Message #23 Posted by **Thomas Klemm** on 2 Dec 2010, 12:04 p.m.,*

in response to message #18 by Walter B

> Quote:
>
> HP-45: 5 ENTER CHS 2 + results in 7. So does 55, 65, 80, 21, 22.

It seems the stack isn't lifted after CHS thus -5 is overwritten by the following 2. I consider that a bug: the negative sign shouldn't be silently ignored. Was this already known before?

5 ENTER CHS 2 + results in 7

*Message #24 Posted by **Walter B** on 3 Dec 2010, 1:42 p.m.,*
in response to message #23 by Thomas Klemm

> Quote:
>
> It seems the stack isn't lifted after CHS thus -5 is overwritten by the following 2.

That's my guess, too. Still I don't have any information about the history of this "feature" (see my previous post) beyond the fact that it was dropped apparently early in 1976. Anyone of the old experts knowing something about the circumstances?

Re: 5 ENTER CHS 2 + results in 7

*Message #25 Posted by **Thomas Okken** on 3 Dec 2010, 1:58 p.m.,*
in response to message #24 by Walter B

It is a bug. I remember reading about this ages and ages ago, and I thought I remembered seeing this behavior on the HP-25 as well. As luck would have it, I'm working from home at the moment, so I could get my HP-25 out of its drawer, and I confirmed, 5 ENTER CHS 2 + returns 7, both from the keyboard and in a program.

Re: 5 ENTER CHS 2 + results in 7

*Message #26 Posted by **Walter B** on 3 Dec 2010, 4:25 p.m.,*
in response to message #25 by Thomas Okken

Thanks, Thomas. Your result fits well in the line since the HP-25 was made before the HP-22 according to the museum. Does anybody have a working HP-27 for checking?

Re: 5 ENTER CHS 2 + results in 7

*Message #27 Posted by **Thomas Okken** on 3 Dec 2010, 6:31 p.m.,*
in response to message #26 by Walter B

You're welcome! For what it's worth, my HP-25 has a serial number that starts with 1605, i.e. made in February 1976.

Re: 5 ENTER CHS 2 + results in 7

*Message #28 Posted by **Walter B** on 5 Dec 2010, 11:34 a.m.,*
in response to message #27 by Thomas Okken

OK, I have the results of some more models now. So the updated table looks like this:

1. HP-35 until and including V4: 5 ENTER CHS 2 + results in 3. So this looks like a prefix CHS being perfectly legal in numeric input of the mantissa. Checked by CLR CHS 5 ENTER CHS 2 + resulting in -7, q.e.d. In exponents, BTW, pre- and postfix CHS are allowed until today.

2. HP-45: 5 ENTER CHS 2 + results in 7. So does 55, 65, 80, 21, 22, 25, 27, 25C. But 5 ENTER CHS + returns 0 as expected. Seems CHS is executed in any case but is undone if a *first digit* follows:

```
    display on a 25C or a 32E (see below):
CLX              0.0      0.0
CHS             -0.0      0.0
1                1.       1.
CHS             -1.      -1.
2               -12.     -12.
CHS              12.      12.
3                123.     123.
ENTER            123.0    123.0
CHS             -123.0   -123.0
4                4.       4.
+                127.0   -119.0
```

   Please note CHS does not terminate the input sequence in either case. So the last CHS on the 25C belongs to the input of 4 and is thus undone when 4 is entered!

3. HP-91: 5 ENTER CHS 2 + results in -3. So CHS is now recognized as an operation as soon as an input is completed (e.g. by ENTER) - thus it operates on 5 in X, turning it to -5, and 2 is added to this as we expect it. CHS will not work after CLX, it needs at least 1 digit put in but may be used arbitrary times during numeric input of one number as before. - The same result is returned by the 67, the Spices, Voyagers, and Pioneers. And also the "new" calcs including the RPL-machines keep it this way.

For sake of completeness: Has anybody access to a working 29C and/or 19C? Could you please check it and report the results?

I don't remember having read anything about this change of concepts here for some years - so let me ask: is this known for longer already?

TIA for enlightenment(s).

Edited: 5 Dec 2010, 11:39 a.m.

Re: 5 ENTER CHS 2 + results in 7

*Message #29 Posted by **Thomas Klemm** on 5 Dec 2010, 3:01 p.m.,*
in response to message #28 by Walter B

> Quote:
>
> So the last CHS on the 25C belongs to the input of 4 and is thus undone when 4 is entered!

I don't agree with you here: instead I assume that -123 is overwritten by 4 since CHS doesn't enable the stack lift.

The CHS has two different modes of operation: either as part of the input of a number or to change the sign of the X-register. In the HP-35 it isn't clear which mode to use until **after** the next key-stroke. So first it changes the sign of X. But if the next key is a number, this change of X is reverted and instead the negative sign is considered part of the number. It is clear that CHS can't enable the stack lift. Otherwise the following two sequences leave a different number of elements on the stack:

```
5 ENTER CHS 2 +
Y: 5
X: 3


5 ENTER 2 +
X: 7
```

So I think this magic handling of the CHS was removed, but enabling the stack lift wasn't added.

In addition to your tests I suggest the following variants:

1. make sure the stack lift is enabled, e. g. by performing an operation like +
2. use RCL instead of entering a number after CHS

Store 2 in the register (2 STO) and make sure the stack is empty:

	5 + CHS RCL +	5 ENTER CHS RCL +	5 + CHS 2 +	5 ENTER CHS 2 +
HP-35:	-3	7	3	3
HP-45:	-3	7	-3	7
HP-25:	-3	-3	-3	7
HP-91:	-3	-3	-3	-3

I have verified these results only with online emulators of the HP-35/45/25. The results for the HP-91 are just my expectations.

Best regards
Thomas

Added the results for the HP-25.

Edited: 6 Dec 2010, 9:36 a.m. after one or more responses were posted

Re: 5 ENTER CHS 2 + results in 7

*Message #30 Posted by **Karl Schneider** on 5 Dec 2010, 5:30 p.m.,*
in response to message #29 by Thomas Klemm

From Walter's original statement:

> Quote:
>
> 1. HP-35: 5 ENTER CHS 2 + results in 3.
> 2. HP-45: 5 ENTER CHS 2 + results in 7. So does 55, 65, 80, 21, 22.
> 3. HP-91: 5 ENTER CHS 2 + results in -3. And so it stays until the 42S. And the "new" calcs including the RPL-machines keep it this way.

From Thomas' post:

> Quote:
>
> The CHS has two different *(modes of operation)*: either as part of the input of a number or to change the sign of the X-register.

Yes, that's the crux of the matter. I believe that HP, in those early years, was still working out the important nuances of the CHS function. Its implementations on the HP-35 and HP-45 were flawed, in that user input could sometimes get completely changed during data entry.

Characteristics of proper CHS functionality in RPN:

- When CHS is utilized to input a negative number, prior entry of at least one digit or the radix point should be required. Saturn-processor calculators (not the handheld computers, such as the HP-71B) will accept 0 or the radix point as that initial entry; prior models will not.

- Upon using CHS to negate a final result left in the x-register by ENTER or other means, stack lift should always be (re-)enabled.

The HP-91 and *most* subsequent models implemented CHS correctly. A few early models on the HP-45's software-development track retained its flawed CHS functionality. Also, a subtle bug got slipped into many (but not all) Spice-series and Voyager-series models:

HP-15C bug -- CHS and Stack Lift

-- Karl

Clarified several statements, based in part on new information.

Edited: 6 Dec 2010, 10:29 p.m. after one or more responses were posted

Re: 5 ENTER CHS 2 + results in 7

*Message #31 Posted by **Walter B** on 5 Dec 2010, 7:12 p.m.,*
in response to message #30 by Karl Schneider

> Quote:
>
> The HP-91 and subsequent models implemented CHS correctly

Not quite. The timeline is as follows according to HPDATAbase:

```
1975        1976
1977
09 10 11 12 01 02 03 04 05 06 07 08 09 10 11 12
01 02 03 04 05 06 07


22 .. .. .. .. .. .. .. 27 .. 25C (all these
return 7)
                  91 .. .. .. 67 .. .. .. .. ..
.. .. .. .. .. .. 29C etc. return -3
```

So there was some overlap. Seems it took HP significantly more than 4 months to implement the new CHS-handling in new Woodstock models, though it was "only software".

Edited: 7 Dec 2010, 12:45 p.m.

Re: 5 ENTER CHS 2 + results in 7

*Message #32 Posted by **Walter B** on 9 Dec 2010, 2:00 a.m.,*
in response to message #29 by Thomas Klemm

Thomas,

FYI, I've checked your table using real calcs and almost everything met your expectations and emulator output, but the results on a real 25C are the same as on a 45, i.e. -3 7 -3 7.

Re: 5 ENTER CHS 2 + results in 7

*Message #33 Posted by **Thomas Klemm** on 9 Dec 2010, 2:32 a.m.,*
in response to message #32 by Walter B

Hi Walter

Thanks for taking the time to check the results. I've used the HP-25 (Java) simulator written by Larry Leinweber. I

should have realized that it's not an emulation.

Cheers
Thomas

Re: 5 ENTER CHS 2 + results in 7

*Message #34 Posted by **BobVA** on 5 Dec 2010, 5:19 p.m.,*
in response to message #28 by Walter B

-3 on an HP-19C and 29C

Regards, Bob

Re: 5 ENTER CHS 2 + results in 7

*Message #35 Posted by **Walter B** on 5 Dec 2010, 7:14 p.m.,*
in response to message #34 by BobVA

Thank you, Bob :)

Re: Which calculator passes the first test?

*Message #36 Posted by **Ken Shaw** on 2 Dec 2010, 10:31 a.m.,*
in response to message #12 by Walter B

Ha ha. A rare example of concision in German? ;-))

Re: Which calculator passes the first test?

*Message #37 Posted by **Thomas Okken** on 1 Dec 2010, 11:45 p.m.,*
in response to message #4 by Tommy

> Quote:
>
> All my HP:s gives the correct answer 4, but most calcs gives the wrong answer -4.

The correct answer to **what**? $-2^2=-4$, and $(-2)^2=4$. This is the convention that's universally used in mathematics textbooks, and yet you seem to imply that $-2^2=-4$ is "wrong". Given that you've also indicated that you actually **teach** this stuff, that makes me think that you really, really need to do your homework, before looking for calculators whose behavior matches your mis-informed idea of mathematical notation.

BTW, as Hugh mentioned, this was discussed on this forum not too long ago. See here.

If you really want to teach your students well, teach them how the notation works **as it is used in textbooks**, and, if this actually comes up in your course, **also** mention how certain calculators and programming languages differ from the textbook standard.

Edited: 2 Dec 2010, 12:18 a.m.

Re: Which calculator passes the first test?

*Message #38 Posted by **Tommy** on 2 Dec 2010, 7:21 a.m.,*
in response to message #37 by Thomas Okken

Sorry,Thomas, but you did not understand my question. /Tommy

Re: Which calculator passes the first test?

*Message #39 Posted by **Martin Pinckney** on 2 Dec 2010, 11:01 a.m.,*
in response to message #38 by Tommy

> Quote:
>
> Sorry,Thomas, but you did not understand my question. /Tommy

I did not either. Perhaps several respondents did not. The way it was phrased makes it difficult to understand, IMO.

Perhaps you could restate it?

Re: Which calculator passes the first test?

*Message #40 Posted by **DeboT** on 2 Dec 2010, 5:34 a.m.,*
in response to message #3 by Mark Storkamp

> Quote:
>
> I believe -2^2 is -4. Unless you mean $(-2)^2$, which is 4. It's not clear from what you wrote, what you expect the correct answer to be.

I disagree, if I have -2 on the display, and square it, it is to be interpreted as (-2)^2, if I wanted -(2^2), I would enter 2^2, then (+/-). The negative is part of the number (I am talking about having used the change sign, not minus), I did not enter "0 - 2^2", in which case the 2 is separate of the minus. What calculator when squaring a real number only squares the fractional part?, or when given a proper fraction only squares the fractional part?

By the way, now that your calculator has -4 as the answer for -2^2, press the ^2 again and see what you get. -16?, NO most will give 16 as they will do ANS^2 - so now it does see the negative as part of the number. A bit inconsistent I'd say.

Further Edit:
As far as I recall all my LED/VFD scientific calculators give + when squaring a negative number. Somewhere along the line when DAL, VPAM etc. calculators came out someone thought it "good" to let a negative number (entered with change sign) be the same as "0 - the number" and thus squaring it results in a negative answer. Now many people in the world are justifying this?

Edited: 2 Dec 2010, 6:19 a.m.

Re: Which calculator passes the first test?

*Message #41 Posted by **Tommy** on 2 Dec 2010, 7:14 a.m.,*
in response to message #40 by DeboT

You are right, ANS^2 is positve 16. Intresting... /Tommy

Re: Which calculator passes the first test?

*Message #42 Posted by **Walter B** on 2 Dec 2010, 7:22 a.m.,*
in response to message #41 by Tommy

Quite logical, since the actual numeric value of the variable ANS is squared.

Re: Which calculator passes the first test?

*Message #43 Posted by **Tommy** on 2 Dec 2010, 7:40 a.m.,*
in response to message #42 by Walter B

That is logical. But the intresting part is that you can not rely on the results.

Re: Which calculator passes the first test?

*Message #44 Posted by **Walter B** on 2 Dec 2010, 9:13 a.m.,*
in response to message #43 by Tommy

> Quote:
>
> But the intresting part is that you can not rely on the results.

Why? You just have to know what you're doing. As Bill explained above, there are different ways calculators handle such problems. A major advantage of RP**N** is it acts in a very consistent way: number first, operation second - no need to care for precedences etc.

So 17 +/- x^2 will always result in 289. OTOH 17 x^2 +/- equals -289. The world can be so simple ;)

Exception (on my 42S): 17 +/- E +/- 2 will result in 0,17 as well as 17 +/- E 2 +/- while the second input is more in line with RPN principles.

Side track: Remember STO12 being an operation in RP**N**, so 17 +/- STO12 will store -17 in register 12. IMHO one disadvantage of RP**L** is they got these things mixed up so you have to enter 17 +/- ENTER 12 STO to reach the same (if numeric registers were allowed). End of side track.

Re: Which calculator passes the first test?

*Message #45 Posted by **bill platt** on 2 Dec 2010, 7:31 a.m.,*
in response to message #41 by Tommy

Note my discussion of Operation versus Parse. Answer^2 is an operation on the answer.

Re: Which calculator passes the first test?

*Message #46 Posted by **DeboT** on 2 Dec 2010, 8:46 a.m.,*
in response to message #45 by bill platt

My point is exactly that a negative number created with a "change sign" should be operated on in it's entirety and not parsed.

Re: Which calculator passes the first test?

*Message #47 Posted by **bill platt** on 2 Dec 2010, 8:52 a.m.,*
in response to message #46 by DeboT

Yes, but this is of course machine specific. If the function of the +/- key is for entry of characters into the line, then it will be line interepreted. See for instance the 48G

Re: Which calculator passes the first test?

*Message #48 Posted by **bill platt** on 2 Dec 2010, 7:36 a.m.,*
in response to message #40 by DeboT

> Quote:
>
> I disagree, if I have -2 on the display, and square it, it is to be interpreted as (-2)^2

Note my discussion of line interpreter/parser versus operation. If you have -2 on the display and you operate on it, of course you get +4. That is what an RPN machine will do, or an older "algebraic" because even the latter is postfix and operation-based (is the same as RPN). Newer machines line-line interpret *expressions* rather than operate on numerical entities. However, the "answer" function operates on the answer.

This is always, first and foremost, a problem of not following RTFM41 rather than a machine defect or bug. However I do have opinions regarding good versus bad design, but even the "bad" designs work correctly if one bothers to learn how they work.

Re: Which calculator passes the first test?

*Message #49 Posted by **DeboT** on 2 Dec 2010, 8:53 a.m.,*
in response to message #48 by bill platt

> Quote:
>
> ... but even the "bad" designs work correctly if one bothers to learn how they work.

I would rather say that "bad" designs work as the designer *intended*, but not necessarily *correctly*. Of course *correct* being a bit subjective in the current topic :).

> Quote:
>
> This is always, first and foremost, a problem of not following RTFM41...

A case of "know your enemy"? ;)

Edited: 2 Dec 2010, 9:06 a.m.

Re: Which calculator passes the first test?

*Message #50 Posted by **bill platt** on 2 Dec 2010, 3:16 p.m.,*
in response to message #49 by DeboT

Yes, if you mean, "I've met the enemy, and he is me."

Re: Which calculator passes the first test?

*Message #51 Posted by **DeboT** on 3 Dec 2010, 6:25 a.m.,*

in response to message #50 by bill platt

I was thinking of "know what you're using", but we indeed can be our own worst enemy at times :).

Re: Which calculator passes the first test?

*Message #52 Posted by **DeboT** on 3 Dec 2010, 6:34 a.m.,*
in response to message #40 by DeboT

HA! Even Microsoft agrees with ME :P
Try on Windows calculator:
2, +/-, x^2 = ; the answer is +4
now try
-, 2, x^2 = the answer is -4

well, for whatever credit one can take from microsoft *grin*

Re: Which calculator passes the first test?

*Message #53 Posted by **hugh steers** on 1 Dec 2010, 3:11 p.m.,*
in response to message #1 by Tommy

this discussion came up a while back. it turns out that the operator precedence of unary minus is different for different manufacturers. we even found differences amongst different casio models.

the problem is compounded when you allow two minus buttons, ie regular operator minus and (-).

Re: Which calculator passes the first test?

*Message #54 Posted by **Crawl** on 1 Dec 2010, 11:10 p.m.,*
in response to message #1 by Tommy

If you have a calculator, you should know how it works, so you can make it give you the answer you think it should. That's the only issue here.

Let's put this a different way. Sin30 (in degrees) is 0.5.

But do you have a calculator that lets you enter 30 Sin, you might get 0.5.

But what's 30 Sin? That's 30 times the Sin of nothing! It's meaningless!

That seems kind of like what you're saying.

Re: Which calculator passes the first test?

*Message #55 Posted by **bill platt** on 2 Dec 2010, 7:43 a.m.,*
in response to message #54 by Crawl

That's right. GIGO. 30 SIN is postfix. sin(30) is line interpreted. sin 30 = is used in an infix machine, for instance, the old SHARP EL 5020. Of course the manuals don't necessarily bother to explain the inner workings, especially the cheap Non-HP designed machines with little fold out manuals. Even HP manuals won't always discuss the parse versus operation aspect--but note that until recently, no calculator parsed expressions! By recently, I mean early 90s or late 80s. I am showing my age :-D

Edited: 2 Dec 2010, 7:44 a.m.

Re: Which calculator passes the first test?

*Message #56 Posted by **Marcus von Cube, Germany** on 2 Dec 2010, 9:28 a.m.,*
in response to message #1 by Tommy

Manufacturers seem to disagree about the interpretation of (-)2^2 even within their own product range:

Sharp: None of my algebraic Sharp calculators returns +4. I do have the EL-9200/9300/9600 and an EL-5120. Are you sure, the EL-520WBBK does?

Casio: None of my algebraic Casio calculators returns 4. I tried with a BASIC computer (PC-1262), some newer algebraics, and various graphics machines (old and recent).

The Canon F-300P returns +4. Likewise the TI Galaxy 67, while all the TI graphics calculators, including the CAS machines, and also the TI-34 multiview return -4.

Now to HP: The 30s and the 9g both return -4. Same for the 38G. The RPL machines lack the postfix ^2 operator as has already been mentioned. -2^2 returns -4.

Return -4 seems to be the rule, +4 the exception.

Re: Which calculator passes the first test?

*Message #57 Posted by **Walter B** on 2 Dec 2010, 10:17 a.m.,*
in response to message #56 by Marcus von Cube, Germany

Sorry, I disagree about the RPL-machines. You'll find x^2 on e.g. the HP-48SX easily (gold shifted square root). And it behaves mathematically correct, i.e. 2 +/- x^2 equals 4.

Re: Which calculator passes the first test?

*Message #58 Posted by **bill platt** on 2 Dec 2010, 3:02 p.m.,*
in response to message #57 by Walter B

I should have elaborated. When you do that, using the stack, it is an operation on the -2, which is in the command line.

If you do this:

'-2^2' ENTER EVAL

Then it is parsed.

Re: Which calculator passes the first test?

*Message #59 Posted by **Tommy** on 2 Dec 2010, 1:50 p.m.,*
in response to message #56 by Marcus von Cube, Germany

Danke! This is what my question is all about
I am not sure about the EL-520WBBK, but the EL-506WBBK does return +4. Both are D.A.L. (Direct Algebraic Logic).
This one also returns +4: Karce KC-156
Sorry about all confusion I created. Hopefully HP returns with a cheap scientific RPN calculator in the future. /Tommy

Re: Which calculator passes the first test?

*Message #60 Posted by **Kiyoshi Akima** on 2 Dec 2010, 12:56 p.m.,*
in response to message #1 by Tommy

Tommy, why are you expecting RPN and non-RPN machines to give the same result for the same sequence of keystrokes?

(-) 2 x^2 in algebraic is calculating the same result as 2 x^2 (-) in RPN. (-) 2 x^2 in RPN is ((-) 2) x^2 in algebraic. I'll leave it to you to count the keystrokes and make any decisions about efficiency.

Re: Which calculator passes the first test?

*Message #61 Posted by **bill platt** on 3 Dec 2010, 11:58 a.m.,*
in response to message #1 by Tommy

Hi Tommy,

Re-reading your question in light of all the commentary, please read the following.

The algebraic expression -2^2 is equal to -4. This is a fact of uniform notation. If you think this is incorrect, then that would be a problem. However, what I think is leading you to believing that calculators are giving incorrect answers is that you are used to the older style of machines, where you *operate* on what is displayed. In this case, the problem you are actually trying to figure out is the following:

```
(-2)^2
```

An older machine such as a 1970s Ti SR70 or an HP 20s, or a 27s or an HP 33s set in ALG, or any RPN machine will work identically:

This type of machine OPERATES on the x-register. A currently available HP is used in the example below:

```
expression:   (-2)^2
keystrokes                display
33s ALG mode


2                         2_


.....................................


+/-                       -2_
.....................................
                          (-)2^2
x^2                       4
.....................................


[note how cool this machine is in ALG mode. It uses the
old-style post-fix functions operating on numeric line
entries, but it displays the proper complete algebraic
notation in the upper line. Pretty damn cool!]
```

If you are using a more "modern" machine with a "textbook" type of interface, you will have to type in the expression correctly according to standard notation. (note however that there is variation from machine to machine even here--some allow implicit multiplication, some don't follow standard rules exactly etc [ex: equation list of 32sii which has a unary minus].

An example of a properly functioning PARSED LINE INTERPRETER is found in the currently available HP

33s Equation List:

```
(                              (
- {or +/-}                    (-
2                              ( 2_
)                              (-2)_
y^x                            (-2)^_
2                              (-2)^ 2_
ENTER                          (-2)^2
ENTER                           4


--or---


x^2                            SQ(_
+/- {or -}                     SQ(-_
2                              SQ(- 2_
ENTER                          SQ(-2
ENTER                          4
```

[note that you don't have to close the parenthesis here because the line interpreter will implicitly close it. Some machines would error at this. Every machine is different and you have to Read the F$#$#$#@ manual :-)]

I hope this helps you.

Best regards,

Bill ENTER

Edited: 3 Dec 2010, 12:04 p.m.

Re: Which calculator passes the first test?

*Message #62 Posted by **Bart (UK)** on 3 Dec 2010, 4:35 p.m.,*
in response to message #61 by bill platt

> Quote:
>
> Every machine is different and you have to Read the F$#$#$#@ manual :-)

Indeed. The Sharp EL-W506 Writeview manual states:

Priority Levels in Calculation

1. Fractions
2. Angle prefix, Engineering prefixes
3. **Functions preceded by argument (e.g. x^{-1}, x^2, n!, etc)**
4. y^x, $\sqrt[x]{\ }$
5. Implied multiplication of a memory value (2Y, etc.)
6. **Functions followed by their argument (sin, cos, (-), etc.)**

.
.
.

Note: (-) = change sign.

So one can see that as the x^2 is defined as taking precedence over (-), thus entering: (-), 2, x^2 will be evaluated as 2^2=4, (-), = -4.

Whether we like it or not, it does what the manufacturer intended and specified.

Re: Which calculator passes the first test?

*Message #63 Posted by **Tommy** on 3 Dec 2010, 7:27 p.m.,*
in response to message #62 by Bart (UK)

> Quote:
>
> Whether we like it or not, it does what the manufacturer intended and specified.

or failed to implement and specified

Re: Which calculator passes the first test?

*Message #64 Posted by **Tommy** on 3 Dec 2010, 7:44 p.m.,*
in response to message #61 by bill platt

Hi Bill,
Thanks for this thorough examination. But this is all about HP calcs.
I know, you must not quote yourself, but I do quote my message #1:
“Do you know about any other non-HP, passing this test?”
I am familiar with RPN and with HP calcs. My favorite is 15C, which I use on daily basis. People round me are using, in my opinion, not-so-good TI/Casio/Sharp calculators.
Since I know that nobody actually reads the manual, besides perhaps members of this forum, I was looking for a decent, fairly cheap, algebraic calculator. And by decent, I mean reliable, consistent and predictable. The 35s would be ok, but it is a little bit too expensive (for the students).
Yes, you are correct. I want to operate on the number visible on the screen. If I see a negative number on the screen and the x^2 key is hit, I expect a positive number. Always! Not only when the number is an answer to a calculation, but also when the number is entered as (-)2. (on most non-HP calcs the change-sign-key is hit before the number).
A calculator should be an aid in performing calculations. But if you need to RTFM to be sure about what happens, then the calculator is an obstacle. I would never enter a negative number in this way, but the students rely so heavily on their calcs so they do. The advice is: If you want to stay in control, always use parenthesis!
I was quite chocked when I realized how the x^2 key worked. When I showed the phenomenon to my colleagues, no one was aware of it. Were you?
So I began some testing. A negative number multiplied by a negative number, always gave a positive number. A negative number squared, always gave a negative number (on non-HP calcs). This is very inconsistent IMO. Negative numbers are treated correctly except when used in co-occurrence with the x^2 key. The symbol on the screen is sometimes different from a normal minus sign. The behavior is erroneous! Compare the following two examples:
2+-2^2=-2 that is 2 plus minus 2^2 correct
2+(-)2^2=-2 that is 2 plus negative 2 ^2 incorrect
Every time I had an opportunity to test a new calculator, I performed this “first test”. After a while I found the Sharp D.A.L. If there is one decent calculator, there might be several. That’s the reason for this topic.
Today I noticed that my Android RealCalc behaves correctly in both RPN and ALG mode. Besides that, no decent (non-RPN) calc have come to my knowledge.
HP20s: not on the market any longer.
HP30b: inconsistent answers in this topic.
HP10s and HP SmartCalc 300s: no answer

Canon F-300P and TI Galaxy 67: too obscure I guess
Hopefully, this long letter clarifies my statements. I felt a need to do so since I got some comments in bold. And yes, I do know about precedence. I am also familiar with the concepts of subtraction, change sign and negative numbers. Further more, I recognize a crappy calculator when I see one.
Cheers /Tommy

Re: Which calculator passes the first test?

*Message #65 Posted by **bill platt** on 3 Dec 2010, 9:01 p.m.,*
in response to message #64 by Tommy

Hi Tommy:

"The 35s would be ok, but it is a little bit too expensive (for the students)"

I have to laugh at this. I guess it is priorities. IF you have to spend as little as it costs for one Hamburger and fries, then, yes, I guess $45 bucks or so is too much. Same kid thinks nothing of blowing $10 a week on iTunes.

And people don't read the manuals because they are LAZY. I read my 11c manual cover to cover when I got it in 1982, and so did my brother even though it wasn't his. IT was fun to know how it worked.

I think the 33s is a better choice than the 35s actually. It is more user friendly and has much better handling of rectangular to polar, and base arithmetic. And it is, as I showed, a postfix function/infix arithmetic and *operates* on the displayed number. The 35S does NOT do this the same way. The 35S is an infix machine (except for factorial.)

You should download the manuals for the 33s and the 35s. Look at page C-1 in each one. I lost my 35s so I can't test it, but there is a "unary minus" ahead of multiplication on the 35S. I just don't remember how it works.

All told, the 35s and 33s are totally different approaches in their Algebraic modes (as distinct from their equation modes, which are essentially identical (see p 6-13 through 6-15 of each manual. They have a unary minus ahead of multiplication, but this is to handle the issue such as -a X -b, which is I believe what is also the unary minus treatment in the 35s ALG mode). [The 32sii equation list had the unary minus given precedence over taking powers, which was the real problem there. Both the 33s and 35s have rectified this by moving the unary minus down.]

Fortunately, I haven't much experience with current non-HP machines. I have 15 or 20 year old Sharps and a TI so that won't help you....

Edited: 3 Dec 2010, 10:05 p.m.

Re: Which calculator passes the first test?

*Message #66 Posted by **Tommy** on 4 Dec 2010, 4:14 a.m.,*
in response to message #65 by bill platt

I totally agree with you. I enjoy reading the manuals.
But in the case of money, the 35s and 33 are in range of what a TI graphical calc costs. And you can not compete with TI there. I need a cheaper one. I am using Excel and GeoGebra. But TI is 99% mandatory in Sweden. All textbooks have “how to do this and that on your TI”. Sorry to say, HP has lost the battle, but I still fight for good calculators.
Back to the main issue:
(-)2^2=-2 that is negative 2 ^2 incorrect

(-)2= ^2= 2 that is negative 2 = Ans ^2 correct
The only difference is an extra =. In this case the = is an “almost equal sign” You cannot argue about an “equal sign”, or can you? ;-)

Best regards
/Tommy

Equal pricing

*Message #67 Posted by **Walter B** on 4 Dec 2010, 6:36 a.m.,*
in response to message #66 by Tommy

> Quote:
>
> You cannot argue about an “equal sign”, or can you?

On calculators beyond trivial calculations, "equal" means always "almost equal" within the tolerance (or accuracy) of the calculator. Your example, however, counts to the mathematically trivial applications, so I agree "almost equal" being not necessary there.

Our American friends tend to forget sometimes the price policy of HP in the countries beyond God's own. I hate to repeat this, but e.g. a new 35S sells for 50 € (Euro) in Germany at least - look here for Hewlett Packard and enjoy your location since 50 € "almost equal" 66 US$ today :(

Re: Equal pricing

*Message #68 Posted by **bill platt** on 4 Dec 2010, 9:38 a.m.,*
in response to message #67 by Walter B

and don't forget the eurotaxes.

I wonder if there is a cost of doing business aspect to european pricing nowadays. All items that we can buy here, and there, are more in eurozone. All. but this was not the case in the past. My father bought a couple pairs of binoculars, a camera, and a Rolex in Germany in the 60s for significantly less. In 98, I found that the dollar being strong, made the Mark really inexpensive. Chocolate bars were only 60% of what I paid here. But now, it hardly matters what the currency does--the Eruo pricing is always high, or higher...

Re: Equal pricing

*Message #69 Posted by **gene wright** on 4 Dec 2010, 11:03 a.m.,*
in response to message #68 by bill platt

In most cases, MSRPs in Euro are the numerical value of the MSRP in USD$$.

At the current exchange rate, yes, that means Europeans pay more.

That is an almost universal practice among retailers, who really tend to influence the MSRP, more than manufacturers.

Re: Which calculator passes the first test?

*Message #70 Posted by **Bill Platt** on 4 Dec 2010, 9:49 a.m.,*
in response to message #66 by Tommy

Hi Tommy,

Your notation has me flummoxed. I thought I understood what you meant, but now I'm not so sure.

The TI "maths cookbook" approach is also dominant here.

That gets to another subject.

Nobody can write cursive, and the teachers don't care. "Just use the computer, they say. Nobody can spell, and teachers don't care. "Just use spell-check" they say. Nobody can do arithmetic, and the teachers don't care. "Just use a calculator" they say. What's next? Nobody can think critically, "just google it."

And the parents? I guess there must be an unspoken consensus among parents that this trend is good.

And yet, Sweden is outperforming the US rather dramatically in Maths education. Only Massachusetts and Minnesota outrank Sweden. Evidently the calculators are only a minor issue...

Re: Which calculator passes the first test?

*Message #71 Posted by **Walter B** on 4 Dec 2010, 12:49 p.m.,*
in response to message #70 by Bill Platt

> Quote:
>
> Nobody can write cursive, and the teachers don't care. "Just use the computer, they say. Nobody can spell, and teachers don't care. "Just use spell-check" they say. Nobody can do arithmetic, and the teachers don't care. "Just use a calculator" they say. What's next? Nobody can think critically, "just google it."
>
> And the parents? I guess there must be an unspoken consensus among parents that this trend is good.

In principle, human beings are curious and lazy. Scientists tell 20% of the energy consumption of an average (wo)man is consumed by (her) his brain. People tend to become overweigh - emmh, horizontally challenged in modern societies. Now, let's add 1+1+1 and guess the result ... ;)

OTOH, already Sokrates complained about the youth in Athenai, calling them incapable and good-for-nothing some 2300 years ago - and their successors discovered America ;)

Re: Which calculator passes the first test?

*Message #72 Posted by **bill platt** on 4 Dec 2010, 2:02 p.m.,*
in response to message #71 by Walter B

"OTOH, already Sokrates complained about the youth in Athenai, calling them incapable and good-for-nothing some 2300 years ago - and their successors discovered America ;)
"

Hahaha so true. Then again, somewhere along there, the Greeks lost to the Romans etc...

What I find striking about the bible isn't the religious stuff, but the parables, the warnings of what can and does happen when decadence prevails. Never mind the god and hell stuff--the fact is that ancient cities perished because the youth were led astray...

In the US, it is immigrants who keep us honest. They often show us the way when we lead ourselves astray. They show us that we shouldn't take our great society for granted--that freedom, liberty and justice do matter...

Re: Which calculator passes the first test?

*Message #73 Posted by **Chris Randle (UK)** on 6 Dec 2010, 7:23 a.m.,*
in response to message #66 by Tommy

> Quote:
>
> But in the case of money, the 35s and 33 are in range of what a TI graphical calc costs. And you can not compete with TI there. I need a cheaper one.

Is the HP 10s a possibility? Calculators don't come much cheaper than that, and I don't just mean the price ;-)

There's no RPN option. The algebraic *parsing* of

```
- 2 ^ 2 =
```

returns

```
-4
```

and

```
- 2 =
Ans ^ 2 =
```

returns

```
4
```

I've read all the posts and I'm still not 100% clear on whether or not this passes "the test", but I contend that its answers are correct, bearing in mind all that Bill Platt wrote about the critical difference between parsing an algebraic input string and the immediate operation of RPN on a stack.

Re: Which calculator passes the first test?

*Message #74 Posted by **Kiyoshi Akima** on 6 Dec 2010, 12:49 p.m.,*
in response to message #64 by Tommy

So, by your reasoning, you would expect an algebraic calculator to give the result 9 for the key sequence 1 + 2 x^2 = since the x^2 is to operate on the "1+2" in the display?

Re: Which calculator passes the first test?

*Message #75 Posted by **DeboT** on 7 Dec 2010, 5:02 a.m.,*
in response to message #74 by Kiyoshi Akima

I think that's exactly what Tommy's not saying (am I right Tommy?), but rather that which I stated previously. To quote myself:

> Quote:
>
> I disagree, if I have -2 on the display, and square it, it is to be interpreted as (-2)^2, if I wanted -(2^2), I would enter 2^2, then (+/-). The negative is part of the number (I am talking about having used the change sign, not minus), I did not enter "0 - 2^2", in which case the 2 is separate of the minus.

And the 33s is a perfect example of this:

> Quote:
>
> The 33s in ALG mode: 5, +/-, x^2, ENTER yields:
> $(\,^{-}5)^2=$
> 25
>
> and MINUS, 5, x^2, ENTER yields:
> $0-5^2=$
> -25

Thus the answer to your key sequence would be the normally expected 5.

When Tommy mentions "the number on the display" I think he is indeed talking about a number, not an equation - his examples illustrate this. (Tommy - please correct me if I am wrong).

Re: Which calculator passes the first test?

*Message #76 Posted by **Palmer O. Hanson, Jr.** on 7 Dec 2010, 8:45 p.m.,*
in response to message #74 by Kiyoshi Akima

> Quote:
>
> So, by your reasoning, you would expect an algebraic calculator to give the result 9 for the key sequence 1 + 2 x^2 = since the x^2 is to operate on the "1+2" in the display?

That is exactly what happens when one uses the type of algebraic mnechanized in business machiines such as the HP-10B, HP-17BII and HP-19BII. It is NOT what happens with the algebraic mechanizations in the HP-10s, HP-33s or HP-35s.

Re: Which calculator passes the first test?

*Message #77 Posted by **Walter B** on 7 Dec 2010, 11:22 p.m.,*
in response to message #76 by Palmer O. Hanson, Jr.

... which is the difference of "chain" and "algebraic" modes, having been discussed here not too far ago.

Re: Which calculator passes the first test?

*Message #78 Posted by **Palmer O. Hanson, Jr.** on 8 Dec 2010, 9:29 p.m.,*

in response to message #77 by Walter B

That isn't the only thing that has been discussed before in this forum. How many times have we discussed the silly idea that $-2^2 = +4$?

Re: Which calculator passes the first test?

*Message #79 Posted by **bill platt** on 8 Dec 2010, 9:46 p.m.,*
in response to message #78 by Palmer O. Hanson, Jr.

Once.

But we discussed -3^2 = 9 :-D

Re: Which calculator passes the first test?

*Message #80 Posted by **Palmer O. Hanson, Jr.** on 9 Dec 2010, 9:37 p.m.,*
in response to message #79 by bill platt

> Quote:
>
> Once.
>
> But we discussed -3^2 = 9 :-D

But, it's the same silly idea.

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Some interesting Calculator items

*Message #1 Posted by **Allen** on 30 Nov 2010, 11:46 p.m.*

Except for the profanity on the fold, this bag would be an interesting display for all my HP's.

The site has some other interesting "bulk" calculator items.

Re: Some interesting Calculator items

*Message #2 Posted by **Don Shepherd** on 1 Dec 2010, 1:42 a.m.,*
in response to message #1 by Allen

Ah, but if you buy that, you have to become a math teacher! Definitely a life-changing experience.

Re: Some interesting Calculator items

*Message #3 Posted by **Jim Yohe** on 1 Dec 2010, 2:09 a.m.,*
in response to message #1 by Allen

It's calculator heaven ...

Re: Some interesting Calculator items

*Message #4 Posted by **Walter B** on 1 Dec 2010, 5:14 a.m.,*
in response to message #3 by Jim Yohe

Well, only the poor 10S against all the TIs and CASIOs - really poor d:-/

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hp 82175A thermal paper

*Message #1 Posted by **Marcelo Vanti (Brasil)** on 30 Nov 2010, 10:44 a.m.*

Hello,
I have been using the thermal paper HP 82175A with my calculator printers HP 97, 82143 and 82240. Recently I did see in a KEY NOTES issue (June 1982) that " Using the new black thermal paper (HP 82175A) in your HP-91/92/97 will cause premature printhead wear ".
Did its true? Have somebody experimented some trouble like that before?

Re: hp 82175A thermal paper

*Message #2 Posted by **Juergen Keller** on 30 Nov 2010, 3:00 p.m.,*
in response to message #1 by Marcelo Vanti (Brasil)

Do you use your HP-97/printers daily? If not I suppose it's not a problem. I use cheap replacement paper as you'll find in most office shops, no problems encountered, but I must confess I only use the HP-97 occasionally. Probably there are some power users out there, or someone who has some experiences to share from the good old days?

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HP-41 MCODE wiki: Mainframe entry points

*Message #1 Posted by **Geir Isene** on 30 Nov 2010, 7:27 a.m.*

So, I have added all the mainframe entry points from a list I got from Peter some time ago. They have been added as links to empty pages so that the documentation for each are placed on separate pages.

Those who care to pitch in can now click on a link on the page containing mainframe entry points, and in the popup choose "blank page", click "create page" and add the documentation for that entry point on the new page.

Re: HP-41 MCODE wiki: Mainframe entry points

*Message #2 Posted by **Geir Isene** on 30 Nov 2010, 8:00 p.m.,*
in response to message #1 by Geir Isene

It would be great if someone with an MCODE black belt could document just one mainframe entry so that a mere mortal like myself could try some other entry points along the same line.

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The HP71B Program That Caused Some Tech Queries

*Message #1 Posted by **Namir** on 29 Nov 2010, 6:29 p.m.*

After all the discussions with my problems with the HP71B. Here is the program that solves the roots of a polynomial using the Abterth method. Edit the Data statements in lines 100, 120, and 170 to change the operational parameters and/or the polynomial coefficients.

```
10 REM POLYNOMIAL ROOTS USING ABERTH ALGORITHM BY NAMIR C SHAMMAS
20 REM NOVEMBER 30, 2010
30 OPTION BASE 0
40 DESTROY ALL
50 INTEGER M, N, I, J, K
60 COMPLEX X, P, D, S
70 DISP "REMINDER: DATA STMTS PROVIDE INPUT"
80 REM ===== START DATA INPUT SECTION ======
90 REM NEXT DATA IS MAX ITERS, TOLERANCE
100 DATA 100, 0.00001
110 REM NEXT DATA IS POLYNOMIAL ORDER
120 DATA 3
130 REM NEXT DATA IS SEQUENCE OF REAL PART, IMAGINARY PART OF
140 REM POLYNOMIAL COEFFICIENTS. START WITH COEFF. OF HIGHEST TERM
150 REM AND MOVE DOWN UNTIL YOU LIST CONSTANT TERM
160 REM DATA RLCOEF(N), IMCOEF(N), ... RLCOF(1), IMCOEF(1), RLCOEF(0), IMCOEF(0)
170 DATA 1, 0, 2, 0, 3, 0, 4, 0
180 REM ========= END INPUT SECTION ==========
190 READ M, T0, N
200 COMPLEX R(N),D1(N),C(N)
210 FOR I = N TO 0 STEP -1
220 READ X1,X2
230 C(I)=(X1,X2)
240 NEXT I
250 X = (0.4,0.9)
260 R(0)=(1,0)
270 FOR I = 1 TO N
280 R(I) = X*R(I-1)
290 NEXT I
300 FOR K = 1 TO M
310 FOR I = 1 TO N
320 CALL POLY(C(), N, R(I), P)
330 CALL DERIV(C(), N, R(I), D)
340 S = (0,0)
350 FOR J=1 TO N
360 IF I <> J THEN S = S + 1 / (R(I) - R(J))
370 NEXT J
380 D1(I) = 1 / (D / P - S)
390 R(I) = R(I) - D1(I)
400 NEXT I
410 REM  TEST CONVERGENCE CRITERIA
420 C0 = 0
430 FOR I = 1 TO N
440 IF ABS(D1(I)) > T0 THEN C0 = 1
450 NEXT I
460 IF C0 = 0 THEN 'EXIT'
470 NEXT K
480 'EXIT':
490 FOR I = 1 TO N
500 DISP R(I)
510 PAUSE
520 NEXT I
530 END
540 SUB POLY(C(), N, X, S)
550 COMPLEX P
560 S = C(0)
570 P = X
580 FOR I = 1 TO N
```

```
590 S = S + C(I) * P
600 P = P * X
610 NEXT I
620 END SUB
630 SUB DERIV(C(), N, X, S)
640 COMPLEX P
650 S = C(1)
660 P = X
670 FOR I = 2 TO N
680 S = S + I * C(I) * P
690 P = P * X
700 NEXT I
710 END SUB
```

Enjoy!

Namir

Edited: 30 Nov 2010, 2:45 p.m. after one or more responses were posted

Re: The HP71B Program That Caused Some Tech Queries

*Message #2 Posted by **Christoph Giesselink** on 30 Nov 2010, 12:14 p.m.,*
in response to message #1 by Namir

Hi Namir,

I tried to type in your code on Emu71. I can't run your code at the moment. I recognized two problems.

1) program input problems

440 IF ABS(D1(I)) > T0 THEN C0 - 1

is an invalid line. I think you mean

440 IF ABS(D1(I)) > T0 THEN C0 = 1

2) runtime problems

Line

260 R(I)=(1,0)

fail at runtime -> variable I is out of scope (I=-1)

To all:

Does anybody know a method or tool to convert such a text listing into LIF or DAT format that it can be read by ILPer or by Emu71?

Christoph

Re: The HP71B Program That Caused Some Tech Queries

*Message #3 Posted by **J-F Garnier** on 30 Nov 2010, 2:39 p.m.,*
in response to message #2 by Christoph Giesselink

Does anybody know a method or tool to convert such a text listing into LIF or DAT format that it can be read by ILPer or by Emu71?

With Emu71/DOS, a convenient method to import such small programs like this is the 'cut&paste' method (In the Command window, you have to select the paste command, ctrl-v will not work).

J-F

Re: The HP71B Program That Caused Some Tech Queries

*Message #4 Posted by **Namir** on 1 Dec 2010, 11:44 p.m.,*
in response to message #3 by J-F Garnier

Thanks for the tip Jean-Francois!! Makes program input to the EMU71 much much easier!

Re: The HP71B Program That Caused Some Tech Queries

*Message #5 Posted by **Namir** on 30 Nov 2010, 2:46 p.m.,*
in response to message #2 by Christoph Giesselink

Thanks! I corrected the listing accordingly. If you are running the program under EMU71 you can remove the PAUSE in line 510, to let the program display all of the results in one swoop.

Namir

Edited: 30 Nov 2010, 3:02 p.m.

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(Trivia?) Display setting

*Message #1 Posted by **Kiyoshi Akima** on 29 Nov 2010, 5:32 p.m.*

Name an HP-manufactured RPN calculator that, when set to FIX 2 display mode (and with any fraction mode turned off), does NOT display 0.01 when displaying the result of 70 1/x.

Re: (Trivia?) Display setting

*Message #2 Posted by **David Hayden** on 29 Nov 2010, 6:07 p.m.,*
in response to message #1 by Kiyoshi Akima

My 30b in RPN mode with FIX 2 displays 0.014. Looks like it displays 2 significant digits. Enter 0.000033 and that's what it displays.

On pages 2 and 3, the 30b manual says that the FIX=N value is "the number of digits displayed to the right of the decimal point."

The 20b displays 0.01.

Dave

Re: (Trivia?) Display setting

*Message #3 Posted by **Kiyoshi Akima** on 29 Nov 2010, 6:33 p.m.,*
in response to message #2 by David Hayden

Correct. I ran across this earlier today when I wanted exactly five digits to the right of the decimal point and couldn't get them.

I'm trying hard to like the 30b. It's small, fast, and then something like this pops up...

Re: (Trivia?) Display setting

*Message #4 Posted by **Karl Schneider** on 29 Nov 2010, 10:46 p.m.,*
in response to message #2 by David Hayden

> Quote:
>
> My 30b in RPN mode with FIX 2 displays *(1/70) as* 0.014. Looks like it displays 2 significant digits. Enter 0.000033 and that's what it displays.
>
> On pages 2 and 3, the 30b manual says that the FIX=N value is "the number of digits displayed to the right of the decimal point."
>
> The 20b displays 0.01.

While the HP-30b does not seem to meet its specification, neither the HP-20b nor HP-30b handle this as did the "old school" HP's for FIX *n*:

The scientific models would revert to scientific notation (SCI *n*) if the number was too small for FIX *n* to show any significant digits. The business models, however, would keep increasing the number of decimal digits (FIX *n+1*) until one significant digit could be displayed, then use SCI *n* only if necessary.

FIX display on business vs. scientific

These display formats seem to have been tailored to the likely users of the respective models.

-- KS

Edited: 1 Dec 2010, 1:06 a.m.

Re: (Trivia?) Display setting

*Message #5 Posted by **Martin Pinckney** on 29 Nov 2010, 9:12 p.m.,*
in response to message #1 by Kiyoshi Akima

Why RPN, particularly? Any calculator should yield 0.01 answer to the stated example, in FIX 2 mode.

Re: (Trivia?) Display setting

*Message #6 Posted by **Mark Harman** on 30 Nov 2010, 3:12 a.m.,*
in response to message #5 by Martin Pinckney

It does it in chain and algebraic modes, also.

Mark

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Look what I found d8-)

*Message #1 Posted by **geoff quickfall** on 29 Nov 2010, 2:15 p.m.*

Going through my old university file boxes and found this:

Or maybe I was dreaming.

d8-)

Cheers, Geoff

Edited: 29 Nov 2010, 3:20 p.m.

Re: Look what I found d8-)

*Message #2 Posted by **BruceH** on 29 Nov 2010, 3:28 p.m.,*
in response to message #1 by geoff quickfall

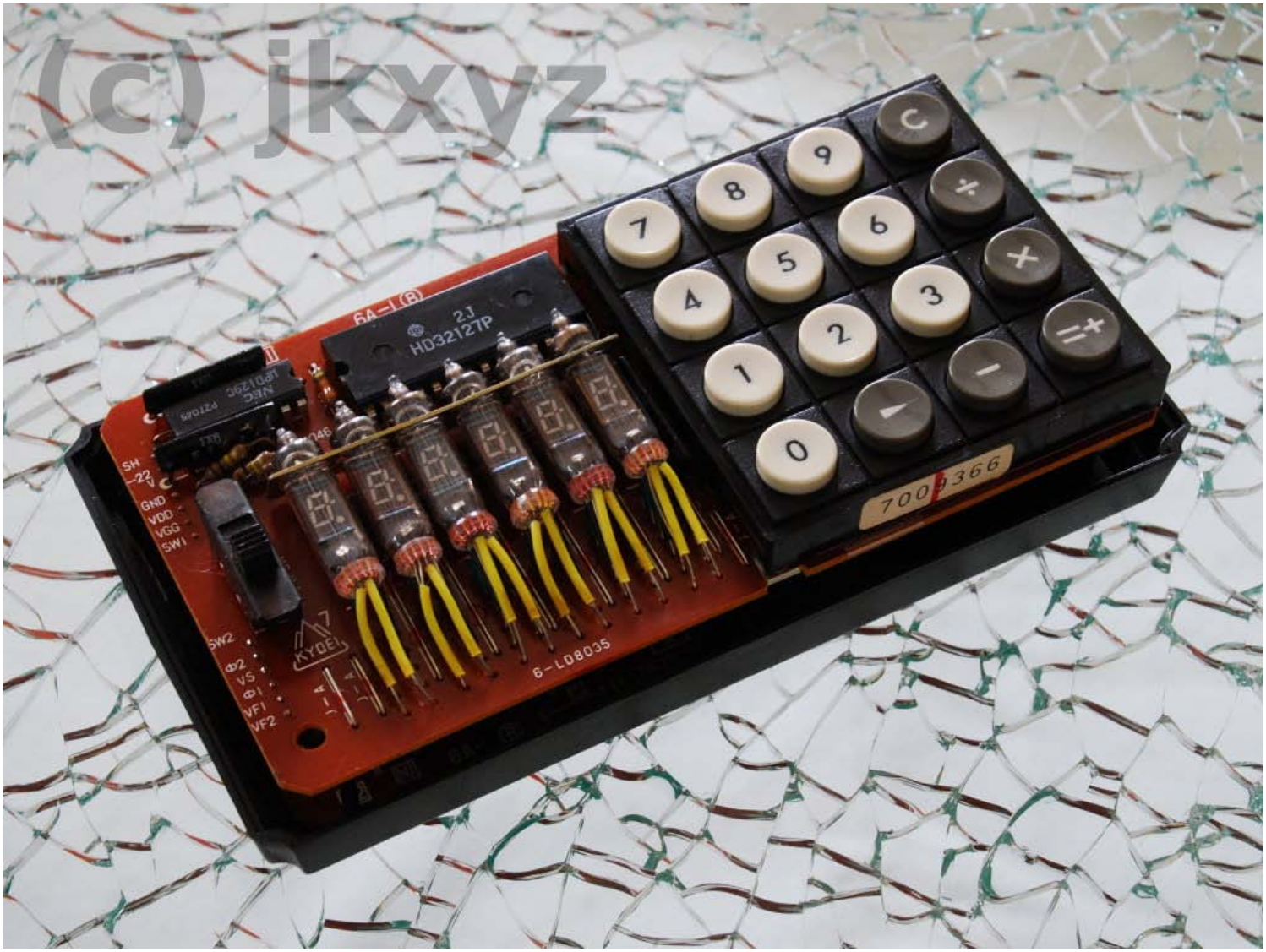
You dream in color!

Re: Look what I found d8-)

*Message #3 Posted by **Juergen Keller** on 29 Nov 2010, 3:32 p.m.,*
in response to message #1 by geoff quickfall

Looks amazing but this shoots one of the main features of the Voyager Series, the long battery life ;-)

BTW, a tube display like in this Casio mini calculator would also be a nice option:



Cheers, Juergen

Re: Look what I found d8-)

*Message #4 Posted by **geoff quickfall** on 29 Nov 2010, 8:08 p.m.,*
in response to message #3 by Juergen Keller

It was the casio mini which started my miscellaneous collection. What a blast!

Geoff

Re: Look what I found d8-)

*Message #5 Posted by **Walter B** on 29 Nov 2010, 4:25 p.m.,*
in response to message #1 by geoff quickfall

Your dream carries the wrong label: in fact this was the HP-15T - the 25.4mm **T**hick predecessor of the renowned 15C, carrying a 150g rechargeable NiCd in its rucksack.

Maybe I don't remember it correctly, but didn't we see this some years ago already?

Re: Look what I found d8-)

*Message #6 Posted by **Maximilian Hohmann** on 29 Nov 2010, 5:05 p.m.,*
in response to message #1 by geoff quickfall

Cool!

A couple of years ago, we had some kind of brainstorming session here. This is "my" expandable 4-banger with panaplex display (and yes indeed: I would rather carry 500 grams of (recharchable) batteries with me than look at one of those awful LCDs :-)):

Cheers, Max

Edited: 29 Nov 2010, 5:06 p.m.

Re: Look what I found d8-) Max!

*Message #7 Posted by **geoff quickfall** on 29 Nov 2010, 8:06 p.m.,*
in response to message #6 by Maximilian Hohmann

I take it you have on of these Max,

98 lines of programming, 4.5 pounds fully loaded and fits in a LARGE RAINCOAT pocket:

Re: Look what I found d8-) Max!

*Message #8 Posted by **Namir** on 29 Nov 2010, 8:15 p.m.,*
in response to message #7 by geoff quickfall

Any program flow control commands for the CompuCorp?

Re: Look what I found d8-) Namir!

*Message #9 Posted by **Geoff quickfall** on 29 Nov 2010, 9:11 p.m.,*
in response to message #8 by Namir

Nope!

I use the start/stop at a logic choice. For example the great circle heading program requires a test for a -ve value which determines the east or south direction (360 +). When the program pauses it displays a +ve or -ve value for the sine of the heading. If negative pressing start/stop calculates the reciprocal value of the heading and displays that.

You will notice prgm 1&2 switch. Each program is 49 lines and switching to the other allows a program to continue.

Interestingly, if you input the values in the stack at the correct points while programming the display shows your progress!

Cheers

here are two programs, one resides at position 1 and the other at 2 using the switch. You can see that if the sine is negative then the last routine in program two will switch the heading for you. See the explanation in program two contained by the ***

```
PROGRAM LISTING  Great circle distance


RCL 3
-
RCL 1
=                       A
SIN/COS
2ND
STO 4


RCL 0
SIN/COS
2ND                     B
STO * 4


RCL 2
SIN/COS
2ND                     C
STO * 4


RCL 0
SIN/COS
*                       D
RCL 2
SIN/COS
=


+
RCL 4
=
SIN-1/COS-1             E
2ND
STO 5


*
60                      F
=
STOP


PROGRAM SECTION EXPLANATION


A = COS(LON.I – LON.F)
B = COS(LAT.I)
C = COS(LAT.F)
D = SIN(LAT.I) * SIN(LAT.F) +
    A * B * C
E = ARCOS(D)
F = DISTANCE NM


USE IN PLACE OF 60
69              FOR SM
111.11          FOR KM


VARIABLE                REGISTERS
LAT.I                   0
LON.I                   1
LAT.F                   2
LON.F                   3
A                       4
A * B                   4
A * B * C               4
DISTANCE ARC            5
```

```
_____________________________________________________
_____________________________________________________


PROGRAM LISTING GREAT CIRCLE BEARING


RCL 0
SIN/COS
2ND
*                A
RCL 5
SIN/COS
=
STO 6


RCL 0
SIN/COS
*
RCL 5            B
SIN/COS
2ND
=
STO 7


RCL 2
SIN/COS          C
-
RCL 7


/
RCL 6
=
SIN-1/COS-1      D
2ND
STO 8
STOP


RCL 1
-
RCL 3
=                E
SIN
STOP


360
-                F
RCL 8
=
STOP


PROGRAM SECTION EXPLANATION


A = cos(LAT.I) * sin(DIST ARC)
B = sin(LAT.I) * cos(DIST ARC)
C = sin(LAT.F) - (sin(LAT.I) * cos(DIST ARC)
D = COURSE                                    *** the course
E = TEST FOR NEGATIVE SIGN                        will be a +VE
F = IF SIGN NEGATIVE EXECUTE F FOR                number but is it
    CORRECT BEARING.                              correct? Pressing
                                                  st/st displays the
VARIABLE                        REGISTERS         sine and its
LAT.I                           0                 value allowing the
LON.I                           1                 user to make the
LAT.F                           2                 correct choice***
LON.F                           3
DISTANCE ARC                    5
BEARING FOR SIGN TEST           8
```

Edited: 29 Nov 2010, 10:12 p.m.

Re: Look what I found d8-) Max!

*Message #10 Posted by **hpnut** on 29 Nov 2010, 10:30 p.m.,*
in response to message #7 by geoff quickfall

this is not an RPN machine, witness the = key. :-(

Re: Look what I found d8-) Max!

*Message #11 Posted by **geoff quickfall** on 30 Nov 2010, 12:11 a.m.,*
in response to message #10 by hpnut

took it to work one day and the coolness meter went off the dial.

Yeah, not RPN but still NEAT!

d;-)

Re: Look what I found d8-) Max!

*Message #12 Posted by **Walter B** on 30 Nov 2010, 5:08 a.m.,*

in response to message #11 by geoff quickfall

I remember this standing in the math department of our university in mid seventies. Students were allowed to do some calculations there, if we needed a numerical solution at all ...

Re: Look what I found d8-) Max!

*Message #13 Posted by **Maximilian Hohmann** on 30 Nov 2010, 1:04 p.m.,*
in response to message #7 by geoff quickfall

Hi!

> Quote:
>
> I take it you have on of these Max...

One? Last week I was finally able to fill one of the few remaining gaps: I found a 360/365 Bond Trader on the American eBay site. Can't wait to get it... Now there's only the 360 Bond Trader and the non-programmable Statistian (340) left to find.

If for some reason one day I'm only allowed to keep one single calculator, it's probably going to be a Compucorp and not an HP. But don't tell anybody here ;-)

Regards, max

you have mail Max

*Message #14 Posted by **Geoff Quickfall** on 30 Nov 2010, 1:59 p.m.,*
in response to message #13 by Maximilian Hohmann

NT

Re: Look what I found d8-)

*Message #15 Posted by **Namir** on 29 Nov 2010, 7:28 p.m.,*
in response to message #1 by geoff quickfall

This model exists in several parallel universes ... but not ours!

:-(

Namir

Re: Look what I found d8-)

*Message #16 Posted by **geoff quickfall** on 29 Nov 2010, 8:07 p.m.,*
in response to message #15 by Namir

There are some interesting alternate realities, even here!

Geoff

Re: Look what I found d8-)

*Message #17 Posted by **Walter B** on 30 Nov 2010, 5:04 a.m.,*
in response to message #16 by geoff quickfall

Including those with slow watches ... ;)

Re: Read what I thought ...

*Message #18 Posted by **Alberto Fenini** on 30 Nov 2010, 6:37 a.m.,*
in response to message #1 by geoff quickfall

I was restoring an HP55 and I'm working on a 65 card reader,
seriously, any way to connect the two ??
I'd love the timing capability of the 55 with the ability to
store programs and read them off the cards.
The architecture of the two (55 and 65) is similar enough to make it
worth a try ??

Suggestions,as always are all welcome, Alberto

Re: Read what I thought ...

*Message #19 Posted by **geoff quickfall** on 30 Nov 2010, 4:44 p.m.,*
in response to message #18 by Alberto Fenini

In which way, add a timing circuit to the HP-65? Problem is, though it has a timing circuit for program execution it does not have code to interpret the timing function for display purposes such as the HP 45 (hidden) or the HP 55.

You can always time your loops with pauses introduced on the 65 then come up with a correction factor if you want to use it as a crude timing device. But I do not see any way of introducing the quartz crystal into the system to have a timing display, unless you write a program to display at each blink now that the crystal is in place.

You would have to identify the circuit used for the timing, see this posting on the HP 45:

HP 45 conversion to quartz

HP museum article

cheers

Re: Read what I thought ...

*Message #20 Posted by **Alberto Fenini** on 30 Nov 2010, 5:31 p.m.,*
in response to message #19 by geoff quickfall

Actually I was thinking at the viceversa ... adding a card reader to an HP55
May be I'm wrong, but it shouldn't be impossible
the back case will be taken from an HP65, but if the connections are all available it could be done.
All the card reader electronic is on the card reader pcb
to the main board only a couple of voltages and the ReadA, ReadB, WriteA, WriteB signas get connected
I know it's kind of meaningless, but it's worth a try,
only I don't have the schematics for the HP65 and 55 to check whether these points may be available on both boards.
At the end of the day, the card reader reads from the card and writes to the memory.
Since programming techniques are very different from 65 to 55, I can accept the limit that only "55 mode" programs will be written and read back by this "hybrid" unit, but in theory it should work.
I don't know, but it's kind of fascinating to me (just to me ??)
Take care Alberto

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uCalc Video

*Message #1 Posted by **DaveJ** on 28 Nov 2010, 8:55 p.m.*

For those interested in the uCalc project:

http://www.youtube.com/watch?v=fk8GCKO5mw4

No it hasn't progressed any since the last update.
Please don't ask when it will be available, the answer is a shoulder shrug!

Dave.

Re: uCalc Video

*Message #2 Posted by **Martin Pinckney** on 28 Nov 2010, 9:24 p.m.,*
in response to message #1 by DaveJ

Those "interested" will want to ask the verboten questions. Therefore, the video is for the uninitiated.

Re: uCalc Video

*Message #3 Posted by **Egan Ford** on 29 Nov 2010, 1:36 a.m.,*
in response to message #1 by DaveJ

Awesome. Now I want one again. BTW, how do you get the batteries out? Perhaps a seesaw inside so that if I push a battery in deeper the other comes out. This way you'll always have a battery in.

Re: uCalc Video

*Message #4 Posted by **Walter B** on 29 Nov 2010, 2:45 a.m.,*
in response to message #1 by DaveJ

Very very nice! Hope it will be available soon. I will never, however, put this precious in my *back* pocket - simply don't like the sound of cracking material d8-)

Re: uCalc Video

*Message #5 Posted by **David Hayden** on 29 Nov 2010, 8:07 a.m.,*
in response to message #1 by DaveJ

Very cool Dave, thanks for the sharing. Makes me want one too :)

Will the battery slot have a cover of some sort? Without one I can picture it getting filled with lint and stuff pretty easily.

Also, how tough is the paint on the PCBs? After some time in a wallet, it might start to wear off, possibly exposing the electrical traces underneath.

Re: uCalc Video

*Message #6 Posted by **Alejandro Paz (Germany)** on 29 Nov 2010, 1:30 p.m.,*
in response to message #1 by DaveJ

Dave: It is a real cool calc ! Btw, I love your Blog ! Lots of fun with Rigol and Pickit videos, keep it up !

Re: uCalc Video

*Message #7 Posted by **Pablo P (Spain)** on 30 Nov 2010, 11:40 a.m.,*
in response to message #1 by DaveJ

Nice calculator/computer. I want one when it is ready. By the way, how durable is the black solder mask? Keep your blog up, I enjoy watching your videos!

Re: uCalc Video

*Message #8 Posted by **Jeff O.** on 30 Nov 2010, 12:10 p.m.,*
in response to message #1 by DaveJ

> Quote:
>
> No it hasn't progressed any since the last update. Please don't ask when it will be available, the answer is a shoulder shrug!
>
> Dave.

OK, I won't ask even though you (once again) mercilessly taunt us.

However, I will ask if the project might be complete were it not for the "silicon bug" you mentioned in the above video and described more fully in a previous blog, or is there more to it than that?

Re: uCalc Video

*Message #9 Posted by **Martin Pinckney** on 30 Nov 2010, 1:22 p.m.,*
in response to message #8 by Jeff O.

> Quote:
>
> OK, I won't ask even though you (once again) mercilessly taunt us.

My point, more pointedly stated! (See message #2).

Re: uCalc Video

*Message #10 Posted by **DaveJ** on 1 Dec 2010, 1:18 a.m.,*
in response to message #8 by Jeff O.

> Quote:
>
> However, I will ask if the project might be complete were it not for the "silicon bug" you mentioned in the above video and described more fully in a previous blog, or is there more to it than that?

Nothing to do with the silicon bug, that simply caused a me a few hours of grief. I simply lost enthusiasm for the project at some point, or more correctly, got more enthused about other projects at the time.

Dave.

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HP-IL 71B to 71B via HPIL

*Message #1 Posted by **Geoff Quickfall** on 28 Nov 2010, 7:31 p.m.*

Okay,

started to play with my 71B which has 25 programs loaded into main and backed up to the protected memory.

OOPS lost everything, and now a blank HP 71B. Installed new batteries and checked it out and it is fine. So, I have another HP 71B with the programs on board. What I would like to do is connect both via HP-IL (both contain the modules and I have the cables). Then transfer the programs from the backup 71B to the memory lost 71B.

I do not have the HP-IL manual for the 71B but do have the 41C HP-IL manual. Of course I cannot get those commands to work so without digging and digging:

How or what are the commands to transfer from one HP71B to another both connected to the HP-IL modules in each?

Cheers, Geoff

Re: HP-IL 71B to 71B via HPIL

*Message #2 Posted by **John Pierce** on 28 Nov 2010, 7:51 p.m.,*
in response to message #1 by Geoff Quickfall

HI Geoff, the following has worked well for me.

10 DIM F$[100] 20 RESTOREIO 30 RESET HPIL 40 CONTROL ON 50 REMOTE 60 OUTPUT :HP71 ;"RESTOREIO" 70 INPUT " FILE? ";F$ 80 IF F$="" THEN OUTPUT :HP71 ;"OFFIO" @ OFF IO @ STOP 90 OUTPUT :HP71 ;"COPY :LOOP" 100 COPY F$ TO :HP71 110 GOTO 70 120 END

Cheers John Pierce

Re: HP-IL 71B to 71B via HPIL (Thanks John)

*Message #3 Posted by **geoff quickfall** on 28 Nov 2010, 8:34 p.m.,*
in response to message #2 by John Pierce

PERFECT!

All done, now to back up on my 9114B and tape drive!

Many thanks, Geoff

Re: HP-IL 71B to 71B via HPIL (Thanks John)

*Message #4 Posted by **Namir** on 28 Nov 2010, 10:20 p.m.,*
in response to message #3 by geoff quickfall

That's why I love the EMU71 software. I can create as many versions I want, allowing me to work on multiple projects AND spin-off projects, all while having access to the MATH rom and the versatile JPC-ROM in EVERY SINGLE project. That is so cool in my book. Thank you J-F for this piece of art!

So far, the limitations that I see in the HP-71N is the variable names' scheme. Any ROM or LEX files that can expand the names of variables to more meaningful names?

Namir

Re: HP-IL 71B to 71B via HPIL (Thanks John)

*Message #5 Posted by **geoff quickfall** on 29 Nov 2010, 2:13 p.m.,*
in response to message #4 by Namir

Not being the math genius you are I find that my use for my handhelds is mostly for work.

I have a suite of programs in all HP languages and I use them as I rotate my machines in and out of the cockpit.

That and the definite lack of a computer at work (sterile cockpit and all) combined with my desire to hold the item in my hand relegates me to what I can use.

The 71B was sitting on the shelf with its mate for over a year and I thought it was time to take it with me and that is when I discovered the battery problem which led to a memory lost problem which led to my ineptitude when copy programs from the protected memory back to the main memory. A subsequent freeze up and obviously the wrong reset (init 1) should have resulted in a machine with all my programs still protected and only the loss of the main memory.

That and the fact that my card reader is definitly U/S; found and identified by the 71B but not reading anything caused me to try to transfer the programs in the back up 71B over. The trials and tribulations of the real versus the virtual world ;-)

Any one out there with a working card reader for sale ;-(

Cheers, Geoff

Re: HP-IL 71B to 71B via HPIL

*Message #6 Posted by **Marcus von Cube, Germany** on 30 Nov 2010, 11:35 a.m.,*
in response to message #2 by John Pierce

Your program looks better this way: ;)

```
10 DIM F$[100]
20 RESTORE IO
```

```
30 RESET HPIL
40 CONTROL ON
50 REMOTE
60 OUTPUT :HP71 ;"RESTOREIO"
70 INPUT " FILE? ";F$
80 IF F$="" THEN OUTPUT :HP71 ;"OFFIO" @ OFF IO @ STOP
90 OUTPUT :HP71 ;"COPY :LOOP"
100 COPY F$ TO :HP71
110 GOTO 70
120 END
```

Marcus

BTW, what are the steps on the second machine?

Re: HP-IL 71B to 71B via HPIL

*Message #7 Posted by **John Pierce** on 30 Nov 2010, 3:34 p.m.,*
in response to message #6 by Marcus von Cube, Germany

I agree about the format. When it was typed in it looked like your format. I didn't preview it before posting and somehow the cr/lf were lost. It has happened to me before. How did you get your text in?

When it comes to running the program hook up both HP-71s using the HP-IL cables, turn both HP-71s on and RUN the program. It goes to the "remote" HP-71 and prepares and controls it.

Sorry about the form of the text.

John Pierce

Re: HP-IL 71B to 71B via HPIL

*Message #8 Posted by **Marcus von Cube, Germany** on 1 Dec 2010, 2:19 p.m.,*
in response to message #7 by John Pierce

To get your listing in the right form, just use the button labeled <preformatted> at the bottom of the text entry window.

When I connect two 71bs, isn't it necessary to disable the controller function on one of them with CONTROL OFF ?

Re: HP-IL 71B to 71B via HPIL

*Message #9 Posted by **geoff quickfall** on 1 Dec 2010, 3:49 p.m.,*
in response to message #8 by Marcus von Cube, Germany

Hello Marcus,

I didn't use 'control off' and the controller 71B perfectly downloaded the back up programs to the reciever 71B.

Cheers, Geoff

Re: HP-IL 71B to 71B via HPIL

*Message #10 Posted by **John Pierce** on 1 Dec 2010, 4:06 p.m.,*
in response to message #8 by Marcus von Cube, Germany

Thanks for the tip on the "Preformatted" button. Only one device in the loop can be the Controller. I did not study the HP-IL IDS but assume when the initiating HP-71B issues the command "Control ON" the other loop devices are prevented from being the Controller. Maybe I just got lucky.

Re: HP-IL 71B to 71B via HPIL

*Message #11 Posted by **Egan Ford** on 30 Nov 2010, 3:56 p.m.,*
in response to message #6 by Marcus von Cube, Germany

This can be automated a bit or made simpiler by using:

```
CAT$(I,":MAIN")
```

E.g.:

```
I=1
F$=CAT$(I,":MAIN")[1,8]
```

will store the first filename in F$. Increment 'I' to get the rest. If F$ = "", then you are at then end. With this minor change you can either just blindly copy or prompt with Y/N. E.g.:

```
12 I=0
70 REM INPUT " FILE? ";F$
72 I=I+1
74 F$=CAT$(I,":MAIN")[1,8]
```

Change :MAIN to :HP71 to restore.

Just my $0.02 US.

Re: HP-IL 71B to 71B via HPIL

*Message #12 Posted by **Michael Meyer** on 1 Dec 2010, 6:55 p.m.,*
in response to message #11 by Egan Ford

That's how I do this, essentially. If I have a "blank" HP-71B, I can connect it to a disk drive, manually copy the "copy" program, then completely restore the rest by running the program. It's come in handy, and allows more than one machine to easily have the same configuration....

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HP-41 MCODE: Compilation of routines for custom modules?

*Message #1 Posted by **Geir Isene** on 28 Nov 2010, 5:03 p.m.*

Looking at all the modules Angel is creating and with Peter's work, Raymond, Hakan and others, a wild idea struck me:

How about a program or even a web service where you could pick from hundreds if not thousands of MCODE and FOCAL routines to create your own ROM on the fly?

The program would load the routines as MCODE, string them out within the 4K space, bild the FAT, assign the wanted XROM number and spit out your own custom ROM.

Just an idea.

Edited: 28 Nov 2010, 5:49 p.m.

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HP-41 MCODE: System calls - a cataloged/priotitized list?

*Message #1 Posted by **Geir Isene** on 28 Nov 2010, 12:30 p.m.*

Does anyone have a cataloged/prioritized list of the most useful HP-41 MCODE system calls - like a QRG of sorts? I have seen bits and pieces around, but nothing like a complete list. Did I miss it? Pointers, anyone?

Re: HP-41 MCODE: System calls - a cataloged/priotitized list?

*Message #2 Posted by **PeterP** on 28 Nov 2010, 4:02 p.m.,*
in response to message #1 by Geir Isene

I never had found a truly comprehensive one but for example Ken Emerys book has useful routines and there were a few PPC articles IIRC that had lists. I basically started collecting somewhere in handwritten notes good entry points.

One person who can provide probably a quite comprehensive and very insightful list of useful entry points is Angel Martin. Unless some of the gurus from ERAMCO, MBK and W&W have kept a list of entry points they used in writing their OS's and can still find it. Either one would be awesome to have...

Re: HP-41 MCODE: System calls - a cataloged/priotitized list?

*Message #3 Posted by **Geir Isene** on 28 Nov 2010, 4:50 p.m.,*
in response to message #2 by PeterP

And I find myself plowing through the MCODE book, Angel's listings, articles, the VASM listings etc. looking for the right entry points. Shouldn't we start a wiki or something and collect and catalog them? If someone has some sort of a starting point with their own list.

Re: HP-41 MCODE: System calls - a cataloged/priotitized list?

*Message #4 Posted by **Raymond Del Tondo** on 28 Nov 2010, 5:04 p.m.,*
in response to message #3 by Geir Isene

IIRC there were sorted and maybe priorized entry point lists in the PPC journals;-)

HTH

Ray

Re: HP-41 MCODE: System calls - a cataloged/priotitized list?

*Message #5 Posted by **Geir Isene** on 28 Nov 2010, 5:49 p.m.,*
in response to message #4 by Raymond Del Tondo

Remember which one?

Re: HP-41 MCODE: System calls - a cataloged/priotitized list?

*Message #6 Posted by **Raymond Del Tondo** on 28 Nov 2010, 7:20 p.m.,*
in response to message #5 by Geir Isene

Unfortunately not. They were amongst some paper copies of the PPC journals, maybe in the area when the Assembler 3 EPROM wa a topic.

Re: HP-41 MCODE: System calls - a cataloged/priotitized list?

*Message #7 Posted by **Geir Isene** on 29 Nov 2010, 2:52 a.m.,*
in response to message #6 by Raymond Del Tondo

Approximate time, perhaps?

Re: HP-41 MCODE: System calls - a cataloged/priotitized list?

*Message #8 Posted by **Ángel Martin** on 29 Nov 2010, 10:15 a.m.,*
in response to message #6 by Raymond Del Tondo

Aren't you following a false vector here? What good is to have all the entry point names and locations if you don't have the documentation for them?

Here's what I did: disassemble the CX OS using the MLDL2k manager, transfer the text result into Excel, then trace the entry points identified by this process matching them back with the VASM ducuments, then provide an hyperlink to go back-and-forth as required. I use Excel but the same could be done with other vehicle (pdf, for instance).

This "project" is not complete. I finalized ROM0, and ROM2, still working on ROM1. More difficult is the stuff in ROM3 and ROM5 (both banks), as they're not documented in the older VASMs - and neither in MLDL2k manager.

I think this could be the core for an open, Wipi-like, community effort to complete them and add more information as we go...

Just a though.

PS. Look at the LABELS ROM documentation for what you're after...

Re: HP-41 MCODE: System calls - a cataloged/priotitized list?

*Message #9 Posted by **Geir Isene** on 29 Nov 2010, 10:48 a.m.,*
in response to message #8 by Ángel Martin

I agree - as I wasn't only looking for the entry points, but rather the entry points with a short and to-the-point explanation of each. Would be nice to have this as a searchable wiki that anyone could add information to... The "HP-41 MCODE wiki" or some such. Your project would be the perfect jump start, really.

I could simply erect a wiki at Wikia and we're off. What do you say?

Re: HP-41 MCODE: System calls - a cataloged/priotitized list?

*Message #10 Posted by **Meindert Kuipers** on 29 Nov 2010, 11:01 a.m.,*
in response to message #8 by Ángel Martin

Great work Angel. I did the same some time back, and (mainly manually) added the many labels to the SYSTEMLABELS.TXT file that comes with the MLDL2000 manager. The base of the list was actually a listing created with the LABELS.ROM, and the sources of V41. In my opinion the label list that comes with M2kM is now pretty complete, available and free ;)

In general the VASM listing provide sufficient documentation for most of the entries, and the OCR'd listings that Peter Platzer created allow easy navigation between labels.

BTW the LABELS ROM just provide a list of the labels with the addresses, which is also in my SYSTEMLABELS.TXT file.

Meindert

Re: HP-41 MCODE: System calls - a cataloged/priotitized list?

*Message #11 Posted by **Ángel Martin** on 29 Nov 2010, 11:57 a.m.,*
in response to message #10 by Meindert Kuipers

Yes to all of that Meindert, many thanks for your work with the MLDL2k manager :)

I for one find the VASM listings uncomfortable being in Octal and all that. Peter did a superb job with the pdf scan but somehow my adobe keeps missing what I'm looking for every time,- and it's very time consuming too.

BTW, Do you know if there are lables for the CX versions? Everything comes as criptic "LB_XYZ" and reconciling that with the X-Functions code is a near impossible job.

Cheers, ÁM

Re: HP-41 MCODE: System calls - a cataloged/priotitized list?

*Message #12 Posted by **Meindert Kuipers** on 29 Nov 2010, 1:52 p.m.,*
in response to message #11 by Ángel Martin

I do not have any CX labels, only what is publicly available already. I do not understand your remark about X-Functions, I do have the labels of the X-Functions module (not the CX unfortunately).

BTW the new M2kM disassembler has some improvements, maybe that helps you a bit

Meindert

Re: HP-41 MCODE: System calls - a cataloged/priotitized list?

*Message #13 Posted by **Håkan Thörngren** on 29 Nov 2010, 1:58 p.m.,*
in response to message #11 by Ángel Martin

The mainframe VASM listing I have is in hex. I have seen scans of the mainframe VASM, and they are indeed in octal, like the plug-in listings I have.

The octal listings are a real pain. The only (smaller) pain with the hex one is that it divides everything in 1K blocks and restart the address counter from 0000 in

each one.

Re: HP-41 MCODE: System calls - a cataloged/priotitized list?

*Message #14 Posted by **Angel Martin** on 28 Nov 2010, 5:18 p.m.,*
in response to message #4 by Raymond Del Tondo

An excellent source for all conceivable entry points is the document posted @ TOS, under the LABELS ROM manual

I've been using an EXCEL sheet with the COMPLETE CX-OS MCODE (ROMS 0 to 5), where every call is hyperlinked to the corresponding entry point. It's very handy (was key for me to understand the 13-chr math routined for instance) - but still not a fully-documented source, suffice it to say.

The MCODE wiki

*Message #15 Posted by **Geir Isene** on 29 Nov 2010, 1:59 p.m.,*
in response to message #1 by Geir Isene

Here goes - the HP-41 MCODE wiki:

http://mcode.wikia.com/

Anyone is now free to add any and all MCODE information on this wiki.

It would be cool if this could build up as a collaborative effort to document HP-41 MCODE; Entry points, nice routines, modules, tips & tricks etc.

Re: The MCODE wiki

*Message #16 Posted by **Meindert Kuipers** on 29 Nov 2010, 2:51 p.m.,*
in response to message #15 by Geir Isene

That was fast! Great idea,

Meindert

Re: The MCODE wiki

*Message #17 Posted by **Angel Martin** on 29 Nov 2010, 3:08 p.m.,*
in response to message #16 by Meindert Kuipers

Yes, a nice project. How do I add an adobe document? I just finished the 13-digit documentation and would be a good one to innagurate it with.

Re: The MCODE wiki

*Message #18 Posted by **Geir Isene** on 29 Nov 2010, 3:18 p.m.,*
in response to message #17 by Angel Martin

It is best to create a new page and copy the text into the page directly. That way it is fully searchable.

Pure text and images like in Wikipedia works the very best :)

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13: Unlucky number for some...

*Message #1 Posted by **Angel Martin** on 28 Nov 2010, 12:05 p.m.*

Greetings fellow SW archaeologists :)

I few days ago I started to look into the 41 OS code (ROM_1) to better understand the 13-character math routines. It's been a great journey of discovery, which has finally been fruitful.

Once I understood their design and utilization I set forth to "update" every possible system call within the SandMath and the 41Z, ttaking advantage of the "extended precision" routines. Not a totally trivial thing, as it's all ridden with potential goofs if you aren't extra-careful (and even if you are!)

The good news is the work is done - Yep, they make a (small) difference, so that the final results are correct to the 10th decimal digit - I love it when GAMMA(7) is exactly 720, pure integers all the way up to the range of the 41 :)

The added bonus is that the code is shorter - it's now clear to me that the math routines within the OS where designed to be all 13-char. There are auxiliary ones that make the data handling easier, and in general they require a reduced number of steps. ADDONE, SUBONE, STSCR, RCSCR...etc. Even PI/2 and LNC10 ar all in 13-char fashion, quite some piece or work indeed.

Oh, they also are NOT slower than the 10-char counterparts - just because there are no 10-char counterparts! They are the same routines, just using the "truncated form" in the data input. Clever as it can get, an awesome design to overcome the limitations of yore.

So be in the lookout for the updated modules posted in a couple of days at a TOS near you :)

Best, "AM

Edited: 28 Nov 2010, 1:27 p.m.

Re: 13: Unlucky number for some...

*Message #2 Posted by **Håkan Thörngren** on 28 Nov 2010, 3:41 p.m.,*
in response to message #1 by Angel Martin

Cool!

Would it be possible to document your findings now that you understand it and have it fresh in your mind? It could be of help to others...

Anyway, great work!

Re: 13: Unlucky number for some...

*Message #3 Posted by **Angel Martin** on 28 Nov 2010, 5:07 p.m.,*
in response to message #2 by Håkan Thörngren

Yes, I shall prepare a short article for the forum and a pdf for download @ TOS... it's a bunch of routines, so a few pages will be required.

Re: 13: Unlucky number for some...

*Message #4 Posted by **Johnny Bjoern Rasmussen** on 29 Nov 2010, 5:10 a.m.,*
in response to message #3 by Angel Martin

Perhaps that is why there was never a HP-13 ;-D

Re: 13: Unlucky number for some...

*Message #5 Posted by **Angel Martin** on 29 Nov 2010, 4:22 p.m.,*
in response to message #2 by Håkan Thörngren

The mini-paper is done and submitted to TOS. I tried Geir's Wiki but got lost in the process, afraid I'll need some practice with the new tool. Let me know if you'd like the sneak peek and I'll email you the pdf doc.

Re: 13: Unlucky number for some...

*Message #6 Posted by **Geir Isene** on 29 Nov 2010, 4:56 p.m.,*
in response to message #5 by Angel Martin

sorry...

... but, let's get through the learning curve.

What you need to do is take pure text and paste it into the page after clicking "edit".

I really want to see this wiki capture knowledge.

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Free42 for Android, first alpha

*Message #1 Posted by **Thomas Okken** on 27 Nov 2010, 8:10 p.m.*

Hi all,

I've been working on the Free42 Android port for a few weeks now, and it's at the stage where it is actually usable. There is still a lot of functionality missing (program import/export and printer emulation are the big ones), so I'm still in the early alpha stages. The missing functionality will take another 2-4 weeks, at which point I'll start calling it a beta, and then I'll spend another 2-4 weeks fixing bugs and polishing the app to get it ready for general release.
If you're not interested in testing an early alpha, I totally understand; that's up to you. :-)
If you just want to keep an eye on my progress, take a look at http://thomasokken.com/free42/android.html every now and then.
If you are feeling adventurous, please try my alpha release and let me know what you think. The HP-42S emulation should work right now on any Android phone with a 320x480 screen and OS version 1.5 or later. You can't download it from Android Market yet, so if your phone does not allow side-loading, you won't be able to use the alpha, unfortunately.

Looking forward to hearing from you!
Thank you, and best regards,

- Thomas

Re: Free42 for Android, first alpha

*Message #2 Posted by **Allen** on 27 Nov 2010, 9:30 p.m.,*
in response to message #1 by Thomas Okken

Thomas- What a great November surprise! I've installed the alpha release using the eoeAppInstaller application in the Droid Market. It runs the basic checks very nicely! I will report any bugs found at your email address.

I'm impressed so far with the speed and performance on OS1.6!

Re: Free42 for Android, first alpha

*Message #3 Posted by **Thomas Okken** on 29 Nov 2010, 11:43 p.m.,*
in response to message #2 by Allen

> Quote:
>
> I've installed the alpha release using the eoeAppInstaller application in the Droid Market.

I tried installing it on an AT&T HTC Aria using eoeAppInstaller, but that didn't work. It gave me an error message telling me to go to Settings -> Applications and allow unknown sources, but that option wasn't there. Not surprising, since I knew that this phone does not allow sideloading, but apparently eoeAppInstaller doesn't let you get past that restriction, either.

I did manage to install the app in the end, using the adb tool from the Android SDK. That wasn't exactly painless, either; I had to download and install "HTC Sync" just to get the Android USB driver (for Windows), and that package also installed some other junk that I don't think I want. And just finding HTC Sync on the HTC web site was a bit of a trek, too.

Writing up installation instructions for non-Market-users will be a ton of fun, I can already tell...

> Quote:
>
> I'm impressed so far with the speed and performance on OS1.6!

Thanks! I'm pretty pleased with it on the Aria, too. I was worried at first because it felt a bit slow on the emulator (both on my Mac and my PC), but, then again, the Free42 core is native code, which runs on an emulated ARM CPU in the emulator, and that slows things down a lot. On the real device, it looks like a dead heat between the Aria and the iPod touch 4 so far, which is pretty good, considering that the Android app has a Java UI and lots of JNI calls between the UI and the core. While I do try to keep the overhead to a minimum, it's nice to hear that that's actually working out.

- Thomas

Edited: 29 Nov 2010, 11:55 p.m.

Re: Free42 for Android, first alpha

*Message #4 Posted by **Bill (Smithville, NJ)** on 30 Nov 2010, 7:10 a.m.,*
in response to message #3 by Thomas Okken

In case anyone is interested, it's fairly easy to install on a Droid X. Just copy the APK file to the SD card, go to Settings/Applications and Select "Unknown Sources" to allow for installation of non-Market applications. Use "Files" to go to the APK file and select it to install it. Be sure to go back and deselect "Unknown Sources". No need for any special application installer.

Free42 works great. I've already made use of it at an office meeting yesterday.

Thanks,

Bill

Re: Free42 for Android, first alpha

*Message #5 Posted by **Pal G.** on 27 Nov 2010, 11:12 p.m.,*
in response to message #1 by Thomas Okken

Perfect so far! Thank you for letting us alpha test. I will report if I have problems.

Looking forward to high resolution skins, or at least full screen UI.

Motorola Droid (WVGA 854x480); Android 2.2 FRG22D.

Thanks again.

Re: Free42 for Android, first alpha

*Message #6 Posted by **Geir Isene** on 28 Nov 2010, 7:49 a.m.,*
in response to message #1 by Thomas Okken

This is good news.

I installed Free42.

Then I uninstalled Realcalc.

Thanks.

Re: Free42 for Android, first alpha

*Message #7 Posted by **Hubert Weikert** on 28 Nov 2010, 11:22 a.m.,*
in response to message #1 by Thomas Okken

Thank you very much!

Works on T-Mobile G1 with Android 1.6.

Works also on the Booq Verne tablet, with Android 1.5. This has a bigger screen (800x600). The calc remains at the designed size.

On both devices the application terminates when the devices is turned from landscape to portrait and vice versa (no visible forced close). Also on both, one has to start the application sometimes twice, as the first start returns nothing.

Hubert

Re: Free42 for Android, first alpha

*Message #8 Posted by **Thomas Okken** on 29 Nov 2010, 9:24 p.m.,*
in response to message #7 by Hubert Weikert

> Quote:
>
> On both devices the application terminates when the devices is turned from landscape to portrait and vice versa (no visible forced close). Also on both, one has to start the application sometimes twice, as the first start returns nothing.

I haven't tried dealing with landscape mode yet -- I should probably just disable that until I'm ready to to deal with it. Crashing is certainly not desirable behavior. :-)

I just installed the app on a borrowed AT&T HTC Aria, and I have to start it twice quite often, too. I don't know what's going on there yet, but I'll have to look into it. I've noticed this failure to launch even in the simulator, but it doesn't happen very often there. On the real phone, it happens a lot. Clearly something that needs to be looked into! (UPDATE: Actually, it happens all the time in the simulator, or more precisely, every second time. It just doesn't seem to happen while running under debugger control. Looks like I have some old-fashioned printf debugging to do!) (UPDATE 2: Maybe I'm just not dealing with the Android app life cycle correctly, and the app appears to die on startup when the OS tries to revive an instance that wasn't shut down cleanly.)

I'll put both items on my to-do list. Thank you for the feedback!

- Thomas

Edited: 29 Nov 2010, 9:38 p.m.

Re: Free42 for Android, first alpha

*Message #9 Posted by **ncrook(UK)** on 30 Nov 2010, 5:39 p.m.,*
in response to message #7 by Hubert Weikert

Works fine on Samsung Galaxy S, Android 2.2

(Installation is simple: allow unknown sources. Browse to web site, select the .apk file. Once downloaded, go to downloads and long-touch the .apk then select "complete with package installer".)

Thomas: if you use something like http://qrcode.kaywa.com/ you can generate a QR-code of the URL of the .apk file and embed it on your web page. Then, android users (running "Barcode Scanner") can just point their phones at the QR-code on their computer screens, scan the image and download (like a really lazy form of networking)

great work, thanks

Neal.

Re: Free42 for Android, first alpha

*Message #10 Posted by **Thomas Okken** on 30 Nov 2010, 8:04 p.m.,*
in response to message #7 by Hubert Weikert

> Quote:
>
> On both devices the application terminates when the devices is turned from landscape to portrait and vice versa (no visible forced close). Also on both, one has to start the application sometimes twice, as the first start returns nothing.

I get the impression that in both scenarios -- the app exiting when the device switches to landscape mode, and the app failing to launch -- the app isn't actually exiting, it's merely hidden. The next time you try to launch after either scenario, the app slides into view, rather than popping up, which makes it look like it was running already. Also, I don't see anything in the logs to indicate app death.

As long as you make a point of leaving the app using the "home" button, rather than using the "back" button or the OFF function, the app comes up at the first attempt every time (or until the OS decides to unload it by itself, of course).

I clearly have some figuring out to do as to how Android manages app state; presumably there are some messages from the OS that Free42 needs to handle that it currently doesn't.

To fix the landscape problem, for now I've just set a flag that prevents landscape mode altogether. I want to support landscape mode eventually, but this will at least prevent the annoying pop-down until then. (The new version is on my web site now.)

- Thomas

Edited: 30 Nov 2010, 8:36 p.m.

Re: Free42 for Android, first alpha

*Message #11 Posted by **Bill (Smithville, NJ)** on 28 Nov 2010, 1:15 p.m.,*
in response to message #1 by Thomas Okken

Thomas,

Fantastic - early Chrismas Present.

I tried downloading it, but got a zip file in lieu of a APK file. The link points to Free42Android.apk but when I click on it I get the file Free42Android.zip.

Am I doing something wrong?

Can't wait to try it out.

Thanks,

Bill

Re: Free42 for Android, first alpha

*Message #12 Posted by **Thomas Okken** on 28 Nov 2010, 4:24 p.m.,*
in response to message #11 by Bill (Smithville, NJ)

That sounds like Internet Explorer being a smartass. It looks at the file contents, sees a zip file, and decides that it should have a zip extension. You can just rename it back to Free42Android.apk (apk files really are zip files).

Re: Free42 for Android, first alpha

*Message #13 Posted by **Bill (Smithville, NJ)** on 28 Nov 2010, 5:54 p.m.,*
in response to message #12 by Thomas Okken

Thomas,

You're right - stupid Internet Exploder.

Renamed it, set the Droid X to allow it to be installed, and it is now working great.

Now I can uninstall the other calculators (may keep the Droid48, even though I don't use it much).

Thanks for all your hard work. Can hardly wait for the finished product.

Bill

Q: using (micro-)SD card for program import/export etc.

*Message #14 Posted by **Thomas Okken** on 29 Nov 2010, 9:55 p.m.,*
in response to message #1 by Thomas Okken

The one big thing I haven't figured out yet is what would be the best way to support getting *.raw program files into and out of Free42 on Android. So here's a question to you all: in your experience, do all Android phones have (micro-)SD card slots that can be used to transfer files onto and off the device?

If they do, then my job will be pretty easy, but if they don't, the next question is: do Android phones that do *not* have a card slot offer some other way of copying files between the phone and a computer via USB, by allowing the phone to be mounted as an external USB disk drive or some similar means?

I can support import/export etc. even if the answer is "no" on both counts, by using the approach I used in the iPhone version (built-in web server), but it would be nice if I didn't have to do that, since it is a bit of a pain to

support that properly. Even the iPhone version is far from complete in that area.

- Thomas

Re: Q: using (micro-)SD card for program import/export etc.

*Message #15 Posted by **Bill (Smithville, NJ)** on 30 Nov 2010, 7:05 a.m.,*
in response to message #14 by Thomas Okken

Thomas,

I don't know if all of the Android phones have a SD card or not, but I think most do. I strongly recommend just storing the raw and any other files in a directory on the SD card. Much much easier to have all my files with me rather than pointing to a web site, etc. That's one reason I never made much use of the HP calculators on the Ipod Touch.

With the various models and operating system versions for the Android, you may need to select a subset and develope for that subset, rather than try for a home run on all of the various models.

Thanks,

Bill

Re: Q: using (micro-)SD card for program import/export etc.

*Message #16 Posted by **Thomas Okken** on 30 Nov 2010, 8:15 p.m.,*
in response to message #15 by Bill (Smithville, NJ)

Hi Bill,

I will definitely implement SD card support -- it's by far the easiest option to implement, and, I think, also by far the easiest and most intuitive to use.

Having said that, I don't want to exclude models that don't provide an easy way to copy files onto and off the device, either, and those can be supported using the embedded web server code from the iPhone version. But if I can support all models using just option A, so much the better!

(Even the embedded web server is nothing compared to the lengths I went to to support SD-card-less Palm devices. I don't think I want to do *that* again. :-))

- Thomas

Re: Q: using (micro-)SD card for program import/export etc.

*Message #17 Posted by **Bill (Smithville, NJ)** on 1 Dec 2010, 7:14 a.m.,*
in response to message #16 by Thomas Okken

Hi Thomas,

Another posbility is to email the files as attachments and then just save them to either the sd card or the internal memory (is it possible to save to internal memory if no sd card is present?).

That's the way I just installed the latest build - download it, email it, save and then install. Quicker than using the cable which I don't usually have with me.

Bill

Edited: 1 Dec 2010, 7:56 a.m.

Re: Free42 for Android, first alpha

*Message #18 Posted by **Thomas Okken** on 30 Nov 2010, 8:29 p.m.,*
in response to message #1 by Thomas Okken

I just uploaded a new version that prevents the landscape-mode problem. Also, one thing that immediately bothered me when I tried to use it on my HTC Aria was the lack of key-press feedback, so I implemented keyboard click.

N.B. I'm not going to announce every new version on this forum; if you want to keep up to date with the latest bleeding edge release, keep an eye on the provisional Free42 for Android page. The official release will be announced on the Free42 home page when it's ready.

Thank you all for all your feedback! Please keep it coming, either here or (preferably) by sending me email.

Thanks!

- Thomas

Edited: 30 Nov 2010, 8:40 p.m.

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Classic Plastic cases

*Message #1 Posted by **aj04062** on 27 Nov 2010, 8:08 p.m.*

Is there a different case for every series? If not, are any interchangeable?

Re: Classic Plastic cases

*Message #2 Posted by **Wanderley Navarro** on 29 Nov 2010, 3:46 p.m.,*
in response to message #1 by aj04062

The HP-35 & HP-45 & HP-80 share the same case, all in black.

The HP-55 & HP-70 has the same case of the above, but the 55 in dark green and the 70 in pale green/beige.

The HP-65 & HP-67 has the same case in dark green.

Re: Classic Plastic cases

*Message #3 Posted by **aj04062** on 2 Dec 2010, 7:28 p.m.,*
in response to message #2 by Wanderley Navarro

Are you referring to the plastic or metal case?

I thought many of these were GREY?

Re: Classic Plastic cases

*Message #4 Posted by **Wanderley Navarro** on 2 Dec 2010, 8:27 p.m.,*
in response to message #3 by aj04062

I thought you were referring to the plastic case of the BODY of the calculators.

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Caveat emptor :(

*Message #1 Posted by **Walter B** on 27 Nov 2010, 5:19 p.m.*

Look at this :((

I know the vendor is well aware of the original price. Additionally, he can't claim being ignorant about this clause here. I hate to tell, however, more and more it seems we've got our Co...in here >:(

Edited: 27 Nov 2010, 5:27 p.m.

Re: Caveat emptor :(

*Message #2 Posted by **Don Shepherd** on 27 Nov 2010, 6:48 p.m.,*
in response to message #1 by Walter B

So the guy has a set of the museum CD's and he wants to sell them. I don't see anything in the clause that says he can't.

Or am I missing something?

Nothing to see here....

*Message #3 Posted by **Allen** on 27 Nov 2010, 6:52 p.m.,*
in response to message #2 by Don Shepherd

Don, I agree.. they do not appear to be the upgrade versions of the CD and as such bear no obligation to sell them together with the original source. I see nothing interesting about Walter's claim at all.

Re: Nothing to see here....

*Message #4 Posted by **Walter B** on 28 Nov 2010, 2:54 a.m.,*
in response to message #3 by Allen

Ok, I admit I overreacted when seeing this offer since it came with many more, massively overpriced objects of the same seller congesting TAS in short intervals. Nothing against claiming any price you want, but seeing the same stuff again and again with identical skyrocket starting bids is really annoying.

Usually waiting for "free weekends", now it seems the season drives him. So it will cost him some money at least. The more often I see this the more I turn against free lunches at TAS. [/rant]

Edit: FYI, starting bid was 49,99 Euros yesterday, it is lowered now.

Edited: 28 Nov 2010, 4:44 a.m. after one or more responses were posted

Re: Nothing to see here....

*Message #5 Posted by **Maximilian Hohmann** on 28 Nov 2010, 4:40 a.m.,*
in response to message #4 by Walter B

> Quote:
>
> Usually waiting for "free weekends", now it seems the season drives him. So it will cost him some money at least.

No no, it's "free weekend" again. I got the announcement from eBay sometimes last week. Otherwise he wouldn't offer the same 300 items again and again and again. What's really missing in eBay is the "ignore user" function that some forums offer.

Re: Caveat emptor :(

*Message #6 Posted by **Allen** on 27 Nov 2010, 6:50 p.m.,*
in response to message #1 by Walter B

Price variations are a common practice among capitalist economies. Even this weekend I walked into Best Buy Store and found Adobe Premiere/Photoshop Elements 9 listed for $149, when I can buy them together on the Adobe.com website for $95 and Amazon Black Friday deals for $90 or $105 any other time of year. Shall I boycot Best Buy?

Re: Caveat emptor :(

*Message #7 Posted by **Namir** on 27 Nov 2010, 7:34 p.m.,*
in response to message #6 by Allen

People offer merchandise for that they feel or hope or think they can sell it for. The response depends on who is looking at it, how badly they want it, and how much they are willing to pay.

Namir

Re: Caveat emptor :(

*Message #8 Posted by **gene wright** on 27 Nov 2010, 10:02 p.m.,*
in response to message #7 by Namir

Co bur you know who bought something from me about a month ago.

I believe the e*ay ID is an acronym from his company, based upon his shipping address.

Re: Caveat emptor :(

*Message #9 Posted by **Namir** on 28 Nov 2010, 1:56 a.m.,*
in response to message #8 by gene wright

I think when Cobubba started he was in Colorado, whence the CO as teh first two letters. Hubububba then moved to CA.

Namir

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Caveat emptor :(

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Important MLDL2000 update

*Message #1 Posted by **Meindert Kuipers** on 27 Nov 2010, 10:34 a.m.*

For all MLDL2000 users I have just published an important update. The update will unleash the full SRAM capacitty of your unit for 64 images to 127 or 255 (depending on the version you own). For this to work you need to update both software (M2kM application) and the CPLD firmware. Please go to my website for the download. Please follow the instructions in the README.TXT file carefully.

This will be the last update before the MLDL200 V2. Work is now well underway to communicate with the MBED module, and all seems to work fine.

Meindert

PS: thanks to Peter for beta testing

Re: Important MLDL2000 update

*Message #2 Posted by **Angel Martin** on 28 Nov 2010, 12:09 p.m.,*
in response to message #1 by Meindert Kuipers

This sounds quite exciting - I'll perfrom the update later today, hope I don't goof it up - these things can be tricky...

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Question about programming the HP-71B

*Message #1 Posted by **Namir** on 26 Nov 2010, 9:00 p.m.*

Hi All,

I am using an HP-71B with a MATH Pac module. This module supports the COMPLEX type. How can I declare a SUB subroutine to have a parameter with the COMPLEX type?

Thanks!

Namir

Re: Question about programming the HP-71B

*Message #2 Posted by **Jerry Raia** on 26 Nov 2010, 9:27 p.m.,*
in response to message #1 by Namir

Here is one way:

Main Program

```
10 COMPLEX A ! declare type
20 A=-5
30 CALL TESTSUB(A) ! call and pass the variable
```

Sub Program

```
10 SUB TESTSUB(A)  ! sub program with variable passed
20 DISP SQRT(A)  ! take the sqrt of the negative number
```

you should get (0,2.2360679775)

Edited: 26 Nov 2010, 9:29 p.m.

Re: Question about programming the HP-71B

*Message #3 Posted by **Namir** on 27 Nov 2010, 6:10 a.m.,*
in response to message #2 by Jerry Raia

Hi!

I am using the EMU71 (since I am away from home) and get the following value!

(0,5)

Matlab gives me your answer of 0 + 2.2361i.

Any explanation why I am getting (0,5) with EMU71?

Namir

Edited: 27 Nov 2010, 6:11 a.m.

Re: Question about programming the HP-71B

*Message #4 Posted by **Jerry Raia** on 27 Nov 2010, 7:17 a.m.,*
in response to message #3 by Namir

That's odd, I just tried it on EMU71 and got the correct result.

Re: Question about programming the HP-71B

*Message #5 Posted by **Egan Ford** on 27 Nov 2010, 12:53 p.m.,*
in response to message #4 by Jerry Raia

Me too.

Re: Question about programming the HP-71B

*Message #6 Posted by **Namir** on 27 Nov 2010, 3:47 p.m.,*
in response to message #5 by Egan Ford

When I type VER$ on my EMU71 I get:

HP71:2CDCC MATH:1A JPC:Ex HPIL:1B HELP:C FACTR:A STRU:A RCPY:E

The EMU71.INI file is:

```
; emu71.ini        Emu71 initialisation file
.
[MODULES]
; 10 softwired modules max., plus 1 hardwired module
; main RAM in port 0 only
; port(1-5) type(ROM,RAM,HRD) size(Ko) file
0 RAM 32 ram00.bin
1 ROM 16 hpilrom.bin
2 ROM 16 mathrom.bin
3 ROM 32 jpcromx.bin
5 RAM 32 iram50.bin
.
[DEVICES]
DISPLAY
HDRIVE1
HDRIVE2
DOSLINK
LPRTER1
```

Maybe the above info helps?

Re: Question about programming the HP-71B

*Message #7 Posted by **Katie Wasserman** on 27 Nov 2010, 4:10 p.m.,*
in response to message #3 by Namir

On a real 71b with Math ROM I can confirm that the answer is (0,2.236...).

Re: Question about programming the HP-71B

*Message #8 Posted by **Namir** on 27 Nov 2010, 4:23 p.m.,*
in response to message #7 by Katie Wasserman

Sounds like an emulator bug, given the INI configuration I am using. The good news is that the

polynomial-root program I wrote (which heavily uses complex math and complex variables and arrays) works just fine!!

Edited: 27 Nov 2010, 4:24 p.m.

Re: Question about programming the HP-71B

*Message #9 Posted by **Karl Schneider** on 27 Nov 2010, 4:33 p.m.,*
in response to message #7 by Katie Wasserman

> Quote:
>
> On a real 71b with Math ROM I can confirm that the answer is (0,2.236...).

I'll second Katie. I got the answer (0,2.2360679775) by modifying Jerry's program as follows and hitting "RUN" to execute:

```
10 COMPLEX A
20 A=(-5,0)
30 CALL TESTSUB(A)
40 SUB TESTSUB(A)
50 DISP SQRT(A)
```

ADDENDUM: The following program also works. It proves passage of the complex-valued variable, undeclared in the subroutine.

```
10 COMPLEX A
20 A=(-5,0)
30 CALL TESTSUB(A)
35 END
40 SUB TESTSUB(B)
50 DISP SQRT(B)
```

-- KS

Edited: 28 Nov 2010, 3:38 p.m. after one or more responses were posted

Re: Question about programming the HP-71B

*Message #10 Posted by **Namir** on 27 Nov 2010, 5:26 p.m.,*
in response to message #9 by Karl Schneider

I typed you code, line for line, and got (0,5).

(deleted post)

*Message #11 Posted by **deleted** on 27 Nov 2010, 6:14 p.m.,*
in response to message #10 by Namir

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: Question about programming the HP-71B

*Message #12 Posted by **Namir** on 27 Nov 2010, 7:31 p.m.,*
in response to message #11 by deleted

i will certainly test the program with a real HP-71B and Math rom by the end of the

week, when i am back home.

Re: Question about programming the HP-71B

*Message #13 Posted by **geoff quickfall** on 28 Nov 2010, 5:25 p.m.,*
in response to message #12 by Namir

Both real versions of my HP71B with math roms give the correct answer:(0,2.236...)

Haven't tried the emulator yet.

Cheers,

HP71:2cdcc clk:ms hpil:1b math:1a

HP71:1bbbb clk:a hpil:1b math:1a

Edited: 28 Nov 2010, 5:31 p.m.

Re: Question about programming the HP-71B

*Message #14 Posted by **Namir** on 27 Nov 2010, 4:19 p.m.,*
in response to message #2 by Jerry Raia

My main goal was to write SUB routines that have parameters that are complex arrays and variables. The good news is that the approach you suggest WORKS!! It seems that with the MATH module, the HP-71B does not require a special syntax for COMPLEX parameters. When the arguments passed to the SUB routines are complex, the routine treats them as COMPLEX within its scope.

I was trying to implement the Aberth–Ehrlich method that simultaneously solves for all the roots (real and complex) of polynomials. The good news is that the implementation works!

Namir

Edited: 27 Nov 2010, 6:05 p.m.

Re: Question about programming the HP-71B

*Message #15 Posted by **Jerry Raia** on 27 Nov 2010, 6:06 p.m.,*
in response to message #14 by Namir

I'm glad it works! Still it's odd I can't seem to duplicate your result of (0,5) on either of my computers with EMU71.

Re: Question about programming the HP-71B

*Message #16 Posted by **Namir** on 27 Nov 2010, 6:08 p.m.,*
in response to message #15 by Jerry Raia

I am equally baffled about the result. The program I wrote does not use the SQRT, so I guess I am fine.

Re: Question about programming the HP-71B

*Message #17 Posted by **Namir** on 27 Nov 2010, 7:39 p.m.,*
in response to message #15 by Jerry Raia

I downloaded the latest version of EMU71 and ran the code. Same result. Also when I type SQR((-144,0)) I get (0,144). Also when I execute SQR((144,0)) I get (144,0). Moreover, when I execute SQR((144,144) I get (20808,3,46020761246E-3). The correct answeris 13.1842 + 5.4611i.

Seems like a bug to me?????

Namir

Edited: 27 Nov 2010, 7:44 p.m.

Re: Question about programming the HP-71B

*Message #18 Posted by **Jerry Raia** on 27 Nov 2010, 8:38 p.m.,*
in response to message #17 by Namir

Yes something is wrong. When I execute the examples you just tried on EMU71, I get the correct results. Not the results you are getting.

Re: Question about programming the HP-71B

*Message #19 Posted by **J-F Garnier** on 28 Nov 2010, 3:46 a.m.,*
in response to message #17 by Namir

Hi Namir,

Are you running Emu71 on a native Windows computer, or in a Windows (or DOS) emulation?

J-F

Re: Question about programming the HP-71B

*Message #20 Posted by **Namir** on 28 Nov 2010, 5:52 a.m.,*
in response to message #19 by J-F Garnier

Hi!

I usually launch a DOS box in Windows 7 and then run your emulator. I tried running the emulator directly and I get the same error. I am running a 32-bit Windows 7 on my (traveling) laptop.

I also noticed that raising complex number to integer power does not work!

Thank you for responding to my query!

Namir

Edited: 28 Nov 2010, 6:29 a.m.

Re: Question about programming the HP-71B

*Message #21 Posted by **Raymond Del Tondo** on 28 Nov 2010, 8:16 a.m.,*
in response to message #20 by Namir

Have you tried without the JPC, just to be sure ?
IIRC the JPC listens to some interrupts, so maybe it's a matter of a Mode setting?

HTH

Ray

Re: Question about programming the HP-71B

*Message #22 Posted by **J-F Garnier** on 28 Nov 2010, 8:41 a.m.,*
in response to message #20 by Namir

Namir,

Very strange. I doubt this is a problem from Emu71 but can you send me your complete Emu71 folder with all your files so I can check ? jeffcalc (at) wanadoo <dot> fr thanks.

J-F

Re: Question about programming the HP-71B

*Message #23 Posted by **Namir** on 28 Nov 2010, 3:10 p.m.,*
in response to message #22 by J-F Garnier

You have email!

Namir

Re: Question about programming the HP-71B

*Message #24 Posted by **J-F Garnier** on 28 Nov 2010, 4:15 p.m.,*
in response to message #23 by Namir

Found it :-))

In emu71.in, replace "2 ROM 16 mathrom.bin" by "2 ROM 32 mathrom.bin". Math module is a 32bB ROM.

What is strange is that Emu71 didn't crash with just half of the ROM loaded...

J-F

Re: Question about programming the HP-71B

*Message #25 Posted by **Namir** on 28 Nov 2010, 5:31 p.m.,*
in response to message #24 by J-F Garnier

Jean-Francois,

It worked!!! thank you!! Now I get the correct results with EMU71. The power operator for complex numbers also works properly. I guess it was part of the ROM that was not loaded.

Many thanks for taking the time to look into it.

Namir

Edited: 28 Nov 2010, 6:27 p.m.

Re: Question about programming the HP-71B

*Message #26 Posted by **Jerry Raia** on 28 Nov 2010, 10:54 p.m.,*
in response to message #24 by J-F Garnier

Perhaps no calls were made within the ROM half that was missing. Although I wonder why the SQRT result Namir originally got didn't cause a crash. It is interesting.

Re: Question about programming the HP-71B

*Message #27 Posted by **Namir** on 29 Nov 2010, 4:53 a.m.,*
in response to message #26 by Jerry Raia

The ^ operator also did not work! I had to recode the program and apply work-arounds.

When I used the SQRT with complex values I got (wrong) answers. The emulator never crashed.

namir

Edited: 29 Nov 2010, 4:54 a.m.

Re: Question about programming the HP-71B

*Message #28 Posted by **Egan Ford** on 28 Nov 2010, 1:50 p.m.,*
in response to message #19 by J-F Garnier

> Quote:
>
> (or DOS) emulation?

I tested with DOS emulation without issue. I tested the latest EMU71 with DOSBox on OS/X and on my iPad.

```
10 COMPLEX A
20 A=-5
30 CALL TESTSUB(A)
40 END
100 SUB TESTSUB(A)
110 DISP SQRT(A)
120 END SUB
```

Results:

```
(0,2.2360679775)
```

VER$:

```
HP71:2CDCC RPN:C FACTR:A MATH:1A JPC:Ex HPIL:1B HELP:C FACTR:A STRU:A RCPY:E
FTH41:1A EDT:A
```

Edited: 28 Nov 2010, 1:54 p.m.

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NOAA tour at HCC2010 (video) just added two more!

*Message #1 Posted by **Geoff Quickfall** on 26 Nov 2010, 2:39 p.m.*

Hello All!

For those that weren't there (HCC2010) one of the highlights, aside for HCC2010 was the NOAA tour.

Although the tour included many aspects of NOAA one the more interesting aspects was the theatre with the Globe inside it. Picture a round room with a white sphere suspended from the ceiling. The sphere is 68 inches in diameter and is projected upon by series of computer controlled projectors.

Below are a series of videos I took of the various subjects projected onto the sphere. This gave a real three dimensional effect which you could walk around. The human controller could also spin the image, rotate it, move it forward and backward in time.

Enjoy, you will have audio also. I took these videos using a Canon Powershot S3IS without any lighting or tripod. Also the microphone is closer to me then the speaker so bear with it please!

Iceland volcanic plume

Global earthquake occurence

Earth real time geosynchronous orbit

Artic Ice and climate change (september values)

Venus and Jupiter

More videos to follow but the upload to photobucket is slow and there is 1.5 gigs to be sent and I have to use the computer today!

IO

all flights globally

Edited: 26 Nov 2010, 3:58 p.m.

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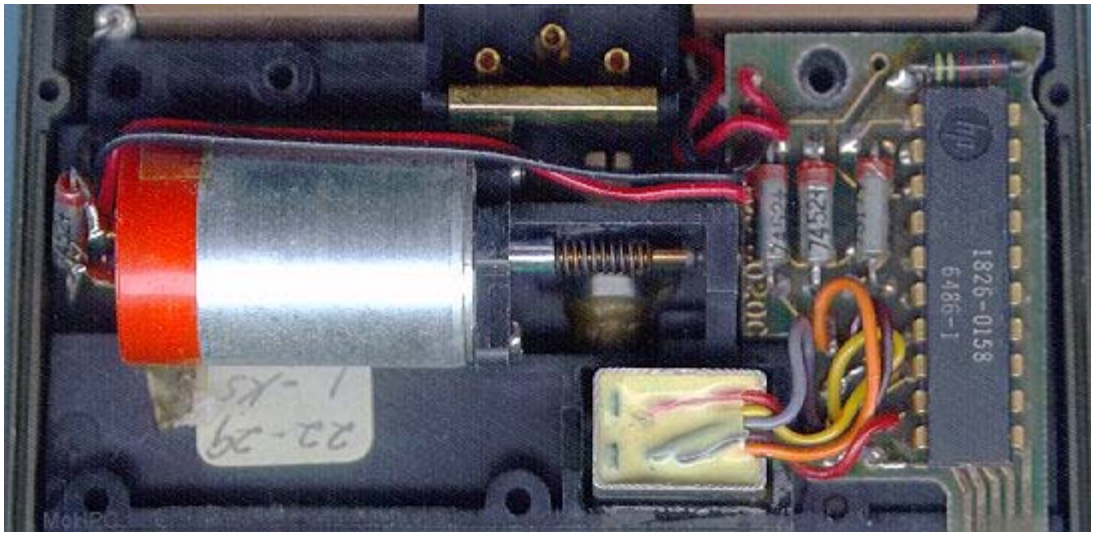
Restoring a card reader from an HP65

*Message #1 Posted by **Alberto Fenini** on 26 Nov 2010, 5:08 a.m.*

ciao a tutti,

I'm about to restore a card reader from an HP65,
does anyone know what the capacity of the capacitors is ?



Thanks for help, Alberto

Re: Restoring a card reader from an HP65

*Message #2 Posted by **aj04062** on 26 Nov 2010, 1:50 p.m.,*
in response to message #1 by Alberto Fenini

I measured them on a unit I restored as I thought they might be bad.

From left to right on your picture: 20.9 micro farad 20.9 " " 15.9 " "

Don't know what the design values are, but the card reader works.

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Deteriorating pouch (case)

*Message #1 Posted by **Ernst Fueloep** on 25 Nov 2010, 4:06 p.m.*

Hi,

I have two cases for Spice calculators and one for my HP-41CV. All three have the problem that the inner black synthetic material is deteriorating in a way that it crumbles into tiny black crumbs. The HP-41CV I removed from the pouch had these crumbs all over the keyboard. I used a vacuum cleaner to get rid of them.

Is this a normal process of such a pouch?

Is there anything I can do to fix it? All I can think of is to throw them away.

Any ideas?

Thanks.

Regards, Ernst

Edited: 25 Nov 2010, 4:06 p.m.

Re: Deteriorating pouch (case)

*Message #2 Posted by **Jerry Raia** on 25 Nov 2010, 4:19 p.m.,*
in response to message #1 by Ernst Fueloep

The same thing happened to my 71B case but not my 41CV case (which is older). Both were stored in the same environment. Those crumbs also stuck to the quick ref guides I had in the 71 case. They cleaned off with a damp paper towel thankfully.

I can't bring myself to throw out the case but I don't use it anymore.

Edited: 25 Nov 2010, 4:20 p.m.

Re: Deteriorating pouch (case)

*Message #3 Posted by **Karl Schneider** on 25 Nov 2010, 4:40 p.m.,*
in response to message #2 by Jerry Raia

It's a common problem. You can put the HP-71B inside a plastic bag inside the crumbly case.

-- KS

Re: Deteriorating pouch (case)

*Message #4 Posted by **Juergen Keller** on 25 Nov 2010, 4:46 p.m.,*
in response to message #1 by Ernst Fueloep

Don't throw them away. I (or more exactly, my wife) put it into the washing machine; use a gentle washing program (30/40°). This worked well for many HP-41 cases.

There seem to be different HP-41 cases, some of them show this deterioration, others not.

Hope it helps, Juergen

Re: Deteriorating pouch (case)

*Message #5 Posted by **Gerson W. Barbosa** on 25 Nov 2010, 4:49 p.m.,*
in response to message #1 by Ernst Fueloep

My HP-71B case had the same problem (sticky and greasy black particles). I turned it inside out and drowned it a bucket with water, powder-soap and a fabric whitener (Vanish 0_2). I waited about thirty minutes then washed it and rinsed it a couple of times. After dried up, it felt like new. I still don't know what did the trick (the whitener, the soap or both).

Hope this helps,

Gerson.

Re: Deteriorating pouch (case)

*Message #6 Posted by **Ernst Fueloep** on 26 Nov 2010, 9:49 a.m.,*
in response to message #5 by Gerson W. Barbosa

After washing is it possible that the problem occurs again some months/years later?

I guess I have to find out.

Regards, Ernst

Re: Deteriorating pouch (case)

*Message #7 Posted by **Gerson W. Barbosa** on 26 Nov 2010, 11:09 a.m.,*
in response to message #6 by Ernst Fueloep

Mine is still perfect after four years. Whatever was that, it simply has vanished away :-)

Regards,

Gerson.

Re: Deteriorating pouch (case)

*Message #8 Posted by **Jerry Raia** on 25 Nov 2010, 6:06 p.m.,*
in response to message #1 by Ernst Fueloep

Mine just came out of the wash. Will report back when it dries :)

Re: Deteriorating pouch (case)

*Message #9 Posted by **Jerry Raia** on 26 Nov 2010, 8:44 p.m.,*
in response to message #8 by Jerry Raia

It came out of the wash and dried and looks almost new. The inside feels a bit thinner but no more flakes!

Re: Deteriorating pouch (case)

*Message #10 Posted by **Ernst Fueloep** on 27 Nov 2010, 3:42 p.m.,*
in response to message #9 by Jerry Raia

Great! I will wash mine too.

Regards, Ernst

Re: Deteriorating pouch (case)

*Message #11 Posted by **Martin Pinckney** on 25 Nov 2010, 9:23 p.m.,*
in response to message #1 by Ernst Fueloep

I don't have any older HP's with the style of case you refer to, but I assume this is a foam rubber lining that is deteriorating.

This seems to be a common problem with foam on old equipment. I have had this happen with many camera-related cases from the 1970's and 80's. Not only foam, but the leatherette cases seem to get to a certain age, and then crack and crumble, or turn gooey, like the infamous card reader rollers.

I have often wondered if this is environment-related or just age.

Interestingly, just recently the headliner in my (Dodge) truck began to droop. I found there was a thin foam pad above the fabric, and it was crumbling. Now the truck is only six years old.

When I took it to the auto trim shop, the guy indicated it was a common problem. He said the factory foam "has oil in it," but his replacement material does not.

Re: Deteriorating pouch (case)

*Message #12 Posted by **geoff quickfall** on 26 Nov 2010, 2:18 a.m.,*
in response to message #11 by Martin Pinckney

Yep, same problem in my 74 5spd Celica (my high school car purchased in 76) head liner. New closed cell foam has been applied and it looks as original.

Ditto on the pouches also. I hand wash mine in the kitchen sink with mild liquid dish detergent and they turn out fine. At worst the foam disappears. At least they are still good for storage!

Cheers, Geoff

Edited: 26 Nov 2010, 2:39 a.m.

Re: Deteriorating pouch (case)

*Message #13 Posted by **Han** on 26 Nov 2010, 2:10 p.m.,*
in response to message #12 by geoff quickfall

I think those wheels are a bit too small for your car =)

Good luck on that project!

Re: Deteriorating pouch (case)

*Message #14 Posted by **Walter B** on 26 Nov 2010, 4:39 p.m.,*
in response to message #13 by Han

Don't worry, that's the typical reaction of older cars having experienced a flooding -- eeek! Their wheels shrink and they are like getting on their toes till it's all really dry around them -- you can still see the traces of water on that picture. Don't worry ;-)

Re: Deteriorating pouch (case)

*Message #15 Posted by **geoff quickfall** on 26 Nov 2010, 5:13 p.m.,*
in response to message #14 by Walter B

those are all season radials!!!!

Wink

Re: Deteriorating pouch (case)

*Message #16 Posted by **Walter B** on 27 Nov 2010, 12:35 a.m.,*
in response to message #15 by geoff quickfall

> Quote:
>
> those are all season radials

... for easy city maneuvering in southern California. Take care, however, in SFO - even that little wooden brick won't be a big help parking there d;-)

Edited: 27 Nov 2010, 12:47 a.m.

Re: Deteriorating pouch (case)

*Message #17 Posted by **Michael Meyer** on 29 Nov 2010, 1:40 p.m.,*
in response to message #16 by Walter B

I've had good luck turning them inside out and washing them in the laundry, then letting them air dry. I've tried washing in the sink, but it doesn't seem to get all of the particles out nearly as well. The cases end up in surprisingly good shape after a good cycle through the wash!

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HP-41: Buffers (creation & managing)

*Message #1 Posted by **Geir Isene** on 25 Nov 2010, 12:33 p.m.*

I haven't used buffers before, and decided to see if they could be useful for some of my projects. The ICEBOX ROM inherited several buffer functions from the TOOLBOX ROM; SHOWB, FINDB, BLNG?, MAKEB, BUF>R, R>BUF (the last two seems to be from the David Assembler ROM).

I try to create a buffer and fill it with data from registers, but somehow I just can't get it to work properly, and so I ask the gurus of this forum for some assistance.

I can't seem to get the buffer header right in register 00 to make it save the data properly. All it does is create a new buffer that shows up with a question mark in front of the ID#... and it keeps on creating more such odd buffers with the same ID# and with the "?" in front (like "?11").

Could someone write a baby-step howto on creating a buffer with let's say ID #11 and save the contents of 5 registers to it?

Re: HP-41: Buffers (creation & managing)

*Message #2 Posted by **Geir Isene** on 25 Nov 2010, 3:32 p.m.,*
in response to message #1 by Geir Isene

Specifically, there is an issue with the header as described in the David Assembler manual. It gives the format of the buffer header:

```
Bit:          | 13 | 12 | 11 | 10 | 09 | 08 | 07 | 06 | 05| |04 | 03 | 02 | 01 | 00 |
Content : | ID | ID |   SIZE  |  buffer data ----------------------------------------->|
```

Why the two IDs? And, is there anything in particular that needs to be in the "Buffer data" area of the header?

Re: HP-41: Buffers (creation & managing)

*Message #3 Posted by **Raymond Del Tondo** on 25 Nov 2010, 3:51 p.m.,*
in response to message #2 by Geir Isene

> Quote:
>
> Why the two IDs? And, is there anything in particular that needs to be in the "Buffer data" area of the header?

IIRC one of the two IDs will be cleared by the system at turn-on, which means the buffer is marked as deleted. To retain the buffer, a suitable startup code in your ROM sets the buffer ID again.

Re: HP-41: Buffers (creation & managing)

*Message #4 Posted by **Geir Isene** on 25 Nov 2010, 4:13 p.m.,*
in response to message #3 by Raymond Del Tondo

Right, but why two IDs?

Being home with a fever does have it's advantages. I did some more keying on my 41 and now understand that a buffer is properly created via the function R>BUF as long as the first ID number remains "1". So here is how I did it:

```
Loaded in Alpha: "15080000000000"
XEQ "HEX>NNN"
STO 00
XEQ "R>BUF"
```

And via CLRG, BUF>R, I verified that the buffer was saved with the content of registers 01-07 when the R>BUF was called. So: Problem solved.

But I still don't know why the first ID number has to be "1" and why SHOWB returns a "#" and the ID number of the first buffer and "?" and ID number on the subsequent buffers...

Buffers are within reach now, though :)

Re: HP-41: Buffers (creation & managing)

*Message #5 Posted by **Angel Martin** on 26 Nov 2010, 1:12 a.m.,*
in response to message #4 by Geir Isene

Buffers are tricky and treacherous, as you have already noticed. It's a combination of their inherent nature, plus some OS bugs (or idiosyncracies). Here's what I've learned (the hard way BTW, many hours of trial and error efforts):

1. Header register, located at the bottom in memory. Holds the buffer id and the buffer size info. Anything else is available for your usage - like I use it to store the POLAR/RECT flag in the 41Z.

2. Footer register, located at the top in memory. It must be non-zero, or the OS will ignore the buffer when resizing, packing, or creating another buffer (like XZYALM does, or even worse, when you try to access your own buffer).

3. The funcions R>BUF and BUF>R from the DavidAssembler are somehow limited in that they always use registers 00 and following to store the buffer contents. I don't know if they also include the "footer".

I wrote functions ZB>RG and RG>ZB to prompt for the storage register number - they are in the BUFFER rom, companion to the 41Z. Be aware that they expect buffer id#=8 and only handle 12 registers, the size of the complex stack buffer.

Also notice that the header register should not be RCL'd or STO'd again, because of the normalization.

4. I don't know why the BLIST function shows "#" sometimes and "?" some other times. Worse yet, sometimes it returns the "NO BUFFERS" message even when I know for a fact that there are (Complex stack, etc). I didn't study the function, which I believe was written by David Yerka.

Hope this helps, I've sent you in a separate mail the Buffer appendix from the 41Z manual, where it lists the buffer creation and handling routines.

Cheers, 'AM

Edited: 26 Nov 2010, 1:32 a.m.

PGTRAIL? + a NoV COMPANION

*Message #6 Posted by **Geir Isene** on 26 Nov 2010, 3:09 a.m.,*
in response to message #5 by Angel Martin

No mail... did you send it to g@isene.com?

Now, the only thing missing in the manual is an explanation for the PGTRAIL function. I have no idea what that does. When I try it, it only returns an "N" in Alpha, nothing else.

Also, did you get my e-mail regarding the possible NoV COMPANION module?

Re: PGTRAIL? + a NoV COMPANION

*Message #7 Posted by **Angel Martin** on 26 Nov 2010, 7:51 a.m.,*
in response to message #6 by Geir Isene

If memory serves I think PGTRAIL is al older implementation for OSREV. It's supposed to give you the ROM Page revision number (actually a letter) when you enter the page number as input (eg. 0,2,3). Does that jive?

Note: I tried it and it works as advertized. In fact it gives you the complete ROM id# string, which can be up to 4 chrs length (when you use it on the ROMS plugged on ports 1-4)

I'll reply to your email tonight :)

Edited: 26 Nov 2010, 7:53 a.m.

Re: PGTRAIL? + a NoV COMPANION

*Message #8 Posted by **Geir Isene** on 26 Nov 2010, 8:29 a.m.,*
in response to message #7 by Angel Martin

Thanks :)

And: Yoohoo! The ICEBOX manual is now complete!

Re: PGTRAIL? + a NoV COMPANION

*Message #9 Posted by **Geir Isene** on 26 Nov 2010, 11:23 a.m.,*
in response to message #7 by Angel Martin

BTW; Me getting an "N" upon executing "PGTRAIL" is because X contained "0" and Page zero yields an "N". The pages on my 41CX OS:

```
0 -> "N"
1 -> "F"
2 -> "L"
3 -> "EF2D" (Extended Functions v. 2D)
4 -> "@@@@" (PGTRAIL yields this 4*#64 when it can't find anything)
5 -> "TM2C" (Time module v. 2C)
6 -> "H11D" (HEPAX v. 1D)
```

Re: HP-41: Buffers (creation & managing)

*Message #10 Posted by **Angel Martin** on 26 Nov 2010, 1:27 a.m.,*
in response to message #4 by Geir Isene

Geir, I don't think the top char must be a "1". The Complex Stack buffer has "8" as such, but it's related to the behavior Raymond described above:

"The 41 (some early versions of the OS at least) may set the top digit (PT=13) to zero when it's turned on./ The OS then polls each of the ROMS to allow them to put the top digit back. After each ROM has had its go, the OS deletes any buffers that are not claimed (top digit remaining zero)".

That's why the buffer searching routines should use digit 12 instead, in case they're used during the power-up sequence and the OS had wiped the top digit already.

Have a look at the ZBHEAD, ZBVIEW and ZBLIST functions in the BUFFER rom. but make sure it's placed next to the 41Z or else it'll create havok (they use routines within the 41Z module, as a way to diagnose it).

Cheers, 'AM

Edited: 26 Nov 2010, 1:41 a.m.

Re: HP-41: Buffers (creation & managing)

*Message #11 Posted by **HrastProgrammer** on 26 Nov 2010, 1:27 a.m.,*
in response to message #4 by Geir Isene

Right, but why two IDs?

I don't recall everything about buffers but IIRC there is only one ID in the form that enables a particular ROM to recover its buffer on startup. Let's say your ROM requires buffer with the ID 44. HP-41C will set this ID to 40 on startup (n0 buffers are marked as deleted), so your ROM should search for ID 40 and change it to 44 in order to recover the buffer.

Temporary buffers have 0n IDs, so they can be automatically deleted on startup (such IDs will be changed to 00 without a chance to recover).

Re: HP-41: Buffers (creation & managing)

*Message #12 Posted by **Geir Isene** on 26 Nov 2010, 3:10 a.m.,*
in response to message #11 by HrastProgrammer

Thanks guys for being so helpful.

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Happy Thanksgiving!!!

*Message #1 Posted by **Namir** on 25 Nov 2010, 12:07 p.m.*

Wishing all US members of this site a very Happy Thanksgiving!! Hope this day is a special one with family and friends.

Namir (down under in sunny, warm, and beautiful Sydney)

Re: Happy Thanksgiving!!!

*Message #2 Posted by **Fred Lusk** on 25 Nov 2010, 12:20 p.m.,*
in response to message #1 by Namir

Thanks, Namir. It is cold and clear here in Fresno, California. We had our first frost of the season this morning. Today we are having Thanksgiving at my wife's cousin's house with about 20 people total. Time for a triptofan overload.

Re: Happy Thanksgiving!!!

*Message #3 Posted by **David Hayden** on 25 Nov 2010, 1:52 p.m.,*
in response to message #1 by Namir

Thanks Namir. Here in New Jersey I saw my first snow of the year as I went to pick up my Step-father. Thanksgiving is at my place with family and a few friends.

Dave

Re: Happy Thanksgiving!!!

*Message #4 Posted by **Martin Pinckney** on 25 Nov 2010, 9:07 p.m.,*
in response to message #1 by Namir

Thanks, Namir. It was sunny and 84 degrees Fahrenheit (29 C) here in Naples, Florida. Sorry.

Re: Happy Thanksgiving!!!

*Message #5 Posted by **Namir** on 25 Nov 2010, 9:56 p.m.,*
in response to message #4 by Martin Pinckney

Your location is a bit warmer than Sydney.

Namir

Re: Happy Thanksgiving!!!

*Message #6 Posted by **Eddie W. Shore** on 25 Nov 2010, 10:18 p.m.,*
in response to message #1 by Namir

Quote:

Wishing all US members of this site a very Happy Thanksgiving!! Hope this day is a special one with family and friends.

Namir (down under in sunny, warm, and beautiful Sydney)

Happy Thanksgiving!

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Forum Opinion Sought on Early HP-65

*Message #1 Posted by **aj04062** on 25 Nov 2010, 10:44 a.m.*

I just picked this calculator up and am seeking some opinions. Keyboard operates pretty well. Card reader does not work. Rear label is in very good shape, no scratches at all. All LEDs work

Question is: **Would you open this unit up to repair the card reader?** I looked at the forum's oldest s/n list and this matches the earliest date code. I don't know if makes it any more unique than any other 65.

Also, do you think the original owner made the nametag below the LEDs or is this an HP/aftermarket piece? It fits the space very well.

Re: Forum Opinion Sought on Early HP-65

*Message #2 Posted by **Thomas Chrapkiewicz** on 25 Nov 2010, 11:21 a.m.,*
in response to message #1 by aj04062

Hello:

The nameplate is home-made.

I still have my 65 that I purchased in 74/75. I'll have to check the sn.

Certainly, if you want a fully operational machine, fix the card reader. There are many helpful members here with experience and advice.

TomC

Re: Forum Opinion Sought on Early HP-65

*Message #3 Posted by **Thomas Chrapkiewicz** on 25 Nov 2010, 11:45 a.m.,*
in response to message #2 by Thomas Chrapkiewicz

...mine is of the 1503... era.

TomC

Re: Forum Opinion Sought on Early HP-65

*Message #4 Posted by **aj04062** on 25 Nov 2010, 12:13 p.m.,*
in response to message #1 by aj04062

What I want to really avoid is damaging the label. Has anyone seen a chemical way to dissolve the glue?

I've tried heat and I didn't have good luck with it. Perhaps I need more practice.

Re: Forum Opinion Sought on Early HP-65

*Message #5 Posted by **Geoff Quickfall** on 25 Nov 2010, 1:23 p.m.,*
in response to message #4 by aj04062

Check out HPsolve 19. Under Calculator Restorations is a step by step (appears that some steps have been repeated during the

editing process (oops)) method of removing the label and restoring it to original condition.

Calculator restorations

Cheers, Geoff

Edited: 25 Nov 2010, 1:25 p.m.

Re: Forum Opinion Sought on Early HP-65

*Message #6 Posted by **Namir** on 25 Nov 2010, 3:59 p.m.,*
in response to message #5 by Geoff Quickfall

Geoff,

I thought about you when I was watching a TV documentary (here in Sydney) about an Boeing 767 Air Canada flight in 1983 that lost both engines (due to error in fuel calculations) and how it's pilots where able to glide it to an airport near Winipeg. Part of the error was that the 767 used (a new) metric calculations for the fuel weight in kilograms. The technicians fueling it, who where used to "pounds", filled it with under half of the required fuel. Making matters worse is the loss of power to the flight panel which had (then) new CRT screens to provide readouts. The pilots landed but it was not easy and there were several complications. All passengers made it without serious injuries.

Namir

OT followup [was Forum Opinion Sought on Early HP-65]

*Message #7 Posted by **Karl Schneider** on 25 Nov 2010, 4:35 p.m.,*
in response to message #6 by Namir

Namir --

This was the "Gimli Glider" that I believe Geoff mentioned here several years ago. A PDF article from the Wikipedia page:

-- KS

Edited: 25 Nov 2010, 4:37 p.m.

Re: Forum Opinion Sought on Early HP-65

*Message #8 Posted by **Ignazio Cara (Italy)** on 25 Nov 2010, 2:16 p.m.,*
in response to message #1 by aj04062

Hi, one of the two mine HP-65 has s/n 1333S01945, the other have the serial number externally between the two bottom feet. It's a 1605AXXXX.

On each calculator I have restored the functionality of the reader.

Take care

Ignazio

Re: Forum Opinion Sought on Early HP-65

*Message #9 Posted by **Wanderley Navarro** on 25 Nov 2010, 8:01 p.m.,*
in response to message #1 by aj04062

If your only concern is the back label, maybe an alternative is to purchase one from Mr.Beng

Re: Forum Opinion Sought on Early HP-65

*Message #10 Posted by **aj04062** on 25 Nov 2010, 9:01 p.m.,*
in response to message #9 by Wanderley Navarro

yes,

I have one for another 65 I have repaired. After I did this I read about the major controversy using these within the forum community. I was less concerned ripping into this one as it had MAJOR battery leakage damage and wouldn't operate at all.

I suppose the fact remains that NO untouched 65 remains today without being opened up and its reader repaired.

Re: Forum Opinion Sought on Early HP-65

*Message #11 Posted by **geoff quickfall** on 26 Nov 2010, 2:14 a.m.,*
in response to message #10 by aj04062

I think the point could be that if done correctly, the label can be reused and not appear as though it was removed. The calculator can be restored to almost pristine looking condition

Cheers,

Geoff

p.s. I did fly the "gimli glider" including its second to last flight. The Wikpedia entry does a good job describing the incident. Of course every incident creates new procedures!

p.p.s. The book is about four months from completion, for those that are interested.

THE book

*Message #12 Posted by **Walter B** on 26 Nov 2010, 2:50 a.m.,*
in response to message #11 by geoff quickfall

Hi Geoff,

> Quote:
>
> The book is about four months from completion, for those that are interested.

Thanks for the information. Now the stopwatch is started for a calibration run - how long last four Canadian months? ;)

Re: THE book

*Message #13 Posted by **geoff quickfall** on 26 Nov 2010, 3:08 a.m.,*
in response to message #12 by Walter B

Walter!!!

Yep, the book has been four months to completion for the last 8 months but other things got in the way.

The "other things" are completed or on hold so full speed ahead on the 4 remaining chapters.

CST (canadian standard time) is USUALLY equivalent to USAST (USA standard time).

d;-)

Re: THE book

*Message #14 Posted by **Walter B** on 26 Nov 2010, 3:38 a.m.,*
in response to message #13 by geoff quickfall

Geoff,

watch it! Even in the same country, time warps may be observed - even in a single company. By experience I know some departments where clocks run with considerably different speed. As a matter of facts observed, a deceleration factor of approximately Pi is found frequently, sometimes even Pi^2 d;-)

Re: THE book --- Yay!

*Message #15 Posted by **gene wright** on 26 Nov 2010, 8:08 p.m.,*
in response to message #13 by geoff quickfall

Heheh... maybe a couple of other projects get bumped up too?

lol. Just messing with you old buddy.

Re: THE book --- Yay! actually YES!!

*Message #16 Posted by **geoff quickfall** on 27 Nov 2010, 2:45 p.m.,*
in response to message #15 by gene wright

Wink!

All remaining projects are part of the book including yours!!

p.s. did you fix your HP 01 strap, if not I have the top half in stainless without the defective part.

let me know.

Geoff

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David Yerka? & updated ICEBOX user manual

*Message #1 Posted by **Geir Isene** on 25 Nov 2010, 9:15 a.m.*

Trying to get hold of David Yerka, but when I send him an e-mail I get back that the mail box is full.

David, if you read this, please send me an e-mail: g@isene.com

David helped with documentation on the buffer functions in ICEBOX, and I have now finally gotten around to include this in an updated manual.

Re: David Yerka? & updated ICEBOX user manual

*Message #2 Posted by **Angel Martin** on 26 Nov 2010, 1:36 a.m.,*
in response to message #1 by Geir Isene

Hi Geir, I was perusing your updated ICEBOX manual, and I noticed your buffer table still doesn't list the Complex Stack buffer, id#=8 :)

Edited: 26 Nov 2010, 1:36 a.m.

Re: David Yerka? & updated ICEBOX user manual

*Message #3 Posted by **Geir Isene** on 26 Nov 2010, 3:01 a.m.,*
in response to message #2 by Angel Martin

Fixed ;)

And updated the manual some more to reflect new knowledge from the buffer thread above.

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HP-41: Sail boat parameter program

*Message #1 Posted by **Geir Isene** on 24 Nov 2010, 1:37 p.m.*

I decided to make a complimentary program to the Bobby Shenk yacht module (progress is being made in translating this - both module and manual to English).

The program "BOAT" will prompt for sail boat parameters and output a set of sail boat characteristics.

I also decided to reorganize the UC-41 page where you will the BOAT program, the Ultimate Alarm Clock, STAT & DATA, the ICEBOX ROM and all the other stuff that helps my HP-41 increase its value.

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Telesensory Systems - any connection to HP?
*Message #1 Posted by **Maximilian Hohmann** on 24 Nov 2010, 1:19 p.m.*

Good evening!

Recently, I was able to fish this thing out of the bay:

According to a website that google found for me, it is the first talking pocket calculator, a "Speech+" model from Telesensory Systems in Palo Alto, Ca. Inside, it has two large circuit boards full of bad evil chips from Texas Instruments, but the housing looks very HP like: The same kind of plastic, dark brown colour and texture of some HP models.

And even more HP like is the pouch of unusual size 21x15cm or 8x6in: Same colour, same material and it even has the inner pocket of many HP pouches (used here to hold an earplug):

So I'm wondering if this manufacturer was related to HP in any way? Google and Wikipedia couldn't help, but maybe someone on this forum knows more?

Regards, Max

Edited: 24 Nov 2010, 1:24 p.m.

Re: Telesensory Systems - any connection to HP?
*Message #2 Posted by **Martin Pinckney** on 24 Nov 2010, 1:43 p.m.,*
in response to message #1 by Maximilian Hohmann

> Quote:
>
> Recently, I was able to fish this thing out of the bay:

As in (e)bay, or an actual bay? I ask because I have an employee who literally "fished" a GPS unit out of a seawater bay, and after cleaning up, it worked!

Re: Telesensory Systems - any connection to HP?
*Message #3 Posted by **Maximilian Hohmann** on 24 Nov 2010, 1:51 p.m.,*
in response to message #2 by Martin Pinckney

> Quote:
>
> As in (e)bay, or an actual bay? I ask because I have an employee who literally "fished" a GPS unit out of a seawater bay, and after cleaning up, it worked!

Wow! No, this calculator wouldn't have survived a bath in seawater, although it is very solidly built, but certainly not watertight. It was indeed eBay.

It has some interesting peculiarities: The keyboard layout is "upside down" for a calculaor (rather like a telephone) and the +/- key is labelled */- and it also speaks "multiply minus" when the key is pressed. Also the memory keys work differently from most other calculators that i've seen.

Re: Telesensory Systems - any connection to HP?

*Message #4 Posted by **Katie Wasserman** on 24 Nov 2010, 5:45 p.m.,*
in response to message #3 by Maximilian Hohmann

There's no connection to HP as far as I know. I love this calculator just the same, it's a lot of fun to play with and I've got the audio version of the manual on my site if anyone is interested in hearing how it talks (listen to the examples).

-Katie

Edited: 24 Nov 2010, 5:47 p.m.

Re: Telesensory Systems - any connection to HP?

*Message #5 Posted by **Maximilian Hohmann** on 26 Nov 2010, 3:30 a.m.,*
in response to message #4 by Katie Wasserman

Hello!

> Quote:
>
> ... it's a lot of fun to play with and I've got the audio version of the manual ...

Thanks for the link, mine came without the tape, maybe because I have the german version, and they didn't make a tape for that. If you are interested, I can try and record the speech output in german for your site. I have also got the german manual. Interestingly, it says "klar" for "clear" which is a very unusual term in german for that operation. All my other talking calculators (later models with LCD) say "loeschen" as one would expect. Maybe the speech EPROM was just not big enough for the longer word...

Once again, I was amazed that no fellow collector showed any interest in this item (in fact, I was the only bidder). They easily spend in excess of 100 Euros/Dollars for commonplace calculators like HP-41s. But a german version of a 1976 red led talking calculator must come close to a red dot HP-35 in terms of rarity?

Regards, max

Re: Telesensory Systems - any connection to HP?

*Message #6 Posted by **Katie Wasserman** on 26 Nov 2010, 10:11 a.m.,*
in response to message #5 by Maximilian Hohmann

Max,

I bought a couple of these TSI calculators on TAS and think I paid about $10 for each, I was also surprised at the lack of other bidders. HP calculators are obviously the most "collectible" as are a handful of other brands like Wang and MITS, but the vast number of brands are completely ignored except for certain models (like the Canon Pocketronic). Like many other collecting hobbies, prices are not based primarily on rarity, rather desire for certain brands/models comes first. I don't know if you have a television show like "Antiques Roadshow" in Germany but it makes this fact very apparent.

Sure, if you want to record some of the examples on the audio tape from your German language version of the TSI I'd love to post them on my site.

-Katie

Re: Telesensory Systems - any connection to HP?

*Message #7 Posted by **Martin Pinckney** on 24 Nov 2010, 11:07 p.m.,*
in response to message #3 by Maximilian Hohmann

> Quote:
>
> It has some interesting peculiarities: The keyboard layout is "upside down" for a calculator (rather like a telephone).

The audio manual that Katie supplied states that this key orientation (like a phone) is an ease-of-use feature.

It also claims the speech feature helps confirm keypress registers. (Think 35s keypress issues).

The audio examples are fun to listen to. Harks back to the very earliest, crude speech synthesis ("computer voice").

Thanks for sharing.

Re: Telesensory Systems - any connection to HP?

*Message #8 Posted by **Thomas Klemm** on 26 Nov 2010, 4:52 a.m.,*
in response to message #1 by Maximilian Hohmann

A blind coworker once showed me how he uses the calculator on his iPhone: with one finger he seeks the right button and confirms this by tapping with a second finger. Since VoiceOver is part of the operating system, he can use the same method with any application. For him, the iPhone has the best user interface for a long time. And it doesn't even have keys you could feel. Devices that are manufactured specifically for the blind are usually bulky and very expensive. Imagine the iPhone if it had been developed specifically for the blind.

Something similar happened with the advent of the fitness craze. Since there were now many foods without sugar, diabetics suddenly had a larger selection. Diet Coke certainly wasn't put out for this target group.

Maybe a little off-topic but this just came to my mind, when I saw the picture of this calculator.

Best regards
Thomas

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Hhp 32k EPROM box

*Message #1 Posted by **PeterP** on 23 Nov 2010, 11:37 p.m.*

Hi, does anyone here has any info on the hhp 32k EPROM box? It would seem that on tos there is only info on the 16k and the ppe from them. Thanks!

Cheers

Peter

Re: Hhp 32k EPROM box

*Message #2 Posted by **Jeff Davis** on 25 Nov 2010, 12:10 p.m.,*
in response to message #1 by PeterP

Peter,

The document on TOS does have information to set up the HHP-PE with 32K. Look at page #3 of the document from Emmanuel.

Re: Hhp 32k EPROM box

*Message #3 Posted by **PeterP** on 25 Nov 2010, 3:19 p.m.,*
in response to message #2 by Jeff Davis

well, its only for the HHP-PersonalEprom box (in the card-reader shell) and not the external one which look sexactely like their 16k one just with 32k and some different inards, namely 3 sets of 4-dip switches... so the PE instructions dont really help...

Cheers

Peter

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HP 21 keyboard problem

*Message #1 Posted by **Yvan Van Hoof** on 23 Nov 2010, 9:32 a.m.*

Dear forum,

Reactivation of my 1975 HP21 is ok after getting new "standard" batteries.

BUT: on the keyboard the touch "4" does not want to work....

Any idea how to solve this...?

Best regards

Yvan

Kapellen, Belgium**HP 21 keyboard problem**

Re: HP 21 keyboard problem

*Message #2 Posted by **Walter B** on 23 Nov 2010, 10:12 a.m.,*
in response to message #1 by Yvan Van Hoof

Presumably you have to open the case. Please search on this site for instructions. I'm pretty sure we had this topic once at least, but can't spend the time to search myself.

HTH

Re: HP 21 keyboard problem

*Message #3 Posted by **Jeff O.** on 23 Nov 2010, 12:21 p.m.,*
in response to message #1 by Yvan Van Hoof

Check out this post from the archives. Other similar posts can be found. I found by searching for "scritch."

Edited: 23 Nov 2010, 12:24 p.m.

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HP Solve Newsletter?

*Message #1 Posted by **Norman Dziedzic** on 22 Nov 2010, 1:06 p.m.*

Anyone know if there will be another HP Solve Newsletter?

Re: HP Solve Newsletter?

*Message #2 Posted by **Walter B** on 22 Nov 2010, 3:13 p.m.,*
in response to message #1 by Norman Dziedzic

Why not?

Re: HP Solve Newsletter?

*Message #3 Posted by **Norman Dziedzic** on 22 Nov 2010, 4:03 p.m.,*
in response to message #2 by Walter B

It seems like they were coming out every 2 months and now nothing for Oct and it is almost December. . Unless I'm looking in the wrong place?

Re: HP Solve Newsletter?

*Message #4 Posted by **gene wright** on 22 Nov 2010, 4:56 p.m.,*
in response to message #3 by Norman Dziedzic

Patience, paddy-wan.

Re: HP Solve Newsletter?

*Message #5 Posted by **Norman Dziedzic** on 22 Nov 2010, 5:03 p.m.,*
in response to message #4 by gene wright

Patience I have, master Wright. Always in motion is the future.

Re: HP Solve Newsletter?

*Message #6 Posted by **Walter B** on 22 Nov 2010, 5:06 p.m.,*
in response to message #3 by Norman Dziedzic

They still claim it being a bimonthly newsletter. We all know, however, HP's website being not always - hmmh - true nowadays :-/

Re: HP Solve Newsletter?

*Message #7 Posted by **Namir** on 22 Nov 2010, 5:12 p.m.,*
in response to message #1 by Norman Dziedzic

I am equally anxious to see the next HP Solve newsletter since I sent Richard Nelson (the editor) a couple of articles that should appear in the next issue and/or the one after that. So just hang in there friend. Be patient.

Namir

Re: HP Solve Newsletter?

*Message #8 Posted by **David Hayden** on 22 Nov 2010, 8:57 p.m.,*
in response to message #1 by Norman Dziedzic

I'm looking forward to it also. And while we're talking HP Solve, let me thank Richard for taking on this task. I'm sure it's a lot of work and somehow I suspect that he's getting paid less than, say, JK Rowling....

Thanks Rickard.

Re: HP Solve Newsletter?

*Message #9 Posted by **Norman Dziedzic** on 22 Nov 2010, 9:24 p.m.,*
in response to message #8 by David Hayden

I want to make it clear I wasn't tryin to sling dirt on Richard. Wonderful job!

I think we're all in the not making as much as J.K. Club these days. Kids loved the HP7 Part 1 movie last night. I thought it was pretty good as well.

Re: HP Solve Newsletter?

*Message #10 Posted by **Namir** on 22 Nov 2010, 10:33 p.m.,*
in response to message #9 by Norman Dziedzic

Richard edits and prepares the newsletter files and sends them to HP who publish the material on the HP web site. My guess is that HP personel (being few) who post the files are behind schedule.

Namir

Re: HP Solve Newsletter?

*Message #11 Posted by **Richard J. Nelson** on 23 Nov 2010, 6:50 p.m.,*
in response to message #10 by Namir

Yes, it is HP that is holding up the current issue. A new "topic" was suggested and the legal beagles had to decide how to handle it. You all know that the legal types are not known for their speediness.

X < > Y,

Richard

Re: HP Solve Newsletter?

*Message #12 Posted by **Walter B** on 24 Nov 2010, 12:58 a.m.,*
in response to message #11 by Richard J. Nelson

Maybe it helps suing HP for falsely advertising a bimonthly newsletter ;)

Re: HP Solve Newsletter?

*Message #13 Posted by **Eddie W. Shore** on 24 Nov 2010, 8:15 a.m.,*
in response to message #12 by Walter B

LOL. I have not seen one in a while.

Re: HP Solve Newsletter?

*Message #14 Posted by **Norman Dziedzic** on 8 Dec 2010, 1:06 p.m.,*
in response to message #1 by Norman Dziedzic

November is out at http://www.hp.com/calculators

Thanks Richard!

Re: HP Solve Newsletter?

*Message #15 Posted by **Jim Yohe** on 8 Dec 2010, 2:54 p.m.,*
in response to message #14 by Norman Dziedzic

Well, HP, it's about time! ;-)

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Surface soldered chips (HP71B)

*Message #1 Posted by **Alberto Fenini** on 22 Nov 2010, 11:03 a.m.*

Dear all,

I need to desolder a couple of surface mounted chips
from an HP71B board (actually the display drivers) since I would like
to swap these with those from another unit.

Does anybody has ever done something like this without burning the board itself ??

Thanks for help, Alberto

Re: Surface soldered chips (HP71B)

*Message #2 Posted by **Alejandro Paz (Germany)** on 22 Nov 2010, 12:02 p.m.,*
in response to message #1 by Alberto Fenini

There are several methods depending on the tools you have, the people you know and the utility of the chips you are about to desolder. This info is provided "as-is" without any explicit or implicit warranty or fitness, use at your own risk :).

To not burn the board and other components you need to have some experience or know someone who does :), read below, please.

If you are comfortable using a soldering iron and/or a hot air desoldering station, then it may be for you. If you don't, there are people who may help, maybe a cell-phone repair shop or similar. Someone you know may be of help.

If you _do not_ need the chips you are about to desolder, the easiest is to cut (with a sharp-blade knife like a swiss-army one) the leads and then with the soldering iron and small pliers you remove the leads carefully.

If you have the equipement but you are unsure, there are videos in youtube on how to rework with SMD parts, watch them and then practice with an old motherboard and so on before you touch the 71B.

Have fun, Ale

Re: Surface soldered chips (HP71B)

*Message #3 Posted by **Alberto Fenini** on 22 Nov 2010, 2:49 p.m.,*
in response to message #2 by Alejandro Paz (Germany)

Thank you very much Alejandro,
first of all I do need the chips, I want to try some swaps, but I do not know if that is the problem, so I may need to resolder everything.
I have a traditional desoldering station, for old chips, and I did some tests, but without results.
I do have a bosch air gun, with selectable temp, and from what I have read around, 270 ° C should do the

work.
I'll do some tests and will return to the fourm
if anybody has done it before, I will appreciate any suggestion
thanks again Alberto

Re: Surface soldered chips (HP71B)

*Message #4 Posted by **Garth Wilson** on 22 Nov 2010, 2:51 p.m.,*
in response to message #1 by Alberto Fenini

Use Chip Quik

http://www.chipquikinc.com/index.htm

They have a video demo on their website too. Chip Quik dramatically reduces the melting temperature of the solder so it stays liquid long enough to get all the way around the IC with the soldering iron and remove the IC before any of that solder hardens again.

Re: Surface soldered chips (HP71B)

*Message #5 Posted by **Bill (Smithville, NJ)** on 22 Nov 2010, 5:40 p.m.,*
in response to message #4 by Garth Wilson

As a Amateur Radio person, I've been following the SDR (Software Defined Radio) kits which ave surface mounted devices. There's a lot of articles and videos where Ham's have used fairly standard tools for putting their kits together. There are a lot of videos on You Tube which show some of these techniques.

While I do have an SDR kit, I haven't yet tried to assemble it - probaby will be a winter project.

Not sure if these soldering techniques will work with what you have planned for the 71B, but might be worth a look.

Good Luck.

Bill

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HP 20S recurring key identification

*Message #1 Posted by **Andrew** on 22 Nov 2010, 12:49 a.m.*

Just wondering how to enter a recurring number without hitting the last digit several times. Thanks.

Re: HP 20S recurring key identification

*Message #2 Posted by **Karl Schneider** on 22 Nov 2010, 1:17 a.m.,*
in response to message #1 by Andrew

> Quote:
>
> Just wondering how to enter a recurring number without hitting the last digit several times.

???

Did you mean the HP-20S, and not the HP-20b, correct?

Also, by "recurring number", did you mean a constant value used for repeated calculations, or a repeating-sequence fractional part of a number?

I don't see a constant-operand key or capability on the HP-20S or in its manual.

-- KS

Edited: 22 Nov 2010, 9:51 p.m.

Re: HP 20S recurring key identification

*Message #3 Posted by **Nigel J Dowrick** on 22 Nov 2010, 11:30 a.m.,*
in response to message #1 by Andrew

I've never come across a recurring decimal facility on any calculator, except for a couple of new Casio models (e.g., FX-83 GT Plus). I'm sure that no HP model has this facility. Does anyone know differently?

Re: HP 20S recurring key identification

*Message #4 Posted by **Tommy** on 22 Nov 2010, 1:29 p.m.,*
in response to message #3 by Nigel J Dowrick

If it is a repeating fractional part of a number, you may enter it as a fraction. Suppose x=0.2977777... 10x = 2.977777... 9x = 2.68 x=2.68/9 This is "a recurring number without hitting the last digit several times" /Tommy

Re: HP 20S recurring key identification

*Message #5 Posted by **Katie Wasserman** on 22 Nov 2010, 1:53 p.m.,*

in response to message #3 by Nigel J Dowrick

I have a Bohn Omnitrex 8 desktop calculator. Its extremely simple logic using DTL chips doens't implement any sort of decimal point. The way it does division is to simply show a "running quotient", meaning that it only stores the remainder and the divisor and just keeps going. Because of this it allows infinitely long quotients and therefore, in some sense, recurring decimals.

For example if you divide 1 by 7 and keep hitting the "=" key you'll see: 142857142857..... If you give it something with a larger period like 1 divided by 181 you'll see: 005524861878..... and it will keep going for 180 digits then repeat.

It's pretty neat, very primitive and the only calculator that I've ever come across that does this.

-Katie

Edited: 22 Nov 2010, 1:53 p.m.

Re: HP 20S recurring key identification

*Message #6 Posted by **Walter B** on 22 Nov 2010, 3:19 p.m.,*
in response to message #5 by Katie Wasserman

That's really nice logic - never heard of any calculator like this before. Thanks for pointing to that.

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HP-41: Backup and restore of complete HEPAX RAM across the whole NoVRAM, NoV-32 & NoV-64 modules

*Message #1 Posted by **Geir Isene** on 21 Nov 2010, 2:52 p.m.*

I've been itching to do this one; An easy complete backup and restore of my NoV-64.

From the ICEBOX page:

With the programs "SAVENOV" and "GETNOV", you can now very easily save and retreive all the HEPAX ram in a NoVRAM, NoV-32 or NoV-64 module.

The scenario: You are a blissful owner of a NoVRAM, NoV-32 or NoV-64 module by Diego Diaz. You have loaded into the module's ROM the companion module (the ICEBOX) and the excellent CCD OS/X (or another rom with the SAVEROM and GETROM functions). You want an easy way to back up the entire HEPAX RAM to a mass storage device. Manually, this is a tedious task, especially with the NoV-64, having 4 blocks of HEPAX RAM with 4 pages of 4K HEPAX RAM each.

With the SAVENOV/GETNOV program in ordinary HP-41 RAM, simply XEQ "SAVENOV" and it will prompt for the type of module you wish to back up (1 for the NoVRAM, 2 for the NoV-32 and 3 for the NoV-64). Upon you pressing the right number and the R/S key, it commences with backing up the whole RAM of the module with files named "N0-8", "N0-9", "N0-10", "N0-11", "N1-8", "N1-9"... "N3-11" and shows "NOV SAVED". The same with retrieving the whole RAM of the module: Prompting for the right module type, copying each page into it's proper place and ending with "NOV RESTORED" in the display. Simple.

Re: HP-41: Backup and restore... the renaissance of the cassette drive

*Message #2 Posted by **Geir Isene** on 21 Nov 2010, 4:53 p.m.,*
in response to message #1 by Geir Isene

BTW: With this program my old cassette drive is back into production. Despite having a well functioning PIL-Box/Emu41 setup, it's still a tad easier to hook up the cassette drive and XEQ "SAVENOV" and have my NoV-64 backed up to a cassette.

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Android HP Calculator

*Message #1 Posted by **Steve S** on 20 Nov 2010, 11:54 p.m.*

Other than the Android emulations of the HP-12C and the HP-48 does anyone know of any other Android HP emulations?

Re: Android HP Calculator

*Message #2 Posted by **Pal G.** on 22 Nov 2010, 9:28 a.m.,*
in response to message #1 by Steve S

Here is one:

HP-45 scientific for Android

From the same author, a programmable:

Casio FX-602P

I have purchased neither so I cannot review.

Cheers.

(edit: updated links to clickable.)

Edited: 22 Nov 2010, 9:32 a.m.

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Reversi reconstituted

*Message #1 Posted by **David Hayden** on 20 Nov 2010, 8:59 a.m.*

In a fit of OCR'ing, I have converted my copy of Vanlentin Albillo's HP-41C Othello program "Reversi" from the User's Library into a Word document. I also have the .RAW file, making it easy to load on an emulator. What I've created is a real Word document, relatively short (2MB) and it looks great when printed because it isn't a scan (except for the printer examples).

I would love to post this, but I'd like Valentin's permission first. Does anyone know how to get in contact with him?

Thanks, Dave

Re: Reversi reconstituted

*Message #2 Posted by **Fernando del Rey** on 21 Nov 2010, 5:01 p.m.,*
in response to message #1 by David Hayden

I'll send a message to Valentin regarding this post. I'll try to get him to answer.

Regards, Fernando

Re: Reversi reconstituted

*Message #3 Posted by **Angel Martin** on 22 Nov 2010, 2:02 a.m.,*
in response to message #1 by David Hayden

You should know that Reversi (as well as Checkers, and MiniChess) are available in the "ALBILLOS" section of the FunStuff module, posted at TOS.

The programs still run like a charm, specially on i41CX where you can see the printout on the screen :)

Best, 'AM

Re: Reversi reconstituted

*Message #4 Posted by **Fernando del Rey** on 22 Nov 2010, 2:44 p.m.,*
in response to message #1 by David Hayden

David,

I have contacted Valentin by e-mail. I sent him an exact copy of your message and he answered that he gives explicit persimssion to your request. He is totally OK with it.

I don't think Valentin will post an awswer here, so you have to take my word.

Regards, Fernando

Re: Reversi reconstituted

*Message #5 Posted by **David Hayden** on 22 Nov 2010, 9:17 p.m.,*
in response to message #4 by Fernando del Rey

Thanks Fernando! I have uploaded the word doc, the .raw file and the PDF to the incoming directory on this site. I'll email the curator so he knows what it is. Hopefully this will show up in the library in the not-to-distant future.

I have fond memories of Reversi. It was one of the first programs I ordered from the User's Library. I'd played the Othello board game and was anxious to see how good the program was. When I played my first game, the calculator beat me. Incredulous, I played another game... and it beat me again.... At this point I went straight to the listing to figure out how he did it.

Dave

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Updated DATA management (STAT & DATA)

*Message #1 Posted by **Geir Isene** on 20 Nov 2010, 2:11 p.m.*

After wrapping my mind around what amounted to one of the hardest programming tasks I've had on the 41, I now proudly present the updated "DATA" program, version 0.6.

It has new features and combined with the FILEMAN program, you have a complete file and data management system, and with the STAT program, a full blown statistical analysis tool.

Go to the DATA and FILE page.

Re: Updated DATA management (STAT & DATA)

*Message #2 Posted by **Angel Martin** on 21 Nov 2010, 2:19 a.m.,*
in response to message #1 by Geir Isene

Greetings Geir, I can't access the FILEMAN page - can you pls. check the link?

Re: Updated DATA management (STAT & DATA)

*Message #3 Posted by **Geir Isene** on 21 Nov 2010, 12:42 p.m.,*
in response to message #2 by Angel Martin

It's right here: http://www.isene.com/isene.cgi?hp-41_FILEMAN

...and fixed the link from the STAT page. Thanks for notifying.

Edit: Fixed the double "http" in the link

Edited: 21 Nov 2010, 2:44 p.m. after one or more responses were posted

Re: Updated DATA management (STAT & DATA)

*Message #4 Posted by **Angel Martin** on 21 Nov 2010, 1:12 p.m.,*
in response to message #3 by Geir Isene

Sorry Geir but still that new link doesn't work for me.

Still a small error...

*Message #5 Posted by **Karl Schneider** on 21 Nov 2010, 2:35 p.m.,*
in response to message #3 by Geir Isene

There's an extra "http//" in the link...

http://http//www.isene.com/isene.cgi?hp-41_FILEMAN

Re: Still a small error...

*Message #6 Posted by **Angel Martin** on 21 Nov 2010, 2:43 p.m.,*
in response to message #5 by Karl Schneider

That explains it. I accessed it from the main web site, but it's surprising to see yet quite a few other calls to more global labels not included in the FILEMAN program...

Geir, Help!

Re: Still a small error...

*Message #7 Posted by **Geir Isene** on 21 Nov 2010, 2:46 p.m.,*
in response to message #6 by Angel Martin

Angel: As it says on the page: "These programs requires the LIBXM and LIBHPX libraries."

Fixed the double "http" in the link above.

Re: Still a small error...

*Message #8 Posted by **Angel Martin** on 21 Nov 2010, 3:08 p.m.,*
in response to message #7 by Geir Isene

> Quote:
>
> "These programs requires the LIBXM and LIBHPX libraries."

hmmm... would you mind reminding me/us where to get those?

Re: Still a small error...: Solved :)

*Message #9 Posted by **Geir Isene** on 21 Nov 2010, 3:39 p.m.,*
in response to message #8 by Angel Martin

...they are appropriately linked from the FILEMAN page (or the main UC-41 page). And they are here:

LIBXM & LIBHPX page

Re: Still a small error...: Solved :)

*Message #10 Posted by **Angel Martin** on 21 Nov 2010, 4:13 p.m.,*
in response to message #9 by Geir Isene

Mystery solved :)

Have you never thought about compiling an ICEBOX -page-II with all these libraries and handy routines? Would be a fitting addition to the module, I think.

Re: Still a small error...: Solved :)

*Message #11 Posted by **Geir Isene** on 21 Nov 2010, 4:18 p.m.,*
in response to message #10 by Angel Martin

That is a very good idea. Let's see, we have the following tools that would fit

nicely as the ICEBOX FOCAL Companion module:

LIBXM

LIBHPX

FILEMAN

FILE

SAVENOV/GETNOV

... I should cough up a few more useful programs to fill the 4K. Let me think about it for a day or two.

Edited: 21 Nov 2010, 4:19 p.m.

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Can you do this with a HP calculator?

*Message #1 Posted by **Joerg Woerner** on 18 Nov 2010, 7:49 p.m.*

Just received a nice movie clip about the TI-59...

Movie Clip

11 MBytes, 2:37 min

Enjoy.

Regards,

Joerg

Re: Can you do this with a HP calculator?

*Message #2 Posted by **Namir** on 18 Nov 2010, 10:35 p.m.,*
in response to message #1 by Joerg Woerner

Nice clip Joerg. I was expecting your name to appear on the list of credits!!!

I am impressed that the Hulk was using a TI-59 and it's card reader.

Namir

Re: Can you do this with a HP calculator?

*Message #3 Posted by **Jim Yohe** on 19 Nov 2010, 11:32 a.m.,*
in response to message #2 by Namir

I remember that being my first (and only) TI calculator. Those strips were like skinny floppy disks. Kind of fun watching it pull the strip through again.

Re: Can you do this with a HP calculator?

*Message #4 Posted by **Martin Pinckney** on 19 Nov 2010, 11:20 p.m.,*
in response to message #1 by Joerg Woerner

Joerg,

Any idea what episode that was in? (season, episode)

I'd like to watch it on Hulu if it's there.

Re: Can you do this with a HP calculator?

*Message #5 Posted by **Gerson W. Barbosa** on 20 Nov 2010, 6:19 a.m.,*
in response to message #4 by Martin Pinckney

Season 3 Episode #5, October 26, 1979. Dr. David Banner might have used an HP-67 unless he (or the director) had a limited budget.

Re: Can you do this with a HP calculator?

*Message #6 Posted by **Xavier A. (Brazil)** on 21 Nov 2010, 1:16 p.m.,*
in response to message #5 by Gerson W. Barbosa

> Quote:
>
> David Banner might have used an HP-67 unless he (or the director) had a limited budget.

Sorry, I don't agree: "C" and number calculated on TI screen are far much impressive than a fuzzy HP display - for common couch potatoe, of course.

Re: Can you do this with a HP calculator?

*Message #7 Posted by **db (martinez, ca.)** on 20 Nov 2010, 12:57 a.m.,*
in response to message #1 by Joerg Woerner

that wisecracking cook better watch out. the stress and anger caused by dr. banner having to stroke an = key might transform him into the incredible hulk.

Re: Can you do this with a HP calculator?

*Message #8 Posted by **Juergen Keller** on 20 Nov 2010, 1:46 a.m.,*
in response to message #1 by Joerg Woerner

Do you plan to make it available online (e.g., youtube)?

Re: Can you do this with a HP calculator?

*Message #9 Posted by **Martin Pinckney** on 20 Nov 2010, 7:06 a.m.,*
in response to message #8 by Juergen Keller

Here's the entire show.

Re: Can you do this with a HP calculator?

*Message #10 Posted by **Juergen Keller** on 22 Nov 2010, 2:31 a.m.,*
in response to message #9 by Martin Pinckney

Not available outside the US :-(

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HP-41C/LCD Display Problems

*Message #1 Posted by **Kevin Kitts** on 18 Nov 2010, 6:50 p.m.*

Hi All, I bought an old HP-41C calculator recently from the auction site that was listed as "for parts" since its LCD does not display a few segments. The serial number is 2046A03570. Not 100% positive but I think it is the old "fullnet" kind of HP41. It seems to have boxier keys and the square LCD style.

I bought this because it was cheap and I wanted the Time Module and a couple of other modules that came with it. I don't actually need the calculator. However, other than the few missing LCD segments (just parts of the first couple of numbers) it seems to be in remarkably good shape. All the keys feel good.

Is there any way to repair the LCD? I don't want to put a lot of money into it - so it would have to be a do it yourself repair...

Thanks.

Re: HP-41C/LCD Display Problems

*Message #2 Posted by **M. Joury** on 18 Nov 2010, 7:27 p.m.,*
in response to message #1 by Kevin Kitts

Hi,

I have no information on repairs, but I can tell you that the earlier 41C models had "boxier" more upright keys. This was changed in later 41C's and all CV's and CX's. So you have one of the earlier calcs. I had one of these in college and then traded it in for a CV. Back then I could not afford more than one calculator. Years later I went on a special hunt for that particular model and was lucky enough to get one in excellent working condition.

Good luck getting yours fixed.

Cheers!

Re: HP-41C/LCD Display Problems

*Message #3 Posted by **Raymond Del Tondo** on 19 Nov 2010, 3:57 a.m.,*
in response to message #1 by Kevin Kitts

Hi,

sometimes it helps checking and resoldering the joints between the LCD tray and the kbd pcb,
but in most cases it's easier and less time consuming just to replace the whole LCD unit.
Special care has to be taken about the solder lands on the LCD tray side, since these are VERY sensible against mechanical and thermal stress,
and tend to lift off, sometimes also pulling the trace to the controller, which renders the LCD to an unrepairable state.

For this reason I strongly suggest to desolder the kbd pcb side only.

Most of the non-halfnut LCD trays are interchangeable, but on the early HP-41C units there's a chance to find a tray which back side looks somewhat different (square controller covers instead of round blobs). AFAIK those should be replaced by the same type.

HTH

Ray

Re: HP-41C/LCD Display Problems

*Message #4 Posted by **robert rozee** on 19 Nov 2010, 6:26 a.m.,*
in response to message #1 by Kevin Kitts

as a general repair of LCD issues (not HP specific) where a flexible 'printed' cable is bonded to glass or a PCB: if you suspect the cable has lifted from the glass/PCB, try for a strategically places SMALL piece of foam rubber to lightly press the cable in contact when the casing is assembled. the current flow is next to zero, so only a light pressure is necessary to restore function. i've fixed quite a few issues with LCDs in the past using this method - calculators, pagers, etc, and it can last surprisingly well... certainly a number of years.

cheers, rob :-)

Re: HP-41C/LCD Display Problems

*Message #5 Posted by **uhmgawa** on 19 Nov 2010, 12:14 p.m.,*
in response to message #4 by robert rozee

> Quote:
>
> as a general repair of LCD issues (not HP specific) where a flexible 'printed' cable is bonded to glass or a PCB: if you suspect the cable has lifted from the glass/PCB, try for a strategically places SMALL piece of foam rubber to lightly press the cable in contact when the casing is assembled. the current flow is next to zero, so only a light pressure is necessary to restore function.

Sometimes it is possible to reseal the conductive cable with caution. The conductive adhesive used to mechanically and electrically bond the tape to the lcd glass ITO contacts is either a thermoset or thermoplastic adhesive impregnated with microscopic (10~40 micron) metal plated polymer balls. This anisotropic film laminates the carbon ink cable to the glass under heat and pressure. If the adhesive gives up the ghost over time it might be worth a try to reheat the junction cautiously, say with a thumb tack head heated by a low heat soldering pencil. Keep moving it around while applying pressure to reseat the junction. Remove heat while maintaining pressure and movement. Starting off with a conservative heat is a good idea as overheating the carbon ink cable can melt the cable polyester film backer.

Re: HP-41C/LCD Display Problems

*Message #6 Posted by **Randy** on 19 Nov 2010, 4:45 p.m.,*
in response to message #5 by uhmgawa

> Quote:
>
> as a general repair of LCD issues (not HP specific) where a flexible 'printed' cable is bonded to glass or a PCB:

FWIW: Only HP calculators made after 2003 use this technology, beginning with the with the HP10Bii.

Re: HP-41C/LCD Display Problems

*Message #7 Posted by **Randy** on 19 Nov 2010, 4:44 p.m.,*
in response to message #1 by Kevin Kitts

Quote:

Is there any way to repair the LCD? I don't want to put a lot of money into it - so it would have to be a do it yourself repair...

Missing segments in a fullnut display is caused by one or more of the following three things:

1. Defective LCD
2. Defective Display Driver
3. Bad interconnects between 1 & 2 (elastomeric zebras)

It is one of the more difficult problems in a 41 to repair and you risk LCD damage if done incorrectly. If cleaning the interconnects does not resolve the problem, you'll need another LCD and driver to troubleshoot.

If the calculator had signs of battery leakage, I would lean towards an interconnect problem on early 41's, especially if it has the round gold connectors. Those typically need to be replaced.

If the interconnects are white or pink, it is most likely a bad driver.

Edited: 19 Nov 2010, 4:50 p.m.

Re: HP-41C/LCD Display Problems

*Message #8 Posted by **Kevin Kitts** on 19 Nov 2010, 6:03 p.m.,*
in response to message #7 by Randy

Hi Randy, I've checked the contacts and they look great.

BTW, I've used your company before for a repair and might do so again for this repair if it is something you could fix. I see from your web site that you are swamped with repairs and not taking any new orders at the moment - so I'll check back in a few weeks/months.

Best Regards,

Kevin

Re: HP-41C/LCD Display Problems

*Message #9 Posted by **robert rozee** on 20 Nov 2010, 1:26 a.m.,*
in response to message #7 by Randy

"elastomeric zebras": is there a chance these have shrunk over time? this is the bane of many Fluke multimeters. have you tried GENTLY pressing back on the LCD to try and compress the gap that the zebra strips fill? in the past i've fixed these sorts of problems by shaving down surrounding supports to shrink a gap, as well as 'massaging' the zebra strips to stretch them a fraction in the required direction. on SOME Fluke meters the PCB has a thick solder tinning over all exposed pads, and it is possible to simply build up

the pads with more solder.

can someone perchance provide a link to a photo?

cheers, rob :-)

Re: HP-41C/LCD Display Problems

*Message #10 Posted by **Alejandro Paz (Germany)** on 23 Nov 2010, 3:15 p.m.,*
in response to message #9 by robert rozee

Not only Fluke multimeters. Years ago the used to plage the HP48SX... mine lost 3 lines that way...

HP-48SX LCD Display Problems

*Message #11 Posted by **Randy** on 24 Nov 2010, 9:45 p.m.,*
in response to message #10 by Alejandro Paz (Germany)

Had nothing to do with the zebra connectors, it was due to a layout problem of the internal LCD traces... by Epson.

The root problem still exists today in all 48S/G series LCD's but the occurrence is extremely low. The condition is when all top row annunciators are on without excitation. Same root failure, difference symptom.

Re: HP-48SX LCD Display Problems

*Message #12 Posted by **Alejandro Paz (Germany)** on 25 Nov 2010, 12:34 p.m.,*
in response to message #11 by Randy

It has to do with the elastomers, if you press it a bit more (LCD against the board) the lines show up again, at least in mine and a few others I saw at the time ('91, '92).

Re: HP-48SX LCD Display Problems

*Message #13 Posted by **Randy** on 26 Nov 2010, 12:53 p.m.,*
in response to message #12 by Alejandro Paz (Germany)

> Quote:
>
> if you press it a bit more (LCD against the board) the lines show up again

Yes, that may be true but in the case of an early production 48SX (serial begins with 30) that is missing three vertical columns on the far left side of the screen, the root problem isn't the connectors, it's a design flaw of the LCD.

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OT - Tower of Hanoi

*Message #1 Posted by **Chuck** on 18 Nov 2010, 4:47 p.m.*

Somewhere down the message list here was a conversation about the TofH game. I had my Intermediate Algebra students discover the pattern; calculate the number of moves for 70 disks; and the time it would take to solve it making 1-trillion moves per second (a long time).

It got me thinking (but not too much yet), what if the rules were the same, but at any step you could move 2 disks. But why stop there? How many moves will it take to solve using "m" disks if you can move at most "n" at any time? Hmmmm.

I should probably do a search on this before pressing send, but it's more fun to ponder it awhile.

Re: OT - Tower of Hanoi

*Message #2 Posted by **Allen** on 18 Nov 2010, 5:16 p.m.,*
in response to message #1 by Chuck

The first few chapters of Knuth's Concrete Mathematics explores pretty much any variation of ToH that you might like.

Without much thought, being able to move two disks of a 70-disk stack seems like it would play much like a 35 disk stack without much change in complexity.

Re: OT - Tower of Hanoi

*Message #3 Posted by **Crawl** on 18 Nov 2010, 5:23 p.m.,*
in response to message #2 by Allen

Almost simultaneous posts!

The way I thought the new rule worked was that you just can move two pieces per turn, hence you halve the number of moves.

I think the way you thought of it was that any two stacked pieces can be moved at once as a single piece, which acts like halving the number of pieces.

Re: OT - Tower of Hanoi

*Message #4 Posted by **Crawl** on 18 Nov 2010, 5:19 p.m.,*
in response to message #1 by Chuck

Can you explain why allowing 2 disks to be moved in one step would have any effect other than halving the number of steps total?

Re: OT - Tower of Hanoi

*Message #5 Posted by **Patrice** on 18 Nov 2010, 8:19 p.m.,*
in response to message #1 by Chuck

Hi,

My first guess (a 2 seconds thinking) is that:

a ToH of 30 disk with a move of 2 disks at the time is the same as a ToH of 15 disks.

a ToH of 30 disk with a move of 3 disks at the time is the same as a ToH of 10 disks.

Patrice

Re: OT - Tower of Hanoi

*Message #6 Posted by **Chuck** on 18 Nov 2010, 8:38 p.m.,*
in response to message #5 by Patrice

[bashful]Yup, like I said, didn't think about it much.[\bashful] Too much on my mind to have thought rationally for more than a second.

Edited: 18 Nov 2010, 8:40 p.m.

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Getting younger people involved - HHC Scholarship?

*Message #1 Posted by **David Hayden** on 18 Nov 2010, 3:32 p.m.*

One thing that bothered me while attending HHC this year was the lack of younger people in the group. While everyone there was the picture of health and vigor, it would be nice to get some younger people involved in the community.

Here's one idea: provide an "HHC scholarship" to a college (or graduate) student. The idea is to raise enough money that we could pay for the travel and lodging costs for a student to attend HHC. This would probably cost $500-$1,000.

Even better would be to pay the way for a high school student, but now we're talking about a minor, which means they'd need to be accompanied by a parent, which nearly doubles the cost.

Do you think something like this would work? Would enough people be willing to donate money to pay for it? Is there some other way to encourage the next generation of RPN enthusiasts?

Dave

Re: Getting younger people involved - HHC Scholarship?

*Message #2 Posted by **Allen** on 18 Nov 2010, 5:52 p.m.,*
in response to message #1 by David Hayden

Having been to two HHC conferences, I'd say anything outside bald 50yr old male would qualify as "welcome diversity". Otherwise it really depends on how you define "young".

I'd chip in for something like that.

Re: Getting younger people involved - HHC Scholarship?

*Message #3 Posted by **geoff quickfall** on 18 Nov 2010, 6:41 p.m.,*
in response to message #2 by Allen

GEEEEEZ ALLEN

that hurt ;-)

Geoff

Re: Getting younger people involved - HHC Scholarship?

*Message #4 Posted by **Allen** on 18 Nov 2010, 7:02 p.m.,*
in response to message #3 by geoff quickfall

supersmart canadian pilots with beautiful clocks and how-to calculator repair books count as diversity :-)

Re: Getting younger people involved - HHC Scholarship?
*Message #5 Posted by **Namir** on 18 Nov 2010, 7:19 p.m.,*
in response to message #4 by Allen

Amen!!!

Re: Getting younger people involved - HHC Scholarship?
*Message #6 Posted by **Walter B** on 19 Nov 2010, 2:29 a.m.,*
in response to message #4 by Allen

Taking the opportunity: What's about THE BOOK?

Re: Getting younger people involved - HHC Scholarship?
*Message #7 Posted by **M. Joury** on 18 Nov 2010, 7:29 p.m.,*
in response to message #2 by Allen

Hey! I have all my hair and I JUST turned 50. Also I'm short. That has to add some diversity!

Re: Getting younger people involved - HHC Scholarship?
*Message #8 Posted by **David Hayden** on 18 Nov 2010, 9:19 p.m.,*
in response to message #7 by M. Joury

I have my hair too! I just wish I had more than one of them....

Edited: 19 Nov 2010, 6:48 a.m.

Re: Getting younger people involved - HHC Scholarship?
*Message #9 Posted by **Namir** on 19 Nov 2010, 11:01 a.m.,*
in response to message #2 by Allen

The HHC meetings can perhaps bee seen as the meeting of the old wizards who had been involved in perfecting the art of computing with calculators. Attendants come to give homage to another era--the pre-PC era--when programmable calculators were special.

Last month I was in Vienna and (re)visited Freud's apartment on Berggasse street. I sat in one of the rooms looking at the pictures on the wall. Some of these pictures included ones for many small-size far and middle Eastern gods and goddesses (I have actually seen Freud's collection in the house he lived in until his death, in London a few years ago). I came to a realization that our calculators where perhaps small-size statues to the gods and goddesses of the digital world!! The buttons and display represented the way we "speak" to these deities and how the reply back!

Namir

Re: Getting younger people involved - HHC Scholarship?
*Message #10 Posted by **Karl Schneider** on 19 Nov 2010, 10:58 p.m.,*
in response to message #9 by Namir

Namir --

Your second paragraph was an interesting philosophical (and quasi-psychological) perspective. I'd never thought of it quite that way...

Your opening sentence was spot-on, I'd say.

-- KS

Edited: 19 Nov 2010, 10:59 p.m.

Re: Getting younger people involved - HHC Scholarship?

*Message #11 Posted by **Namir** on 20 Nov 2010, 3:35 a.m.,*
in response to message #10 by Karl Schneider

Thank you Karl!

:-)

Namir

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Emulators from HP

*Message #1 Posted by **Mike (Stgt)** on 18 Nov 2010, 12:08 p.m.*

Just got a hint about this offer of Emulators - for teachers for free, for other for a fee. But I did not find out how much it costs. Who may tell me more?

Ciao.....Mike

Re: Emulators from HP

*Message #2 Posted by **Mark Hardman** on 18 Nov 2010, 12:30 p.m.,*
in response to message #1 by Mike (Stgt)

Download and install the emulator you're interested in. When you launch the installed application it will prompt for an activation key and provides a link for registering the product.

The HP-35s is $29.99 USD.

Re: Emulators from HP

*Message #3 Posted by **Mike (Stgt)** on 19 Nov 2010, 3:26 a.m.,*
in response to message #2 by Mark Hardman

Thank you very much for the modus operandi. I'd like to know the costs beforehand.

TGIF Ciao.....Mike

Re: Emulators from HP

*Message #4 Posted by **Tim Wessman** on 19 Nov 2010, 11:14 a.m.,*
in response to message #3 by Mike (Stgt)

http://hp.digitalriver.com/store/hpappli/en_US/list/categoryID.31076200

There are only 4 for sale. . . (20b, 35s, 12, 12cp)

TW

Re: Emulators from HP

*Message #5 Posted by **Kiyoshi Akima** on 23 Nov 2010, 2:09 p.m.,*
in response to message #4 by Tim Wessman

Does the 35s emulator run at approximately the same speed as a real 35s? Does it have a "turbo" mode?

Can the 35s emulator save/load program to/from disk? Are such programs human-readable (and

human-editable)?

Re: Emulators from HP

*Message #6 Posted by **Tim Wessman** on 23 Nov 2010, 4:51 p.m.,*
in response to message #5 by Kiyoshi Akima

It runs at regular speed, no turbo. (at least that I've noticed)

Yes it saves/loads ram, but only binary of course.

TW

Re: Emulators from HP

*Message #7 Posted by **Don Shepherd** on 18 Nov 2010, 1:38 p.m.,*
in response to message #1 by Mike (Stgt)

Teachers get them free if they provide a syllabus that describes how they will use them in class. I did buy the 12c Windows emulator a couple of years ago, I think it was $19.99.

Don

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41 MCODE Question

*Message #1 Posted by **Ángel Martin** on 18 Nov 2010, 9:25 a.m.*

Hi MCODE addicts out there... here's a question for you.

Q: How to call ANUM on the CX as a subroutine (from within another MCODE function), and still get it to return to the calling point?

ANUM has XROM A6:42, so I tried both [XEQAX] and [RAK70] mainframe routines. This method works with the X-Functions module (on a CV) but but it appears that the bank-switching code in the CX stops it from returning.

Here's the first snippet:

```
130     LDI S&X         build ANUM's fnc id#
342     CON:
0A6     C<>A S&X
130     LDI S&X
300     CON:            XROM 25,02 = A6:42
206     C=C+A S&X       ANUM
01C     PT= 3           complete the fnc. "code"
290     LD@PT- A        (not needed for GTRMAD)
029     ?NC XQ          Execute function!
01C      ->070A         [RAK70]
```

and here's the second:

```
130     LDI S&X          build ANUM's fnc id#
342     CON:
0A6     C<>A S&X
130     LDI S&X
300     CON:            XROM 25,02 = A6:42
206     C=C+A S&X       ANUM
001     ?NC XQ
020     ->0800          [GTRMAD]
381     ?NC XQ
008     ->02E0          [ERRNE]
2ED     ?NC XQ          Execute it
0BC     ->2FBB          [XEQAX]
```

It responds as if the return stack fills over, or maybe the CX-ANUM code ends with a call to [NFRU] (or equivalent).

Any ideas?

Cheers. ÁM

Re: 41 MCODE Question

*Message #2 Posted by **PeterP** on 18 Nov 2010, 2:28 p.m.,*
in response to message #1 by Ángel Martin

did u try singlestepping it on mm41? not sure that supports the CX... other than that I don't have any immediate ideas for the cause...

Cheers

PeterP

Re: 41 MCODE Question

*Message #3 Posted by **Mike (Stgt)** on 19 Nov 2010, 3:36 a.m.,*
in response to message #2 by PeterP

@ PeterP - mm41?? I assume a typo and you ment Emu41 from JFG.

@ Angel Martin - tonite I wanted to make a trace with my NutEm of your 2 examples but was bussy with other things until falling asleep. If it's not too late I may send it on Monday. Otherwise see PeterP's suggestion.

Ciao.....Mike

Re: 41 MCODE Question

*Message #4 Posted by **Geir Isene** on 19 Nov 2010, 5:38 a.m.,*
in response to message #3 by Mike (Stgt)

I think Peter was referring to M41 of the 41SDK (an amazing tool for MCODE development)

Re: 41 MCODE Question

*Message #5 Posted by **PeterP** on 19 Nov 2010, 10:34 a.m.,*
in response to message #4 by Geir Isene

yes indeed, I was :-)

Re: 41 MCODE Question

*Message #6 Posted by **Angel Martin** on 19 Nov 2010, 3:04 p.m.,*
in response to message #3 by Mike (Stgt)

Guys this is frustrating:- I've never used M41 so I'm not up to speed with it, but regardless: I supect there's just the dreadful call to NFRNU (or equivalent) throwing away any chance to return to the calling point... a shame because the way it is I have to copy the ANUM code into the 41Z, about 140 "bytes" - quite some taxing deed.

I'm also stuck with - shame on me, even the simplest routine!- BLINK1. It's supposed to always work but alas, it doesn't - and I dunno why/when not. Never mind that I'm using it within nested loops of partial key sequence calls, it's still demoralizing :(

Ok, the updated 41Z is posted at TOS - take it for a spin if you'd like - a nice week-end treat :)

Best, 'AM

Re: 41 MCODE Question

*Message #7 Posted by **PeterP** on 19 Nov 2010, 4:29 p.m.,*
in response to message #6 by Angel Martin

angel, I will try to take a look this weekend but I think your suspicion could be correct. It really is a

dreadful end to many a useful routine...

Cheers

Peter

Re: 41 MCODE Question

*Message #8 Posted by **HrastProgrammer** on 20 Nov 2010, 4:28 a.m.,*
in response to message #6 by Angel Martin

Ángel,

I think you can use the Windows version of my HP-41E emulator for this purpose because it has a very powerful debugger and tracer, which are also very simple to use.

First, download the latest version here http://www.hrastprogrammer.com/hp41e/hp41epc.zip and unpack it into some directory ... You should use this version because it has some capabilities not present in the old version floating around.

Let's say you want to trace BCDBIN routine at 02E3 hex ... Edit HP41E.INI file and add the following section:

```
[Tracer]
Activate=$02E3
Deactivate=
Powoff=0
```

You should close HP-41E prior to this otherwise it will rewrite INI file on exit. The above means "start tracer at $02E3 and deactivate it on the first POWOFF instruction". You can also deactivate it on a specific address if you specify Deactivate=$ADDR ... $ means hexadecimal.

Then start HP-41E, type 12 RCL IND X and you'll have HP41E.LOG file in the same directory. It looks like that:

```
02E3 27E C=C-1 S DAdd=003 PfAd=00 Base=16
  A=000000000690F3 B=00000000000020 C=01200000000001 Stack=0024 004E 00F0 122E
  M=01200000000001 N=01200000000003 Cy=0 P=1 Q=D G=90 FO=00 ST=00100011110011
02E4 27E C=C-1 S DAdd=003 PfAd=00 Base=16
  A=000000000690F3 B=00000000000020 C=F1200000000001 Stack=0024 004E 00F0 122E
  M=01200000000001 N=01200000000003 Cy=1 P=1 Q=D G=90 FO=00 ST=00100011110011
02E5 389 GOLC =ERRAD 14E2 DAdd=003 PfAd=00 Base=16
  A=000000000690F3 B=00000000000020 C=E1200000000001 Stack=0024 004E 00F0 122E
  M=01200000000001 N=01200000000003 Cy=0 P=1 Q=D G=90 FO=00 ST=00100011110011
02E7 106 A=C X DAdd=003 PfAd=00 Base=16
  A=000000000690F3 B=00000000000020 C=E1200000000001 Stack=0024 004E 00F0 122E
  M=01200000000001 N=01200000000003 Cy=0 P=1 Q=D G=90 FO=00 ST=00100011110011
...
```

You can also debug the code directly. Edit HP41E.INI and add the following:

```
[Debugger]
Activate=$02E3
```

Then start HP-41E, type 12 RCL IND X and the debugger will be automatically activated on the address $02E3. You can then SST the machine code from this point onwards.

Of course, debugger and tracer can be used simultaneously, tracer can be activated/deactivated from the debugger, etc. The debugger can be also be activated on-demand if you double-click on that overlay "latch" inside the emulator.

I hope this can be of some help to you ...

Best regards.
HrastProgrammer

Edited: 20 Nov 2010, 5:07 a.m.

Re: 41 MCODE Question

*Message #9 Posted by **Angel Martin** on 21 Nov 2010, 9:14 a.m.,*
in response to message #8 by HrastProgrammer

Many thanks Hrast, appreciate the tip. It's a very powerful implementation - I wasn't aware of it but sure enough I'll add it to my bag of tricks from now on.

I guess I have a humongous trace file to study now :-0 Regardless, does the trace mode mean what I think it does? Can a MCODE routine be executed using the SST key, one line at a time? ??

W.r.t. the ANUM code I've given up = I\m leaving the copied code within the 41Z anyway, so be it.

Cheers, 'AM

Re: 41 MCODE Question

*Message #10 Posted by **HrastProgrammer** on 21 Nov 2010, 1:26 p.m.,*
in response to message #9 by Angel Martin

> Quote:
>
> Regardless, does the trace mode mean what I think it does? Can a MCODE routine be executed using the SST key, one line at a time???

That's what a debugger is for and yes, among the other things, you can single-step machine code one instruction at the time, look at the contents of all registers (stack, memory, ...), even change their values to see what happens, animate the execution etc. See this:

Tracer is a different thing - it writes the complete machine code execution path to a text file. You can then load this file into a text editor and analyze it, do searches etc. HP-41E doesn't have the ability to set breakpoints for debugger/tracer inside the emulator (most likely because I didn't find a need to do this), but you can set them from the INI file, as described in my previous post.

I used HP-41E debugger+tracer capabilities hundreds of times while developing my HP-41E/X emulators for HP-48GX/49G/... And that's the main reason why I developed it - to have a good test/debug/simulation platform for hunting bugs and test various enhanced features I implemented in HP-41E/X ...

Re: 41 MCODE Question

*Message #11 Posted by **Angel Martin** on 21 Nov 2010, 2:41 p.m.,*
in response to message #10 by HrastProgrammer

Awesome! I wish I had known about this before, well I guess it's never too late.

One question: in your CX ROM things seem to be different from the "real" one, or at least from V41's NUTCX module. For instance, ANUM's code is not the same in both... would that be true?

Re: 41 MCODE Question

*Message #12 Posted by **HrastProgrammer** on 22 Nov 2010, 2:08 a.m.,*
in response to message #11 by Angel Martin

> Quote:
>
> One question: in your CX ROM things seem to be different from the "real" one, or at least from V41's NUTCX module.

They are the same (mainframe ROM version NFL, XFUNCS 2D, TIME 2C).

> Quote:
>
> For instance, ANUM's code is not the same in both... would that be true?

Hmmm, both look the same to me:

```
31C2 08D          CON 08D M
31C3 015          CON 015 U
31C4 00E          CON 00E N
31C5 001          CON 001 A
31C6 279          GSUBNC L319E 319E
31C7 0C4          *
31C8 20C          ?ST=1 2
31C9 360          RTNC
31CA 00B          GONC L31CB +01 31CB
31CB 180 L31CB    ENROM1
31CC 211          GOLNC 5884
31CD 162          *
```

Edited: 22 Nov 2010, 8:16 a.m. after one or more responses were posted

Re: 41 MCODE Question

*Message #13 Posted by **HrastProgrammer** on 22 Nov 2010, 8:19 a.m.,*
in response to message #12 by HrastProgrammer

I think the difference you see is because I am calculating relative jumps from the address after the instruction so, for example, you see GONC L31CB +00 instead of GONC L31CB +01. Now changed in this public version ...

Re: 41 MCODE Question

*Message #14 Posted by **Ángel Martin** on 22 Nov 2010, 8:43 a.m.,*
in response to message #12 by HrastProgrammer

You're of course correct, sorry I got confused. So the ROM files have the same format as those used by V41 (and Clonix, MLDL, etc...) then it should be possible to add any of them to the 41E configuration INI file, right?

PS.- I went and checked after I first posted this (also read the README file, which I should have to begin with). Indeed it all works as expected - another great tool so useful for development!

Thanks.

Edited: 22 Nov 2010, 8:59 a.m.

Re: 41 MCODE Question

*Message #15 Posted by **HrastProgrammer** on 22 Nov 2010, 10:16 a.m.,*
in response to message #14 by Ángel Martin

> Quote:
>
> So the ROM files have the same format as those used by V41 (and Clonix, MLDL, etc...) then it should be possible to add any of them to the 41E configuration INI file, right?

To some extent ... HP-41E is very old piece of software (most of it was developed in 1998), so it supports only two formats: packed (four 10-bit instructions are stored in 5 bytes, module size must be a multiple of 5K) and unpacked (each 10-bit instruction occupies 2 bytes, module size must be a multiple of 8K). MOD files are not supported.

> Quote:
>
> another great tool so useful for development!

Thanks and keep up the good work ... What you have done is really excellent!

Re: 41 MCODE Question

*Message #16 Posted by **Meindert Kuipers** on 20 Nov 2010, 8:11 a.m.,*
in response to message #6 by Angel Martin

Remember that V41 has good tracing options for nailing down this problem

Re: 41 MCODE Question

*Message #17 Posted by **Angel Martin** on 21 Nov 2010, 9:16 a.m.,*
in response to message #16 by Meindert Kuipers

Hi Meindert, I didn't know there was a tracing facility in MLDL2k - I guess I need to RTFM :)

Whereabouts are the settings/options for it?

Cheers, 'AM

Re: 41 MCODE Question

*Message #18 Posted by **Meindert Kuipers** on 21 Nov 2010, 11:06 a.m.,*
in response to message #17 by Angel Martin

Angel,

Tracing will be included in the new MLDL2000 (code name MLDL3000 ;). I actually have a working tracer, but the software is a bit of a hack and requires seperate hardware, there is no need to RTFM as is is not in the FM at all ;) I was referring to V41, the PC emulator from TOS. With the menu you may choose Options, and then select Trace Dump to generate

a trace file, with Console you can really single step through code. There is also an option for breakpoints but I have never used it, so there lies a challenge for you ...

Meindert

Re: 41 MCODE Question

*Message #19 Posted by **Angel Martin** on 21 Nov 2010, 1:08 p.m.,*
in response to message #18 by Meindert Kuipers

Sorry Meindert, I misread your post - saw your name and automatically assumed it was about MLDL2k instead of V41... my bad (you gotta love this vernacular american-english expression, BTW). I wonder how would it be in german, "mein schlecht" perhaps?? :)

BTW the issue with the [BLINK1] routine is solved. This was supposed to be a trivial thing but for whatever reason it got very complicated. As it turns out, the routine [BLINK1] doesn't work most of the times when called from within a partial key sequence "loop". It took me quite a long time (and lots of frustration) to understand that DSPOFF simply does not work when used inside of the [NEXTn] code, ergo neither did [BLINK1]- surely my fault, it's probably well-documented somewhere I have no access to - but anyway I finally solved the issue just by calling [BLINK1] TWICE - that sort of does the trick in every circumstance... go figure.

Cheers, "AM

Edited: 21 Nov 2010, 1:09 p.m.

Re: 41 MCODE Question

*Message #20 Posted by **PeterP** on 21 Nov 2010, 2:38 p.m.,*
in response to message #19 by Angel Martin

Angel, unfortunately m41 does not have labels and I don't know the starting point for ANUM in the CX. If you know that I could easily trace the exit on the CX for you.

Cheers

Peter

Re: 41 MCODE Question

*Message #21 Posted by **Angel Martin** on 21 Nov 2010, 2:45 p.m.,*
in response to message #20 by PeterP

$31C6

Re: 41 MCODE Question

*Message #22 Posted by **PeterP** on 21 Nov 2010, 3:58 p.m.,*
in response to message #21 by Angel Martin

...[NFRPU]....

Re: 41 MCODE Question

*Message #23 Posted by **Angel Martin** on 21 Nov 2010, 4:15 p.m.,*
in response to message #22 by PeterP

there you go... a shame.

Many thanks for the sleuth work!

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Updated HP-41 ftplugin and syntax files for VIM

*Message #1 Posted by **Geir Isene** on 18 Nov 2010, 4:44 a.m.*

For the VIM-aholics:

HP-41 file type plugin

HP-41 syntax file

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Physical dimensions of old HP calculators

*Message #1 Posted by **Ernst Fueloep** on 17 Nov 2010, 4:38 a.m.*

Does anybody know where the physical dimensions of the old HP calculators like the Classics, Woodstock, Spice and HP-41 are listed?

Should I try to get one of each and measure by myself?

Thanks.

Regards, Ernst

Re: Physical dimensions of old HP calculators

*Message #2 Posted by **Walter B** on 17 Nov 2010, 4:51 a.m.,*
in response to message #1 by Ernst Fueloep

Hallo Ernst,

schau mal im Museum - sieh, das Gute liegt so nah!

HTH

Re: Physical dimensions of old HP calculators

*Message #3 Posted by **Gerson W. Barbosa** on 17 Nov 2010, 6:37 a.m.,*
in response to message #1 by Ernst Fueloep

As Walter said, the information you are looking for is so near, only a few mouseclicks away. Shortcuts are provided below anyway, in case you still need them:

http://www.hpmuseum.org/dimclas.htm

http://www.hpmuseum.org/dim20.htm

http://www.hpmuseum.org/dim30.htm

http://www.hpmuseum.org/features/41cf.htm

Regards,

Gerson.

Re: Physical dimensions of old HP calculators

*Message #4 Posted by **Ernst Fueloep** on 17 Nov 2010, 7:12 a.m.,*
in response to message #3 by Gerson W. Barbosa

Walter, Gerson,

Thank you both. I was sure looking here but I overlooked this little piece of information.

Regards, Ernst

Re: Physical dimensions of old HP calculators

*Message #5 Posted by **Thomas Chrapkiewicz** on 17 Nov 2010, 9:56 a.m.,*
in response to message #3 by Gerson W. Barbosa

I too would be curious is there is more detailed information on the (previously)mentioned calculators such as:

Detailed thickness(es) - that is, for instance, the HP35s is 'wedge' shaped in that the display end is thicker than the keyboard bottom end (by about 0.8cm).

Also, location(s) of the keys - this in particular would be helpful in positioning a machine based - keypressing mechanism. I may optically scan in the machines and measure this.

Regards, TomC

Re: Physical dimensions of old HP calculators

*Message #6 Posted by **Alejandro Paz (Germany)** on 17 Nov 2010, 2:01 p.m.,*
in response to message #5 by Thomas Chrapkiewicz

Such detailed dimensions, and nice drawings are available in some of the manuals. The hardware description manuals. For the 71 dimensions are in Figure 8.6 in the IDS part 3, 71hidsmc.pdf (page 147). I do not have any other manual available (my museum cds are packed... somewhere).

Re: Physical dimensions of old HP calculators

*Message #7 Posted by **Alejandro Paz (Germany)** on 17 Nov 2010, 2:02 p.m.,*
in response to message #5 by Thomas Chrapkiewicz

And the plug-in modules in Figs 8.9 and above.

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Unisonic 811 with HP LED

*Message #1 Posted by **aj04062** on 16 Nov 2010, 11:39 p.m.*

Can anyone tell me what the other HP calcs may share the same LED as this calculator?

Common part

*Message #2 Posted by **Frank Boehm (Germany)** on 17 Nov 2010, 8:17 a.m.,*
in response to message #1 by aj04062

The HP LED stick is not unusual to find in LED calculators, HP has been "just another supplier" for these (besides Litronix, TI, Bowmar and others)

Re: Unisonic 811 with HP LED

*Message #3 Posted by **Walter B** on 17 Nov 2010, 8:32 a.m.,*
in response to message #1 by aj04062

AFAIK you find them in early Aristo calculators.

Re: Unisonic 811 with HP LED

*Message #4 Posted by **aj04062** on 17 Nov 2010, 9:31 p.m.,*
in response to message #1 by aj04062

Are they the same chips that are in HP calculators?

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Brain dead, need help with program

*Message #1 Posted by **briggleman** on 15 Nov 2010, 5:40 p.m.*

OK, how do I enter 1E2 in a program for the HP42s. Now, why do I say brain dead, because at step 25 in a program I did this entry and no problem, now at step 155 I cannot remember how I did it.

Too much drinking, brain cells destroyed.

Please help

Re: Brain dead, need help with program

*Message #2 Posted by **Steve Perkins** on 15 Nov 2010, 7:27 p.m.,*
in response to message #1 by briggleman

I'm not sure where your difficulty lies, but here goes:

Use the 'E' key next to the +/- key to enter an exponent (power of 10), which would be the same as the 'EEX' key on an HP-41C for example.

To enter 1E2 you don't even need to enter the 1 if you don't want, just hit 'E' '2'.

Hope that helped.

Re: Brain dead, need help with program

*Message #3 Posted by **briggleman** on 15 Nov 2010, 8:11 p.m.,*
in response to message #2 by Steve Perkins

Remind me, DO NOT DRINK AND PROGRAM, not a good thing.

Besides all that, thank you very much.

After 20 years I let the batteries die on my beloved HP42s. Yes, I did have printouts of all the programs I wrote for it back when they were HP41 codes. I then translated and modified the programs for the HP42s to take advantage of its menu system and in Sept. of 2002 got the bright Idea that I should print them out if I ever lost them. Thank God for hindsight.

and it is really strange after realizing you wrote this stuff 30 plus years ago and now look at it and its all a wonder to you. I feel old.

Re: Brain dead, need help with program

*Message #4 Posted by **Mike (Stgt)** on 16 Nov 2010, 4:38 a.m.,*
in response to message #3 by briggleman

The saying goes: do not drink an DERIVE.

Ciao.....Mike

Re: Brain dead, need help with program

*Message #5 Posted by **Martin Pinckney** on 15 Nov 2010, 10:31 p.m.,*
in response to message #2 by Steve Perkins

> Quote:
>
> I'm not sure where your difficulty lies...

Answer:

> Quote:
>
> Too much drinking, brain cells destroyed.

Re: Brain dead, need help with program

*Message #6 Posted by **Allen** on 15 Nov 2010, 10:23 p.m.,*
in response to message #1 by briggleman

why not just type 100?

Re: Brain dead, need help with program

*Message #7 Posted by **briggleman** on 16 Nov 2010, 6:41 a.m.,*
in response to message #6 by Allen

> Quote:
>
> why not just type 100?

Sorry, that was too easy. You have to remember I am old school when it comes to programing a calculator..... every byte or bit of memory is valuable. So 1E2 uses less memory than 100. No, it was the point of the matter that I figure out how to get 1E2 back into the program. I was determined. Now feeling very stupid as to not seeing the E key right in front of me!!! I mean.... I search the func. menu 10 times looking for that function and did not see it. Its like, have I forgotten that much since my twenties..... evidently so.

It's like cell phones... I no longer remember phone numbers, they are all programed in. I became so reliant on my old programs, I forgot how I wrote them, the formulas involved... Wow.

Now I really like "DO NOT DRINK AND DERIVE" thats a hoot. Thanks guys and gals. Much appreciated putting up with me on this.

Edited: 16 Nov 2010, 7:50 a.m.

Re: Brain dead, need help with program

*Message #8 Posted by **Michael Meyer** on 16 Nov 2010, 1:13 p.m.,*
in response to message #7 by briggleman

I remember picking up my HP-71b more than 10 years after putting it in a box. I couldn't believe I ever knew how to use it. But after just a couple of days, I was getting up to speed. It'll come back to you if you study a bit. Now, my HP-25.... that's permanently in my brain. Maybe that's why it'll always be my favorite, emotionally, anyway.

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Statistical analysis galore

*Message #1 Posted by **Geir Isene** on 15 Nov 2010, 5:49 p.m.*

Ok, the roll never stopped. I finally caught up with my HP-41 back-log.

A few months ago I posted a rather mammoth STAT-program. It is mainly the excellent program from William Kolb, but with added basic statistics, momentums, kurtosis and skewness of data and with a proper user interface via menus.

Some, very understandably, asked for documentation of the STAT program (reading through the 1122 program steps to figure it out was hard enough for me tonight). I finally got around to documenting it just now.

The brother of the STAT program is a program called DATA. It simplifies working with data sets on the 41. With DATA you can create single (one value) data sets or double (X and Y) data sets, save it to XM, retrieve it from XM, add more data points, save it back to XM, work with fixed size data sets (e.g. or 12-months rolling data sets), remove data points, print the data sets as a graph on a printer and more.

Along with the file management system posted earlier, you will have the mother of all data set and analysis programs on you HP-41.

Here is the STAT and DATA programs .

Testing for bugs and enhancements are very welcome.

Re: Statistical analysis galore

*Message #2 Posted by **Paul Dale** on 16 Nov 2010, 1:42 a.m.,*
in response to message #1 by Geir Isene

I started entering the STAT program, it didn't fit on my CV :-(I started again on a 42s but don't remember what state it was left in.

- Pauli

Re: Statistical analysis galore

*Message #3 Posted by **Frido Bohn** on 17 Nov 2010, 5:21 a.m.,*
in response to message #1 by Geir Isene

Hi Geir,

just tried to compile DATA into my RAMBOX.
There, an error report came up with "NO Lbl 10", and indeed, if you look at your program there is no correspondend label for the GTO 10 directive in Line 158.
A bug?

Re: Statistical analysis galore

*Message #4 Posted by **Geir Isene** on 17 Nov 2010, 6:23 a.m.,*
in response to message #3 by Frido Bohn

:) Yes. A bug.

Somehow, parts of the program caught the infamous bit-rot. It's gone, and I am well in the process of reconstructing that part of the program (the LBL e: Printing of data set).

Seeing what parts are left under LBL e leads me to conclude that I was not on the right track in the first place and so I have almost written a whole new routine for this. It is now one of the most challenging programming tasks I have had on my 41 (including the challenges I have had with MCODE).

I will release the new version (0.4) soon. Perhaps later today.

Bit rot

*Message #5 Posted by **Palmer O. Hanson, Jr.** on 17 Nov 2010, 7:37 p.m.,*
in response to message #4 by Geir Isene

> Quote:
>
> Somehow, parts of the program caught the infamous bit-rot.

What is bit rot?

Re: Bit rot

*Message #6 Posted by **Martin Pinckney** on 17 Nov 2010, 9:36 p.m.,*
in response to message #5 by Palmer O. Hanson, Jr.

From Wikipedia article:

"A program may run correctly for years with no problem, then malfunction for no apparent reason. Programmers[who?] often jokingly attribute the failure to bit rot".

Re: Bit rot

*Message #7 Posted by **David Hayden** on 18 Nov 2010, 12:14 a.m.,*
in response to message #6 by Martin Pinckney

I worked on a project once where we found the cause of many of "bit rot" errors. A more accurate description of the problem is "working by accident."

It turns out that programs often contain a bug, but because of some other property of the program or the running environment, the bug never manifests. A simple example is an uninitialized variable: the program allocates space for a variable, but doesn't initialize its value to something meaningful before using it. This is a bug. But if the location of that variable gets written by some OTHER part of the program just before the variable is allocated, then the code may work because the value turns out to be legal.

So the code works, but not because it was designed to work that way. It works by an accident of fate. The bug is never detected because the software works.

Fast forward 10 years and now there's an Operating System update, or a faster processor causes the program to execute slightly differently, or more memory does the same. The point is, *something* happens that causes the memory to be initialized differently from before. Now the program breaks, for seemingly no reason.

It's a wonder that this stuff works at all :)

Dave

Bit rot in the brain...

*Message #8 Posted by **Michael Meyer** on 18 Nov 2010, 10:09 a.m.,*
in response to message #7 by David Hayden

Extremely interesting to me as a psychiatrist. I think the brain may be a victim of these kind of errors as well. As one memory gets "reorganized", others get "overwritten".... I know that I'll be using this term, now, in reference to neurophysiology. (Or at least to my own errors!)

Re: Bit rot in the brain...

*Message #9 Posted by **Martin Pinckney** on 18 Nov 2010, 10:59 a.m.,*
in response to message #8 by Michael Meyer

Perhaps this is the reason a husband and wife (who have shared many of the same experiences for years) will remember certain details differently, and each be equally sure their recollection is the correct one.

Re: Bit rot

*Message #10 Posted by **Palmer O. Hanson, Jr.** on 19 Nov 2010, 9:51 p.m.,*
in response to message #7 by David Hayden

> Quote:
>
> It's a wonder that this stuff works at all :)

Back in the dark ages when folks were just starting to talk about computers in the home one of the superprogrammers at Honeywell said of the idea

O.K. FOR AEROSPACE BUT NOT SAFE AROUND THE HOME.

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Future of HP-IL with PIL-Box and TCP/IP?

*Message #1 Posted by **Christoph Giesselink** on 15 Nov 2010, 2:16 p.m.*

In summer / fall 2009 Jean-Francois Garnier began to distribute his PIL-Box as solution for communication between real HP-IL devices like the HP-41C or HP-71B and virtual peripheral like printer and mass storage running on the PC. Therefore Jean-Francois published the Windows program ILPer, a virtual printer and mass storage solution with integrated IL frame scope. ILPer is communicating directly with the PIL-Box over a virtual COM port. The PIL-Box itself can operate as controller or as device, in case of ILPer as device.

With the current ILPer v1.35.3 solution it's not possible to create a virtual loop on the PC, the virtual loop is only inside of ILPer. First I thought about creating a virtual loop between applications inside a PC with "named pipes", later I made tests with TCP/IP and UDP. Finally, for some reasons, I decided to use TCP/IP IPv4 as transport protocol for a virtual IL implementation on a PC.

So the first program I wrote, was ILPilbox.exe. ILPilbox is a bridge between the real HP-IL world connected over a PIL-Box and the virtual IL using TCP/IP. On the next step I expanded ILPer with the TCP/IP virtual IL feature. Now I was able to create a virtual loop with two or more ILPer instances inside. Finally I created ILScope.exe, a separate IL frame scope, which can be included anywhere in the TCP/IP virtual IL. All programs are written for Win2k or later.

I made a demo side at http://hp.giesselink.com/ILPer/ILPer.htm showing an instance of ILPilbox, two instances of ILPer and one instance of ILScope showing the data back to the real HP-IL in one virtual loop. ILPilbox was connected with the PIL-Box and on the HP-IL side of the PIL-Box was a HP-41C as controller.

I'm looking for a few beta testers for this software. For testing you **must** have a PIL-Box. It would be interesting if someone has more than one PIL-Box, in this case one PIL-Box can operate as device (the one with the controller on the HP-IL side) and the other as controller with devices (or a closed loop) on it. I have only one PIL-Box so I'm not able to check this condition. If you're interested into testing, drop an eMail over my MoHPC account. Please explain for what do you use the current combination of the PIL-Box and other software. This will help me to decide if you fit into the beta test group or not.

Regards

Christoph

Re: Future of HP-IL with PIL-Box and TCP/IP?

*Message #2 Posted by **Mike (Stgt)** on 16 Nov 2010, 5:23 a.m.,*
in response to message #1 by Christoph Giesselink

For me this announcement is a little dream-come-true: the virtualisation of the HPIL-loop. And by using TCPIP as "virtual machine communication facility" it is _not_ restricted to run on one PC only.

Thank you very much Christoph!

But, what emulated controler do we have currently? Emu41? Nonpareil? V41 in future?? My NutEm in some decades?

Ciao.....Mike

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HP-41 File management system

*Message #1 Posted by **Geir Isene** on 15 Nov 2010, 1:42 p.m.*

I was a roll and finally got around to publish also my file management programs - programs that I use regularly and find very useful:

The FILEMAN and FILE programs are found here.

Re: HP-41 File management system

*Message #2 Posted by **Jeff Davis** on 21 Nov 2010, 11:25 a.m.,*
in response to message #1 by Geir Isene

In the listing for the "LIBXM" file you have two entries NNN>HEX and aNRCL. Are these two MCODE routines possibly from SQUID MCODE book?

Re: HP-41 File management system

*Message #3 Posted by **Angel Martin** on 21 Nov 2010, 1:11 p.m.,*
in response to message #2 by Jeff Davis

Only Geir can confirm but sure enough they look like those functions from the Skwid book (and also present in the SandBox and TOOLBOX rom, and possibly also in Geir's own ICEBOX).

Re: HP-41 File management system

*Message #4 Posted by **Jeff Davis** on 21 Nov 2010, 1:26 p.m.,*
in response to message #3 by Angel Martin

Located in the ICEBOX rom.

Re: HP-41 File management system

*Message #5 Posted by **Geir Isene** on 21 Nov 2010, 2:57 p.m.,*
in response to message #4 by Jeff Davis

Yes. I asked the forum a while back for the best way of showing the current XM file and found the best way to be included in either the full CCD ROM (but it requires 2 pages and contains less useful matrix functions - so I opt for the much better CCD OS/X) or the ICEBOX rom. Only the function XMFILE? requires the ICEBOX.

Also, the call to XMFILE? can safely be removed from the FILEMAN and FILE programs as these are only included for the added convenience of showing the user what file is currently handled at the start of the FILEMAN or FILE programs.

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Bobby Schenk Yacht Module; Answer from Bobby himself

*Message #1 Posted by **Geir Isene** on 15 Nov 2010, 12:57 p.m.*

I mailed Bobby and he answered;

Apparently there is no English manual.

Anyone care to translate the mains of it? If I knew German, I would do it myself and then publish it, but unfortunately I took four years of French in school instead (and was left with only one rude French sentence that I never got to use :(

Re: Bobby Schenk Yacht Module; Answer from Bobby himself

*Message #2 Posted by **Walter B** on 15 Nov 2010, 3:07 p.m.,*
in response to message #1 by Geir Isene

After I participated considerably in hijacking your last thread in this matter, I think it's adequate offering you some translation work. Hope it won't be tenths of pages though ;)

Re: Bobby Schenk Yacht Module; Answer from Bobby himself

*Message #3 Posted by **Geir Isene** on 15 Nov 2010, 5:20 p.m.,*
in response to message #2 by Walter B

Although it was one hell of a good hijack, I'll take you up on the offer. Send me an e-mail to g@isene.com, and I will send you a copy of the manual for translation. Just translate what you believe is important in order for me to actually use the module.

And: Thank you very much.

Now let the hijacking begin :)

Re: Bobby Schenk Yacht Module; Answer from Bobby himself

*Message #4 Posted by **Walter B** on 16 Nov 2010, 2:03 a.m.,*
in response to message #3 by Geir Isene

Geir,

> Quote:
>
> Although it was one hell of a good hijack, ...

Thank you. I'll try hard to make a hijack worth two hells next time ;) Anyway, you've got mail.

Re: Bobby Schenk Yacht Module; Answer from Bobby himself

*Message #5 Posted by **Martin Pinckney** on 15 Nov 2010, 5:59 p.m.,*
in response to message #2 by Walter B

> Quote:
>
> Now let the hijacking begin :)

OK, here goes:

> Quote:
>
> Hope it won't be tenths of pages though ;)

Walter, if it's only a few *tenths*, it should not take long at all!

OK, OK, I am **really** just teasing you! No offense intended!

Re: Bobby Schenk Yacht Module; Answer from Bobby himself

*Message #6 Posted by **Walter B** on 16 Nov 2010, 1:56 a.m.,*
in response to message #5 by Martin Pinckney

Martin, I can take that :) and after all it's "only" 41 pages in that language with nonsensical features (according to a few forumers writing another one, whichs ambiguities I'm exploiting).

Just for curiosity: which language(s) can **you** offer translationwise? ;)

Edited: 16 Nov 2010, 5:12 a.m.

Re: Bobby Schenk Yacht Module; Answer from Bobby himself

*Message #7 Posted by **Martin Pinckney** on 17 Nov 2010, 9:41 p.m.,*
in response to message #6 by Walter B

> Quote:
>
> Just for curiosity: which language(s) can **you** offer translationwise? ;)

I can translate reasonably well from Gullah to English, but not necessarily vice versa.

Re: Bobby Schenk Yacht Module; Answer from Bobby himself

*Message #8 Posted by **Mike (Stgt)** on 16 Nov 2010, 4:57 a.m.,*
in response to message #1 by Geir Isene

Do not use the HP-41 Bobby Schenk Yacht Module for serious tasks. The navigator who once sold me this module told me that it has errors (beim Koppeln). Also I was never able to find the error I would like to warn you before something goes wrong.

IMHO the modue is a nice toy. It is quite useful to do some theory at home. But in practice in rogh conditions I put the HP-41 back to a secure place and used traditional technique (Karte und Besteck): map, ruler etc.

The module is protected. After removing the protection I had the impression that the programming was done in an other language and then migrated to the HP-41 as the code is not optimized for it.

My 0.02$ Ciao.....Mike

Re: Bobby Schenk Yacht Module; Answer from Bobby himself

*Message #9 Posted by **Geir Isene** on 16 Nov 2010, 5:27 a.m.,*
in response to message #8 by Mike (Stgt)

I will ask Bobby about this.

Re: Bobby Schenk Yacht Module; Answer from Bobby himself

*Message #10 Posted by **Geir Isene** on 16 Nov 2010, 6:13 a.m.,*
in response to message #9 by Geir Isene

Bobby is darn quick.

He says the module was indeed programmed in FOCAL by him, it sold in a few thousands and never was any bug reported. He also sailed with this module from Tahiti round Cape Horn and then to the med (with only one stop) and relied 100% daily on this module.

I'd say that's pretty serious undertaking.

Re: Bobby Schenk Yacht Module; Answer from Bobby himself

*Message #11 Posted by **Mike (Stgt)** on 16 Nov 2010, 12:10 p.m.,*
in response to message #10 by Geir Isene

Primo: As I sayed, I was told about a bug from the seller who was navigator on a cargo vessel. Alas I was never able to figure out the error in dead reckon. So my warning is somewhat vague.

2nd Primo: If Bobby did the programming in FOCAL on his own - well - he probably programmed it in an other language before, for a Sharp, or in BASIC. But before I get a legal dispute with a judge: this is just my impression. <VBG>

Ciao.....Mike

Re: Bobby Schenk Yacht Module; Answer from Bobby himself

*Message #12 Posted by **Geir Isene** on 16 Nov 2010, 2:48 p.m.,*
in response to message #11 by Mike (Stgt)

I am not going to attempt to beat Bobby's sailing feat. If the module was good enough for his sailing and he used it as his primary tool for that long trip, I would also trust it. And, if there is no verifiable bug, it may well have been a misunderstanding on your sellers part instead.

Re: Bobby Schenk Yacht Module; Answer from Bobby himself

*Message #13 Posted by **Walter B** on 16 Nov 2010, 3:11 p.m.,*
in response to message #12 by Geir Isene

On page 67 of the German manual, users finding an error in said module are requested to report it to the editor. So there's some probability that errors - if existing - were reported. OTOH, if nothing was ever reported, then probably no error was found - Bobby should know.

Re: Bobby Schenk Yacht Module; Answer from Bobby himself

*Message #14 Posted by **Martin Pinckney** on 16 Nov 2010, 8:45 a.m.,*
in response to message #8 by Mike (Stgt)

> Quote:
>
> Do not use the HP-41 Bobby Schenk Yacht Module for serious tasks. The navigator who once sold me this module told me that it has errors ... I would like to warn you before something goes wrong.

After over 100 posts and a major (albeit fun) hijack, you tell us this **NOW?** {:-)

Re: Bobby Schenk Yacht Module; Answer from Bobby himself

*Message #15 Posted by **Walter B** on 16 Nov 2010, 8:56 a.m.,*
in response to message #14 by Martin Pinckney

> Quote:
>
> Posted by Martin Pinckney on 16 Nov 2010, 8:45 a.m.

Sorry, you're 2.5h late with this reaction. Read Geir's post above. BTW, how many users of BSYM do we have here?

Re: Bobby Schenk Yacht Module; Answer from Bobby himself

*Message #16 Posted by **Martin Pinckney** on 16 Nov 2010, 9:40 a.m.,*
in response to message #15 by Walter B

> Quote:
>
> Sorry, you're 2.5h late with this reaction.

Walter, I have often been accused of reacting late...

But in this case, I *knew* I was late, I just thought there was some humor in the sequence of events that should be pointed out anyway...

Re: Bobby Schenk Yacht Module; Answer from Bobby himself

*Message #17 Posted by **Ángel Martin** on 17 Nov 2010, 9:57 a.m.,*
in response to message #16 by Martin Pinckney

> Quote:
>
> I just thought there was some humor in the sequence of events that should be pointed out anyway...

and sure it was - thanks. Looks like there's some susceptibility in the air... which BTW translates into Spanish as "susceptibilidad" - such an easy tonge!

Keep up the spirit!

Edited: 17 Nov 2010, 9:57 a.m.

Sequence of events

*Message #18 Posted by **Walter B** on 17 Nov 2010, 11:28 a.m.,*
in response to message #17 by Ángel Martin

Would have been really super great if posted between 4:57 and 6:13 a.m., but after that the fun contained in that post decreased exponentially IMO. I won't quote Mikhail Gorbatchov, however, ... Only my 20m€, of course.

Edited: 17 Nov 2010, 11:30 a.m.

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Cell types for Pioneers

*Message #1 Posted by **Martin Pinckney** on 15 Nov 2010, 12:49 p.m.*

I know this topic has been covered on this Forum in years past, but I thought it might be useful to see if there are any newer perspectives.

I have several Pioneers in regular use, so I have to feed them fairly often. Does anyone have any data (as opposed to opinion) on the practical cost comparison (that is, in use) of silver vs. alkaline?

It looks like silver costs about 2.3X alkaline.

I mainly use 17b, 20s, 22s, 27s, 32sii. Occasionally 21s or 42s. Most get turned on and used for a few minutes at a time several times a day, except the 20s which stays in my truck and gets used for a few seconds perhaps once a week. The rest of the time it just bakes (SW Florida). And the 42s which mostly sits in the drawer (until I start programming it). About half the time I turn them off, about half the time they turn themselves off with the timer.

Curious, I checked various manuals I have. The 27s manual refers to either mercury(!) or alkaline. 32sii and 21s manual say use any brand of LR44 (alkaline). 42s manual is silent on cell type.

So the question is, even though I know silver lasts longer, are they cheaper in net cost, or alkaline?

Re: Cell types for Pioneers

*Message #2 Posted by **Dieter** on 16 Nov 2010, 8:34 a.m.,*
in response to message #1 by Martin Pinckney

I assume we're talking about a certain battery size with the dimensions 11,6 x 5,4 mm that, for example, is knows as

- LR44, A76, 357, A13, ... as an alkaline cell
- SR44, S76, V76PX, ... in its silver oxide version.

Mercury cells are no longer available. Both in the US and in Europe they have been banned for environmental reasons. Technically, there were great (constant voltage, very high capacity per volume unit).

A look at the manufacturers' technical specs shows the two main differences between alkaline and silver oxide batteries: capacity and voltage. On average, a LR/SR44-sized "silver cell" has roughly 50% more capacity ("more than 100 mAh" compared to "more than 150 mAh") and a higher average voltage that also drops very slowly.

> Quote:
>
> I have several Pioneers in regular use, so I have to feed them fairly often. Does anyone have any data (as opposed to opinion) on the practical cost comparison (that is, in use) of silver vs. alkaline?
>
> It looks like silver costs about 2.3X alkaline.

> (...)
>
> So the question is, even though I know silver lasts longer, are they cheaper in net cost, or alkaline?

Well... since there is an extremely wide price range, all you can say is that both (!) battery types may cost "some cents" as well as "some EUR/USD". For instance, over here in Europe we have those "One-Euro-Shops" where you can get (almost) everything they carry for one Euro. Including battery sets with ten or more different coin cells, three or five of which are usually LR44s. Of course I wouldn't expect the same battery life as a quality cell from a major brand, bought in an electronics or photo store for, say, 3 or 5 EUR/USD, but I don't think the question whether to choose an alkaline or a silver oxide cell can be boiled down to a factor 2,3. :-)

For my part, I almost exclusively use higher capacity cells, so in this case I would choose the silver oxide version. They last significantly longer and I don't think a few more cents really make a difference.

Dieter

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Update to UC-41: Libraries to handle XM and HEPAX files

*Message #1 Posted by **Geir Isene** on 15 Nov 2010, 11:02 a.m.*

Updated the UC-41 page. Added a libraries page that includes two libraries; LIBXM and LIBHPX handling XM and HEPAX files respectively; Resizing, saving, retreiving, current XM file and more.

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15c calculator

*Message #1 Posted by **jim mac** on 15 Nov 2010, 2:43 a.m.*

is there a substitute key on the 15c for x>0 which was on the 11c. Cheers Jim

Re: 15c calculator

*Message #2 Posted by **Paul Dale** on 15 Nov 2010, 2:45 a.m.,*
in response to message #1 by jim mac

Look at the back panel for details of the TEST instruction.

- Pauli

Re: 15c calculator

*Message #3 Posted by **jim mac** on 15 Nov 2010, 2:49 a.m.,*
in response to message #2 by Paul Dale

I had a program with this line init on my 11c so i need the corresponding keyin so that the program will work on my 15c. Cheers Jim

Re: 15c calculator

*Message #4 Posted by **jim mac** on 15 Nov 2010, 2:58 a.m.,*
in response to message #2 by Paul Dale

I tried using g test 1 (x>0) but the program still does not work. Cheers Jim

Re: 15c calculator

*Message #5 Posted by **Walter B** on 15 Nov 2010, 3:29 a.m.,*
in response to message #4 by jim mac

Jim,

I'd suggest you show a listing of your program here and tell us what "does not work". Else try single-stepping through your program and check the values on the stack. AFAIK calculators aren't mean, so the problem sits in front of them usually ;)

Re: 15c calculator

*Message #6 Posted by **bill platt** on 15 Nov 2010, 10:01 a.m.,*
in response to message #4 by jim mac

Hi Jim, I now see that you tried this. Perhaps you are accidentally in complex mode? Check your initial conditions. Also check your memory allocation. The 15c memory can be allocated specifically. You

may have inadvertently over-allocated memory to program lines or vice versa...

Re: 15c calculator (test x > 0?)

*Message #7 Posted by **Karl Schneider** on 15 Nov 2010, 11:15 a.m.,*
in response to message #4 by jim mac

Jim --

g TEST 1 on the HP-15C indeed provides the "x > 0 ?" conditional test listed directly on the HP-11C.

The four conditional tests of equality and inequality on the HP-15C utilize both parts of a complex number, so they might act unexpectedly in complex mode (g SF 8). However, "x > 0?" is not one of those tests.

If difficulties persist, I'd echo Walter's suggestions for you to post the troublesome code and be more specific about "does not work".

-- KS

Edited: 17 Nov 2010, 12:49 a.m.

Re: 15c calculator

*Message #8 Posted by **bill platt** on 15 Nov 2010, 9:53 a.m.,*
in response to message #1 by jim mac

Jim,

The 15c has additional tests compared to the 11c. Unlike the 11c however, only two of the tests are directly labeled and keyed. The other ten are called using sequence g TEST n. Below is a comparison table:

```
11C has 8 tests, all in the 10th column of keys:
x<=y
x<0


x>y
x>0


x not y
x not 0


x=y
x=0
```

For the 15c, look on the back of the calculator and you will see a table thus:

```
   ERROR            TEST        MATRIX
0 | y/0, LN 0...| x not 0 |    0 DIM
1 | ----         | x > 0   |  ------
2 | ------       | x < 0   |
```

etc.

So to get "X > 0" you key in g TEST n which is g followed by the minus key, followed by the number 1.

I hope that helps,

Bill

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HP 15C emulator for Ipod touch

*Message #1 Posted by **Jeff Fontaine (Canada)** on 13 Nov 2010, 9:20 p.m.*

Hello,

I maybe didn't search correctly, but I didn't find posts about HP 15C emulator. I would like to find a good one for my ipod, or a good rpn calculator for this device.

I found two, the one from HP (http://itunes.apple.com/app/hp-15c-scientific-calculator/id318956846?mt=8) and another one by Thomas Fors (http://itunes.apple.com/us/app/sci-15c-scientific-calculator/id291967860?mt=8). Does someone knows which one is the best ? Or another one which would be better ?

I also found a RPN calculator (http://itunes.apple.com/us/app/active-rpn-calculator/id317847341?mt=8) which seems to be pretty interesting. Any opinion about this one.

Thanks in advance

Jeff

Edited: 13 Nov 2010, 9:30 p.m.

Re: HP 15C emulator for Ipod touch

*Message #2 Posted by **Jean-Michel** on 14 Nov 2010, 9:16 a.m.,*
in response to message #1 by Jeff Fontaine (Canada)

Hi Jeff,

I have no opinion on HP-15C emulators for iPod touch since I only have free emulators, except i41CX which was the first one I bought, because of my personal interest for the 41, and also because at the time I bought it there were not much emulators available. Anyway, let me suggest you to consider m48, which is probably the best emulator of the 48. Two others are available, but less interesting to my opinion (GraphiX48 and i48).

Free 42 is also a "must have", more to say knowing that it is also free.

PCalc Lite is also nice, with both algebraic and RPN mode.

Concerning Active RPN you are talking about, I only have the free version, Access RPN. This app is very nice, especially because it is well adapted for the tiny screen of the iPod, when one does not need much scientific functions.

Except if you really need and want an HP-15C emulator you may find some interesting emulators among those I listed.

I should also add i41 CAS, which is a free version of i41CX, but with CAS capabilities.

Hope this helps.

Kind regards from France.

Jean-Michel.

Re: HP 15C emulator for Ipod touch

*Message #3 Posted by **robert rozee** on 14 Nov 2010, 10:57 a.m.,*
in response to message #2 by Jean-Michel

not for the ipod, but a sort-of HP-15c emulator none-the-less, is this here one:
http://sourceforge.net/projects/hp15c/

written in delphi (object pascal), non-programmable, and supporting a few extra features. a single fix of one compile error, and it compiles with delphi 5. should be port-able to platforms other than windows using lazarus/fpc, so an android version is not out of the question.

cheers, rob :-)

Re: HP 15C emulator for Ipod touch

*Message #4 Posted by **Egan Ford** on 14 Nov 2010, 10:48 a.m.,*
in response to message #1 by Jeff Fontaine (Canada)

I've tested the following:

1. SCI-15C, Tom Fors (based on nonpareil (Eric Smith)
2. ClassicRPN (they rolled up 11C, 12C, 15C, 16C into a single package)
3. RPN-15C, same as #2, but just the 15C.
4. Calc 15C (now gone from store), however Calc 16Cx and 11Cx are still there.

Of the 15Cs I've tested #1 provides the best user experience because of its simplicity, keyboard accuracy, redesigned rear view, and the big button feature. It also supports all the 15C self-tests and diags, even on-. works. It is a bit pricy, but since Eric gets some coin from that, I don't mind. My only criticism is that the colors (f/g) do not match a real 15C--The blue is a bit light and the yellow a bit dark--probably due to a delta in the designers monitor and the phone display. The key click volume also does not match the iPhone key click volume (it's too loud). When I need a 15C I use this one.

#2 has a lot of nice features. 4 level stack output. Horizontal and vertical displays. User definable colors and button sizes. All the Voyagers under a single icon. You can even move the stack from calc to calc (e.g. 15C to 12C). Macros. Issues: key lag and accuracy, annoying key click sound (also too loud, 41CX has a user definable volume for the key click--nice), for some reason settings are not being saved. Cheap, 4 calcs for < #1. I only use this for my 12C and 16C needs, but now that I have folders I may dump this for Tom's/Eric's 12C/16C.

#3 is just #2 with 15C only. Same issues IIRC.

#4 is like #1 but for $0.99. The rear view is poor. I do not recall why I deleted it (odd issues IIRC). 16Cx is not bad, but I do not like the display.

If you want a very solid, authentic 15C experience with a great rear reference, fast and accurate buttons, then get #1.

If you want a superset of the 15C then get 42s ($9.99) or Free42 (free), (please avoid RPN Calc 42s). I prefer 42s because is has a number of features making it really a 42S+ (e.g. larger stack display). Free42 is more in the spirit of Tom's/Eric's 15C--it's as close to a 42S as possible.

42s is my default everyday calculator, it loads fast, has nice complex math support (vs. 15C), the extra stack lines are great and can be expanded beyond 4 with 3 or 6 visible with just a swipe. The portrait view makes for simple one-handed computations.

Lastly, I must mention i41CX+ ($24.99). Of all the calcs listed above it's the only one that supports iOS multitasking (rapid switching to be accurate) besting 42s in load times. i41CX+ may become my default quick answer calc. The i41CX+ feature set it stunning. Not only does it emulate a loaded 41CX, but it also support all the modules including HEPAX and has great overlay support. It also has a printer, iOS cut/paste, email support, etc... See their website for all the details.

One more thing...

Not what you asked for, but if you are interested in 48/49 emulation then checkout m48+. Since it is based on EMU48 and not x48 like all the others you get a lot of the EMU48 features. And since there is a 15C emulator for the 48/49 that works in EMU48 then you could do that too. I do not recommend that, but I just needed a tie-in with your original request. :-)

NOTE: i41CX+ and m48+ are universal apps that look awesome on the iPad. The rest run in 2x mode--who doesn't want a giant 15C? :-)

REQUEST: Tom/Eric any chance for iOS 4 updates for fast task switch and perhaps a volume control for the key click? A Voyagers app with all 4 would be nice too--make it universal so that on the iPad I see all 4 on the screen at the same time with all functional of course so that when my 16C is busy computing ToH I can use the 12C to see if I am getting a good deal on my refi. :-)

Re: HP 15C emulator for Ipod touch

*Message #5 Posted by **Mark Hardman** on 14 Nov 2010, 12:00 p.m.,*
in response to message #4 by Egan Ford

Egan, thank you for the excellent comparison. My Windows Mobile HTC phone recently died and my employer has replaced it with an iPhone. So Jeff's original question was well timed for me as well.

I was considering purchasing the ClassicRPN app. But now that I know that Eric Smith is getting compensation from the sale of SCI-15C, I'll spend the extra money for the full SCI-11C, FIN-12C, SCI-15C and PRG-16C suite.

Considering that Tom and Eric have already leveraged the work in Nonpareil for these four apps, it is a pity that the other Classic, Woodstock and Spice emulations are not also available. I would drop $19.99 immediately for a HP-34C app.

Mark Hardman (LED)
Houston TX

Edited: 14 Nov 2010, 12:01 p.m.

Re: HP 15C emulator for Ipod touch

*Message #6 Posted by **Jeff Fontaine (Canada)** on 15 Nov 2010, 9:00 p.m.,*
in response to message #1 by Jeff Fontaine (Canada)

Hi Guys,

Thanks a lot for your help and advice. I installed Free42 and m48 to test them, which seems to be very good. I just have a problem with the48 : it is nearly impossible to change the volume in the settings.

The i41 CAS is no more available, it was just for a limited time.

I was interested in a 15C emulator because it id the one I use, or use again since this summer. My very first one died 10 years ago and I bought a 48, but never really liked it as much as the 15C, or even the 67 I still have.

Once again thanks a lot

Jeff

Re: HP 15C emulator for Ipod touch

*Message #7 Posted by **Jean-Michel** on 16 Nov 2010, 3:26 p.m.,*
in response to message #6 by Jeff Fontaine (Canada)

Hi Jeff,

You're welcome. I'd be glad to get your feedback after some days/weeks of use of m48. I really like this one and use it very often.

Other thing: I'm planning a trip to Canada next year in spring, in the state of Québec, with wife and kids, to go back to my roots (yes!). Would you mind answering a few questions of mine on this topic?

Email me if you have a couple of minutes of spare time for me.

Thanks in advance! Kind regards from France.

Jean-Michel.

Re: HP 15C emulator for Ipod touch

*Message #8 Posted by **Jeff Fontaine (Canada)** on 16 Nov 2010, 7:19 p.m.,*
in response to message #7 by Jean-Michel

Hi Jean-Michel

En français, car je suis français, installé à Montréal depuis bientôt 2 ans. Pas de problème si je peux répondre aux questions pour la préparation du voyage, ce sera avec plaisir

JF F

Re: HP 15C emulator for Ipod touch

*Message #9 Posted by **Jean-Michel** on 17 Nov 2010, 12:46 p.m.,*
in response to message #8 by Jeff Fontaine (Canada)

Jeff,

S'il te plaît, écris moi à mon adresse perso, afin de ne pas encombrer le forum.

Je cherche juste un avis sur les principales choses à voi au Québec en une dizaine de jours.

jms "point" lecointre "at" wanadoo "point" fr

(for English readers: I'm just asking Jeff to write to my personal email address)

Thanks!

fbronner

*Message #10 Posted by **fbronner** on 16 Nov 2010, 11:14 p.m.,*
in response to message #7 by Jean-Michel

I may be able to help too being in Montreal.

I lived 44 years in and around Montreal.

Edited: 16 Nov 2010, 11:14 p.m.

Re: fbronner

*Message #11 Posted by **Jean-Michel** on 17 Nov 2010, 12:53 p.m.,*
in response to message #10 by fbronner

Hello,

thanks for your proposal. Please read my answer to Jeff's latest mail (just above) and proceed as written, so that we will not "pollute" this HP forum with off topics mails.

Kind regards from a previous "Québecois"

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TOMSROM manual in pdf?

*Message #1 Posted by **Geir Isene** on 13 Nov 2010, 4:14 p.m.*

I find a page-by-page manual over at TOS and could piece them together to a PDF file, but someone just might have one already, so I'm asking: Could anyone send me the TOMSROM manual as a PDF file? E-mail: g@isene.com

Re: TOMSROM manual in pdf?

*Message #2 Posted by **Juergen Keller** on 13 Nov 2010, 5:21 p.m.,*
in response to message #1 by Geir Isene

When you buy the TOS DVD you'll get _all_ the manuals in PDF format.

Re: TOMSROM manual in pdf?

*Message #3 Posted by **Geir Isene** on 13 Nov 2010, 5:38 p.m.,*
in response to message #2 by Juergen Keller

I have the TOSdvd, and it's not in there - at least not in my version of it... The ROM image is there under /Custom_Peripherals/Other, but no manual.

Re: TOMSROM manual in pdf?

*Message #4 Posted by **Juergen Keller** on 14 Nov 2010, 2:10 a.m.,*
in response to message #3 by Geir Isene

Oops, I should have checked it before, it's not on mine, too. But on Macs it's an easy task, and you've got mail ...

Re: TOMSROM manual in pdf?

*Message #5 Posted by **Geir Isene** on 14 Nov 2010, 10:27 a.m.,*
in response to message #4 by Juergen Keller

Thanks :)

Re: TOMSROM manual in pdf?

*Message #6 Posted by **Angel Martin** on 14 Nov 2010, 12:33 p.m.,*
in response to message #4 by Juergen Keller

Can I also get email, please?

:-)

Re: TOMSROM manual in pdf?

*Message #7 Posted by **Juergen Keller** on 14 Nov 2010, 2:41 p.m.,*
in response to message #6 by Angel Martin

Yes, you can

Re: TOMSROM manual in pdf?

*Message #8 Posted by **Håkan Thörngren** on 14 Nov 2010, 4:48 p.m.,*
in response to message #7 by Juergen Keller

Me too? :)

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Calculator Sacrilege..

*Message #1 Posted by **uhmgawa** on 13 Nov 2010, 3:30 p.m.*

Man. I though I'd received some punishable offences from EEEBay curators. But this casualty leaves my stories far behind on the voyager agony scale:

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=280589007986

I can't imagine exactly what type of misfortune a 15c could meet to render it in that condition.

My real question is HOW the 15c logo can not only be still present on the device but arguably in better shape than the entire balance of the exterior. Well assuming it is the original, which I'm inclined to as it doesn't appear that fella was the recipient of abundant love throughout its life.

Edited: 13 Nov 2010, 3:43 p.m.

Re: Calculator Sacrilege..

*Message #2 Posted by **Frank Boehm (Germany)** on 13 Nov 2010, 3:53 p.m.,*
in response to message #1 by uhmgawa

This is a typical victim of the well-known killer H20. Increased humidity will lead to corrosion of the aluminium parts (front / back). The logo is made out of chrome-plated plastic, so it will not suffer from humidity.

Re: Calculator Sacrilege..

*Message #3 Posted by **uhmgawa** on 13 Nov 2010, 5:54 p.m.,*
in response to message #2 by Frank Boehm (Germany)

Sorry, I should have been clearer. This was somewhat tongue-in-cheek.

> Quote:
>
> This is a typical victim of the well-known killer H20.

I suspected water may have been a catalyst, but the corrosion due primarily to some type of salt attack. Not that I'd dispute it being possible. But I've never seen wear of that degree due to water/humidity alone.

> Quote:
>
> The logo is made out of chrome-plated plastic..

Voyager logos tend to be early cosmetic casualties, and given the ABS case mechanical wear, the logo condition struck me as a tad unusual.

Re: Calculator Sacrilege..

*Message #4 Posted by **Thomas Chrapkiewicz** on 13 Nov 2010, 3:54 p.m.,*
in response to message #1 by uhmgawa

...and it appears that it still functions!!!

Re: Calculator Sacrilege..

*Message #5 Posted by **Wanderley Navarro** on 13 Nov 2010, 6:31 p.m.,*
in response to message #1 by uhmgawa

I couldn't resist. The uniqueness of its appearence will do an interesting contrast among the 2 NIB and 3 MINT 15Cs that I have in the collection.

Edited: 13 Nov 2010, 6:36 p.m.

Re: Calculator Sacrilege..

*Message #6 Posted by **Gerson W. Barbosa** on 13 Nov 2010, 7:23 p.m.,*
in response to message #5 by Wanderley Navarro

Parabéns! (Congratulations!)

Re: Calculator Sacrilege..

*Message #7 Posted by **Wanderley Navarro** on 13 Nov 2010, 8:01 p.m.,*
in response to message #6 by Gerson W. Barbosa

Obrigado. (Thanks)

Re: Calculator Sacrilege..

*Message #8 Posted by **uhmgawa** on 13 Nov 2010, 7:37 p.m.,*
in response to message #5 by Wanderley Navarro

> Quote:
>
> I couldn't resist. The uniqueness of its appearence will do an interesting contrast among the 2 NIB and 3 MINT 15Cs that I have in the collection.

Upon receipt, please share a high resolution digicam or scan jpeg with the class. This is excellent material for a nerd poster if I could just puzzle out an appropriate caption.

Edited: 13 Nov 2010, 7:38 p.m.

Re: Calculator Sacrilege..

*Message #9 Posted by **Wanderley Navarro** on 13 Nov 2010, 7:57 p.m.,*
in response to message #8 by uhmgawa

Will do for sure. One pic alone for your poster and another side by side with a new one.

Re: Calculator Sacrilege..

*Message #10 Posted by **Egan Ford** on 13 Nov 2010, 6:44 p.m.,*

in response to message #1 by uhmgawa

Given that the case looks unused, I'd also have to guess that it was never stored in its case.

Re: Calculator Sacrilege..

*Message #11 Posted by **Paul Dale** on 13 Nov 2010, 7:26 p.m.,*
in response to message #10 by Egan Ford

A perfect candidate for a total restoration :-)

- Pauli

Re: Calculator Sacrilege..

*Message #12 Posted by **Wanderley Navarro** on 13 Nov 2010, 9:19 p.m.,*
in response to message #11 by Paul Dale

Well... not exactly... IMHO

I have a somewhat different view...

Imagine a museum - that I don't have (yet) - full of mint & near mint HP calculators... in front of wich one will people - with no doubt - stop and make some amazed comments?

Re: Calculator Sacrilege..

*Message #13 Posted by **Hal Bitton in Boise** on 14 Nov 2010, 1:42 a.m.,*
in response to message #1 by uhmgawa

Even in that condition it went for $79. Proof positive of the high regard the 15C commands.

Re: Calculator Sacrilege..

*Message #14 Posted by **uhmgawa** on 14 Nov 2010, 8:41 p.m.,*
in response to message #13 by Hal Bitton in Boise

> Quote:
>
> Even in that condition it went for $79. Proof positive of the high regard the 15C commands.

In general I believe the price vs. condition curve for a 15c to be quite nonlinear yet somewhat predictable at the low end. It seems really beat 15c units auction at an incomprehensible price relative to their condition, I'd hazard because bidders think they've found a repairable bargain, however the bidding escalates carrying them away.

Although no reflection intended to the unit/buyer here as this wasn't an auction.

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Robotic Programming for 35s?

*Message #1 Posted by **David Hayden** on 13 Nov 2010, 7:56 a.m.*

So I have this cute little 35s with lots of memory and no I/O. It occurred to me that something like a Lego Mindstorm could be programmed to press the keys on the calculator. Add something to parse a program listing and you have a robot that will enter your code.

Another possibility might be an old X-Y plotter, modified with a soft tip instead of a pen, and with a holder for the calculator.

Has anyone done this?

Dave

Re: Robotic Programming for 35s?

*Message #2 Posted by **Katie Wasserman** on 13 Nov 2010, 11:11 a.m.,*
in response to message #1 by David Hayden

We discuss this here every once in a long while, here's one thread (start reading about half-way down). David Smith mentions that he made one once, but I don't remember anyone saying that they have or know of such a machine recently -- creating one would be a fun project!

-Katie

Edited: 13 Nov 2010, 11:15 a.m.

Re: Robotic Programming for 35s?

*Message #3 Posted by **Don Shepherd** on 13 Nov 2010, 2:03 p.m.,*
in response to message #2 by Katie Wasserman

Katie, trying to do something like this for program entry on the 30b would probably be impossible because of the "shift + hold" functions. You would, I suppose, need two actuators to depress two keys at the same time.

Re: Robotic Programming for 35s?

*Message #4 Posted by **uhmgawa** on 13 Nov 2010, 9:27 p.m.,*
in response to message #3 by Don Shepherd

> Quote:
>
> Katie, trying to do something like this for program entry on the 30b would probably be impossible because of the "shift + hold" functions. You would, I suppose, need two actuators to depress two keys at the same time.

Good point. Or at bare minimum a dedicated solenoid for keys involved in simultaneous-down sequences. This even impacts the use of an analog multiplexer as it will be necessary to select more than one column/row in such scenarios.

Anyway the input mechanism is fairly straightforward. Getting output from the multiplexed voltage levels of an lcd will be much more interesting.

Re: Robotic Programming for 35s?

*Message #5 Posted by **Bill (Smithville, NJ)** on 13 Nov 2010, 3:44 p.m.,*
in response to message #2 by Katie Wasserman

And another link where I had pondered doing this for a HP-42s.

Robot Programming HP-42S??

I never got very far with it, but still interested if anyone can pull it off.

Bill

Re: Robotic Programming for 35s?

*Message #6 Posted by **Thomas Chrapkiewicz** on 13 Nov 2010, 11:16 a.m.,*
in response to message #1 by David Hayden

Hello David:

[You and I must have some type of Extra-Sensory Connection. (Good hearing from you - again - enjoyed your talk in Sept.)]

I have both Lego Mindstorms systems and a number of xy plotters 'laying around' and I've been considering exactly this for a number of I/O deficient calculators (35s, 42s, 15c, etc).

Here are the current issues as I see it: [in no particular order)

1. As the pen plotters would have to move the calculator (in the y direction), the mass of the calculator may be a problem. However, as I have velocity and acceleration control with the 7550 plotter, this may not be an issue.

2. The linear 'throw' of the PenDown for the plotter may not be sufficient. Force could also be an issue - but the actuator for the calculator will require a bit more thought.

3. Mechanical modifications of the plotter to accept the thickness of the calculator(s).

4. I/O limitations of the Mindstorms (I use the older RCX as opposed to the newer NXT systems) to sense actual position.

This is not (yet) at the 'top of my list', but it is a most interesting prospect.

TomC

Re: Robotic Programming for 35s?

*Message #7 Posted by **David Hayden** on 14 Nov 2010, 8:00 a.m.,*
in response to message #6 by Thomas Chrapkiewicz

> Quote:
>
> Hello David:
>
> [You and I must have some type of Extra-Sensory Connection. (Good hearing from you - again - enjoyed your talk in Sept.)]

Thanks Tom. I enjoyed meeting you too (and everyone else at HHC2010). I even have an idea for a presentation at HHC2011 :)

Dave

Re: Robotic Programming for 35s?

*Message #8 Posted by **uhmgawa** on 13 Nov 2010, 12:05 p.m.,*
in response to message #1 by David Hayden

> Quote:
>
> Another possibility might be an old X-Y plotter, modified with a soft tip instead of a pen, and with a holder for the calculator.
>
> Has anyone done this?

I am envious of your free time. :)

Yet for as entertaining as a mechanical/robotic version may be I'd probably resort to a pair of analog multiplexers, one of each sitting on the row and column scan matrix, commons tied together. Yea grafting this into the calc isn't great. But it is more reliable and would eliminate otherwise undetectable contact bounce.

Unsure of the key matrix topology of the 35s but I'd hazard it isn't over 8 lines wide for either row or column. Never bothered to poke at it as the 35s is pretty much a black box without any reasonable means to probe its firmware outside of a nitric acid bath. AFAICT HP isn't sharing any useful details either.

While not the same effect as an x/y articulating probe, I'd consider a solenoid matrix if you're intent on a mechanical approach. The actuation force of the the 35s keys is ~150gm which should be workable with cast off surplus solenoids. To deal with interfacing the likely large solenoid body size to a relative tighter key pitch, flexible plastic rods could be used aimed at the key locations via a perforated alignment plate. Setup of the solenoid drive in a matrix similar to the key scan topology will minimize circuitry.

In any case please share any pictures with the class!

Re: Robotic Programming for 35s?

*Message #9 Posted by **David Hayden** on 14 Nov 2010, 7:54 a.m.,*
in response to message #8 by uhmgawa

> Quote:
>
> I am envious of your free time. :)

For what it's worth, there may be real money to be made here. For example, this software for sale is $100 for the software alone and $300 for the software preloaded on a 35s. Subtract $56 for the cost of the

calculator and they're charging $144 to key in the program.

Re: Robotic Programming for 35s?

*Message #10 Posted by **Thomas Chrapkiewicz** on 13 Nov 2010, 4:10 p.m.,*
in response to message #1 by David Hayden

...with a bit more thought:

I would like to use somewhat commonly available hardware-i.e a plotter or Lego Mindstorms.

1. My pen plotter idea is out (for now) as moving the calculator around,AND transferring the mechanical movement of the pen dropping is very difficult (for me). The plotters that are commonly available (HP7550, 7475) are not true table top plotters, but move the paper within pinch rollers (in the y direction).

2. The Lego RCX does have three motor outputs (X, Y and Pen) and three inputs - certainly sufficient for this task.

I will pursue #2 for now - as time allows!!!

Of course, we will still have the mechanical problems: 1. Aligning each particular machine (35s, 42s, 15c etc) will require unique 'tooling' to hold the calculator properly - both in X / Y and vertical distance.

2. Key pressure - I believe that the appropriate type of damping material along with limiting the vertical 'drop' of the pen will take care of this.

3. Certainly feedback will be an issue, as the robot will not have vision to ensure that the correct key was hit.

4. Of course, multiple/simultaneous keystrokes will not be possible - although perhaps the user could work in synchrony with the contolling software for the (potentially) few keysteps that would require this.

TomC

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Why the resistance to make a true pocket Sci RPN calc

*Message #1 Posted by **Gerardo Rincon** on 12 Nov 2010, 9:54 p.m.*

I'm yet to understand why is it that HP has not built a true pocket scientific RPN calculator like the HP-15 was? HP scientific calculators are huge. The newer HP 35s calc is pretty big. A single line screen, pocket size, RPN/Alg would be a great addition to the HP line of calculators.

I also dislike calculator with menus in which I had to click multiple key strokes to get to a simple percent change or find mathematical functions. Direct key strokes are wonderful - one or two color shift keys can accomodate a lot of direct functions.

Programming capabilities are nice but not necessarily required.

Re: Why the resistance to make a true pocket Sci RPN calc

*Message #2 Posted by **bill platt** on 12 Nov 2010, 10:01 p.m.,*
in response to message #1 by Gerardo Rincon

My schoolage son just commented today how strange it is that there are no machines on the market today as powerful and small as the 15c.

Maybe there is hope.

Then again, look at who his father is...

Re: Why the resistance to make a true pocket Sci RPN calc

*Message #3 Posted by **Martin Pinckney** on 12 Nov 2010, 10:21 p.m.,*
in response to message #2 by bill platt

As far as why HP hasn't built a new 15c-type calculator, corporate decisions these days seem to be made by idiotic marketing concepts instead of common sense.

As far as menu- vs. keyboard-driven interface, that's more of a personal preference. But I agree the functionality of keyboard-driven is simpler, even if the keyboard is more cluttered.

Re: Why the resistance to make a true pocket Sci RPN calc

*Message #4 Posted by **Walter B** on 13 Nov 2010, 2:17 a.m.,*
in response to message #3 by Martin Pinckney

> Quote:
>
> corporate decisions these days seem to be made by idiotic marketing concepts instead of common sense.

Common sense depends on the community you're in. Nowadays, the community seems to be dominated

by marketeers and similar folks with only $,$$$,$$$ in their eyes, at least where HP is located. Sad, but fact.

Re: Why the resistance to make a true pocket Sci RPN calc

*Message #5 Posted by **robert rozee** on 13 Nov 2010, 3:50 a.m.,*
in response to message #4 by Walter B

quite simply, because the goal is no longer to produce able engineers with useful tools, but instead to produce consumers that will buy disposable products of minimum acceptable quality.

the 15c was a quality product that would last a lifetime. the person who could master it would attain a level of skill that would see them do well in their profession. but HP (and many other previously 'quality' companies) discovered that this was not the way to maximize shareholder revenue.

instead we provide students with tools that are designed to become obsolete, to break, and whose purpose is as limited as the market will withstand.

it is not just an HP problem, it is becoming almost impossible to buy ANY quality scientific calculator that is not geared exclusively to to what has become a dumbed-down educational system. today's calculators are not designed as general purpose problem solving tools, but as "answering machines" where the student can type in (verbatim) a limited range of questions, and have the machine magically produce an answer that student can write into exam paper and teacher can with little effort assign a grade to.

but we are all happy about this, as it maximises shareholder revenue - revenue with which we can all buy pink plastic flamingos and fruit-flavoured vodka mixers.

Re: Why the resistance to make a true pocket Sci RPN calc

*Message #6 Posted by **Walter B** on 13 Nov 2010, 4:14 a.m.,*
in response to message #5 by robert rozee

> Quote:
>
> but we are all happy about this, as it maximises shareholder revenue - revenue with which we can all buy pink plastic flamingos and fruit-flavoured vodka mixers.

You get to the point :))

Re: Why the resistance to make a true pocket Sci RPN calc

*Message #7 Posted by **Patrick Rendulic** on 13 Nov 2010, 5:02 a.m.,*
in response to message #1 by Gerardo Rincon

I teach physics to teenagers. Each year it gets harder to convince them to buy a "decent" calculator. The problem is that they don't see a need to buy one because they all have their iphones. Obviously they are not allowed to use them. But they are getting more and more reluctant.

That's the current problem.

Re: Why the resistance to make a true pocket Sci RPN calc

*Message #8 Posted by **bill platt** on 13 Nov 2010, 8:15 a.m.,*
in response to message #7 by Patrick Rendulic

Just require them to load free42;-0

Edited: 13 Nov 2010, 8:16 a.m.

Re: Why the resistance to make a true pocket Sci RPN calc

*Message #9 Posted by **DaveJ** on 15 Nov 2010, 12:41 a.m.,*
in response to message #1 by Gerardo Rincon

Sounds a lot like this credit card sized RPN/ALG scientific calc:

Dave.

Edited: 15 Nov 2010, 12:52 a.m.

Re: Why the resistance to make a true pocket Sci RPN calc

*Message #10 Posted by **Mark Henderson** on 15 Nov 2010, 1:08 a.m.,*
in response to message #9 by DaveJ

How can we help you to finish this tiny wonder Dave???

Re: Why the resistance to make a true pocket Sci RPN calc

*Message #11 Posted by **Walter B** on 15 Nov 2010, 1:20 a.m.,*
in response to message #9 by DaveJ

Long time no see ;)

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plastic glue

*Message #1 Posted by **aj04062** on 12 Nov 2010, 7:34 p.m.*

Anyone have a suggested glue/epoxy to repair a 200LX case?

Re: plastic glue

*Message #2 Posted by **Katie Wasserman** on 12 Nov 2010, 9:11 p.m.,*
in response to message #1 by aj04062

Hinge cracking issues?

The HP95/100/200LX case is a really difficult plastic to repair, I've tried several glues/epoxies none of which I'd recommend.

However, the recognized expert in this area is Daniel Hertrich and he describes using a 2-part plastic filler material, read about it here. I suspect that this is material is similar to Plas-T-Pair, but I've had little success using this.

-Katie

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HP 12c+ and HP 50g - initial impressions

*Message #1 Posted by **Jose Gonzalez Divasson** on 11 Nov 2010, 4:59 p.m.*

After a long relation with HP products (from a HP 33c in 1979 to 12c, 15c, 17bII, 19 bII, 41cv&x, 42S, 48G&GX, 71b, 85A + diverse printers, plotters, peripherals, oscilloscopes and multimeters), I was quite scared by the posts here about current HP quality and design.

I received last week a brand new HP12+ and an HP 50g from Eric (the only way to make sure it is the ARM-based model)

Some comments:

The HP12c+ quality:

-looks as good as the originals (I have an early USA 12c and a more recent Malaysian one),

-keyboard feels much better (time may be a factor - all my 4 voyagers have worse "click" than the new one). I would go as far as to say it betters my 41's and 48's in keying pleasure. Let's see how the painted keys age.

-Speed in a different world - IRRs and AMORTs are immediate!

-The yellowish tone of the screen is just different - not necessarily worse.

The HP 50G:

-Fast!

-Much better screen than 48GX - in all ways.

-Keyboard...lagging behind. Not bad, but if you're used to old models... In the next redesign, please use the slanted keys and mechanism of the 12c+: you still know to do it! (and put the double sized ENTER where it belongs)

-The exact mode for normal calculations is fun to use - and object manipulation much better than on the 48's. In general, I feel the 50G is a much better tool for most things. I have done in a week things that took me ages (or ever!) with the 48GX.

I have left my 48GX on my house desk. After using the 50g for 5 working days, when I took the 48g I felt it clunky as a brick (I apologize for the blasphemy) and slow as a snail. I guess that I will either use the 50g or the 41cx with nothing in between (for desk use: I always take either the 15c or 42s in my jacket pocket.

So, as a conclusion: kudos to the calculator team. HP still rules!

Re: HP 12c+ and HP 50g - initial impressions

*Message #2 Posted by **uhmgawa** on 11 Nov 2010, 8:26 p.m.,*
in response to message #1 by Jose Gonzalez Divasson

Quote:

> Some comments:
>
> -keyboard feels much better (time may be a factor - all my 4 voyagers have worse "click" than the new one). I would go as far as to say it betters my 41's and 48's in keying pleasure. Let's see how the painted keys age.

I suppose that's subjective. The legacy voyagers used a full round snap dome which has a softer action (broader threshold). The arm7 12c uses a 4 leg snap dome which gives the more pronounced inflection. Personally I prefer the older full circle snap dome. The 4 legged domes are popular as they allow a single side PCB layout for the keyboard matrix and tend to be more prevalent particularly in cost constrained designs.

If you measure the actuation force of both units however you'll find they are about the same at ~150gm.

> Quote:
>
> -Speed in a different world - IRRs and AMORTs are immediate!

Can't argue there. The 3.72Khz basic cycle time of the voyager NUTs wasn't exactly blazing. And even a pokey 1Mhz uP can best it performing emulation.

> Quote:
>
> -The yellowish tone of the screen is just different - not necessarily worse.

I'm not decided on this yet. I think the contrast is less compared to that driven via a 1LQ9 NUT which AFAICT is rendering the lcd at the same multiplex ratio. I suspect the hue of the polarizer is causing this but it may be due to other factors.

Edited: 13 Nov 2010, 2:22 p.m. after one or more responses were posted

Re: HP 12c+ and HP 50g - initial impressions

*Message #3 Posted by **Walter B** on 12 Nov 2010, 3:13 a.m.,*
in response to message #2 by uhmgawa

> Quote:
>
> If you measure the actuation force of both units however you'll find they are about the same at ~150gm.

So ~1.5N in real force units ;) (150**g** is a mass, 150**gm** is something nonsensical, as people express it here)

Re: HP 12c+ and HP 50g - initial impressions

*Message #4 Posted by **uhmgawa** on 12 Nov 2010, 8:16 a.m.,*
in response to message #3 by Walter B

> Quote:
>
> So ~1.5N in real force units ;) (150**g** is a mass, 150**gm** is something nonsensical, as people express it here)

Indeed. However that argument may be more productive to pursue with switch/dome vendors most always specifying actuation forces in units of grams. I'd hazard it is more universally understood by their target market which apparently is also subject to the same gravitational force.

Re: HP 12c+ and HP 50g - initial impressions

*Message #5 Posted by **Walter B** on 12 Nov 2010, 9:56 a.m.,*
in response to message #4 by uhmgawa

So 150**g** may be reasonable. But don't you invent new units - the world has got enough.

Re: HP 12c+ and HP 50g - initial impressions

*Message #6 Posted by **bill platt** on 12 Nov 2010, 11:03 a.m.,*
in response to message #5 by Walter B

Walter,

Most good engineering predated SI.

There is such a thing as "gram-force"

There are metric units and systems that are not SI. There is the old MKS, and the cgs systems.

If you do engineering, you should be familiar with tonne-force, kgf, etc.

Somehow, scores of European engineers have managed to use the kgf and tonne force units for decades without getting confused. Everyone knows what the meaning of "150 gram weight" is.

Re: HP 12c+ and HP 50g - initial impressions

*Message #7 Posted by **Walter B** on 12 Nov 2010, 11:18 a.m.,*
in response to message #6 by bill platt

Bill, you preach to the choir.

Edit: Just seen above the "gm" has vanished :) Thanks

Edited: 12 Nov 2010, 11:23 a.m. after one or more responses were posted

Re: HP 12c+ and HP 50g - initial impressions

*Message #8 Posted by **bill platt** on 12 Nov 2010, 11:22 a.m.,*
in response to message #7 by Walter B

I know Walter, I know.

Just some friendly bear-baiting, that's all :-P

Re: HP 12c+ and HP 50g - initial impressions

*Message #9 Posted by **Gerson W. Barbosa** on 12 Nov 2010, 11:21 a.m.,*
in response to message #5 by Walter B

Walter,

From M-W 11th Edition College Dictionary:

gm *abbr* gram

sec *abbr* **1** secant **2** second

We know **g** and **s** are the correct SI abbreviations, however **gm** and **sec** are quite acceptable in non-technical writings.

Regards,

Gerson.

Re: HP 12c+ and HP 50g - initial impressions

*Message #10 Posted by **Walter B** on 12 Nov 2010, 11:26 a.m.,*
in response to message #9 by Gerson W. Barbosa

Olá Gerson,

please forgive me thinking sometimes this is a technical forum ;)

Re: HP 12c+ and HP 50g - initial impressions

*Message #11 Posted by **bill platt** on 12 Nov 2010, 11:30 a.m.,*
in response to message #10 by Walter B

He Walter, It's technical, but it ain't SI-tech ;-D

(all my tech German friends area always using centimeters for instance...)

Re: HP 12c+ and HP 50g - initial impressions

*Message #12 Posted by **Walter B** on 12 Nov 2010, 12:16 p.m.,*
in response to message #11 by bill platt

FYI, cm is perfect SI. Its basic SI unit is m. So anything like km, dm, cm, mm, µm, nm etc. are SI. You won't find gm in these, however ;)

Re: HP 12c+ and HP 50g - initial impressions

*Message #13 Posted by **uhmgawa** on 12 Nov 2010, 11:45 a.m.,*
in response to message #10 by Walter B

> Quote:
>
> please forgive me thinking sometimes this is a technical forum ;)

Understandable. I myself occasionally mistake it for a calculator forum. I think Jose's thread is becoming lost in the dust..

Re: HP 12c+ and HP 50g - initial impressions

*Message #14 Posted by **bill platt** on 12 Nov 2010, 11:49 a.m.,*
in response to message #13 by uhmgawa

this is the 2nd or 3rd "dust-up" recently.

Re: HP 12c+ and HP 50g - initial impressions

*Message #15 Posted by **Gerson W. Barbosa** on 12 Nov 2010, 12:31 p.m.,*
in response to message #2 by uhmgawa

> Quote:
>
> If you measure the actuation force of both units however you'll find they are about the same at ~150g.

Your information is correct. This looked a bit exaggerated to me, so I decided to check. I had to stack up eight R$ 0.25 and eight R$ 0.50 coins on the EEX key in my 12C+ before it actuated. That's 119.7 grams (8*7.55 g + 6*6.80 g + 2*9.25 g - two 50 cents coins are dated 1998 and therefore heavier according to my reference). I should have repeated the experiment for some other keys and taken the average weight, but I am not that rigorous. Too many coins, I should have tried stronger currencies, like Euro or Dollar, but I have none :-)

Edited: 12 Nov 2010, 12:33 p.m.

Re: HP 12c+ and HP 50g - initial impressions

*Message #16 Posted by **Mark Henderson** on 12 Nov 2010, 12:38 p.m.,*
in response to message #15 by Gerson W. Barbosa

Finally! A truly objective measure of "strength of currency"! Thank you Gerson! I wonder what the price of a beer is in "12C+ key presses" in different currencies?!

Re: HP 12c+ and HP 50g - initial impressions

*Message #17 Posted by **Gerson W. Barbosa** on 12 Nov 2010, 12:39 p.m.,*
in response to message #16 by Mark Henderson

I just hope I am not awarded an IgNobel prize for this :-)

P.S.: For those of you wanting to repeat the experiment, don't forget to insert a small piece of styrofoam (despicable mass) between the key and the first coin.

Edited: 12 Nov 2010, 12:45 p.m.

Re: HP 12c+ and HP 50g - initial impressions

*Message #18 Posted by **Walter B** on 12 Nov 2010, 1:27 p.m.,*
in response to message #17 by Gerson W. Barbosa

> Quote:
>
> I just hope I am not awarded an IgNobel prize for this :-)

LOL. Shall we make a proposal?

Re: HP 12c+ and HP 50g - initial impressions

*Message #19 Posted by **Gerson W. Barbosa** on 12 Nov 2010, 1:51 p.m.,*
in response to message #18 by Walter B

I fear I just don't qualify... Perhaps the IgNobel Economy prize should go the Big Mac Index creators... But then this looks serious work, it's just that I don't understand Economics :-)

http://www.investmentu.com/2006/June/20060601.html

Lost in translation

*Message #20 Posted by **Martin Pinckney** on 12 Nov 2010, 2:16 p.m.,*
in response to message #17 by Gerson W. Barbosa

Can't quite visualize how the Styrofoam is used. It seems to me you require a mechanism to apply the weight directly to the one key, and not surrounding keys.

BTW, Styrofoam is probably despicable to some environmentalists, but mostly negligible to engineers. [:-)

Re: Lost in translation

*Message #21 Posted by **Gerson W. Barbosa** on 12 Nov 2010, 2:24 p.m.,*
in response to message #20 by Martin Pinckney

I meant a square piece of a lightweight material, the size of key under test, thick enough so the stack of coins don't touch the surrounding keys after key actuation.

```
      ----------
     '----------'
     '----------'
     '----------' <- coins
     '----------'
     '----------'
        |    |    <-- styrofoam or other lightweight material
 ----    ----    ----
|    | |    | |    |  <-- keys
```

Edited: 12 Nov 2010, 2:32 p.m.

Re: Lost in translation

*Message #22 Posted by **Martin Pinckney** on 12 Nov 2010, 5:03 p.m.,*
in response to message #21 by Gerson W. Barbosa

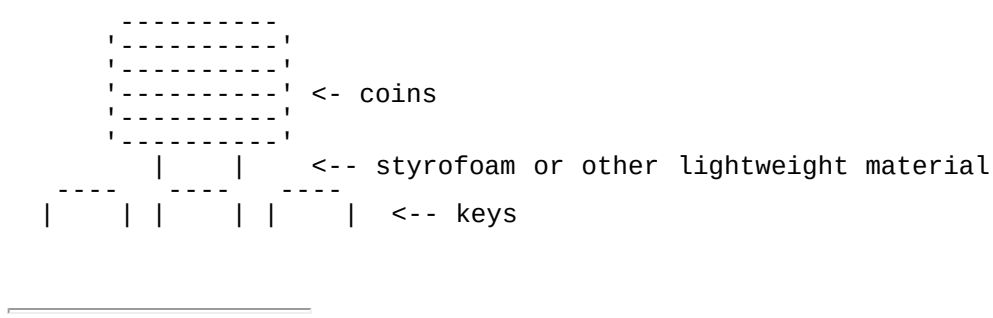
Thanks.

Re: Lost in translation

*Message #23 Posted by **uhmgawa** on 12 Nov 2010, 9:19 p.m.,*
in response to message #21 by Gerson W. Barbosa

> Quote:
>
> I meant a square piece of a lightweight material, the size of key under test, thick enough so the stack of coins don't touch the surrounding keys after

key actuation.



Just toss the calc on a $5 digital jewelry scale and let it zero out the body weight. Slowly depress the key of interest and observe the force measured by the "newton strain gauge sensor" at the dome inversion point. Empirically I've found up to a +33% variation (eg: 200gm) within the same key matrix. IME the absolute inversion force is less tangible to a user than the snap inversion width which is why the legged domes of the same inversion force have a noticeably different tactile feel.

Note this information is really only useful in the context of searching for equivalent replacement snap domes despite the unexpected entertainment value discovered here.

Re: Lost in translation

*Message #24 Posted by **Walter B** on 14 Nov 2010, 4:53 a.m.,*
in response to message #23 by uhmgawa

> Quote:
>
> Empirically I've found up to a +33% variation (eg: 200gm) ...

>:-(
Please see above.

Re: Lost in translation

*Message #25 Posted by **uhmgawa** on 14 Nov 2010, 10:53 a.m.,*
in response to message #24 by Walter B

> Quote:
>
> >:-(
> Please see above.

Would you mind taking your debate to a more suitable forum or at least its own thread? It really isn't germane to the discussion here and has already consumed more than its fair share of bandwidth. Thanks.

Re: Lost in translation

*Message #26 Posted by **Gerson W. Barbosa** on 14 Nov 2010, 10:52 a.m.,*
in response to message #20 by Martin Pinckney

> Quote:

> BTW, Styrofoam is probably despicable to some environmentalists, but mostly negligible to engineers. [:-)

Thanks! When translating the usual Portuguese expression "massa desprezível" ("masa despreciable" in Spanish, I think) to English I first thought of "despisable mass", which would be equally wrong. I might have chosen "negectable mass", but I see now "negligible mass" is the correct English expression.

Quoting Paulo Rónai, perhaps the best Brazilian translator ever, who incidentally was born in Hungary:

"There was a time I was a technical translator ... That new job convinced me that there were at least fifty French languages, forty-nine of which had nothing to do neither with Racine, nor with Victor Hugo, nor with Anatole France. The same happened with my mother language itself (Hungarian)."

Regards,

Gerson.

Re: Lost in translation

*Message #27 Posted by **Martin Pinckney** on 14 Nov 2010, 7:57 p.m.,*
in response to message #26 by Gerson W. Barbosa

Gerson,

Even just using Google Translate (knowing nothing of Portuguese) I could see how you would make that error. Curious, I consulted English etymological dictionaries. These indicate that "despicable" comes from the Latin meaning "to look down on", as I expected. I can only surmise that the Latin phrase "to look down on" went into English meaning something contemptible, whereas in Portuguese the equivalent word more literally means something so small that you must "look down" to see it.

No?

Re: Lost in translation

*Message #28 Posted by **Gerson W. Barbosa** on 15 Nov 2010, 7:06 a.m.,*
in response to message #27 by Martin Pinckney

Both the Portuguese verb **desprezar** and the English verb **to despise** come from the latin verb *despicere* (*de* + *specere*) meaning "to look from above", that is, "to look down on" (to consider others to be at a lower level). It is possible the word had already lost its literal meaning in Classical Latin because **specere** (to look at) was already an archaic verb then. As of the adjectives, **despicabable** comes directly from *despicabilis* while **despisable** is the adjective form of **to despise**, thus the latter has a milder meaning than the former. These correspond to Iberian Portuguese **desprezível** and **desprezável**, respectively, while here in Brazil the former has prevailed for both meanings.

Re: Lost in translation

*Message #29 Posted by **Marcus von Cube, Germany** on 19 Nov 2010, 3:40 a.m.,*
in response to message #28 by Gerson W. Barbosa

The German word "despektierlich" has exactly the meaning you describe: looking down, lacking respect.

Re: Lost in translation

*Message #30 Posted by **Gerson W. Barbosa** on 19 Nov 2010, 5:57 a.m.,*
in response to message #29 by Marcus von Cube, Germany

Interesting! The german word appears to have the same latin root. So does "Spiegel", compare with Latin "Speculum", Portuguese "Espelho" and Spanish "Espejo" (mirror).

I know no German, but my 14-year old daughter has been attending optional German classes twice a week since August. She's always studied in a Lutheran School (because the education level is excellent and because it's only two blocks away from home). She's complained why I didn't send her to those German classes since the beginning so she would be speaking German by now. I replied "I didn't know you wanted to learn such a complicated and nonsensical language" :-) Obviously, I am kidding about "nonsensical" (but not about complicated).

Regards,

Gerson.

Re: Lost in translation

*Message #31 Posted by **Martin Pinckney** on 19 Nov 2010, 11:05 a.m.,*
in response to message #30 by Gerson W. Barbosa

Don't get Walter started again! [:-)

But really, with all due respect to Twain, isn't English at least as "nonsensical" as High German? Some examples:

"Slow up" and "slow down" mean exactly the same thing.

If something "frosts you" or "burns you up", it's the same.

Ditto for flammable and inflammable.

There are many, many more expressions like this.

More formally, many conjugations are inconsistent:

show-showed-shown - OK

blow-blowed-blown - No!

sing-sang-sung - Good.

bring-brang-brung - Nein!

Literally hundreds like these.

Then there's the pronunciation rules that have as many exceptions as there are rules. The letters that are silent in one word, but pronounced in another.

And so on - but I haven't the time.

Re: Lost in translation

*Message #32 Posted by **Gerson W. Barbosa** on 19 Nov 2010, 12:41 p.m.,*
in response to message #31 by Martin Pinckney

Hi Martin,

> Quote:
>
> "Slow up" and "slow down" mean exactly the same thing.
>
> If something "frosts you" or "burns you up", it's the same.

In Portuguese, "sim" means "yes" and "não" means "no, not". However,

"pois sim!" -> an emphatic no

"pois não!" -> a helpful yes

> Quote:
>
> show-showed-shown - OK
>
> blow-blowed-blown - No!

flow-flowed-flown ok, however.

No problem with these triplets. I will not mention the Portuguese counterparts so no one is discouraged to give it a try :-)

Back to the English language, consider the following phase, in which every occurence of "ough" sounds differently:

*Molten snow fallen from the b**ough** flowed thr**ough** the tr**ough**, th**ough**. "That's en**ough**", I th**ough**t.*

Gerson.

Edited: 20 Nov 2010, 7:21 a.m.

Re: Lost in translation

*Message #33 Posted by **BruceH** on 22 Nov 2010, 7:55 p.m.,*
in response to message #32 by Gerson W. Barbosa

Quote:

> Back to the English language, consider the following phase, in which every occurence of "ough" sounds differently:
>
> *Molten snow fallen from the b**ough** flowed thr**ough** the tr**ough**, th**ough**. "That's en**ough**", I th**ough**t.*

A rough-coated, dough-faced, thoughtful ploughman strode through the streets of Scarborough: after falling into a slough, he coughed and hiccoughed.

Re: Lost in translation

*Message #34 Posted by **Walter B** on 23 Nov 2010, 2:25 a.m.,*
in response to message #33 by BruceH

That's what I love at Finnish: everything is spoken (pronounced) as spelled. Far easier for the kids at school, too.

Re: Lost in translation

*Message #35 Posted by **George Bailey (Bedford Falls)** on 23 Nov 2010, 4:14 a.m.,*
in response to message #32 by Gerson W. Barbosa

Quote:

> *Molten snow fallen from the b**ough** flowed thr**ough** the tr**ough**, th**ough**. "That's en**ough**", I th**ough**t.*

I'm sure, many of you will know what this means:

GHOTI

Well, it's pronounced 'fish'!

gh = f from enouGH

o = i from wOmen

ti = sh from naTIon

;)

Read here why this is not at all so. Or is it?

Edited: 23 Nov 2010, 1:54 p.m.

Re: Lost in translation

*Message #36 Posted by **Gerson W. Barbosa** on 1 Dec 2010,*

8:01 a.m.,
in response to message #35 by George Bailey (Bedford Falls)

> Quote:
>
> Read here why this is not at all so.

Very interesting link. Thanks!

Re: Lost in translation

*Message #37 Posted by **Walter B** on 1 Dec 2010, 4:21 p.m.,*
in response to message #35 by George Bailey (Bedford Falls)

Quite interesting and quite a mess - those who called other languages nonsensical may stand up and explain d;-)

Re: Lost in translation

*Message #38 Posted by **Kiyoshi Akima** on 19 Nov 2010, 1:31 p.m.,*
in response to message #31 by Martin Pinckney

At a linguistics conference a speaker was presenting a paper. He mentioned that in some languages a double negative means negative while in some languages a double negative means positive.

"But in no natural language does a double positive mean a negative," he continued.

A voice from the back of the room said, "Yeah, yeah."

Re: Lost in translation

*Message #39 Posted by **Walter B** on 19 Nov 2010, 1:57 p.m.,*
in response to message #38 by Kiyoshi Akima

That's fun in real life German: Ask somebody something using a negative expression, like:

"Das hast du nicht gemacht?!" (literally: "You didn't do that?!")

and you'll receive most times "Nein!" (though it's not done) where "Ja!" would have been true ;) since double negations are positive.

Fun - strange - but not nonsensical :)

Re: Lost in translation

*Message #40 Posted by **Dieter** on 19 Nov 2010, 3:14 p.m.,*
in response to message #39 by Walter B

Walter wrote:

> Quote:

> That's fun in real life German: Ask somebody something using a negative expression, like:
> "Das hast du nicht gemacht?!" (literally: "You didn't do that?!")
> and you'll receive most times "Nein!" (...)

It depends...
In some parts of the country you'll probably get an answer like "Aber nie nicht!". :-)

Dieter

Re: Lost in translation

*Message #41 Posted by **Marcus von Cube, Germany** on 23 Nov 2010, 4:56 a.m.,*
in response to message #39 by Walter B

I once came across the following hypothetical dialog box :

"Alle Dateien nicht löschen? (Ja/Nein)"

In English: "Dont't delete no files?" (or "all files" which isn't any better.)

Re: Lost in translation

*Message #42 Posted by **Martin Pinckney** on 19 Nov 2010, 5:25 p.m.,*
in response to message #38 by Kiyoshi Akima

> Quote:
>
> At a linguistics conference a speaker was presenting a paper. He mentioned that in some languages a double negative means negative while in some languages a double negative means positive.
>
> "But in no natural language does a double positive mean a negative," he continued.
>
> A voice from the back of the room said, "Yeah, yeah."

Thanks, I got a good laugh out of that one!

Edited: 19 Nov 2010, 5:27 p.m.

Re: Lost in translation

*Message #43 Posted by **Karl Schneider** on 20 Nov 2010, 4:39 p.m.,*
in response to message #31 by Martin Pinckney

> Quote:

> sing-sang-sung - Good.
>
> bring-brang-brung - *(Wrong.)*

Martin --

There are, of course, many examples of strong verbs with inconsistent conjugations, in English and other languages. This one, though, reminded me of a hit tune ("Play Me") in which the singer/songwriter took liberties with grammar in only one instance in order to make a rhyme:

Song she sang to me
Song she brang to me
Words that rang in me
Rhyme that sprang from me

-- KS

Edited: 21 Nov 2010, 2:24 a.m.

Re: Lost in translation

*Message #44 Posted by **Marcus von Cube, Germany** on 19 Nov 2010, 12:35 p.m.,*
in response to message #30 by Gerson W. Barbosa

> Quote:
>
> "I didn't know you wanted to learn such a complicated and *nonsensical* language"

That's a good example of being despektierlich. ;)

Re: Lost in translation

*Message #45 Posted by **Gerson W. Barbosa** on 19 Nov 2010, 12:45 p.m.,*
in response to message #44 by Marcus von Cube, Germany

C'mon, that was said tongue-in-cheek ;-)

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35s printed User's Guide

*Message #1 Posted by **David Hayden** on 10 Nov 2010, 11:15 a.m.*

I just called HP support to get my free printed User's Guide for the 35s. It was a very pleasant experience. Mike took my serial number and address and said I'd have it in 5-10 business days. Not surprisingly, he also asked where I bought it, how long ago, and would I give him my phone number and email address. Requesting this sort of marketing info seems to be standard practice among companies these days, and I give it (or not) depending on how I feel about the company. Naturally I gave HP all the info they requested :).

Nice job, HP.

Re: 35s printed User's Guide

*Message #2 Posted by **uhmgawa** on 10 Nov 2010, 12:12 p.m.,*
in response to message #1 by David Hayden

> Quote:
>
> I just called HP support to get my free printed User's Guide for the 35s. It was a very pleasant experience.

Huh. This struck me odd as I had called weeks ago to order a manual and I was told they were gone with little hope of ever again being available. Just called again and apparently they had an unexpected shipment arrive yesterday, and since I was already in the queue, my manual is already shipping today. I could get used to customer service like this.

Re: 35s printed User's Guide

*Message #3 Posted by **Mark Storkamp** on 11 Nov 2010, 11:45 a.m.,*
in response to message #2 by uhmgawa

With a plethora of small batch publishing houses available on the internet, I don't understand how they could say they were not likely to be getting more. If they needed more, and if they had promised them to their customers, then it's pretty poor service to not see to it that they are available. Unexpected shipment? I used to do purchasing at a small company. There is no such thing. Vendors don't just surprise you with product on your dock.

Re: 35s printed User's Guide

*Message #4 Posted by **Tim Wessman** on 11 Nov 2010, 12:23 p.m.,*
in response to message #3 by Mark Storkamp

Did you ever work at a large company? Hand A following process B doesn't always mean Hand C using process D that was set up by Hand E four hands ago. . .

Just a thought.

TW

Re: 35s printed User's Guide

*Message #5 Posted by **PeterP** on 11 Nov 2010, 12:45 p.m.,*
in response to message #4 by Tim Wessman

yep, been there done that. Very accurate process description, Tim...

Re: 35s printed User's Guide

*Message #6 Posted by **Pal G.** on 11 Nov 2010, 3:54 p.m.,*
in response to message #4 by Tim Wessman

Regardless of company size, and which Hands are using or setting up which processes, based on Mark's comments one of HP's processes is broken or the Hands are not following their processes.

Someone should be slapped. By a senior Hand.

Re: 35s printed User's Guide

*Message #7 Posted by **uhmgawa** on 11 Nov 2010, 4:57 p.m.,*
in response to message #3 by Mark Storkamp

> Quote:
>
> With a plethora of small batch publishing houses available on the internet, I don't understand how they could say they were not likely to be getting more. If they needed more, and if they had promised them to their customers, then it's pretty poor service to not see to it that they are available. Unexpected shipment? I used to do purchasing at a small company. There is no such thing. Vendors don't just surprise you with product on your dock.

I didn't intend to suggest they were a surprise to corporate HP. Rather they were an unexpected arrival to the customer service individual who took my call. In my earlier conversation I was told the gratis 35s manual program had run its course of a few years and was apparently being discontinued.

I suppose if you're really in a bind and can't get a printed manual from HP, sending the PDF they do provide to one of the one-off internet book printers might be an option.

Re: 35s printed User's Guide

*Message #8 Posted by **David Hayden** on 12 Nov 2010, 6:26 a.m.,*
in response to message #7 by uhmgawa

> Quote:
>
> I suppose if you're really in a bind and can't get a printed manual from HP, sending the PDF they do provide to one of the one-off internet book printers might be an option.

I've used Staples in the past with great success. Most recently I printed a manual at home on 8.5 x 11 inch paper, 2 images per side. I had staples cut the paper in half, put a spiral binding on it, and add a clear vinyl cover to the front and a black vinyl cover to the back. Poof! Instant manual. Since I printed it myself, I think the total cost was at Staples was only about $10.

hpcalc.org also has a few manuals available for very reasonable prices.

Re: 35s printed User's Guide

*Message #9 Posted by **uhmgawa** on 12 Nov 2010, 8:35 a.m.,*
in response to message #8 by David Hayden

> Quote:
>
> I've used Staples in the past with great success. Most recently I printed a manual at home on 8.5 x 11 inch paper, 2 images per side. I had staples cut the paper in half, put a spiral binding on it, and add a clear vinyl cover to the front and a black vinyl cover to the back. Poof! Instant manual. Since I printed it myself, I think the total cost was at Staples was only about $10.

Interesting. I picked up an inexpensive comb binder punch for under $100 on EEEbay which does a better job than I'd expected on general reference materials. But a spiral bound half-letter sized footprint is far better for the reference manuals discussed here. How square was the resulting stack? I suppose what I'm asking is whether they just made a single cut in half or were able to square the deck afterwards.

> Quote:
>
> hpcalc.org also has a few manuals available for very reasonable prices.

I found someone selling HP calc manual reprints for $35 each in half-letter size with a spiral binding. I couldn't help be curious where the image data originated..

Re: 35s printed User's Guide

*Message #10 Posted by **David Hayden** on 13 Nov 2010, 7:44 a.m.,*
in response to message #9 by uhmgawa

> Quote:
>
> Interesting. I picked up an inexpensive comb binder punch for under $100 on EEEbay which does a better job than I'd expected on general reference materials. But a spiral bound half-letter sized footprint is far better for the reference manuals discussed here.

Note in particular that most of the HP manuals that come on CD's now are half-letter sized. You can confirm this by looking at the document properties of the PDF file.

> Quote:
>
> How square was the resulting stack? I suppose what I'm asking is whether they just made a single cut in half or were able to square the deck afterwards.

They just did a single cut, but that's all I asked them to do. They charge by the cut, so I could have asked to have it squared up if I wanted to pay a little more.

Looking closely at the manual, I can tell that it was cut, but not because the overall length is

off. Rather, the length is off on one end only, so I think the paper wasn't quite squared when it went into the cutter.

Re: 35s printed User's Guide

*Message #11 Posted by **M. Joury** on 10 Nov 2010, 3:24 p.m.,*
in response to message #1 by David Hayden

I had the same experience as uhmgawa some time back. No manuals and maybe I could obtain them from a third party.

Re: 35s printed User's Guide

*Message #12 Posted by **Dave** on 11 Nov 2010, 10:25 p.m.,*
in response to message #11 by M. Joury

Doesn't the 35s come with a printed user's guide? For some reason I have one and don't remember ever having to call and order it.

Re: 35s printed User's Guide

*Message #13 Posted by **M. Joury** on 12 Nov 2010, 12:49 a.m.,*
in response to message #12 by Dave

It used to. However it does not any longer. I got a couple with the guide included but ordered another recently and the user's guide was not included. Also, the the zippered case has been replaced by one of a different design. I have not actually opened the package yet but it is clearly not the zippered case and the new design appears to be a cheaper offering (I know that some hated the zippered cases but I personally liked them). As far as manuals go the same appears to be true of all recent HP calcs. They have replaced the user's guide with a CD.

Re: 35s printed User's Guide

*Message #14 Posted by **Kiyoshi Akima** on 15 Nov 2010, 2:09 p.m.,*
in response to message #1 by David Hayden

I bought my 35s at the end of October. I called HP about a week and a half ago to ask for the printed manual. The agent told me that the program had ended, but took my address and other data in case they got more manuals.

This morning there was a box on my doorstep containing the manual. Kudos to HP customer support.

Now, if I could get a printed manual for my 30b... :-)

Re: 35s printed User's Guide

*Message #15 Posted by **Jim Yohe** on 15 Nov 2010, 8:48 p.m.,*
in response to message #14 by Kiyoshi Akima

Oh YES for the 30b, plus all the "Learning_Modules". :-)

Re: 35s printed User's Guide

*Message #16 Posted by **Mark Harman** on 16 Nov 2010, 11:46 a.m.,*
in response to message #15 by Jim Yohe

Or, you can get a Kindle and read them using the Kindle's PDF reader. It is like looking at actual paper without all the "book weight."

Regards,

Mark

Re: 35s printed User's Guide

*Message #17 Posted by **Jim Yohe** on 16 Nov 2010, 12:48 p.m.,*
in response to message #16 by Mark Harman

If only talking about the 30b manual and its learning modules, have you ever tried to make out what some of the "key" symbols are? Thank goodness for my 27 inch monitor and the ability to enlarge those PDF pages. :-P

Re: 35s printed User's Guide

*Message #18 Posted by **David Hayden** on 17 Nov 2010, 6:55 p.m.,*
in response to message #1 by David Hayden

The printed User's Guide arrived today via UPS. Yippee!

Dave

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ERAMCO ROM BOX Info

*Message #1 Posted by **PeterP** on 10 Nov 2010, 12:20 a.m.*

Hi, just picked up a ERAMCO ROM Box and was wondering if anyone here has any info on it and/or has one with some EPROM's installed and would be so kind to let me know the configuration...

Thanks so much in advance!

Cheers

Peter

Re: ERAMCO ROM BOX Info

*Message #2 Posted by **Meindert Kuipers** on 10 Nov 2010, 7:11 a.m.,*
in response to message #1 by PeterP

I have one! Will dig up the docs and let you know, Meindert

Re: ERAMCO ROM BOX Info

*Message #3 Posted by **PeterP** on 10 Nov 2010, 8:30 a.m.,*
in response to message #2 by Meindert Kuipers

Thanks Meindert! If I may be so bold, when you get the chance, maybe even a copy of the docs if you have a scanner or I think I have an Internet fax number somewhere if that is easier. But no problem if too much hassle

Cheers

Peter

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I think my collection is complete...

*Message #1 Posted by **Mark Henderson** on 9 Nov 2010, 9:24 p.m.*

My passion is for LED models, been working on my collection, which stands as follows today (all are working and in good condition, with a few "extras" for parts etc.). I don't think I have any others I want? Am I missing any obvious examples?!?!

HP35 (with bug) HP80 HP45 HP70 HP55 HP65 (currently 2 with repaired card readers)

HP25 HP25C (needs ACT chip) HP19C HP67 (with repaired card reader)

HP34C HP38C

HP41C

HP33S HP35S HP50g

Re: I think my collection is complete...

*Message #2 Posted by **Michael Meyer** on 9 Nov 2010, 10:26 p.m.,*
in response to message #1 by Mark Henderson

Not a pocket machine, but the HP-97 is a beautiful example of engineering. I think you'd enjoy it.

Re: I think my collection is complete...

*Message #3 Posted by **Donald Williams** on 9 Nov 2010, 10:47 p.m.,*
in response to message #1 by Mark Henderson

Congratulations on your quest. You certainly have collected the main ingredients of a quality collection. If your intention was to collect "all" the LED models, my list (if I have everything correct) has a total of 28.

HP 97 HP 92 HP 91 HP 81 HP 80 HP 70 HP 67 HP 65 HP 55 HP 46 HP 45 HP 38 E HP 38 C HP 37 E HP 35 HP 34 C HP 33 C HP 33 E HP 32 E HP 31 E HP 29 C HP 27 HP 25 HP 25 C HP 22 HP 21 HP 19 C HP 10

Since you plainly exhibit the irrational behavior of the ordinary HP collector, I am sure you will not stop now.

I still need the HP 70 and HP 81.

Re: I think my collection is complete...

*Message #4 Posted by **Mark Henderson** on 10 Nov 2010, 5:32 p.m.,*
in response to message #3 by Donald Williams

Ok so you've convinced me I need to continue!

Re: I think my collection is complete...

*Message #5 Posted by **Steven Ellis** on 13 Nov 2010, 2:13 p.m.,*
in response to message #3 by Donald Williams

Heh, strange coincidence: the HP81 is one of the only two LED models that I own, and one of the only two that you *don't* own.

Re: I think my collection is complete...

*Message #6 Posted by **Donald Williams** on 13 Nov 2010, 5:47 p.m.,*
in response to message #5 by Steven Ellis

This situation cannot be allowed to continue. We need to trade.

Re: I think my collection is complete...

*Message #7 Posted by **Karl Schneider** on 9 Nov 2010, 11:50 p.m.,*
in response to message #1 by Mark Henderson

Mark --

Although you stated that your 'passion' was for LED models, you have one LCD model (HP-41C) from the LED era, as well as a few modern examples.

Your LED collection is missing the rare and pricey HP-27.

The HP-41CX, HP-15C, HP-16C, HP-42S, HP-27S, and HP-17BII are among the most desirable LCD models from the 1980's. The HP-41CX is the epitome of the HP-41 series, and has some functionality that cannot be added to an HP-41C/CV. The HP-16C is unique among HP models.

For LED models, I have only an HP-35 (no bug) and an HP-34C.

-- KS

Re: I think my collection is complete...

*Message #8 Posted by **Mark Henderson** on 10 Nov 2010, 5:35 p.m.,*
in response to message #7 by Karl Schneider

My first calc was a Sinclair Scientific (!), then HP-25 and then HP-41C - so that is why it's in my collection! If I have to do some REAL work the 41C is probably my first choice...! I'm quite interested in the HP27, but honestly I've fallen in love with the C versinos of LED calcs and that is preventing me from falling in love with the 27! Well, that and the massive prices they command!!!

Re: I think my collection is complete...

*Message #9 Posted by **Matthias Wehrli** on 10 Nov 2010, 12:26 a.m.,*
in response to message #1 by Mark Henderson

I think you miss the HP-91, HP-92, HP-97, HP-97S..... and certainly the HP-95C... good luck!

Re: I think my collection is complete...

*Message #10 Posted by **Mark Henderson** on 10 Nov 2010, 5:36 p.m.,*
in response to message #9 by Matthias Wehrli

I've come very close to getting a 97, but I fear my office mates would tease me too much (you see, I use all of my collection daily at work (on rotation, of course! Today it's the 19C :-)))

Re: I think my collection is complete...

*Message #11 Posted by **Ed Sowell** on 11 Nov 2010, 10:36 p.m.,*
in response to message #10 by Mark Henderson

If you're afraid of leaving a paper trail that curious eyes might drift across seeing all your coding errors, just don't turn Trace on :-)

Re: I think my collection is complete...

*Message #12 Posted by **Mark Henderson** on 12 Nov 2010, 1:03 a.m.,*
in response to message #11 by Ed Sowell

Just knowing the decimal point on the 19C has that tiny HP logo on it makes it a favorite!

Re: I think my collection is complete...

*Message #13 Posted by **Walter B** on 10 Nov 2010, 1:18 a.m.,*
in response to message #1 by Mark Henderson

If you collect LED pocket models, you miss some Woodstocks (21, 22, 27, 29C) and some Spices (31, 32, 33, 33C, 37) still. At least I don't see a reasonable line excluding these from your collection ;)

Good luck in hunting!

Re: I think my collection is complete...

*Message #14 Posted by **Mark Henderson** on 10 Nov 2010, 5:38 p.m.,*
in response to message #13 by Walter B

You make a good point!!? See my thoughts on 27, above. 21 and 22 just haven't gotten to me yet? I have a good 21 emulator on my iPhone, perhaps that's enough?? A 33C would fill my LED+C desires, but the lower 3x range don't really excite me enough...

Re: I think my collection is complete...

*Message #15 Posted by **Walter B** on 12 Nov 2010, 9:59 a.m.,*
in response to message #14 by Mark Henderson

Thanks for your kind words?

Re: I think my collection is complete...

*Message #16 Posted by **Eddie W. Shore** on 10 Nov 2010, 10:52 a.m.,*
in response to message #1 by Mark Henderson

Impressive collection, Mark.

Re: I think my collection is complete...

*Message #17 Posted by **Mark Henderson** on 10 Nov 2010, 5:41 p.m.,*
in response to message #16 by Eddie W. Shore

Thank you, it is a disease, but that's why we're all here, right?!

Re: I think my collection is complete...

*Message #18 Posted by **Eddie W. Shore** on 12 Nov 2010, 9:53 a.m.,*
in response to message #17 by Mark Henderson

LOL

Same here, I am going to get the 27S next week - can't wait.

Re: I think my collection is complete...

*Message #19 Posted by **Steve Perkins** on 10 Nov 2010, 4:21 p.m.,*
in response to message #1 by Mark Henderson

Looks like you can quit.

So stop bidding against me (smiles).

An impressive collection with some hard to find models.

Re: I think my collection is complete...

*Message #20 Posted by **Mark Henderson** on 10 Nov 2010, 5:42 p.m.,*
in response to message #19 by Steve Perkins

Thank you, maybe I'll stop bidding against you?

Re: I think my collection is complete...

*Message #21 Posted by **aj04062** on 10 Nov 2010, 10:03 p.m.,*
in response to message #20 by Mark Henderson

We could all collude to keep the prices down. Hmmm.

I've got: HP97 (I agree very nicely engineering and easier to repair) HP65 (fully repaired FINALLY) HP55 3 (two adjacent serial # calcs with all docs), 1 FOR SALE HP45 HP35 3; last model, 2nd Gen, raised dot with bug HP10

HP75D HP95LX HP200LX

HP41C with reader & modules HP48S, SX, G, GX HP50G

HP20S HP32S HP32S 50th Aniv HP11C HP12C HP19B HP33S

Unison 811-C (almost counts, has HP Red LED...)

Crap, I didn't know I had this many till I tallied them...

Re: I think my collection is complete...

*Message #22 Posted by **Steve S** on 10 Nov 2010, 10:04 p.m.,*
in response to message #1 by Mark Henderson

...After a quick scan, I'm surpised that apparently no one has mentioned the HP-1.

LED, no...???

Re: I think my collection is complete...

*Message #23 Posted by **John B. Smitherman** on 10 Nov 2010, 10:41 p.m.,*
in response to message #22 by Steve S

Imagine a modern HP-97. How awesome would that be?

Regards,

John

Re: I think my collection is complete...

*Message #24 Posted by **Mark Henderson** on 11 Nov 2010, 12:28 a.m.,*
in response to message #23 by John B. Smitherman

Hmm - the HP-01 - yes, LED, but, no RPN :-(I'd still like one, though. Too bad they command >>$2k these days...

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12c date range

*Message #1 Posted by **Don Shepherd** on 9 Nov 2010, 1:52 p.m.*

The valid range of dates on a 12c is Oct 15, 1582 to Nov 25, 4046. I understand why the beginning of the range is what it is, but why is the end Nov 25, 4046? That's exactly 899,999 days, which leads me to believe that the date range had some limitation based upon memory size, but does anyone have an insight into this?

Edited: 9 Nov 2010, 1:52 p.m.

Re: 12c date range

*Message #2 Posted by **Thomas Klemm** on 9 Nov 2010, 3:17 p.m.,*
in response to message #1 by Don Shepherd

> Quote:
>
> No computer has been programmed for correct dates after 28 Feb. 4000 A.D. because there is no consensus on whether that year will be a leap-year. The HP-12C financial calculator thinks it will, and recognizes dates from 15 Oct. 1582 until Sun. 25 Nov. 4046 ; will the world end then?

cf. DAYDATE: Computing Days between Dates

Most of us know the author: Prof. W. Kahan

Re: 12c date range

*Message #3 Posted by **David Hayden** on 9 Nov 2010, 5:23 p.m.,*
in response to message #2 by Thomas Klemm

Here's a fascinating bit of trivia that I learned recently: a year is NOT measured as one revolution of the earth around the sun. Technically, one year is the time from spring equinox to spring equinox (or was it solstice to solstice?). In this way, the seasons remain constant relative to the calendar, even as the earth precesses in it's orbit.

So in several thousand years when Orion is visible during warm summer nights, the calendar will say it's July, not January.

Dave

Re: 12c date range

*Message #4 Posted by **Jim Horn** on 9 Nov 2010, 6:35 p.m.,*
in response to message #2 by Thomas Klemm

Wow, thanks for the great pointer to Professor Kahan's note! A quote from it struck me:

"Programs that convert invalid data into plausible results are deceitful."

Though that has been creatively ignored before (the LearFan's first flight was certified as "December 32, 1980" to meet a deadline).

At the HHC1982(?) conference, his talk on numeric integration resulted in a standing ovation. His ability to clarify obscurities and explain things were unforgettable.

Re: 12c date range

*Message #5 Posted by **Don Shepherd** on 9 Nov 2010, 7:07 p.m.,*
in response to message #2 by Thomas Klemm

Thanks for the link, Thomas. Great stuff.

> Quote:
>
> will the world end then?

It looks like Dr. Kahan wondered about that 4046 date too!

Re: 12c date range

*Message #6 Posted by **Katie Wasserman** on 9 Nov 2010, 7:53 p.m.,*
in response to message #5 by Don Shepherd

Interesting, but this doens't address Don's question. Why limit date calculations to 899,999 days? I took a guess that this is just about what would fit in one-half of a register and that perhaps the other half was needed for some financial calculation function.

-Katie

Re: 12c date range

*Message #7 Posted by **Thomas Klemm** on 9 Nov 2010, 9:35 p.m.,*
in response to message #6 by Katie Wasserman

It's not clear now whether 4000 will be a leap year or not. This makes 2/28/4000 the last possible date we know for sure. Therefore the limit should be 882'928 instead of 900'000 but the latter number is cheaper to enter. Just my guess however. Looking at the code might clarify that matter.

Re: 12c date range

*Message #8 Posted by **Gerson W. Barbosa** on 10 Nov 2010, 5:34 a.m.,*
in response to message #7 by Thomas Klemm

According to the HP-12C, 4000 will be a leap year:

```
1.014 1.014001 DeltaDYS  ->  366
```

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=78807 (Message #23)

Re: 12c date range

*Message #9 Posted by **Katie Wasserman** on 10 Nov 2010, 9:32 a.m.,*

in response to message #8 by Gerson W. Barbosa

The leap year or not question for 4000 is moot. It will be stardate 1677158 thru 1677163 on what we now call 2/28/4000 thru 2/29/4000.

Re: 12c date range

*Message #10 Posted by **Jeff O.** on 10 Nov 2010, 3:50 p.m.,*
in response to message #9 by Katie Wasserman

Hmmm....
I question the "accuracy" of the calculator at the link you provided. The earliest stardate from Star Trek TOS is 1312.4 and the latest is 5943.7, which would be April 24, 2324 through December 11, 2328 as calculated by your reference. I thought the original series occurred in the mid-23rd century, with Star Trek TNG in the 24th century. According to a well-known on-line resource whose accuracy is the subject of debate, the various series occurred in the following Gregorian time periods:

TOS: mid to late 23rd century
TNG: 2364–2370
DS9: 2369–2375
Voyager: 2371–2378
Enterprise: ~2150s

Of course the problem is that the “stardate” system was not a rigorously defined system.

But in any case, Live Long and Prosper!

...

Edited: 22 Nov 2010, 9:00 p.m.

Re: 12c date range

*Message #11 Posted by **Don Shepherd** on 10 Nov 2010, 3:51 p.m.,*
in response to message #7 by Thomas Klemm

> Quote:
>
> Looking at the code might clarify that matter.

I agree. Does anyone have access to it?

This is not earth-shaking, of course, just a matter of curiousity. I saw the upper limit in the 12c manual years ago and always wondered where they came up with that particular date. Like Katie said, it probably has something to do with a limitation on the available RAM or ROM on the 12c.

Re: 12c date range

*Message #12 Posted by **Gerson W. Barbosa** on 10 Nov 2010, 5:03 p.m.,*
in response to message #11 by Don Shepherd

From Hewlett-Packard Journal, October 1977, page 27:

"These functions accept dates from October 15, 1582 to November 25, 4046. ... The second date is determined by internal register limitations, not by any special knowledge of the future."

http://www.hpl.hp.com/hpjournal/pdfs/IssuePDFs/1977-10.pdf

Re: 12c date range

*Message #13 Posted by **Fred Lusk** on 10 Nov 2010, 5:53 p.m.,*
in response to message #12 by Gerson W. Barbosa

So the Mayan calendar has nothing to do with it? :-)

Re: 12c date range

*Message #14 Posted by **Martin Pinckney** on 10 Nov 2010, 6:35 p.m.,*
in response to message #13 by Fred Lusk

Aha! So you are still lurking on this Forum, but still have not ported *Feet-Inches-Fractions Calculator* to the 42s? [:-)

Actually, I found the exchange between you and Kelley back in Oct. 2005, wherein you described the changes necessary to get the program to run on the 42s, but I have not had time myself to try this.

Re: 12c date range

*Message #15 Posted by **Don Shepherd** on 10 Nov 2010, 7:38 p.m.,*
in response to message #12 by Gerson W. Barbosa

Thanks Gerson, you 'da man. And thanks to Roy Martin for enlightening us 33 years later!

Re: 12c date range

*Message #16 Posted by **Gerson W. Barbosa** on 11 Nov 2010, 5:27 a.m.,*
in response to message #15 by Don Shepherd

Don,

I didn't even know the HP-12C had this limitation. You've been geeky enough to discover there are exactly 899,999 days between both dates. A google search for **calendar + "900000 days"** eventually hit Roy Martin's article.

It appears Katie's guess about only one half of one internal register being used to hold the numbers of days is correct.

Well, the HP-12C might have been used within all Star Trek series time frames. Anyway, they'd better take along a 17B-II, just in case.

Regards,

Gerson.

Re: 12c date range

*Message #17 Posted by **Don Shepherd** on 11 Nov 2010, 9:35 a.m.,*
in response to message #16 by Gerson W. Barbosa

Thanks Gerson.

Yeah, the 17bii can track all the way to Dec 31, 9999 (as does the 30b), so that should cover all the Star Trek missions!

Hmm, the year 9999 raises an interesting question. Will they have a "Y10K" problem then, when all the existing computer systems allow only 4 digits for the year? OTOH, I'm sure computers as we know them won't exist by that time.

:)

Don

Edited: 11 Nov 2010, 10:48 a.m.

Re: 12c date range

*Message #18 Posted by **Thomas Okken** on 11 Nov 2010, 1:15 p.m.,*
in response to message #17 by Don Shepherd

> Quote:
>
> Hmm, the year 9999 raises an interesting question. Will they have a "Y10K" problem then, when all the existing computer systems allow only 4 digits for the year?

I'm not sure about Windows, but Unix is moving toward time_t being 64 bits wide; assuming all the versions that use a 32-bit time_t have been phased out by 2038, we'll be fine for another 100 trillion years. We may need another fix sometime before the heat death of the universe, though...
Then again, all the databases that store years as 4-digit numbers *will* cause Y10K problems. :-)

Re: 12c date range

*Message #19 Posted by **Walter B** on 11 Nov 2010, 3:32 p.m.,*
in response to message #18 by Thomas Okken

> Quote:
>
> We may need another fix sometime before the heat death of the universe, though...

AFAI have read recently (e.g. in Scientific American), the universe will eventually rather freeze out due to its accelerated expansion. A pulsing universe, though an idea I'd prefer for several reasons ;) , seems to be pretty unlikely based on the knowledge we have right now.

FWIW

Re: 12c date range

*Message #20 Posted by **Gerson W. Barbosa** on 11 Nov 2010, 3:57 p.m.,*
in response to message #19 by Walter B

Heat or Freeze? I go with Frost :-)

```
Fire and Ice
                  by Robert Frost


Some say the world will end in fire;
Some say in ice.
From what I've tasted of desire
I hold with those who favor fire.
But if it had to perish twice,
I think I know enough of hate
To say that for destruction ice
Is also great
And would suffice.
```

Re: 12c date range

*Message #21 Posted by **Eric Smith** on 11 Nov 2010, 10:19 p.m.,*
in response to message #19 by Walter B

"Heat death" refers to entropy reaching a maximum; because the universe is expanding it is entirely possible that it will be very cold when that happens.

Re: 12c date range

*Message #22 Posted by **Walter B** on 12 Nov 2010, 3:03 a.m.,*
in response to message #21 by Eric Smith

Cold heat :))

Re: 12c date range

*Message #23 Posted by **Martin Pinckney** on 11 Nov 2010, 10:22 p.m.,*
in response to message #17 by Don Shepherd

"Y2K" was such a big hoax. And even many professionals fell for it.

Re: 12c date range

*Message #24 Posted by **Katie Wasserman** on 11 Nov 2010, 10:47 p.m.,*
in response to message #23 by Martin Pinckney

> Quote:
>
> "Y2K" was such a big hoax. And even many professionals fell for it.

We're way OT here, but having spent 1999 working on zillions of needed program changes for many wall street systems, I have to take exception to this. While the Y2K boundary issue that many feared never materialized this was because of the early and active recognition of the issue and the huge amount of work that went into fixing it.

-Katie

Edited: 12 Nov 2010, 5:02 a.m. after one or more responses were posted

Re: 12c date range

*Message #25 Posted by **John B. Smitherman** on 11 Nov 2010, 10:56 p.m.,*
in response to message #24 by Katie Wasserman

I have to agree with Katie. I spent many hours in 1998 and 1999 testing, assessing, fixing, upgrading and replacing software. Most of the work was on vital systems but some was cosmetic. This made the changeover a non-event.

John

Re: 12c date range

*Message #26 Posted by **Thomas Okken** on 12 Nov 2010, 12:08 a.m.,*
in response to message #23 by Martin Pinckney

> Quote:
>
> "Y2K" was such a big hoax. And even many professionals fell for it.

Yay, a populist slogan! It's a guaranteed win on the campaign trail: either there was an actual problem that was fixed thanks to timely action, but now nobody will ever know; or there wasn't a problem, and all the time and effort that was spent on it was a waste.
I could mention that I spent a lot of time in 1999 helping to identify, fix, and test Y2K-related issues for a major U.S. telecom, but, you'd probably just call me a liar. Or were you actually trying to make a point? And if so, what?

Re: 12c date range

*Message #27 Posted by **bill platt** on 12 Nov 2010, 12:12 a.m.,*
in response to message #23 by Martin Pinckney

The "hoax" part was the idea, cultivated all across the "media," that it would be an unfixable Armageddon like disaster. This is how they interpret engineering problems for the masses. The media treats political problems and engineering problems exactly the same, while pretending to actually know something about the weather...

But the consequences were dire, would it were that the work Katie described went undone.

Re: 12c date range

*Message #28 Posted by **Don Shepherd** on 12 Nov 2010, 2:46 a.m.,*
in response to message #23 by Martin Pinckney

I concur with Katie and John and Thomas. I worked for Computer Sciences Corporation in the late 1990's on a special Y2K team charged with identifying and fixing potential problems in client's code systems. We even developed specialized software that looked at source code and tried to identify problems automatically. And we found (and fixed) plenty of problems. Later (1998), I worked for a smaller firm that did the same thing, mostly for clients in the health care field. You'd be surprized how many automated and embedded systems there are in a large hospital. Most of those systems were OK and required no change, but many did.

Interestingly, probably the most critical system we examined was US air traffic control within the FAA. I don't recall any critical problems within that system, mostly because air traffic control is largely not dependent upon dates.

January 1, 2000 passed uneventfully, largely because of all the work done beforehand. But had that work not occurred, there would have been many problems.

Re: 12c date range

*Message #29 Posted by **Martin Pinckney** on 12 Nov 2010, 10:27 a.m.,*
in response to message #23 by Martin Pinckney

OK, what I meant was, all the media and cult hoopla about how the world as we know it was going to end because of this "bug."

Yes, there were programming problems that had to be fixed, and thanks to Katie et al for doing so. But the idea was bandied about that somehow, because computer programs only had two digit dates, when January 1, 2000 arrived, the computers would "think" it was 1900, and all of us were not born yet, so somehow all our bank accounts would suddenly vanish. And the electric power system would fail because the power grid had not been invented in 1900... etc. etc.

All nonsense.

There were many books written, websites started, a whole survivalist culture developed around a bogus notion. And it was kept up right up until the last, in spite of the reprogramming that was done. That was the hoax.

Re: 12c date range

*Message #30 Posted by **Don Shepherd** on 12 Nov 2010, 5:41 p.m.,*
in response to message #29 by Martin Pinckney

Martin, I personally don't remember all of the media hoopla and world-ending predictions that you describe. That may have happened, but anyone familiar with computers and programming (most of the members of this forum, for example) would have known that this was just a relatively simple problem that needed to be assessed and fixed, and that's exactly what happened. I sure didn't stay up until midnight on 12/31/1999 to see if the earth would vanish at precisely midnight!

While Y2K did provide a unique way for old COBOL and FORTRAN programmers to cash in, it was, by it's nature, a very time-sensitive endeavor, because there was NO Y2K work to be done after the event. The consulting company I worked for at that time went out of business in December 1999, and I became a teacher!

Don

Re: 12c date range

*Message #31 Posted by **Martin Pinckney** on 12 Nov 2010, 9:31 p.m.,*
in response to message #30 by Don Shepherd

A couple of web pages still discussing this:

Wikipedia.

A good article from The University of Queensland.

Re: 12c date range

*Message #32 Posted by **Don Shepherd** on 13 Nov 2010, 7:35 a.m.,*
in response to message #31 by Martin Pinckney

Good links Martin, thanks. I learned a new acronym: TEOTWAWKI.

It's interesting to speculate about what would have happened around 1/1/2000 if nothing at all had been done in advance. Of course, the world would not have ended. Computer programs would not necessarily have aborted, but many would have generated incorrect values, which would have resulted in incorrect data in electronic files, financial statements being wrong, scheduling systems being wrong, reports being wrong, and so forth, none of which would have been critical but all of which would have had to be fixed. So Y2K resulted in the problems being fixed beforehand, rather than dealt with at the time of error occurrance.

It's too bad none of us will be around in the year 10,000 although, as I said, computers as we know them today won't be around then. It's interesting to imagine what will.

Re: 12c date range

*Message #33 Posted by **Thomas Klemm** on 17 Nov 2010, 12:01 a.m.,*
in response to message #11 by Don Shepherd

Quote:

Does anyone have access to it?

If you build nonpareil with the option has_debugger_gui=1 you will get an additional tab labeled "Debug". One of the choices in the menu is "Trace". If enabled you get 3 lines for each executed machine instruction:

```
 03462: 0456 a=a+b   w
cycle 17711  P=7 q=8 carry=0  stat=...3.........
 a=01200000000000 b=01200000000000 c=03060009999999
```

I haven't analyzed the whole program yet but this algorithm is used:

```
if m <= 2:
   m = m + 12
   y = y - 1


jd = int(365.25*y)
   - int(y/100)
   + int(y/400)
   + int(30.6001*(m+1))
   + d
   - 478164
```

This maps 15-10-1582 to 100000 and 25-11-4046 to 999999.

For both limits I compared the trace-output with that of the date just one day beyond the limit to find the point where they diverge:

```
14-10-1582                                                  15-10-1582



1582 * 365.25 = 577825.5              577825                1582 *
365.25 = 577825.5               577825
1582 -> 15                          -     15                1582 -> 15
-     15
                                      577810
577810
15.82 / 4 = 3.955                     +      3                15.82 / 4 =
3.955                     +      3
                                      577813
577813
11 * 30.6001 = 336.6011              +    336                11 * 30.6001
= 336.6011              +    336
                                      578149
578149
14                                    +     14                15
+     15
                                      578163
578164
                                     - 478164
- 478164
                                       99999
100000



cycle  4161  P=c q=8 carry=0  stat=...3.........              cycle  4968
P=c q=8 carry=0  stat=...3.........
 a=00999990000000 b=05781630000000 c=05781630000005
a=01000000000000 b=05781640000000 c=05781640000005
 03363: 1502 ? a<>0  p                                       03363: 1502
? a<>0  p
cycle  4162  P=c q=8 carry=0  stat=...3.........              cycle  4969
P=c q=8 carry=1  stat=...3.........
```

Here P=c which means it points to nibble 12 (i.e. the 2nd from left).

Still I don't understand why the lower limit 100000 was chosen. Using 0 instead leads to negative numbers for dates earlier than 15-10-1582. This sets the carry-bit and is easy to detect.

```
25-11-4046                                                  26-11-4046
```

```
4046 * 365.25 = 14778015.5            1477801                      4046 *
365.25 = 14778015.5            1477801
4046 -> 40                           -      40                     4046 -> 40
-      40
                                       1477761
1477761
40.46 / 4 = 10.115                   +      10                     40.46 / 4 =
10.115                   +      10
                                       1477771
1477771
12 * 30.6001 = 367.2012              +     367                     12 * 30.6001
= 367.2012             +     367
                                       1478138
1478138
25                                   +      25                     26
+      26
                                       1478163
1478164
                                     -  478164
-  478164
                                        999999
1000000



cycle 18292  P=c q=8 carry=0  stat=...3.........              cycle  4145
P=c q=8 carry=0  stat=...3.........
 a=01478163000005 b=14781630000000 c=09999990000000
a=01478164000005 b=14781640000000 c=10000000000000
 03325: 1376 ? c<>0  s                                        03325: 1376
? c<>0  s
cycle 18293  P=c q=8 carry=0  stat=...3.........              cycle  4146
P=c q=8 carry=1  stat=...3.........
```

Here the sign of register c is checked and thus a date outside the range will be detected.

> Quote:
>
> The second date is determined by internal register limitations

There's enough space. All the numbers could be shifted one place to the right. I don't see the limitation.

Cheers
Thomas

Re: 12c date range

*Message #34 Posted by **Don Shepherd** on 17 Nov 2010, 7:27 a.m.,*
in response to message #33 by Thomas Klemm

Thomas, thanks for the analysis of the 12c code. Unless Roy Martin is still around and happens to see and respond to this thread, I guess we won't know why he said that was the limitation. Perhaps there was something else at work here that was perceived as a limitation, who knows.

Don

Re: 12c date range

*Message #35 Posted by **Thomas Klemm** on 17 Nov 2010, 3:55 p.m.,*
in response to message #34 by Don Shepherd

I found this old thread: 30.6001, 25 year old hack?

The same constant is used in the HP-12c so it might as well be that some old code was reused. From the HP-92 which is described in the acrticle of the Hewlett-Packard Journal or even from the HP-80 where space was much more limited.

Re: 12c date range

*Message #36 Posted by **Katie Wasserman** on 17 Nov 2010, 8:48 p.m.,*
in response to message #35 by Thomas Klemm

Somewhat disturbingly the the formula given in the appendix of the 12C manual is different from what you've uncovered. Perhaps they give the same result but why present a formula that's not actually used and claim that it is?

-Katie

Re: 12c date range

*Message #37 Posted by **Thomas Klemm** on 18 Nov 2010, 3:26 a.m.,*
in response to message #36 by Katie Wasserman

What is the formula given in the manual?

A typical trace of the execution of DATE consists of about 29k lines. I didn't read that line by line. Instead I was looking for some patterns, numbers mostly, and followed them while they are processed. There are situations when you realize now you're in a loop as in a multiplication or a division and you want to fast forward. Instead of scrolling down I calculated the expected result and searched for the next occurrence. So the intemediate results I've given in the previous post are like links to points of interest in the trace. Between them sometimes things happen I don't really understand. So it may well be that something slipped through. After all it's my interpretation of what's going on. The formula isn't written there as in a high level language.

I was surprised to find 30.6001. That's why I googled it. I hoped to find a formula to calculate the Julian day number. It's funny that the first hit brought me back to this forum.

Best regards
Thomas

Re: 12c date range

*Message #38 Posted by **Thomas Klemm** on 18 Nov 2010, 4:10 a.m.,*
in response to message #37 by Thomas Klemm

> Quote:
>
> What is the formula given in the manual?

Okay, I guess I found that by myself.

> Quote:

> Note:
>
> Additional tests are performed to ensure that the century (but not millenium) years are not considered leap years.

What about 1600 or 2400? Leap year or not? And what about 3000?

BTW: I just had a look at DATE not at dDYS.

Cheers
Thomas

Re: 12c date range

*Message #39 Posted by **Katie Wasserman** on 18 Nov 2010, 11:04 a.m.,*
in response to message #38 by Thomas Klemm

> Quote:
>
> It's funny that the first hit brought me back to this forum.

Of course, who else would be concerned about something so esoteric! :)

> Quote:
>
> I just had a look at DATE not at dDYS

That could indeed be different code, since the DATE function is also returning the DOW.

Re: 12c date range

*Message #40 Posted by **Thomas Okken** on 12 Nov 2010, 12:29 a.m.,*
in response to message #1 by Don Shepherd

I can't answer the original question, but just to add another data point: The HP-41 Time Module handles dates from October 15, 1582, until September 10, 4320 -- 999,999 days later. I've wondered about that limit, too... It's obviously not a problem, but why they chose a limit well below what the calculator *could* handle, I would be interested to know. :-)

Re: 12c date range - 17bII+

*Message #41 Posted by **Marcus von Cube, Germany** on 12 Nov 2010, 4:34 p.m.,*
in response to message #40 by Thomas Okken

The same holds for my 17bII+. I can enter 10.151582 in DATE1, 999,999 in DAYS and I get 9.104320 as DATE2. Increasing DAYS by 1 results in an error calculating DATE2.

Edit: I must have made a mistake. I can't go below October 10, 1582 but easily up to December 31, 9999

Edited: 12 Nov 2010, 4:42 p.m.

Re: 12c date range - 17bII+

*Message #42 Posted by **bill platt** on 12 Nov 2010, 4:43 p.m.,*
in response to message #41 by Marcus von Cube, Germany

I just added 1e6 days to the Julian start date in my 27s and it worked. Sept 11, 4320. And this is 890s technology.

It will take 2E6 and calc 8/8/7058

5e6 is invalid.

I wonder why the 17bii+ is less than its predecessor the 27s? (problem solved. 17bii+ covers more. Entry error).

OK that makes sense--that the 17bii+ has more range.

Edited: 12 Nov 2010, 5:00 p.m. after one or more responses were posted

Re: 12c date range - 17bII+

*Message #43 Posted by **Marcus von Cube, Germany** on 12 Nov 2010, 4:55 p.m.,*
in response to message #42 by bill platt

As you can see, I had to edit my post because of some stupid data entry mistake. So the 17bII+ goes from 10/15/1582 to 12/31/9999.

Re: 12c date range - 17bII+

*Message #44 Posted by **Mark Harman** on 12 Nov 2010, 5:24 p.m.,*
in response to message #41 by Marcus von Cube, Germany

The 30b has the same range. This gives a total range of 3,074,323 days between dates in Actual mode and 3,030,196 in Cal.360 mode.

Mark

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Windows site registry cleaner

*Message #1 Posted by **designnut** on 9 Nov 2010, 1:48 p.m.*

This si a true microsoft windows site. http://onecare.live.com/site/en-us/article/registry_cleaner_why.htm Suggested use; click full scan, select customize, leave only registry cleaner checked, lett it run. It creates a restore point before changing your registry. Just let it run, Sam

Re: Windows site registry cleaner

*Message #2 Posted by **Geir Isene** on 9 Nov 2010, 3:05 p.m.,*
in response to message #1 by designnut

What's Windows?

Can it be run on my 41CX?

Re: Windows site registry cleaner

*Message #3 Posted by **Massimo Gnerucci (Italy)** on 9 Nov 2010, 5:22 p.m.,*
in response to message #2 by Geir Isene

> Quote:
>
> Can it be run on my 41CX?

No, but the reverse is true.
;)

Re: Windows site registry cleaner

*Message #4 Posted by **Geir Isene** on 10 Nov 2010, 3:49 a.m.,*
in response to message #3 by Massimo Gnerucci (Italy)

Run my beloved 41CX through the window? Are you mad??

Re: Windows site registry cleaner

*Message #5 Posted by **Walter B** on 10 Nov 2010, 4:41 a.m.,*
in response to message #4 by Geir Isene

Based on many years experience, the 41CX is more stable than windows ;)

Re: Windows site registry cleaner

*Message #6 Posted by **Garth Wilson** on 10 Nov 2010, 12:40 p.m.,*
in response to message #5 by Walter B

> Quote:
>
> Based on many years' experience, the 41CX is more stable than windows ;)

+1. So is Linux. (I work in a Windowsless office.) The last time my 41cx crashed was over 20 years ago, and that was my fault from synthetic programming mistakes.

Edited: 10 Nov 2010, 12:44 p.m.

Re: Windows site registry cleaner

*Message #7 Posted by **bill platt** on 10 Nov 2010, 3:32 p.m.,*
in response to message #6 by Garth Wilson

I wish I could be "windowless" but alas, I have to use many programs which are not developed for non-windows: ProSurf, Solidworks, Abaqus (maybe they have a unix version, not sure about Linux releases), GHS (old one is dos), Rhino (soon to be Macompatible), AutoCad, Alibre, SJ MEPLA, and I would like a good free FEM system...right now looking over Calculix in windows but maybe it is unix/linux supported by somebody...

It would be nice to rid myself of Windows, and yet some stuff is good, albeit in some cases only available in XP: Paint Photo Editor Movie Maker (works but so would many alternatives) Notepad (so what, dos editor was just as good, that is simple) I am sure all of these are more than replicated...I would be interested in a photo editor replacement. Office 2003 and later and Windows 7 crippled their usefulness by purposely replacing photo editor with a POS viewer hoping you'd buy the M$ bloatware Photo something PRO.

If only there were a way to get all these specialty expensive programs to run on non-windows....but companies that develop software won't waste time on platforms that are minuscule in market penetration.

Edited: 10 Nov 2010, 3:38 p.m.

Re: Windows site registry cleaner

*Message #8 Posted by **Garth Wilson** on 11 Nov 2010, 2:53 a.m.,*
in response to message #7 by bill platt

> Quote:
>
> I am sure all of these are more than replicated

See

```
http://alternatives.rzero.com/
http://www.linuxalt.com/
http://www.downloadpedia.org/Open_Source_Alternative_to_Commercial_Software
```

> Quote:
>
> I would be interested in a photo editor replacement.

I use Gimp. When Adobe was bragging about some cool things coming in CS5, our son checked it in Gimp, and found Gimp had had the same thing for years, the ability to remove a road from a desert scene or litter from the lawn in a park for example, and heal

the area so you couldn't tell it wasn't authentic. Gimp, like most Linux software, is free too.

> Quote:
>
> If only there were a way to get all these specialty expensive programs to run on non-windows....but companies that develop software won't waste time on platforms that are minuscule in market penetration.

The only stuff I haven't found available for Linux is some of the company-specific stuff like Microchip's assembler-- so I'm still using their DOS one, making a few minor tweaks for newer parts that weren't available when they had the DOS software. I have not done entire new families like the DSPICs though.

Re: Windows site registry cleaner

*Message #9 Posted by **Massimo Gnerucci (Italy)** on 10 Nov 2010, 1:15 p.m.,*
in response to message #5 by Walter B

Based on 31 years of experience with it/them (in just a month) I can say you're right! ;)
Greetings,
Massimo

Re: Windows site registry cleaner

*Message #10 Posted by **Massimo Gnerucci (Italy)** on 10 Nov 2010, 1:11 p.m.,*
in response to message #4 by Geir Isene

No, I'm not! :p
And you can certainly run V41 as your Windows calc... given that you, one day, will touch a Windows box.

Greetings,
Massimo

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OT: Vintage Gaming

*Message #1 Posted by **Egan Ford** on 9 Nov 2010, 10:26 a.m.*

http://gizmodo.com/5685276/touring-pinballs-smithsonian

Very HHCish.

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41Z - Just got POLARized...

*Message #1 Posted by **Ángel Martin** on 9 Nov 2010, 9:55 a.m.*

Greetings to all. You are no doubt holding your breath in expectation of the new developments on the 41_MCODE world... yes?

So the good news is the new release of the 41Z Module, with POLAR-mode capability: displaying and data input directly using POLAR notation.

Two new functions (aptly named POLAR and RECT) switch the 41Z mode back and forth. Complex number data entry (using the natural notation function, "^IM/AG") and displaying is done automagically according to the setting, but always stored in rectangular form.

This ensures compatibility with all FOCAL programs and speeds up the calculations - there's no need to convert the stored data upon mode switching, but only to display it appropriately when recalled.

The complex mode setting uses an internal "flag" in the complex buffer header register. It is permanent (until changed by the user), so it survives OFF-ON power cycles. The header has two more data registers to store the POLAR values of the currently-shown number - typically in XY, but can also be in a "complex storage register" if using the functions ZRCL or ZVIEW.

Should be posted at TOS in a few days, as always let me know if you have "urgent needs" :-)

Cheers, ÁM

Great! Can't wait to see this in Monte's 41CL !

*Message #2 Posted by **gene wright** on 9 Nov 2010, 11:26 a.m.,*
in response to message #1 by Ángel Martin

Great update. :-)

Re: 41Z - Just got POLARized...

*Message #3 Posted by **Monte Dalrymple** on 9 Nov 2010, 1:26 p.m.,*
in response to message #1 by Ángel Martin

Is this ROM close to being finalized? I need to start building the final ROM image for the 41CL...

Monte

Re: 41Z - Just got POLARized...

*Message #4 Posted by **Gene wright** on 9 Nov 2010, 3:06 p.m.,*
in response to message #3 by Monte Dalrymple

Yay!

lol.

Re: 41Z - Just got POLARized...

*Message #5 Posted by **Monte Dalrymple** on 9 Nov 2010, 7:24 p.m.,*
in response to message #4 by Gene wright

Indeed. I just got the IR Printer module (which I think is the most complex plug-in) working. So all there is left to check is the HP-IL module before I pull the trigger on the PC board fabrication.

Monte

Re: 41Z - Just got POLARized...

*Message #6 Posted by **Angel Martin** on 10 Nov 2010, 1:54 a.m.,*
in response to message #3 by Monte Dalrymple

Monte, I'm doing the final testing - so assuming I can resits the temptation to keep adding new frills to it (that's what happens when tester and developer are the same person) it should be coming your way in a couple of days.

The main improvement left is trying to spped it up a little (I know, use the 41L instead...) But the nicer the code the better performance!

Re: 41Z - Just got POLARized...

*Message #7 Posted by **Karl Schneider** on 10 Nov 2010, 11:40 p.m.,*
in response to message #1 by Ángel Martin

Hello, Ángel --

> Quote:
>
> Two new functions (aptly named POLAR and RECT) switch the 41Z mode back and forth. Complex number data entry (using the natural notation function, "^IM/AG") and displaying is done automagically according to the setting, but always stored in rectangular form.

Good enhancement -- sounds much like the capability of the HP-42S.

Storage in rectangular (cartesian) form is the right choice: It is unique (no angular mode); all complex-valued operations are defined (if sometimes less straightforward).

And the "automagically"-executed display sounds even more enticing!

:-D

Edited: 10 Nov 2010, 11:43 p.m.

Re: 41Z - Just got POLARized...

*Message #8 Posted by **Ángel Martin** on 11 Nov 2010, 2:00 a.m.,*
in response to message #7 by Karl Schneider

Hi Karl,

Yes it´s pretty much the same as the 42 model, with a few differences:

- It also has ZRCL _ _, ZSTO_ _, and Z<>_ _ , with complex suffixes
- It has many more functions than the 42, like inverse trig and hyp
- Data entry using "^IM/AG" is almost identical to the 35s implementation. You enter the real part (or the module), press "^IM/AG", and the display shows either "^IM J_" or "^AG <|_" depending on the mode setting. Then write the imaginary part (or the argument)using the digits, CHS, EEX and radix keys (not a simple feat but reasonably error-proofed) and press either R/S or ENTER^ to terminate the entry.
- It's of course slower than either the 42 or the 35S, call it a "venerable speed" if you wish - but it's very responsive, remember it's all MCODE

Cheers, AM

Re: 41Z - Just got POLARized...

*Message #9 Posted by **Angel Martin** on 11 Nov 2010, 3:03 a.m.,*
in response to message #8 by Ángel Martin

Not to forget a few other unique functions (meaning not on the 42 or -chuckle- the 35s), such us:

- Gamma, Digamma, LogGamma, Lambert with complex arguments, and
- Bessel J,I,K,Y for complex orders and arguments.
- Nth. degree polynomial roots - w/ complex coefficients

all mixing and matching dedicated MCODE functions and FOCAL drivers.

And a few other tricks as well.

Cheers

Edited: 11 Nov 2010, 3:04 a.m.

Re: 41Z - Just got POLARized...

*Message #10 Posted by **Geir Isene** on 11 Nov 2010, 3:33 a.m.,*
in response to message #8 by Ángel Martin

@AM: You're a friggin' genius.

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HP-25C ACT Chip?

*Message #1 Posted by **Mark Henderson** on 8 Nov 2010, 5:33 p.m.*

I have a very clean HP-25C that I'd like to add to my collection, but it is displaying "all 00000000000" which from what I read here is an ACT chip problem. I understand I can switch this with an ACT from another non-27 member of the Woodstock family. Does anyone have a working ACT chip I could buy or trade for? I have a fair selection of HP LED calcs to pick/plunder from. I'd really like to get this little guy back to working condition!

Cheers

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How to use a formula in a post

*Message #1 Posted by **Thomas Klemm** on 8 Nov 2010, 4:22 p.m.*

cf. How to use a formula in a post

A LaTeX-tag would be cool:

```
[latex]e^{i\pi}+1=0[/latex]
```

This would be displayed as:

$$e^{i\pi} + 1 = 0$$

Best regards
Thomas

Re: How to use a formula in a post

*Message #2 Posted by **Norman Dziedzic** on 8 Nov 2010, 5:24 p.m.,*
in response to message #1 by Thomas Klemm

Wow, brings back memories. I used to know TeX by heart and a good amount of LaTeX as well. I was in college when it first came out. This one lady at the computer center was just gaga over it.

Another consideration may be MathML. I thought it was dead but it looks like they just updated it...
http://www.w3.org/Math/

Re: How to use a formula in a post

*Message #3 Posted by **bill platt** on 8 Nov 2010, 5:36 p.m.,*
in response to message #1 by Thomas Klemm

Perl is a unix routine. How do I run that on my wodoze machine?

Re: How to use a formula in a post

*Message #4 Posted by **Thomas Klemm** on 8 Nov 2010, 6:05 p.m.,*
in response to message #3 by bill platt

> Quote:
>
> How do I run that on my wodoze machine?

You may install strawberryperl or activeperl. Use a file for the formula instead of the here-document:

```
perl -MURI::Escape -ne 'chomp; printf "[img:http://latex.codecogs.com/png.latex?
%s]\n\n", uri_escape $_' formula.txt
```

There might be other utilities to uri-escape.

HTH
Thomas

I can't test that right now, but the following should work. Create a file "uri-escape.pl" with your favorite text-editor and enter the following lines:

```
use URI::Escape;
while (<>) {
    chomp;
    printf "[img:http://latex.codecogs.com/png.latex?%s]\n\n", uri_escape $_;
}
```

Create a 2nd file "formula.txt". It may contain several formulas each on a separate line:

```
e^{i\pi}+1=0
```

Now run in a command prompt:

```
perl uri-escape.pl formula.txt
```

Re: How to use a formula in a post

*Message #5 Posted by **Egan Ford** on 9 Nov 2010, 10:17 a.m.,*
in response to message #1 by Thomas Klemm

If you are too lazy to upload images you can use aamath for "a-text":

```
$ echo "e^(i*pi)+1=0" | aamath


 i ||
e     + 1 = 0

$ echo "sum([n-1;r],r = 0 .. min(n-1,4))" | aamath

min(n - 1, 4)
    =====
    \          / n - 1 \
     >         |       |
    /          \   r   /
    =====
    r = 0
```

Edited: 9 Nov 2010, 10:20 a.m.

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Finally

*Message #1 Posted by **Matthias Wehrli** on 8 Nov 2010, 1:28 p.m.*

www.hp-collection.org is free of malware ;)

Edited: 8 Nov 2010, 1:29 p.m.

Re: Finally

*Message #2 Posted by **Walter B** on 8 Nov 2010, 1:37 p.m.,*
in response to message #1 by Matthias Wehrli

Congratulations. May the force be with you keeping it this way ;)

Re: Finally

*Message #3 Posted by **Namir** on 8 Nov 2010, 3:12 p.m.,*
in response to message #1 by Matthias Wehrli

Glad to know you got rid of that evil malware!! Nice to see your website up and running again!

Namir

Re: Finally

*Message #4 Posted by **Geir Isene** on 8 Nov 2010, 4:41 p.m.,*
in response to message #1 by Matthias Wehrli

Finally.

&

Excellent.

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Duplicate Submission! error

*Message #1 Posted by **Ernst Fueloep** on 8 Nov 2010, 10:34 a.m.*

Hi,

I have now tried several times to post a message to the HP-33C thread I have started. But I always get this message:

> Quote:
>
> Duplicate Submission!
>
> This error usually means that you have pressed the "Post Message" button more than once for the same message. If that is the case, please return to the message index (and reload it if necessary) to confirm that your message was, in fact, posted!
>
> The message could also mean that you "previewed" your post, but then went back to the main input form and tried to submit it from there without making any changes. If that is the case, simply go back, make a minor change, and resubmit it!

I have previously edited my first post and changed the word witout to without. Maybe that is the reason why this is happening? I changed it back to witout but I still am unable to post to this thread.

A bug in the forum SW?

Regards, Ernst

Re: Duplicate Submission! error

*Message #2 Posted by **Ernst Fueloep** on 8 Nov 2010, 10:39 a.m.,*
in response to message #1 by Ernst Fueloep

After I started this new thread I tried again to post my message to the previous HP-33C thread and this time it was successful.

Whatever happened is a total mystery for me.

Regards, Ernst

Re: Duplicate Submission! error

*Message #3 Posted by **Martin Pinckney** on 8 Nov 2010, 11:08 a.m.,*
in response to message #2 by Ernst Fueloep

Yes, I have had similar experiences, where nothing seemed to work to get the message posted.

Re: Duplicate Submission! error

*Message #4 Posted by **Garth Wilson** on 8 Nov 2010, 2:43 p.m.,*
in response to message #3 by Martin Pinckney

Ditto here.

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HP-33C dead after connecting Charger witout batteries

*Message #1 Posted by **Ernst Fueloep** on 8 Nov 2010, 6:11 a.m.*

Hi,

I guess I have killed my HP-33C. I made the mistake connecting it to the AC Charger (82090B) without a inserted battery pack.

Now it doesn't display anything. I have inserted a battery pack but it is still death.

Have I killed it? Is there any hope in repairing it?

Any ideas welcome.

Thanks.

Regards, Ernst

Edited: 8 Nov 2010, 10:27 a.m. after one or more responses were posted

Re: HP-33C dead after connecting Charger witout batteries

*Message #2 Posted by **Walter B** on 8 Nov 2010, 6:49 a.m.,*
in response to message #1 by Ernst Fueloep

According to what I've read in this forum in the past years, the majority of accumulator-driven CMOS calcs ("HP-xxC") die this way. Yes, I've done it too :(- once. AFAIK there's no way to resurrect such a victim except another HP-xxC of the same kind :(But ask Randy of FixThatCalc - he knows for sure.

Sorry, that's all. It doesn't really help, I know.

Re: HP-33C dead after connecting Charger witout batteries

*Message #3 Posted by **Namir** on 8 Nov 2010, 7:39 a.m.,*
in response to message #1 by Ernst Fueloep

Yes you killed your HP-33C ... and what comes next is the HP Museum PoPo (new American slang for Police) show up at your door steps for an arrest. Budy ... you are in big trouble!

:-)

Namir

Edited: 8 Nov 2010, 7:40 a.m.

Re: HP-33C dead after connecting Charger witout batteries

*Message #4 Posted by **Joel Setton (France)** on 8 Nov 2010, 7:57 a.m.,*

in response to message #1 by Ernst Fueloep

There's a possibility that the overvoltage has destroyed the power supply module (which is built from discrete parts and can be repaired), and not fried the ICs. Have you tried swapping the power module with one from another calculator?

IHTH!

Joel Setton

Re: HP-33C dead after connecting Charger witout batteries

*Message #5 Posted by **Ernst Fueloep** on 8 Nov 2010, 8:10 a.m.,*
in response to message #4 by Joel Setton (France)

No I don't have another HP-33C to exchange parts with. I may get one in a few days. But the previous owner told me this HP-33C doesn't power up too. It may be affected with the same problem. Although the previous owner said he doesn't know why it doesn't react when it is powered on.

I know I shouldn't have done this extremely stupid mistake.

Regards, Ernst

Re: HP-33C dead after connecting Charger witout batteries

*Message #6 Posted by **Namir** on 8 Nov 2010, 9:19 a.m.,*
in response to message #5 by Ernst Fueloep

I have killed my share of HP-25's using AA alkaline batteries. So you are not alone!

Namir

BTW: I was in your beautiful city a month ago!!

Edited: 8 Nov 2010, 9:20 a.m.

Re: HP-33C dead after connecting Charger witout batteries

*Message #7 Posted by **Ernst Fueloep** on 8 Nov 2010, 10:36 a.m.,*
in response to message #6 by Namir

So you say AA alkaline batteries are not suitable for a woodstock calculator?

You were visiting Vienna? Or a business trip?

Regards, Ernst

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decimal point

*Message #1 Posted by **budlor** on 6 Nov 2010, 1:21 p.m.*

how do I set the decimal point so that all my calculations are set to 2 places following the decimal? What I'm looking for is the answer to be like this 0.00. I had this setting but I just changed the batteries and I can't remember how to set it. I can't find my manual. Thank you

Re: decimal point

*Message #2 Posted by **Jim Yohe** on 6 Nov 2010, 1:41 p.m.,*
in response to message #1 by budlor

I think that would depend on the model of calculator you're using.

For my 32SII: DISP FX 2 (note: no other keys necessary to end sequence)

For my 30B: MODE 2 INPUT ON/CE (note: INPUT necessary to establish number of digits and ON/CE to exit MODE)

Re: decimal point

*Message #3 Posted by **Martin Pinckney** on 7 Nov 2010, 11:14 p.m.,*
in response to message #1 by budlor

1. On many smaller HP's it would be MODES (or DISP) FIX 2.

2. Except with some FIX is a shifted key, so you don't have to press MODES or DISP first.

3. On many RPL graphing calcs it would be true postfix notation: MODE 2 FIX.

4. Unless it's an algebraic graphing calc, then it might be MODES enter 2 on FIX line then ENTER.

Re: decimal point

*Message #4 Posted by **Jim Yohe** on 7 Nov 2010, 11:42 p.m.,*
in response to message #1 by budlor

It would have been simpler if you would have said which model of calculator you had since we are just "guessing" without knowing which steps you need to take to fix your two decimal places. ;-)

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ANS vs LAST-X

*Message #1 Posted by **Jim Yohe** on 6 Nov 2010, 1:13 p.m.*

Sorry for the question but where did the ANS come from? I had to read the forums before I found a reference that the ANS key on my HP 30B is the same as the LAST-X key is on my HP 32SII.

While I'm on it, it appears that the ← key is doing double duty as the SHOW key does on the 32SII except that it's not a momentary view of all the digits like SHOW.

I suppose with further use (I'm had the 30B less than 24 hours) I'll see other changes to what use to be familiar to me. (Besides ENTER changing to INPUT) ;-)

Re: ANS vs LAST-X

*Message #2 Posted by **Mark Harman** on 6 Nov 2010, 2:34 p.m.,*
in response to message #1 by Jim Yohe

Jim,

ANS is that way to satisfy Algebraic and Chain mode users who are familiar with having an ANS key. ANS is familiar to TI users and it is the same as the LAST function on older scientific HP algebraic models. The majority of people who use this calculator will likely not use RPN. Quite a shame actually, as I converted from a Chain/Algebraic TI to this fine machine and now that I have learned RPN, I don't think I could ever use anything else.

Unfortunately, I am not sure what the &#8592 key is. I am guessing it is the backspace key. You hit it once to show full viewable precision of the result and you can hit it again as much as you want to truncate the result. I think this offers much better functionality than what SHOW does, which, as you mentioned, is momentary. Just hit the ON/CE key to get out of it - you won't lose your displayed number. If you want to keep the result, hit INPUT.

Regards,

Mark

Edited: 6 Nov 2010, 2:34 p.m.

Re: ANS vs LAST-X

*Message #3 Posted by **Jim Yohe** on 6 Nov 2010, 2:49 p.m.,*
in response to message #2 by Mark Harman

Oh sorry. I thought when I pasted the backspace key (from MS Word) that it would show up as the left facing arrow and obviously didn't. lol

Thanks for the background. I've been a long time since I owned a TI calculator and didn't remember having ANS so couldn't directly relate to it (obviously).

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HP 30B Keyboard Overlay ... really?

*Message #1 Posted by **Jim Yohe** on 6 Nov 2010, 12:20 a.m.*

In Gene Wright's article, "The HP 30b Business Professional", published in the HP_Solve_Issue_18_April_2010.pdf, he states, "To help the user who wants to write programs more easily remember the command locations, a clear, thin, sticky overlay is provided which lays over the top four rows of keys.".

I just purchased my own HP 30B and didn't find an overlay. I wonder when these overlays were available. Hmmm.

Re: HP 30B Keyboard Overlay ... really?

*Message #2 Posted by **Tim Wessman** on 6 Nov 2010, 12:35 a.m.,*
in response to message #1 by Jim Yohe

Look inside the quickstart guide.

TW

Re: HP 30B Keyboard Overlay ... really?

*Message #3 Posted by **Jim Yohe** on 6 Nov 2010, 12:52 a.m.,*
in response to message #2 by Tim Wessman

Just did (again) and didn't find it. Did you find it there?

Re: HP 30B Keyboard Overlay ... really?

*Message #4 Posted by **Mark Harman** on 6 Nov 2010, 12:57 a.m.,*
in response to message #1 by Jim Yohe

Tim is right. More precisely, it should be somewhere in the back of the Quick Start Guide.

I also recommend downloading the full manual and learning guides from the following links. I consider them valuable resources.

http://commerce.hpcalc.org/HP_20b_30b_User_Guide.pdf

http://commerce.hpcalc.org/30b_Learning_Modules.zip

Regards,

Mark

Edited: 6 Nov 2010, 1:00 a.m.

Re: HP 30B Keyboard Overlay ... really?

*Message #5 Posted by **Jim Yohe** on 6 Nov 2010, 1:24 a.m.,*
in response to message #4 by Mark Harman

Found it. Had to retrace my steps (fell out next to a chair). Also, I downloaded the full User Guide and learning modules earlier. Had a look at all of them before deciding to make the purchase. Thanks.

Re: HP 30B Keyboard Overlay ... really?

*Message #6 Posted by **Mark Harman** on 6 Nov 2010, 1:36 a.m.,*
in response to message #5 by Jim Yohe

As a word of warning, there are some errors in the learning modules. I can't recall where they are at, though. However, you should get the main idea of what you need to do from them.

I think you will come to find, as I have, that the 30b is quite an amazing calculator. I have come to really appreciate is its high level of functionality as well as its blazing fast speed.

Regards,

Mark

Re: HP 30B Keyboard Overlay ... really?

*Message #7 Posted by **Kiyoshi Akima** on 6 Nov 2010, 2:13 a.m.,*
in response to message #6 by Mark Harman

I've found one problem that, while technically not an error in the learning guides, I consider an error in the calculator itself.

If you've set the display to FIX -1 mode, RCL MODE will return that as 13. However, when you want to set it this way, STO MODE requires it to be 12. If you set it to 13, the calculator rejects it and leaves the display mode unchanged. This means that if you do a RCL MODE, save the 12-digit number somewhere, change the settings, then do a STO MODE with the saved value, you won't necessary get the original display mode restored.

As I said, this is not an error in the guides, since they and the manual do give the values as 12 and 13. But who the heck designed it so that recalled value can't be used to restore things?

Re: HP 30B Keyboard Overlay ... really?

*Message #8 Posted by **Katie Wasserman** on 6 Nov 2010, 10:05 p.m.,*
in response to message #7 by Kiyoshi Akima

I agree that this is not consistent behavior that makes it difficult to save the state of the mode flags in a program then restore them when the program finishes.

However in defense of the 30b, I think that the ability to recall and save the state of the decimal places, entry mode and other settings in a single register is a very nice feature to have on a low-end programmable calculator.

-Katie

Re: HP 30B Keyboard Overlay ... really?

*Message #9 Posted by **DeboT** on 10 Nov 2010, 10:32 a.m.,*
in response to message #7 by Kiyoshi Akima

I also have a problem with the FIX mode. When set to -1 it will display all the zeros for numbers >=1E12, i.e. 1.0000000000 ^{12}. It does not do this for numbers <=1E-12. Would you consider this a bug?

Re: HP 30B Keyboard Overlay ... really?

*Message #10 Posted by **Katie Wasserman** on 10 Nov 2010, 11:41 a.m.,*
in response to message #9 by DeboT

FIX -1 mode is not the same as the ALL mode in previous HP calculators, although it acts like that when not in scientific notation mode. When the 30b switches to scientific notation to show 1E12, for example, it shows as many decimal paces as requested and FIX -1 means whatever fits on the display.

It's hard to call this a bug based on past HP calculator expectations especially since the manual says:

> Quote:
>
> If you specify –1, the calculator displays numbers with the most appropriate number of digits after the decimal point

"Appropriate" being in the eyes of the firmware developer not necessarily the user.

-Katie

Re: HP 30B FIX -1

*Message #11 Posted by **DeboT** on 10 Nov 2010, 1:17 p.m.,*
in response to message #10 by Katie Wasserman

But for negative exponents it does not display those zeros. So there's inconsistency at the very least. Anyway, it's not a problem as such, just "doesn't look nice".

Re: HP 30B Keyboard Overlay ... really?

*Message #12 Posted by **gene wright** on 6 Nov 2010, 7:09 p.m.,*
in response to message #6 by Mark Harman

Yes, there are 2 (I think) errors in one of the learning modules that slipped through.

Not sure what it would take to get the PDF files replaced, however.

Re: HP 30B Keyboard Overlay ... really?

*Message #13 Posted by **Kiyoshi Akima** on 6 Nov 2010, 8:30 p.m.,*
in response to message #12 by gene wright

Is there a bug list for the 30b? I have a contribution.

RCL arithmetic doesn't work properly for the Cashflow registers. You can put an instruction like RCL+ Cashflow into a program, but when executed (either in a program or from the keyboard) simply performs a RCL Cashflow without doing the arithmetic.

Re: HP 30B Keyboard Overlay ... really?

*Message #14 Posted by **Jim Yohe** on 6 Nov 2010, 9:19 p.m.,*
in response to message #13 by Kiyoshi Akima

You've already pointed out a couple. Where would a bug list be kept at?

Re: HP 30B Keyboard Overlay ... really?

*Message #15 Posted by **Katie Wasserman** on 6 Nov 2010, 9:57 p.m.,*
in response to message #13 by Kiyoshi Akima

I don't think this is a bug, sto/rcl arithmetic is not suppose to work on the indirect (i.e., cash flow and data) registers. The manual doens't say that it does, it only mentions sto/rcl arithmetic in conjunction with memories 0 - 9.

There are some other key sequences that you can put into a program that don't have any effect. This is an 'artifact' of the macro recording mode of programming and the way STO/RCL try to merge keystrokes for display purposes. I'm not sure that this is a bug either, just undocumented behavior.

-Katie

Re: HP 30B Keyboard Overlay ... really?

*Message #16 Posted by **David Hayden** on 9 Nov 2010, 11:26 a.m.,*
in response to message #15 by Katie Wasserman

> Quote:
>
> I don't think this is a bug, sto/rcl arithmetic is not suppose to work on the indirect (i.e., cash flow and data) registers. The manual doens't say that it does, it only mentions sto/rcl arithmetic in conjunction with memories 0 - 9.
>
> There are some other key sequences that you can put into a program that don't have any effect. This is an 'artifact' of the macro recording mode of programming and the way STO/RCL try to merge keystrokes for display purposes. I'm not sure that this is a bug either, just undocumented behavior.
>
> -Katie

Undocumented behavior is always a sticky area when it comes to deciding if something is a bug or not. I understand that the STO/RCL arithmetic isn't supported with the cashflow registers, but it really should reject the command rather than silently doing something else.

I think it's a bug because it's something that a user is reasonably likely to try. It's better to give them an error than to silently give them some related but unexpected functionality.

Dave

Re: HP 30B Keyboard Overlay ... really?

*Message #17 Posted by **Don Shepherd** on 9 Nov 2010, 12:32 p.m.,*
in response to message #16 by David Hayden

I agree with Dave. If program mode accepts these as seemingly valid commands, as it does, then that is wrong. Bug.

Re: HP 30B Keyboard Overlay ... really?

*Message #18 Posted by **Jim Yohe** on 7 Nov 2010, 11:40 p.m.,*
in response to message #12 by gene wright

Hey Gene, I'm not sure if I found the two errors you are referring to in this one learning module or of there is another one that I haven't run across yet but in the "HP30b 33Trigonometry.pdf" file Example 4 has compound problems.

The solution is flawed in two ways. In this example the author creates an input to the arcsine (ASIN) function that falls outside of its domain and so therefore fails. The user is instructed to divide 6 by 3 which results in 2 and to take the arcsine of this number. The valid domains for arcsine (ASIN) is (-1,+1), arccosine (ACOS) is (-1,+1), and arctangent (ATAN) is (-infinity,+infinity) so 2 clearly falls outside of ASIN's domain of (-1,+1).

Now to identify the real problems:

1) You are given only dimensions for the (opposite and adjacent) sides of this right triangle not the (opposite and hypotenuse) sides which is required by the arcsine function. The only function that will work with these two sides is arctangent;

2) If you are to use this function and the angle is from the ladder to the wall (up where the ladder contacts the wall), then you need to divide 3 by 6 not the original 6 by 3.

Therefore the solution is:

Angle = ATAN(opposite/adjacent) = ATAN(3/6) = ATAN(0.5) = 26.56 degrees

Re: HP 30B Keyboard Overlay ... really?

*Message #19 Posted by **Jim Yohe** on 7 Nov 2010, 11:52 p.m.,*
in response to message #18 by Jim Yohe

Funny ... I just realized there are two Example 4's in that one PDF file. A minor error but that makes three.

Re: HP 30B Keyboard Overlay ... really?

*Message #20 Posted by **Jim Yohe** on 9 Nov 2010, 7:17 a.m.,*
in response to message #18 by Jim Yohe

I'm such a fool and will eat crow by admitting that part 1 of my argument is patently false. The problem originally posed that the length of 6 meters was of the ladder, the hypotenuse, not my incorrect reading as being the height from the floor to the where the ladder contacts the wall.

Therefore we still use the arcsine function but it must be of the opposite side divided by the hypotenuse:

Angle = ASIN(opposite/hypotenuse) = ASIN (3/6) = ASIN (0.5) = 30 degrees

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MoHPC *The Museum of HP Calculators*

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OT - Age restricted audience - 50+: KIM-1 / SDK-85

*Message #1 Posted by **Joerg Woerner** on 5 Nov 2010, 5:27 p.m.*

I guess you have to be born before 1960 to remember the KIM-1, SDK-85, SC/MP etc single-board computers.

I just repaired a very odd device from the 1977 timeframe with an unknown CPU. Most of the devices on the board are marked with "WE ***". The 4 RAM's are AMD AM9131BDC devices, the ROM is a "WE IV77" and the CPU (40 pins) is a "WE 179 212C" marked device. Peripherals are from the Intel family, e.g. the 8255 chip.

Other, small DIP-16 chips are marked "WE 177" and "WE 178".

The keyboard has a label "MACTUTOR" and I was able to step through a few instructions of the (random) RAM content. It is obviously a 8-bit CPU and has instruction length of 1, 2 or 3 bytes.

Any ideas????

Thanks for your help.

Regards,

Joerg

Re: OT - Age restricted audience - 50+: KIM-1 / SDK-85

*Message #2 Posted by **sylvandb** on 6 Nov 2010, 2:45 a.m.,*
in response to message #1 by Joerg Woerner

> Quote:
>
> I just repaired a very odd device from the 1977 timeframe with an unknown CPU. Most of the devices on the board are marked with "WE ***". The 4 RAM's are AMD AM9131BDC devices, the ROM is a "WE IV77" and the CPU (40 pins) is a "WE 179 212C" marked device. Peripherals are from the Intel family, e.g. the 8255 chip.
>
> Other, small DIP-16 chips are marked "WE 177" and "WE 178".

Maybe Weitek (now Rockwell) made the chips? cannot seem to connect with ChipDocs at the moment, and UIowa just has WEITEK as the logo.

sdb

Re: OT - Age restricted audience - 50+: KIM-1 / SDK-85

*Message #3 Posted by **Hubert Weikert** on 6 Nov 2010, 8:27 a.m.,*
in response to message #1 by Joerg Woerner

WE may stand for Western Electric.

Mac Tutor may refer to the Bell-Labs Mac-8 processor. Which would fit with Western Electric as the chip manufacturer.

A Google search revealed http://minus-zero.net/mirrors/bitsavers.org/pdf/westernElectric/mac-8/

Hubert

Bell Labs MAC-8 Processor

*Message #4 Posted by **Joerg Woerner** on 6 Nov 2010, 9:18 a.m.,*
in response to message #3 by Hubert Weikert

Hubert,

Thank you so much - the three PDF's you digged out are the complete set of documentations for my MACTUTOR and I was already able to enter a small program.

Interesting 8-bit processor - I never heard about it. Very simple architecture and easy to understand.

Have a great weekend.

Regards, Joerg

Bell Labs MAC-8 Processor - Pictures

*Message #5 Posted by **Joerg Woerner** on 6 Nov 2010, 4:14 p.m.,*
in response to message #4 by Joerg Woerner

And it works like a charm - look at these bold chips:

Have a great weekend.

Regards, Joerg

Re: Bell Labs MAC-8 Processor - Pictures

*Message #6 Posted by **Hubert Weikert** on 6 Nov 2010, 4:51 p.m.,*
in response to message #5 by Joerg Woerner

Joerg,

You are welcome.

Thank you for these nice picture. The board looks like brand new!

Hubert

Re: Bell Labs MAC-8 Processor - Pictures

*Message #7 Posted by **Joerg Woerner** on 6 Nov 2010, 5:06 p.m.,*
in response to message #6 by Hubert Weikert

Hubert,

I programmed most of the early 8-bit CPU's, e.g. the 1802, 6502, 6800, 6301, SC/MP, 8085, Z-80 etc, but never heard about the MAC-8. It is an amazing simple but yet efficient design. It was, according to some PDF's I was no able to locate thanks to your help, design under the influence of - no, not drugs, UNIX.

I guess UNIX is pretty old ;-))

Regards, Joerg

Re: Bell Labs MAC-8 Processor - Pictures

*Message #8 Posted by **Maximilian Hohmann** on 6 Nov 2010, 5:40 p.m.,*
in response to message #7 by Joerg Woerner

Hello Joerg,

> Quote:
>
> I guess UNIX is pretty old ;-))

I am older but not old. Therfore unix has to be pretty young :-) Developed in 1969 by Bell Labs, the manufaturer of your new toy.

Greetings, max

Re: Bell Labs MAC-8 Processor - Pictures

*Message #9 Posted by **Joerg Woerner** on 6 Nov 2010, 6:51 p.m.,*
in response to message #8 by Maximilian Hohmann

Cool - I was already in Elementary School (Grundschule) in 1969 ;-))

Have a great weekend,

Joerg

Re: Bell Labs MAC-8 Processor - Pictures

*Message #10 Posted by **Hubert Weikert** on 7 Nov 2010, 4:21 a.m.,*
in response to message #7 by Joerg Woerner

Joerg,

My 'fate' with this started with SDK80 from Intel, with a 8080, somewhere in 1976. Having only a serial TTY interface (8251), I repurposed an old portable TV-set into a CRT, with a keyboard build with single switches. The CRT digital electronics was build around a NS character ROM and a Siemens TV timing circuit (S187). A Lorenz Lo15 mechanical typewriter served his duties as a hardcopy printer. The most fun was to handcode all the routines necessary for ASCII <--> Baudot conversion, and to see them working. This set up

was also used for some RTTY experiments, without the noisy typewriter.

I was also surprised to see that the MAC-8 development was driven by the suitability of this CPU for the C programming language. Had to write plenty of code in PL/M 80 and PLZ, C was not yet available at this time for the 8085 and Z80 CPUs.

Hubert

Re: Bell Labs MAC-8 Processor - Pictures

*Message #11 Posted by **uhmgawa** on 7 Nov 2010, 1:45 a.m.,*
in response to message #5 by Joerg Woerner

Oh wow. It looks like someone ransacked my attic. I'm suffering flashbacks from the HC-33/U crystal, LM-323K TO-3 mug warmer, and ambivalence toward a 200:1 PCB to silicon die ratio. IIRC ceramic DIP packages all but left the planet circa 1980.

I live with the regret of somewhere around 1985 tossing a KIM-1 board with the justification of "who in their right mind would want this obsolete junk?".

PCB : Silicon ratio

*Message #12 Posted by **Joerg Woerner** on 7 Nov 2010, 10:51 a.m.,*
in response to message #11 by uhmgawa

I always enjoy the recent tear-downs of various gadgets, e.g. the iPhone, reading "company xyz managed to stack an ARM9, a SDRAM and even a Flash memory in a so-and-so housing".

Well, more than 30 years ago (in 1979) the engineering school I attended purchased a bunch of the latest personal computers, the CBM 3032 series. Okay, just one CBM 3032 for the teachers, the students worked with the CBM 3016's.

One day, after school, I opened the hoods of both the 3032 (32k RAM) and 3016 (16k RAM) and recognized immediately: The fully loaded Commodore had two rows of 16k*1 dynamic RAM installed, the 3016 featured only one row and ONE ROW of neatly alligned 10 mm holes, drilled carefully into the PCB at the original places of the optional RAM's!

After studying both the layout and datasheets, I asked the other day my teacher, if I could borrow the CBM 3016 over a weekend for an "important project". He agreed and I piggy-backed a set of MK4116 chips carefully one-to-one except the RAS and CAS pins, that I hand-wired to the left-overs of the traces ;-))

Wow - you should have seen his face after booting the CBM 3016 the following Monday to make sure the CBM is still working and he read the 32k RAM-Test message.

FYI: I earned a few hundered Deutsch Marks by updating all the CBM 3016's of this school and even another school.

OOPS: And later, collecting TI calculators, I learned that TI invented piggy-backing already in 1975 with the SR-51. That's about the fuzz of stacked silicon ;-))

Regards, Joerg

Re: PCB : Silicon ratio

*Message #13 Posted by **uhmgawa** on 8 Nov 2010, 7:56 a.m.,*
in response to message #12 by Joerg Woerner

> Quote:
>
> The fully loaded Commodore had two rows of 16k*1 dynamic RAM installed, the 3016 featured only one row and ONE ROW of neatly alligned 10 mm holes, drilled carefully into the PCB at the original places of the optional RAM's!

Sounds about right for a Commodore "we sell computers to the masses not the classes" maneuver.

> Quote:
>
> OOPS: And later, collecting TI calculators, I learned that TI invented piggy-backing already in 1975 with the SR-51. That's about the fuzz of stacked silicon ;-))

My favorite recollection of dip piggybacking was the case of the old CD4016 analog gates. This initial version had a rather high "on" resistance but could be reduced by trivially paralleling devices. To this end, a cohort once soldered several together nested vertically totem pole style. He also cut the head off a screw and cemented it onto the topmost package. The fun then was to wait for someone to spot this and inspect the bottom of the PCB to see if there was a nut on the other side.

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HP-82059B Charger What's it for

*Message #1 Posted by **Captainsimos** on 5 Nov 2010, 3:01 p.m.*

Hello Everyone: Another question, I have HP-82059B charger and was wondering if this is also for the 41C? Can it be used with any other HP's. Thanks for the help. simos

Re: HP-82059B Charger What's it for

*Message #2 Posted by **Allen** on 5 Nov 2010, 4:55 p.m.,*
in response to message #1 by Captainsimos

See here

Re: HP-82059B Charger What's it for

*Message #3 Posted by **John Robinson** on 8 Nov 2010, 2:06 a.m.,*
in response to message #1 by Captainsimos

That charger is also used to charge the rechargeable battery pack for 41 series calculators.

Cheers, John

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Suggestion for improved physical design

*Message #1 Posted by **David Hayden** on 5 Nov 2010, 10:13 a.m.*

I have a suggestion for a small change in the physical design of HP's calculators. Many of the new models come with a pouch to hold the calc. It's open at one end. The 48gii, 30b and 35s have these.

On my 30b and 35s, the pouch is fairly tight and it's hard to grip the calculator to pull it out. I expect that the pouches will loosen with time, but meanwhile, I usually have to work a finger into the opening at the bottom of the pouch to push the calculator out a little before I can extract it.

An easy change to fix this would be to put something on the sides of the calculator near the display that would prevent your fingers from slipping when you grab it in the case. For example, a set of small vertical ridges, or a slight finger-sized indentation would probably do the trick quite nicely.

Dave

Re: Suggestion for improved physical design

*Message #2 Posted by **Crawl** on 5 Nov 2010, 2:21 p.m.,*
in response to message #1 by David Hayden

The 35s used to have a zipper pouch. It was really good (maybe one of the best things about the calculator!) If the decision for how these things go is based on quality, they probably should just go back to that. But maybe it raised the price or something.

Re: Suggestion for improved physical design

*Message #3 Posted by **uhmgawa** on 5 Nov 2010, 3:57 p.m.,*
in response to message #2 by Crawl

> Quote:
>
> The 35s used to have a zipper pouch. It was really good (maybe one of the best things about the calculator!) If the decision for how these things go is based on quality, they probably should just go back to that. But maybe it raised the price or something.

If I wasn't going to put a calculator in it, the zippered pouch seems like a nice amenity. Unfortunately extracting the 35s from it is a little too clunky as evidenced by my tendency to reach for another calc when I need a quick answer. Even more so if you succumb to strapping the 35s under the provided elastic bands. Not quite sure how those straps found their way on the drawing board -- unless the first demo to management of that clumsy case resulted in the contents sustaining a concussion with the floor.

With a thoughtfully designed slipcase the calc is already situated ready for use in the intended hand when it clears the case.

Re: Suggestion for improved physical design

*Message #4 Posted by **Crawl** on 5 Nov 2010, 5:35 p.m.,*
in response to message #3 by uhmgawa

I use one strap, the one that goes under the display. That holds it in place without obstructing usage. You could even keep the pouch unzipped then for quick usage, and the strap will still keep the calculator secure.

I think the reason for having two straps isn't to use both simultaneously, but to use one or the other, maybe depending on whether you're right or left handed.

I have had calculators fall out of slip cases. I don't like them.

Re: Suggestion for improved physical design

*Message #5 Posted by **Thomas Radtke** on 6 Nov 2010, 6:15 a.m.,*
in response to message #4 by Crawl

> Quote:
>
> I use one strap, the one that goes under the display.

My 35s case has a sticker inside showing exactly that. Works great.

Unfortunately, a second sticker showing how to repair the zipper is missing. From what I've read in this forum and my own experience, they all will fail after some usage. On my sample, both zippers were 'unhooked' at about the same time after approx. 50, erm, zips. Still try figuring out how to replace them.

A solution for housing the HP-41

*Message #6 Posted by **Geir Isene** on 5 Nov 2010, 9:15 p.m.,*
in response to message #2 by Crawl

BTW; That case is the best I have found for my 41 :)

Re: Suggestion for improved physical design

*Message #7 Posted by **megarat** on 6 Nov 2010, 10:38 p.m.,*
in response to message #2 by Crawl

Personally, I thought the HP35s zipper-case was crap. Too bulky, too inconvenient, too ugly. I picked up a leather case from an HP33s and it worked great. Just what the HP35s needed.

Re: Suggestion for improved physical design

*Message #8 Posted by **uhmgawa** on 7 Nov 2010, 12:39 a.m.,*
in response to message #7 by megarat

> Quote:
>
> Personally, I thought the HP35s zipper-case was crap. Too bulky, too inconvenient, too ugly. I picked up a leather case from an HP33s and it worked great. Just what the HP35s needed.

There is a seller haunting EEEbay with voyager cases which paradoxically are far too big for a voyager's footprint. They work out better for a 35s from a less-bulk perspective compared to the original zipper case and are less clumsy to extract their contents.

IMHO the 35s case isn't fundamentally a bad design if storage protection is the primary goal. And to be fair it does need to fit the "who-again-has-pockets-this-size?" 35s. Frankly if a version existed ~2.5cm shorter and about 30% less height I'd probably pick up a few for voyager preservation.

Edited: 7 Nov 2010, 1:28 a.m.

Re: Suggestion for improved physical design

*Message #9 Posted by **megarat** on 9 Nov 2010, 1:19 p.m.,*
in response to message #8 by uhmgawa

> Quote:
>
> IMHO the 35s case isn't fundamentally a bad design if storage protection is the primary goal.

Sure, I agree with you on this. For circumstances involving protection/storage, or even portage in a briefcase, fieldwork, etc., that airform-esque case would have many advantages (assuming that size isn't an issue).

In my instance, however, the calculator was deskbound 99% of the time, and I only needed something to keep it protected from dust and wayward pens and drinking water, yet still have it be quick on the draw. That big clunky case was suboptimal in many ways, and I ultimately came to hate it. (Even after I got the 33s leather case, I got rid of the 35s anyway, since it couldn't live up to my 15c. (I know, an unfair comparison.))

Airform makes cases of a similar nature in all sizes, so given a few searches you might find one suitable for a Voyager.

Edited: 9 Nov 2010, 1:21 p.m.

Re: Suggestion for improved physical design

*Message #10 Posted by **Mark Harman** on 6 Nov 2010, 1:20 a.m.,*
in response to message #1 by David Hayden

That is weird that you are having such a hard time removing your calc. I think the case has a snug fit, but the calculator has been easily removable for me. It looks like it was clearly designed to be removed by the top sides of the calculator while holding the bottom sides of the case. Maybe I lucked out in getting a slightly looser fitting case.

This much I can say: it sure is a heck of a lot better than the crappy case on my TI BA II Plus Professional.

Regards,

Mark

Re: Suggestion for improved physical design

*Message #11 Posted by **Thomas Radtke** on 6 Nov 2010, 6:19 a.m.,*
in response to message #10 by Mark Harman

> Quote:
>
> This much I can say: it sure is a heck of a lot better than the crappy case on my TI BA II Plus Professional.

I remember the vinyl Pioneer cases. Over the time, they got more and more tight. Today, it takes quite a few seconds to get my 20S out.

Re: Suggestion for improved physical design

*Message #12 Posted by **David Hayden** on 6 Nov 2010, 10:49 a.m.,*
in response to message #10 by Mark Harman

> Quote:
>
> That is weird that you are having such a hard time removing your calc. I think the case has a snug fit, but the calculator has been easily removable for me.

I thought I might just have a tight case, but I have the same problem with my 30b. Once is an anomoly, twice is a trend.... :)

Re: Suggestion for improved physical design

*Message #13 Posted by **designnut** on 6 Nov 2010, 12:38 p.m.,*
in response to message #12 by David Hayden

The 33s is a sensible calculator spoiled by someone who felt it should be "designed" so it has slanty keys and a rubber side grip. That leads to the klunkiest case HP ever allowed. Why can't they just allow perfection to continue. I liked my slip cases and at times had to stretch them by forcing the calculator in upside down (the top iss bigger). I dread losing my 32SII from whatever cause. It's the last of a dying breed. Sam

Re: Suggestion for improved physical design

*Message #14 Posted by **Martin Pinckney** on 7 Nov 2010, 10:52 p.m.,*
in response to message #13 by designnut

> Quote:
>
> I dread losing my 32SII from whatever cause. It's the last of a dying breed. Sam

Well, Sam, just buy another. They are plentiful on eB**.

Re: Suggestion for improved physical design

*Message #15 Posted by **Mark Harman** on 6 Nov 2010, 2:18 p.m.,*
in response to message #12 by David Hayden

I should have mentioned that I have a 30b.

Mark

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HP75C 82713A plug-in module simulator

*Message #1 Posted by **aj04062** on 4 Nov 2010, 8:53 p.m.*

I just picked up one of these and I suspect the internal battery is dead. Does this prevent it from working or? I am also seeking a manual (pdf) and other info on it. Does it require a magnetic card to run?

Edited: 4 Nov 2010, 8:54 p.m.

Re: HP75C 82713A plug-in module simulator

*Message #2 Posted by **Prabhu Bhooplapur** on 4 Nov 2010, 9:34 p.m.,*
in response to message #1 by aj04062

Hi, You need the battery to get full functionality of the unit. Send me an email. Prabhu

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HP-35s current production line question

*Message #1 Posted by **Jaime Morales** on 4 Nov 2010, 2:39 p.m.*

I purchased an early production HP-35s, not long after they were introduced. I am curious if HP has addressed the somewhat highly reflective plastic LCD cover in current models? The glare has presented quite a problem in my present working environment. I just borrowed an HP-33s from a colleague and it seems to provide better viewing contrast (at all viewing angles) compared to my HP-35s.

Re: HP-35s current production line question

*Message #2 Posted by **David Hayden** on 5 Nov 2010, 6:49 a.m.,*
in response to message #1 by Jaime Morales

I have a pretty new 35s and unless I position it so a light is reflecting directly off the screen, I can read it just fine, much better than my 50g.

Have you adjusted the contrast? Hold down the ON key and the + and - keys to adjust it.

Dave

Re: HP-35s current production line question

*Message #3 Posted by **Tom Mathes** on 5 Nov 2010, 10:24 a.m.,*
in response to message #2 by David Hayden

Jaime means the plastic lens itself reflects so much it's difficult to see at nearly any angle and contrast isn't the issue. I have the same gripe with my 35s (also an early production run). The 35s has about the most reflective lens I've seen in any HP calc, definitely much worse than my 33s, 32SII, 41C or 48G.

Re: HP-35s current production line question

*Message #4 Posted by **bill platt** on 5 Nov 2010, 12:13 p.m.,*
in response to message #1 by Jaime Morales

I bought an anti-reflective film for my new laptops. (New laptops are as useless as _____the screens are so reflective!)

This aftermarket film works GREAT!

NuShield DayVue is what I use, and it really does work outside. Without the film, I cannot use my laptops at all outside. They also make an indoor film, which I have not tried but it might work well for you. I called them and they were very helpful.

www.nushield.com

One does have to wonder why we need aftermarket products to able to use our equipment, but that's they way it is...like going to toys r us to buy baby carseats...

Actually, HP should license the technology and put it on all their calcs...

Edited: 5 Nov 2010, 12:14 p.m.

Re: HP-35s current production line question

*Message #5 Posted by **uhmgawa** on 5 Nov 2010, 5:15 p.m.,*
in response to message #4 by bill platt

> Quote:
>
> I bought an anti-reflective film for my new laptops. (New laptops are as useless as _____the screens are so reflective!)
>
> This aftermarket film works GREAT!

Matte films for GPS units, digicams, etc.. can be found where such are sold and are relatively cheap.

The only possible drawback is it will reduce contrast somewhat and the 35c matrix lcd doesn't have much of a budget surplus here at least to my eyes.

> Quote:
>
> Actually, HP should license the technology and put it on all their calcs...

It is fairly common for the top polarizer of an lcd to have some glare reduction. Unsure why that wasn't the case for the 35c. Although IIRC there is an outer window above the lcd in the 35c which is what needs this treatment. One could toss that and mount the adhesive matte film directly to the display.

Re: HP-35s current production line question

*Message #6 Posted by **bill platt** on 5 Nov 2010, 6:55 p.m.,*
in response to message #5 by uhmgawa

The film I bought is not a "matte film." In fact it is somewhat glossy--but anti-reflective. It is much much more effective than a matte film. It actually works in bright light, because it does not scatter, it cancels reflections.

Re: HP-35s current production line question

*Message #7 Posted by **Jaime Morales** on 17 Nov 2010, 12:43 p.m.,*
in response to message #1 by Jaime Morales

I went ahead and opened my HP-35s and removed the plastic window that is in front of the LCD. The glare was way too much for me and I'm willing to live with whatever risks are associated with the plastic cover being removed. However, it looks as though I could replace it with something less reflective (cut to size) if I wanted to, but I am happy with the present results.

Edited: 17 Nov 2010, 12:47 p.m.

Re: HP-35s current production line question

*Message #8 Posted by **uhmgawa** on 17 Nov 2010, 2:58 p.m.,*
in response to message #7 by Jaime Morales

Quote:

I went ahead and opened my HP-35s and removed the plastic window that is in front of the LCD. The glare was way too much for me and I'm willing to live with whatever risks are associated with the plastic cover being removed.

The risk being scratching of the top polarizer. It certainly can be replaced but it is a bit of a pain to find a replacement and get it laminated to the glass without trapping dust in the lamination.

I'd just get an inexpensive camera/GPS screen anti-glare shield and cut a section sized to replace that gawd awful original window.

Re: HP-35s current production line question

*Message #9 Posted by **Jaime Morales** on 18 Nov 2010, 4:43 p.m.,*
in response to message #8 by uhmgawa

I agree, the plastic polarizing overlay is a bit fragile. I went ahead and put an anti-reflective overlay directly onto it. I used a spare sheet of AR film meant for an iPod and cut it to size. With the plastic LCD cover removed, it now looks great...NO GLARE and good contrast!!!

Re: HP-35s current production line question

*Message #10 Posted by **uhmgawa** on 18 Nov 2010, 5:24 p.m.,*
in response to message #9 by Jaime Morales

Quote:

I agree, the plastic polarizing overlay is a bit fragile. I went ahead and put an anti-reflective overlay directly onto it. I used a spare sheet of AR film meant for an iPod and cut it to size. With the plastic LCD cover removed, it now looks great...NO GLARE and good contrast!!!

Forgot to mention.. if you were to replace the upper polarizer, you could rotate it 90* to the achieve the inverse effect of white-text on a black-background. Just in case anyone may be into customization.

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HP75C Display (was zebra connector)

*Message #1 Posted by **Alberto Fenini** on 3 Nov 2010, 5:29 p.m.*

Dear all,

the pics below are the front side, back side and the section of an HP75C LCD display.
Since I'd like to clean the zebra connector, I'm wondering if anyone else has ever done it before.
Any good idea on how to remove the black iron shield ??

Thanks in advance for any suggestion you may have,
Alberto

Re: HP75C zebra revealed

*Message #2 Posted by **Alberto Fenini** on 3 Nov 2010, 6:49 p.m.,*
in response to message #1 by Alberto Fenini

Zebra revealed !

By gently pushing the pcb, everything will slide out
I have cleaned the zebra and the pcb contacts with alcool
but it didn't get better.

However, it looks like one of the chip soldered on the back of the pcb was re-soldered ...
I'll try to swap the display unit with a LCD unit coming from a 75D which works fine and I'll post the results

Re: HP75C Bezel removed !

*Message #3 Posted by **Alberto Fenini** on 3 Nov 2010, 6:56 p.m.,*
in response to message #1 by Alberto Fenini

I'm posting this sequence, it may be of help to someone,

the 75C I'm trying to restore has also a ding close to the logo label
by using a blade and heating the surface I have removed the bezel
and discovered that it is a single piece including the keyboard layout

Tomorrow I'll polish the keys, and try to recover the ding.
If anyone has some ideas on how to smooth the ding, please leave your thoughts.

take care Alberto

Re: HP75C Display swap

*Message #4 Posted by **Alberto Fenini** on 6 Nov 2010, 9:44 a.m.,*
in response to message #3 by Alberto Fenini

Hello everyone,

for those of you interested in the project, hope to not bother too much the rest of the readers ...
I have opened the 75D and swapped the displays, which are fully compatible.
Well, it's not the disply the issue.
The display from the 75C works fine on the 75D and viceversa
the display known to work fne on the 75D has the same problem when installed in the 75C
What could it be the reason ??
Can the contrast be adjusted with a trimmer or a statement ??

thanks in advance and have a nice weekend !! Alberto

Re: HP75C Display (was zebra connector)

*Message #5 Posted by **geoff quickfall** on 4 Nov 2010, 12:44 p.m.,*
in response to message #1 by Alberto Fenini

Wonderful!!!

I have been away on a trip to Bejing and for some reason the government screeners on the wifi network at the hotel have blocked HPMuseum and my outgoing email accounts! This happens from time to time.

First, remove the glue residue from the keyboard and the faceplate backing. Some type of citrus based adhesive remover and cotton rag should work. Then wash the faceplate in warm soapy water.

Place the faceplate between to thick sheets of clear vinyl, thicker then a freezer bag. I use clear to see the results.

With the faceplate sandwiched between the vinyl, the entire package placed on a VERY FLAT AND

SMOOTH SURFACE (sheet of glass) and the printing visible (obverse) take a large soup spoon and rub over the ding. Flip the face plate over and rub some more from the (reverse) side. Continue this until the ding is removed.

Now with the entire face plate reverse side up rub the whole face plate taking care not to damage the reverse angle. This will impart a slight convex shape to the faceplate with the cup highest in the centre and lowest at the corners with the obverse side facing up.

This allows the faceplate to be glued in place (contact cement) with the corners fitting perfectly. Take a look at the following HPSolve article (HP42s) which is very similar to your 75.

June 2010

The second half of the restoration article explains the faceplate removal and glueing procedure. Also refer to the HP65 restoration piece, specifically how I smoothed the label out on it. There is a figure refering to label placement and the vinyl used.

Good work on the LCD panel also!

Cheers, Geoff

Edited: 4 Nov 2010, 12:46 p.m.

Re: HP75C Display (was zebra connector)

*Message #6 Posted by **Alberto Fenini** on 4 Nov 2010, 5:32 p.m.,*
in response to message #5 by geoff quickfall

Geoff !!
I was counting on your experience in removing labels and
making them look like new, I'm happy you liked my work,
honestly, it didn't seem to me such a great job, but I was in a situation where
I could'nt go back anymore ... if you know what I mean...
I'll work as suggested on the ding, and I'll post the results as soon as possible.

As far as for the display I need to test the display I have on the 75D before I can make any further assumption.
However, it seems that some of the chips have been re-soldered
Still, I'm wondering if all the pieces put together will make again an HP75C ....
Thanks for your help, and take care

BTW, how is the book project going ??
BTW (OT) how about the engine exploded on the A380 from Quantas ???

Re: HP75C Bezel - ding removed (?)

*Message #7 Posted by **Alberto Fenini** on 5 Nov 2010, 7:24 p.m.,*
in response to message #6 by Alberto Fenini

Hello everyone,

I have removed the ding, following Geoff's tips.

What would you ?
Geoff, can it get any better than this ??
Thanks for any idea or suggestion

take care Alberto

Re: HP75C Restore Project - Final conclusion

*Message #8 Posted by **Alberto Fenini** on 6 Nov 2010, 4:29 p.m.,*
in response to message #7 by Alberto Fenini

Hello everyone
as promised I had tried the display swap with a working display from an HP75D.
I have then discovered that the display are both working !!
Then I have swapped the memory boards. Since the memory board also host
the resistor for the contrast and the temperature based voltage regulation for the LCD contrast,
I wanted to be sure that also these were properly working, and so it was.
Then, I have reworked the base board, desolderin all of the connection pins
between this and the memory board, but it din't get any better.
Based on the service manual, thanks to Tony Duell for the hint, I have learned that while the columns are driven from some ICs solderd on the display PCB,
the rows and few other signals are driven from a chip that is on the logic board.
In case of bad display the service manual suggest to check all the soldering points, which I have done.

Does anyone has ever replaced a chip like this ???
take care and thanks for any suggestion ....

Cutting A Circle In Three Equal Pieces - Solution

*Message #9 Posted by **Thomas Klemm** on 8 Nov 2010, 2:07 p.m.,*
in response to message #5 by geoff quickfall

> Quote:
>
> June 2010

In the same issue I found the solution of HP Solve Math Problem Challenge #1.

Is it only me who thinks that both solutions are unnecessarily complicated?

This is the drawing from the article:

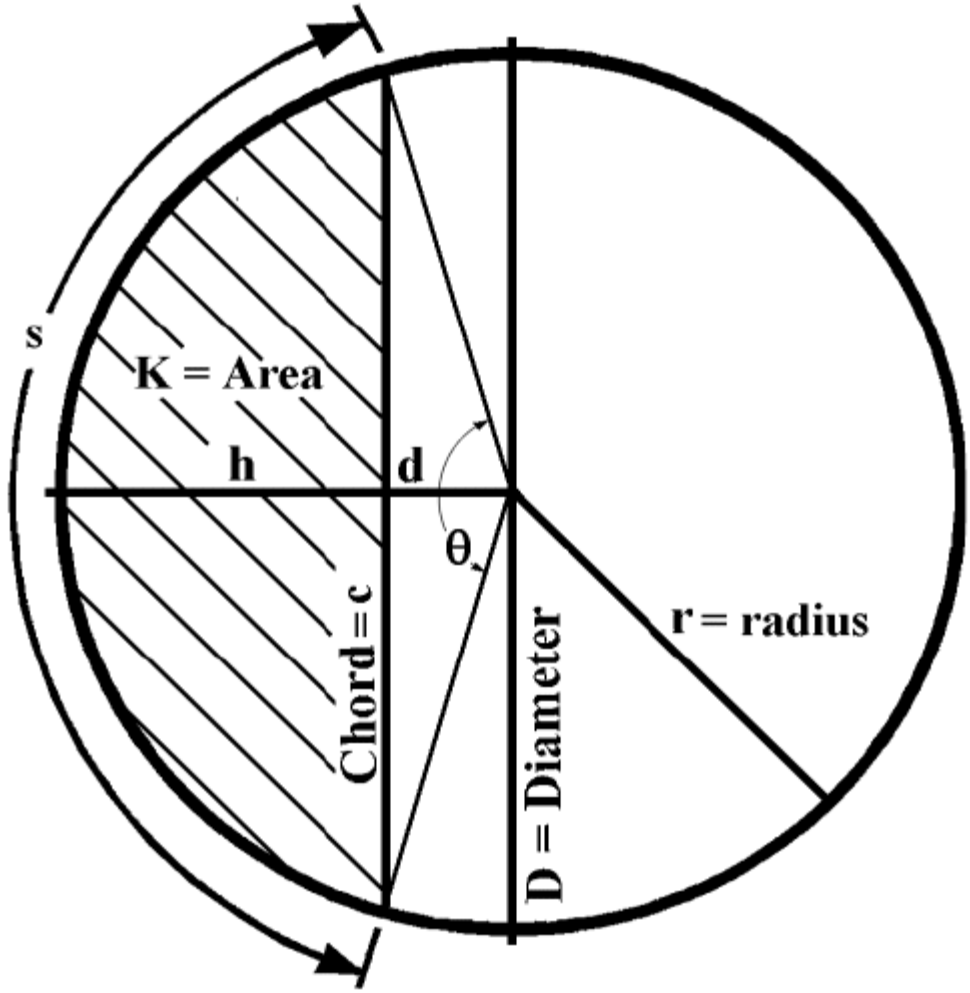

Fig. 1 – Segment of a Circle values identified.

> Quote:
>
> Let’s use a circle of unit diameter, D = 1.

Why not using a unit circle? It's much easier when r=1.

$2\alpha = \Theta$

Sector S

$$S = \frac{1}{2} \cdot s \cdot r = \frac{1}{2} \cdot 2\alpha \cdot 1 = \alpha$$

Triangle R

$$R = \frac{1}{2} \cdot c \cdot d = \frac{1}{2} \cdot 2sin(\alpha) \cdot cos(\alpha) = sin(\alpha) \cdot cos(\alpha)$$

Segment K

$$K = S - R = \alpha - sin(\alpha) \cdot cos(\alpha) = \frac{\pi}{3}$$

Now you can stop here and use the solver to find the solution or use the double-angle formula for sine:

$$2K = 2\alpha - 2sin(\alpha)cos(\alpha) = 2\alpha - sin(2\alpha) = \frac{2\pi}{3}$$

$$\Theta = \frac{2\pi}{3} + sin(\Theta)$$

Here we end up with a fixed point equation that can be solved by iteration.

First load the stack with:

```
2
PI
*
3
/
ENTER
ENTER
ENTER
```

Then repeat the following steps until you are satisfied with the accuracy of the result:

```
SIN
+
```

This will take some time but that could be a reason to deal with convergence acceleration.

Cheers
The wrong Thomas

PS: Alberto, I'd like to beg your pardon for hijacking this thread but the King said I mustn't beg.

Edited: 8 Nov 2010, 3:16 p.m.

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Looking for availability of HP 30B near Austin TX

*Message #1 Posted by **Andrés C. Rodríguez (Argentina)** on 3 Nov 2010, 10:13 a.m.*

Any suggestion would be appreciated, I'll stay near Austin for the next two days. Target and OfficeMax already checked with no success, the later had some HP 12C and Platinum. All others were Casio and TI (well, I'm in the state of Texas after all...). TIA.

Re: Looking for availability of HP 30B near Austin TX

*Message #2 Posted by **Don Shepherd** on 3 Nov 2010, 10:18 a.m.,*
in response to message #1 by Andrés C. Rodríguez (Argentina)

Office Depot should work.

Re: Looking for availability of HP 30B near Austin TX

*Message #3 Posted by **Michael Meyer** on 3 Nov 2010, 1:50 p.m.,*
in response to message #2 by Don Shepherd

Enjoy Austin! I have family there, and visited recently. I like Texas. Pretty women who would normally ignore me say "hello"...

Re: Looking for availability of HP 30B near Austin TX

*Message #4 Posted by **John B. Smitherman** on 3 Nov 2010, 2:22 p.m.,*
in response to message #3 by Michael Meyer

I agree with Don - Office Depot should have the 30b.

If you get a chance you should go watch the bats fly at dusk at Town Lake bridge and also watch the sunset at The Oasis restaurant on Lake Travis. 6th Street in downtown Austin gets wild at night - lots of good music.

Regards,

John

Re: Looking for availability of HP 30B near Austin TX

*Message #5 Posted by **Andrés C. Rodríguez (Argentina)** on 4 Nov 2010, 1:42 a.m.,*
in response to message #4 by John B. Smitherman

Thanks to all, will check Office Depot. Best regards.

BTW, this is my 31th time in the USA, and my second time in Austin, I like it a lot !!

Re: Looking for availability of HP 30B near Austin TX

*Message #6 Posted by **JDonley** on 4 Nov 2010, 2:16 p.m.,*
in response to message #5 by Andrés C. Rodríguez (Argentina)

Try the Salt Lick just outside Austin at Driftwood. Good BarBQ and great atmosphere. Rudy's bbq in Austin is good, too, even though it is a bbq restaurant chain.

Re: Looking for availability of HP 30B near Austin TX

*Message #7 Posted by **David Hayden** on 4 Nov 2010, 2:51 p.m.,*
in response to message #6 by JDonley

Isn't Eric Rechlin (hpcalc.org) in Austin? Maybe you can pick up a 30b from him.

For what it's worth, I like my 30b quite a bit. It has some quirks but it's small, fast, has a nice keyboard, fast, nice display, fast, and did I mention that it's FAST? :)

Re: Looking for availability of HP 30B near Austin TX

*Message #8 Posted by **Eric Rechlin** on 4 Nov 2010, 9:55 p.m.,*
in response to message #7 by David Hayden

I'm a 2.5 hour drive away in Houston. But thanks for the suggestion. :)

Re: Looking for availability of HP 30B near Austin TX

*Message #9 Posted by **David Hayden** on 5 Nov 2010, 6:50 a.m.,*
in response to message #8 by Eric Rechlin

2.5 hours and you're still in the same state? I don't get it :).

- Dave (who commutes from one end of New Jersey to the other for work every day)

Re: Looking for availability of HP 30B near Austin TX

*Message #10 Posted by **M. Joury** on 5 Nov 2010, 11:22 a.m.,*
in response to message #9 by David Hayden

I lived on the East Coast for years before moving to Texas and now I live in New Mexico. You can drive from Washington DC (don't blink when passing through Delaware and is it really large enough to be called a state?) to Albany via New York in much less time than it takes to drive across a single western state even with the higher speed limits (assuming of course that the New Jersey Turnpike, I95, etc. aren't parking lots--don't try this Thanksgiving day). You should visit the Texas Panhandle sometime and drive from Dallas to Albuquerque--nah, never mind, don't bother nothing to see other than the 64 oz. steak in Amarillo (I think). If you eat it all (plus the fixins') its free.

BTW, Dallas to Albuquerque is 647 miles and only 2 or 3 towns of any consequence in-between. DC to Albany via NY is 383... From the Oklahoma border to Laredo, TX is 496 miles.

Cheers.

Re: Looking for availability of HP 30B near Austin TX

*Message #11 Posted by **Gerson W. Barbosa** on 5 Nov 2010, 4:17 p.m.,*
in response to message #10 by M. Joury

> Quote:
>
> BTW, Dallas to Albuquerque is 647 miles and only 2 or 3 towns of any consequence in-between. DC to Albany via NY is 383... From the Oklahoma border to Laredo, TX is 496 miles.

I don't know American Geography, but I guess it's possible to travel from Phoenix to Oklahoma, making a pit-stop in Albuquerque, leaving before dawn and getting there before midnight :-)

http://www.youtube.com/watch?v=mUg5p3BncuQ

Re: Looking for availability of HP 30B near Austin TX

*Message #12 Posted by **M. Joury** on 5 Nov 2010, 7:31 p.m.,*
in response to message #11 by Gerson W. Barbosa

1005 miles from Phoenix to Oklahoma City taking I17 to I40. So, yes, it can be done, but you're going to be awfully tired when you get there. A couple of years ago I drove from Albuquerque to Palm Springs, CA. Left at 1:00 PM and arrived there at 1:00 AM. 717 miles in 12 hours and I drove the whole way with only a couple of short stops. Don't know that I would have wanted to do another 300 miles.

Travel distances in the American SW

*Message #13 Posted by **Karl Schneider** on 5 Nov 2010, 9:45 p.m.,*
in response to message #11 by Gerson W. Barbosa

> Quote:
>
> don't know American Geography, but I guess it's possible to travel from Phoenix to Oklahoma, making a pit-stop in Albuquerque, leaving before dawn and getting there before midnight :-)
>
> Quote:
>
> 1005 miles from Phoenix to Oklahoma City taking I17 to I40. So, yes, it can be done, but you're going to be awfully tired when you get there.

The trip in the hit song was even longer, but the destination could be anywhere in Oklahoma, not just OKC. Presumably, the origin was Los Angeles or San Diego. From a highway map, I get 373 miles from LA to Phoenix, 454 miles from there to Albuquerque, and 340 miles from there to the Oklahoma Panhandle. Total: 1167 miles (1878 km), which would be covered in the 22 hours from midnight to 10 PM at a constant mean average speed of 53 mi/h (85 km/h). *That's* homesickness!

Trivial, but "on topic": All three route-leg calculations (two segments each) can be totaled and retained using only a 4-level RPN stack prior to conversions. I'd never before checked how feasible this fictitious trip would have been.

-- KS

Edited: 7 Nov 2010, 1:31 a.m.

Re: Looking for availability of HP 30B near Austin TX

*Message #14 Posted by **Martin Pinckney** on 5 Nov 2010, 4:48 p.m.,*
in response to message #9 by David Hayden

OK, Florida is not nearly as big as Texas, in any direction, but when I go from my home in Naples to my birthplace in SC, it's 9 hours and 7 of those are in Florida.

Re: Looking for availability of HP 30B near Austin TX

*Message #15 Posted by **M. Joury** on 5 Nov 2010, 7:33 p.m.,*
in response to message #14 by Martin Pinckney

I drove from Miami to New York many years ago and yes, Florida is a very long state North/South.

Re: Looking for availability of HP 30B near Austin TX

*Message #16 Posted by **Martin Pinckney** on 5 Nov 2010, 9:55 p.m.,*
in response to message #15 by M. Joury

> Quote:
>
> Florida is a very long state North/South.

Yulee - Homestead: 425 mi. (N-S)

Atlantic Beach - Ensley: 375 mi. (E-W)

Not too much different! (Not counting the Keys).

Re: Looking for availability of HP 30B near Austin TX

*Message #17 Posted by **M. Joury** on 6 Nov 2010, 8:52 p.m.,*
in response to message #16 by Martin Pinckney

You are right of course. But for some reason, even though I have crossed Florida both E/W and N/S it seemed much shorter E/W. Don't ask me why, it must have been some time warp thing. Maybe that extra 50 miles was very painful. No, that wasn't it. Driving North my parents wanted to travel US 1. They really wanted to see the area. After a day or so of that I convinced them that we really needed to get on I95...

Re: Looking for availability of HP 30B near Austin TX

*Message #18 Posted by **Eric Rechlin** on 5 Nov 2010, 8:02 p.m.,*
in response to message #9 by David Hayden

I can drive west on I-10, maintaining the speed limit the whole time (70, 75, or 80 mph depending on where you are) and still be in Texas after 10 hours.

Re: Looking for availability of HP 30B near Austin TX

*Message #19 Posted by **M. Joury** on 6 Nov 2010, 8:59 p.m.,*
in response to message #18 by Eric Rechlin

Yes, but on I-10 you enter Texas over 200 miles to the west of where you would enter driving I-40. Even if the speed limit is 80 over that distance and you don't stop that is an additional 2.5 hours.

Re: Looking for availability of HP 30B near Austin TX

*Message #20 Posted by **Martin Pinckney** on 4 Nov 2010, 8:57 p.m.,*
in response to message #3 by Michael Meyer

> Quote:
>
> Pretty women who would normally ignore me say "hello"...

Who needs calculators?

Re: Looking for availability of HP 30B near Austin TX

*Message #21 Posted by **Dave Shaffer (Arizona)** on 4 Nov 2010, 10:25 p.m.,*
in response to message #20 by Martin Pinckney

My pretty woman has her own 32S (two of them, actually) (and an 11C)!

Actually, I've made similar comments previously. My wife and I are both astronomers, who were grad students and post-docs in the early 70s, so we are quite the HP fans from the earliest days.

Are there any other HP calculator couples out there?

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Bug in 12C iPhone App

*Message #1 Posted by **Andrew H.** on 3 Nov 2010, 2:11 a.m.*

This may have been noted previously, but I'll post it just in case.

If you take a square root (in portrait mode) and then clear prefix (in landscape mode), the display freezes. You have to close the app and re-open it to return to normal operation.

Andrew

Re: Bug in 12C iPhone App

*Message #2 Posted by **Namir** on 3 Nov 2010, 9:01 a.m.,*
in response to message #1 by Andrew H.

This is not a bug ... it's a "how dare you do this to me" feature!

:-)

Namir

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Towers of Hanoi in RPN

*Message #1 Posted by **Kiyoshi Akima** on 2 Nov 2010, 1:42 p.m.*

Has anyone written an RPN program for the Towers of Hanoi that's theoretically capable of handling the full 64-disk configuration? Or must I finish mine?

There's one for the 32S in the software library for up to six disks and V had a 16C program for up to thirty-some disks, but I haven't seen one that can theoretically handle 64.

It's all but trivial in RPL, but in RPN without local variables and without adequate inbuilt support for recursion... And, of course, I don't expect the batteries to last long enough, and I'm not going to check the full results...

Re: Towers of Hanoi in RPN

*Message #2 Posted by **Patrice** on 2 Nov 2010, 2:15 p.m.,*
in response to message #1 by Kiyoshi Akima

Hi, Can you post the program for the 16C or an URL to the program.

Knowing the 16C, I don't see why it could not be able to handle 64 discs (theoricaly :)).

The only problem I see is the lack of speed to achieve the full move. My only hope is to have an 12C+ re-purposing to a 16C on last hardware (just dreaming).

I suspect 30 disc is already out of reach for the 16C.

Patrice

Re: Towers of Hanoi in RPN

*Message #3 Posted by **Patrice** on 2 Nov 2010, 6:58 p.m.,*
in response to message #2 by Patrice

Hi,

I found the program with google!

HP 16C article with Hanoi towers program

Re: Towers of Hanoi in RPN

*Message #4 Posted by **Egan Ford** on 2 Nov 2010, 6:37 p.m.,*
in response to message #1 by Kiyoshi Akima

I'll write one, but what must a ToH program do? Just count from 1 to 2^d - 1. The source peg is (count & (count - 1)) % 3 and the target is ((count | (count -1)) + 1) % 3.

Edited: 2 Nov 2010, 6:39 p.m.

Re: Towers of Hanoi in RPN

*Message #5 Posted by **Egan Ford** on 2 Nov 2010, 11:23 p.m.,*
in response to message #4 by Egan Ford

> Quote:
>
> I'll write one, but what must a ToH program do?

Ok, based on the 16C example above, a ToH program should walk you through solving ToH.

Below is my version that will work for up to 64 discs on the 16C based on the equations I posted above.

Just GSB 0, then a 2 digit number will be displayed. The first number is the source rod and the second digit is the target rod. Press R/S to get the next set of numbers. This will solve any number of discs up to 64. Just keep pressing R/S until your problem is solved. For the case of 64, when the counter reaches 0, 0 will be displayed indicating that the 64 disc solution is solved.

Example output for 3 discs (2^3-1 moves):

```
13
12
32
13
21
23
13
```

Code:

```
001 - 43,22, 0  LBL 0
002 -    42  3  SET COMPL UNSGN
003 -       24  DEC
004 -        6  6
005 -        4  4
006 -    42 44  WSIZE
007 -        0  0
008 -    44  0  STO 0
009 - 43,22, 1  LBL 1
010 -    45  0  RCL 0
011 -        1  1
012 -       40  +
013 -    43 40  x=0
014 -    22  2  RTN
015 -    44  0  STO 0
016 -    45  0  RCL 0
017 -        1  1
018 -       30  -
019 -    42 20  AND
020 -        3  3
021 -    42  9  RMD
022 -        1  1
023 -       40  +
024 -        1  1
025 -        0  0
026 -       20  x
027 -    45  0  RCL 0
028 -    45  0  RCL 0
029 -        1  1
030 -       30  -
031 -    42 40  OR
032 -        1  1
033 -       40  +
034 -        3  3
035 -    42  9  RMD
036 -        1  1
037 -       40  +
038 -       40  +
```

```
039 -        31  R/S
040 -    22   1  GTO 1
```

Edited: 2 Nov 2010, 11:46 p.m.

Re: Towers of Hanoi in RPN

*Message #6 Posted by **Egan Ford** on 3 Nov 2010, 12:30 a.m.,*
in response to message #5 by Egan Ford

I should have stated my admiration for the 16C. What an awesome machine!

Re: Towers of Hanoi in RPN

*Message #7 Posted by **Patrice** on 5 Nov 2010, 6:16 p.m.,*
in response to message #6 by Egan Ford

Welcome to the club :)

Re: Towers of Hanoi in RPN

*Message #8 Posted by **Kiyoshi Akima** on 12 Nov 2010, 12:16 p.m.,*
in response to message #5 by Egan Ford

I believe there's a bug in this program, one that only shows when doing 64 disks. And no, I don't blame Egan for not running this case to its completion :-)

Halfway through, when it's finally time to move the biggest disk:

```
count              = 8000000000000000h
count-1            = 7FFFFFFFFFFFFFFFh
count or (count-1) = FFFFFFFFFFFFFFFFh
```

then (count or (count-1)+1) overflows. (2^64)mod 3 is 1 but the 16C, having lost the top bit, produces 0.

A partial fix is to replace the 1, + in lines 32-33 with 2, -. This will make it work correctly for the 64-disk case but the underflow screws up the 1-disk case.

Re: Towers of Hanoi in RPN

*Message #9 Posted by **Egan Ford** on 12 Nov 2010, 5:09 p.m.,*
in response to message #8 by Kiyoshi Akima

Here's a quick fix. I'll try to think of something better this weekend.

Replace:

((count | (count -1)) + 1) % 3

with:

((count | (count -1)) % 3 + 1) % 3

Re: Towers of Hanoi in RPN

*Message #10 Posted by **Patrice** on 5 Nov 2010, 6:17 p.m.,*
in response to message #4 by Egan Ford

Hi Egan,

> Quote:
>
> Just count from 1 to 2^d - 1. The source peg is (count & (count - 1)) % 3 and the target is ((count | (count -1)) + 1) % 3.

Where did you find this formula ?

Patrice

Re: Towers of Hanoi in RPN

*Message #11 Posted by **Thomas Okken** on 6 Nov 2010, 6:13 a.m.,*
in response to message #10 by Patrice

I remember looking at the Towers of Hanoi puzzle many years ago, when I discovered a non-recursive algorithm which I implemented on the HP-19C. I don't remember the details, but I do remember that it started when I discovered a simple pattern in the moves for each solution:

```
1 disc:  1-3
2 discs: 1-2 1-3 2-3
3 discs: 1-3 1-2 3-2 1-3 2-1 2-3 1-3
4 discs: 1-2 1-3 2-3 1-2 3-1 3-2 1-2 1-3 2-3 2-1 3-1 2-3 1-2 1-3 2-3
```

It becomes clearer when you change the destination peg from 3 to 2 for even numbers of discs:

```
1 disc:  1-3
2 discs: 1-3 1-2 3-2
3 discs: 1-3 1-2 3-2 1-3 2-1 2-3 1-3
4 discs: 1-3 1-2 3-2 1-3 2-1 2-3 1-3 1-2 3-2 3-1 2-1 3-2 1-3 1-2 3-2
```

For odd numbers of discs, you're always moving between pegs 1 and 3, then between 1 and 2, and then between 2 and 3, and then the pattern repeats. For even numbers of discs, the cycle is 1/2, 1/3, 2/3.

I don't remember how I derived the *direction* of each move, though. Of course this is easy to do by keeping track of the discs, but I distinctly remember discovering that that was not necessary. My algorithm must have been similar to Egan's formula, but I don't remember how I solved that last part. This is going to drive me nuts now. :-)

UPDATE:

This refreshed my memory. The key is to notice the pattern of *which disc* is moved. Numbering the discs starting with the smallest being 0, the pattern of disc moves is 0, 1, 0, 2, 0, 1, 0, 3, 0, 1, 0, 2, 0, 1, 0, 4,... In other words, you alternate between moving the smallest disc and some other one; discounting the moves of the smallest disc, you alternate between moving the second-smallest disc and some other one, etc. This much is easy to verify by looking at the recursive algorithm.

So at move n (starting from 1), you always move the disc m, where m is the lowest nonzero bit in the binary representation of n (with bit b being the one that represents 2^b).

Using the 1/3, 1/2, 2/3 pattern I mentioned at the beginning (for odd numbers of discs; for even numbers, use 1/2, 1/3, 2/3), this means that the smallest disc (and all even-numbered discs) must move like 1-3, 3-2, 2-1; the second smallest (and all odd-numbered discs) must move like 1-2, 2-3, 3-1, for odd numbers of discs; for even numbers of discs, just swap pegs 2 and 3.

So, at move n, you must move disc m = floor(log (n xor (n - 1))). How many times has disc m been

moved prior to move n? Answer: $p = \text{floor}((n - 1) / 2^{m + 1} + 1/2)$.

If the sum of the total number of discs and m is odd, you must move from peg $3 - (p + 2) \% 3$ to peg $3 - p \% 3$, and if the sum of the total number of discs and m is even, you must move from peg $p \% 3 + 1$ to peg $(p + 1) \% 3 + 1$.

This is still a bit ugly; we know how to get from the move number, n, to the number of the disc to be moved, m, and how to get from m to the number of times that that disc has been moved previously, p, but we can simplify that by combining those two functions: $m(n) = \text{floor}(\log_2(n \text{ xor } (n - 1)))$ and $p(m) = \text{floor}((n - 1) / 2^{m + 1} + 0.5)$, so $p(m(n)) = \text{floor}((n - 1) / 2^{1 + \text{floor}(\log_2(n \text{ xor } (n - 1)))} + 1/2) = \text{floor}((n - 1) / ((n \text{ xor } (n - 1)) + 1) + 1/2)$, and there you have a function that tells how many times the disc you have to move at move n has been moved previously; combining that with the formula that gives you the source and destination pegs for each disc given how many times it has been moved previously, plus the formula that tells you which disc m to move at any given move n, you have your 100% non-recursive algorithm.

Proving the 1/2-1/3-2/3 pattern and simplifying this mess to Egan's elegant formula is left as an exercise to the reader. :-)

Edited: 6 Nov 2010, 9:22 a.m.

Re: Towers of Hanoi in RPN

*Message #12 Posted by **Egan Ford** on 8 Nov 2010, 12:53 p.m.,*
in response to message #10 by Patrice

> Quote:
>
> Where did you find this formula ?

http://en.wikipedia.org/wiki/Tower_of_Hanoi#Binary_solutions

Re: Towers of Hanoi in RPN

*Message #13 Posted by **Juergen Keller** on 3 Nov 2010, 3:16 a.m.,*
in response to message #1 by Kiyoshi Akima

There is also one in the software library for the 42S with graphical display of the disk moves:

Towers of Hanoi

Enjoy, Juergen

Re: Towers of Hanoi in RPN

*Message #14 Posted by **Kiyoshi Akima** on 3 Nov 2010, 10:30 a.m.,*
in response to message #13 by Juergen Keller

The 42S program apparently only handles up to 7 disks.

I'm putting on the finishing touches on a pair of 35s programs that will handle up to 64 disks each, using different algorithms. I also have a 27-step program for the 16C.

I hadn't seen Egan's formulae before. They sure make the thing easy, don't they?

Re: Towers of Hanoi in RPN

*Message #15 Posted by **Juergen Keller** on 3 Nov 2010, 1:26 p.m.,*
in response to message #14 by Kiyoshi Akima

The 7-disk limitation is only because of the limited 42S graphics capabilities. The algorithm itself - which is non-recursive - can handle more disks ...

Re: Towers of Hanoi in RPN

*Message #16 Posted by **Kiyoshi Akima** on 16 Nov 2010, 3:07 p.m.,*
in response to message #1 by Kiyoshi Akima

Since I started this thread, I suppose I have to contribute my code to it. Here are ten programs for the full 64-disk Towers of Hanoi puzzle including RPN programs for the 35s, 30b, 16C, and 15C. The 30b is by far the fastest of this lot.

Re: Towers of Hanoi in RPN

*Message #17 Posted by **Thomas Klemm** on 17 Nov 2010, 6:16 a.m.,*
in response to message #16 by Kiyoshi Akima

Very nice paper! Thanks a lot for sharing.

However I assume there's a typo in the recursive RPL program:

> Quote:
>
> ```
> n 1. = t d s \<-h EVAL
> ```

Should be:

```
n 1. - t d s \<-h EVAL
```

Kind regards
Thomas

Re: Towers of Hanoi in RPN

*Message #18 Posted by **Kiyoshi Akima** on 17 Nov 2010, 12:14 p.m.,*
in response to message #17 by Thomas Klemm

Thanks. I've corrected that and fixed some other transcription errors in the 30b version.

Re: Towers of Hanoi in RPN

*Message #19 Posted by **Thomas Klemm** on 17 Nov 2010, 4:54 p.m.,*
in response to message #18 by Kiyoshi Akima

Unfortunately I have also trouble with iterative RPL program:

> Quote:

```
UNROT OR #2d - DUP #3d / #3d x
```

Here I assume a minus is missing at the end. I've also changed the #2d - to #1d + though I know what you possibly had in mind. But I prefer to have the first move displayed correctly in all cases than having the last one in the special case of n=64.

In the condition of the do-loop I simply use:

```
UNTIL
  DUP2 ==
END
```

Otherwise the program did not end.

There's a minor typo on page 7: 2^{34} mod 2 = 1

Probably you mean: 2^{34} mod 3 = 1. At least that would make sense in this context.

Cheers
Thomas

Edited: 17 Nov 2010, 5:01 p.m.

Re: Towers of Hanoi in RPN

*Message #20 Posted by **Katie Wasserman** on 17 Nov 2010, 10:00 p.m.,*
in response to message #18 by Kiyoshi Akima

Excellent writeup and programming work! Why not post this in the articles section here to make it more accessible to everyone?

-Katie

Re: Towers of Hanoi in RPN

*Message #21 Posted by **Kiyoshi Akima** on 18 Nov 2010, 12:35 a.m.,*
in response to message #20 by Katie Wasserman

I'd like to, but it's going to take some time unless I can find a good way to convert a LaTeX document to HTML. Any suggestions?

Re: Towers of Hanoi in RPN

*Message #22 Posted by **Thomas Klemm** on 18 Nov 2010, 4:39 a.m.,*
in response to message #21 by Kiyoshi Akima

cf. Advanced Article Formatting

> Quote:
>
> If you don't have a place to host your images, then please log in and request a guest directory. Once the directory is created, you will be able to upload your files. (This is actually preferred since I won't have to worry about the images moving or disappearing in the future and leaving broken links.)

Create an article with a short abstract and provide a link to the PDF. It's not possible to upload HTML anyway.

How did you create the nice listings in LaTeX?

Best regards
Thomas

Re: Towers of Hanoi in RPN

*Message #23 Posted by **Kiyoshi Akima** on 18 Nov 2010, 12:39 p.m.,*
in response to message #22 by Thomas Klemm

> Quote:
>
> How did you create the nice listings in LaTeX?

Very carefully. Below is an excerpt from the 30b version.

```
\noindent\begin{tabular}{|rl|rl|rl|rl|}
\hline
\textsf{  1}&\textsf{Input}              &\textsf{ 29}&\textsf{2}
&\textsf{ 57}&\textsf{EEX}               &\textsf{ 85}&\textsf{RCL Data}
\\
\textsf{  2}&\textsf{0}                  &\textsf{ 30}&\textsf{Call04}
&\textsf{ 58}&\textsf{2}                 &\textsf{ 86}&\textsf{EEX}
\\
...
\textsf{ 26}&\textsf{*}                  &\textsf{ 54}&\textsf{Math}
&\textsf{ 82}&\textsf{\underline{Lbl 03}} &\textsf{110}&\textsf{Up}
\\
\textsf{ 27}&\textsf{RCL Data}           &\textsf{ 55}&\textsf{Up}
&\textsf{ 83}&\textsf{Call04}            &\textsf{111}&\textsf{Input}
\\
\textsf{ 28}&\textsf{EEX}               &\textsf{ 56}&\textsf{Input}
&\textsf{ 84}&\textsf{+}                 &\textsf{112}&\textsf{RTN}
\\
\hline
&\multispan{6}\textsf{\hfil \ length/checksum = 142.056\hfil}&\\
\hline
\end{tabular}\label{prog.30b.r}
```

There are easier ways, and I have some scripts that handle numbering and columnating (is that a word?).

Re: Towers of Hanoi in RPN

*Message #24 Posted by **Angel Martin** on 17 Nov 2010, 3:26 p.m.,*
in response to message #16 by Kiyoshi Akima

Indeed a great contribution, thanks for sharing it.

I don't suppose you could also add another version for the 41, or could you? I remember your original contributions to the PPC journal on the same subject, so it's been a while since then and it's great to see how you've come full circle :)

Best, 'AM

Re: Towers of Hanoi in RPN

*Message #25 Posted by **Kiyoshi Akima** on 18 Nov 2010, 12:33 p.m.,*
in response to message #24 by Angel Martin

> Quote:
>
> I remember your original contributions to the PPC journal on the same subject, so it's been a while since then and it's great to see how you've come full circle :)

Thanks for making me feel old. And to make me even older, I can't remember writing for the PPCJ about the Towers of Hanoi. Eight Queens, yes. The Game of Life, yes. The Towers, no.

As for the 41 (and I presume, the 42), it's simple to translate the first (recursive) 35s program. Number the black triangles showing the destinations of branches. Type in the program and put in the labels where needed. Instead of variable I, use register R00 so that DSE I becomes DSE 00, RCL(I) becomes RCL IND 00, and so forth. Or use synthetics and use M or N. IP is INT and RMDR is MOD. I didn't include a 41 program because I don't have a working 41 and I didn't want to use an emulator (all of the programs were done on the actual hardware).

For a bare-bones 41 without additional memory, use the 15C program, using R33 for RAN#.

I still want to shoehorn the program into the 19C/29C. A 12C version would be fun, as well.

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current draw from CR2032 coin cells

*Message #1 Posted by **Eric Smith** on 2 Nov 2010, 11:22 a.m.*

TI's applications engineers for Bluetooth low energy products studied capacity of CR2032 coin cells in pulsed operation at 15mA peak and 30 mA peak. CR2032 coin cells are usually rated for 15mA peak current. The best coin cells showed very little capacity degradation compared to constant current. This is reported on their blog and they've written a white paper.

Their measurements also showed how much variation in capacity there is between vendors, with Sony, Panasonic, and Maxell being the highest they measured, and GP and two no-name brands having only about 50% of the capacity of the better brands.

funny sidenote (history repeating)

*Message #2 Posted by **Frank Boehm (Germany)** on 2 Nov 2010, 12:22 p.m.,*
in response to message #1 by Eric Smith

I think Mr. Sinclair was first to use this pulsed power to save button cell battery life - sporting a TI Chipset - within the Sinclair Executive. TI said, it couldn't be done. Back then :)

Re: current draw from CR2032 coin cells

*Message #3 Posted by **Egan Ford** on 2 Nov 2010, 12:30 p.m.,*
in response to message #1 by Eric Smith

I hope this means that you or someone else will create an RPN calculator with BT. I was actually looking for one yesterday. I would really like a 30b with a BT send function so that I can quickly send the results to my current open application on my desktop.

BT calcs exist and they double as numeric keypads, but none sport RPN.

Re: current draw from CR2032 coin cells

*Message #4 Posted by **Eric Smith** on 2 Nov 2010, 6:04 p.m.,*
in response to message #3 by Egan Ford

I really only brought this up because it had useful information about coin cell capacity, and not for anything about Bluetooth.

If you had an RPN calculator with Bluetooth support, what uses would you expect the Bluetooth to support?

Re: current draw from CR2032 coin cells

*Message #5 Posted by **Egan Ford** on 2 Nov 2010, 6:47 p.m.,*
in response to message #4 by Eric Smith

> Quote:
>
> If you had an RPN calculator with Bluetooth support, what uses would you expect the Bluetooth to support?

Two functions. One, act as a BT keypad for my Mac. Two, have a send button to send the results as keypad input to my Mac. They exist today, but without RPN.

Now, if a programmable RPN had BT, then it would be a crime to not allow backup and restore via BT.

The above would require two BT profiles. If a serial profile was added then programmable I/O becomes a possibility.

Re: current draw from CR2032 coin cells

*Message #6 Posted by **hpnut** on 4 Nov 2010, 12:32 a.m.,*
in response to message #3 by Egan Ford

> Quote:
>
> BT calcs exist and they double as numeric keypads, but none sport RPN.

I would be the first to buy an RPN USB numeric keypad :-)

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HP calculators feature on UK Import/Export Tax website

*Message #1 Posted by **DeboT** on 1 Nov 2010, 12:37 p.m.*

Whilst searching on info on import duties and VAT, I came across the following pages with pictures of HP calculators.

Although the logos have been removed from the pictures, the following page shows the unmistakable blue HP-49G:
Excise and VAT in international trade

and this one looks like the HP-20S:
Understand your tax obligations when importing or exporting

Re: HP calculators feature on UK Import/Export Tax website

*Message #2 Posted by **Martin Pinckney** on 1 Nov 2010, 1:34 p.m.,*
in response to message #1 by DeboT

Not a 20s, since that model has both blue and orange shifts, and the tiny picture you references has only blue.

22s has only blue, but has the flat bezel around the display; the tiny picture seems to have a deep bezel.

So perhaps a Photoshop amalgam?

Re: HP calculators feature on UK Import/Export Tax website

*Message #3 Posted by **DeboT** on 1 Nov 2010, 2:00 p.m.,*
in response to message #2 by Martin Pinckney

Looking closer, it almost seems like a 10B, but with the orange shift key & labels made blue. The two blue-only shift key pioneers (AFAIK the 22S & 27S) have an up-down key above the shift, doesn't seem so on this one. Also the 10B is the only one with something small above the "." key. Very difficult to say with such a small pic. The only thing I'm reasonably sure of is that it's a pioneer :-)

Re: HP calculators feature on UK Import/Export Tax website

*Message #4 Posted by **Keith Midson** on 1 Nov 2010, 3:23 p.m.,*
in response to message #3 by DeboT

It could be a 10B with green keys - I have one of these.
Cheers, Keith

Re: HP calculators feature on UK Import/Export Tax website

*Message #5 Posted by **hugh steers** on 1 Nov 2010, 7:04 p.m.,*
in response to message #4 by Keith Midson

20b ?

Re: HP calculators feature on UK Import/Export Tax website

*Message #6 Posted by **Martin Pinckney** on 1 Nov 2010, 7:52 p.m.,*
in response to message #5 by hugh steers

I too first thought it might be a 20b. But you can see that the blue shifted functions are *over* the keys, whereas on the 20b they are on the sloping key fronts.

Re: HP calculators feature on UK Import/Export Tax website

*Message #7 Posted by **Martin Pinckney** on 1 Nov 2010, 7:55 p.m.,*
in response to message #4 by Keith Midson

> Quote:
>
> 10B with green keys...

Serious?

Re: HP calculators feature on UK Import/Export Tax website

*Message #8 Posted by **Keith Midson** on 1 Nov 2010, 8:58 p.m.,*
in response to message #7 by Martin Pinckney

Yes - there is green-key 10B one on ebay right now - item 180580062116
Cheers, Keith

Re: HP calculators feature on UK Import/Export Tax website

*Message #9 Posted by **DeboT** on 2 Nov 2010, 5:44 a.m.,*
in response to message #4 by Keith Midson

Looks like the closest match to me. This green shift 10B is raising some questions in my mind, like was it released around the time of the green/purple 48G? Also in which countries was it released?

Re: HP calculators feature on UK Import/Export Tax website

*Message #10 Posted by **Stuart Sprott** on 2 Nov 2010, 8:22 a.m.,*
in response to message #9 by DeboT

The very first HP 49G calculators were the colour shown. I have still got one and it still works. I found it extremly slow and the keys were very stiff. The main reason why it still goes is that it was hardly ever used. I managed to find a HP 48 that still worked and went back to that.

My main calculator now is a HP 50g.

Re: HP calculators feature on UK Import/Export Tax website

*Message #11 Posted by **BruceH** on 3 Nov 2010, 9:29 p.m.,*
in response to message #10 by Stuart Sprott

It is the HP49G - it was very distinctive, the color earning the nickname "frozen hamster butt blue".

Re: HP calculators feature on UK Import/Export Tax website

*Message #12 Posted by **DeboT** on 4 Nov 2010, 5:21 a.m.,*
in response to message #11 by BruceH

Yes, the first link is definitely the blue 49G, the second link has a very low res picture of a Pioneer, to which the closest mach I think is a green shift key 10B.

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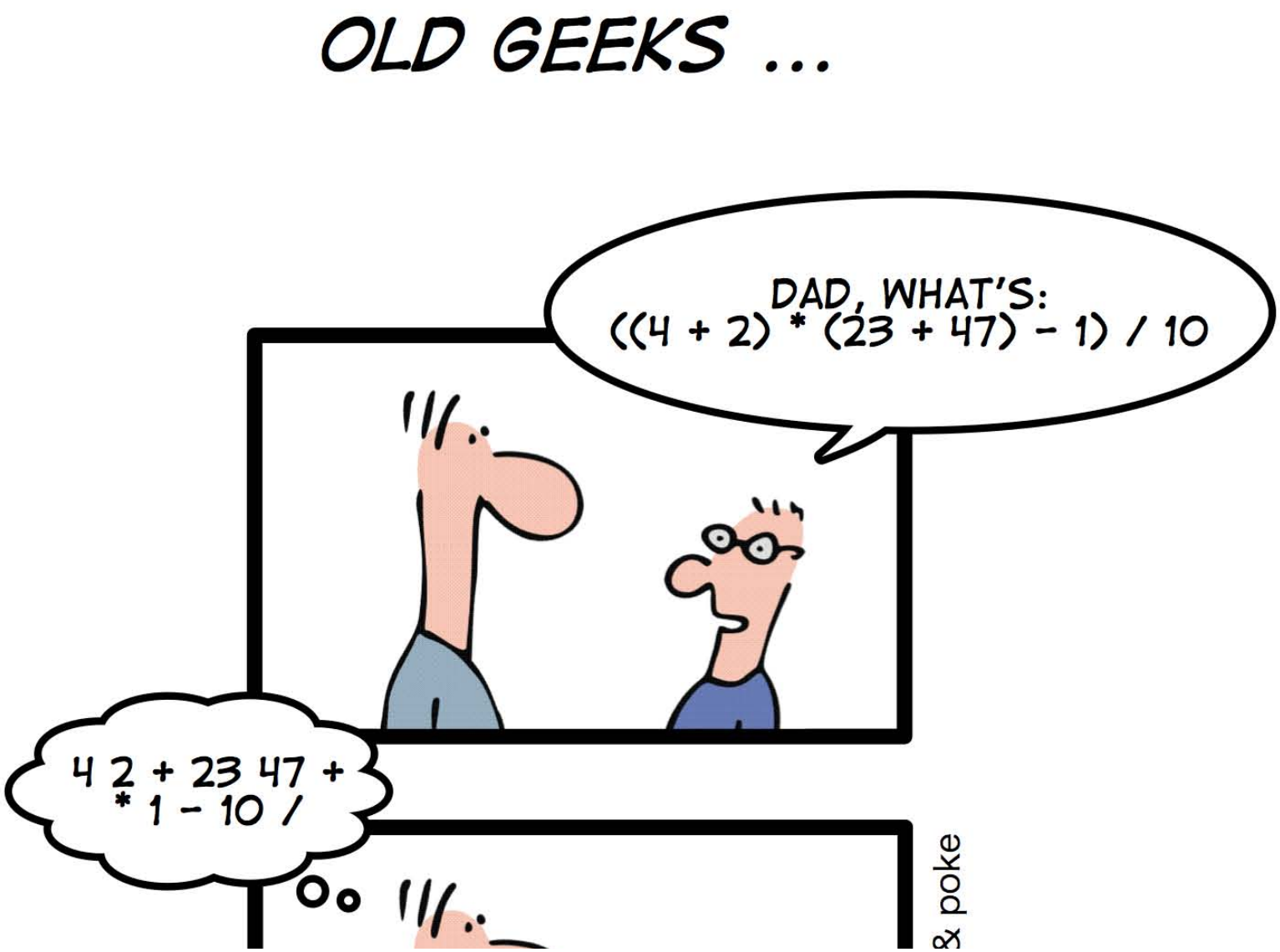
Old geeks miss their HPs

*Message #1 Posted by **Juergen Keller** on 1 Nov 2010, 3:47 a.m.*

Recently I found the site Geek and Poke and their comics are sooo funny! Yesterday the topic was RPN HP calcs:



You see, the answer is not always 42 ;-)

I can also recommend the first Geek&Poke book they provide on the web site. I'm not affiliated in any way with this web site but you know: a laugh a day keeps the doctor away ...

Enjoy,

Juergen

Re: Old geeks miss their HPs
*Message #2 Posted by **Walter B** on 1 Nov 2010, 5:47 a.m.,*
in response to message #1 by Juergen Keller

:-D

Thanks for sharing!

Re: Old geeks miss their HPs
*Message #3 Posted by **Namir** on 1 Nov 2010, 2:26 p.m.,*
in response to message #1 by Juergen Keller

I don't get it!!!!!

<very wide grin>

Namir

Re: Old geeks miss their HPs
*Message #4 Posted by **Javier Goizueta** on 3 Nov 2010, 4:15 a.m.,*
in response to message #3 by Namir

The "old geek" computes mentally in RPN.

Re: Old geeks miss their HPs
*Message #5 Posted by **Michael Meyer** on 3 Nov 2010, 1:55 p.m.,*
in response to message #4 by Javier Goizueta

He gets it. He's just an old geek... like me.

Re: Old geeks miss their HPs
*Message #6 Posted by **Jeff Kearns** on 1 Nov 2010, 4:18 p.m.,*
in response to message #1 by Juergen Keller

Let me guess: "this joke is funny because..... he got the wrong answer"?

Jeff Kearns

Re: Old geeks miss their HPs
*Message #7 Posted by **Martin Pinckney** on 1 Nov 2010, 7:59 p.m.,*
in response to message #6 by Jeff Kearns

Don't see how the answer is wrong.

Re: Old geeks miss their HPs
*Message #8 Posted by **Norman Dziedzic** on 1 Nov 2010, 10:36 p.m.,*
in response to message #7 by Martin Pinckney

Maybe he means because it isn't 42?

Re: Old geeks miss their HPs
*Message #9 Posted by **Palmer O. Hanson, Jr.** on 4 Nov 2010, 9:53 p.m.,*
in response to message #1 by Juergen Keller

Manuals and books for RPN calculators typically contend that one of the advantages of RPN is that users can solve problems on their calculators in a manner similar to the way they would solve them with pencil and paper. For example,

Page 29 of the *HP-41C Owner's Handbook and Programming Guide* says about RPN that "You can calculate in the same manner you do with pencil and paper. ..."

Page 327 of the *HP 19BII Financial Calculator Owner's Manual* says "You can calculate in the same order as you would with pencil and paper -- that is, from the innermost parentheses outward."

Pages 38 and 39 of the Fifth Edition of Wlodek's *A Guide to HP Handheld Calculators and Computers* say the same thing but in much more detail.

That all may be true, but do RPNers REALLY solve elementary problems such as the one proposed here in their head using RPN as suggested in the cartoon or do they simply do it in algebraic?

Re: Old geeks miss their HPs
*Message #10 Posted by **Dave Shaffer (Arizona)** on 4 Nov 2010, 10:28 p.m.,*
in response to message #9 by Palmer O. Hanson, Jr.

I kind of suspect it would be a hybrid: if I was parsing the problem to understand and envision it, I would probably be thinking in an algebraic sense. If I had to evaluate it with my (RPN!) calc, then RPN it would be.

Re: Old geeks miss their HPs

*Message #11 Posted by **Juergen Keller** on 5 Nov 2010, 3:02 a.m.,*
in response to message #9 by Palmer O. Hanson, Jr.

If the expression is not trivial and there are parenthesis I start at the inner expression and go on to the outside. The only problem is that my brain has a very limited stack ;-) so I have to write down intermediate results. Anyway, it's the RPN way, and it's the natural way of computing such expressions mentally. My brain calculator does not provide parenthesis.

- Juergen

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HP28S - made in Indonesia?

*Message #1 Posted by **Keith Midson** on 1 Nov 2010, 1:43 a.m.*

Hi HP world. I recently purchased a 28S from TAS - the 28S is one of my favourites as it's the one I went through University with. I have a few in my collection (USA, Singapore and the 100th anniversary edition). This particular 28S caught my eye as being made in Indonesia in 1997 - serial code: ID73800361. From the MoHP site, the 28S was made between 1988 and 1992. So one made in 1997 would be quite strange.
I have a few theories:
1. It has been repaired using a 19Bii back case, or
2. it was a rogue batch made in Indonesia that not many people know about.
3. I've read the date code incorrectly and it was made in 1987.
It is in excellent condition, although some sort of high quality repair appears to have been done around the battery door frame (on upper side), although this might just be normal wear.
Anyone got any ideas? Cheers, Keith

Re: HP28S - made in Indonesia?

*Message #2 Posted by **Jeff O.** on 1 Nov 2010, 8:06 a.m.,*
in response to message #1 by Keith Midson

My guess would be that it was made as stock for the out-of-warranty exchange service that HP used to offer. I believe their policy was to offer the service, which allowed you to send in your broken unit plus a flat fee and recieve a new unit, for five years after a model was discontinued.

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Happy anniversary to HP-42S and HP-14B

*Message #1 Posted by **Johnny Bjoern Rasmussen** on 31 Oct 2010, 4:57 a.m.*

22 years. Congratulations!

Edited: 31 Oct 2010, 12:53 p.m. after one or more responses were posted

Re: Happy anniversary to HP-42S and HP-14B

*Message #2 Posted by **Eddie W. Shore** on 31 Oct 2010, 11:08 a.m.,*
in response to message #1 by Johnny Bjoern Rasmussen

A toast to the 42S and 14B!

Re: Happy anniversary to HP-42S and HP-14B

*Message #3 Posted by **Namir** on 31 Oct 2010, 5:25 p.m.,*
in response to message #1 by Johnny Bjoern Rasmussen

Hmmm .. as old as my son Joseph!!!

Re: Happy anniversary to HP-42S and HP-14B

*Message #4 Posted by **Mike Morrow** on 31 Oct 2010, 6:01 p.m.,*
in response to message #1 by Johnny Bjoern Rasmussen

Not much information here. The HP42S is said to be from 1988, yet the back of the calculator says 1987. So which anniversary is it...the 22nd or 23rd?

Regardless, knowledgeable people acknowledge the HP42S as the finest RPN calculator ever made...22 years after introduction. What a shame that HP no longer has capability to produce a machine that comes close to what was available almost a quarter century ago. The HP32SII, HP33S, and HP35S are execrable.

RPL is powerful, but RPN is straight-forward, non-tricky, intuitive, and a system that people can use without great study. It's a pity that freshman computer science types held sway with RPL, causing HP's loss of use for the things for which people still use calculators.

The HP50G is orders of magnitude a better machine than the TI-89 Titanium (HW 4). It's a really great product. But it has lost to the TI junk because of RPL's idiotic difficulty of use. At the very least, the successor to the HP50G should provide for programming in either RPL or RPN.

But, I digress. The HP42S represents much better times. Happy anniversary, HP42S and the long gone talent of the HP folks who created you!

Edited: 31 Oct 2010, 6:20 p.m. after one or more responses were posted

Re: Happy anniversary to HP-42S and HP-14B

*Message #5 Posted by **Martin Pinckney** on 31 Oct 2010, 6:17 p.m.,*
in response to message #4 by Mike Morrow

The back of all Pioneers say "Copyright Hewlett Packard Company 1987", regardless of when the model was introduced or the particular calculator was made.

OK, they don't spell out copyright, they have the little copyright symbol.

This must be the year HP developed some common code for the series, or something like that.

Re: Happy anniversary to HP-42S and HP-14B

*Message #6 Posted by **Mike Morrow** on 31 Oct 2010, 6:45 p.m.,*
in response to message #5 by Martin Pinckney

That's true.

The copyright (C/R) dates shown during the self-tests vary. For example:

HP42S____ROM A___2934Sxxxxx__C/R date is 1988.
HP42S____ROM C___3328Sxxxxx__C/R date is 1988.
HP17BII___ROM B___ID710xxxxx__C/R date is 1987.
HP32SII_____ID718xxxxx__C/R date is 1987, 1990.

Edited: 31 Oct 2010, 6:46 p.m.

Re: Happy anniversary to HP-42S and HP-14B

*Message #7 Posted by **Walter B** on 1 Nov 2010, 2:55 a.m.,*
in response to message #5 by Martin Pinckney

The (c) was for the overall design of the Pioneers.

Re: Happy anniversary to HP-42S and HP-14B

*Message #8 Posted by **BruceH** on 3 Nov 2010, 9:49 p.m.,*
in response to message #4 by Mike Morrow

> Quote:
>
> What a shame that HP no longer has capability to produce a machine that comes close to what was available almost a quarter century ago. The HP32SII, HP33S, and HP35S are execrable.

You know as well as I do that it has absolutely nothing to do with HP's capabilities and everything to do with what the market will pay for. So less of the snide digs at HP's staff, please.

> Quote:
>
> RPL is powerful, but RPN is straight-forward, non-tricky, intuitive, and a system that people can use without great study. It's a pity that freshman computer science types held sway with RPL, causing HP's loss of use for the things for which people still use calculators.

RPL was developed by Bill Wickes' - a person less like a 'freshman computer science type' I can't imagine.

Also Bill was intimately acquainted with RPN on the HP41: I'm sure he didn't cast aside RPN lightly.

> Quote:
>
> The HP50G is orders of magnitude a better machine than the TI-89 Titanium (HW 4). It's a really great product. But it has lost to the TI junk because of RPL's idiotic difficulty of use. At the very least, the successor to the HP50G should provide for programming in either RPL or RPN.

I'll agree with that last point. <flame suit:on>RPN is okay-ish for short programs of up to 10 or15 lines but anything much more than that and it becomes impossible to debug. ;-)

Re: Happy anniversary to HP-42S and HP-14B

*Message #9 Posted by **Walter B** on 4 Nov 2010, 1:08 a.m.,*
in response to message #8 by BruceH

> Quote:
>
> > Quote:
> >
> > At the very least, the successor to the HP50G should provide for programming in either RPL or RPN.
>
> I'll agree with that last point. <flame suit:on>RPN is okay-ish for short programs of up to 10 or15 lines but anything much more than that and it becomes impossible to debug. ;-)

Since you still wear it, you may take it off now ;) I agree with that point, too. Let the users decide. We took the same approach offering a choice of 4 and 8 stack levels in the 34S.

Ceterum censeo: HP, launch a 43S!

Walter

Re: Happy anniversary to HP-42S and HP-14B

*Message #10 Posted by **Mike Morrow** on 4 Nov 2010, 2:02 a.m.,*
in response to message #8 by BruceH

I actually don't have a problem with RPL. I bought an HP 28C 23 years ago, and found it to be very powerful, but NOT easy to use.

I find it much harder to use RPL for those short programs to which you refer. But I've written RPN programs several hundred lines in length and IMHO it is much easier to follow an RPN program than a RPL program.

BTW, I also really respect Bill Wickes.

Re: Happy anniversary to HP-42S and HP-14B

*Message #11 Posted by **Martin Pinckney** on 31 Oct 2010, 6:06 p.m.,*
in response to message #1 by Johnny Bjoern Rasmussen

Question: Why own a 14b when you have a 17b?

Answer: Because some day, my eyes will be weaker, and the bigger screen fonts will be a blessing.

Same reason to own a 22s when you also have a 27s.

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Faceplate separation repair

*Message #1 Posted by **Jim Yohe** on 30 Oct 2010, 3:46 p.m.*

For a long time now my 32SII metal faceplate has been separating away from the plastic body ... right up near the top by the display.

Is there a particular glue (I assume) and method I should use to correct this? Also, I should "try" get something back in there and pull away the lint and stuff from behind it first. How might I do that? Seems a cotton swab would be too large.

Sorry if this has been covered before but I didn't have any luck with my search terms for a similar post and solution.

Re: Faceplate separation repair

*Message #2 Posted by **geoff quickfall** on 30 Oct 2010, 8:18 p.m.,*
in response to message #1 by Jim Yohe

check out HPSolve, June 2010:

June 2010

The second half of the restoration article explains the faceplate removal and glueing procedure.

I suggest you remove the faceplate, depending on how much has separated, as that way you can put a reverse curve on it so that it glues back to the case with the corners down. If the raised edges are not to great then a fine paint brush and contact cement will work. Make sure to press the glue joint for a few minutes to ensure it does not raise.

Cheers, Geoff

Re: Faceplate separation repair

*Message #3 Posted by **Jim Yohe** on 30 Oct 2010, 9:18 p.m.,*
in response to message #2 by geoff quickfall

Thank you for your input on this Geoff. I'm downloading the newsletter now and will look at it.

...

Perhaps I should just try using a fine paint brush to clean out the dust, then contact cement applied with the toothpicks first to see if I can get it to stay down. It's not raised any further back than to the bottom of the LCD display.

Edited: 30 Oct 2010, 10:25 p.m.

Re: Faceplate separation repair

*Message #4 Posted by **Walter B** on 31 Oct 2010, 9:52 a.m.,*
in response to message #2 by geoff quickfall

Hi Geoff,

let me take the opportunity and ask about your book: When will it be available? What will it cost? Or is it on the market already?

TIA for your response,

Walter

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HP 9865a cassette tape drive

*Message #1 Posted by **Keith Lueck** on 29 Oct 2010, 11:38 p.m.*

Hi -

I recently acquired a 9865a tape drive to go with my 9810a calculator. After a bit of fiddling around, I've gotten it to work. Does anyone have service info. or schematics for this beast? The only thing I was able to find was the interface schematics drawn by Tony Duell...

Also, does anyone have a manual (or pdf) for the 11265a cassette i/f ROM for the 9810a? All I have is a stapled set of yellowing Xerox copies. If no one has a clean copy, I suppose I will scan these and transfer them to pdf format, and upload them to this site or the .net site...

Cheers!

Re: HP 9865a cassette tape drive

*Message #2 Posted by **Tony Duell** on 31 Oct 2010, 5:28 a.m.,*
in response to message #1 by Keith Lueck

Yes, unfortunately I only have the interface, not the complete drive. And I suspect shipping a drive, even if one was for sale, would be out of the question for me.

I suspect (based on the part numbers) that the HP9830 internal tape drive uses some of the same PCBs as the 9865. Now the tape drive is one of the few bits of the 9830 that is field-repaired to component level. You can get full schematics of the 9830, and the 9830 service manual from the same place that you got the 9865 interface diagram.

I suspect that with that information it won't be hard to figure out the rest of the drive unit.

Re: HP 9865a cassette tape drive

*Message #3 Posted by **Keith Lueck** on 1 Nov 2010, 11:20 a.m.,*
in response to message #2 by Tony Duell

Hi Tony - Thanks very much for this info.! and also your other schematics - they've helped me maintain my 9810a and 9866 printer as well!

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Wire Gauge in Classics

*Message #1 Posted by **aj04062** on 29 Oct 2010, 8:54 p.m.*

What is the correct wire gage for these calculators?

They look all the same.

Re: Wire Gauge in Classics

*Message #2 Posted by **Thomas Chrapkiewicz** on 30 Oct 2010, 1:38 p.m.,*
in response to message #1 by aj04062

Wire Gauge of which wires? The charger cord?

Re: Wire Gauge in Classics

*Message #3 Posted by **aj04062** on 30 Oct 2010, 7:40 p.m.,*
in response to message #2 by Thomas Chrapkiewicz

No the internal black, red and colored wires for the battery connections.

I think it is either 26 or 28 gauge.

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Plans to build Babbage's Analytical Engine

*Message #1 Posted by **Thomas Fänge** on 29 Oct 2010, 6:11 p.m.*

Hi all!

This might seems a bit OT, but it really sounds interesting, at least for me!

Please check out Plan28 for the plans to actually build the ideas of Charles Babbage, who had the idea of a "steam engine driven calculator/computer", dating back to 1837! This was the machine that Lady Ada started to write "programs" for, and she will for ever be remembered by the programming language Ada. But she never got the opportunity to "execute" them on a working machine ...

The Difference Engine has previously been build and proven, but never the Analytical Engine, and this might be an oppertunity to see it happen.

I have already made my pledge ... :)

Best regards!

Re: Plans to build Babbage's Analytical Engine

*Message #2 Posted by **Ed Sowell** on 31 Oct 2010, 10:23 p.m.,*
in response to message #1 by Thomas Fänge

The closest I ever got to anything like that was programming the Mechanical Differential Analyzer at UCLA in 1960-61. Huge thing, about 6-7 feet wide and 40 feet long. Multiply was by gear ratio, add-substract were geared differentials, integration by a little wheel rolling on a larger disk. Not all that similar to Babbage's analytical engine, but it stimulated memories. We solved dif eqs with it.

Ed

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HP75C Restoration (zebra connector ??)

*Message #1 Posted by **Alberto Fenini** on 29 Oct 2010, 4:22 p.m.*

Dear All,
I have received this HP75C today, I knew it had some
cosmetic problems (see the ding in pic1)

and some display problems. As it can be seen in pics 2 and 3
all the pixels are there, but can only be seen at 30 degree angle.

I had opened the unit, and I was wondering if the LCD problem could be due to a bad zebra connection on the lcd dispaly
since I had some similar problems with the HP41s.
I also wanted to remove the aluminium bezel, in order to restore it
but it looks like it is a single piece with the lettering
bezel of the keyboard.

what the lcd people say ? is it worth a try ?

Last (stupid) question, what is the correct battery pack to be
used with ?? I was thinking about a classic one, but there is a third
connector that wouldn't not be powered ...

Thanks for help, and have a nice weekend !!
Alberto

Re: HP75C Restoration (zebra connector ??)

*Message #2 Posted by **Maximilian Hohmann** on 29 Oct 2010, 4:30 p.m.,*
in response to message #1 by Alberto Fenini

Hello Alberto,

I'm afraid I know nothing about the zebra connector (haven't opened a 75 so far) but the batteries are indeed the same ones as for the classics! I have asked that same question here a couple of years ago, therefore I know :-)

Saluti, max

Re: HP75C Restoration (zebra connector ??)

*Message #3 Posted by **Tony Duell** on 31 Oct 2010, 5:33 a.m.,*
in response to message #1 by Alberto Fenini

IIRC the LCD module comes out from the back, you don't have to remove the bezel or any heat stakes to get it out. There will be a zebra strip between the LCD glass and the driver PCB, it probably is worth cleaning the contacts.

I have the HP75C service manual, I can see what it says. Although I think the LCD is replaced as a complete module in this machine.

And yes, the battery pack is certainly the same as the one for classics. The extra contact was for a never-sold battery I think.

Re: HP75C Restoration (zebra connector ??)

*Message #4 Posted by **Alberto Fenini** on 31 Oct 2010, 7:17 a.m.,*
in response to message #3 by Tony Duell

ciao Tony,
thank you very much for your reply.

I know the display comes away from the back,
the reason I want to remove the bezel is only for restoring it
to the original aspect, I would like to remove the ding.
Is it glued or what ? Is it a single piece with the keyboard faceplate ?

As far as for the display, I have seen that all the components
are "slided" into a metallic shield (I will post pics in a couple of days)
how can I separate all the components in order to clean the zebra contacts ?

BTW, do you know where can I get a copy of the service manual ?
take care Alberto

Re: HP75C Restoration (zebra connector ??)

*Message #5 Posted by **Tony Duell** on 1 Nov 2010, 5:21 a.m.,*
in response to message #4 by Alberto Fenini

You can get the service manual from the Australian HP museum site. I am not sure I should post the URL here...

Alas it doesn't describe how to dismantle the LCD module. If you can't work it out, I'll take my own 75C apart and have a look.

Again the service manual doesn't describe how to remove the bezel (you are supposed to replace the complete top case/keyboard assembly). I am sure it is glued in place (HP bezels normally are), and it may well be one piece with the keyboard faceplate.

Re: HP75C Restoration (zebra connector ??)

*Message #6 Posted by **Alberto Fenini** on 1 Nov 2010, 6:47 a.m.,*
in response to message #5 by Tony Duell

Thank you very much, I have found it.

I have a working HP75D, I could take the display from there
and see if installed in the 75C is working properly.
Then it could be worth trying to clean the zebra contacts of the non working one
Are the two displays swappable ??
Thanks again and take care, Alberto

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Looking for schematics

*Message #1 Posted by **Monte Dalrymple** on 29 Oct 2010, 3:02 p.m.*

Does anyone have schematics for the 82143A and/or 82153A? Yes, I know about the HPCC CDROM, but I really only need one or both of these...

Thanks, Monte

Re: Looking for schematics

*Message #2 Posted by **Tony Duell** on 31 Oct 2010, 5:30 a.m.,*
in response to message #1 by Monte Dalrymple

I've paid a lot more than the cost of the HPCC CD-ROM for just _one_ schematic in the past... And profits from the sales of that disk support one of the few HP calculator clubs still going.

However, I can see the point if you only want one diagram (particulalry as the 82153 diagram is only one sheet...)

Have you tried contacting Dave Colver (who produces the CD-ROMs). He might be prepared to send you just those 2 diagrams.

Re: Looking for schematics

*Message #3 Posted by **Monte Dalrymple** on 31 Oct 2010, 11:41 a.m.,*
in response to message #2 by Tony Duell

Ignazio Cara was kind enough (thank you Ignazio!) to send me scans of the service manuals for these two devices, so I'm good.

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Calculator Related Math/Science Fair Project

*Message #1 Posted by **Tim Wessman** on 29 Oct 2010, 2:41 p.m.*

Hello,

The manger of the calculator group came to me today asking for some help/suggestions on something, and I think this is something that may be of some interest here. I know for sure I could definitely use some help.

Basically, his 8th grade daughter wants to do a project examining calculator precision and accuracy with various types of calculations. They are looking at both finance and scientific type calculations and trying to figure out how to test and compare this between different models. In addition, how this can help determine possible methods used to perform the calculations internally.

I know there have been a lot of discussions here in the past on calculator forensics, but I am not as familiar with them as I'd like.

Basically, I am hoping I can get some suggestions on:

1. Which forensics will be most interesting?
2. Which units should would be most interesting?
3. How and what would be good tests for financial calculations that would be interesting?
4. Any relevant links that could be helpful.
5. Any information or suggestions on how a project like this could be exciting and engaging for an 8th grade (~13yrs old students) advanced science/math class

I was planning to pass this post along to them for review, so feel free to post here and discuss. Thanks in advance.

TW

Edited: 29 Oct 2010, 2:42 p.m.

Re: Calculator Related Math/Science Fair Project

*Message #2 Posted by **David Hayden** on 30 Oct 2010, 6:35 p.m.,*
in response to message #1 by Tim Wessman

I think it was Joe Horn who posted a very simple way to tell if a calculator is doing binary or decimal arithmetic, and to get an idea of the precision. Enter 1/3 into the calculator. Then subtract the most significant digits. Repeat the process. If it's doing decimal, the digits will go to zero in some "sane" way. If binary then it will start to look strange.

For an 8th grader, the project could be "how to calculators calculate." It could talk about the fact that they use base 10 instead of base 2 like computers, and the fact that they use scientific notation. She could talk a little about BCD arithmetic and maybe the fact that calculators can REALLY only do addition, subtraction and maybe multiplication. All the other operations are done with these and clever algorithms. She might talk about one of those algorithms, like the square root, or 1/x and the fact that calculators divide by multiplying by 1/x (I

assume that's the way it's done).

Dave

Re: Calculator Related Math/Science Fair Project

*Message #3 Posted by **Felix Gross** on 31 Oct 2010, 6:12 p.m.,*
in response to message #1 by Tim Wessman

Hi,

a very good introduction to errors in numerical calculations can be found in

Peter Henrici

Essentials of Numerical Analysis (with Pocket Calculator Demonstrations), 1982

You will get the book second hand for a few dollars at abebook.com. The book comes with many calculator demonstration, using HP 33 or 34, covering rounding errors, error propagation, the lot.

E.g. solving x^2-1634 x+2=0 teaches something about cancellation. That would be accessible for an 8th grader.

On the web: http://www.thimet.de/CalcCollection/Calc-Precision.html#CalcPrecision has a test suite for numerical experiments.

Hugh Steer has some nice tests at http://www.voidware.com/index.php?option=com_wrapper&Itemid=26

Felix

Re: Calculator Related Math/Science Fair Project

*Message #4 Posted by **Palmer O. Hanson, Jr.** on 31 Oct 2010, 9:11 p.m.,*
in response to message #1 by Tim Wessman

Tim:

Here are some references:

1. Mike Sebastian's Calculator Forensics at http://www.rskey.org/~mwsebastian/miscprj/forensics.htm

2. The old Paranoia programs which would find Radix, Precision, guard digit or not, etc. See "Paranoia: A Floating Point Benchmark" by Richard Karpinski on pages 223-235 of the February 1985 issue of BYTE. You can see the application to a number of different machines at V10N2P16ff of TI PPC Notes which is available at Viktor Toth's site.

3. There were some benchmarks published in Scientific American in the 1980's. If you can't find them let me know and I will have to do a little searching.

4. Somewhere in this forum there is a simple test test by Rodger Rosenbaum.

5. Kahan's Mathematics Written in Sand

6. How about discussing potential problems due to the four level RPM stack or the limit on pending operations in algebraic systems?

7. The HP-15C Advanced Functions Handbook has some good examples including a series of tests to define the quality of a quadratic solution.

Palmer

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200lx question

*Message #1 Posted by **Bill Smith** on 28 Oct 2010, 1:53 p.m.*

My daily use calculator at the office was, until a week ago a 100lx. Unfortunately, the right hinge broke clean through, and I have been forced to press my 200lx into daily service. Some time in the far distant past, I found a trick to render the 200lx Appointment Book app quiet, so that it doesn't startup the first time it is switched on each day. Does anybody know the trick? I can't find it in the manual or online, but I'm sure I used it for years without the AB app starting.

Any ideas for the 100lx will be considered.

Thanks in advance for any responses...

Re: 200lx question

*Message #2 Posted by **Gerson W. Barbosa** on 28 Oct 2010, 2:40 p.m.,*
in response to message #1 by Bill Smith

Just disable Daily Greeting: MENU O G.

Re: 200lx question

*Message #3 Posted by **Bill Smith** on 28 Oct 2010, 5:48 p.m.,*
in response to message #2 by Gerson W. Barbosa

That was too simple, thanks.

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Long Live RPN... and Go Giants! (somewhat off topic)

*Message #1 Posted by **Eddie W. Shore** on 28 Oct 2010, 12:35 a.m.*

Today was a very good hump day.

Edited: 28 Oct 2010, 12:35 a.m.

Re: Long Live RPN... and Go Giants! (somewhat off topic)

*Message #2 Posted by **db (martinez, ca.)** on 28 Oct 2010, 1:46 a.m.,*
in response to message #1 by Eddie W. Shore

11 to 7. but it's not over yet.

The Texans may take this to the supreme court.

Re: Long Live RPN... and Go Giants! (somewhat off topic)

*Message #3 Posted by **Eddie W. Shore** on 28 Oct 2010, 9:00 a.m.,*
in response to message #2 by db (martinez, ca.)

LOL :)

It's 1-0 Giants, let's see them do the same tonight (without the giving up 7 runs part).

On topic: I am still impressed with RPN

Re: Long Live RPN... and Go Giants! (somewhat off topic)

*Message #4 Posted by **bill platt** on 28 Oct 2010, 5:17 p.m.,*
in response to message #3 by Eddie W. Shore

Go Phillies! ;_

Re: Long Live RPN... and Go Giants! (somewhat off topic)

*Message #5 Posted by **Fred Lusk** on 28 Oct 2010, 10:18 a.m.,*
in response to message #1 by Eddie W. Shore

Agreed. We're going to today's game, leaving Fresno in about an hour for our adventure. If only we had paid $85,500 for a suite, then we could have invited 18 of y'all. Instead, we're near the left field foul pole.

Re: Long Live RPN... and Go Giants! (somewhat off topic)

*Message #6 Posted by **db (martinez, ca.)** on 28 Oct 2010, 11:00 p.m.,*
in response to message #5 by Fred Lusk

you saw a great game fred. i listened on knbr. that's a

1
enter
1
enter
so far.
looking like we might load this whole series into four level stack.

Re: Long Live RPN... and Go Giants! (somewhat off topic)

*Message #7 Posted by **Fred Lusk** on 29 Oct 2010, 1:41 p.m.,*
in response to message #6 by db (martinez, ca.)

It was a great game. Cain was awesome, even got a single. The 8th innning was truly remarkable with so many runs scored with 2 outs and walking runners in.

Re: Long Live RPN... and Go Giants! (somewhat off topic)

*Message #8 Posted by **Ed Look** on 28 Oct 2010, 10:41 a.m.,*
in response to message #1 by Eddie W. Shore

I'm rooting for the Mets... you know, Nolan Ryan and Jeff Francoeur. :p

---

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PIL-IO board

*Message #1 Posted by **J-F Garnier** on 27 Oct 2010, 2:34 p.m.*

Based on the same technology than the PIL-Box (actually using the same PCB), I just released the PIL-IO board combining a mini HP-IL/GPIO (4 logic-level I/Os) and a simple UART-type HP-IL/serial (not RS232!) interface. It is a way to experiment and start controlling the world with HP-IL at low risk and minimum cost.

More details on my HP-IL page

J-F

Edited: 27 Oct 2010, 2:40 p.m.

Re: PIL-IO board

*Message #2 Posted by **John Robinson** on 28 Oct 2010, 11:27 p.m.,*
in response to message #1 by J-F Garnier

Hi Jean-Francois,

I'm interested - how much ?

Thanks John

Re: PIL-IO board

*Message #3 Posted by **J-F Garnier** on 29 Oct 2010, 12:38 p.m.,*
in response to message #2 by John Robinson

For information, price of the component kit should be around 42 euros.

John, please contact me directly for more details.

J-F

Re: PIL-IO board

*Message #4 Posted by **Christoph Klug** on 1 Nov 2010, 2:41 p.m.,*
in response to message #3 by J-F Garnier

Dear Jean-Francois,

nice to hear from your real world interfacing project. As you know I really like this activities, I call it "Connect HP-41 & HP-IL to future" and Wlodek would call it "Extend your HP41"

For more details about real world interfacing with HP-41 handheld computer I recommend my two books "HP41 Input Output Board" and "IL2000 Interface System".

Hope to see more hardware applications from you , based on your PIL box design...

Best regards - Christoph Klug

Re: PIL-IO board

*Message #5 Posted by **J-F Garnier** on 3 Nov 2010, 5:01 p.m.,*
in response to message #4 by Christoph Klug

Dear Christoph,

Thanks for your kind words. For sure my project does not compete with your great IL2000 Interface System, it's just a simple way to experiment. It was actually requested by a HP-41 user who wanted a few I/Os to drive a relay or sense a button. I added the serial interface because it's a convenient way to communicate with an external uC for more complex applications.

I also recommend your book, it's a great source of information on many HP-IL hardware and applications!

J-F

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English manual for the Bobby Schenk Yacht module, anyone?

*Message #1 Posted by **Geir Isene** on 27 Oct 2010, 3:18 a.m.*

Anyone got this?

I have a German version, but I don't read German any better than Swahili...

Re: English manual for the Bobby Schenk Yacht module, anyone?

*Message #2 Posted by **bill platt** on 27 Oct 2010, 9:59 a.m.,*
in response to message #1 by Geir Isene

Was ist das?

Re: English manual for the Bobby Schenk Yacht module, anyone?

*Message #3 Posted by **bill platt** on 27 Oct 2010, 2:43 p.m.,*
in response to message #2 by bill platt

> Quote:
>
> Was ist das?

Ça c'est quoi?

Re: English manual for the Bobby Schenk Yacht module, anyone?

*Message #4 Posted by **Angel Martin** on 27 Oct 2010, 2:27 p.m.,*
in response to message #1 by Geir Isene

http://www.crossmyt.com/hc/linghebr/awfgrmlg.html

a real masterpice :-)

Re: English manual for the Bobby Schenk Yacht module, anyone?

*Message #5 Posted by **PeterP** on 27 Oct 2010, 6:28 p.m.,*
in response to message #4 by Angel Martin

this is hilarious! When he comes to the point of long german words, here is one my father once told is the longest he saw once

Donaudampschiffahrtsgesellschaftskapitanskajuetentuer. (the door at the cabin of the captain of the company of the steam boats on the Danube, quite simple actually...)

Or something to that extent. The first part of the word is actually the legal name of a company (Donaudampfschiffahrtsgesellschaft). And, that word carries another of those exceptions as it should have 3

'f' in the middle (Schiff has 2 f's and when paired with Schiff-Fahrt, a quite normal word, you would have 3 f's). However, there are only 3 f's if they are between a vowel and consonant, as in 'Sauerstoffflasche' (oxygen tank) and as far as I know that makes german the only language with tripple letters in a word...

Not sure if the paper her read it in wanted to make a joke or he read it in some 'Amtsblatt' (goverment memo). It was quite amusing nevertheless.

Re: English manual for the Bobby Schenk Yacht module, anyone?

*Message #6 Posted by **Paul Dale** on 28 Oct 2010, 2:40 a.m.,*
in response to message #5 by PeterP

> Quote:
>
> as far as I know that makes german the only language with tripple letters in a word...

Not quite as I'm sure her countessship would agree...

- Pauli

Re: English manual for the Bobby Schenk Yacht module, anyone?

*Message #7 Posted by **PeterP** on 28 Oct 2010, 10:42 a.m.,*
in response to message #6 by Paul Dale

nice. only concession one could think of is that oxygen tank is a slightly more modern and more used word than countessship...

Ot: Re: English manual for the Bobby Schenk Yacht module, anyone?

*Message #8 Posted by **Christoph Giesselink** on 28 Oct 2010, 12:31 p.m.,*
in response to message #5 by PeterP

> Quote:
>
> Donaudampschiffahrtsgesellschaftskapitanskajuetentuer. (the door at the cabin of the captain of the company of the steam boats on the Danube)

I can make it even longer... ;-)

Donaudampschiffahrtsgesellschaftskapitanskajuetentuerschluessel

(the key of the door at the...)

or

Donaudampschiffahrtsgesellschaftskapitanskajuetentuerschluesselanhaenger

(the key ring of the door at the...)

Just imagine how many points you can get for this word at Scabble ...

Christoph

Re: Ot: Re: English manual for the Bobby Schenk Yacht module, anyone?

*Message #9 Posted by **Walter B** on 28 Oct 2010, 1:31 p.m.,*
in response to message #8 by Christoph Giesselink

Nice demonstration so far of the dangers of copy and paste. Please take Donaudampfschifffahrtsgesellschaftskapitänskajütentürschlüsselanhänger instead - or Donaudampfschifffahrtsgesellschaftskapitaenskajuetentuerschluesselanhaenger for the poor who can't read umlauts ;)

Re: Ot: Re: English manual for the Bobby Schenk Yacht module, anyone?

*Message #10 Posted by **PeterP** on 28 Oct 2010, 1:32 p.m.,*
in response to message #8 by Christoph Giesselink

yes, I'm well aware of the possible extensions, but I think my dad had actually seen that one used...

Re: English manual for the Bobby Schenk Yacht module, anyone?

*Message #11 Posted by **Paul Brogger** on 3 Nov 2010, 1:07 a.m.,*
in response to message #5 by PeterP

It's amazing how consistently Twain delivers, even after so many years. He stands apart.

I vividly remember, working at Boeing on the NATO/European version of AWACS (that 707/KC-135 with the radar mushroom on top). I heard one of the German contractor-engineers in Seattle on the phone with his counterpart somewhere in Germany, working over a translation of the maintenance documentation. They were talking over certain difficult phrases found therein, and *constructing words on the spot* to adequately convey (we can only hope) the original American/English intent. What a marvelous language it must be -- especially for an engineer!

Re: English manual for the Bobby Schenk Yacht module, anyone?

*Message #12 Posted by **Thomas Okken** on 4 Nov 2010, 12:19 a.m.,*
in response to message #5 by PeterP

The longest German word I ever heard was Reichseisenbahngleisenknotenpunkthinundhersteller. (Obviously a joke word!) Any German speakers here familiar with that one? :-)

Re: English manual for the Bobby Schenk Yacht module, anyone?

*Message #13 Posted by **Walter B** on 4 Nov 2010, 1:34 a.m.,*
in response to message #12 by Thomas Okken

Very nice but never seen before. Just a minor correction: it should read Reichseisenbahngleisknotenpunkthinundhersteller.

IMO the longest German words really used (not meant to be joke words) are found in laws. BundesausbildungsfÃ¶rderungsgesetz (Federal law for the promotion of studies) is one of them, BaumaschinenmeisterprÃ¼fungsverornung ((approximately:) regulations for the approbation of persons being competent in construction vehicles) another one. Presumably caused by the fact lawyers and attorneys must use a very elaborated code.

Edited: 4 Nov 2010, 1:56 a.m.

Re: English manual for the Bobby Schenk Yacht module, anyone?

*Message #14 Posted by **Martin Pinckney** on 27 Oct 2010, 10:36 p.m.,*
in response to message #4 by Angel Martin

Pure Mark Twain.

Essay on German language by Twain

*Message #15 Posted by **Karl Schneider** on 28 Oct 2010, 11:35 p.m.,*
in response to message #4 by Angel Martin

Ángel --

Thank you for the link to a work by Twain.

The complex grammatical rules of "High German" (and other dialects, I'm sure) have changed little if any since the late 19th Century. Verbs at the end of sentences, separable verbs, nonsensical noun genders, adjective endings that add little if any meaning -- it's all still there.

I would hope that internationalism and modernity has helped to discourage convoluted sentences, and long compound words where concise international words are available.

I've heard that Russian has seven grammatical cases, and that English was more complicated until intermixing of peoples (Norman invasion of 1066?) resulted in simplification.

-- KS

Edited: 28 Oct 2010, 11:39 p.m.

Re: Essay on German language by Twain

*Message #16 Posted by **Paul Dale** on 29 Oct 2010, 2:40 a.m.,*
in response to message #15 by Karl Schneider

Russian has six cases: nominative, accusative, genitive, dative, instrumental and prepositional assuming I've remembered correctly a subject I last studied almost thirty years ago :-)

- Pauli

Re: Essay on German language by Twain

*Message #17 Posted by **Walter B** on 29 Oct 2010, 4:33 a.m.,*
in response to message #15 by Karl Schneider

> Quote:
>
> The complex grammatical rules of "High German" (and other **dialects**, I'm sure) have changed little if any since the late 19th Century. Verbs at the end of sentences, separable verbs, **nonsensical noun genders, adjective endings that add little if any meaning** -- it's all **still** there.
> I would hope that internationalism and **modernity** has helped to discourage convoluted sentences, and long compound words where concise international words are available.

(emphases added)

I hate to tell you, but IMHO these three sentences are a textbook example for the attidude which made the US of A the friend of all peoples (and the British Empire before etc.). FYI, a Chinese may use almost all of your statements for judging the "English dialects". China has its colonies as well, but that's another story.

HTH

Edited: 29 Oct 2010, 9:38 a.m.

Re: Essay on German language by Twain

*Message #18 Posted by **Martin Pinckney** on 29 Oct 2010, 11:42 a.m.,*
in response to message #17 by Walter B

> Quote:
>
> ...the attitude which made the US of A the friend of all peoples...

Did you mean the same US of A whose "attitude" helped free Europe of German domination... twice?

Re: Essay on German language by Twain

*Message #19 Posted by **Walter B** on 29 Oct 2010, 1:38 p.m.,*
in response to message #18 by Martin Pinckney

Thanks for asking. The people of this US of A did have my greatest respect - though I was far from being born then. Seems to me, however, the world has changed a bit in 65 years as it did before and keeps doing. So e.g. some statements of Mark Twain may have been appropriate or just marketable in 1895 - like many other old texts and opinions looking strange today at least. Of course you are free to consider my remark about a specific other posting or drop it d:-)

Re: Essay on German language by Twain

*Message #20 Posted by **DeboT** on 2 Nov 2010, 11:19 a.m.,*
in response to message #18 by Martin Pinckney

> Quote:
>
> Did you mean the same US of A whose "attitude" helped free Europe of German domination... twice?

Not to mention the occasional financial market crash... ;-)

OT: Essay on German language by Twain

*Message #21 Posted by **Karl Schneider** on 30 Oct 2010, 1:51 a.m.,*
in response to message #17 by Walter B

> Quote:
>
> I hate to tell you, but IMHO these three sentences are a textbook example for the attidude which made the US of A the friend of all peoples (and the British Empire before etc.).

Hmm? I meant only objectively-verifiable assessments of the German language, not some "more enlightened than others" pronouncement. Everything Samuel Clemens (Twain) wrote in 1880 rings just as true today.

> Quote:
>
> FYI, a Chinese may use almost all of your statements for judging the "English dialects".

I would not concur with that:

Modern English makes do just fine without article genders or adjective endings. Verbs -- none of which is a separable word -- tend to be close to their subject nouns, with perhaps a prepositional phrase or adverb slipped in between. Both subject noun and verb usually appear near the front of well-written sentences.

Moreover, common nouns need not be capitalized, and pluralization is usually accomplished by adding an "s" (but plenty of exceptions to that).

A traditional typing exercise in English that uses every letter of its 26-letter alphabet at least once is the following:

```
"The quick brown fox jumped over the lazy dogs."
```

Let's write that in simplified German, using English-like grammatical rules:

```
"Das rasch braun fuchs sprung über das faul hunde."
```

Na, ist das nicht ebenso verständlich als richtige deutsch? *(Now, isn't that just as understandable as proper German?")*

:-D

I'd also believe that modernity, with its far-reaching instant media, has eliminated most true dialects of both English and German. Sure, differences in manner of speech, pronunciation, spelling, slang, and certain nouns exist between different regions and countries with a common tongue. However, I'd say that commonality within both languages is the rule, not the exception.

The faster pace of modern life tends to reward a direct, get-to-the-point approach to writing, instead of the obfuscation seen in Clemens' examples from novels of the era.

I will certainly concede this: The 'adaptability' of the English language has rendered any rules of spelling and pronunciation rather unreliable.

-- KS

Edited: 30 Oct 2010, 5:28 p.m. after one or more responses were posted

Re: OT: Essay on German language by Twain

*Message #22 Posted by **Walter B** on 30 Oct 2010, 3:48 a.m.,*
in response to message #21 by Karl Schneider

> Quote:

> > Quote:
> >
> > I hate to tell you, but IMHO these three sentences are a textbook example for the attidude which made the US of A the friend of all peoples (and the British Empire before etc.).
>
> Hmm? I meant only objectively-verifiable assessments of the German language, not some "more enlightened than others" prouncement. Everything Samuel Clemens (Twain) wrote in 1880 rings just as true today.

You obviously didn't get my point. You as a foreigner did disqualify another language. You could have done the same with French or Spanish or ... and I would have stood up as well. You simply will not make friends in other countries with this attitude.

> Quote:
>
> > Quote:
> >
> > FYI, a Chinese may use almost all of your statements for judging the "English dialects".
>
> I would not concur with that ...

Modern Chinese makes (do??) just fine without articles at all, without conjugating verbs nor declining other words, etc. So, applying your measures, Chinese is THE language - don't you stop with English half way :-D

> Quote:
>
> A traditional typing exercise in English that uses every letter of its 26-letter alphabet at least once is the following:
>
> ```
> "The quick brown fox jumped over the lazy dogs."
> ```
>
> Let's write that in simplified German, using English-like grammatical rules:
>
> ```
> "Das rasch braun fuchs sprung über das faul hunde."
> ```
>
> Na, ist das nicht ebenso verständlich als richtige deutsch?

Almost. Besides some little errors - if you want to give advise in other languages, please be correct at least there.

It's a wide spread error assuming schematic translation will do. Besides leading to really hilarious results this will miss a lot of subtext a good translator will "feel" and transmit. And don't forget some redundancy may be beneficial for understanding - one reason why grammatically more primitive languages tend to become unefficient is a lack of redundancy, so a single typo may switch the whole meaning of a sentence or prevent it being understood correctly at all. BTW, even the web can't translate the word "prouncement" you used above - please enlighten us.

On topic again: That's one of the benefits of math symbols: everyone has to learn them - no unfair advantages by birth - no discussions about different ways expressing the same facts -

forced precision etc. And it may have some reasons that some of the greatest mathematical thoughts were thought and recorded in (what you call) complex languages like French or Latin. Please think about it.

Edited: 30 Oct 2010, 1:12 p.m.

Re: OT: Essay on German language by Twain

*Message #23 Posted by **Karl Schneider** on 30 Oct 2010, 5:14 p.m.,*
in response to message #22 by Walter B

> Quote:
>
> You obviously didn't get my point.

And you don't seem to be getting mine, which was simply that the idiosyncrasies of the German language that Twain discussed at length in that 19th century essay are still present today. If this constitutes an "attitude" on my part...

> Quote:
>
> You as a foreigner did disqualify another language.

I did no such thing. And from further along in the thread:

> Quote:
>
> Well, Mark Twain: As far as I read, he judged a foreign language from his view as a foreigner. Any foreigner will always find strange stuff in any other language and may tell jokes about it.

Why would the reasonably-informed views of a "foreigner" or non-native speaker -- myself, Twain, or anyone else -- be invalid?

> Quote:
>
> Modern Chinese makes (do??) just fine without articles at all, without conjugating verbs nor declining other words,

To "make do" is a colloquial expression in English meaning loosely "to function or operate without". It sounds awkward, I admit.

A meaningful comparison of an alphabet-based language to a character-based language, though, is very difficult to make.

> Quote:
>
> Almost. Besides some little errors - if you want to give advise *(advice)* in other languages, please be correct at least there.

Should "sprung" be replaced by "sprang", and "in richtige deutsch" be replaced by "in richtigem Deutsche"? If these are still not right, please make them so. Also, please write the "quick brown fox" sentence in proper German, just for comparison.

> Quote:
>
> BTW, even the web can't translate the word "prouncement" you used above - please enlighten us.

I meant to type "pronouncement", but missed an entire syllable. Sorry for the typo -- one of several I have corrected.

> Quote:
>
> And it may have some reasons that some of the greatest mathematical thoughts were thought and recorded in (what you call) complex languages like French or Latin. Please think about it.

I never used the word "complex", nor did I mention French or Latin. However, there may be some truth to the concept that the mastery and usage of advanced and/or intricate languages helps to develop analytical reasoning.

Fundamentally, though, the 'major' languages based on the Roman alphabet are similar, although there are at least several major categories of them.

-- KS

Edited: 30 Oct 2010, 9:52 p.m.

Re: OT: Essay on German language by Twain

*Message #24 Posted by **Angel Martin** on 31 Oct 2010, 3:04 a.m.,*
in response to message #23 by Karl Schneider

I suspected this thread might cause some roughing of feathers, that's a shame but of course not surprising. After all there's a very strong link between language and culture, making very difficult to involved parties (i.e. native speakers) to objectively discuss the goodness and shortcomings of their own tongue.

Interestingly enough in some cultures more acutely so than others, like I've never experienced resentment from a Finnish or Hungarian person when critiquing their (may I say complex?) languages. It's something they have assumed and don't mind at all what the foreigner's perspective is. Not out of arrogance, but of pragmatism. Furthermore, they don't make it as a sign of differenciation between "us" and "them".

I agree with Karl that comparing Chinese to any alphabet-based language is not a fair trade. Too different starting points. And wouldn't you think that people think in different ways, or express their thoughts differently depending on the language-tool they use?

I also agree with his comment that the idiosyncracies described by Mark Twain continue very much alive and present in today's German.

The point again was a humoristic approach to the situation, driven with intelligence and wit. Taking it as a foreing attack wasn't in his agenda, that's a sure thing.

But of course all this is written by a person (me) for whom both English and German are foreing tonges - so maybe that alone disqualifies me :-)

Cheers, 'AM

Edited: 31 Oct 2010, 3:06 a.m.

Re: OT: Essay on German language by Twain

*Message #25 Posted by **Walter B** on 31 Oct 2010, 3:13 a.m.,*
in response to message #24 by Angel Martin

Holá Ángel,

of course everybody may call any arbitrary language complex. But that's far from calling it nonsensical, isn't it? And that's the attitude I was criticizing, nothing more.

Walter

Addendum:

> Quote:
>
> Taking it as a foreing attack wasn't in his agenda, that's a sure thing.

I can only see what is written. If anybody steps into a catholic cathedral wearing shorts, his or her "intentions" (or lack of sensibility) aren't the point either.

BTW, why did you post the same text twice?

Edited: 31 Oct 2010, 5:03 p.m.

Re: OT: Essay on German language by Twain

*Message #26 Posted by **Walter B** on 31 Oct 2010, 3:04 a.m.,*
in response to message #23 by Karl Schneider

> Quote:
>
> > Quote:
> >
> > You as a foreigner did disqualify another language.
>
> I did no such thing.

So I have to quote you again (with emphases added by me):

> Quote:
>
> The **complex** grammatical rules of "High German" (...) have changed little if any since the late 19th Century. Verbs at the end of sentences, separable verbs, **nonsensical noun genders, adjective endings that add little if any meaning** -- it's all **still** there.

An eulogy reads different :)

> Quote:
>
> Why would the reasonably-informed views of a "foreigner" or non-native speaker -- myself, Twain, or anyone else -- be invalid?

These views may be simply based on ignorance, though the viewers think being "reasonably-informed". E.g. most Roman languages decline adjectives. English does not. Which way makes more sense? If you don't understand that doesn't mean it being nonsensical ...

> Quote:
>
> > Quote:
> >
> > Modern Chinese makes (do??) just fine without articles at all, without conjugating verbs nor declining other words,
>
> A meaningful comparison of an alphabet-based language to a character-based language, though, is very difficult to make.

Heh heh, good trial but no way to escape.

> Quote:
>
> Should "sprung" be replaced by "sprang", and "in richtige deutsch" be replaced by "in richtigem Deutsche"?

I'll let you "im eigenen Saft schmoren" til you find out yourself.

> Quote:
>
> > Quote:
> >
> > BTW, even the web can't translate the word "prouncement" you used above - please enlighten us.
>
> I meant to type "pronouncement", but missed an entire syllable.

OK, together with my "advice" this results in 1:1 in your mother tongue.

> Quote:
>
> > Quote:
> >
> > And it may have some reasons that some of the greatest mathematical thoughts were thought and recorded in (what you call) complex languages like French or Latin. Please think about

> > it.
>
> I never used the word "complex",

Please see your quote above :)

> Quote:
>
> Fundamentally, though, the 'major' languages based on the Roman alphabet are similar, although there are at least several major categories of them.

This is far from true, only camouflagued by the lack of precision of the language you used. The Roman alphabet is employed for many languages which didn't know this alphabet for the greatest part of their history.

Re: OT: Essay on German language by Twain

*Message #27 Posted by **Karl Schneider** on 31 Oct 2010, 5:10 p.m.,*
in response to message #26 by Walter B

Walter --

For the indisputable record, I stated "complex grammatical rules" and "nonsensical noun genders", which were my terms for *aspects* of language that were discussed at length in the old essay. I never stated "complex language" or "nonsensical language", and I never 'invalidated' anything. Rhetorically speaking, what would define a "complex language" or make one invalid?

You continue to state that you were only criticizing "attitudes" -- mine, that of certain countries, (and perhaps Mr. Clemens', by implication). I don't consider it 'bad attitude' to point out that certain substantiated observations stated humorously 130 years ago remain valid today -- even if your feathers got ruffled in the process. If anything, *you* invalidated Mr. Clemens' opinions, which I essentially echoed, by labeling us dismissively as mere "foreigners" lacking the requisite expertise for the topic.

I would consider several statements in your last post to be fine examples of clever rhetorical 'spin' by implication. I won't spend time to refute them.

It seems that this could go on *ad infinitum* if you had your wishes, but it's off-topic, anyway. Enough already.

-- KS

Re: OT: Essay on German language by Twain

*Message #28 Posted by **Walter B** on 31 Oct 2010, 6:24 p.m.,*
in response to message #27 by Karl Schneider

Karl,

I agree on the record speaking for itself. Amen.

Walter

Re: OT: Essay on German language by Twain

*Message #29 Posted by **Martin Pinckney** on 31 Oct 2010, 6:36 p.m.,*
in response to message #28 by Walter B

All this, and poor Geir still does not have his manual in English!

Re: OT: Essay on German language by Twain

*Message #30 Posted by **Thomas Klemm** on 1 Nov 2010, 6:56 a.m.,*
in response to message #23 by Karl Schneider

> Quote:
>
> Also, please write the "quick brown fox" sentence in proper German, just for comparison.

"D*er* schnell*e*, braun*e* Fuchs sprang über d*ie* faul*en* Hund*e*."

Re: OT: Essay on German language by Twain

*Message #31 Posted by **Angel Martin** on 31 Oct 2010, 2:49 a.m.,*
in response to message #22 by Walter B

I suspected this thread might cause some ruffling of feathers, that's a shame but of course not surprising. After all there's a very strong link between language and culture, making very difficult to involved parties (i.e. native speakers) to objectively discuss the goodness and shortcomings of their own tongue.

Interestingly enough sin ome cultures more acutely so than others, like I've never experienced resentment from a Finnish or Hungarian person when critiquing their (may I say complex?) languages. It's something they have assumed and don't mind at all what the foreigner's perspective is. Not out of arrogance, but of pragmatism. Furthermore, they don't make it as a sign of differenciation between "us" and "them".

I agree with Karl that comparing Chinese to any alphabet-based language is not a fair trade. Too different starting points. And wouldn't you think that people think in different ways, or express their thoughts differently depending on the language-tool they use?

I also agree with his comment that the idiosyncracies described by Mark Twain continue very much alive and present in today's German.

The point again was a humoristic approach to the situation, driven with intelligence and wit. Taking it as a foreing attack wasn't in his agenda, that's a sure thing.

But of course all this is written by a person (me) for whom both English and German are foreing tonges - so maybe that alone disqualifies me :-)

Cheers, 'AM

Edited: 1 Nov 2010, 3:00 a.m. after one or more responses were posted

Re: OT: Essay on German language by Twain

*Message #32 Posted by **Martin Pinckney** on 31 Oct 2010, 6:32 p.m.,*

in response to message #31 by Angel Martin

> Quote:
>
> The point again was a humoristic approach to the situation, driven with intelligence and wit. Taking it as a foreign attack wasn't in his agenda, that's a sure thing.

THANK YOU!

Re: OT: Essay on German language by Twain

*Message #33 Posted by **Karl Schneider** on 2 Nov 2010, 12:39 a.m.,*
in response to message #31 by Angel Martin

Ángel --

I second Martin Pinckney. Your entire post was much appreciated.

Of course, the "humoristic approach" must have been Twain's, as my own comments were matter-of-fact, not witty...

-- KS

Re: OT: Essay on German language by Twain

*Message #34 Posted by **Walter B** on 2 Nov 2010, 2:40 a.m.,*
in response to message #33 by Karl Schneider

> Quote:
>
> Of course, the "humoristic approach" must have been Twain's, as my own comments were matter-of-fact, not witty...

Being a great author, Mark Twain's words and humor were in many ways typical for his time and background - your objectivity and sensibility may be typical for yours ... Since even you admit your comments were "not witty", don't you want to focus on topics you're an undisputed expert?

Re: OT: Essay on German language by Twain

*Message #35 Posted by **Thomas Klemm** on 30 Oct 2010, 7:51 a.m.,*
in response to message #21 by Karl Schneider

> Quote:
>
> "The quick brown fox jumped over the lazy dogs."

The correct German translation is:

```
"Zwei Boxkämpfer jagen Eva quer durch Sylt."
```

I wonder how long it will take Google to translate that correctly.

Cheers

Thomas

Re: OT: Essay on German language by Twain

*Message #36 Posted by **Marcus von Cube, Germany** on 30 Oct 2010, 2:57 p.m.,*
in response to message #35 by Thomas Klemm

Are there any other national versions of this sentence?

Re: OT: Essay on German language by Twain

*Message #37 Posted by **Gerson W. Barbosa** on 30 Oct 2010, 3:57 p.m.,*
in response to message #36 by Marcus von Cube, Germany

http://en.wikipedia.org/wiki/List_of_pangrams#German ?

Re: OT: Essay on German language by Twain

*Message #38 Posted by **Karl Schneider** on 30 Oct 2010, 6:33 p.m.,*
in response to message #35 by Thomas Klemm

> Quote:
>
> The correct German translation is:
>
> `"Zwei Boxkämpfer jagen Eva quer durch Sylt."`
>
> I wonder how long it will take Google to translate that correctly.

Thomas --

Of course, that is a *near-pangram* (as ö, ü, and ß are omitted), not a translation. The link that Gerson provided includes some in other languages that are hilarious.

Bill --

> Quote:
>
> I have seen it this way more frequently:
>
> `The quick brown fox jumps over the lazy dog"`

I have too, but either one works.

-- KS

Edited: 31 Oct 2010, 1:00 a.m.

Re: OT: Essay on German language by Twain

*Message #39 Posted by **Thomas Klemm** on 31 Oct 2010, 4:58 a.m.,*
in response to message #38 by Karl Schneider

> Quote:

> Of course, that is a near-pangram (as ö, ü, and ß are omitted), not a translation

Both sentences are examples of filler text common in typography. You'd do a lousy job translating them verbatim. In most cases at least. It's a similar problem with puns. Usually the joke is lost when translated literally. A good translator at least tries to take that into account.

Sometimes we have to exagerate a little to make our points. I should have said *one of the possible* instead of *the correct* translation. I assumed you'll notice I wasn't *that* serious with my statement.

Re: OT: Essay on German language by Twain

*Message #40 Posted by **bill platt** on 2 Nov 2010, 8:34 a.m.,*
in response to message #38 by Karl Schneider

It's funny, I read your plural version and thought, "wait a minute, that's right but not quite what I remember" and so I said it out loud and realized from the rhyme-feel what I had remembered it as. Then, I pulled a calligraphy book off the shelf and sure enough, there it was. I think it is fun that it works both ways.

As for language, I just showed the remarkable range of flexibility and register range of English...some of which breaks rules based on Latin (synthetic) which were arbitrarily placed upon English (analytic) some time in the 18th century.

Edited: 2 Nov 2010, 8:49 a.m.

Re: OT: Essay on German language by Twain

*Message #41 Posted by **bill platt** on 30 Oct 2010, 10:24 a.m.,*
in response to message #21 by Karl Schneider

> Quote:
>
> "The quick brown fox jumped over the lazy dogs."

I have seen it this way more frequently:

The quick brown fox jumps over the lazy dog"

Re: Essay on German language by Twain

*Message #42 Posted by **Gerson W. Barbosa** on 29 Oct 2010, 9:22 a.m.,*
in response to message #15 by Karl Schneider

> Quote:
>
> I've heard that Russian has seven grammatical cases, and that English was more complicated until intermixing of peoples (Norman invasion of 1066?) resulted in simplification.

From the Oxford Companion to the English Language entry on Old English, pg 724:

```
Declension of definite article se: (singular only)
-----------------------------------------------------
```

```
                  Masculine     Feminine     Neuter
-----------------------------------------------------------
Nominative          se:           se:o         þæt
Accusative          þone          þa:          þæt
Genitive            þæs           þæ:re        þæs
Dative              þæ:m          þæ:re        þæ:m
Instrumental        þy:           þæ:re        þy:
-----------------------------------------------------------
(colons used in place of macros)
```

I think Mark Twain would have agreed the equivalent German declension table looked somewhat less complicated.

I liked Mark Twain's novel *A Connecticut Yankee in King Arthur's Court* when I read it 1978. A weak point in the story is the impossibility of mutual understanding between Hank Morgan and Arthur's courtesans as described, but I was not aware of this then.

Re: Essay on German language by Twain

*Message #43 Posted by **Thomas Okken** on 1 Nov 2010, 12:30 a.m.,*
in response to message #15 by Karl Schneider

> Quote:
>
> The complex grammatical rules of "High German" (and other dialects, I'm sure) have changed little if any since the late 19th Century. Verbs at the end of sentences, separable verbs, nonsensical noun genders, adjective endings that add little if any meaning -- it's all still there.
>
> I would hope that internationalism and modernity has helped to discourage convoluted sentences, and long compound words where concise international words are available.

Speaking from my own experience -- I was born and raised in the Netherlands, but most of my relatives are German, and I grew up bilingual and always spoke German with my parents, grandparents, aunts, uncles, and cousins -- the complicated grammar of German is used almost exclusively in writing and when making speeches; that is, when communication is one-way.

In **conversation**, people tend to use a much simpler subset of the grammar. The weird noun genders are still there even in conversational German, but those aren't a problem because you learn them at the same time you learn any noun; i.e. you don't learn "Mädchen", you learn "das Mädchen", and the fact that it might be a bit odd that the word for "girl" has neuter gender never bothers anyone until they start to think about (or rather, over-think) these things.

Maybe German will lose some of its complexity some day, but I'd say that it already has. The use of the more sophisticated grammar in print makes sense, because a writer can spend the time to arrange his sentences for maximum clarity, and it is in that kind of usage that the highly synthetic grammar really shines. If, on the other hand, you just want to exchange thoughts with a person face to face, you're going to skip the genitives and conjunctives etc. and just use simpler constructs (and a few more words) instead -- like English- and Dutch-speakers do all the time.

I wouldn't use the trickier parts of German grammars myself when speaking, and I'd be very cautious using them in writing, but I have no problem whatsoever understanding them while reading, and in fact I like them in that context -- I think that kind of language is very elegant, expressive, and concise.

- Thomas

Re: Essay on German language by Twain

*Message #44 Posted by **Karl Schneider** on 3 Nov 2010, 12:00 a.m.,*
in response to message #43 by Thomas Okken

Thank you for your thoughtful commentary, Thomas -- written in absolutely impeccable English, I might add.

Thank you also for providing, as a native speaker, a proper-German translation of my version of the well-known English sentence:

```
"Der schnelle, braune Fuchs sprang über die faulen Hunde."
```

It certainly 'checks out', upon consulting with my language reference.

This may be an opportune time to point out that the regular contributors here who speak other native languages write English that is very good to excellent. It is a refreshing change from the shockingly-horrid anonymously-posted garbage found in the "reader comment" sections of on-line newspapers and magazines in the US.

-- KS

Edited: 3 Nov 2010, 2:17 a.m. after one or more responses were posted

Re: Essay on German language by Twain

*Message #45 Posted by **Martin Pinckney** on 3 Nov 2010, 12:26 a.m.,*
in response to message #44 by Karl Schneider

> Quote:
>
> ---
>
> This may be an opportune time to point out that the regular contributors here who speak other native languages write English that is very good to excellent.
>
> ---

Agreed!

> Quote:
>
> ---
>
> It is a refreshing change from the shockingly-horrid anonymously-posted garbage found in the "reader comment" sections of on-line newspapers and magazines in the US.
>
> ---

It is so horrid that I despair of the survival of our republic - at least if such written English is any indication of the intellect used to produce it.

Re: Essay on German language by Twain

*Message #46 Posted by **bill platt** on 3 Nov 2010, 2:00 p.m.,*
in response to message #44 by Karl Schneider

Yes, so true. Sometimes I see prefaces here by non-English speakers, "please excuse my poor English" etc and yet, no apology necessary!

Re: Essay on German language by Twain

*Message #47 Posted by **Thomas Klemm** on 3 Nov 2010, 7:40 p.m.,*
in response to message #44 by Karl Schneider

There's this guy, Bastian Sick, who writes a column in Spiegel Online called "Zwiebelfisch". He wrote also a series of books "Der Dativ ist dem Genitiv sein Tod" which turned out to be bestsellers. From his long-lasting success I conclude that quiet a lot of people care about their language. If only they try to avoid the "Deppenapostroph".

So in my humble opinion there's still hope ...

Edited: 3 Nov 2010, 7:47 p.m.

Re: Essay on German language by Twain

*Message #48 Posted by **Don Shepherd** on 3 Nov 2010, 8:40 p.m.,*
in response to message #47 by Thomas Klemm

> Quote:
>
> quiet a lot of people care about their language

:)

Re: Essay on German language by Twain

*Message #49 Posted by **Walter B** on 4 Nov 2010, 1:17 a.m.,*
in response to message #48 by Don Shepherd

> Quote:
>
> > Quote:
> >
> > quiet a lot of people care about their language
>
> :)

:) but quite a bit unfair - AFAIK English isn't Thomas' mother tongue. If every typo / native language error would be marked :) here, the forum would be even funnier :)

Re: Essay on German language by Twain

*Message #50 Posted by **Thomas Okken** on 3 Nov 2010, 9:27 p.m.,*
in response to message #44 by Karl Schneider

That translation wasn't mine -- wrong Thomas. :-)

My version would be *Der schnelle, braune Fuchs springt über den faulen Hund*, reflecting the way I would see that sentence in the Windows Font previewer.

Re: Essay on German language by Twain

*Message #51 Posted by **George Bailey (Bedford Falls)** on 5 Nov 2010, 4:32 a.m.,*
in response to message #44 by Karl Schneider

> Quote:
>
> It is a refreshing change from the shockingly-horrid anonymously-posted garbage found in the "reader comment" sections of on-line newspapers and magazines in the US.

Don't worry, you're at least not alone. This is also true for German reader comments and forums.

But wait, this is maybe even more reason to worry??!? :(

An example from English: Simplicity and its pitfalls

*Message #52 Posted by **Karl Schneider** on 3 Nov 2010, 12:53 a.m.,*
in response to message #15 by Karl Schneider

Now that voluminous commentary has been posted in response to a comment about complexities of grammar and noun gender in a particular language, here is an example of the other side of the coin -- namely, ambiguity caused by inexact writing of (comparatively-simple) English.

The San Francisco Giants won the championship of American baseball -- please see recent thread titled, "Long Live RPN... and Go Giants! (somewhat off topic)". One story about it closed with the following awkward-sounding sentence:

```
"Baseball's best play in San Francisco."
```

"Play" can be a noun or a verb, and neither is capitalized. If a noun, the sentence is incomplete. *(Which play? And what about it?)*

Also, "Baseball's" can be possessive or a contraction of "Baseball is". If the latter, a minor change will make a meaningful sentence:

```
"Baseball is best played in San Francisco."
```

However, those who brave the powerful and chilly Bay Area sea breezes during summer afternoons and evenings might disagree with such a statement.

Here's what was meant -- and what the author ought to have written:

```
"The best in baseball play in San Francisco."
```

Or, more precisely:

```
"The best team in baseball plays in San Francisco."
```

-- KS

Edited: 3 Nov 2010, 1:15 a.m.

Re: An example from English: Simplicity and its pitfalls

*Message #53 Posted by **Walter B** on 3 Nov 2010, 4:03 a.m.,*
in response to message #52 by Karl Schneider

> Quote:
>
> "Baseball is best played in San Francisco."

Makes most sense to me in this context. But who knows what the author wanted to express in this particular language if (s)he can't write?

> Quote:
>
> However, those who brave the powerful and chilly Bay Area sea breezes during summer afternoons and evenings might disagree with such a statement.

Why? Isn't this another cup of tea?

As mentioned by different posters previously, language prima facie is a tool for transmitting information. This holds for written language in particular. If, however, the information content may be distorted by ambiguities, smallest errors in writing, sloppy proofreading, or by an author erroneously picking the wrong word and then denying responsibility for his choice, exhausting discussions may come up about his intentions or the "real" meaning of his text. This might either fall back on the author himself or point to said particular tool became a bit too ... hmmmh ... lean?

Edited: 3 Nov 2010, 4:13 a.m.

Re: English manual for the Bobby Schenk Yacht module, anyone?

*Message #54 Posted by **bill platt** on 27 Oct 2010, 2:41 p.m.,*
in response to message #1 by Geir Isene

> Quote:
>
> Bobby Schenk Yacht

Ça c'est quoi?

Re: English manual for the Bobby Schenk Yacht module, anyone?

*Message #55 Posted by **Martin Pinckney** on 27 Oct 2010, 2:55 p.m.,*
in response to message #54 by bill platt

Schenk ist ein Segeln-Abenteurer und Autor. Dies ist ein Navigationssystem Modul.

Since no one else answered. And my apologies to Walter et al.

Re: English manual for the Bobby Schenk Yacht module, anyone?

*Message #56 Posted by **bill platt** on 27 Oct 2010, 4:03 p.m.,*
in response to message #55 by Martin Pinckney

Danke sehr! Ich bin auch ein Segler.

Re: English manual for the Bobby Schenk Yacht module, anyone?

*Message #57 Posted by **Walter B** on 28 Oct 2010, 4:25 a.m.,*
in response to message #55 by Martin Pinckney

Almost :)

Schenk ist ein Segelabenteurer und Autor. Sein Yachtmodul ist ein Navigationsmodul für den HP-41.

And referring to the Donaudampf... : This is a very old joke. Generally, such composite words are perfectly ok in German, but nobody would ever drive it so far. Anyway, it avoids repeating "of the" several times, which is quite annoying in my eyes.

For long words you may also look to Suomi (Finland), where they attach postpositions instead of using prepositions. For example, rautatieasemaan and rautatieasemasta meaning "to the train station" and "from the train station", respectively IIRC. May be the proper language for RPN aficionados ;)

Well, Mark Twain: As far as I read, he judged a foreign language from his view as a foreigner. Any foreigner will always find strange stuff in any other language and may tell jokes about it. E.g. they told us about the Englishman in France wanting to buy tickets for the train two to two to Toulouse. In Mark Twain's times such jokes were pretty common, nowadays this kind looks just primitive. Nevertheless I enjoy his books about Tom Sawyer & Co.

About the triple "f": When I went to school, "Schiffahrt" was spelled the way mentioned above avoiding a triple "f". But in a feeble attempt to ease spelling and cut exceptions our ministers of education decided you may write "Schifffahrt" now. FWIW. They decided a lot of real nonsense in this attempt as well, making quite obvious they don't know much about grammar, but that's another story.

In general, there seems to be a long term trend going to grammatically simpler languages: compare the ancient global languages Greek and Latin with English and Chinese nowadays. But that's just my personal view again d:-)

Best regards, Walter

Re: English manual for the Bobby Schenk Yacht module, anyone?

*Message #58 Posted by **Ángel Martin** on 28 Oct 2010, 7:26 a.m.,*
in response to message #57 by Walter B

Chauvinisms (and poetry) apart, language should be a tool to communicate amongst people and express your own mind in the most-effective and descriptive manner, regardless of which one is your native tonge.

Some languages are better equipped than others due to the cultural influence, customs, openness, its evolution, etc. Archaic constructions or rigid rules normally difficult things, even for native speakers having trouble to achieve a lucid mind with the hindrance of a sub-optimal tool.

Language molds the mind, and maybe the other way around as well. May each one chooses the best-suiting une.

Re: English manual for the Bobby Schenk Yacht module, anyone?

*Message #59 Posted by **Martin Pinckney** on 28 Oct 2010, 9:13 a.m.,*
in response to message #57 by Walter B

> Quote:
>
> Well, Mark Twain: As far as I read...
>
> ... in a feeble attempt to ease spelling and cut exceptions our ministers of education decided... FWIW. They decided a lot of real nonsense in this attempt as well, making quite obvious they don't know much about grammar, but that's another story.

Near the end of the Twain piece, he offers his own suggestions how to improve the language.

Perhaps you would find some humor in that.

Re: English manual for the Bobby Schenk Yacht module, anyone?

*Message #60 Posted by **Ángel Martin** on 28 Oct 2010, 11:25 a.m.,*
in response to message #59 by Martin Pinckney

Most definitely. Every language can be improved, even English... and if you don't think so have a look at this:

http://www.icw-net.com/howto/funstuff/euroengl.htm

Re: English manual for the Bobby Schenk Yacht module, anyone?

*Message #61 Posted by **bill platt** on 28 Oct 2010, 5:24 p.m.,*
in response to message #60 by Ángel Martin

Way back in my college days, I was in one of those private study rooms in the library. I had gone there to practice pronouncing Chaucer's Middle English. (Yes, that was something we did--to try to understand the language better. How we know how to pronounce it is a whole story unto itself).

There was a window looking out, and a guy coming by out in the hall waved and popped his head in and said, "you are practicing German, I can tell."

And I hadn't even studied Deutsch yet--only French at that point.

Edited: 28 Oct 2010, 5:26 p.m.

German orthography (spelling) reform

*Message #62 Posted by **Karl Schneider** on 30 Oct 2010, 8:45 p.m.,*
in response to message #57 by Walter B

> Quote:
>
> But in a feeble attempt to ease spelling and cut exceptions our *(German)* ministers of education decided you may write "Schifffahrt" now. FWIW. They decided a lot of real nonsense in this attempt as well, making quite obvious they don't know much about grammar, but that's another story.

Walter --

Well, I'll be darned! I didn't know about that 1996 act, which is described at length in a Wikipedia article that I found by following links in Gerson's post:

http://en.wikipedia.org/wiki/German_orthography_reform_of_1996

I would agree with you. From just scanning the article:

- I am surprised that the changes were undertaken;
- Much time and effort was spent on inconsequential issues;
- The changes were arguably ill-advised.

-- KS

Edited: 30 Oct 2010, 8:46 p.m.

Re: German orthography (spelling) reform

*Message #63 Posted by **Angel Martin** on 31 Oct 2010, 2:58 a.m.,*
in response to message #62 by Karl Schneider

> Quote:
>
> The reformed orthography became obligatory in schools and in public administration. However, there was a campaign against the reform and in the resulting public debate the Federal Constitutional Court of Germany was called upon to delineate the extent of reform. In its decision of July 14, 1998,[1] the court stated that because there was no law governing orthography, outside the schools people could spell as they liked, including the use of traditional spelling. In the wake of this decision there have been complaints and fear of the rise of Beliebigkeitsschreibung (arbitrary spelling).[citation needed] For example, confusion caused by the use of both the traditional spelling Kongreßstraße and the newly correct Kongressstraße could lead to the completely inconsistent spelling Kongreßstrasse.

Apparently reforming the language is a touchy subject internally - to the point of involving the constitutional tribunal to rule on it. It's not clear then that the reform brought any additional clarity, leaving the situation worse that it was (because it was bad before, wasn't it?)

Re: German orthography (spelling) reform

*Message #64 Posted by **Walter B** on 31 Oct 2010, 3:34 a.m.,*
in response to message #63 by Angel Martin

> Quote:
>
> It's not clear then that the reform brought any additional clarity, leaving the situation worse that it was (because it was bad before, wasn't it?)

As usual, the situation was a bit more complex. IIRC it all began with an international study called PISA. In this test, German students (not students ;)) didn't perform as well as we expected. So our "education mandarins" became excited. After some discussions they eventually stated German spelling being too difficult for average students (honestly, no joke! Can you imagine any French person of importance would ever say this about French?!). So they started said "reform". And they did it the German way, i.e. very exhaustive, but in this case unfortunately not at all systematic (or they were unable to see the systems). It's always dangerous when uneducated people get busy. So besides some minor simplifications we have a big mess now - and teachers are forced to teach it :((though in real life some of the worst cases are already turning back again.

Re: German orthography (spelling) reform

*Message #65 Posted by **Patrice** on 31 Oct 2010, 5:25 a.m.,*
in response to message #64 by Walter B

Hi

> Quote:

> Can you imagine any French person of importance would ever say this about French?!)

We got our share of orthography reforms, and some of them goes back to XIV century

[link:http://fr.wikipedia.org/wiki/Rectifications_orthographiques_du_français]Rectifications orthographiques du français[/link]

Patrice

Re: German orthography (spelling) reform

*Message #66 Posted by **Ed Look** on 1 Nov 2010, 4:44 p.m.,*
in response to message #64 by Walter B

Why does this sound like math and science education in the U.S., particularly the big cities?

Re: German orthography (spelling) reform

*Message #67 Posted by **George Bailey (Bedford Falls)** on 2 Nov 2010, 4:50 a.m.,*
in response to message #64 by Walter B

1) The nice thing about this reform is that no private person can be forced to use a specific orthography or grammar. We can all write just the way we want. And even if a judge would write his rulings in his own orthography or grammar or even as a poem, it would still be a legal ruling.

2) The average German does not use future tense or subjunctive while speaking. For example, the future tense is usually formed by using the present tense and indicating a time in the future: Tomorrow I go to school. Out of the many possible past tenses, only one is used in the average spoken language.

3) Noun genders in German are actually nonsensical. They are totally arbitrary and don't add any more meaning to the sentence apart from only a few words that have different meaning when used with a different gender: die See (ocean), der See (lake); das Schild (sign post), der Schild (shield).

4) Language is just a tool. How wonderful to have one with many levels of complexity, being able to use the appropriate level of complexity when it is needed: a simple one for every day use, a concise one for legal issues, a complex and redundant one for poems. How poor would we be had we only the simplest one.

As an aside: as far as I know (having read it somewhere) Mark Twain was very fond of the German language and the German culture. His text is a satire written with great humor, knowledge and love.

Have a look: >>>CLICK<<<

Edited: 2 Nov 2010, 5:00 a.m.

Re: German orthography (spelling) reform

*Message #68 Posted by **Walter B** on 2 Nov 2010, 8:03 a.m.,*
in response to message #67 by George Bailey (Bedford Falls)

Thanks for that link. This text is consistent with all I've written here about Mark Twain without actually knowing it then already.

After all, I'd still strongly suggest using the attribute "strange" instead of "nonsensical" for features you don't understand in other cultures, languages, habits etc. as long as people of the respective culture are listening. Else it would be easy finding a real lot of nonsensical points as well in what's going on where US citizens are involved, not only linguistically. OTOH in some strange corners of this world you may suffer severe personal damage when publicly calling the local way "nonsensical" - and it seems you won't even know why if you were not warned before. So take care d8-)

Edited: 2 Nov 2010, 8:08 a.m.

Re: German orthography (spelling) reform

*Message #69 Posted by **bill platt** on 2 Nov 2010, 8:30 a.m.,*
in response to message #68 by Walter B

I think most Americans would agree that at least 50% of politicians, and what they say are nonsensical, in any language ;-)

Re: German orthography (spelling) reform

*Message #70 Posted by **Martin Pinckney** on 2 Nov 2010, 10:03 a.m.,*
in response to message #68 by Walter B

> Quote:
>
> Else it would be easy finding a real lot of nonsensical points as well in what's going on where US citizens are involved, not only linguistically.

Walter, are you trying to pick a fight again?

Re: German orthography (spelling) reform

*Message #71 Posted by **Walter B** on 2 Nov 2010, 11:59 a.m.,*
in response to message #70 by Martin Pinckney

Martin, I want to reach peace instead. "Nonsensical noun genders", however, can't be left standing for the reasons explained at length - but you didn't write that d:-)

Re: German orthography (spelling) reform

*Message #72 Posted by **bill platt** on 2 Nov 2010, 12:39 p.m.,*
in response to message #71 by Walter B

Well, it is nonsensical. But so are French, Italian, Spanish noun genders. English ain't got 'em, that's all.

And like Thomas said, you simply make sure to learn the words with their attached articles. Of course this is easier said than done...if you are an English speaker, you tend to discount articles, and so after 3 years as a kid,

not paying attention to this, you find yourself with a pretty big vocabulary of unattached nouns...fenêtre, segel, porte, fenster, etc etc etc. Sometimes you are lucky and the correct article simply sounds right (from having heard or said it a few times) so la fenêtre, la porte, das fenster...

Re: German orthography (spelling) reform

*Message #73 Posted by **Martin Pinckney** on 2 Nov 2010, 1:01 p.m.,*
in response to message #72 by bill platt

> Quote:
>
> Well, it is nonsensical. But so are French, Italian, Spanish noun genders. English ain't got 'em, that's all.

Used to. Have noun genders, that is. Whether nonsensical or not, is debatable. In any event they have been phased out, it seems to me.

Waitress, actress, seamstress, etc. all gone. Fireman and policeman became firefighter and police officer. PC: I still use the old forms out of protest, mainly.

We kept some adopted forms, such as masseur and masseuse, I suppose so people can declare their preference without being so obvious about it.

But when was the last time you heard someone distinguish between alumnus and alumna?

Re: German orthography (spelling) reform

*Message #74 Posted by **bill platt** on 2 Nov 2010, 1:41 p.m.,*
in response to message #73 by Martin Pinckney

Hi Martin,

Your examples are Sensical genders, not nonsensical (as in door, window etc). They are being obsoleted because of the insistence of some that the vowel in the suffix "man" is a stressed vowel and therefore carries the meaning "male." One way to continue your protest while having some linguistic fun is to point out that the vowel is in fact a schwa unstressed and that it is not explicitly meaning "male" anyway. Just a thought...even if indefensible. (I hate the new term "drafter." As in, "hey, I need a drafter to draft these rafters by tomorrow." The word sounds more like it should mean someone who makes annoying air movements for a living. "Hey, it's awfully drafty in here. Somebody, please take that fan away from the drafter; I'm getting goosebumps.")

Political correctness in American language

*Message #75 Posted by **Walter B** on 2 Nov 2010, 4:32 p.m.,*
in response to message #74 by bill platt

The funniest story I heard about that development you describe

was some female students wanted to rename "history" in "herstory". It brings all the necessary ingredients together: absolutely no idea (about etymology in this case), but unlimited good will and belief in being on the right way.

And if by chance anybody would dare interfering, bad luck for him, we just want his best ;)

Re: Political correctness in American language

*Message #76 Posted by **megarat** on 6 Nov 2010, 10:51 p.m.,*
in response to message #75 by Walter B

FYI, the etymology of "history" is rich and gender-agnostic. That it also ended up as a portmanteau of "his story" is a cute coincidence.

(The existence of similar words in other contemporary languages (e.g., the French "histoire") is a good clue of this.)

"History" has a full page in the OED (2nd ed.) and you can find a more succinct description of its etymology here:

http://www.etymonline.com/index.php?term=history

Re: German orthography (spelling) reform

*Message #77 Posted by **bill platt** on 2 Nov 2010, 1:43 p.m.,*
in response to message #73 by Martin Pinckney

Haha, that explains why everyone who graduated from college is now referred to as a form of aluminum oxide.

Re: German orthography (spelling) reform

*Message #78 Posted by **Martin Pinckney** on 2 Nov 2010, 1:06 p.m.,*
in response to message #71 by Walter B

> Quote:
>
> "Nonsensical noun genders", however, can't be left standing..

I understand your position on that. But its "as well in what's going on where US citizens are involved, not only linguistically" that I was referring to.

Re: German orthography (spelling) reform

*Message #79 Posted by **bill platt** on 2 Nov 2010, 1:44 p.m.,*
in response to message #78 by Martin Pinckney

Yeah and besides, US citizens are pretty sensical. It is our politicos who are not.

Re: German orthography (spelling) reform

*Message #80 Posted by **Walter B** on 2 Nov 2010, 4:14 p.m.,*
in response to message #79 by bill platt

Ooops, I didn't know we have "politicos" in this very forum ;)

What it's all about

*Message #81 Posted by **Walter B** on 2 Nov 2010, 5:21 p.m.,*
in response to message #79 by bill platt

Maybe it was too difficult so far, so I'll try to make it crystal-clear: "Nonsensical" reads like "nonsense". IMHO no outsider (or foreigner, stranger, French: étranger, Italian: straniero, German: Ausländer, Chin.: wai4 ren2) may deliver this judgment about another language or culture, by mere respect. We and you may find such things "strange", but in no way "nonsensical".

For those who have no respect for other (even older) cultures: you may just as well behave for reasons of politeness. It may help *you* to survive (please see above).

Reminder: We are not talking about science here, where truth may be found by debating.

Re: What it's all about

*Message #82 Posted by **Martin Pinckney** on 2 Nov 2010, 7:40 p.m.,*
in response to message #81 by Walter B

Well, what do you know: below it the exact text of a message I wrote today, in response to one of Bill Platt's, but then decided not to post. But since I turn out to be at least half right, I now post it:

"Speaking of misunderstandings, it occurs to me that perhaps Walter took 'nonsensical' to mean something along the lines of 'I don't understand it, so I therefore think it is nonsense,' rather than 'seemingly illogical or incongruent,' which was probably closer to Karl's intent.

But why am I speculating on either Walter's understanding or Karl's intent? Probably dangerous territory."

What do you call this: A real difference in language/cultural understanding results in a disagreement over a perceived affront about language/culture. Irony? Self-fulfilling something-or-other?

Re: What it's all about

*Message #83 Posted by **bill platt** on 2 Nov 2010, 7:56 p.m.,*
in response to message #82 by Martin Pinckney

nonsensical: seemingly illogical or incongruent is certainly my meaning. Perhaps it would have been more precise to have said inconsistent, or incongruent.

American Heritage Dictionary:

nonsense (nŏn'sĕns', -səns) n. 1. Something that does not make or have sense; especially, behavior or language that is meaningless or absurd. .... --nonsensical adj.

Re: What it's all about

*Message #84 Posted by **Walter B** on 2 Nov 2010, 10:51 p.m.,*
in response to message #83 by bill platt

> Quote:
>
> American Heritage Dictionary:
> nonsense (nŏn'sĕns', -səns) n. 1. Something that does not make or have sense; especially, behavior or **language that is meaningless or absurd.** .... --nonsensical adj.

Your dictionary tells exactly the point (emphasis added by me). Please read this (written 3 days ago). What's so difficult to understand?? By people living in a society where you must call a fat man horizontally challenged not to hurt his feelings??? (Poor old Mark Twain: all his Mississippi tales have to be rewritten for improper speech.) Looks like political correctness had to be invented as guideline for people who lost the sense for collateral damages ... :(

Re: What it's all about

*Message #85 Posted by **DeboT** on 3 Nov 2010, 5:53 a.m.,*
in response to message #83 by bill platt

To that definition I think one should should add: **to the beholder/observer**, e.g. even RPN is nonsensical to some.

I must say, all these observations provide an interesting thread - without an answer to the OP after 80 posts, poor Geir ;-)

Re: What it's all about

*Message #86 Posted by **George Bailey (Bedford Falls)** on 3 Nov 2010, 5:43 a.m.,*
in response to message #81 by Walter B

Nonsense or nonsensical - whatever! I think we have understood by now that it meant 'linguistically and semantically without meaning' not 'Germans are suckers'. ;)

Now: Can someone try to explain, what exactly is the sense of noun genders in any language? Does a sentence with them convey any more information than the same sentence without them or with the "wrong" noun genders?

Apart from sounding strange at first glance, where is the informational difference between these three sentences, if there is one:

a) 'Der Mann geht in die Küche und kocht die Suppe'

b) 'Die Mann geht in das Küche und kocht den Suppe'

c) 'Mann geht in Küche und kocht Suppe'

I concede, the last one can have a slightly different meaning. For example 'kocht die Suppe' could mean a specific soup, whereas 'kocht Suppe' would mean no specific soup, just soup. But a) and b) have no different meaning, only that b) is orthographically/grammatically wrong by current standards.

Edited: 3 Nov 2010, 5:44 a.m.

Re: What it's all about

*Message #87 Posted by **Thomas Klemm** on 3 Nov 2010, 6:57 p.m.,*
in response to message #86 by George Bailey (Bedford Falls)

> Quote:
>
> Can someone try to explain, what exactly is the sense of noun genders in any language?

- added redundancy
- There are nouns in German that are distinguished by gender: *der* Schild (buckler) vs. *das* Schild (plate). Others aren't and still have different meanings: das Schloss (castle or lock). So no general rule here.
- In Arabic language male and female *you* are distinguished. Who could be possibly interested to know whether you're talking to a lady or a man on the phone? Well wait, that grammar stuff must be much older than the invention of the telephone.

Just what came to my mind. Sorry, but I'm not an expert in these matters.

Edited: 3 Nov 2010, 8:12 p.m.

Re: What it's all about

*Message #88 Posted by **Thomas Okken** on 3 Nov 2010, 10:26 p.m.,*
in response to message #86 by George Bailey (Bedford Falls)

> Quote:
>
> Now: Can someone try to explain, what exactly is the sense of noun genders in any language?

If you think noun genders are weird, take a look at Navajo grammar, where things like softness/hardness, roundedness/angularness, hairiness/smoothness, etc., are encoded as part of nouns. That language is so bizarre that the U.S. used Navajo speakers as "code talkers" during W.W. II. :-)

Or to take an example from the Indo-European family, which is what most of us on this forum are familiar with: what I remember from my high school Ancient Greek is that that language lets you express things like "I would have been going to walk" using a single word, by attaching all sorts of prefixes and suffixes to the verb stem.

It looks like, in the long run, this kind of elaborate grammar is losing out to simpler grammars where there is a substantially reduced number of cases and tenses, and where the subtleties are expressed using a small set of auxiliary verbs and prepositions... but to answer your question, the fact that some features of the original, highly synthetic Indo-European languages stubbornly refuse to disappear is, in my estimation at least, because of something you mentioned yourself, namely, that abolishing some features altogether (like gender in German) would simply "sound weird". Never underestimate the power of peer pressure to resist anything that's different, even if it would be an improvement in the long run.

(For comparison, consider trying to get the U.S. to abandon the old Imperial units and switch to SI... The fact that such attempts (yes, they have happened!) have failed to gain traction isn't so much due to U.S. backwardness; rather, the U.S. was in fact one of the earliest adopters of nationwide standards for units of measurement, and by the time the rest of the world started to adopt the French system, the incentive to adopt new standards in the U.S. had already largely disappeared. Sure, SI would be an improvement, but the weirdness factor will prevent it from happening in the foreseeable future.)

I'm guessing -- nobody really knows anyway -- that way back in the pre-historic past, some people simply decided that there was a need to express things like gender, and they decreed that this be part of a word, rather than indicated by

a separate word. This was a sub-optimal choice, obviously, but in the small communities of pre-modern humans, peer pressure would have been much more intense than it is in the large nation-states of today, and so change would have been very difficult. Again, I'm just guessing here, but I find it interesting that the most complicated languages in use in Europe today are Icelandic and Basque, both of which are spoken by small groups. The larger a language is, the more easily it mutates.

Edited: 3 Nov 2010, 10:33 p.m.

Re: What it's all about

*Message #89 Posted by **Martin Pinckney** on 3 Nov 2010, 10:40 p.m.,*
in response to message #88 by Thomas Okken

> Quote:
>
> Navajo_language... That language is so bizarre that the U.S. used Navajo speakers as "code talkers" during W.W. II. :-)

Well, not actually because it is bizarre, but because no Japanese could be expected to be familiar with it.

Noun genders, Najavo

*Message #90 Posted by **Karl Schneider** on 4 Nov 2010, 12:37 a.m.,*
in response to message #88 by Thomas Okken

Thomas --

That's another insightful 'short essay.' Yes, "Never underestimate the power of peer pressure to resist anything that's different, even if it would be an improvement in the long run." is a keen observation that explains why many things -- standards, customs, institutions -- remain entrenched, even when better alternatives are available.

Sheer inertia plays a role, too, when to change an established institution or design would be a major investment or undertaking. Would the incremental benefit justify the cost?

Martin is right about the use of Navajo. Japan had foreign-exchange students in the US and elsewhere, and could be expected to translate most any European language. Not so the indigenous languages of the US.

-- KS

Edited: 4 Nov 2010, 1:08 a.m.

Re: What it's all about

*Message #91 Posted by **George Bailey (Bedford Falls)** on 4 Nov 2010, 4:06 a.m.,*
in response to message #88 by Thomas Okken

Both Thomas's,

Thanks for your interesting answers, which were very enlightening but did not answer my question. I don't think the gender-noun-feature is any weirder as any other language feature. The language just came up with it and that's it.

But coming from 'nonsensical', I really am interested if someone has an idea if noun genders really do transport more information than just the bare noun.

I used the 'der Schild/das Schild' example myself above and I don't think it's a valid case of transporting more information by means of noun genders. Both words are just different words that sound alike. The diffenrentiation between them could be made adding letters or changing them or calling 'das Schild' from now on 'Glumpf'.

For example: Does 'das Haus' convey any more useful (!) information than 'die Haus', 'der Haus' or 'Haus'?

Re: What it's all about

*Message #92 Posted by **Walter B** on 4 Nov 2010, 1:06 p.m.,*
in response to message #91 by George Bailey (Bedford Falls)

Those "gendered" words come from a time long, long ago, but from our galaxy. You find them e.g. in ancient Greek: "hó ánthrOpos" (with O pronounced as a long closed o, the Omega), "hä gynä", "tó cháos", corresponding to "der Mensch", "die Frau", "das Chaos" in German or "the man", "the woman", "the chaos" in English. For man and woman so-called "natural gender" rules, but why is "to chaos" neuter in all these languages? And why is "hä lÓpä", i.e. "the coat", female in Greek, male in German and neuter in English? I can't tell you. Most of these genders do not carry a meaning IMO today. This doesn't mean, however, they are distributed stochastically or nonsensically. There are rules: e.g. all diminuitives are neuter in German - e.g. "die Frau" -> "das Frauchen" = "the little woman". This for example is the reason for "das Mädchen" = "the girl" = "the little young woman".

The articles, in any case, are important for differentiating e.g. "das Mädchen" and "die Mädchen" ("the girls") and "der Mädchen" ("of the girls"). Confused? Well, we have more: "dem Mädchen" ("to the girl"), "den Mädchen" ("to the girls") and "des Mädchens" ("of the girl"). But it's really easy - already 3-year-old toddlers know it.

Summing up: IF you are interested in a language, THEN you should deal with it before claiming anything being "nonsensical". HTH although I have my doubts :-/

Edited to correct some English errors.

Edited: 5 Nov 2010, 2:30 p.m.

Re: What it's all about

*Message #93 Posted by **Thomas Okken** on 4 Nov 2010, 11:39 p.m.,*
in response to message #91 by George Bailey (Bedford Falls)

> Quote:
>
> Thanks for your interesting answers, which were very enlightening but did not answer my question.

Well, we'll keep trying, then. :-)

My guess (and that's all it is!) is that sometime in pre-historic times, when language was much more primitive than it is today, people started feeling the need to qualify nouns. For example, if you're herding cattle, the difference between male and female cattle is important. If you're foraging for fruit, the difference between unripe and ripe is important. And so on.

Now, when you have to design a way to express certain attributes of physical objects, and you already have words that reference those objects (i.e., nouns), what are you going to do? You could modify the existing nouns in a way that expresses those attributes, like the Latin pattern of adding **-us** to anything male and **-a** to anything female, or you could define a new word that expresses the gender property (i.e., an adjective), and say that word just before or just after the noun in question, whenever the attribute in question is important.

From where we are now, it seems obvious that the approach of using separate words to express

attributes (adjectives) is better, but if you try to put yourself in the position of someone for whom the very notion of expressing such properties is totally new, the choice may not be very obvious at all. Inventing the words "male" and "female" would be a big leap for people who speak a language that doesn't have adjectives yet; if you do have them, adding gender to the set of adjectives is a lot easier. Maybe Navajo is weird simply because they were late inventing adjectives?

I think that the choice of making gender an intrinsic part of a noun was a bad one (and the Navajo pattern of making aspects like softness, sharpness, hairiness, etc. part of a word was even worse) but once such a choice is made, it's not easy to go back and revisit it.

The worst aspects of Indo-European seem to have eroded almost completely by now. In English and Dutch, for example, cases have disappeared almost completely (only the Nominative remains, plus the Genitive for proper nouns, plus a small handful of special cases), and the tense system for verbs has been reduced almost completely to present imperfect and past imperfect (everything else being constructed using a few auxiliary verbs plus infinitives and participles).

Gender in Germain remains, I think, mostly because dropping it would sound weird, and because it still serves a purpose in establishing cases (ich setze mich auf die Bank vs. ich sitze auf der Bank).

In short -- cases, genders, etc.: bad idea, using separate words to convey that information is much more efficient. Why were those bad choices made in the first place? Because people make bad choices sometimes (to err is human) and also because it isn't always obvious which choices are best initially (short-term benefits are often at odds with long-term ones). Why do bad choices persist even after it becomes obvious that another choice would have been better? Peer pressure, inertia, and because many of them aren't really all that bad. The really bad features of Indo-European have mostly disappeared already; the questionable ones survive because they're not really all that problematic anyway, and because reversing them would feel weird.

Re: What it's all about

*Message #94 Posted by **Karl Schneider** on 5 Nov 2010, 12:41 a.m.,*

in response to message #93 by Thomas Okken

Bravo, Thomas. You may very well have hit the nail on the head.

Edited: 5 Nov 2010, 1:19 a.m.

Re: What it's all about

*Message #95 Posted by **George Bailey (Bedford Falls)** on 5 Nov 2010, 4:29 a.m.,*
in response to message #94 by Karl Schneider

> Quote:
>
> Bravo, Thomas. You may very well have hit the nail on the head.

I second that!

But to prevent this very funny thread from ending soon, I have to spin it a little further again: I understand why a shepherd needs to differentiate between male and female, young and old. The thing is, real professionals don't do this by noun genders but with proper words: Lamm = younger than 1 year; Hammel = male, castrated, older than 1 year; Schaf = female, > 1 year; Bock = male, not castrated, > 1 year. The respective words exist for other animals as well.

An then, while I would want to know if my two sheep can produce offspring together, why would I bother if my table (der Tisch, male) and my lamp (die Lampe, female) have different genders? ;) Sadly, they will never be able to produce a table lamp together...

Re: What it's all about

*Message #96 Posted by **Walter B** on 5 Nov 2010, 4:48 a.m.,*
in response to message #95 by George Bailey (Bedford Falls)

George,

> Quote:
>
> why would I bother if my table (der Tisch, male) and

> my lamp (die Lampe, female) have different genders? ;) Sadly, they will never be able to produce a table lamp together...

:)) Well, please see above. And IIRC there are also languages featuring more than three genders.

Re: What it's all about

*Message #97 Posted by **bill platt** on 4 Nov 2010, 7:26 a.m.,*
in response to message #88 by Thomas Okken

Hi Thomas,

Great stuff, and nicely written :-)

The business about small groups having their language change more slowly is a well-identified linguistic dynamic. I remember learning about it way back when--language "freezing" was the term I think. Examples given were given for English in London progressing and changing faster than Northumbria, and of Sea Island in the US being an 18th century time warp.

But when trying to apply the same rule to the set of Latin derivatives, it gets messy because the "center" kept changing, therefore Spanish, Italian and French all progressed a lot along the way. But there might yet be some identifiable features under this rule.

Another set of rules which I find utterly fascinating are Grimm's law and the even more fascinating related one Werner's law. This it the set of rules that sets the Germanic languages apart from the Latin ones and relates HunDred to CenTum for instance.

One final change moment that remains a mystery as far as I know, it the "Great Vowel Shift" in English, which occurred some time between Chaucer circa 1400, and Shakespeare circa 1550. This is what gives English all the dipthongs and "long" vowels distinct from the more consistent ones on the continent.

If I hadn't needed to make a living, I might have been a linguist. It is fascinating! (Maybe I am just not very good at it).

Re: What it's all about

*Message #98 Posted by **Marcus von Cube, Germany** on 6 Nov 2010, 7:36 a.m.,*

in response to message #97 by bill platt

A good reading is the Encyclopaedia Britannica article about Languages Of The World (I don't have my copy at hand, it's a huge Macropaedia article). It handles much of the stuff discussed here. I don't recall any details and can't easily look them up now. Take your time and read yourselves!

Re: What it's all about

*Message #99 Posted by **bill platt** on 6 Nov 2010, 6:18 p.m.,*
in response to message #98 by Marcus von Cube, Germany

tnx,

I have the whole 1978 edition right behind me. I should read it!

Re: German orthography (spelling) reform

*Message #100 Posted by **Maximilian Hohmann** on 2 Nov 2010, 5:58 p.m.,*
in response to message #64 by Walter B

Hello!

> Quote:
>
> IIRC it all began with an international study called PISA.

The first PISA study was in 2000, the spelling reform in 1996. I would say that because of that stupid and nonsensical spelling reform, the PISA test results were so bad in Germany ;-)

Greetings, max

Re: German orthography (spelling) reform

*Message #101 Posted by **Walter B** on 3 Nov 2010, 4:17 a.m.,*
in response to message #100 by Maximilian Hohmann

Hallo Max,

da hast du recht - ich hatte vergessen, dass die das völlig ohne Not begonnen haben. Vermutlich hatten sie nichts Besseres zu tun und wollten auch mal in die Nachrichten. Wie gesagt: gefährlich wird es, wenn die Dummen fleißig werden. Nur die Wörterbuchverlage haben davon bis heute kräftig profitiert.

(You're right. I did forget they started this without a need, maybe due to lack of work and the wish to appear in the media. Only the dictionary editors made profit ...)

Thanks for your hint.

Re: German orthography (spelling) reform

*Message #102 Posted by **Angel Martin** on 3 Nov 2010, 4:52 p.m.,*
in response to message #100 by Maximilian Hohmann

ohmygosh, then it must be a time warp that caused the German manual to be written in English before it was published!! ^^^^

Sorry Geir, I think my posting of Mark Twain's work was nonsensical in the context of this thread!

Re: German orthography (spelling) reform

*Message #103 Posted by **Thomas Okken** on 3 Nov 2010, 11:46 p.m.,*
in response to message #62 by Karl Schneider

> Quote:
>
> The changes were arguably ill-advised.

Maybe, but maybe not. One of the changes I actually like is how the **ß** is replaced by **ss** at the end of closed syllables, e.g. Schuß became Schuss (reflecting the fact that the **u** is short) while Gruß remained Gruß (reflecting the fact that the **u** is long). Arguably this could have been carried even further, by changing the **ß** to **s** in the latter case; the **s** at the end of a syllable is always sharp anyway, so there is no need to use a special letter. (But that wouldn't fly because it would look weird.)

Then again, there is the issue of Maß, which is pronounced with a long **a** in most of Germany, but with a short **a** in Bavaria, so for most of Germany, the old spelling of **Maß** makes sense, while in Bavaria, **Mass** would be more appropriate under the new rules.

Every spelling reform causes its problems, but that doesn't necessarily mean that they shouldn't happen at all. I mean, I like the fact that the spelling of European languages is at least somewhat phonetic in general, and the fact that the letters of the Latin alphabet still have more or less uniform phonetic values, even across languages (English being the main exception due to its Great Vowel Shift), 2000 years after that alphabet was adopted across the continent. That uniformity is due to repeated spelling reforms that restored the correspondence between the spoken language and the written one. I mean, good luck trying to get people to change the way they *speak* to match the way their grandparents *wrote*. I think it's pretty neat how the Latin word **homo**, which survives as French **homme**, Spanish **hombre**, and Italian **uomo**, while obviously having changed a lot, is still spelled phonetically. If we had maintained Latin spelling religiously, we would have the advantage of uniform spelling across the continent, but we would have lost the advantage of phonetic spelling.

When spelling reforms happen, they can be jarring, but the bad reforms simply tend to get rejected, while the sensible reforms tend to survive. I've seen evidence of this in Dutch spelling reforms where redundant double vowels and -sch endings were replaced with single vowels and -s respectively, e.g. "het groote bosch" became "het grote bos", and apart from my Dutch grandfather, I have never heard anyone complain about *that* change... while the proposal to change -isch endings to -ies, which would make perfect sense phonetically, hasn't gained traction. And yet, I wouldn't be surprised if even that change were to happen eventually.

Re: German orthography (spelling) reform

*Message #104 Posted by **Walter B** on 4 Nov 2010, 12:57 a.m.,*

in response to message #103 by Thomas Okken

> Quote:
>
> I like the fact that the spelling of European languages is at least somewhat phonetic in general, and the fact that the letters of the Latin alphabet still have more or less uniform phonetic values, even across languages (English being the main exception due to its Great Vowel Shift), 2000 years after that alphabet was adopted across the continent.

Almost. French is another major exception IMHO - think of eau, eaux etc.

Re: German orthography (spelling) reform

*Message #105 Posted by **Thomas Okken** on 5 Nov 2010, 12:11 a.m.,*
in response to message #104 by Walter B

> Quote:
>
> > Quote:
> >
> > I like the fact that the spelling of European languages is at least somewhat phonetic in general, and the fact that the letters of the Latin alphabet still have more or less uniform phonetic values, even across languages (English being the main exception due to its Great Vowel Shift), 2000 years after that alphabet was adopted across the continent.
>
> Almost. French is another major exception IMHO - think of eau, eaux etc.

There is certainly a big disconnect between French spelling and French pronunciation, but that disconnect is mostly because of all the letters that are silent. To a first approximation, you can pronounce French pretty well using a simple set of rules by just dropping the final consonants from most words and making the final vowels sound nasal. The phonetic values of Latin letters in French is pretty predictable; figuring out what to pronounce and what not to is a bit trickier. And, of course, the reverse process is completely impossible!

Re: German orthography (spelling) reform

*Message #106 Posted by **Walter B** on 5 Nov 2010, 2:46 a.m.,*
in response to message #105 by Thomas Okken

Thomas,

thanks for your response. I should have explained my point better. Think of "tombeau" - the last "o" is pronounced like the one in "Hugo". Who knows by hearing such an "o" in an arbitrary word how to spell it in French? Or take "paire" and "père" ...

So IMHO French is far from featuring phonetic spelling. Same with modern Greek. Better examples are southern Romanic languages, or Germanic east of Rotterdam, or Slavic AFAIK.

Re: German orthography (spelling) reform

*Message #107 Posted by **Walter B** on 5 Nov 2010, 5:52 p.m.,*
in response to message #103 by Thomas Okken

Thomas,

> Quote:
>
> Then again, there is the issue of Maß, which is pronounced with a long a in most of Germany, but with a short a in Bavaria, so for most of Germany, the old spelling of Maß makes sense, while in Bavaria, Mass would be more appropriate under the new rules.

FYI, the Bavarian (and Austrian) Maß with short a is female (die Maß) and exclusively used for Bavarian beer: eine Maß Bier = a jar of 1 l beer, enough for many people. The general German Maß is neuter (das Maß), has another meaning and is used in Bavaria, too.

Re: German orthography (spelling) reform

*Message #108 Posted by **Thomas Radtke** on 6 Nov 2010, 6:26 a.m.,*
in response to message #103 by Thomas Okken

> Quote:
>
> Maybe, but maybe not. One of the changes I actually like is how the **ß** is replaced by **ss** at the end of closed syllables, e.g. Schuß became Schuss (reflecting the fact that the **u** is short) while Gruß remained Gruß (reflecting the fact that the **u** is long).

This was a big mistake. Actually, the 'beta' is a sz ligatur indicating a sharp s. Over the time, in some instances the smooth s became a sharp s in the actual pronunciation but the simple s remained in written language. *That* should have been addressed.

You'd use:

Dasz Schlosz sitzt an der Tu"r.

instead of

Das Schloss sitzt an der Tu"r.

See what I mean? Both s are pronounced identically but are written differently.

Edit:

'Das' - sharp s / 'Schloss' - sharp s / 'sitzt' - smooth s

Edited: 6 Nov 2010, 6:29 a.m.

Re: German orthography (spelling) reform

*Message #109 Posted by **Walter B** on 6 Nov 2010, 12:12 p.m.,*
in response to message #108 by Thomas Radtke

Quote:

You'd use:

Dasz Schlosz sitzt an der Tu"r.

Depends on your way to speak. I think the writing

Das Schlosz sitzt so an der Tür, dasz man es gut erreicht.

is perfectly phonetic. Since our mandarins want me writing

Das Schloss sitzt so an der Tür, dass man es gut erreicht.

instead I can live with that as well. Both sz and ss define a sharp s. I didn't see a necessity to change the spelling though. As mentioned above already, however, I didn't see a need for this "reform" at all.

Re: German orthography (spelling) reform

*Message #110 Posted by **Thomas Radtke** on 6 Nov 2010, 12:33 p.m.,*
in response to message #109 by Walter B

Quote:

[...] I didn't see a need for this "reform" at all.

Same here.

But when you enter into reforming the language to help students, you should ensure that in the end people can write as they speak (in high German - you have to agree on smoething, right?).

OTOH - often I recognize Bab..., erm, Bavarians the way the misspell words where they use the sharp s instead of the correct smooth s ;-p.

Re: English manual for the Bobby Schenk Yacht module, anyone?

*Message #111 Posted by **Geir Isene** on 28 Oct 2010, 9:26 a.m.,*
in response to message #1 by Geir Isene

And the manual?

;-)

Re: English manual for the Bobby Schenk Yacht module, anyone?

*Message #112 Posted by **Walter B** on 28 Oct 2010, 9:59 a.m.,*
in response to message #111 by Geir Isene

Hej Geir,

don't you stop this nice thread with your most trivial request ;)

Re: English manual for the Bobby Schenk Yacht module, anyone?

*Message #113 Posted by **Martin Pinckney** on 28 Oct 2010, 10:37 a.m.,*
in response to message #1 by Geir Isene

So you also have one in Swahili? {:-)

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HP Forum Archive 19

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Sunrise and Sunset

*Message #1 Posted by **Thomas Klemm** on 26 Oct 2010, 6:52 p.m.*

At the horticultural exhibition Grün 80 I discovered this precision sundial punctual to the minute and still remember exactly how much I was impressed watching the time go by. It is still there if you ever happen to be in the vicinity.

Years later, I attended a lecture by Christian Blatter: "Von den Keplerschen Gesetzen zu einer minutengenauen Sonnenuhr" (From Kepler's laws to an exact sundial). I'm sorry that the paper is only available in German but here's a similar paper in English: "Another design for sundials", Norbert Hungerbühler. Though I knew about the equation of time and Kepler's law I wasn't aware of the interconnection until then.

Now that we can calculate the position of the sun for any date of the year I thought we could go one step further and calculate sunrise and sunset. However I was quiet disappointed by the result because it was very inaccurate compared to what I got for instance from http://www.sunrisesunset.com. It took me some time to understand why: It all depends on how you define sunrise and sunset. The usual value of the altitude of the center of the solar disc is about -0.83° while I assumed this to be zero. This may lead to an aberration of several minutes. On the other hand you're always late for the sunset if the upper edge just disappears.

The program is probably not the most precise. There are others around that do much better. My goal was to understand what's going on.

Best regards
Thomas

Formulae

From the paper I mentioned above the formula on page 158 was used in combination with the ansatz: psi(t) = t + d(t).

$$\psi(t) = t + 2 \sin t\, K + \frac{5}{4} \sin(2t)\, K^2$$

To make the calculation a bit easier I used the double-angle formula:

$$\sin(2t) = 2 \sin(t) \cos(t)$$

This leads to:

$$\psi(t) = t + K \sin t \left(2 + \frac{5}{2} K \cos t\right)$$

Both values *K cos t* and *K sin t* can be calculated in one step.

The expression in formula (6) on page 161 for mju(t) is stupendous. However it's far easier to use a suitable combination of polar/rectangular coordinate transformation. Don't tell me now you miss something on your HP-35s.

Constants:

- `K = 0.016722  numerical orbital eccentricity of the earth`

- E = 23.45 obliquity of the ecliptic
- P = 78.5 perihelion (relating to vernal equinox)
- U = 8:30'30" longitude (Zurich)
- V = 47:24'36" latitude (Zurich)

auxiliary quantity:

$$L^2 = \frac{1 + K}{1 - K}$$

Initialization:

(all angles must be stored in RAD)

- 0.016722 STO K
- 23.45 ->RAD STO E
- 78.5 ->RAD STO P
- 8.3030 ->HR ->RAD STO U
- 47.2436 ->HR ->RAD STO V
- 1 RCL+ K 1 RCL- K / SQRT STO L

Program for HP-32SII:

```
.........................................
: Main Program
:
: (dd.mm -> sunrise sunset)
.........................................
001 XEQ A
002 309
003 -
004 365
005 /
006 2
007 *
008 PI
009 *
010 XEQ B
011 XEQ C
012 GTO D


.........................................
: Difference days
:
: (dd.mm -> days)
:
: calculates difference of days to March 1st
.........................................
A01 LBL A
A02 IP
A03 12
A04 LASTx
A05 FP
A06 100
A07 *
A08 3
A09 -
A10 x<0?
A11 +
A12 30.6
A13 *
A14 0.5
A15 +
A16 IP
A17 R^
A18 +
A19 RTN


.........................................
: Position of sun (approximation)
:
```

```
: (t -> psi)
:
: psi(t) = t + 2 K sin(t) + 5/4 K^2 sin(2t) + ...
.....................................
B01 LBL B
B02 ENTER
B03 ENTER
B04 RAD
B05 RCL K
BO6 P->R
B07 5
B06 *
B09 2
B10 /
B11 2
B12 +
B13 *
B14 +
B15 RTN


.....................................
: Transformation to equatorial coordinates
:
: (psi -> mju delta)
:
: phi = psi - alpha
:
: x = cos(phi)          = cos(delta) cos(AR)
: y = sin(phi) cos(eps) = cos(delta) sin(AR)
: z = sin(phi) sin(eps) = sin(delta)
:
: mju = AR - (t - alpha)
.....................................
C01 LBL C
C02 RCL- P
C03 RCL E
C04 x<>y
C05 1
C06 P->R
C07 RDN
C08 P->R
C09 R^
C10 R->P
C11 x<>y
C12 RDN
C13 R->P
C14 x<>y
C15 RDN
C16 RDN
C17 RCL- P
C18 -
C19 RTN


.....................................
: Sunrise and Sunset
:
: (mju delta -> Sunrise Sunset)
.....................................
D01 LBL D
D02 RCL+ U
D03 ENTER
D04 ENTER
D05 R^
D06 TAN
D07 RCL V
D08 TAN
D09 *
D10 ACOS
D11 +
D12 x<>y
D13 LASTx
D14 -
D15 XEQ E
D16 x<>y


.....................................
: Angle to Hours
:
: (RAD -> HMS)
.....................................
E01 LBL E
E02 2
E03 PI
```

```
E04 *
E05 /
E06 FP
E07 1
E08 +
E09 FP
E10 24
E11 *
E12 ->HMS
E13 RTN


.........................................
: Test approximative solution of Kepler Equation
:
: (psi -> t)
.........................................
F01 LBL F
F02 2
F03 /
F04 TAN
F05 RCL/ L
F06 ATAN
F07 2
F08 *
F09 ENTER
F10 SIN
F11 RCL* K
F12 -
F13 RTN
```

Appendix:

Earth's perihelion and aphelion

Year	Perihelion Date	Hour	Aphelion Date	Hour
2007	January 3	20:00	July 7	00:00
2008	January 3	00:00	July 4	08:00
2009	January 4	15:00	July 4	02:00
2010	January 3	00:00	July 6	11:00
2011	January 3	19:00	July 4	15:00
2012	January 5	00:00	July 5	03:00
2013	January 2	05:00	July 5	15:00
2014	January 4	12:00	July 4	00:00
2015	January 4	07:00	July 6	19:00
2016	January 2	23:00	July 4	16:00
2017	January 4	14:00	July 3	20:00
2018	January 3	06:00	July 6	17:00
2019	January 3	05:00	July 4	22:00
2020	January 5	08:00	July 4	12:00

Orbital Paramameters for the Earth

Year (A.D.)	Eccentricity	Obliquity (degrees)	Long. of Perihel. (degrees)
1990	.016708	23.4411	282.724
1991	.016707	23.4409	282.741
1992	.016707	23.4408	282.758
1993	.016707	23.4407	282.776
1994	.016706	23.4405	282.793
1995	.016706	23.4404	282.810
1996	.016705	23.4403	282.827
1997	.016705	23.4402	282.844
1998	.016704	23.4400	282.861
1999	.016704	23.4399	282.878
2000	.016704	23.4398	282.895
2001	.016703	23.4396	282.913
2002	.016703	23.4395	282.930
2003	.016702	23.4394	282.947
2004	.016702	23.4392	282.964
2005	.016702	23.4391	282.981
2006	.016701	23.4390	282.998
2007	.016701	23.4389	283.015
2008	.016700	23.4387	283.033
2009	.016700	23.4386	283.050
2010	.016700	23.4385	283.067
2011	.016699	23.4383	283.084

```
2012    .016699      23.4382      283.101
2013    .016698      23.4381      283.118
2014    .016698      23.4379      283.135
2015    .016698      23.4378      283.152
2016    .016697      23.4377      283.170
2017    .016697      23.4376      283.187
2018    .016696      23.4374      283.204
2019    .016696      23.4373      283.221
2020    .016696      23.4372      283.238
```

Edited: 27 Oct 2010, 4:15 p.m. after one or more responses were posted

Re: Sunrise and Sunset

*Message #2 Posted by **PeterP** on 26 Oct 2010, 8:07 p.m.,*
in response to message #1 by Thomas Klemm

Nice! very interesting, will dig into the papers tonight, thanks for sharing!

Cheers

Peter

Re: Sunrise and Sunset

*Message #3 Posted by **Walter B** on 27 Oct 2010, 2:02 a.m.,*
in response to message #1 by Thomas Klemm

Hallo Thomas,

beeindruckend! Damit deine Arbeit auf Dauer leichter gefunden wird, schlage ich vor, dass du sie in den Bereich "Articles" kopierst.

(Impressing work! I'd suggest you copy your work to the articles section for easier access in the future.)

Grüße,

Walter

Re: Sunrise and Sunset

*Message #4 Posted by **Thomas Klemm** on 28 Oct 2010, 12:09 p.m.,*
in response to message #3 by Walter B

> Quote:
>
> I'd suggest you copy your work to the articles section

cf. 1014: Sunrise and Sunset

Best regards
Thomas

Re: Sunrise and Sunset on the HP-32SII and HP-41

*Message #5 Posted by **Karl Schneider** on 28 Oct 2010, 11:22 p.m.,*
in response to message #4 by Thomas Klemm

Thomas --

Good work. Maybe a more-appropriate choice than the Articles Archive would be the Software Library and HP-41 Software Library.

-- KS

Edited: 28 Oct 2010, 11:26 p.m.

Re: Sunrise and Sunset on the HP-32SII and HP-41

*Message #6 Posted by **Thomas Klemm** on 29 Oct 2010, 5:26 a.m.,*
in response to message #5 by Karl Schneider

Hi Karl

Maybe you're right. But I wouldn't recommend this program to actually calculate sunrise and sunset. Why would someone do that at all? It is indeed written in the newspaper every day.

I probably would not have posted this at all, unless Geir Isene recently would have drawn my attention to the module ASTRO 2010 by Jean-Marc Baillard. So I suppose there are a few of you who are interested in the topic as well.

There is an artist, I know. She noticed a spot of sunlight on the floor of the barn of her grandmother. Every day at the same time, she drew its outline on a large sheet of paper. With different colors. What led to an image over the time. But it's not about whether that's art. It's about perception. What happens when we do something every day at the same time? Why does this give a figure eight, symbol of infinity?

Or the days after the winter solstice. Why are the days getting longer again but still the sunrise happens later and later?

```
21.12               X:      8.2414   Y:      16.3906
22.12               X:      8.2447   Y:      16.3933
23.12               X:      8.2517   Y:      16.4002
24.12               X:      8.2545   Y:      16.4034
25.12               X:      8.2610   Y:      16.4109
26.12               X:      8.2632   Y:      16.4147
27.12               X:      8.2652   Y:      16.4227
28.12               X:      8.2708   Y:      16.4310
29.12               X:      8.2722   Y:      16.4355
30.12               X:      8.2733   Y:      16.4443
31.12               X:      8.2741   Y:      16.4534
 1.01               X:      8.2746   Y:      16.4627
 2.01               X:      8.2748   Y:      16.4722
 3.01               X:      8.2747   Y:      16.4819
 4.01               X:      8.2743   Y:      16.4919
 5.01               X:      8.2736   Y:      16.5021
 6.01               X:      8.2727   Y:      16.5125
 7.01               X:      8.2714   Y:      16.5231
 8.01               X:      8.2659   Y:      16.5339
 9.01               X:      8.2640   Y:      16.5449
10.01               X:      8.2619   Y:      16.5600
```

And then the question of why I wrote a program for a thirty year old calculator and didn't simply key in the formula into Mathematica? Most probably because for me it is still the best way to understand these things.

Kind regards
Thomas

Re: Sunrise and Sunset on the HP-32SII and HP-41

*Message #7 Posted by **sylvandb** on 30 Oct 2010, 2:59 a.m.,*
in response to message #6 by Thomas Klemm

> Quote:
>
> But I wouldn't recommend this program to actually calculate sunrise and sunset. Why would someone do that at all? It is indeed written in the newspaper every day.

I don't have a need to use a calculator to compute sunrise and sunset. But a newspaper is simply not adequate so my computer does that calculation for me every day. My computer needs to know when to

expect the sunrise and sunset so it can perform tasks relative to those events. It is much easier for it to calculate sunrise and sunset than to fetch a newspaper and read it.

For example, at 0645 my computer starts to gradually bring up a light in my bedroom, but only if the sun is not yet up. Then it turns off the light about 30minutes after sunrise.

Re: Sunrise and Sunset on the HP-32SII and HP-41

*Message #8 Posted by **Thomas Klemm** on 30 Oct 2010, 5:41 a.m.,*
in response to message #7 by sylvandb

You might be interested in Egan's article: Control the World with HP-IL/RS-232/41CX + X10

Re: Sunrise and Sunset

*Message #9 Posted by **Thomas Klemm** on 27 Oct 2010, 3:39 p.m.,*
in response to message #1 by Thomas Klemm

Let me add a few things:

- Should you be more interested in the equation of time just remove the call to subroutine **D** in the main program. The result is in RAD and may be transformed to hours using subroutine **E**.
- The subroutine **F** isn't really needed. It may be used to check the approximation used in subroutine **B**. These two programs are (not exactly) inverse to each other.
- I organized the program into smaller modules that can be used and tested independently. However the program can be unfolded to save some space.
- In the listing below I've added the status of the stack for each step to ease reading the program.
- Initially the program was written for the HP-11C but I preferred using letters for the registers. That's why I have selected the HP-32SII. However it's straightforward to transform that program to the HP-41 or HP-15C.

Cheers
Thomas

Annotated Listing

L	X	Y	Z	T
	dd.mm			
001 IP	d			
dd.mm				
002 12	12	d		
dd.mm				
003 LASTx	dd.mm	12	d	
dd.mm				
004 FP	0.mm	12	d	
005 100	100	0.mm	12	d
006 *	m	12	d	d
007 3	3	m	12	d
008 -	m - 3	12	d	d
009 x<0?	m - 3	12	d	d
010 +	n	?	d	d
011 30.6	30.6	n	?	d
012 *	30.6 n	?	d	d
013 0.5	0.5	30.6 n	?	d

014 +	30.6 n + 0.5	?	d	d	
015 IP	D	?	d	d	
016 R^	d	D			
017 +	days				
018 309	309	days			
019 -	days - 309				
020 365	365	days - 309			
021 /	T				
022 2	2	T			
023 *	2 T				
024 PI	pi	2 T			
025 *	t				
026 ENTER	t	t			
027 ENTER	t	t	t		
028 RAD	t	t	t		
029 RCL K	K	t	t	t	
030 P->R	K cos t	K sin t	t	t	
031 5	5	K cos t	K sin t	t	
032 *	5 K cos t	K sin t	t	t	
033 2	2	5 K cos t	K sin t	t	
034 /	5/2 K cos t	K sin t	t	t	
035 2	2	5/2 K cos t	K sin t	t	
036 +	2 + 5/2 K cos t	K sin t	t	t	
037 *	d(t)	t	t	t	
038 +	psi	t	t	t	
039 RCL- P	phi	t	t	t	
040 RCL E	eps	phi	t	t	
041 x<>y	phi	eps	t	t	
042 1	1	phi	eps	t	
043 P->R	x	r	eps	t	
044 RDN	r	eps	t	x	
045 P->R	y	z	t	x	
046 R^	x	y	z	t	
047 R->P	r	AR	z	t	
048 x<>y	AR	r	z	t	
049 RDN	r	z	t	AR	
050 R->P	1	delta	t	AR	
051 x<>y	delta	1	t	AR	
052 RDN	1	t	AR	delta	
053 RDN	t	AR	delta		
054 RCL- P	t - alpha	AR	delta		
055 -	mju	delta			
056 RCL+ U	tau	delta			
057 ENTER	tau	tau	delta		

```
|                    |                                                                                  |
058 ENTER            |         tau         |         tau         |         tau         |        delta
|                    |                                                                                  |
059 R^               |        delta        |         tau         |         tau         |         tau
|                    |                                                                                  |
060 TAN              |      tan delta      |         tau         |         tau         |         tau
|                    |                                                                                  |
061 RCL V            |        theta        |      tan delta      |         tau         |         tau
|                    |                                                                                  |
062 TAN              |      tan theta      |      tan delta      |         tau         |         tau
|                    |                                                                                  |
063 *                |      cos omega      |         tau         |         tau         |         tau
|                    |                                                                                  |
064 ACOS             |        omega        |         tau         |         tau         |         tau
|                    |                                                                                  |
065 +                |         rho         |         tau         |         tau         |         tau
|       omega        |                                                                                  |
066 x<>y             |         tau         |         rho         |         tau         |         tau
|       omega        |                                                                                  |
067 LASTx            |        omega        |         tau         |         rho         |
|       omega        |                                                                                  |
068 -                |        sigma        |         rho         |                     |
|                    |                                                                                  |
069 XEQ E            |         set         |         rho         |                     |
|                    |                                                                                  |
070 x<>y             |         rho         |         set         |                     |
|                    |

E01 LBL E            |         rho         |         set         |                     |
|                    |                                                                                  |
E02 2                |          2          |         rho         |         set         |
|                    |                                                                                  |
E03 PI               |         pi          |          2          |         rho         |         set
|                    |                                                                                  |
E04 *                |        2 pi         |         rho         |         set         |
|                    |                                                                                  |
E05 /                |          r          |         set         |                     |
|                    |                                                                                  |
E06 FP               |         [r]         |         set         |                     |
|                    |                                                                                  |
E07 1                |          1          |         [r]         |         set         |
|                    |                                                                                  |
E08 +                |          r'         |         set         |                     |
|                    |                                                                                  |
E09 FP               |        [r']         |         set         |                     |
|                    |                                                                                  |
E10 24               |         24          |        [r']         |         set         |
|                    |                                                                                  |
E11 *                |          r"         |         set         |                     |
|                    |                                                                                  |
E12 ->HMS            |       mm.hhss       |         set         |                     |
|                    |                                                                                  |
E13 RTN              |        rise         |         set         |                     |
|                    |
```

Edited: 27 Oct 2010, 3:57 p.m.

Re: Sunrise and Sunset

*Message #10 Posted by **Thomas Klemm** on 27 Oct 2010, 6:00 p.m.,*
in response to message #1 by Thomas Klemm

> Quote:
>
> it's straightforward to transform that program to the HP-41

Registers:

- 00 K = 0.016722 numerical orbital eccentricity of the earth
- 01 E = 23.45 obliquity of the ecliptic
- 02 P = 78.5 perihelion (relating to vernal equinox)
- 03 U = 8:30'30" longitude (Zurich)
- 04 V = 47:24'36" latitude (Zurich)

Program for HP-41C:

```
01 LBL "SUN"          31 P-R                61 ENTER
02 INT                32 5                  62 ENTER
03 12                 33 *                  63 R^
04 LASTX              34 2                  64 TAN
05 FRC                35 /                  65 RCL 04
06 100                36 2                  66 TAN
07 *                  37 +                  67 *
08 3                  38 *                  68 ACOS
09 -                  39 +                  69 +
10 X<0?               40 RCL 02             70 X<>Y
11 +                  41 -                  71 LASTX
12 30.6               42 RCL 01             72 -
13 *                  43 X<>Y               73 XEQ 00
14 0.5                44 1                  74 X<>Y
15 +                  45 P-R                75 LBL 00
16 INT                46 RDN                76 2
17 R^                 47 P-R                77 PI
18 +                  48 R^                 78 *
19 309                49 R-P                79 /
20 -                  50 X<>Y               80 FRC
21 365                51 RDN                81 1
22 /                  52 R-P                82 +
23 2                  53 X<>Y               83 FRC
24 *                  54 RDN                84 24
25 PI                 55 RDN                85 *
26 *                  56 RCL 02             86 HMS
27 ENTER              57 -                  87 END
28 ENTER              58 -
29 RAD                59 RCL 03
30 RCL 00             60 +
```

Edited: 1 Nov 2010, 10:23 a.m. after one or more responses were posted

Re: Sunrise and Sunset

*Message #11 Posted by **Patrick Rendulic** on 28 Oct 2010, 6:55 a.m.,*
in response to message #10 by Thomas Klemm

For those who may be interested, here you can find my "Sun Tracker" program, for the 40G and the 49G. The 49G version also runs on the 50G.

http://www.physique.lu/hpcalculators/sunposition/sunposition.htm

I also hava an 48G version which is not online. If people are interested I will check whether I have more actual versions on my calculators (I think so). I haven't updated the code for some time.

Re: Sunrise and Sunset

*Message #12 Posted by **Thomas Klemm** on 28 Oct 2010, 12:12 p.m.,*
in response to message #11 by Patrick Rendulic

> Quote:
>
> I also hava an 48G version

Yes, please post the code here. I'd be interested.

Many thanks in advance
Thomas

Re: "Sun Tracker" on HP-49G and HP-48G

*Message #13 Posted by **Karl Schneider** on 28 Oct 2010, 11:24 p.m.,*
in response to message #11 by Patrick Rendulic

Patrick --

That looks like a good opportunity for me to try I/O on the HP-49G and actually use it for something...

And also my HP-48G, if and when the code is available.

-- KS

Edited: 28 Oct 2010, 11:26 p.m.

Re: "Sun Tracker" on HP-49G and HP-48G

*Message #14 Posted by **Patrick Rendulic** on 29 Oct 2010, 4:26 a.m.,*
in response to message #13 by Karl Schneider

Hello Thomas, Hello Karl.

Give me some time. I will update the code within the weekend and will let you know here.

Re: "Sun Tracker" on HP-49G and HP-48G

*Message #15 Posted by **Patrick Rendulic** on 29 Oct 2010, 5:25 a.m.,*
in response to message #13 by Karl Schneider

I did it immediately, here you can find the actual versions:

http://www.physique.lu/hpcalculators/sunposition/sunposition.htm

In this version the errors during midnight sun and polar night are gone. If you use Urania then you will see that the program uses the same variables for latitude, longitude and time zone. There is one "minor bug" left. The times for sunrise and sunset are only calculated once when you start the program. So if you let the program run for more than a day, they will not be accurate because they will not be updated. But who will do that?

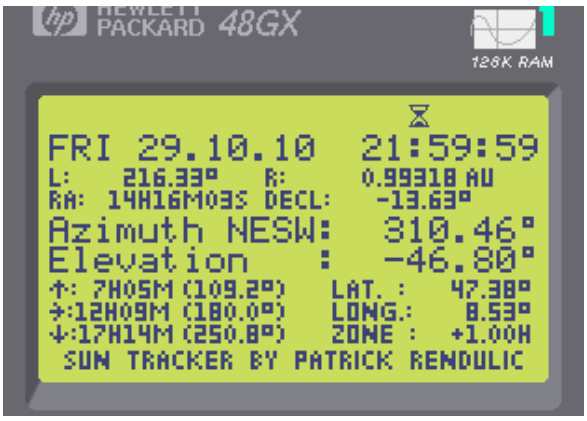
Pay attention that you now have to start the program with the "SUNT" command (for sun tracker).

The 49G versions also runs on the 50G. The 2 last lines of the screen will remain blank. I also added the version for the HP48G series, but did not have the time to check it on my 48G (fuzzy file transfer ...), but it worked fine on the emulator. Just let me know if there is a problem.

The programs are written in system RPL.

Re: "Sun Tracker" on HP-49G and HP-48G

*Message #16 Posted by **Thomas Klemm** on 29 Oct 2010, 4:02 p.m.,*
in response to message #15 by Patrick Rendulic



Thanks a lot

Thomas

Re: Sunrise and Sunset

*Message #17 Posted by **Ángel Martin** on 29 Oct 2010, 2:55 a.m.,*
in response to message #10 by Thomas Klemm

Thomas, if you agree this seems a good one to add to the -ASTRO U/I module, which still has plenty of available space. I can add the alpha prompts to make it more intuitive - or you'd like to?

Any other contribution? Geir?

Re: Sunrise and Sunset

*Message #18 Posted by **Thomas Klemm** on 29 Oct 2010, 3:50 p.m.,*
in response to message #17 by Ángel Martin

Hi Ángel
Feel free to do whatever you like with the program. I agree that the UI is rather sparse.

Just be warned: the program uses currently the following formula to calculate the hour angle:

$$\cos \omega_o = -\tan(\phi) \times \tan(\delta)$$

This correction to that equation is used by Patrick's "Sun Tracker":

$$\cos(\omega_o) = \frac{\sin(a) - \sin(\phi) \times \sin(\delta)}{\cos(\phi) \times \cos(\delta)}$$

with the altitude (a) of the center of the solar disc set to -0.833°.

However I doubt that this alone explains the deviation.

Best regards
Thomas

cf. Sunrise equation

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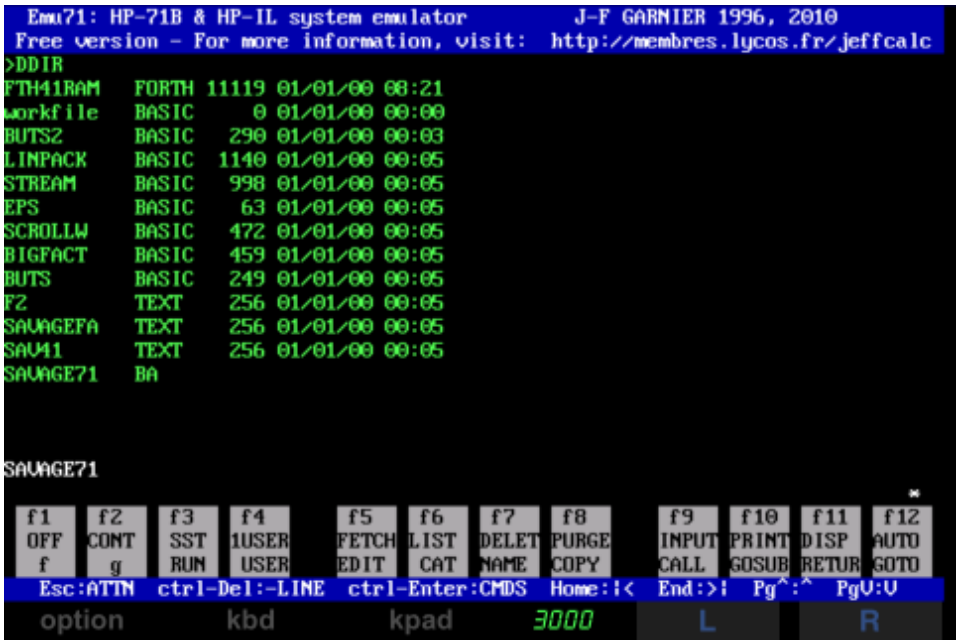
EMU71 in my pocket and on my pad.

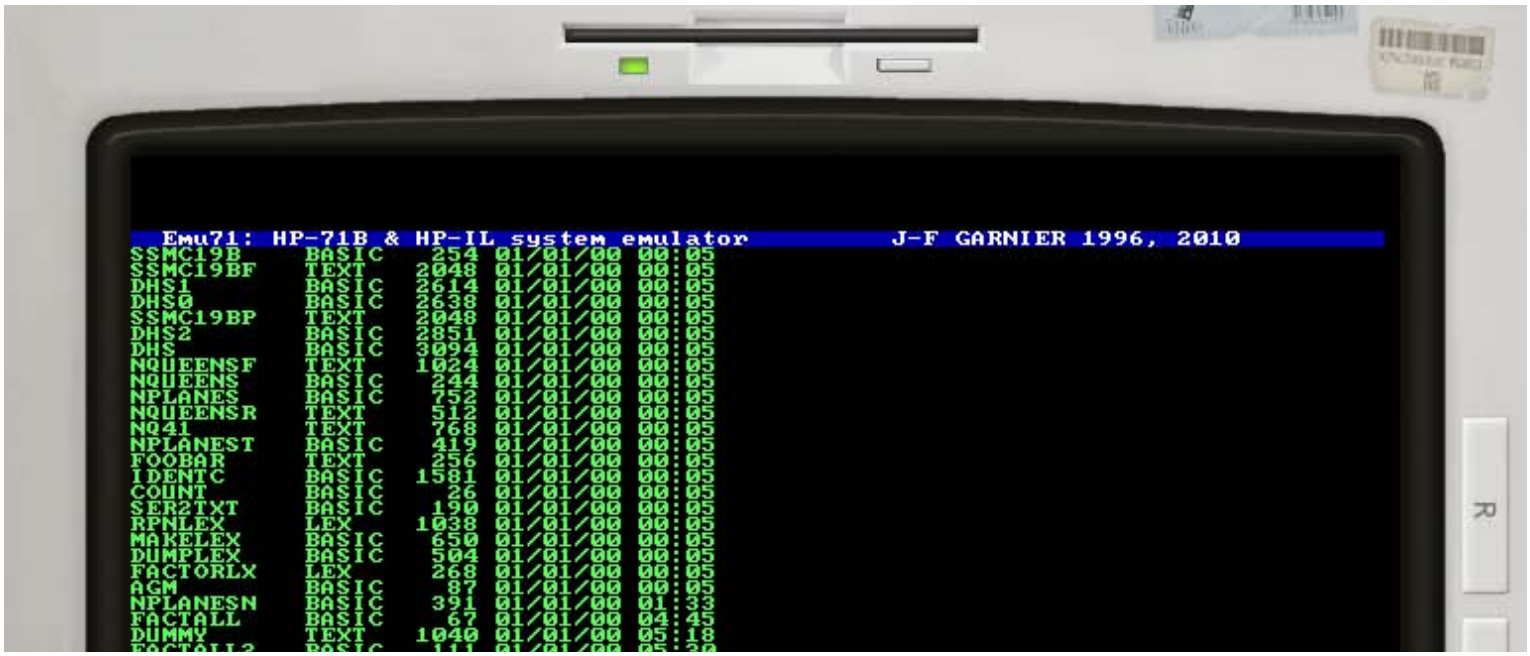
*Message #1 Posted by **Egan Ford** on 26 Oct 2010, 3:15 p.m.*

Apple let iDOS slip through the approval process and now its possible to run DOS apps including EMU71 on the iPhone/iPad. Screen shots below.

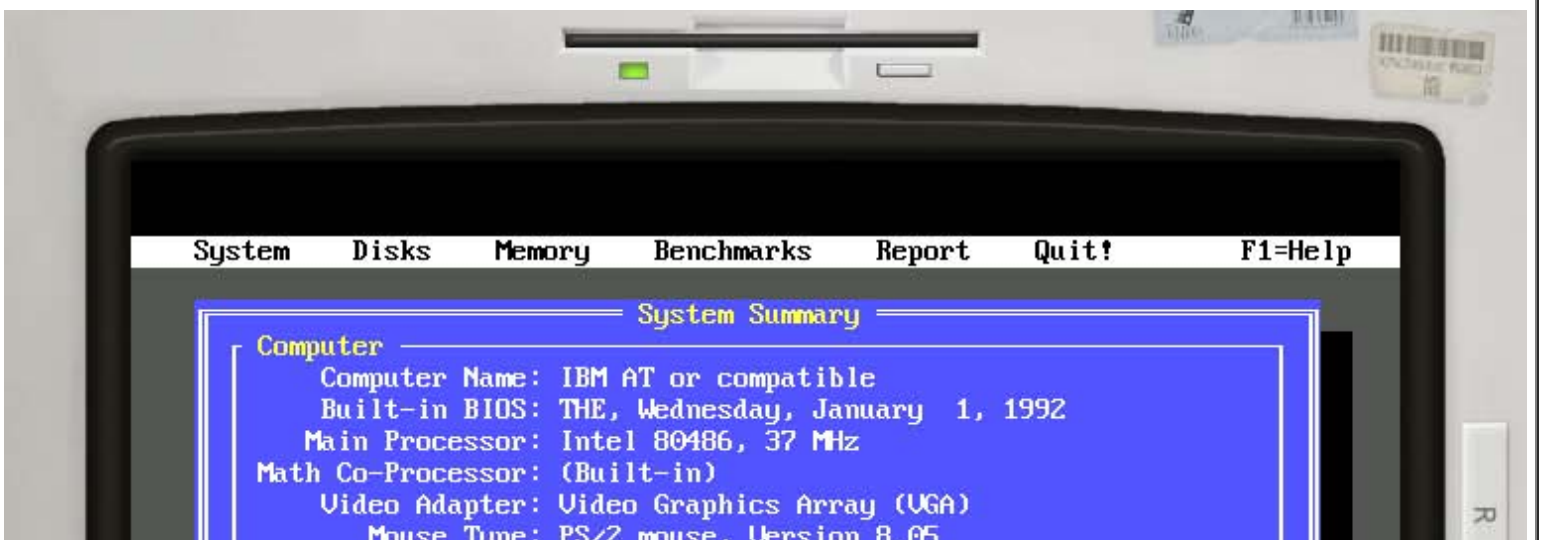
iPhone 4:



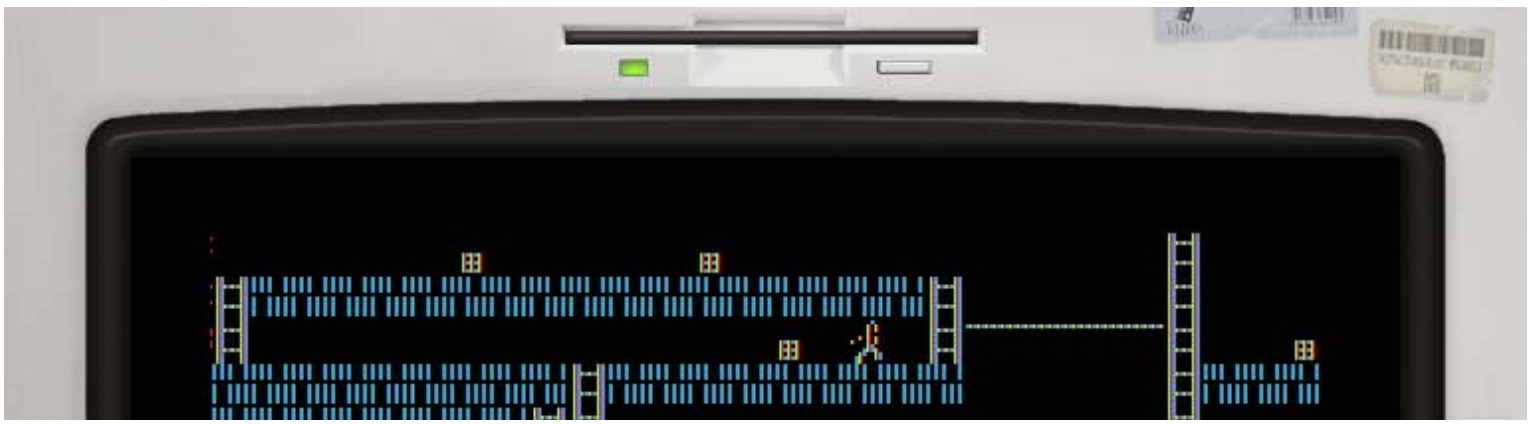
iPad (3 pics):

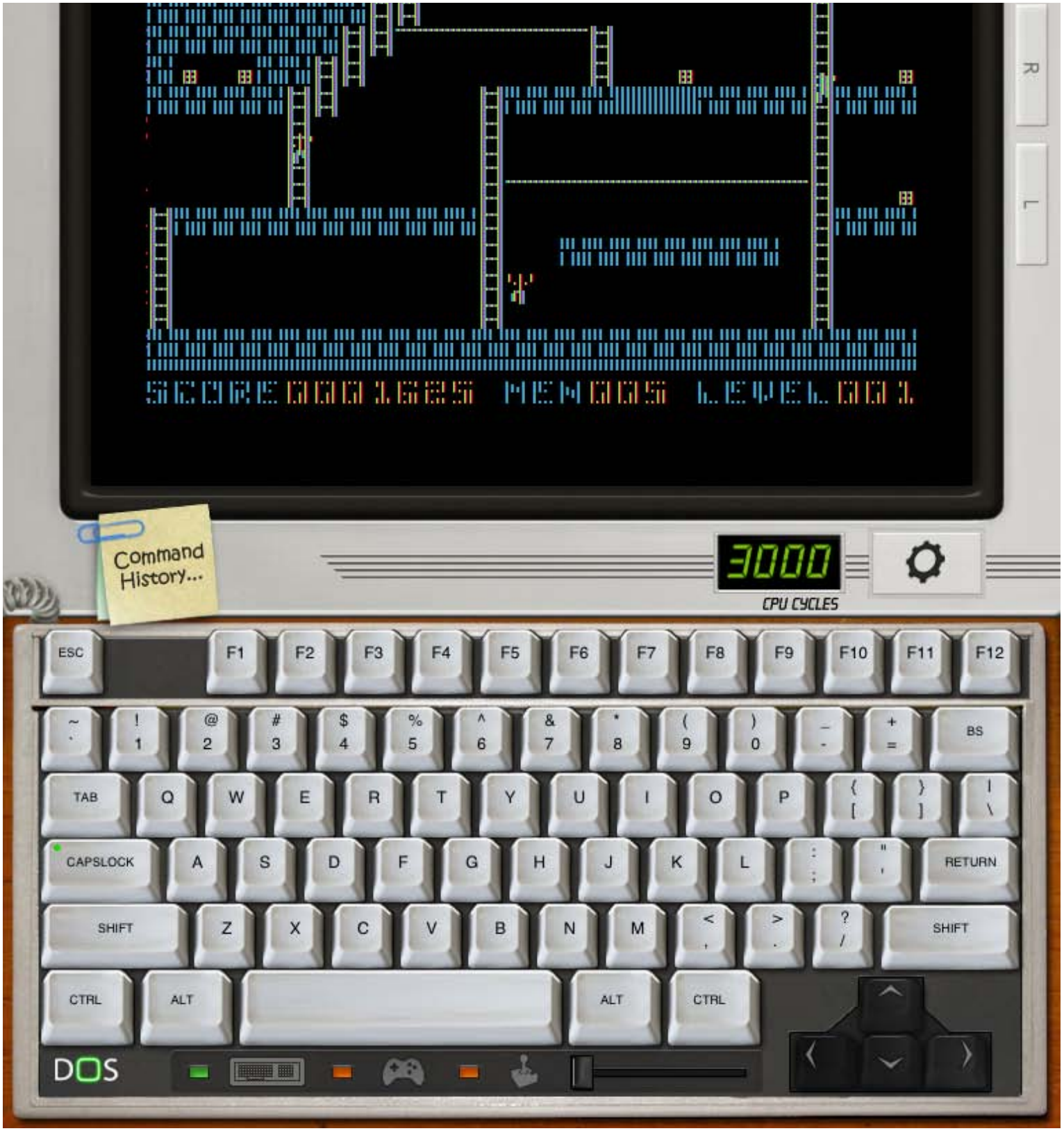


EMU71 in my pocket and on my pad.



EMU71 in my pocket and on my pad.





Edited: 26 Oct 2010, 3:16 p.m.

Re: EMU71 in my pocket and on my pad.

*Message #2 Posted by **Bruce Bergman** on 26 Oct 2010, 3:21 p.m.,*
in response to message #1 by Egan Ford

I don't see iDOS in the app store. Does it go by another name? What other software do I need to get/install?

thanks,

bruce

Re: EMU71 in my pocket and on my pad.

*Message #3 Posted by **Egan Ford** on 26 Oct 2010, 3:36 p.m.,*
in response to message #2 by Bruce Bergman

Wow! That was fast. It's gone. Sorry folks.

Re: EMU71 in my pocket and on my pad.

*Message #4 Posted by **Bruce Bergman** on 26 Oct 2010, 3:37 p.m.,*
in response to message #3 by Egan Ford

Crap! :-)

Email me if you see it come back...

Thanks,

bruce

Re: EMU71 in my pocket and on my pad.

*Message #5 Posted by **Egan Ford** on 26 Oct 2010, 3:38 p.m.,*
in response to message #4 by Bruce Bergman

It included two abandonware titles. Hopefully after they remove them it will be put back up. I have little hope.

Re: EMU71 in my pocket and on my pad.

*Message #6 Posted by **Egan Ford** on 28 Oct 2010, 12:05 a.m.,*
in response to message #4 by Bruce Bergman

iDOS 1.0.1 has been sent in for approval sans the included games. Hopefully this will get it back up. Worse case you can jailbreak and install dospad (it's the JB version of iDOS).

More info: http://www.litchie.net/apps/dospad.html

Re: EMU71 in my pocket and on my pad.

*Message #7 Posted by **Massimo Gnerucci (Italy)** on 26 Oct 2010, 5:48 p.m.,*
in response to message #1 by Egan Ford

WOW!
Lode Runner... :-)

Re: EMU71 in my pocket and on my pad.

*Message #8 Posted by **Egan Ford** on 26 Oct 2010, 6:25 p.m.,*
in response to message #7 by Massimo Gnerucci (Italy)

I do not have Load Runner for DOS, so I ran an Apple II emulator on a DOS emulator to play Load Runner

on my iPad.

Re: EMU71 in my pocket and on my pad.

*Message #9 Posted by **PeterP** on 26 Oct 2010, 8:09 p.m.,*
in response to message #8 by Egan Ford

is there a way to email an app to a friend?...

Cheers

Peter

Re: EMU71 in my pocket and on my pad.

*Message #10 Posted by **Egan Ford** on 28 Oct 2010, 12:06 a.m.,*
in response to message #9 by PeterP

URL above.

Re: EMU71 in my pocket and on my pad.

*Message #11 Posted by **Raymond Del Tondo** on 26 Oct 2010, 10:02 p.m.,*
in response to message #8 by Egan Ford

Hi,

you could have something like Loderunner with less effort on your iP. On hpcalc.org , there are some Loderunner implementations for the HP-48, which will also work on the m48(+) for the iP.

Just for the curiosity, the 1st Loderunner imp. in the search result list is called "Android"...so you could tell your friends that you run Android on your iP;-)

Raymond

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Time Travel?

*Message #1 Posted by **Bruce Bergman** on 26 Oct 2010, 1:48 p.m.*

Okay, so I was pretty skeptical when I read this. As much as I love Science Fiction and have a particular fascination for time travel, I just don't believe it's possible (too many issues/conflicts). But this is just too weird; it kinda freaked me out. Watch the video at the bottom, especially when they slow it down. Make your own conclusion. Does she have a calculator in her pocket too? ;-)

Time Traveler using cell phone?

thanks,

Bruce

Re: Time Travel ? : it can be cured :-)

*Message #2 Posted by **Etienne Victoria** on 26 Oct 2010, 2:11 p.m.,*
in response to message #1 by Bruce Bergman

Diagnosed by my brother in law: Otitis media in the left ear.

The symptoms basically differ from the ones observed on people suffering from Phonus Portabilis, let alone the Calculator RePeNsis syndrom.

Etienne

Re: Time Travel?

*Message #3 Posted by **Steve Leibson** on 26 Oct 2010, 7:26 p.m.,*
in response to message #1 by Bruce Bergman

Yep, she left her TARDIS around the corner.

Am I the only one who thinks the clip looks awfully good for as old as it's supposed to be?

Re: Time Travel?

*Message #4 Posted by **Gerson W. Barbosa** on 26 Oct 2010, 9:45 p.m.,*
in response to message #1 by Bruce Bergman

> Quote:
>
> Does she have a calculator in her pocket too? ;-)

I'm not sure about her, but the guy depicted in the Mayan plate in the last page of the magazine below appears to be holding one in his left hand ;-)

http://www.hparchive.com/measure_magazine/HP-Measure-1975-09.pdf

Regards,

Gerson.

Re: Time Travel?

*Message #5 Posted by **Dave Shaffer (Arizona)** on 27 Oct 2010, 1:04 p.m.,*
in response to message #4 by Gerson W. Barbosa

He's even got a paper printout!

Re: Time Travel?

*Message #6 Posted by **Walter B** on 27 Oct 2010, 2:06 a.m.,*
in response to message #1 by Bruce Bergman

Strange position of her left hand, especially when she turns her head. Maybe she's got a headache? With or without a mobile headache generator ...

Re: Time Travel?

*Message #7 Posted by **John Nguyen** on 27 Oct 2010, 10:16 a.m.,*
in response to message #1 by Bruce Bergman

I reserve judgment until I see a picture of a cell phone tower in a subsequent Charlie Chaplin movie <grin>. By the way, who could this person be talking to?

Re: Time Travel?

*Message #8 Posted by **Martin Pinckney** on 27 Oct 2010, 11:27 a.m.,*
in response to message #7 by John Nguyen

So there would have to be a large contingent of time travelers - enough to build at least one tower, and to set up the computer system to route the calls - to at least one other cell phone user. {;-)

Re: Time Travel?

*Message #9 Posted by **M. Joury** on 27 Oct 2010, 12:30 p.m.,*
in response to message #8 by Martin Pinckney

She is actually using a tower in another temporal dimension that is physically but not temporally located near by. She is speaking to her control sometime in the future (both hers and ours). Not only can she time travel but her cell signal can too!

Seems completely obvious to me <g>.

Re: Time Travel?

*Message #10 Posted by **John Nguyen** on 28 Oct 2010, 9:32 a.m.,*
in response to message #9 by M. Joury

> Quote:
>
> So there would have to be a large contingent of time travelers...

That goes without saying.

> Quote:
>
> ...Not only can she time travel but her cell signal can too!
>
> Seems completely obvious to me <g>.

I wonder how many bars she is getting?

Re: Time Travel?

*Message #11 Posted by **Walter B** on 28 Oct 2010, 10:01 a.m.,*
in response to message #10 by John Nguyen

> Quote:
>
> I wonder how many bars she is getting?

Obviously four - one for each dimension d8-)

Re: Time Travel?

*Message #12 Posted by **Les Bell** on 28 Oct 2010, 6:34 p.m.,*
in response to message #11 by Walter B

> Quote:
>
> Obviously four - one for each dimension d8-)

Only four? You can communicate through time with two cans and a piece of string, as long as it's 11-dimensional string. ;)

Best,

--- Les
[http://www.lesbell.com.au]

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latest 12c firmware version

*Message #1 Posted by **Ryan** on 26 Oct 2010, 10:00 a.m.*

What's the latest firmware version for the 12c and what are the differences with 2008-6-28 version?

I have the same firmware as the version reviewed here: http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv019.cgi?read=150365

Thanks.

Edited: 26 Oct 2010, 10:13 a.m.

Re: latest 12c firmware version

*Message #2 Posted by **Katie Wasserman** on 26 Oct 2010, 10:16 a.m.,*
in response to message #1 by Ryan

See this thread.

Re: latest 12c firmware version

*Message #3 Posted by **Ryan** on 26 Oct 2010, 10:26 a.m.,*
in response to message #2 by Katie Wasserman

Ok, thanks!

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HP-65 makes All-TIME 100 Gadgets list.

*Message #1 Posted by **Alex L** on 25 Oct 2010, 3:24 p.m.*

HP-65 on All-TIME 100 Gadgets list.

Re: HP-65 makes All-TIME 100 Gadgets list.

*Message #2 Posted by **Walter B** on 25 Oct 2010, 4:23 p.m.,*
in response to message #1 by Alex L

Hmmh, zero votes? The TI SR10 got a lot more ...

Re: HP-65 makes All-TIME 100 Gadgets list.

*Message #3 Posted by **db (martinez, ca.)** on 25 Oct 2010, 9:42 p.m.,*
in response to message #2 by Walter B

The SR-10 has 61 votes by the last count.

wait.

Doesn't Joerg Woerner have 60 employees?

Re: HP-65 makes All-TIME 100 Gadgets list.

*Message #4 Posted by **Joerg Woerner** on 26 Oct 2010, 4:16 p.m.,*
in response to message #3 by db (martinez, ca.)

Dennis,

I have far less employees and all but one are in their 20s! They use their TI-89's and probably don't know about the SR-10.

One guy is in his 40s, he uses a HP 15C. Couldn't convince him to switch to a TI-30X Pro and retire his HP 15C (aka me selling it on e**y).

Cheers, Joerg

Re: HP-65 makes All-TIME 100 Gadgets list.

*Message #5 Posted by **DeboT** on 28 Oct 2010, 5:22 a.m.,*
in response to message #2 by Walter B

Of the SR-10 they say

> Quote:

> the SR-10 was the first handheld calculator capable of computing square roots and other basic slide-rule functions

I thought that honour went to the HP-35?

Re: HP-65 makes All-TIME 100 Gadgets list.

*Message #6 Posted by **Walter B** on 28 Oct 2010, 5:51 a.m.,*
in response to message #5 by DeboT

The HP-35 was the first to compute trigonometric and exponential functions.

Re: HP-65 makes All-TIME 100 Gadgets list.

*Message #7 Posted by **DeboT** on 28 Oct 2010, 12:24 p.m.,*
in response to message #6 by Walter B

Hmmm, I'm not quite sure what you're trying to say, the HP-35 can do everything the SR-10 can do and more. Are you saying that if calculator B can do a subset of calculator A functions, then by stating "**basic functions**" it is a "*first*"? IMHO the HP-35 falls in the "handheld" category and is "capable of computing square roots and other basic slide-rule functions". I personally think that the fact that it can do more is irrelevant, it still remains "the first handheld calculator capable of computing square roots and other basic slide-rule functions". (Finseth states July 1972 as HP-35 release and Datamath states November 1972 as SR-10 release).

Re: HP-65 makes All-TIME 100 Gadgets list.

*Message #8 Posted by **Walter B** on 28 Oct 2010, 1:27 p.m.,*
in response to message #7 by DeboT

You're right of course. I simply wasn't aware of the late release date of the SR-10 due to its antique look. So the text here in that gadget list is definitively wrong. Thanks for the information.

Re: HP-65 makes All-TIME 100 Gadgets list.

*Message #9 Posted by **Mark Harman** on 28 Oct 2010, 11:59 p.m.,*
in response to message #2 by Walter B

This is stupid. The worst part is that you can't even vote for the HP-65 since the vote function is "inconveniently" not working on its page. That is why there are zero votes. Also, that really sucks about the misinformation on the SR-10.

Mark

Re: HP-65 makes All-TIME 100 Gadgets list.

*Message #10 Posted by **bill platt** on 25 Oct 2010, 11:59 p.m.,*
in response to message #1 by Alex L

That list is so lame. Looks like it was written by someone who is A: enamored with electronics and B: born yesterday. Sorry, but half the stuff on that list sucked when they were new, and are totally forgotten. Real stuff is left out. Leatherman is included, by not the swiss army knife?

And the cameras? Where the hell is the Brownie? Too much digital $%#$$# in the list, in every category.

Most of those things I never bought, because they were clumsy emergent tech or dumb fads. Examples: electric toothbrush, pedometer, Apple Newton, electric razor (I had one and hated it. always cut your face up and left a rash). Sony Mavica. What a waste. Film was better and still is often better today! Bluetooth headset. What a stupid annoying Borg contraption that encourages a combination of public insanity and anti-social behavior.

Belong on the list: Handi talkie, pager, space pen, credit card (though technically not a gadget!, zippo, velcro, (where the hell is the zipper and the button then! Heck, where's the front-closure bra?) dirt devil, smoke detector, pacemaker, hearing aid, scratch the dirt devil--it ain't that great and I haven't bothered to go buy one.

Edited: 26 Oct 2010, 12:08 a.m.

Re: HP-65 makes All-TIME 100 Gadgets list.

*Message #11 Posted by **bill platt** on 26 Oct 2010, 12:08 a.m.,*
in response to message #10 by bill platt

And where the hell is the mousetrap? File under "health?"

Re: HP-65 makes All-TIME 100 Gadgets list.

*Message #12 Posted by **bill platt** on 26 Oct 2010, 12:10 a.m.,*
in response to message #11 by bill platt

And why is practically every Apple device on there, even the total crap failures? Looks like a shill...

Re: HP-65 makes All-TIME 100 Gadgets list.

*Message #13 Posted by **Thomas Radtke** on 26 Oct 2010, 7:09 a.m.,*
in response to message #12 by bill platt

... and there are two Kodak cameras but no AIBO. Funny.

Re: HP-65 makes All-TIME 100 Gadgets list.

*Message #14 Posted by **Martin Pinckney** on 26 Oct 2010, 9:19 a.m.,*
in response to message #13 by Thomas Radtke

Agree with the inclusion of Nikon F, even though it certainly wasn't a "first", it was the arguably the most influential of its type. The Kodak Instamatic certainly belongs on the list as the first of a whole new breed of "easy to use" cameras.

Glaringly missing is the original Leica, which started the whole 35mm thing, which continues to this day.

What the heck is AIBO?

Re: HP-65 makes All-TIME 100 Gadgets list.

*Message #15 Posted by **Walter B** on 26 Oct 2010, 11:22 a.m.,*
in response to message #14 by Martin Pinckney

FYI, Aibo is a robo-dog (not doc! ;) made in Japan some years ago.

There are a number of very arbitrary selections (e.g. no Nokia phone but lots of Motorola), of course, and several important gadgets missing completely like the transistor radio, the HP-35, LCD, the HP-41C, the MTB, Shimano's bicycle gearings, ...

Re: HP-65 makes All-TIME 100 Gadgets list.

*Message #16 Posted by **Egan Ford** on 26 Oct 2010, 12:40 p.m.,*
in response to message #15 by Walter B

> Quote:
>
> and several important gadgets missing completely

How about the microwave oven? My kid would probably starve to death without it. :-)

The first mass market electric refrigerator? Where's that?

Re: HP-65 makes All-TIME 100 Gadgets list.

*Message #17 Posted by **Martin Pinckney** on 26 Oct 2010, 1:18 p.m.,*
in response to message #16 by Egan Ford

> Quote:
>
> How about the microwave oven?

Serious omission.

> Quote:
>
> The first mass market electric refrigerator? Where's that?

You are right. I thought the date might exclude it, so I checked, While refrigerators were produced in tiny quantities prior, the Frigidaire came out in 1923, GE in 1927. The GE is probably the first truly mass-produced one. I have a 1935 ball-top model. I used it up until 1975, at which time it still worked. Been in storage since.

Come to think of it, it's been in storage almost as long as it was in use! I wonder if it still works now...

Re: HP-65 makes All-TIME 100 Gadgets list.

*Message #18 Posted by **Mike Morrow** on 26 Oct 2010, 10:31 p.m.,*
in response to message #15 by Walter B

But it DOES in fact include the transistor radio. The list contains the Regency TR-1, the first commercial transistor AM radio from 1954 ($50 in 1954, equivalent to about $400 today). It used four transistors, and TI was part developer.

The list is odd. One item on it is the Motorola HT-220 VHF-FM handie-talkie that was found everywhere 35 years ago. There's a short but surprisingly accurate reference to the US Army's WWII SCR-300 walkie-talkie and SCR-536 handie-talkie.

Re: HP-65 makes All-TIME 100 Gadgets list.

*Message #19 Posted by **Egan Ford** on 26 Oct 2010, 12:32 p.m.,*
in response to message #12 by bill platt

> Quote:
>
> And why is practically every Apple device on there, even the total crap failures? Looks like a shill...

I would have thought two of the most significant Apple products would have been the Apple II and the original Mac.

What I find missing is the Atari 2600.

Re: HP-65 makes All-TIME 100 Gadgets list.

*Message #20 Posted by **M. Joury** on 26 Oct 2010, 1:07 p.m.,*
in response to message #19 by Egan Ford

Yes. I expected to see, at the very least, the Apple II. The author must be really young or totally uninformed to have missed those.

Re: HP-65 makes All-TIME 100 Gadgets list.

*Message #21 Posted by **bill platt** on 26 Oct 2010, 1:23 p.m.,*
in response to message #19 by Egan Ford

Holy cow, you're right! They put all the new crap in and left our the truly revolutionary stuff.

I think the writer must be 16 years old...and not a student of technolgy history...

Re: HP-65 makes All-TIME 100 Gadgets list.

*Message #22 Posted by **Martin Pinckney** on 26 Oct 2010, 9:08 a.m.,*
in response to message #11 by bill platt

> Quote:
>
> And where the hell is the mousetrap?

"Where" it is is before 1923. 1897, to be exact.

Re: HP-65 makes All-TIME 100 Gadgets list.

*Message #23 Posted by **bill platt** on 26 Oct 2010, 1:23 p.m.,*
in response to message #22 by Martin Pinckney

Interesting! 1897!

Re: HP-65 makes All-TIME 100 Gadgets list.

*Message #24 Posted by **Martin Pinckney** on 26 Oct 2010, 3:35 p.m.,*
in response to message #23 by bill platt

Per WiccanPedia (as you once referred to it, Bill):

> Quote:
>
> The first spring-loaded mouse trap was invented by William C. Hooker of Abingdon Illinois, who received US patent 528671 for his design in 1894.[1][2] James Henry Atkinson, a British inventor who in 1897 invented a prototype called the "Little Nipper", probably had seen the Hooker trap in the shops or in advertisements and used it as the basis of his model.[3]

Re: HP-65 makes All-TIME 100 Gadgets list.

*Message #25 Posted by **db (martinez, ca.)** on 26 Oct 2010, 1:29 a.m.,*
in response to message #10 by bill platt

right on bill; And how about the p-38 can opener or the electric guitar? You can do rock n roll on an acoustic, but you can't have feedback. Gore Tex is no more generic than his credit card, and more likely to save your life. He included lithium-ion camera batteries but not the the Kodachrome film that captured the most iconic images from nearly the entire period the list refers to.

Mainly, i didn't like it that i don't even recognize about half of the useless gadgets on his list. One of us was on a different planet.

One thing that does belong there is the LED, especially Norm's RRRREEEEEDDDD ones.

Re: HP-65 makes All-TIME 100 Gadgets list.

*Message #26 Posted by **bill platt** on 26 Oct 2010, 1:24 p.m.,*
in response to message #25 by db (martinez, ca.)

...yes! I suppose they are--even if only parenthetically--part of the HP-65

Re: HP-65 makes All-TIME 100 Gadgets list.

*Message #27 Posted by **bill platt** on 26 Oct 2010, 1:31 p.m.,*
in response to message #25 by db (martinez, ca.)

Definitely electric guitar. Although the first might pre-date 1923 depending on how you measure it. Lloyd Loar built an electric viola while at Gibson...

Re: HP-65 makes All-TIME 100 Gadgets list.

*Message #28 Posted by **Mark Harman** on 26 Oct 2010, 9:48 p.m.,*
in response to message #27 by bill platt

The first electric guitar ever invented was the Rickenbacker A-22 "Frying Pan," in 1930. It was marketed, produced, and sold from 1932 to 1939.

Regards,

Mark

Edited: 26 Oct 2010, 9:50 p.m.

Re: HP-65 makes All-TIME 100 Gadgets list.

*Message #29 Posted by **Namir** on 26 Oct 2010, 6:33 a.m.,*
in response to message #1 by Alex L

The HP-35 and HP-65 calculators are in the Smithsonian museum. I saw them there about 10 years ago.

Namir

Re: HP-65 makes All-TIME 100 Gadgets list.

*Message #30 Posted by **Martin Pinckney** on 26 Oct 2010, 10:18 a.m.,*
in response to message #1 by Alex L

The title of the article is intended as a pun, capitalizing **TIME**, (referring to the magazine), but perhaps misleading some, while the subtitle clearly states *"the 100 greatest and most influential gadgets from 1923 to the present"*.

Re: HP-65 makes All-TIME 100 Gadgets list.

*Message #31 Posted by **Palmer O. Hanson, Jr.** on 26 Oct 2010, 10:38 p.m.,*
in response to message #1 by Alex L

As I was reading the list I thought that there were far too many electronic widgets on the list; however, then I saw that my beloved Model 100 was listed and I reconsidered!

Some that aren't on the list but should be in my estimation are

1. The chainsaw, and in particular the gasoline powered chainsaw, which were invented in the mid 1920s, just in time to fit in the list. The devices changed the way logging and woodcutting for firewood were done.

2. The endoscope because its use found cancer in my ascending and transverse colon before it had spread beyond the colon and saved my life.

3. The electric typewriter and in particular the IBM Selectric.

4. The variable speed windshield wiper and washer.

Edited: 26 Oct 2010, 10:42 p.m.

Re: HP-65 makes All-TIME 100 Gadgets list.

*Message #32 Posted by **Bill Wiese** on 27 Oct 2010, 3:00 a.m.,*
in response to message #1 by Alex L

I'm proud to see our product on the list, the Flip video camcorder.

Nice to be in good company :)

When I was a kid (already a calculator nut in grade school - I'd play with the HPs & TIs on the display stands in dept store, got an APF scientific in 6th grade, TI30 in 7th, TI58 in 8th and HP41C as senior in HS), I figured I might end up designing calculators - a grade schooler didn't really know how Moore's law would progress and that many such devices would be sold for pocket change today.

Still I ended up doing a 'pocketable' electronic product so I didn't land too far off my goal :)

Bill Wiese San Jose CA

Re: HP-65 makes All-TIME 100 Gadgets list.

*Message #33 Posted by **Jim L (OHIO)** on 27 Oct 2010, 10:31 a.m.,*
in response to message #1 by Alex L

Not sure if these would crack the top 100, but it was fun to be reminded of them:

Heathkit assemble it yourself TV: Sure TVs around for years before, but I'll bet most people didn't have the courage to spend that kind of money for something they couldn't guarantee would work when completed. BTW, if it were considered a gadget, the Sears build it yourself house from their catalog would fall in this same category.

Franklin REX: Maybe an "ahead of its time" candidate instead. To have all that power--similar to a Palm Pilot--in the PCMCIA form factor, was great. I used mine everyday until they couldn't run on newer operationing systems.

And, why is TiVo on the list but not the original consumer videocassette recorder instead? That's what really changed consumer behavior--timeshifting of TV watching. TiVo is just the digital implementation of the same idea.

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HP10C enulation

*Message #1 Posted by **PeterP** on 25 Oct 2010, 1:19 p.m.*

not sure but I think in the past there was a thread here about the need for the Voyager HP10C to get some info for an emulator of it. I just went through some stuff over the weekend and it turns out I have 3 of them so whoever was looking for a 10c with regards to the emulation, please contact me, I'd be happy to lend one of the units or something.

Cheers

Peter

Re: HP10C enulation

*Message #2 Posted by **Namir** on 25 Oct 2010, 1:55 p.m.,*
in response to message #1 by PeterP

RLM Tools has an HP-10C emulator (along with emulators for the 11C, 12C, and 15C).

Check here.

Namir

Edited: 25 Oct 2010, 7:09 p.m.

Re: HP10C enulation

*Message #3 Posted by **uhmgawa** on 25 Oct 2010, 10:15 p.m.,*
in response to message #2 by Namir

> Quote:
>
> RLM Tools has an HP-10C emulator (along with emulators for the 11C, 12C, and 15C).
>
> Check here.

I believe that isn't an emulator running original voyager nut code but rather a functional rewrite. Pretty close simulation compared to others I've seen though.

Re: HP10C emulation

*Message #4 Posted by **Martin Pinckney** on 25 Oct 2010, 2:38 p.m.,*
in response to message #1 by PeterP

Or there's a beat-up one for sale on eB** by Cobur*** for only 389 U$D.

Re: HP10C emulation

*Message #5 Posted by **Ángel Martin** on 25 Oct 2010, 3:40 p.m.,*
in response to message #4 by Martin Pinckney

bargains again!!!

Re: HP10C emulation

*Message #6 Posted by **PeterP** on 25 Oct 2010, 6:40 p.m.,*
in response to message #5 by Ángel Martin

cool, no worries, just wanted to let the community know but most likely my memory tricked me anyway...

Cheers

Peter

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HP-41CX

*Message #1 Posted by **Captainsimos** on 25 Oct 2010, 10:06 a.m.*

I am new here so please be patient. I purchased a HP-41CX that doesn't work. The battery terminals are corroded and that is probably the problem. I also have a 82059D charger that is suppose to be for this unit, but I can't figure out where it plugs in. There is an opening on the right side, but no prongs. Am I missing something. Thanks for any help and a great site.

Re: HP-41CX

*Message #2 Posted by **David Hayden** on 25 Oct 2010, 10:15 a.m.,*
in response to message #1 by Captainsimos

There was a rechargable battery pack available. The prongs for the pack lined up with the hole that you see. Without the rechargable pack, you'll need to clear the contacts and get some N sized batteries.

Re: HP-41CX

*Message #3 Posted by **Captainsimos** on 25 Oct 2010, 10:31 a.m.,*
in response to message #2 by David Hayden

Thanks for the information. I tried cleaning the contacts and installing new batteries, but nothing.

Re: HP-41CX

*Message #4 Posted by **db (martinez, ca.)** on 25 Oct 2010, 11:24 a.m.,*
in response to message #3 by Captainsimos

Three free things to try:
Make sure that you have the batteries facing correctly.
Try squeezing the front and back of the case together in various places while pushing the on switch. Having two left thumbs helps here.
Some switches prefer to be stroked while riding a bit toward the screen or away from it. Don't use a lot of force doing this, just try a few differing motions.

If those don't work, clean your contacts again and see if you have any places where you see missing copper so it is just bare plastic. There are metallic paints available at places like radio shack. This will be a tiny can with a tinier brush of metal fines (mine is nickel) that you can apply to the areas of your battery contacts that have flaked off. If this fixes it, remember that this is only a temporary fix and you will need to repaint it each time you change batteries. The corrosion could have also gone up where you can't see it and have destroyed the fine traces higher in the ribbon. A man in the Canary Islands has made replacement batt contact/ROM contact assemblies. You can buy one of these and it is an easy job to put one in, but that comes later.

There are about 15 or so more things to try, but with your unit's problems you might start with these.

Re: HP-41CX

*Message #5 Posted by **Håkan Thörngren** on 25 Oct 2010, 2:58 p.m.,*
in response to message #2 by David Hayden

Make sure to get 1.5V N size batteries, not 12V which will fry your HP-41.

Re: HP-41CX

*Message #6 Posted by **Martin Pinckney** on 25 Oct 2010, 4:15 p.m.,*
in response to message #5 by Håkan Thörngren

All N's are 1.5v. It is the 12v A23 to avoid, which is almost the same dimensions.

Re: HP-41CX

*Message #7 Posted by **Garth Wilson** on 25 Oct 2010, 1:59 p.m.,*
in response to message #1 by Captainsimos

fixthatcalc.com seems to have an outstanding reputation for fixing these.

I wouldn't worry about rechargeable batteries unless you're making heavy use of the optical wand or the card reader. Without those, a set of alkaline batteries will last a couple of years.

Re: HP-41CX

*Message #8 Posted by **John Robinson** on 26 Oct 2010, 7:31 a.m.,*
in response to message #1 by Captainsimos

Is it a fullnut or halfnut ?

Cheers, John

Edited: 26 Oct 2010, 7:32 a.m.

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HP-35 chip images and schematics

*Message #1 Posted by **Peter Monta** on 24 Oct 2010, 7:44 p.m.*

After seeing the nice work from the Visual 6502 people (http://visual6502.org/) and the 4004 project (http://www.4004.com/), I thought it would be interesting to do something similar for the HP-35 chips. While emulators at the instruction-set level work fine, simulating the original implementation at the transistor level has a number of advantages:

- makes no assumptions about the microarchitecture---guaranteed to be bit-exact to the hardware

- can be used for cross-testing against other emulators and against the hardware

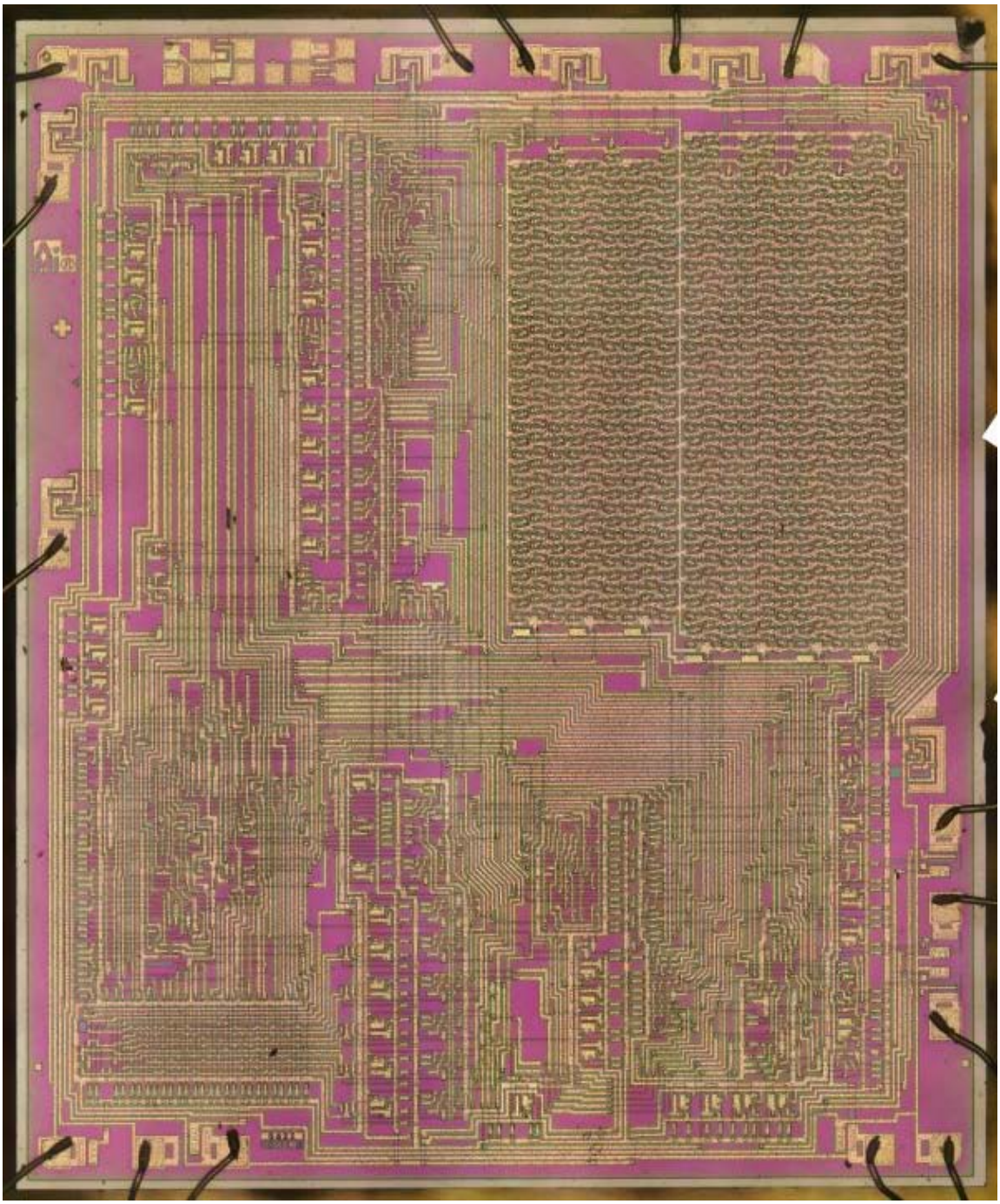
- provides complete, unambiguous documentation of the original implementation

- the derived masks can be used to make new chips

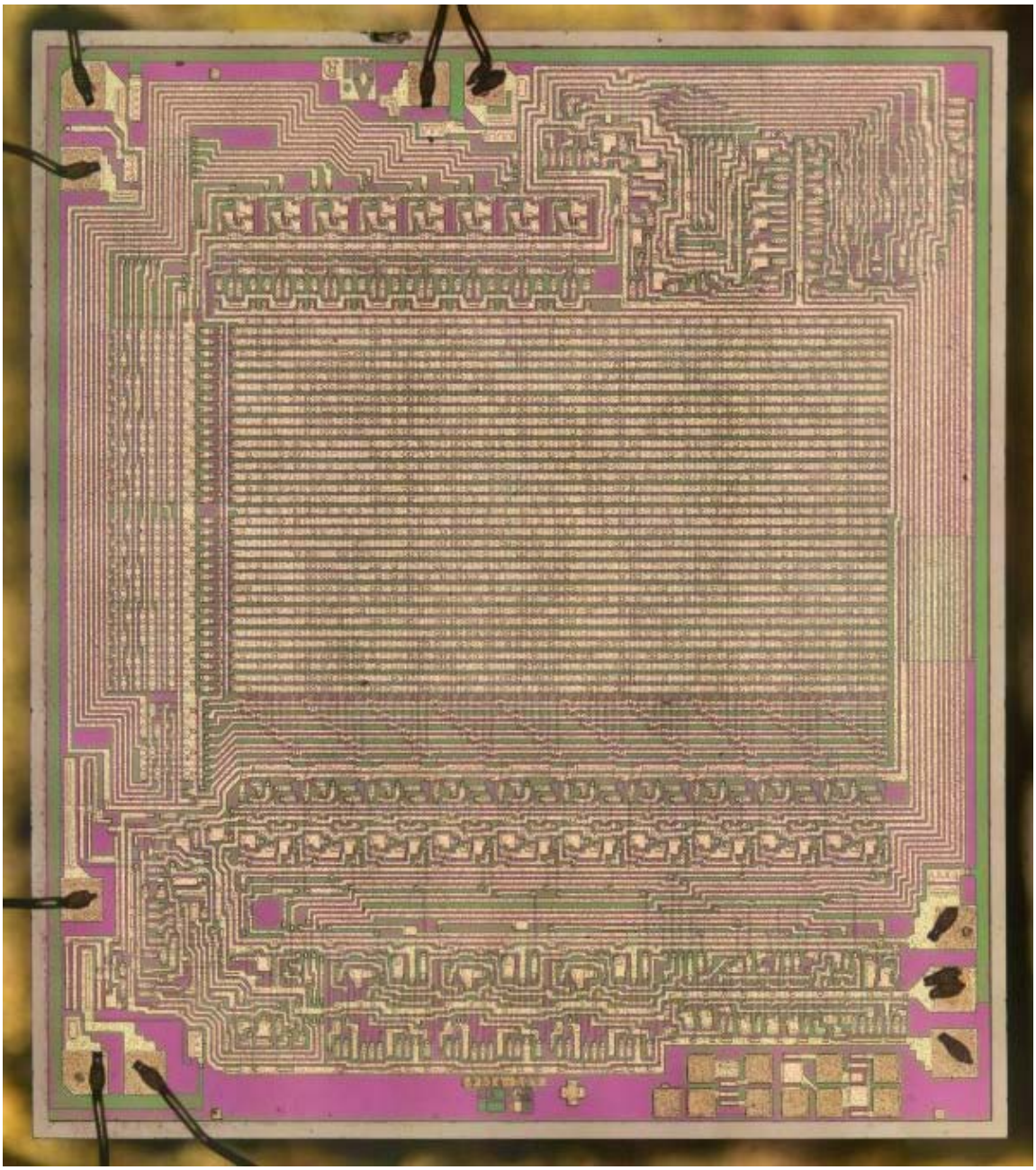
- the circuits can be automatically translated to switch-level HDL and run on FPGAs

So far I've got images of two chips (the A&R chip and one of the ROMs) and a schematic of one stage of the ROM address shift register. This is only a tiny part of the required work, but I thought I'd at least get the images out there so that anyone else who's interested can extract transistor netlists for other parts of the chips. Thumbnails of the chip images, an annotated closeup of the shift-register circuit, and the corresponding schematic are shown below.

A&R chip (AMI 1820-0848):

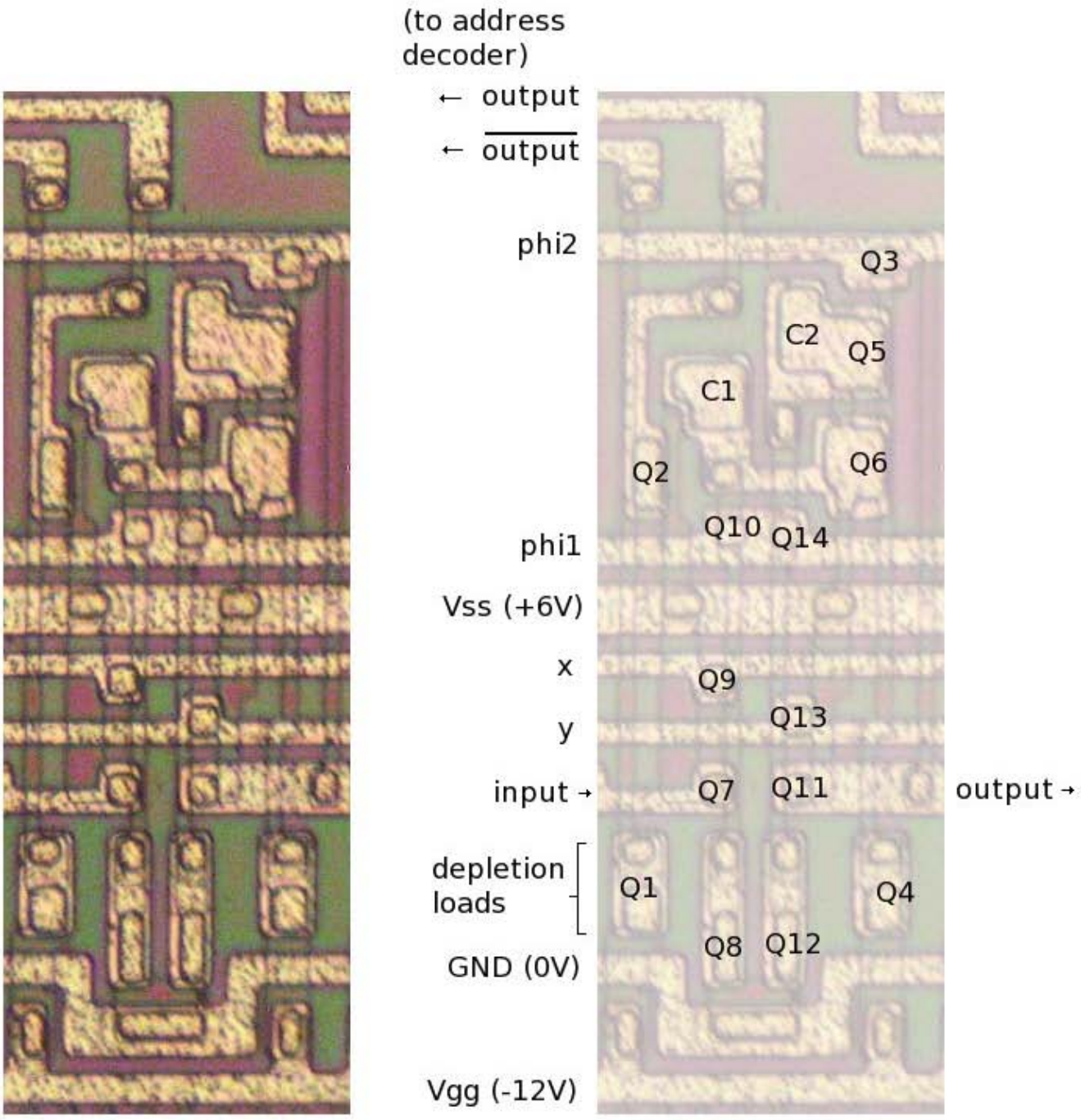


ROM chip (AMI 1818-0006):

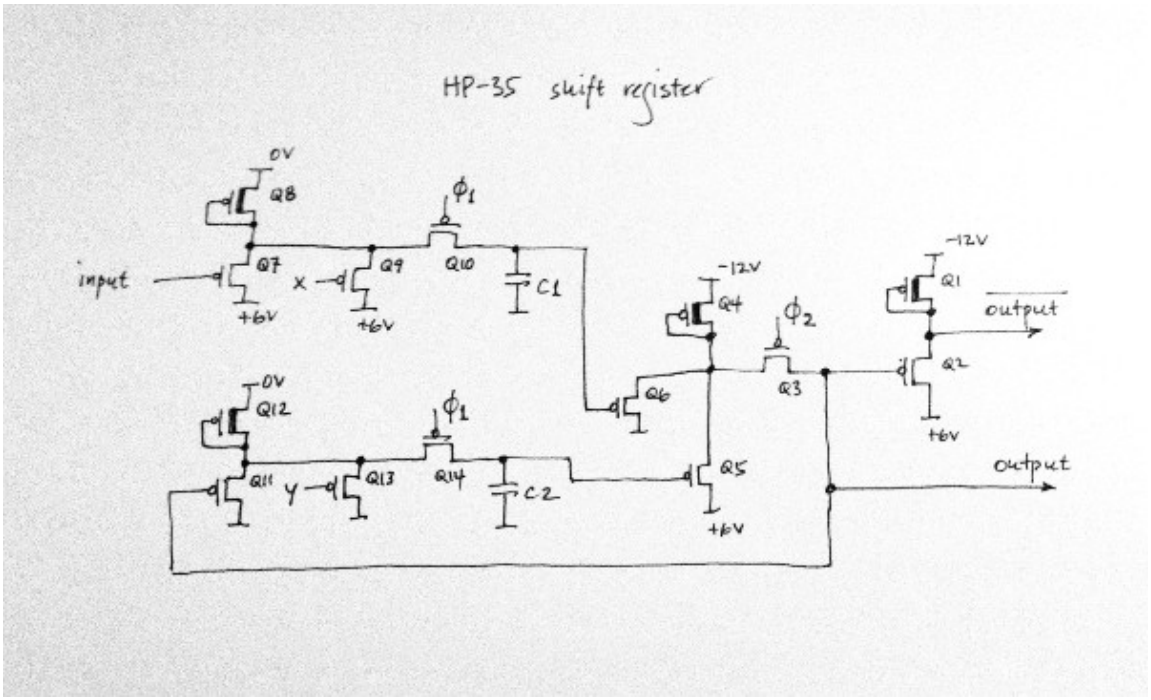


ROM shift register closeup:

HP-35 ROM address shift register



Schematic of the chip fragment above:



The full, high-resolution images can be found here:

http://pmonta.com/calculators/hp-35/chips/

My uplink is a DSL line, so it may be slow.

For the imaging workflow, very modest equipment was used (which was part of the fun): a $160 beginner's microscope with a generic 10x achromat objective, a hacked-up epi illuminator, an afocally-coupled Canon point-and-shoot camera running the free CHDK firmware, and hugin for image processing.

The images have some places where the focus is less than perfect. I hope to fix that in future by taking a focus series at each subimage ("focus stacking") before assembling the panorama.

Re: HP-35 chip images and schematics

*Message #2 Posted by **bill platt** on 24 Oct 2010, 8:44 p.m.,*
in response to message #1 by Peter Monta

I learn all sorts of fantastic esoterica around here.

This one is almost postmodern art, title, "Brain Scan."

Re: HP-35 chip images and schematics

*Message #3 Posted by **sylvandb** on 24 Oct 2010, 10:38 p.m.,*
in response to message #1 by Peter Monta

> Quote:
>
> So far I've got images of two chips (the A&R chip and one of the ROMs)
>
> The full, high-resolution images can be found here:

Wow! Thanks! That is cool.

Here is a mirror (also on a dsl 1Mbit line).

sdb

Edited: 27 Oct 2010, 11:53 p.m.

Re: HP-35 chip images and schematics

*Message #4 Posted by **Ed Spittles** on 6 Nov 2010, 5:48 p.m.,*
in response to message #1 by Peter Monta

Hi Peter, everyone,

nice pictures! It might be worth trying to capture the layout using the degate software: http://www.degate.org/status.html - it's actively developed so you may well want to work with the author.

As you may know, Greg James deprocessed the 6502 for visual6502 and photographed the substrate separately. So it was probably easier for him to extract the buried contacts and identify the depletion implants than it will be for you. But your pictures look very clear to me so I think you have a good chance. Although it's PMOS not NMOS, the circuit style looks comparable.

In the event, I believe automatic vectorisation wasn't up to the task for the 6502.

Let me know if you need any help with the simulator: I've become moderately familiar with the javascript - it's not big or complex, just needs some data to describe the chip. It's MIT-licensed and it's on github.

(I became involved with visual6502 at a late stage, but am spending a lot of time on it, mostly tweaking the interface, and of course studying the chip.)

(My connection with HP calculators is limited to being very impressed by an HP-16c I had briefly at work many years ago. Also had a quick play with a 15c around the same time. And at one time a colleague had a 28 which I admired from afar.)

Cheers Ed

Re: HP-35 chip images and schematics

*Message #5 Posted by **Peter Monta** on 7 Nov 2010, 10:39 p.m.,*
in response to message #4 by Ed Spittles

Yes, I've had a look at degate. It seems like a good solution for standard-cell chips, but unfortunately there doesn't seem to be a way to extract low-level things like transistors (but I could have missed this, since I ran it for only a few minutes to get the general feel). Degate looks very good for wiring though.

So instead I've been rolling my own small tools starting from raster images. Gimp, the image editor, is convenient for editing multilayer rasters (Photoshop would probably be fine too). The original chip photo serves as background, and then I sketch in the metal, diffusion, gate, contact, etc. layers by hand as semi-opaque regions with the image underneath as a reference. Once each layer bitmap is exported to a separate file (using a Gimp script), an extractor tool extracts a netlist, then crunches on the netlist to extract transistors, gates, latches, and finally exports a Verilog netlist.

I considered using a layout editor like Magic to help with extraction, but it was just too tough to teach it about silicon-gate PMOS and deal with the geometry file-format issues.

> Quote:
>
> So it was probably easier for him to extract the buried contacts and identify the depletion implants than it will be for you.

Yes, correctly inferring all the layers from just one image is a problem. I'd prefer not to etch or mechanically delayer the chip if at all possible, and while the unetched images seem like they have a full view of everything for this technology, there are some small areas where ambiguity is possible. The layout is quite idiosyncratic in places, too: isolated areas of metal, gates with no diffusion, etc. Some areas are visibly hacked up to remove design-rule violations. Clearly a hand-drawn design.

The HP-35 ROM I'm using as a test case is silicon-gate PMOS with depletion loads. You mention identifying depletion implants: I can't see any way to do this for this chip except by context (looking for transistors with gate connected to source). There is no sign of an implant mask under the microscope, even with a 100x high-dry objective I recently got on eBay. Fortunately there are no buried contacts, since there is no poly, but even so it's sometimes tough to distinguish a contact from a gate.

Automatic vectorization is a worthy goal, but the high image quality needed for reliability is beyond my setup, I think, especially with the uncertainty and curve-balls of full custom.

> Quote:
>
> Although it's PMOS not NMOS, the circuit style looks comparable.

Fortunately the circuit style is conservative: two-phase latches and NOR gates only. (So far.)

> Quote:
>
> Let me know if you need any help with the simulator

The visual simulators are cool, but I think I'll stick with verilog for the moment. Since I'm extracting gates and latches I can live with iverilog, but if there were structures that required switch-level simulation I'd have to look at something like IRSIM or another (commercial?) Verilog simulator: iverilog, which is otherwise very good, doesn't support trireg, so the two-phase latches don't work. The latches on this chip are always phi1-inverter-phi2, so I export that whole chunk as a Verilog flip-flop.

I'll certainly keep an eye on visual6502 and the 4004 people---are there any other projects of this general type? It would be nice to have a forum for tools and data; maybe visual6502 will turn into that sort of resource, though last I checked they haven't released their low-level data yet. The existing Web resources on reverse engineering are mostly devoted to failure analysis, understandably enough, and not to recovering and running entire designs of historical interest in totally obsolete IC processes. (Step 3: profit!)

Cheers, Peter

Re: HP-35 chip images and schematics

*Message #6 Posted by **Ed Spittles** on 8 Nov 2010, 9:29 a.m.,*
in response to message #5 by Peter Monta

Hi Peter I'm not aware of active reverse-engineering forums but I'm sure there are small groups here and there.

I hadn't noticed the simple nature of this process: no poly, no self-aligned gates. Only metal and diffusion for connectivity. Wow. For anyone not familiar, there's a process cross-section on this page: http://www.david-brenner.net/2009/12/a-year-of-projects/ (see also http://www.google.co.uk/images?q=RIT+Metal+Gate+PMOS+process)

I've now tried degate, and indeed it seems to be aimed at capturing inter-cell connectivity, and only some abstraction of the cells themselves. For the 6502, a lot of the logic is free-form with not a cell in sight. I'm not sure if it's worth capturing the wiring if for some extra effort one could capture the geometry (and then

extract the wiring.) The effort might be double, but that would be OK.

In passing, although visual6502 is on the face of it a visual simulator, note that there's a more conventional textual mode on a sub-page, and also that the simulation is switch-level and handles bidirectional pass gates, shared busses, and charge storage. I suppose IRSIM does too, but I'm not sure about verilog.

I think visual6502 will release more data and tools in due course.

As for the difficulty of getting accurate extracted data, Greg's approach was to simulate what he had as he progressed: if the simulation works that's a positive sign (although not a proof.)

Cheers Ed

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One year 'anniversary' of VA's most-recent post

*Message #1 Posted by **Karl Schneider** on 24 Oct 2010, 4:23 p.m.*

HP Forum readers --

Just thought I'd note that Valentin Albillo's most-recent post to this Forum was one year ago yesterday -- as it happened, just a short friendly comment to a reasonably plain post of mine:

Gelfond's Constant, e^{pi}

I think most of us would agree that few, if anyone, have contributed more discussion of substance to the group over the years. It should be acknowledged.

-- KS

Edited: 24 Oct 2010, 4:24 p.m.

Re: One year 'anniversary' of VA's most-recent post

*Message #2 Posted by **bill platt** on 24 Oct 2010, 5:25 p.m.,*
in response to message #1 by Karl Schneider

I have been wondering about him, too.

Re: One year 'anniversary' of VA's most-recent post

*Message #3 Posted by **Fernando del Rey** on 24 Oct 2010, 5:52 p.m.,*
in response to message #1 by Karl Schneider

I may be seeing Valentin this next.

I know he's been very busy at work, and in the last year he seems to have lost all interest in HP calcs. But other than that, I believe he's just fine.

I'll report after seeing Valentin.

Re: One year 'anniversary' of VA's most-recent post

*Message #4 Posted by **PeterP** on 24 Oct 2010, 11:55 p.m.,*
in response to message #3 by Fernando del Rey

Please send him my regards, i owe him many hours of pleasure and learning new things,

Cheers

Peter

Re: One year 'anniversary' of VA's most-recent post

*Message #5 Posted by **Walter B** on 25 Oct 2010, 2:23 a.m.,*
in response to message #4 by PeterP

So do I. Best regards to Valentin!

Walter

I have emailed him several times over the past year...

*Message #6 Posted by **gene wright** on 25 Oct 2010, 9:31 a.m.,*
in response to message #5 by Walter B

to no avail!

Valentin, come back! :-)

Do pass along all of our best wishes.

Re: One year 'anniversary' of VA's most-recent post

*Message #7 Posted by **Gerson W. Barbosa** on 25 Oct 2010, 12:20 p.m.,*
in response to message #1 by Karl Schneider

Hello Karl,

> Quote:
>
> I think most of us would agree that few, if anyone, have contributed more discussion of substance to the group over the years. It should be acknowledged.

I second you on that!

Valentín is quite missed here, not only here but wherever he used to contribute his interesting articles, I think. I hope he is doing well.

> Quote:
>
> Gelfond's Constant, e^{pi}

I really appreciate that Valentín, a master at posing well thought out challenges, then took the time to respond to that my simple mini-challenge.

Best regards,

Gerson.

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a > $600 module

*Message #1 Posted by **Gonzalo Fernandez** on 24 Oct 2010, 12:53 p.m.*

See http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=150507980245 Is not wonderful?

Re: a > $600 module

*Message #2 Posted by **Mike (Stgt)** on 25 Oct 2010, 10:17 a.m.,*
in response to message #1 by Gonzalo Fernandez

Well, that's about 7.5 HP-IL cables. Seen that way it seems ok. <VBG>

Ciao.....Mike

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MoHPC *The Museum of HP Calculators*

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Contribution: User interface for the ASTRO2010 module

*Message #1 Posted by **Geir Isene** on 23 Oct 2010, 2:29 p.m.*

Celebrating the really great ASTRO 2010 module by Jean-Marc Baillard, I decided to group the most useful programs for an amateur astronomer and create the easiest possible user interface; A program I simply called "ASTRO"

While the ASTRO2010 module is a stroke of genius, it is lacking a simple user interface. Without my ASTRO user interface program you would have to rely on the user manual or have an elephant's memory. This ASTRO program delivers to the user a menu driven easy-to-use interface bringing the top amateur astronomy programs into one complete program.

ASTRO also fixes one bug or discrepancy in the ASTRO2010 module; the "MST" program does not accept a Date in the YYYY.MMDD format as indicated by the manual, but rather in the usual DD.MMYYYY or MM.DDYYYY format (depending on the setting you use). With the ASTRO interface, your usual date format is used throughout.

More at the ASTRO page on my website.

While this is a birthday present from me to me, I hope it also helps someone else out there.

Re: Contribution: User interface for the ASTRO2010 module

*Message #2 Posted by **JMBaillard** on 23 Oct 2010, 5:36 p.m.,*
in response to message #1 by Geir Isene

Hello Geir

Thank you for you interest for the ASTRO2010 module.
Your "ASTRO" program makes it much more user-friendly.
However, I've just tested again "MST"
and it works well with a date yyyy.mmdd in Y-register
and the time hh.mnss in X-register.

Best wishes
Jean-Marc.

Re: Contribution: User interface for the ASTRO2010 module

*Message #3 Posted by **Geir Isene** on 23 Oct 2010, 6:04 p.m.,*
in response to message #2 by JMBaillard

Ah, sorry for that one - I had another MST residing in HEPAX memory. Will correct.

Edited: 23 Oct 2010, 6:13 p.m.

Re: Contribution: User interface for the ASTRO2010 module

*Message #4 Posted by **Geir Isene** on 23 Oct 2010, 6:25 p.m.,*
in response to message #3 by Geir Isene

Corrected - both on the ASTRO page and in the program listing.

Any testing and reporting back on the results would be highly appreciated.

Re: Contribution: User interface for the ASTRO2010 module

*Message #5 Posted by **Angel Martin** on 24 Oct 2010, 4:32 a.m.,*
in response to message #4 by Geir Isene

Perhaps the most convenient thing to do would be adding Geir's add-on to a new 4k page, to be used with the "original" .

Makes sense?

Re: Contribution: User interface for the ASTRO2010 module

*Message #6 Posted by **Geir Isene** on 24 Oct 2010, 6:59 a.m.,*
in response to message #5 by Angel Martin

Sure. But there is a lot to filling up to do to get a full 4K. Any suggestions?

I know Arne Helme has a nice Field-of-View program that is valuable when switching between various oculars. Arne, could you post your program here for inclusion?

Re: Contribution: User interface for the ASTRO2010 module

*Message #7 Posted by **Angel Martin** on 25 Oct 2010, 2:36 a.m.,*
in response to message #6 by Geir Isene

Not a bad idea. If you send me RAW files it'll be a breeze to compile the page in ROM format.

PS. Your U/I program is already done, will send you the ROM via email

Edited: 25 Oct 2010, 8:14 a.m.

Re: Contribution: User interface for the ASTRO2010 module

*Message #8 Posted by **Karl Schneider** on 23 Oct 2010, 5:46 p.m.,*
in response to message #1 by Geir Isene

Geir --

This looks to be a worthy effort on your part. Of course, the ASTRO2010 ROM is needed. I'm unsure of the ROM's by you, Jean-Marc Baillard, Angel Martin, Diego Diaz, and others at "TOS" are available as plug-ins.

I hope that you noticed my post from yesterday, including a complete and slightly-improved source listing of your enhanced version of Tom Sherman's navigation program.

-- KS

Edited: 23 Oct 2010, 5:47 p.m.

Re: Contribution: User interface for the ASTRO2010 module

*Message #9 Posted by **Geir Isene** on 23 Oct 2010, 6:13 p.m.,*
in response to message #8 by Karl Schneider

The modules are for use with NoVs or the MLDL or the original HEPAX or EPROMS...

Re: Contribution: User interface for the ASTRO2010 module

*Message #10 Posted by **Ángel Martin** on 25 Oct 2010, 10:21 a.m.,*
in response to message #8 by Karl Schneider

I have just compiled a ROM file with this ASTRO U/I add-on, also including the SKY progtram as per the other thread. Anyone interested in testing it drop me a line w/ the email address.

Re: Contribution: User interface for the ASTRO2010 module

*Message #11 Posted by **Karl Schneider** on 25 Oct 2010, 11:57 p.m.,*
in response to message #10 by Ángel Martin

Ángel --

(I finally learned how to enter your name properly, using the HP Forum edit screen: +0193 while holding down "Alt", just as in TextPad.)

A microcoded version of "SKY" sounds useful -- provided that the Nav Pac routines, which do most of the work, are handled similarly. It would be nice not to have to wait several minutes for answers.

Unfortunately, I lack the setup to test your product.

-- KS

Re: Contribution: User interface for the ASTRO2010 module

*Message #12 Posted by **Ángel Martin** on 26 Oct 2010, 1:37 a.m.,*
in response to message #11 by Karl Schneider

Greetings Karl,

I appreciate your writing of the tilde character Á, sorry it was that involved (nothing like having a sample around for a copy-paste action :-)

It's not an MCODE version but the same SKY program what is in the new module, in user code glory (or FOCAL). The required setup is reduced to a windows-based PC capable of running V41, nothing more.

The execution speed goes much faster than a real MCODE program using the turbo mode of V41, pressing the TAB key - nothings beats that speed.

Cheers, ÁM

Edited: 26 Oct 2010, 4:49 a.m.

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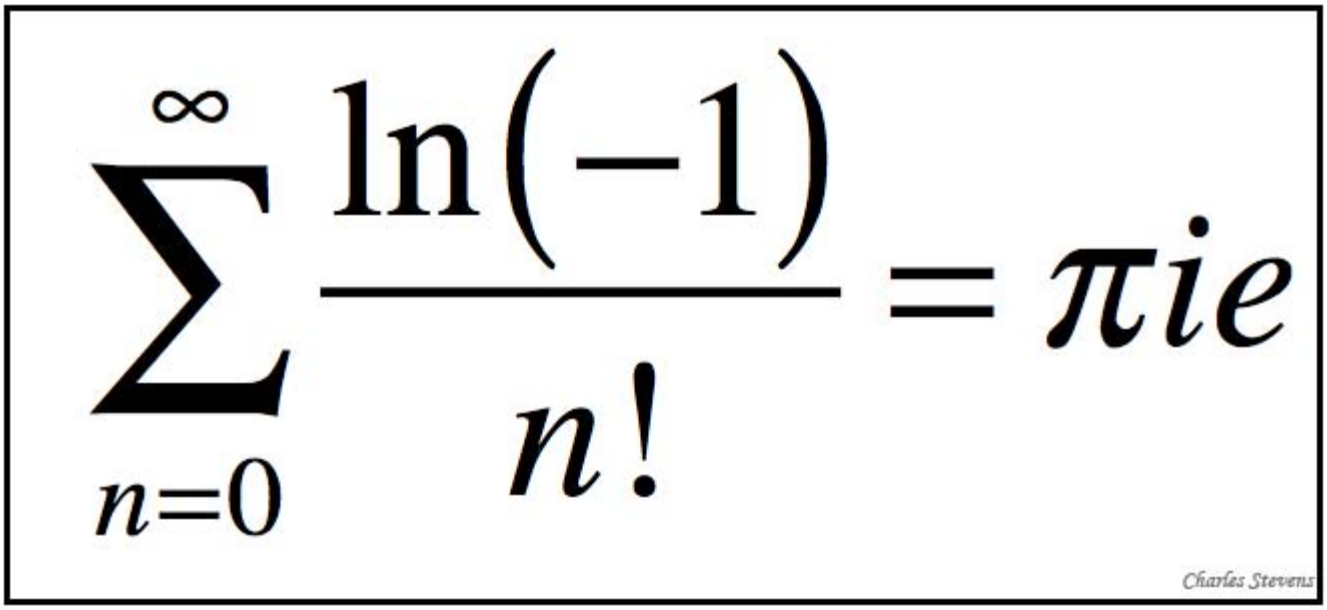
Pie Recipe

*Message #1 Posted by **Chuck** on 23 Oct 2010, 12:39 p.m.*

Since its getting close to Halloween and Thanksgiving for a few countries, I thought I'd share my recipe for "pie a la Euler".

Enjoy.

CHUCK



Re: Pie Recipe

*Message #2 Posted by **Gerson W. Barbosa** on 23 Oct 2010, 1:59 p.m.,*
in response to message #1 by Chuck

Very nice! Infinity, zero, -1, pi, e and i, all in one expression.

To taste a bit of the real flavor on the HP-48/49/50g, this should be enough:

```
'1/(1*e)*SIGMA(n=0,14,LN(-1)/n!)' EVAL
```

Gerson.

Edited: 23 Oct 2010, 6:26 p.m.

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HP 35s. FIX affects precision

*Message #1 Posted by **Pablo P (Spain)** on 22 Oct 2010, 4:03 p.m.*

Hi all, by accident I have found that FIX mode affects the precision in some calculations.

FIX mode is used to control the number of decimal digits used in the display of numbers. Only to display them. But consider the next:

Insert this function in the equation list: EXP(-SQ(U)/2)/SQRT(2*pi)

Set FIX to 3 and integrate the function between -5 and 2.88 You will get 0.997993696055

Set FIX to 5 and integrate the function between -5 and 2.88. You will get 0.99801133646

Similar results, but not identical. Should this be added to the infamous bug list? I don`t know if I am missing something...

Edited: 22 Oct 2010, 4:36 p.m.

Re: HP 35s. FIX affects precision

*Message #2 Posted by **Bart (UK)** on 22 Oct 2010, 4:42 p.m.,*
in response to message #1 by Pablo P (Spain)

Hi Pablo,

This is not actually a bug, but a feature. For more difficult or long integrations, you can specify a lower number of significant digits which will increase the speed of the integration at the cost of accuracy. See page 8-6 of the manual for more information.

Cheers,
Bart

Re: HP 35s. FIX affects precision

*Message #3 Posted by **Pablo P (Spain)** on 22 Oct 2010, 5:04 p.m.,*
in response to message #2 by Bart (UK)

Thanks Bart, I missed this feature. The manual explains it perfectly.

Re: HP 35s. FIX affects precision

*Message #4 Posted by **Dieter** on 22 Oct 2010, 5:11 p.m.,*
in response to message #1 by Pablo P (Spain)

No, this is not a bug but a (quite useful) feature of the HP35s an other calculators with the HP Integrate. It was already implemented in the good old 34C, the first model with this function.

The idea behind this: you set the desired accuracy (by setting the display format) and the calculator provides a result based on that setting. This way you can choose between better precision and faster execution. In Fix 3 the 35s assumes the function it's integrating is given with three valid decimals. In Sci 5 it assumes six *significant* digits. So, settings like "Fix 9" or even "ALL" will provide a very accurate result, but the 35s may be busy for a few minutes, while Fix 4 returns a result with adequate accuracy within reasonable time.

Of course, all this is documented in the handbook (page 8-2). You will also find a (quite conservative) estimate for the uncertainty of the result in the Y-register.

Dieter

Re: HP 35s. FIX affects precision

*Message #5 Posted by **Karl Schneider** on 22 Oct 2010, 11:48 p.m.,*
in response to message #4 by Dieter

Dieter --

Very good explanation. I'd add that FIX/SCI/ENG as integration-accuracy settings on the HP-35s, HP-33s, and HP-48/49/50 series don't have the same meaning as those on the HP-34C through the HP-32SII. An archived thread:

HP-33S estimated error of integration

A thorough explanation:

HP SOLVE/INTEG on all RPN-based models

-- KS

Edited: 22 Oct 2010, 11:49 p.m.

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Short Quadratic Solver (HP-42S)

*Message #1 Posted by **Gerson W. Barbosa** on 21 Oct 2010, 10:20 a.m.*

Here is a 42S-specific quadratic solver. It is 28-byte long, uses only the stack and preserves the original stack register X. I have also a 27-byte version, but it requires one extra step.

```
QUADRATIC SOLVER - HP-42S

                                X                          Y                 Z          T
L
00 { 28-Byte Prgm }
01 LBL "Q"                      c                          b                 a          T
L
02 RCL/ ST Z                   c/a                         b                 a          T
c
03 X<> ST Z                     a                          b                c/a         T
c
04 ST0+ ST X                   2a                          b                c/a         T
c
05 /                          b/(2a)                      c/a                T          T
2a
06 +/-                       -b/(2a)                      c/a                T          T
2a
07 STO ST Z                  -b/(2a)                      c/a             -b/(2a)       T
2a
08 x^2                     b^2/(4a^2)                     c/a             -b/(2a)       T
-b/(2a)
09 X<>Y                        c/a                    b^2/(4a^2)          -b/(2a)       T
-b/(2a)
10 -                        b^2/(4a^2)-c/a               -b/(2a)             T          T
c/a
11 SQRT                 sqrt(b^2/(4a^2)-c/a)            -b/(2a)             T          T
b^2/(4a^2)-c/a
12 STO ST L             sqrt(b^2/(4a^2)-c/a)            -b/(2a)             T          T
sqrt(b^2/(4a^2)-c/a)
13 X<>Y                      -b/(2a)                sqrt(b^2/(4a^2)-c/a)    T          T
sqrt(b^2/(4a^2)-c/a)
14 STO+ ST Y                 -b/(2a)             -b/(2a)+sqrt(b^2/(4a^2)-c/a)  T          T
sqrt(b^2/(4a^2)-c/a)
15 RCL- ST L       -b/(2a)-sqrt(b^2/(4a^2)-c/a) -b/(2a)+sqrt(b^2/(4a^2)-c/a)  T          T
-b/(2a)
16 END
```

Examples:

1) Given $x^2 - 5x + 6 = 0$, compute $123456*x_1$ and $123456*x_2$

```
                    123456 ENTER 1 ENTER 5 +/- ENTER 6 XEQ Q ->  Y: 3          ; x2 = 3
                                                                 X: 2          ; x1 = 2
                                                          Rv * ->  X: 370,368   ; 123456*x2
                                                          Rv * ->  X: 246,912   ; 123456*x1
```

2) $3x^2 - 12x + 87 = 0$

```
                                3 ENTER 12 +/- ENTER 87 XEQ Q ->  Y: 2 i5        ; x2 = 2 + 5i
                                                                  X: 2 -i5       ; x1 = 2 - 5i


2) x^2 - (4 + 6i)x + (-5 + 10i) = 0

   1 ENTER 4 ENTER 6 COMPLEX +/- 5 +/- ENTER 10 COMPLEX XEQ Q ->  Y: 3 i4        ; x2 = 3 + 4i
                                                                  X: 1 i2        ; x1 = 1 + 2i
```

Re: Short Quadratic Solver (HP-42S)

*Message #2 Posted by **Gerson W. Barbosa** on 21 Oct 2010, 2:49 p.m.,*
in response to message #1 by Gerson W. Barbosa

Slightly different, but still 28-byte and 16-step long:

```
QUADRATIC SOLVER - HP-42S


00 { 28-Byte Prgm }
01 LBL "Q"
02 RCL/ ST Z
03 X<> ST Z
04 /
05 2
06 /
07 STO ST Z
08 x^2
09 X<>Y
10 -
11 SQRT
12 RCL- ST Y
13 X<>Y
14 RCL+ ST L
15 +/-
16 END
```

Re: Short Quadratic Solver (HP-42S)

*Message #3 Posted by **Gerson W. Barbosa** on 21 Oct 2010, 3:24 p.m.,*
in response to message #2 by Gerson W. Barbosa

One step shorter:

```
00 { 28-Byte Prgm }
01 LBL "Q"
02 RCL/ ST Z
03 X<> ST Z
04 /
05 -2
06 /
07 STO ST Z
08 x^2
09 X<>Y
10 -
11 SQRT
12 RCL+ ST Y
13 X<>Y
14 RCL- ST L
15 END
```

Re: Short Quadratic Solver (HP-42S)

*Message #4 Posted by **Werner** on 22 Oct 2010, 8:53 a.m.,*
in response to message #3 by Gerson W. Barbosa

From my archives ;-) One byte shorter, more accurate for cases where b^2 is large compared to 4*a*c,

and compatible with the 41C:

```
 x := -b/(2*a);
 y := c/a ;
 d := SQRT(x^2 - y);


 r1 := x + sign(x)*d;
 r2 := y/r1;
```

```
00 { 27-Byte Prgm }     X       Y       Z       T
01*LBL "Q"              c       b       a
02 X<> ST Z             a       b       c
03 STO/ ST Z            a       b       c/a
04 STO+ ST X            2*a     b       c/a
05 +/-                  -2*a    b       c/a
06 /                    x       y
07 ENTER                x       x       y
08 X^2                  x^2     x       y
09 RCL ST Z             y       x^2     x       y
10 -                    x^2-y   x       y       y
11 SQRT                 d       x       y       y
12 RCL ST Y             x       d       x       y
13 SIGN                 +/-1    d       x       y
14 *                    +/-d    x       y
15 +                    r1      y       y       y
16 STO ST Z
17 /
18 END
```

Re: Short Quadratic Solver (HP-42S)

*Message #5 Posted by **Gerson W. Barbosa** on 22 Oct 2010, 11:50 a.m.,*
in response to message #4 by Werner

Hello Werner,

> Quote:
>
> One byte shorter, more accurate for cases where b^2 is large compared to 4*a*c, and compatible with the 41C

These are valuable features. Michael Harwood's program in the Software Library (Fast Quadratic Formula for the HP-41C) is 16-step long (when the prompt is removed) and would require 25 bytes on the 42S, but it may not be as accurate as yours. I have been trying to preserve the stack register X. Without this constraint, I suspect a 42S-specific program might break the 15-step length barrier.

Regards,

Gerson.

Re: Short Quadratic Solver (HP-42S)

*Message #6 Posted by **Csaba Tizedes (Hungary)** on 24 Oct 2010, 6:08 p.m.,*
in response to message #5 by Gerson W. Barbosa

Maybe the HP's SOLVE algorithm is accurate?

Here is my solution (from my memories...) - not shortest, uses variables, but not uses the classical quadratic formula. The 32SII (low-end) version:

```
--- The firs root:
```

```
I01 LBL I
I02 CF 0
I03 FN=Q
I04 SOLVE X
I05 GTO X
I06 SF 0
I07 RTN


7 steps / CK=368D / 10.5 byte


--- The second:


X01 LBL X
X02 STOP
X03 RCL B
X04 RCL div A
X05 +
X06 +/-
X07 RTN


7 steps / CK=0339 / 10.5 byte


--- The quadratic equation:


Q01 LBL Q
Q02 RCL X
Q03 RCL mul A
Q04 RCL add B
Q05 RCL mul X
Q06 RCL add C
Q07 RTN


7 steps / CK=8AAE / 10.5 byte


'add', 'sub', 'mul' and 'div' means 'add', 'substact', 'multiple' and 'divide'
in this order.
```

Solve for real roots of an 'a*x^2+b*x+c=0' equation: a STO A, b STO B, c STO C then XEQ I. If FLAG 0 set this equation has no real roots (location of extremum on display). If FLAG 0 not set, the first real root appear on LCD, then press R/S, then the second root will be on the display.

Enjoy!

Re: Short Quadratic Solver (HP-42S)

*Message #7 Posted by **Gerson W. Barbosa** on 25 Oct 2010, 3:23 p.m.,*
in response to message #6 by Csaba Tizedes (Hungary)

Hello Csaba,

> Quote:
>
> Maybe the HP's SOLVE algorithm is accurate?

It's quite accurate, as we know.

The idea is getting the shortest possible HP-42S quadratic solver. By short I mean less number of steps (I know on the 42S less bytes would be more appropriate, but I guess less

steps means faster execution - to be sure, I would have to check out a table of T-states per instruction, but I don't have any).

Anyway, you approach using the SOLVER is interesting, thanks for posting it. When I tested it on the 33s I added the lines below to make it even easier to use, but then I noticed you had done that already here :-)

```
...
I0002 INPUT A
I0002 INPUT B
I0003 INPUT C
...
```

I expected the equivalent 42S version to handle complex cases, but it didn't. Perhaps I just didn't implement it right...

Best regards,

Gerson.

Re: Short Quadratic Solver (HP-42S)

*Message #8 Posted by **Gerson W. Barbosa** on 23 Oct 2010, 12:49 p.m.,*
in response to message #4 by Werner

Werner, that's the 27-byte version I had mentioned. It is one step shorter and will solve all my three examples as stated. Neither HP-41 compatible nor accurate enough for the case you handle though. Doing it using only HP-41 instructions would be quite challenging.

```
QUADRATIC SOLVER - HP-42S


00 { 27-Byte Prgm }
01 LBL "Q"
02 RCL/ ST Z
03 Rv
04 X<>Y
05 STO+ ST X
06 /
07 +/-
08 ENTER
09 X^2
10 RCL- ST T
11 SQRT
12 X<>Y
13 ENTER
14 X<> ST Z
15 STO+ ST Z
16 -
17 END
```

Regards,

Gerson.

Re: Short Quadratic Solver (HP-42S)

*Message #9 Posted by **Werner** on 26 Oct 2010, 4:05 a.m.,*
in response to message #4 by Werner

Strange how you can always improve upon an old program when you look at it again:

```
00 { 25-Byte Prgm }     X       Y       Z       T
01*LBL"Q"               c       b       a
```

```
02 X<> Z                a       b       c
03 ST/ Z                a       b       y
04 ENTER                a       a       b       y
05 +                    2*a     b       c/a     c/a
06 CHS
07 /                    x       y       y       y
08 ENTER
09 X^2                  x^2     x       y       y
10 RUP
11 -
12 SQRT                 d       x       y       y
13 RCL Y
14 SIGN
15 *
16 +
17 ST/ Y
18 END
```

To be sure, it exhibits the same pro's and con's as the previous:

```
+ 41C compatible
+ avoids cancellation
- no complex support (doesn't work for complex roots, nor for complex arguments)
- doesn't work for a=0 or b,c=0
```

Re: Short Quadratic Solver (HP-42S)

*Message #10 Posted by **Eddie W. Shore** on 22 Oct 2010, 9:12 a.m.,*
in response to message #3 by Gerson W. Barbosa

Wow, nice job!

Re: Short Quadratic Solver (HP-42S)

*Message #11 Posted by **Paul Dale** on 22 Oct 2010, 3:44 a.m.,*
in response to message #1 by Gerson W. Barbosa

Very nicely done!

- Pauli

Re: Short Quadratic Solver (HP-42S)

*Message #12 Posted by **Ángel Martin** on 22 Oct 2010, 6:16 a.m.,*
in response to message #11 by Paul Dale

Does it also work with complex numbers? I guess so, since the 42 can hold them in the normal stack?

Reminds me those contests for the shortest implementation of a given program, and I'd have to say the following takes the prize:

01 QROOT

(see SandMath module - of course that's cheating, as the MCODE listing is longer than that :)

Re: Short Quadratic Solver (HP-42S)

*Message #13 Posted by **Paul Dale** on 22 Oct 2010, 6:33 a.m.,*
in response to message #12 by Ángel Martin

But when are you doing MCODE analytic solutions to higher order polynomials? :-)

- Pauli

Re: Short Quadratic Solver (HP-42S)

*Message #14 Posted by **Ángel Martin** on 22 Oct 2010, 8:16 a.m.,*
in response to message #13 by Paul Dale

Touché :)

Re: Short Quadratic Solver (HP-42S)

*Message #15 Posted by **Gerson W. Barbosa** on 22 Oct 2010, 7:47 a.m.,*
in response to message #12 by Ángel Martin

Hello Ángel,

> Quote:
>
> Does it also work with complex numbers? I guess so, since the 42 can hold them in the normal stack?

Yes, as in examples #2 and #3 above.

I've been using this formula:

$$x_{1/2} = -\frac{b}{2a} \pm \sqrt{\frac{b^2}{4a^2} - \frac{c}{a}}$$

(Presented by Allen in this thread (Message #2).

The HP-15C handle complex numbers also, as you know:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv017.cgi?read=114345

Regards,

Gerson.

Re: Short Quadratic Solver (HP-42S)

*Message #16 Posted by **Ángel Martin** on 22 Oct 2010, 8:23 a.m.,*
in response to message #15 by Gerson W. Barbosa

Since the 41 lacks the "native" ability to handle complex numbers on its stack, I added the following short routine to the 41Z to solve the quadratic roots in such case:

```
1   LBL "ZQRT"
2   ZENTER^
3   ZR^
```

```
4   Z/
5   LASTZ
6   ZR^
7   Z<>W
8   Z/
9   ZHALF
10  ZNEG
11  ZENTER^
12  ZENTER^
13  Z^2
14  ZR^
15  Z-
16  ZSQRT
17  ZENTER^
18  ZNEG
19  ZR^
20  Z+
21  ZRDN
22  Z+
23  ZRUP
24  END
```

just 24 steps (or Z-steps, rather). It takes the three coefs in complex stack leves 1,2,3, leaving both solutions on complex stack levels 1 and 2.

Cheers, ÁM

Edited: 22 Oct 2010, 8:25 a.m.

Re: Short Quadratic Solver (HP-42S)

*Message #17 Posted by **Gerson W. Barbosa** on 22 Oct 2010, 6:14 p.m.,*
in response to message #11 by Paul Dale

Thanks Paul!

I hope the 34s has a built-in QUAD command to do it in only one step :-)

Re: Short Quadratic Solver (HP-42S)

*Message #18 Posted by **Paul Dale** on 22 Oct 2010, 6:47 p.m.,*
in response to message #17 by Gerson W. Barbosa

The thought had occurred to me to drop your code in as a built in function :-)

- Pauli

Re: Short Quadratic Solver (HP-42S)

*Message #19 Posted by **Gerson W. Barbosa** on 22 Oct 2010, 7:17 p.m.,*
in response to message #18 by Paul Dale

Accuracy-wise, Werner's code is better though. For instance, for a = 1E-13, b = -2 and c = 1 it returns the correct 12-digit results, that is 2E13 and 0.5. Mine returns 2E13 and 0. Unless, of course, you want to preserve at least the stack register X.

Gerson.

Re: Short Quadratic Solver (HP-42S)

*Message #20 Posted by **Paul Dale** on 22 Oct 2010, 8:00 p.m.,*
in response to message #19 by Gerson W. Barbosa

Werner's code fails for b=c=0 BTW.

Easy enough to detect and return the correct answer for but that means more steps.

- Pauli

Re: Short Quadratic Solver (HP-42S)

*Message #21 Posted by **Gerson W. Barbosa** on 22 Oct 2010, 9:06 p.m.,*
in response to message #20 by Paul Dale

It also fails for example #3, I noticed that soon after I wrote. I had checked only the second example. But this can be fixed. By the way, I never needed to solve a quadratic equation with complex coefficients before. I simply expanded (x-(1+2i))*(x-(3+4i)) and there it was.

Regards,

Gerson.

typo correction

Edited: 22 Oct 2010, 10:10 p.m.

Re: Short Quadratic Solver (HP-42S)

*Message #22 Posted by **Angel Martin** on 22 Oct 2010, 9:12 p.m.,*
in response to message #18 by Paul Dale

Or alternatively, drop the MCODE (oh if only CPU's were compatible :)

```
094     "T"
00F     "O"
00F     "O"
012     "R"
011     "Q"
078     READ 1(Z)
361     ?NC XQ          (includes SETDEC)
050     ->14D8          [CHK_NO_S]
0B8     READ 2(Y)
10E     A=C ALL
0F8     READ 3(X)
351     ?NC GO          (includes SETDEC)
052     ->14D4          [CHK_NO_S1]
2BE     C=-C-1 MS       -c
10E     A=C ALL
078     READ 1(Z)       a
261     ?NC XQ
060     ->1898          [DV2_10]
128     WRIT 4(L)       -c/a
078     READ 1(Z)       a
10E     A=C ALL
01D     ?NC XQ          Adds normalized A and C
060     ->1807          [AD2_10]
10E     A=C ALL 2a
0B8     READ 2(Y)       b
2BE     C=-C-1 MS       -b
0AE     A<>C ALL
261     ?NC XQ
060     ->1898          [DV2_10]
0E8     WRIT 3(X)       register re-use…
10E     A=C ALL         -b/2a
135     ?NC XQ          Multiplies A times C
060     ->184D          [MP2_10]
10E     A=C ALL         (b/2a)^2
138     READ 4(L)       -c/a
01D     ?NC XQ          Adds normalized A and C
060     ->1807          [AD2_10]
244     CLRF 9          (b/2a)^2-c/a
```

```
2FE     ?C#0 MS         is it negative?
01B     JNC  +03
05E     C=0 MS          Sign change (ABS)
248     SETF 9          flag as complex
2F9     ?NC XQ
060     ->18BE          [SQR10]
24C     ?FSET 9         Complex roots?
02B     JNC  +05
0A8     WRIT 2(Y)       Write Im(Z) in Y
04E     C=0  ALL        Zero Z so we know they're
068     WRIT 1(Z)       Conjugated Complex Roots
073     JNC  +14d
128     WRIT 4(L)       sqr((b/2a)^2-c/a)
10E     A=C ALL
0F8     READ 3(X)       -b/2a
01D     ?NC XQ          Adds normalized A and C
060     ->1807          [AD2_10]
0A8     WRIT 2(Y)       x1 =  -b/2a + sqrt()
138     READ 4(L)       sqr((b/2a)^2-c/a)
2BE     C=-C-1 MS
10E     A=C ALL
0F8     READ 3(X)       -b/2a
01D     ?NC XQ          Adds normalized A and C
060     ->1807          [AD2_10]
0E8     WRIT 3(X)       x2 =  -b/2a - sqrt()
3E0     RTN
```

Re: Short Quadratic Solver (HP-42S)

*Message #23 Posted by **Walter B** on 23 Oct 2010, 5:33 a.m.,*
in response to message #18 by Paul Dale

Input of a, b, c as z, y, x and output of possibly complex x1 and x2 in x, y, z, and t ? Do we need more reasons for an 8 level stack? ;)

Re: Short Quadratic Solver (HP-42S)

*Message #24 Posted by **Thomas Chrapkiewicz** on 22 Oct 2010, 9:59 a.m.,*
in response to message #1 by Gerson W. Barbosa

Very nice!

You are to be highly commended for the high level of documentation of the process!! This is all too often negelected, both in calculator and computer algorithms.

TomC

Re: Short Quadratic Solver (HP-42S)

*Message #25 Posted by **Gerson W. Barbosa** on 22 Oct 2010, 6:01 p.m.,*
in response to message #24 by Thomas Chrapkiewicz

Thanks! However the documentation is still incomplete. The formulas used in the first version are, as we have seen,

```
'x1=-b/(2*a)+sqrt((b/(2*a))^2-c/a)'

'x2=-b/(2*a)-sqrt((b/(2*a))^2-c/a)'
```

which is the quadratic formula for

```
'x^2-b/a*x+c/a=0'
```

In the second and third versions, an attempt has been made to carry this one step further, by making the inputs coefficients a, b and c equal to 1, b/a and c/a, respectively. This requires additional steps, but the

formulas become somewhat simpler:

```
'x1=b/2+sqrt((b/2)^2-c'

'x2=b/2-sqrt((b/2)^2-c'
```

Regards,

Gerson.

Re: Short Quadratic Solver (HP-42S)

*Message #26 Posted by **Chuck** on 22 Oct 2010, 8:29 p.m.,*
in response to message #25 by Gerson W. Barbosa

Gerson, I had done this many many years ago for, I think, my HP-11c, but I believe mine was slightly different. (Actually, looking again, it's the same.)

Start with the usual ax^2 + bx + c = 0. Then define:

m = -b/(2a) and n = c/a

The solutions become

x1 = m + sqrt(m^2 - n)

x2 = m - sqrt(m^2 - n)

I can't remember if I used the stack or storage registers. Usually the upfront calculations of m and n are trivial, and allows for a very compact program, and no fractions in the final calculations.

For something like: 3x^2+5x-8=0 I'd key -5/6 run LBL A, -8/3, press R/S and get the solutions. I forget the actual program length, but it was quite small. I'll have to dig out the 11C and try it again.

CHUCK

Re: Short Quadratic Solver (HP-42S)

*Message #27 Posted by **Gerson W. Barbosa** on 22 Oct 2010, 10:00 p.m.,*
in response to message #26 by Chuck

Chuck,

This appears quite suitable for hand calculations also, as the formula is easier to use and remember. My 14-year old daughter has been studying quadratic equations and application problems in school, but so far she's been taught the traditional method only.

Regards,

Gerson.

Re: Short Quadratic Solver (HP-42S)

*Message #28 Posted by **Angel Martin** on 23 Oct 2010, 2:29 a.m.,*
in response to message #27 by Gerson W. Barbosa

The "classic" formula is still taught in high schools (also on my kids' case), perhaps on the grounds of being easier to memorize (?) - yet the other one is much more suitable for programming. That's the one I used in the MCODE listing, it saves time and storage space.

Cheers

Re: Short Quadratic Solver (HP-42S)

*Message #29 Posted by **Thomas Klemm** on 23 Oct 2010, 2:11 a.m.,*
in response to message #1 by Gerson W. Barbosa

This program returns only one of the possible solutions of the equation $x^2 + px + q = 0$. The quadratic solver hidden in ACOSH is used:

```
00 { 17-Byte Prgm }
01>LBL "Q"
02 SQRT
03 ÷
04 LASTX
05 X<>Y
06 -2
07 ÷
08 ACOSH
09 E^X
10 ×
11 END
```

With a minor change (-2 -> 2 CHS) it may be used with the HP-15C as well. However it won't work with the HP-35s due to its lack of proper support of complex functions.

Usage:

```
1) x^2 - 5x + 6 = 0
   5 +/- ENTER 6 XEQ Q -> X: 3


2) x^2 - 4x + 29 = 0
   4 +/- ENTER 29 XEQ Q -> X: 2 i5


3) x^2 - (4 + 6i)x + (-5 + 10i) = 0
   4 ENTER 6 COMPLEX +/- 5 +/- ENTER 10 COMPLEX XEQ Q -> X: 3 i4
```

Since neither addition nor subtraction is used there's no loss of significance due to cancellation.

Best regards
Thomas

PS: Finding the other solution is left as an exercise.

Edited: 23 Oct 2010, 2:41 a.m. after one or more responses were posted

Re: Short Quadratic Solver (HP-42S)

*Message #30 Posted by **Angel Martin** on 23 Oct 2010, 2:32 a.m.,*
in response to message #29 by Thomas Klemm

Very nice idea - now we're shortening the program listing although at the expense of using other functions - a valid rule in the "brevity contest" :-)

What about using P-R instead of ACOSH for the 41?

Re: Short Quadratic Solver (HP-42S)

*Message #31 Posted by **Thomas Klemm** on 23 Oct 2010, 3:00 a.m.,*
in response to message #30 by Angel Martin

This could only be used when q <= 0. But even then you'd have to calculate the square root of -q previously to use R-P. So I'm afraid we won't gain anything. Only now I see you mentioned P-R, not R-P. What did you have in mind?

Edited: 23 Oct 2010, 11:02 a.m.

Re: Short Quadratic Solver (HP-42S)

*Message #32 Posted by **Thomas Klemm** on 23 Oct 2010, 4:00 a.m.,*
in response to message #30 by Angel Martin

Okay the following works only for certain values of p and q:

$0 < 4q < p^2$

```
00 { 20-Byte Prgm }
01>LBL "Q"
02 SQRT
03 ÷
04 LASTX
05 X<>Y
06 -2
07 X<>Y
08 ÷
09 ASIN
10 2
11 ÷
12 TAN
13 ÷
14 END
```

$0 < -4q < p^2$

```
00 { 21-Byte Prgm }
01>LBL "Q"
02 +/-
03 SQRT
04 ÷
05 LASTX
06 X<>Y
07 -2
08 X<>Y
09 ÷
10 ATAN
11 2
12 ÷
13 TAN
14 ÷
15 END
```

So all we have to do is combine these two programs into one.

BTW: I used here the following formulas:

$$\sin(2x) = \frac{2}{\cot(x) + \tan(x)}$$

$$\tan(2x) = \frac{2}{\cot(x) - \tan(x)}$$

Cheers
Thomas

Edited: 23 Oct 2010, 7:15 a.m.

Re: Short Quadratic Solver (HP-42S)

*Message #33 Posted by **Gerson W. Barbosa** on 23 Oct 2010, 6:21 a.m.,*
in response to message #29 by Thomas Klemm

Hi Thomas,

> Quote:
>
> PS: Finding the other solution is left as an exercise.

Still unoptimized, as I'm in a hurry:

```
00 { 25-Byte Prgm }
01>LBL "Q"
02 X<>Y
03 STO Z
04 X<>Y
05 SQRT
06 ÷
07 LASTX
08 X<>Y
09 -2
10 ÷
11 ACOSH
12 E^X
13 ×
14 ENTER
15 R^
16 +
17 +/-
18 END
```

Regards,

Gerson.

Re: Short Quadratic Solver (HP-42S)

*Message #34 Posted by **Thomas Klemm** on 23 Oct 2010, 7:41 a.m.,*
in response to message #33 by Gerson W. Barbosa

A little bit shorter:

```
00 { 21-Byte Prgm }
01>LBL "Q"
02 STO ST Z
03 SQRT
04 ÷
05 LASTX
06 X<>Y
07 -2
08 ÷
09 ACOSH
10 E^X
11 ×
12 ÷
13 LASTX
14 END
```

However I had something else in my mind.

Edited: 23 Oct 2010, 7:51 a.m.

Re: Short Quadratic Solver (HP-42S)

*Message #35 Posted by **Gerson W. Barbosa** on 23 Oct 2010, 9:21 a.m.,*
in response to message #34 by Thomas Klemm

You're right! $x_2 = q/x_1$, for $x_1 <> 0$, is shorter than $x_2 = -(x_1+p)$. This can be made shorter, I think.

Thanks for presenting your interesting insight.

Regards,

Gerson.

```
00 { 31-Byte Prgm }
01>LBL "Q"
02 RCL/ ST Z
03 X<> ST Z
04 /
05 X<>Y
06 STO ST Z
07 SQRT
08 ÷
09 -2
10 ÷
11 ACOSH
12 E^X
13 RCL ST Y
14 SQRT
15 ×
16 X<>Y
17 RCL/ ST Y
18 END
```

It does work for my three examples:

1) Given $x^2 - 5x + 6 = 0$, compute $123456*x_1$ and $123456*x_2$

```
                     123456 ENTER 1 ENTER 5 +/- ENTER 6 XEQ Q ->  Y:
2.99999999999      ; x2 = 3
                                                                  X:
2.00000000001      ; x1 = 2
                                                        Rv * ->   X:
370,367.999999     ; 123456*x2
                                                        Rv * ->   X:
246,912.000001     ; 123456*x1
```

2) $3x^2 - 12x + 87 = 0$

```
                                  3 ENTER 12 +/- ENTER 87 XEQ Q ->  Y: 2.00E0
i5.00E0     ; x2 = 2 + 5i
                                                                  X:
2.00000000001 -i5  ; x1 = 2 - 5i
```

3) $x^2 - (4 + 6i)x + (-5 + 10i) = 0$

```
   1 ENTER 4 ENTER 6 COMPLEX +/- 5 +/- ENTER 10 COMPLEX XEQ Q ->  Y: 3
i3.99999999999   ; x2 = 3 + 4i
                                                                  X: 1.00E0
i2.00E0     ; x1 = 1 + 2i
```

It will work for a=1E-13, b=-2 and c=1 also:

```
1.99999999996E13
0.50000000001
```

Re: Short Quadratic Solver (HP-42S)

*Message #36 Posted by **Thomas Klemm** on 23 Oct 2010, 11:50 a.m.,*
in response to message #35 by Gerson W. Barbosa

It seems to be a recurring theme that we discuss every few years. Thanks for starting that thread (again).

Best regards
Thomas

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Best way implement an RPN stack?

*Message #1 Posted by **Håkan Thörngren** on 20 Oct 2010, 10:31 a.m.*

How would you implement an RPN stack today?

I can see a couple of scenarios:

1. The classic 4 level stack with "last X" register, duplicate T on drop, and stack lift disable flag.
2. As (1), but with more elements on the stack, in that case, how many?
3. Using a traditional stack pointer and using Forth stack semantics with DUP, ROT, SWAP and ROLL.

I never felt the 4 level stack was a big problem when I used the HP-41 back in the eigthies. After getting used to an HP-48 I feel a little bit more constrained by it these days.

What do you prefer?

Re: Best way implement an RPN stack?

*Message #2 Posted by **bill platt** on 20 Oct 2010, 10:53 a.m.,*
in response to message #1 by Håkan Thörngren

The problem with being a collector and having piles of calculators around is that we can pick what is best for what we are doing.

I prefer the traditional 4-level for anything that takes advantage of the repeating t-register.

I prefer the unlimited stack for anything where it is nice to have a running record of results or inputs.

One RPN computer application I used to have (but lost on a format and reload) had a selecteble 4 or 8 level repeating t-register stack. (XYZPQRST)

Re: Best way implement an RPN stack?

*Message #3 Posted by **Mark Storkamp** on 20 Oct 2010, 11:26 a.m.,*
in response to message #1 by Håkan Thörngren

I prefer a stack like on the 41, where you are entering directly into the X register. Typing a number and pressing ENTER^ pushes it up into Y, not like the 20b (and i believe the 35s) where typing a number and pressing ENTER^ puts it into X, and a second ENTER^ is needed to put it into Y.

However, I think two new registers could be added: D and F. D would hold the depth of the stack, and F would fill the entire stack with a singe value. Typing 35 STO F would fill all levels of the stack with 35, making it easier to use repeating T values with any depth stack.

Re: Best way implement an RPN stack?

*Message #4 Posted by **bill platt** on 20 Oct 2010, 11:29 a.m.,*
in response to message #3 by Mark Storkamp

The 35s is normal RPN, not RPL. It functions exactly the same as the 41, 65, 67, 10c series etc

Re: Best way implement an RPN stack?

*Message #5 Posted by **Walter B** on 20 Oct 2010, 1:00 p.m.,*
in response to message #3 by Mark Storkamp

The 34s (AKA 30b repurposing project) features a selectable stack size of either 4 or 8 levels with top level repetition. And it includes a FILL command copying x into all stack levels at once. There is a bit reserved for stack depth indication.

Edit: Forgot mentioning that complex FILL will copy the complex number x+iy into the respective levels, of course. Gracias à Angel for reminding me d;-)

Edited: 20 Oct 2010, 2:57 p.m.

Re: Best way implement an RPN stack?

*Message #6 Posted by **Angel Martin** on 20 Oct 2010, 1:58 p.m.,*
in response to message #3 by Mark Storkamp

Great minds think alike: there's a REPLX function on the SandMath (and ZRPL on the 41Z module for complex stack) that does the stack fill with the value in X (or Z).

Edited: 20 Oct 2010, 2:01 p.m.

Re: Best way implement an RPN stack?

*Message #7 Posted by **Martin Pinckney** on 20 Oct 2010, 1:07 p.m.,*
in response to message #1 by Håkan Thörngren

Never really got into RPN. Having used a 38g for a while, and now that I am teaching myself 48sx, I prefer the unlimited stack.

Re: Best way implement an RPN stack?

*Message #8 Posted by **Angel Martin** on 20 Oct 2010, 1:56 p.m.,*
in response to message #1 by Håkan Thörngren

Call me a tradicionalist but I side with the 4-level stack choice. To me it's just enough, and I've got so used to the T-replication that I won't consider doing without it.

Although you can say that T-replication is just a palliative to the awckward RPN-style programming, and that a (more advanced) RPL machine won't need it. That's probably a true statement.

When I wrote the 41Z I had to mimic all the real stack functionallity for the complex stack (buffer-based). That's when I really got to admire its design, I'm afraid it's for good in my case.

Cheers, 'AM

Re: Best way implement an RPN stack?

*Message #9 Posted by **Geir Isene** on 21 Oct 2010, 3:33 a.m.,*
in response to message #8 by Angel Martin

Agreed.

Re: Best way implement an RPN stack?

*Message #10 Posted by **M. Joury** on 20 Oct 2010, 3:15 p.m.,*
in response to message #1 by Håkan Thörngren

I am in the process of implementing a RPN environment for the HP 39gs and I went with the 4 level replicating T stack of the 41. I considered following the design of the newer RPL machines but for a simple calculating environment I think I prefer the 4 level stack.

Re: Best way implement an RPN stack?

*Message #11 Posted by **Martin Pinckney** on 20 Oct 2010, 4:57 p.m.,*
in response to message #10 by M. Joury

> Quote:
>
> I am in the process of implementing a RPN environment for the HP 39gs...

The questions naturally present themselves:

1. How can you do this? 2. Why would you do this? (i.e., why not get a 48gii, 49g+, or 50g)

Re: Best way implement an RPN stack?

*Message #12 Posted by **M. Joury** on 20 Oct 2010, 6:55 p.m.,*
in response to message #11 by Martin Pinckney

1. It is relatively easy. There are examples out there that do this only a little too slow to be useful. I already have a HPBasic implementation that is sufficiently responsive to be usable but I have stopped further development on it and am rewriting it all in Sys RPL.

2. Because I can and I enjoy the challenge. I own all three of the calculators you mentioned in addition to nearly every scientific/graphing calc HP has ever produced. For daily use I generally employ a HP48S/X or G/X as I prefer their keyboards to that of the 49g+, etc.

The HPBasic implementation so far handles basic 4 banger arithmetic, full 4 position stack manipulation including T replication (X<>Y, RollUp, RollDown, LastX, currently stack store / recall are not available), basic trig and log functions (no hyperbolics yet--would be easy to add), 30 storage registers, mode settings for std, fix, sci, and eng. Angle mode settings (DEG, RAD, GRAD) would be easy to add as would any other 1 or 2 variable functions (such as hyperbolics). The current HPBasic implementation is around 9K (source) and 19K after the first run.

For the sRPL implementation I plan on providing all the above plus hyperbolics, combinations, permutations, etc. (basically any scientific functions that the 39gs is capable of), 100 storage registers with full store arithmetic (this is already working) and in the future I might also implement rcl arithmetic.

-mj

Re: Best way implement an RPN stack?

*Message #13 Posted by **Martin Pinckney** on 20 Oct 2010, 7:36 p.m.,*
in response to message #12 by M. Joury

I am frequently amazed at the level of nuts & bolts expertise shown on this forum. I just struggle to learn how to *use* my 48sx. And here people are writing ML programs, debugging calculator internals with oscilloscopes, writing new firmware for repurposing, etc., etc.

Makes my head spin.

Re: Best way implement an RPN stack?

*Message #14 Posted by **Glenn Becker** on 27 Oct 2010, 11:27 a.m.,*
in response to message #13 by Martin Pinckney

I feel exactly the same way. I'd love to know more about these wonderful little beasts, but scarcely know where to start ...

This forum is simultaneously inspiring and intimidating. :)

Re: Best way implement an RPN stack?

*Message #15 Posted by **Don Shepherd** on 27 Oct 2010, 12:00 p.m.,*
in response to message #14 by Glenn Becker

Glenn, don't be intimidated by things you see here. I bought a 16c around 1981 or 83, but I never learned how to program it. I was a mainframe programmer in those days and I couldn't see the point of programming a "calculator." But about 10 years ago I got a simple 12c, with a minimal set of programming statements, and I learned what it means to program in RPN, and I've been fascinated with it ever since. And you would be surprized what you can do with a program size limitation of 99 bytes!

So if you're interested in simple RPN programming, get a 12c and have at it. Today's ARM-based 12c runs about a million times faster than the 12c of 10 years ago (I'm exaggerating somewhat).

Don

Re: Best way implement an RPN stack?

*Message #16 Posted by **Donald Williams** on 20 Oct 2010, 5:41 p.m.,*
in response to message #10 by M. Joury

> Quote:
>
> I am in the process of implementing a RPN environment for the HP 39gs

Wow! Great news to hear. The 39gs is the only HP model I use with any regularity any more. My eye sight is no longer what it once was, and the keyboard of the 39gs is extremely legible compared to other HP calculators. While I have adapted to the loss of RPN I would adopt it again if it became available for the 39. If you need a beta tester or have any other needs let me know. I could become quite avid about your project. Good luck.

Edited: 20 Oct 2010, 5:45 p.m.

Re: Best way implement an RPN stack?

*Message #17 Posted by **M. Joury** on 20 Oct 2010, 7:07 p.m.,*
in response to message #16 by Donald Williams

Thanks! I agree about the legibility of the HP39gs keyboard. It is definitely better than that of the 48gII and in my opinion easier to read for my tired old eyes than the 50g.

I do have a working version of the HPBasic implementation as noted in an earlier post. Unfortunately I have not bothered to document anything (either code or use) yet and the code is a little messy as I wrote it (rewrote it) for speed rather than legibility or easy maintenance. However, other than the rather convoluted keyboard handling for the numeric input, stack lift enable/disable etc. it is pretty straight forward. Adding additional functionality would be easy so if someone was interested in adding hyperbolics or giving me some feedback on the keyboard layout I have chosen I would be happy to share what I currently have. I can also share some of the ideas that I have for the sRPL version I am working on now. Just send me an email offline. Be forewarned, however, that there is a good chance that bugs still exist in the stack handling code.

One thing that I would really like to implement and have not yet thought of a clean way to accomplish it would be a fully reassignable keyboard. It should be doable by putting the keycodes in some form of table and providing a way to edit or update the table (could use a list for this) but I fear that performance would suffer too badly to maintain usability so that idea is on hold for the moment.

-mj

Edited: 20 Oct 2010, 7:08 p.m.

Re: Best way implement an RPN stack?

*Message #18 Posted by **Matt Kernal** on 20 Oct 2010, 8:49 p.m.,*
in response to message #17 by M. Joury

Hi M.,

How similar/different is your 39GS RPN implementation to Manfred Pfeiffer's "RPN Add-On" (HPBasic) program (found at hpcalc.org).

I have it loaded on my 40GS and like it a lot, except for the speed, or lack thereof. :-) Sounds like you've addressed that issue in your implementation.

Thanks,

Matt

p.s. I feel the 40GS' color-scheme is just about right.

Re: Best way implement an RPN stack?

*Message #19 Posted by **M. Joury** on 21 Oct 2010, 12:39 a.m.,*
in response to message #18 by Matt Kernal

Hi Matt,

Very similar. In fact I got his program and decided I wanted a little more speed which led me to my own project. His is a very good implementation and if it were not for the speed issue I

would probably have not started my own effort. I have to admit, that for the HPBasic version, I borrowed the display GROB from his code and edited it rather than dealing with writing it from scratch. The GROB for the sRPL version required a near-complete rewrite.

At this point his is somewhat more complete as I have stopped development to tackle the Sys RPL version. Currently the only reason I use my version instead of his is the speed. My code is able to keep up with keyboard input as fast as I can enter it--single digit repeated at top speed--whereas his will lag in that and many normal usage scenarios.

The only benefit (other than speed) that my HPBasic version offers is the ability to backspace (delete and correct) numbers and 30 registers vs. 10. In general I am of the opinion that more registers are pretty useless in a non-programmable implementation since there is a limit as to how many one can keep track of. To aid somewhat in this I handle the registers in the same manner as the Voyager series. Single numeric digit for the first "bank", period followed by numeric digit for the second "bank", and comma followed by numeric digit for the third "bank". This will be replaced in the Sys RPL version by 100 numbered registers used exactly as in the HP41. In fact, in general, the user interface of the sRPL version will be patterned after the HP41 with, for example, keyboard access to the FIX, SCI, and ENG functions (these along with the storage sub-system are already coded) rather than menus.

I have lots of ideas for the sRPL version that may or may not pan out, but a working RPN implementation with support for all the math functions of the HP39gs seems to be relatively straight forward (once one deals with the numeric entry and stack lift issues).

Cheers,

-mj

Re: Best way implement an RPN stack?

*Message #20 Posted by **Donald Williams** on 21 Oct 2010, 12:55 a.m.,*
in response to message #18 by Matt Kernal

> Quote:
>
> I feel the 40GS' color-scheme is just about right

I am glad you like it. I have a 40GS also, but I don't use it because of the color-scheme. I know I belong to a minority group of the forum members, but I have to point out a fact that many of you will face eventually.

I can use almost any calculator from any manufacturer in "ideal" lighting conditions. The trouble is that calculators are generally used as a portable device often in less than ideal locations. legibility can really suffer at times when the lighting gets poor.

My eye lenses has no focus problems at all, I have just reached an age where the rods and cones are dying in the back of the retina. I just need more photons on the retina. If everyone is lucky enough to survive to middle age they will probably arrive at a similar point.

I blame calculator industry for a really poor design effort in respect to legibility. I believe that early in the game, manufacturers were infatuated with the device display and chose a dark body design that accented the display iformation. I think this bad choice has persisted in spite of the disadvantages.

Does anyone remember using slide rules. Did anyone ever see a slide rule with a dark body and rainbow colored indexes. I didn't. Slide rules were almost universally light colored bodies with black index marks. I think they did that because that is the best method to accommodate the human eye. I still have no difficulty reading my 45 year old slide rule.

Calculators seem to generally ignore this principle and people like me suffer the consequences. Calculators could be improved by using a very light body for the keyboard background that will reflect the greatest number of photons to the surrounding legends and to the users eye's.

Most of you are probably not affected - yet, but I suspect some day you will be singing this same chorus.

Just my 2 cents worth on that particular subject

Re: Best way implement an RPN stack?

*Message #21 Posted by **Don Shepherd** on 21 Oct 2010, 8:04 a.m.,*
in response to message #20 by Donald Williams

Donald, great points. I love the 12c, but those blue letters on a black key frequently require a magnifying glass and/or flashlight for me to discern them. And on my 65, the blue letters on the white numeric keys are OK, but the conditionals on the black keys always require a magnifying glass.

Re: Best way implement an RPN stack?

*Message #22 Posted by **Donald Williams** on 21 Oct 2010, 10:50 a.m.,*
in response to message #21 by Don Shepherd

I discovered this phenomena quite by accident. When I first purchased my HP 41 CV back back in the 80's it came with a light cream colored keyboard overlay, which I installed immediately, and never removed. Many years later I acquired another everyday 41cx and my original 41cv "prized possession" went into the display case.

The new 41cx replacement did not come with that same overlay, and I soon noticed my difficulty with deciphering the keyboard legends. The overlay (I only have one) is now my most essential 41 series peripheral.

I think if you could somehow create a white overlay for your 12C machine you would probably not have to use the magnifier and light solution. Just the small increase of reflected light around the keyboard area is usually all you need to create better legibility.

Edited: 21 Oct 2010, 10:51 a.m.

Re: Best way implement an RPN stack?

*Message #23 Posted by **Dave Shaffer (Arizona)** on 21 Oct 2010, 12:54 p.m.,*
in response to message #20 by Donald Williams

> Quote:
>
> Calculators seem to generally ignore this principle and people like me suffer the consequences. Calculators could be improved by using a very light body for the keyboard background that will reflect the greatest number of photons to the surrounding legends and to the users eye's.

I see the same silly situation on too many web sites: the web site creator thinks it "arty" "cool" or whatever to use a dark background with (often too-small!) white/light-colored type against the background. I find these very difficult to read.

Re: Best way implement an RPN stack?

*Message #24 Posted by **Donald Williams** on 21 Oct 2010, 3:59 p.m.,*
in response to message #23 by Dave Shaffer (Arizona)

> Quote:
>
> I find these very difficult to read.

Well in my case it is not "difficult" - it is "impossible".

Re: Best way implement an RPN stack?

*Message #25 Posted by **db (martinez, ca.)** on 20 Oct 2010, 8:47 p.m.,*
in response to message #1 by Håkan Thörngren

Hakan;
There was a five level stack on this calculator. The mind reels at the mere thought of keeping track of Bill's & Walter's eight level stacks.
To answer your scenario #2; i'd say that 4 levels have always been enough for me. It was even possible to write an inverse routine for two pairs of coordinates loaded into the stack (without using any storage registers). However; the amount of rolls and X<>Ys meant that it didn't really save any space. Didn't run any faster either. So the classic 4, or the Heathkit 5 would get my vote. - db

Re: Best way implement an RPN stack?

*Message #26 Posted by **Walter B** on 21 Oct 2010, 12:58 a.m.,*
in response to message #25 by db (martinez, ca.)

db,

> Quote:
>
> The mind reels at the mere thought of keeping track of Bill's & Walter's eight level stacks.

1. Basic purpose of such an eight level stack is providing 4 levels for complex numbers. Hope this helps your mind ;)
2. As long as you work in real domain, you may limit the stack to traditional 4 levels. HTH
3. FYI, MathUPro on my PDA features a 16 level stack. Do they want me keeping track of every item there? No - they want me to know I can push my numbers on it and calculate without worries for stack overflow. I fully agree you will hardly ever need more than 4 levels - let's assume in 99% of all calculations - but do you want to watch your calc since it does something strange with 1% probability? I don't. But that's my personal view and another reason for implementing a selectable stack depth. HTH
4. As long as it keeps reeling, can you use it for generating energy? ;) ;)

Re: Best way implement an RPN stack?

*Message #27 Posted by **db (martinez, ca.)** on 22 Oct 2010, 3:39 p.m.,*
in response to message #26 by Walter B

Walter;

I have no problem keeping track of 4 levels,. 5 would be ok too, but for 8 i would need to have an 8 level display - easy on a computer or 48's screen but...

I see that using a larger stack would pay dividends for the 1% of users doing deep, original, complex work, so being switchable takes care of all of us.

The mind reels slower each year. Have recently changed from generator to alternator to compensate. I hope the 30b project is going well. - d

Re: Best way implement an RPN stack?

*Message #28 Posted by **Walter B** on 22 Oct 2010, 4:16 p.m.,*
in response to message #27 by db (martinez, ca.)

db,

Thanks for your kind words. I hope your alternator is brushless so no regular maintenance changing worn brushes is required. Referring to the 30b project, please see my posting in the other thread.

Walter

Re: Best way implement an RPN stack?

*Message #29 Posted by **htom trites jr** on 21 Oct 2010, 12:52 a.m.,*
in response to message #1 by Håkan Thörngren

I don't think there's a best. Four with repeating T is good, adding LastX and LastY to that simplifies lots of things. (Complex, of course, four-space could be nice for physics but I've never seen it proposed.)

What I always wanted in a calculator was the ability to DUP PUSH SWAP and DROP the entire stack (which would include the entire flag register and LastX and LastY, to at least twenty or more stacks) with another command to MERGE the current and past stacks, for a function return, moving the values about.

More exotic was the machine with sixteen registers, r0..rf, where each register was actually the top of a stack. The stacks were maintained in memory using a big LRU cache, and you could do things like push(r0) <-- pop(r1) + r2 (the result was pushed onto r0, r1 popped after the add, r2 was only read.) (Yes, I designed compilers, not hardware.)

Re: Best way implement an RPN stack?

*Message #30 Posted by **Karl Schneider** on 21 Oct 2010, 1:16 a.m.,*
in response to message #1 by Håkan Thörngren

Quote:

How would you implement an RPN stack today?

I can see a couple of scenarios:

1. The classic 4 level stack with "last X" register, duplicate T on drop, and stack lift disable flag.

2. As (1), but with more elements on the stack, in that case, how many?
3. Using a traditional stack pointer and using Forth stack semantics with DUP, ROT, SWAP and ROLL.

I've favored a settable-depth stack of between 4 and 9 elements (set by, e.g., "STKD 7") in the classic RPN operating paradigm. Minimum and default depth would be 4, because less than that is not useful, and 4 ensures compatibility with traditional RPN programs.

4 stack elements is usually enough, though, if the user is thinking ahead and mentally keeping track of pending operations. Too many more than that is difficult to keep straight.

-- KS

Edited: 21 Oct 2010, 1:19 a.m.

Re: Best way implement an RPN stack?

*Message #31 Posted by **Andrés C. Rodríguez (Argentina)** on 21 Oct 2010, 8:04 a.m.,*
in response to message #1 by Håkan Thörngren

Classic (option 1) is my preference. Regards

Re: Best way implement an RPN stack?

*Message #32 Posted by **Crawl** on 21 Oct 2010, 10:52 a.m.,*
in response to message #1 by Håkan Thörngren

I'm sure that a 4-level stack is sufficient for "number crunching" work, but after I was exposed to symbolic calculators, there's no going back for me.

Ironically, even though RPN was developed so numerical expressions that used parentheses and order of operations could be evaluated on a simple computer without need for an algebraic parser or memory to store lots of pending operations, I think it works *even better* for symbolic calculations.

And for that sort of application, an unlimited stack becomes necessary.

Re: Best way implement an RPN stack?

*Message #33 Posted by **Martin Pinckney** on 21 Oct 2010, 2:03 p.m.,*
in response to message #32 by Crawl

Agreed. And thanks again Crawl for showing me how to "build" an algebraic object, one step at a time, using RPN arithmetic. Its a beautiful thing.

I later came across this method in *An Easy Course in Using the HP 48sx*, and perhaps its also in the HP manuals, but I first learned about this from one of your posts.

Re: Best way implement an RPN stack?

*Message #34 Posted by **Håkan Thörngren** on 21 Oct 2010, 1:59 p.m.,*
in response to message #1 by Håkan Thörngren

Thanks a lot for all the comments!

It seems like there is a lot in favor for the 4 level stack.

My first feeling was towards an larger Forth like stack, but I now feel a 4 level stack is way to go when doing keyboard calculations.

A longer stack has its virtues, but a larger display is almost a must in that case.

Re: Best way implement an RPN stack?

*Message #35 Posted by **Mike T.** on 21 Oct 2010, 2:55 p.m.,*
in response to message #1 by Håkan Thörngren

I havn't had mich time to develop things further but on one of my (unpublished) emulators I implemented a four level stack that automatically grew deeper when used but behave the same as a four level stack (only deeper) when R^ Rv operations were performed. Perhaps you can have the best of both words..?

Mike T.

Re: Best way implement an RPN stack?

*Message #36 Posted by **designnut** on 21 Oct 2010, 3:14 p.m.,*
in response to message #35 by Mike T.

I recall with amusement a friend using the original 35. He was never sure the entered number was still there when he keyed a new number, he always had to swap XY a few times to be sure. I learned to use a 4 stack and the repeating t register was useful to most of my keystroke solutions. I did feel sorrow whe engineers programmed simple solutions that were easy with RPN. Visibility of the sttackis possible the most useful feature now. Sam

Re: Best way implement an RPN stack?

*Message #37 Posted by **Thomas Klemm** on 21 Oct 2010, 3:47 p.m.,*
in response to message #36 by designnut

Did your friend ever check whether T was still there after calling a trigonometric function? That behavior (i.e. overwriting T with Z) would have driven me crazy, I guess.

Best regards
Thomas

Edited: 21 Oct 2010, 3:48 p.m.

Re: Best way implement an RPN stack?

*Message #38 Posted by **Eddie W. Shore** on 22 Oct 2010, 9:27 a.m.,*
in response to message #1 by Håkan Thörngren

I find that the classic four level stack is the easiest for me. (Choice #1)

Re: Best way implement an RPN stack?

*Message #39 Posted by **Thomas Klemm** on 22 Oct 2010, 5:30 p.m.,*
in response to message #1 by Håkan Thörngren

While I like both [1] and [3] and can't decide which I prefer I detest the mix of both as we have in the HP 20b:

- No stack lift after INPUT

- +/- changes ANS (aka LASTX)

Probably I wouldn't like the HP 30b neither.

Thinking about option [2] I wonder whether I'd like a 2nd parallel stack (similar to how you can "abuse" the return stack in Forth). You could push (>R) intermediate results that are somehow in the way and pop (R>) them later again when needed. I guess I'd prefer that to having an 8-level stack.

Best regards
Thomas

Edited: 22 Oct 2010, 5:33 p.m.

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Bright Light From The Dark Side

*Message #1 Posted by **Joerg Woerner** on 19 Oct 2010, 7:57 p.m.*

Surprise - they still do great scientific calculators!

The best thing since the legendary TI-68, just look at this keyboard. Tons of useful functions:

Regards, Joerg

Re: Bright Light From The Dark Side

*Message #2 Posted by **Don Shepherd** on 19 Oct 2010, 8:35 p.m.,*
in response to message #1 by Joerg Woerner

Hmmm, there's a prime factor finder hiding behind the MATH key. I wonder how fast it is. I've never seen such a thing outside of a much more expensive CAS calculator.

Re: Bright Light From The Dark Side

*Message #3 Posted by **Joerg Woerner** on 19 Oct 2010, 9:16 p.m.,*
in response to message #2 by Don Shepherd

It's sitting here on my desk - what operation should I perform on it?

Regards, Joerg

Re: Bright Light From The Dark Side

*Message #4 Posted by **Don Shepherd** on 19 Oct 2010, 10:28 p.m.,*
in response to message #3 by Joerg Woerner

See how long it takes it to find that 1,239,877 is prime.

Re: Bright Light From The Dark Side

*Message #5 Posted by **Walter B** on 20 Oct 2010, 3:59 a.m.,*
in response to message #4 by Don Shepherd

1239877 >Pfactor throws a "domain error" ... :)

Re: Bright Light From The Dark Side

*Message #6 Posted by **Richard J. Nelson** on 20 Oct 2010, 11:50 a.m.,*
in response to message #4 by Don Shepherd

Based on an HP48G/GX article in Issue 21 of *HP Solve* soon to be released the old and slow 48 says it is prime in 7.5 seconds.

X < > Y, Richard

Re: Bright Light From The Dark Side

*Message #7 Posted by **Don Shepherd** on 20 Oct 2010, 11:53 a.m.,*
in response to message #6 by Richard J. Nelson

That's pretty respectable. It makes you wonder what the "domain" is for this TI calc for finding prime factors.

Re: Bright Light From The Dark Side

*Message #8 Posted by **Walter B** on 20 Oct 2010, 12:50 p.m.,*
in response to message #7 by Don Shepherd

There seems to be no reliable domain information for >Pfactor in the manual I've downloaded.

Re: Bright Light From The Dark Side

*Message #9 Posted by **John Mosand** on 20 Oct 2010, 3:14 p.m.,*
in response to message #6 by Richard J. Nelson

And my 48SX does it almost instantly! It also factors non-prime 7 digit in about the same time.

Re: Bright Light From The Dark Side

*Message #10 Posted by **Ángel Martin** on 20 Oct 2010, 12:33 p.m.,*
in response to message #4 by Don Shepherd

FWIW, it takes less than 5 seconds using PRIME? on the SandMath module...

Re: Bright Light From The Dark Side

*Message #11 Posted by **Egan Ford** on 19 Oct 2010, 9:44 p.m.,*
in response to message #1 by Joerg Woerner

I love how Pi, i, and e share the same key. Euler would be proud. :-). It'd be especially neat if holding the key without modifiers gave you -1.

Re: Bright Light From The Dark Side

*Message #12 Posted by **BruceH** on 20 Oct 2010, 8:04 p.m.,*
in response to message #11 by Egan Ford

I like the ~ key above enter. Does this mean it allows 2 + 2 ~ 5 ?

;-)

Re: Bright Light From The Dark Side

*Message #13 Posted by **bill platt** on 19 Oct 2010, 9:59 p.m.,*
in response to message #1 by Joerg Woerner

Those offset operator keys (+-X/) would drive me crazy for sure for a while.

Re: Bright Light From The Dark Side

*Message #14 Posted by **Arnaud Amiel** on 20 Oct 2010, 3:31 a.m.,*
in response to message #13 by bill platt

It is just slightly worse than the hp49 serie.

Re: Bright Light From The Dark Side

*Message #15 Posted by **Walter B** on 20 Oct 2010, 1:49 a.m.,*
in response to message #1 by Joerg Woerner

Hmmh, how do you call e.g. sin or sin^-1 sitting on the same face of the same key, while 2nd is obviously needed for num-solv? Or !, nCr or nPr ? Do little menues pop up always? That would slow down operation quite a bit ...

Edited: 20 Oct 2010, 1:57 a.m.

Re: Bright Light From The Dark Side

*Message #16 Posted by **Tim Wessman** on 20 Oct 2010, 1:58 a.m.,*
in response to message #15 by Walter B

I think you click the key multiple times. . .

Sure is ugly though. About the most cosmetically unbalanced product I've ever seen.

TW

Edited: 20 Oct 2010, 1:59 a.m.

Re: Bright Light From The Dark Side

*Message #17 Posted by **Walter B** on 20 Oct 2010, 2:29 a.m.,*
in response to message #16 by Tim Wessman

Thanks - I found it with the emulator in parallel. Nice feature with bouncing keys d;-)

Though it's not my kind of calculator OS, it sports some nice ideas. Still exploring ...

Edit: Some comments in random order:

1. I can't set the radix mark to the regular comma. What to do?
2. The result of 2^3^2 and the like depends on the display mode set :((What did they think there?! IMHO, the "Math Print" mode is damn wrong in its result :((
3. They allow implicit multiplication like 4(2+3)3=60 :) But who told them it's smart to key in 4(5)(6) for 4*5*6 ? Seven keystrokes instead of five! You find many examples of this kind in the manual :(Is this the latest result of math education in the USA?
4. It sports two nice math functions sum(and prod(.
5. One submenu of math is called math again :-/
6. Angles given in radians are tagged by an "r" in the exponent. I'd have liked a less ambiguous tag.
7. Input of DMS data is tedious. And P<>R is real fun for RPN people ;)
8. The so called "Coulomb constant" equals 1/(4*pi*eps0) . FWIW

Edited: 20 Oct 2010, 5:13 a.m.

Re: Bright Light From The Dark Side

*Message #18 Posted by **David Hayden** on 20 Oct 2010, 9:26 a.m.,*
in response to message #16 by Tim Wessman

> Quote:
>
> Sure is ugly though. About the most cosmetically unbalanced product I've ever seen.

Yes, and it highlights the nice design of the latest HP calculators (35s, 20b, 30b). Design matters and HP is doing a good job of it again.

Dave

Re: Bright Light From The Dark Side

*Message #19 Posted by **Gerson W. Barbosa** on 20 Oct 2010, 9:29 a.m.,*
in response to message #16 by Tim Wessman

> Quote:
>
> Sure is ugly though. About the most cosmetically unbalanced product I've ever seen.

That's exactly my feeling about it, probably due to its strongly asymmetric shape. Definitely "quit" should be a primary function :-)

Gerson.

Edited: 20 Oct 2010, 9:32 a.m.

Re: Bright Light From The Dark Side

*Message #20 Posted by **Andrés C. Rodríguez (Argentina)** on 20 Oct 2010, 11:16 a.m.,*
in response to message #16 by Tim Wessman

Well, HP-33S (regretably) is not far from the ugliness record, and its display is poorer than this TI product. Even HP-35S display is rather difficult to read...

Best regards from an HP (and RPN) fan who uses a 42S emulator running on an iPod as the best "21 century" calc yet. Oh, also waiting for HP-30b repurposing advances!

Re: Bright Light From The Dark Side

*Message #21 Posted by **Walter B** on 22 Oct 2010, 11:59 a.m.,*
in response to message #20 by Andrés C. Rodríguez (Argentina)

> Quote:
>
> Oh, also waiting for HP-30b repurposing advances!

If no one takes care of the compiling then you may have to wait pretty long, I'm afraid. I definitivly hope being proven wrong, but up to now it seems to be far easier to vote for supporting than really

giving some support. We are still seeking ...

Re: Bright Light From The Dark Side

*Message #22 Posted by **Martin Pinckney** on 20 Oct 2010, 1:02 p.m.,*
in response to message #16 by Tim Wessman

> Quote:
>
> Sure is ugly though.

Well, I don't understand the current fascination with curves. (OK, just to preempt the wisecracks, you *know* what kind of curves I mean).

The modern TI's are all curved on the sides & bottom. HP copied the look on the 48gii, 49, 39 series, etc.

But you know the old saw about beauty in the eye...

To my eye, beautiful is a Pioneer or 48sx. I'm a square guy.

At least it doesn't have lavender keys like the 39gs I saw in the store yesterday.

Re: Bright Light From The Dark Side

*Message #23 Posted by **Jim L (OHIO)** on 22 Oct 2010, 10:25 a.m.,*
in response to message #22 by Martin Pinckney

> Quote:
>
> Well, I don't understand the current fascination with curves...
>
> To my eye, beautiful is a Pioneer or 48sx. I'm a square guy...

If this is a beauty contest, then I vote for my HP-41 "Twiggy" (no curves at all). BTW, does that make me a "Nut" then?

Edited: 22 Oct 2010, 10:27 a.m.

Re: Bright Light From The Dark Side

*Message #24 Posted by **Martin Pinckney** on 22 Oct 2010, 1:48 p.m.,*
in response to message #23 by Jim L (OHIO)

Well, the 41 is *slightly* curved. Not so the Pioneers. Unless you count the radiused corners...

Re: Bright Light From The Dark Side

*Message #25 Posted by **Jim L (OHIO)** on 22 Oct 2010, 2:16 p.m.,*
in response to message #24 by Martin Pinckney

> Quote:
>
> Well, the 41 is *slightly* curved. Not so the Pioneers. Unless you count the

radiused corners...

As we discussed earlier, these are after all, "personal opinions" :-)

I must admit that I did wonder if you were going mention the lower rounded corners of the Pioneers when I posted, so thank you for coming through with flying colors! Indeed, the radii on those corners must be tighter (rounder) than the radius of the slightly curved arc of the 41's bowed sides.

Now, as I lovingly view my beautiful, 100% square (in every dimension save for the LCD bezel's corners) HP-12C...

Re: Bright Light From The Dark Side

*Message #26 Posted by **Maximilian Hohmann** on 20 Oct 2010, 4:55 a.m.,*
in response to message #1 by Joerg Woerner

Hello!

What a disappointment: I read "bright light" and instantly thought of a luminous display ;-)

But still a nice calculator.

Regards, Max

Re: Bright Light From The Dark Side

*Message #27 Posted by **John B. Smitherman** on 20 Oct 2010, 7:59 a.m.,*
in response to message #1 by Joerg Woerner

It looks like TI has turned over their product development to China. :-(

John

Re: Bright Light From The Dark Side

*Message #28 Posted by **Luis Moreno** on 21 Oct 2010, 6:20 a.m.,*
in response to message #1 by Joerg Woerner

Hi Joerg,

Do you know if this model is only available in Germany, Switzerland and Austria?

Regards,

Re: Bright Light From The Dark Side

*Message #29 Posted by **Joerg Woerner** on 21 Oct 2010, 1:26 p.m.,*
in response to message #28 by Luis Moreno

It was available in some European countries and announced for most European countries.

Regards, Joerg

Re: Bright Light From The Dark Side

*Message #30 Posted by **Eddie W. Shore** on 22 Oct 2010, 9:17 a.m.,*
in response to message #1 by Joerg Woerner

Nice looking calculator, but it can use a few more keys.

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Factorials and the 35s

*Message #1 Posted by **Dieter** on 19 Oct 2010, 4:12 p.m.*

One thing I like about the 35s (and my first HP, the 34C) is the combined factorial and Gamma-function. One might think that a few multiplications to get 50! or 100! will be executed in almost no time while on the other hand evaluating a Gamma-function may take some time. So I was quite astonished when I noticed this:

- 100! and 101! take about one second. However, 100.5! (i.e. Gamma(101.5)) is returned about twice as fast in just half a second.
- 150! takes roughly 1.5 seconds - but 200! appears almost instantly.

So the 35s obviously uses at least three different algorithms. If n! is evaluated directly by 1*2*3*...*n I wonder why it takes almost two seconds in 35s machine language to do 150 multiplications. A similar RPN-program finishes in six seconds. I would have expected the internal function to run at least 10x as fast as my hand-written code.

However, the more interesting part is the obvious switch between two different algorithms that seems to take place near x=158 since 158! is slow while 159! is much faster.

The 35s seems to use a different method for factorials and the Gamma-function - which sounds quite obvious. The Gamma-algorithms seems to be somewhat faster. Which leads to the question why the 35s doesn't use this faster method for factorials as well.

Maybe someone out there can shed some light on all this. Or at least we can speculate a bit about what's going on here. :-)

Dieter

Re: Factorials and the 35s

*Message #2 Posted by **David Hayden** on 20 Oct 2010, 9:44 a.m.,*
in response to message #1 by Dieter

> Quote:
>
> However, the more interesting part is the obvious switch between two different algorithms that seems to take place near x=158 since 158! is slow while 159! is much faster.

I'm going to guess that there are actually two algorithms, one that multiplies integers and one that computes gamma. It uses the first algo for non-negative integers less than 159 and the second for all other numbers.

The slow processing speed may be due to the fact that it's doing BCD arithmetic, but I'm just speculating there. I don't know the details of the processor, but it does seem rather slow.

Continuing my speculation, when using the gamma function, they might convert the BCD number to binary and then compute gamma using binary arithmetic, which is usually much faster. When done, the would convert the result back. This might explain why gamma is pretty fast.

Dave

Re: Factorials and the 35s

*Message #3 Posted by **Marcus von Cube, Germany** on 21 Oct 2010, 5:30 p.m.,*
in response to message #2 by David Hayden

It's always a good idea to consult Viktor T. Toth's page about Gamma. The approximations are shorter then the repetitive multiplications but they are "only" approximations. It makes sense to use Gamma(x+1) instead of x! if the result has more nonzero leading digits than the maximum mantissa length of the calculator because above that the result can no longer be a non integer and thus approximation errors become less of a problem. I don't know why the 35s starts using Gamma instead of multiplication as late as 159!. 17! would be a better margin.

Edited: 21 Oct 2010, 5:31 p.m.

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HP71 zebra connector

*Message #1 Posted by **Alberto Fenini** on 19 Oct 2010, 4:02 p.m.*

Dear All,

I had posted few days ago a couple of pics of an HP71b I'm working on.
It was basically missing the zebra connector.
Following your suggestions and the pics found on Etienne's web site
I have done my best to replace it.

These are the left and the right side of the HP71b with the new connections.
To my surprise, the number of connectors available on the left side is **16**while on the right side we have **17**points.
To me it looks that the first and second soldering points on the right board
are actually the same connection, neverless the question is :
how the heck should I connect letf with right ???
Needless to say, I have attached the power supply but the units is still dead (well, it could be due to a million reasons anyway ....)
As always, any suggestion is VERY welcome !!!
Take care and thanks in advance, Alberto

Re: HP71 zebra connector

*Message #2 Posted by **Bart (UK)** on 19 Oct 2010, 5:00 p.m.,*
in response to message #1 by Alberto Fenini

Hi,

Sorry, couldn't help noticing. There are 17 connection points on both sides. You have missed the 4th one from the top in the top picture, and second one from the bottom in the bottom picture (which indeed seem to be connected).

Good luck, hope you get it working.

Re: HP71 zebra connector

*Message #3 Posted by **Alberto Fenini** on 19 Oct 2010, 5:09 p.m.,*
in response to message #2 by Bart (UK)

Hi, and thanks for noticing it,
I knew about the 2nd from the bottom, I did it on purpose
since I thought it was connected with the adjacent

let me try agin and I'll post the results
thanks again ! Alberto

Re: HP71 zebra connector

*Message #4 Posted by **Alberto Fenini** on 19 Oct 2010, 5:36 p.m.,*
in response to message #3 by Alberto Fenini

and it ..... WORKS !!!!!!!!!!

since it was purchased for 65,00 US$ on TAS described as
"HP-71B non working for spare parts" I must admit the some time TAS is not too bad ...
thanks everybody for helping me out,
take care Alberto

Re: HP71 zebra connector

*Message #5 Posted by **Bart (UK)** on 19 Oct 2010, 6:22 p.m.,*
in response to message #4 by Alberto Fenini

Congratulations!! Always good to see an old calculating/computing device working again :).

Re: HP71 zebra connector

*Message #6 Posted by **Jerry Raia** on 20 Oct 2010, 1:21 a.m.,*
in response to message #5 by Bart (UK)

The 71 is a classic, one of a kind.

Re: HP71 zebra connector

*Message #7 Posted by **Michael Meyer** on 20 Oct 2010, 4:23 p.m.,*
in response to message #6 by Jerry Raia

The world is one HP-71b better! Congratulations! My first real computer, and still one very powerful machine.

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HP Forum Archive 19

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HP 15-C has odd flashing display

*Message #1 Posted by **dougo51** on 19 Oct 2010, 10:57 a.m.*

Inserted new batteries. Calc only comes on after holding the "on" key for about 5 secs. Display comes up as follows and is flashing. Note that 3 characters look like incomplete zeroes but obviously I can only post them here as complete characters. Note my use of "space" between characters:

"083spacespace0d,088space," Again, all zeroes are partial as if lcd is failing but it was working fine.

While flashing, if I hit other keys, calculator goes off.

Any help to get this old dog (bought in 1985) working again is much appreciated.

Re: HP 15-C has odd flashing display

*Message #2 Posted by **Eric Smith** on 19 Oct 2010, 1:10 p.m.,*
in response to message #1 by dougo51

Try holding the y^x key down then pressing the ON key. This forces a hardware reset, but doesn't change the content of memory. The content of the display should change, but not necessarily to anything sensible given what you've described.

Then turn it off. With it off, try holding down the minus key while pressing the ON key. That should clear the memory, resulting in a display of "Pr Error".

If that doesn't work, remove the batteries, leave them out for a few days, and try again.

I've never seen a 15C behaving as badly as you describe, so it's possible that it has a hardware fault.

Re: HP 15-C has odd flashing display

*Message #3 Posted by **uhmgawa** on 19 Oct 2010, 11:47 p.m.,*
in response to message #2 by Eric Smith

> Quote:
>
> I've never seen a 15C behaving as badly as you describe, so it's possible that it has a hardware fault.

I've seen some similar weird behavior trying to come out of power down recently with a pre 28xx s/n 12c in which I was probing around. It required removal of the batteries and short of the electrolytic cap to sort itself out. Not that the OP was doing the same, but it seems either the NUT or R2D2 can get into a locked up state, perhaps more conventionally via non fatal ESD.

Re: HP 15-C has odd flashing display

*Message #4 Posted by **dougo51** on 20 Oct 2010, 3:28 p.m.,*
in response to message #2 by Eric Smith

Thank you for your help and suggestions. Unfortunately, it had no impact. Flashing characters remain exactly the same regardless of what I do including the y^x suggestion. Also, batteries were out for a few days until I got around to replacing them so I doubt that suggestion will work but will try. I had followed ops manual instruction to short battery terminals briefly, but that had no effect either. Someone asked aboout s/n. It is: 2840A87206 with USA printed to left of s/n. How about using a previous cure all before power up/down became so popular--several blows with a hammer?

Re: HP 15-C has odd flashing display

*Message #5 Posted by **uhmgawa** on 20 Oct 2010, 4:32 p.m.,*
in response to message #4 by dougo51

> Quote:
>
> Someone asked aboout s/n. It is: 2840A87206 with USA printed to left of s/n.

That's the package reduced vintage with the former memory-use only r2d2 integrated in the cpu. I don't have one here but I'd speculate the external ISA bus still carries all activity. You could scope it to see if the cpu is executing bus cycles coming out of sleep. It should fall back into sleep (after a few seconds IIRC) where bus activity is quiesced, notably the bus clocks are idled.

The R2D2 has AFAICT a separate RC oscillator which clocks the display drive scan. So if you are seeing random junk on the display it could be the cpu hasn't set the display registers to a known state coming out of sleep/power-up and it is just rendering random power up data.

I'd still take a look at the LC oscillator and verify that is stable. Other issues I've noticed is a stuck key on the same row as the on key can cause startup problems (f/g/sto/rcl). Although in that case the firmware bails on power-up and shouldn't cause the failure you've described.

Don't discount physical damage in terms of an open lqfp package to pcb trace. I've seen some marginal reflow solder jobs on voyagers that I'd never expect to be associated with the name HP. So it could be an intermittent (or a contamination short).

> Quote:
>
> How about using a previous cure all before power up/down became so popular--several blows with a hammer?

Resist the temptation. If all attempts at resurrection fail someone will still buy it from you on EEEbay for a price which will leave you with an incredible story to tell.

Re: HP 15-C has odd flashing display

*Message #6 Posted by **uhmgawa** on 19 Oct 2010, 11:44 p.m.,*
in response to message #1 by dougo51

> Quote:
>
> Inserted new batteries. Calc only comes on after holding the "on" key for about 5 secs. Display comes up as follows and is flashing. Note that 3 characters look like incomplete zeroes but obviously I can only post them here as complete characters. Note my use of "space" between

characters:

"083spacespace0d,088space," Again, all zeroes are partial as if lcd is failing but it was working fine.

While flashing, if I hit other keys, calculator goes off.

Any help to get this old dog (bought in 1985) working again is much appreciated.

If you're still having issues and are up for some investigation I'd scope the LC oscillator tank. If the clock isn't restarting reliably when the NUT tries to come out of power down it could lead to such anomalies.

What might the serial number of this unit be?

Edited: 20 Oct 2010, 12:29 a.m.

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12c packaging

*Message #1 Posted by **PeterP** on 18 Oct 2010, 11:46 p.m.*

Hi, i was just wondering if there was a packaging for the 12c in the same style as for the 10c,11c 15c and 16c (all of which I have at home) but I have not seen a similar style for the 12c. Anyone knows if it exists?

Thanks!

Peter

Re: 12c packaging

*Message #2 Posted by **Eric Smith** on 19 Oct 2010, 1:06 a.m.,*
in response to message #1 by PeterP

Do you mean the cardboard box? Yes, it was nearly identical to those of the other Voyagers.

Re: 12c packaging

*Message #3 Posted by **Raymond Del Tondo** on 19 Oct 2010, 4:40 a.m.,*
in response to message #1 by PeterP

As Eric indicated, the 12C box had the same form factor, but a different graphical layout:

Maybe there exist 12C boxes with the same layout as the other voyagers, but I haven't seen one yet...

Raymond

Edited: 19 Oct 2010, 4:43 a.m.

Re: 12c packaging

*Message #4 Posted by **PeterP** on 19 Oct 2010, 10:30 a.m.,*
in response to message #3 by Raymond Del Tondo

Thanks guys, at least Im not the only one that has not seen a box with the same graphical layout as the others...

Cheers

Peter

Re: 12c packaging

*Message #5 Posted by **Alberto Fenini** on 19 Oct 2010, 5:07 p.m.,*
in response to message #4 by PeterP

ciao Peter,
indeed it has existed, and to my knowledge at least in two different versions.

The one with bigger purple boxes is an earlier version identical to the other voyager boxes in appearance and size.
The second one is a later version, still same look, but different size, some small details are different as well.
The oldest, belong to a 12C S/N 2421A29479, and it makes sense,
since I also have the invoice, dated 9-6-85
The later one has a 12C SN/ 2702A02326, but in this case if I remember well,
box and calc are coming from two different sellers, and it was just a completetion of the set.
take care Alberto

Re: 12c packaging

*Message #6 Posted by **PeterP** on 20 Oct 2010, 12:42 a.m.,*
in response to message #5 by Alberto Fenini

Grazie mille Alberto! Allora, seems there is always one more thing to hunt down... And I was so happy when I got a HP10c with box etc... Now I have to get a 12c box of the same design...

Thanks again for your kind pictures and explanations

Cheers

Peter

Re: 12c packaging

*Message #7 Posted by **Alberto Fenini** on 20 Oct 2010, 7:59 a.m.,*
in response to message #6 by PeterP

You are very welcome !
The packaging of these items is as fascinating as the items themselves.
For instance, the Spice serie had a different package for the American and the European markets.
The USA version is square sized, while the European version has the same look but is rectangular.
If anyone is interested, it will be a pleasure to post more pics.
Take care Alberto

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Navigation Module

*Message #1 Posted by **Jeff Kearns** on 17 Oct 2010, 6:06 p.m.*

HP 41C with Nav - Time and X Modules

Why was I the only bidder on this auction? Not only does the unit come with the Nav, x-functions, and time modules but it has the QUAD memory module too, with all manuals! I have always wanted a navigation module and thought this was a good buy considering that one sold recently for $125.

Considering the high prices for recent sales of the 15C (I got one in excellent shape at a garage sale last year for $5), am I missing something?

Jeff

Re: Navigation Module

*Message #2 Posted by **Raymond Del Tondo** on 17 Oct 2010, 6:40 p.m.,*
in response to message #1 by Jeff Kearns

Congrats, very nice item for a low price:-)

Why you were the only bidder: Maybe because the seller did not look at his watch when starting the auction. At 13:30 many people may just have gotten tired from eating;-)

HTH

Re: Navigation Module

*Message #3 Posted by **Jeff Kearns** on 17 Oct 2010, 6:45 p.m.,*
in response to message #2 by Raymond Del Tondo

Thanks! I thought so. One constraint may have been the US only shipping policy of this seller that would certainly limit the bidder pool significantly. I live in Canada but used a friend's address in the US for shipping.

I look forward to having a spare 41C too!

Regards,

Jeff Kearns

Re: Navigation Module (w/enhanced HP-41C)

*Message #4 Posted by **Karl Schneider** on 17 Oct 2010, 10:06 p.m.,*
in response to message #1 by Jeff Kearns

Jeff --

Congratulations on purchasing a great bargain for a collector! Looks to be a non-tallkeys HP-41C, like mine from 1980. A few years ago, I probably would have competed in the auction, but I have all the main pieces of the full ensemble shown.

Your new HP-41C with Quad Memory, Time Module, and Navigation Pac is able to run Tom Sherman's 1985 celestial locator application program for navigation, which I have loaded on my HP-41's. Given the local lat/lon and the UTC time and date, it will identify the position in the sky of the sun, moon, Venus, Mars, Jupiter, Saturn, and a broad selection of stars useful for navigation -- in short, all the celestial objects supported by the Nav Pac.

Each calculation takes several minutes, but it's never wrong...

The X-Functions module provides some backup storage and other useful functions, but you might want X-memory modules as well.

-- KS

Edited: 17 Oct 2010, 11:12 p.m. after one or more responses were posted

Re: Navigation Module (w/enhanced HP-41C)

*Message #5 Posted by **Jeff Kearns** on 17 Oct 2010, 10:37 p.m.,*
in response to message #4 by Karl Schneider

Karl,

Thanks for your post! I actually work for a company that makes ECDIS (Electronic Chart Display and Information Systems) products for warships and submarines, although my background in the navy was primarily in marine engineering. I have always had an interest in navigation and astronomy and have played around with the Nav Pac on my Palm-based P41CX. It should be an interesting exercise to run Tom Sherman's 1985 celestial locator application program for navigation - when I find it!!!

So far, I found reference to it in an old post here, in which you participated: Tom Sherman's Celestial Locator Post

If I cannot find it on my own, I will be in touch.

Regards,

Jeff

Tom Sherman's celestial locator for HP-41

*Message #6 Posted by **Karl Schneider** on 18 Oct 2010, 2:42 a.m.,*
in response to message #5 by Jeff Kearns

Jeff --

Geir Isene modified the program to provide a quicker, more compact user interface. I then inserted a single valuable instruction.

I possess the full hardcopy documentation from Tom with source listing, but I use Geir's version.

Geir's version includes the following instruction sequence in two places:

```
FS? 31
```

```
XEQ "DMD"
```

Flag 31 is a system flag that indicates the date format, but I don't seem to have the program "DMD". I suspect that it is Geir's own program for processing the date or its format.

Geir's program fits on three HP-41 magnetic cards (Tom's original fits on two).

-- KS

Re: Tom Sherman's celestial locator for HP-41

*Message #7 Posted by **Geir Isene** on 18 Oct 2010, 7:45 a.m.,*
in response to message #6 by Karl Schneider

Right, the DMD...

What it does is just to convert the date formats - between DD.MMYYYY and MM.DDYYYY (either way), like this:

```
LBL "DMD"
ENTER
INT
X<>Y
FRC
100
*
ENTER
INT
X<>Y
100
/
+
X<>Y
100
/
+
END
```

Edited: 18 Oct 2010, 7:46 a.m.

Re: Tom Sherman's celestial locator for HP-41

*Message #8 Posted by **Thomas Klemm** on 18 Oct 2010, 10:19 a.m.,*
in response to message #7 by Geir Isene

```
 01 LBL "DMD"
 02 INT
 03 LASTX
 04 FRC
 05 100
 06 *
 07 INT
 08 X<>Y
 09 LASTX
 10 FRC
 11 +
 12 100
 13 /
 14 +
 15 END
```

Saves a few bytes.

Best regards
Thomas

Re: Tom Sherman's celestial locator for HP-41

*Message #9 Posted by **Geir Isene** on 18 Oct 2010, 12:33 p.m.,*
in response to message #8 by Thomas Klemm

Excellent.

Re: Tom Sherman's celestial locator for HP-41

*Message #10 Posted by **Geir Isene** on 19 Oct 2010, 6:25 a.m.,*
in response to message #9 by Geir Isene

LASTX is perhaps the least used instruction in my programs. I should get used to it.

Geir Isene's improved version of celestial locator program

*Message #11 Posted by **Karl Schneider** on 21 Oct 2010, 3:41 a.m.,*
in response to message #5 by Jeff Kearns

Jeff --

You had found one of the threads regarding Tom Sherman's HP-41 celestial locator program, but there was another thread in 2006 in which Tom contributed and Geir posted his improved version of the program:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=91858#91858

I will copy and paste Geir's version below, together with the "DMD" program he omitted in 2006 (as recently refined by Thomas Klemm), and also including one worthwhile instruction added by me (003 DEG, to ensure that the degree angular mode is set for calculations).

The "DMD" program allows the user to maintain European-style date mode (dd.mmyyyy), which is initiated by running the Time Module command "DMY" (which sets Flag 31). The Nav Pac subroutine "FA" requires that the input date be formatted US-style (mm.ddyyyy), as documented on page 41 of the Nav Pac manual.

As a side note, years outside the range 1900-1999 are displayed on the HP-41 using four digits. The full dates look nicer in European format on the HP-41's 12-character display.

For guidance in usage, please see Geir's description of the features of his program, in the thread of 2006. I'll also note that entry of an arbitrary date and time is of the form <date> ENTER <time>, occupying two stack levels. In the source code listing, "|-" is the unprintable 'append' character shift-K in ALPHA mode.

The complete, improved program:

```
001 *LBL "SKY"          051  "LO"                101  GTO 02           151  DATE
002  LBL e              052  XROM "DSPLO"        102  LBL a            152  FS? 31
003  DEG                053  "|-?"               103  "VENUS"          153  XEQ
"DMD"
004  CF 01              054  PROMPT              104  AVIEW            154  STO 30
005  CF 02              055  XROM "*HR"          105  6                155  TIME
006  SF 00              056  STO 08              106  LBL 06           156  LBL 12
007  CLK24              057  LBL E               107  XEQ 01           157  RCL 54
008  "DT+TM=<NOW>"      058  "S,V O,M *,J ,SA"   108  .017             158  HMS-
009  CF 22              059  PROMPT              109  +                159  FS? 03
010  PROMPT             060  LBL A               110  STO 34           160  1
011  FC? 22             061  "SUN"               111  XROM "*VENUS"    161  FS? 03
012  GTO 10             062  AVIEW               112  GTO 02           162  HMS+
013  STO 55             063  3                   113  LBL b            163  HR
014  X<>Y               064  LBL 03              114  "MARS"           164  RTN
```

```
015  FS? 31            065  XEQ 01            115  AVIEW             165  LBL 02
016  XEQ "DMD"         066  .012              116  7                 166  RCL 44
017  STO 30            067  +                 117  LBL 07            167  RCL 45
018  SF 02             068  STO 34            118  XEQ 01            168  +
019  LBL 10            069  XROM "*SUN"       119  .019              169  RCL 08
020  RCL 54            070  GTO 02            120  +                 170  -
021  "TZ= "            071  LBL B             121  STO 34            171  RCL 07
022  ARCL X            072  "MOON"            122  XROM "*MARS"      172  RCL 46
023  PROMPT            073  AVIEW             123  GTO 02            173  XROM
"*SRT"
024  STO 54            074  4                 124  LBL c             174  CF 21
025  "N"               075  LBL 04            125  "JUPITER"         175  BEEP
026  ASTO Y            076  XEQ 01            126  AVIEW             176  FIX 1
027  "SUM.TIME? <"     077  .026              127  8                 177  "ALT= "
028  FS? 03            078  +                 128  LBL 08            178  ARCL X
029  "|-Y"             079  STO 34            129  XEQ 01            179  AVIEW
030  FC? 03            080  XROM "*MOON"      130  .02               180  PSE
031  "|-N"             081  GTO 02            131  +                 181  PSE
032  "|->"             082  LBL C             132  STO 34            182  "AZI= "
033  CF 23             083  "STAR NO= ?"      133  XROM "*JUPIT"     183  ARCL Y
034  AON               084  PROMPT            134  GTO 02            184  AVIEW
035  PROMPT            085  INT               135  LBL d             185  FC? 01
036  AOFF              086  STO 47            136  "SATURN"          186  STOP
037  FC? 23            087  FIX 0             137  AVIEW             187  SF 01
038  GTO 11            088  "STAR "           138  9                 188  GTO IND
56
039  ASTO X            089  ARCL 47           139  LBL 09            189 *LBL
"DMD"
040  X NE Y?           090  AVIEW             140  XEQ 01            190  INT
041  SF 03             091  5                 141  .024              191  LASTX
042  LBL 11            092  LBL 05            142  +                 192  FRC
043  RCL 07            093  XEQ 01            143  STO 34            193  100
044  "LAT"             094  .011              144  XROM "*SATUR"     194  *
045  XROM "DSPL"       095  +                 145  GTO 02            195  INT
046  "|-?"             096  STO 34            146  LBL 01            196  X<>Y
047  PROMPT            097  RCL 30            147  STO 56            197  LASTX
048  XROM "*HR"        098  XROM "FA"         148  RCL 55            198  FRC
049  STO 07            099  STO 44            149  FS? 02            199  +
050  RCL 08            100  XROM "*STAR"      150  GTO 12            200  100
                                                                     201  /
                                                                     202  +
                                                                     203  END
```

-- KS

Edited: 3 Nov 2010, 12:22 a.m. after one or more responses were posted

Re: Geir Isene's improved version of celestial locator program

*Message #12 Posted by **Jeff Kearns** on 23 Oct 2010, 7:28 p.m.,*
in response to message #11 by Karl Schneider

Karl,

Thanks. I expect to receive the Nav module in the next couple of days - it arrived at my surrogate US destination intact on Thursday. I look forward to trying out these programs and am pleased that, with the DMD program, I can maintain European/Canadian date formats.

Best regards,

Jeff Kearns

Re: Geir Isene's improved version of celestial locator program

*Message #13 Posted by **Ángel Martin** on 25 Oct 2010, 10:17 a.m.,*
in response to message #11 by Karl Schneider

I have compiled a ROM file with this program and the ASTRO module U/I add-on, also written by Geir. A MOD file will be posted at TOS in a few days, but it'd good to have some testers before

that. Do I hear any volunteers?

Cheers, ÁM

Re: Geir Isene's improved version of celestial locator program

*Message #14 Posted by **Jeff Kearns** on 3 Nov 2010, 4:53 p.m.,*
in response to message #11 by Karl Schneider

Karl,

Thanks again for the complete improved program! I have been playing around with the Navigation, Time, and X-Functions modules in what is now a spare 41C. I also picked up a used copy of volumes 1 and 2 of the Admiralty Manual of Navigation - an excellent resource for the theory and practical application of celestial navigation and dead reckoning techniques.

As an aside, I remember reading once in a novel (of all places) that the term "dead reckoning" is a morphed or bastardized version of the original abbreviation of deduced reckoning; "ded. reckoning".

I will try out the program soon and report back!

Jeff

Re: Geir Isene's improved version of celestial locator program

*Message #15 Posted by **Karl Schneider** on 4 Nov 2010, 10:42 p.m.,*
in response to message #14 by Jeff Kearns

Jeff --

Enjoy using the program, which always gives correct results as far as my unmeasured 'eyeball estimation' tells me.

I expect that you've already entered it manually -- I do not have the means of electronic transmission by HP-41, other than the 'electro-physical' method of using magnetic cards.

(So *that's* where "dead reckoning" came from!)

-- KS

Edited: 6 Nov 2010, 3:51 p.m.

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voyager R2D2 documents?

*Message #1 Posted by **uhmgawa** on 17 Oct 2010, 3:32 a.m.*

While experimenting with older voyagers I've been wondering if after 30 years something approximating an R2D2 data sheet may have surfaced somewhere. The evidence thus far tells me no, however it seems no harm in asking.

I'm aware of the brief data sheets for the individual hp-41c rom, ram, and display devices. And while useful to an extent, they obviously fall short of being an R2D2 reference.

Off-forum replies as well much appreciated.

Thanks!

Re: voyager R2D2 documents?

*Message #2 Posted by **Eric Smith** on 18 Oct 2010, 3:51 p.m.,*
in response to message #1 by uhmgawa

I had to reverse-engineer how the R2D2 works because I couldn't get any datasheet.

It's not a very complicated device.

Re: voyager R2D2 documents?

*Message #3 Posted by **Martin Pinckney** on 18 Oct 2010, 4:15 p.m.,*
in response to message #2 by Eric Smith

Couldn't you just ask 3-CPO?

Re: voyager R2D2 documents?

*Message #4 Posted by **uhmgawa** on 19 Oct 2010, 11:27 p.m.,*
in response to message #2 by Eric Smith

> Quote:
>
> I had to reverse-engineer how the R2D2 works because I couldn't get any datasheet.

Understood. But I figured it was worth asking on the remote chance some HP retiree happened on one in the attic. I'm still finding MOS Technology (who?) data sheets in mine.

> Quote:
>
> It's not a very complicated device.

From that required by the firmware programming model I'd agree. But this can easily gloss over subtle

quirks, register access behavior, etc.. Driving the ISA bus directly via other than a NUT processor was my intention. A few weeks ago I cobbled together an ISA bus sniffer to capture rom images among other interesting data. Fairly trivial given the extremely slow bus speed even with modest bus data interpretation during acquisition. But it would still be useful to have electrical and timing specs for the device, even minimally so similar to the 41c ancient scrolls.

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hp-15c: From my museum to yours..

*Message #1 Posted by **uhmgawa** on 17 Oct 2010, 12:05 a.m.*

I'm trying to puzzle what someone actually does with a near pristine calculator which has obviously been sitting in a desk drawer for the past 30 years. Well, other than put in their own desk drawer for the next 30.

Not that I can't appreciate the rarity here of a specimen which appears never to have been touched by a human. But I'd be more than a little nervous about actually *using it* as a calculator lest I unwittingly inflict the first $100 nick.

I witnessed this auction gone wild about a week ago:

http://cgi.ebay.com/Hewlett-Packard-HP-15C-Scientific-Calculator-/200526940627?pt=Calculators&hash=item2eb05649d3

And earlier today a near repeat of the above lunacy:

http://cgi.ebay.com/EARLY-HEWLETT-PACKARD-HP-15C-HP-15C-CALCULATOR-/300479956436?pt=Calculators&hash=item45f60045d4

I thought I was certifiably nuts to have paid ~$100 for what amounts to a $20~$30 manufacturing BoM cost comprising my 15cs. I guess when I'm ready to retire I can sell them along with my museum quality 16c, complete with original cardboard box and nerd-gotta-have-it antistatic pink foam sleeve.

Re: hp-15c: From my museum to yours..

*Message #2 Posted by **Namir** on 17 Oct 2010, 8:31 a.m.,*
in response to message #1 by uhmgawa

That's why I like emulators .... sure no physical contact with the actual buttons ... but think of all the advantages:

```
1. No worry about battery.
2. All keys work ok ALL the time!
3. No LCD problems.
5. Emulator always looks pristine!
4. Some emulators allow you to save and load programs. Yeah for that!!! Try that with a
real15C.
5. Travels with you without adding weight or suffering transportation damage.
6. Usage does not decrease value!
7. Other advantages that have escaped me!
```

:-)

Namir

Edited: 17 Oct 2010, 8:31 a.m.

Re: hp-15c: From my museum to yours..

*Message #3 Posted by **robert rozee** on 17 Oct 2010, 9:41 a.m.,*

in response to message #2 by Namir

looks like the insanity of days gone by have returned - 12 or so years back i remember selling a near-pristine hp-15c along with both manuals (also near perfect) and it's box on ebay for close to us$500.

should i be taking better care of the hp-16c i have sitting here? again, close to perfect apart from an only-just perceivable shallow ding in the aluminium above the display (only visible in the right light). is one of the 'cheap' ones with repainted 15c keys. cost my nz$20 on trademe, a local internet auction site.

btw, does anyone have a good solution for a missing 11c badge? got that calculator a few years back for nz$30, a little scruffy and sans that rather vital id mark - the seller didn't know it was an hp, he thought it was broke!

cheers, rob :-)

Re: hp-15c: From my museum to yours..

*Message #4 Posted by **uhmgawa** on 17 Oct 2010, 2:12 p.m.,*
in response to message #3 by robert rozee

> Quote:
>
> btw, does anyone have a good solution for a missing 11c badge?

I instigated this discussion relative to a logo-less 15c:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv019.cgi?read=172067#172067

Since then I've managed to acquire another logo-less 15c so I really need to do something. That something is likely going to be laminating a thin sheet of tempered aluminum to a black ABS base and engraving out the logo relief. The smallest detail of an original logo requires about a 0.2mm cut width at a depth of about the same 0.2mm. I found some CNC bits on EEEbay with a 0.1mm tip and a 20* taper which will do the job.

That will likely outlast the rest of the calculator. The only thing throttling the effort is not having yet produced the numeric artwork. I just wish I could fix this "free time" deficit problem.

> Quote:
>
> got that calculator a few years back for nz$30, a little scruffy and sans that rather vital id mark - the seller didn't know it was an hp, he thought it was broke!

That's right, its obviously is broken. Can't even get the 4-banger numeric operations to work the same as every other calculator on the planet. I hope more sellers like this emerge.

Re: hp-15c: From my museum to yours..

*Message #5 Posted by **Dallas Osborne** on 18 Oct 2010, 11:14 a.m.,*
in response to message #3 by robert rozee

PM me, I have been casting them in silver. If you have a spare 15c badge that you would be willing to loan, I would start on these, too.

Re: hp-15c: From my museum to yours..

*Message #6 Posted by **uhmgawa** on 19 Oct 2010, 3:48 a.m.,*
in response to message #3 by robert rozee

> Quote:
>
> looks like the insanity of days gone by have returned - 12 or so years back i remember selling a near-pristine hp-15c along with both manuals (also near perfect) and it's box on ebay for close to us$500.

To be fair, some are downright entertaining. This unraveled late last week. Looked ok at first but then scanning through the pictures I noticed all the case screws were missing. And then the case back comes off:

http://cgi.ebay.com/HP15C-USED-1-OWNER-REAL-VINTAGE-/260675292289?pt=Calculators&hash=item3cb1754c81

I'd have to admit the diatribe explanation on the auction page was interesting. I asked the whereabouts of the ESD bonding springs and didn't get an answer that at least I understood. Somewhere around getting a shipping quote in excess of US$70 I sort of lost interest..

Edited: 19 Oct 2010, 3:52 a.m.

Re: hp-15c: From my museum to yours..

*Message #7 Posted by **uhmgawa** on 17 Oct 2010, 1:46 p.m.,*
in response to message #2 by Namir

> Quote:
>
> That's why I like emulators .... sure no physical contact with the actual buttons ... but think of all the advantages:

Playing the devil's advocate here..

> Quote:
>
> 1. No worry about battery.

There are few computation devices which have a battery life surpassing an original voyager.

> Quote:
>
> 2. All keys work ok ALL the time!

The original 9mm voyager tact dome switches have an estimated 5M cycle life. For an emulator a touch screen may or may not exceed this for service life cycle expectation of a single physical location but it is also shared usage. More importantly the dedicated physical tact switch matrix is a fundamental UI attraction of a voyager.

> Quote:
>
> 3. No LCD problems.

You wont find a better proposition on the LCD contrast vs. power consumption scale that a reflective monochrome display (particularly the earlier voyagers which have a lower voltage multiplex ratio). It is also about as simple as possible in terms of physical construction.

> Quote:
>
> 5. Emulator always looks pristine!

Pristine simulation?

> Quote:
>
> 4. Some emulators allow you to save and load programs. Yeah for that!!! Try that with a real15C.

You got me there.

> Quote:
>
> 5. Travels with you without adding weight or suffering transportation damage. 6. Usage does not decrease value!

The emulation host can suffer physical damage and once the host is toast, the value of the emulator goes to zero unless you're planning on purchase of another host.

Don't get me wrong, I think code emulators are fine tools. But they aren't the equivalent user experience of a physical voyager which is exactly what fosters the price insanity witnessed above.

Ironically I doubt we'll ever see HP introduce encore voyagers in a maneuver analogous to the 35s. Also limited availability of the original voyagers is what props up their prices to lunacy. Unsure how much of a commercial success the 35s turned out to be but as a user I wasn't really impressed with that execution.

Re: hp-15c: From my museum to yours..

*Message #8 Posted by **Martin Pinckney** on 17 Oct 2010, 9:18 p.m.,*
in response to message #2 by Namir

To me the only value of an emulator is to debug programs before entering them in. A hand-held is a hand-held. A computer is a computer. I sit at my desk with a set of drawings rolled out and my calculator on top of the drawing or nearby. There is also a scale or two nearby, and a pencil and a red pen. Sometimes (gasp!) even a compass.

And I can't imagine buying a calculator to sit in a case, untouched.

But that's just me. To each his own.

P.S. Yes, of course I use the computer. A lot more than the calculators. But for different functions.

Edited: 17 Oct 2010, 9:20 p.m.

Re: hp-15c: From my museum to yours..

*Message #9 Posted by **David** on 17 Oct 2010, 10:53 a.m.,*

in response to message #1 by uhmgawa

sweet jesus. 777 is the highest I've seen. I've seen some in 600's this summer. and for a unit without a box/manuals, at that.

Last week I was trying to buy a non-functional 15C for parts. It went for > $200, and it was clearly labeled in the title as non-functional.

It does seem to wax and wane, though. Also this summer I missed the opportunity to get a 15C for < $100. It was beat to hell but did work.

'measuring worth' seems to think that $135 in 1981 dollars is equivalent to $319 in 2010 dollars. So that's only about 2.6% annual appreciation over the past 29 years. Frankly I'm just happy that folks still love them, and that they are obtainable.

Edited: 17 Oct 2010, 11:00 a.m.

Re: hp-15c: From my museum to yours..

*Message #10 Posted by **Michael Meyer** on 17 Oct 2010, 5:13 p.m.,*
in response to message #9 by David

I was able to buy a working 15C a few months ago for $40 USD. It was pretty beat up and had a scratched up back label. I printed a new label from plastic paper on my laser printer and added 4 new rubber feet and it's perfect as a travel machine!

Re: hp-15c: From my museum to yours..

*Message #11 Posted by **Keith Midson** on 17 Oct 2010, 8:52 p.m.,*
in response to message #1 by uhmgawa

It all comes down to how badly someone wants something at any one time. I was the second highest bidder in the first auction (I am still in shock that US$767 didn't win it for me!), and won the second auction.
For me it's about getting a mint condition early model 15C back in my collection (which consists of about 100 HP's and a few Sharps). I recently sold me 'not-so-mint' 15C to make room for a new one. The collection just wasn't complete without a 15C.
Unfortunately for me other people also wanted 15C's badly at the same time, which seemed to push the price up!!
I am actually working on an on-line 'museum' at the moment so that others can enjoy the collection as well. Trying to make it a little different to others already out there.
Cheers, Keith (Australia)

Re: hp-15c: From my museum to yours..

*Message #12 Posted by **M. Joury** on 18 Oct 2010, 12:03 p.m.,*
in response to message #1 by uhmgawa

Wow! I bought one about 10 years ago, brand new in the box with all manuals for around $150. $777 is, well, wild (at least more than I would be willing to pay)! I was just looking at mine today (before seeing this post) and wondering if I would ever actually use it. I have a couple very good 15c's that I use from time to time but the new one remains untouched (or at least unused).

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was: A little programming chalenge: My solution, the principle

*Message #1 Posted by **Patrice** on 16 Oct 2010, 8:25 p.m.*

Hi all,

Contrary to what I expected, I did not present my solution at HHC 2010 because the schedule was too tight. Instead, I presented it after the conference in short comity.

As said previously, one sub-problem is to know how many cells can be filled for the current shape.

Said otherwise, the whole thing is about having a tool that tells you that you can't reach the maximum as soon as possible, in order to abort useless search as soon as possible.

My solution is to build a table which answers the 2 problems. When the table is filled, it tells the maximum number of cells that can be filled for the current shape.

I build the table cell by cell, starting by the last cell and going backward, so the part of the table already built is useful to build itself for the previous cell. And the process is repeated until the table is full.

I build the table by asking a question: while adding 1 more cell, can I find a filling order which allow 1 more cell filled?

Do you need more details?

Is it efficient? Yes it is! A square of 9*9 is filled in less than a second (actually it is closer to 0.1 second)

Patrice

Re: was: A little programming chalenge: My solution, the principle

*Message #2 Posted by **David Hayden** on 21 Oct 2010, 9:15 a.m.,*
in response to message #1 by Patrice

Hi Patrice,

Yes, more details please. I have tried to fill in the details based on what you've said and it seems to me to be more complicated than you imply. I'm probably missing something. Perhaps if you give an example.

Thanks, Dave

Re: was: A little programming chalenge: My solution, the principle

*Message #3 Posted by **Patrice** on 21 Oct 2010, 3:08 p.m.,*
in response to message #2 by David Hayden

Hi all,

The following is to be saved as a csv file and then opened in excel. This sample data is from the filling of a square of 9*9.

```
maxx;maxy;topx;topy;botx;boty;realx;realy
0;81;0;0;0;0;0;0
81;0;0;1;1;0;1;0
;;0;2;1;1;1;1
;;0;3;1;2;1;2
;;1;3;1;3;1;3
;;1;4;2;3;2;3
;;1;5;2;4;2;4
;;1;6;2;5;2;5
;;2;6;3;5;2;6
;;2;7;3;6;3;6
;;2;8;4;6;3;7
;;2;9;4;7;3;8
;;2;10;4;8;4;8
;;3;10;4;9;4;9
;;3;11;5;9;4;10
;;3;12;5;10;4;11
;;3;13;5;11;5;11
;;4;13;5;12;5;12
;;4;14;6;12;5;13
;;4;15;6;13;5;14
;;4;16;7;13;6;14
;;4;17;7;14;6;15
;;5;17;7;15;6;16
;;5;18;8;15;6;17
;;5;19;9;15;7;17
;;5;20;9;16;7;18
;;6;20;9;17;8;18
;;6;21;9;18;8;19
;;7;21;10;18;8;20
;;7;22;10;19;8;21
;;7;23;10;20;9;21
;;7;24;10;21;10;21
;;8;24;11;21;10;22
;;8;25;11;22;11;22
;;9;25;11;23;11;23
;;9;26;11;24;11;24
;;10;26;12;24;11;25
;;11;26;12;25;12;25
;;11;27;12;26;12;26
;;11;28;13;26;12;27
;;12;28;13;27;12;28
;;12;29;13;28;13;28
;;12;30;14;28;13;29
;;13;30;14;29;13;30
;;13;31;14;30;13;31
;;13;32;15;30;14;31
;;14;32;16;30;14;32
;;14;33;16;31;14;33
;;14;34;17;31;14;34
;;14;35;17;32;15;34
;;15;35;18;32;15;35
;;15;36;18;33;16;35
;;15;37;18;34;17;35
;;15;38;18;35;17;36
;;16;38;19;35;17;37
;;16;39;19;36;17;38
;;16;40;20;36;18;38
;;16;41;20;37;18;39
;;17;41;20;38;19;39
;;18;41;20;39;19;40
;;18;42;21;39;19;41
;;18;43;21;40;19;42
;;19;43;21;41;20;42
;;19;44;21;42;20;43
;;20;44;21;43;20;44
;;20;45;22;43;20;45
;;20;46;22;44;21;45
;;20;47;22;45;21;46
;;21;47;22;46;21;47
;;21;48;23;46;21;48
;;21;49;23;47;22;48
;;21;50;23;48;22;49
;;22;50;23;49;22;50
;;22;51;23;50;23;50
;;23;51;24;50;23;51
```

```
;;23;52;24;51;23;52
;;23;53;24;52;23;53
;;24;53;24;53;24;53
;;24;54;25;53;24;54
;;24;55;25;54;24;55
;;24;56;25;55;24;56
;;25;56;25;56;25;56
```

It contains 4 pairs of columns, each pair is the data for a serie in a graphic, the type of graphic is cloud of points, choose the sub type with line between points.

The principle of the graphic is to move up every time you fill a cell, and move left every time a cell is empty.

The max curve: shows the ending point of a filling depending on how many cells are filled.

The top curve: each point shows how many filled cells can be fitted in the beginning of the shape. It is not possible to preform better than the max curve without breaking the rules. Each point says for the x fist cells, you can fill y cells without breaking the rules.

The bot curve: is the top curve rotated a half turn.

The real curve: is the only path leading to the only filling with the maximum score.

All the trick is the bot curve, for every point, it says: in the last x cells, you can fill y cells to the maximum. if ever your current path goes right to this curve, you will never be able to reach the maximum, you can abort the search and backtrack.

How does it work ? simple! when you begin the fill the shape or a part, you perform better than the bot curve, just count the difference between your path and the curve, if negative, you are on the right of the bot curve.

```
Every time you check a cell in the shape, you look at the corresponding cell in your
table.
if you can fill the cell and the table says true, the path and curve are parallel.
if you can not fill the cell and the table says false, the path and curve are parallel.
if you can fill the cell and the table says false, you gain 1 spare filled cell.
if you can not fill the cell and the table says true, you loose 1 spare filled cell.
as long as the number of spare cells in not negative, you can continue the search.
```

The main search program is a binary tree explorer deep first, the alternatives are a cell filled or empty. what is not standard is the code to keep track of the spare cells.

Whishing this helps

For more details, just tell which part is not clear.

Patrice

Re: was: A little programming chalenge: My solution, the principle

*Message #4 Posted by **Patrice** on 25 Oct 2010, 1:30 p.m.,*
in response to message #2 by David Hayden

Hi Dave,

How is your progress?

Patrice

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Mandelbrot Moves on ... :(

*Message #1 Posted by **Thomas Chrapkiewicz** on 16 Oct 2010, 5:48 p.m.*

http://www.nytimes.com/2010/10/17/us/17mandelbrot.html?_r=1&ref=obituaries

Re: Mandelbrot Moves on ... :(

*Message #2 Posted by **db (martinez, ca.)** on 16 Oct 2010, 6:00 p.m.,*
in response to message #1 by Thomas Chrapkiewicz

Slartibartfast got the award. Mandelbrot did the work.

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Was: advice needed to visit USA

*Message #1 Posted by **Patrice** on 16 Oct 2010, 10:55 a.m.*

Hi all,

My holidays travel to USA is over. :(

Thanks again guys for the advices, and a special thanks to Dave which have even came to the meteor crater and guided me for the visit.

```
My travel was 11100 km with a rent a car:
landing in Montreal
Niagara falls
Cedar Point Amusement park (roller costers) near Cleveland
Route 66 (just following)
Meteor Crater (Flagstaf Arizona)
Arches NP
Fort Collins Colorado (HHC 2010)
NIST Boulder Colorado
Grand Tetton NP
Yellowstone NP
Mont Rushmore
and back to Montreal
```

My chart :

#1 Meteor Crater: Knowing it is big and seeing the pictures is something, seeing it is something else. Amazing !

#2 Grand Canyon: from a previous travel

#3 Niagara Falls

#4 Yellowstone NP

#5 the park with sequoias (previous travel)

The weather was magnificent, just little rain, but otherwise nice sunny days.

Crossing America by car is long, is tiresome, but it is a very good way to see that America is huge, it is way better than crossing by plane.

Patrice

Re: Was: advice needed to visit USA

*Message #2 Posted by **Jake Schwartz** on 16 Oct 2010, 1:30 p.m.,*
in response to message #1 by Patrice

Hi Patrice,

I an soooo jealous :-)

Jake

Re: Was: advice needed to visit USA

*Message #3 Posted by **Martin Pinckney** on 16 Oct 2010, 1:56 p.m.,*
in response to message #1 by Patrice

> Quote:
>
> Cedar Point Amusement park (roller coasters) near Cleveland

So did you drive through downtown Cleveland?

Re: Was: advice needed to visit USA

*Message #4 Posted by **Patrice** on 16 Oct 2010, 6:16 p.m.,*
in response to message #3 by Martin Pinckney

No just highways between points.

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4-space anyone?

*Message #1 Posted by **John Mosand** on 16 Oct 2010, 9:46 a.m.*

I initiated the "0" and the "inf." threads. Wow, the "inf." finally halted at 100 responses!

There was one thing that never came up. Some mathematicians went into "special analysis" with this particular view: the entity "d" or "iota", d = 0.000...001. In other words infinitesimally small. And 0.999... + d = 1. Now, if someone insists that d = 0, well it would still be OK, since one could say that 0.999... + 0 = 1. Or?

I know one retired mathematician who doesn't disagree with 0.999... = 1, but he says that 0.999... + d = 1 is more correct, since it eliminates certain doubts that some have about it.

Anyway, since I first read "Flatland" many years ago, I've been fascinated with the concept of 4-space. I'm quite familiar with the tesseract, a similar figure for a tetraeder, etc. I have been wondering about a 4-space sphere. Can it be two spheres which coincide? Anybody know? I've been searching Wikipedia for an answer.

Re: 4-space anyone?

*Message #2 Posted by **Egan Ford** on 16 Oct 2010, 12:54 p.m.,*
in response to message #1 by John Mosand

> Quote:
>
> And 0.999... + d = 1. Now, if someone insists that d = 0, well it would still be OK, since one could say that 0.999... + 0 = 1. Or?
>
> I know one retired mathematician who doesn't disagree with 0.999... = 1, but he says that 0.999... + d = 1 is more correct, since it eliminates certain doubts that some have about it.

You may find this interesting: http://news.slashdot.org/story/10/10/14/135219/Proving-0999-Is-Equal-To-1

Re: 4-space anyone?

*Message #3 Posted by **Thomas Klemm** on 17 Oct 2010, 7:58 a.m.,*
in response to message #2 by Egan Ford

Or this: WE ALREADY KNOW ABOUT THE .999 --> 1 THING (and 0/0 etc)

Re: 4-space anyone?

*Message #4 Posted by **Diego Diaz** on 16 Oct 2010, 12:58 p.m.,*
in response to message #1 by John Mosand

May it be that I'm too naive (mathematically speaking) but I've always found 0.99999...=1, so whatever (different from 0) you add to 0.99999... will make it also different from 1.

1/9 = 0.1111111....

n·1/9 = 0.nnnnn.....

9·1/9 = 0.99999.... = 9/9 = 1

Without any advanced math background, and just by commom sense, concepts like infinity, zero, i (sqrt(-1)), d (infinitesimal), and the like, are certainly unvaluable tools which allow mankind to deal with several aspects of the physical universe and its behaviour. However it is my opinion that many such abstract concepts haven't got a realworld counterpart.

Mathematics are the most powerful tool set to help us in understandig that real world by showing us a "simplified" sight. The same way a tomography can halp us to "see" the internals of our bodies.

Likewise a tomography "is not" a body, a mathematical model "is not" the real world.

Universe is what "really" exists... (regardless we are or not aware of any -or most- of its existance). Math is a rational artifact (built by us humans) in an attempt to make some parts of the universe to fit into the little (I really mean *little*) amount of "intelligence" inside our brains.

As stated above, may I'm just too naive... :-)

Cheers.

Re: 4-space anyone?

*Message #5 Posted by **Martin Pinckney** on 17 Oct 2010, 8:59 p.m.,*
in response to message #4 by Diego Diaz

Agree.

Re: 4-space anyone?

*Message #6 Posted by **Walter B** on 16 Oct 2010, 1:41 p.m.,*
in response to message #1 by John Mosand

> Quote:
>
> I have been wondering about a 4-space sphere. Can it be two spheres which coincide? Anybody know?

Nobody knows, at least no human body, since we lack a sense for the fourth dimension like flatlanders lack a sense for the third. It certainly cannot, however, be "two spheres which coincide" since these are 3D bodies definitively.

Re: 4-space anyone?

*Message #7 Posted by **John Mosand** on 17 Oct 2010, 6:57 a.m.,*
in response to message #6 by Walter B

I'm not so sure about the last argument. A tesseract is a 3D representation (projection) of a 4D cube. Yet it consists of eight 3D cubes.

Re: 4-space anyone?

*Message #8 Posted by **Walter B** on 17 Oct 2010, 9:01 a.m.,*
in response to message #7 by John Mosand

Looks like the good old game of incomplete induction. We used to play this some 40 years ago in school (honestly, it wasn't what the teacher wanted to tell us in that class then ;)

Anyway, eventually you find that a 4D analogon of a tetraeder shall have 5 vertices, 10 edges, and 5 tetraedric "face volumes" around its 4D "hypervolume". And a 4D analogon of a cube (call it like you want) shall have 16 vertices and 8 cubic "face volumes" around its 4D "hypervolume". I won't dare to guess a hypersphere - too little vertices and edges ;)

FWIW

Edited for correct wording (would have been easier in my mother tongue).

Edited: 17 Oct 2010, 9:22 a.m.

Re: 4-space anyone?

*Message #9 Posted by **Thomas Klemm** on 17 Oct 2010, 9:24 a.m.,*
in response to message #7 by John Mosand

You can build up a cube of 6 squares but you can't build up a sphere of circles in an analogous way. However you can use parallel circles of lattitude to build a sphere. This works also for the cube: lots of parallel squares make up the cube. Now extrapolate this idea to the 4th dimension.

Best regards
Thomas

Edited: 17 Oct 2010, 9:30 a.m.

Re: 4-space anyone?

*Message #10 Posted by **Thomas Klemm** on 17 Oct 2010, 8:42 a.m.,*
in response to message #1 by John Mosand

> Quote:
>
> I've been searching Wikipedia for an answer.

Here's a picture of a 3-sphere in 3-space: n-sphere

IMHO it's rather confusing though. What helped me is the following approach from 3D to 4D: Consider a cube and its dual the octahedron. Now project the grid of the octahedron to the enclosing 2-sphere. You get 3 meridians. Chose one axis and rotate the meridian into the 3rd dimension: you get the 2-sphere.

Now do the same with the tesseract (4-cube) and the 4-octahedron (4-cross polytope). Search WolframAlpha if you need a picture of these. If you replace the squares (or rather parallelograms) by circles (or rather ellipses) you get a nice picture. Choose one of these 2-spheres and rotate it into the 4th dimension. (The 2-sphere you choose defines 3 dimensions. Choose one of them as the axis of rotation. Now choose one of the others and move this to the 4th axis.)

A picture would certainly help but unfortunately currently I don't have any. Still hope this helps.

Best regards

Thomas

Edited: 17 Oct 2010, 8:51 a.m.

Re: 4-space anyone?

*Message #11 Posted by **Thomas Klemm** on 18 Oct 2010, 6:04 a.m.,*
in response to message #10 by Thomas Klemm

> Quote:
>
> A picture would certainly help

This video of a Hypersphere comes closest to what I tried to explain.

Re: 4-space anyone?

*Message #12 Posted by **Paul Dale** on 18 Oct 2010, 6:29 a.m.,*
in response to message #11 by Thomas Klemm

In case the folks here haven't seen it this series of short videos are superbly done:
http://www.dimensions-math.org/Dim_E.htm

I liked them so much I bought the DVD and my children enjoyed watching it & I think understood some of it.

- Pauli

Edited: 18 Oct 2010, 6:30 a.m.

Re: 4-space anyone?

*Message #13 Posted by **Walter B** on 18 Oct 2010, 7:20 a.m.,*
in response to message #12 by Paul Dale

Thanks for the link! I just did a short tour d:-)

Re: 4-space anyone?

*Message #14 Posted by **Marcus von Cube, Germany** on 18 Oct 2010, 11:35 a.m.,*
in response to message #13 by Walter B

I've downloaded the films to watch them on my AppleTV. :)

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30b repurposing status revisited

*Message #1 Posted by **Walter B** on 16 Oct 2010, 2:57 a.m.*

All Quiet on the Western Front (or even more to the point in the original language: Im Westen nichts Neues) ??

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Re: HP12c repurposing project

*Message #1 Posted by **uhmgawa** on 15 Oct 2010, 11:52 p.m.*

[Reviving this thread..]

Posted by TomL on 4 June 2010, 8:29 p.m.:

> Quote:
>
> I read about the repurposing project for the HP12c and was wondering if anyone has updates?

I'd rummaged around there about a year or so ago with interest to see that move forward. I'm curious what may have throttled the effort?

Posted by Katie Wasserman on 5 June 2010, 12:31 a.m.:

> Quote:
>
> The 20b SDK won't work on the 12C+, only the CPU is the same the peripherals are all different, but there is an SDK of sorts (sample program actually) for the 12C+

I thought the 12c+ was designed around an AT91SAM7L128 (maybe ~L64) COB, is that correct? If true there isn't much in the way of 12c+ specific peripherals aside from the keyboard matrix and the LCD controller on ports A and B. Shouldn't be too difficult to puzzle out the interconnect. The key matrix can be mapped with a scan of port C, the LCD with a scan of A & B. I have a disembodied 12c+ LCD glass which I'd be willing to map out to help the effort.

Or am I missing some subtle design caveat here for the 12c+?

Posted by Katie Wasserman on 5 June 2010, 12:38 a.m.:

> Quote:
>
> Pogo pins are pretty easy to find maybe even in 2 x 3 arrangements. But unless you can create some sort of locking plug it's going to be hard to hold the connector in place while programming.

Unfortunately the 12c+ 2x3 contact grid is on 2mm centers. At least last time I rummaged for metric pitch pogos I didn't get anywhere as most are 100mil pitch which even if disassembled didn't look conducive to relocating on a 2mm pitch. I just saw MillMax has 50mil pitch pogos which could be made to work. But I'd only do so if I really needed a stand-alone connector which could lock to the keys molded in the housing. Even then you'd have a rather awkward package if you were planing on using the keyboard.

I'd probably just build a horizontal fixture and use stainless steel spring wire bent into a long "L" shape as contacts. That will give enough contact tension to make a reliable connection and the calculator would be able to sit at a low profile.

Posted by Scott Newell on 5 June 2010, 1:40 a.m.:

> Quote:
>
> If I was to build a fixture or cable from scratch, I'd seriously consider using the PC's serial port handshake lines to control the erase and reset pins... If only you could hit the on key through the cable, the whole programming process could be automated.

Is there anything needed to program flash besides communicating with the SAM-BA via the DBGU port? From my scan of the AT91SAM7L manual it appears the rom provides all needed functionality.

I have a bunch of AT91SAM7L128 samples lying around which I was planning to use. But if a 12c+ doesn't have a functionally modified AT91SAM7 use of that package is faster (and cheaper) than creating a throw away board layout.

Thanks!

Re: HP12c repurposing project

*Message #2 Posted by **Katie Wasserman** on 16 Oct 2010, 2:24 a.m.,*
in response to message #1 by uhmgawa

> Quote:
>
> I thought the 12c+ was designed around an AT91SAM7L128 (maybe ~L64) COB, is that correct? If true there isn't much in the way of 12c+ specific peripherals aside from the keyboard matrix and the LCD controller on ports A and B. Shouldn't be too difficult to puzzle out the interconnect. The key matrix can be mapped with a scan of port C, the LCD with a scan of A & B. I have a disembodied 12c+ LCD glass which I'd be willing to map out to help the effort.

You're correct. The 12C+ has the same AT91SAM7L128 processor as the 20b/30b. There's no need to map out the keyboard nor LCD as Cyrille can supply code that does this -- it's like the SDK for the 20b with a sample 4-banger, integer calculator in c/c++.

> Quote:
>
> Is there anything needed to program flash besides communicating with the SAM-BA via the DBGU port? From my scan of the AT91SAM7L manual it appears the rom provides all needed functionality.

Nothing except for serial port level translation.

> Quote:
>
> I'm curious what may have throttled the effort?

I'm not sure who else is experimenting with this. I was able to get some simple stuff working but haven't found the time to develop the code I envisioned for this platform. Also the 30b was released that gave me a fast-running scientific programmable with re-assignable keys, one of the tings I was planning for a modified 12c+.

-Katie

Re: HP12c repurposing project

*Message #3 Posted by **uhmgawa** on 18 Oct 2010, 1:38 p.m.,*
in response to message #2 by Katie Wasserman

> Quote:
>
> There's no need to map out the keyboard nor LCD as Cyrille can supply code that does this -- it's like the SDK for the 20b with a sample 4-banger, integer calculator in c/c++

Any suggestion how/where to obtain this? I tried to dig up recent mail from Cyrille to get a PM link but without success.

Thanks.

Re: HP12c repurposing project

*Message #4 Posted by **uhmgawa** on 26 Oct 2010, 6:08 p.m.,*
in response to message #2 by Katie Wasserman

> Quote:
>
> I'm not sure who else is experimenting with this. I was able to get some simple stuff working but haven't found the time to develop the code I envisioned for this platform.

Any idea where the serial number sequence started corresponding to the 12C/arm7 ? I have a CNAxxxxyyyy arm7 here and thought the CNA s/n prefix may be a reliable indicator but I've also seen single CR2030 cell 12Cs with a CNA s/n prefix. So I'm at a loss.

Edited: 26 Oct 2010, 6:20 p.m.

Re: HP12c repurposing project

*Message #5 Posted by **uhmgawa** on 18 Oct 2010, 2:25 a.m.,*
in response to message #1 by uhmgawa

> Quote:
>
> I'd probably just build a horizontal fixture and use stainless steel spring wire bent into a long "L" shape as contacts. That will give enough contact tension to make a reliable connection and the calculator would be able to sit at a low profile.

This is what I was getting at:

http://www.third-harmonic.com/projects/voyager/12c/arm7-connector.pdf

It looks far more complex than it actually is, since I wanted to document the dimensions accurately.

Armed with the SS wire, some scrap ABS, and minimal tooling this could be hand built in an hour or two. The goal is to bring out the contact tails to a more accommodating pitch (eg: 2mm or 100mil) and continue on with a standard connector.

Interestingly enough a hybrid approach is possible utilizing the existing battery cover. Unfortunately this is frustrated to some extent due to the cover seating via sliding. One would need to unload the pins beforehand and release them once the cover is seated to play correctly. Certainly possible though consuming a battery

cover isn't my first choice.

NB: the 12C connector pinout signal definitions were taken from the 20B schematic and some rudimentary probing of an actual 12c/arm7. I couldn't find a 12c/arm7 schematic and was making a leap of faith HP didn't have cause to reinvent the connector pinout. If a 12C/ARM7 schematic does exist I'd appreciate a pointer.

Thanks.

Re: HP12c repurposing project

*Message #6 Posted by **Katie Wasserman** on 18 Oct 2010, 10:07 a.m.,*
in response to message #5 by uhmgawa

I can confirm that the 12C+ pinouts on the ARM serial connection pads are identical to the ones on the 20b/30b.

Re: HP12c repurposing project

*Message #7 Posted by **Tim Wessman** on 18 Oct 2010, 10:42 a.m.,*
in response to message #5 by uhmgawa

You can always just send me an email and get a cable . . .

TW

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HP-41 Time Module question

*Message #1 Posted by **Monte Dalrymple** on 14 Oct 2010, 6:25 p.m.*

Okay, my head is starting to hurt from all the banging against the wall... Can anyone explain how the "Shift-On" function works to display the time continuously? The code seems to sail right through the "POWOFF" instruction without stopping, and I don't know why. Thanks, Monte

Re: HP-41 Time Module question

*Message #2 Posted by **Namir** on 14 Oct 2010, 7:31 p.m.,*
in response to message #1 by Monte Dalrymple

Execute the CLOCK command to display the time continuously!

Namir

Re: HP-41 Time Module question

*Message #3 Posted by **Egan Ford** on 14 Oct 2010, 7:37 p.m.,*
in response to message #1 by Monte Dalrymple

> Quote:
>
> Can anyone explain how the "Shift-On" function works to display the time continuously?

You first press and release SHIFT (the solid yellowish key), "SHIFT" should be displayed on the LCD, then you press and release the ON key. Now your 41CX should display the time.

Unsure if this works with Time Module in 41C or CV (I do not have one to test).

Re: HP-41 Time Module question

*Message #4 Posted by **Jim Horn** on 14 Oct 2010, 7:55 p.m.,*
in response to message #1 by Monte Dalrymple

I believe Monte is trying to figure out how the HP-41 works internally, not how to invoke the clock display.

Re: HP-41 Time Module question

*Message #5 Posted by **Monte Dalrymple** on 14 Oct 2010, 8:06 p.m.,*
in response to message #4 by Jim Horn

Correct. I can't figure out why the machine doesn't stop with the POWOFF instruction, but continues on to display the time. There must be something I'm missing.

Re: HP-41 Time Module question

*Message #6 Posted by **PeterP** on 15 Oct 2010, 12:19 a.m.,*
in response to message #5 by Monte Dalrymple

I have not checked the mode but i think there is a polling point called before the execution which could check for the key code Inc of shift key and divert the processor to a different point. For that i would look at the code in the last few addresses of the time module (the bespoke polling points)

I wish i had the time to check it out, it sounds like an interesting thing ti hunt down...

Cheers

Peter

Re: HP-41 Time Module question

*Message #7 Posted by **Monte Dalrymple** on 15 Oct 2010, 12:27 a.m.,*
in response to message #6 by PeterP

Peter,

Thanks, but the polling points are tested while the processor is running. The CPU executes POWOFF to go into light sleep after processing. I couldn't figure out how it started right back up. But after reading the spec for the timer chip (duh... rookie mistake) I figured out that the timer chip drives the ISA bus High, which is one of the wake-up conditions. Sorry for wasting everyone's time.

Monte

Re: HP-41 Time Module question

*Message #8 Posted by **Raymond Del Tondo** on 15 Oct 2010, 12:25 a.m.,*
in response to message #5 by Monte Dalrymple

Just follow the TurnOff interrupt vector in the TIME module ROM;-)

I haven't disassembled it, but there is a big chance that this vector is used, and that the code behind starts the clock display routine if the SHIFT key flag was set...

HTH

Raymond

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How does one add a third-party program to Droid48?

*Message #1 Posted by **Michael Frick (California)** on 14 Oct 2010, 1:31 p.m.*

I have used HP calculators ever since college. Now that I have found Droid48 I have one less piece of gear to carry around. One question though -- how can I transfer programs into Droid48. Since it uses the HP48 ROM, I assume it is expecting serial communications.

Has anyone succeeded in transferring programs into Droid48?

Thanks for the help,

Mike

Re: How does one add a third-party program to Droid48?

*Message #2 Posted by **Allen** on 14 Oct 2010, 7:19 p.m.,*
in response to message #1 by Michael Frick (California)

```
1. Connect your phone to the PC
2. Copy the file to your phone.. I recommend the directory ".48"
3. Start Droid48
4. Press MENU   -> Put program on stack
5. Repeat as necessary.
```

Re: How does one add a third-party program to Droid48?

*Message #3 Posted by **Michael Frick (California)** on 15 Oct 2010, 9:44 a.m.,*
in response to message #2 by Allen

Many thanks. That definitely increases the usefulness of the program.

Mike

Re: How does one add a third-party program to Droid48?

*Message #4 Posted by **Allen** on 14 Oct 2010, 7:32 p.m.,*
in response to message #1 by Michael Frick (California)

Actually, with 8 Gb of storage, you could put all of HPCALC.ORG on your phone and install what you want.. I just tried part of it with PTOE.LIB, JAVA20, and ICE.ENT.

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How does one add a third-party program to Droid48?

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HP71, ins't something missing ?

*Message #1 Posted by **Alberto Fenini** on 14 Oct 2010, 1:25 p.m.*

Dear all,
I have received this HP71 which I knew was for spare only
so I'm not complaining because it doesn't work.

However, I have just opened it, and based on the service manual
I was expecting to find a flex cable joining the two halves.

A closer look :

The flex is obviously missing, and looks like it was soldered
What do you suggest ?
Does anyone has an actual photo of how it should look ?

Thanks everybody in advance !
Take care Alberto

Re: HP71, ins't something missing ?

*Message #2 Posted by **Gerson W. Barbosa** on 14 Oct 2010, 3:06 p.m.,*
in response to message #1 by Alberto Fenini

Ciao Alberto,

I think Etienne Victoria can answer this better than me:

http://etienne.victoria.free.fr/Titan_zebra/

Gerson.

Re: HP71, ins't something missing ?

*Message #3 Posted by **Martin Pinckney** on 14 Oct 2010, 9:25 p.m.,*
in response to message #2 by Gerson W. Barbosa

Why not take a section of ribbon cable such as PC's used for the IDE or floppy drives, cut a short section 17 conductors wide, separate the wires slightly at each end, then solder this similar to how Etienne did. I little neater, perhaps.

Re: HP71, ins't something missing ?

*Message #4 Posted by **Etienne Victoria** on 15 Oct 2010, 1:27 a.m.,*
in response to message #3 by Martin Pinckney

Hello all,

I agree, it would be much neater.

However, for this particular Hp-71B, I wanted to be able to route the wires separately inside the case.

Also, a folded 17 conductors-wide section would have had an excessive overall thickness IMHO.

Etienne

Re: HP71, ins't something missing ?

*Message #5 Posted by **Adrian Godwin** on 16 Oct 2010, 8:10 a.m.,*
in response to message #4 by Etienne Victoria

I have replaced the flex connector in an HP71 using a bunch of wire-wrap wire in a similar way to Etienne. If the wire is kept together with a few small ties (also wire-wrap wire) it can be very tidy.

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Conductive Epoxy

*Message #1 Posted by **Kevin Kitts** on 14 Oct 2010, 10:28 a.m.*

I found a couple of old posts from 2000 on using conductive epoxy to repair old HP 41 calculator battery contacts. I have a 41cv from around 1981 that had a single (the leftmost) battery contact with corrosion and operation became intermittent and then finally failed. I applied some of the recommended conductive epoxy and now it seems to work perfectly. I am just wondering if either of the two original authors that discussed this are still around - and if the fixes they made in 2000 are still working after 10 years. In other words - what is the longevity of these kinds of repairs.

Thanks All!

Here are the old posts:

HP-41C battery contact fix Message #1 Posted by Erik Wahlin on 2 Dec 2000, 5:07 p.m.

I just discovered a relatively easy way of fixing the HP-41C series calculator battery contacts. These are the gold or other gold color metal plated contacts on the battery contact block. Battery corrosion and mechanical wear from the batteries tend to ruin these contacts. You can apply a conductive epoxy to the damaged areas and this seems to work. I don't know yet if this type of epoxy oxidizes in time which would cause it to fail later. The epoxy I used is made by Circuit Works (part # CW2400). It is available through Allied electronics and is not cheap at about $18 for the two tube set (7 grams). The tubes have Chemtronics (www.chemtronics.com) printed on them.(http://www.chemtronics.com/catalog/catalog.cgi?action=list_products&category=7) This product is normally used for circuit board trace repair. Please use at your own risk. Has anyone else out there ever used this type epoxy for battery contact repairs?

Re: HP-41C battery contact fix Message #2 Posted by Katie on 3 Dec 2000, 1:28 a.m., in response to message #1 by Erik Wahlin

Hi Erik,

Good idea! I've used the same stuff for several difficult to repair electrical contacts (e.g., attaching leads to solar cells and fixing rear window defroster contacts), but never for a contact that's likely to see some wear and tear. However, the stuff does seem to last for many years and does not break down easily, not even in outdoor applications. I'll bet that it holds up fine.

-Katie

Re: Conductive Epoxy

*Message #2 Posted by **Katie Wasserman** on 14 Oct 2010, 11:30 a.m.,*
in response to message #1 by Kevin Kitts

It held up for a few years in my 41 but eventually failed because of the flexing -- I need to come up with a longer-term alternative. On rigid PCB's it seems to last forever and the repairs I've made years ago are all still good.

-Katie

Re: Conductive Epoxy

*Message #3 Posted by **uhmgawa** on 14 Oct 2010, 6:22 p.m.,*
in response to message #2 by Katie Wasserman

> Quote:
>
> It held up for a few years in my 41 but eventually failed because of the flexing -- I need to come up with a longer-term alternative. On rigid PCB's it seems to last forever and the repairs I've made years ago are all still good.

I've been concerned about this on legacy voyager units given the unusual length of time a set of batteries can reliably live in one of these.

The primary point of failure is the seal of the LR44 cell in contact with the negative power terminal. Leakage from this seal is quite close to this gold plated PCB finger and seems to be the first location for corrosion to begin. One possibility for a permanent restoration of this terminal would be wrapping it in thin copper foil and tack soldering it to the remaining terminal plate conductor. If that is corroded beyond resoldering the foil wrap can be epoxyed to the PCB and electrically connected to the fair sized negative via in the PCB just south of the finger contact. A quick solder tinning is better than the leaving the exposed copper to oxidize.

Corrosion of the positive spring terminal seems less likely as the LR44 cells have no case seal at that end. But even here you could find/make another terminal as the original contact spring is only compression mounted between the cell well wall and the positive PCB stub. It can be compressed with tweezers and lifted right out.

Prevention is probably a far better route considering the number of years batteries can be living in a voyager. I keep meaning to pull the cell stacks out and wrap them in a layer of thin poly tape, leaving about 2cm overage at each end of resulting cylinder. Fold it over against the positive-most terminal only. Fill the remaining end's overage with a few drops of hot wax from a candle and heat the shebang with a hairdryer to seal the tape and set the wax layer (open wax end pointing up). Put the masterpiece in the voyager and forget about it for 10-20 years or sooner in the rare event you actually deplete the battery before then.

Re: Conductive Epoxy

*Message #4 Posted by **Katie Wasserman** on 14 Oct 2010, 7:57 p.m.,*
in response to message #3 by uhmgawa

LR44 cells are alkaline and I would not recommend them in a Voyager for the potential leakage problem you cite but more because of the much higher self discharge rate that they have compared to the 357 cells. 357 (also SR44SW) cells are silver oxide which have almost zero self discharge, almost never leak and if they do seem to have a less corrosive chemistry.

Re: Conductive Epoxy

*Message #5 Posted by **uhmgawa** on 14 Oct 2010, 11:04 p.m.,*
in response to message #4 by Katie Wasserman

> Quote:

> LR44 cells are alkaline and I would not recommend them in a Voyager for the potential leakage problem you cite but more because of the much higher self discharge rate that they have compared to the 357 cells. 357 (also SR44SW) cells are silver oxide which have almost zero self discharge, almost never leak and if they do seem to have a less corrosive chemistry.

I tend to have an abundance of LR44s on hand to feed digital calipers where the instrument current consumption overshadows the self discharge rate of either version. But certainly silver oxide chemistry cells do have a flatter discharge curve. Unfortunately they're quite a bit more rare and somehow 16x the cost of alkaline counterparts. Still given the voyager's power consumption that by itself isn't a compelling argument.

HP specifies voyagers for either LR or SR cell usage derating LR service life relative to SR at 25..50%, where that range corresponds to static memory backup..active system execution. Somewhere in between is the state of powered-on-idle where the cpu and R2D2s are essentially unclocked sans the separate low frequency LCD refresh clock. This is probably more representative of average "on" usage but I don't know if that's what HP was characterizing vs. continuous instruction execution.

I've had an SR44 eat a negative spring-style contact in an early voyager so I'm not too trusting of either chemistry though empirically I'd say alkaline cells have in general done worse to my electronic devices but they're also far more prevalent. Yet given the fragility of the Au plated PCB contact finger I don't think one could be faulted for using a supplemental measure to contain cell leakage.

Edited: 15 Oct 2010, 1:29 a.m.

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HP-300s cannot do nCr for many allowable values

*Message #1 Posted by **DeboT** on 14 Oct 2010, 7:36 a.m.*

The HP-300s cannot do nCr for many allowable values

E.g. 200C55 = 7.718340811E49 gives an error on the 300s. Similarly on the Casio fx-85GT plus, and Sharp EL-W506.

It seems to me that these new line of calculators all share the same code.

Fortunately for the EL-W506, I have a workaround as it has the SUM capability:

nCr = 10^(SUM(x=A downto A-B+1, logX) - SUM(X=1 to B, logX)),

or as per 506 display:

```
   / A-B+1                B          \
  (   SUM   (logX, -1) - SUM (logX) )
   \ X=A                 X=1        /
10
```

where A = n and B = the lesser of r or n-r.

This can then be stored in a formula memory for future use.

This formula was adapted from Eamonn's "Updated HP-25 C(n,r) program", message 17 in this thread.

Unfortunately HP seems to have only purchased a sub-set of these functions for the 300s and does not contain the SUM function.
.

Edited to fix a small typo

Edited: 14 Oct 2010, 10:07 a.m. after one or more responses were posted

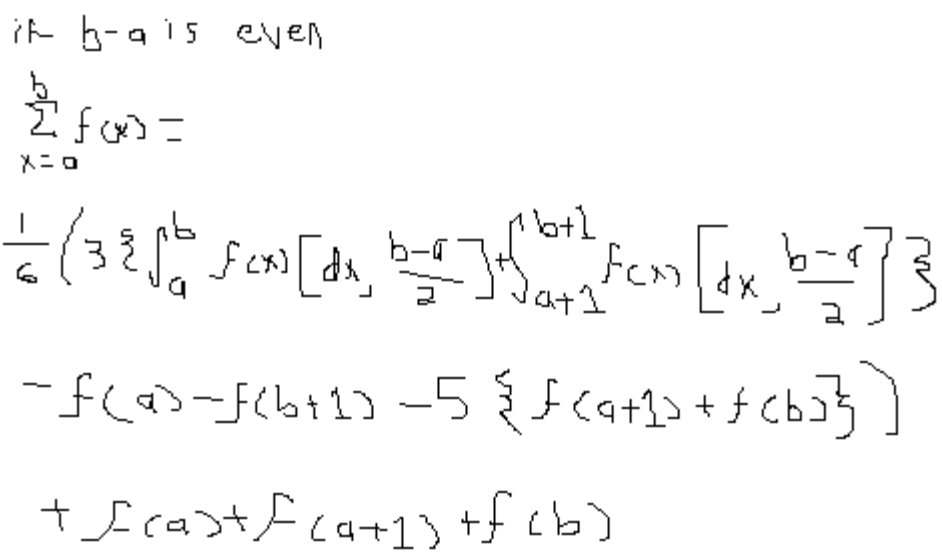
Re: HP-300s cannot do nCr for many allowable values

*Message #2 Posted by **Crawl** on 14 Oct 2010, 9:08 a.m.,*
in response to message #1 by DeboT

> Quote:
>
> Fortunately for the EL-W506, I have a workaround as it has the SUM capability:

Huh? If you're talking about this calculator, I'm pretty sure it does not have the sum capability. Maybe this one does, though.

But the 506w does use Simpson's rule for evaluating integrals, so it can be manipulated into performing sums:



The funny (b-a)/2 argument in the integrals is the third argument you give the integrator, the one that indicates how many applications of Simpson's rule are to be used.

Obviously that's a pretty complicated formula, but if b-a is large enough it can save some time as compared to entering the sums manually.

Re: HP-300s cannot do nCr for many allowable values

*Message #3 Posted by **DeboT** on 14 Oct 2010, 9:38 a.m.,*
in response to message #2 by Crawl

Hi Crawl,

I'm talking about this calculator, note that the W is before the 506. A small difference in model no., but quite a different calculator :)

May be there's a difference in model no.'s for US and EU release, the EL-W516B being the US equivalent of EL-W506?

Re: HP-300s cannot do nCr for many allowable values

*Message #4 Posted by **gene wright** on 14 Oct 2010, 10:27 a.m.,*
in response to message #3 by DeboT

Define "allowable" values. If the nCr or nPr functions are done using the x! function, allowable values will not include the 200.

Re: HP-300s cannot do nCr for many allowable values

*Message #5 Posted by **DeboT** on 14 Oct 2010, 10:40 a.m.,*
in response to message #4 by gene wright

Hi Gene,

For "allowable" values I mean what the manual states:
0<n<=1E10; 0<r<n; 1<=answer<1E100

Just because the definition of combinatorial includes factorials, it doesn't mean the implemented algorithm should be limited to that.

Try it on an HP-11C for instance. As long as the answer <1E100 I have not found a (n,r) that it can't find an answer for.

Also the 300s happily calculates 200C40 :-).

Re: HP-300s cannot do nCr for many allowable values

*Message #6 Posted by **gene wright** on 14 Oct 2010, 11:20 a.m.,*
in response to message #5 by DeboT

Good. that's why I asked the question. I know some calculators use algorithms that do not use the x! but that some from long ago did.

Definitely an "oops" given the stated allowed values in the documentation.

Re: HP-300s cannot do nCr for many allowable values

*Message #7 Posted by **DeboT** on 14 Oct 2010, 10:45 a.m.,*
in response to message #2 by Crawl

Hi Crawl,

Nice idea for that calc. As the EL-W506 seems to implement the same integration technique, I'm going to go away and look at implementing your formula. Don't hold your breath, this may take me a while - I'm no maths guru :-).

Edited after implementing Crawl's formula on the EL-W506

OK, that works!!

For the first sum in my formula, I used a=A-B+1 and b=A in yours
For the second sum in my formula, I used a=1 and b=B in yours

I saved the first and second parts of the formula in separate memories as I get a "buffer full" error when trying to put the whole lot on one line.
Store each result in a memory (e.g. C and D) and take 10^(C-D). A few steps, but do-able.

Reverse engineering integration, cool!

Edited: 14 Oct 2010, 12:02 p.m.

OT did you use a wacom

*Message #8 Posted by **bill platt** on 15 Oct 2010, 7:22 p.m.,*
in response to message #2 by Crawl

did you use a wacom tablet for that writing of yours?

Re: HP-300s cannot do nCr for many allowable values

*Message #9 Posted by **David Hayden** on 14 Oct 2010, 6:04 p.m.,*
in response to message #1 by DeboT

If you're going to iterate, then you can do it with multiplication and division in such a way that you never get a fractional result. So this may be faster and/or more accurate.

I'll demonstrate with an example. Consider 9C4 = (6*7*8*9)/(2*3*4) If you compute this as 6*7/2*8/3*9/4 then the intermediate results are guaranteed to be integers. To see this consider:

```
6*7/2     = 7C2
*8/3      = 8C3
*9/4      = 9C4
```

So after each division, you've computed a different nCr which is guaranteed to be an integer.

In (untested) pseudo-C-code, it looks like this:

```
comb(n,r)
{
  if (r > n-r) r = n-r;   // get the smaller of r and n-r
  result = n-c+1;
  f = result+1;           // the next factor
  for (d = 2 to r) {
    result = result * f;
    result = result / d;  // do the * and / in the right order!
    ++f;
  }
  return result;
}
```

The first 2 lines in the "for" loop could be combined into result = result * f / d, but I split them apart to stress that the multiply must come first.

Dave

Re: HP-300s cannot do nCr for many allowable values

*Message #10 Posted by **DeboT** on 15 Oct 2010, 5:50 a.m.,*
in response to message #9 by David Hayden

Hi Dave,

Yes, I have often implenemted similar product iterative routines in BASIC on old Sharp programmables (PC-1251 etc.). However the EL-W506 does not have programming nor does it have a PRODUCT function, the only iterative function is the SUM function (and integrate function as pointed out by Crawl), thus I had to devise a way to use that. The accuracy of the results have been satisfactory so far.
e.g.

Inputs	EL-W506 using Formula	Wolfram Alpha
90C7	7471735560	7471375560
101C6	1267339920	1267339920
70C8	9440350920	9440350920
425C23	5.987299533E37	5.98729953282171664909981 68... × 10^37
200C55	7.718340811E49	7.71834081143095795959768 89... × 10^49
335C167	3.044358792E99	3.04435879314697921045998279... × 10^99

Unfortunately I wanted to use combinatorials in another SUM function, but as I cannot use a SUM within a SUM, and I can't find a way of using a stored formula within another formula (on the EL-W506), so I'm

back to programmable calculators :(.

Edit:
Dave Hayden said

> Quote:
>
> So after each division, you've computed a different nCr which is guaranteed to be an integer.

The Sum function of course will always use the integer of any of its arguments (e.g. Sum X, X=1 to 5.8 will still produce 15), this may one the reasons for the reasonably good accuracy demonstrated above.

Edited: 2 Nov 2010, 1:07 p.m.

[MORE] HP-300s cannot do nCr for many allowable values

*Message #11 Posted by **Karl Schneider** on 16 Oct 2010, 12:22 a.m.,*
in response to message #1 by DeboT

> Quote:
>
> The HP-300s cannot do nCr for many allowable values
>
> E.g. 200C55 = 7.718340811E49 gives an error on the 300s. Similarly on the Casio fx-85GT plus, and Sharp EL-W506.
>
> ...
>
> For "allowable" values I mean what the manual states: 0<n<=1E10; 0<r<n; 1<=answer<1E100
>
> Just because the definition of combinatorial includes factorials, it doesn't mean the implemented algorithm should be limited to that.
>
> Try it on an HP-11C for instance. As long as the answer <1E100 I have not found a (n,r) that it can't find an answer for.
>
> Also the 300s happily calculates 200C40 :-).

I got exactly the same results for the 'cheapo' (< $20 each) Casio fx-115MS and fx-115ES, and the Sharp EL-520R: C(200,44) = 3.97106E44 was returned; C(200,45) = 1.37664E45 was not -- "Error" instead. It seems as though the same algorithms are being used.

This misperformance ought not to happen, but then again, consider the typical customer and retail price of most modern calculators.

Absolutely, if the inputs to a function are within the pertinent domain of the calculator, and the output of the function is within its range, the answer correct to its supported number of significant digits should be returned. That's all there is to it.

The two valid inputs to statistical combination C(n,r) are *non-negative* integers, so they must be identifiable as such. For a 10-digit calculator, 999,999,999 (1E10 - 1) would be the upper limit of input, and 9.999999999E99 would be the maximum output.

So, I would state:

0 <= n < 1E10; 0 <= r <= n; 1 <= answer < 1E100

A smart algorithm for combination or permutation, after validating both inputs, will achieve the following:

- Limit the magnitude of the intermediate results during calculation to prevent unnecessary overflow
- Calculate the result with the minimum number of operations
- Identify a true overflow condition as quickly as possible
- Minimize roundoff error

An approach was suggested in this thread:

nCr program - MCODE

David Hayden stated:

> Quote:
>
> If you're going to iterate, then you can do it with multiplication and division in such a way that you never get a fractional result. So this may be faster and/or more accurate.
>
> I'll demonstrate with an example. Consider 9C4 = (6*7*8*9)/(2*3*4) If you compute this as 6*7/2*8/3*9/4 then the intermediate results are guaranteed to be integers. To see this consider:
>
> ```
> 6*7/2      = 7C2
> *8/3       = 8C3
> *9/4       = 9C4
> ```
>
> So after each division, you've computed a different nCr which is guaranteed to be an integer.

It is true that each intermediate result calculated in this manner is guaranteed to be an integer. Another way to view it is as follows: When the first two consecutive-integer numerands are multiplied together, one of them must be even; when the third numerand is multiplied, one of the first three must be divisible by three, and so forth.

However, I doubt that there is any value to integer-valued intermediate results unless (faster) integer arithmetic is performed. Also, multiplying before dividing will eventually cause an overflow for some computations.

To prevent overflow at intermediate points, each term -- consisting of a quotient of two integers -- should be calculated prior to multiplying. The magnitude of the quotient terms should monotonically decrease, but always remain above unity, so the final result need not be obtained by 'scaling down' the running product.

Extended-precision floating-point calculations throughout may eliminate most roundoff error. Then, as a final step, the result could be rounded to the nearest integer -- if it is within the calculator's displayable range of integers.

-- KS

Edited: 17 Oct 2010, 12:51 a.m.

Re: [MORE] HP-300s cannot do nCr for many allowable values

*Message #12 Posted by **Thomas Klemm** on 17 Oct 2010, 4:56 a.m.,*
in response to message #11 by Karl Schneider

> Quote:
>
> C(200,44) = 3.97106E44 was returned; C(200,45) = 1.37664E45 was not -- "Error" instead.

Since P(200, 44) = 1.0556E99 and P(200, 45) = 1.6468E101 I assume the following formula is used:

```
C(n, r) = P(n, r)/r!
```

Best regards
Thomas

BTW: Using the HP 35s I get an OVERFLOW for P(422, 200) but still the correct result for C(422, 200) = 2.3720E125. This shows it can be done correctly.

Edited: 17 Oct 2010, 4:57 a.m.

Implemented methods for caclulating nCr

*Message #13 Posted by **Karl Schneider** on 17 Oct 2010, 2:20 p.m.,*
in response to message #12 by Thomas Klemm

> Quote:
>
> *(On the Casio fx-115MS and fx-115ES, and the Sharp EL-520R):*
> *C(200,44) = 3.97106E44 was returned, but C(200,45) = 1.37664E45 was not -- "Error" instead.*
>
> Since P(200, 44) = 1.0556E99 and P(200, 45) = 1.6468E101 I assume the following formula is used:
>
> C(n, r) = P(n, r)/r!

Thomas (and Marcus von Cube) --

Yes, that would seem to be the basis of the 'misperformance' of these and other models. The implementation on the Casios is not purely "C(n,r) = P(n,r)/r!", as they correctly (and quickly) calculate C(71,70) = 71, despite that both P(71,70) and 70! exceed 1E100. They will solve up to C(120,70) = 1.83617E34, but not C(121,70) = 4.35641E34.

The Sharp fails to calculate C(71,70), giving an "Error 2" message, so it probably *does* use "C(n,r) = P(n,r)/r!" directly.

This example underscores the differences in product development and marketing between quality calculators and some modern ones. If algortihmic shortcomings such as this one had appeared in the costly HP models of yesteryear, professional engineers and scientists would have complained. Flaws were actually quite rare, because HP had invested the effort and financial commitment (paying many highly-skilled people) to implement robustness in their legacy products.

Young students are less likely to need to tackle 'extreme' or difficult mathematical problems, won't care if the calc comes up short, and for $15, how much can be expected, anyway?

On language: "misperform" may not appear in your dictionary, but apparently several modern unabridged versions include it. "Misperform" and "misperfomance" sound unawkward and would not

mean the same as "malfunction" or "misoperate".

-- KS

Edited: 17 Oct 2010, 3:32 p.m. after one or more responses were posted

Re: Implemented methods for caclulating nCr

*Message #14 Posted by **Thomas Klemm** on 17 Oct 2010, 3:25 p.m.,*
in response to message #13 by Karl Schneider

> Quote:
>
> They will solve up to C(120,70) = 1.83617E34, but not C(121,70) = 4.35641E34.

Interesting! Probably C(120, 50) and C(121, 51) are calculated instead: as P(120, 50) = 5.5846E98 and P(121, 51) = 6.7573E100 which leads to an OVERFLOW.

Re: Implemented methods for caclulating nCr

*Message #15 Posted by **Marcus von Cube, Germany** on 17 Oct 2010, 4:45 p.m.,*
in response to message #14 by Thomas Klemm

I found a hint in the fx-5800P manual (page E-130):

Function : Input Range
nPr : 0<=n<1E100, 0<=r<=n (n, r are integers), 1<=n!/(n-r)!<1E100
nCr : 0<=n<1E100, 0<=r<=n (n, r are integers), 1<=n!/r!<1E100 or 1<=n!/(n-r)!<1E100

So it works according to specifications.

Re: Implemented methods for caclulating nCr

*Message #16 Posted by **DeboT** on 18 Oct 2010, 7:10 a.m.,*
in response to message #15 by Marcus von Cube, Germany

Interesting, the Sharp EL-W506 manual states for nCr : n!/(n-r)!<1E100

However, the 300s manual states for nCr : 1<=n!/(r!(n-r)!)<1E100. As this is the definition of combinatorials, I interpreted this to be equivalent to "answer".

The not-so-cheap EL-9900 only states "0 <= r <= n <= 69" for both nPr and nCr. Considering it's supposed to be competing in the market with other graphics calculators, it's a bit of a let down. It is fully programmable though, but as I call the routine from another iterative program, execution times escalate quickly.

Re: [MORE] HP-300s cannot do nCr for many allowable values

*Message #17 Posted by **Paul Dale** on 17 Oct 2010, 5:37 a.m.,*
in response to message #11 by Karl Schneider

My 34s firmware calculates both permutations and combinations using the LnGamma function so overflow really isn't a concern until the final exponential step. Thus all these cases work fine :-)

In fact, the firmware handles the extension of both of these functions to the complex plane. And yes,

special care is taken to ensure that integer arguments produce an integer result.

- Pauli

Re: [MORE] HP-300s cannot do nCr for many allowable values

*Message #18 Posted by **Marcus von Cube, Germany** on 17 Oct 2010, 1:12 p.m.,*
in response to message #11 by Karl Schneider

Karl, the not so cheap Casio fx-5800P fails in the same way. Thomas assumption that C(n,r) = P(n,r)/r! seems to be correct for all modern Casios.

Edit: This seems to be common to many "Casioish" calculators like the older Casio fx991s and the new "Rex Dual Power" calculator sold at Aldi Süd in Germany recently.

Edit2: I tried it with the HP9G and 30s: They do not fail on C(200,45). The Casio CFX-985G fails while the fx-9860G slim does not fail. Casio seems to have corrected it at least for part of their offerings.

Edit3: All the Casio BASIC pockets (with the respective functionality) fail on NCR(200,45) but can compute NCR(200,44)

Edited: 17 Oct 2010, 2:03 p.m.

Re: HP-300s cannot do nCr for many allowable values

*Message #19 Posted by **Crawl** on 18 Oct 2010, 11:52 a.m.,*
in response to message #1 by DeboT

Another way of approaching this would be to use Sterling's approximation,

ln n! ~ n ln n - n + 1/2 ln (2 pi n)

This, however, only gets you

7.73 x 10^49

So you get the correct order of magnitude, and 2 correct digits, but the rest are wrong.

You might be able to try more terms in the expansion, but I imagine few want to memorize more terms.

Re: HP-300s cannot do nCr for many allowable values

*Message #20 Posted by **Eddie W. Shore** on 29 Oct 2010, 3:54 p.m.,*
in response to message #1 by DeboT

Here is the 12c Version for nCr. Store n in R1 and r in R2 Registers used: R3 = sum of the left term R4 = sum of the right term R5= b. (r or n-r whichever is smaller) R6= a-b+1 R7 = counter

Program: 1. 1 2. STO 7 3. 0 4. STO 3 5. STO 5 6. RCL 1 7. RCL 2 8. - 9. RCL 2 10. x<=y 11. GTO 13 12. GTO 15 13. RCL 2 14. GTO 18 15. RCL 1 16. RCL 2 17. - 18. STO 5 19. CHS 20. RCL 1 21. + 22. 1 23. + 24. STO 6 25. RCL 6 26. LN 27. 1 28. 0 29. LN 30. / 31. STO+ 3 32. 1 33. RCL 6 34. + 35. STO 6 36. RCL 1 37. RCL 6 38. x<=y 39. GTO 25 40. RCL 7 41. LN 42. 1 43. 0 44. LN 45. / 46. STO+ 4 47. 1 48. RCL 7 49. + 50. STO 7 51. RCL 5 52. RCL 7 53. x<=y 54. GTO 40 55. RCL 3 56. RCL 4 57. - 58. 1 59. 0 60. x<>y 61. y^x 62. GTO 00

Re: HP-300s cannot do nCr for many allowable values

*Message #21 Posted by **Marcus von Cube, Germany** on 30 Oct 2010, 2:32 p.m.,*
in response to message #20 by Eddie W. Shore

A better readable version of the above:

Here is the 12c Version for nCr.

```
Store n in R1 and r in R2
Registers used:
R3 = sum of the left term
R4 = sum of the right term
R5= b. (r or n-r whichever is smaller)
R6= a-b+1
R7 = counter


Program:
1.   1
2.  STO 7
3.  0
4. STO 3
5. STO 5
6. RCL 1
7. RCL 2
8. -
9. RCL 2
10.   x<=y
11.  GTO 13
12. GTO 15
13. RCL 2
14. GTO 18
15. RCL 1
16. RCL 2
17.  -
18. STO 5
19. CHS
20. RCL 1
21. +
22. 1
23. +
24. STO 6
25. RCL 6
26. LN
27. 1
28. 0
29. LN
30. /
31. STO+ 3
32. 1
33. RCL 6
34. +
35. STO 6
36. RCL 1
37. RCL 6
38. x<=y
39. GTO 25
40. RCL 7
41. LN
42. 1
43. 0
44. LN
45. /
46. STO+ 4
47. 1
48. RCL 7
49. +
50. STO 7
51. RCL 5
52. RCL 7
53. x<=y
54. GTO 40
55. RCL 3
56. RCL 4
57.  -
58. 1
59. 0
```

```
60. x<>y
61. y^x
62. GTO 00
```

Re: HP-300s cannot do nCr for many allowable values

*Message #22 Posted by **Eddie W. Shore** on 31 Oct 2010, 11:10 a.m.,*
in response to message #21 by Marcus von Cube, Germany

```
Thanks, Marcus.  :)
I have to remember to do the HTML code.
```

Edited: 31 Oct 2010, 11:11 a.m.

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OT: TI-57 Memory Map

*Message #1 Posted by **HrastProgrammer** on 14 Oct 2010, 2:35 a.m.*

Slightly off-topic here, but recently Claus Buchholz was playing with my TI-57E emulator and revealed the complete TI-57 memory map:

http://www.rskey.org/ti57mmap.htm

Maybe some of you will find it useful ...

Re: OT: TI-57 Memory Map

*Message #2 Posted by **Francis Pierot** on 15 Oct 2010, 4:10 a.m.,*
in response to message #1 by HrastProgrammer

Nice and impressive work!

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hp-collection.org?

*Message #1 Posted by **Howard Owen** on 13 Oct 2010, 6:41 p.m.*

Google Chrome throws up a malware site warning when I try to visit hp-collection.org. Anyone know what's up with that?

Regards,
Howard

Re: hp-collection.org?

*Message #2 Posted by **Raymond Del Tondo** on 13 Oct 2010, 6:55 p.m.,*
in response to message #1 by Howard Owen

A while ago there was a related thread, either here or in comp.sys.hp48. One poster found out that there seems to be an invisible bitmap which refers to a bad web page somewhere else. Obviously the problem is still there.

Raymond

Re: hp-collection.org?

*Message #3 Posted by **Marcus von Cube, Germany** on 14 Oct 2010, 2:38 a.m.,*
in response to message #2 by Raymond Del Tondo

I checked the page (Ctrl-U in Firefox) when the issue came up first here in the forum soem weeks ago. I couldn't find anything bad, neither in the page nor in the CSS referenced. The page is obviously in some online malware list and needs to be removed from there.

I think, Matthias is aware of the problem.

Re: hp-collection.org?

*Message #4 Posted by **Matthias Wehrli** on 16 Oct 2010, 9:06 a.m.,*
in response to message #3 by Marcus von Cube, Germany

I was looking for the problem several times but did not found anything ;(someone told me that the problem is in the style sheet but I couldn't locate is as well. Can someone help me finding and eliminating the problem?

Matthias

Re: hp-collection.org?

*Message #5 Posted by **John B. Smitherman** on 16 Oct 2010, 10:43 a.m.,*
in response to message #4 by Matthias Wehrli

Matthais, I clicked the Google Chrome message diagnostic and this is what was reported:

http://safebrowsing.clients.google.com/safebrowsing/diagnostic?site=http://hp-collection.org/&client=googlechrome&hl=en-US

Safe Browsing Diagnostic page for hp-collection.org

What is the current listing status for hp-collection.org? Site is listed as suspicious - visiting this web site may harm your computer.

What happened when Google visited this site? Of the 1 pages we tested on the site over the past 90 days, 1 page(s) resulted in malicious software being downloaded and installed without user consent. The last time Google visited this site was on 2010-10-04, and the last time suspicious content was found on this site was on 2010-10-04. Malicious software is hosted on 1 domain(s), including pipa-buzz.ru/.

This site was hosted on 1 network(s) including AS31424 (NEXELLENT).

Has this site acted as an intermediary resulting in further distribution of malware? Over the past 90 days, hp-collection.org did not appear to function as an intermediary for the infection of any sites.

Has this site hosted malware? No, this site has not hosted malicious software over the past 90 days.

How did this happen? In some cases, third parties can add malicious code to legitimate sites, which would cause us to show the warning message.

Next steps: Return to the previous page. If you are the owner of this web site, you can request a review of your site using Google Webmaster Tools. More information about the review process is available in Google's Webmaster Help Center.

Re: hp-collection.org?

*Message #6 Posted by **Patrice** on 16 Oct 2010, 10:57 a.m.,*
in response to message #4 by Matthias Wehrli

Hi Matthias,

Do you host a meeting this year ?

If yes, which date?

Patrice

Re: hp-collection.org?

*Message #7 Posted by **Walter B** on 16 Oct 2010, 1:31 p.m.,*
in response to message #4 by Matthias Wehrli

Grüezi Matthias,

hier findest du auf deutsch, was Google dazu meint. Und da du Betreiber dieser Webseite bist, müsste dir dort geholfen werden.

(here you find the opinion of Google in German. And since you're the owner of this website, you should get some support there.)

HTH

Walter

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HP-45S ? Is there a new model ?

*Message #1 Posted by **Karl-Ludwig Butte** on 13 Oct 2010, 3:54 p.m.*

Dear All,

while searching for pictures of the HP-40G I stumbled over this website where I found a picture of a HP-45S. It looks similar to an HP-35S but the cursor keys are in a different place and the LCD is larger showing all 4 stack registers. You can klick on the image to enlarge it. Beneath the image is a reference to "hpmuseum.org" but this link points to the same page.

Does anyone knows anything about an HP-45S ?

Best regards

Karl

Re: HP-45S ? Is there a new model ?

*Message #2 Posted by **Walter B** on 13 Oct 2010, 4:08 p.m.,*
in response to message #1 by Karl-Ludwig Butte

Hallo Karl,

entspann' dich! Soweit ich mich erinnere, war das ein Entwurf für einen technisch-wissenschaftlichen Rechner von zwei Forumskollegen vor einigen Jahren.

Relax. IIRC, this was a draft for a scientific calc designed by two forum members some years ago.

HTH

Walter

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Hp12c+ - where can I buy one ?

*Message #1 Posted by **PeterP** on 13 Oct 2010, 12:35 a.m.*

Thanks,

Peter

Re: Hp12c+ - where can I buy one ?

*Message #2 Posted by **David Hayden** on 13 Oct 2010, 6:08 a.m.,*
in response to message #1 by PeterP

The commerce site at hpcalc.org

Re: Hp12c+ - where can I buy one ? - Eric?

*Message #3 Posted by **Thomas Chrapkiewicz** on 13 Oct 2010, 1:37 p.m.,*
in response to message #2 by David Hayden

Hmmm.....are these 'guaranteed' to be the newest style with the dual CR2032 batteries (and thus latest internal architecture)?

TomC

Re: Hp12c+ - where can I buy one ? - Eric?

*Message #4 Posted by **gene wright** on 13 Oct 2010, 1:47 p.m.,*
in response to message #3 by Thomas Chrapkiewicz

As this site is run by Eric Rechlin (who always attends HHC gatherings) I'm sure he would make sure they were.

Ask him directly with an email off his site link and say you will buy if they are.

Re: Hp12c+ - where can I buy one ? - Eric?

*Message #5 Posted by **PeterP** on 13 Oct 2010, 2:46 p.m.,*
in response to message #4 by gene wright

will. I had checked his site already and there was something that looked most like the old, slow HP12C...

Cheers

Peter

Re: Hp12c+ - where can I buy one ? - Eric?

*Message #6 Posted by **Eric Rechlin** on 13 Oct 2010, 3:12 p.m.,*
in response to message #5 by PeterP

That's because the pictured one was just one I had lying around. That's why it has a 1984 serial number, which I certainly wouldn't be selling now. :)

Yes, they are the new one, but I have very limited inventory because it's such a poor seller (I typically sell one every 6 months).

I have updated the description to make it clear that it is the new one.

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AGM (HP-33S & HP-15C)

*Message #1 Posted by **Gerson W. Barbosa** on 12 Oct 2010, 5:09 p.m.*

```
    Arithmetic-Geometric Mean (AGM)


    HP-33S                    HP-15C


A0001  LBL A          001-42,21,11  f LBL A
A0002   R^            002-   43 33  g  R^
A0003   R^            003-   43 33  g  R^
A0004  STO A          004-   44  0    STO 0
B0001  LBL B          005-42,21, 0  f LBL 0
B0002   Rv            006-      33    Rv
B0003   Rv            007-      33    Rv
B0004  ENTER          008-      36   ENTER
B0005   Rv            009-      33    Rv
B0006  x<>y           010-      34   x<>y
B0007   +             011-      40    +
B0008  LASTx          012-   43 36  g LST x
B0009   R^            013-   43 33  g  R^
B0010   *             014-      20    *
BOO11  SQRTx          015-      11   SQRTx
B0012  x<>y           016-      34   x<>y
B0013   2             017-       2    2
B0014   /             018-      10    /
B0015  LOG            019-   43 13  g LOG
B0016  x<>y           020-      34   x<>y
B0017  LASTx          021-   43 36  g LST x
B0018  x<>y           022-      34   x<>y
B0019  LOG            023-   43 13  g LOG
B0020  x<>y           024-      34   x<>y
B0021  LASTx          025-   43 36  g LST x
B0022   Rv            026-      33    Rv
B0023   Rv            027-      33    Rv
B0024   -             028-      30    -
B0025  ABS            029-   43 16  g ABS
B0026  1E-11          030-      26   EEX
B0027  x<y?           031-      16   CHS
B0028  GTO B          032-       9    9
B0029   Rv            033-43,30, 8  g TEST 8
B0030   Rv            034-   22  0    GTO 0
B0031  RCL A          035-      33    Rv
B0032  x<>y           036-      33    Rv
B0033  RTN            037-   45  0    RCL 0
                      038-      34   x<>y
                      039-   43 32  g RTN
   LN   CK
A  12  7D30
B 123  7E2C
```

The program computes the arithmetic-geometric mean (AGM) of two positive real numbers. Due to rounding errors, there is some uncertainty in the last significant digit of the results. No optmization has been tried, so there is still room for improvement.

Examples:

```
1) AGM(3,4)

   3 ENTER 4 XEQ A -> 3.48202767633   (The last digit should be 6)
```

```
2) AGM(12345,6789)

   12345 ENTER 6789 XEQ A -> 9359.76103251 (The last digit should be 0)

3) sqrt(2*pi*sqrt(2*pi)/AGM(1,sqrt(2))) = Gamma(1/4)

   2 pi * sqrt LASTx * 2 sqrt 1 XEQ A / sqrt -> 3.62560990822

                                4 1/x 1 - x! -> 3.62560990822
```

Gerson.

Re: AGM for Pi (Free42 Decimal)

*Message #2 Posted by **Lyuka** on 12 Oct 2010, 10:06 p.m.,*
in response to message #1 by Gerson W. Barbosa

Hi.

One of the most famous applications of AGM might be Gauss-Legendre's AGM algorithm for Pi (which shows 2nd order convergence).

```
LBL "PI-GL"
1
STO 03
STO 02
STO 00
0.5
SQRT
STO 01
XEQ 00
XEQ 00
XEQ 00
XEQ 00
+
X^2
RCL/ 02
RTN
LBL 00
-
X^2
RCL* 03
STO- 02
RCL 03
RCL 00
RCL* 01
SQRT
RCL 00
RCL+ 01
0.5
*
STO 00
X<>Y
STO 01
RTN
END
```

REFERENCE:
J.Borwein and P.Borwein, Ramanujan and Pi, IEEE, Science and Applications, Supercomputing 88, Volume II, 117-128, 1988

Regards,
Lyuka

Re: AGM for Pi (Free42 Decimal)

*Message #3 Posted by **Gerson W. Barbosa** on 13 Oct 2010, 11:52 a.m.,*
in response to message #2 by Lyuka

Hello Lyuka,

I think there is a variation here:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=101118

(Message #11)

I'd like to do it in BASIC, on the HP-71B perhaps. I have implemented a kind of fixed-point arbitrary precision multiplication but the square root algorithm is still missing.

Regards,

Gerson.

Re: algorithm for the square root

*Message #4 Posted by **Lyuka** on 13 Oct 2010, 8:05 p.m.,*
in response to message #3 by Gerson W. Barbosa

Hello Gerson,

How about these algorithm for the square root?

Quote:

Some sqrt(A) algorithm for 1 <= A <= 10, written in C-style.

```
/* Copyright (c) Takayuki HOSODA. All rights reserved.      */
/* sqrt2(a) , 2rd order convergence, Newton-Raphson method */
define sqrt2(a, epsilon) {
    local x;


    x = 0.8244 + 0.26072 * a;    /* 1st order Chebyshev approximation,
|err| <7.9% (1<=a<=10) */
    while(abs(1 - a / (x * x)) > epsilon)
        x = (x + a / x) * (1/2);
    return(x);
}


/* sqrt3(a) , 3rd order convergence, Pade approximation */
define sqrt3(a, epsilon) {
    local x, s;


    x = 0.8244 + 0.26072 * a;    /* 1st order Chebyshev approximation,
|err| <7.9% (1<=a<=10) */
    s = x * x;
    while(abs(1 - a / s) > epsilon) {
        x = x * (s + 3 * a) / (3 * s + a);
        s = x * x;
    }
    return(x);
}


/* 1/sqrt(a) , 4th order convergence, taylor series, no division */
define sqrtinv4(a, epsilon) {
    local x, h;
```

```
    x = 1.0711 + a*(-0.17802 + a*0.0105597);     /* 2nd order Chebyshev
approximation, |err| <=9.7% (1<a<10) */
    while(abs(h = 1 - a * x * x) > epsilon)
        x *= 1 + h * (8 + h * (6 + h * 5)) * (1/16);
    return(x);
}
```

Example: intermediate value and error

```
sqrt2(2, 1e-100)
1.415950375081733341 2.457732347050667709e-3
1.414214627565222532 1.506409720536721280e-6
1.414213562373496202 5.673167069204787484e-13
1.414213562373095049 8.046206148772844748e-26
1.414213562373095049 1.618535834713748356e-51
1.414213562373095049 6.549145620631325342e-103
1.414213562373095049


sqrt3(2, 1e-100)
1.414170564152398827 -6.08077424430162875 5e-5
1.414213562373085111 -1.405388097344160464e-14
1.414213562373095049 -1.734877563437081099e-43
1.414213562373095049 -3.263521730135614119e-130
1.414213562373095049


2*sqrtinv4(2, 1e-100)
7.070213571272571613e-1 -2.416011318629784659e-4
7.071067811865468656e-1 -1.863485008716057353e-15
7.071067811865475244e-1 -6.594648976029806730e-60
7.071067811865475244e-1 -1.034319719806940812e-237
1.414213562373095049
```

Regards,
Lyuka

Re: algorithm for the square root

*Message #5 Posted by **Namir** on 14 Oct 2010, 6:38 a.m.,*
in response to message #4 by Lyuka

The functions need the following if statements to properly deal with a being 0:

```
if (a==0) return 0;
```

Otherwise, the functions look very cool!

Namir

Edited: 14 Oct 2010, 6:39 a.m.

Re: algorithm for the square root

*Message #6 Posted by **Lyuka** on 14 Oct 2010, 7:56 a.m.,*
in response to message #5 by Namir

Hello Namir,

Thank you for your comment.

These functions are being optimized for use of decimal operation.
Therefore it assumes that the input 'A' is normalized within the range of 1 to 10, otherwise it will not function properly.

Regards,
Lyuka

Re: algorithm for the square root

*Message #7 Posted by **David Hayden** on 14 Oct 2010, 6:51 a.m.,*
in response to message #4 by Lyuka

If anyone converts these to working C code, you'll need to change "(1/2)" to "(1./2)" and also "(1/16)" to "(1./16)" (or do something similar to ensure floating point division).

Without the change, the compiler will use integer division and create an integer result for both of these expressions. As a result, they will both be zero.

By adding the decimal point, you convert one argument to a floating point double, which causes the other argument, the divide operation, and the result to be floating point.

Dave

Re: AGM (HP-33S & HP-15C)

*Message #8 Posted by **Paul Dale** on 13 Oct 2010, 2:50 a.m.,*
in response to message #1 by Gerson W. Barbosa

The 34s has an optional AGM function that does just this for real and complex arguments :-)

- Pauli

Re: AGM (HP-33S & HP-15C)

*Message #9 Posted by **Gerson W. Barbosa** on 13 Oct 2010, 11:54 a.m.,*
in response to message #8 by Paul Dale

> Quote:
>
> The 34s has an optional AGM function that does just this for real and complex arguments :-)

Please let me know when it's available.

Regards,

Gerson.

Re: AGM (HP-33S & HP-15C)

*Message #10 Posted by **Namir** on 13 Oct 2010, 4:43 a.m.,*
in response to message #1 by Gerson W. Barbosa

Here is the AGM version for the HP-41C:

```
LBL "AGM"
LBL A
"Y^X?"
PROMPT
LBL B
RCL Y
X<>Y
```

```
ST+ Z
*
0.5
ST* Z
Y^X
STO T
X<>Y
ST- T
RCL T
ABS
1E-10
CF 00
X<Y?
SF 00
RDN
RDN
FS? 00
GTO B
RTN
```

The program does not store any values in memory registers. Press A (in User mode) to get a prompt for the arguments. If you want to skip this prompt, enter the two values in the stack and then press B (in User mode). The program iterates and then displays the AGM in the X stack register. Notice that the tolerance for the solution is hard coded in the listing as 1E-10. I initially used 1E-11, but discovered that for some numbers, the iteration does not end, so I switched the tolerance value to 1E-10.

Edited: 13 Oct 2010, 7:51 a.m.

Re: AGM (HP-33S & HP-15C)

*Message #11 Posted by **Gerson W. Barbosa** on 13 Oct 2010, 8:32 a.m.,*
in response to message #10 by Namir

Hello Namir,

> Quote:
>
> Notice that the tolerance for the solution is hard coded in the listing as 1E-10. I initially used 1E-11, but discovered that for some numbers, the iteration does not end, so I switched the tolerance value to 1E-10.

That's exactly what I was just testing. If you try AGM(4,5), you'll find the tolerance value has to be changed to 1E-08. Likewise for my second example, it will have to be changed to 1E-05. Finally, AGM(1E40,7E40) will loop forever unless the tolerance is switched to 1E32. But then the accuracy will be lowered in many cases. That's why I check the difference of the decimal logarithms of two consecutive means as a stop criterion. Perhaps there is a faster way, but that's the only one that has occurred to me. If you decide to change your program, I would suggest saving at least the stack register X to allow for easy one-level chained calculations.

Regards,

Gerson.

Re: AGM (HP-33S & HP-15C)

*Message #12 Posted by **Mark Storkamp** on 13 Oct 2010, 10:01 a.m.,*
in response to message #10 by Namir

How about using %ch to determine when to bail?

```
01 LBL "AGM"
```

```
02 CF 00
03 LBL A
04 "Y^X?"
05 PROMPT
06 LBL B
07 RCL Y
08 X<>Y
09 ST+ Z
10 *
11 .5
12 ST* Z
13 Y^X
14 %CH
15 LASTX
16 X<>Y
17 ABS
18 1 E-7
19 X<Y?
20 SF 00
21 RDN
22 RDN
23 FS?C 00
24 GTO B
25 END
```

Re: AGM (HP-33S & HP-15C)

*Message #13 Posted by **Gerson W. Barbosa** on 13 Oct 2010, 11:18 a.m.,*
in response to message #12 by Mark Storkamp

> Quote:
>
> How about using %ch to determine when to bail?

Looks like a very good idea! :-)

Gerson.

Re: AGM (HP-33S & HP-15C)

*Message #14 Posted by **Namir** on 13 Oct 2010, 11:25 a.m.,*
in response to message #12 by Mark Storkamp

Agree ... %CH is a good way to go!

:-)

Namir

Re: AGM (HP-33S & HP-15C)

*Message #15 Posted by **Gerson W. Barbosa** on 13 Oct 2010, 3:37 p.m.,*
in response to message #12 by Mark Storkamp

> Quote:
>
> How about using %ch to determine when to bail?

Here is a new version using your suggestion. Faster and shorter! Incidentally all significant digits are correct now in examples 1 and 2.

Regards,

Gerson.

```
Arithmetic-Geometric Mean (AGM) - 2nd version

    HP-33S                    HP-15C


A0001  LBL A          001-42,21,11  f LBL A
A0002   R^            002-   43 33  g  R^
A0003   R^            003-   43 33  g  R^
A0004  STO A          004-   44  0    STO 0
B0001  LBL B          005-42,21, 0  f LBL 0
B0002   Rv            006-      33     Rv
B0003   Rv            007-      33     Rv
B0004  ENTER          008-      36    ENTER
B0005   Rv            009-      33     Rv
B0006  x<>y           010-      34    x<>y
B0007   +             011-      40     +
B0008  LASTx          012-   43 36  g LST x
B0009   R^            013-   43 33  g  R^
B0010   *             014-      20     *
BOO11  SQRTx          015-      11    SQRTx
B0012  x<>y           016-      34    x<>y
B0013   2             017-       2     2
B0014   /             018-      10     /
B0015  %CHG           019-   43 15  g Delta%
B0016  LASTx          020-   43 36  g LST x
B0017  x<>y           021-      34    x<>y
B0018  ABS            022-   43 16  g ABS
B0019  1E-9           023-      26    EEX
B0020  x<y?           024-      16    CHS
B0021  GTO B          025-       7     7
B0022   Rv            026-43,30, 8  g TEST 8
B0023   Rv            027-   22  0    GTO 0
B0024  RCL A          028-      33     Rv
B0025  x<>y           029-      33     Rv
B0026  RTN            030-   45  0    RCL 0
                      031-      34    x<>y
                      032-   43 32  g RTN
   LN   CK
A  12  7D30
B 102  E161
```

Re: AGM (HP-33S & HP-15C)

*Message #16 Posted by **JMBaillard** on 13 Oct 2010, 5:39 p.m.,*
in response to message #15 by Gerson W. Barbosa

```
Hi,


here is another version for the HP-41


01 LBL "AGM"
02 ENTER^
03 LBL 01
04 CLX
05 RCL Z
06 RCL Y
07 +
08 2
09 /
10 RCL Y
11 SQRT
12 R^
13 SQRT
14 *
15 R^
16 X#Y?
17 GTO 01
18 END      ( 30 bytes )


Though the tolerance is zero,
```

```
it seems there is no infinite loop.


Regards,
Jean-Marc.
```

Re: AGM (HP-33S & HP-15C)

*Message #17 Posted by **Gerson W. Barbosa** on 13 Oct 2010, 9:28 p.m.,*
in response to message #16 by JMBaillard

Hi Jean-Marc,

Works great! The flying goose never makes to the end of its short path and most of the times it will stop only a bit past halfway the display.

Regards,

Gerson.

Re: AGM (HP-33S & HP-15C)

*Message #18 Posted by **Paul Dale** on 14 Oct 2010, 3:56 a.m.,*
in response to message #16 by JMBaillard

A one step shortening and one less square root per cycle:

```
01 LBL "AGM"
02 ENTER^
03 LBL 00
04 CLX
05 RCL Z
06 RCL Y
07 +
08 2
09 /
10 RCL Y
11 R^
12 *
13 SQRT
14 R^
15 X#Y?
16 GTO 00
17 END
```

- Pauli

Re: AGM (HP-33S & HP-15C)

*Message #19 Posted by **Namir** on 14 Oct 2010, 6:21 p.m.,*
in response to message #18 by Paul Dale

Very good of you Jean-Marc and Pauli. You did away with the tolerance issue and gave us a fast 41C implementation.

Namir

Re: AGM (HP-33S & HP-15C)

*Message #20 Posted by **Gerson W. Barbosa** on 14 Oct 2010, 7:55 p.m.,*
in response to message #19 by Namir

Agreed!

```
    HP-33S                    HP-15C

A0001  LBL A          001-42,21,11  f LBL A
A0002  ENTER          002-       36    ENTER
A0003   Rv            003-       33     Rv
A0004  x<>y           004-       34    x<>y
A0004   +             005-       40     +
A0006  LASTx          006-    43 36  g LST x
A0007   R^            007-    43 33  g  R^
A0008   *             008-       20     *
AOO09  SQRTx          009-       11    SQRTx
A0010  x<>y           010-       34    x<>y
A0011   2             011-        2     2
A0012   /             012-       10     /
A0013  x>y?           013-43,30,  7  g TEST 7
A0014  GTO A          014-    22 11    GTO A
A0015  RTN            015-    43 32  g RTN
```

These are my short 33s and 15C versions. The difference to my first draft is only the test, x>y instead of x#y, which sometimes would cause endless loops. I wrongly assumed a tolerance factor might be a better solution. Anyway, I think this has been a good exercise ...

Still under test: AGM(7,8) loops forever on the HP-33s (but not on the 15C). Will test on the 42S.

Regards,

Gerson.

Doesn't work on the HP-42S either, for (7,8); does work on Free42 Decimal, however. Perhaps an accuracy issue. The intermediate means increase towards the theoretical result so that after a few iterations two successive means should be the same. In most cases the one in register X gets slightly greater than the one in register Y (when they not converge to the same result), but in the (7,8) example this never happens.

Edited: 15 Oct 2010, 6:52 a.m. after one or more responses were posted

Re: AGM (HP-33S & HP-15C)

*Message #21 Posted by **Francis Pierot** on 15 Oct 2010, 4:19 a.m.,*
in response to message #20 by Gerson W. Barbosa

More like A0014 GTO A on HP-33s ;-)

Re: AGM (HP-33S & HP-15C)

*Message #22 Posted by **Gerson W. Barbosa** on 15 Oct 2010, 6:52 a.m.,*
in response to message #21 by Francis Pierot

Fixed.

Merci! :-)

Re: AGM (HP-33S & HP-15C)

*Message #23 Posted by **Werner** on 16 Oct 2010, 3:41 p.m.,*

in response to message #18 by Paul Dale

One byte shorter still:

```
01*LBL "AGM"
02 ENTER
03*LBL 02
04 ENTER
05 +
06 RDN
07 STO T
08 STO+ Z
09 *
10 SQRT
11 X<>Y
12 2
13 /
14 RUP
15 X#Y?
16 GTO 02
17 END
```

Re: AGM (HP-33S & HP-15C)

*Message #24 Posted by **Werner** on 18 Oct 2010, 5:44 a.m.,*
in response to message #23 by Werner

More accurate, at the expense of only 2 bytes:

```
00 { 28-Byte Prgm }
01*LBL "AGM"
02 ENTER
03*LBL 02
04 ENTER
05 +
06 RDN
07 STO T
08 STO- Z
09 *
10 SQRT
11 X<>Y
12 2
13 /
14 RUP
15 STO+ Y
16 X#Y?
17 GTO 02
18 END
```

Re: AGM (HP-33S & HP-15C)

*Message #25 Posted by **Gerson W. Barbosa** on 18 Oct 2010, 6:43 p.m.,*
in response to message #24 by Werner

Hello Werner,

This will run on the HP-42S only. The test in step 21 is made between successive arithmetic means, which are computed as a + (b - a)/2, as in your program. The original stack register X is preserved, but surely not a good idea trying to use only the stack. It would be much better to use a memory register instead, that's what they are meant for :-)

Regards,

Gerson.

```
HP-42S
```

```
00 { 44-Byte Prgm }
01*LBL "AGM"
02 R^
03*LBL 00
04 Rv
05 X=Y?
06 GTO 01
07 STO ST T
08 X<>Y
09 -
10 LASTX
11 RCL* ST T
12 SQRT
13 X<>Y
14 +/-
15 STO ST L
16 STO+ ST L
17 STO* ST X
18 RCL/ ST L
19 R^
20 STO+ ST Y
21 X#Y?
22 GTO 00
23 R^
24 X<>Y
25 R^
26*LBL 01
27 Rv
28 END


Examples:

1)      pi x^2 16 ENTER 3 1/x y^x *       -> 24.8698446781

  3 sqrt 1 - 2 sqrt 2 * / 1 XEQ AGM       -> 5.6747127659E-1

          / 3 1/x y^x 3 sqrt sqrt /       -> 2.67893853471


                         3 1/x GAMMA      -> 2.67893853471


2)            1 +/- sqrt pi XEQ AGM       -> 1.43599262486
i8.82710446224E-1
```

Re: AGM (HP-33S & HP-15C)

*Message #26 Posted by **Werner** on 14 Oct 2010, 4:56 a.m.,*
in response to message #1 by Gerson W. Barbosa

Gerson, you will not have been able to calulate example #3 as stated, as your programs use all four stack levels?

Here's my 42S implementation:

```
00 { 32-Byte Prgm }
01*LBL "AGM"
02 ENTER
03 ENTER
04*LBL 02
05 +
06 RDN
07 STO* ST Z
08 +
09 2
10 /
11 X<>Y
```

```
12 SQRT
13 RCL ST Y
14 %CH
15 1e-9
16 X<Y?
17 GTO 02
18 RUP
19 END
```

Cheers, Werner

Re: AGM (HP-33S & HP-15C)

*Message #27 Posted by **Gerson W. Barbosa** on 14 Oct 2010, 7:41 a.m.,*
in response to message #26 by Werner

Hello Werner,

You can calculate the example #3 as stated if you store the stack register X in a memory register and recall it when AGM is done:

```
00 { 38-Byte Prgm }
01*LBL "AGM"
02 X<> ST Z          (or RCL ST Z)
03 STO 00
04 RDN
05 ENTER
06 ENTER
07*LBL 02
08 +
09 RDN
10 STO* ST Z
11 +
12 2
13 /
14 X<>Y
15 SQRT
16 RCL ST Y
17 %CH
18 1E-9
19 X<Y?
20 GTO 02
21 RUP
22 RCL 00
23 X<>Y
24 END
```

Regards,

Gerson.

P.S.: One step and one byte shorter:

```
00 { 37-Byte Prgm }
01*LBL "AGM"
02 X<> ST Z
03 STO 00
04 RDN
05 ENTER
06 ENTER
07*LBL 02
08 +
09 RDN
10 STO* ST Z
11 +
12 2
13 /
14 X<>Y
15 SQRT
```

```
16 RCL ST Y
17 %CH
18 1E-9
19 X<Y?
20 GTO 02
21 RCL 00
22 LASTX
23 END
```

Edited: 14 Oct 2010, 9:08 a.m.

Re: AGM (HP-33S & HP-15C)

*Message #28 Posted by **C.Ret** on 14 Oct 2010, 11:49 a.m.,*
in response to message #27 by Gerson W. Barbosa

Dear all RPN's enthusiasts !

I have to tell you that I am into studying your RPN programs with great interest. With great pleasure, I am playing to decrypt all this RPN codes and I am trying to understand how they differ or match from one HP model to another.

Behind all this line numbers, labels, tests, stack movements, I come to the surprising conclusion that they all scrub to converge to the expected result by recurrence, such as Imay have done it on an RPL calculator:

```
« -> a g
   'IFTE( eps<a-g,
          AGM((a+g)/2,SQRT(a*g)),
          a)'
»
'AGM' STO
```

Where eps=1E-9 or whatever the available/expected precision.

OR, with RPL not so far from RPN stack manipulation :

```
« DO DUP2 + 2 / ROT ROT * SQRT UNTIL DUP2 - eps <= END »
```

Edited: 16 Oct 2010, 12:52 p.m. after one or more responses were posted

Re: AGM (HP-33S & HP-15C)

*Message #29 Posted by **Gerson W. Barbosa** on 15 Oct 2010, 11:14 a.m.,*
in response to message #28 by C.Ret

Hello,

I haven't been able to test your recursive version. Your second program will not leave the loop for a=1e7 and b=1e13, unless eps is greater than 10. By using %CH instead of subtraction, as per Mark Storkamp's suggestion, a fixed tolerance value will be enough:

```
«
  DO DUP2 * SQRT ROT ROT
+ 2 /
  UNTIL DUP2 %CH
.000000001 <
  END NIP
»
```

The following, which is a direct translation of my short versions, will loop forever in some cases, like 4 and 5. I haven't found non-working examples on the 15C, however.

```
«
  DO DUP2 * SQRT ROT ROT
+ 2 / DUP2
  UNTIL >=
  END NIP
»
```

Regards,

Gerson.

Re: AGM (HP-33S & HP-15C)

*Message #30 Posted by **Gerson W. Barbosa** on 16 Oct 2010, 12:56 a.m.,*
in response to message #27 by Gerson W. Barbosa

Here is another attempt on the HP-42S, using ontly the stack and preserving register X, no tolerance factor. However occasionally the consecutive means will not converge to the same value as they should, perhaps due to the extra arithmetic in lines 15 and 16. I will test it on the HP-41 later.

```
00 { 34-Byte Prgm }
01*LBL "AGM"
02 R^
03*LBL 00
04 Rv
05 STO ST T
06 X<>Y
07 +
08 LASTX
09 R^
10 *
11 LASTX
12 Rv
13 *
14 LASTX
15 STO+ ST X
16 STO/ ST Y
17 CLX
18 LASTX
19 SQRT
20 R^
21 X#Y?
22 GTO 00
23 R^
24 24<>Y
25 END


Example:

   sqrt(2*pi*sqrt(2*pi)/AGM(1,sqrt(2))) = Gamma(1/4)

   2 pi * SQRT LASTx * 2 sqrt 1 XEQ AGM / SQRT -> 3.62560990822

                                        4 1/x GAM -> 3.62560990822
```

Re: AGM (HP-33S & HP-15C)

*Message #31 Posted by **Gerson W. Barbosa** on 16 Oct 2010, 4:41 p.m.,*
in response to message #30 by Gerson W. Barbosa

So far no problem on the HP-41, but I would have to check more examples. In these HP-42S and HP-41 versions the comparison is made between two consecutive AGMs, as is Jean-Marc Baillard's method, not between the arithmetic and geometric means. However, his program computes geometric means as sqrt(a)*sqrt(b), instead of sqrt(a*b), any special reason?

```
01*LBL'AGM
02 R^
03*LBL 00
04 RDN
05 STO T
06 X<>Y
07 +
08 LASTX
09 R^
10 *
11 LASTX
12 RDN
13 *
14 LASTX
15 STO+ X
16 STO/ Y
17 CLX
18 LASTX
19 SQRT
20 R^
21 X#Y?
22 GTO 00
23 R^
24 X<>Y
25 END


Examples:


1) AGM(3,4)
   3 ENTER 4 XEQ AGM -> 3.4820277


2) AGM(12345,6789)
   12345 ENTER 6789 XEQ AGM -> 9359.761031 (The last digit should be 3)


3) 2 pi * SQRT LASTx * 2 sqrt 1 XEQ AGM / SQRT -> 3.625609909 (The last digit
should be 8)


4) AGM(1E07,1E13)


   EEX 7 ENTER XEQ AGM -> 1.033295938E12 (Ok; on my shorter HP-15C version, which
uses a different method, this example doesn't exit the loop).
```

Re: AGM (HP-33S & HP-15C)

*Message #32 Posted by **JMBaillard** on 16 Oct 2010, 5:13 p.m.,*
in response to message #31 by Gerson W. Barbosa

Hi Gerson,

In fact, I first used sqrt(a.b)
but in order to avoid an overflow if a.b > 9.999999999 E99
I finaly replaced sqrt(a.b) by sqrt(a).sqrt(b)

Best Regards,
Jean-Marc.

Re: AGM (HP-33S & HP-15C)

*Message #33 Posted by **Lyuka** on 16 Oct 2010, 6:18 p.m.,*
in response to message #32 by JMBaillard

Hi Jean-Marc,

And also in order to avoid an overflow if a + b > 9.999999999 E99 (a + b) / 2 would better be replaced by

a < b ? a + (b - a) / 2 : b + (a - b) / 2;

Regards,
Lyuka

Re: AGM (HP-33S & HP-15C)

*Message #34 Posted by **Thomas Klemm** on 16 Oct 2010, 6:23 p.m.,*
in response to message #32 by JMBaillard

As the AGM is linear in its parameter (i.e. AGM(ka, kb) = k AGM(a, b)) I don't consider that a big issue. We could be happy to just calculate AGM(1, x) with 0 <= x <= 1 (assuming only real values).

Cheers
Thomas

Re: AGM (HP-33S & HP-15C)

*Message #35 Posted by **Gerson W. Barbosa** on 16 Oct 2010, 7:31 p.m.,*
in response to message #32 by JMBaillard

Thank you, Jean-Marc! I should have imagined it :-)

Best regards,

Gerson.

Re: AGM (HP-33S & HP-15C)

*Message #36 Posted by **JMBaillard** on 17 Oct 2010, 7:23 p.m.,*
in response to message #35 by Gerson W. Barbosa

Hi Gerson,

As Lyuka suggests it, (a+b)/2 may also overflow.
But practically, taking sqrt(a.b) and (a+b)/2
will work almost always.
So, Pauli's listing is better.

Best Regards,
Jean-Marc.

Re: AGM (HP-33S & HP-15C)

*Message #37 Posted by **Gerson W. Barbosa** on 18 Oct 2010, 5:30 p.m.,*
in response to message #30 by Gerson W. Barbosa

By inserting a X<>Y instruction between lines 19 and 20 the program gets more stable on the real 42S:

```
.
.
.
20 X<>Y
21 R^
22 X#Y?
23 GTO 00
24 R^
25 X<>Y
26 END
```

Re: AGM (HP-33S & HP-15C)

*Message #38 Posted by **Marcus von Cube, Germany** on 14 Oct 2010, 5:31 p.m.,*
in response to message #1 by Gerson W. Barbosa

It's easy to implement AGM on the HP-38/39/40 series with the sequence applet.

In symb view:

```
U1(1)=A
U1(2)=(A+B)/2
U1(N)=(U1(N-1)+U2(N-1))/2
U2(1)=B
U2(2)=SQR(A*B)
U2(N)=SQR(U1(N-1)*U2(N-1))
```

On the home screen store the start values in A and B and then you can see the values in num view or plot the sequences in plot view. The graphics resolution isn't very good so you have to fiddle with the zoom options to see something. In num view, the number of digits is limited to 7. I don't know of a way to change that(*) but you can enter U1(6) or the like on the home screen to see a certain value.

At least it works.

(*) Just found out that you can move the cursor around and see the values on the bottom of the screen.

Edited: 15 Oct 2010, 4:55 a.m.

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was: A little programming chalenge

*Message #1 Posted by **Patrice** on 11 Oct 2010, 9:04 p.m.*

Hi all,

Just landed back in France.

Egan how far did you get ?

Contrary to what I expected, I did not talk about this challenge during HHC 2010 but after in small comity at the hotel.

The schedule was too tight. :(

I have to put things together before posting my answer.

Off topic: by the way, thanks to you all guys for the advices on my holidays travel across USA.

Patrice

Re: was: A little programming chalenge

*Message #2 Posted by **Martin Pinckney** on 11 Oct 2010, 10:40 p.m.,*
in response to message #1 by Patrice

> Quote:
>
> Off topic: by the way, thanks to you all guys for the advices on my holidays travel across USA.
>
> Patrice

Well, how about tell us a little about it. What places did you visit? How many miles (or kilometers) did you travel? Impressions, favorites?

Martin

Re: was: A little programming chalenge

*Message #3 Posted by **Patrice** on 12 Oct 2010, 1:18 a.m.,*
in response to message #2 by Martin Pinckney

still have to do the maths !

will post in another treat later

Patrice

Re: was: A little programming chalenge

*Message #4 Posted by **Egan Ford** on 11 Oct 2010, 10:48 p.m.,*
in response to message #1 by Patrice

> Quote:
>
> Egan how far did you get ?

I have not looked at it since. I've been working 7 days a week and have had very little time.

Re: was: A little programming chalenge

*Message #5 Posted by **Namir** on 12 Oct 2010, 7:32 a.m.,*
in response to message #1 by Patrice

I think we met last year and we sat down for a chatted (in French)? You live near in north/northeast f France near Belgium? Right?

Namir

Re: was: A little programming chalenge

*Message #6 Posted by **Patrice** on 12 Oct 2010, 7:49 p.m.,*
in response to message #5 by Namir

Hi Namir,

I remember you, too bad you where not there this year.

Patrice

Re: was: A little programming chalenge

*Message #7 Posted by **Namir** on 12 Oct 2010, 10:24 p.m.,*
in response to message #6 by Patrice

Ironically I was enjoying being in your own country (the south of France) ... I will be attending HHC 2011.

Namir

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HP-15C Software

*Message #1 Posted by **Gerry Schultz** on 11 Oct 2010, 5:30 p.m.*

To All:

Quick question: Does anyone know of a repository that has collected HP-15C software written over the years? I got an old 15C recently and I couldn't find anything about software on either this website or the internet. If I'm missing something and it's as plain as the nose on my face, then sorry to have bugged everyone and please point me in the right direction.

Thanks for the help, Gerry

Re: HP-15C Software

*Message #2 Posted by **Karl Schneider** on 11 Oct 2010, 8:37 p.m.,*
in response to message #1 by Gerry Schultz

Hello, Gerry --

There is a meager assortment of Software Library programs for the HP-15C at the Forum's main page:

- http://www.hpmuseum.org/software/software.htm

I have intended to add several of my own programs that might be practical:

- HP-15C Library of complex-number utilities
- HP-15C program to compute 3x3 complex matrix determinant

Valentin Albillo's clever program, found halfway through the following thread, solves a numerical puzzle posed by me:

- A modest arithmetical challenge

Several reasons may explain the apparent dearth of user-submitted programs for the HP-15C, despite its ample programming capabilities:

1. Useful advanced mathematical functions, such as numerical integration, rootfinding, linear algebra, and complex-domain calculations, are already built in -- no need to write routines for them.

2. The 7-segment display offers very limited alphanumeric capability without clear prompting for input or identification of results. Instructions are represented by displayed keycodes. This does not facilitate permanent-residence programs that remain understandable over time.

3. No electronic I/O for saving or loading programs is available.

-- KS

Edited: 12 Oct 2010, 2:39 p.m.

Re: HP-15C Software

*Message #3 Posted by **Thomas Chrapkiewicz** on 12 Oct 2010, 9:09 a.m.,*
in response to message #1 by Gerry Schultz

Gerry:

I have been experiencing the same thing. Thank you for posting!

I am also interested in NNN(non normalized numbers) on the HP15c. I believe these were discovered 'back in the day' (back in the 'decade'!)!, but I've found little done with them.

If anyone has any references to these, it would be appreciated.

Regards, TomC

Re: HP-15C Software

*Message #4 Posted by **Martin Pinckney** on 12 Oct 2010, 10:26 a.m.,*
in response to message #3 by Thomas Chrapkiewicz

Here or here for starters.

Re: HP-15C Software

*Message #5 Posted by **Geoff Quickfall** on 13 Oct 2010, 2:51 a.m.,*
in response to message #4 by Martin Pinckney

Well it would seem that there are 15C programs out there.

Of course any of the programs for simple RPN machines with keycode programming would work.

Take a look at the following calcs and search for their programs:

```
HP 34C
HP 25
HP 11 and 10
HP 65
HP 67
```

Granted there are built in function differences but these can be converted easily to the 15C requirement.

I use the 15C in my shirt pocket for a suite of aviation related programs and it always gets looks from the other crew.

Also, if you were at HCC2010 I had one of the 15C's flashing in the display, with the use of NNN:

"Hello PPC"

I got the description of the program, synthetics and NNN's from Eric Smiths site in which he cites Allen F Tennants, "Synthetics on the HP 15C"

Synthetics on the HP 15C

Cheers, Geoff

Edited: 13 Oct 2010, 2:59 a.m.

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HP-48gII ROM...

*Message #1 Posted by **M. Joury** on 11 Oct 2010, 3:52 p.m.*

Hi,

I have a question about the 48gII ROM that I know can be answered by people on this forum. I recently purchased a new unit (4 battery version) that is at revision level 2.08. I have searched the web for information on the current ROM revision and it is implied (though not actually stated) that the 49g+/50g ROM Revision 2.15 is compatible with the 48gII. Is this actually true?

Thanks!

Re: HP-48gII ROM...

*Message #2 Posted by **Tim Wessman** on 11 Oct 2010, 4:35 p.m.,*
in response to message #1 by M. Joury

No. It is not compatible.

TW

Re: HP-48gII ROM...

*Message #3 Posted by **M. Joury** on 11 Oct 2010, 5:32 p.m.,*
in response to message #2 by Tim Wessman

Thanks Tim,

I suspected as much. Several sites do imply that it is but as I said, it was not at all clear. So, is the 2.08 Revision the latest one?

Thanks again for your help. I knew that you would have the information I needed.

M. Joury

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9100 B on TAS goes for $5600.00

*Message #1 Posted by **Donald Williams** on 10 Oct 2010, 11:01 p.m.*

Amazing

Re: 9100 B on TAS goes for $5600.00

*Message #2 Posted by **db (martinez, ca.)** on 11 Oct 2010, 12:22 a.m.,*
in response to message #1 by Donald Williams

for a calculator with only a three level stack?

Re: 9100 B on TAS goes for $5600.00

*Message #3 Posted by **Gonzalo Fernandez** on 11 Oct 2010, 4:09 a.m.,*
in response to message #2 by db (martinez, ca.)

$5600 for a calculator is too much. Prefer spending $5600 in a Rolex than in a calculator. If you go to a 2nd hand shop, pawn shop, I doubt you can get more than $200 for such calculator.

Re: 9100 B on TAS goes for $5600.00

*Message #4 Posted by **Namir** on 11 Oct 2010, 6:10 a.m.,*
in response to message #3 by Gonzalo Fernandez

$200??? How about $20 in a pawn shop.

Re: 9100 B on TAS goes for $5600.00

*Message #5 Posted by **Gonzalo Fernandez** on 11 Oct 2010, 6:41 a.m.,*
in response to message #4 by Namir

Is possible that if the winner of the auction goes to an antiquorum can recover at least $4500? If not, it seems to me a bad purchase.

Re: 9100 B on TAS goes for $5600.00

*Message #6 Posted by **bill platt** on 11 Oct 2010, 9:50 a.m.,*
in response to message #4 by Namir

$20? How about $2 at a garage sale.

Re: 9100 B on TAS goes for $5600.00

*Message #7 Posted by **Namir** on 11 Oct 2010, 11:35 a.m.,*
in response to message #6 by bill platt

OK ... I am buying for $2!!

:-)

Namir

Re: 9100 B on TAS goes for $5600.00

*Message #8 Posted by **Mark Edmonds** on 11 Oct 2010, 12:20 p.m.,*
in response to message #7 by Namir

I thought it would go for about 1500GBP or 2385USD at current rates. Never expected in my wildest dreams what the final price would be - and the same person bought the plotter for a pretty large sum too.

My views on the 9100B I've said enough - I'd love one, it is my holy grail - but at that sort of money and if it sets the tone for any future auctions, I'm stuffed!

In the UK, we have charity shops and such but the chances of such a beast turning up in one are almost nill and I think there is also some over-safe rule concerning electrical goods and testing which means they might get refused and end up in a skip. Terrible thought!

Re: 9100 B on TAS goes for $5600.00

*Message #9 Posted by **Adrian Godwin** on 13 Oct 2010, 6:47 a.m.,*
in response to message #8 by Mark Edmonds

Well, I've got the plotter and a 9815 to drive it. Don't think I'd get that kind of money for it in the UK though.

Re: 9100 B on TAS goes for $5600.00

*Message #10 Posted by **Mark Edmonds** on 11 Oct 2010, 12:24 p.m.,*
in response to message #2 by db (martinez, ca.)

> Quote:
>
> for a calculator with only a three level stack?

And you can't fit it in your pocket, it needs mains, weighs a tonne and has a CRT display! But..... I still want one! :)

Re: 9100 B on TAS goes for $5600.00

*Message #11 Posted by **Keith Midson** on 12 Oct 2010, 12:30 a.m.,*
in response to message #10 by Mark Edmonds

... and a humble 15C goes for US$777. Item 200526940627.
Scary! Cheers, Keith

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9100 B on TAS goes for $5600.00

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Anniversary Editions

*Message #1 Posted by **Webunit** on 10 Oct 2010, 8:22 p.m.*

It's not clear to me from the museum pages whether the anniversary editions for both the 32S and 14B were available to the general public or just to employees and shareholders. The wording for the 32S suggests that it was but the wording for the 14B is not as clear -- only the employee price is given. Were these editions available in stores?

Re: Anniversary Editions

*Message #2 Posted by **Don Shepherd** on 11 Oct 2010, 9:04 a.m.,*
in response to message #1 by Webunit

> Quote:
>
> Were these editions available in stores?

No. Reference.

Re: Anniversary Editions

*Message #3 Posted by **aj04062** on 11 Oct 2010, 8:19 p.m.,*
in response to message #2 by Don Shepherd

Don,

Any reference to how many 32s' were sold? I got one from my Uncle who was a regional sales mgr for HP. He was also kind enough to give me his old HP-10 as well!

Re: Anniversary Editions

*Message #4 Posted by **Don Shepherd** on 11 Oct 2010, 8:24 p.m.,*
in response to message #3 by aj04062

Well, I don't have that info, but I think I read somewhere it was in the tens of thousands. Perhaps Tim could look into the old internal archives and let us know, although I suspect that info is no longer available.

Re: Anniversary Editions

*Message #5 Posted by **Martin Pinckney** on 11 Oct 2010, 10:42 p.m.,*
in response to message #4 by Don Shepherd

So not exactly rare. But I didn't think so, due to the frequent appearance on eB**.

Re: Anniversary Editions

*Message #6 Posted by **Tim Wessman** on 11 Oct 2010, 10:51 p.m.,*
in response to message #4 by Don Shepherd

Internal archives? Most corporations can't even remember what happened last quarter, let along years ago. . . :-D

TW

Re: Anniversary Editions

*Message #7 Posted by **Katie Wasserman** on 12 Oct 2010, 12:55 a.m.,*
in response to message #4 by Don Shepherd

According to Wlodek's book:

> Quote:
>
> The 50th anniversary models were made in several tens of thousands and are not rare but can be difficult to find -- they were sold to HP employees and stockholders -- of the two the 14B is harder to get.

Re: Anniversary Editions

*Message #8 Posted by **Martin Pinckney** on 12 Oct 2010, 7:30 a.m.,*
in response to message #7 by Katie Wasserman

> Quote:
>
> -- of the two the 14B is harder to get.

I have seen *many* of these on eB**.

Re: Anniversary Editions

*Message #9 Posted by **Katie Wasserman** on 12 Oct 2010, 11:09 a.m.,*
in response to message #8 by Martin Pinckney

> Quote:
>
> I have seen *many* of these on eB**.

Me too. I think the 32S 50th is more likely to be appreciated by scientific professionals so they've gotten snapped up and help onto. The 14B 50th calculators are more "liquid". Wlodek wrote this in the early days of ebay, when the dynamics were quite different and there were fewer HP calculator collectors.

Re: Anniversary Editions

*Message #10 Posted by **Christoph Giesselink** on 12 Oct 2010, 12:23 p.m.,*
in response to message #9 by Katie Wasserman

> Quote:

> Me too. I think the 32S 50th is more likely to be appreciated by scientific professionals so they've gotten snapped up and help onto. The 14B 50th calculators are more "liquid". Wlodek wrote this in the early days of ebay, when the dynamics were quite different and there were fewer HP calculator collectors.

I agree, I only got a 14B 50th for a resonable price at ebay, so the "normal" one is still missing in my collection.

Same with the 32S at ebay, I bought a normal one in used condition with German manual for 40 EUR some years ago. About one or two years later I got a 32S 50th in excellent condition with German manual and 50th edition box for 50 EUR. I bought both calculators somewhere around 2005 and later, so in a time where the Pioneers, especially the 32SII went out of production and from the dealers stock.

I really miss the times (< 2003) where you got a 32SII in good condition for ~35 EUR or below. :)

Christoph

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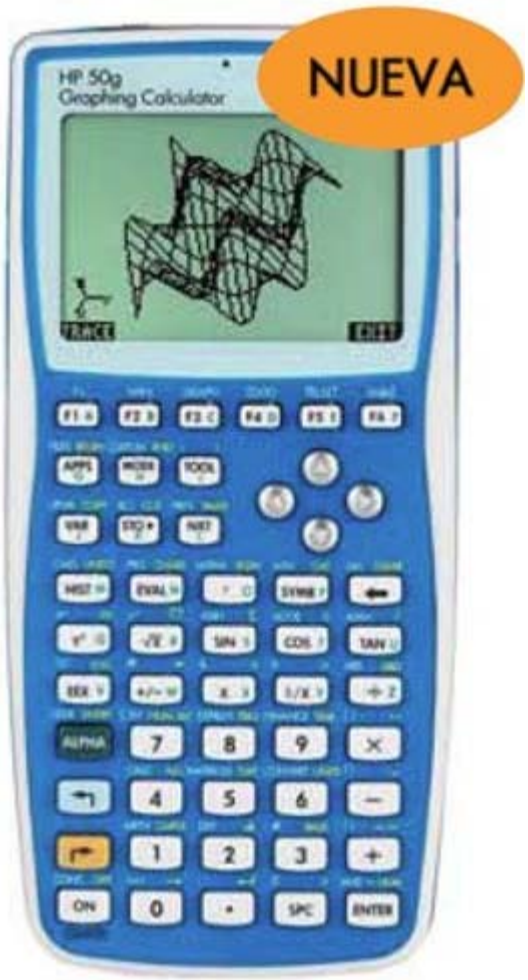
New model HP 50g Blue

*Message #1 Posted by **Pablo P (Spain)** on 10 Oct 2010, 12:27 p.m.*

I have found this file. It is from an official HP dealer in Spain:

http://ictiberia.com/datosftp/calculadoras/imf_1-ListaPrecios_sept2010.pdf



Re: New model HP 50g Blue

*Message #2 Posted by **Namir** on 10 Oct 2010, 1:20 p.m.,*
in response to message #1 by Pablo P (Spain)

That would be a cool color to have!!

Tim!!! Can you bounce of a few blue 50G my way!!

:-)

Namir

PS: My request reminds me of an Iraqi proverb "It is costly yet the demand is so cheap!"

Re: New model HP 50g Blue

*Message #3 Posted by **Egan Ford** on 10 Oct 2010, 1:20 p.m.,*
in response to message #1 by Pablo P (Spain)

I don't get it. A SciCalc for Teletubbies or Smurfs?

Perhaps the marketing department heard about "color" calculators and wanted to get into the action.

Old wine, new bottle.

Edited: 10 Oct 2010, 1:21 p.m.

Re: New model HP 50g Blue

*Message #4 Posted by **Richard Garner** on 10 Oct 2010, 1:41 p.m.,*
in response to message #3 by Egan Ford

Looks to me HP is doing a "If we can't beat them, we'll join them". I can walk into my local Wal-Mart and buy a TI 84 in any color I want, blue, green, yellow, red, purple, orange, pink, silver, white or black.

Re: New model HP 50g Blue

*Message #5 Posted by **Egan Ford** on 10 Oct 2010, 1:53 p.m.,*
in response to message #4 by Richard Garner

I wonder how TI knows how many of each color to make. It probably does not matter. The TI tech is so old that they probably make 90% profit on each unit and can take a loss on unpopular colors.

I am also curious as to 'why' make colors. My kid never got a choice throughout middle and upper school. It was always, "you must have this flavor of TI". Perhaps all the popular kids have a certain color and if you do not have that color then you are a loser, so you have to secretly 'lose' it and then get your parents to get you a new one. Of course the popular color then changes and the circle starts over again. Brilliant and evil. :-)

Perhaps the 50g not only needs to come in a rainbow of colors, but in patterns too, with rock-star, athlete, and Bill Nye the Science Guy endorsements.

Edited: 10 Oct 2010, 1:58 p.m.

Re: New model HP 50g Blue

*Message #6 Posted by **Martin Pinckney** on 11 Oct 2010, 9:33 a.m.,*
in response to message #4 by Richard Garner

> Quote:
>
> Looks to me HP is doing a "If we can't beat them, we'll join them". I can walk into my local Wal-Mart and buy a TI 84 in any color I want, blue, green, yellow, red, purple, orange, pink, silver, white or black.

HP's been there, done that: 39g, 49g, etc.

Re: New model HP 50g Blue

*Message #7 Posted by **Tim Wessman** on 10 Oct 2010, 2:11 p.m.,*
in response to message #1 by Pablo P (Spain)

This was in response to a specific request by retailers for a different color option. The color option also needed to be a bright and colorful one per request (zing and pop on the shelf. . . :-( ). The old model is still there and is not being replaced, but the blue is an *option* in this one region.

More than anything, it is an experiment to see if there is need/desire to do multiple color options for units later on in the life cycle. It has nothing to do with "not being able to beat them", but rather the fact that retailers want (demand?) constant refresh on products even if they are identical. It helps them move more units.

This represents nothing like a shift in strategy, a new future direction for colors or anything like that. If you don't like or want the blue, good! Neither do I, and the good black is still available.

However, there may be some who do want a brighter option and the color is the driving factor in choosing to buy it. It also makes the channel happy, and when you get right down to it *they* not the end user is the direct customer for what we, or almost any other product manufacturer sells.

TW

P.S. I would buy a Bill Nye calculator. He is one awesome dude! :-)

Re: New model HP 50g Blue

*Message #8 Posted by **Michael Plant** on 10 Oct 2010, 3:15 p.m.,*
in response to message #7 by Tim Wessman

It's a calculator! Who cares what colour it is?! Of course, seeing it in blue, I prefer the original black, so I guess I've answered my own question...

Re: New model HP 50g Blue

*Message #9 Posted by **Walter B** on 10 Oct 2010, 4:33 p.m.,*
in response to message #8 by Michael Plant

> Quote:
>
> It's a calculator! Who cares what colour it is?!

You should. Careful choice of a colours determines readability, discrimination of different sets of labels, etc., i.e. usability. That said, a dark background colour seems a good choice since 1972 at least.

Re: New model HP 50g Blue

*Message #10 Posted by **gene wright** on 10 Oct 2010, 5:49 p.m.,*
in response to message #9 by Walter B

I have no doubt that HP considers color choices these days. The colors probably look fine and, since they are not doing away with the original scheme, no big deal.

More units sold is a good thing.

Re: New model HP 50g Blue

*Message #11 Posted by **Michael Plant** on 11 Oct 2010, 12:35 a.m.,*
in response to message #9 by Walter B

> Quote:
>
> You should. Careful choice of a colours determines readability, discrimination of different sets of labels, etc., i.e. usability. That said, a dark background colour seems a good choice since 1972 at least.

Point taken - I prefer the original colour scheme because it is legible. My initial post was a bit of a knee jerk reaction...

Re: New model HP 50g Blue

*Message #12 Posted by **Steve Leibson** on 10 Oct 2010, 6:19 p.m.,*
in response to message #8 by Michael Plant

Reminds me of something Motorola said several years ago: "If we'd known how popular and how profitable alternative case styles would be for our cell phones, we would have gone into the plastics business."

Engineers don't care what color their caluclator is. 99% of the public shopping at Target or Office Depot or Staples thinks "That's a nice color. I'll buy the blue one."

Re: New model HP 50g Blue

*Message #13 Posted by **Bruce Bergman** on 10 Oct 2010, 6:31 p.m.,*
in response to message #12 by Steve Leibson

Steve, that's so true. I offered to buy my niece a TI-84 (needed for class, and HP wasn't "cool" enough for her) but she was lukewarm about it. When I found the version with the replaceable faceplates and one was purple, then it was "okay! I want that one!". So color does make a difference to kids these days.

Thanks,

Bruce

Re: New model HP 50g Blue

*Message #14 Posted by **Jerry Raia** on 10 Oct 2010, 7:16 p.m.,*
in response to message #13 by Bruce Bergman

Bill and Dave must be rolling over in their graves.

Re: New model HP 50g Blue

*Message #15 Posted by **Mike Morrow** on 10 Oct 2010, 8:21 p.m.,*
in response to message #13 by Bruce Bergman

> Quote:

> So color does make a difference to kids these days.

...which doesn't make it proper to serve that whim.

Color does make a difference to me. The incredibly poor color schemes of the Pioneers, the HP 48SX, the HP 48GX, and others are horribly incompetent and very poorly human-factored designs that seem to have been dedicated to selecting very worst low-contrast, miniscule, "left-coast artsy", ugly color schemes and key labeling in place of the excellent practical designs of earlier HP calculators. HP engineering really dropped the ball if it did not care about the colors that incompetent industrial design and marketing clowns established for the Pioneers and later.

This new blue HP 50G follows that same path of low-contrast illegibility. One hopes there's enough common sense even in Europe to sink this horror, and to do so promptly.

Re: New model HP 50g Blue

*Message #16 Posted by **Donald Williams** on 10 Oct 2010, 9:23 p.m.,*
in response to message #15 by Mike Morrow

> Quote:
>
> This new blue HP 50G follows that same path of low-contrast illegibility

Years ago, when I was much younger, low-contrast illegibility was not a problem. Today it is a factor I can no longer ignore. IMHO HP only got this right once. I can always use my 39GS without trying to find my glasses. The white keyboard background is perfect for contrasting the key legends. So I really consider color important and I would prefer a white keyboard background. The Casio 9860G slim also has a light gray background. The 39GS and the 9860G are the only 2 calculators I am able to easily use anymore.

Edited: 10 Oct 2010, 9:49 p.m.

Re: New model HP 50g Blue

*Message #17 Posted by **Bruce Bergman** on 10 Oct 2010, 9:54 p.m.,*
in response to message #15 by Mike Morrow

> Quote:
>
> ...which doesn't make it proper to serve that whim.

It certainly does if you're a business and people WANT different colors. The original Model A (T?) came only in black, but that was only long enough that people wanted other colors.

Serving the customer, regardless of whim, is definitely acceptable.

(IMHO)

Thanks,

Bruce

Re: New model HP 50g Blue

*Message #18 Posted by **Walter B** on 11 Oct 2010, 1:40 a.m.,*
in response to message #15 by Mike Morrow

> Quote:
>
> The incredibly poor color schemes of the **Pioneers, the HP 48SX,** the HP 48GX, and others ...

(Emphasis added)

??

Re: New model HP 50g Blue

*Message #19 Posted by **Raymond Del Tondo** on 11 Oct 2010, 2:58 p.m.,*
in response to message #18 by Walter B

Yes, the SX has a color schema with relative high contrast, so there should not be any problem. The left-shifted keylegends on the GX are not too good, but at least the layout is more consequent and logical than on the SX.

Maybe the initial 49g (aka FHB) was meant, with blue and dark red legends on a metallic blue surface, or the initial 12c platinum with alu kbd overlay, which has light yellow shifted legends printed on it. The person(s) who chose _those_ unergonomic color combinations should instantly get fired.

And since we're at it: The shiny surface incl. display cover on the disappointing 30b is not very ergonomic, too. However children seem to like shiny surfaces and colorful devices;-)

Re: New model HP 50g Blue

*Message #20 Posted by **Karl Schneider** on 11 Oct 2010, 2:14 a.m.,*
in response to message #15 by Mike Morrow

> Quote:
>
> The incredibly poor color schemes of the Pioneers, the HP 48SX, ... are horribly incompetent ... "left-coast artsy", ... in place of the excellent practical designs of earlier HP calculators.

And the curious thing about that statement? The schemes/designs were fundamentally *the same*: White, yellow and blue (in that order) function legends on a dark background (black or dark brown) were used on the HP-48S/SX as well as all Pioneer series except the HP-22S, HP-27S, and later HP-32SII -- just like their immediate non-RPL predecessors HP-41, HP-71B, and Voyager series. (Silver letters for alpha input were used on the HP-32S/SII.)

Yes, the HP-28C, the HP-48G, and later HP-32SII used different color schemes including 'designer colors'. The HP-22S and HP-27S omitted very-legible yellow, but followed the scheme otherwise.

Mike, I agree with you that the "white, yellow and blue on a dark background" scheme was ideal and should have been retained. However, your continual repeating of the same opinionated misinformation is a disservice.

-- KS

Edited: 11 Oct 2010, 4:36 a.m.

Re: New model HP 50g Blue

*Message #21 Posted by **Martin Pinckney** on 11 Oct 2010, 10:21 a.m.,*
in response to message #15 by Mike Morrow

> Quote:
>
> The incredibly poor color schemes of the Pioneers, the HP 48SX, the HP 48GX, and others are horribly incompetent and very poorly human-factored designs that seem to have been dedicated to selecting very worst low-contrast, minuscule, "left-coast artsy", ugly color schemes and key labeling in place of the excellent practical designs of earlier HP calculators.

Mike, the marketplace seems to disagree with you on this.

Re: New model HP 50g Blue

*Message #22 Posted by **Allen** on 10 Oct 2010, 11:34 p.m.,*
in response to message #8 by Michael Plant

> Quote:
>
> It's a calculator! Who cares what colour it is?! Of course, seeing it in blue, I prefer the original black, so I guess I've answered my own question...

Since I am not blind, and can't use it in the dark, I care what color it is. :)

Re: New model HP 50g Blue

*Message #23 Posted by **John B. Smitherman** on 11 Oct 2010, 12:31 a.m.,*
in response to message #1 by Pablo P (Spain)

This is terrible. I'm now convinced that HP has lost the recipe.

John

Re: New model HP 50g Blue

*Message #24 Posted by **Gonzalo Fernandez** on 11 Oct 2010, 4:12 a.m.,*
in response to message #23 by John B. Smitherman

I would like an HP50g with the save beveled keys as HP41 and the same color (dark brown)

Re: New model HP 50g Blue

*Message #25 Posted by **Patrick Rendulic** on 12 Oct 2010, 10:25 a.m.,*
in response to message #1 by Pablo P (Spain)

Innovation strikes !

or

see how deep HP has fallen

Re: New model HP 50g Blue

*Message #26 Posted by **Martin Pinckney** on 12 Oct 2010, 10:31 a.m.,*
in response to message #25 by Patrick Rendulic

> Quote:
>
> This was in response to a specific request by retailers for a different color option... the blue is an *option* in this one region.
>
> More than anything, it is an experiment to see if there is need/desire to do multiple color options for units later on in the life cycle...
>
> This represents nothing like a shift in strategy, a new future direction for colors or anything like that...

Re: New model HP 50g Blue

*Message #27 Posted by **John B. Smitherman** on 12 Oct 2010, 1:42 p.m.,*
in response to message #25 by Patrick Rendulic

I always liked the color scheme of the 34c:

John

Re: New model HP 50g Blue

*Message #28 Posted by **Pavneet Arora** on 12 Oct 2010, 4:16 p.m.,*
in response to message #27 by John B. Smitherman

To which Pavneet posts his obligatory ``This is my favorite HP calculator of all time." ;) ;). Once in a while I can beat Gene before he says it on my behalf ;). Cheers.

Edited: 12 Oct 2010, 4:17 p.m.

Re: New model HP 50g Blue

*Message #29 Posted by **gene wright** on 12 Oct 2010, 5:25 p.m.,*
in response to message #28 by Pavneet Arora

Bah!

:-)

Re: New model HP 50g Blue

*Message #30 Posted by **M. Joury** on 12 Oct 2010, 4:19 p.m.,*

in response to message #27 by John B. Smitherman

I'm with you there. The 34 was always one of my favorites.

Re: New model HP 50g Blue

*Message #31 Posted by **Walter B** on 12 Oct 2010, 10:48 p.m.,*
in response to message #27 by John B. Smitherman

I concur. Guess why we called our reconfiguration project 34S d:-)

Ceterum censeo: HP, launch a 43S!

HP-34C appearance and usage

*Message #32 Posted by **Karl Schneider** on 15 Oct 2010, 2:22 a.m.,*
in response to message #27 by John B. Smitherman

John --

Absolutely -- the HP-34C had great looks, as well as a superb 3-color manual and groundbreaking capabilities. Aside from several design flaws that degraded reliability, it was also kind of a chore to use. With only 30 keys and two slide switches, three shift keys were necessary to cover all of its functions.

- Every math function except basic artithmetic required use of a shift key.
- The black-shift function labels were hard to see on the side of the 'tall keys' similar to those of the HP-67 and the early HP-41.
- Only two NiCd cells served a power-hungry LED display, with no auto-shutoff.
- The slide switches (ON/OFF; PRGM/RUN) needed occasional lubrication, which required disassembly.
- No annunciators were provided for angular mode, or for anything else other than battery charge.
- No entry-correcting backarrow was provided.

GSB, GTO, and labels A and B were unshifted. Perhaps it was believed that the typical user would be a programmin' demon...

All of these problems were addressed in the HP-11C, and the HP-15C subsequently eclipsed both. It goes to show how H-P's engineers of that era were thinking "how can this be done better" wherever possible.

-- KS

Edited: 15 Oct 2010, 2:42 a.m.

Re: HP-34C appearance and usage

*Message #33 Posted by **John B. Smitherman** on 15 Oct 2010, 9:26 a.m.,*
in response to message #32 by Karl Schneider

The labeling was very legible. The placement of the Enter key on the left with -, +, x, and / directly below suited me.

Being able to use it to program saved many trips to the computer center at school.

Yes, the shift keys are needed quite a bit. I've had no mechanical problems with mine and still use it

with 2 AA batteries.

Regards,

John

Re: New model HP 50g Blue

*Message #34 Posted by **Brian Walsh** on 12 Oct 2010, 11:09 p.m.,*
in response to message #1 by Pablo P (Spain)

The side by side view says it all.

Re: New model HP 50g Blue

*Message #35 Posted by **Francis Pierot** on 13 Oct 2010, 10:31 a.m.,*
in response to message #1 by Pablo P (Spain)

Ugly ...

Clearly it should have been pink with green keys.

Re: New model HP 50g Blue

*Message #36 Posted by **Jerry Raia** on 15 Oct 2010, 10:40 a.m.,*
in response to message #35 by Francis Pierot

It would look good hanging in a baby crib though. :)

Re: New model HP 50g Blue

*Message #37 Posted by **Egan Ford** on 15 Oct 2010, 2:38 p.m.,*
in response to message #36 by Jerry Raia

Look good to whom? Babies prefer high contrast (google it).

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10/10/10 Happy 42 day!

*Message #1 Posted by **Hugh Evans** on 9 Oct 2010, 11:12 p.m.*

At last, an excuse to make a day commemorating the venerable hp-42s!

Re: 10/10/10 Happy 42 day!

*Message #2 Posted by **Martin Pinckney** on 9 Oct 2010, 11:28 p.m.,*
in response to message #1 by Hugh Evans

OK, I give up, what's the connection?

According to Finseth's site, the 42s was introduced 10/31/88 (U.S. style date). That will be 22 years ago.

Now we could have celebrated the introduction of the 22s on 6/1/10. If anyone cared.

Re: 10/10/10 Happy 42 day!

*Message #3 Posted by **Donald Williams** on 10 Oct 2010, 12:29 a.m.,*
in response to message #2 by Martin Pinckney

> Quote:
>
> OK, I give up, what's the connection?

If you recall the book "Hitch Hikers Guide to the Galaxy" 42 was the answer to the question - What is the meaning of life?

101010 binary is equal to 42 decimal.

Re: 10/10/10 Happy 42 day!

*Message #4 Posted by **Hugh Evans** on 10 Oct 2010, 10:59 p.m.,*
in response to message #3 by Donald Williams

That, sir, is a bingo. For further amusement regarding the number 42, visit wolframalpha.com:

http://www.wolframalpha.com/input/?
i=Answer+to+the+Ultimate+Question+of+Life%2C+the+Universe%2C+and+Everything

Re: 10/10/10 Happy 42 day!

*Message #5 Posted by **Martin Pinckney** on 11 Oct 2010, 9:18 a.m.,*
in response to message #3 by Donald Williams

Sorry for the obtuseness. I guess I am just not a binary kind of engineer.

Re: 10/10/10 Happy 42 day!

*Message #6 Posted by **Gerson W. Barbosa** on 11 Oct 2010, 11:44 a.m.,*
in response to message #5 by Martin Pinckney

You're brave! I hadn't seen the connection either, but I just was affraid to ask :-)

> Quote:
>
> I guess I am just not a binary kind of engineer.

Regards,

Gerson.

Re: 10/10/10 Happy 42 day!

*Message #7 Posted by **Martin Pinckney** on 11 Oct 2010, 2:49 p.m.,*
in response to message #6 by Gerson W. Barbosa

Gerson, got a chuckle out of me!

Re: 10/10/10 Happy 42 day!

*Message #8 Posted by **Gerson W. Barbosa** on 11 Oct 2010, 3:29 p.m.,*
in response to message #7 by Martin Pinckney

That was not my intention. Really!

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Emulator CPU usage

*Message #1 Posted by **Martin Pinckney** on 9 Oct 2010, 10:02 p.m.*

I've noticed that when the 41c emulator by Harassed Programmer is active, the CPU usage meter on my laptop stays over 50%. By comparison, with the Emu48 by Christoph GieBelink it may be only around 5%.

Has anyone else observed such behavior? Why such heavy demands from such a small program?

I have an HP TC4400 running Windows 7 Professional.

Re: Emulator CPU usage

*Message #2 Posted by **Massimo Gnerucci (Italy)** on 10 Oct 2010, 2:48 a.m.,*
in response to message #1 by Martin Pinckney

> Quote:
>
> Harassed

???

I remember this problem when I tried a (very old now) version quite some time ago. No solution found then.

Greetings,
Massimo

Re: Emulator CPU usage

*Message #3 Posted by **HrastProgrammer** on 11 Oct 2010, 11:07 a.m.,*
in response to message #1 by Martin Pinckney

> Quote:
>
> Harassed Programmer

LOL^2 ... "Harassed" (= "To irritate or torment persistently")

I should probably don't bother to answer but anyway ... My HP-41E for Windows is very old program and some parts of it could be coded much better, going to sleep while waiting for a key, for example. But I used it only as a test/development platform for my emulators running on HP-48GX/49G, so I didn't bother to fix it.

Use V41 by Warren Furlow, it is much better. As far as I can remember, link to his site should not be posted here, but you can Google for it ...

Best regards.
Harassed Programmer

Re: Emulator CPU usage

*Message #4 Posted by **Martin Pinckney** on 11 Oct 2010, 3:49 p.m.,*
in response to message #3 by HrastProgrammer

No, actually I do appreciate your answering... and not taking offense at my little joke. I was, of course, referring to your FAQ's which suggest to me that you are often Harassed by folks expecting free software...

Re: Emulator CPU usage

*Message #5 Posted by **HrastProgrammer** on 12 Oct 2010, 1:37 a.m.,*
in response to message #4 by Martin Pinckney

No problem, I didn't recognize it's a joke, sorry. I never said in my FAQ that I am "harassed" by people expecting free software, just that (1) not all of my emulators will be free and (2) none of my software will be open-sourced because I don't like open-source concept, nothing else.

BTW, I restored HP-41E source from the archive (it's the latest version, I think, v1.02 from 2001) and fixed this annoying CPU usage issue. If you want, you can download it here:

http://www.hrastprogrammer.com/hp41e/hp41epc.zip

Re: Emulator CPU usage

*Message #6 Posted by **Massimo Gnerucci (Italy)** on 12 Oct 2010, 2:01 p.m.,*
in response to message #5 by HrastProgrammer

Just downloaded, thanks!
Nice job, as usual...

Greetings from Milan,
Massimo

Re: Emulator CPU usage

*Message #7 Posted by **HrastProgrammer** on 13 Oct 2010, 1:43 a.m.,*
in response to message #6 by Massimo Gnerucci (Italy)

:-)

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hp50g- can't connect to pc through usb after running gpssurvey

*Message #1 Posted by **Matthew Krotzer** on 9 Oct 2010, 6:01 p.m.*

I encountered an odd problem today with my new 50g:

If I run "gps survey" from hpcalc.org (which connects to the gps receiver through serial) I cannot connect to my winxp pc through usb/Xmodem without resetting the calculator to factory default.

I suspect a comm setting is being changed and not changed back but I have no idea how to correct this problem.

Edited: 9 Oct 2010, 6:03 p.m.

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Production Dates HP41CX Fullnut vs. Halfnut

*Message #1 Posted by **Frido Bohn** on 9 Oct 2010, 11:39 a.m.*

Hi!

I'm just wondering when the production of the HP41CX Halfnut started. I just got a Halfnut as far as I can determine without opening by its rounded display for which the contrast can be changed. The back looks for me like of a HP41C/CV where the ALPHA keyboard is shown (the "true" 41CX shows the display of the Edit menu). The serial number shows 2339S41xxx, and for my taste 1983 was just the introduction of the Fullnut. Concluding, I suspect that the calculator was "refurbished" with a back of a 41C/CV.

Has somebody a clue about this finding? Could that engine I have be an original despite of that back?

Kind regards

Re: Production Dates HP41CX Fullnut vs. Halfnut

*Message #2 Posted by **Mike Morrow** on 9 Oct 2010, 10:34 p.m.,*
in response to message #1 by Frido Bohn

I don't know what you mean when you write: "the ALPHA keyboard is shown (the "true" 41CX shows the display of the Edit menu)".

That is an incorrect assertion.

I have the HP-41CX that I bought new in early 1984 (2403Sxxxxx). Its back shows the keyboard ALPHA assignments. Mine is very definitely a "true" HP-41CX.

I believe you have a machine that started out as an HP-41CX fullnut, then was subsequently HP-repaired with halfnut internals.

Re: Production Dates HP41CX Coconut vs. Halfnut

*Message #3 Posted by **Garth Wilson** on 10 Oct 2010, 12:55 a.m.,*
in response to message #1 by Frido Bohn

According to and article entitled "HALFNUT -- AN INTERNALLY IMPROVED HP-41C,CV,CX" by Richard Nelson and Jeremy Smith in the CHHU Chronicle V2N4 (Jul/Aug '85):

"Halfnut is a code name given to the engineering effort of redesigning the HP-41C, HP-41CV, and HP-41CX to improve its manufacturability and reliability. The code name is a hold over from another engineering project started in the summer of 1983 to investigate a product similar to the HP-41, but only have half the number of ports. Since the four-port HP-41 was code named "Coconut," it was natural to call a two-port version "Halfnut." There are stories around that say Halfnut got its name from a goal to reduce the IC count by half, or to cut the manufacturing cost by half, etc.. I don't know how the older product variation project turned into a manufacturing-improvement project, but certain secrets of HP's internal operation are never known."

It says coconuts could get replaced with halfnuts in the repair service, but HP did not make any halfnut announcements.

So again, work on it started sometime after the project that started in the summer of '83 got changed, and they got it to market in '85 and stopped selling coconuts at that time. There never was a "fullnut."

Re: Production Dates HP41CX Fullnut vs. Halfnut

*Message #4 Posted by **Frido Bohn** on 10 Oct 2010, 5:30 a.m.,*
in response to message #1 by Frido Bohn

Mike,

I'm sorry about the somewhat imprecise description of the 41CX's back.
What I refer to as "Edit label" is printed in white with most remarkable changes on the row where the shift key is.
There shows "|-, INSERT, GTO, REC" as shifted assignments of the "K, L, M, SST" keys.
In contrast, on the 41C/CV the print color was orange with "APPEND, ASTO, ARCL, BST" on the shifted keys of the shift-key row.

Gart,

you are correct, the designation "Fullnut" never was an official designation of the early HP41CX.
According to a list "All of HP's Calculators – In "reversed time" Order" by "Richard J. Nelson, Jake Schwartz, & Wlodekz Mier-Jedrezjowicz" which (re-)appeared in the HP Calculators Newsletter of Aug 2010 (HP Solve #20 Page 23-24)
the designation of the HP41CX was "Honeynut" and of the HP41C was "Coconut".
The designation "Fullnut" was a logical deduction; if there was a "Halfnut" there should be also a "Fullnut".
And it appears to be a pretty solution to make the destinction between both versions of the HP41CX.

The explanation that an HP41 was replaced by the customer service with a new model seems to be plausible.
However, I wonder whether only the top has been changed in such a procedure leaving the back as it was before,
so the customer would have a repaired calculator with the serial number of the machine he sent to HP.

By the way, the weight of both calculators (without batteries) differ with about 12% more for the Fullnut:
Fullnut: 149g (5.256 ounces)
Halfnut: 133g (4.691 ounces)

Re: Production Dates HP41CX Fullnut vs. Halfnut

*Message #5 Posted by **Mike Morrow** on 10 Oct 2010, 10:36 a.m.,*
in response to message #4 by Frido Bohn

My apologies, Frido, for my ignorance of that distinction between the various backside labels of the HP-41 series. I've owned a HP-41C since 1980, and a HP-41CX since 1984, yet I never took notice of that difference before. Thanks for your precise explanation!

With respect to the desciptive labels "fullnut" versus "halfnut", I believe that many (myself included) use the terms exactly as you describe...not as a reference to a particular HP project designation, but only as

CLEARLY descriptive and unambiguous terms for the two major versions of HP-41 internal configuration.

So, there is an element of mystery to the HP-41CX that you have. The cited serial number could apply to a very early HP-41CX. Is it possible that these came from HP with the earlier HP-41C/CV backside label? Someone here who owns a HP-41CX with an even earlier serial number could answer that question.

Re: Production Dates HP41CX Fullnut vs. Halfnut

*Message #6 Posted by **Jim L (OHIO)** on 10 Oct 2010, 12:59 p.m.,*
in response to message #5 by Mike Morrow

> Quote:
>
> ...that distinction between the various backside labels of the HP-41 series. I've owned a HP-41C since 1980, and a HP-41CX since 1984, yet I never took notice of that difference before...So, there is an element of mystery to the HP-41CX that you have. The cited serial number could apply to a very early HP-41CX. Is it possible that these came from HP with the earlier HP-41C/CV backside label? Someone here who owns a HP-41CX with an even earlier serial number could answer that question.

I am always impressed by the natural curiosity that HP Museum members have, particularly with respect to the lineage of specific calculators. While not nearly as adroit at understanding the varieties of HP-41CXs, this thread caused me to look more closely at one I recently acquired from TAS.

The front label clearly shows "41CX." The display however, does not have the easily identifiable rounded corners of a CX, but rather the full, sharp cornered display of the earlier models (as an aside, I like this better anyway). Catalog 1 shows 219 registers, as I would expect on a default setting of a CX. The back label has the white label "INSERT, GTO,..." descriptions above the L and M keys as the shift functions. Yet the serial number is "251454nnnn" seemingly indicating a much newer model or production run.

While a bit confused by this all, I am simply happy to have a 41 again!

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[OT] New Casio Grapher

*Message #1 Posted by **Tim Wessman** on 8 Oct 2010, 10:17 a.m.*

Announcement

TW

Re: [OT] New Casio Grapher

*Message #2 Posted by **hpnut** on 8 Oct 2010, 10:40 a.m.,*
in response to message #1 by Tim Wessman

Not RPN :-(

Re: [OT] New Casio Grapher

*Message #3 Posted by **M. Joury** on 8 Oct 2010, 10:57 a.m.,*
in response to message #2 by hpnut

If it supports the same development environment as the fx-9860gII that can be fixed. I looked at the Casio site and there is not a whole lot of information available on it. Just that it has a (very) high resolution color screen, what the memory limits are, and the battery life. Nothing more that I can find.

Re: [OT] New Casio Grapher

*Message #4 Posted by **Pal G.** on 8 Oct 2010, 11:04 a.m.,*
in response to message #3 by M. Joury

Here's some more info. I read it will be available January 2011.

http://www.casioeducation.com/prizm/

http://www.casio.com/news/content/51D7AC67-A2F7-479C-9250-926471B69BF9

Re: [OT] New Casio Grapher

*Message #5 Posted by **M. Joury** on 8 Oct 2010, 11:11 a.m.,*
in response to message #4 by Pal G.

Thanks!

Re: [OT] New Casio Grapher

*Message #6 Posted by **Nigel J Dowrick** on 8 Oct 2010, 11:00 a.m.,*
in response to message #1 by Tim Wessman

Judging from the icons in the display the built-in software looks similar to the current 9850/60 series. The display resolution is good, but the power consumption is 0.6W - will students put up with a calculator likely to go flat in an exam?

Still, all credit to Casio for continuing to produce new models, even if this one is aimed squarely at the educational market. It looks nicer than the NSpire machines ...

Nigel

Re: [OT] New Casio Grapher

*Message #7 Posted by **M. Joury** on 8 Oct 2010, 11:10 a.m.,*
in response to message #6 by Nigel J Dowrick

I am not sure about Casio's battery test scenarios but the battery life on alkalines appears to be 3 times that of the 50g which, according to spec, has a battery life of around 50 hours typical use.

Re: [OT] New Casio Grapher

*Message #8 Posted by **Katie Wasserman** on 8 Oct 2010, 11:30 a.m.,*
in response to message #6 by Nigel J Dowrick

> Quote:
>
> but the power consumption is 0.6W

This appears to be the peak power consumption. They have a very detailed spec on battery life under different scenarios in the other link posted. Like most color, back-lite, LCD screens devices the brightness level is the main determinate of battery life. However at the lowest setting (most of the time) they claim 250 hours from 4xAAA alkaline cells. That works out to roughly .025W power consumption.

For comparison, the fx-9860g slim says .3W power consumption on the back label but I measure a peak power of only .2W (with back light on and running a program loop). The back light itself draws about .03 watts. I think this new machine will be just fine power-wise. I use my fx-9860g slim quite a lot often with the back light on and don't find myself changing batteries often at all.

-Katie

Casio Prizm fxCG10 looks great @ US$130

*Message #9 Posted by **Sujith Abraham** on 8 Oct 2010, 11:33 a.m.,*
in response to message #1 by Tim Wessman

This Wired story tells me that it is available now (Casio Prizm Calculator Pulls Equations from Photographs)

It is available for purchase from the Casio Products site : Casio Prizm fxCG10

See this video also : Casio Prizm fxCG10 Video teaser . I think it's a TI Nspire at the end getting morphed to a Prizm.

The price is right, I guess they mean business this time.

Great work Casio.

Re: [OT] New Casio Grapher

*Message #10 Posted by **Bruce Bergman** on 8 Oct 2010, 11:37 a.m.,*
in response to message #1 by Tim Wessman

Wow. That's gonna perk someone up at TI. Reminds me of the sage XKCD cartoon where they were comparing the features of the TI calc, now 20 years old.

At least it'll run RPN in an app.

Interesting...

Re: [OT] New Casio Grapher

*Message #11 Posted by **db (martinez, ca.)** on 8 Oct 2010, 11:36 a.m.,*
in response to message #1 by Tim Wessman

The announcement says

> Quote:
>
> PRIZM™ creates a whole new way to learn math by enabling students to experiment by creating their own graphs over pictures of real-life scenes, and then understand the functions from the graphs that they created on their own.

So one can store equations like this one?

cool.

Re: [OT] New Casio Grapher

*Message #12 Posted by **Martin Pinckney** on 8 Oct 2010, 11:43 a.m.,*
in response to message #11 by db (martinez, ca.)

> Quote:
>
> So one can store equations like this one?
>
> cool.

Link broken for me.

Re: [OT] New Casio Grapher

*Message #13 Posted by **db (martinez, ca.)** on 8 Oct 2010, 8:07 p.m.,*
in response to message #12 by Martin Pinckney

Martin; It worked for me when i posted, but not right now either. It's the formula for a symmetric parabolic curve. The algorithm for a non-symmetrical vertical curve would be a little more complicated but i wouldn't mind. Like most surveyors; i'm just so grateful to have any curve.... The link is: http://img2.moonbuggy.org/imgstore/civil-engineering-reference-wallpaper.jpg

Re: [OT] New Casio Grapher

*Message #14 Posted by **Martin Pinckney** on 9 Oct 2010, 6:26 a.m.,*
in response to message #13 by db (martinez, ca.)

Not to be argumentative, but the curves appear more circular than parabolic to me. I am a hands-on kind of engineer, but for some types of problems, I am restricted to visual observations only. So yes, the new Casio might prove valuable in this case.

Edited: 9 Oct 2010, 6:43 a.m.

Re: [OT] New Casio Grapher

*Message #15 Posted by **Walter B** on 8 Oct 2010, 11:51 a.m.,*
in response to message #11 by db (martinez, ca.)

Looks like 4MPa pressure or a real lot of silicone. Must be the latter since I don't see a tube d;-)

Edited for typo >:-/

Edited: 9 Oct 2010, 6:31 a.m.

Re: [OT] New Casio Grapher

*Message #16 Posted by **Martin Pinckney** on 8 Oct 2010, 11:47 a.m.,*
in response to message #1 by Tim Wessman

This has some features talked about (and dismissed as not feasible, I might add) on this forum, such as color backlit LCD. Maybe Casio reads the messages here and takes them more seriously than HP's corporate structure?

So Tim, when can we expect something like this from HP, like a 60g?

Re: [OT] New Casio Grapher

*Message #17 Posted by **Walter B** on 8 Oct 2010, 11:54 a.m.,*
in response to message #16 by Martin Pinckney

HP has a 50g being not so bad for this market after all.

Ceterum censeo: HP, launch a 43S!

Re: [OT] New Casio Grapher

*Message #18 Posted by **gene wright** on 8 Oct 2010, 12:06 p.m.,*
in response to message #17 by Walter B

Ceterum censeo: Walter, compile a 34s!

:-)

Re: [OT] New Casio Grapher

*Message #19 Posted by **Walter B** on 8 Oct 2010, 12:18 p.m.,*
in response to message #18 by gene wright

LOL

Gene, I'm sorry I can't do this since having neither Linux nor a Mac. And though having done quite a lot of SW earlier, I did my last real SW project some 20 years ago using Pascal at that time. That's the reason why I took the documentation job in the 34S project d;-)

So this compilation is gladly left for other people. How are your results so far?

Re: [OT] New Casio Grapher

*Message #20 Posted by **Tim Wessman** on 8 Oct 2010, 12:05 p.m.,*
in response to message #16 by Martin Pinckney

Not dismissed at not feasible (although not on any saturn code based machine - it took 6 months to make the 49g+ use the top of the screen for most things and that was the most *simple* task), but rather there is a big tradeoff with both power and cost.

TW

Re: [OT] New Casio Grapher

*Message #21 Posted by **Pablo P (Spain)** on 8 Oct 2010, 12:39 p.m.,*
in response to message #1 by Tim Wessman

It reminds me a big Blackberry. First TI-Nspire touchpad and now the PRIZM fx-CG10. HP, it is your turn...

Re: [OT] New Casio Grapher

*Message #22 Posted by **Hal Bitton in Boise** on 8 Oct 2010, 1:27 p.m.,*
in response to message #1 by Tim Wessman

Great display for sure...very eye catching, very flashy. But I notice the numerical range is only 9.9x10^99 to 9.9X10^-99. Do you suppose it has infinite numerical precision for integers, etc. Is there a decent CAS behind all that flash?

Re: [OT] New Casio Grapher

*Message #23 Posted by **Tim Wessman** on 8 Oct 2010, 1:31 p.m.,*
in response to message #22 by Hal Bitton in Boise

Nope.

From what I can tell, it is essentially the same SW in a 9860 with a bit more bling.

TW

Re: [OT] New Casio Grapher

*Message #24 Posted by **Ron Ross** on 8 Oct 2010, 2:32 p.m.,*
in response to message #23 by Tim Wessman

Along with the huge variable count of 28 variables ie single letter variables with theta and gamma or some such combination.

Truthfully, I feel that Hp SHOULD release an Hp 43s. A high end pocket calculator with I/O. Use the ROM of the Hp 50G, but gut the graphics (or include a VGA or DVI port as discussed later). Give it an okay LCD with 2-4 levels (with softkeys, just like the Hp 42s or 48G). Such a system would be able to use the huge library of existing 48G type programs if rewritten for the smaller screen.

Such a pocket calculator would be a great pocket companion for the technical field engineer. I/O could and should include an SD slot, usb slot and a small VGA or DVI type port so that graphics can be used by those that feel a need to have this capability. I feel it is a nice to have feature, but I have never used the graphics on my own Hp48g (but that could be because the Hp48G is notoriously slow to graph). Now, as a professional, I would never bother to use the graphics of a lowly calculator as I could use my PC to generate a better graph that could be printed out for reference too.

And Hp can't afford to go cheap on the keyboard. It has to be at the same standard or quality of the Voyagers or Pioneers.

Edited: 8 Oct 2010, 2:51 p.m.

Re: [OT] New Casio Grapher

*Message #25 Posted by **htom trites jr** on 8 Oct 2010, 6:37 p.m.,*
in response to message #24 by Ron Ross

Several (I'd like four, please) MicroSDHD slots. The calculator OS can be in a MicroSDHD in slot 0.

Re: [OT] New Casio Grapher

*Message #26 Posted by **Andrés C. Rodríguez (Argentina)** on 8 Oct 2010, 6:30 p.m.,*
in response to message #1 by Tim Wessman

It looks a bit too large for a shirt pocket... even Mr. Hewlett's one.

Re: [OT] New Casio Grapher

*Message #27 Posted by **Chuck** on 8 Oct 2010, 8:09 p.m.,*
in response to message #26 by Andrés C. Rodríguez (Argentina)

Ah, big for now, yes. But a clamshell version like my FX-9860g Slim would be most desirable.

And seriously, even though I've used HP's since 1980 and probably have over 35 HP's I've completely come to the conclusion that HP will NEVER come out with a fantastically (not just good or passable) quality calculator. The 35s was about 20% there, the 30b is about 25% there, as are the 49's, and 50's. They are now all button adorned dust collectors up in my garage.

Man will never walk Mars; dinosaurs will never walk Earth again; and HP will never create a quality scientific calculator. Things go extinct every now and then. Sad, but true. HP, I'm afraid, is losing the race, unfortunately.

Re: [OT] New Casio Grapher

*Message #28 Posted by **Csaba Tizedes (Hungary)** on 10 Oct 2010, 8:28 a.m.,*
in response to message #1 by Tim Wessman

Variable names: A...Z -> !FAIL! Dashed triangles, double arrows and other hieroglyphs in program lists -> !FAIL! Many info in handbook, no problems from real life -> !FAIL! No camera -> !FAIL! No strings (just 20 I-dunno-whats-this-really) -> !FAIL! Very impressive soap box without brain -> !FAIL! When I will pass all my exams this unit will be useless in professional life -> !FAIL! No SDK -> !FAIL! No C, C#, Python, Java -> !FAIL! No MP3 -> !FAIL! No DivX support -> !FAIL! No GSM/3G support -> !FAIL! No WiFi -> !FAIL! No GPS -> !FAIL!

I hope this was a test product from CASIO.

If the next will be...

same as clever as HP15C and 42S and 48SX AND will be friendly for students like as TI89 AND small as SonyEricsson Xperia X10 Mini AND looks like CASIO fx-CG10 (haha)

...thats will be the perfect calc.

Some missing things:

- able to fit parabolic equation with zero (or any given) slope in one given point - able to fit a function on a subset of measured data (simple check the given interval on the graph (xmin...xmax)) - able to make photographs and use it to measuring - and so on...

Re: [OT] New Casio Grapher

*Message #29 Posted by **Katie Wasserman** on 10 Oct 2010, 10:08 a.m.,*
in response to message #28 by Csaba Tizedes (Hungary)

While I agree with you about the variable limitations and weird programming language, I think for what it is (based on the 9860g) it's quite a nice calculator. No MP3 player, GPS or ice crusher but it's not claiming to be a do everything device. I do think that a simple camera would be perfect in this given what it's main selling point is. On the other hand... it does have an SDK (again, based on the 9860g), a pretty nice one that lets you create your own applications that can share variables with the built-in ones.

Re: [OT] New Casio Grapher

*Message #30 Posted by **Egan Ford** on 10 Oct 2010, 1:30 p.m.,*
in response to message #29 by Katie Wasserman

> Quote:
>
> I do think that a simple camera would be perfect in this given what it's main selling point is.

It would make stealing tests easier. :-)

I'm assuming the Casio displays your pic, and you place an 'X', then the next 'X', and so and and then you say, "find a curve". Interesting, perhaps someday I can have an augmented reality app for portable devices that would show the mathematics of the real world in real-time.

Re: [OT] New Casio Grapher

*Message #31 Posted by **Marcus von Cube, Germany** on 11 Oct 2010, 4:15 a.m.,*
in response to message #1 by Tim Wessman

The friends over at MySilicium.org have found the manual:

http://edu.casio.com/products/cg_series/data/fxcg10_20_E.pdf

Here is the thread: http://www.silicium.org/forum/viewtopic.php?f=46&t=27385&start=0

Re: [OT] New Casio Grapher

*Message #32 Posted by **Katie Wasserman** on 11 Oct 2010, 5:59 a.m.,*
in response to message #31 by Marcus von Cube, Germany

Marcus,

Thanks for that link. After a quick read of the manual I find this new machine somewhat disappointing. Casio just:

```
- added commands to deal with the color display
- a geometry application
- an image/plotting application (the advertised feature)
- metric conversions are now a built in application
- more statistics functions (and in their own application)
- better support to editing programs on a PC and transferring them to the calculator
```

Otherwise it's an fx-9860g II. While that's pretty much what I expected I was hopping for more programming improvements.

-Katie

Edited: 11 Oct 2010, 6:20 a.m.

Re: [OT] New Casio Grapher

*Message #33 Posted by **Donald Williams** on 11 Oct 2010, 10:45 a.m.,*
in response to message #32 by Katie Wasserman

> Quote:
>
> I was hopping for more programming improvements.

Amen!

That is the weak point in their current offerings.

HP RPL is too much.

Casio Basic is too little.

Perfect calculator - Where oh Where art thou?

Re: [OT] New Casio Grapher

*Message #34 Posted by **Bruce Bergman** on 11 Oct 2010, 11:21 a.m.,*
in response to message #33 by Donald Williams

How about a port of HP's RPL to the Casio? ;-)

Thanks,

Bruce

Re: [OT] New Casio Grapher

*Message #35 Posted by **bill platt** on 11 Oct 2010, 6:52 p.m.,*
in response to message #33 by Donald Williams

Emulate a 41 on the 50g. That gives you the old simple but extensible FOCAL on a modern HW platform.

Re: [OT] New Casio Grapher

*Message #36 Posted by **hpnut** on 12 Oct 2010, 4:48 a.m.,*
in response to message #35 by bill platt

The online manual can be found here.

http://edu.casio.com/products/cg_series/data/fxcg10_20_E.pdf

Not bad manual, 601 pages.

Re: [OT] New Casio Grapher

*Message #37 Posted by **Massimo Gnerucci (Italy)** on 12 Oct 2010, 2:03 p.m.,*
in response to message #35 by bill platt

Exactly!
Use Hrast's emulator... or wait for Monte's 41L

Massimo

Re: [OT] New Casio Grapher

*Message #38 Posted by **Chuck** on 12 Oct 2010, 8:01 p.m.,*
in response to message #32 by Katie Wasserman

Katie, have you figured out why the fx-CG10 is the North American version, and the CG20 is everywhere else? Also why the CG10 lasts 140 hours on battery versus 85 with the CG20? Doesn't seem like the specs lend to this disparity.

CHUCK

Re: [OT] New Casio Grapher

*Message #39 Posted by **Katie Wasserman** on 13 Oct 2010, 12:27 a.m.,*
in response to message #38 by Chuck

I think that the battery life spec is simply confusing to read and the both models have either 140 hours or 85 hours of battery life depending on usage patterns.

Casio notes that the CG10 is for the North American market while the CG20 is for the rest of the world. Significantly they also note that the eActivity screen shots and others saved on a CG20 can not be read on a CG20 but the reverse is not true and that Casio supplied images file can be read by either version. Other than that the manual mentions no differences between the two models. The distinction seems like it might be some sort of copyright infringement avoidance issue -- it makes no logical sense to me.

Re: [OT] New Casio Grapher

*Message #40 Posted by **Chuck** on 13 Oct 2010, 1:31 a.m.,*
in response to message #39 by Katie Wasserman

The battery discrepancy sounds plausible: same for both, but dependent on the type of battery being used. I'm surprised it's not the other way around since there has already been an awesome Casio CG10 sold here about 30 years ago. :) Course maybe it wasn't available in the states.

Casio CG10

CHUCK

Re: [OT] New Casio Grapher

*Message #41 Posted by **Jimi** on 13 Oct 2010, 4:22 p.m.,*
in response to message #1 by Tim Wessman

Very nice looking. I'd be interested in playing with one for sure.

My big thing on the current crop of calculators is readability, and ALL of the current batch of graphers is pretty poor. Shitty contrast, no backlight. My 48 is better than most, since at least the font size is larger. The TI89 is horrible for me unless in bright light conditions. The problem with the lighting, is that almost every class I'm in now is using projectors for lecture, and all dim the lights to some level. While writing isn't a problem, doing anything on the calculator is.

About battery life. If you're going in for your PE exam, SAT, whatever, you'd be smart to throw a new set of batteries in there. Just saying. The extra few dollars is trivial to the consequences.

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Some interesting reading about the time when the HP-28s hit schools
*Message #1 Posted by **Frank Rottgardt** on 7 Oct 2010, 6:11 p.m.*

A Link to a book that might be of interest. Written at a time when the HP-28s was brand new.

http://books.google.de/books?id=ntGpV3rMjnoC&pg=PA111&lpg=PA111&dq=hp-28s+program+-cartridge+-druckpatrone&source=bl&ots=bGoy0HNCVD&sig=x3W7UOQSJbYuSJRw5pio9if7hgI&hl=sv&ei=1kGuTOqOG4rHswaGh63cDQ&sa=X&oi=book_result&ct=result&resnum=7&ved=0CDYQ6AEwBjg8#v=onepage&q=hp-28s%20program%20-cartridge%20-druckpatrone&f=false

Sorry, the html Link tool did not work on that link. Cut&Paste :-)

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MoHPC *The Museum of HP Calculators*

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41C Memory Module 82106A Check / Test

*Message #1 Posted by **AlbertTocarLoseggs** on 7 Oct 2010, 4:38 p.m.*

Hi again fellows,

I´d like to check / test an HP-82106A Memory Module for failure. Does exist a program, embedded function or standard procedure available and useful? I suspect a malfunctioning behavior, unfortunately. Many thanks!

BTW, the Card Reader / Writer was successfully repaired and it works great after almost 26 years of inactivity. HP quality is amazing! The gummy wheel was replaced by a medical silicone tubing: it fits and works perfect! "Gracias" a lot Karl-Ludwig Butte.

Albert

Re: 41C Memory Module 82106A Check / Test

*Message #2 Posted by **Håkan Thörngren** on 8 Oct 2010, 2:36 a.m.,*
in response to message #1 by AlbertTocarLoseggs

If I am not mistaken, the service module can test the memory module. You will need either the real module (not common), or have an image of it loaded in some ROM emulation device.

The memory module loads itself in upper memory and becomes data memory by default, you can resize if you want to. I do not remember how many registers you should have (each module adds 64 registers), but if you find out, you can always write an RPN program put various numbers in it and see that they are recalled properly. Unfortunately, it is not easy to test with arbitrary bit patterns this way.

Re: 41C Memory Module 82106A Check / Test

*Message #3 Posted by **Diego Diaz** on 9 Oct 2010, 3:21 p.m.,*
in response to message #1 by AlbertTocarLoseggs

Hi,

If you're handy with a solder iron, I'll gladly send you the internal circuit of the 82106A module so you can replace the defective one.

Let me know if you're interested.

Best regards.

Diego.

Re: 41C Memory Module 82106A Check / Test

*Message #4 Posted by **AlbertTocarLoseggs** on 9 Oct 2010, 9:58 p.m.,*
in response to message #3 by Diego Diaz

Hi Diego,

Nice! I've got some skills regarding electronics. I accept your proposal, it sounds a challenge. Thanks in advance!

Albert

Re: 41C Memory Module 82106A Check / Test

*Message #5 Posted by **Diego Diaz** on 10 Oct 2010, 1:38 a.m.,*
in response to message #4 by AlbertTocarLoseggs

Hi,

Please mail me with your shipping address.

Regrettably I will take several weeks to send it because I'm not at home, but'll have it for sure :-)

Best

Diego.

Re: 41C Memory Module 82106A Check / Test

*Message #6 Posted by **Albert Tocar Loseggs** on 10 Oct 2010, 10:38 p.m.,*
in response to message #5 by Diego Diaz

I sent you an e-mail; I'm ready to start. Thanks again,

Albert

Re: 41C Memory Module 82106A Check / Test

*Message #7 Posted by **Diego Diaz** on 11 Oct 2010, 2:41 p.m.,*
in response to message #6 by Albert Tocar Loseggs

Fine, you've got mail too.

Cheers

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Batteries for 9114A/B

*Message #1 Posted by **M. Joury** on 7 Oct 2010, 4:09 p.m.*

If anyone is looking for a replacement battery for the HP-9114A/B HP-IL disk drive this appears to be a good solution. I picked up three of them recently and they are a drop in replacement at a higher (claimed) capacity rating than the original.

http://www.atbatt.com/sealed-lead-acid-batteries/b/panasonic/m/lc-r062r4pu.asp

The usual disclaimers apply -- I am not affiliated in any way... etc, etc.

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Function Tree for HP48/et al.

*Message #1 Posted by **Thomas Chrapkiewicz** on 7 Oct 2010, 2:23 p.m.*

Hello:

In my frustration in finding my way through the (different) menu structure of the HP49/50 (relative to the HP48), it has occured to me - has anyone drawn up a function tree diagram for the HP48? [That is - showing the tree/branches below the MTH menu, the PRG menu, etc...]

I've searched the HP documents, the web, hpcalc, hpmuseum, Donnelly and Wickes texts and have found nothing.

Regards, TomC

Re: Function Tree for HP48/et al.

*Message #2 Posted by **Raymond Del Tondo** on 7 Oct 2010, 3:39 p.m.,*
in response to message #1 by Thomas Chrapkiewicz

Hello,

the HP 48G/GX Pocket Guide by Chris Coffin & Thomas Dick, published 1996 by Grapevine Publications, ISBN 0-931011-45-0 , offers what you want, and much more.
Looks similar to the 49g pocket guide (no wonder, AFAIK it was made by the same people;-)

Maybe one of the online HP dealers still has a copy.

HTH

Raymond

Re: Function Tree for HP48/et al.

*Message #3 Posted by **Thomas Chrapkiewicz** on 7 Oct 2010, 3:44 p.m.,*
in response to message #2 by Raymond Del Tondo

Raymond:

Thanks; I do have one - that is close to what I want - what I had in mind was more of a large sheet, but this is good info!

Thanks, TomC

Re: Function Tree for HP48/et al.

*Message #4 Posted by **Jean-Michel** on 8 Oct 2010, 3:52 p.m.,*
in response to message #3 by Thomas Chrapkiewicz

Hello Thomas

I think I made this in an Excel sheet one day. If you are still interested in it, please e-mail me. Kind regards.

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can anyone post to comp.sys.hp48?

*Message #1 Posted by **Han** on 7 Oct 2010, 11:55 a.m.*

This morning, I wrote several replies and even created a new topic on comp.sys.hp48 (via Google Groups) and everything submitted without any errors. Except, the posts never showed up...

I'm still having this issue as of right now. Can anyone here post to comp.sys.hp48?

Re: can anyone post to comp.sys.hp48?

*Message #2 Posted by **Egan Ford** on 7 Oct 2010, 1:01 p.m.,*
in response to message #1 by Han

Since Usenet is distributed, I'm sure many can post elsewhere. I just tried from my ISP news server without issue. However I was unable to post via Google Groups. But can read from it (including new posts).

Re: can anyone post to comp.sys.hp48?

*Message #3 Posted by **Han** on 7 Oct 2010, 1:26 p.m.,*
in response to message #2 by Egan Ford

Hi Egan,

Thanks for confirming that Google Groups is the one with the problems.

Han

Re: can anyone post to comp.sys.hp48?

*Message #4 Posted by **Thomas Chrapkiewicz** on 8 Oct 2010, 11:39 a.m.,*
in response to message #3 by Han

'Google Groups' is messed up again(/still?).

Any recommendations for a 'real' newsgroup reader?

Thanks, TomC

Re: can anyone post to comp.sys.hp48?

*Message #5 Posted by **C.Ret** on 8 Oct 2010, 12:28 p.m.,*
in response to message #4 by Thomas Chrapkiewicz

TelNet !

Re: can anyone post to comp.sys.hp48?

*Message #6 Posted by **Han** on 8 Oct 2010, 5:02 p.m.,*
in response to message #4 by Thomas Chrapkiewicz

As of 5PM EST OCT 8, 2010 Google Groups appears to be working like usual for me.

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Need help evaluating results of implicit differentiation.

*Message #1 Posted by **Hal Bitton in Boise** on 7 Oct 2010, 9:40 a.m.*

Hi everybody,
After I do implicit differentiation on my 50G, and solve for d1y(x), I have my result, which is d1y(x) = expression in terms of x and y(x). So far so good. Now I want to plug constants in for x and y(x) and evaluate my derivative at a point. This is where I'm having trouble. I can't store a constant in the variable y(x), because that is apparently not a valid variable name. I tried using the define command to create a user function setting y(x) equal to a constant ..IE y(y(x))=3 , but that did not seem to work. Is there any way to tell the calc that y(x) is equal to 3 when evaluating the results of my implicit differentiation?
Thanks, and best regards, Hal

Re: Need help evaluating results of implicit differentiation.

*Message #2 Posted by **Crawl** on 7 Oct 2010, 12:23 p.m.,*
in response to message #1 by Hal Bitton in Boise

It seems like the easiest thing to do would be to go into Equation Editor, select Y(X) with the cursor, and replace it with 3.

However, I can imagine situations where that wouldn't work (if there are a lot of Y(X)'s in the result and it would be tedious to replace them all by hand, or if you wanted to automate it with a program).

So here's another way. When you have your expression, enter 'Y(X)' on the stack. Hit DERVX so you have d1Y(X) on the stack (or just enter 'd1Y(X)' to begin with). Then enter some other variable that you're not using, like Z. Then =, SUBST.

Now you can enter 'Y(X)', 3, =, SUBST, and it'll substitute in, leaving the derivative alone (otherwise, it thinks you're saying Y(x) is the constant 3, so its derivative is 0).

You just have to solve for Z now rather than d1Y(X). Or if you really want it back the other way, 'Z=d1Y(X)' SUBST at the end also works.

Re: Need help evaluating results of implicit differentiation.

*Message #3 Posted by **Crawl** on 7 Oct 2010, 12:43 p.m.,*
in response to message #2 by Crawl

Actually, if you've already solved for d1Y(X)=f(X,Y(X)), and you just want to evaluate the right side, you could just take the right side of the equation and do the 'Y(X)=3' SUBST step.

(You can take the right side of an equation with OBJ->, DROP, DROP, SWAP, DROP)

I was thinking about a more general situation, in which you either haven't solved for d1Y(X) yet, or for which it might be impossible to solve for it (except numerically)

Re: Need help evaluating results of implicit differentiation.

*Message #4 Posted by **Hal Bitton in Boise** on 8 Oct 2010, 1:17 p.m.,*
in response to message #3 by Crawl

Thanks very much. The SUBST command was exactly the function I was looking for. It works perfectly. Best regards, Hal

---

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Dead HP 200LX

*Message #1 Posted by **Chuck** on 6 Oct 2010, 7:52 p.m.*

So, reading the thread below about the 200LX and memory cards I decided to look at what compact flash card I had in my 200LX; removed it, looked at it; replaced it; turned it on and it locked up at the C: prompt.

None of the keys were functional. Took out and replaced a battery, and a horizontal line appeared in the middle of my screen. Now, nothing.....

Did my 200LX just cease to exist anymore? Sad day if it did.

CHUCK

Re: Dead HP 200LX

*Message #2 Posted by **Chuck** on 6 Oct 2010, 8:46 p.m.,*
in response to message #1 by Chuck

Panic averted. I left both sets of batteries out for half an hour, and life was restored. All is good. ;)

Re: Dead HP 200LX

*Message #3 Posted by **Mike (Stgt)** on 7 Oct 2010, 5:50 a.m.,*
in response to message #2 by Chuck

Lucky man!

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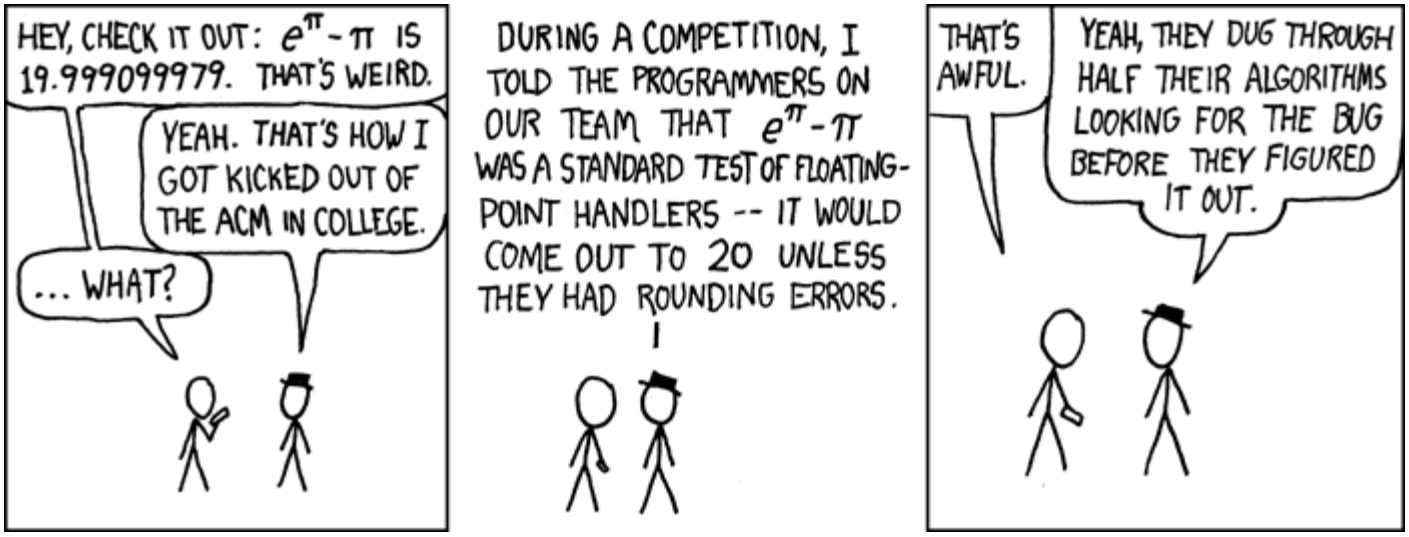
XKCD e^pi - pi comic revisited

*Message #1 Posted by **Gerson W. Barbosa** on 6 Oct 2010, 4:32 p.m.*

Some of you may remember this:



http://xkcd.com/217/

I've come up with an equally "weird" benchmark to have the ACM guys try:

```
sqrt(2)*(pi^17-4*e^pi*(e^pi-pi))/4 = 99999999.979
```

:-)

Gerson.

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OT: Men and Volts book

*Message #1 Posted by **Pavneet Arora** on 6 Oct 2010, 2:08 p.m.*

During HHC 2010, John Cadick and Jeff Bronfeld regaled us with stories of some great people at General Electric during its early years, Charles Proteus Steinmetz chief among them.

John also mentioned the book ``Men and Volts", which I have discovered is part of the American Libraries collection and is available in several formats at:

http://www.archive.org/details/menandvoltsstory00hammrich

For those who, like me, are enamored with the history of technologies and the personalities who shape it might be interested in giving this a look.

Thanks John!

Best wishes.

Re: OT: Men and Volts book

*Message #2 Posted by **Karl Schneider** on 7 Oct 2010, 1:46 a.m.,*
in response to message #1 by Pavneet Arora

Hello, Pavneet --

Thank you for the link to "Men and Volts". I read through a number of pages; very good book.

I met John and Jeff at HHC 2007 in San Diego.

In the 1990's, I read a fairly long book about Steinmetz published in 1932, nine years after his death.

-- KS

Re: OT: Men and Volts book

*Message #3 Posted by **Pavneet Arora** on 7 Oct 2010, 8:53 a.m.,*
in response to message #2 by Karl Schneider

Dear Karl,

We missed you at the last couple of HHCs.

Would you have the title of the book on Steinmetz that you had read?

Thanks.

Steinmetz book

*Message #4 Posted by **Karl Schneider** on 8 Oct 2010, 12:54 a.m.,*
in response to message #3 by Pavneet Arora

> Quote:
>
> We missed you at the last couple of HHCs.

I considered attending the 2009 and 2010 meetings, but the travel to Fort Collins was more involved, and the secondary reasons for going weren't as compelling for me. I presented in 2008, but had nothing new since then.

> Quote:
>
> Would you have the title of the book on Steinmetz that you had read?

Loki; the life of Charles Proteus Steinmetz
Jonathan Norton Leonard
Garden City, N.Y., Doubleday, Doran & company, inc., 1932 [©1929]

-- KS

Re: Steinmetz book

*Message #5 Posted by **Pavneet Arora** on 8 Oct 2010, 7:52 a.m.,*
in response to message #4 by Karl Schneider

Thanks for the reference. Your talks on numerical precision and sometimes the lack thereof are always interesting.

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OT: HP200LX Mass Storage

*Message #1 Posted by **Gerry Schultz** on 6 Oct 2010, 1:47 p.m.*

Hello All:

From a previous posting, I recently remembered that I had won a 1 MB HP200LX PDA at HHC2009. I've got a CR2032 backup battery in it now and, so far, it works great. I have an old PCMCIA 5-in-1 card reader that fits into the slot on the side and I put a 64 MB SD card in it. In the Setup application, it reports the card battery is okay (as far as I know the card reader has no battery in it.) From the Filer, under options, when I try to format the card, it requests that I want to format A and I say yes, it prompts for a new disk (I am assuming it's in DOS), press enter and it reports Format not supported on drive A:, Format terminated.

I believe the problem is the PCMCIA card I'm using with an SD card is not compatible with the 200LX. I have some Compact Flash memory but that doesn't fit the slot in the side. I have no manuals but I did find one on-line but it doesn't talk much about what kind of memory the 200LX requires that I could find.

So, my questions are, what hardware do I need to have a valid A drive, what is the largest size the 200LX will support, and I would like to be able to move the A drive memory card over to a PC to move files on and off the 200LX as Katie suggested previously so what's the best media type to use? Compact Flash? Using a PC application and a serial cable appears to be a real pain.

Thank you for your suggestions. Gerry

Re: OT: HP200LX Mass Storage

*Message #2 Posted by **Gerson W. Barbosa** on 6 Oct 2010, 2:46 p.m.,*
in response to message #1 by Gerry Schultz

Hello,

I use a CF Type II to PCMCIA adapter and a 256MB SanDisk CF card (model SDCFB, copyright 2000) in mine. You can find a comprehensive table of compatible cards here:

http://www.hermocom.com/en/knowledgebase/hplx/storagecards

Gerson.

Edited: 6 Oct 2010, 2:53 p.m.

Re: OT: HP200LX Mass Storage

*Message #3 Posted by **Chris Randle (UK)** on 6 Oct 2010, 4:36 p.m.,*
in response to message #1 by Gerry Schultz

Try running the HP200's fdisk100 command on the card before you do the format.

Re: OT: HP200LX Mass Storage

*Message #4 Posted by **Bill (Smithville, NJ)** on 6 Oct 2010, 6:55 p.m.,*
in response to message #1 by Gerry Schultz

Gerry,

I think the problem is that you are using a 5 in one pcmcia card adapter. If that adapter was plugged into a standard windows pc, you would have up to 5 additional drives. The HP-200lx doesn't know waht to do with multiple drives the card shows.

My 200lx has always worked with a single card adapter - CF to PCMCIA,and Memory Stick to PCMCIA. Not sure if I've ever seen a SD to PCMCIA adapter. I suggest you get CF to PCMCIA, they work great.

Bill

Re: OT: HP200LX Mass Storage

*Message #5 Posted by **Gerry Schultz** on 6 Oct 2010, 7:48 p.m.,*
in response to message #4 by Bill (Smithville, NJ)

Oh crap, your probably right Bill, I hadn't thought of that. Gerson's link to hermocom.com was what I needed to find what CF cards are compatible with the 200LX, thanks Gerson. I've purchased some CF memory cards and CF to PC Cards type 1 adapters via that other site. It was pretty cheap. I hope they will arrive before my wife and I go on vacation.

Chris, I had read about fdisk100 this morning but I'll have to research how it works. I'm not sure how it's different from a regular fdisk command. Thanks for the suggestion.

Gerry

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41C Card Reader Repair

*Message #1 Posted by **AlbertTocarLoseggs** on 6 Oct 2010, 4:23 a.m.*

Hi Fellows, I've got a 41C Card Reader and I want to repair it. I'm looking for tips, pictures (important), diagrams, some information regarding gummy wheel replacement and so on. For instance: How many flexible contacts has the mini-board with the motor structure: 2 or 3? Any help will be helpful. many thanks! Albert

Re: 41C Card Reader Repair

*Message #2 Posted by **Karl-Ludwig Butte** on 6 Oct 2010, 10:54 a.m.,*
in response to message #1 by AlbertTocarLoseggs

Hello Albert,

you may find an excellent description just here in the forum by following this linkhttp://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=239

Hope it helps and good luck.

Best regards

Karl

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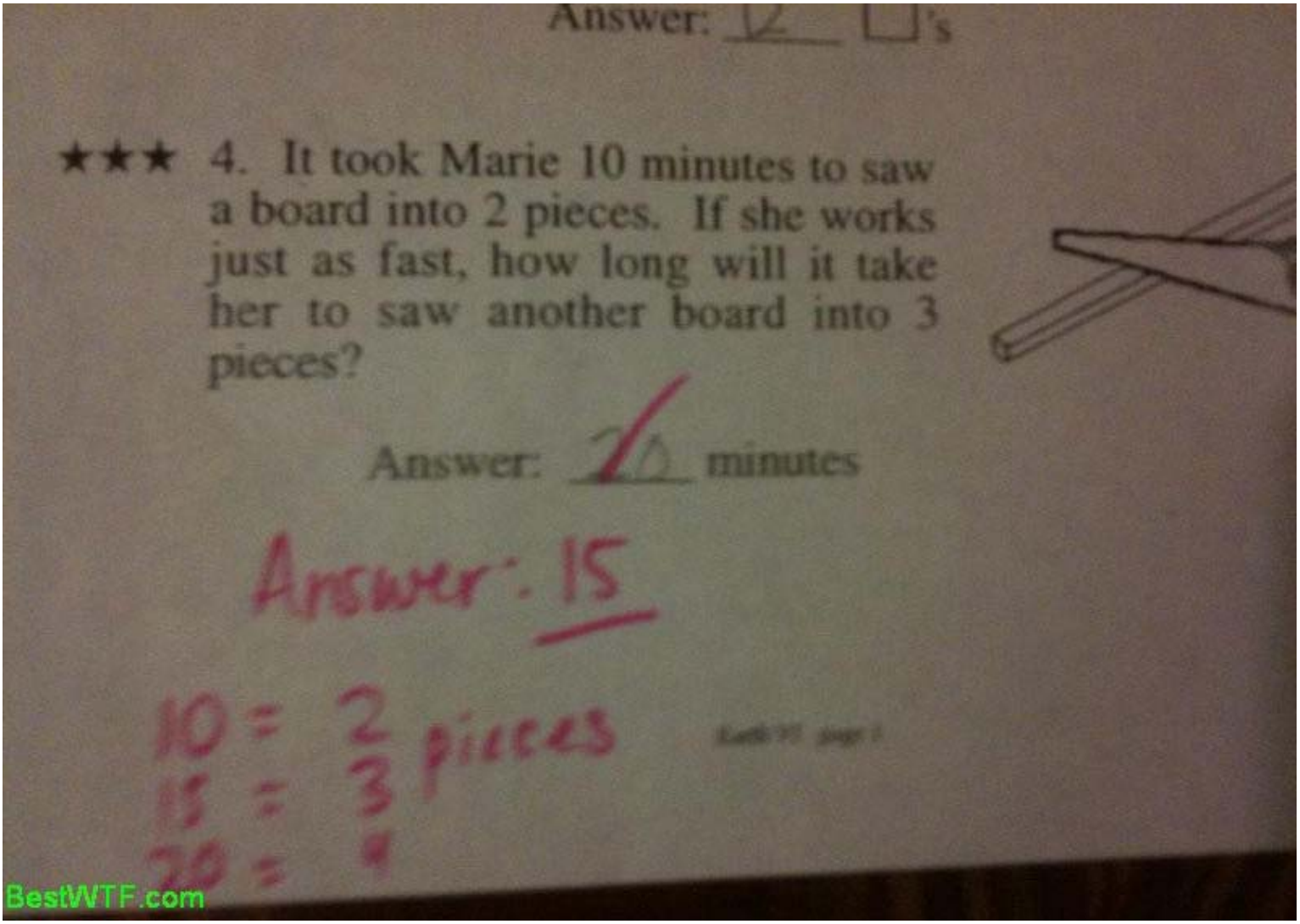
So leaving the board in one piece takes 5 minutes?

*Message #1 Posted by **Egan Ford** on 5 Oct 2010, 5:24 p.m.*



Re: So leaving the board in one piece takes 5 minutes?

*Message #2 Posted by **Geir Isene** on 5 Oct 2010, 5:59 p.m.,*
in response to message #1 by Egan Ford

hehe - and making it disappear takes zero minutes.

Re: So leaving the board in one piece takes 5 minutes?

*Message #3 Posted by **Diego Diaz** on 5 Oct 2010, 11:34 p.m.,*
in response to message #2 by Geir Isene

Hi there,

The real problem is that (many) teachers are no longer able to define a problem in such way that "one" only possible answer is correct.

Since no mention to the size and/or shape of the pieces (nor the original board) has been done, the problem has as many valid answers as one could imagine. Even the one propossed by the teacher!! and of course the one given by the alumn... and whatever Marie was able to saw... :-)

No need for the pieces to be of the same size or shape has been declared in the problem text... so: imagine a square board. Saw it into two identical rectangles. (10 min)

Saw one of these rectangles into two squares (5 min)

15 minutes in total, 3 pieces...

Saw the other rectangle into two more squares (5 min)

20 minutes in total, 4 pieces... sure you've got the idea...

Any amount of pieces can be achieved in any amout of time. In fact, the 10 minutes reference in the problem definition is basically useless since Marie could decide to start sawing a tiny corner... and then another one... or this corner into two pieces... or... whatever.

The more obvious is the one proposed by the alumn, three identical pieces from an original rectangle board require two cuts (20 min)

Agreed, this teacher should have the license revoked.

Cheers from the Caribbean Sea.

Diego.

Re: So leaving the board in one piece takes 5 minutes?

*Message #4 Posted by **Walter B** on 6 Oct 2010, 1:13 a.m.,*
in response to message #1 by Egan Ford

With the picture given the alumn... is definitively "more correct" than the teacher d:-) though I didn't know such a "Kantholz" is called a "board". Consistency is a hard job ... d;-)

Re: So leaving the board in one piece takes 5 minutes?

*Message #5 Posted by **Diego Diaz** on 6 Oct 2010, 2:18 a.m.,*
in response to message #4 by Walter B

Wow, I didn't even notice that drawing on the right!

But certainly this drawing does not show a "board"... may be a "lath".

With this new and valuable info another doubt arises:

Is Marie the right person to run this exercise? (I mean the sawing one)

10 minutes to saw a thin lath!! oh! C'mon!!

;-))

Re: So leaving the board in one piece takes 5 minutes?

*Message #6 Posted by **Mike Morrow** on 6 Oct 2010, 9:39 a.m.,*

in response to message #5 by Diego Diaz

Don't gratuitously complicate and obfuscate the discussion.

It's a board!!!

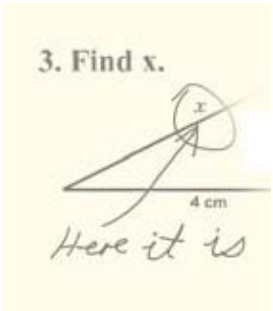
How to handle these trick questions

*Message #7 Posted by **Thomas Klemm** on 6 Oct 2010, 4:25 a.m.,*
in response to message #1 by Egan Ford

Re: How to handle these trick questions

*Message #8 Posted by **Walter B** on 6 Oct 2010, 7:13 a.m.,*
in response to message #7 by Thomas Klemm

d:-))
Almost like this:



Re: How to handle these trick questions

*Message #9 Posted by **Norman Dziedzic** on 6 Oct 2010, 10:43 a.m.,*
in response to message #8 by Walter B

My father was a math teacher for 32 years. One of my favorite stories is from when he was tutoring someone about decimal numbers and my dad asks them, "What does the decimal point do?"

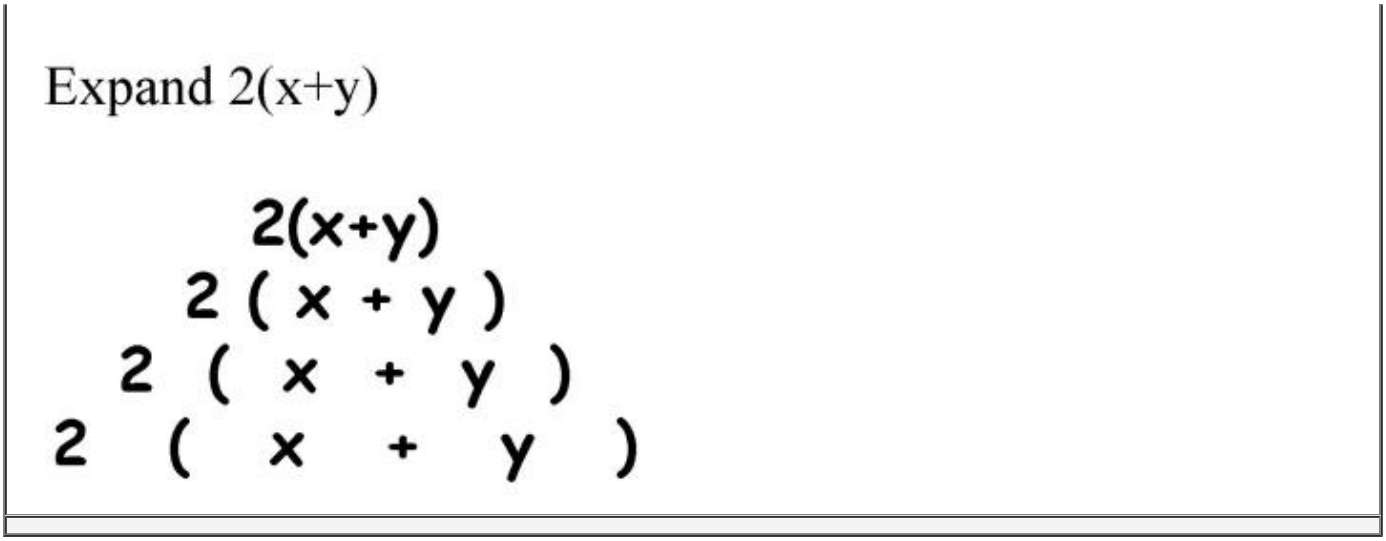
After a long pause, the student says, "Well... Mr. Dziedzic... it just sits there." qEd!

Re: How to handle these trick questions

*Message #10 Posted by **Gerson W. Barbosa** on 6 Oct 2010, 3:10 p.m.,*
in response to message #8 by Walter B

Here is another:

So leaving the board in one piece takes 5 minutes?



Re: How to handle these trick questions

*Message #11 Posted by **BruceH** on 7 Oct 2010, 4:01 p.m.,*
in response to message #10 by Gerson W. Barbosa

and another...

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Charging 'classics' from a USB port

*Message #1 Posted by **Katie Wasserman** on 5 Oct 2010, 11:12 a.m.*

I'm not promoting this e**y item at all, 170502089219, just curious if anyone here has tried it. It seems like a good idea even if a bit expensive.

-Katie

Re: Charging 'classics' from a USB port - Careful,Careful....

*Message #2 Posted by **John Stark** on 5 Oct 2010, 11:18 a.m.,*
in response to message #1 by Katie Wasserman

Dear Katie:

I am no electrical engineer, but the calibrated eyeball tells me that there may be excessive current pulled from the USB port resulting in damage to the former, and, if regulated by the adaptor, insufficient current to charge the calculator timely.

My $0.02.

John Stark

Re: Charging 'classics' from a USB port - Careful,Careful....

*Message #3 Posted by **Katie Wasserman** on 5 Oct 2010, 11:41 a.m.,*
in response to message #2 by John Stark

John,

I see no reason why this cable shouldn't work well from an electrical point of view. USB ports are rated at minimum of 500ma, so unless there's something wrong with the calculator any USB port should be able to power it with a lot of current to spare. Most external USB hard drives require a lot more current than a classic calculator does when powering just the LEDs (a card reader will raise the current draw significantly).

I'm most curious about the calculator-side plug. It's looks pretty flaky to me on the closeup picture on the web page that the seller links to.

-Katie

Re: Charging 'classics' from a USB port - Careful,Careful....

*Message #4 Posted by **John Stark** on 5 Oct 2010, 12:15 p.m.,*
in response to message #3 by Katie Wasserman

Dear Katie:

Thanks for the clarification. Did not know of max current rating of USB ports.

John

[Beware of programmers carrying screwdrivers]

Re: Charging 'classics' from a USB port - Careful,Careful....

*Message #5 Posted by **PeterP** on 5 Oct 2010, 12:47 p.m.,*
in response to message #3 by Katie Wasserman

Could one build a USB to Calc that works for HP-41 and HP-71 as well? I know the 41 needs 6v but could that gap be bridged savely? the main reason I am asking is that it would provide for a simple way to savely power a bunch of calcs that have volatile RAM-Boxes which need constant current but doing it with Batteries exposes the calc to leaking battery risk...

Thanks for any tips!

Cheers

Peter

Re: Charging 'classics' from a USB port - Careful,Careful....

*Message #6 Posted by **Paul Berger (Canada)** on 5 Oct 2010, 3:06 p.m.,*
in response to message #5 by PeterP

The HP-41 will run at 5V I have a CV that I am using with a homemade ROM box and it runs off of the 5V from the ROM box fed to the calculator on pin 1 of a I/O port.

The HP-71 would be a different story, I just went and tried it and if I connect +5V to the battery terminals (mind the polarity) a base 71 with HP-IL powers on and functions normally.

The adapter input on the 71 is designed for the 8V AC adapter that is also used by some peripherals, however since there is no transformer in the circuit it should work off of DC as well, but you will have the voltage drop of two diodes in the internal bridge rectifier, plus the transistor used to regulate the voltage from the adapter input. I thought that this would drop the drop the 5V input to he point where the 71 would not power on however much to my surprise it did turn on, but the low battery indicator was on and it did not function correctly, the orange f key would come up as 'CAT'.

Edited: 5 Oct 2010, 3:09 p.m.

Re: Charging 'classics' from a USB port - Careful,Careful....

*Message #7 Posted by **Dieter** on 5 Oct 2010, 5:17 p.m.,*
in response to message #5 by PeterP

Peter wrote:

> Quote:
>
> I know the 41 needs 6v but could that gap be bridged savely?

The 41-series doesn't need 6 Volts. That's just the nominal (!) voltage of four alkaline batteries. In

real life their voltage may be something like 6.5 V (new out of the box) or 5 V (after some time of use) and finally it's 4 V and below when they're essentially depleted.
HP's dedicated rechargeable battery pack 82120A uses four NiCds that provide 5 V on average and once again 4 V when they can be considered empty. So, if the 41 really required 6 V it would work neither with alkalines (except brand new ones) nor with HP's own NiCd-pack.
BTW, the 41 knows its limits: the battery announciator BAT comes on right at the point when the voltage drops below 4 Volts. That's why I'm also thinking about powering a 41 directly from an USB port. Its 5 V looks just fine here - same as HP's NiCd pack or an average set of alkalines.
Since many cell phones use Mini-USB connectors for their chargers this might be a possible option for a new connector in the calculator case. :-)

Dieter

Re: Charging 'classics' from a USB port - Careful,Careful....

*Message #8 Posted by **PeterP** on 6 Oct 2010, 9:26 a.m.,*
in response to message #7 by Dieter

good points, forgot about the 1.2V NiCads. And I love the mini-usb port idea, it would fit just nicely into the side port of the hp41... Maybe I give it a try.

Cheers

Peter

Re: Charging 'classics' from a USB port

*Message #9 Posted by **Jeff O.** on 5 Oct 2010, 1:28 p.m.,*
in response to message #1 by Katie Wasserman

Perhaps Mark Henderson can give an update, assuming this is the same seller and device.

Re: Charging 'classics' from a USB port

*Message #10 Posted by **Etienne Victoria** on 5 Oct 2010, 3:27 p.m.,*
in response to message #1 by Katie Wasserman

Katie,

I have bought one of these from David a couple of months ago.

My Hp-80 with Ni-Mh has been connected to it ever since.

When in my office, I use the Hp-81 and keep the 80 connected to the USB port through this adaptor.

Excellent slow charging ability. Ni-Mh don't heat up during the charging process. Robust prong design.

Bottom line: perfectly satisfied with this adaptor and will buy a couple of others.

I have NOT tried it with my HP-65s (I use Eneloops in these calculators).

Usual disclaimer applies: "I have no business relationship with this seller nor interest in promoting his products...etc...

...and David is a very kind person IMHO.

Etienne

Re: Charging 'classics' from a USB port

*Message #11 Posted by **Paul Dale** on 5 Oct 2010, 5:54 p.m.,*
in response to message #10 by Etienne Victoria

I bought one and have had no trouble with it and my 45. The calculator end plug seems sturdy enough and hasn't shown any sign of wear or breakage over dozens of insertions and removals.

- Pauli

Re: Charging 'classics' from a USB port

*Message #12 Posted by **Katie Wasserman** on 5 Oct 2010, 6:27 p.m.,*
in response to message #11 by Paul Dale

Thanks for all your responses.

Jeff, I somehow missed the thread on these cables back in March and didn't find them on my Google site search (apparently because 'charge/charging' was never mentioned in the thread).

-Katie

Re: Charging 'classics' from a USB port

*Message #13 Posted by **Jeff O.** on 6 Oct 2010, 8:29 a.m.,*
in response to message #12 by Katie Wasserman

It sounded familiar. I think I found it by searching for "classic."

Re: Charging 'classics' from a USB port

*Message #14 Posted by **Geir Isene** on 5 Oct 2010, 5:15 p.m.,*
in response to message #1 by Katie Wasserman

I took a chance and bought one. Will let you know how it fares when I get back from my sailing vacation in Greece next week.

Re: Charging 'classics' from a USB port

*Message #15 Posted by **Martin Pinckney** on 5 Oct 2010, 10:20 p.m.,*
in response to message #14 by Geir Isene

> Quote:
>
> ... when I get back from my sailing vacation in Greece ...

Trying to generate some envy, are we?

Re: Charging 'classics' from a USB port

*Message #16 Posted by **Geir Isene** on 6 Oct 2010, 3:22 a.m.,*
in response to message #15 by Martin Pinckney

Oh no, it's arduous, it's painful, wouldn't want anyone to endure this ;-)

Re: Charging 'classics' from a USB port

*Message #17 Posted by **Juergen Keller** on 6 Oct 2010, 2:54 p.m.,*
in response to message #16 by Geir Isene

Do you have your HP-41 with Bobby Schenk Navigation module with you? It might make it a little easier to endure this painful vacation ;-)

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Repairing HP-67 display

*Message #1 Posted by **Xavier A. (Brazil)** on 5 Oct 2010, 7:21 a.m.*

Hello HP fans,

I recently acquired a HP-67 calculator in very good cosmetic condition. Unfortunately the upper left LED segments all over the display don't lit.

I would like to know if:

1) I could change the display only;

2) I could buy another 'Classic' machine (hp-35, 80, 45, 55) for parts in order to rebuild this function.

Regards

Re: Repairing HP-67 display

*Message #2 Posted by **Saile (Brazil)** on 5 Oct 2010, 7:45 a.m.,*
in response to message #1 by Xavier A. (Brazil)

I believe you can trade without problems I've swapped one and never had problems (HP-45 HP-67). Good luck

Re: Repairing HP-67 display

*Message #3 Posted by **Xavier A. (Brazil)** on 5 Oct 2010, 10:28 a.m.,*
in response to message #2 by Saile (Brazil)

Obrigado!

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Parsing Object Oriented Expressions with RPN

*Message #1 Posted by **Howard Owen** on 5 Oct 2010, 1:39 a.m.*

Incredibly geeky hyperlink.

Re: Parsing Object Oriented Expressions with RPN

*Message #2 Posted by **Bill Zimmerly** on 5 Oct 2010, 3:07 a.m.,*
in response to message #1 by Howard Owen

Very cool Howard, thanks for posting it. ;)

Re: Parsing Object Oriented Expressions with RPN

*Message #3 Posted by **David Hayden** on 5 Oct 2010, 6:18 a.m.,*
in response to message #1 by Howard Owen

For what it's worth, this is basically how an algebraic calculator evaluates an expression that you type. So in a way, even TI's are RPN at heart :).

HP calculators do the same thing when they parse a symbolic expression because symbolics are stored in postfix notation.

Re: Parsing Object Oriented Expressions with RPN

*Message #4 Posted by **Thomas Klemm** on 5 Oct 2010, 12:57 p.m.,*
in response to message #3 by David Hayden

> Quote:
>
> symbolics are stored in postfix notation.

That's why you can't enter something like '(A+B)'. It is stored as 'A B +' and displayed as 'A+B'.

BTW: There's a programm ->RPN in the directory 'EXAMPLE/PRGS' you get when executing the command TEACH. It transforms an algebraic expression to its equivalent RPN-representation.

Thomas

Edited: 5 Oct 2010, 12:59 p.m.

Re: Parsing Object Oriented Expressions with RPN

*Message #5 Posted by **Namir** on 6 Oct 2010, 2:03 a.m.,*
in response to message #1 by Howard Owen

Several years ago I wrote an expression parser that converts an algebraic expression (with variables and

functions) into an array of RPN tokens. This approach allows the re-evaluation of the expression multiple times without having to re-parse each time. It was a fun project in VB .Net.

The program's GUI would list the parsed RPN expression.

Namir

Edited: 6 Oct 2010, 2:04 a.m.

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I/O vs. Input only

*Message #1 Posted by **David Hayden** on 4 Oct 2010, 6:48 a.m.*

It's my understanding that various exam requirements affect calculator design and that exam administrators are more concerned with what you can bring OUT of an exam than with what you can bring INTO it. In other words, they're worried that you will record the test answers and sell them.

So the other day, I started thinking about a calculator that had I/O (lets say USB) but you could only transfer data INTO the calculator. For me, this would be acceptable. My main use for I/O on my 50g is to transfer programs into the calculator. I do most of my development on a PC with an emulator. Any programs I develop directly on the calculator are small enough that I can copy them onto the PC by hand.

Obviously there are drawbacks, but think of something like the 35s. With 32k of memory, it can hold large programs, but keying them in by hand is a real chore. Would you buy a machine like this with Input, but no Output? Do you use the output capabilities of a calculator? How?

Dave

No output?!?

*Message #2 Posted by **Frank Boehm (Germany)** on 4 Oct 2010, 8:37 a.m.,*
in response to message #1 by David Hayden

My first two ideas:
- print
- use calculator for data collecting (and export to computer)
- backup your programs/data (ever ran out of backup battery power?)

OK, three ideas, and there are certainly more. No way I would ever accept such a crippled calculator. (Not that I would need one, but still...)

Re: No output?!?

*Message #3 Posted by **David Hayden** on 4 Oct 2010, 9:25 a.m.,*
in response to message #2 by Frank Boehm (Germany)

> Quote:
>
> - backup your programs/data (ever ran out of backup battery power?)

I agree that it's important to have backup copies of your programs, but if you do the development on a PC, then the backup is there. Of course this assumes that you do the development on a PC.

Data is another story of course.

My point is that a calculator with input only would still be acceptable on a test and it would be much better

than a calculator with no I/O at all.

My own experience

*Message #4 Posted by **Frank Boehm (Germany)** on 4 Oct 2010, 10:48 a.m.,*
in response to message #3 by David Hayden

It's pretty helpful to have diagrams and formulas pre-programmed - trust me ;)
I'm not sure which test you are targeting, but in school and at university, the range of topics is limited (at least here in Germany), so you could gain lots of time by not having to program your calc during the test. So the best solution would be not to allow programmable calculators.

Re: My own experience

*Message #5 Posted by **Martin Pinckney** on 4 Oct 2010, 2:13 p.m.,*
in response to message #4 by Frank Boehm (Germany)

Typically the tests HP (and others) are targeting are the National Council of Examiners for Engineering and Surveying licensing tests in the U.S., where only specific calculator models are allowed (all with no I/O).

Apparently the exam preparers do not want to be continually coming up with new questions, so they are right particular about guarding the content of the exams.

Believe it or not, there have been actual cases where someone was paid to sign up for the exam, for the express purpose of trying to steal exam questions.

Re: My own experience

*Message #6 Posted by **Walter B** on 4 Oct 2010, 3:28 p.m.,*
in response to message #5 by Martin Pinckney

It has been discussed here several times: this way of dealing with scientific calculators focussed on one country only ignores 95% of the world.

Maybe it's possible to have a full "international" version with I/O and OTOH a crippled with a waterproof orange housing for the "home market"? Based on the price policy experienced in 3 decades I'm very confident the market will tell pretty fast where the profit is.

Re: My own experience

*Message #7 Posted by **Martin Pinckney** on 4 Oct 2010, 5:03 p.m.,*
in response to message #6 by Walter B

Yes, I also suggested different versions of the same calculator - the the I/O version would have universal appeal - but some way to prevent faking the I/O version as the exam version would be necessary - such as your suggestion of a different color case.

Re: No output?!?

*Message #8 Posted by **Maximilian Hohmann** on 4 Oct 2010, 9:41 a.m.,*
in response to message #2 by Frank Boehm (Germany)

Hello!

> Quote:

> - print

Is printing from a pocket calculator really required by anybody these days? I can't remember seeing a calculator printout for at least twenty years...

But I still like the idea of Ti, where you can send your "printouts" to a PC via the "Ti connect" software and include them in documents/reports if required. Of course, this feature still requires the calulator to output data in some way.

Greetings, max

Re: No output?!?

*Message #9 Posted by **Martin Pinckney** on 4 Oct 2010, 5:19 p.m.,*
in response to message #8 by Maximilian Hohmann

> Quote:
>
> > Is printing from a pocket calculator really required by anybody these days? I can't remember seeing a calculator printout for at least twenty years...
>
> Yes, for the very reasons discussed here - preserving your hard work. Once I get through writing a Solver routine of any complexity on my 27s, I print a hard copy with the infrared printer.
>
> Also, I have a 48sx program where you enter geometric data via a matrix. Useful to print the graphic to check input.

Re: I/O vs. Input only

*Message #10 Posted by **Martin Pinckney** on 4 Oct 2010, 8:54 a.m.,*
in response to message #1 by David Hayden

> Quote:
>
> > Obviously there are drawbacks, but think of something like the 35s. With 32k of memory, it can hold large programs, but keying them in by hand is a real chore. Would you buy a machine like this with Input, but no Output?
>
> Yes, I think this is a good idea. HP could even make two identical calculator models, one with I/O, the other I only, and give them different model numbers so the test proctors could easily distinguish... no, that would not work, since someone could just change out the top covers.

Re: I/O vs. Input only

*Message #11 Posted by **M. Joury** on 4 Oct 2010, 11:46 a.m.,*
in response to message #1 by David Hayden

Does not work for me. While I do develop on a computer (with those calculators that support this) I will often tweak a program and play around with changes on the calculator. Not being able to get those changes (sometimes significant) back to the computer would be a deal breaker for me.

Re: I/O vs. Input only

*Message #12 Posted by **Han** on 4 Oct 2010, 2:16 p.m.,*
in response to message #1 by David Hayden

Seems to me that I/O isn't really the issue here. Instead, it appears that what you are looking for is a calculator with all of what you need already pre-programmed. But then... this is merely a calculator designed with the specific goal of being used (for example) the professional exams. And such calculators would be severely crippled to someone who needs a "normal" calculator. And even those who do will likely move on to something else once they are done with their exams.

If you think of the problem in this way, I think you will find yourself more willing to agree that no such company would make such a calculator.

Re: I/O vs. Input only

*Message #13 Posted by **Martin Pinckney** on 4 Oct 2010, 5:09 p.m.,*
in response to message #12 by Han

> Quote:
>
> ... it appears that what you are looking for is a calculator with all of what you need already pre-programmed... I think you will find yourself more willing to agree that no such company would make such a calculator.

No, but third party suppliers will take a 35s and do the work for you.

See this, or this.

Re: I/O vs. Input only

*Message #14 Posted by **Crawl** on 4 Oct 2010, 2:47 p.m.,*
in response to message #1 by David Hayden

I do the opposite. I prefer writing programs on a calculator. Why? For all the reasons I normally prefer a calculator -- I can do it anywhere, it's easier to enter stuff (you have a real physical keyboard, etc.)

But if I have a complicated program, I might, after writing it on a calculator, transfer it to a computer and run it on an emulator, to get the speed advantage.

So personally I wouldn't be too interested in this.

Re: I/O vs. Input only

*Message #15 Posted by **Egan Ford** on 4 Oct 2010, 3:45 p.m.,*
in response to message #1 by David Hayden

> Quote:
>
> It's my understanding that various exam requirements affect calculator design ...

I think the exam boards need to wake up. If someone wants to cheat they will find a way. Want to steal a test, install a small camera in any calculator, should be easy. Or go low tech and have your buddy pull the fire alarm.

The real solution would be to put the test on a computer and the computer would have all the tools that you need. Microsoft did this nearly 20 years ago for MS certification. It seems trivial to adopt.

> Quote:
>
> So the other day, I started thinking about a calculator that had I/O (lets say USB) but you could only transfer data INTO the calculator.

I would need both. I prefer computer -> calculator and do that with my 71, 41. For my 48/50 I find RPL faster on the calculator, mostly because I do not know how to program it from vi. Clearly for C its compute -> calc.

But I do not want I/O just for backup/restore and program load. I also want programmable I/O. That is where the fun is (e.g. turning my 41 into a TV remote). I wish HPGCC had libraries for the serial, USB, and IR ports.

Re: I/O vs. Input only

*Message #16 Posted by **Iqbal** on 4 Oct 2010, 3:58 p.m.,*
in response to message #15 by Egan Ford

I have two 35S and I just have them put away. It's too frustrating in this day and age to type in so much lines of programs. I am sure, a mini sd card reader could be somehow integrated into the 35S. It is a nice calculator, but when your programs go down, it's frustrating. In fact, I loved my 42S more than any other calc. , but my love soon went out the window, when three times in two weeks, I saw those dreaded words "memory loss".

Re: I/O vs. Input only

*Message #17 Posted by **Egan Ford** on 4 Oct 2010, 4:49 p.m.,*
in response to message #16 by Iqbal

I agree with you at a min any programmable device should have some way to backup/restore. I've also put my 35s away and my 42S that looks mint has an issue when I apply pressure to one of the corners and it loses memory. Also the contrast is an issue. That all said I cannot seem to keep my 30b off my desk. I really want to hate it, but can't. I think its because I don't expect to program on it, and it's smaller than the 35s, and its missing the shiny metal cover so it looks like a geek tool. And, it is a great calculator. It's not quite a scientific calculator, but it has enough math functions to meet all my general needs. They should have called it the 30bs. :-)

Edited: 4 Oct 2010, 4:53 p.m.

Re: I/O vs. Input only

*Message #18 Posted by **Martin Pinckney** on 4 Oct 2010, 4:38 p.m.,*
in response to message #15 by Egan Ford

> Quote:
>
> I think the exam boards need to wake up.

Just for fun sometime, read the rants here.

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RealCalc: a very nice RPN calc for Android

*Message #1 Posted by **LucaPCP** on 4 Oct 2010, 3:50 a.m.*

I have recently installed RealCalc on my Android phone, and I must say, I am really impressed. Aside from the lack of tactile feedback, this is one of the best RPN calculators. It is more in the style of the 32SII: more functions on the keys, compared to the 42s. The unit conversions, and the use of numbers in other bases, are very well implemented and very easy to use. The number of stack levels visible is configurable (I keep it on 2).

At work, not daring to leave my 32SII on the table (in an open cubicle area), I use a 33s, but I have to say, RealCalc is better implemented, except for the lack of tactile feedback (the phone can be set to vibrate when a key is pressed, but it's not quite the same). If you are looking for an excellent RPN calculator to have always with you, give it a try!

Luca

PS: I have no affiliation with the developers of RealCalc. I am simply an enthusiast of HP RPN calculators who is very glad to have found a very well implemented RPN calc for Android -- especially given the mixed quality of the 35s (and in part, the 33s).

Re: RealCalc: a very nice RPN calc for Android

*Message #2 Posted by **Martin Pinckney** on 4 Oct 2010, 9:09 a.m.,*
in response to message #1 by LucaPCP

> Quote:
>
> At work, not daring to leave my 32SII on the table (in an open cubicle area), I use a 33s,

A company that hires kleptomaniacs? Or just a large company where you don't know (trust) everyone?

I guess I am spoiled, having worked for a small company most of my career. But I did have my prized "jeweled" stainless protractor (from my Dad) sprout wings many years ago...

Re: RealCalc: a very nice RPN calc for Android

*Message #3 Posted by **LucaPCP** on 4 Oct 2010, 6:24 p.m.,*
in response to message #2 by Martin Pinckney

I actually work in a very good company, but once your floor is wide open, has hundreds of people, incuding contractors for cleaning, for helping people relocate, for this, and for that... Yes, I once had the luxury of working in an office with a door. That is now gone! And I treasure my HPs too much to leave them in the open like that. I am sure they would be fine, but I don't want to experiment. So I was very glad to see RealCalc: at least now I always have with me a very good RPN calculator -- if a virtual one.

Re: RealCalc: a very nice RPN calc for Android

*Message #4 Posted by **Lincoln R.** on 10 Oct 2010, 12:41 a.m.,*
in response to message #3 by LucaPCP

I'm a college student, and occasionally calculator theft is a problem here, but the thieves don't seem terribly interested in RPN calculators.

I first started using RPN after my TI-89 was stolen (I left it in a classroom and when I came back 10 minutes later it was gone). Since then, I've left my 48g in several places for long periods of time (In a computer lab for about 6 hours, in my coat in the student center, on lab desks, and nobody's walked off with it yet. Although I've never observed anyone else here using an HP, I might be the only person on campus who knows RPN and the thieves think it's broken :-P

Re: RealCalc: a very nice RPN calc for Android

*Message #5 Posted by **Tommy** on 4 Oct 2010, 1:50 p.m.,*
in response to message #1 by LucaPCP

Yes, I agree. That is my favorite calc too.
/Tommy

Re: RealCalc: a very nice RPN calc for Android

*Message #6 Posted by **Pal G.** on 4 Oct 2010, 2:47 p.m.,*
in response to message #5 by Tommy

Droid48 keeps getting better. It's not iPhone m48 quality, but it's very usable.

http://www.androidzoom.com/android_applications/productivity/droid48_wex.html?related&p=40

Re: RealCalc: a very nice RPN calc for Android

*Message #7 Posted by **LucaPCP** on 4 Oct 2010, 6:26 p.m.,*
in response to message #6 by Pal G.

Yes, I tried Droid48 as well. It works very well, but for me, it is over-complicated for what I need to do. I have a high-powered PC in front of me at work, so I don't need another programmable object -- I need something with which to do quick calculation to check data, etc, and for that, the simpler 32SII (at home) or RealCalc (at work) is better.

Re: RealCalc: a very nice RPN calc for Android

*Message #8 Posted by **Walter B** on 4 Oct 2010, 11:56 p.m.,*
in response to message #1 by LucaPCP

Trivial problem: I can't find a screenshot of the RPN keyboard of this. TIA for your support.

Re: RealCalc: a very nice RPN calc for Android

*Message #9 Posted by **Jean-Michel** on 5 Oct 2010, 1:03 p.m.,*
in response to message #8 by Walter B

Hello Walter,

They were updating a new version at the time I came back to the web site to check, but it seems to me there was a header tittled " Screenshots" in the middle of the page, IIRC.

HTH.

MfG.

Jml

Re: RealCalc: a very nice RPN calc for Android

*Message #10 Posted by **Sören Nilsson** on 5 Oct 2010, 3:45 p.m.,*
in response to message #9 by Jean-Michel

Yes, RealCalc is very good. My favorit.

But I have tactile feedback! I run version v1.4.3 on a Sony Ericsson Experia X10.

(But I really like handyCalc too...)

Best regards, /Sören

Re: RealCalc: a very nice RPN calc for Android

*Message #11 Posted by **Walter B** on 6 Oct 2010, 1:50 a.m.,*
in response to message #9 by Jean-Michel

Bonjour Jean-Michel,

you're right, but those are just the Casio-style keyboards. What I was looking for was the RPN keyboard ...

Re: RealCalc: a very nice RPN calc for Android

*Message #12 Posted by **Geir Isene** on 5 Oct 2010, 5:57 p.m.,*
in response to message #1 by LucaPCP

Thanks for pointing this one out. I installed it and it seems every bit as good as you indicate.

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Scan quality of "Manuals on CD/DVD"

*Message #1 Posted by **uhmgawa** on 3 Oct 2010, 12:15 p.m.*

I was hoping someone here might be able to shed some light as I haven't received a reply from the curator thus far.

I was wondering what the resolution of the digitized manuals contained on this DVD may be, specifically for the voyager 1xC series? I have most of the collection in the form of paper manuals but I keep wanting electronic versions. I find the existing scans circulating about (for example the 15c owner's manual and advance functions) fall short being coarse resolution and monochrome. I was toying with scanning my copies but if the DVD versions have already addressed this, that option would be far simpler.

Thanks!

Re: Scan quality of "Manuals on CD/DVD"

*Message #2 Posted by **Namir** on 3 Oct 2010, 4:57 p.m.,*
in response to message #1 by uhmgawa

I encourage you to scan your own manuals and share then with us. Like they say "You want a job done right, do it yourself". If you feel the quality of the existing scanned documents is lacking, take a leadership role and scan your manuals.

Peace out!

Namir

Edited: 3 Oct 2010, 5:00 p.m.

Re: Scan quality of "Manuals on CD/DVD"

*Message #3 Posted by **uhmgawa** on 4 Oct 2010, 1:24 p.m.,*
in response to message #2 by Namir

> Quote:
>
> I encourage you to scan your own manuals and share then with us. Like they say "You want a job done right, do it yourself". If you feel the quality of the existing scanned documents is lacking, take a leadership role and scan your manuals.
>
> Peace out!
>
> Namir

Yea wow, whatever.

Anyway I was referring to the hp15c.org manuals scans which are barely passable and not exactly archival

quality. I'm not looking for another project but I'd consider doing so if a reasonable alternative doesn't exist.

One logistical issue (unless I'm missing a clue) is HP appears to still hold a copyright on the manuals. So I'm not sure I'd want to entertain your proposal above unless I had some sort of nod from HP which I estimate would take between 1 and 2 forevers to materialize. I'm all for community effort and sharing burden but I really don't need love letters from HP lawyers either.

Re: Scan quality of "Manuals on CD/DVD"

*Message #4 Posted by **Namir** on 4 Oct 2010, 2:19 p.m.,*
in response to message #3 by uhmgawa

You are right about the copyright. The museum has a special permission from HP.

Re: Scan quality of "Manuals on CD/DVD"

*Message #5 Posted by **Egan Ford** on 3 Oct 2010, 5:13 p.m.,*
in response to message #1 by uhmgawa

The DVD Voyager scans are high res, full color, indexed, and searchable. Just get the latest DVD.

Re: Scan quality of "Manuals on CD/DVD"

*Message #6 Posted by **uhmgawa** on 4 Oct 2010, 1:27 p.m.,*
in response to message #5 by Egan Ford

> Quote:
>
> The DVD Voyager scans are high res, full color, indexed, and searchable. Just get the latest DVD.

"searchable" as in they have been OCR'ed? Am I missing something here -- do representative sample pages exist for the DVD manuals to answer common questions like this?

Re: Scan quality of "Manuals on CD/DVD"

*Message #7 Posted by **Egan Ford** on 4 Oct 2010, 1:44 p.m.,*
in response to message #6 by uhmgawa

Yes they are OCR'd.

Re: Scan quality of "Manuals on CD/DVD"

*Message #8 Posted by **Jerry Raia** on 4 Oct 2010, 7:13 p.m.,*
in response to message #7 by Egan Ford

I'm impressed with the quality of the OCR on the manuals. It is really nice to be able to search so easily through them.

Re: Scan quality of "Manuals on CD/DVD"

*Message #9 Posted by **Dave Hicks** on 4 Oct 2010, 9:48 p.m.,*
in response to message #6 by uhmgawa

> Quote:
>
> "searchable" as in they have been OCR'ed? Am I missing something here -- do representative sample pages exist for the DVD manuals to answer common questions like this?

Honestly, I do have trouble keeping up with my email sometimes but I have answered several emails from you including this one. Since they're not getting through, here's a quote from the scanning details section:

> Quote:
>
> Most applications pacs and User's Libraries were scanned at 300 dpi B&W (1 bit). Most Owner's Handbooks were scanned at 300 dpi 1 bit B&W or 200 dpi 4 bit gray scale. The latter gives similar text quality to 300 dpi B&W while also keeping complex color usage readable.
>
> Manuals marked "Color" are generally made at 300 dpi. These scans were mostly made after 2006 to take advantage of today's larger media. Most of these scans were made at the museum with great care. After scanning, most pages were individually rotated, cropped, had major dust specs removed by hand, etc. This post-processing took much longer than the actual scanning. Many manuals were unbound to get the best scans.

The documents are OCR'd for searching but with the image is displayed so that any OCR errors don't damage the document.

By the way, it's not a common question. I don't remember anyone else asking it within the last couple of years at least. This compares to 5 emails in an average day asking how much someone should sell something for on ebay.

Re: Scan quality of "Manuals on CD/DVD"

*Message #10 Posted by **Pal G.** on 4 Oct 2010, 11:43 p.m.,*
in response to message #9 by Dave Hicks

> Quote:
>
> 5 emails in an average day asking how much someone should sell something for on ebay.

Since you're here Dave, how much should ask for a mint Punxsutawney Pennsylvania snow globe? Please note, it does not have a music box built in..

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HP65 which magnetic cards ?

*Message #1 Posted by **Alberto Fenini** on 3 Oct 2010, 8:24 a.m.*

Dear All,
I have different sets of blank cards

can be both used with HP65 ?
thanks in advance, take care Alberto

Re: HP65 which magnetic cards ?

*Message #2 Posted by **Dieter** on 3 Oct 2010, 9:30 a.m.,*
in response to message #1 by Alberto Fenini

All cards for the HP65, 67/97 and 41 have the same size (something like 71,1 x 11,3 mm - maybe someone has the offical specs), and AFAIK any of these can be used in any calculator.

Looking at the picture I see one card with the classic HP65-layout and another one that looks like a card for the HP67/97/41, just with only one clippable corner instead of two. So there are also no marks and arrows indicating side A and B. To me this looks like a late HP65-card with the newer design that afterwards (and/or at the same time) was also used for the dedicated HP67/97/41 cards (that fit the HP65 as well). I'm sure someone here will have an exact answer. :-)

Dieter

Re: HP65 which magnetic cards ?

*Message #3 Posted by **Thomas Chrapkiewicz** on 3 Oct 2010, 9:53 a.m.,*
in response to message #2 by Dieter

Yes; as mentioned both are usable in the HP65.

When the HP65 was first released, your top card was the only card available. These cards were double-sided, although HP did not publicized this fact.

As the HP67/97 was released, the double sided cards were released, and us HP65 users were made (formally) aware of the double-sided property. Then these same cards were usable with the HP41 series. I believe the 67/97/41 used higher density recording methods, but the magnetic properties of the cards were identical.

There are some nuggets of this information in the HP65 notes with these details. If anyone is interested I will try to find those. TomC

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HP65 two different Standard Pacs ?

*Message #1 Posted by **Alberto Fenini** on 3 Oct 2010, 7:54 a.m.*

Hello everybody
I was sorting out things and I came across the following :
I have three different standard pac manuals and cards sets for HP65
the two with "JUNE 1974" printed on the front cover and "00065-90207 Rev 6/74" printed on the back cover
have the first card program named STD-01B DAY OF THE WEEK
the third manual with nothing printed on the fron cover and "00065-90207" printed on the back cover
have the first card named STD-01A PERSONAL INVESTMENT"
The cards sets goes accordingly.
Has anyone ever noticed the same or just me ??

Take care and have a nice weekend Alberto

Re: HP65 two different Standard Pacs ?

*Message #2 Posted by **John Robinson** on 5 Oct 2010, 2:39 a.m.,*
in response to message #1 by Alberto Fenini

Hi Alberto,

I noticed the differences in the cards, but I haven't checked the manuals to compare - good idea to do so !!

Cheers, John

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Viewing card record tracks

*Message #1 Posted by **Ed Sowell** on 2 Oct 2010, 3:04 p.m.*

The HP 97 Service Manual test procedure for the card reader calls for using MagnaSee to check the record track lengths. MagnaSee is hard to find or no longer available, and other magnetic developers are $35-$45 for 2 ounces. Iron filings as used in school magnetic experiments costs about $5 for a lifetime supply. This shows how it works:

Click here for photo

It's not good enough to read the individual line patterns, but the length is easy to see.

Now, I have to figure out why the tracks are so short when compared to the diagram in the Service Manual.

Comments/suggestions welcome.

Ed

Edited: 2 Oct 2010, 3:07 p.m.

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HP30b in Japan

*Message #1 Posted by **Andreas Grund** on 2 Oct 2010, 5:14 a.m.*

Finally, the HP30b arrived in Japan in retail shops. I got one today in Tokyo's Akihabara electronic district for Yen 5900, which is equivalent to approx. 70$ or 52Euro. It is packed in the typical blister with four short manuals in English, Japanese, Chinese and Korean, however, only one key layout sticker is inluded. The content of the quick start manual (all dated July 2009) is so basic, they better had not distributed.

The calculator does not fit well into my hand with its sharp upper rims, may be, I am spoiled from the daily use of my Pioneers. They keyboard is worlds apart from the former HP quality - the "4" key does not deliver a click, but an entry, the "5" returns a click, but only an entry if you press very hard ..... I return this calculator tomorrow.

Andreas

Edited: 3 Oct 2010, 12:34 a.m. after one or more responses were posted

Re: HP30b in Japan

*Message #2 Posted by **Raymond Del Tondo** on 2 Oct 2010, 6:31 a.m.,*
in response to message #1 by Andreas Grund

> Quote:
>
> Finally, the HP30b arrived in Japan in retail shops...however, only one key layout sticker is inluded.

...and they put the ink on the wrong side of the overlay. As if there weren't an at least 30 year history of keyboard overlay production knowledge...

> Quote:
>
> The calculator does not fit well into my hand with its sharp upper rims, may be, I am spoiled from the daily use of my Pioneers.

I made a similar experience with my 30b. That's why I returned it, and got a new 17bII Silver instead, which is much better in nearly every respect.

Re: HP30b in Japan

*Message #3 Posted by **John B. Smitherman** on 2 Oct 2010, 9:57 a.m.,*
in response to message #2 by Raymond Del Tondo

Sadly, I returned mine as well.

John

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HP 97 Card not fully ejected

*Message #1 Posted by **Ed Sowell** on 1 Oct 2010, 5:44 p.m.*

After refurbishing the "clutch" and traction wheel it works well except the card is not fully ejected after reading. Does this problem mean that I have a speed issue?

By doing continuity tests while pushing the card slowly into the reader (with power off) I can verify that the motor switch, head switch, and write-protect switches work. I have yet to go through the process of changing R1.

TIA

Ed

Re: HP 97 Card not fully ejected

*Message #2 Posted by **Ed Sowell** on 1 Oct 2010, 7:54 p.m.,*
in response to message #1 by Ed Sowell

I just tried to see the length of the recorded strips on the back of a card using iron filings, the product used in school science labs. The particles are too large to work well, but I can see what I think is the recorded length. If so, they look too short. Maybe all the data gets read and the motor shuts off before the card is ejected?

BTW, since there are no values given for Lmin and Lmax in the SM I am assuming that the printed image of the back of the stip is to scale and one is supposed to just lay the card beside it. Is that right?

Ed

Re: HP 97 Card not fully ejected

*Message #3 Posted by **Randy** on 1 Oct 2010, 9:14 p.m.,*
in response to message #1 by Ed Sowell

> Quote:
>
> it works well except the card is not fully ejected after reading

Define "fully". If it can be pulled out with your fingers, it worked.

> Quote:
>
> Maybe all the data gets read and the motor shuts off before the card is ejected?

No, it doesn't work that way. Everything is controlled by the leaf switches.

> Quote:

I have yet to go through the process of changing R1.

Don't go there, shouldn't be needed. Unless of course you changed the motor.

The most important missing data: Does it read the card correctly and the motor stops with the end of the card out the back of the case? That's a correct read cycle. What does your 97 do?

Edited: 1 Oct 2010, 9:17 p.m.

Re: HP 97 Card not fully ejected

*Message #4 Posted by **Ed Sowell** on 1 Oct 2010, 11:05 p.m.,*
in response to message #3 by Randy

Thanks, Randy.

It does read the simple area of a circle program correctly, but does have to be tugged out. Others have told me the tug is abnormal. Also, the I wrote the program to this card after the repairs to the reader, so I wonder about the validity of the test. Another member of the forum is kindly sending me a card created with his reader which doesn't have the "tug it out" symptom.

Ed

Re: HP 97 Card not fully ejected

*Message #5 Posted by **Randy** on 2 Oct 2010, 7:21 a.m.,*
in response to message #4 by Ed Sowell

"Tug" it out? That's normal. It should be require very little force to remove. Are you expecting the card to be fully ejected out of the reader and calculator body?

Re: HP 97 Card not fully ejected

*Message #6 Posted by **Ed Sowell** on 2 Oct 2010, 11:44 a.m.,*
in response to message #5 by Randy

I don't expect it to be completely ejected out of the reader, but the trailing end should no longer be under the traction wheel. It's not.

Re: HP 97 Card not fully ejected

*Message #7 Posted by **Ed Sowell** on 2 Oct 2010, 3:10 p.m.,*
in response to message #6 by Ed Sowell

This shows the record tracks on a Data 2 card created with my reader. Much too short compared to the SM diagram.

Click here for photo

Ed

Re: HP 97 Card not fully ejected

*Message #8 Posted by **aj04062** on 3 Oct 2010, 10:37 p.m.,*
in response to message #4 by Ed Sowell

Hey Ed,

I presume the video of my card reader convinced you that it wasn't working correctly.

Video

Edited: 3 Oct 2010, 10:55 p.m.

Re: HP 97 Card not fully ejected

*Message #9 Posted by **Ed Sowell** on 4 Oct 2010, 2:49 p.m.,*
in response to message #8 by aj04062

No, but from what you have shown I can't tell if you have to tug it out. By tug I mean to pull hard, with easily felt resistance. I believe the resistance I feel is due to the trailing edge of the card being still in the grips of the traction and pinch wheels.

Actaually, the problem was called to my attention when I posted a video of me doing the same thing, but pulling the card out after the read. Here it is again:

Video of my reader from last April.

I had posted it to get comments on the noise level I had at the time. Ignazio responded as follows:

> Quote:
>
> Hello Ed, I've saw your short movie. It's my opinion that your reader is too much noisy, and that you must pull the card when it's out of the reader. You have used o-rings too much wide! BTW, have you checked the test-point on the card-reader PCA with a continuity tester? There are three test-point marked M (motor switch), F (Write protect swith) and H (head switch) on the upper left side of the PCA, that you must check with the ground signal (to the left of the three test-point) to test the switches are working properly. Let me know.

Now that I've repaired the clutch and switched to the fuel tubing traction wheel repair the noise probelm is gone, but the incomplete ejection is still with me.

Thanks for you interest. It helps to get feedback!

Ed

Edited: 4 Oct 2010, 2:55 p.m.

Re: HP 97 Card not fully ejected

*Message #10 Posted by **Ignazio Cara (Italy)** on 4 Oct 2010, 3:35 p.m.,*
in response to message #9 by Ed Sowell

Hi Ed, It's my opinion that you have too much pressure of the drive roller on the magnetic card's surface, due a not correct position of the eccentric cam. This issue could be the reason of your difficult to pull the card from the rear of the calculator after a r/w session. Try to rotate this cam until the force needed to insert the card into the reader is not so high. Let me know if my opinion is helpfull.

Regards and ... never give up

Ignazio

Re: HP 97 Card not fully ejected

*Message #11 Posted by **Ed Sowell** on 4 Oct 2010, 3:57 p.m.,*
in response to message #10 by Ignazio Cara (Italy)

Good to hear from you Ignazio!

I have been thinkg that too, and have been trying to adjust it. I am measuring current per the Service Manual but cannot find any position of the eccentric shaft that gets it down to 180mA. About 300 is as low as I can get it. The manual also indicates the eccentric shaft may have to be replaced, but that might be hard to source!

Today I noticed that the wheel I made from fuel tubing is slipping on the shaft. I'll try a drop of superglue.

Give up? Me?

Thanks for your intertest.

Ed

Re: HP 97 Card not fully ejected

*Message #12 Posted by **Randy** on 4 Oct 2010, 6:08 p.m.,*
in response to message #11 by Ed Sowell

> Quote:
>
> ...I am measuring current per the Service Manual but cannot find any position of the eccentric shaft that gets it down to 180mA. About 300 is as low as I can get it...

Bad eccentric? Not likely.

Remove the eccentric and the gear and run @ 3 vdc. If the motor current is greater than 25 ma, the motor is binding due to an off center coupler and is the cause of the higher than normal current. If motor current is okay, it could be:

1. Tubing is too large in OD
2. Gear and/or eccentric have goo on/in them from the old wheel

Re: HP 97 Card not fully ejected

*Message #13 Posted by **Ed Sowell** on 5 Oct 2010, 6:09 p.m.,*
in response to message #12 by Randy

Thanks, Randy.

The adjustments I've done seem to have speeded up the motor a bit since the track length is a little longer now and it doesn't take quite as much of a pull. But I will take it apart again and do the test you suggest.

I have to rule out the goo possibility as I have cleaned everything carefully. The OD is possibly the problem. I first tried O-rings purchased on eBay but they were of larger OD than the fuel tubing I now have installed. Might have to once again review the Archives on this issue.

Ed

Re: HP 97 Card not fully ejected

*Message #14 Posted by **Ed Sowell** on 6 Oct 2010, 8:02 p.m.,*
in response to message #13 by Ed Sowell

> Quote:
>
> I have to rule out the goo possibility as I have cleaned everything carefully.

Well, it looks like I was too sure of my goo removal talents. I found a tiny lump in one of the the cavities where the pinch wheel axle rides.

> Quote:
>
> The OD is possibly the problem.

Using a precision caliper, I have measured the OD of my fuel hose traction wheel while installed on the gear. It measures 0.244". That makes it almost exactly the diameter the shoulder on the gear that is fits up against. IOW, if the tubing OD was any smaller it would be below the shoulder.

So, my current theory is the tiny bit of goo was keeping the pinch roller from turning. That would make the motor work alot harder, possibly causing my symptoms.

More on this after I do the no-load current test and put it back together. I'll also put a little superglue on the gear shaft before slipping the new traction wheel on.

Ed

Re: HP 97 Card not fully ejected

*Message #15 Posted by **Ed Sowell** on 5 Oct 2010, 5:58 p.m.,*
in response to message #8 by aj04062

Got the Data 2 card. Thanks!

It reads great on my machine, even though the data track lengths are different from the card written by reader (in it's current state of adjustment). See how they compare below:

Comparing track lengths.

Yours is shown at the top. Comparing it to the diagram in Sec 4-35 of the SM, it looks like yours is about LMin, whereas mine is significantly shorter. Yet, mine now seems to read fine too, after fussing with adjustment of the eccentric shaft. Mine takes a little more of a tug to get out after the read, but not as bad as it was.

So for those who have wondered, cards written on readers of widely differing adjustments seem to be read OK on both.

Ed

Re: HP 97 Card not fully ejected

*Message #16 Posted by **aj04062** on 5 Oct 2010, 10:02 p.m.,*
in response to message #15 by Ed Sowell

Interesting Ed,

Mine takes a very minimal tugging to pull out.

I've rebuilt this card reader using some urethane orings. They are of a lower durometer than the std Buna (black) orings you get. I figured urethane is known for its high friction coefficient, so I'd give it a try. One thing I had to do though is super glue them to the shaft as they would slip on the gear. It did take some tinkering on the eceentric cam to get it running well.

I bought 100 of these crazy things for $5. If anyone wants to try a few, let me know.

Re: HP 97 Card not fully ejected

*Message #17 Posted by **Ed Sowell** on 5 Oct 2010, 10:34 p.m.,*
in response to message #16 by aj04062

As I mentioned, I saw slippage with the fuel tubing also. I had been doing the SM procedure of holding the card to get the extreme current reading and shortly afterwards just let it pass on through. It pulled through nicely for a bit then slowed down, then stopped. Since I have the calculator apart I was able to flip the reader over and see what was happening... worm gear sailing merrily along, gear turning, "traction wheel" still! Wouldn't have believed it possible.

Yes, I'd like a few (4 would do) of the urethane O-rings.

Ed

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HP-35 Microcode-level Emulator (in JavaScript!)

*Message #1 Posted by **Ashley Nathan Feniello** on 1 Oct 2010, 1:38 p.m.*

Added a photo-realistic skin to my HP-35 microcode emulator - feels like the real thing now: http://www.lkjsdf.com/archive/HP/35/Skin/ Have fun!

Re: HP-35 Microcode-level Emulator (in JavaScript!)

*Message #2 Posted by **hugh steers** on 1 Oct 2010, 7:20 p.m.,*
in response to message #1 by Ashley Nathan Feniello

pi sin and pi cos

is this right?

Re: HP-35 Microcode-level Emulator (in JavaScript!)

*Message #3 Posted by **Dave Boyd** on 1 Oct 2010, 10:48 p.m.,*
in response to message #2 by hugh steers

Those look like the values of the sine and cosine of Pi degrees to me...

Re: HP-35 Microcode-level Emulator (in JavaScript!)

*Message #4 Posted by **Marcus von Cube, Germany** on 2 Oct 2010, 12:20 p.m.,*
in response to message #1 by Ashley Nathan Feniello

Thanks a lot. Did you use a special tool to build the website? The script code at the bottom looks a little strange to me.

I just installed it on the home screen of my iPod Touch. Can it be sped up?

Marcus

Re: HP-35 Microcode-level Emulator (in JavaScript!)

*Message #5 Posted by **Frank Boehm (Germany)** on 2 Oct 2010, 3:23 p.m.,*
in response to message #4 by Marcus von Cube, Germany

The script code is used by Google Analytics - very widely used by site admins and harmless (other than allowing Google to collect quite a bunch of infos about you <g>)

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New revs of 41 Games Library

*Message #1 Posted by **Ángel Martin** on 1 Oct 2010, 8:46 a.m.*

Greetings, a few updates to the Games Libary are now posted on TOS as individual modules.

In addition to some bug fixing, notably I added "Dungeon of Death" to the ADVENTURE module (reaching now 28k in size), and improvements to the Chess program UI (function "^MOVE") to allow Castling and Pawn promotion directly from the keyboard (refer to the user instructions if you need to).

Have fun!

Re: New revs of 41 Games Library

*Message #2 Posted by **gene wright** on 1 Oct 2010, 3:10 p.m.,*
in response to message #1 by Ángel Martin

Thank you. This is great!

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HP9100B available on TAS

*Message #1 Posted by **Frank Boehm (Germany)** on 1 Oct 2010, 6:34 a.m.*

(also known as "that unmentionable site"
Looks nice and seems to work - certainly a rare find
item # 110592688740

(I'm not related to the seller, nor do I intend to bid. It's just a rare machine that's missing in almost every collection.)

Re: HP9100B available on TAS

*Message #2 Posted by **Mark Edmonds** on 1 Oct 2010, 11:53 a.m.,*
in response to message #1 by Frank Boehm (Germany)

Yes, it looks like quite a nice one and as someone who desperately wants a 9100 but hasn't got the funds, this is going to be painful to watch!

PS: I really don't understand why it is frowned upon to mention Ebay here - seems a bit childish to me that there appears to be this unwritten rule "thou shalt not mention Ebay"!

Re: HP9100B available on TAS

*Message #3 Posted by **Martin Pinckney** on 1 Oct 2010, 1:51 p.m.,*
in response to message #2 by Mark Edmonds

> Quote:
>
> PS: I really don't understand why it is frowned upon to mention Ebay here - seems a bit childish to me that there appears to be this unwritten rule "thou shalt not mention Ebay"!

I take it that eB** is considered a necessary evil but self-respecting professionals like us would prefer not to admit we would actually *use* such a rip-off site.

Edited: 1 Oct 2010, 1:52 p.m.

Re: HP9100B available on TAS

*Message #4 Posted by **Mark Storkamp** on 1 Oct 2010, 2:13 p.m.,*
in response to message #2 by Mark Edmonds

There's nothing like finding an auction that's passing under the radar, with a poor description or misspelling in the title, and getting in a low bid. Then someone posts a link to it since they, themselves aren't interested, and what once was going to be a good deal is suddenly bid way up. That's why, in some other groups I follow, linking to auctions is frowned upon.

Re: HP9100B available on TAS

*Message #5 Posted by **Han** on 1 Oct 2010, 3:05 p.m.,*
in response to message #4 by Mark Storkamp

On that note, perhaps noting that the shipping cost is a "mere" $85.00 USD (currently 10% of the max bid) may slow down the bids.

Re: HP9100B available on TAS

*Message #6 Posted by **Richard Wilder** on 6 Oct 2010, 2:12 p.m.,*
in response to message #5 by Han

$85 is the max for shipping. From the description: "If shipping turns out to be cheaper, a refund will be issued."

Re: HP9100B available on TAS

*Message #7 Posted by **M. Joury** on 1 Oct 2010, 8:50 p.m.,*
in response to message #2 by Mark Edmonds

I thought that the rule was not so much not to mention TAS but, rather, not to post opinions on individual auction and the sellers without disclosing your own account name. Or something like that (I actually read the site rules on this at one point).

Here they are:

Additional Terms of Use for Discussions About Ebay and Other Auction Sites

This is not meant to be a forum about ebay or other auction/sales sites though they will naturally come up at times. If you refer to any specific auction(s), sellers(s), or user(s) of any auction/sales site, then you must include your ID at that auction/sales site. This puts you on equal footing with the person you're talking about. Your auction/sales site ID may be confirmed by other forum users by sending a message via the auction/sales site. If that message isn't responded to in the affirmative, then your messages and/or account may be deleted. If you do not have an ID at the auction/sales site, or want to keep your identity secret, then please don't ask questions about specific auctions or sales on that site at this forum. If you have questions about a specific item, it is usually best to ask the seller for clarification. Also, please limit auction/sales threads to items of broad interest to HP calculator users.

I feel a little bit like I am a character in the Harry Potter series and we are talking about "He Who Shall Not Be Named"...

Edited: 1 Oct 2010, 9:02 p.m.

Re: HP9100B available on TAS

*Message #8 Posted by **Juergen Keller** on 2 Oct 2010, 4:20 a.m.,*
in response to message #7 by M. Joury

There were some lengthy (and sometimes not so nice) eBay discussions in the past; therefore it's only natural that some rules had to be established. This is THE forum for (HP) calculator users and collectors, with a very polite and cooperative spirit, and we all benefit from it, so it's in our own interest to accept some common-sense regulations.

Wishing you all many stimulating discussions in the future,
Juergen

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Global search of archives..

*Message #1 Posted by **uhmgawa** on 30 Sept 2010, 6:18 p.m.*

Pardon my potential density here. But the handful of times I've tried, I've never seemed to find a means to perform a global search of the archives. Rather it appears a search may only be within the scope of a given archive volume. This doesn't seem a realistic limitation so would someone be kind enough to clue me in?

Thanks.

Re: Global search of archives..

*Message #2 Posted by **Michael Meyer** on 30 Sept 2010, 6:26 p.m.,*
in response to message #1 by uhmgawa

Someone posted a method of a way to use a Google search with a single line of parameters. It's in the archives somewhere.....

Re: Global search of archives..

*Message #3 Posted by **uhmgawa** on 30 Sept 2010, 6:31 p.m.,*
in response to message #2 by Michael Meyer

> Quote:
>
> Someone posted a method of a way to use a Google search with a single line of parameters.
> It's in the archives somewhere.....

Yea I'll bet it is. Probably along with the secret to eternal youth. But is this seriously the only method for performing a global archive search?

Re: Global search of archives..

*Message #4 Posted by **Michael Meyer** on 30 Sept 2010, 6:42 p.m.,*
in response to message #3 by uhmgawa

Try this:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=74734

Re: Global search of archives..

*Message #5 Posted by **uhmgawa** on 1 Oct 2010, 11:22 p.m.,*
in response to message #4 by Michael Meyer

> Quote:
>
> http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=74734

Thanks for the pointer.

An external site search indeed works but it is a bit roundabout and it picks up index pages as well as actual threads. Not a huge issue, but the omission of a conventional site search function seems rather curious.

Although I think I miss a thread activity e-mail notification mechanism more. I'll stop complaining now.

Re: Global search of archives..

*Message #6 Posted by **Egan Ford** on 30 Sept 2010, 9:46 p.m.,*
in response to message #2 by Michael Meyer

> Quote:
>
> ...perform a global search of the archives...
>
> Quote:
>
> It's in the archives somewhere...

LOL. Classic tech-support.

Re: Global search of archives..

*Message #7 Posted by **M. Joury** on 30 Sept 2010, 10:18 p.m.,*
in response to message #6 by Egan Ford

LOL. I love it.

Re: Global search of archives..

*Message #8 Posted by **reth** on 1 Oct 2010, 1:52 a.m.,*
in response to message #6 by Egan Ford

I tought it was catch 22... :)

Re: Global search of archives..

*Message #9 Posted by **Thomas Chrapkiewicz** on 30 Sept 2010, 10:10 p.m.,*
in response to message #1 by uhmgawa

In the google search window:

site:hpmuseum.org <search string>

Works most nicely!

TomC

Re: Global search of archives..

*Message #10 Posted by **Garth Wilson** on 30 Sept 2010, 10:17 p.m.,*
in response to message #9 by Thomas Chrapkiewicz

> Quote:
>
> In the google search window:
>
> site:hpmuseum.org <search string>

It probably works the same with all or most search engines. I never use Google myself. I've been using startpage.com , and it works the same there.

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Challenge: Are costs for air travel & hotel higher/lower/the same before/after September 15th

*Message #1 Posted by **gene wright** on 30 Sept 2010, 8:58 a.m.*

One of the reasons why HHC typically occurs near the end of September is because when it was first held 30 or so years ago, it was believed that air travel and hotel costs went down significantly after the end of the "summer season", considered to end September 15th.

Is this still true?

Do costs for air travel and hotel stays go down once you pass September 15th? They may have in the past, but do they still do so?

If not, then perhaps HHC 2011 and beyond might be held in early / late August instead of the end of September.

But, the committee needs data! Help! :-)

Re: Challenge: Are costs for air travel & hotel higher/lower/the same before/after September 15th

*Message #2 Posted by **Andrés C. Rodríguez (Argentina)** on 30 Sept 2010, 10:17 a.m.,*
in response to message #1 by gene wright

In general, travel costs from my country to the USA are higher between July 1 and August 20. I would like to attend some future HHC (I was there in 2007), so I would recommend a date outside that range. Dec-Jan-Feb have also higher fares, as we have our summer holidays in these months.

Re: Challenge: Are costs for air travel & hotel higher/lower/the same before/after September 15th

*Message #3 Posted by **Thomas Chrapkiewicz** on 30 Sept 2010, 10:25 a.m.,*
in response to message #1 by gene wright

It is apparent to me that based on the email/mail promotion traffic (at least from Southwest and Northwest/Delta) that air travel costs do drop significantly after Sept15.

TomC

Re: Challenge: Are costs for air travel & hotel higher/lower/the same before/after September 15th

*Message #4 Posted by **Brian Walsh** on 30 Sept 2010, 11:02 a.m.,*
in response to message #1 by gene wright

Gene, I'd vote for late Sept./early Oct. since Labor Day plus or minus a week or so doesn't work for me, and the audiofest in Denver next year which I mentioned below is on Oct. 14-16.

Re: Challenge: Are costs for air travel & hotel higher/lower/the same before/after September 15th

*Message #5 Posted by **BruceH** on 5 Oct 2010, 5:20 p.m.,*
in response to message #1 by gene wright

Did you see my previous response?

Re: Challenge: Are costs for air travel & hotel higher/lower/the same before/after September 15th

*Message #6 Posted by **Egan Ford** on 5 Oct 2010, 5:25 p.m.,*
in response to message #1 by gene wright

I'm still waiting for this "challenge" to turn in to a programming challenge. :-)

Re: Challenge: Are costs for air travel & hotel higher/lower/the same before/after September 15th

*Message #7 Posted by **BruceH** on 5 Oct 2010, 8:53 p.m.,*
in response to message #1 by gene wright

Here's a screen capture from http://history.airfares.com showing AA fares (compared with the lowest available) purchased 14 days in advance for New York to Nashville over the last 12 months.

It seems that there is no peak or off-peak period: the fares fluctuate wildly as the prices are set automatically by yield management software.

Re: Challenge: Are costs for air travel & hotel higher/lower/the same before/after September 15th

*Message #8 Posted by **Katie Wasserman** on 5 Oct 2010, 9:25 p.m.,*
in response to message #7 by BruceH

> Quote:
>
> yield management software

Looks to me more like one-dimensional Brownian motion simulation software.

Re: Challenge: Are costs for air travel & hotel higher/lower/the same before/after September 15th

*Message #9 Posted by **gene wright** on 6 Oct 2010, 7:30 a.m.,*
in response to message #7 by BruceH

Ok, so there does not appear to be any airfare seasonal cost difference. Hotel room charges are the remaining piece.

Thanks so far all.

P.S. Again, one of the primary reasons given for having HHC 2010 in late September is the change of seasons and a resulting decrease in costs for airfare and hotel bills. I wondered if that was leftover from the

late 1970s and whether it was true today or not.

Re: Challenge: Are costs for air travel & hotel higher/lower/the same before/after September 15th

Message #10 Posted by ***Patrick Rendulic*** *on 7 Oct 2010, 9:43 a.m.,*
in response to message #9 by gene wright

As long as the conference takes place in late September, I will not be able to attend it. Where I live, school starts on the 15th of September. And being a teacher I cannot take a week off after the summer holidays.

Maybe it would be an idea to introduce a shift, eg. a conference every 13 months. Just my idea.

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Infinity

*Message #1 Posted by **John Mosand** on 29 Sept 2010, 10:54 a.m.*

The '0-topic' turned out quite interesting. Now I'd like to have your views on 'infinity'. What is your concept of it? Is it a 'place', some kind of 'value', or just '...as n increases without bounds'? (I have my own view :-) Just recently I saw the following: n/inf. = 0, which leads to n = 0 * inf. (Maybe one should treat 'inf.' like 0: don't divide by it!)

Re: Infinity

*Message #2 Posted by **Jeff O.** on 29 Sept 2010, 11:12 a.m.,*
in response to message #1 by John Mosand

Not sure if this is what you are after, but I would recommend a book called "Everything and More - A Compact History of Infinity*" by David Foster Wallace. Deals mostly with the work of Georg Cantor. I read the book, but don't claim to have fully understood it.

* - The actual book title uses the symbol for infinity which I am unable to reproduce here.

Re: Infinity

*Message #3 Posted by **John Mosand** on 29 Sept 2010, 12:29 p.m.,*
in response to message #2 by Jeff O.

Books on this subject isn't my problem. (I can also recommend Peter Rozsa's 'Playing with Infinity'.) I just wanted to hear your views. There are some who disagree with Cantor, for instance. Oh yes, I can use the 'sleepy eight', but it doesn't come out right on some computers...

Re: Infinity

*Message #4 Posted by **Jeff O.** on 29 Sept 2010, 3:46 p.m.,*
in response to message #3 by John Mosand

OK, just making sure.

I'll leave the discussion to those who are qualified.

I was going to try using "oo" for the 'sleepy eight' symbol, but that didn't look very good.

Re: Infinity

*Message #5 Posted by **Garth Wilson** on 1 Oct 2010, 5:13 p.m.,*
in response to message #4 by Jeff O.

Try this one for a copy and paste: ꝏ

Edit: never mind-- the forum software destroyed it.

Edited: 1 Oct 2010, 5:14 p.m.

Re: Infinity

*Message #6 Posted by **Don Shepherd** on 29 Sept 2010, 11:16 a.m.,*
in response to message #1 by John Mosand

Well, to my simple mind infinity is a concept; the concept that numbers (or series) go on forever, without end. It's certainly not like a "number" that can be the object of an arithmetic operation.

Middle school kids know what infinity is: numbers go on forever.

Re: Infinity

*Message #7 Posted by **Walter B** on 29 Sept 2010, 11:26 a.m.,*
in response to message #1 by John Mosand

> Quote:
>
> Just recently I saw the following: n/inf. = 0, which leads to n = 0 * inf. (Maybe one should treat 'inf.' like 0: don't divide by it!)

Heh, heh, you must still know what you are allowed to do: e.g. claiming x = y and "proving" it by multiplying both sides with 0 isn't a legal method either d:-) Be careful with 0 as well as with +/- inf. IIRC and if no mathematician is listening, we have divided by infinity quite frequently in limit problems (?= Grenzübergänge). As said above ...

Re: Infinity

*Message #8 Posted by **C.Ret** on 29 Sept 2010, 12:16 p.m.,*
in response to message #7 by Walter B

Right, Inf as 0 is not allowed in most algebra manipulation. Furthermore, le product '0 x inf' is 'undefined'.

The only arithmetic allowed with any non zero number are : n + inf = +inf , n - inf = -inf and n * inf = inf

And any expression like inf/inf, 0*inf, inf-inf, etc have no meaning in algebra and therefore are 'undefinited' such as any 0/0 ou n/0 notation.

In the other hand, "dividing by infinite" is quite a current operation in analysis of convergence, divergence and limits of function and series.

In this case : lim(1/x) = 0 when x --> inf has a meaning.

Such as lim(1/x) = +inf when x --> O+ and lim(1/x)=-inf when x --> 0- lim(x^x) = 1 when x --> 0 lim(x*sin(1/x))=1 when x --> +inf etc.

Please note that n / inf = 0 is true for any (real) number different of ±inf.

Re: Infinity

*Message #9 Posted by **Mark Storkamp** on 29 Sept 2010, 12:01 p.m.,*
in response to message #1 by John Mosand

My concept of infinity is based upon a single book I read a number of years ago, and those concepts may have been completely bogus or outdated by now. But...

You need to be specific about which infinity you are talking about, since there an infinite number of them. The smallest infinity is the set of rational numbers. Due to a limited character set I'll call that I0. Then there is the infinity of irrational numbers, I1. Greater than that is the number of curves in a plane, I2, &c. I0+I0 = I0, I0*I0 = I0, I0/I0 = I0, I0-I0 = I0, I0^I0 = I1.

A quick check on Wikipedia shows I'm not too far off base: Cardinality_of_the_continuum

Re: Infinity

*Message #10 Posted by **Ron Ross** on 29 Sept 2010, 1:08 p.m.,*
in response to message #9 by Mark Storkamp

"The smallest infinity is the set of rational numbers."

Nonsense, the number of primes is also infinite and certainly smaller than the number of rational numbers. Probably some ratio of Big O over Ln O or some such algebraic manipulation, but it is smaller.

Someone wiser may argue otherwise.

Re: Infinity

*Message #11 Posted by **Kiyoshi Akima** on 29 Sept 2010, 2:07 p.m.,*
in response to message #10 by Ron Ross

It's possible to find a one-to-one mapping between the set of prime numbers and the set of positive integers (first prime, second prime, etc.). There's a one-to-one mapping between the positive integers and the integers. There's a one-to-one mapping between the integers and the rational numbers. Hence there's a one-to-one mapping between the prime numbers and the rational numbers, and the two sets are of the same size.

Re: Infinity

*Message #12 Posted by **Ron Ross** on 29 Sept 2010, 4:13 p.m.,*
in response to message #11 by Kiyoshi Akima

I have heard this arguement before and readily accept it for any multiple and most countable infinities. However, Prime numbers are so sparse in comparison to natural numbers that this arguement is very hard to accept. As you progress into the larger primes, they tend to become very scarce and hence my own feeling that their infinite number must be less than the infinity of the natural numbers.

Re: Infinity

*Message #13 Posted by **Mark Storkamp** on 29 Sept 2010, 4:22 p.m.,*
in response to message #12 by Ron Ross

Fortunately, infinity is so mind numbingly huge that scarcity hardly seems to count for much. As long as there's a proof (and there is) that there is always a larger prime number than the last one you found, there's a one-to-one mapping with rational numbers.

What I have a hard time getting my head around is the sudden change when you get to irrational numbers. The idea that you are at infinity to-the-power-of infinity since the numbers extend both in growing magnitude, as well as a complete infinity between any two numbers.

Curves on a plane I have only the most feeble grasp of.

Re: Infinity

*Message #14 Posted by **Ron Ross** on 29 Sept 2010, 4:48 p.m.,*
in response to message #13 by Mark Storkamp

While primes are countable, they are barely so as there are spaces where there are billions (and even larger digits of numbers) of natural numbers in between MOST primes. That is why I am skeptical of the infinity of natural numbers being = the infinity of primes.

If you were to graph or show a density graph, the primes would be like grass in the desert.

Re: Infinity

*Message #15 Posted by **Kiyoshi Akima** on 29 Sept 2010, 6:03 p.m.,*
in response to message #14 by Ron Ross

Think about it going the other way.

Among the rational numbers, integers are so sparse that they almost vanish. Yet there are as many integers as there are rational numbers.

Once you've removed all the non-integers from the rational numbers, removing the composite numbers from the remainder is barely a trim.

Re: Infinity

*Message #16 Posted by **bill platt** on 29 Sept 2010, 8:47 p.m.,*
in response to message #15 by Kiyoshi Akima

The 'paradox' of infinity is that ratios become meaningless

Re: Infinity

*Message #17 Posted by **Ron Ross** on 29 Sept 2010, 9:53 p.m.,*
in response to message #15 by Kiyoshi Akima

Very good analogy, yet I would argue, integers are evenly spaced ie I know when the next one will appear. That isn't true for primes. The next prime may be a million, a billion, or a trillion digits away. There is no definite regular pattern on when I can expect the next one.

I guess that I may have issues with the proof of countability. I don't fully grasp (as I don't readily agree with) the idea that if I can count both of them, that makes them equal.

It takes me forever to count to one, if I count ratios, yet, that infinity is = to the infinity of integers, a much sparser set. I still say the sets are not equal, yet the countability therom says they are the same.

Re: Infinity

*Message #18 Posted by **bill platt** on 30 Sept 2010, 12:37 a.m.,*
in response to message #17 by Ron Ross

Hi Ron,

You are running up against the 'paradox' and extrapolating the observable 'morphology' of numbers in finite numberspace. But the extrapolation is not valid. Infinite numberspace is sort of like accepting Quantum Electro Dynamics: it is not in your physical experience...

Re: Infinity

*Message #19 Posted by **KC** on 30 Sept 2010, 1:11 a.m.,*
in response to message #17 by Ron Ross

For infinity you have to think "out of the box". The simplest analogy I am sure everyone knows is that a 1 to 1 correspondence holds for natural numbers and even numbers, and therefore their sizes are equal, yet every logical person would think that the size of natural numbers is twice that of even numbers. The point is: when we think of this, we are trapped into the idea that infinity has a boundary, and no matter where you place the boundary, this "twice as big" holds true. Only have you begun to realize that infinity has no boundary can you get out of the box.

KC

Re: Infinity

*Message #20 Posted by **cyrille de brebisson** on 30 Sept 2010, 12:03 p.m.,*
in response to message #19 by KC

hello,

a good read on this: http://www.ccs3.lanl.gov/mega-math/workbk/infinity/inhotel.html

there is also a redone version of the hotel california song which is hotel infinity...

cyrille

Re: Infinity

*Message #21 Posted by **Crawl** on 1 Oct 2010, 3:25 p.m.,*
in response to message #17 by Ron Ross

Plus, you may already know this, but primes are spaced fairly densely. They are dense enough that the sum of their reciprocals is infinite. That's not true for, say, the squares.

Re: Infinity

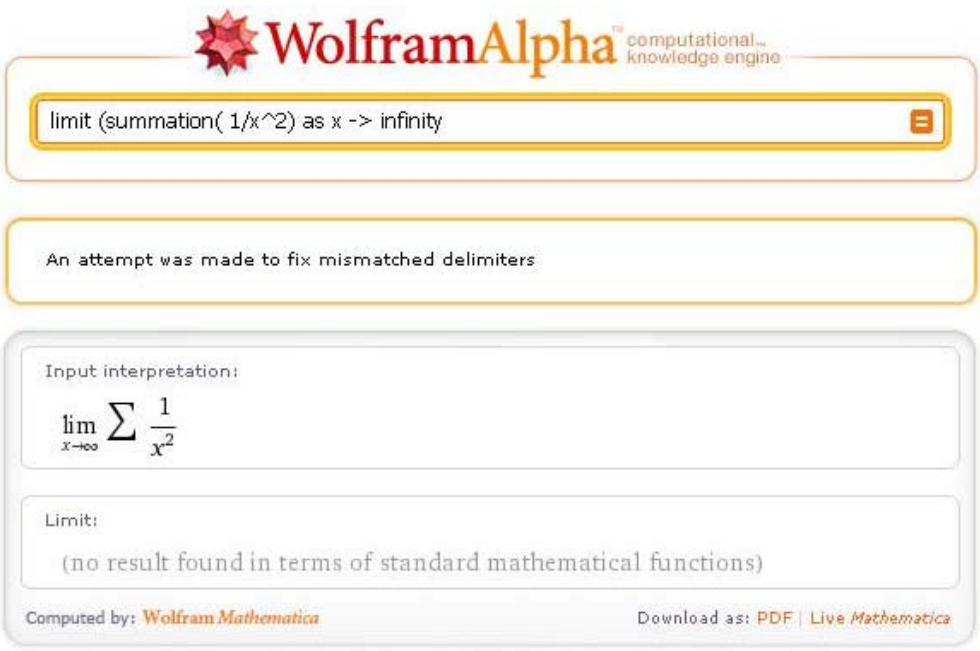
*Message #22 Posted by **bill platt** on 1 Oct 2010, 4:36 p.m.,*
in response to message #21 by Crawl

Can you explain why squares would not have an infinite sum?

Re: Infinity

*Message #23 Posted by **Norman Dziedzic** on 1 Oct 2010, 6:13 p.m.,*
in response to message #22 by bill platt

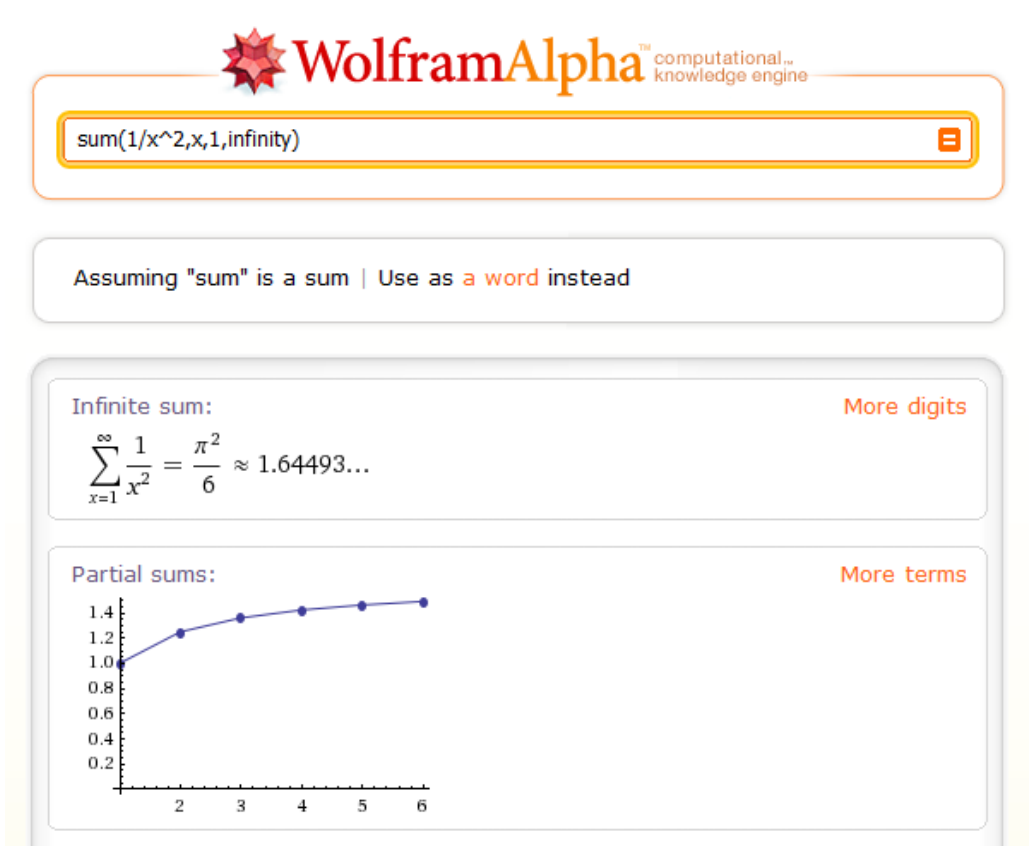
This is all I get:



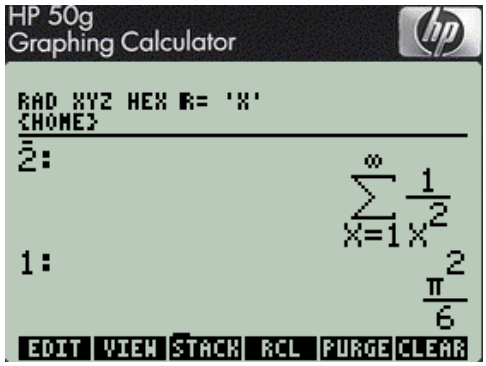
Re: Infinity

*Message #24 Posted by **Crawl** on 1 Oct 2010, 11:41 p.m.,*
in response to message #23 by Norman Dziedzic

This made it work.



Of course, it's better to do it with a calculator.



Re: Infinity

*Message #25 Posted by **Crawl** on 1 Oct 2010, 8:19 p.m.,*
in response to message #22 by bill platt

There are a lot of reasons.

By the integral test, the integral of 1/x^2, from 1 to infinity, is [-1/x], which equals 1. That is, it converges, so the integer sum must, too.

Also by comparison with the sum of the reciprocal triangle numbers. 1, 1+2, 1+2+3, etc. The triangle numbers are n(n+1)/2, which increases like n^2, so if one sum converges, so does the other.

2/(n(n+1)) = 2/n -2/(n+1)

This means

1/1 + 1/3 + 1/6 + 1/10 +...

=

2/1 - 2/2 + 2/2 - 2/3 + 2/3 - 2/4 + 2/4 - 2/5 + ...

This sum telescopes to

2/1 - 2/(n+1)

As n tends to infinity, the sum tends to 2.

In fact, the reciprocal squares are LESS than the reciprocal triangle numbers, so this proves that their sum must be less than 2.

Finally, Euler found the sum of reciprocal squares exactly. The sum is pi^2/6. The Hp50g has this result build in, btw. It's called the Basel problem if you'd like to know more. And, in fact, it was along this similar line of investigation that led Euler to prove that the sum of the reciprocal primes is infinite.

Edited: 1 Oct 2010, 8:23 p.m.

Re: Infinity

*Message #26 Posted by **bill platt** on 3 Oct 2010, 3:40 p.m.,*
in response to message #25 by Crawl

I misunderstood you. I thought you were saying that the sum of squares, not the sum of (inverse squares) was finite.

But nice explanation anyway!

Best regards,

Bill

Re: Infinity

*Message #27 Posted by **Crawl** on 3 Oct 2010, 5:09 p.m.,*
in response to message #26 by bill platt

Actually, Euler had argued about that, too! Example, you could argue that the sum of the powers of 2 is -1. He thought that if you took positive numbers until you "went past" infinity, you could end up back at negative numbers.

That sort of playing fast and loose with infinity is what led later mathematicians to try to treat the concept more rigorously.

In the case of the sum of the squares (not their reciprocals), you could use the analytic continuation of the Zeta function, at -2. In that case, the sum would merely be zero.

Edited: 3 Oct 2010, 5:12 p.m.

Re: Infinity

*Message #28 Posted by **Norman Dziedzic** on 29 Sept 2010, 1:33 p.m.,*
in response to message #1 by John Mosand

One of the neatest descriptions of infinity I have heard for the lay person came in a radio program covering teaching kids and how there are many different ways to learn and understand a topic. *(The following is my interpretation of the program I heard many years ago and hopefully conveys the essence of what I heard but, for sure, does not have the same details as the original story)*

Part of the story described a teacher asking her class to tell her what infinity was and to describe it. She was going for the standard answers that include some form or idea of forever or unbounded when one kid tells her that infinity is like a box of rice. She steered the child back toward her answer told him that while there are a lot of grains of rice in the box the number certainly isn't infinite and if we wanted to, we could certainly count them all.

After class the radio interviewer asks the child about his answer and finds out that the specific box the child was thinking of has a picture on it of a person holding that same box of rice; and, of course, the picture of the box had a picture of a person holding a box

of rice, etc. etc. This kid probably understood infinity better than any of his peers but because it wasn't what was expected in the context, it was not acknowledged as correct.

Re: Infinity

*Message #29 Posted by **Egan Ford** on 29 Sept 2010, 1:57 p.m.,*
in response to message #28 by Norman Dziedzic

> Quote:
>
> One of the neatest descriptions of infinity...

My favorite allows the user/student to actually *see* infinity.

Take any object (say a box of rice or a grain) and drop it. For the object reach the ground it must first travel half the distance. After traveling half the distance, it must half the remaining distance before reaching the ground, and so on an infinite number of times. The object only reaches the ground after an infinite number of half steps.

Re: Infinity

*Message #30 Posted by **Glenn Shields** on 29 Sept 2010, 10:26 p.m.,*
in response to message #29 by Egan Ford

That's a great visual of an infinite series, like the repeating decimal 0.999999... -- we must accept that this is equal to 1, just as is the sum (1/2 + 1/4 + 1/8 + ...) though we "know" it never gets there!!

Re: Infinity

*Message #31 Posted by **bill platt** on 30 Sept 2010, 12:45 a.m.,*
in response to message #29 by Egan Ford

My favorite version of that one involves a party where an engineer, a mathematician and a third person who poses a challenge about approaching Raquel Welch, standing across the room...

Re: Infinity

*Message #32 Posted by **Norman Dziedzic** on 30 Sept 2010, 7:12 a.m.,*
in response to message #31 by bill platt

I was looking for a link to that joke. The one I found had the Devil messing with the engineer and mathematician.

The other image I recall from my youth is the barber shop where my dad took me had mirrors on opposing walls and looking into one of those mirrors definately gave you a sense of infinity. I'm sure the barbers who stood there all day were used to it bit it always mesmerized me m

Re: Infinity

*Message #33 Posted by **Geir Isene** on 29 Sept 2010, 1:33 p.m.,*
in response to message #1 by John Mosand

My view on this in exploration-mode at this time. Good timing for the question, then :)

Infinity may just be a theoretical/mathematical construct with no basis in reality - if the universe is discrete in energy, space and time and it does not have infinite length in any dimension...

Re: Infinity

*Message #34 Posted by **Ed Sowell** on 29 Sept 2010, 1:59 p.m.,*
in response to message #1 by John Mosand

I have read two books on infinity recently. One is Naming Infinity: A True Story of Religious Mysticism & Mathematical Creativity By Loren Graham, science historian & Jean-Michel Kantor, French mathematician. Very interesting book. A brief excerpt from a review:

"There was a “crisis” in mathematics near the end of the 19th century. The problem was an old one, how to deal with infinity, since once it is considered many paradoxes develop. The crisis was when it became clear than if infinity could not be defined rationally then many other mathematical objects, i.e., sets, could not be defined. This brought the entire structure of mathematics itself into question."

The other is The Infinities by John Banville. It is not at all mathematical, but is one of the best books I've ever read, with every sentence carefully crafted to be beautiful. I couldn't do it justice here in a few words, but there is a review of it in the 2/24/2010 LA Times.

Ed

Edited: 29 Sept 2010, 2:03 p.m. after one or more responses were posted

Re: Infinity

*Message #35 Posted by **Egan Ford** on 29 Sept 2010, 2:01 p.m.,*
in response to message #34 by Ed Sowell

Ed, your formatting is making your lines approach *infinity* :-)

Oh, you fixed it. Not so funny now. :-(

Edited: 29 Sept 2010, 2:04 p.m.

Re: Infinity

*Message #36 Posted by **Ed Sowell** on 29 Sept 2010, 2:04 p.m.,*
in response to message #35 by Egan Ford

I've edited it now!

Re: Infinity

*Message #37 Posted by **Crawl** on 29 Sept 2010, 8:55 p.m.,*
in response to message #1 by John Mosand

I'm gonna go way off base here:

I'm not convinced that irrational numbers exist.

Someone who wanted to dispute that might say, "Oh, well, you must not understand the proof that the squareroot of 2 is irrational. Because it is very well established that that number is irrational, and therefore that irrational numbers exist."

But that's not true. There is a proof that there is no rational number that, when squared, gives 2. That does NOT prove that the squareroot of 2 is irrational. A third possibility is that there is NO number that equals the squareroot of 2 (if only rational numbers exist).

Of course, there are numbers that, when squared, are approximately 2. And they can get better and better as they get more decimal digits. As far as that is concerned, we might as well say the squareroot of 2 exists. Also, we can treat it formally -- eg., (x-sqrt(2))(x+sqrt(2))= x^2-2, whether or not sqrt(2) is a "number" or a symbol or whatever.

So, okay, we can ACT like irrational numbers exist. But do they really?

I saw a mathematician who worked on some sort of computer math (using a computer to find proofs, I think) who argued that irrational numbers don't exist from a completely different point of view: It could be possible to make some "ultimate computer" for this universe, by using every single particle in the universe to make it. This computer can only work with so many finite digits. It might be enormous, but there is a limit. Maybe you can calculate 5 trillion digits of pi, maybe you can calculate a trillion trillion digits of pi, but you might not be able to calculate a trillion trillion trillion trillion digits.

(Yes, there are formulas to calculate digits of pi without calculating preceding digits. But this ultimate computer presumably has a memory limit, so to calculate more digits would require dropping others. So even if you could calculate the trillion trillion trillion trillion trillionth + 1 digit, you might not be able to hold all those digits *simultaneously*)

If you can't know all those digits at once, is it meaningful that they "exist" in some philosophical sense?

You can actually use those infinite cardinal numbers in proofs. It's possible to show the cardinality of rational numbers is less than the cardinality of real numbers, hence irrational numbers exist. Or that the cardinality of algebraic numbers is less than the cardinality of real numbers, hence transcendental numbers exist.

Well, this isn't a way out of the above paradoxes. It just links the concept of infinite cardinal numbers to the concept of irrational numbers. We can ACT like infinite cardinal numbers exist, just like we can ACT like irrational numbers can exist. And if you think that one exists, you probably should think that the other exists, too. But infinite cardinal numbers are probably even less intuitive than irrational numbers, so I don't think looking at this issue from the former perspective have any persuasive power for the latter perspective.

Re: Infinity

*Message #38 Posted by **Martin Pinckney** on 29 Sept 2010, 10:00 p.m.,*
in response to message #37 by Crawl

Smaller and larger infinities? One-to-one mapping? You guys are all nuts. Excepting Don Shepherd's and Bill Platt's posts*.

Glad I'm a cimple engineer.

*OK, I'll throw in Egan Ford's box of rice.

[Edited to add footnote]

Edited: 29 Sept 2010, 10:03 p.m.

Re: Infinity

*Message #39 Posted by **Michael Meyer** on 30 Sept 2010, 1:13 a.m.,*
in response to message #38 by Martin Pinckney

I don't think human beings can comprehend infinite, and possible even finite existance. Let's say that the universe is finite. It ends. To our minds, something must exist beyhond that sudden end. If it's a wall, something is on the other side of the wall. There can't be just "nothing", because that nothing has to exist. The nothing is something. To me this is perhaps harder to understand than an infinite universe that never ends. But, still, how can it go on forever? (Simple concepts, avoiding curves in space-time) Numbers don't end: they're not finite. There can be a finite number on an infinite background, but they don't really "end".

As a psychiatrist, we have similar problems with our own existance. When people commit suicide, they generally are trying to "escape" what is perceived as an inescapable situation of unhappiness or suffering. But because they don't escapte "to" something, or in that sense, "from" something, they end up simply not existing, which goes against the initial intent. They don't preserve any sense of "they". Humans have a difficult time with the concept of mortality... I would argue that it is the hardest thing we have to deal with in our lives, our own mortality, but I believe worse than that, the mortality of the people around us. I believe, and this is supported by verses in the Judeo-Christian Bible, that if people didn't die, we'd have no religions anyway. The central and primary purpose of religion is to try to cope with mortality.

Long-winded way to say that if we understood these concepts mathematically, we might even provide religion some answers they've been looking for (those whose religions allow them to look.)

Re: Infinity

*Message #40 Posted by **Angel Martin** on 30 Sept 2010, 2:07 a.m.,*
in response to message #39 by Michael Meyer

fascinating wanderings this thread is taking - so glad about that, makes me feel there's still a certain hope - even if small - to get to understand things, even those so elusive as these.

Sometimes we're trapped in our own definitions, too rigid to allow a simple understanding. It's ok to be rigurous as long as you know when that's not required. Infinity (and non-existence) are perhaps two of those, notwithstanding their mathematical treatment.

Re: Infinity

*Message #41 Posted by **Katie Wasserman** on 30 Sept 2010, 2:25 a.m.,*
in response to message #39 by Michael Meyer

Michael,

This is getting "infinitely" off topic but....

I almost completely agree with what you said about the the basis for religion except that I think that the need for religion is more fundamentally weaved into human brain structure. I'd say (and I'm not the only one) that it's a lot like music, which serves no obvious purpose (some may argue with this) except that virtually all cultures embrace some form of it and most individuals enjoy at least some of it. Without death I think that humans would still have religion, but it wouldn't be taken so seriously -- it might be even more like music.

Georg Cantor's work on infinite sets was indeed threatening to religious leaders at the time. They no doubt saw that understanding infinity took away some of the need for what they preached. Maybe if everyone in the world studied his work and later theories (like Gödel's) we'd have less intense religions, fewer wars, a more sustainable human population on the planet and probably a lot of smart people too!

-Katie

OT: Infinity

*Message #42 Posted by **Martin Pinckney** on 30 Sept 2010, 2:08 p.m.,*
in response to message #41 by Katie Wasserman

> Quote:
>
> The central and primary purpose of religion is to try to cope with mortality.
>
> Quote:
>
> I almost completely agree with what you said about the the basis for religion... Without death I think that humans would still have religion, but it wouldn't be taken so seriously -- it might be even more like music.

This is only true if you ignore the concept of revelation, both experiential and historical, which actually form the primary bases for both Judaism and Christianity.

> Quote:
>
> ...except that I think that the need for religion is more fundamentally weaved into human brain structure. I'd say (and I'm not the only one) that it's a lot like music, which serves no obvious purpose (some may argue with this) except that virtually all cultures embrace some form of it and most individuals enjoy at least some of it.

As a Christian, I believe this imprint in the brain structure is part of what is meant by "in the image of God He created him." [Genesis 1:27]

Re: Infinity

*Message #43 Posted by **Ken Shaw** on 30 Sept 2010, 10:23 a.m.,*
in response to message #37 by Crawl

But what if natural numbers don't exist either?

Show me two identical objects and I'll argue that they are distinct. In that case, what is the meaning of any natural number? It's just an abstraction we make up in order to validate the abstract process of counting.

So the argument of the "existence" or not of numbers, rational or otherwise, seems to me to be semantic.

Re: Infinity

*Message #44 Posted by **Crawl** on 1 Oct 2010, 10:33 a.m.,*
in response to message #43 by Ken Shaw

Maybe I do believe in irrational numbers. I was thinking, the proof that the square root of 2 cannot be rational isn't enough,

because...

> Quote:
>
> Of the three ways in which men think that they acquire knowledge of things—authority, reasoning, and experience—only the last is effective and able to bring peace to the intellect. -Roger Bacon

Now I guess I'm not believing in "rigor".

But can you test that the square root of 2 is irrational, experimentally? Yes -- by checking that the decimal digits don't repeat.

Someone is bound to chime in here, You can NOT test that they NEVER repeat. Yeah, so what? You can test for thirty, a hundred, a million places.

If someone proved pi was irrational, but we calculated it out as

3.14159266666666666666666666....

with 6's out to a billion places and more, I think we should be quite skeptical of the proof, no matter how well reasoned and rigorous it seems. (unless someone was able to then prove why it should be so nearly rational -- example, sum 7 here agrees with pi to over 400 places, but there is a good reason for that (the sum is related to an approximation to the error function integral)

Edited: 1 Oct 2010, 10:35 a.m.

Re: Infinity

*Message #45 Posted by **Crawl** on 3 Oct 2010, 5:00 p.m.,*
in response to message #43 by Ken Shaw

> Quote:
>
> But what if natural numbers don't exist either?
>
> Show me two identical objects and I'll argue that they are distinct. In that case, what is the meaning of any natural number? It's just an abstraction we make up in order to validate the abstract process of counting.
>
> So the argument of the "existence" or not of numbers, rational or otherwise, seems to me to be semantic.

I'm not so sure what to say to this! It's a mind bender. But natural numbers sure seem to exist, don't they? They do to me, anyway. They don't even seem to be abstract. Like, if I think of 2, I'm not necessarily thinking of 2 apples or two rocks or any other set of things.

But maybe it's just because I've used them for so long that I'm used to that conceptual model.

It does occur to me that, supposedly, all electrons (for example) are literally indistinguishable. If they are not, that could have actual physical consequences, in terms of particle statistics

On the other hand, 4-year-old children don't learn to count by counting electrons.

Re: Infinity

*Message #46 Posted by **Ken Shaw** on 4 Oct 2010, 11:34 a.m.,*
in response to message #45 by Crawl

Subatomic particles may be indistinguishable, which destroys my argument, but I don't know if that can be proven beyond doubt. So much of this "knowledge" depends on mathematics, which is an abstraction. The real world, as others have mentioned, doesn't conform well to math (ie, the apparent quantum nature of space, and even of time, another concept which may not really exist), although these theories are also derived mathematically.

Ok, my head is hurting now.

Re: Infinity

*Message #47 Posted by **Walter B** on 4 Oct 2010, 12:51 p.m.,*
in response to message #46 by Ken Shaw

Subatomic particles, e.g. electrons, *are* indistinguishable. This fact has a lot of nice observable consequences going pretty far in particle physics, and can be explained best by mathematical (here: quantum mechanical) models. Nature as a whole conforms rather well to mathematics, being no wonder, since mathematics was developed to describe nature ("máthema" = ancient Greek for "science, learning", so "mathemátikos" = "concerning science, scientific"; "phýsis" = ancient Greek for "nature", "physikós" = natural).

The honourable members of this forum, being technical people in their majority, focus on the shortcomings this model has in particular applications. This is quite reasonable (= "logikós") and will drive further progress in modeling.

But it's nothing new: As for each and every model you have to know and consider its limitations. So far, however, this model describes the laws of nature pretty well over 40 orders of magnitude. So I would keep it until somebody shows me something better d8-)

Edited for error correction.

Edited: 5 Oct 2010, 2:24 a.m.

Re: Infinity

*Message #48 Posted by **Marcus von Cube, Germany** on 1 Oct 2010, 3:28 a.m.,*
in response to message #37 by Crawl

Crawl, I disagree. You're comparing a mathematical concept (that of continuity) with the real world. In the real world, continuity doesn't exist. Each and everything can be broken down to smaller entities only a finite number of times until you get to a smallest entity which cannot be divided any further.* So the real world is finite in every respect.

Writing down an irrational number with decimal digits is nothing more then a rational approximation. We can write down the number that, when squared, gives 2, only in a formal way, e.g. as sqrt(2). Or the ratio between the diameter and circumsphere of a perfect circle as PI. In the real world, there is no such thing as a perfect circle.

* This might not be true for Time, but that's a totally different story.

Edited: 1 Oct 2010, 3:29 a.m.

Re: Infinity

*Message #49 Posted by **Martin Pinckney** on 1 Oct 2010, 10:16 a.m.,*
in response to message #48 by Marcus von Cube, Germany

> Quote:
>
> Each and everything can be broken down to smaller entities only a finite number of times until you get to a smallest entity which cannot be divided any further.

Historically we have discovered:

Particles visible to the naked eye
Particles visible under a microscope
Molecules
Atoms
Protons, neutrons, and electrons
Various sub-atomic particles
Other hypothetical particles have been postulated

So how can we be so sure the discoveries won't go on and on?

Re: Infinity

*Message #50 Posted by **Marcus von Cube, Germany** on 1 Oct 2010, 10:48 a.m.,*
in response to message #49 by Martin Pinckney

We know, that there is a smallest distance, the Plank Distance. And even if we find our way down the particle path, we will always end up in rational space because a given particle is divided into a finite number of subparticles. Energy can't be divided, either, to arbitrary levels, it's all discrete and not continuous.

Re: Infinity

*Message #51 Posted by **Crawl** on 1 Oct 2010, 10:49 a.m.,*
in response to message #48 by Marcus von Cube, Germany

I'm obviously playing Devil's Advocate here, so there's no need to try to prove me wrong. But I think you're misunderstanding my argument. (there are two arguments anyway)

The argument at no point compares the square root of 2 or pi to anything in the real world -- the length of a line drawn with a pencil, or an interval of time measured with a stop watch. It only has to do with calculating the digits. Calculating the digits is independent of any real world application.

And there are many ways of calculating those digits. Bracketing the solution of x^2=2, starting with 0 and 2 as the initial end points. Using the binomial expansion, 1+1/2-1/8+1/16-5/128+.... Taking the log with the series 1-1/2+1/3-..., dividing by 2, and exponentiating with e^x=1+x+2^2/2+.... There is a digit by digit method that is similar to long division.

There are probably many, many more. It turns out that ALL of those calculations will give the exact digits, now matter how far you go. How do we know that they do?

There are two ways to know: You can actually do the calculation yourself, and see that the digits are all the same.

Or you can have faith that since they represent the same real thing, they must be equal in all ways. Can you imagine if they did NOT give the same result? I'm not saying that I seriously think something like that could ever happen, I'm just asking that you try to imagine it.

However, at some point, you cannot calculate more digits. At that point, all that's left is faith.

Re: Infinity

*Message #52 Posted by **Marcus von Cube, Germany** on 1 Oct 2010, 10:56 a.m.,*
in response to message #51 by Crawl

> Quote:
>
> However, at some point, you cannot calculate more digits. At that point, all that's left is faith.

I do have faith, at least in logic. ;)

The point is that a human brain cannot "begreifen"* an abstract concept without resorting to some real world analogy. It's astonishing how far mankind has got with such a limited resource. ;)

* German for "understand". Means "put your hands on" something as Walter has already pointed out.

Re: Infinity

*Message #53 Posted by **Ángel Martin** on 1 Oct 2010, 11:20 a.m.,*
in response to message #52 by Marcus von Cube, Germany

> Quote:
>
> The point is that a human brain cannot "begreifen"* an abstract concept without resorting to some real world analogy

There must be something wrong with my brain then, as I can "comprehend" the concept of infinity with no fundamental jitters to my existencial experience.

Seriously, why does it have to be "experienced" to be understood??

Re: Infinity

*Message #54 Posted by **Marcus von Cube, Germany** on 2 Oct 2010, 11:25 a.m.,*
in response to message #53 by Ángel Martin

> Quote:
>
> Seriously, why does it have to be "experienced" to be understood??

It's a question of what you mean with "understand". As a mathematician, I've learned to just follow the rules of logic and apply them to some proven theorems and/or axioms to get to a new level of information. An entity like infinity or zero is just an object with given properties to which a set of rules applies. No need to have a "higher" understanding of its concept. If you ask a math guy "Where is infinity" he'll ask you back "How is 'where?' defined?".

On the other hand, math has its origins in the real world (astronomy, geography, physics). So its not a surprise that we try to apply mathematical concepts to the real world. This must fail for some of them, as infinity or continuity.

Re: Infinity

*Message #55 Posted by **David Hayden** on 3 Oct 2010, 10:33 a.m.,*
in response to message #51 by Crawl

> Quote:
>
> I'm obviously playing Devil's Advocate here, so there's no need to try to prove me wrong. But I think you're misunderstanding my argument. (there are two arguments anyway)
>
> [...]
>
> However, at some point, you cannot calculate more digits. At that point, all that's left is faith.

You are confusing two concepts (1) does the sqrt(2) EXIST and (2) can it be CALCULATED. If you accept that the real numbers are continuous then the regular proof that sqrt(2) is irrational will show that the number exists. You're argument is essentially "irrational numbers can't be computed, therefore they do not exist."

So it comes down to whether we are dealing with reality or the abstract model of mathematics - "faith" as you put it.

Dave

Re: Infinity

*Message #56 Posted by **Crawl** on 3 Oct 2010, 4:48 p.m.,*
in response to message #55 by David Hayden

It depends on what you mean by continuous. For any two rational numbers, an infinite number of rational numbers exist between them. That's true whether or not irrational numbers exist*.

Now, maybe what you're talking about are Dedekind cuts. If irrational numbers don't exist, it is possible to divide the real number line into two pieces such that the both the upper and lower piece are both open on both ends. I'm not sure why that should be something we can't accept (I believe the common assumption, that it is always possible to have one set be closed, is accepted merely as an axiom, not something that can be proved). Dedekind cuts were intended, I think, to give some grounding to irrational numbers (and without necessarily relying on a sequence of infinite (rational) operations), which were presumed to exist. If we don't presume they exist, we don't need to accept it.

*-And if we're thinking about the ultimate computer issue, maybe real numbers are not continuous. A real ultimate computer could handle who knows how many digits, but to make things easy let's say it can only handle 4. So there's 1.414 and 1.415, but nothing in between. Then 1.414^2=1.999, and 1.415^2=2.002, and there literally is no number between them that could possibly be the square root of 2.000 (or, for that matter, of 2.001).

Edited: 3 Oct 2010, 4:51 p.m.

Re: Infinity

*Message #57 Posted by **Crawl** on 3 Oct 2010, 5:18 p.m.,*
in response to message #55 by David Hayden

> Quote:
>
> You are confusing two concepts (1) does the sqrt(2) EXIST and (2) can it be CALCULATED.

Also, I'm not necessarily confusing those concepts. There have been historically people who have argued that something does not exist if it cannot be constructed. It is a minority view, granted, but I don't think it's something that can be said to have actually been disproved.

Re: Infinity

*Message #58 Posted by **Eric Smith** on 5 Oct 2010, 1:43 a.m.,*
in response to message #57 by Crawl

But the square root of two can be constructed very easily. Draw two line segments of unit length that are perpendicular and share an endpoint. Now draw a third line segment connecting the other endpoints of the first two. The length of this third line segment is exactly the square root of two.

Measuring it exactly is another matter.

Re: Infinity

*Message #59 Posted by **Crawl** on 5 Oct 2010, 9:28 a.m.,*
in response to message #58 by Eric Smith

I said before I was kind of playing Devil's Advocate and just wanted to see how far this argument can be taken. But it can be taken some interesting places.

Even if I concede that irrational numbers exist, do I have to concede that non-Computable numbers exist? I don't think I have to. And that relates back to the original topic of the thread. The only thing that makes real numbers have the cardinality of the continuum is noncomputable numbers. Even computable transcendental numbers have cardinality aleph-null. So it seems that it is possible to reject noncomputable numbers and the theory of transfinite numbers, since they are interrelated like that.

Re: Infinity

*Message #60 Posted by **Eric Smith** on 5 Oct 2010, 1:52 a.m.,*
in response to message #37 by Crawl

If you can't know all those digits at once, is it meaningful that they "exist" in some philosophical sense?

Of course they "exist" in a mathematical sense. Even if you can't compute all of them and store them in memory all at once, you can, on demand, compute any digit of it that you like. If I ask you today to compute the 10^100th digit of pi, and then ask you to do the same thing again at some arbitrary point in the future, you will get the same result, assuming that you don't make a mistake in the calculation. There is a single, unique value for pi. If that value didn't "exist", you wouldn't be able to reproduce it on demand.

If you're going to argue that pi or sqrt(2) don't exist, why shouldn't the same argument apply to 1/7? The fact that a place-value expansion of a rational number falls into a repeating sequence doesn't make it any more or less reproducible than pi or sqrt(2).

Edited: 5 Oct 2010, 1:54 a.m.

Re: Infinity

*Message #61 Posted by **Crawl** on 7 Oct 2010, 2:59 p.m.,*
in response to message #60 by Eric Smith

I don't agree that the rational decimal expansion case is equivalent to the irrational case. It takes very few bytes of data to

store all the decimal digits of 1/9. A rule like

Nth decimal digit of 1/9 = 1

suffices.

If you were skeptical that that worked, you could use long division (which does not require storing previous digits) and calculate each digit, even past the limit of digits your computer can store, and verify them. Even though you dropped early digits to calculate more, you can still use the general rule to get them.

The only way to store all the decimal digits of pi is to *actually* store them, so when you run out of space, you can't check more. If your computer's limit is 100^100 digits, and you want to calculate the 100^100+1, maybe you can by dropping the first digit. But since the only way you know the digits to pi is by storing them, now that you dropped the first digit, until you recalculate it, no one in the entire universe knows that pi~3.

(Remember, this is the ULTIMATE computer. You can't write pi~3 on a scrap of paper, because the material of that paper would have been better utilized in the computer. Likewise, a human can't just memorize it -- at best, the digits a human can remember would count towards the limit of the computer)

Re: Infinity

*Message #62 Posted by **Eric Smith** on 8 Oct 2010, 2:10 a.m.,*
in response to message #61 by Crawl

> Quote:
>
> The only way to store all the decimal digits of pi is to *actually* store them,

I strongly disagree. A program that can produce the n'th digit of pi on demand is externally indistinguishable from a program that produces the n'th digit from storage. It's just a form of data compression; from an information-theoretic point of view there is no difference between compressing pi into a short algorithm or compressing your shopping list into a self-extracting ZIP file, except that your shopping list is presumably of finite length. This also means that the actual information content of pi is very small.

Re: Infinity

*Message #63 Posted by **Crawl** on 8 Oct 2010, 7:10 a.m.,*
in response to message #62 by Eric Smith

Okay, if it is trivial to produce the 100^100+1 digit of pi on demand, then what is it?

I happen to know that the 100^100+1 digit of 1/9 is 1.

Re: Infinity

*Message #64 Posted by **Paul Dale** on 8 Oct 2010, 7:18 a.m.,*
in response to message #63 by Crawl

But what is the 100^100+1th digit of 9/9?

- Pauli

Re: Infinity

*Message #65 Posted by **Walter B** on 8 Oct 2010, 8:27 a.m.,*
in response to message #64 by Paul Dale

That's a good one d8-)

@Crawl:

> Quote:
>
> Okay, if it is trivial to produce the 100^100+1 digit of pi on demand, then what is it?

If I got it right then Eric didn't claim this being trivial, but more compact than storing all the digits of pi. OTOH you need *very* few bytes for storing 1/9 as decimal number. Way back they taught us to use a "period bar" for such numbers, e.g. "zero point period one" for 0.111...

Re: Infinity

*Message #66 Posted by **Crawl** on 8 Oct 2010, 12:19 p.m.,*
in response to message #65 by Walter B

I guess he's trying to get around the limited storage of the ultimate computer, but that doesn't work, because it also has some finite calculation speed. How many digits of pi can be calculated before the heat death of the universe?

Re: Infinity

*Message #67 Posted by **Walter B** on 8 Oct 2010, 12:37 p.m.,*
in response to message #66 by Crawl

Please check this thread for the relevance of this.

Re: Infinity

*Message #68 Posted by **Crawl** on 8 Oct 2010, 1:46 p.m.,*
in response to message #67 by Walter B

I guess this quote is the relevant one (at least it seems to be most relevant to what I was saying)

> Quote:
>
> BBP algorithms have been proven mathematical correct. They can be used to find specific Pi digits without the overhead of computing all digits.
>
> The record holders used BBP to validate some digits, but not all (it'd take far too long). It's reasonable to assume that if you got the last 100 or so correct then the path to get there must also be correct. Got faith? :-)
>
> I'm sure there is a computable probability that there is a wrong digit somewhere. However, the percentage of people that care round to zero.

Re: Infinity

*Message #69 Posted by **Walter B** on 8 Oct 2010, 3:51 p.m.,*
in response to message #68 by Crawl

:) The most relevant part IMHO was that some 42 digits of pi are sufficient for all real world problems in this very universe. Everything else is just l'art pour l'art.

FWIW

Edited: 8 Oct 2010, 3:53 p.m.

Re: Infinity

*Message #70 Posted by **Eric Smith** on 8 Oct 2010, 3:43 p.m.,*
in response to message #63 by Crawl

I didn't say it could be done quickly. In terms of information theory, though, it is equivalent, and thus pi has only very slightly more information content than 1/9.

We're straying from my point, which was that one can't credibly claim that irrational numbers don't exist just because one can't write down an exact decimal expansion of one on a finite piece of paper, or store that decimal expansion in a finite amount of computer memory.

Re: Infinity

*Message #71 Posted by **Kiyoshi Akima** on 8 Oct 2010, 4:08 p.m.,*
in response to message #61 by Crawl

> Quote:
>
> The only way to store all the decimal digits of pi is to *actually* store them, so when you run out of space, you can't check more. If your computer's limit is 100^100 digits, and you want to calculate the 100^100+1, maybe you can by dropping the first digit. But since the only way you know the digits to pi is by storing them, now that you dropped the first digit, until you recalculate it, no one in the entire universe knows that pi~3.

Doesn't this argument also knock out a bunch of rational numbers? What about 1/N, where N is an integer with 100^100+1 decimal digits?

Heck, what about an integer with 100^100+1 digits? Does that number exist?

Re: Infinity

*Message #72 Posted by **Walter B** on 8 Oct 2010, 4:55 p.m.,*
in response to message #71 by Kiyoshi Akima

> Quote:
>
> Heck, what about an integer with 100^100+1 digits? Does that number exist?

For sure. It's equal to 1E200+1 ... d:-)

Re: Infinity

*Message #73 Posted by **DeboT** on 11 Oct 2010, 11:44 a.m.,*
in response to message #37 by Crawl

Do numbers exist? Are they tangible, are they reality? Are they real? They represent a count of tangible (real) objects, but are they real in themselves?

Similarly words only represent real objects. The word "tree" is not real, but the tree itself is.

The word "infinity" is not real, but infinity itself is.

Have we been so conditioned by a world focussed on finite things, that it's become difficult for us to fathom infinity? Because we are so used to things having a beginning and end, we find it difficult to imagine an infinite space. We want to start measuring here and end measuring it there. That's why we have difficulty understanding an infinite being -God- who declared his infiniteness by the words that say an infinite amount: "I AM".

If only we grew up with infinity as a natural part of life, we might understand it more, & be more comfortable with it.

Re: Infinity

*Message #74 Posted by **Xavier A. (Brazil)** on 16 Oct 2010, 12:19 p.m.,*
in response to message #73 by DeboT

Your word reaches the duality language/consciousness.

Is human being's spirit able to make concepts without any language?

In my humble opinion, there is no way to do so.

Then, infinity exists in language, and thereafter/therefore in our minds. But the fact 'reality' is over our ability for us to reach it, totally.

Infinity is perhaps, so, the word used to mask our inability.

Re: Infinity

*Message #75 Posted by **Martin Pinckney** on 16 Oct 2010, 1:37 p.m.,*
in response to message #74 by Xavier A. (Brazil)

Agree.

Re: Infinity

*Message #76 Posted by **George Bailey (Bedford Falls)** on 30 Sept 2010, 8:13 a.m.,*
in response to message #1 by John Mosand

My concept of 'infinity' is the same as the one I have of 'time' before the big bang or 'space' outside the universe: none! I think it is impossible for human brains (or any brains for that matter) to understand either.

Religion is a means to explain things people don't understand (yet), death being only one of them. I favor finding a scientific explanation, go on searching for a scientific explanation, while simply accepting it's not yet found or coming to terms with the fact that an explanation can not be given, as it is the case with 'infinity', 'time' before the big bang, 'space' outside the universe or the 'meaning of life'

Re: Infinity

*Message #77 Posted by **Walter B** on 30 Sept 2010, 8:53 a.m.,*
in response to message #76 by George Bailey (Bedford Falls)

Mathematics and physics are full of mind-boggling models being hard to understand for our simple brains. In German, one word translating "understanding" is "begreifen" - meaning you can *touch it with your hands*. So, ideas or concepts like infinity (or QED or curved space or dimensions > 3 etc.) are non-understandable per definition. This may save us some fruitless discussions - so far I don't know another language providing a similar term, but that's most probably due to my 1/inf knowledge, sorry folks ;)

Death is another topic: you can "understand" it easily in the sense explained above, but a large fraction of mankind refuses to accept it as the final limit of a person. Must have a psycho-logical (i.e. not logical, irrational) reason.

Back to topic: Of all simple models for the idea of infinity, I like the one based on two parallel mirrors best - it's pricipally the same as the rice box, BTW. The one with the falling object is just cheating people "knowing" the concept of infinity already - the same is well known as the race of Achilles vs. a turtle ;)

Re: Infinity

*Message #78 Posted by **Ángel Martin** on 30 Sept 2010, 11:19 a.m.,*
in response to message #77 by Walter B

Language (specially literal ones like the German example you provide) is the biggest hindrance to understading infinity. Abstraction is required, therefore math!

Re: Infinity

*Message #79 Posted by **George Bailey (Bedford Falls)** on 1 Oct 2010, 10:33 a.m.,*
in response to message #78 by Ángel Martin

> Quote:
>
> Of all simple models for the idea of infinity, I like the one based on two parallel mirrors best

I always liked playing with parallel mirrors and looking into them, but it's only a good model in theory with ideal mirrors. In reality you always look in the mirrors under a certain angle so that the tunnel of reflections curves away from you - you're not able to actually 'see' infinity which is inevitably behind the curve. The image you see also turns gradually darker, thereby obstructing your view on infinity in a second way.

> Quote:
>
> Abstraction is required, therefore math!

The mathematical definition and abstraction of infinity is something entirely different from 'having a concept of' or 'understanding' infinity - it's the exact opposite! Being able to define something and work with it doesn't mean anyone understands it.

Re: Infinity

*Message #80 Posted by **Walter B** on 1 Oct 2010, 11:15 a.m.,*
in response to message #79 by George Bailey (Bedford Falls)

> Quote:
>
> In reality you always look in the mirrors under a certain angle so that the tunnel of reflections curves away from you - you're not able to actually 'see' infinity which is inevitably behind the curve.

Things they are a'changing ;) even reality does ;))
You may either drill a keyhole in the center of one mirror or place a little webcam there. Enjoy!

Re: Infinity

*Message #81 Posted by **George Bailey (Bedford Falls)** on 2 Oct 2010, 3:39 a.m.,*
in response to message #80 by Walter B

> Quote:
>
> Things they are a'changing ;) even reality does ;))
> You may either drill a keyhole in the center of one mirror or place a little webcam there. Enjoy!

Won't work! The webcam can see its own reflection but there it stops because the webcam's sensor or lens does not reflect the reflected image back.

If you argue one could put a semipermeable mirror in front of the cam the reflected image gets darker and darker and fades away very soon. Again, in theory this would go on and on, in reality you can not see infinity.

Re: Infinity

*Message #82 Posted by **Walter B** on 2 Oct 2010, 4:16 a.m.,*
in response to message #81 by George Bailey (Bedford Falls)

George,

> Quote:
>
> > Quote:
> >
> > You may **either** drill a keyhole in the center of one mirror **or** place a little webcam there.
>
> Won't work! The webcam can see its own reflection but there it stops because the webcam's sensor or lens does not reflect the reflected image back.

OK, I solemnly withdraw the webcam, though not completely convinced because I thought of some wide angle lens there. Anyway, how about the first suggestion?

Re: Infinity

*Message #83 Posted by **George Bailey (Bedford Falls)** on 2 Oct 2010, 10:43 p.m.,*
in response to message #82 by Walter B

> Quote:
>
> George,

> OK, I solemnly withdraw the webcam, though not completely convinced because I thought of some wide angle lens there. Anyway, how about the first suggestion?

Are you trying to have fun with me? For being reflected on its own path, the light beam has to be perpendicular to the mirror. It's not a question of a wide lens, the reflection will always have to happen exactly in the middle at the position where the eye, the sensor or whatever is, in order to stay on this path to infinity. In reality, the eye/sensor will therefor inevitably break the infinite reflection path. The barber shop mirror game only works because you look from slightly off center, you always see a tunnel that curves away from the ideal straight line.

Re: Infinity

*Message #84 Posted by **Donald Williams** on 2 Oct 2010, 11:27 p.m.,*
in response to message #83 by George Bailey (Bedford Falls)

See Douglas Hofstadter's book "I am a Strange Loop" chapter 5 "On video feedback". He describes the phenomenon he observed when he used a video camera taking a picture of the television it was connected to. In other words the video is a closed feedback loop. Focusing on the center of the television screen is not very interesting. When the camera is focused more towards the frame (his television had a metal strip along the edge) of the television he was able to create both finite and infinite "corridors". The angle of the video camera was critical when the image shifted from finite to infinite.

It sounds quite interesting but I have not tried it myself yet.

Re: Infinity

*Message #85 Posted by **Katie Wasserman** on 3 Oct 2010, 12:11 p.m.,*
in response to message #84 by Donald Williams

> Quote:
>
> It sounds quite interesting but I have not tried it myself yet.

I used to teach video back in the days of B&W cameras and monitors and Panasonic Portapacks. And I used to show my students video feedback as one of the first things, it was a lot of fun.

Also, back in the day, I came up with a way to do this all inside of a computer, no camera needed: Write a bit of very fast code that takes an area of memory and displays that on a monitor bit-by-bit or character-by character treating memory in the same arrangement as the screen, say 25x80 characters. Now write some more code that allows you to change the starting location of this mapping so that you can sort of "walk around" in memory and see where you're walking on the screen. Walk into the area being mapped and you've essentially got video feedback. It's looks and acts just like the real thing.

I wrote this for several early PC's. You had to write this in machine language because the goal was to get this all done within the time between screen refreshes. That usually limited the amount of memory you could map so you couldn't use the whole monitor but that was just as well, as this was just a window into memory anyway.

Re: Infinity

*Message #86 Posted by **Donald Williams** on 3 Oct 2010, 1:38 p.m.,*
in response to message #85 by Katie Wasserman

Very clever implementation of the same concept. I haven't done machine code in the last 20 years,so it would be quite a challenge for me personally, but it will go on my never ending to-do list.

Re: Infinity

*Message #87 Posted by **Dave Shaffer (Arizona)** on 3 Oct 2010, 3:33 p.m.,*

in response to message #84 by Donald Williams

If you try this (it is trivial - just connect your video cam to your TV set and aim the camera at the TV screen - relatively straight on), after you watch the first "zoom" to infinity (that's the impression I get), ROTATE the camera (one part-turn twist) - you will then see a spiral to infinity. Keep rotating, playing with the amount of rotation - it's almost addictive.

Re: Infinity

*Message #88 Posted by **George Bailey (Bedford Falls)** on 4 Oct 2010, 2:31 a.m.,*
in response to message #84 by Donald Williams

The video loop overcomes the problem of the non-reflecting eye in the center, a straight tunnel to infinity is possible with this. Also could one adjust the amplification of the looped signal for it not to get darker and darker with every step. But a third problem keeps us from actually seeing infinity: after every loop, the image has to be at least one pixel smaller than the one before or the effect would actually not be visible. And those one-pixel-steps are finite on a real world monitor. Again, this tunnel of reflections is a nice way in theory, but fails in reality to make 'infinity' visible.

Re: Infinity

*Message #89 Posted by **Donald Williams** on 4 Oct 2010, 9:43 a.m.,*
in response to message #88 by George Bailey (Bedford Falls)

IMHO, for pure entertainment, zooming into the Mandelbrot set, is the best experience that can elicit the concept of infinity.

Re: Infinity

*Message #90 Posted by **Walter B** on 3 Oct 2010, 4:43 a.m.,*
in response to message #83 by George Bailey (Bedford Falls)

> Quote:
>
> Are you trying to have fun with me?

Not at all, George d:-| I wanted to offer you a personal view as perpendicular as possible. So other effects will darken your picture earlier than the edge of the mirror. But Don's method may be another way to get it, though more high tech d:-)

Re: Infinity

*Message #91 Posted by **Egan Ford** on 1 Oct 2010, 12:51 p.m.,*
in response to message #79 by George Bailey (Bedford Falls)

> Quote:
>
> Being able to define something and work with it doesn't mean anyone understands it.

True, but that is how it starts. IMHO, the study of anything complex starts with learning what it *does* and not what it *is*. Eventually after *doing* you may (if you are lucky) achieve an understanding (or what it *is*). Next, you write it down, and win some type of prize.

Re: Infinity

*Message #92 Posted by **Martin Pinckney** on 1 Oct 2010, 1:41 p.m.,*
in response to message #91 by Egan Ford

> Quote:
>
> Next, you write it down, and win some type of prize.

Laugh Out Loud!

Re: Infinity

*Message #93 Posted by **George Bailey (Bedford Falls)** on 2 Oct 2010, 10:54 p.m.,*
in response to message #91 by Egan Ford

> Quote:
>
> True, but that is how it starts. IMHO, the study of anything complex starts with learning what it *does* and not what it *is*. Eventually after *doing* you may (if you are lucky) achieve an understanding (or what it *is*). Next, you write it down, and win some type of prize.

Working with it or winning a prize for it is not what I mean by 'having a concept of' or 'understanding'. As you say 'if you are lucky' you achieve an understanding. But we're not always lucky. There are many things in life that we use but don't (yet) understand or are unable to explain. The human brain, besides infinity, is one of these... ;)

Edited: 3 Oct 2010, 10:44 a.m.

Re: Infinity

*Message #94 Posted by **ron g.** on 3 Oct 2010, 12:06 a.m.,*
in response to message #1 by John Mosand

This topic just seems to keep going on for ever, and ever, and ever, and ...

Re: Infinity

*Message #95 Posted by **Gerson W. Barbosa** on 3 Oct 2010, 1:38 p.m.,*
in response to message #94 by ron g.

> Quote:
>
> This topic just seems to keep going on for ever, and ever, and ever, and ...

Tending to infinity, actually ... :-)

Re: Infinity

*Message #96 Posted by **Egan Ford** on 3 Oct 2010, 3:31 p.m.,*
in response to message #95 by Gerson W. Barbosa

I can't wait to see how it ends. :-)

Re: Infinity

*Message #97 Posted by **Walter B** on 3 Oct 2010, 4:14 p.m.,*
in response to message #96 by Egan Ford

Just continue watching ... 8-)

Re: Infinity <warning, OT nonsense>

*Message #98 Posted by **Norman Dziedzic** on 5 Oct 2010, 12:46 p.m.,*
in response to message #1 by John Mosand

All this infinity discussion reminds me of a hops induced discussion we had one day after classes at the university.

We were trying to figure out if Einstein's hair was always so messed up because he was driving in his convertible at the speed of light so he could turn on his headlights and see if he saw them when we pondered this: increasing velocity means we are moving through more space in less time. We postulated that if we were moving at a velocity of positive infinity, we would be moving through all space in no time and there would be nowhere left to go so, ergo, we must be standing still. < i did warn you %^) >

Thinking back, I don't ever recall wondering about the velocity of minus infinity???

Re: Infinity

*Message #99 Posted by **Martin Pinckney** on 9 Oct 2010, 11:40 a.m.,*
in response to message #1 by John Mosand

This thread is like the Energizer Bunny. It just keeps going, and going, and going... ad infinitum.

Re: Infinity

*Message #100 Posted by **DeboT** on 12 Oct 2010, 4:29 a.m.,*
in response to message #99 by Martin Pinckney

It's a treat to read.

Re: Infinity

*Message #101 Posted by **Norman Dziedzic** on 19 Oct 2010, 1:59 a.m.,*
in response to message #100 by DeboT

All right, I do have something to add.

Today my 11 year old is talking about zero and says that it is in the middle of the numbers because there are an infinite numbers above and below it.

Then he thinks a little and postulates that every number is in the middle of the set of numbers because there are always infinite numbers above and below every number. (At this point I'm beaming proud rays that he can even think about stuff like this <VBG>)

I don't have an answer (don't think there really is one) but I thought it was yet another interesting ponderance on the topic.

Re: Infinity

*Message #102 Posted by **Glenn Shields** on 19 Oct 2010, 11:42 a.m.,*
in response to message #101 by Norman Dziedzic

He sounds like a bright kid! Could you please have him start working on these questions, plaguing me since my teens (in my 50's now): Where is the universe (all galaxies, space to the "edge") situated? Why is this what there is (apparently)? Any insight greatly appreciated from a fresh young mind.

Re: Infinity

*Message #103 Posted by **designnut** on 19 Oct 2010, 10:16 p.m.,*
in response to message #102 by Glenn Shields

I asked my smart dad what was beyond the furtherest star, he said more space. It took me two weeks to wrap my head around that idea. Sam @ 82

Re: Infinity

*Message #104 Posted by **Michael Meyer** on 20 Oct 2010, 7:22 p.m.,*
in response to message #102 by Glenn Shields

Very, "Men in Black" kind of question. It's really intriguing to think that there might be multiple universes... maybe this one is in some alien kid's locker. Maybe ours is is just a science project...

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HP Forum Archive 19

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30b repurposing Status

*Message #1 Posted by **Thomas Chrapkiewicz** on 29 Sept 2010, 9:01 a.m.*

Hello:

At the HHC2010, the HP30b repurposing was mentioned -

What is the status of this effort? My interest is in the 34s repurposing as my concern is in a scientific version.

(I've searched the 20b wiki and could not find any information.)

Thanks and Regards, TomC

Re: 30b repurposing Status

*Message #2 Posted by **gene wright** on 29 Sept 2010, 10:08 a.m.,*
in response to message #1 by Thomas Chrapkiewicz

FWIW, Tim Wessman at HP did not think it would be that difficult to get the code onto a machine.

So, Walter? What's the status? What do you need to load the code onto a 30b and try it out?

Re: 30b repurposing Status

*Message #3 Posted by **Walter B** on 29 Sept 2010, 10:32 a.m.,*
in response to message #1 by Thomas Chrapkiewicz

> Quote:
>
> What is the status of this effort? My interest is in the 34s repurposing as my concern is in a scientific version.

Jake Schwartz gave a presentation at HHC2010 since neither Paul nor me have the $$$$ for a short transpacific or transatlantic trip just for a two-days meeting. The answer to your question is given in said presentation. If Jake didn't distribute it at the meeting (I have no idea), please drop me a mail and I'll send it to you.

> Quote:
>
> I've searched the 20b wiki and could not find any information.

As expected - I didn't write anything in that wiki. And since documentation is my task in our two-person design team I'm pretty sure Paul didn't as well.

HTH (else please explain your wishes once more since then I was unable to understand them)

Walter

Re: 30b repurposing Status

*Message #4 Posted by **gene wright** on 29 Sept 2010, 10:42 a.m.,*
in response to message #3 by Walter B

Walter, the presentation was given, but the HP people present did not understand what the exact hold up is / was for you to try the code on the actual unit.

Perhaps if you laid out a specific short list of 1. I need X. 2. I don't know how to do Y. etc. then someone can get that specific stuff available to you and testing on a unit can begin.

HP was willing to help, but after the presentation, they weren't sure exactly what you needed.

Just ask and be specific. :-)

It was well received. We all just want to help push it to the next level!

Re: 30b repurposing Status

*Message #5 Posted by **Walter B** on 29 Sept 2010, 10:56 a.m.,*
in response to message #4 by gene wright

Gene,

thanks for your explanation and the offer. We'll sit down and compose a little list of bare necessities :) to get this homegrown thing up and running.

Re: 30b repurposing Status

*Message #6 Posted by **Thomas Chrapkiewicz** on 1 Oct 2010, 9:45 a.m.,*
in response to message #5 by Walter B

Hello Walter:

The links to the source and the documentation are 'dead'.

http://hpwiki.fatcity.com/lib/exe/fetch.php?media=20b:sci34s.tgz
http://hpwiki.fatcity.com/lib/exe/fetch.php?media=20b:enter_20b_1_1.pdf

The binary would also be helpful (if available).

Are these still available?

Thank you, TomC

Re: 30b repurposing Status

*Message #7 Posted by **Walter B** on 1 Oct 2010, 10:30 a.m.,*
in response to message #6 by Thomas Chrapkiewicz

Thomas,

just checked the addresses you mentioned and their roots. IMHO that wiki may be interesting, but doesn't look very active to me. Another enthousiastic attempt fading out d:(As I did mention in a previous post already, I did never publish anything in that wiki - what was published there was the first edition of Pauli's and my 34s documentation (v1.1 of Dec. 2008 to be precise), meant as an appetizer IIRC.

This is outdated for long, so I'm quite happy that link is dead. FYI, Jake's presentation was based on v1.11. If you want that documentation, some 2MB pdf, please drop me a message stating your e-mail address. Please note, however, this is a moving project - we are writing v1.12.

Regarding the SW, even I myself don't have the recent version. And it seems to be foggy over the Indian Ocean, so that continent down under is cut off. A soon as I get my collaborator to read my messages, I'll return with more as promised above.

Hope this answers your questions. Else continue asking ...

Re: 30b repurposing Status

*Message #8 Posted by **gene wright** on 1 Oct 2010, 10:36 a.m.,*
in response to message #7 by Walter B

Hey Walter.

Regarding the SW...

Do you have an edition that runs in emulation? Anything we can actually play with to help with testing?

Perhaps we could find someone outside HP who has the compiler who might be able to compile the code?

I wonder...Does the licensing agreement to the compiler say you cannot compile code for a friend? I understand why HP would not want to do that (really) but a compiler is a compiler...of course, I haven't read the byzantine licensing agreement, so ...

Basic question: is there an executable in any form we can play with?

Re: 30b repurposing Status

*Message #9 Posted by **Eric Rechlin** on 1 Oct 2010, 11:42 a.m.,*
in response to message #8 by gene wright

I think the concern with the compiler is that Tim most likely has a clause in his employment agreement that says that anything created with HP-owned equipment becomes HP property. Therefore he presumably can't do personal stuff on his work machine without risking loss of intellectual property.

If someone else has a license to the compiler they should be able to help. HP-GCC is the only compiler I have ever dealt with that has such Draconian restrictions on what you compile.

Re: 30b repurposing Status

*Message #10 Posted by **gene wright** on 1 Oct 2010, 12:12 p.m.,*
in response to message #9 by Eric Rechlin

Agreed, which is why I said I understood the objection. :-)

But, I bet we can find someone, somewhere, for whom that is not a concern. All we need is someone who has the compiler who can take a couple of minutes to do it.

Re: 30b repurposing Status

*Message #11 Posted by **Bruce Bergman** on 6 Oct 2010, 11:40 p.m.,*
in response to message #7 by Walter B

It's not active, but that's because I am just too busy these days to update it. I would LOVE some help from those here in the forums, but I think others are busy too.

I would appreciate any input as to what priority I should put on certain things on the wiki. For example, if I only had a couple of hours per week, would it be best to focus on just putting up .BIN files? Or do people need technical details? Or ??

I really do want to keep it current and active, but I'm just swamped.

thanks,

Bruce

Re: 30b repurposing Status

*Message #12 Posted by **Katie Wasserman** on 29 Sept 2010, 10:58 a.m.,*
in response to message #4 by gene wright

One impediment that I can think of is.....

IIRC the code for this project would occupy more than 32K of ROM. The free IAR Kickstart system only allows you to compile code up to 32K. So you'd need to have a full version of the IAR Embedded Workbench for ARM (which allows up to 256K of code) to compile this and that costs $3,400 for a single user license. That's a pretty big commitment.

Re: 30b repurposing Status

*Message #13 Posted by **gene wright** on 29 Sept 2010, 11:06 a.m.,*
in response to message #12 by Katie Wasserman

Hmm... wonder if we have any friends who could take the source code **and compile** it for us? ;-)

Re: 30b repurposing Status

*Message #14 Posted by **Tim Wessman** on 29 Sept 2010, 11:14 a.m.,*
in response to message #13 by gene wright

Nope. I would not use an HP licensed program to do work for a non-HP entity/purpose - myself included. I could possibly give it an attempt to see if it fits, but could not distribute that.

However, a very good thing people could do to help would be to get a different toolchain that builds for ARM and that chip in something like GCC. Any ARM compiler should be able to do the job. HP just went with the one that was recommended by the manufacturer and for which they provided a pre-built project.

TW

Edited: 29 Sept 2010, 11:15 a.m.

Re: 30b repurposing Status

*Message #15 Posted by **gene wright** on 29 Sept 2010, 11:31 a.m.,*
in response to message #14 by Tim Wessman

Hey, I didn't know we were friends!

Seriously, I understand. :-)

Re: 30b repurposing Status

*Message #16 Posted by **sylvandb** on 6 Oct 2010, 5:43 p.m.,*
in response to message #14 by Tim Wessman

> Quote:
>
> However, a very good thing people could do to help would be to get a different toolchain that builds for ARM and that chip in something like GCC. Any ARM compiler should be able to do the job. HP just went with the one that was recommended by the manufacturer and for which they provided a pre-built project.

Code Sourcery provides ARM cross compilers based on GCC. They provide a few versions depending on the target OS. Perhaps one of them might work? (Not sure what binary API the calc needs...) The Lite edition is free:

Lite Downloads

(It can be hosted on Linux or Windows. They also sell and support "Pro" and "Personal" editions.)

sdb

Re: 30b repurposing Status

*Message #17 Posted by **Eric Smith** on 7 Oct 2010, 1:10 p.m.,*
in response to message #16 by sylvandb

I've used the CodeSourcery toolchain (arm-none-eabi) for other projects, and it works pretty well. It is the GNU toolchain (GCC, Binutils, etc.), but with many improvements for the ARM. CodeSourcery sends their updates to the FSF, but it takes a long time for them to make it into the official GCC releases.

In the past I've often been told that GCC doesn't have ARM code generation as good as other compilers, but I don't know whether that is still the case, as I haven't attempted to compare it to other compilers.

Re: 30b repurposing Status

*Message #18 Posted by **Paul Dale** on 8 Oct 2010, 3:04 a.m.,*
in response to message #17 by Eric Smith

> Quote:
>
> CodeSourcery sends their updates to the FSF, but it takes a long time for them to make it into the official GCC releases.

Don't I know this. Getting code into GCC felt like an uphill battle at times.

> Quote:
>
> In the past I've often been told that GCC doesn't have ARM code

generation as good as other compilers, but I don't know whether that is still the case, as I haven't attempted to compare it to other compilers.

GCC-4 seems to have improved quite a bit on this front but I've nothing to compare it against not having used an alternative. That said, ARM is quite different from the "assumed" processor GCC is designed for.

- Pauli

Re: 30b repurposing Status

*Message #19 Posted by **gene wright** on 29 Sept 2010, 11:38 a.m.,*
in response to message #12 by Katie Wasserman

Another idea would be a paypal account for donations to be sent to for the compiler purchase.

$3400 is $20 from 170 people.

Eh, maybe?

Re: 30b repurposing Status

*Message #20 Posted by **Eric Smith** on 9 Oct 2010, 3:42 a.m.,*
in response to message #19 by gene wright

What's the point of spending $3400 for tools, when there are perfectly good tools available at no charge?

Re: 30b repurposing Status

*Message #21 Posted by **Paul Dale** on 9 Oct 2010, 4:01 a.m.,*
in response to message #20 by Eric Smith

Is this an offer to assist finishing the port??? ;-)

- Pauli

Re: 30b repurposing Status

*Message #22 Posted by **Eric Smith** on 10 Oct 2010, 5:02 p.m.,*
in response to message #21 by Paul Dale

How does using a compiler available at no charge require any more porting than a $3400 compiler? I was under the impression that the $3400 needed for the compiler was a stumbling block, so surely a free compiler solves that problem and allows the project to make progress. Or am I missing something?

I'm not volunteering to do anything. Between school and trying to make a living, I've barely got any time to work on my own calculator project.

Re: 30b repurposing Status

*Message #23 Posted by **Thomas Chrapkiewicz** on 29 Sept 2010, 10:56 a.m.,*
in response to message #3 by Walter B

Well, at the risk of asking redundant questions (of both Walter and/or HP), I will request some specifics:

1. 34s Source Code.

2. 34s executable to be downloaded to the 30b.

3. Any other notes/docs to support 1 and 2 above.

4. 30b SDK (perhaps this is the same as the 20b SDK).

5. 12c SDK (I suspect this is not like the 20b/30b SDK due to LCD differences).

I understand that this stuff is in a very raw state and as such do not intend to nag any of the source(s).

Thanks, TomC

Re: 30b repurposing Status

*Message #24 Posted by **Walter B** on 29 Sept 2010, 11:09 a.m.,*
in response to message #23 by Thomas Chrapkiewicz

Thomas,

> Quote:
>
> 12c SDK (I suspect this is not like the 20b/30b SDK due to LCD differences).

I concur. Since we've tailored the output to fit the 20b/30b LCD, however, I doubt the SW will fit the 12C as is. And the 12C provides 39 keys, while the 20b/30b has 37 only arranged significantly different, so a minor redesign will become inevitable. Please understand we want to prove the design before we start a redesign d;-)

I'll return for the other points.

Re: 30b repurposing Status

*Message #25 Posted by **Tim Wessman** on 29 Sept 2010, 11:11 a.m.,*
in response to message #23 by Thomas Chrapkiewicz

There is currently only the 20b dev kit and there really isn't much of value you'd get out of the other units. The screen on the 20b is identical, so possibly a screen diagram and keyboard layout for the 12c is the only missing piece there.

TW

Re: 30b repurposing Status

*Message #26 Posted by **Thomas Chrapkiewicz** on 29 Sept 2010, 11:18 a.m.,*
in response to message #25 by Tim Wessman

Agreed; Hardware details for the 12c would be most helpful!

TomC

Re: 30b repurposing Status

*Message #27 Posted by **Katie Wasserman** on 29 Sept 2010, 11:45 a.m.,*
in response to message #25 by Tim Wessman

Tim,

While it might not be an official SDK, I got a sort-of SDK for the 12C+ from Cyrille. It's got the all LCD and keyboard code and a simple 4-banger calculator.

-Katie

Re: 30b repurposing Status

*Message #28 Posted by **Scott Newell** on 29 Sept 2010, 1:08 p.m.,*
in response to message #27 by Katie Wasserman

The 20B SDK should be very close, if you need to see schematics.

I reversed enough of the 12C+ to figure out the LCD and keys, but my planned projects on that one have stalled due to my poor time management.

Tools: I'm using GCC. The HP programming cable is nice if you plan on doing crash and burn debugging, but you could do without if you rig some pogos or just solder down some wires and dig up a TTL/232 level converter (or gut a cheap USB/serial adapter). With the 20B (and I assume the 30B) JTAG is an option as well. I've used a parallel port wiggler (cheap and slow) and a Luminary dev board (not as cheap, much faster) with OpenOCD. I found the free SAM-BA tools from Atmel ran *much* faster on XP than on windows 2k. A small power supply would allow you to run without worrying about coin cells. As with any embedded project, a 'scope is nice but certainly not required.

Re: 30b repurposing Status

*Message #29 Posted by **cyrille de brebisson** on 29 Sept 2010, 2:19 p.m.,*
in response to message #28 by Scott Newell

hello,

I made a 12C SDK, if you want it, email me and I will try to dig it up and email it...

Re: 30b repurposing Status

*Message #30 Posted by **Thomas Chrapkiewicz** on 30 Sept 2010, 1:00 p.m.,*
in response to message #29 by cyrille de brebisson

Thank you again Cyrille. I anxiously await it! [I emailed you via this site.] TomC

Re: 30b repurposing Status

*Message #31 Posted by **Marcus von Cube, Germany** on 30 Sept 2010, 6:03 p.m.,*
in response to message #28 by Scott Newell

> Quote:
>
> ...just solder down some wires and dig up a TTL/232 level converter (or gut a cheap USB/serial adapter)...

FTDI sells a USB/Serial cable that has TTL level. Nowerdays this is the best option, I think. I used it to link a Canon X-7 to my PC (see here: http://www.silicium.org/forum/viewtopic.php?f=46&t=22257&start=15 in French).

Re: 30b repurposing Status

*Message #32 Posted by **Paul Dale** on 2 Oct 2010, 3:34 a.m.,*
in response to message #1 by Thomas Chrapkiewicz

The current status is that the firmware compiles in a custom emulator for Linux and Mac terminal both using the curses library -- I'm happy to send this to folks who want to see it. Text based graphics, a weird QWERTY key mapping and some debug aids only. But fully functional. If the folks here want to have a play with the source, I can put something together fairly quickly. Earlier versions are available on the 20b re-purposing site but they are quite dated now.

I've compiled the full source code using HP-GCC for ARM on both a Mac and a Linux machine. We're still fairly comfortably within the 128kb flash space and we're just within the 2kb battery backed RAM limit -- sub 20 bytes free currently & program steps will be taken as required but I hope they aren't. We're well within the 4kb volatile RAM limit. In fact, there are a number of functions that aren't included in Walter's documentation that are ready to go: Reimann Zeta function for complex argument, digamma function, Jacobi's Elliptical functions, real bessel functions of first and second order (& almost complex versions of the same), cube and cube root, fused multiply add, x!!, !n, Easter & more. All depending on final space limits.

I started integrating HP's development environment into my source code but that failed, well at least I think it failed. Of course I was trying to merge their stuff into mine not the reverse which in hindsight was a mistake -- also losing my job at a work environment with all the facilities available to do the hardware port and debug hasn't helped.

I don't have IAR Embedded Workbench or even a windows machine to run it on and that would be the fastest way to progress the project by using HP's development environment. My code and theirs are structurally fairly similar -- both are reactive based on keystrokes being received -- mine is pure C, HP uses minimal C++ but on the whole there aren't a lot of differences (great minds or fools :-)

At the moment, my biggest limitation is free time to devote to the project -- I'm still on probation at my new job (GPS controlled tractor driving which is rather unrelated to my previous experience but fun nonetheless) which means I'm rather busy. I don't have a 30b but do have a 20b and programming cable which seems to be identical hardware-wise. If someone with access to the full version of IAR Embedded Workbench and the inclination to finish the port was interested, I'd be happy to assist and I don't think it would take very long to get a working result.

I've previously sent my code to Cyrille at HP in case they were interested in making a product of it -- they weren't. Regardless, we've made a number of major changes recently (larger stack, more lettered registers).

Finally, some random thoughts that aren't in the presentation.

* I've aimed for numerical accuracy over speed -- registers and stack are 16 digits BCD reals (including subnormals, infinities, NaNs, + & - zero all packed into 8 bytes). Internal calculations use 39 decimal digits almost exclusively. The calculator stress test "9 SIN COS TAN ATAN ACOS ASIN" returns the correct result for a correctly rounded 16 digit format. Quixotically, I'm aiming for correctly rounded results in the sixteenth digit -- yes I know this isn't really possible but I'd like to try.

* All program steps are fully merged (excepting the three character alphanumeric labels and the commands that call these which take two steps). 18555 different command codes currently -- mostly commands with arguments for various arguments and indirections.

* Every command that takes an argument can be executed indirectly (excepting LBL of course).

* Almost every function that takes a real argument has a complex equivalent. The exceptions are few: triadic commands and the error function.

* Matrix maths (e.g. JMB's) *could* be included via user programs in flash. Solve, integrate, sum and product are

implemented as user RPN code and the associated commands hook into these routines directly. To include matrix code, we'd have to lose something else I suspect.

* Integrate uses a 10/21 Gauss Kronrod quadrature and thus isn't adaptive. I'd like to replace it with something more robust eventually. Solve uses secant, bisection, quadratic interpolation and optionally a ridder's step (this last isn't used since it is larger and doesn't seem to help a lot). The solve code is used internally to provide the inverse statistical distributions.

- Pauli

Re: 30b repurposing Status

*Message #33 Posted by **gene wright** on 2 Oct 2010, 2:00 p.m.,*
in response to message #32 by Paul Dale

Paul wrote:

"If the folks here want to have a play with the source, I can put something together fairly quickly. Earlier versions are available on the 20b re-purposing site but they are quite dated now."

Yes, I would suggest if you can to post the source code. Maybe someone will find access to the proper resources.

Re: 30b repurposing Status

*Message #34 Posted by **Paul Dale** on 2 Oct 2010, 6:28 p.m.,*
in response to message #33 by gene wright

The sources are available to all. From a command line under linux or mac, just type make to build a console based executable.

- Pauli

Re: 30b repurposing Status

*Message #35 Posted by **Walter B** on 5 Oct 2010, 1:44 a.m.,*
in response to message #34 by Paul Dale

> Quote:
>
> From a command line under linux or mac, just type **make** to build a console based executable.

Just for curiosity: Did anyone try this already? Preliminary results?

Re: 30b repurposing Status

*Message #36 Posted by **Richard Gray** on 5 Oct 2010, 7:35 a.m.,*
in response to message #35 by Walter B

I have downloaded and attempted to use the software an HP NW8440 running Fedora 12. The 'make' was successful but attempting to run the calculator gave the following in the terminal. I'm not sure how to proceed.

BEG

360 RPN

-- | | | |

| | | | --

Re: 30b repurposing Status

*Message #37 Posted by **Richard Gray** on 5 Oct 2010, 7:48 a.m.,*
in response to message #36 by Richard Gray

OK, sorry, I should have RTFM. It's working now.

Re: 30b repurposing Status

*Message #38 Posted by **gene wright** on 5 Oct 2010, 8:34 a.m.,*
in response to message #37 by Richard Gray

What "make" command?

Doofus moment here.

In Terminal, once I have changed directories to the "sci" directory created, what next?

Make is not a recognized command.

doh!

Re: 30b repurposing Status

*Message #39 Posted by **Richard Gray** on 5 Oct 2010, 9:58 a.m.,*
in response to message #38 by gene wright

"make - GNU make utility to maintain groups of programs"

Try "man make" for a command description. make (small m) executes the commands in the Makefile of current directory.

Re: 30b repurposing Status

*Message #40 Posted by **Tim Wessman** on 5 Oct 2010, 10:12 a.m.,*
in response to message #38 by gene wright

You need to install XCode Gene.

TW

Re: 30b repurposing Status

*Message #41 Posted by **gene wright** on 5 Oct 2010, 10:29 a.m.,*
in response to message #40 by Tim Wessman

Ah, if XCode is required in OSX, you must be registered as a developer.

"make" by itself in OSX without xcode is not a valid command.

Re: 30b repurposing Status

*Message #42 Posted by **Egan Ford** on 5 Oct 2010, 12:14 p.m.,*
in response to message #41 by gene wright

It costs nothing to register, just use your iTunes ID.

I can send you the build if you like, just verify that you have the following libs:

```
/usr/lib/libncurses.5.4.dylib (compatibility version 5.4.0,
current version 5.4.0)
/usr/lib/libSystem.B.dylib (compatibility version 1.0.0, current
version 125.2.0)
```

So, where is the manual? Tired of adding numbers, I'd like to write a program.

Re: 30b repurposing Status

*Message #43 Posted by **Walter B** on 5 Oct 2010, 1:57 p.m.,*
in response to message #42 by Egan Ford

> Quote:
>
> So, where is the manual?

When you send me a little mail containing your e-mail address, you'll get a 2MB pdf file almost immediately (as long as Europe doesn't sleep already).

Re: 30b repurposing Status

*Message #44 Posted by **Egan Ford** on 5 Oct 2010, 2:10 p.m.,*
in response to message #43 by Walter B

Done. Thanks!

Re: 30b repurposing Status

*Message #45 Posted by **Andrés C. Rodríguez (Argentina)** on 5 Oct 2010, 3:55 p.m.,*
in response to message #43 by Walter B

Hi Walter; if possible please send a copy to a.rodriguez AT ieee.org. Thank you very much in advance.

Re: 30b repurposing Status

*Message #46 Posted by **Walter B** on 5 Oct 2010, 4:41 p.m.,*
in response to message #45 by Andrés C. Rodríguez (Argentina)

Egan, Andrés, you've got mail.

Re: 30b repurposing Status, emu34s screenshot!

*Message #47 Posted by **Egan Ford** on 5 Oct 2010, 4:52 p.m.,*
in response to message #46 by Walter B

Thanks. Below is my setup. I do have an issue with key assignments. E.g. A = STO. Is the keymaping for the emulator documented somewhere outside of the source?

Thanks.

Screenshot:

Re: 30b repurposing Status, emu34s screenshot!

*Message #48 Posted by **Walter B** on 5 Oct 2010, 4:59 p.m., in response to message #47 by Egan Ford*

Not sure I got your point, however: All shifted operations are printed *below* of the respective keys. So "A" in alpha mode

is entered by "pressing" Sum+.

Re: 30b repurposing Status, emu34s screenshot!

*Message #49 Posted by **Egan Ford** on 5 Oct 2010, 5:04 p.m.,*
in response to message #48 by Walter B

Since the emulator has to use a QWERTY keyboard, what is the mapping of the QWERTY keyboard to the virtual 34s keys? I would assume that if I press A on my Mac keyboard that I should get Sigma+ in the emulator, but I get STO.

Re: 30b repurposing Status, emu34s screenshot!

*Message #50 Posted by **Walter B** on 5 Oct 2010, 5:06 p.m.,*
in response to message #48 by Walter B

After checking some older mails I guess this is what you need:

```
Currently the program works in text mode using
the curses library. The keyboard is mapped thus:


q w e r t y top row of keys left to right
a s d f g h
z/x c v b n enter row of keys
u 7 8 9 /
j 5 6 7 *
m 1 2 3 -
spc 0 . , + bottom row of keys


There are also the extra characters 'Q' for
quit, 'F' to show lots of nice internal status
information and 'T' to trace programs being
executed.
```

This information was true in January. Please check.

HTH

Re: 30b repurposing Status, emu34s screenshot!

*Message #51 Posted by **Egan Ford** on 5 Oct 2010, 5:10 p.m.,*
in response to message #50 by Walter B

Perfect. Thanks.

Re: 30b repurposing Status, emu34s screenshot!

*Message #52 Posted by **Paul Dale** on 5 Oct 2010, 5:59 p.m.,*

in response to message #50 by Walter B

This information is still correct. See doc/layout for the key to keyboard mapping -- the function assignments have changed since I last updated that.

```
keyboard mapping
q  w  e  r  t  y
a  s  d  f  g  h
 z/x  c  v  b  n
  u   7  8  9  /
  j   5  6  7  *
  m   1  2  3  -
 spc  0  .  ,  +
```

Additionally, Q to quit, F for status flags etc & T to enter trace mode. The latter two aren't going to be much use to people apart from me, however F does display the entire stack badly formatted.

- Pauli

Re: 30b repurposing Status, emu34s screenshot!

*Message #53 Posted by **gene wright** on 5 Oct 2010, 5:07 p.m.,*
in response to message #48 by Walter B

Walter, he means the mapping to a computer keyboard, where pressing a invokes STO. It also appears that some of the characters in the keymap file are typed incorrectly. T is CMPLX but is labeled f in the file.

```
          CALCULATOR KEYBOARD LAYOUT
COMPUTER KEY MAP
        sig+     B     C     D   CMPLX   h
q  w  e  r  t  y
        STO      RCL   Rv    ->    f     g
a  s  d  f  g  h
        ENTER^         x<>y  CHS   EEX   <-
z/x   c  v  b  n
        XEQ       7     8     9     /
u   7  8  9  /
        BST       4     5     6     *
j   5  6  7  *
        SST       1     2     3     -
m   1  2  3  -
        ON/C      0     .     R/S   +
spc  0  .  ,  +


        If not defined in a program B == 1/x;
C == y^x  and D = PI
```

Re: 30b repurposing Status, emu34s screenshot!

*Message #54 Posted by **Walter B** on 5 Oct 2010, 5:10 p.m.,*
in response to message #53 by gene wright

I think we clarified this question in a combined action d:-)) See ... ummh, read you tomorrow d|-)

P.S.: Watch out:

> Quote:
>
> If not defined in a program B == 1/x; C == y^x and D = PI

Now, D == SQRT(x) !

Edited: 5 Oct 2010, 5:16 p.m.

Re: 30b repurposing Status, emu34s screenshot!

*Message #55 Posted by **Paul Dale** on 5 Oct 2010, 6:01 p.m.,*
in response to message #54 by Walter B

As I mentioned, the layout file is dated. We had a big rearrangement of the top couple of keyboard rows to better fit hex characters in & I never updated the layout since I don't use the file having learnt the positions of most of the keys already.

On the plus side, the three shift keys are now f, g & h on the QWERTY keyboard :-)

- Pauli

Re: 30b repurposing Status

*Message #56 Posted by **Paul Dale** on 5 Oct 2010, 6:05 p.m.,*
in response to message #42 by Egan Ford

The manual is in the doc subdirectory. ENTER_20b_1_11.pdf The keyboard mapping has been elucidated already.

- Pauli

Re: 30b repurposing Status

*Message #57 Posted by **Tim Wessman** on 5 Oct 2010, 10:13 a.m.,*
in response to message #35 by Walter B

Builds fine on OSX once I removed the call to gcc-4. Any reason the make is using that instead of just CC :=gcc for a non-linux system?

TW

Re: 30b repurposing Status

*Message #58 Posted by **Paul Dale** on 5 Oct 2010, 6:03 p.m.,*
in response to message #57 by Tim Wessman

No real reason, just what I've got installed. I did want to use gcc-4 at one stage and the default was gcc-3 so it is likely a residue of that.

- Pauli

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New HP41CX listed on Ebay

*Message #1 Posted by **Nigel Bamber** on 29 Sept 2010, 4:29 a.m.*

New one on Ebay :

New HP41cx

Re: New HP41CX listed on Ebay

*Message #2 Posted by **Michael Meyer** on 29 Sept 2010, 9:04 a.m.,*
in response to message #1 by Nigel Bamber

If you'll look back in the archives, there was a whole pallet of brand new (old stock) 41CX's discovered in the UK about 8 or 10 years ago. I still have 2 of them... opened only to check for functionality and to remove the supplied batteries from the box. (Anyone want to trade one for an HP-70?)

Re: New HP41CX listed on Ebay

*Message #3 Posted by **Jean-Michel** on 30 Sept 2010, 7:09 a.m.,*
in response to message #2 by Michael Meyer

Hello Michael,

> Quote:
>
> (Anyone want to trade one for an HP-70?)

Unfortunately, I have no HP-70, but I have a spare HP-97 I could trade for one of your HP-41CX NIB.
Email me if you're interested in this transaction.
Kind regards.

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A pretty good month for collecting

*Message #1 Posted by **Palmer O. Hanson, Jr.** on 28 Sept 2010, 11:06 p.m.*

During September I was able to add three vintage machines to my collection:

A Rockwell 24K with carrying case and instructions for a dollar.

A Unnisonic 811 with instructions, a registration card and a carton for a dollar. I now have an 811, 811-A, 811-C, 811-E and 811L-B. Was there an 811-B or an 811-D?

An HP-95LX with 1 MB RAM for $7.50 . Is there something unique that it can do that other HP machines can't do, and that I should become familiar with? Or, should I simply add it to my collection?

Palmer

Re: A pretty good month for collecting

*Message #2 Posted by **Katie Wasserman** on 29 Sept 2010, 12:39 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

Palmer,

the HP95LX was the first of 3 really amazing HP machines. I think by far the best hand-held devices HP ever invented. All were basically IBM XT's running DOS using 2 AA batteries, a B&W display and some fantastic built-in software.

The 100LX improved greatly on the 95LX by expanding the screen to a full 25x80 characters and adding more/better built-in software. The 200LX improved on the 100LX by (optionally) adding more memory and still better built-in software.

I think that HP's big selling point with these was having Lotus 1-2-3 built in, but I think that the calculator software that HP wrote for these was just perfect. The solver on the 100LX/200LX (I'm not sure about the 95LX) was easily the best one ever. In addition you could link to 1-2-3 sheets to read/store data from within the solver and do some things not possible with any other solver in an HP calculator.

I still use my 15 year old HP200LX (double speed with 4M RAM) daily for calendar and phone book things as well as my calculator collection DB management tool. Not to mention the programming in various computer languages just to test out ideas and HP CALC for financial stuff and to see how far I can push the solver!

-Katie

Re: A pretty good month for collecting

*Message #3 Posted by **Ángel Martin** on 29 Sept 2010, 3:24 a.m.,*
in response to message #2 by Katie Wasserman

reading Katie's reply I reflect on all the good stuff coming out of hp in the heyday, it's but a dire contrast to

see the situation today. A sign of the times or just normal company "decay" (evolution according to some)?. Just semantics, but the net of it is no more great ingenuity - maybe it's me being pessimistic today..

Re: A pretty good month for collecting

*Message #4 Posted by **Jerry Raia** on 1 Oct 2010, 9:28 a.m.,*
in response to message #3 by Ángel Martin

> Quote:
>
> reading Katie's reply I reflect on all the good stuff coming out of hp in the heyday, it's but a dire contrast to see the situation today. A sign of the times or just normal company "decay" (evolution according to some)?. Just semantics, but the net of it is no more great ingenuity - maybe it's me being pessimistic today..

I totally agree. They are cranking out the same junk as every other company these days. Even the newer calculators don't have any sparkle to them.

Re: A pretty good month for collecting

*Message #5 Posted by **Pavneet Arora** on 29 Sept 2010, 5:47 a.m.,*
in response to message #2 by Katie Wasserman

I completely agree with Katie. I was fortunate to purchase the 95LX new and used it for a good long time. The one problem that I had that was maddening to me was that' at least on my version, bulk Kermit transfers didn't work and I had to backup my files individually. Having a visible stack was brilliant, and incidentally something I wrote to HP about during the Woodstock model era.

The OmniGo 100 running GeoWorks was a huge disappointment on the other hand.

Regards.

Re: A pretty good month for collecting

*Message #6 Posted by **Gerry Schultz** on 30 Sept 2010, 3:11 p.m.,*
in response to message #2 by Katie Wasserman

Katie:

Your posting reminded me that I have a 1 MB HP200LX that I got last year at HHC2009. I haven't done much with it since but where can I find an I/O cable (I can make one with the right 200LX connector), backup batteries (What type does it take? It's missing), and PC application software to transfer programs between the LX and a PC? I did find some manuals on that other site but they were pretty expensive.

It appears to work just fine on a couple of AAs, so I'm wondering what I can do with it now.

Thank you for any suggestions.

Gerry

Re: A pretty good month for collecting

*Message #7 Posted by **Thomas Chrapkiewicz** on 30 Sept 2010, 4:34 p.m.,*
in response to message #6 by Gerry Schultz

...I don't mean to interupt, but... . ....:

The backup battery is a CR2032. There should be a little plastic carrier in the side of the machine that it fits it.

The cable is very similar to (not NOT identical to)the HP49 cable. There is a 'Cable Table' around here somewhere that has the details.

It can run on NiCds or Alkalines. When running on NiCds, one can use an external 'wallwart' for charging. There is a setting to 'tell it' you are running on rechargable batteries.

Also, it IR emits HP SIR so a HP82240 printer should work - although I haven't figured out how to get it to work from QBASIC.

TomC

ps: I'm also a 'fan' of this fine machine!

Re: A pretty good month for collecting

*Message #8 Posted by **Katie Wasserman** on 1 Oct 2010, 2:11 a.m.,*
in response to message #7 by Thomas Chrapkiewicz

I think that the fastest way to transfer data between a PC and an HP95/100/200LX is to use a PC-CARD (aka PCMCIA). You can get them with 100+ MB for next to nothing on TAS and you can buy a PC-CARD reader (for next to nothing too) for you PC or laptop if you don't already have one.

Aside from being much faster than serial communications it's good to just keep one of these cards in your palmtop for greatly enhanced storage of programs and data, It looks to your palmtops that it has an like the A: when installed (by default, you could change that).

If you really want to go the serial route, you can still buy them new here and probably elsewhere on the web. The serial cable is needed for connection to a modem, for example, and you can even get an email client that works pretty well. It used to be possible to do some web surfing too, but I haven't tried that in years and I doubt that you'd get very far with it these days.

Finally it's possible to skip the serial connection but still connect to the internet by buying a PCMCIA modem card with an X-JACK built in. There was at least one 14.4K modem card that worked well on the 200LX, I don't think that there were any faster ones made that worked. IIRC they all draw more current than the 200LX can supply so you have to use an external modem for better speed.

-Katie

Re: A pretty good month for collecting

*Message #9 Posted by **Palmer O. Hanson, Jr.** on 1 Oct 2010, 11:29 p.m.,*
in response to message #2 by Katie Wasserman

Katie:

You wrote:

> Quote:
>
> The HP95LX was the first of 3 really amazing HP machines. I think by far the best hand-held

devices HP ever invented.

So, I started playing around with it just a little bit. I ran the forensics algorithm and got 9.000000000029575 -- that's ten zeroes in there! That contrasts with the 8.9999999956625 (only eight nines in there) as listed in Sebastian's site for the HP-42, 48, 49, 50.

Palmer

Palmer, if HHC 2011 is in Nashville, maybe you can come?

*Message #10 Posted by **gene wright** on 29 Sept 2010, 7:40 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

Just making sure you saw the note below. Nashville isn't that far from NC. :-)

Hope all is well.

Re: Palmer, if HHC 2011 is in Nashville, maybe you can come?

*Message #11 Posted by **Palmer O. Hanson, Jr.** on 30 Sept 2010, 1:38 a.m.,*
in response to message #10 by gene wright

Gene:

Nashville is within my driving range. I would certainly try to attend if you can bring HHC2011 there.

Palmer

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Mathematica code with C + HPGCC

*Message #1 Posted by **Sujith Abraham** on 28 Sept 2010, 10:30 p.m.*

If anyone here use HPGCC, can you tell, if we can use programs in Mathematica from C?

I guess it is too much to ask, I am just curious.

Re: Mathematica code with C + HPGCC

*Message #2 Posted by **David Hayden** on 28 Sept 2010, 10:33 p.m.,*
in response to message #1 by Sujith Abraham

Sujith,

I don't know if this is possible but I doubt it. We would have to port the Mathematica programs, along with Mathematica itself, to the calculator and then call the programs from within C code. I can't imagine that the calculator has enough memory for that.

Dave

Re: Mathematica code with C + HPGCC

*Message #3 Posted by **Ralf Fritzsch** on 29 Sept 2010, 7:25 a.m.,*
in response to message #1 by Sujith Abraham

> Quote:
>
> If anyone here use HPGCC, can you tell, if we can use programs in Mathematica from C?

At least the naming conventions are a bit different on both sides. A quick lookup involving the result of Integrate[1/(1 + x^3), x] and piping it through CForm in Mathematica showed, that Mathematica uses ArcTan, Sqrt, Log, and Power, whereas HPGCC prefers atan, sqrt, and log. Trying to compile Mathematica generated C-Code within HPGCC thus yields messages like

warning: implicit declaration of function 'ArcTan'
warning: implicit declaration of function 'Sqrt'
warning: implicit declaration of function 'Log'
warning: implicit declaration of function 'Power'

but nevertheless compiles something. But this is the opposite direction compared to your question :-(

Kind regards, Ralf.

HPGCC still active

*Message #4 Posted by **Sujith Abraham** on 1 Oct 2010, 11:01 a.m.,*

in response to message #3 by Ralf Fritzsch

I know this is asking for too much on a small device with such a limited resource. Anyway you can do a **lot** with C programming alone, and it makes it worthy.

What happened to HPGCC? Is it still under active development?

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HP-65 card reader "saga"

*Message #1 Posted by **aj04062** on 28 Sept 2010, 8:57 p.m.*

I've been trying to source a fault on my 65 card reader.

I've checked the caps with an ESR Meter from a friend. Does anyone know what the calue of the CAP that connects Vbsw to Ground should be? This checked out at 15.9 micro F with a low resistance. The others checked out OK as well. I was doing a little research online and found some folks that claim they wouldn't trust an ESR meter on these and replace the CAPs anyways. Agree? Is there a series resistance anyone would recommend these caps be under?

Re: HP-65 card reader "saga"

*Message #2 Posted by **John Robinson** on 30 Sept 2010, 6:40 a.m.,*
in response to message #1 by aj04062

It should be 2.2uF according to Tony Duell's schematics. Have you tested it removed from the circuit board ? The Kemets capacitors are generally very reliable, but they can fail.

Vbat should be the same as Vbsw, if they are then the cap shouldn't be a problem.

Cheers, John

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HP 97 data Card 2

*Message #1 Posted by **Ed Sowell** on 28 Sept 2010, 5:50 p.m.*

If you have an HP-97 with a properly workning card reader and would be willing to create and send a Data Card 2 to me I'd appreciate it. E-mail me what you think would be a fair payment the card, postage to So. California, and your time.

As you might know, Data Card 2 is used in testing and adjusting the card reader. Here's how to create it, as explained on page C-3 of the Service Manual:

```
0. Turn power on
1. Enter the data below into the indicated registers
2. Print the registers to confirm correct data
3. Press  Function key then W/ Data key
4. Feed side 1 into the card reader.
5. Clip the write-protect corners.


Register                              Number
0                          5.061779945+01
1                          0.000000000+00
2                          3.088997250+01
3                          -2.238303285+21
4                          4.301773670+27
5                          0.000000000+00
6                          0.000000000+00
7                          0.000000000+00
8                          0.000000000+00
9                          0.000000000+00
A                           -4.444444444-44
B                          -3.333333333-33
C                          -2.222222222-22
D                          -1.111111111-11
E                          8.000000000-77
I                          -3.000000000+00
```

Edited: 28 Sept 2010, 5:53 p.m.

Re: HP 97 data Card 2

*Message #2 Posted by **aj04062** on 28 Sept 2010, 8:36 p.m.,*
in response to message #1 by Ed Sowell

Ed,

I'm willing to do this, I'll need to buff up on how to enter the data (I just recently got a purchased 97 running)

Card reader seems fine. Rights and reads the standard cards.

drop me an email so I can get your mailing addess.

Adam

Re: HP 97 data Card 2

*Message #3 Posted by **Ed Sowell** on 29 Sept 2010, 2:31 p.m.,*
in response to message #2 by aj04062

Thanks, Adam. Just sent you an email.

BTW, to send the email I just clicked on your login ID. You should be able to do that to send me email too. Let me know if it doesn't work.

Ed

Re: HP 97 data Card 2

*Message #4 Posted by **Gerry Schultz** on 30 Sept 2010, 2:23 p.m.,*
in response to message #3 by Ed Sowell

Hi Ed:

What part of Southern Californis do you live in? I live in West LA and have two functioning HP-97s the last time I checked. If we are near each other perhaps one of my 97s can help you confirm the interchangability of your card reader.

I'm on vacation this week after attending HHC 2010 so if you want to contact me, please send me an email at g_schultz at ca dot rr dot com.

Gerry

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Calculator article in Circuit Cellar

*Message #1 Posted by **Monte Dalrymple** on 28 Sept 2010, 2:06 p.m.*

In a blatant act of self-promotion, I would invite museum visitors to check out the October issue of Circuit Cellar magazine http://www.circuitcellar.com for an article about my 41C CPU replacement project. You can even get a free copy (although I'm not sure which issue they'll send) by clicking on the "free trial" button. Enjoy.

Monte Dalrymple

Edited: 28 Sept 2010, 2:11 p.m.

Re: Calculator article in Circuit Cellar

*Message #2 Posted by **Namir** on 28 Sept 2010, 3:13 p.m.,*
in response to message #1 by Monte Dalrymple

Monte,

Not to steal your thunder or anything but sounds like you are the last person to replace his 41C CPU ... with an Intel chip, a screen, a keyboard, a hard disk, and so on.

:-)

Namir

Re: Calculator article in Circuit Cellar

*Message #3 Posted by **uhmgawa** on 28 Sept 2010, 9:36 p.m.,*
in response to message #2 by Namir

> Quote:
>
> Not to steal your thunder or anything but sounds like you are the last person to replace his 41C CPU ... with an Intel chip, a screen, a keyboard, a hard disk, and so on.

Ah, yes the "intel" calculator upgrade. IIRC it comes complete with a deep cycle marine battery and inflated tires.

Re: Calculator article in Circuit Cellar

*Message #4 Posted by **Monte Dalrymple** on 29 Sept 2010, 2:28 p.m.,*
in response to message #2 by Namir

Namir,

Even though I do most of my work on an Intel CPU, my 41CV (and my 16C) are always on my desk and used daily. I can't stand using a mouse to navigate an on-screen calculator. Just like I can't stand to use the

35s in my drawer because it invariably misses the last numeric entry before I press "Enter". And don't get me started on trying to do hex calculations on it...

Monte

Edited: 29 Sept 2010, 2:30 p.m.

Re: Calculator article in Circuit Cellar

*Message #5 Posted by **David Hayden** on 28 Sept 2010, 3:20 p.m.,*
in response to message #1 by Monte Dalrymple

Gene Wright gave a talk at HHC about Monte's work and it looks really great. Monte, I wish you great luck with the project.

Re: Calculator article in Circuit Cellar

*Message #6 Posted by **Ángel Martin** on 30 Sept 2010, 5:28 a.m.,*
in response to message #5 by David Hayden

Didn't anybody attending such talk suggest that the 41S concept-to-be is already solved by this? In other words, (and you may of course disagree) the best replacement for a 41 is a FASTER 41 !!

Counting the seconds tick...

Re: Calculator article in Circuit Cellar

*Message #7 Posted by **PeterP** on 28 Sept 2010, 3:30 p.m.,*
in response to message #1 by Monte Dalrymple

Monte, sent you an email regarding your 41CL project, let me know if you got it as Exchange was telling me 'delivery problems, continue trying'

Cheers

Peter

Re: Calculator article in Circuit Cellar

*Message #8 Posted by **Monte Dalrymple** on 28 Sept 2010, 9:16 p.m.,*
in response to message #7 by PeterP

Nothing in my inbox yet... monted@systemyde.com

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Error HP 11C

*Message #1 Posted by **Hannes, Switzerland** on 28 Sept 2010, 12:17 p.m.*

Hello Guys,

I use a HP 11C for study since 2009 and Iam very happy with. It was bought in 1985 by my father on US holidays. Unfortunately I have a problem with it this days: It shows a blinking "3" on the display. All buttons and functions are disabled. I already tried to fix the problem with new batteries. Didnt work! Do you have a tipp for me to solve the problem? Is it an usual error?

Best Regards Hannes

Re: Error HP 11C

*Message #2 Posted by **uhmgawa** on 3 Oct 2010, 12:27 p.m.,*
in response to message #1 by Hannes, Switzerland

> Quote:
>
> ...I have a problem with it this days: It shows a blinking "3" on the display. All buttons and functions are disabled. I already tried to fix the problem with new batteries. Didnt work! Do you have a tipp for me to solve the problem? Is it an usual error?

Unfortunately that doesn't sound too healthy. Perhaps not very conclusive, but I'm curious if you can get it to do a self test ("x" down + "on" down/up + "x" up)? That will perform a rom checksum, ram scan, and bang on a raft of cpu instructions.

You might also try pulling the button batteries out and shorting the internal contacts to fully reset the unit.

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Forum admin question..

*Message #1 Posted by **uhmgawa** on 28 Sept 2010, 10:07 a.m.*

Apologies if this is a noob/faq but I can't find a means to request email notification of replies to threads of interest. Most similar forums have such a mechanism and it may well exist here too but it eludes me. No response to the question from the local powers as of yet..

Re: Forum admin question..

*Message #2 Posted by **David Hayden** on 28 Sept 2010, 10:13 a.m.,*
in response to message #1 by uhmgawa

I'm unaware of any such feature here but I could be wrong.

Dave

Re: Forum admin question..

*Message #3 Posted by **uhmgawa** on 28 Sept 2010, 9:31 p.m.,*
in response to message #2 by David Hayden

> Quote:
>
> I'm unaware of any such feature here but I could be wrong.

Huh. So folks here just keep "polling" to determine whether anything new exists in a thread?

Re: Forum admin question..

*Message #4 Posted by **Michael Plant** on 28 Sept 2010, 10:36 p.m.,*
in response to message #3 by uhmgawa

I use the Daily View, which, provided I am logged in, alerts me to new messages and displays them in their thread context.

Works for me!

Re: Forum admin question..

*Message #5 Posted by **Michael Meyer** on 28 Sept 2010, 10:47 p.m.,*
in response to message #4 by Michael Plant

Yes... but it does keep us coming back daily. Or, in my case, several times per day. I should probably just make this my home page...

Re: Forum admin question..

*Message #6 Posted by **Michael Plant** on 29 Sept 2010, 12:18 a.m.,*
in response to message #5 by Michael Meyer

Yes - this is true. Though I rarely post here, I visit the Daily View page, at a guess, at least ten times a day and read most of the threads.

Re: Forum admin question..

*Message #7 Posted by **Katie Wasserman** on 29 Sept 2010, 12:20 a.m.,*
in response to message #3 by uhmgawa

This is an extremely active forum and if you don't get a response to your question/comment within the 2-day time span allowed for the "daily view" you probably never will. So, while you do need to check back, you just need to do so for a couple of days (unless the discussion really gets going of course). Often a thread will stay continuously active on the "daily view" for weeks because there are posts within two days of prior posts.

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Book

*Message #1 Posted by **Johnny Bjoern Rasmussen** on 28 Sept 2010, 4:14 a.m.*

Hi there
Does anybody here know what this book is about?
http://www.amazon.co.uk/HP-Calculators-HP-41c-Desktop-Computers/dp/1155532074/ref=sr_1_3?s=books&ie=UTF8&qid=1285661277&sr=1-3

Best regards
Johnny Bjoern Rasmussen

Re: Book

*Message #2 Posted by **Namir** on 28 Sept 2010, 5:45 a.m.,*
in response to message #1 by Johnny Bjoern Rasmussen

Coming from an ex-book writer, I say it looks like a "Jack of all trades and master of none" kind of book. The page count is low and the title claims to cover a wide variety of machines--each machine deserving a book by itself if you want to do justice by it.

Namir

Re: Book

*Message #3 Posted by **Raymond Wiker** on 28 Sept 2010, 5:54 a.m.,*
in response to message #1 by Johnny Bjoern Rasmussen

I did a google on "Books LLC", and it appears that it may just be a rehash of public-domain ifnormation from wikipedia and other sources. Not something I'd spend money on.

Re: Book

*Message #4 Posted by **Johnny Bjoern Rasmussen** on 28 Sept 2010, 6:33 a.m.,*
in response to message #3 by Raymond Wiker

Okay guys. Thanks. That's what I also guessed.

Johnny

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restoring plastic colour

*Message #1 Posted by **adrian godwin** on 28 Sept 2010, 3:16 a.m.*

I came across this technique to reverse the 'browning' of ABS that often occurs on older equipment. I haven't tried it myself yet, but it looks interesting especially for the desktop machines like the HP85.

http://retr0bright.wikispaces.com/

-adrian

Re: restoring plastic colour

*Message #2 Posted by **Martin Pinckney** on 28 Sept 2010, 7:18 a.m.,*
in response to message #1 by adrian godwin

This topic got some coverage here a while back, so it's good to have a reminder for newcomers or those who missed it.

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HHC2010

*Message #1 Posted by **John Cadick** on 27 Sept 2010, 9:04 p.m.*

HHC was just terrific this year. This was the first time that I have been able to go since 2007.

Several very good papers and enough good door prizes to send everybody back with lots of goodies.

To all that couldn't make it, you were missed.

To all that did make it, I was really great seeing you again. I look forward to 2011.

John

Re: HHC2010

*Message #2 Posted by **Namir** on 28 Sept 2010, 2:32 a.m.,*
in response to message #1 by John Cadick

John,

Glad you had fun at the HHC2010. I remember HHC 2007 in San Jose and the "event" during one of your talks, when your laptop displayed a eBay auction reminder (one which I was also bidding) which also appeared on the talk's projection. We both lost the auction, I remember but the whole conference attendees had a big laugh at what happened and many suggested that what happened would be an excellent eBay TV advertisement (if not the very best one for eBay). I think Jake video taped that "event" too, so it is in the HHC2007 video archive.

Sorry I missed the HHC2010, but the weather here in the south of France is fantastic!!!!

Cheers,

Namir

Edited: 28 Sept 2010, 3:16 a.m.

Re: HHC2010

*Message #3 Posted by **John Cadick** on 30 Sept 2010, 5:05 p.m.,*
in response to message #2 by Namir

That e-bay event was discussed with much laughter. I do not recall what the bid was for, but I'm sure that it was something that has improved the quality of my life.

You were missed and mentioned with fondness.

John

Re: HHC2010

*Message #4 Posted by **David Hayden** on 28 Sept 2010, 8:00 a.m.,*
in response to message #1 by John Cadick

Thanks John. I had a really wonderful time at my first HHC conference. The speakers were great, the door prizes were great, and I'm seriously thinking about buying the 35s now, Just Because. It was also really nice to finally put faces with so many of the familiar names here on the forum.

A special THANK YOU to the entire HHC2010 committee for putting this thing together, and the HP for hosting us at their wonderful facility.

Dave

Re: HHC2010

*Message #5 Posted by **Thomas Chrapkiewicz** on 28 Sept 2010, 8:32 a.m.,*
in response to message #4 by David Hayden

I second Davids sentiments! (and Davids presentation was the most lucid!)

Thanks again to the HHC committee and Hewlett Packard for hosting the conference!!

TomC

Re: HHC2010

*Message #6 Posted by **gene wright** on 28 Sept 2010, 8:37 a.m.,*
in response to message #5 by Thomas Chrapkiewicz

First, I agree about David's presentation. I think he was really cheated by not being allowed to submit his 50g C program into the programming competition! :-)

Second, it is always good to get together in person, to view virtual people as real.

Finally, thanks to all who attended. I'm sure Richard Nelson will have a write-up of the conference available soon.

Next year, perhaps we'll all meet in my neck of the woods.

Nashville, TN for HHC 2011 ?

Re: HHC2010

*Message #7 Posted by **Namir** on 28 Sept 2010, 9:03 a.m.,*
in response to message #6 by gene wright

Gene,

Yes sir!!! Sign me up for HHC2011 in Nashville!! BTW, are there any country singers who love HP calculator as much (or even more) as country music???

:-)

Namir

Edited: 28 Sept 2010, 9:05 a.m.

Re: HHC2010

*Message #8 Posted by **Namir** on 28 Sept 2010, 9:07 a.m.,*
in response to message #6 by gene wright

Did Joerg Werner (the TI Datamath web curator) attend?

Re: HHC2010

*Message #9 Posted by **Walter B** on 28 Sept 2010, 9:52 a.m.,*
in response to message #8 by Namir

Jörg Wörner is on the list of registered attendees with a PoA of 100%. So I guess he was there.

Re: HHC2010 and HHC 2011 in Nashville?

*Message #10 Posted by **gene wright** on 28 Sept 2010, 11:04 a.m.,*
in response to message #8 by Namir

Yes, Joerg and his son were there for the Saturday morning.

Not sure about the country singers, but I am checking into having the conference here in 2011.

Hopefully, some individuals who live within driving distance of Nashville might be able to attend.

As for excursions, there are several possibilities.

The 1896 Tennessee Centennial Parthenon. As I tell my friends in Athens, our Parthenon isn't in ruins. :-)

President Andrew Jackson's home, the Hermitage:

The Grand Ole Opry:

and a few others.

Re: HHC2010 and HHC 2011 in Nashville?

*Message #11 Posted by **Namir** on 28 Sept 2010, 12:24 p.m.,*
in response to message #10 by gene wright

You are 9 hours by car from me. I used to drive through Nashville with my son on our way to Flagstaff, AZ, Nashville was our first stop. We stayed at a Holiday Inn (off I-40 east of the city) not too far from the airport.

Re: HHC2010 and HHC 2011 in Nashville?

*Message #12 Posted by **BruceH** on 28 Sept 2010, 8:10 p.m.,*
in response to message #10 by gene wright

> Quote:
>
> Not sure about the country singers, but I am checking into having the conference here in 2011.

Gene,

Nashville sounds great - pun intended - for both location and music. Any danger of you costing-up for August as well as, presumably, September so that those tied to school holiday periods can have a chance of attending?

Re: HHC2010 and HHC 2011 in Nashville?

*Message #13 Posted by **gene wright** on 28 Sept 2010, 10:20 p.m.,*
in response to message #12 by BruceH

The reason for September is that at least in the past, travel costs and hotel costs were thought to be cheaper AFTER September 15 compared to before.

If someone can show the committee some analysis of airline fares, hotel costs before / after that date showing no difference, it would be open for discussion.

Please? :-)

Re: HHC2010 and HHC 2011 in Nashville?

*Message #14 Posted by **BruceH** on 30 Sept 2010, 6:38 p.m.,*
in response to message #13 by gene wright

The US Dept. of Transportation has average airfare statistics publicly available here. Unfortunately they are quarterly but the 3rd quarter falls mostly over the school holiday period so that might be good enough.

The stats are given as city-to-city average fare costs so just taking the first city pair out of the report (which is Austin, TX to Houston, TX) the average one-way fares for 2009 Q1, Q2, Q3 & Q4 were $120, $117, $121 and $123.

So I would suggest that the time of year makes precious little difference.

Re: HHC2010

*Message #15 Posted by **David Hayden** on 28 Sept 2010, 10:30 a.m.,*
in response to message #6 by gene wright

Thank you Gene and Thomas for your kind comments on my presentation. Personally, I thought I should have gotten an ad-hoc "most boring presentation award" based on the looks on people's faces. :) Since many attendees aren't C programmers, I don't blame them for being bored.

For those who weren't there, I'll explain Gene's comment about the programming contest. The contest rules said that entries would be scored by multiplying the number of bytes in the program by the runtime in seconds. As an experiment, I wrote two solutions, one in RPL and one in C code. Even though the C version was 100x larger (about 16k vs 139 bytes), it had a slightly better score on my test inputs because C runs so much faster than RPL.

Let me stress that the C code was strictly a curiosity. It was clearly not eligible based on the rules so the judges understandably didn't accept it.

Hopefully Joe will post the contest and the entries here. If he does, I'll post the C code and the timing results.

David

Re: HHC2010

*Message #16 Posted by **John Cadick** on 30 Sept 2010, 5:11 p.m.,*
in response to message #15 by David Hayden

Don't confuse boredom with struggling to understand (at least in my case.) I was very interested, just not as knowledgeable about the subject as I would like.

Knew more about it after your talk than I did before. Good talk.

Re: HHC2010

*Message #17 Posted by **David Hayden** on 30 Sept 2010, 6:18 p.m.,*
in response to message #16 by John Cadick

Thank you, John. That's very kind of you. :)

Re: HHC2010

*Message #18 Posted by **Bill Zimmerly** on 28 Sept 2010, 8:35 p.m.,*
in response to message #6 by gene wright

Music City would be G-R-E-A-T-!!! ;)

Re: HHC2010

*Message #19 Posted by **Brian Walsh** on 30 Sept 2010, 12:17 a.m.,*
in response to message #6 by gene wright

Gene, I would attend a conference in Nashville if you are able to put one together, assuming it doesn't conflict with the Rocky Mountain Audiofest which I attend.

Edited: 30 Sept 2010, 12:23 a.m.

Re: HHC2010

*Message #20 Posted by **Kiyoshi Akima** on 28 Sept 2010, 2:43 p.m.,*
in response to message #5 by Thomas Chrapkiewicz

I too enjoyed my first HHC conference. Thanx to all who put a lot of work into it.

Re: HHC2010

*Message #21 Posted by **Pal G.** on 28 Sept 2010, 1:06 p.m.,*
in response to message #4 by David Hayden

> Quote:
>
> ... and I'm seriously thinking about buying the 35s now, Just Because.

Dave, can you elaborate on this comment?!

Thanks!

Re: HHC2010

*Message #22 Posted by **David Hayden** on 28 Sept 2010, 3:24 p.m.,*
in response to message #21 by Pal G.

There really isn't much to elaborate on. The conference just enhanced my interest in the calculators and I don't own a 35s. I'd like to get one and tinker around with writing some programs for it, see how fast it is, etc.

The only thing that has prevented me from getting one until now is the lack of I/O capability, so all programs must be entered by hand. Maybe the 35s will be an excuse to get into cheap robotics - it would be fun to program a robot to program it. I've heard that someone has done this already.

David

Re: HHC2010

*Message #23 Posted by **Don Shepherd** on 28 Sept 2010, 3:51 p.m.,*
in response to message #22 by David Hayden

> Quote:
>
> see how fast it is

David, programs on the 35s run a lot slower than the same programs on the 33s, fyi. If it's speed you want, the 30b will not disappoint you.

Re: HHC2010

*Message #24 Posted by **Mike Morrow** on 28 Sept 2010, 10:39 p.m.,*
in response to message #23 by Don Shepherd

The HP 30b appears to be the fastest HP handheld ever. It performs a 2500-iteration version of the old Savage benchmark in 6.5 seconds. That's ten times faster than the HP 50G, and it produces exactly the same numerical result. It's a sturdy calculator with excellent ergonomics and mechanical characteristics...but not much program memory, though.

To return to subject...I think Nashville would be a great conference site, especially for us who are east of the Mississippi. Must there be an appropriate HP facility at at the city chosen for the conference?

Edited: 29 Sept 2010, 9:54 a.m.

Re: HHC2010

*Message #25 Posted by **Jake Schwartz** on 29 Sept 2010, 12:12 p.m.,*
in response to message #24 by Mike Morrow

> Quote:
>
> Must there be an appropriate HP facility at at the city chosen for the conference?

Nope - we were simply taking advantage of the offers by HP between 2007 and 2010 to use their facilities, thus saving us easily between 1 and 2 thousand dollars that would have to be covered by the attendees. Based on 40 people, I am glad that we didn't have to charge each attendee an extra $50. to be there. (It is understood that in any case the conference fee would be very minor as compared to most of our transportation, hotel and food costs, but still...)

Jake

Re: HHC2010

*Message #26 Posted by **PeterP** on 28 Sept 2010, 9:57 a.m.,*
in response to message #1 by John Cadick

just want to second all the sentiment and and especially the thanks to Richard, Gene, and the committee as well as Tim and Jason and HP. They did a terrific job.

It was my first US conference and it was a great pleasure to finally put faces to the many great posts here on the forum. It is indeed an awesome community!

Cheers

Peter

Re: HHC2010

*Message #27 Posted by **geoff quickfall** on 28 Sept 2010, 6:41 p.m.,*
in response to message #1 by John Cadick

Yes, another wonderful conference and meet.

Some incredible math/algorithim discussions as well as interesting future ideas from HP! One of the benefits of attending ;-)

Ideas galore and it would seem, lots of feedback from HP. New venue for next year? Sure, but I will be there again!

The following require many thanks and kudos:

```
*  The Committed members of course
       Richard, Joe, Wlodek, Gene and Jake
*  HP of course;
       Tim, Laura and Jason
*  Special thanks to Mark Ringrose for organizing NOAA and
       NIST this year.
```

I will have some video links to the NOAA tour up some time today I hope. The globe projection room was incredible. The detail and 3d presentation that you could walk around was fascintating. I mangaged to get some good video clips of the following:

```
* plate tectonics spanning 600 million years
* north pole ice sheet fluctuations
* aircraft tracking on the globe
* IO, Jupiter and Mars scans
```

I will try to get them up today otherwise they may wait until I get back from my Tokyo trip Saturday.

Cheers and thanks to ALL for a great time and chat (listen ;-)

Geoff

Edited: 28 Sept 2010, 6:55 p.m.

Re: HHC2010

*Message #28 Posted by **Marcus von Cube, Germany** on 30 Sept 2010, 5:54 p.m.,*

in response to message #27 by geoff quickfall

Geoff, can't you borrow a Jumbo and pick us all up next time? That would save on transportation costs for most of us considerably, I think. ;)

Re: HHC2010

*Message #29 Posted by **David Hayden** on 30 Sept 2010, 6:26 p.m.,*
in response to message #28 by Marcus von Cube, Germany

> Quote:
>
> Geoff, can't you borrow a Jumbo and pick us all up next time? That would save on transportation costs for most of us considerably, I think. ;)

Hmmm... If the pilot diverts the plane, it isn't hijacking, right?

Okay, here's the plan: we all travel to some airport next year - let's say Denver - and book a seat on one of Geoff's flights. Once we're in the air, he declares an emergency - a "software glitch in BCD rotator circuitry."

He diverts the plane to Tahiti for an emergency landing.

We hold the conference there and the airline flies us all back first class to compensate us for the diversion....

:) Dave

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Kaprekar numbers

*Message #1 Posted by **Thomas Klemm** on 27 Sept 2010, 5:57 p.m.*

There was that mini-challenge I started concerning Kaprekar's constant (6164) which directed me to something completely different: The Kaprekar Numbers.

Now there's this function ***Inv**(a, b)* which I faintly remembered is related to calculating gcd(a, b). It took me some time until I got all the pieces together again and realized that 3D vectors could be used to calculate it. So I dug out my HP-35s and entered the following program:

```
0001 -
0002 LASTx
0003 RTN
```

Press RTN to make sure you're at the beginning. Let's assume you want to calculate Inv(369, 271), so put the following two arrays on the stack:

```
         [369, 1, 0]
         [271, 0, 1]
```

Whenever the leftmost number in the top array is bigger than the associated number in the bottom array, press R/S. Otherwise swap x and y.

```
R/S
         [98, 1, -1]
         [271, 0, 1]
x<>y
         [271, 0, 1]
         [98, 1, -1]
R/S
         [173, -1, 2]
         [98, 1, -1]
R/S
         [75, -2, 3]
         [98, 1, -1]
x<>y
         [98, 1, -1]
         [75, -2, 3]
R/S
         [23, 3, -4]
         [75, -2, 3]
x<>y
         [75, -2, 3]
         [23, 3, -4]
R/S
         [52, -5, 7]
         [23, 3, -4]
R/S
         [29, -8, 11]
         [23, 3, -4]
R/S
         [6, -11, 15]
         [23, 3, -4]
x<>y
         [23, 3, -4]
         [6, -11, 15]
R/S
         [17, 14, -19]
         [6, -11, 15]
R/S
         [11, 25, -34]
```

```
          [6, -11, 15]
R/S
          [5, 36, -49]
          [6, -11, 15]
x<>y
          [6, -11, 15]
          [5, 36, -49]
R/S
          [1, -47, 64]
          [5, 36, -49]
```

Finally we reached 1 = gcd(369, 271)!

Now you can represent 1 = -47 * 369 + 64 * 271

Thus Inv(271, 369) = 64 since 64 * 271 = 1 (mod 369) and Inv(369, 271) = -47 = 224 (mod 271) since -47 * 369 = 1 (mod 271).

As you can see the y and z component of the vectors keep track of the calculation.

However this algorithm gets more than tedious when the magnitude of both numbers differ as with 10^{10} and 7. What you can do is shift the smaller number to the left (i.e. multiplying with 10) until both magnitudes agree. And then shift it to the right again whenever it's too big to subtract.

Just wanted to note that the HP-35s has some useful features.

Cheers
Thomas

PS: Why would somebody want to calculate Inv(369, 271)?

Both 64 * 271 = 17344 and 224 * 369 = 82656 are Kaprekar numbers for n = 5 since:

17344^2 = 300814336; 3008 + 14336 = 17344

82656^2 = 6832014336; 68320 + 14336 = 82656

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HP 35s case change?

*Message #1 Posted by **Morse** on 26 Sept 2010, 7:49 p.m.*

Hi everyone and thanks in advance;

I just bought a replacement HP35s at a ubiquitous US "big box" retailer and found that the case it came with is a rather cheap "slip" affair. Has there been a change? I prefer the zip cases and have considered picking up another spare HP35s - but want to ensure that I get the proper case. Fortunately I saved the case left over from the "expended in duty" calculator, so I swapped it out. The calculator appears authentic (comparing to my remaining spare).

Anyone know what is going on, and where I can pick up another spare HP35s with zipper case? 'Can't have enough spare RPN calcs....

Thanks again, Morse

Re: HP 35s case change?

*Message #2 Posted by **Chuck** on 26 Sept 2010, 8:02 p.m.,*
in response to message #1 by Morse

Both of my zip cases no longer zip rendering them useless, and they're very little used. (I no linger use either. I feel the calculator was a huge disappointment regardless of how many here extoll the the notion HP is "on the right track" with reproducing calculators.)

I would much rather have a (quality) slip case than a zippy one that fails after 50 uses.

Re: HP 35s case change?

*Message #3 Posted by **Thomas Klemm** on 27 Sept 2010, 3:34 p.m.,*
in response to message #2 by Chuck

Hi Chuck

Faced with the same problem I only recently realized that it works when I pull the tab of the slider perpendicular to the zip case.

Hope this helps
Thomas

Re: HP 35s case change?

*Message #4 Posted by **Chuck** on 27 Sept 2010, 10:51 p.m.,*
in response to message #3 by Thomas Klemm

Hi Thomas,

Thanks for the tip. I thought it was working, but it split again after about three inches. The killer for both zippers on each case are the corners; round the corners and she splits open. I'm not horribly upset because I was only going to repurpose the cases for pencil and pen pouches (since I don't use the 35s' anymore.)

CHUCK

Re: HP 35s case change?

*Message #5 Posted by **Raymond Del Tondo** on 27 Sept 2010, 12:28 a.m.,*
in response to message #1 by Morse

Hi,

there is an online seller where you can buy the 35s zipper cases w/o the calc. They look good, but unfortunately they seem to be of very poor quality. I did not use the calc, but both zippers of my 35s case are defective, and the batteries of the calc are empty. Not too good for an anniversary item.

OT: The protective case of the 12c anniversary edition also was a failure, but for different reasons. The 12c anniversary case is so bulky, ugly and impracticable that I doubt anyone is using it.

HTH

Raymond

Re: HP 35s case change?

*Message #6 Posted by **Don Shepherd** on 27 Sept 2010, 7:09 a.m.,*
in response to message #5 by Raymond Del Tondo

> Quote:
>
> The protective case of the 12c anniversary edition also was a failure, but for different reasons.

Bulky it was, but it also used magnets, and I made the mistake one day of placing my HP-65 standard pac next to or on top of that case, and I lost all the standard pac programs. After that, I relegated that case to the closet.

And, yes, I realize that other cases (like the 17bii+) use magnets too.

Re: HP 35s case change?

*Message #7 Posted by **bill platt** on 27 Sept 2010, 12:13 p.m.,*
in response to message #6 by Don Shepherd

When you say you lost all your 65 std pac, is that forever, or can you rewrite from somewhere?

Re: HP 35s case change?

*Message #8 Posted by **Don Shepherd** on 27 Sept 2010, 12:22 p.m.,*
in response to message #7 by bill platt

I've got the manual, which has all the code in it, if I wanted to enter the code and write it to a new mag strip. Or maybe I could rewrite it on the existing mag strip, but I think they are notched as read-only so that might require some trick with scotch tape or something.

So, no, they are not lost forever, it was just a disappointment when I tried to read one that had previously worked and it wouldn't read, then I tried another with the same result, and I eventually figured out why they were all wiped out.

Magnet-laden cases and mag strips from the 70's are not a good combination!

Don

Re: HP 35s case change?

*Message #9 Posted by **Walter B** on 27 Sept 2010, 1:37 p.m.,*
in response to message #8 by Don Shepherd

Hi Don,

how about replacing the magnets by Velcro strips?

HTH

Re: HP 35s case change?

*Message #10 Posted by **Don Shepherd** on 27 Sept 2010, 2:08 p.m.,*
in response to message #9 by Walter B

That would probably work fine, but I'd have to cut into the case to remove the magnets and I'd rather not do that. I don't use the 12c Platinum 25th anniversary edition much since the fast 12c+ came out about a year ago; that's the one I play with these days. So mostly the platinum sits in its case in the closet.

Re: HP 35s case change?

*Message #11 Posted by **Jim Horn** on 28 Sept 2010, 2:26 p.m.,*
in response to message #6 by Don Shepherd

Don, you can write to protected cards easily with an "unprotect" card - take an old card that you aren't otherwise using and cut its bottom right corner off so its right side is at a 45 degree slope to the upper right corner. Then, if you gently put that into the exit port of the card reader (the left slot), you can write to a protected (cut corner) card. The protected card will push this one out of its way as it goes through, but this card's pointed corner will fill the gap of the protected card's cut corner, fooling the HP-65 (or HP-67 or HP-97).

My '67 and '97 card collection has had such a card in it since 1976. Useful tool!

Re: HP 35s case change?

*Message #12 Posted by **Don Shepherd** on 28 Sept 2010, 2:45 p.m.,*
in response to message #11 by Jim Horn

Thanks Jim, I didn't know about that trick.

Re: HP 35s case change?

*Message #13 Posted by **M. Joury** on 27 Sept 2010, 1:16 a.m.,*
in response to message #1 by Morse

I purchased a backup 35S recently and had left it in the package. After seeing your post I went and checked... Sure enough, it did not come with the zippered case. It also did not come with a manual. I realize that replacing manuals with CD's saves HP money, but I really like to be able to browse a manual away from my computer.

Re: HP 35s case change?

*Message #14 Posted by **Angel Martin** on 27 Sept 2010, 2:03 a.m.,*
in response to message #13 by M. Joury

here we go again: cost-cutting and corner-shaving on a product that could have been better to begin with. The pattern repeats itself.

And still there're those who believe a 41S will ever be done? I'm not holding my breath - and besides, the 41CL will be such a machine (or: the best replacement for a 41 is.. a faster 41!)

Re: HP 35s case change?

*Message #15 Posted by **Tim Wessman** on 27 Sept 2010, 9:36 a.m.,*
in response to message #14 by Angel Martin

Cost saving has very little to do with it.

The shape, size and most importantly *thickness* of a retail package is dictated almost exclusively by the stores which will say something like "to even be considered on my shelf you must have X number of units per Y sized box, and each must fit within W, H and be no more than T or I won't even consider giving you shelf space". It is the same for any retail item and will not change regardless how much you or I desire it.

TW

Edited: 27 Sept 2010, 9:36 a.m.

Re: HP 35s case change?

*Message #16 Posted by **M. Joury** on 27 Sept 2010, 10:50 a.m.,*
in response to message #15 by Tim Wessman

Interesting. I am not, and have never been, in retail and I had no idea that such things were dictated by the stores selling the product.

Re: HP 35s case change?

*Message #17 Posted by **Walter B** on 27 Sept 2010, 11:07 a.m.,*
in response to message #16 by M. Joury

Bonjour M.,

> Quote:
>
> I had no idea that such things were dictated by the stores selling the product.

Tim was talking about real big shop chains in the USA, I assume, like Office Depot. We don't have too many of these stores in Europe, so the relations between manufacturer and store may be different here.

Re: HP 35s case change?

*Message #18 Posted by **M. Joury** on 27 Sept 2010, 11:35 a.m.,*
in response to message #17 by Walter B

Hi Walter,

Yes, I did realize that Tim was talking about the big stores that can dictate such things. I also realize (or I would have had I thought about it for any length of time--I was being a little provincial) from the fair amount of time I have spent in Europe over the years that Europe is a little different.

Cheers.

Re: HP 35s case change?

*Message #19 Posted by **Martin Pinckney** on 27 Sept 2010, 5:56 p.m.,*
in response to message #15 by Tim Wessman

So if I read this right, the HP 35s was first released only direct from HP, complete with the printed manual and zipper case. HP designed it this way, because it was the either the company policy to provide these accessories with the calculator as a matter of course, or because marketing determined that it would sell better as a professional tool if so supplied.

Then marketing decided the calculator needed to be in stores as well, and the chains insisted that the packaging be reduced to fit in their schemes. So HP complied.

But HP still sells them direct from their own website complete with the printed manual and zippered case, correct?

At least the "PDF version of all specs" on the HP website still says

> Quote:
>
> What's in the box - Calculator, batteries, user manual, premium protective case.

Re: HP 35s case change?

*Message #20 Posted by **M. Joury** on 27 Sept 2010, 6:26 p.m.,*
in response to message #19 by Martin Pinckney

Nope. I got mine directly from HP during their 15% off sale. No zippered case, no manual. I actually called to see if manuals were still available and was told that I could get them from a third party but that HP was not selling them.

Now I could always call back and hope that a different person gives me a different answer...

Actually that does not surprise me. I think it would probably be a headache to try to figure out what inventory goes where. Makes sense to just comply with the request of the big retailers. I just wish that the manuals were still available for purchase. I have several newer editions that did not come with manuals, including, as you noted, the HP50g. I seem to remember getting some sort of manual with my HP49g+ but I can't seem to find it.

Edited: 27 Sept 2010, 6:30 p.m.

Re: HP 35s case change?

*Message #21 Posted by **Martin Pinckney** on 27 Sept 2010, 9:10 p.m.,*
in response to message #20 by M. Joury

> Quote:
>
> Nope.

So maybe cost does have a little something to do with it?

Re: HP 35s case change?

*Message #22 Posted by **Frank Boehm (Germany)** on 28 Sept 2010, 3:04 p.m.,*
in response to message #20 by M. Joury

> Quote:
>
> I think it would probably be a headache to try to figure out what inventory goes where.

Actually, it's not. I would assume HP has a sufficient number space of GTINs available, so nothing would stop them to offer a "premium" and a "cost-saving" model.
And "we only have limited shelf space" is less than half the truth. More space is easily available - you just have to pay for it. Considering the enormous size of a calculator, it's probably not a lot.
So this leads us to the whole truth: cost reduction and (more) profit. This is rather annoying, as this calc isn't quite a 1$-shop item, nor did the manufacturing costs for a zippered case explode beyond belief...

Re: HP 35s case change?

*Message #23 Posted by **uhmgawa** on 29 Sept 2010, 12:50 p.m.,*
in response to message #20 by M. Joury

> Quote:
>
> I actually called to see if manuals were still available and was told that I could get them from a third party but that HP was not selling them.

Yea, just got off the phone and apparently they stopped that deal recently. I'd requested my manual at the beginning of the year.

I wouldn't lose too much sleep over it. The rigid binding of the manual isn't exactly hp-friendly. I was planning to cut the binding off of it and spiral or comb bind it to lie flat in use. But it might not be too different just printing off and binding a copy scaled to a size you actually would want to lug around. Assuming you're inclined to lug around the 35s itself given it isn't quite a "pocket" footprint.

Re: HP 35s case change?

*Message #24 Posted by **Morse** on 27 Sept 2010, 2:58 a.m.,*
in response to message #13 by M. Joury

Thanks for the info - now I know to be on the lookout for zip cased models. Anyone know which retailer has which?

Sorry to read about the negative experiences with the zip cases from some out there. FWIW, my experiences with the zip case have been very positive. The zip case on my "daily use" HP35s has held up since they first came out, with the calculator in and out of the case more than once daily on average. It even withstood service as an "emergency mailer" from Japan one time, just wrapped in plain paper. Both zippered case and denshi jisho (electronic dictionary) made it back in one piece, and the case went right back into service on my everyday HP35s.

All the best, Morse

Re: HP 35s case change?

*Message #25 Posted by **Mark Storkamp** on 27 Sept 2010, 9:17 a.m.,*
in response to message #24 by Morse

I have to agree, the case is (was) the best thing about the 35s. The zipper works reliably every time I use it, which is more than I can say about the calculator inside the case. But I seem to recall an incidence where someone here reported the elastic in the case was sewn at the wrong location covering either their display or top row of keys. IOW typical hp hit or miss quality.

Re: HP 35s case change?

*Message #26 Posted by **uhmgawa** on 27 Sept 2010, 3:36 p.m.,*
in response to message #25 by Mark Storkamp

> Quote:
>
> ..recall an incidence where someone here reported the elastic in the case was sewn at the wrong location covering either their display or top row of keys. IOW typical hp hit or miss quality.

Hearing stuff like this is just painful. HP was one of the engineer's engineering companies in its day. I recall an ad run in a trade rag right around 1985 where a (IIRC) signal generator fell out of a airplane cargo area in flight, plummeting into a field. Somehow they managed to recover it and drug the remains into the lab. The case was toast but the instrument was still in calibration.

Closer to home I heard of a case where a calc user left the unit where it received a fatal dose of radiation. The user contacted HP wondering if service was even possible. HP offered to send him a new calc if he would return the nuked unit back to them for study. That is (sigh, was) an engineering company.

Re: HP 35s case change?

*Message #27 Posted by **Michael de Estrada** on 27 Sept 2010, 12:04 p.m.,*
in response to message #13 by M. Joury

> Quote:

> It also did not come with a manual. I realize that replacing manuals with CD's saves HP money, but I really like to be able to browse a manual away from my computer.

I find this to be a far greater shortcoming than the quality / type of case. The quality of the printed manuals used to be what set HP apart from the competition. Were it not for the excellent printed manuals that came with my HP 48SX, I'd still be fumbling around trying to figure out how to efficiently use my HP 50g.

Re: HP 35s case change?

*Message #28 Posted by **Morse** on 28 Sept 2010, 7:11 a.m.,*
in response to message #27 by Michael de Estrada

>>>...Were it not for the excellent printed manuals that came with my HP 48SX, I'd still be fumbling around trying to figure out how to efficiently use my HP 50g...<<<

Agreed that the manual is important to fully utilize a programmable like the 48G, but for a simple scientific, I tend to wing it.

However, a first rate case is a must over here, since I carry the calculator at work and need to be able to hold/use it with one hand while writing on the board with the other. The zip case is perfect, since it offers good protection in the event of a drop, yet allows me to use the thing one-handed.

Everyday carry of the calculator pretty much sours the larger models for me, since they tend to damage my suit's pockets (too heavy). And I can't stand the odd placement of the tiny enter key on the 50G; what were they thinking?!

Argh! I just wish HP would get its act together and repurpose the 12C for scientific use. If they came out with a limited edition of 15C's I would stock up on the things, even if the keyboards aren't quite up to their old standard.

Vent over. All the best, Morse

Re: HP 35s case change?

*Message #29 Posted by **Mike Morrow** on 29 Sept 2010, 10:22 a.m.,*
in response to message #28 by Morse

> Quote:
>
> I can't stand the odd placement of the tiny enter key on the 50G; what were they thinking?!

At least they corrected that fundamental mistake of having the ENTER key in a key column different from the column with the / * - + keys. When HP shifted the / * - + keys to the right side while leaving the ENTER on the left side a couple of decades ago, it made key manipulation much more awkward and inefficient. It doesn't matter which side is chosen, but these five keys should *always* be in the same column.

I'd like to see a 50 percent wider HP 50G ENTER key, positioned *above* the / * - + keys. The additional key space which that would consume could be made up by arranging the arrow keys in the same manner as that of the HP 48GX (which would free two additional key locations of the HP 50G keyboard).

> Quote:

> Argh! I just wish HP would get its act together and repurpose the 12C for scientific use.If they came out with a limited edition of 15C's I would stock up.

I find absolutely nothing good about the landscape keyboard layout for a machine that may be used as a handheld. It is very awkward to hold and use a Voyager calculator in one hand.

I would be very enthusiastic about a scientific in the new HP 30b configuration. It's a joy to use in one hand.

Re: HP 35s case change?

*Message #30 Posted by **M. Joury** on 29 Sept 2010, 11:47 a.m.,*
in response to message #29 by Mike Morrow

Just my feelings...

But the ENTER key should be on the left and the operation keys should line up with the numeric keypad not offset one key above the numeric keys as they are in the 50g.

I'll never understand why they moved the operator keys to the right side. Maybe it had something to do with the Voyager design? Am I right in saying that this was the first calculator with the operator keys on the right side? After that everything moved over. Maybe they did this for consistency among the different designs?

At any rate, I agree, the Enter key should be stacked above the operator keys. Give us back the layout of the 41C and the earlier calcs. And as pointed out, if extra keys are needed go back to the 48S/X 48G/X layout with the cursor keys. I liked it better anyway.

Cheers

Re: HP 35s case change?

*Message #31 Posted by **Martin Pinckney** on 29 Sept 2010, 6:14 p.m.,*
in response to message #30 by M. Joury

> Quote:
>
> I'll never understand why they moved the operator keys to the right side. Maybe it had something to do with the Voyager design?

The 41c and previous had Enter and operators on left. Voyagers went to operators on the right, Enter in the center. Pioneers, then 28c/s, 48 series kept operators on right, put Enter back on left. Ditto 35s, 20,30b. 49, 50 series put all on right. Confusing?

Re: HP 35s case change?

*Message #32 Posted by **M. Joury** on 29 Sept 2010, 6:34 p.m.,*
in response to message #31 by Martin Pinckney

Exactly. Just put everything back on the left where it belongs except for the Voyager series (right now limited to the 12C).

In a sense, if you think of just the numeric portion of the keyboard, everything since the Voyagers follows the Voyager layout--enter on left operator keys on right--of course the

Voyager enter is vertical and on the same level as the numeric keys but that is a side effect of the landscape layout. However, the Voyager is a completely different layout and, IMHO, does not have to match the vertical format calculators, or vice versa as appears to be the case.

Also, with the Voyager, the order of the operator keys all changed. It went from - + * / on all the models from the 35 to the 41C (as far as I can tell) to / * - + on all the later calcs. I have lots of fun switching between my 48SX and my 41C. Switching to the HP50 is even more "fun".

Re: HP 35s case change?

*Message #33 Posted by **Martin Pinckney** on 29 Sept 2010, 9:42 p.m.,*
in response to message #32 by M. Joury

Having the operator keys on the right always seemed natural to me, since I started with a TI 59, then went to Pioneers, 38g, 48sx in that order (though I still use the Pioneers).

I had not thought much about the position of the Enter key before now, and it certainly seems logical that it should be grouped with the operator keys. Nevertheless, I have been used to it on the left so long, that is not an issue for me.

Re: HP 35s case change?

*Message #34 Posted by **Mike Morrow** on 30 Sept 2010, 12:29 a.m.,*
in response to message #33 by Martin Pinckney

I also would favor these five keys being grouped on the right, with a wider ENTER key at the top. I think that works much better than the old classic HP all-on-the-left design, at least for right-handed individuals.

The Voyager and later models which split the ENTER or INPUT key from the arithmetic operator keys represent poor human factoring. That appraisal applies even to the new HP 30b. Putting the ENTER/INPUT key on the side opposite the / * - + keys is the very worst possible layout.

I suspect that the continuation of this unfortunate key arrangement for models which appeared after the Voyager series (whose awkward landscape layout forced the awkward separation) is simply some HP manager's unthinking and wholly arbitrary decision. While HP learned their lesson about the poor handling qualities of landscape layout, the obviously poor separated key column design still persists today in most HP models.

Re: HP 35s case change?

*Message #35 Posted by **M. Joury** on 30 Sept 2010, 12:52 a.m.,*
in response to message #34 by Mike Morrow

I guess, at least in part, it is what one is used to. I used the HP-41C and it's derivatives on an almost daily basis from 1980 through the early 90's before I began collecting some of the newer HP calculators. I have never found the "all-on-the-left" placement awkward and am not sure of the advantages for a right-handed person of all-on-the-right (I am right handed btw). I have to say that I even prefer the split arrangement with the double-wide enter key on the

left to the stacked all-on-the-right arrangement found in the 49/50. However, that said, if it has to be all-on-the-right, please, please, please put the enter key on top and make it double-wide.

I have followed this forum over the years but not very closely. I have to wonder how many times this discussion has come up. It seems to me that it could be one of those things that generates very strong opinions.

Edited: 30 Sept 2010, 12:55 a.m.

Re: HP 35s case change?

*Message #36 Posted by **Mike Morrow** on 30 Sept 2010, 3:20 a.m.,*
in response to message #35 by M. Joury

> Quote:
>
> I guess, at least in part, it is what one is used to.

Well, I was "used to" that classsic configuration. I was a sophmore at Georgia Tech when the HP-35 was announced. I used the HP-35 and -45 that friends had, but I couldn't afford my own HP until a couple of years after graduation with a B.E.E. when I got an HP-67.

In spite of my accustomization to the old "all-on-left-side" keys, there was obviously never any justification for it, other than who ever specified it must have been left-handed (and very very evil :-)). Though I was used to the left side keys, I knew a right side placement was more sensible for most, who are right handed.

It's a pity that HP didn't establish the all-on-right-side convention, and worse, then continues to put the ENTER/INPUT keys on the opposite side of the / * - + keys on most models from the past three decades. That's just plain stupid. I think that HP dosen't give a damn. The correction of such fundamental errors would not cost a penny before a new calculator like the HP30b is produced.

Edited: 30 Sept 2010, 3:44 a.m.

Re: HP 35s case change?

*Message #37 Posted by **David Hayden** on 28 Sept 2010, 10:37 a.m.,*
in response to message #27 by Michael de Estrada

> Quote:
>
> I find this to be a far greater shortcoming than the quality / type of case. The quality of the printed manuals used to be what set HP apart from the competition. Were it not for the excellent printed manuals that came with my HP 48SX, I'd still be fumbling around trying to figure out how to efficiently use my HP 50g.

I saw Eric Rechlin's (hpcalc.org) printed manuals at HHC2010 this weekend and won one as a door prize. They are really wonderful, laser printed on nice paper with heavy stock for the front and back

covers and high quality spiral bindings so they lay flat when open. If you need manuals, get them from him.

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HP97 Card Reader adjustment

*Message #1 Posted by **Ed Sowell** on 26 Sept 2010, 7:40 p.m.*

Just getting back to this project after several months. I've now rebuilt the "clutch" using silicone adhesive and the traction wheel with fuel hose. It now reads a test program quietly, whereas before with original clutch and O-ring traction wheel it was noisy. Progress! But, the motor still turns off before card is fully ejected. No ERROR report, just stops prematurely so I have to tug it out.

The question is how to fix this. I've been looking at the test & adjustment procedure in the Service Manual which looks thorough but tedious. I'm willing to give it a go, but though I'd first ask if anyone here has used it with success. Or, is there a simpler way?

If I am to use the Sm test/adjust procedure I will need the test data cards. Since it writes OK I guess I could just create the one that is supposed to have data on it, but I'm wondering if it wouldn't be better to use a card created on a faultless card reader. Also, where does one get the magnetic powder referred to in the procedure?

TIA

Ed

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HP-30b key assignment trick -- Sudoku helper revisited

*Message #1 Posted by **Katie Wasserman** on 26 Sept 2010, 5:04 p.m.*

I found a sort of tricky but useful way to temporarily reassign keys on the HP-30b. Normal key assignment is easy using program step 0, and all keys except a few critical ones (reset, ON/CE, INPUT,etc.) are reassignable, this includes the numeric keys. The 30b is a macro programmable machine in the sense that keys executed in a program act as if they were pressed on the keyboard. In particular there's no automatic ENTER for a numeric key, so a program can be used to enter a digit in the middle of a number, for example. Making use of the above two features along with a conditional that doesn't need to use the stack at all (DSE and ISG) allows for temporary reassignment of keys.

The following code demonstrates this for a program that was suggested in this thread

```
Mode:   RPN
Fix:    0


Shift-Hold 0 starts/resets Sudoku entry mode showing digits 1-9 available.
Pressing digits 1-9 will remove that digit from the display.
When all digits have been pressed 0 is shown and Sudoku mode ends
allowing normal calculator use.   Sudoku mode can also be ended by
storing 0 in register 0, this is possible since the 0 key is not redefined.



Registers used:


0 - indicates mode, if greater than 1 then Sudoku mode else calculator mode
6 - 10 ^ (number of digits in new digit string)
7 - new digit string
8 - old digit string
9 - user entered digit


Prog 0:
0       SH0
1       2
2       STO 0
3       1
4       2
5       3
6       4
7       5
8       6
9       7
10      8
11      9
12      STO 8
13      Sudoku
14      RTN
15      Lbl 00
16      DSE 0
17      Gto 01
18      RTN
19      Lbl 01
20      STO 9
21      0
22      STO 7
23      1
24      STO 6
25      Lbl 02
```

```
26      RCL 8
27      Input
28      GF 03
29      1
30      0
31      /
32      Math    | IP
33      Up      |
34      Up      |
35      =       |
36      STO 8
37      Ans
38      Math    | FP
39      Up      |
40      =       |
41      1
42      0
43      *
44      RCL 9
45      ?=
46      GT 02
47      Rv
48      STO + 7
49      1
50      0
51      STO / 7
52      STO * 6
53      Gto 02
54      Lbl 03
55      RCL 6
56      STO 0
57      RCL * 7
58      STO 8
59      Sudoku
60      RTN


bytes.checksum: 103.018


Prog 1:
0       1
1       1
2       Gto 00


Prog 2:
0       2
1       2
2       Gto 00


Prog 3:
0       3
1       3
2       Gto 00


Prog 4:
0       4
1       4
2       Gto 00


Prog 5:
0       5
1       5
2       Gto 00


Prog 6:
0       6
1       6
2       Gto 00


Prog 7:
0       7
1       7
2       Gto 00
```

```
Prog 8:
0       8
1       8
2       Gto 00

Prog 9:
0       9
1       9
2       Gto 00
```

-Katie

Re: HP-30b key assignment trick -- Sudoku helper revisited

*Message #2 Posted by **Marcus von Cube, Germany** on 27 Sept 2010, 4:44 a.m.,*
in response to message #1 by Katie Wasserman

Nice trick, but no more room for more programs. :(

Re: HP-30b key assignment trick -- Sudoku helper revisited

*Message #3 Posted by **Katie Wasserman** on 27 Sept 2010, 11:25 a.m.,*
in response to message #2 by Marcus von Cube, Germany

There's not a lot of room for program in this calculator at all. It's very close to the 12C in actual programming space because it's not space efficient in merging program steps.

However, in this case only about 50% of the total program space is used and you could add more programs to this code. Accessing them from arbitrarily reassigned keys wouldn't be possible but you could use the DSE/ISG mechanism as a means to branch to different programs by LBL. For example storing a 3 in register_0 could would indicate the program A should be run when Shift-0 was pressed, a 4 in register_0 would indicate program B, etc..

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MLDL2000 update

*Message #1 Posted by **Meindert Kuipers** on 26 Sept 2010, 3:25 p.m.*

After having finished the design of the MLDL2000 and about to request quotes from assemblers I was pointed to the website www.mbed.org, and this is really a great product. I have made the decision to add it to the MLDL2000, instead of specialized SD card controller. The mbed controller will be able to support SD cards, and a lot more, including ethernet connectivity, serial ports and user application programming. It actually gives you a complete ARM Cortex to play with, complete with development tools, libraries and a user community online.

The only disadvantages are its somewhat higher price, and the size. Due to this size I have to redo the layout of the MLDL2000 from scratch, but it will be worth it. Imaging controlling an ethernet port from your HP41 (yes, there will be an RJ45 port on the MLDL2000 V2)!

Have a look at the mbed website, if you have any ideas let me know,

Meindert

Re: MLDL2000 update

*Message #2 Posted by **Håkan Thörngren** on 27 Sept 2010, 2:38 a.m.,*
in response to message #1 by Meindert Kuipers

The possibility of having TCP/IP and USB connectivity is very appealing. While the HP-41 is a bit slow, the ARM could be used as a smart device to speed things up.

However, my initial impression is a little bit concerned about the business model. They model their tools around a cloud, meaning you need to sign up to use their website. The tools are executed on their side and what does that mean for the future? We are running very old orphaned hardware and would probably like to do so for some considerable future.

How long will that website exist and how long will it support the hardware we choose? What about the pricing model, is something that might change at any time in the future? Pay for each build?

Can we keep the project home to have full control over it?

Re: MLDL2000 update

*Message #3 Posted by **Meindert Kuipers** on 27 Sept 2010, 12:24 p.m.,*
in response to message #2 by Håkan Thörngren

That was also one of my concerns first. The community has several threads about offline compiling (see here for example), and that, plus the ease of use convinced me.

Re: MLDL2000 update

*Message #4 Posted by **Håkan Thörngren** on 29 Sept 2010, 2:39 a.m.,*
in response to message #3 by Meindert Kuipers

Then I feel relieved.

I wonder, how do you plan to interface to it? Will it be possible to write some firmware for it to implement our own devices, i.e. support PFAD=C, C=REGN and REGN=C instructions to keep the standard low level interface?

Would it also be possible to draw I/O flags like the time module do (flag 13 when something is up, and then only draw secondary flags when that particular device is selected)?

This could really open up for a lot of possibilities!

Re: MLDL2000 update

*Message #5 Posted by **Meindert Kuipers** on 29 Sept 2010, 7:24 a.m.,*
in response to message #4 by Håkan Thörngren

Keep in mind that the MBED module will be an (optional) expansion to the existing MLDL2000 structure (although in a completely new layout), meaning that the MBED module will talk to the MLDL2000 through a communication path. The plan is to have a communication interface based on register I/O, such that your HP41 sees a register (somewhere in the ROM memory map) and can send commands and data to the MBED, and receive data back.

It is not my intention to expose the HP41 interface signals to the ARM processor, although that is not impossible. Generation of the I/O flag will be prepared in the hardware, just waiting for a possible use case.

Disadvantage of the MBED module is the current consumption (up to 200 mA), so in practice you always need an external power supply. For those who wish to use the SD card interface only an alternative will be offered, the new MLDL2000 will also support the GHI uALFAT module (embedded micro SD card controller).

Meindert

Re: MLDL2000 update

*Message #6 Posted by **Håkan Thörngren** on 30 Sept 2010, 2:36 a.m.,*
in response to message #5 by Meindert Kuipers

Sounds good in any case. I think being able to control FI 13 in hardware is the important thing, how the rest of the low level interface looks is not important. Even the secondary FI flags are not important as that status should be possible to obtain by just reading suitable interface registers.

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Sad repair job on HP48

*Message #1 Posted by **Han** on 25 Sept 2010, 5:48 p.m.*

This HP48GX was apparently "manufactured" without any card ports...

Some of the more subtle refurbs include a double-molded keyboard that was never used in the Indonesian models with the screen and the back cover of an Indonesian HP48GX.

But seriously... if you are going to sell a refurbished HP48, at least make sure to match up the parts.

Re: Sad repair job on HP48

*Message #2 Posted by **db (martinez, ca.)** on 25 Sept 2010, 6:11 p.m.,*
in response to message #1 by Han

at least the parts didn't get thrown away.

the 48 series was real popular in peru's neighbor, bolivia. i taught English in la paz in 98 at the engineering college of the public university and nearly all my students had a 48 of some type. most knew their stuff too. they were downloading programs off the internet and writing their own too. i think they might have had a better grasp of the subject than the average american, getting answers off a canned suite of routines on a PC. they fix everything down there, so this g/gx may have a real complicated origin.

Re: Sad repair job on HP48

*Message #3 Posted by **Martin Pinckney** on 25 Sept 2010, 8:53 p.m.,*
in response to message #1 by Han

At first, I thought the seller just meant to write: "No Ram Cards [In] Ports". But I see your point, could be a G in a GX case.

> Quote:
>
> Some of the more subtle refurbs include a double-molded keyboard that was never used in the Indonesian models with the screen and the back cover of an Indonesian HP48GX.

How can you tell all this from the small photos?

Re: Sad repair job on HP48

*Message #4 Posted by **Han** on 25 Sept 2010, 9:08 p.m.,*
in response to message #3 by Martin Pinckney

If the photos are small, you generally cannot. However, the molded keys have a very crisp, sharp font. These keys were only installed on the Singapore models (for the GX). Take a look at this page:

http://www.thimet.de/CalcCollection/Calculators/HP-48GX/Contents.htm

Click on the photos for larger views. What you should notice is a clear difference in the fonts in the enlarged views. Now, when you look at the smaller photos, notice the y^x and alpha buttons have much "thicker" labels. Despite the smaller views, the Singapore keyboards still have a crisper font relative to the Indonesia keyboard.

Edited: 25 Sept 2010, 9:43 p.m.

Re: Sad repair job on HP48

*Message #5 Posted by **Martin Pinckney** on 25 Sept 2010, 11:37 p.m.,*
in response to message #4 by Han

> Quote:
>
> If the photos are small, you generally cannot.

I was referring to the auction photos in your OP.

Re: Sad repair job on HP48

*Message #6 Posted by **Han** on 26 Sept 2010, 9:30 a.m.,*
in response to message #5 by Martin Pinckney

Sorry for the confusion. In my OP, I was referring to other refurbished calculators I had seen in the past (not the calculator in the link). As for this particular calculator, though, its keyboard is likely from Indonesia (based on the alpha and y^x key), but the back cover appears to be from Singapore based on the engraved serial number.

Luiz;

*Message #7 Posted by **db (martinez, ca.)** on 26 Sept 2010, 11:17 a.m.,*
in response to message #6 by Han

Luiz; I might be remembering this wrong, but didn't you once post a picture of a left-over parts frankencalc you made with a Novus keyboard & screen miscegenating the body of a commedore? If that was you - could you repost that picture to show these folks what a really scary repair looks like.

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Repair/Replacing an HP 11C LCD

*Message #1 Posted by **Jerry** on 25 Sept 2010, 5:08 p.m.*

Is it possible to repair or replace a HP 11C display or interchange it with a HP 12C display?

Re: Repair/Replacing an HP 11C LCD

*Message #2 Posted by **Martin Pinckney** on 25 Sept 2010, 9:44 p.m.,*
in response to message #1 by Jerry

Jerry,

Many of the "experts" are at HHC, so you may have to wait to get your answers. I am not an expert, but from reading posts over the years, I think the answer is "yes", provided you use a 12c from the same production era. See this as a start.

You may be able to find the complete answer you need by searching the archives.

Re: Repair/Replacing an HP 11C LCD

*Message #3 Posted by **aj04062** on 26 Sept 2010, 8:02 a.m.,*
in response to message #1 by Jerry

Yes it is. I did it on a unit I own. This was my first attempt. The re-assembly process takes some practice and patience to get all LCD to operate correctly.

This was on a later unit with the single PCB. Earlier units with 2 PCBs are easier, I've heard (you need to swap parts from same to same)

Before:

2 disassembled units

After:

Edited: 26 Sept 2010, 8:04 a.m.

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HP-41CY emulation for NoV-64 (also for Halfnuts)

*Message #1 Posted by **Diego Diaz** on 25 Sept 2010, 3:33 p.m.*

Hi all,

Few months ago I published the NoV-64CY.HEX file which was intended to replicate HP-41CY functionality (at normal speed) using a NoV-64 module.

I only had a Coconut CX with me and the file worked as expected.

However, several users reported that the emulation doesn't work at all on Hafnuts.

Once I get back home I confirmed these reports. Regrettably some other personal issues prevented me for getting back to this issue until now.

The new version is available here.

This time I've brought both Coconut and Halfnut and tested it accordingly.

The emulation keeps the "RAM shadowing" feature of the CY (allowing any physical module to hide the RAM page(s) it occupies when inserted) as well as its unique Bank-switching scheme (PG01, PG10 & PG<> functions) of the W&W RAMBOX-64K.

Enjoy your 41's :-)

Cheers.

Re: HP-41CY emulation for NoV-64 (also for Halfnuts)

*Message #2 Posted by **Angel Martin** on 26 Sept 2010, 2:48 a.m.,*
in response to message #1 by Diego Diaz

Another milestone in your record Diego, you've squared the circle and then come back again! The 41 community ows you tons, so glad you're there!

Re: HP-41CY emulation for NoV-64 (also for Halfnuts)

*Message #3 Posted by **Diego Diaz** on 26 Sept 2010, 9:59 a.m.,*
in response to message #2 by Angel Martin

Thanks a lot for your kind words Ángel.

Believe me when I say that I'm most happy to offer to this awsome community a small part of the satisfactions received along these years.

I'm also aware that none of the projects I've built could have never reached a successful end without the cooperative and knowledge-sharing spirit of many HP enthusiasts; which list would be too long to post

and, of course, includes yourself in the highest positions... :-)

Will keep on posting as new developments become available (stay tuned...)

Cheers from the (now sunny) Caribbean.

Diego.

Re: HP-41CY emulation for NoV-64 (also for Halfnuts)

*Message #4 Posted by **J-F Garnier** on 26 Sept 2010, 4:40 a.m.,*
in response to message #1 by Diego Diaz

Hi Diego,

Just by curiosity, what was the cause of the failure with the halfnut machines? Is it related to what was discussed here ?

J-F

Re: HP-41CY emulation for NoV-64 (also for Halfnuts)

*Message #5 Posted by **Diego Diaz** on 26 Sept 2010, 10:33 a.m.,*
in response to message #4 by J-F Garnier

Hi J-F,

In fact it wasn't.

There were two points in my previous code for NoV-64CY which caused the Halfnuts to fail.

The first one was a Phi2 sincronization on puse #32. Apparently, Halfnuts processor generates a slightly larger Phi clock pulse width. Which eventually causes its falling edge being erroneously detected generating a sinchro-glitch. From this point ahead the whole thing crashes.

The second one (may also be related to Phi pulses width) was detected after fixing the first. It looks like Halfnuts are a bit more critical regarding DATA and ISA timing.

So the new code needs to makes sure that both lines (when driven by the NoV-64) keep the appropriate level (H or L) along the whole Phase (from Phi2 rising edge to next Phi2 r.e.).

Coconuts are just "happy" if they find the correct level at Phi1 rising edge.

On my previous projects (Clonix, NoVRAM...) these lines were driven from Ph2 to Ph2 so they work as expected both with Coconuts and Halfnuts. But since I had to replicate the "RAM shadowing" feature of the CY I wrote a new output routine which shorten the presence of the ISA and DATA signals between pulses. Which, in the end, causes the failure.

The bug was fixed once the routine was recoded to allow both: RAM shadowing and signal presence along the whole phase length.

As usual things are far more easy when one goes down to the bit level... :-)

Best wishes.

Diego.

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Programming Challenge

*Message #1 Posted by **Namir** on 25 Sept 2010, 12:18 p.m.*

Hi All folks who are NOT attending HHC 2010,

Since you are not busy at the HHC, I thought you can handle the following worthwhile challenge.

The Viete's formulas allow you to calculate the coefficients of a polynomial given it's roots. For example for quadratic polynomials:

x1 + x2 = - b / a

x1 * x2 = c / a

Giving the polynomial a x^2 + b X + c. Choosing a = 1 simplifies things.

In the case of a cubic polynomial you have:

x1 + x2 + x3 = - b / a x1* x2 + x1 * x3 + x2 * x3 = c /a x1 * x2 * x3 = -d / a

Giving the polynomial a x^3 + b x^2 + c x + d. Choosing a = 1 simplifies things.

Wikipedia shows the general equations for the Viete's formulas here.

All polynomials (order 2 ad higher) have the following in common:

1) The coefficient of the n-1 term (n being the polynomial order) is calculated as:

sum(x(i)) = - b / a, for i = 1 to n

2) The constant term is calculated as:

product(x(i) = (-1)^n * constant_term / a for i = 1 to n

Your challenge is to write a program in RPN, RPL, BASIC or any other popular language (for calculator or for PC) that can calculate the coefficients of any polynomial given the array of roots. Using coefficient a as 1 simplifies things a bit.

The solution requires that you handle a number of n equations to calculate the coefficients of a polynomial of order n.

Namir

AWOL from HHC 2010 and hiding in the south of France!! Merci Sarkozi!!!

Edited: 25 Sept 2010, 12:31 p.m.

Re: Programming Challenge

*Message #2 Posted by **Thomas Klemm** on 25 Sept 2010, 5:03 p.m.,*
in response to message #1 by Namir

The HP-48GX has this function built in:

```
[1 2 3] PCOEF -> [1 -6 11 6]
```

You may consider it the inverse operation of PROOT.

Best regards
Thomas

Re: Programming Challenge

*Message #3 Posted by **Namir** on 25 Sept 2010, 5:38 p.m.,*
in response to message #2 by Thomas Klemm

You are not implementing a solution using Viete's formulas. I am aware of function PCOEF and PROOT.

Namir

Re: Programming Challenge

*Message #4 Posted by **Han** on 25 Sept 2010, 5:59 p.m.,*
in response to message #1 by Namir

Are we shooting for program size, speed, or simply an implementation of the formula? =)

Han

Re: Programming Challenge

*Message #5 Posted by **Han** on 25 Sept 2010, 6:24 p.m.,*
in response to message #1 by Namir

I didn't implement Viete's formula directly, but the algorithm does (in the end) do the exact multiplication and addition used in Viete's formula.

Given a list of roots: { x1 x2 x3 ... xn } it computes the list of coefficients.

```
<<
  DUP SIZE -> r n
  <<
    { 1. } 0. n 1. -
    FOR i
      0. OVER + r n i - GET NEG *
      SWAP 0. + SWAP ADD
    NEXT
  >>
>>
```

If anyone would like to see the math behind it, I can post that as well.

Re: Programming Challenge

*Message #6 Posted by **Thomas Klemm** on 25 Sept 2010, 7:32 p.m.,*
in response to message #5 by Han

Same idea but using STREAM:

```
\<<
  {{1}} SWAP +
  \<< \-> p x
    \<<
      p 0 +
      0 p +
      x * -
    \>>
  \>>
  STREAM
\>>
```

Best regards
Thomas

Re: Programming Challenge

*Message #7 Posted by **Namir** on 25 Sept 2010, 8:42 p.m.,*
in response to message #6 by Thomas Klemm

Thomas,

Your solution works great too (input has to be a list of roots).

Cool!!

Namir

Re: Programming Challenge

*Message #8 Posted by **Namir** on 25 Sept 2010, 7:55 p.m.,*
in response to message #5 by Han

Sure! Please do! I am very impressed with your solution.

You solution works great! Thanks!

Edited: 25 Sept 2010, 8:48 p.m.

Re: Programming Challenge

*Message #9 Posted by **Han** on 25 Sept 2010, 9:16 p.m.,*
in response to message #8 by Namir

The idea can be easily seen with the following example. Suppose our roots are 3, 5, and 7. Then the polynomial can be written in factored form is:

(x-3)(x-5)(x-7)

First multiply the first two factors (x-3)(x-5).

(x-3)*x + (x-3)*(-5) = (x^2 - 3x) + (-5x + 15)

If we use vector (or list) notation, what we are essentially doing is taking { 1 -3 } (which corresponds to the polynomial x-3) and "shifting" it by a power of x (to get x^2 - 3x). So in list form, this is { 1 -3 0 }. Then, we compute (x-3)*(-5) which gives us the list { 0 -5 15 }. We need a 3-element list though, since ADD requires same list sizes. Lastly, we add the two lists via element-wise addition. This is

essentially the sum of two polynomials: one whose coefficient is { 1 -3 0 } and the other is { 0 -5 15 }. So the sum is { 1 -8 15 }, or the polynomial x^2 - 8x + 15.

Now, just repeat this process with the final factor: (x-7). It's really just distribution of x and the root x_i (negated).

This is best seen when using the DBUG feature of the HP48/49/50.

Han

Edited: 25 Sept 2010, 9:22 p.m.

Re: Programming Challenge

*Message #10 Posted by **Han** on 25 Sept 2010, 9:33 p.m.,*
in response to message #9 by Han

This reminds of another challenge of computing f(n) for some given number n, where f(x) is a polynomial using an RPN calculator that only has 2 levels of stack.

The idea is to rewrite the polynomial in a "recursive" manner. For example, if we have 3x^2-5x+6, we can view this as:

(((x * 3) - 5) * x) + 6

So to compute f(4), for example, we would do:

4

3

*

5

-

4

*

6

+

Re: Programming Challenge

*Message #11 Posted by **Namir** on 26 Sept 2010, 6:14 a.m.,*
in response to message #10 by Han

I see .. so you are doing the polynomial multiplication approach. This is the easy route. I was able to write a version of PCOEF in Matlab (similar to Matlab's ROOTS function).

The Viete's formulas are a bit tough to code. Hence the challenge!!

:-)

Namir

Re: Programming Challenge

*Message #12 Posted by **Olivier De Smet** on 26 Sept 2010, 11:20 a.m.,*
in response to message #1 by Namir

Hi,

Here is a brutal solution of Viète formula (non optimized, lot of room for optimizing I think) for HP86/7 with nice display of sums.

Olivier

```
10 DISP "Viete's formulas" @ OPTION BASE 0
20 DIM x(99),a(99),ik(99)
30 RESTORE 1000 @ READ n@ FOR k=1 TO n @ READ x(k)@ NEXT k @ a(n)=1
40 FOR k=1 TO n @ s=0 @ FOR i=1 TO k @ ik(i)=i @ NEXT i @ l=k @ DISP "S";n-k;" =";
50 p=1 @ FOR i=1 TO k @ p=p*x(ik(i)) @ DISP ik(i);@ NEXT i @ s=s+p
60 ik(l)=ik(l)+1 @ IF ik(l)<= n-k+l THEN DISP "+";@ GOTO 50
70 l=l-1 @ IF l=0 THEN 200
80 IF ik(l)=n-k+l THEN 70
90 j=ik(l)+1 @ FOR i=l TO k @ ik(i)=j @ j=j+1 @ NEXT i @ l=k @ DISP "+";@ GOTO 50
200 a(n-k)=s*((-1)^k) @ DISP "" @ DISP "a(";n-k;")=";a(n-k) @ NEXT k
999 END
1000 DATA 5,1,2,3,4,5
```

Edited: 26 Sept 2010, 11:47 a.m.

Re: Programming Challenge

*Message #13 Posted by **Namir** on 26 Sept 2010, 1:26 p.m.,*
in response to message #12 by Olivier De Smet

Olivier,

Quoting the famous French mathematician Bernoulli, let me say "I recognize the lion by its tale!"

The quote comes from when Bernoulli challenged the mathematicians of Europe to solve a problem. At that time, Newton was sick, so Bernoulli did NOT send him a copy of the problem. After waiting several months, Bernoulli got frustrated and upon hearing that Newton's health was better, he mailed Newton a copy of the problem. Upon receipt Newton looked at the problem and mailed THE SOLUTION THE NEXT DAY!!! When Bernoulli got an envelope from England that quickly (relative to speed of mail at the time), he knew it was from Newton and said, before opening the envelope, "I recognize the lion by its tale!"

I am not surprised that you solved it, since it takes a first class programmer like yourself to solve a tough problem like implementing the Viete's formulas!

Thanks!!

Re: Programming Challenge

*Message #14 Posted by **Olivier De Smet** on 26 Sept 2010, 2:13 p.m.,*
in response to message #13 by Namir

Thanks a lot for your nice comments Namir.

Just a little remark ... could it be "paw" in place of "tale" in the quote of Bernouilli ? (see cite)

Paw (as "patte" in french) seems better I think.

Anyway thanks again for your kind comments.

Olivier

Edited: 27 Sept 2010, 2:07 a.m.

Re: Programming Challenge

*Message #15 Posted by **Namir** on 26 Sept 2010, 5:50 p.m.,*
in response to message #12 by Olivier De Smet

I typed in your solution in the EMU71 (I have no physical 71B with me while I am on vacation). I changed the name of the array ik() to i1() (a letter and a digit) to make the code work. Other than that the code is a beauty!

I am impressed on how you were able to use a two-level nested FOR loops to manage calculating the various Viete's summations (and consequently the related polynomial coefficients). I kept thinking that the solution needed more nested loops.

Cool!

Namir

Edited: 26 Sept 2010, 5:56 p.m.

Re: Programming Challenge

*Message #16 Posted by **Olivier De Smet** on 27 Sept 2010, 8:03 a.m.,*
in response to message #12 by Olivier De Smet

Optimizing a bit (remove an unnecessary for-next)

```
10 DISP "Viete's formulas" @ OPTION BASE 0@ DIM x(99),a(99),ik(99)
20 RESTORE @ READ n@ FOR k=1 TO n @ READ x(k)@ NEXT k @ a(n)=1
30 FOR k=1 TO n @ s=0 @ l=1 @ ik(1)=0 @ DISP "S";n-k;"=";
40 j=ik(l)+1 @ FOR i=l TO k @ ik(i)=j @ j=j+1 @ NEXT i @ l=k
50 p=1 @ FOR i=1 TO k @ p=p*x(ik(i)) @ DISP ik(i);@ NEXT i @ s=s+p
60 ik(l)=ik(l)+1 @ IF ik(l)<= n-k+l THEN DISP "+";@ GOTO 50
70 l=l-1 @ IF l=0 THEN 90
80 IF ik(l)=n-k+l THEN 70 ELSE DISP "+";@ GOTO 40
90 a(n-k)=s*((-1)^k) @ DISP "" @ DISP "a(";n-k;")=";a(n-k) @ NEXT k
100 END
110 DATA 5,1,2,3,4,5
```

Olivier

Re: Programming Challenge

*Message #17 Posted by **Namir** on 27 Sept 2010, 1:13 p.m.,*
in response to message #16 by Olivier De Smet

Thanks!!! I was able to translate the 71B code into Excel VBA. Had to watch for those zigzagging GOTOs!!

Here is the VBA code:

```
Option Explicit
```

```
Option Base 0

' Version 1.1

Sub CalcCoeff()

  Dim N As Integer, S As Double, P As Double
  Dim I As Integer, J As Integer, K As Integer, M As Integer
  Dim Root(99) As Double, Coeff(99) As Double, IK(99) As Integer
  Dim bJump As Boolean, Row As Integer, Col As Integer
  Dim aStr As String

  N = 2
  Do While Cells(N, 1) <> ""
    Root(N - 1) = Cells(N, 1)
   N = N + 1
  Loop

  N = N - 2 ' number of roots
  Coeff(N) = 1
  ' display Coeff(N)
  Cells(2, 2) = Coeff(N)
  Range("B3:Z1000").Value = ""
  Row = 3
  ' main loop
  For K = 1 To N
    Col = 3
    S = 0
    M = 1
    IK(1) = 0
    ' Line 40
    Do
      J = IK(M) + 1
      For I = M To K
        IK(I) = J
        J = J + 1
      Next I
      M = K
      ' Line 50
      Do
        P = 1
        For I = 1 To K
          P = P * Root(IK(I))
          aStr = Cells(Row, Col)
          If aStr = "" Then
            Cells(Row, Col) = "r" & CStr(IK(I))
          Else
            Cells(Row, Col) = aStr & "*r" & CStr(IK(I))
          End If
        Next I
        S = S + P
        ' L60
        IK(M) = IK(M) + 1
        ' move column for Viete's terms to the right
        If IK(M) <= N - K + M Then Col = Col + 1
      Loop While IK(M) <= N - K + M
      bJump = False
      Do
        M = M - 1
        If M = 0 Then
          bJump = True
          Exit Do
        End If
        ' move column for Viete's terms to the right
        If IK(M) <> (N - K + M) Then Col = Col + 1
      Loop While IK(M) = N - K + M
      ' jump out of outer loop?
      If bJump Then Exit Do
    Loop
    ' Line 200
    Coeff(N - K) = S * ((-1) ^ K)
    ' show the coefficient value
    Cells(Row, 2) = Coeff(N - K)
    Row = Row + 1
  Next K
```

```
End Sub
```

I replaced variables l, x() and a() with M, Root() and Coeff(), respectively. I also added the variable Row to display the polynomial coefficients in a descending power order. The program expects the roots to appear in column 1 starting with Row 2. The output polynomial coefficients appear in column 2, starting with row 2. Row 1 for columns 1 and 2 are reserved for labeling the columns. The output places the coefficients of the polynomial in a descending power order. Row 2 has 1 (the term for X^n), row 3 has the coefficient for X^(n-1), and so on. Row n+2 has the constant term.

The above code also shows the different terms in Viete's formula. These symbolic terms appear in columns C, D, and up. Each cell contains a set of root products. The variable Col controls which column each root product group appears.

Namir

Edited: 27 Sept 2010, 11:12 p.m.

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HP 35s - Choosing Initial Guesses for SOLVE problem

*Message #1 Posted by **Pablo P (Spain)** on 24 Sept 2010, 7:11 p.m.*

Hi all! I have a problem when I use SOLVE with some equations that have two roots.

For example, consider the equation X^2 = 1. As you know, it has two solutions (x1 = 1, x2 = -1). HP 35s always shows me 1. Even when I choose the initial guesses for the negative root as described in the manual (section 7-8).

The same problem with the equation 0.5 = (1 + (%pi / LN(X))^2)^-0.5. It has two solutions (x1 = 0.16303353482158, x2 = 6.133707406236229) and I always get x2.

On the contrary, there are other equations that work well. For example: X^2+X-6=0. With that one, I can get the two solutions (x1 = 2, x2 = -3).

I do not know if I am doing something bad. Any idea?

_____

Notes:

%pi = Number PI

Edited: 24 Sept 2010, 7:22 p.m.

Re: HP 35s - Choosing Initial Guesses for SOLVE problem

*Message #2 Posted by **Karl Schneider** on 25 Sept 2010, 12:19 a.m.,*
in response to message #1 by Pablo P (Spain)

Pablo --

You've discovered for yourself a somewhat-dubious "feature" of the HP-33s and HP-35s. Please see this thread from about a month ago; my post at the bottom of it provides a link to a thread from 2004.

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv019.cgi?read=171095#171095

In the equations X^2 = 1 and (1 + (pi / LN(X))^2)^(-0.5) = 0.5, the variable X appears only once. The calculator's equation parser enables direct solution of X, executing inverse operations in reverse order. Using principal roots of all math functions, the same answer is returned every time, no matter what the starting points were.

Calculated answers for the second equation:

```
X = exp(pi/sqrt(3))  = 6.1337074062362276
X = exp(-pi/sqrt(3)) = 0.1630335348215805
```

In the equation X^2+X-6=0, the variable X appears more than once, so the 'algebraic' techniques are forgone and numerical iteration is used instead.

-- KS

Edited: 3 Oct 2010, 8:37 p.m. after one or more responses were posted

Re: HP 35s - Choosing Initial Guesses for SOLVE problem

*Message #3 Posted by **Pablo P (Spain)** on 26 Sept 2010, 4:54 p.m.,*
in response to message #2 by Karl Schneider

Thanks Karl, I did not read the thread from about a month ago because I was on holidays. The solution you pointed there works perfectly. And yes, it is a (very) dubious "feature"... :)

Re: HP 35s - Choosing Initial Guesses for SOLVE problem

*Message #4 Posted by **Karl Schneider** on 3 Oct 2010, 8:35 p.m.,*
in response to message #3 by Pablo P (Spain)

There is value to the direct-solution method, as it should always return a solution if one exists, even if either initial guess value will produce a math error upon evaluation, or if a subsequent evaluation point does the same. I learned a few years ago that the celebrated HP-17B/HP-27S solver includes a similar direct-solution method.

Still, a well-designed solver should return a valid solution that lies within the range of two user-specified initial guesses, instead of a directly-calculated solution *outside* that range. The calculator cannot know what root(s) is/are of interest in the user's equation.

-- KS

Edited: 3 Oct 2010, 8:40 p.m.

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HP 9820A

*Message #1 Posted by **Conny A** on 24 Sept 2010, 3:50 p.m.*

Just curious, but how big interest is there in the HP 9820A calculator? I have plans to sell it, maybe on eBay.

Re: HP 9820A

*Message #2 Posted by **Namir** on 24 Sept 2010, 4:40 p.m.,*
in response to message #1 by Conny A

What shape it is in?

Re: HP 9820A

*Message #3 Posted by **Johnny Bjoern Rasmussen** on 24 Sept 2010, 4:54 p.m.,*
in response to message #2 by Namir

Hi Conny
Very interesting. I see that you reside in Sweden. I'm living in Denmark. So I might be interested.

Best regards
Johnny Bjørn Rasmussen
Lemvig, Denmark

Re: HP 9820A

*Message #4 Posted by **tim m.** on 24 Sept 2010, 7:56 p.m.,*
in response to message #1 by Conny A

I'm also interested, pending more information.

Re: HP 9820A

*Message #5 Posted by **Conny A** on 25 Sept 2010, 5:03 a.m.,*
in response to message #1 by Conny A

The calculator is in near mint condition. I would like to say mint, but it has been used. The electronics is also old, so there is no guarantee that the electronics will last for a long time if the plan is to use it.

I have tested the electronics using the electrical test programs and all seems in good condition.

It has been stored in normal room conditions, that is around +20 degrees C. No smoking or other contaminations.

I will post some photos later.

Re: HP 9820A

*Message #6 Posted by **Conny A** on 25 Sept 2010, 2:20 p.m.,*
in response to message #5 by Conny A

Link to photos here.

Re: HP 9820A

*Message #7 Posted by **Steve Leibson** on 25 Sept 2010, 3:33 p.m.,*
in response to message #6 by Conny A

Beautifully perserved 9820, Conny. Looks like a great collector's piece. More on the history of this machine's development here: HP 9810/20/30

Edited: 25 Sept 2010, 3:34 p.m.

Re: HP 9820A

*Message #8 Posted by **tim m.** on 25 Sept 2010, 8:09 p.m.,*
in response to message #6 by Conny A

The link is not working for me.

Re: HP 9820A

*Message #9 Posted by **Steve Leibson** on 25 Sept 2010, 8:51 p.m.,*
in response to message #8 by tim m.

Sorry Tim, it works for me in both IE and FireFox.

--Steve

Re: HP 9820A

*Message #10 Posted by **tim m.** on 26 Sept 2010, 12:02 a.m.,*
in response to message #9 by Steve Leibson

Working now for me as well. The site must have been down temporarily.

The calculator is indeed in beautiful condition. The OP should have no trouble finding it a new home--preferably mine. ;)

-Tim

Re: HP 9820A

*Message #11 Posted by **Mark Edmonds** on 26 Sept 2010, 12:47 p.m.,*
in response to message #10 by tim m.

That is indeed a beauty! I can offer a very caring and clean home for it :) Good luck with the auction. Good luck to the eventual winner too!

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Mini-Challenge: Zip Code

*Message #1 Posted by **Thomas Klemm** on 23 Sept 2010, 4:52 p.m.*

The following challenge is based on an arithmetic problem I found in a mathematics book for elementary school. Contrary to other countries we use only a four digit zip code in Switzerland.

These are the steps necessary to create the next zip code:

1. Select the zip code of a Swiss location.
2. Compose the maximum number of the four digits.
3. Compose the smallest possible number of the four digits.
4. Calculate the difference.

Example

1. Start with 4153
2. The maximum number made of these four digits is: 5431
3. The minimal number made of these four digits is: 1345
4. The difference is: 5431 - 1345 = 4086

Analysis

Write a program for the HP calculator of your choice that returns the next zip code. What is the behavior if you iterate this? Make a speculation.

Proof

Try to proof your assumption. Can your calculator be of any help?

Solution

I will add my solution for the HP-15C here within a couple of days.

Hope you have as much fun as I had.
Thomas

PS: And where will all this lead us?

Re: Mini-Challenge: Zip Code

*Message #2 Posted by **Chuck** on 24 Sept 2010, 12:33 a.m.,*
in response to message #1 by Thomas Klemm

Question: does it always require to be four digits. That is will a zip of 12 (or 0012) transition to 2100-0012 = 2088

If so, I'm getting just about nothing but cycles. Sadly I'm not using an HP, though.

CHUCK

Re: Mini-Challenge: Zip Code

*Message #3 Posted by **Thomas Klemm** on 24 Sept 2010, 2:30 a.m.,*
in response to message #2 by Chuck

> Quote:
>
> That is will a zip of 12 (or 0012) transition to 2100-0012 = 2088

The authors of the book don't mention this special case but I did the same as you: add leading zeros whenever needed to get a four digit number.

> Quote:
>
> Sadly I'm not using an HP, though.

At least to me that was part of the fun.

Best regards
Thomas

Re: Mini-Challenge: Zip Code

*Message #4 Posted by **Chuck** on 24 Sept 2010, 10:23 a.m.,*
in response to message #2 by Chuck

Aack. Egg on my face. It was too late last night and I forgot the "make the smallest" and "make the largest" number part. (I was just reversing the original number, doh.) Should be any easy fix with my program.

Re: Mini-Challenge: Zip Code

*Message #5 Posted by **Thomas Klemm** on 27 Sept 2010, 2:05 p.m.,*
in response to message #2 by Chuck

It appears that Wikipedia and MathWorld (or rather Sloane) disagree on the values that will lead to 0.

Wikipedia:

> Quote:
>
> The only four-digit numbers for which Kaprekar's routine does not reach 6174 are repdigits such as 1111, which give the result 0 after a single iteration. All other four-digits numbers eventually reach 6174 if leading zeros are used to keep the number of digits at 4:
>
> ```
> 2111 – 1112 = 0999
> 9990 – 0999 = 8991 (rather than 999 – 999 = 0)
> ```

MathWorld:

> Quote:
>
> Exactly 77 4-digit numbers, namely 1000, 1011, 1101, 1110, 1111, 1112, 1121, 1211, ... (Sloane's A069746), reach 0.

The question is whether 999/0999 is considered a 3- or a 4-digit number. As I didn't read Kaprekar's original paper I don't know which position is correct. However the Online Kaprekar script returns:

```
9990 - 0999 = 8991
9981 - 1899 = 8082
8820 - 0288 = 8532
8532 - 2358 = 6174
```

After all this your question seems fairly reasonable.

Best regards
Thomas

Re: Mini-Challenge: Zip Code

*Message #6 Posted by **Dave Shaffer (Arizona)** on 24 Sept 2010, 12:35 a.m.,*
in response to message #1 by Thomas Klemm

> Quote:
>
> Write a program for the HP calculator of your choice that returns the next zip code

I pretended I had a 71B (which I don't) and wrote a BASIC program.

I won't give too much away, but it does converge (fairly quickly), but not to anything I might have guessed.

If you have ZIP codes which have 4 digits of the same value, such as 5555, it converges/collapses very quickly of course, to 0000.

Re: Mini-Challenge: Zip Code

*Message #7 Posted by **Thomas Klemm** on 24 Sept 2010, 2:39 a.m.,*
in response to message #6 by Dave Shaffer (Arizona)

The only possible Swiss ZIP codes made of the same digits are:

- 4444 Rümlingen
- 8888 Heiligkreuz

Best regards
Thomas

Re: Mini-Challenge: Zip Code

*Message #8 Posted by **Paul Dale** on 24 Sept 2010, 3:07 a.m.,*
in response to message #1 by Thomas Klemm

Warning a spoiler ahead....

Read at own risk....

I really really meant that....

Turn back if you don't want it spoiled....

Australia also uses four digit postal (ZIP) codes....

It leads to one of my favourite mathematical results: Kaprekar's constant. Also true for three digit zip codes I

believe.

Sorry no program from me :-(

- Pauli

Re: Mini-Challenge: Zip Code

*Message #9 Posted by **Patrice** on 24 Sept 2010, 6:05 a.m.,*
in response to message #8 by Paul Dale

> Quote:
>
> Kaprekar's constant

One of my favorite too, and already fun with just a paper and a pen !

Patrice

Re: Mini-Challenge: Zip Code

*Message #10 Posted by **Dave Shaffer (Arizona)** on 24 Sept 2010, 12:27 p.m.,*
in response to message #8 by Paul Dale

> Quote:
>
> Kaprekar's constant

I didn't know that is what it is called, but my little BASIC program did converge to the right value.

(Patrice - bonjour. Did you get to Arches Park?)

Re: Mini-Challenge: Zip Code - Casio fx-5800P

*Message #11 Posted by **Marcus von Cube, Germany** on 24 Sept 2010, 1:02 p.m.,*
in response to message #1 by Thomas Klemm

Programming the Casio isn't as funny as it could be, but finally, I've arrived:

'->' is a single char, entered with STO, indentation and comments added for humans.

```
4->N:?N:                '# of digits
Lbl 1:"NUMBER"?Z:       'ask for number, show last result
0->DimZ:N->DimZ         'create (and clear) Z[1]..Z[N]
For 1->I To N:          'cut number in N digits
 Z-Int(Z/10)x10->A:     'get right most digit
 For 1->J To N:         'find proper place for digit
  If Z[J]<A:Then
   A->B:Z[J]->A:        'stored digit is smaller
   B->Z[J]:             'swap with current digit
  IfEnd:
 Next:
Next:
0->A:0->B:              'A is high number, B low number
For 1->I To N:          'A,B construction loop
 Ax10+Z[I]->A:          'shift A and add next digit to the right
 Bx10+Z[N+1-I]->B:      'same as above but in reverse digit order
Next:
A-B->Z:                 'new number Z as difference of A and B
Cls:"\
\                       'press EXE twice
":                      'clear screen and position cursor
Locate 1,1," ":
Locate 1,2," ":         'remove unwanted control chars on screen
```

```
Locate 17-N,1,A:
Locate 17-N,2,B:       'show both numbers
Goto 1                 'show (and get new) number
```

It's a bit clumsy to produce a nice screen display with this calculator, because 'Locate' does not position the cursor for the next input statement and the EXE key leaves an arrow symbol on the screen.

Edited for typo in code.

Edited: 26 Sept 2010, 2:03 p.m.

Re: Mini-Challenge: Zip Code

*Message #12 Posted by **George Litauszky** on 26 Sept 2010, 4:54 a.m.,*
in response to message #1 by Thomas Klemm

Hi Thomas and hi everybody!
This is a simple HP 50g solution for your challenge. My stack diagram is: (Level(n), Level(n-1), ...Level(1))

Prg ZCODE:
Input: 1432 ; For example

```
 DUP           (1432, 1432)                    ; Save input for comparsion
 1 3
 FOR N
  10 IDIV2
  SWAP
 NEXT          (1432, 2, 3, 4, 1)              ; The order isn't significant.
 4 ->LIST      (1432, {2 3 4 1})
 SORT          (1432, {1 2 3 4})
 DUP           (1432, {1 2 3 4}, {1 2 3 4})
 REVLIST       (1432, {1 2 3 4}, {4 3 2 1})
 EVAL          (1432, {1 2 3 4}, 4, 3, 2, 1)
 NBUILD        (1432, {1 2 3 4}, 4321)         ; See below.
 SWAP          (1432, 4321, {1 2 3 4})
 EVAL
 NBUILD        (1432, 4321, 1234)
 -             (1432, 3087)                    ; The input and the first result.
```

Prg NBUILD:
Input: (1, 2, 3, 4)

```
 1 3
 FOR N
  SWAP          (1, 2, 4, 3)
  10 N ^        (1, 2, 4, 3, 10)               ;If N= 1 then 10^1= 10
  *             (1, 2, 4, 30)
  +             (1, 2, 34)
 NEXT
```

The result: The Kaprekar's constant after some iterations. Hungary also uses four digit postal (ZIP) codes.

George

Edited: 26 Sept 2010, 4:59 a.m.

Re: Mini-Challenge: Zip Code

*Message #13 Posted by **Mark Storkamp** on 27 Sept 2010, 9:35 a.m.,*
in response to message #1 by Thomas Klemm

And here's a 41 solution. Start with number in the x register, and returns results in the x register

```
01 LBL "ZIP"
02 FIX 04
03 1 E4
04 /
05 CLA            'Puts the number in Alpha register
06 ARCL X         ' to decompose it onto the stack
07 ATOX
08 ATOX
09 ATOX
10 48
11 -
12 STO 01
13 ATOX
14 48
15 -
16 ATOX
17 48
18 -
19 ATOX
20 48
21 -
22 RCL 01
23 X<=Y?        'Bubble sort the values on the stack
24 X<>Y
25 RDN
26 X<=Y?
27 X<>Y
28 RDN
29 X<=Y?
30 X<>Y
31 RDN
32 RDN
33 X<=Y?
34 X<>Y
35 RDN
36 X<=Y?
37 X<>Y
38 R^
39 X<=Y?
40 X<>Y
41 STO 04           'Store the digits in 01 thru 04
42 RDN
43 STO 03
44 RDN
45 STO 02
46 RDN
47 STO 01
48 RCL 04           'Recombine the digits...
49 1 E3             ' Probably room for some optimizations
50 *                ' here using the stack better
51 +
52 RCL 03
53 1 E2
54 *
55 +
56 RCL 02
57 1 E1
58 *
59 +
60 RCL 01
61 1 E3
62 *
63 RCL 02
64 1 E2
65 *
66 +
67 RCL 03
68 1 E1
69 *
70 +
71 RCL 04
72 +
73 -                 ' and find the difference
74 END
```

Re: Mini-Challenge: Zip Code

*Message #14 Posted by **Mark Storkamp** on 27 Sept 2010, 4:21 p.m.,*
in response to message #13 by Mark Storkamp

Thomas Klemm wrote:

> Quote:
>
> I know it wasn't a hard problem but still an occasion to use your best loved machines. Nevertheless I hope you enjoyed the contest.

It's the easier challenges that I'm more likely to attempt, and I always seem to learn some new trick by trying it. For example, by stealing liberally from Thomas's 15C code I was able to shorten mine considerably and also eliminate use of any registers.

```
01 LBL "ZIP2"
02 1 E4
03 /
04 XEQ 01
05 XEQ 01
06 XEQ 01
07 STO L       'Maybe I went to too extreme lengths to
08 CLX         ' eliminate any registers
09 10
10 ST* L
11 CLX
12 RCL L
13 X>Y?       'Slightly improved sorting code from Thomas's code
14 X<>Y
15 RDN
16 X>Y?
17 X<>Y
18 RDN
19 X>Y?
20 X<>Y
21 R^
22 X>Y?
23 X<>Y
24 R^
25 X>Y?
26 X<>Y
27 RDN
28 X>Y?
29 X<>Y         'Here's where I'm most disappointed at not
30 -            ' figuring out the answer was 999(d-a)+90(c-b)
31 90
32 *
33 X<>Y
34 R^
35 -
36 999
37 *
38 +
39 RTN
40 LBL 01
41 10
42 *
43 INT
44 LASTX
45 FRC
46 RTN
47 END
```

Re: Mini-Challenge: Zip Code

*Message #15 Posted by **Thomas Klemm** on 28 Sept 2010, 11:34 a.m.,*
in response to message #14 by Mark Storkamp

Hi Mark

You could remove line 46 RTN as the following line 47 END does the same.

I also tested your idea of dividing the entry first by 10^3:

```
001 LBL A
```

```
002 EEX
003 3
004 ÷
005 GSB 0
006 GSB 0
007 GSB 0
(...)
038 LBL 0
039 INT
040 LASTx
041 FRAC
042 RCL × 0
043 RTN
```

It uses the same amount of bytes, is one line longer and might be a little faster. However entering numbers is usually rather slow. So I'm not sure.

Cheers
Thomas

Re: Mini-Challenge: Zip Code

*Message #16 Posted by **Mark Storkamp** on 28 Sept 2010, 4:18 p.m.,*
in response to message #15 by Thomas Klemm

I don't have RCL arithmetic at my disposal, and in a first quick go at it I couldn't get the number decomposed without using a register unless I divided by 1E4 first. That way I was left with integers for all but the final digit.

I could probably redo it now without the divide if I ended up with 0 - 0.9 on the stack, and used 9990(d-a)+900(c-b). And the last CLX RCL L could be replaced with an X<>L. But I'm not sure if all 41s could do that, or only the CX.

Re: Mini-Challenge: Zip Code

*Message #17 Posted by **Thomas Klemm** on 29 Sept 2010, 10:56 a.m.,*
in response to message #16 by Mark Storkamp

> Quote:
>
> I don't have RCL arithmetic at my disposal

One of the reasons why I chose HP-15C.

> Quote:
>
> And the last CLX RCL L could be replaced with an X<>L.

Yes, it can:

```
01 LBL "6174"
02 E3
03 /
04 XEQ 01
05 XEQ 01
06 XEQ 01
07 X>Y?
08 X<>Y
09 RDN
10 X>Y?
11 X<>Y
12 RDN
13 X>Y?
14 X<>Y
15 R^
16 X>Y?
```

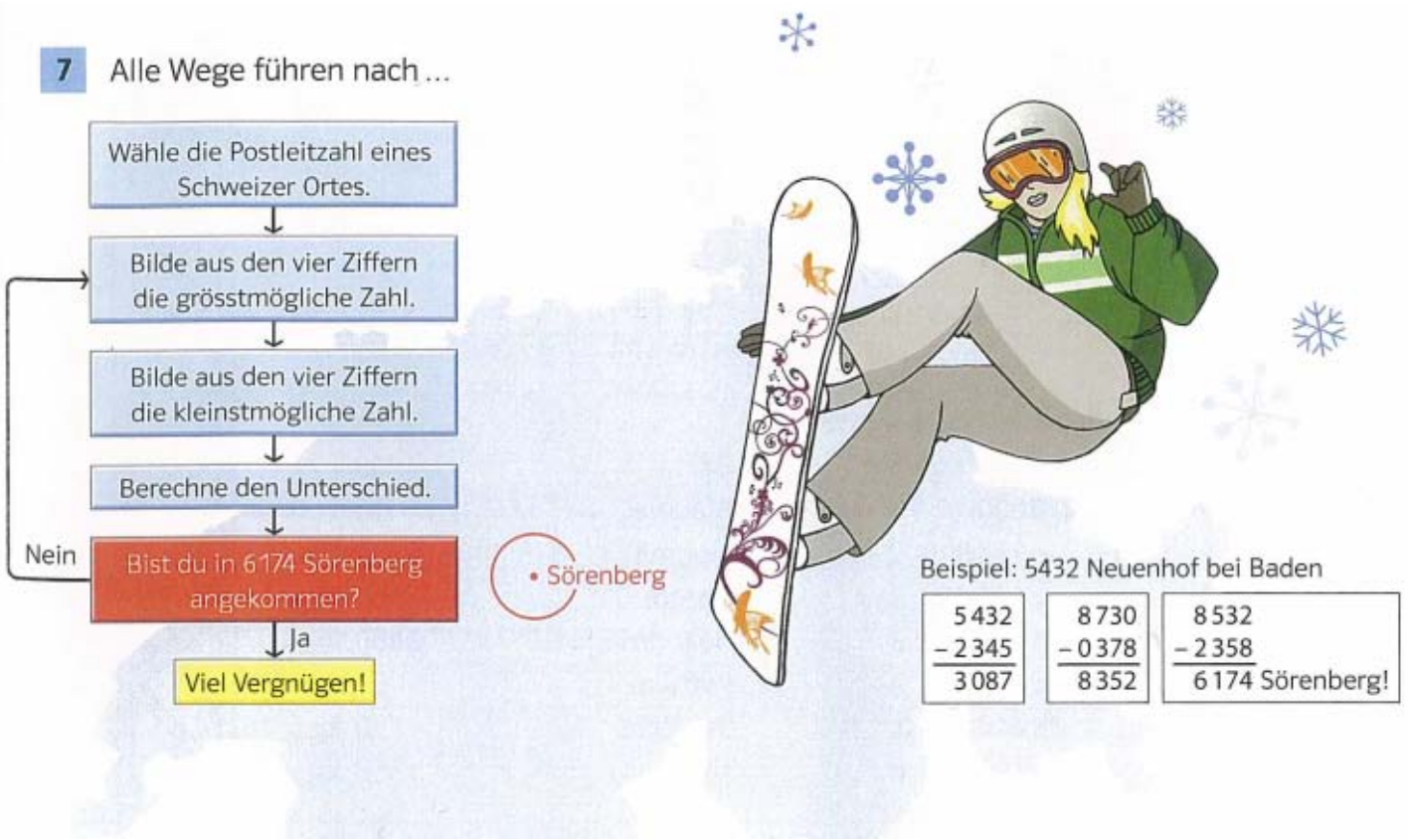
```
17 X<>Y
18 R^
19 X>Y?
20 X<>Y
21 RDN
22 X>Y?
23 X<>Y
24 -
25 90
26 *
27 X<>Y
28 R^
29 -
30 999
31 *
32 +
33 RTN
34 LBL 01
35 INT
36 ST- L
37 10
38 ST* L
39 X<> L
40 END
```

Re: Mini-Challenge: Zip Code

*Message #18 Posted by **Thomas Klemm** on 27 Sept 2010, 2:59 p.m.,*
in response to message #1 by Thomas Klemm

Quote:

The following challenge is based on an arithmetic problem I found in a mathematics book for elementary school.



Quote:

I will add my solution for the HP-15C here within a couple of days.

Initialization:

```
10 STO 0
```

```
001 - 42,21,11   LBL A
002 -    32  0   GSB 0
003 -    32  0   GSB 0
004 -    32  0   GSB 0
005 - 43,30, 7   TEST 7
006 -       34   x<>y
007 -       33   R-v
008 - 43,30, 7   TEST 7
009 -       34   x<>y
010 -       33   R-v
011 - 43,30, 7   TEST 7
012 -       34   x<>y
013 -   43  33   R-^
014 - 43,30, 7   TEST 7
015 -       34   x<>y
016 -   43  33   R-^
017 - 43,30, 7   TEST 7
018 -       34   x<>y
019 -       33   R-v
020 - 43,30, 7   TEST 7
021 -       34   x<>y
022 -       30   -
023 -        9   9
024 -        0   0
025 -       20   ×
026 -       34   x<>y
027 -   43  33   R-^
028 -       30   -
029 -        9   9
030 -        9   9
031 -        9   9
032 -       20   ×
033 -       40   +
034 -   43  32   RTN
035 - 42,21, 0   LBL 0
036 - 45,10, 0   RCL ÷ 0
037 -   43  44   INT
038 -   43  36   LASTx
039 -   42  44   FRAC
040 - 45,20, 0   RCL × 0
041 -       34   x<>y
042 -   43  32   RTN
```

> Quote:
>
> What is the behavior if you iterate this? Make a speculation.

Most numbers will end up with 6174. Only numbers composed of the same digit will end up with 0.

> Quote:
>
> Try to proof your assumption.

My observation was the same as described in Mysterious number 6174. (cf. "Which way to 6174?") So I guess I don't have to repeat that proof here. However I didn't ignore possible duplicates of the 55 numbers that remain after the first iteration.

> Quote:
>
> Can your calculator be of any help?

Here's a small program that produces the 55 numbers left after the first iteration:

Initialization:

```
9 STO 1
EEX 3 / STO 2
```

```
043 - 42,21,12   LBL B
044 -    45  1   RCL 1
045 -        9   9
046 -        9   9
047 -        9   9
048 -       20   ×
049 -    45  2   RCL 2
050 -   43  44   INT
051 -        9   9
052 -        0   0
053 -       20   ×
054 -       40   +
055 - 42, 6, 2   ISG 2
056 -   43  32   RTN
057 - 42, 5, 1   DSE 1
058 -   43  20   x=0
059 -   43  32   RTN
060 -    45  1   RCL 1
061 -       26   EEX
062 -        3   3
063 -       10   ÷
064 -    44  2   STO 2
065 -       33   R-v
066 -   43  32   RTN
```

Now you can switch between the two programs A and B:

```
B: 8991
```

```
A: 8082
A: 8532
A: 6174


B: 9081
A: 9621
A: 8352
A: 6174


(...)


B: 0
A: 0
```

The data was then used to create this graph.

There's a direct proof in the same article as well. (cf. "Only 6174?")

Again the HP-15C can be used to solve the system of linear equations:

```
|  1   0   1  -1  |   | a |     | 10 |
|  1   1  -1   0  |   | b |     |  9 |
|  0   1  -1  -1  | * | c |  =  |  1 |
|  1  -1   0  -1  |   | d |     |  0 |
```

The solution is: [a b c d] = [7 6 4 1]

I must admit that I wasn't aware of Kaprekar's constant. I just saw this arithmetic problem in that book which made me wonder why. So thanks a lot to Paul Dale for pointing this out.

I know it wasn't a hard problem but still an occasion to use your best loved machines. Nevertheless I hope you enjoyed the contest.

Cheers and thanks for your contributions
Thomas

> Quote:
>
> PS: And where will all this lead us?

6174 Sörenberg

Edited: 27 Sept 2010, 3:43 p.m.

Re: Mini-Challenge: Zip Code

*Message #19 Posted by **Thomas Klemm** on 27 Sept 2010, 3:18 p.m.,*
in response to message #1 by Thomas Klemm

Another solution for the HP-48:

```
\<<
  SORT DUP REVLIST
  SWAP -
  IF DUP 2 GET
  THEN { 0 -1 9 10 }
  ELSE { -1 9 9 10 }
  END ADD
\>>
```

Start with a list of 4 digits, e.g. { 4 1 5 3 }.

Thomas

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IR Link to PC

*Message #1 Posted by **Eddie Goodridge** on 23 Sept 2010, 12:08 a.m.*

I figured it was worth a shot, so here it goes...

I make motors and such for Radio Control Cars. IN the Early 90s, Competition Electronics produced an item called the Turbo Dyno. This device allowed us to test our motors to see which was the most powerful, efficient, etc. There was an option with this dyno to print the results using the Hewlett Packard model 82240B IR Printer.

After doing some research, I found that HP produced this printer to print stuff directly from the HP series of calculators...while they also released its source code, so it could be used by other companies products (so far, I only found one other, a battery tester). I am assuming the Dyno outputs code similar to the calculators (kermit?)

I need to replace the printer, I've gone through 3 of them due to them getting dirty and I need the ability to present the dyno info in a much nicer manner than a small slip of paper.

I've researched up and down on the net, to find numerous programs of ways to simulate the printer on your computer and use a regular printer. The problem lies that they all assume I can use the rs232 interface. I can't. My dyno simply has the IR and that's it. I need a way to recieve the data on the computer, even if its just to a text file or something.....once there, I can figure a way to print it, even if I have to copy and paste it in excel or something. Is there a way to make an IR reciever, that will receive the dyno data?

Any help would be great.

Thanks for your time

Eddie

Re: IR Link to PC

*Message #2 Posted by **Martin Pinckney** on 23 Sept 2010, 12:33 a.m.,*
in response to message #1 by Eddie Goodridge

> Quote:
>
> ... it could be used by other companies products (so far, I only found one other, a battery tester).

Also a ballistic chronograph, and perhaps others.

> Quote:
>
> Is there a way to make an IR reciever, that will receive the dyno data?

Yes, I'm sure there is, although I'm not the one to tell you how, but there are folks on here that can.

Pretty sure the info can be found somewhere on http://www.hpcalc.org

Wait until tomorrow, you'll get some responses.

Re: IR Link to PC

*Message #3 Posted by **Katie Wasserman** on 23 Sept 2010, 2:38 a.m.,*
in response to message #1 by Eddie Goodridge

There are many portable devices that made to use this printer, here's one for example.

You'll find a ton of information on the protocol that this printer uses if you follow all the links starting here and here

HP's document on interfacing to the printer is here.

However, pretty much everything that you'll find on the 'net is not what you really want. Most people are interested in sending data to this printer not replacing it with a serial feed into a computer. I don't know of any commercial product that does this. But someone here may well have developed a system to do just that.

-Katie

p.s. Take a look at the 82240 emulators for the hp-48,49,50 series calculators. I think that this will give you want to need. In particular, use this program along with an HP-48 calculator acting as the IR receiver hooked up to a PC.

There's more info here.

Edited: 23 Sept 2010, 2:55 a.m.

Re: IR Link to PC

*Message #4 Posted by **M. Joury** on 23 Sept 2010, 10:42 a.m.,*
in response to message #3 by Katie Wasserman

Hi Katie,

Lots of good information there. Thanks for getting it all together in one post.

On a related topic, there was a program that was part of the 41C emulator card for the 48SX that captured output from the 41C IR module as a method for transferring programs to the 48SX emulator environment. Is there any such program for the newer calcs (48G/GX, 49g+, and 50g) that would allow the capture of IR printer output as a simple string?

Thanks,

MJ

Re: IR Link to PC

*Message #5 Posted by **Andrés C. Rodríguez (Argentina)** on 23 Sept 2010, 7:21 a.m.,*
in response to message #1 by Eddie Goodridge

Many years ago, Steve (Australia) posted a detailed article about receiving, decoding and printing the IR stream from HP calculators (i.e., HP42S, which has no RS-232). He hooked a phototransistor to the audio input of a PC sound board, IIRC. You may find it on the MoHPC archives.

BTW, the protocol is unidirectional, and it's different from Kermit.

Re: IR Link to PC

*Message #6 Posted by **Bill (Smithville, NJ)** on 23 Sept 2010, 9:50 a.m.,*
in response to message #1 by Eddie Goodridge

I remember that Educalc sold an adapter that converted the HP IR signal to a parallel signal for use with a standard parallel printer. I had one a long time ago and I seem to remember it working with the HP-95LX. Not sure if it would work with the calculator IR signal.

Just looked it up and it was called JetEye. See following link:

JetEye

Bill

Edited: 23 Sept 2010, 10:38 a.m.

Re: IR Link to PC

*Message #7 Posted by **db (martinez, ca.)** on 23 Sept 2010, 8:19 p.m.,*
in response to message #1 by Eddie Goodridge

OR: if you can stand to still use that slip of paper:
you could contact randy at fixthatcalc.com in Pennsylvania or don at internationalcalculator.com - the oldest computer store in the world, in florida. one of them may be able to fix your printer. if you have three carcasses to trade in - that will probably get you a bit of a deal.

if that HP-48 idea of Katie's sounds good and you don't already have one (or all seven of those); i have seen an ugly 48sx and the 48s & 48g go fairly cheap. it's the gx and nice sx models that are pricey. the 49 can have keyboard issues. the 50 is still going to be expensive for just a transfer device because it is also the best calculator ever made, or maybe the best goofy looking calculator ever made.

Re: IR Link to PC

*Message #8 Posted by **M. Joury** on 24 Sept 2010, 11:44 a.m.,*
in response to message #7 by db (martinez, ca.)

Actually I have been playing around with that idea (using the HP48 as an I/R receiver) and have not been able to get it to work. Either it is harder than it appears or (more probably) I am doing something wrong. But that is why I asked about the program that was made available with the HP41C Emulator card.

Edit:

Found it. INPRT (Goodies Disk #9)

Edited: 24 Sept 2010, 1:45 p.m.

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There will be limited seating at this years HHC :-)

*Message #1 Posted by **Egan Ford** on 22 Sept 2010, 6:14 p.m.*

http://gizmodo.com/5645071/the-calculator-you-can-operate-with-your-ass

Where's the ENTER bench?

Edited: 22 Sept 2010, 6:34 p.m.

Re: There will be limited seating at this years HHC :-)

*Message #2 Posted by **db (martinez, ca.)** on 22 Sept 2010, 8:34 p.m.,*
in response to message #1 by Egan Ford

what kind of ass would use a calculator like that?

Re: There will be limited seating at this years HHC :-)

*Message #3 Posted by **Tim Wessman** on 22 Sept 2010, 9:56 p.m.,*
in response to message #2 by db (martinez, ca.)

Hugh Jass?

Couldn't resist. . . :-)

TW

Edited: 22 Sept 2010, 10:07 p.m.

Re: There will be limited seating at this years HHC :-)

*Message #4 Posted by **Pal G.** on 23 Sept 2010, 9:58 a.m.,*
in response to message #1 by Egan Ford

This is one way to teach a lazy generation the beauty of RPN. Less keystrokes, and thus less *"Whaahhh. I have to get up and sit down, over and over again to do my calculations."*

Re: There will be limited seating at this years HHC :-)

*Message #5 Posted by **Martin Pinckney** on 23 Sept 2010, 11:38 a.m.,*
in response to message #4 by Pal G.

Unfortunately, this seating arrangement would only teach stupid "chain logic".

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There will be limited seating at this years HHC :-)

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MoHPC *The Museum of HP Calculators*

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HHC Early Arrivers and gauging Interest in RMNP Trip?

*Message #1 Posted by **Tim Wessman** on 22 Sept 2010, 12:57 p.m.*

Hello,

If anyone is arriving before Friday and would like to get together (lunch, just to talk, whatever), feel free to send me an email (myname@hp.com - no spaces, underscores or dots) with your phone # and I will give you a call or something.

Also, I am trying to gauge interest in driving up to the high alpine road in Rocky Mountain National Park. It seems if there are enough people early enough, I could take a load in the Minivan on either Thursday evening, Friday evening, or Sunday evening. We'd need to be leaving at 4pm by the latest to get up top with enough light to see, and then the sun set at 630 or so. Provided it doesn't close due to snow before then, I can do that if there are enough interested people.

TW

Edited: 22 Sept 2010, 12:58 p.m.

Re: HHC Early Arrivers and gauging Interest in RMNP Trip?

*Message #2 Posted by **Han** on 22 Sept 2010, 7:22 p.m.,*
in response to message #1 by Tim Wessman

I'm so jealous of all the folks who can go to HHC2010!

Re: HHC Early Arrivers and gauging Interest in RMNP Trip?

*Message #3 Posted by **Patrice** on 24 Sept 2010, 1:58 a.m.,*
in response to message #1 by Tim Wessman

Hi Tim,

Just arrived at the hottel, rom 330

Patrice

Re: HHC Early Arrivers and gauging Interest in RMNP Trip?

*Message #4 Posted by **David Hayden** on 24 Sept 2010, 5:18 p.m.,*
in response to message #3 by Patrice

Patrice & Tim, (and anyone else attending)

I'm in room 424.

Dave

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Any substitute for HP 41C series????

*Message #1 Posted by **Larry Estatico** on 22 Sept 2010, 11:11 a.m.*

I understand to celebrate the 35th anniversary of the HP 35 - the company released an update called the 35S which is alpha Numeric and RPN.

I wish they would re-introduce the HP 41C series!

My question is for those familiar with both the HP 41C and the new 35S:

Can the HP 35S be considered a substitute for the 41C? In which ways does it fit the bill, fall short or exceed. I realize that the peripherals will not work etc -- I am more concerned with main unit functions.

For example -- the simplicity of the 41c Keyboard: The toggle switches for Alpha, user etc made it much more convenient then calcs with multi-tiered menus/catalogs that I find frustrating.

something like this?

*Message #2 Posted by **Frank Boehm (Germany)** on 22 Sept 2010, 11:33 a.m.,*
in response to message #1 by Larry Estatico

A 41S on the 41st birthday of the 41C (which would be in 2020)

Re: Any substitute for HP 41C series????

*Message #3 Posted by **Ron Ross** on 22 Sept 2010, 11:44 a.m.,*
in response to message #1 by Larry Estatico

If all you need is a SIMPLE programmable calculator, the Hp35s can substitute for an Hp41c.

If you need long variable names or a clock/timer and I/O, the Hp35s fails to deliver.

If you do not need trig, the Hp17bii is readily available and its solver more than makes up for its lack of programming for most types of applications. And an added caviate is that the solver doesn't interfer with normal math operations ie you can be using the solver and using the calculator simultaniously vs an Hp 48/50G doesn't allow you to use the calculator while using the solver.

I woould suggest an older original Hp17Bii over anything else. Is one of the best statistical calculators available due to using list based statistics too.

Re: Any substitute for HP 41C series????

*Message #4 Posted by **M. Joury** on 22 Sept 2010, 12:07 p.m.,*
in response to message #3 by Ron Ross

Good point. I forgot the timer functions in the 41C/CV with timer module and the 41CX. He did say that peripherals were not a big concern but I am not sure whether that included the time capabilities of the 41C.

As to the 17bII, I really do like that calculator and as stated it offers a lot of capability.

I own both the 17bII and the *new* (latest) 17bII+ and I like them both. Looks are very different but functionality is the same although the 17bII+ has way more RAM. I never used the earlier 17bII+ but the latest one has a nice keyboard (at least I have had no issues with it) and is also readily available.

Re: Any substitute for HP 41C series????

*Message #5 Posted by **Martin Pinckney** on 22 Sept 2010, 3:51 p.m.,*
in response to message #3 by Ron Ross

> Quote:
>
> And an added caveat is that the solver doesn't interfere with normal math operations i.e. you can be using the solver and using the calculator simultaneously vs an Hp 48/50G doesn't allow you to use the calculator while using the solver.

I don't know about the 50g, but my 48sx does allow you to use the calculator while the Solver is active.

Re: Any substitute for HP 41C series????

*Message #6 Posted by **M. Joury** on 22 Sept 2010, 12:02 p.m.,*
in response to message #1 by Larry Estatico

Hi Larry,

The 35S is more a replacement of the 32S / 32SII line than of the 41. There are numerous differences between the 35S and the 41C beyond the expandability. I'll list some of them below.

1. No separation between programs in memory. Programs share the same space and therefore labels are not reusable. You have 26 alpha labels to work with (A..Z) but the 35S unlike the earlier 32 calculators and the 33S does allow for offsets from the primary label so you can say GOTO A035 so you can (in theory--it makes editing a little harder) have 26 programs in memory and the 32K available becomes more usable unlike the 33S.

2. Like labels, registers are addressed by alpha letters A..Z with I and J being available for indirect addressing. You also have several hundred numbered registers that can be indirectly addressed through I/J. These are limited by available memory.

3. The keyboard is more like the 32S/33S with 2 shift keys plus alpha which are activated by function (STO/RCL/LBL/etc.)

4. Unlike the 41C you do have a solver but IMHO it does not have quite the ease of use of the solvers in the graphing calcs or the 17bII+. You are also limited to single character names in the solver.

5. The 35S is much, much faster but for my needs I never had a problem with the speed of the 41.

6. No reassignable keys. Not even the top row like in the 42S.

7. Much more memory (32K) but harder to utilize fully because of the shared program space and the lack of numeric and multi-character labels.

8. Supports fractions

9. Has a limited set of built-in conversions

10. I believe that there are ways to get alpha prompts by using the solver to build the prompt string. I have never tried this and it is certainly not as easy as with the 41.

These are just some of the differences. There are others and I'll try to come up with a more complete list over time.

The positives in the 35S (as I see them) are:

1. Nice keyboard and classic HP layout. Unlike others I have never had a keyboard issue with either of my 35S's

2. Relatively easy to use. If you have used (and like) the 32S you will feel right at home.

3. Nice looks

All-in-all a decent scientific calculator but without some of the features that made the 41C and 42S favorites of mine.

Hope this helps a little.

Cheers,

M. Joury

Re: Any substitute for HP 41C series????

*Message #7 Posted by **Larry Estatico** on 22 Sept 2010, 12:54 p.m.,*
in response to message #6 by M. Joury

Thank You.

This is helpful. Ultimately I need to have one in my hands to test out or just go ahead and buy one.

BTW - I have the V41 simulator on every Windows Computer I own! You can enter and save your favorite programs in it too! Of course you lose the feel of the calc and using a Mouse does slow you down, but you still have access to your programs if your 41c is down or if you do not want to carry it. I consider my 41s to valuable to carry routinely.

So many 41 users still call it their all time favorite calculator -- I do wish HP would seriously roll out a "41S" that does justice to the original and not wait to 2020!

For expandability I know the 50s are using USB, SD cards etc and I would NOT expect them to make it compatible to the old 41 peripherals.

Edited: 22 Sept 2010, 1:24 p.m.

Re: Any substitute for HP 41C series????

*Message #8 Posted by **Pablo P (Spain)** on 22 Sept 2010, 1:14 p.m.,*
in response to message #6 by M. Joury

I will add other differences:

```
 - The 35s displays x and y registers simultaneously. 41c only displays x register.
Some people think that it is confusing but I like this feature of the 35s.
 - The 35s lacks I/O. (If only it would!)
```

I would like to complete some information:

```
 10. To get alpha promts in the 35s, first set flag 10 and then insert any text as an
equation. Easy.
```

IMHO the hp 35s has a lot of features for its price. And you can start using those features very quickly.

About the negatives: 35s bugs

Edited: 22 Sept 2010, 1:14 p.m.

Re: Any substitute for HP 41C series????

*Message #9 Posted by **Crawl** on 22 Sept 2010, 12:42 p.m.,*
in response to message #1 by Larry Estatico

It sounds like your main problem with the HP50g would be its use of menus for commands, but bear in mind that that calculator also lets you define a USER keyboard, so you might be able to avoid menus.

Re: Any substitute for HP 41C series????

*Message #10 Posted by **Crawl** on 22 Sept 2010, 12:52 p.m.,*
in response to message #9 by Crawl

AND you might not necessarily be able to get away from using menus with the 35s anyway. Some functions (for example, statistics and linear regression) are in menus.

I know you didn't ask, but I think the 50g is 100x the calculator the 35s is.

Re: Any substitute for HP 41C series????

*Message #11 Posted by **Egan Ford** on 22 Sept 2010, 1:15 p.m.,*
in response to message #10 by Crawl

> Quote:
>
> I know you didn't ask, but I think the 50g is 100x the calculator the 35s is.

I'll 2nd that. If I had to replace a 41CX with something that was in production today it'd be the 50g for the following reasons:

1. The 50g can run all my 41C programs. See: http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=802.
2. The 50g has I/O for transfers and programmable I/O. With 4 options (SD, Serial, USB, IR). Programmable I/O example: http://sense.net/~egan/skb/.
3. The 50g firmware can be upgraded.
4. The 50g has a huge library of code: http://www.hpcalc.org.
5. The 50g can be programmed in RPN (see #1), RPL, UserRPL, Saturn ASM, ARM ASM, C (http://sense.net/~egan/hpgcc), and C++.
6. The 50g has a clock.
7. The 41C* was really a hand-held computer as so is the 50g. The 35s is just a calculator.
8. The 50g can be powered via cable or battery.
9. The 50g has two free emulation options. Debug4x(Windows/WINE): http://www.debug4x.com/ and x49gp(OS/X and Linux): http://x49gp.svn.sourceforge.net/viewvc/x49gp/README.QUICKSTART.

10. The 50g is relative expensive--just like the 41C*, i.e. status symbol. :-)

Re: Any substitute for HP 41C series????

*Message #12 Posted by **Michael de Estrada** on 22 Sept 2010, 12:48 p.m.,*
in response to message #1 by Larry Estatico

Apples and oranges. As a basic scientific calculator, the HP 35S is great; as a programmable calculator it sucks. The single letter variables and lack of Greek alphabet symbols severly limits its entry of equations. For example I have an equation programmed into my HP 50G in rpl, which has 5 variables that all begin with the letter "T" that are timt,tima,temt,tema and theta(Greek symbol). They appear on a soft menu that is accessible from the top row of keys that are definable. Basically, the HP 41C can do this, but the HP 35S cannot. Then there's the problem of loading or saving programs with external media. The HP 50G has USB and serial RS232 interfaces and the HP 41C has an accessory card reader or cassette tape drive, but the HP 35S has no such interfaces. The HP 41C was perhaps the greatest innovation that HP ever developed, and there really are no equivalents in modern designs.

Edited: 22 Sept 2010, 5:10 p.m. after one or more responses were posted

Re: Any substitute for HP 41C series????

*Message #13 Posted by **Larry Estatico** on 22 Sept 2010, 1:46 p.m.,*
in response to message #12 by Michael de Estrada

To Esp Michael and Egan,

Thanks for all the help. I do not think I would be happy with the 35s. As for the 50g, it maybe the answer. I actually called HP and they did NOT recommend the 50g! Rather they said "there is nothing that directly compares....the 35s would be the closest". I quoted the shortcomings and given above to which they had no answers.

This has my wondering why they would not recommend the 50g. How does the alpha work in comparison?

On a practical level, I do not know who stocks these things so I can 'try before I buy'. I need to know a 50g or whatever is right for me before I buy.

Re: Any substitute for HP 41C series????

*Message #14 Posted by **Norman Dziedzic** on 22 Sept 2010, 2:01 p.m.,*
in response to message #13 by Larry Estatico

Probably your only option for Try before Buy is to find someone you know that has the calculator. At most any stores now, all the calculators will be in plastic clam shells that the store will not want to open.

If you give up the "try" for keyboard feel, you can use the aforementioned 50g emulators for that. Before I got my real 35s I paid for an emulator from HP (I think they will give them to teachers for free) but I can't find the link for that anymore.

Re: Any substitute for HP 41C series????

*Message #15 Posted by **Ron Ross** on 22 Sept 2010, 2:25 p.m.,*
in response to message #13 by Larry Estatico

Sadly, I don't know of any outlet that has an Hp calculator out of a blister pack that I can try before I

buy. And I live in the good ole US of A.

If you don't need trig, I still suggest the Hp 17Bii.

If you need a scientific calculator to replace or augment your Hp 41, the Hp 35s will do fine.

If you want a calculator to replace and surpass your Hp 41, the Hp 48Gii or 50G will do that. Their drawbacks are 10X more complexity and 2X size increase. They are bricks in comparison to the elegance of a calculator (although the Hp35s aint that small either). Many here would complain about the small ENTER key, but if you do use it awhile, you will likely over come this. If fact you will have to reacclimate yourself to any new keyboard as the 41 series has the function keys on the left, all new Hps are now on the right.

Another consideration that I suggest you consider, an older Hp48g series calculator. Similar quality to your Hp41 and now fairly cheap as Hp's new calculators are now available. It is what I have at my (or in) desk, along with an Hp 17bii.

My reasoning: I do need to use trig on occasion (Elect Eng), but most often, I just need to bang out numbers and the solver on the Hp 17bii is superior to an Hp48G solver for normal work. If I need to travel or review designs, the Hp 17bii is satisfactory and an understated calculator that has what I need (okay, if I am going to be cornered by a technical herd of nerds, I bring the Hp 42s to beat them down!!!)

Re: Any substitute for HP 41C series????

*Message #16 Posted by **Norman Dziedzic** on 22 Sept 2010, 2:28 p.m.,*
in response to message #15 by Ron Ross

> Quote:
>
> (okay, if I am going to be cornered by a technical herd of nerds, I bring the Hp 42s to beat them down!!!)

Brilliant!

Re: Any substitute for HP 41C series????

*Message #17 Posted by **M. Joury** on 22 Sept 2010, 4:05 p.m.,*
in response to message #15 by Ron Ross

I have been trying to pick up a HP 48GX on TAS and they are actually MORE expensive than a new 50g. Several have gone for well over $100 and some are listing for over $300. So if money is an issue you would be better off with the 50g or the 48gii which can be had for less than $50. If you want the classic (or at least closer to classic) look and feel than the 48s/x 48g/x are the way to go.

Re: Any substitute for HP 41C series????

*Message #18 Posted by **Ron Ross** on 22 Sept 2010, 5:12 p.m.,*
in response to message #17 by M. Joury

I would actually recommend a 48G or better, a 48G+ over a 48GX for the typical 41c user who has no experience with the older 48g series. Why? 1st: Cost, 48g approx $50, 48G+, maybe $100 max.

2nd: he may not like it at all as it is big, blockie and RPL and overly complex. Admittedly the 48g has limited (32K) RAM and the 48G+ has 128K of Ram which is much better, but still no expandability. Since RAM (or ROM) cards for the 48Gx are now very scarce and very expensive, over paying for an expansion slot that you cannot fill is foolish when you can buy the 48g+ for less than $100 and have the same calculator minus the two expansion slots.

Re: Any substitute for HP 41C series????

*Message #19 Posted by **M. Joury** on 22 Sept 2010, 5:29 p.m.,*
in response to message #18 by Ron Ross

Good points. I am looking for a backup and so have the cards and therefore was not thinking about that aspect. Yes, a 48G+ would do nicely although they are a little harder to find. But that would give you 128K and I/O and, as you stated, cards for the GX are ridiculously priced.

Re: Any substitute for HP 41C series????

*Message #20 Posted by **Egan Ford** on 22 Sept 2010, 3:47 p.m.,*
in response to message #13 by Larry Estatico

Quote:

> On a practical level, I do not know who stocks these things so I can 'try before I buy'. I need to know a 50g or whatever is right for me before I buy.

Where do you live? Someone nearby has to have a 50g you can play with. My local University bookstore has all their calculators unwrapped for testing.

As for HP not recommending, I'm sure Tim will have something to say about that.

Re: Any substitute for HP 41C series????

*Message #21 Posted by **Martin Pinckney** on 22 Sept 2010, 3:59 p.m.,*
in response to message #20 by Egan Ford

Quote:

> As for HP not recommending [50g]...

This is not so unreasonable. The 41c series is a classic HP RPN calculator, albeit the most sophisticated of the lot. If you know anything at all about RPN, you can pick it up and use it right away. Programming, at least for simple programs, is also very straightforward.

Not so the RPL machines. They are so feature-rich and complex, they can be very confusing and intimidating to use at first.

Re: Any substitute for HP 41C series????

*Message #22 Posted by **M. Joury** on 22 Sept 2010, 4:00 p.m.,*
in response to message #12 by Michael de Estrada

I am in full agreement with all the comments made on the 50g. My two complaints are size (it is a graphing calculator after all) and I, personally, hate the enter key. I have gotten used to it but it just feels wrong to

me even after a couple of years with the HP 49g+ and the HP 50g. However, if you really want power, and full alpha names (and Mike is absolutely right about the naming limitations), and I/O there really is only one way to go (or perhaps two if you include the 48gII). As I stated in my original post, the 35S is not, and never was intended as, a replacement for the 41. The 50g, descendant of the 48 series, is.

Re: Any substitute for HP 41C series????

*Message #23 Posted by **Norman Dziedzic** on 22 Sept 2010, 4:34 p.m.,*
in response to message #22 by M. Joury

A word about the 48gii.

Be aware (or beware) that there are two versions of this calculator.

The original version:

- has less memory
- Does not have USB, only RS232
- does not include the built in Equation Libraries
- takes only 3 AAA batteries vs. 4 on the latest model
- does not handle units in the multiple equation solver
- has a cheap slip style leather-like pouch instead of hard plastic sliding cover
- has an inferior keyboard

I don't know if it is true for all version but my original 48gii has blue paint in the hp logo and the 2nd generation has black paint in the hp logo.

Along the left and right sides, my original version 48gii has an hp logo near the top and my 2nd generation 48gii has an hp logo near the bottom. Also, on the 2nd generation version the slot for the sliding hard plastic cover is clearly visible.

Re: Any substitute for HP 41C series????

*Message #24 Posted by **M. Joury** on 22 Sept 2010, 5:07 p.m.,*
in response to message #23 by Norman Dziedzic

Thanks Norman,

I should have mentioned that. I would think that unless you are buying used any machine bought today would be the new version?

To answer my own question: No, the older models are still out there selling as new units.

Edited: 22 Sept 2010, 5:22 p.m.

Re: Any substitute for HP 41C series????

*Message #25 Posted by **David Hayden** on 22 Sept 2010, 5:20 p.m.,*
in response to message #22 by M. Joury

Expanding on what Norman said about the 48gii:

- You can distinguish the two in the retail package. The new packaging mentions USB support. When looking at the calculators themselves, examine the top edge. The old version has one connector (serial) and the new one has two (serial and USB).
- You can get the original version on ebay for quite cheap - under 60 US dollars. This makes it

worth considering instead of a 50g in my opinion, especially if you are a casual user who won't be loading a lot of programs or writing a lot yourself.

Comparing the newer 48gii to the 50g, the 50g has:

- A larger screen
- More memory
- An SD card. As someone once pointed out, a 128MB SD card is like infinity on a calculator.
- Better keyboard (or maybe that's just my particular units).
- Different color scheme. In my opinion the 50g looks cooler but it's harder for my 47-year-old eyes to read.
- Faster processor
- Probably other features that I can't recall at the moment.

I own and use all 3 models. The old 48gii is a great calc for the money. For programming, I use the new 48gii or the 50g because of the USB connection (other than trivial programs, I do development on a PC and download to the calculator as needed). It's also very handy to have all the software I might need on the SD card.

Re: Any substitute for HP 41C series????

*Message #26 Posted by **Martin Pinckney** on 22 Sept 2010, 5:20 p.m.,*
in response to message #1 by Larry Estatico

Here's a novel idea: just buy a used 41! They are certainly plentiful, although not what you would call cheap, they are also not so expensive, either.

Re: Any substitute for HP 41C series????

*Message #27 Posted by **Larry Estatico** on 23 Sept 2010, 11:18 a.m.,*
in response to message #26 by Martin Pinckney

I started this thread and I DO have a 41cx working as well as a card reader and other stuff. But I long since gave up on OEM rechargeable battery packs. I have a supply of NiMh size N rechargeables that I charge in a full size Nicd charger using small 1/4 sockets to take up the space difference between an "N" and a "AA".

I do not want to lose my programs or risk a non-survivable drop of the machine. And if a 50G self for $150, (Ok - the 48's can be cheaper I will consider that too) to me it would be worth having and carrying instead of risking the original 41's.

I did get my existing on Ebay and know they can be found -- but why risk someone else's headache or pay good money for an OLD machine, even though it is excellent. I DO want something new that I do not have to treat as 'an irreplaceable fossil' - LOL

A quick look found a 41c for $152 and still bidding and another with a 41c with'buy it now' of $179 -- just get the 50g at that point! Both seem to be the base C model

---

On a side note: It is easy to get one's hands on an inexpensive TI or non-HP calculator. I HATE THEM! I cannot stand doing anything more than simple math on them and even that only if I have no other choice! Why? RPN!

Someone helped my older brother who is a civil engineer get an ORIGINAL HP 35 when they were new

and he was in College. He let me try it. I got so used to RPN right away!

Later, when I started college, I found a Novus programable RPN Calculator. Friends needing to borrow one soon learned not to ask me, since they could not be bothered with RPN. Later, when the great Ronald Reagan let me actually make some money AND buy some gas - I was able to buy the 41C. That original bounced one time

more than it could stand and was replaced by current 41 machine. But to this day I have the original box and misc.

I vaguely recall seeing a Russian made RPN calc advertised, but not in person. I guess I am preaching to the choir!

I think HP made a wise decision in making great machines with CHOICE of RPN, Algebraic, textbook. This way they keep the superior RPN alive for us addicts w/o losing market share on those whom are not converted to RPN.

Wonder how many HP owners out there stick with the Alternatives and never master RPN?

For me, I will never master algebraic!

Edited: 23 Sept 2010, 2:06 p.m. after one or more responses were posted

Re: Any substitute for HP 41C series????

*Message #28 Posted by **M. Joury** on 23 Sept 2010, 11:55 a.m.,*
in response to message #27 by Larry Estatico

Hi Larry,

Interestingly enough it sometimes appears that the base model will go for more than a CV. Specially if it is one of the older ones. The CV often seems to be the sweet spot in 41 series pricing on TAS.

Cheers,

MJ

Re: Any substitute for HP 41C series????

*Message #29 Posted by **Martin Pinckney** on 23 Sept 2010, 12:27 p.m.,*
in response to message #27 by Larry Estatico

Yeah, I've had similar discussions many times on this forum. People say "I want something in current production so I can replace it easily."

To which I reply, how much easier can you get when hundreds of the older model you *really* like are sold on Eb** each year?

Personally I like Pioneers. I tried the 35s and ultimately did not like it. Why should I bother with a current production HP, when the older ones do what I want, have the old school HP quality, are readily available, and are reasonably priced?

Checking recently closed auctions for 41cx's, they varied from $133 to $365. Yes, more than a 50g. For me they are everyday tools I use in my work.

Re: Any substitute for HP 41C series????

*Message #30 Posted by **Jim L (OHIO)** on 6 Oct 2010, 8:13 p.m.,*
in response to message #29 by Martin Pinckney

> Quote:
>
> ...how much easier can you get when hundreds of the older model you *really* like are sold on Eb** each year?
>
> Personally I like Pioneers. I tried the 35s and ultimately did not like it. Why should I bother with a current production HP, when the older ones do what I want, have the old school HP quality, are readily available, and are reasonably priced?
>
> Checking recently closed auctions for 41cx's, they varied from $133 to $365.

Agree to all points above. I recently obtained a 41CX on TAS for $275, *and*, it included an Advantage module. So I felt like I got a pretty good deal.

Re: Any substitute for HP 41C series????

*Message #31 Posted by **Martin Pinckney** on 7 Oct 2010, 9:52 a.m.,*
in response to message #30 by Jim L (OHIO)

Thanks and congrats!

Re: Any substitute for HP 41C series????

*Message #32 Posted by **Egan Ford** on 7 Oct 2010, 11:24 a.m.,*
in response to message #30 by Jim L (OHIO)

> Quote:
>
> I recently obtained a 41CX on TAS for $275, *and*, it included an Advantage module. So I felt like I got a pretty good deal.

So, the answer is, "yes, there is a substitute"--another 41C series.

Re: Any substitute for HP 41C series????

*Message #33 Posted by **Mike Morrow** on 7 Oct 2010, 11:52 a.m.,*
in response to message #32 by Egan Ford

I greatly prefer my HP 42S over my HP-41CX.

Re: Any substitute for HP 41C series????

*Message #34 Posted by **M. Joury** on 7 Oct 2010, 4:00 p.m.,*
in response to message #33 by Mike Morrow

My one BIG problem with the 42S is that there is no way to save programs or data. The 41 was vastly superior in this regard with all sorts of options available.

Beyond that I prefer the keyboard layout and the complete reassignability of keys (not just the top row), the availability of the time module (or the CX), and, in general, the

extreme versatility of the system. The 42S is a great machine but when it really matters (a serious program that I will need long term) I always pick up the 41.

Re: Any substitute for HP 41C series????

*Message #35 Posted by **Garth Wilson** on 8 Oct 2010, 2:38 p.m.,*
in response to message #34 by M. Joury

> Quote:
>
> My one BIG problem with the 42S is that there is no way to save programs or data. The 41 was vastly superior in this regard with all sorts of options available.

The 41 had a *huge* advantage in I/O, with HPIL and the interface converters to HPIB, RS-232, parallel, text video, etc., which could all be used at once too. The 42 can't touch it.

Re: Any substitute for HP 41C series????

*Message #36 Posted by **Jim L (OHIO)** on 8 Oct 2010, 1:40 p.m.,*
in response to message #33 by Mike Morrow

I'm confident that this topic has been covered before, but this thread just makes it easy for me to wax nostalgic about it again. Certainly everyone has their favorite calculator(s), so I won't banter about the merits of each (after all, they are personal favorites). What I would like to point out is that there seems to be an analog to another interest of mine: classic cars. Going to any number of car cruise-ins and shows, I see the muscle cars of the 60s-70s well represented as well as newer incarnations of them. In practically every case, the newer cars would smoke the originals in any performance category (acceleration, top speed, braking, cornering, etc.). Yet the enthusiasm of the owners of the originals can't be denied.

In some sense, my own nostalgia for the 41C may be due to something similar and comes in part due to the fact that it was introduced and endured during what has been arguably called the "golden age of calculators." My 41C was far from my first (nor last) HP calculator, but it was clearly the best and most powerful. Yet the 42S has more functionality in several ways—making it more powerful in some aspects.

Beyond the nostalgia however, I have a visceral reaction to the two calculators in this discussion. It occurs to me that while the 42S is very capable, from a distance, it may be mistaken for some other calculator (like my HP32SII). Even my HP12C, a classic in it's own right, can't be distinguished from an HP10, HP11, HP15, or HP16, from a distance. The same can't be said for the HP41—it's literally in a class by itself. Looking at this post, I realize that it fits better in the memories section of the museum, but I just hope that folks will indulge me here.

Re: Any substitute for HP 41C series????

*Message #37 Posted by **Martin Pinckney** on 8 Oct 2010, 5:25 p.m.,*
in response to message #36 by Jim L (OHIO)

Excellent post, Jim.

Even though I do not own one, and probably never will, I agree with you about the 41C series being in a class by itself, in many ways other than instant recognition.

I just think the Pioneers are a lot more practical calculator for the kind of, well, calculations, that one typically uses a calculator for (as contrasted with using a computer for more intense number-crunching or more sophisticated output).

OTOH, but I am using my 48SX more and more at my desk, just because of the richness of features in one unit.

I don't understand why some posters here get so worked up attacking a particular HP calculator model or someone else's choice.

You are right, it's all about personal favorites.

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HP Calc chips and parts - who needs them?

*Message #1 Posted by **Jim Horn** on 21 Sept 2010, 4:59 p.m.*

While digging through storage I've found the original RAMs for my HP-41C as well as a spare set of HP-41CV ones. The former are the 1LA7 0002 through 1LA7 0005 with solder still on their pins. My HP-41 worked fine when it had them in it.

The latter are the 1LE7 01 through 1LE7 04, with there being two of the '03 parts. They are new and unused.

There are a few dozen 1919-0335 LEDs, used in the HP-65 and later along with a variety of HP-65 ICs that are probably dead (they were removed from boards and tossed, later finding their way to me). The latter are probably of visual interest only.

A few other items will probably go to next year's HHC: an "I Build The Standard HP-41C" button, an HP-41 style keychain and a "HP-41C Enter Key for Tie Tac, Pin, Etc. Courtesy of HP" from one of the very early conferences. Oh - and a power cord for one of the three-pin power input Classic calculators (without the wall wart), good for making a classy HP-67 "Black Box".

Still more boxes to sort. Thanks to all for a great group here!

Jim Horn (misses the old PPC issue stuffing parties at Richard's house - but really likes the Web a lot better)

Re: HP Calc chips and parts - who needs them?

*Message #2 Posted by **Diego Diaz** on 21 Sept 2010, 5:18 p.m.,*
in response to message #1 by Jim Horn

Hi Jim,

I'm certainly interested in the HP-41 parts. Please mail me privately for an arrangement.

Cheers.

PS. Although your offer is very interesting for many enthusiasts here, you may consider moving it to the advertising section of the MoHPC as it seems more appropirate.

Re: HP Calc chips and parts - who needs them?

*Message #3 Posted by **Geir Isene** on 21 Sept 2010, 5:24 p.m.,*
in response to message #2 by Diego Diaz

I am interested in whatever is left over after Diego's wish list :)

Re: HP Calc chips and parts - who needs them?

*Message #4 Posted by **Geir Isene** on 22 Sept 2010, 5:36 a.m.,*
in response to message #3 by Geir Isene

By this I mean Everything on the list after Diego has got whatever he needs :)

All cost of handling/shipping will of course be paid in advance to you.

Re: HP Calc chips and parts - who needs them?

*Message #5 Posted by **Jim Horn** on 21 Sept 2010, 6:39 p.m.,*
in response to message #2 by Diego Diaz

Sorry if this should have been posted in the advertisements - I need to get familiar with those. I'm just sending these off free to those who can use them as a small part of repaying the community for the vast amount it has done for my enjoyment through the years.

Re: HP Calc chips and parts - who needs them?

*Message #6 Posted by **Raymond Del Tondo** on 21 Sept 2010, 6:42 p.m.,*
in response to message #1 by Jim Horn

> Quote:
>
> ...an "I Build The Standard HP-41C" button, an HP-41 style keychain...

Could you post some photos of these items?

Many thanks:-)

Raymond

Re: HP Calc chips and parts - who needs them?

*Message #7 Posted by **ClausB** on 21 Sept 2010, 6:49 p.m.,*
in response to message #1 by Jim Horn

I have been trying to fix an HP-65 but have had trouble finding service documentation, so I cannot say yet which parts I need. But if your parts are already broken, it's no matter. Sigh.

Re: HP Calc chips and parts - who needs them?

*Message #8 Posted by **aj04062** on 21 Sept 2010, 10:22 p.m.,*
in response to message #7 by ClausB

I too have been trying to fix a 65 card reader problem. I'd be interested in chips that were related to the reader (if not already claimed)

Adam

Re: HP Calc chips and parts - who needs them?

*Message #9 Posted by **Joel Setton (France)** on 22 Sept 2010, 4:16 a.m.,*
in response to message #1 by Jim Horn

Good morning Jim,

I'd be most happy if I could get three LED displays, which would help me revive a functional but very, very

worn HP-67... and the three-pin plug and cable would be great, too. Of course I'll pay for shipping, and them some!

Joel Setton

Re: HP Calc chips and parts - who needs them?

*Message #10 Posted by **Peter HOFMANN** on 22 Sept 2010, 5:16 a.m.,*
in response to message #9 by Joel Setton (France)

Hello Jim from Austria,

Looking for the red LED arrays to refurbish my vintage hp-calcs (HP-35/45/65/67). All costs for the display and shipment will be carried by me. Thanks in advance. Best regards peter

Re: HP Calc chips and parts - who needs them?

*Message #11 Posted by **Thomas Chrapkiewicz** on 22 Sept 2010, 12:59 p.m.,*
in response to message #10 by Peter HOFMANN

HP65 displays are of interest to me. Pls email with details. TomC

Re: HP Calc chips and parts - who needs them?

*Message #12 Posted by **tim m.** on 23 Sept 2010, 10:15 p.m.,*
in response to message #1 by Jim Horn

I too am interested in the three-prong power plug if Joel changes his mind. My 35's power adapter needs rehabilitation.

Thanks!

-Tim

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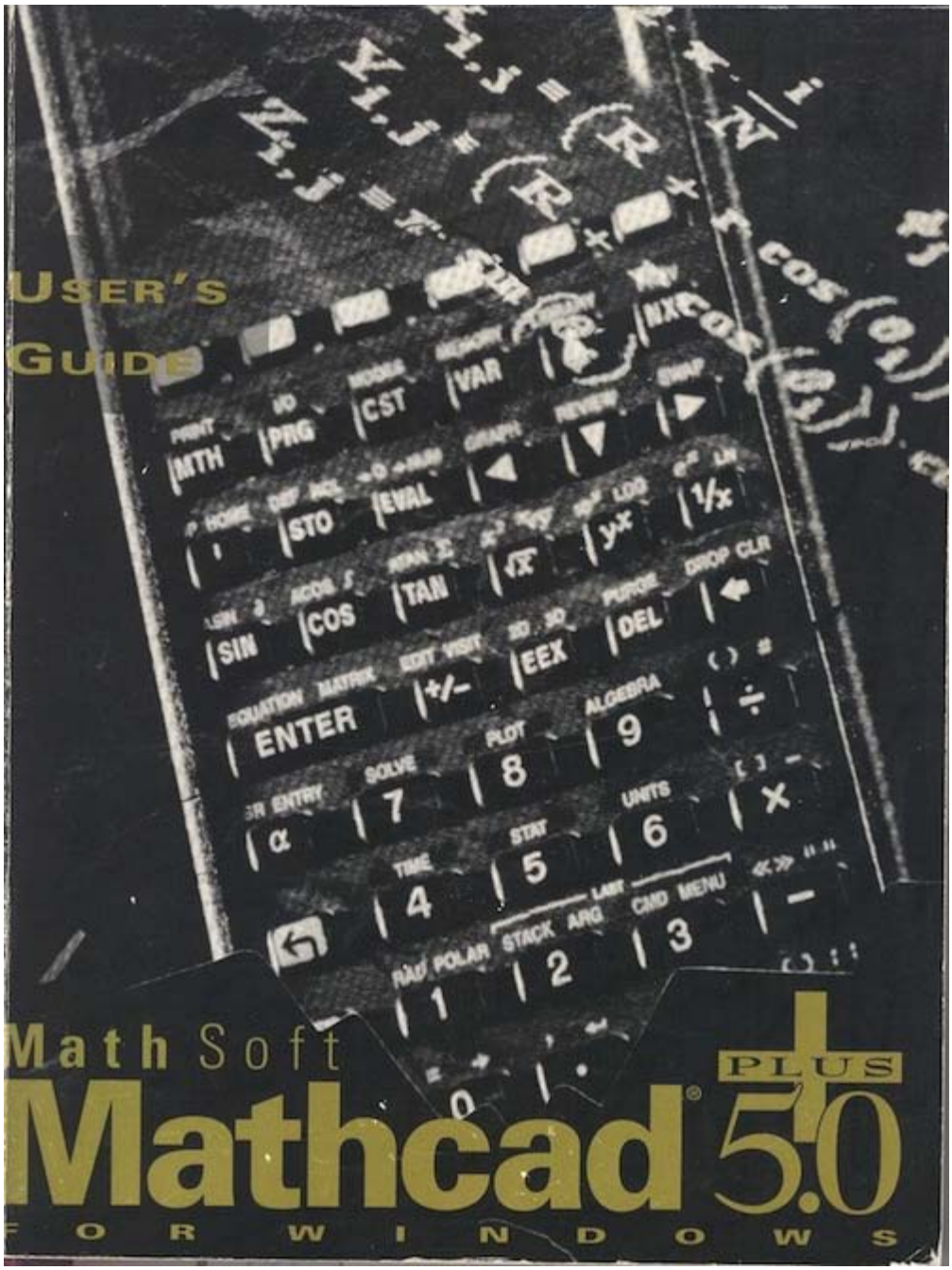
Mathcad user guide

*Message #1 Posted by **Maarten Ambaum (Reading, UK)** on 21 Sept 2010, 4:46 a.m.*

I thought I'd share this image with you. A colleague of mine cleared out his office and came across this 1994 book about Mathcad, a mathematics package for WIndows PCs. For some reason they felt it appropriate to display a 48 (I don't know which flavour) on the front cover, instead of something that actually has to do with the software package. Perhaps at that point they still thought that computational mathematics is best represented by an advanced calculator.



Cheers, Maarten

Re: Mathcad user guide

*Message #2 Posted by **Martin Pinckney** on 21 Sept 2010, 10:52 a.m.,*
in response to message #1 by Maarten Ambaum (Reading, UK)

Maarten,

I agree, that's odd. Perhaps trying to suggest that at last a computer program as powerful as an HP calculator?

By the way, it's 48S or SX. Can't tell which w/o seeing logo. Definitely not G series.

Martin

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OT: CP/M-68K for HP 9000 Series 200 computers

*Message #1 Posted by **Juergen Keller** on 21 Sept 2010, 3:00 a.m.*

I'm looking for a copy of CP/M-68K for HP 9000 Series 200 computers. Anybody out there who can help me?

Thank you, Juergen

Re: OT: CP/M-68K for HP 9000 Series 200 computers

*Message #2 Posted by **Alejandro Paz (Germany)** on 21 Sept 2010, 12:56 p.m.,*
in response to message #1 by Juergen Keller

Out of curiosity... didn't they run some early version of HP-UX ?

Re: OT: CP/M-68K for HP 9000 Series 200 computers

*Message #3 Posted by **Juergen Keller** on 21 Sept 2010, 4:41 p.m.,*
in response to message #2 by Alejandro Paz (Germany)

As far as I know not all 9000 Series 200 computers were able to run HP-UX. At least that's my conclusion from what I found on the Internet. But if anyone can shed some light on this I would highly appreciate it.

Re: OT: CP/M-68K for HP 9000 Series 200 computers

*Message #4 Posted by **Raymond Del Tondo** on 21 Sept 2010, 6:36 p.m.,*
in response to message #3 by Juergen Keller

The latest issue of the HPCC Datafile includes a very nice article from Tony Duell about the HP9000 Series 200 machines. IIRC those units with a MMU were able to run UX.

Re: OT: CP/M-68K for HP 9000 Series 200 computers

*Message #5 Posted by **Juergen Keller** on 22 Sept 2010, 5:25 p.m.,*
in response to message #4 by Raymond Del Tondo

Good hint, thank you!

Re: OT: CP/M-68K for HP 9000 Series 200 computers

*Message #6 Posted by **Olivier De Smet** on 22 Sept 2010, 10:09 a.m.,*
in response to message #1 by Juergen Keller

OT, is it possible to get a dump from a boot rom of an HP9000 series 200 (3.0 or 3.0L) ?

(I already got a dump from a series 425, but it's too recent for my taste)

I'm interested for some project ...

Olivier

Edited: 22 Sept 2010, 3:30 p.m.

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50g and Windows 7

*Message #1 Posted by **John Cadick** on 20 Sept 2010, 6:38 p.m.*

I am trying to get my 50g to communicate with my Win7 computer (32 bit). I installed HP Connect (ver 2.3 Build 2439) and it went flawlessly. I plug the 50g into the computer (USB) and win7 sees it and starts looking for the driver which, of course. It cannot find.

When Win7 gets tired it let's me try to install the driver manually. Now things get confusing. win7 gives me a list of hardware types to choose from. Which one do I choose? Win7 won't let me install a driver without telling it the type of hardware.

My Internet search for an answer has found nothing.

Help.

John

Re: 50g and Windows 7

*Message #2 Posted by **Jerry Raia** on 20 Sept 2010, 8:46 p.m.,*
in response to message #1 by John Cadick

You didnt mention this so I thought I would ask. Did you start the server on the 50g?

Re: 50g and Windows 7

*Message #3 Posted by **John Cadick** on 20 Sept 2010, 10:52 p.m.,*
in response to message #2 by Jerry Raia

Thanks for the suggestion, Jerry. I did have the server turned on , but with no driver installed it didn't work.

Anyhow, Tim gave me the link to the correct server.

John

Re: 50g and Windows 7

*Message #4 Posted by **Jerry Raia** on 21 Sept 2010, 9:57 a.m.,*
in response to message #3 by John Cadick

Glad you got it working. :)

Re: 50g and Windows 7

*Message #5 Posted by **Tim Wessman** on 20 Sept 2010, 10:25 p.m.,*
in response to message #1 by John Cadick

You need to download an updated driver, but the driver has not yet been flagged as supporting 32 bit also and so it doesn't show up on the Win 7 32 bit page. If you select Windows 7 -64 bit on the support page, it will download an installer that installs either 32 or 64 bit. I am going to link there directly, but it may not be a static link.

TW

Re: 50g and Windows 7

*Message #6 Posted by **John Cadick** on 20 Sept 2010, 10:49 p.m.,*
in response to message #5 by Tim Wessman

Thanks a bunch, Tim. Downloaded, installed, and connected.

I'm really looking forward to seeing you at HHC. Hope everything is going well.

John

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[OT] "Space" symbol on a keyboard

*Message #1 Posted by **Tim Wessman** on 20 Sept 2010, 5:16 p.m.*

I recently took the plunge and switched to a smart phone (a galaxy-S for those interested) and I was kind of interested to see that the one screen keyboard has a nice fat space bar, but in addition it has that "space" symbol that has become increasingly used on cell phones. It is the symbol that looks like an underscore with two small upward lines on the end, similar to this:

|_____|

I just happened to be cleaning my desk today (in case any of you HHC folks come by. . . can't have you seeing things you shouldn't!) and found a TI-84 in the pile of competitor's units and noticed that it uses the symbol instead of the word SPACE also. I started thinking about that and began wondering how universal is that symbol.

Can those from other countries chime in if your cell phones there use that same symbol? If anyone has a good picture of it, or knows any information about it (such as the name or something) I'd be curious to know that also.

Thanks!

TW

Re: [OT] "Space" symbol on a keyboard

*Message #2 Posted by **Walter B** on 20 Sept 2010, 5:39 p.m.,*
in response to message #1 by Tim Wessman

Tim,

this symbol is on my cell phone, too (Nokia E50, not very smart but only traditional keys). It's printed on the "0" key.

Re: [OT] "Space" symbol on a keyboard

*Message #3 Posted by **Chuck** on 20 Sept 2010, 7:40 p.m.,*
in response to message #1 by Tim Wessman

For what it's worth, I found out it is unicode U+2423, character "OPEN BOX". Wikipedia lists it as a graphic for space. I've always seen it on the TI calcs but never gave it a second thought until you brought it up. Hmmmm.

Re: [OT] "Space" symbol on a keyboard

*Message #4 Posted by **Tim Wessman** on 20 Sept 2010, 10:07 p.m.,*
in response to message #3 by Chuck

Nice. I thought it would be in unicode somewhere as everything else is, but had no idea where to even start looking. Thanks!

TW

Re: [OT] "Space" symbol on a keyboard

*Message #5 Posted by **Egan Ford** on 20 Sept 2010, 8:12 p.m.,*
in response to message #1 by Tim Wessman

I found an old Sony Ericsson T610 in my office with that symbol on # key. My home phone is really a Nokia mobile phone and it also has that symbol on the 0 key. Both phones have the classic 12 button phone keypad. The space symbol is clearly for texting.

My wife's WinMo QWERTY phone actually has the word "space" printed even though its the largest key and is clearly the space bar (never can be too safe).

Re: [OT] "Space" symbol on a keyboard

*Message #6 Posted by **Tim Wessman** on 20 Sept 2010, 10:05 p.m.,*
in response to message #5 by Egan Ford

I just saw one that has a big wide key, the word SPACE and then the symbol on it. . .

At this rate, you'll soon have written on there "PUSH ME TO SEPARATE A WORD" :-D

TW

Re: [OT] "Space" symbol on a keyboard

*Message #7 Posted by **David Hayden** on 20 Sept 2010, 8:51 p.m.,*
in response to message #1 by Tim Wessman

This reminds me of the way "Enter" has replaced "Return" or "Carriage Return" on keyboards. :)

I assume the usage of the icon instead of "Space" on things like cell phones is to allow the same keyboard to be used in non-English speaking countries.

Re: [OT] "Space" symbol on a keyboard

*Message #8 Posted by **Mark Harman** on 21 Sept 2010, 3:11 a.m.,*
in response to message #7 by David Hayden

Mac keyboards still have a return key; however, the numeric keypad does have an enter key (that is, on models with numeric keypads). Interestingly enough, the Mac OS X Calculator app has an RPN mode.

Regards,

Mark

Edited: 21 Sept 2010, 3:12 a.m.

Re: [OT] "Space" symbol on a keyboard

*Message #9 Posted by **Joerg Woerner** on 20 Sept 2010, 9:07 p.m.,*
in response to message #1 by Tim Wessman

Tim,

I have an engineering sample of the TI-81, manufactured in 1990. Guess what - the [__] symbol is already printed on the "0" key ;-))

Regards, Joerg

Re: [OT] "Space" symbol on a keyboard

*Message #10 Posted by **Paul Guertin** on 22 Sept 2010, 6:47 p.m.,*
in response to message #9 by Joerg Woerner

I remember seeing that |___| symbol for space in computer books and magazines of the eighties, the ones that had BASIC programs for the reader to type in. They were used when the number of spaces was significant (DATA statements, strings, and so on).

Another symbol sometimes used for a space (mostly in older books, it seemed) was a b overstruck with a / (Unicode U+2422, BLANK SYMBOL). According to decodeunicode.org, it dates back to the IBM 1401 printer in the 1960s.

Re: [OT] "Space" symbol on a keyboard

*Message #11 Posted by **Marcus von Cube, Germany** on 27 Sept 2010, 4:59 a.m.,*
in response to message #10 by Paul Guertin

My Nokia E61 has the |__| Symbol on its double width space bar:

The b/ makes me think about another question: What is the difference between a 'blank' and a 'space'?

Re: [OT] "Space" symbol on a keyboard

*Message #12 Posted by **Walter B** on 27 Sept 2010, 5:29 a.m.,*
in response to message #11 by Marcus von Cube, Germany

> Quote:
>
> What is the difference between a 'blank' and a 'space'?

None in real life AFAIK, but IANAL ;)

Re: [OT] "Space" symbol on a keyboard

*Message #13 Posted by **Paul Guertin** on 28 Sept 2010, 11:04 p.m.,*
in response to message #11 by Marcus von Cube, Germany

> Quote:
>
> My Nokia E61 has the |__| Symbol on its double width space bar.

So does my Ben Nanonote (though its space bar is single width).

Re: [OT] "Space" symbol on a keyboard

*Message #14 Posted by **Palmer O. Hanson, Jr.** on 28 Sept 2010, 10:43 p.m.,*
in response to message #9 by Joerg Woerner

Joerg:

You wrote:

> Quote:
>
> I have an engineering sample of the TI-81, manufactured in 1990. Guess what - the [__] symbol is already printed on the "0" key ;-))

The symbol with the upturned ends is used on all my TI graphic calculators from the TI-80 through the TI-89 with one exception. The ALPHA menu for the TI-73 uses a simple underline without the upturned ends.

The Voyage 2000 only has a simple space at the center of the bottom of the QWERTY keyboard layout.

It seems that the old TI-68 should have a way to enter a space but I haven't been able to find it.

Palmer

Edited: 28 Sept 2010, 10:51 p.m.

Re: [OT] "Space" symbol on a keyboard

*Message #15 Posted by **BruceH** on 22 Sept 2010, 9:04 p.m.,*
in response to message #1 by Tim Wessman

It was common back in the days when programs were written by hand on coding sheets (and then entered into the mainframe by a team of ladies in a typing pool) to use this symbol to indicate a space. Needless to say, the ladies weren't programmers so if you missed a space out they wouldn't know to add it. Not good when the turn around for an edit was at least a day so you made sure that you indicated spaces where they were needed.

Re: [OT] "Space" symbol on a keyboard

*Message #16 Posted by **Sujith Abraham** on 24 Sept 2010, 4:04 a.m.,*
in response to message #1 by Tim Wessman

Even my DTH STB Remote has the "space" key, I have no idea why it is there.

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optimized prime factor finder for 12c+

*Message #1 Posted by **Don Shepherd** on 20 Sept 2010, 2:31 p.m.*

Well, Dave Britten started this ball rolling here with a prime factor finder for the 32sii and 20s based upon an original program for the 67. Tim Wessman used this as a model for the 30b in message number 30 of that thread. I made a few modifications here for the 32s, a very nice machine. But I always wondered if this basic algorithm could be done on the 12c, and especially the fast 12c+.

At first glance, it would appear unlikely because of the heavy reliance on subroutines, which the 12c does not have. But the more I looked at the code, the more I believed that it should be possible to somehow implement this algorithm on the 12c+. Yesterday I figured out how to do it, essentially using indirect addressing via the Rcl CFj command with the cash flow registers.

The code is listed below. The 12c+ is rather slower than the 30b for this application: the 30b determines the primality of 300,000,007 in 9 seconds versus the 12c+ 38 seconds. But this algorithm represents a significant improvement over a brute-force algorithm that eliminates only multiples of 2 from the trial factor pool; that version takes 57 seconds on the 12c+.

The fact that an algorithm that is so subroutine-intensive can be done on the 12c+ at all is a testament to the greatness of the design of the 12c. No wonder it is the most successful calculator HP has ever produced.

Edited on 9/20/2010 to implement Katie Wasserman's suggestion to use Nj in addition to CFj so that no preloading of registers is necessary, a brilliant suggestion.

```
Prime factors program for 12c+


Eliminates multiples of 2, 3, and 5 from trial factor pool


These are the trial factor increment values that are stored
via cfj and nj in R2 to R7:
6,2,6,4,2,4,2,4,2,2,1,2


Enter number to factor, R/S
R/S after each factor displayed
0 indicates done


maximum number to factor = 999,999,999


Register usage:
R2 - R7 (and corresponding nj) = trial factor increments, begins at R7
R0 - number to factor
R1 - current trial factor
n  - used to control indirect addressing
i  - flag for returning to the right location from
     the routine at line 56


Mem command = p-71  r-11


01 sto 0        number to factor
02 clr sigma    clears R1 for trial factor use
```

```
03 2            load trial factor increment values into cfj/nj
04 sto n        registers R2 to R7
05 6
06 cfj
07 2
08 nj
09 6
10 cfj
11 4
12 nj
13 2
14 cfj
15 4
16 nj
17 2
18 cfj
19 4
20 nj
21 2
22 cfj
23 nj
24 1
25 cfj
26 2
27 nj
28 0            loop begins here to get next series of trial factor increment values
29 sto i        flag so you return to the correct line number from routine at line 56
30 rcl nj       get the next trial factor increment value
31 goto 56      check to see if this is a factor
32 1
33 sto i        flag to return to the correct line number from line 56 routine
34 rcl cfj      get the next trial factor increment value
35 goto 56      check to see if this is a factor
36 rcl n        when n gets to 2, an iteration of loop is done
37 3
38 x<=y
39 goto 28      loop not done, so continue loop with next increment
40 rcl 0        if num to factor is 1, you are done factoring
41 ln           will be 0 if num to factor is 1
42 x=0
43 goto 00      display 0 and exit program
44 6            reset indirect pointer to 6 for second
45 sto n        and all subsequent loop iterations
46 rcl 0        number to factor
47 rcl 1        current trial factor
48 enter
49 x            no x-squared key on 12c so this does it
50 x<=y         continue loop until you get to
51 goto 28      the square root of the number to factor
52 rcl 0        the final factor is in R0 now so display
53 R/S          it, then display 0 and stop
54 0
55 goto 00
56 sto+1        beginning of routine to see if this is a factor, increment trial divisor
57 rcl 0        current number to factor
58 rcl 1        current trial divisor
59 /
60 frac         frac part will be 0 if R1 is a factor of R0
61 x=0
62 goto 67      if a factor
63 rcl i        0=return to line 32, 1=return to line 36
64 x=0
65 goto 32
66 goto 36
67 rcl 1        factor found, so update number to factor
68 sto/0        update number to factor
69 r/s          display factor wait for user to press r/s
70 0            don't increment trial factor, might be same factor again
71 goto 56      see if current trial factor is again a factor
```

Edited: 21 Sept 2010, 1:00 p.m.

Re: optimized prime factor finder for 12c+

*Message #2 Posted by **Dave Britten** on 22 Sept 2010, 9:17 a.m.,*
in response to message #1 by Don Shepherd

Very cool. I shied away from doing it on a 12c because of the lack of subroutines. Getting it running on the algebraic 20s was enough of a challenge. :)

I might have to try this on my standard 12c and see how much more slowly it runs.

Re: optimized prime factor finder for 12c+

*Message #3 Posted by **Don Shepherd** on 22 Sept 2010, 12:13 p.m.,*
in response to message #2 by Dave Britten

Yeah, given the extensive use of subroutines in the algorithm, for a long time I thought it was just not possible to consider it on the 12c. But when I thought about the indirect addressing using Cfj, I thought there might be a way, and I found one! But it originally required loading all 12 of the trial factor increment values prior to running the program, which was definitely not cool. Then Katie said that if you use Nj in addition to Cfj you would need half as many registers and the extra program space that would free up would probably be adequate to initialize the registers you do need, and she was right. What a brilliant suggestion.

Katie also had the idea of stuffing all 12 increment values into one register using the 10-digit number and 2-digit exponent. That would free up all kinds of registers for program lines, but the mechanics of decoding that single register each time, including the exponent, would probably impact the execution speed, and I thought the Nj was a better method, so I did that.

It runs very quickly on the 12c+, not as fast as the 30b, but certainly acceptable. I've also got it running on my original 12c from 12 years ago, and it is sssslllllooooooowwwww on that machine, predictably.

But the challenge was to do that algorithm at all on the 12c, and I am happy with the result.

Yes, I did appreciate your algebraic solution on the 20s, that was very clever. And I do like the display on that machine, very clear.

So thanks Dave for resurrecting this old 67 code. I've also got it running on my 65, which handles the subroutines very well, of course.

Don

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HP Forum Archive 19

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HP50g and GPS reciever

*Message #1 Posted by **Matthew Krotzer** on 19 Sept 2010, 1:45 p.m.*

I'm considering the purchase of an hp50g that I do not need but will prove to be useful microcomputer for future. I'm not much past a basic calculus course but have the opportunity to learn linear algebra on the side with a professor in preparation for undergraduate research in sociology. I absolutely love RPN on my only hpcalc (35s)

A personal project: I would like to interface the hp50g with an gps receiver and have a programmable gps unit to measure m/s and act as a trip log. Ultimately I want something for measuring speed during a skateboard trip and for long automobile trips. I think the calculator route is best because it will allow me to display and process the data as I see fit.

Would these modules be suitable for the project?

http://www.futurlec.com/GPS.shtml

I've looked at the software at hpcalc.org and things look promising for me. As you can tell from my post I am a newbie to hp and know very little about gps units.

Matthew

Re: HP50g and GPS reciever

*Message #2 Posted by **Tim Wessman** on 19 Sept 2010, 2:22 p.m.,*
in response to message #1 by Matthew Krotzer

The only way to do it easily is to have a unit that can output a RS232 signal. That way you can use a cable from hpcalc.org to interface to the 50g. Note that is a special serial cable and not just a direct wired connection.

I personally would just recommend a simple unit that has a built in 9 pin serial.

If you want a hardened box with space for external batteries, and a place to mount extra internal components, take a look here. I helped develop the software and that device for land surveyors, and I'm sure you can buy one of the plain yellow boxes for a decent price if desired.

TW

Edited: 19 Sept 2010, 2:24 p.m.

Re: HP50g and GPS reciever

*Message #3 Posted by **Matthew Krotzer** on 19 Sept 2010, 2:35 p.m.,*
in response to message #2 by Tim Wessman

Quote:

> I personally would just recommend a simple unit that has a built in 9 pin serial.

Thank you for the reply. I failed to recognize that the units I linked to where not standard rs232. By "simple unit" do you mean one of the commercial gps units like a garmin e-trex?

Re: HP50g and GPS reciever

*Message #4 Posted by **Tim Wessman** on 19 Sept 2010, 3:04 p.m.,*
in response to message #3 by Matthew Krotzer

I meant something that doesn't have a screen, and is supposed to interface with another device like a PDA or laptop. I haven't looked for years at those though. I know there are plenty of bluetooth ones, and used to be plenty of serial enabled devices also. Something like this possibly: http://www.amazon.com/Garmin-18x-GPS-Navigator-Unit/dp/B0016NYHVS/ref=sr_1_3?ie=UTF8&s=electronics&qid=1284923071&sr=8-3

You can probably get a GPS with a screen and software that also supports serial. Then you could use either depending on what you want to do.

TW

Edited: 19 Sept 2010, 3:07 p.m.

Re: HP50g and GPS reciever

*Message #5 Posted by **Matthew Krotzer** on 19 Sept 2010, 3:09 p.m.,*
in response to message #4 by Tim Wessman

Thanks again. I understand what you mean.

Re: HP50g and GPS reciever

*Message #6 Posted by **John B. Smitherman** on 19 Sept 2010, 5:03 p.m.,*
in response to message #1 by Matthew Krotzer

Hi Matthew. If you're interested Professor Gilbert Strang of MIT has provided access to resources from his linear algebra course at:

Gilbert Strang's Linear Algebra Course

The recorded lectures are available via video and are very useful.

Good luck,

John

Re: HP50g and GPS reciever

*Message #7 Posted by **Garth Wilson** on 19 Sept 2010, 5:26 p.m.,*
in response to message #1 by Matthew Krotzer

> Quote:
>
> A personal project: I would like to interface the hp50g with an gps receiver and have a programmable gps unit to measure m/s and act as a trip log. Ultimately I want something for

> measuring speed during a skateboard trip and for long automobile trips. I think the calculator route is best because it will allow me to display and process the data as I see fit.

Why not just get a GPS unit made for bicycles. They already have things like trip distance, travel time, average speed, maximum speed, elevation gained or lost, etc., etc., with plenty of memory that can be downloaded to a computer to graph the speed, elevation, grade, heart rate, and so on.

Re: HP50g and GPS reciever

*Message #8 Posted by **Martin Pinckney** on 19 Sept 2010, 5:38 p.m.,*
in response to message #7 by Garth Wilson

> Quote:
>
> Why not just get a GPS unit made for bicycles.

Really, Garth, if you have to ask...

Re: HP50g and GPS reciever

*Message #9 Posted by **Egan Ford** on 19 Sept 2010, 9:14 p.m.,*
in response to message #1 by Matthew Krotzer

You may or may not find this helpful:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=746

I used an older Garmin GPS that supports RS232 NMEA streaming @ 4800 BPS.

Edited: 19 Sept 2010, 9:15 p.m.

Re: HP50g and GPS reciever

*Message #10 Posted by **Don Shepherd** on 19 Sept 2010, 9:33 p.m.,*
in response to message #9 by Egan Ford

Egan, I've just got to say this. Your article's use of animation is absolutely the best I have seen at this site. You are a true pro, sir!

Re: HP50g and GPS reciever

*Message #11 Posted by **Geir Isene** on 20 Sept 2010, 6:35 a.m.,*
in response to message #9 by Egan Ford

Frak, that's cool, Egan!

Re: HP50g and GPS reciever

*Message #12 Posted by **Matthew Krotzer** on 21 Sept 2010, 10:55 p.m.,*
in response to message #1 by Matthew Krotzer

Thanks for all the help. I really appreciate it.

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HP Forum Archive 19

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HP-41 in the dark; A home made Porta-Lite

*Message #1 Posted by **Geir Isene** on 19 Sept 2010, 4:12 a.m.*

Some time back, you guys asked for a picture of the little hack I did when I made a LED module for my 41.

Here are the details and pics

Re: HP-41 in the dark; A home made Porta-Lite

*Message #2 Posted by **Paul Dale** on 19 Sept 2010, 5:02 a.m.,*
in response to message #1 by Geir Isene

Isn't this a little bit wasteful of the expensive N cell batteries :-)

Otherwise, a nice mod.

- Pauli

Re: HP-41 in the dark; A home made Porta-Lite

*Message #3 Posted by **Geir Isene** on 19 Sept 2010, 8:51 a.m.,*
in response to message #2 by Paul Dale

As long as I can get hold of a refurbished rechargeable battery pack, I'll be fine (tried to make one, bot a botched-up soldering job led me to place a WTB-ad in the classifieds section).

Re: HP-41 in the dark; A home made Porta-Lite

*Message #4 Posted by **Brian Walsh** on 20 Sept 2010, 1:36 a.m.,*
in response to message #1 by Geir Isene

What a flashback. Tom Hooper made and sold the Port Lite (or was it the Port-X-Lite?) back in the early 80s for the 41. It had a switch on the exposed side of the module. Mine is buried away in a box somewhere.

Re: HP-41 in the dark; A home made Porta-Lite

*Message #5 Posted by **Raymond Del Tondo** on 20 Sept 2010, 3:26 a.m.,*
in response to message #4 by Brian Walsh

Yes, that one had been offered to me back in the early eighties by my favourite HP dealer, Buero Hansen in Bonn, Germany, for those who remember;-)
I should have bought at least one unit, but back then I had to save some money for my first X-Functions module...
Later, when I had some spare funds for toys, the lites weren't available anymore.

Re: HP-41 in the dark; A home made Porta-Lite

*Message #6 Posted by **Alejandro Paz (Germany)** on 20 Sept 2010, 11:03 a.m.,*
in response to message #1 by Geir Isene

I thought it was a LED display :(

Re: HP-41 in the dark; A home made Porta-Lite

*Message #7 Posted by **Diego Diaz** on 21 Sept 2010, 3:09 p.m.,*
in response to message #6 by Alejandro Paz (Germany)

Nice gadget. I also recall the referred unit from the eighties...

Just some thoughts from the HW side of my brain:

-Is its power connected to the BAT or to the +V line in the module? (I would recommend the BAT since the +V will load the DC/DC converter chip with some unnecessary extra mAmps)

Just my two cents... :-)

Best wishes from the Caribbean Sea.

Diego.

Edited: 21 Sept 2010, 3:21 p.m.

Re: HP-41 in the dark; A home made Porta-Lite

*Message #8 Posted by **Geir Isene** on 21 Sept 2010, 3:26 p.m.,*
in response to message #7 by Diego Diaz

Damn, I'd have to do a take3 then ;-)

Re: HP-41 in the dark; A home made Porta-Lite

*Message #9 Posted by **Diego Diaz** on 22 Sept 2010, 7:13 p.m.,*
in response to message #8 by Geir Isene

Ha, ha... upgrades, upgrades, upgrades...

You've just entered the HW geeks weird word... mind your step :-)

Mail me if you thing I can be of any help with this.

Best wishes.

Diego.

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Searching for a 9120A drive belt

*Message #1 Posted by **Richard Wilder** on 18 Sept 2010, 1:26 p.m.*

Hi All, Forum noob here looking for a drive belt for my recently aquired 9120A printer (with 9100B calculator & 9125A plotter). I can't find the service manual for the 9120A so I don't know what the HP part number or original manufacturer is. Any help finding a belt, part number or manufacturer would be greatly appreciated.

Thanks!

Re: Searching for a 9120A drive belt

*Message #2 Posted by **Richard Wilder** on 30 Sept 2010, 4:02 p.m.,*
in response to message #1 by Richard Wilder

Found it!

http://www.sdp-si.com/

Part number: A 6R 6-1930180

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Back to the question of 0 as a power or divisor

*Message #1 Posted by **John Mosand** on 18 Sept 2010, 10:41 a.m.*

I just happened to remember a joking argument by Donald Knuth:

If n/0 = inf.

Then n = inf. * 0

IOW, any number is a product of infinity and 0.

Re: Back to the question of 0 as a power or divisor

*Message #2 Posted by **hugh steers** on 18 Sept 2010, 2:58 p.m.,*
in response to message #1 by John Mosand

also,

HP's latest calculators have 0^0 = 1.

[result for the 30b]

Re: Back to the question of 0 as a power or divisor

*Message #3 Posted by **Martin Pinckney** on 18 Sept 2010, 3:31 p.m.,*
in response to message #2 by hugh steers

> Quote:
>
> HP's latest calculators have 0^0 = 1.
>
> [result for the 30b]

Does 48sx qualify as *latest* ?

This 0^0=1 seems to be the accepted mathematical convention today. How about it, Don?

Re: Back to the question of 0 as a power or divisor

*Message #4 Posted by **Chuck** on 18 Sept 2010, 4:27 p.m.,*
in response to message #3 by Martin Pinckney

Accepted only as a limit as you approach 0 from the right. In every other maths it is undefined (in my opinion).

Re: Back to the question of 0 as a power or divisor

*Message #5 Posted by **Don Shepherd** on 18 Sept 2010, 4:49 p.m.,*
in response to message #3 by Martin Pinckney

In middle school, we usually just say it's "undefined," like division by zero. The kids accept that. Some calculators may give other answers, but I think the TI-83 family gives you an error message when you do 0^0.

Re: Back to the question of 0 as a power or divisor

*Message #6 Posted by **Thomas Okken** on 18 Sept 2010, 5:09 p.m.,*
in response to message #5 by Don Shepherd

> Quote:
>
> In middle school, we usually just say it's "undefined," like division by zero. **The kids accept that.**

(Emphasis mine)

The kids may accept that, but that doesn't necessarily mean it makes sense. When I was in high school, I once had a discussion with a few classmates about the value of 0!. We'd been told that 0! = 1, and that that was "just how it was defined".

I argued that there was no need to treat 0! as a special case:

> Quote:
>
> How many ways are there to sort 3 items? answer: 3! = 6. (everyone nods)
> How many ways are there to sort 2 items? answer: 2! = 2. (everyone nods)
> How many ways are there to sort 0 items? answer: 0! = 1. (everyone disagrees, saying there are 0 ways to sort 0 items)

It's not an issue to get worked up over; while I felt a deep sense of disconnect at that point of the discussion, this is still obviously not something that's going to seriously trip anyone up later in life. But still, I felt then, and I still feel now, that the notions of an "empty sum" and an "empty product" are useful, and they make some borderline cases like x^0 and 0! fall into place quite nicely, without introducing any new problems; an "empty sum" is a sum with no terms, equalling the additive identity, 0; an "empty product" is a product with no factors, equalling the multiplicative identity, 1. No need to treat 0^0 or 0! as special in any way; they're both empty products, hence equal to 1. The fact that there really is exactly one way to order 0 items, and the fact that 0^0 = 1 makes sense from a continuity point of view (everything else to the zeroth power equals 1; why should 0 be an exception?) is just a bonus. :-)

Edited: 18 Sept 2010, 5:21 p.m.

Re: Back to the question of 0 as a power or divisor

*Message #7 Posted by **Crawl** on 18 Sept 2010, 5:58 p.m.,*
in response to message #6 by Thomas Okken

Yes, it makes total sense that 0!=1. x! is a continuous function and it even continuously approaches 1 as x approaches 0. There are dozens (or millions, who knows) of ways of defining the factorial function, and they all give 0!=1.

It mostly makes sense that 0^0=1.

To be specific, for any functions f and g that are analytic at 0 and for which f->0 and g->0 as x->0, (and if f is not the constant 0), then f(x)^g(x)->1 as x->0

Of course, that theorem gives you hints of how you can find f^g->0^0 that does not tend to 1.

Say, f=e^(-1/x^2), g=x. Then f^g will tend to 1 as x approaches 0 from positive numbers, but will tend to infinity as x approaches 0 from negative numbers. (Of course, f only ->0 as x->0 when x is on the real line, anyway. In the complex plane, the limit doesn't exist, which is why the function isn't analytic.)

Re: Back to the question of 0 as a power or divisor

*Message #8 Posted by **Crawl** on 18 Sept 2010, 6:07 p.m.,*
in response to message #7 by Crawl

Err, it tends to 0 as x ->0 from positive numbers. One thing that example is supposed to show, sort of, is that f^g=0^0 can equal 0, like 0^x, if f tends to 0 much faster than any analytic function.

Re: Back to the question of 0 as a power or divisor

*Message #9 Posted by **David Hayden** on 19 Sept 2010, 8:58 a.m.,*
in response to message #7 by Crawl

For my money, Crawl's explanation really hits the nail on the head, so to speak. Math is full of instances where we define values of functions based on convenience for the mathematical model rather than a provable theory. For example, x^n is well defined for integers. You can further define it for rational numbers, but for irrational numbers, we simply say "uh, k^x when x is irrational is the value that makes f(x) = k^x continuous."

I think the same is true with x!. It's a continuous function, but only because we've dictated that it should be and because there is a continuous function that equals x! (gamma(x+1)).

As for 0^0, at first glance you could say it equals any number (0^0 = 0^k / 0^k = 0/0; 0/0=x; 0=0*x; x = any number). We decide to pick the one that makes the most sense, which is the one that the limit approaches as Crawl describes.

Re: Back to the question of 0 as a power or divisor

*Message #10 Posted by **Crawl** on 19 Sept 2010, 10:03 a.m.,*
in response to message #9 by David Hayden

There is a theorem that states how unique the usual continuous extension to the factorial function is.

So, you could define it with an integral, or with Euler's product formula, or whatever, but however you do it, you're gonna get the same thing.

Re: Back to the question of 0 as a power or divisor

*Message #11 Posted by **Crawl** on 20 Sept 2010, 12:06 p.m.,*
in response to message #10 by Crawl

Here are maybe some "controversial" definitions:

We should only use the factorial function. Everyone should drop using the Gamma function like a bad habit. That stupid argument offset helps nothing.

B(1) (the 1st Bernoulli number) should equal +1/2, not -1/2. Note that the HP50g's IBERNOULLI function gives the "wrong" answer for this argument.

Re: Back to the question of 0 as a power or divisor

*Message #12 Posted by **Don Shepherd** on 18 Sept 2010, 6:34 p.m.,*
in response to message #6 by Thomas Okken

I agree, it's not an issue to get worked up over, and believe me the kids don't get worked up over it. In middle school, we teach the kids rules. One rule says that 0 to any power is 0. Another rule says that anything to the zero power is 1. Now, unless I bring up the conundrum about 0^0 seemingly falling between the cracks, few kids will even be aware of it. Kids, amazingly enough, aren't intrigued by these things! Sometimes I bring it up, to get them thinking. And I usually leave it that it's like division by zero, not allowed.

In middle school, we measure success by kids actually knowing their times tables and the basics of algebra. 0^0 isn't worth worrying about.

0^0, once again...

*Message #13 Posted by **Karl Schneider** on 21 Sept 2010, 1:20 a.m.,*
in response to message #3 by Martin Pinckney

> Quote:
>
> This 0^0=1 seems to be the accepted mathematical convention today.

Of course, this has been debated here a few times over the years, but I did not bookmark any threads...

I insist that it's incorrect to declare that "0^0=1 by definition", because:

1. To evaluate it directly causes a DBZ or logarithm error.
2. No unambiguous limit exists, as

$$\lim_{x \to 0+} 0^x = 0$$

$$\lim_{x \to 0-} 0^x = \text{DBZ } (+\infty)$$

$$\lim_{x \to 0} x^0 = 1$$

In most cases, however, letting 0^0 = 1 is more useful and fits the problem. It's essentially implicit as the first term in the Taylor series for cos(x) and e^x, expanded about a = 0 (the last of the three limits is taken for the two derivations).

-- KS

Edited: 23 Sept 2010, 1:55 a.m.

Re: Back to the question of 0 as a power or divisor

*Message #14 Posted by **Martin Pinckney** on 18 Sept 2010, 6:11 p.m.,*
in response to message #2 by hugh steers

There was a previous discussion of this issue in this thread.

It seems HP calculators had 0^0 return an error (undefined) in all pre-RPL models, and 0^0=1 in RPL models, seemingly in accordance with an IEEE standard for computer languages.

I am definitely out of school here, but that's the way I see it.

Re: Back to the question of 0 as a power or divisor

*Message #15 Posted by **Tim Wessman** on 18 Sept 2010, 9:18 p.m.,*
in response to message #14 by Martin Pinckney

Well, the new math library has a flag that can either cause 0^0 to return an error (ER0pow0) or 1. :-)

TW

Edited: 18 Sept 2010, 9:19 p.m.

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HP Forum Archive 19

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HP-21 sells for nearly $400 on TOS!

*Message #1 Posted by **Michael Meyer** on 18 Sept 2010, 10:34 a.m.*

Now I regret cannibalizing so many cheap HP-21's in the past for working ACT chips!

Re: HP-21 sells for nearly $400 on TOS!

*Message #2 Posted by **Michael de Estrada** on 18 Sept 2010, 10:40 a.m.,*
in response to message #1 by Michael Meyer

I always thought the acronym was "TAS" for "The Auction Site." What is "TOS" ?

Re: HP-21 sells for nearly $400 on TOS!

*Message #3 Posted by **Michael Meyer** on 18 Sept 2010, 10:43 a.m.,*
in response to message #2 by Michael de Estrada

"That Other Site". Sort of like, "He who must not be named..." For those of us who are avoiding mentioning--- you know, THAT site. Maybe I've got it wrong and will still be struck down by lightning.

Edited: 18 Sept 2010, 10:47 a.m.

Re: HP-21 sells for nearly $400 on TOS!

*Message #4 Posted by **Namir** on 18 Sept 2010, 11:16 a.m.,*
in response to message #3 by Michael Meyer

You meant TAS ....

:-)

Re: HP-21 sells for nearly $400 on TOS!

*Message #5 Posted by **Michael Meyer** on 18 Sept 2010, 8:14 p.m.,*
in response to message #4 by Namir

I think you're right...

Re: HP-21 sells for nearly $400 on TOS!

*Message #6 Posted by **Michael de Estrada** on 18 Sept 2010, 11:58 a.m.,*
in response to message #3 by Michael Meyer

I always thought "That Other Site" was this TOS

Edited: 18 Sept 2010, 12:00 p.m.

Re: HP-21 sells for nearly $400 on TOS!

*Message #7 Posted by **Joerg Woerner** on 18 Sept 2010, 1:14 p.m.,*
in response to message #6 by Michael de Estrada

Thanks - Joerg

Greetings from The Dark Side of the Moon!

Re: HP-21 sells for nearly $400 on TOS!

*Message #8 Posted by **Namir** on 18 Sept 2010, 8:22 p.m.,*
in response to message #6 by Michael de Estrada

Nope! It's another site dedicated to the HP41C.

Re: HP-21 sells for nearly $400 on TOS!

*Message #9 Posted by **Han** on 18 Sept 2010, 11:35 a.m.,*
in response to message #1 by Michael Meyer

Looks like a bid war between two guys who felt they had to have a mint HP-21. If it were the case that 40 of those 60 bids were from unique buyers, then I would feel regretful about cannibalizing those HP-21 calculators.

Just my 21 cents.

Re: HP-21 sells for nearly $400 on TOS!

*Message #10 Posted by **Michael de Estrada** on 18 Sept 2010, 11:52 a.m.,*
in response to message #9 by Han

I didn't see this particular auction, but in the past it seems that the HP 21 has been a pretty common Woodstock, and rarely if ever have I seen them sell for over $200. I have one that is pretty minty that cost me less than $100. Had this been an HP 27 or 29C or maybe even a 25C I could understand it if they sold for such an amount, but the HP 21 and 25 should not. As you said, it was just a bidding war between two big egos or perhaps a shill at work here?

Re: HP-21 sells for nearly $400 on TOS!

*Message #11 Posted by **Juergen Keller** on 18 Sept 2010, 12:52 p.m.,*
in response to message #1 by Michael Meyer

Well, there might be HP-21s that are quite rare and might be worth $400, like this one: Yokogawa HP-21

Re: HP-21 sells for nearly $400 on TOS!

*Message #12 Posted by **Michael de Estrada** on 18 Sept 2010, 12:58 p.m.,*
in response to message #11 by Juergen Keller

Not for me, but OTOH the HP-41CY Turbo, absolutely!

Re: HP-21 sells for nearly $400 on TOS!

*Message #13 Posted by **Juergen Keller** on 18 Sept 2010, 6:05 p.m.,*
in response to message #12 by Michael de Estrada

That's one of my Holy Grails, but that's another thread :-)

Re: HP-21 sells for nearly $400 on TOS!

*Message #14 Posted by **Michael Meyer** on 20 Sept 2010, 3:57 p.m.,*
in response to message #11 by Juergen Keller

Juergen: That IS very cool.

Edited: 20 Sept 2010, 3:58 p.m.

Re: HP-21 sells for nearly $400 on TOS!

*Message #15 Posted by **Peter Geiser** on 18 Sept 2010, 4:56 p.m.,*
in response to message #1 by Michael Meyer

So I really should sell my Woodstocks...

But for various reasons, I prefer not to sell on TAS.

Regards
Peter

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HP Forum Archive 19

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Voyager hp-15c logo gone missing..

*Message #1 Posted by **uhmgawa** on 17 Sept 2010, 11:19 p.m.*

I just purchased a 15c which appears to have lost the logo button somewhere between the seller and I..

Anyway I thought to create an aluminum replacement, either cast or CNC engraved. To that end I'd really like to work from a high resolution scan of a 15c logo in pristine condition. A scan is preferable to a digicam from an image linearity perspective, but getting a reflective surface to render on a scanner can be involved and beggars can't be choosy.

I did find this in the archives:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=108478

Which is certainly helpful but it is easier to work from a image taken normal to the surface.

Alternatively I can create a mold from a "spare" 15c logo to cast a replacement if anyone has suggestions where/how to find one in reasonable shape. But that doesn't scale too well for others who may also be in need of the same. Assuming the replacement aluminum logo doesn't wander off to the land of no return, it shouldn't suffer the wear out of the chrome (painted) original. Sort of makes one wonder why somebody hasn't surfaced selling these yet on EEEbay..

Re: Voyager hp-15c logo gone missing..

*Message #2 Posted by **Paul Dale** on 17 Sept 2010, 11:55 p.m.,*
in response to message #1 by uhmgawa

If you do manage to reproduce the logo, I'd be interested in one for my 15c.

- Pauli

Re: Voyager hp-15c logo gone missing..

*Message #3 Posted by **uhmgawa** on 18 Sept 2010, 2:44 a.m.,*
in response to message #1 by uhmgawa

> Quote:
>
> I'd really like to work from a high resolution scan of a 15c logo in pristine condition. A scan is preferable to a digicam..

Maybe not necessarily. Here is a 16c logo jpeg captured via canon a630 digicam. The image barrelling lessens considerably by backing off a bit. This was just a quick handheld attempt so I needed to rotate the cockeyed image a tad in gimp which resulted in some minor aliasing:

The relief on the surface of the icon recesses is enough to catch the incident light and form a usable outline which should work well -- assuming the prospective 15c logo is pristine enough to still have a complete reflective surface.

Anyone with a museum quality 15c who would be willing to offer a jpeg to the less fortunate? ;)

Thanks!

Re: Voyager hp-15c logo gone missing..

*Message #4 Posted by **Allen** on 18 Sept 2010, 8:39 p.m.,*
in response to message #3 by uhmgawa

hp
10C

hp
11C

hp
12C

hp
15C

Re: Voyager hp-15c logo gone missing..

*Message #5 Posted by **db (martinez, ca.)** on 19 Sept 2010, 2:08 a.m.,*
in response to message #1 by uhmgawa

See:
http://blog.makerbot.com/2010/09/14/new-makerbot-cyclops-3d-scanner/
They make the scanners and printers. I assume that you have an unlimited toy budget.

Re: Voyager hp-15c logo gone missing..

*Message #6 Posted by **uhmgawa** on 19 Sept 2010, 10:56 a.m.,*
in response to message #5 by db (martinez, ca.)

> Quote:
>
> See:
> http://blog.makerbot.com/2010/09/14/new-makerbot-cyclops-3d-scanner/
> They make the scanners and printers. I assume that you have an unlimited toy budget.

Sadly it isn't the budget which I hit as a limitation but rather available time.

I know this thread must sound trite to some but the glaring omission of the logo looks like hell against the balance of the 15c which is in surprising good condition.

Re: Voyager hp-15c logo gone missing..

*Message #7 Posted by **David** on 19 Sept 2010, 10:47 a.m.,*
in response to message #1 by uhmgawa

wow, if this is something easy for you to do, I would like to get a custom one done for a highly modded voyager project that I am doing.

anyway, looks like you got your photos

If you don't already know, the original badge is a hollow injection moulded piece, affixed with a piece of double-sided foam tape.

Re: Voyager hp-15c logo gone missing..

*Message #8 Posted by **uhmgawa** on 19 Sept 2010, 12:52 p.m.,*
in response to message #7 by David

> Quote:
>
> wow, if this is something easy for you to do, I would like to get a custom one done for a highly modded voyager project that I am doing.

It is essentially straightforward to do. Being "easy" is more subjective but after rattling around with this for about a day I can see three approaches:

1. Directly mill it from Al sheet. This can be via CNC or even a one-off dremel in a pantograph following a hand cut template fabricated in more relaxed dimensions.

2. Create a mold from an existing logo in either plaster or thinned joint compound. Getting the master logo is likely the rub but one could also be created from a softer material such as delrin or even machinable wax. I think this has some merit as the engraving operation potentially needs to be performed only once and assuming the finished logo external perimeter is also part of the casting the remaining work can be limited to some minor dimensioning with a simple sand paper jig.

3. Chemically etch the pattern/relief. The familiar laser toner transfer may work here. I'm concerned about undercut etching particularly given a deep 0.2mm relief but some simple experimentation might be worthwhile. FeCl eats Al with spectacular aggression so it may be entertaining as well. The artwork can be created with any suitable CAD/drawing tool.

Note you don't need particularly pristine cast/milled surfaces initially in the logo. The relief is painted in flat black, and when finishing the logo, its display surface will likely be cut in abrasively to remove the surface paint overspray and true it flat and parallel to the base. You can likely get a mirror surface if that's what you're after. I'd probably leave some brushed texture on it to hide the inevitable wear as it projects beyond the bezel and is a magnet for scuffs and dings. Then again the solid Al body isn't going to have anywhere near the fragility of the original painted/plated ABS gem.

I'll get around to it at some point. I'll certainly create a mechanical drawing and post it here. If others are inclined to poke at it before I, please do share your results.

> Quote:
>
> If you don't already know, the original badge is a hollow injection moulded piece, affixed with a piece of double-sided foam tape.

Interesting. The new 15c casualty and my existing pristine 16c seem to have remains of an RTV type compound on the body in the perimeter of the logo. Would have dismissed it on the 15c alone as a repair attempt. Dunno.

I still cannot understand why HP didn't put a little more thought into this cosmetic Achilles Heel of the voyager series, given it carries their logo. Even an Al die stamped version would have been routine manufacturing back then IIRC.

BTW your mention of a "highly modded voyager" up there caught my curiosity. Might you have a pointer or otherwise mind describing what you've done?

Thanks!

Edited: 21 Sept 2010, 1:17 a.m. after one or more responses were posted

Re: Voyager hp-15c logo gone missing..

*Message #9 Posted by **David** on 19 Sept 2010, 3:01 p.m.,*
in response to message #8 by uhmgawa

> Quote:

> BTW your mention of a "highly modded voyager" up there caught my curiosity. Might you have a pointer or otherwise mind describing what you've done?

Sure; a couple projects glommed together about a month back. I had often thought of making a 'cryptographic calculator', and since I always loved the Voyager's physical design, I decided to take a 12C, and re-brain it.

Its for fun mostly, but it will probably have 15 and 16 emulations in addition to my cryptographic functions. To add some baroqueness, I will probably put in a hardware RNG, an Atalla 8150 emulation, and a DUKPT PIN Pad.

Physically, I would like to anodize the bezel purple or blue, but I don't really know any local platers here. And I would love to have a logo, which I intended to be a 'dl' stylized like the 'hp', and the number 13C since there was never an HP13. A friend of mine will embroider the slip case, and another buddy should be able to silkscreen the plates and hopefully the keys too.

I'll be happy to send you my extracted 12C badge so you can do measurements, especially if you think you can produce about 5 of the 'dl 13C' badges ;). I can provide artwork for the logo.

I have been chronicling the project with a journal and photos, however I haven't made a web page for it. At this point I have totally broken down the unit (removed all the plates, etc), found a new display (which is non-ideal, alas, but I'll have to come back to finding a better one later), and am about ready to take the Dremel to the PCB to make room for the new LCD.

Re: Voyager hp-15c logo gone missing..

*Message #10 Posted by **uhmgawa** on 19 Sept 2010, 8:36 p.m.,*
in response to message #9 by David

> Quote:
>
> Sure; a couple projects glommed together about a month back. I had often thought of making a 'cryptographic calculator', and since I always loved the Voyager's physical design, I decided to take a 12C, and re-brain it.

That's generally how I wound up here. Having admired the voyager's footprint but wanting to add features of personal interest. The other dimension of insanity, considering to manufacture a near form factor voyager replica, grew out of my early shock, awe, and disgust of the auction prices for a 15c specimen on EEEbay.

> Quote:
>
> I'll be happy to send you my extracted 12C badge so you can do measurements..

I have a 16c, a recent version 12c, and the sad void where a logo used to be on the 15c. I've drawn preliminary measurements for 15c artwork but it isn't yet complete. Note the bezel void which accepts the logo measures a square 9.4mm on the old voyagers but about 9.32mm on the new 12c.

> Quote:
>
> At this point I have totally broken down the unit (removed all the plates, etc), found a new display (which is non-ideal, alas, but I'll have to come back to finding a better one later), and am about ready to take the Dremel to the PCB to make room for the new LCD.

The display is the royal PITA here. While the dumbed-down 7 segment voyager display seems a little dated, it does the job and the lower multiplex ratio yields superior contrast compared even to the 4:1 ratio of later voyager lcds. But you won't find anything close to a usable numeric lcd off the shelf.

So I looked at matrix character displays (yawn) as well as lower resolution graphic modules (122x32) which conceptually should work for main numeric + annunciators. But the contrast isn't anywhere near equivalent due to the higher multiplex rate. The power consumption is horrid due to use of relatively high current resistive dividers in the voltage ladder, and most are transreflective to accommodate backlighting which isn't needed here and

further worsens contrast.

The best compromise I found was a 16 character x 2 line character reflective display, where I removed the low impedance resistive divider, replacing it with a 1000x higher impedance divider buffered by ultra low current opamps. Doing so I was able to tame the display on+idle current under 100uA IIRC. The modern 12c has an entire system idle current (which admittedly is mostly due to lcd scan) somewhere around 20uA (again IIRC).

Still in the end it is a character display and the UI needs some massaging as interdigit "." and "," now consume a full character position. And annunciators are going to be big and ugly. Mechanically though it happens to bond the glass to driver via a conductive heat seal tape connector which minimizes z-axis bulk. Most off the shelf lcd modules with integral driver use an elastomeric zebra strip to connect the glass and driver pcb which requires a compression frame to make the shebang work. That's likely why you wont find anything resembling a commercial display module in any mass produced calculator.

Re: Voyager hp-15c logo gone missing..

*Message #11 Posted by **David** on 19 Sept 2010, 10:38 p.m.,*
in response to message #10 by uhmgawa

Haha, well, you clearly know your stuff. My approach in this project is to make it work at the expense of making it be the thing I would ultimately dream it to be. You will puke when you see my LCD compromise. I think I know of the driver-on-glass unit you mention -- works great for thickness but will cut into the keyboard according to my measurements.

Anyway, you inspired me to stick what I have done on the web here: daves ridiculous calculator This is essentially cut-and-paste from my Word file with which I am journaling. Up to this point I have merely disassembled and selected components. Now I am getting into the real surgery... And codeing... (codeine?)

Re: Voyager hp-15c logo gone missing..

*Message #12 Posted by **uhmgawa** on 20 Sept 2010, 11:58 a.m.,*
in response to message #11 by David

> Quote:
>
> You will puke when you see my LCD compromise.

There really isn't any happy compromise between off the shelf stuff which was never designed for the requirements of a calculator or paying for cu$tom lcd glass. I'll bet if one located the manufacturer producing the display glass used in the new voyager 12c it might be pretty cheap to acquire a small sample lot. Well, unless HP has their head in a vise contractually which it may.

You mention interest in a 24 character display. There is a 24 char x 1 line Wintek lcd which has been around in surplus for quite some time and although wider than the voyager display aperture can be made to fit. The downside it the controller drive is configured to operate from 5V only (yet the controller logic is characterized down to 2.4v). The good news is you can talk to it via i2c.

> Quote:
>
> Anyway, you inspired me to stick what I have done on the web here:

Huh. I didn't realize the displays of old 12c models used a zebra + compression frame. The new 12c uses a 30 conductor heat seal tape with the funky anisotropic conductive compound.

> Quote:
>
> daves ridiculous calculator

This is very useful information. Thanks for sharing it.

There seems to be a common need between restoration/repurposing (here) voyager key legend and bottom panel bezels, and simply making legend bezels for completely original work.

Given the level of commodity color inkjet and laser printing the technology is certainly in place. What is needed is a durable means to wrap it up for use generating legend bezels. Printable plastic film exists which could be overlaid with a second protective lamination layer. The result could be machined in whatever form is needed. The only issue is how well the resulting lamination joint would be such that it was sealed against contamination, moisture, delamination, etc..

Restoration purists may scorn the notion of replacing an original Al bezel with a plastic laminate. But it would certainly be far more abrasion resistant than the original and the fact one can print/machine replacements as needed makes me get over that real quick.

Re: Voyager hp-15c logo gone missing..

*Message #13 Posted by **David** on 20 Sept 2010, 1:26 p.m.,*
in response to message #12 by uhmgawa

> Quote:
>
> Restoration purists may scorn the notion of replacing an original Al bezel with a plastic laminate. But it would certainly be far more abrasion resistant than the original and the fact one can print/machine replacements as needed makes me get over that real quick.

Yes, and since I'm not restoring, it doesn't matter to me. The brushed Al faceplate is also the bane of the unit's cosmetics over time. Steel would probably have stood up better.

Will have to look at the Wintek display; if it fits, that might be even better than the Hantronix I found.

Re: Voyager hp-15c logo gone missing..

*Message #14 Posted by **uhmgawa** on 3 Oct 2010, 1:22 p.m.,*
in response to message #11 by David

> Quote:
>
> Anyway, you inspired me to stick what I have done on the web here: daves ridiculous calculator

If you still have access to the innards, could you put a caliper on the upper case body heat stake posts and get a diameter measurement? I believe they are 1.6mm (62.5mils for those of us still stuck in the stone age). Unsure about the diameter of the mating holes in the PCB but they appear to give a healthy clearance (~84mils) and are probably easiest to measure using a drill bit shank as a gauge. I'm thinking to cobble together a jig for restoring the stake length after pcb extraction such that they can be (re)set similar to that used during manufacture.

Thanks!

Re: Voyager hp-15c logo gone missing..

*Message #15 Posted by **David** on 3 Oct 2010, 6:04 p.m.,*
in response to message #14 by uhmgawa

confirmed on stakes. My PCB has holes approx 70 mil -- tighter than yours.

Re: Voyager hp-15c logo gone missing..

*Message #16 Posted by **uhmgawa** on 6 Oct 2010, 3:01 a.m.,*
in response to message #15 by David

> Quote:

> confirmed on stakes. My PCB has holes approx 70 mil -- tighter than yours.

That was my estimate of eyeballing the one odd stake which appears unset during fabrication of every legacy voyager I've seen thus far. It is in the north-east corner of the PCB (as viewed from the bottom) and I took a guess at the PCB hole with a caliper and jeweler's loupe. Could be manufacturing variation or I may certainly be off. From that, it seems the unseated stakes sat proud of the PCB by about 108mils to provide the bulk of the head which were seated thermally AFAICT by a concave spherical cap die.

One other question if you have the patient handy is the diameter and vertical height of the snap domes at rest? I've measured the actuation forces of the 15/16/12C units here which average ~150gm. The latest ARM7 12Cs have a more distinct tactile action by comparison. Circular snap domes were used in the legacy voyagers which tend to have a softer threshold action compared to the legged domes in the current ARM7 12Cs. I believe the actuation force itself however was comparable.

[Edited for clarity]

Edited: 6 Oct 2010, 12:33 p.m.

Re: Voyager hp-15c logo gone missing..

*Message #17 Posted by **david** on 7 Oct 2010, 10:15 p.m.,*
in response to message #16 by uhmgawa

fascinating on the 'unset stake'. all of mine were set fer shur (oh fur shur, I had to carve them all). this is a 1994 unit. If curious I can also check a 1988 12c and a 1984 11c.

Anyway, snapdisks. d = 0.3590 h = 0.0170 (w/film)

unsolicited info: PCB pad dia 0.3825 film thickness ~ 2.5mil (hard to measure and then there's glue)

Interesting about the newer 12c snapdisk design. I don't have any way of measuring the force.

Re: Voyager hp-15c logo gone missing..

*Message #18 Posted by **uhmgawa** on 13 Oct 2010, 8:35 p.m.,*
in response to message #17 by david

> Quote:
>
> fascinating on the 'unset stake'. all of mine were set fer shur (oh fur shur, I had to carve them all). this is a 1994 unit. If curious I can also check a 1988 12c and a 1984 11c.

Yea that unset stake seems to exist in all voyagers I've inspected. The most recent of which is a 12C Malaysian mfg unit with "99.11.10.1" hand written on the PCB, and shares only the housing configuration with the earlier units. Seems reasonable as there probably wasn't any reason to retool molds for the case. This incidentally is the 3x LR44 cell transient design with a single lqfp-80 package 1RR2 CPU/ROM/RAM/LCD controller: 4.5V and keyboard scan in, LCD drive out. No bus to sniff nor drive so it isn't very interesting beyond mechanical spare parts.

> Quote:
>
> Anyway, snapdisks. d = 0.3590 h = 0.0170 (w/film)

Thanks. Looks like a 9mm dome might work. I'll put a digital/dial gauge on a dome to

measure deflection when I free the board. But I expect that isn't critical.

> Quote:
>
> unsolicited info: PCB pad dia 0.3825 film thickness ~ 2.5mil (hard to measure and then there's glue)

Besides the domes fatiguing there also is the issue of the hard gold plating wearing due to scrubbing from dome actuation. That's a bit more involved to repair but I believe nickel plate should be possible and is commonly used as a hard PCB contract treatment for snap domes.

> Quote:
>
> Interesting about the newer 12c snapdisk design. I don't have any way of measuring the force.

I picked up a cheap digital jewelery scale back when I was evaluating snap domes. Not the most exact measurement technique but it far exceeds the end use variation in actuation force between identical snap domes. I found +/- 10% variation to be relatively common. I believe to a user the width of the actuation threshold is more noticeable than the actuation force itself (within reason).

BTW on your retrofit, did you need alphanumeric capability or could you have lived within the numeric + annunciator segment constraints of existing LCD?

Thanks.

Re: Voyager hp-15c logo gone missing..

*Message #19 Posted by **david** on 16 Oct 2010, 4:20 p.m.,*
in response to message #18 by uhmgawa

> Quote:
>
> BTW on your retrofit, did you need alphanumeric capability or could you have lived within the numeric + annunciator segment constraints of existing LCD?

This project is just a lark for me, and so it's not really critical either way. Ultimately for me it's a balance of fun against aesthetics. Using the original display would look authentic, but I'd have to make an LCD driver, and then too the alpha capability gives me some functional richness.
Actually that reminds me -- I'm ready to do some dremmelling of the PCB now since I have (most) parts in...

Re: Casting?...Like this...

*Message #20 Posted by **Dallas Osborne** on 20 Sept 2010, 11:27 a.m.,*
in response to message #8 by uhmgawa

I have made logos for an 11c out of silver. There are a few extremely small differences, but I am getting better at casting.

Here is a link to my caveman initial attempt. My newer attempts are much more successful.

If anyone is interested in 11c logos, I have about five left from my newer batch.

For those interested in 15C logos, please send me an email at my registered email and we can discuss the details. I will need a high-quality model to create a mould from. I don't care if it has any metal on it, all black would work just

fine.

Photos from initial run from a very POOR model.

EDIT: fixed the link

Edited: 20 Sept 2010, 11:28 a.m.

Re: Casting?...Like this...

*Message #21 Posted by **uhmgawa** on 20 Sept 2010, 12:15 p.m.,*
in response to message #20 by Dallas Osborne

> Quote:
>
> I have made logos for an 11c out of silver. There are a few extremely small differences, but I am getting better at casting.

Cool. That's near exactly where I was heading with my thought to cast an aluminum version. I figured it was close to crossing over into jewelery making.

> Quote:
>
> For those interested in 15C logos, please send me an email at my registered email and we can discuss the details. I will need a high-quality model to create a mould from. I don't care if it has any metal on it, all black would work just fine.

I've been looking for one. Unfortunately when available they are typically attached to the rest of a hp-15c which I suppose in the bigger picture isn't all that bad. ;)

Even if the logo has physical (vs. cosmetic) wear, to some entent this can be carved out of the mold with some care. As you're going to recut the top surface anyway it shouldn't be too terribly critical.

Re: Casting?...Like this...

*Message #22 Posted by **Dallas Osborne** on 20 Sept 2010, 12:34 p.m.,*
in response to message #21 by uhmgawa

I would like to keep any surface work as minimal as possible; i.e., polishing off the paint. That is why I would really like to get the best model possible. That said, who ever were to give up a model logo would most certainly receive a replacement in silver for free.

Edit: removed idiot statements. [insert lop-sided grin here]

Edited: 20 Sept 2010, 10:39 p.m. after one or more responses were posted

Re: Casting?...Like this...

*Message #23 Posted by **Thomas Klemm** on 20 Sept 2010, 3:11 p.m.,*
in response to message #22 by Dallas Osborne

How I'd love to stick one of these to the HP NonStop in our server room together with: "My other computer is an HP-15C"

Best regards
Thomas

Edited: 20 Sept 2010, 3:12 p.m.

Re: Casting?...Like this...

*Message #24 Posted by **Dallas Osborne** on 21 Sept 2010, 9:45 a.m.,*
in response to message #21 by uhmgawa

Here is the latest batch from last night:

There are a few defects, but they look decent on the whole.

Re: Casting?...Like this...

*Message #25 Posted by **Dallas Osborne** on 21 Sept 2010, 11:24 p.m.,*
in response to message #24 by Dallas Osborne

Okay, this is not quite how I imagined it to go.

They are all gone save one. For all those who have them on the way, I will be painting and polishing tomorrow morning and should have them posted Thursday or Friday.

I believe I need to discuss any future work with HP. For some strange reason, the "HP" trademark might be important to folks in suits. Once I get this secured - and it may take a long time - I will let folks know. Until then, I will be looking 10C, 15C, and 16C logos in good dimensional condition, though the metallic surface can be worn to any state. If you have one for donation, I will replace yours with a silver one for free.

But I will hold off any further reproduction in the hopes of avoiding a cease and desist letter arriving at my post box.

(To whom it may concern, your request for an HP 13X logo is under consideration. Since the "HP" portion is still there, I have to take care of that issue first before I get my Pro-E guru working up a model.)

Re: Casting?...Like this...

*Message #26 Posted by **uhmgawa** on 23 Sept 2010, 5:02 p.m.,*
in response to message #25 by Dallas Osborne

Quote:

I believe I need to discuss any future work with HP. For some strange reason, the "HP" trademark might be important to folks in suits.

Considering the money they've dumped into grooming that corporate logo, and more importantly their corresponding investment in copyright and trademark protection for it, they probably won't take too kindly to any revenue derived from it without license.

Then again they may not care. You could claim to be offering a restoration service and attempt to circumvent the issue arguing you're maintaining the conservation of voyager logos, by not adding to the number in circulation on the planet. A fatigued ABS casualty arrives and a new logo is sent in its place. But I'm not sure I'd want to spin that roulette wheel against the litigation resources of HP.

Quote:

Once I get this secured - and it may take a long time - I will let folks know.

It can't do any harm to again hear of prospective customers for this forgotten product line. As well as the extremes some of the loyal following are willing go to restore the old units.

Quote:

But I will hold off any further reproduction in the hopes of avoiding a cease and desist letter arriving at my post box.

IANAL but it seems to me if I have an HP calc which is in need of logo repair, there isn't any legal prohibition for myself as the owner to restore it cosmetically including creation of a logo. Dunno what that might mean if I sold the unit but I'd hazard empirically HP won't give a hoot. Outright selling their logo is where I'd get nervous.

Re: Casting?...Like this...

*Message #27 Posted by **Garth Wilson** on 23 Sept 2010, 5:48 p.m.,*
in response to message #26 by uhmgawa

I expect that as long as you're increasing the value of their product, they should be happy. I have, on occasion, posted quotes from various books on forums, with exact enformation on the name and author of the book, the publisher, and where to buy the book, and although it could be seen as a copyright violation, I expect the owners are glad that I'm giving people a reason to buy the book, and they have never asked me to stop.

Re: Casting?...Like this...

*Message #28 Posted by **Dallas Osborne** on 24 Sept 2010, 1:48 p.m.,*
in response to message #27 by Garth Wilson

I did draft a rather nice letter with the authorization already filled and waiting for their counsel's signature. But, after talking with one of our members who has great experience with HP, it seems this simply be a waste of a postage stamp... or a data string to an email address.

Regardless my choice to back off full scale production on a one-for-one basis, I have accidentally lost loads of them so far in the post office. I think I have lost another today, in fact.

Re: Voyager hp-15c logo gone missing..

*Message #29 Posted by **bill platt** on 20 Sept 2010, 11:21 p.m.,*
in response to message #1 by uhmgawa

Just want to say this is one of those arcane threads that is wonderful! I can practically taste the silver casting for the 11c logo. All very cool!

Re: Voyager hp-15c logo gone missing..

*Message #30 Posted by **Dallas Osborne** on 20 Sept 2010, 11:44 p.m.,*
in response to message #29 by bill platt

I completely agree.

(Send me a 15C logo and you can actually lick the real thing before you expoxy it to your beloved!)

Re: Voyager hp-15c logo gone missing..

*Message #31 Posted by **Martin Pinckney** on 21 Sept 2010, 11:15 a.m.,*
in response to message #30 by Dallas Osborne

New definitions:

Expoxy - glue it on the outside.

Inpoxy - glue it on the inside.

Re: Voyager hp-15c logo gone missing..

*Message #32 Posted by **Dallas Osborne** on 21 Sept 2010, 11:46 a.m.,*
in response to message #31 by Martin Pinckney

Yeah, yeah *grin*... add transpoxy to the list.

Re: Voyager hp-15c logo gone missing..

*Message #33 Posted by **mike reed** on 22 Sept 2010, 10:15 a.m.,*
in response to message #32 by Dallas Osborne

You might also add/define Impoxy, Empoxy, Co-poxy, and then of course - the purely pejorative one: Poxy! (An epithet, used as the Brits use the term Bloody)..... ;o)

Re: Voyager hp-15c logo gone missing..

*Message #34 Posted by **bill platt** on 23 Sept 2010, 10:19 a.m.,*
in response to message #32 by Dallas Osborne

And don't forget Sispoxy and Cispoxy depending on the context

(deleted post)

*Message #35 Posted by **deleted** on 23 Sept 2010, 10:23 a.m.,*
in response to message #31 by Martin Pinckney

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: Voyager hp-15c logo gone missing..

*Message #36 Posted by **Dallas Osborne** on 23 Sept 2010, 2:14 p.m.,*
in response to message #35 by deleted

commissurotomotxy: For putting the ol' corpus callosum back together.

no? okay, I didn't think so either.

Re: Voyager hp-15c logo gone missing..

*Message #37 Posted by **bill platt** on 23 Sept 2010, 4:19 p.m.,*
in response to message #36 by Dallas Osborne

I think I went overboard. If only I had some epoxy, that liferail wouldn't have let go. Duh. did it again!

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hp-collection.org hacked?

*Message #1 Posted by **Han** on 17 Sept 2010, 9:06 p.m.*

I tried to visit hp-collection.org and Firefox sent me to:

http://safebrowsing.clients.google.com/safebrowsing/diagnostic?client=Firefox&hl=en-US&site=http://www.hp-collection.org/

Is this the case for anyone else?

Re: hp-collection.org hacked?

*Message #2 Posted by **Wlodek Mier-Jedrzejowicz** on 17 Sept 2010, 9:47 p.m.,*
in response to message #1 by Han

Firefox blocked it for me too, quoting Google as the source of information that the page had been hacked to contain malicious software, which downloads itself to visitors. Safari took me to the home page, which looked OK, but I did not stay for long, even though my net monitor did not show any suspicious downloading. Let's see if the owner reacts.

Re: hp-collection.org hacked?

*Message #3 Posted by **Bruce Bergman** on 18 Sept 2010, 12:18 a.m.,*
in response to message #1 by Han

Chrome flashed the page for a second, then blocked it. It appears to have malicious javascript near the bottom. Here was the warning:

> Quote:
>
> The website at www.hp-collection.org contains elements from the site pipa-buzz.ru, which appears to host malware – software that can hurt your computer or otherwise operate without your consent. Just visiting a site that contains malware can infect your computer.
>
> What is the current listing status for pipa-buzz.ru? Site is listed as suspicious - visiting this web site may harm your computer.
>
> What happened when Google visited this site? Of the 7 pages we tested on the site over the past 90 days, 0 page(s) resulted in malicious software being downloaded and installed without user consent. The last time Google visited this site was on 2010-09-16, and the last time suspicious content was found on this site was on 2010-09-16.
>
> Has this site acted as an intermediary resulting in further distribution of malware? Over the past 90 days, pipa-buzz.ru did not appear to function as an intermediary for the infection of any sites.
>
> Has this site hosted malware? Yes, this site has hosted malicious software over the past 90 days. It infected 21 domain(s), including u-lit.de/, 1klein.de/, chernyshev.info/.

> How did this happen? In some cases, third parties can add malicious code to legitimate sites, which would cause us to show the warning message

---

The site is classified as one which redirects you to rogue antivirus software, presumably infecting your computer and then basically ending your life as you know it.

Thanks,

bruce

Edited: 18 Sept 2010, 12:22 a.m.

Re: hp-collection.org hacked?

*Message #4 Posted by **Matthias Wehrli** on 18 Sept 2010, 2:32 a.m.,*
in response to message #3 by Bruce Bergman

As webmaster of this site I can assure you that the site is free of malware. Time and again there appears to be trying to Russian server to break into my domain. The public part is free of malware since the closing of the guestbook. You can surf safely. I'm currently in contact with the provider.

Best regards, Matthias

Re: hp-collection.org hacked?

*Message #5 Posted by **Alejandro Paz (Germany)** on 18 Sept 2010, 10:39 a.m.,*
in response to message #4 by Matthias Wehrli

It seems that the image logobackgr.jpg is the link to the russian site... it is referenced in the style sheet.

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Green Ride vs Super Shuttle

*Message #1 Posted by **Bruce Bergman** on 17 Sept 2010, 11:25 a.m.*

And no, this isn't the latest Marvel comic book to come out... ;-)

I'm wondering if anyone has experience with these two methods of getting to the HHC2010 conference hotel. Would you recommend one more than the other? Is one faster (more direct, with less stops)? Price isn't my concern as much as I'd prefer not to drive all around just to get to the hotel.

thanks!

Bruce

Re: Green Ride vs Super Shuttle

*Message #2 Posted by **Tim Wessman** on 17 Sept 2010, 2:07 p.m.,*
in response to message #1 by Bruce Bergman

I am not very familiar with either, but I suspect they operate in a similar manner.

My wife's mom came up on Super Shuttle last time. Basically they just drove north on I-25, got off the freeway at major cities, and then those going to those cities loaded into smaller vans for individual drop off. The hotel is near the first Ft. Collins exit, so I would expect it would be the first drop off point.

It takes 50-65 mins in a car, and it took her in the shuttle about 75 to get to our house with 3 other people being dropped of before her in Fort Collins.

TW

Re: Green Ride vs Super Shuttle

*Message #3 Posted by **Pal G.** on 17 Sept 2010, 3:28 p.m.,*
in response to message #2 by Tim Wessman

Tim,

Major style points are awarded to sons-in-law who go fetch mothers-in-law from the airport. Plus in your case you would have scored 650 bonus points for "Commute More Than 25 Miles" (5 points per mile x 65 miles x 2 trips (x4 trips is she leaves)).

Now, if you were very busy finalizing the firmware for the soon to be revealed HP 15c+, or an HP 43S, next time let the Forum rent your wife's mum a limousine.

Re: Green Ride vs Super Shuttle

*Message #4 Posted by **Tim Wessman** on 17 Sept 2010, 4:19 p.m.,*
in response to message #3 by Pal G.

Hmmm. . . good point.

I think I was saved by the fact that she arrived on the due date of baby #2. I suspect the points gained vs. lost if I were not at home when her daughter went into labor would not have weighed in my favor. :-D

TW

Re: Green Ride vs Super Shuttle

*Message #5 Posted by **Bruce Bergman** on 17 Sept 2010, 8:11 p.m.,*
in response to message #4 by Tim Wessman

Now wait, don't forget that my second daughter was born DURING HHC2007 in San Diego, and I still managed to make it to the conference for 30 minutes to pick up my packet of stuff and say hello. ;-)

I must've earned points with someone, but I'm not sure who...

:-)

Thanks,

Bruce

Re: Green Ride vs Super Shuttle

*Message #6 Posted by **Don Shepherd** on 17 Sept 2010, 8:31 p.m.,*
in response to message #5 by Bruce Bergman

> Quote:
>
> but I'm not sure who...

With me, tall dude!

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hp50g stack

*Message #1 Posted by **Sok-khieng Chum Hun** on 17 Sept 2010, 7:10 a.m.*

Hello everyone,

Do any of you know an application that displays the calculation while in rpn mode on the 50g like it does when in algebraic mode?

Thank you :)

Re: hp50g stack

*Message #2 Posted by **Crawl** on 17 Sept 2010, 2:24 p.m.,*
in response to message #1 by Sok-khieng Chum Hun

Um, it depends on exactly what you want to do? In my opinion, this is not the sort of thing that needs an "application". It is too simple a problem.

Often the easiest thing to do if you want a record of your calculation AND a numerical result is to just hit ENTER, then ->NUM. Then the unevaluated expression is in level 2 and the number is in level 1.

Say you're working completely with numbers, though. Then everything will be evaluated as you enter it, right?

Here's a trick around it: Enter the first step as an algebraic object.

Let's say you want to enter sin(1+2*(3-4)^(1/2)).

Hit ' 3-4 Enter. You should have '3.-4.' on the stack. Alternatively, enter 3-4 with the equation writer.

Then you can use RPN normally. The rest of the steps:

2 1/x ^ 2* 1 + sin

you will then have

sin((3.-4.)^(0.5)*2.+1.)

on the stack.

Hit Enter and then EVAL. The equation will be in level 2, the result in level 1.

A couple of caveats: You must be in approx. mode. (Also, for this particular example, complex mode)

Also, sometimes square roots, for whatever reason, trigger an EVAL. That's why we raised to the 0.5 power instead.

Re: hp50g stack

*Message #3 Posted by **Sok-khieng Chum Hun** on 17 Sept 2010, 5:54 p.m.,*
in response to message #2 by Crawl

Wow! That trick is cool! Now I can even work on my 48gx and my university team mates won't doubt about my calculations!

Thank you alot :)

Re: hp50g stack

*Message #4 Posted by **Martin Pinckney** on 17 Sept 2010, 8:33 p.m.,*
in response to message #3 by Sok-khieng Chum Hun

Indeed, that is cool, Crawl. Even works on my 48sx dinosaur! Once the whole equation is on the stack, just press [VIEW] to see it in Equation Writer (similar to Textbook), then hit [ATTN] to return to where you were.

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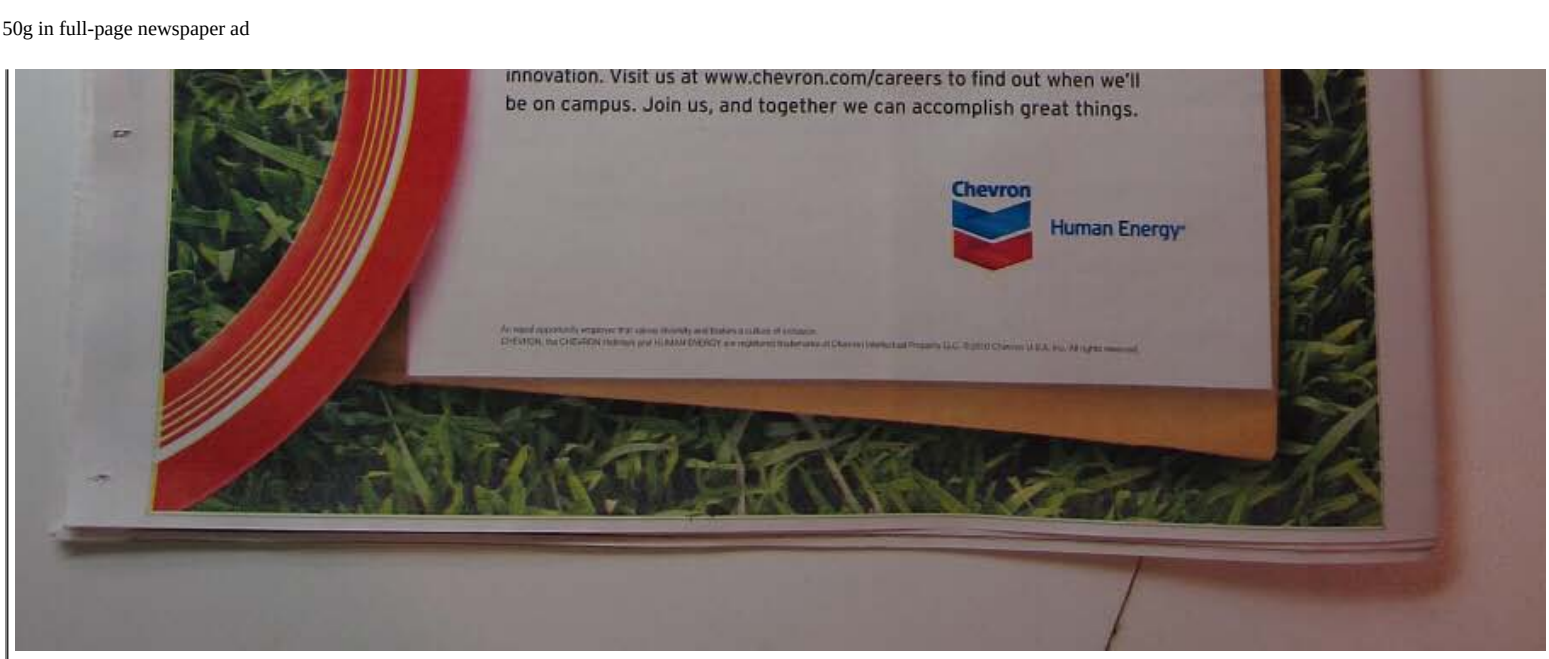
HP 50g in full-page newspaper ad

*Message #1 Posted by **Eric Rechlin** on 17 Sept 2010, 1:06 a.m.*

I just noticed a very large 50g in a full-page ad that Chevron is putting in college newspapers. The photo has been doctored (HP logo and 50g nomenclature removed and color slightly shifted to dark gray) but it's pretty unmistakable.

Was quite surprised to see an HP calculator so prominently displayed!



Eric

Re: HP 50g in full-page newspaper ad

*Message #2 Posted by **David Hayden** on 17 Sept 2010, 7:35 a.m.,*
in response to message #1 by Eric Rechlin

It isn't a 50g - it's missing the top row of soft keys. Does anyone know what it is?

Dave

Re: HP 50g in full-page newspaper ad

*Message #3 Posted by **Martin Pinckney** on 17 Sept 2010, 8:20 a.m.,*
in response to message #2 by David Hayden

Photoshop.

Re: HP 50g in full-page newspaper ad

*Message #4 Posted by **Namir** on 17 Sept 2010, 8:32 a.m.,*
in response to message #3 by Martin Pinckney

Yep! They blocked out the HP Logo and the top row keys, so it does not exactly match an HP-50G. For the "trained" eyes (like ours) IT IS AN HP-50G.

:-)

Namir

Re: HP 50g in full-page newspaper ad

*Message #5 Posted by **Ron Ross** on 17 Sept 2010, 8:34 a.m.,*
in response to message #1 by Eric Rechlin

Probably as a backhanded thank you to Hp for releasing the Hp33s!!!

Re: HP 50g in full-page newspaper ad

*Message #6 Posted by **Massimo Gnerucci (Italy)** on 17 Sept 2010, 3:24 p.m.,*
in response to message #5 by Ron Ross

> Quote:
>
> Probably as a backhanded thank you to Hp for releasing the Hp33s!!!

Great!
LOL :-D

Greetings,
Massimo

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HP-35 red dot confirmation

*Message #1 Posted by **Giovanni Jimenez** on 16 Sept 2010, 10:46 p.m.*

I own an HP-35 Red Dot, but I have no way of validating that this is an original / genuine Red Dot and not a fake.

Is someone in this forum with enough experience in these models and some spare time, willing to take a look at the calculator (even open it if necessary) and confirm if this is in fact a genuine Red Dot ?

I pay of course shipping both ways, but as for the actual validation work, think of it as a favor to a fellow MoHPC member:)

I would prefer someone in the US.

Thank you !

Re: HP-35 red dot confirmation

*Message #2 Posted by **Katie Wasserman** on 17 Sept 2010, 12:31 a.m.,*
in response to message #1 by Giovanni Jimenez

If I wanted the best possible validation of red-dottedness (to coin a phrase), I would want a collective opinion on this not just one person's. Why not post some very good close up pictures of the top and bottom of your calculator on this forum and let all of those who claim expertise on the subject offer comments. You can then draw your own conclusiion based on the responses, hopefully there will be a clear consensus.

This should cost you nothing if you have access to a digital camera and almost certainly get a much faster response -- while at the same time offering us more grist for the mill :)

-Katie

Edited: 17 Sept 2010, 2:32 a.m.

Re: HP-35 red dot confirmation

*Message #3 Posted by **Giovanni Jimenez** on 17 Sept 2010, 10:08 a.m.,*
in response to message #2 by Katie Wasserman

That makes sense; the only thing i need now is a good camera (mine is not so great). I will get my hands on one and post the pictures here.

Thank you!

Re: HP-35 red dot confirmation

*Message #4 Posted by **Ignazio Cara (Italy)** on 17 Sept 2010, 2:25 a.m.,*
in response to message #1 by Giovanni Jimenez

I want agree completelly with Katie's opinion. Let us see your baby, please. Regards

Ignazio

Edited: 17 Sept 2010, 2:26 a.m.

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Fake HP calculators on eBay?

*Message #1 Posted by **Peter Matthews** on 16 Sept 2010, 10:20 p.m.*

I just bought an 11C over eBay and received it.

It looks pretty "fake" to me. I have an 11C which I bought originally in the 1980s.

This "mint" one I just received seems to work functionally but the whole thing looks fake.

I could be totally wrong, but first impressions are important right?

Does anyone have any experience with this?

The HP calculator cover is too new. And it has the HP logo on both sides. The material is too rubbery.

The 11C itself is too clean for such an old calculator. I can't really tell but the keys don't SEEM to be double-shot to me. I don't have my original 11C with me right now but I am comparing it against a vintage 12C and it just does not look "right" to me.

I am wondering if there's a market now for knocking off these vintage calculators by creating them from the factory that makes the modern 12C and sell them for high prices on eBay.

I don't want to rip out the rubber feet to open it and check the insides but it also feels slightly heavier than the 12C and what I remember of my original 11C.

Pictures, man!

*Message #2 Posted by **gene wright** on 16 Sept 2010, 10:33 p.m.,*
in response to message #1 by Peter Matthews

Take a camera and upload some good pics. Show us.

Re: Pictures, man!

*Message #3 Posted by **Peter Matthews** on 16 Sept 2010, 10:37 p.m.,*
in response to message #2 by gene wright

I need to get my proper camera and a tripod. Will post later. But I don't think you can see much from photos because it will probably look just right. If it IS a knockoff job I can tell you they did it super good but probably it would not be too hard using the 12C tools that are currently operational.

The color of the gold labeling looks a little too bright orange, methinks.

Re: Pictures, man!

*Message #4 Posted by **Katie Wasserman** on 17 Sept 2010, 2:43 a.m.,*
in response to message #3 by Peter Matthews

What batteries does it use: 3 x 357, 1 x CR2032 or 2 x CR2032?

The current 12C (from some reports here) and 12C+ (definitely) use 2 x CR2032.

Also, is it the same speed as your original 11C, or much, much faster?

-Katie

Re: Pictures, man!

*Message #5 Posted by **Peter Matthews** on 17 Sept 2010, 5:55 p.m.,*
in response to message #4 by Katie Wasserman

Speed seems the same. I made a few simple programs and it feels the same (same slowness haha). Anyone got a complex routine I can program in to check (but which won't take me half an hour to input! :-)

Re: Pictures, man!

*Message #6 Posted by **Peter Matthews** on 17 Sept 2010, 6:36 p.m.,*
in response to message #2 by gene wright

Photos!

http://picasaweb.google.com/ajann67/ScoreOrScam?authkey=Gv1sRgCK7osJ2Ogd3CKQ&feat=email#

or

http://bit.ly/cWA4T9

A few things to point out:

I compare the 11C with a vintage 12C.

The "A" of the USA on the 11C looks badly stamped. I don't think HP had such poor quality in the 1980s right? You can see the huge difference with the 12C stamp. The 12C has a strong, clear impression.

The spacing between the USA and the battery compartment differs.

The sleeve looks too new. I don't have a modern 12C. Is this the modern 12C sleeve? Both sides have the HP logo. It feels too rubbery and thick compared to the vintage one I had (which disintegrated over the years).

Batteries are the same but one plastic flap is missing (not as big a deal as the weird USA serial number stamp IMHO).

Take a look at the COS-1 label; under magnification you can see a bit of the blue is scraped off; this ain't gonna happen with double-shot.

My question is: Did the 11C production CHANGE over its product life?

Anyway, WHADDY'ALL THINK???

Edited: 17 Sept 2010, 6:42 p.m. after one or more responses were posted

Re: Pictures, man!

*Message #7 Posted by **Peter Matthews** on 17 Sept 2010, 6:38 p.m.,*
in response to message #6 by Peter Matthews

(You can zoom in further in the photos by clicking the magnifying glass -- and wait a couple of seconds for the extra resolution to load up)

Edited: 17 Sept 2010, 6:39 p.m.

Re: Pictures, man!

*Message #8 Posted by **Michael de Estrada** on 17 Sept 2010, 7:27 p.m.,*
in response to message #6 by Peter Matthews

What I think is you've got an original HP 11C and sleeve from 1985, which looks exactly like my HP 15C, which I bought new from Ulrich's book store in 1982. The fact that it doesn't look like an HP 12C, just means that they were made differently. I also have a vintage HP 12C from 1987, and the "USA" stamp is indeed a different size and in a different location. The serial numbers are also in a different location. My HP 15C sleeve is still in like new condition, and has the logo embossed on both sides. So, I don't see any fraud here and like others have pointed out it would make no sense, since the HP 11C is not some super rare collectable.

Re: Pictures, man!

*Message #9 Posted by **Peter Matthews** on 17 Sept 2010, 8:34 p.m.,*
in response to message #8 by Michael de Estrada

Thanks for your observations.

Re: Pictures, man!

*Message #10 Posted by **Michael Bromm** on 17 Sept 2010, 8:46 p.m.,*
in response to message #6 by Peter Matthews

That looks pretty unfake to me. The case is similar to that on my old 12c, and the rest of the thing looks pretty much like standard HP issue.

Re: Pictures, man!

*Message #11 Posted by **Katie Wasserman** on 17 Sept 2010, 11:34 p.m.,*
in response to message #6 by Peter Matthews

I'm quite sure this was really made by HP, and yes they changed some small things on the calculators in this series of the years. Perhaps not on the 10c -- I haven't seen enough of these to notice any difference -- but on the other 4. For example, the contacts in the battery compartment, some of the lettering as you noticed, etc..

-Katie

Re: Pictures, man!

*Message #12 Posted by **uhmgawa** on 18 Sept 2010, 2:55 a.m.,*
in response to message #11 by Katie Wasserman

> Quote:

> For example, the contacts in the battery compartment, some of the lettering as you noticed, etc..

That's an interesting comment. The 15c I just bought has a completely different battery compartment than the close vintage 16c I've owned. Namely the 16c has leaf spring style contacts for both terminals where the 15c arrived with a coiled spring for the (+) terminal and what appears to be a small brass block for the (-) terminal. Is this an HP manufactured configuration or have I received something "special".

Re: Pictures, man!

*Message #13 Posted by **Katie Wasserman** on 18 Sept 2010, 10:23 a.m.,*
in response to message #12 by uhmgawa

The coil spring and brass block arrangement was used in all the Voyagers from mid 1984 (IIRC) forward for at least several years. Prior to that they use a thin metal leaf spring.

You almost certainly have a real HP 15C.

Re: Pictures, man!

*Message #14 Posted by **George Bailey (Bedford Falls)** on 18 Sept 2010, 2:23 a.m.,*
in response to message #6 by Peter Matthews

This is so absolutely fake, you were so totally scammed! Why would anybody sell or buy a pristine 11c when it is so easy to just make one yourself? Right! Nobody would! Ever!

To prevent you and everybody else from loosing even more money, please contact us at honest.george@calcgenuinetest.org for details how to send the fake calculator in. We will destroy it and bury its remains in a completely unholy Casio-TI-area, to make sure the fake HP-soul can not be revived anymore, everever!

Re: Pictures, man!

*Message #15 Posted by **Michael Meyer** on 18 Sept 2010, 10:40 a.m.,*
in response to message #14 by George Bailey (Bedford Falls)

I love it. George: I have a couple of fake HP-01's, new in box. Do you want those also? They look completely unused. (I wish).

Re: Pictures, man!

*Message #16 Posted by **Peter Matthews** on 18 Sept 2010, 2:31 p.m.,*
in response to message #14 by George Bailey (Bedford Falls)

Haha I was expecting someone to post just that. Have no fear! I will be terminating this rogue HP unit by smashing it with various TI and Casio calculators. Or maybe a Pavilion desktop ;-)

Re: Pictures, man!

*Message #17 Posted by **Walter B** on 18 Sept 2010, 12:12 p.m.,*
in response to message #6 by Peter Matthews

Peter,

> Quote:
>
> Take a look at the COS-1 label; under magnification you can see a bit of the blue is scraped off; this ain't gonna happen with double-shot.

Please take a seat and count: Black, white, blue = 3 colors.
Now please tell us: Is it called triple-shot? No.
What may be the reason? ... d8-)

HTH

Re: Fake HP calculators on eBay?

*Message #18 Posted by **Randy** on 17 Sept 2010, 8:43 a.m.,*
in response to message #1 by Peter Matthews

Battery type, weight in grams and a serial number should be all we need to figure this out... I doubt it is fake...

Re: Fake HP calculators on eBay?

*Message #19 Posted by **Namir** on 17 Sept 2010, 9:19 a.m.,*
in response to message #1 by Peter Matthews

Maybe a previous owner of the 11C disassembled it and then put it back together again, but failed to do a first class job. This might explain why it looks fake.

Namir

Re: Fake HP calculators on eBay?

*Message #20 Posted by **Martin Pinckney** on 17 Sept 2010, 9:33 a.m.,*
in response to message #1 by Peter Matthews

I don't understand how this would work.

Convert a modern 12c+ to 11c? Would any crook have the expertise/take the effort to re-purpose a 12c+ and produce new legends for the keytops and faceplate?

Manufacture brand new fakes? What, Kinpo has some side deal with a shady character?

If HP can't produce a 15c+ economically (according to some) how can some scammer make fake 11c's?

Curious.

I doubt it is a fake.

*Message #21 Posted by **Frank Boehm (Germany)** on 17 Sept 2010, 11:11 a.m.,*
in response to message #1 by Peter Matthews

The cover has certainly been revised over the years; maybe it doesn't belong to the 15C (but to a later 12C).
The argument "it looks shiny new, so it must be a fake" is void - I have seen 40 year old calculators with a brand-new, scratch-free look, like they have been made the very same day.
Best thing is: it is not possible to fake a 11C with economical gain, however it might be possible to swap parts between same/different models. Take three defective cals and create one working Frankencalc. But that's tough on these 10C/11C/12C/15C.

To my knowledge, late production units might not have double-shot-moulded key, there are even some units with overprinted keys.

Re: I doubt it is a fake.

*Message #22 Posted by **Peter Matthews** on 17 Sept 2010, 5:51 p.m.,*
in response to message #21 by Frank Boehm (Germany)

I hope you guys are right. Like I said, I could be totally wrong, but that was my immediate impression upon seeing and holding it for the first minute.

I don't have my original 11C with me here (it is in a safe deposit box in another city) but I did compare it with my vintage 12C.

Anyway, photos coming real soon. I need to make sure I white balance properly so you can see the colors (although since nothing is calibrated, including your screens, you can't really go by the photo colors for exact comparison).

PS - the economical aspect: Wouldn't it be profitable to churn out X number (say, 1000) extra 12C base calculators on the sly (i.e., workers in the HP/contract factory) and sell them each for, say, $200 a pop? Those calculators probably cost $20, $30 to make? Most of the economies of scale are already taken care of by the 12C tooling.

Re: I doubt it is a fake.

*Message #23 Posted by **Peter Matthews** on 17 Sept 2010, 6:37 p.m.,*
in response to message #22 by Peter Matthews

Photos posted above; just wanted to write this reply so you don't miss my post above.

Re: I doubt it is a fake.

*Message #24 Posted by **uhmgawa** on 17 Sept 2010, 9:23 p.m.,*
in response to message #22 by Peter Matthews

> Quote:
>
> I don't have my original 11C with me here (it is in a safe deposit box in another city).

Now that, by any measure, is hard core.

> Quote:
>
> PS - the economical aspect: Wouldn't it be profitable to churn out X number (say, 1000) extra 12C base calculators on the sly (i.e., workers in the HP/contract factory) and sell them each for, say, $200 a pop? Those calculators probably cost $20, $30 to make? Most of the economies of scale are already taken care of by the 12C tooling.

Yes they are. All which is needed are printing of alternate voyager 1xC key legends, key matrix bezel, and back bezel. Oh and there is the remolded logo to crown the achievement. Sufficient code exists today to do legacy firmware emulation on the ARM7 so that should be straightforward.

Even aftermarket retrofit is not out of the question. Although the repurposing effort of the new 12C seems to have stalled, and I haven't poked at the deployed 12C's AT91SAM7L128 in terms of whether

it can be reflashed via the 6-pin service connector, I believe it is possible. The 12C's lcd is functionally identical to the legacy voyager's so there doesn't appear to be much of a hurdle.

IMHO the only thing better than a 15C is an open design 15C. And given the requisite pieces are just lying around waiting to be assembled it is pretty tempting. I've even investigated the possibility of small scale manufacturing of a open project chassis mechanically closer to the traditional voyager vs. the rewarmed 12C but using an ARM7 uC and (as long as we're going to fab a PCB) an SPI battery backed SRAM similar to the hp-35s. The biggest hurdle in a ground-up scenario is that of an lcd source in such quantity, assuming keeping the voyager numeric display is a goal. Otherwise a greater number of options exist but that puts the effort on a slippery slope with temptation to best what is arguably a model engineering effort near 30 years later.

Alas it boils down to such an undertaking either having marketing justification (unlikely), enthusiast critical mass (possible), or someone with abundant free time and resources (:P).

Re: I doubt it is a fake.

*Message #25 Posted by **Peter Matthews** on 17 Sept 2010, 10:28 p.m.,*
in response to message #24 by uhmgawa

I honestly do not think it is actually worth the effort. Fact is, RPN users are a... fading breed. Someone closer to the academic community can probably give better insight but my guess is all the kids are on algebraic these days.

The 12C is different because of the rich Wall Street bankers who follow the herd and also are trained by their MBA professors to use the 12C RPN. They won't have need for a SIN function on their calculators, and much less a MATRIX function or binary conversion.

Reflashing modern Voyager is an interesting concept and probably can be made cheap by the sale of "stick on" key labels. Ugly yes, and reminds me of the 1980s attempt at DVORAK stick-ons, but can be cheaply done, with a similar stick-on overlay (a-la 41C series).

Regarding the LCD display, it is a KILLER APP for me. The clarity of that screen is way way more important for me than dot matrix modern displays. If I wanted fancy graphics, heck, I would just fire up my Mac or hack out my own iPhone program in Objective-C and load it up.

I just want to grab a physical calculator and punch in numbers quickly (tactile, not touch screen).

(My 11C in a safe deposit box is not so hard core whenever I worry that some time in the future we won't even be able to buy working used vintage RPN *scientific* units in the Voyager form factor; I intend to live several more decades... ;-)

Re: Fake HP calculators on eBay?

*Message #26 Posted by **uhmgawa** on 17 Sept 2010, 8:19 p.m.,*
in response to message #1 by Peter Matthews

Quote:

I just bought an 11C over eBay and received it.

Congratulations.

Quote:

> It looks pretty "fake" to me. I have an 11C which I bought originally in the 1980s. This "mint" one I just received seems to work functionally but the whole thing looks fake.

I studied your pics fairly closely. I don't see anything obvious on the calc which screams out fake. The sleeve looks a bit different compared to the disintegrating 16C's garb I have here. Then again I just bought a 15C which arrived in a sleeve too good for the number of years it has presumably been on the planet, so go figure. The heat sealed edge on the mouth of your sleeve looks to be spaced a tad far from the open edge compared to what I've seen, but that's hardly conclusive.

> Quote:
>
> The HP calculator cover is too new. And it has the HP logo on both sides. The material is too rubbery.

The "new" 12C vinyl sleeves sport an HP logo on both sides. But the material itself is nothing like the vintage voyager sleeves and IMHO could easily have been recycled from "free gift" Harbor Freight duffel bags.

> Quote:
>
> The 11C itself is too clean for such an old calculator. I can't really tell but the keys don't SEEM to be double-shot to me. I don't have my original 11C with me right now but I am comparing it against a vintage 12C and it just does not look "right" to me.

AFAICT for the legacy voyagers, the double shot mold is that of the key body and the white central legend. The blue sub-legend is printed on a key's diagonal facet. Get a 10x jeweler's loupe (which is probably a required tool at this point) and have a close look at a key. You can clearly see the molding seam between alternate mold injected portions, contrasted with the surface deposited blue paint of the lower legends.

Compare to that to the current vintage 12C which has been cost reduced to the point of criminality, where all legends are printed.

> Quote:
>
> I am wondering if there's a market now for knocking off these vintage calculators by creating them from the factory that makes the modern 12C and sell them for high prices on eBay.

I hope so, as I'd like to buy a few at the presumed knock off prices. Particularly if China, Inc. produced an accurate knock-off of a 15C build on a 12C AT91SAM7L128 frame. I doubt that wish will be realized as sadly there just aren't enough voyager geeks to justify a market.

> Quote:
>
> I don't want to rip out the rubber feet to open it and check the insides but it also feels slightly heavier than the 12C and what I remember of my original 11C.

Toss it on a jewelery scale and quantify it. I don't have an 11C but this is what I can offer for those I do:

hp-15C: 117.95g hp-16C: 115.05g hp-12C: 120.66g (new ARM7/CR2032x2 version)

All the above are with batteries as I didn't want to risk nailing the SRAM. But that shouldn't add too much uncertainty.

Re: Fake HP calculators on eBay?

*Message #27 Posted by **Peter Matthews** on 17 Sept 2010, 8:33 p.m.,*
in response to message #26 by uhmgawa

OK many thanks; I think I am put at ease. I did not realize that the 11C production varied (I just figured it would have varied among countries but thought all USA-made units would be exemplary, as was my vintage 11C).

On the economical aspect, again I think there IS a market for this. Just because an extra $250,000 profit is a drop in the bucket for today's HP does not mean it isn't a justified operation for, say, 10 people, given that on a DAILY basis I see a market for this on eBay.

So THEORETICALLY I think it's still a viable "business" for some people to create knock-offs and yes, I agree that even if they were knock-offs, many of us would still pay to get something that quacks and walks like the Voyagers.

I'll be interested to hear what other comments folks have from my photos but in any event, it has been a fun, ah, TANGENT to undertake for my little "new old" scientific calculator.

I guess I should celebrate this weekend, having scored a great condition 11C!

:-)

Re: Fake HP calculators on eBay?

*Message #28 Posted by **Peter Matthews** on 17 Sept 2010, 8:45 p.m.,*
in response to message #26 by uhmgawa

"I hope so, as I'd like to buy a few at the presumed knock off prices."

We can hope :-)

"HP has informally shown a "15c+" prototype at a conference in September 2008, but as of July 2009 has not announced it as a product. However, HP has introduced 12C and 15C simulators running on Windows and on the Apple iPhone, and some have speculated that part of the rationale for the 15C simulator may be to [gauge] interest in the possible reintroduction of the 15C."

http://www.brouhaha.com/~eric/hpcalc/voyager/variants.html

(HP sells the 15C simulator for the iPhone for a whopping $30 which is crazy. I'll wait for a "real" 15C selling for $90 and put the cash toward that instead...)

Re: Fake HP calculators on eBay?

*Message #29 Posted by **uhmgawa** on 17 Sept 2010, 9:57 p.m.,*
in response to message #28 by Peter Matthews

> Quote:
>
> "HP has informally shown a "15c+" prototype at a conference in September 2008, but as of July 2009 has not announced it as a product. However, HP has introduced 12C and 15C simulators running on Windows and on the Apple iPhone, and some have speculated that part of the rationale for the 15C simulator may be to [gauge] interest in the possible reintroduction of the 15C."

I have a great deal of respect for HP of yesteryear to the extent I'm disappointed not to have been part of that engineering history. I don't know much about contemporary HP but I doubt having it cater to the surviving creaky antiques, wanting a 30 year old product brought back in a market flooded with 400MHz ARM cellphones, is going to be worth the wait.

> Quote:
>
> http://www.brouhaha.com/~eric/hpcalc/voyager/variants.html
>
> (HP sells the 15C simulator for the iPhone for a whopping $30 which is crazy. I'll wait for a "real" 15C selling for $90 and put the cash toward that instead...)

Haven't seen HP's simulator but I'd be surprised if it can offer anything over Eric's work. Aside from the technical achievement, Nonpareil is opensource which IMHO makes it a vastly preferable, portable technology.

Re: Fake HP calculators on eBay?

*Message #30 Posted by **Peter Matthews** on 17 Sept 2010, 10:19 p.m.,*
in response to message #29 by uhmgawa

Mostly IMHO the HP branded iPhone simulators are REALLY GOOD LOOKING but I would not pay $30 just for the graphic. There are other HP calculators on iPhone and functionally they are equivalent; just aesthetics. I have a $0.99 11C simulator, a 12C simulator and a 45cx simulator (the latter one is a very very good).

Re: Fake HP calculators on eBay?

*Message #31 Posted by **Martin Pinckney** on 17 Sept 2010, 11:00 p.m.,*
in response to message #29 by uhmgawa

> Quote:
>
> ...I doubt having it cater to the surviving creaky antiques, wanting a 30 year old product brought back in a market flooded with 400MHz ARM cellphones, is going to be worth the wait.

We've hashed over these these arguments so many times... while I believe there is a huge market for retro calculators right now, you are right that it won't last forever. If HP wants to do a 15c+, they better do it while the baby boomers are still around...

Re: Fake HP calculators on eBay?

*Message #32 Posted by **Peter Matthews** on 18 Sept 2010, 1:09 a.m.,*
in response to message #31 by Martin Pinckney

Maybe the, ah, new CEO (ahem!) could be persuaded to get back to basics and why HP used to be great.

Re: Fake HP calculators on eBay?

*Message #33 Posted by **Walter B** on 18 Sept 2010, 12:14 p.m.,*
in response to message #32 by Peter Matthews

Many contributors here had this hope with the last "new CEO" already d:-/

Re: Fake HP calculators on eBay?

*Message #34 Posted by **Peter Matthews** on 18 Sept 2010, 2:34 p.m.,*
in response to message #33 by Walter B

Well that last CEO sure would have benefited from a decent RPN calculator to help him with his expense reports.

Re: Fake HP calculators on eBay?

*Message #35 Posted by **Allen** on 18 Sept 2010, 9:08 p.m.,*
in response to message #31 by Martin Pinckney

> Quote:
>
> I believe there is a huge market for retro calculators right now, you are right that it won't last forever. If HP wants to do a 15c+, they better do it while the baby boomers are still around...

I agree fully. The used calculator market is well upwards of $1.5M annually, but the later TI/HP models, calculators-on-calculators or calculators-on-phone and general technological progress are making retro models much less appealing- and there is attrition, of course, but that's a given.

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PI ?

*Message #1 Posted by **Donald Williams** on 16 Sept 2010, 7:48 p.m.*

Katie could you use one of your programs to please verify this? :>)

PI

Don't forget you will probably need fresh batteries.

Thanks

Edited: 16 Sept 2010, 10:44 p.m.

Re: PI ?

*Message #2 Posted by **Katie Wasserman** on 17 Sept 2010, 2:10 a.m.,*
in response to message #1 by Donald Williams

> Quote:
>
> Katie could you use one of your programs to please verify this?

Sure, I just need to get some new batteries for my 12C+. :)

Re: PI ?

*Message #3 Posted by **Donald Williams** on 17 Sept 2010, 7:51 a.m.,*
in response to message #2 by Katie Wasserman

Thanks again. I knew you wouldn't pass up a chance at a PI programming challenge.

I suggest a battery with di-lithium crystal technology.

As soon as you get the results please forward the email to purgatory. They will find me. Or perhaps a seance would be fun.

:>)

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Yes!

*Message #1 Posted by **Michael Meyer** on 16 Sept 2010, 7:06 p.m.*

I received an HP-33C in the mail... was only $33 on TOS. It was advertised as having a faulty switch. I didn't even test it before I disassembled it and cleaned and tightened the switches. It's in mint condition... not a scratch on it, seemingly unused feet, and absolutely no corrosion. It works perfectly. Yes!

Re: Yes!

*Message #2 Posted by **Michael de Estrada** on 16 Sept 2010, 7:29 p.m.,*
in response to message #1 by Michael Meyer

Great find! So many Spices have issues with corrosion, broken battery contacts, bad keyboards, cracked cases etc, that it's hard to find one in good condition, especially at that price. Does yours have the soldered keyboard / circuit board? I've got one of each, and I'm constantly having problems with the non-soldered unit.

Edited: 16 Sept 2010, 7:30 p.m.

Re: Yes!

*Message #3 Posted by **Michael Meyer** on 16 Sept 2010, 8:56 p.m.,*
in response to message #2 by Michael de Estrada

Oops. I was so focused on getting the inner assembly out and gazing at it's perfect keypad that I didn't even notice. If I remember correctly, I guess I could weigh it.

Re: Yes!

*Message #4 Posted by **Michael de Estrada** on 16 Sept 2010, 9:23 p.m.,*
in response to message #3 by Michael Meyer

If the first two digits of the serial number are 19 (1979) or lower, then almost certainly it is unsoldered, 21 (1981) or later soldered. If it is 20 (1980), then I've seen both types. Anyways, the feel of the soldered keyboard is totally different, much more refined with short, easy and very positive clicks.

Re: Yes!

*Message #5 Posted by **Michael Meyer** on 16 Sept 2010, 9:36 p.m.,*
in response to message #4 by Michael de Estrada

It's SN 1943Aetc. And it has good heft to it, so it's probably unsoldered. Fortunately, it had absolutely no corrosion and appears to be functioning perfectly. Thanks!!!

Re: Yes!

*Message #6 Posted by **Michael Meyer** on 16 Sept 2010, 9:38 p.m.,*
in response to message #4 by Michael de Estrada

The key travel is fairly long, and takes a firm press, but the click is perfect.

Re: Yes!

*Message #7 Posted by **Michael de Estrada** on 16 Sept 2010, 10:47 p.m.,*
in response to message #6 by Michael Meyer

When brand new they work pretty well, but deteriorate with use. I had two in the late 1970's, an HP-32E and HP-34C, and they both lasted about a year with heavy work use before falling apart. Anyway, unless you use yours heavily, it should be good for quite some time. The best one I have is an HP-38E that appears to be practically new, complete in its box with all accessories.

Re: Yes!

*Message #8 Posted by **Michael Meyer** on 17 Sept 2010, 1:12 p.m.,*
in response to message #7 by Michael de Estrada

In this condition? No, I won't use it all except to show it off in the collection. Not being an engineer, I rotate use from HP-25's (everyday simple math), to a 19C, and my 97 for taxes. Occasionally will use others just for fun, but not much heavy use. Onward to find a cheap 27S, 21S, and maybe, if I'm lucky, an affordable 70....

Re: Yes!

*Message #9 Posted by **Michael de Estrada** on 17 Sept 2010, 8:11 p.m.,*
in response to message #8 by Michael Meyer

I'm not sure there is such a thing as "an affordable HP 70." There have been plenty of auctions this year, and all the nice ones have sold for over $500. There's a reserve auction going on right now, which is the first I've ever seen that includes the original printed manual, so I'd expect this auction to be no different.

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hp 30b LCD Rainbow mark

*Message #1 Posted by **JoeGeller** on 16 Sept 2010, 2:22 p.m.*

When my new hp 30B is viewed at normal angles from a desktop I get a rainbow pattern in part of the display. It is much more dominant in lower light. In dim office light, the mark reduces to a gray darkened half circle. In bright light it sometimes is not visible. There is no visible crack or break in the display.

See pics at http://www.flickr.com/photos/28209719@N00/sets/72157624845312599/

It was an eBay buy, but the hp 30b was new in a sealed package. (4CY02400091) There was no visible damage to the package before it was opened.

Otherwise, the calculator works fine. The numbers are always visible, but sometimes the rainbow/gray area is annoying.

Is it a damaged LCD? Have others seen this on an hp 30B ?

Re: hp 30b LCD Rainbow mark

*Message #2 Posted by **Martin Pinckney** on 16 Sept 2010, 2:40 p.m.,*
in response to message #1 by JoeGeller

You can get this effect on any LCD screen if you apply pressure directly to the screen. I wonder if the LCD on your 30b is somehow stressed by a warped case or something like that?

Re: hp 30b LCD Rainbow mark

*Message #3 Posted by **Raymond Del Tondo** on 16 Sept 2010, 3:19 p.m.,*
in response to message #1 by JoeGeller

Yes, the LCD cover of the brand new 30b I had for a few days showed the same rainbow effect. The unit had not suffered any stress. It's a production/material design problem, similar to that of the early 49g units. Someone tried to save some money at the wrong place...

Re: hp 30b LCD Rainbow mark

*Message #4 Posted by **Giovanni Jimenez** on 16 Sept 2010, 10:39 p.m.,*
in response to message #3 by Raymond Del Tondo

Had the same problem with my 30b. It is pretty much gone now.

Re: hp 30b LCD Rainbow mark

*Message #5 Posted by **Raymond Del Tondo** on 17 Sept 2010, 3:23 a.m.,*
in response to message #4 by Giovanni Jimenez

Quote:

> Had the same problem with my 30b. It is pretty much gone now.

Yes, since the 30b is gone the problems also vanished.

SCNR;-)

Re: hp 30b LCD Rainbow mark

*Message #6 Posted by **Dave Britten** on 17 Sept 2010, 6:11 p.m.,*
in response to message #1 by JoeGeller

Is it similar to this?

http://holyjoe.org/hp/rainbow.htm

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HP 30b full pdf manual

*Message #1 Posted by **Ujval** on 16 Sept 2010, 3:51 a.m.*

Anyone out there with a copy of the definitive HP30b pdf manual? Been searching in vain all over. Pl email it to me - shall be eternally grateful!

Re: HP 30b full pdf manual

*Message #2 Posted by **Walter B** on 16 Sept 2010, 4:03 a.m.,*
in response to message #1 by Ujval

You may have searched all over, but certainly not here. Message #5 contains "the" link.

HTH

Re: HP 30b full pdf manual

*Message #3 Posted by **Ujval** on 16 Sept 2010, 5:08 a.m.,*
in response to message #2 by Walter B

Tried it before posting - it seems to lead to the HP website page that does not have any support information on the 30b once I accept the terms listed on http://ftp.usa.hp.com/

Am I still missing something obvious?

Re: HP 30b full pdf manual

*Message #4 Posted by **gene wright** on 16 Sept 2010, 7:29 a.m.,*
in response to message #3 by Ujval

When I clicked the FTP link in that other thread, I see a .welcome file and the PDF of the manual.

Looks like it is right there to me.

Re: HP 30b full pdf manual

*Message #5 Posted by **Ken Shaw** on 16 Sept 2010, 9:42 a.m.,*
in response to message #3 by Ujval

Use the ftp protocol, not http.

ftp://ftp.usa.hp.com/

Re: HP 30b full pdf manual

*Message #6 Posted by **Martin Pinckney** on 16 Sept 2010, 9:55 a.m.,*
in response to message #5 by Ken Shaw

But if I use that address, I get a username and password request. Using the link Walter referred to, I get right in to the site where the manual can be downloaded.

ftp://hp2030ma:Waxlike3@ftp.usa.hp.com/

Re: HP 30b full pdf manual

*Message #7 Posted by **Sujith Abraham** on 16 Sept 2010, 12:26 p.m.,*
in response to message #1 by Ujval

Download HP 30b User's Guide [PDF] There is also the HP 30b Learning Guides which are more application/practical oriented.

The web version of the learning modules is not really recommended for printing. I am not hot-linking the file, but you can find HP 30b Learning Modules [.zip] in pdf from hpcalc.org page.

hpcalc.org has both the files in PDF but not HP! :(

(at) Ujval If you are still having trouble, contact me. I will send it as an attachment or I could upload to some other public server :)

Edited: 16 Sept 2010, 12:51 p.m.

Re: HP 30b full pdf manual

*Message #8 Posted by **Juergen Keller** on 16 Sept 2010, 5:05 p.m.,*
in response to message #7 by Sujith Abraham

> Quote:
>
> ... you can find HP 30b Learning Modules [.zip] in pdf from hpcalc.org page.

Exactly what I was looking for. Thank you for providing this link. PDFs are more convenient than the online pages.

HP 30b full learning guide [PDF] download link

*Message #9 Posted by **Sujith Abraham** on 19 Sept 2010, 10:39 p.m.,*
in response to message #1 by Ujval

Mediafire Link : HP 30b Learning Modules Combined PDFs (7.13 MB)[zip]

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HP-97 Aluminum Printer Gear

*Message #1 Posted by **aj04062** on 15 Sept 2010, 9:18 p.m.*

I saw a few days ago a listing on tha auction site for a replica idler gear for these printers. The price was reasonable when compared to Katie's method (given the mods required)

I was going to buy one tonight but the listing is gone. I don't know if it just expired or he is done selling. Has anyone bought one and has this guys contact information?

Thanks in advance.

Re: HP-97 Aluminum Printer Gear

*Message #2 Posted by **M. Joury** on 15 Sept 2010, 9:49 p.m.,*
in response to message #1 by aj04062

You might be able to get the info you need by searching completed auctions.

Re: HP-97 Aluminum Printer Gear

*Message #3 Posted by **Michael de Estrada** on 15 Sept 2010, 10:22 p.m.,*
in response to message #1 by aj04062

The seller's eBay name is davehal2001 and his real name is Dave Bowman, dmbowman@mchsi.com. I have one of those idler gears, and it works perfectly. I also bought a perfectly restored HP 97 from him. I recommend him without reservation.

Michael

Re: HP-97 Aluminum Printer Gear

*Message #4 Posted by **Ignazio Cara (Italy)** on 16 Sept 2010, 2:18 a.m.,*
in response to message #1 by aj04062

Hello, I wish to confirm what we said Michael, gears supplied by davehal2001 are the best. Some time ago a French friend (hello Etienne) gave me two brass gears, good but noisy, then I bought a German company. I sold several HP-97, and plans to sell other, all with this particular gear. I have so many original plastic (?) idle gears in good condition: if anyone is interested can contact me directly. Greetings to all

Ignazio

Re: HP-97 Aluminum Printer Gear

*Message #5 Posted by **aj04062** on 16 Sept 2010, 7:31 p.m.,*
in response to message #4 by Ignazio Cara (Italy)

Thank you ALL,

I will get a hold of Dave.

Hey Ignazio, have you seen my last email regarding my troubled 65?

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A little programming chalenge

*Message #1 Posted by **Patrice** on 15 Sept 2010, 7:22 p.m.*

Hello all,

Here is a little programming chalenge (no prices). I will present my solution at HHC 2010.

It is all about optimization: be as fast as possible.

The goal is to fill as much as possible places in a figure while respecting the rule.

The figure is a square or a rectangle.

The rule is that there must be no more than 3 consecutive places filled in a row, a colomn or a diagonal.

Here is a 4*4 square :

```
.  *  *  *
*  *     *
*     :  *
*  .  *  *
*  *  *  .
```

Since the amount of calculus grows quickly, the programming can be done on a PC.

If you are under a minute of runtime, just make the figure bigger: 4*4, 4*5, 5*5, 5*6, 6*6, 6*7, 7*7 and so on.

To compare the results, give the size of your figure, the number of time you have try to fill a place, the timing in seconds, and the language for advice :

4 4 12 0 D

Be smart guys :-)

Patrice

Edited: 16 Sept 2010, 1:30 a.m. after one or more responses were posted

Re: A little programming chalenge

*Message #2 Posted by **David Hayden** on 15 Sept 2010, 9:50 p.m.,*
in response to message #1 by Patrice

Thanks for posting this Patrice. I always like programming challenges.

I think there may be more to the problem than you're stating. For example, if I leave all of the places on the board unfilled, that would meet the rules that you've stated. So are we trying to fill in as many places as possible?

Thanks. See you at HHC2010!

Dave

Re: A little programming chalenge

*Message #3 Posted by **Chuck** on 15 Sept 2010, 10:50 p.m.,*
in response to message #2 by David Hayden

I don't think that would satisfy the "fill as much as possible" rule.

Re: A little programming chalenge

*Message #4 Posted by **Patrice** on 16 Sept 2010, 1:40 a.m.,*
in response to message #3 by Chuck

You right, Chuck !

> Quote:
>
> The goal is to fill as much as possible places in a figure while respecting the rule.

This sentence is not clear enough ?

well ! I don't know when I will this forum again, I take plane in 6 hours.

Patrice

Re: A little programming chalenge

*Message #5 Posted by **David Hayden** on 16 Sept 2010, 6:21 a.m.,*
in response to message #4 by Patrice

Oops! I don't know how I missed that the first time around.

Re: A little programming chalenge

*Message #6 Posted by **Patrice** on 24 Sept 2010, 1:52 a.m.,*
in response to message #1 by Patrice

Hi all,

Just arrived in Fort Collins.

Anyone working on the chalenge ?

Patrice

Re: A little programming chalenge

*Message #7 Posted by **David Hayden** on 24 Sept 2010, 6:45 a.m.,*
in response to message #6 by Patrice

I thought about it a little and tried playing with it on paper, but didn't get much beyond that. One problem I found was figuring out when I had an optimum answer.

Re: A little programming chalenge

*Message #8 Posted by **Egan Ford** on 24 Sept 2010, 10:34 a.m.,*
in response to message #6 by Patrice

I cannot make HHC this year (too much work), I just canceled yesterday, so I may have time this weekend to work on it.

Re: A little programming chalenge

*Message #9 Posted by **Steve Perkins** on 24 Sept 2010, 5:25 p.m.,*
in response to message #6 by Patrice

I thought about it for a while.

It's a worthy challenge.

I thought it was pretty easy, then I read it again and noticed the "diagonal" requirement.

I'm interested to see the results folks get.

Re: A little programming chalenge

*Message #10 Posted by **Egan Ford** on 25 Sept 2010, 8:42 p.m.,*
in response to message #1 by Patrice

> Quote:
>
> Be smart guys :-)

My first not-so-smart pass (quick and dirty):

```
4 4 12 0 C
* * * .
  * * *
. * *   *
* . * *

4 5 15 0 C
  * * *
. * * *
*   * *
* * .  *
.  * * *

5 5 18 0 C
* * *  . *
  * * *
. * *    .
*   * * *
* * .  * *

5 6 22 1 C
* * *  . *
*   * * *
  .  * * *
. * .  * *
* * *  .
* * *    *
*  .  * * *

6 6 26 14 C
* *  . * * *
* * *  . * *
*   * .  * *
  . * *  . . .
. * *    * * *
* * .  * * *
* * *  .
```

```
6 7 31 234 C
* * *   * *
* *   . * *
* * *   * *
      .
    *
. . .   . .
* * *   * *
* *   . * *
* * *   * *
      .

7 7 36 0 Just thought about it.
* * *   * * *
* * *   * * *
      .
* * *   * * *
      .
. . .   . . .
* * *   * * *
      .
* * *   * * *
      .
* * *   * * *
```

I have a rather large project due. So, I'll try for a smart solution next weekend.

Edited: 25 Sept 2010, 9:22 p.m.

Re: A little programming chalenge

*Message #11 Posted by **Patrice** on 26 Sept 2010, 6:50 p.m.,*
in response to message #10 by Egan Ford

Nice beginning Egan,

Brute force attack ?

Too bad you were not at HHC.

I have not presented my solution to the problem at the conference because schedule was too tight. I have done it only on reduced comity after the end of the conference.

I will post my solution in another treat on the forum, so that, you can continue your search and device a solution on your own.

Patrice

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Emu48 skins

*Message #1 Posted by **Martin Pinckney** on 15 Sept 2010, 5:51 p.m.*

Just started to use Emu48 to experiment with programs before loading them into the real calculator. I prefer the realistic skin.

Problem is, on my laptop (also on the auxiliary screen I use when at home or the office) with modern screen resolution, the realistic skin that came with the downloaded Emu48 is so tiny, I have to get close to the screen to read it! (About half size).

Has anyone found a larger realistic skin, or otherwise solved this problem?

Thanks.

Re: Emu48 skins

*Message #2 Posted by **Richard Garner** on 15 Sept 2010, 7:00 p.m.,*
in response to message #1 by Martin Pinckney

You can find many different skins at hpcalc.org. There are several nice realistic skins there. I know that may of the skins come in verying resolutions.

Re: Emu48 skins

*Message #3 Posted by **Christoph Giesselink** on 15 Sept 2010, 8:07 p.m.,*
in response to message #1 by Martin Pinckney

Hi Martin,

Yes, you're right. The old skins delivered with Emu48 are getting too small on modern displays. Most of these one are created around the LCD Zoom 2 size.

I recently bought a 24" monitor and the only satisfied resolution was the natural one of 1920x1080. And and this resolution the Zoom 2 size skins are still readable, but I agree, they should be larger. But the only way to get larger ones, is to write them. Best IMHO will be a skin based on the LCD Zoom 3 setting.

I don't know any realistic skins at the moment, which base on LCD Zoom 3 setting. Non realistic skins can be grabbed from the Emu48 Pocket PC project. Most of the skins for VGA or WVGA resolution are Zoom 3 ones.

Example for HP48SX and HP48GX:

http://hp.giesselink.com/Emu48/Kmlppc/Wombat3.zip

Example for HP49G:

http://hp.giesselink.com/Emu48/Kmlppc/HP49VGA.zip

Writing new KML scripts is a highly time consumptive job. I recently rewrote a realistic Zoom 2 to a Zoom 3 skin of a Saturn based calculator, it took me about 2-3 hours.

Regards

Christoph

Edited: 15 Sept 2010, 8:09 p.m.

Re: Emu48 skins

*Message #4 Posted by **Martin Pinckney** on 15 Sept 2010, 10:15 p.m.,*
in response to message #3 by Christoph Giesselink

Thanks, Richard, Christoph.

Right now I am using 48SX_STD, by Leszek Ulman, which is at least the same shape and layout of the calculator, if not strictly realistic. And it is maybe 95% of full size on my laptop screen; 105% on my auxiliary screen, so size-wise a good compromise.

Re: Emu48 skins

*Message #5 Posted by **Dave Shaffer (Arizona)** on 16 Sept 2010, 1:49 p.m.,*
in response to message #1 by Martin Pinckney

What if you downgrade the display resolution of your laptop? (Maybe not so good if you are switching around between a bunch of programs.)

Re: Emu48 skins

*Message #6 Posted by **Martin Pinckney** on 16 Sept 2010, 2:35 p.m.,*
in response to message #5 by Dave Shaffer (Arizona)

> Quote:
>
> What if you downgrade the display resolution of your laptop?

Yes, this could work for the duration of a session using the emulator.

Re: Emu48 skins

*Message #7 Posted by **Martin Pinckney** on 16 Sept 2010, 3:18 p.m.,*
in response to message #6 by Martin Pinckney

No, 800x600 is the best (worst) I can get. Still way too small.

Re: Emu48 skins

*Message #8 Posted by **Martin Pinckney** on 19 Sept 2010, 6:09 p.m.,*
in response to message #1 by Martin Pinckney

I don't know how I missed it before, but AK's HP48S/SX script By Arno Kuhl, found at hpcalc.org, is just what I was looking for.

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For the calculator nuts: Free42

*Message #1 Posted by **Geir Isene** on 14 Sept 2010, 3:36 p.m.*

Nothing new for you guys... just wanted to inform you that in my enthusiasm for the Free41, I had to blog about it, tweet it and send it to my friends on Facebook - reaching a couple of thousand people.

Thanks Thomas - it's an excellent product.

Link to blog post.

Re: For the calculator nuts: Free42

*Message #2 Posted by **Johnny Bjoern Rasmussen** on 14 Sept 2010, 3:48 p.m.,*
in response to message #1 by Geir Isene

Hi Gier
You are right the Free42 is great. And so are your blog and website. I really like the layout of the website.

Regards from Denmark

Johnny Bjoern Rasmussen

Edited: 14 Sept 2010, 3:51 p.m.

Re: For the calculator nuts: Free42

*Message #3 Posted by **Geir Isene** on 14 Sept 2010, 4:14 p.m.,*
in response to message #2 by Johnny Bjoern Rasmussen

hehe - the layout :)

Yeah, I decided the boxes was history and I would from now on simply draw the web page. This way I can design a new web page on a paper napkin or toilet paper even.

Re: For the calculator nuts: Free42

*Message #4 Posted by **Jim Horn** on 14 Sept 2010, 4:53 p.m.,*
in response to message #1 by Geir Isene

I have to agree - my computer's Dell keyboard has a dedicated calculator key which I set up to invoke Free42 whenever it is pressed rather than the default Microsoft one. Really handy!

Re: For the calculator nuts: Free42

*Message #5 Posted by **Thomas Okken** on 16 Sept 2010, 11:03 p.m.,*
in response to message #4 by Jim Horn

> Quote:
>
> I have to agree - my computer's Dell keyboard has a dedicated calculator key which I set up to invoke Free42 whenever it is pressed rather than the default Microsoft one. Really handy!

Jim, did you use the **File -> Preferences -> Map "Calculator" key to Free42** feature, or did you use some other means to re-map that key? I'm asking because I've always wondered whether anyone actually uses that feature... I'd use it myself, but I can't, because these retro keyboards I use don't have any keys to spare. :-)

Edited: 16 Sept 2010, 11:07 p.m.

Re: For the calculator nuts: Free42

*Message #6 Posted by **Dallas Osborne** on 17 Sept 2010, 9:50 a.m.,*
in response to message #5 by Thomas Okken

Yes, I do use the key map feature; I use the rows Q-Y, A-H, and Z-N for the upper section. It is obviously only active when the program is active, but this seems to work great for me. I did this a couple of years ago (it seems) but it took a few months to get used to, but now I rarely miss a key. (A&S have the same function as the little finger on the number pad of my keyboard.) The only time I use the mouse interface is to access any of the menu options in the lower half of the keyboard.

I do use the iPhone one as well and find it quite nice, actually.

Edited: 17 Sept 2010, 9:53 a.m.

Re: For the calculator nuts: Free42

*Message #7 Posted by **Allen** on 14 Sept 2010, 6:00 p.m.,*
in response to message #1 by Geir Isene

Fully agreed.. Free42 is one of the few programs that I have on my taskbar.

Re: For the calculator nuts: Free42

*Message #8 Posted by **Walter B** on 15 Sept 2010, 2:58 a.m.,*
in response to message #7 by Allen

So have I. Thanks, Thomas!

Re: For the calculator nuts: Free42

*Message #9 Posted by **Thomas Okken** on 16 Sept 2010, 11:34 p.m.,*
in response to message #8 by Walter B

> Quote:
>
> So have I. Thanks, Thomas!

You're welcome!

I wish I had more time to work on it -- I hate that the Mac and iPhone versions are still not complete, and then there's Android...

> Back in 2005 I thought it was pretty much done, but something new always comes up. :-)

Re: For the calculator nuts: Free42

*Message #10 Posted by **Thomas Radtke** on 15 Sept 2010, 3:04 a.m.,*
in response to message #1 by Geir Isene

> Quote:
>
> Thanks Thomas - it's an excellent product.

Yes. HP should obtain a licence to use Thomas' excellent software in a slightly modified 30b ;-).

Thank you, Thomas!

Re: For the calculator nuts: Free42

*Message #11 Posted by **Jerry Raia** on 15 Sept 2010, 7:38 a.m.,*
in response to message #1 by Geir Isene

I have had it on my iPhone for a while. Very Nice :)

Re: For the calculator nuts: Free42

*Message #12 Posted by **Pablo P (Spain)** on 16 Sept 2010, 1:30 p.m.,*
in response to message #1 by Geir Isene

Yes, it is a nice program. I have not played with a real hp 42s but with this software I have an idea of what a wonderful calculator it was.

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12c+ Firmware

*Message #1 Posted by **Michael Bromm** on 13 Sept 2010, 10:52 p.m.*

I've got a 12c+ with firmware version 2009-07-02. I understand that there are some bugs with this firmware.

I have searched this forum and I have seen discussions in which it appears that people have upgraded their firmware, but I can't seen to see a "how-to". So I have two questions: (1) Is there a "how-to"? If not, (2) how to?

Me culpa in advance if I have missed it, and thanks in advance to anyone who will help.

Re: 12c+ Firmware

*Message #2 Posted by **Katie Wasserman** on 14 Sept 2010, 1:06 a.m.,*
in response to message #1 by Michael Bromm

You need a special serial cable that plugs into the 6-pin connector inside the battery compartment. The HP guys here (Tim and Cyrille) can comment on the available of these and the availability of updated firmware.

As far as I know you can't buy this cable anywhere, however it would be possible to make one yourself and the circuit has been described in detail here. Then you'd need to find the latest firmware somewhere, but I don't think that HP has that freely available for download.

This issue has come up with the 12C+ before and potentially with the 20b and 30b too since they all share the same ARM processor, programming connection and firmware update method. It would be great if HP (T & C) could contract with a place that can sell the cable and host the firmware for download. Eric Rechlin already sells a HP-20b "hackers kit" and similar things on his commerce site, perhaps he'd want to carry these cables and firmware.

-Katie

Edited: 14 Sept 2010, 1:07 a.m.

Re: 12c+ Firmware

*Message #3 Posted by **Michael Bromm** on 14 Sept 2010, 10:14 a.m.,*
in response to message #2 by Katie Wasserman

Katie, many thanks for your helpful response. I know that the bug(s) are relatively minor, but this is my 3rd 12c and, I had hoped, the bestest. Certainly the feel of it (especially the keypad) is much better than it has been on recent iterations, and it's obviously a lot faster. Now if I can get the firmward updated, I will be content.

I will wait to see what the HP fellows on this board have to say. I assume I could send the thing in for service, but of course then I wouldn't have it, would I?

Re: 12c+ Firmware

*Message #4 Posted by **Tim Wessman** on 14 Sept 2010, 10:47 a.m.,*
in response to message #3 by Michael Bromm

Nope, it can't be sent in for service. Send me an email.

TW

Re: 12c+ Firmware

*Message #5 Posted by **Sujith Abraham** on 14 Sept 2010, 1:51 p.m.,*
in response to message #2 by Katie Wasserman

I think this is the interface cable: Segger ARM7 JTAG Emulator for the 20/30b. (Please correct me if I am wrong) However, obtaining the updated ROMs are difficult.

Those ports are there for people with hacking spirit. Not for us, mere mortals :(

Re: 12c+ Firmware

*Message #6 Posted by **Tim Wessman** on 14 Sept 2010, 7:10 p.m.,*
in response to message #5 by Sujith Abraham

>However, obtaining the updated ROMs are difficult.

Not really. . .

TW

Re: 12c+ Firmware

*Message #7 Posted by **Michael Bromm** on 14 Sept 2010, 7:53 p.m.,*
in response to message #6 by Tim Wessman

Just a public nod of thanks to Katie, for her quick and helpful response, and Tim, for solving the problem.

Re: 12c+ Firmware

*Message #8 Posted by **Mark Harman** on 14 Sept 2010, 7:55 p.m.,*
in response to message #5 by Sujith Abraham

That is just one solution if you solder on a JTAG connector. Personally, I wouldn't go that route as it would leave an unsightly hole on the back of the calculator. Even on the 20b or 30b, I think it would bad. Some ultra-hobbyists might not mind a hole in the back of their calcs, but the thought makes me ill.

There is already a connector that works via a cable that has a 9 pin RS-232 on one end (computer end) and a 6 pin Pogo plug (calculator end) on the other. The pogo connector is right below the batteries. No modification of the calculator is necessary and you can flash or repurpose the calculator easily with the correct cable. However, I think you need to either make the cable yourself or make an arrangement with either Tim or Cyrille to obtain the cable.

Regards,

Mark

Edited: 14 Sept 2010, 7:59 p.m.

Re: 12c+ Firmware

*Message #9 Posted by **Katie Wasserman** on 14 Sept 2010, 9:56 p.m.,*
in response to message #8 by Mark Harman

On the 12C+ you have no choice but to use the 6-pin connector since there is no place to tap into the JTAG interface on the PCB.

Re: 12c+ Firmware

*Message #10 Posted by **Mark Harman** on 14 Sept 2010, 10:23 p.m.,*
in response to message #9 by Katie Wasserman

Katie,

Thanks for letting me know that. I had no idea. I thought the 12c+ had a similar paradigm because it used the same processor. I learn something new every day.

Thanks,

Mark

Re: 12c+ Firmware

*Message #11 Posted by **Michael Bromm** on 15 Sept 2010, 10:49 p.m.,*
in response to message #1 by Michael Bromm

I can now report as follows:

I first raised the issue yesterday morning. Less than 48 hours later, Tim has taken care of the issue and I now have the firmware updated to the 2009-08-03 version. That is by a wide margin the fastest and most helpful response I have ever had from any company representative. Add to that the fact that he's in Colorado and I'm in Vancouver, and it's that much more impressive.

Many thanks, Tim!

Re: 12c+ Firmware

*Message #12 Posted by **M. Joury** on 16 Sept 2010, 10:10 a.m.,*
in response to message #11 by Michael Bromm

I just purchased (within the last week) a new 12C+ directly from HP. I checked the ROM version yesterday evening and it is the 2009-07-02 revision. So, is there a bug list for this ROM revision? I searched and could not locate one--if there is could someone please point me to it?

Thanks,

Re: 12c+ Firmware

*Message #13 Posted by **Michael Bromm** on 16 Sept 2010, 10:21 a.m.,*
in response to message #12 by M. Joury

Quote:

I just purchased (within the last week) a new 12C+ directly from HP. I checked the ROM version yesterday evening and it is the 2009-07-02 revision. So, is there a bug list for this ROM revision? I searched and could not locate one--if there is could someone please point me to it?

Thanks,

Try here.

Re: 12c+ Firmware

*Message #14 Posted by **M. Joury** on 16 Sept 2010, 11:41 a.m.,*
in response to message #13 by Michael Bromm

Thanks!

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Contacting the HP-15C site administrator

*Message #1 Posted by **Wlodek Mier-Jedrzejowicz** on 13 Sept 2010, 10:30 p.m.*

Can anyone help me get in touch with Chris Woodhouse, please?

His "Bring Back the HP-15C" web site is still running, but it does not seem to have been updated for a long time. He does not answer emails sent to the administrator address on that site, but I do not have any other address for him. He last posted a message on the MoHPC Forum in August 2006.

I would like to mention his site in the next edition of my Guide to HP Calculators, so I would like to get in touch with him about the site.

Many Thanks,

Wlodek

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Ideas for new 41 roms

*Message #1 Posted by **gene wright** on 13 Sept 2010, 8:02 p.m.*

Monte's upcoming 41CL got me to thinking...what other ROM ideas are possible?

here are some suggestions for those of you who know how to do this!

1) ROM(s) containing all the FOCAL programs from the HP solution books. I know those are available in .raw files at TOS. Perhaps these could be converted into some ROM images? This would be great and maybe not THAT difficult since they would not have to be keyed in?

2) A fixed PPC ROM module? The module had a bug where a global GTO BE instruction was the loop GTO in the Block Exchange routine. Be nice if that could be fixed so the PPC rom in the 41CL could be perfect. :-)

3) Are there any already developed MCODE routines for a variable TONE and / or Variable Length pause? These were a couple of the potential functions that almost made the PPC rom but were pulled out at the last minute. Any actual MCDOE routines for these exist out there?

4) How about a rom image of "Dungeon of Doom" from Datafile a few years ago? One of the better dungeon games and a royal pain to key in. Should run nice and fast in 41CL turbo mode. The barcode is in a Datafile issue.

5) A rom image would be a nice place to have Roger Hill's ultimate 41 calendar printer program since space is not an issue. :-)

6) Some of the routines from John Dearing's 41 Tips and Routines book might be nice to have in a rom.

Again, these are just ideas. :-) Of them, #1 above is the one that I suspect might be most useful.

P.S. One reason I'm asking about this now is that it would be nice if some of these things are done before the 41CL starts being sold..which I hope is soon.

Edited: 13 Sept 2010, 8:08 p.m.

Re: Ideas for new 41 roms

*Message #2 Posted by **Namir** on 13 Sept 2010, 8:15 p.m.,*
in response to message #1 by gene wright

What 41CL???? Did I miss something???

Namir

Re: Ideas for new 41 roms

*Message #3 Posted by **Joerg Woerner** on 13 Sept 2010, 8:42 p.m.,*
in response to message #2 by Namir

Namir,

Aren't you overseas? You miss a lot ;-))

Cheers, Joerg

Re: Ideas for new 41 roms

*Message #4 Posted by **Namir** on 13 Sept 2010, 8:58 p.m.,*
in response to message #3 by Joerg Woerner

Leaving the 23rd. I plan to call Gene or maybe even you from France during HHC2010. I have a Magic Jack phone, so the call is (almost) free!!!! I will call to see that I am with the HHC2010 in spirit.

Re: Ideas for new 41 roms

*Message #5 Posted by **Joerg Woerner** on 13 Sept 2010, 9:03 p.m.,*
in response to message #4 by Namir

Sounds great - have a safe trip!

Regards, Joerg

Re: Ideas for new 41 roms

*Message #6 Posted by **Paul Dale** on 14 Sept 2010, 3:53 a.m.,*
in response to message #1 by gene wright

How about all the programs here: http://hp41programs.yolasite.com/

User library routines are plentiful too.

- Pauli

Re: Ideas for new 41 roms

*Message #7 Posted by **Ángel Martin** on 14 Sept 2010, 5:26 a.m.,*
in response to message #6 by Paul Dale

There are already three modules made using the programs from Jean-Marc's Baillard excellent site:

- JMB_Math (8k)
- ASTRO_2010 (12k)
- JBM_Matrix (8k)

Available at TOS.

Cheers, ÁM

Re: Ideas for new 41 roms

*Message #8 Posted by **Ángel Martin** on 14 Sept 2010, 5:23 a.m.,*
in response to message #1 by gene wright

Gene, I've been putting together a few 41 ROMs for the last couple of years, some of them related to your bullet points below.- My comments:

1. FOCAL programs from solution books.- Not sure that the ROM format is the best way for them. They'll require multiple FATs and perhaps interdependencies. Besides, many programs date from the early days of the 41C system and don't make use of advanced programming techniques, nor extended functions either. BTW, J-F Garnier put together the "Advanced Applications" ROM, with the Grapevine programs using the Advantage Module - that's a very good one.

2. As much as I like the PPC Module I think that by the most part it's superceded by many other advanced modules using MCODE, so I wouldn't put efforts in changing it.

3. The function TONEXY allows for variable frequency and time inputs for TONE. IT's available on several modules, like ALPHA, 41Z (called TONEZ there) and Games Library.

4. I'd gladly add "Dungeon of Doom" to the games libray Modules if somebody provides me with a RAW file (I don't have the datafile issue). Ditto about the Calendar programs.

5. Tips&Routines don't lend themselves well to the ROM format: too many of them (FAT entries are limited) and too short code for an effective usage of the ROM space.

Cheers, ÁM

Re: Ideas for new 41 roms

*Message #9 Posted by **gene wright** on 14 Sept 2010, 8:11 a.m.,*
in response to message #8 by Ángel Martin

Hi Angel!

1) Regarding solutions books, perhaps you are right. However, on the 41CL there is **plenty** of room for rom images, and the solution books are a big source of solutions and the code is already in the proper format.

2) Agree with the PPC module, however the code fix is very easy and the code is all FOCAL. Just seems a shame to have the original rom version with this one tiny little bug in it that is so easily fixed be placed into the 41CL. ;-)

3) Thanks for the direction here.

4) Does **anyone** have Dungeon of Doom in raw format?

5) True true. Perhaps I can at least go through the book and see if there are any worth putting in due to length and features.

As I understand it, even with **all** the roms from TOS loaded, the memory space is about 1/2 empty on the 41CL.

So, there is a LOT of extra room for ROMs to be put in. The idea of carrying around every rom and every solution book is an attractive one (to me).

Thanks all.

Re: Ideas for new 41 roms

*Message #10 Posted by **Ángel Martin** on 14 Sept 2010, 8:57 a.m.,*
in response to message #9 by gene wright

Hi Gene, for sure I too agree the idea is a good one - it's just that it requires some work to put the stuff together in the proper way, even if the programs are somehow all "ready to go".

For instance, the programs would need to be transferred to V41 (nowdays this is the easiest way to do it, thanks to Meindert's MLDL2k manager SW) - which means creating RAW files for them. Then there's the question of the FAT and catalog setup (XROM numbers, etc). I'd reckon it'd take about a full week per module.

W.r.t. the Dungeon program, you could maybe use a wand to get the program on the 41, then use MLDL2k with Hepax emulation to create a ROM image that can be loaded to V41 -> work done ;-)

Cheers, ÁM.

Then all we need are some volunteers!

*Message #11 Posted by **gene wright** on 14 Sept 2010, 10:38 a.m.,*
in response to message #10 by Ángel Martin

Since I hope a large number of people here will want one of the 41CL's for themselves, everyone will benefit with as many ROM images available as possible.

How about a list of volunteers? :-)

Re: Then all we need are some volunteers!

*Message #12 Posted by **Meindert Kuipers** on 14 Sept 2010, 1:53 p.m.,*
in response to message #11 by gene wright

The 41CL looks really great to me, but why the hurry? I hope it is possible to put your own ROM images in the 41CL?

Meindert

Re: Then all we need are some volunteers!

*Message #13 Posted by **gene wright** on 14 Sept 2010, 2:56 p.m.,*
in response to message #12 by Meindert Kuipers

From what I understand, that will not be easy.

It is a replacement CPU board and will be in place inside the 41c.

No usb port. It does have a serial port, but you would have to attach wires and have them come through the HP 41 case.

Most probably won't do that.

So, it will not be as easy to upload new material to the 41CL as it would be to upload material to the MLDL2000 or NoVRAM solutions, if I'm understanding it correctly.

Re: Then all we need are some volunteers!

*Message #14 Posted by **Monte Dalrymple** on 14 Sept 2010, 5:48 p.m.,*
in response to message #13 by gene wright

There is a function in the 41CL that can be used to transfer from a Port into the internal

RAM. From there it can be written to the Flash. So if you have something that plugs into a Port (like a MLDL2000 or NoVRAM) the transfer isn't any more difficult than getting the image into the MLDL2000 or NoVRAM. The only issue with this is that only Bank 1 can be transfered this way. The problem is control of the state of the Bank select for the page being transferred. This just means it's a little more complicated: you'll have to transfer one bank at a time and then assemble them in the RAM for aggregation into the Flash. I expect that anyone willing to go through this route won't be intimidated by the details. And you can always just leave it in RAM too.

Re: Then all we need are some volunteers!

*Message #15 Posted by **Geir Isene** on 14 Sept 2010, 6:17 p.m.,*
in response to message #14 by Monte Dalrymple

I missed the details on the 41CL; and can't find it in the archives. Could you fill me in on the details as to ETA and price?

Link

*Message #16 Posted by **gene wright** on 14 Sept 2010, 7:11 p.m.,*
in response to message #15 by Geir Isene

41CL link including technical manual PDF

Re: Then all we need are some volunteers!

*Message #17 Posted by **Monte Dalrymple** on 14 Sept 2010, 8:08 p.m.,*
in response to message #15 by Geir Isene

The details are in the appendices of the NEWT techincal manual at this point. At some point I will do a separate manual for the 41CL. ETA is a sore point right now. The chip that is needed to translate the 6 volt signals has a 26 week lead time, and my scheduled delivery date isn't until next July. Unfortunately it is only made by Texas Instruments and there is no real substitute. I can't comment on price yet. The quotes I have for getting the PCBs assembled seem excessive to me. Monte

Re: Ideas for new 41 roms

*Message #18 Posted by **Geir Isene** on 16 Sept 2010, 4:35 a.m.,*
in response to message #10 by Ángel Martin

Angel; Do you have a complete write-up of how you produce these FOCAL roms that you are now so eminently churning out?

Re: Ideas for new 41 roms

*Message #19 Posted by **Angel Martin** on 17 Sept 2010, 2:18 p.m.,*
in response to message #18 by Geir Isene

Glad you asked Geir.- I wish I had, as I'll be the first one to follow it because every time I need to put another one together I end up having to rethink the whole process :(

Oh well, it's not so complex after all. I use MLDL2k Mananger to disassemble the contents of the HEPAX RAM memory. Such contents may get there either from RAW files using V41 or

by means of Wand, reading the barcodes for the programs. The beauty of MLDL2k Manager is that it effectively merges both the real and the vistual worlds, as the same ROM file works on both.

Once it's disassembled I use my own programs to create ROM files from ASCII listings, then MLDL2k manager again to compile the MOD files. Done.

Hope this helps, let me know if you need more details and I'll be glad to elaborate further.

Cheers, 'AM

Re: Ideas for new 41 roms

*Message #20 Posted by **Geir Isene** on 18 Sept 2010, 1:54 a.m.,*
in response to message #19 by Angel Martin

I have never used the MLDL2k Manager.

It would be cool to have a baby-step-by-baby-step article describing the procedure :)

Re: Ideas for new 41 roms

*Message #21 Posted by **Angel Martin** on 17 Sept 2010, 2:20 p.m.,*
in response to message #9 by gene wright

Got the Dungeon of Death in RAW format - thanks to Pauli who provided the barcodes.

We're one step closer now :)

Re: Ideas for new 41 roms

*Message #22 Posted by **Giovanni Jimenez** on 15 Sept 2010, 9:40 a.m.,*
in response to message #1 by gene wright

Do you know if there was ever a ROM created for Fuzzy Logic or Neural Networks computations ?

I haven't seen it available for the i41CX+, so I doubt it.

That would be e nice addition.

Re: Ideas for new 41 roms

*Message #23 Posted by **Giovanni Jimenez** on 16 Sept 2010, 10:41 p.m.,*
in response to message #22 by Giovanni Jimenez

If there is a Stats module for the HP-41, why is a Fuzzy Logic one so outrageous ?

Re: Ideas for new 41 roms

*Message #24 Posted by **Egan Ford** on 15 Sept 2010, 6:13 p.m.,*
in response to message #1 by gene wright

I'd like a Bluetooth module. OBEX should be implemented for easy code/data exchange. It should support HEPAX exchanges as well. SPP would also be nice so that I can replace my HP-IL/RS232 setup.

Hmmm... Eventually one could define a native HP-IL over BT profile.

Hmmm... A very small USB port should be added to flash/maintain the BT module. Of course since there will be a USB port on the module you might as well add some type of USB support for the 41Cs.

Hmmm... If you have the space add a Time Module so that when I upgrade to a CL I'll have a universal module for BT, USB, and TM.

Hmmm... Next to the mini USB port you could add an LED so that I can also use my 41CX as a flashlight.

Re: Ideas for new 41 roms

*Message #25 Posted by **Ángel Martin** on 16 Sept 2010, 3:05 a.m.,*
in response to message #24 by Egan Ford

Egan, you forgot the "paperweight ROM" - made of a solid piece of lead that when plugged into the 41 turns it into the perfect, inmovable, reliable anchor for all your desk documents. :)

Re: Ideas for new 41 roms

*Message #26 Posted by **Walter B** on 16 Sept 2010, 3:43 a.m.,*
in response to message #25 by Ángel Martin

Olá Ángel,

you know lead (Pb) being a pretty dense form of condensed matter. Since Steve Hawkings we know matter = information. So you could store some 10^23 bits (= 100 G TB !) of programs and data in the spin states of the lead electrons and have the paperweight ROM included for free ;)

Maybe you'd need a little bit of He-cooling, but you'll manage this - it's trivial engineer's work ;)

Re: Ideas for new 41 roms

*Message #27 Posted by **Egan Ford** on 16 Sept 2010, 10:33 a.m.,*
in response to message #25 by Ángel Martin

> Quote:
>
> made of a solid piece of lead

Gold, surely you meant gold.

Wait, wait, now I see it. Your 41CX lead module turns lead into gold, right?

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HP Forum Archive 19

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Corvallis Division - DIV.39

*Message #1 Posted by **Joerg Woerner** on 13 Sept 2010, 2:07 p.m.*

I tested yesterday a nice Canon X-07 for that auction site and found folded in the box two interesting shipping documents:

1) The unit was purchased in Japan by the company Yokogawa-Hewlett-Packard and sold to Hewlett Packard in Palo Alto, CA.

2) Shipping address was Corvallis Division - DIV.39.

Any idea about the responsibility of DIV.39 in 1983? Skunkworks?

Second question: The "Handy Personal Computer" states Canon X-07, the box reads X-07R. Any idea what the "R" is for? Not for rechargeable batteries...

Thanks for your help.

Regards, Joerg

Re: Corvallis Division - DIV.39

*Message #2 Posted by **John B. Smitherman** on 13 Sept 2010, 2:44 p.m.,*
in response to message #1 by Joerg Woerner

Joerg, Albedo 0.39 was an excellent music album released in 1976 by Vangelis:

Albedo 0.39

Regards,

John

Re: Corvallis Division - DIV.39

*Message #3 Posted by **Joerg Woerner** on 13 Sept 2010, 3:09 p.m.,*
in response to message #2 by John B. Smitherman

Can't find any trace to 0.39 on this document - and it is from July 1983 ;-))

Regards,

Joerg

Re: Corvallis Division - DIV.39

*Message #4 Posted by **Martin Pinckney** on 13 Sept 2010, 4:15 p.m.,*
in response to message #1 by Joerg Woerner

Possibilities:

1. HP was evaluating their competition.

2. Someone at HP simply wanted to use the Canon in their work.

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HP Forum Archive 19

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HP-IL Chips (1LB3-0003) and other goodies - what to do with them?

*Message #1 Posted by **Jim Horn** on 13 Sept 2010, 1:24 p.m.*

Hello - In going through my old things I found three unused HP 1LB3-0003 HP-IL chips. Those are the DIPs that were used in many of HP's HP-IL devices to provide that interface. As I dig further into the old storage unit I'm emptying, I should be able to find the documentation including the design notes I still have from then.

Also found my HP-110 Portable in its leather case and complete set of manuals (and with its memory boosted to 512k instead of 288k and CPU replaced with an 8MHz NEC V-30, roughly doubling its speed), my HP-9114A disk drive and other toys.

Anyone still interested in using these? Shall I arrange to get them to HHC2010 if I can't make it?

Jim Horn, Hood River, Oregon, USA (PPC 1402, etc.)

Re: HP-IL Chips (1LB3-0003) and other goodies - what to do with them?

*Message #2 Posted by **Paul Berger (Canada)** on 13 Sept 2010, 8:43 p.m.,*
in response to message #1 by Jim Horn

I would be interested in the ILB3-0003 chips, do you have the pulse transformers that go with them? I would also be interested in the HP-110 but suspect it may be expensive to ship it across the continent.

Re: HP-IL Chips (1LB3-0003) and other goodies - what to do with them?

*Message #3 Posted by **Jim Horn** on 14 Sept 2010, 12:39 a.m.,*
in response to message #1 by Jim Horn

Hi, Paul - Chips are yours if you want them. I don't think I have any transformers but will continue to dig through the storage. Pulse Electronics probably has some that will serve just fine.

Egan Ford - The HP Portable, 9114A and documents are saved for you.

All - I'm still digging through storage that's been away for years which includes stuff from 10 years at HP ('79 - '89). Things that aren't "valuable" to the rest of the world but of interest to this group will appear here as I find it for those who want it. No charge.

Best to all - this is a *tremendous* group!

Jim Horn (Hmmm - what to do with a still sealed in the box Versatron Foot Mouse?)

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HP Forum Archive 19

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has anyone had any luck repairing calculator keys?

*Message #1 Posted by **hpnewbie** on 12 Sept 2010, 3:37 p.m.*

I've had an hp 50g for going on two years now... it's been a good calculator, mostly. The keyboard hasn't been the best however - though to be fair it does live in my backpack and probably gets pretty beat up. Since a month or two after I bought it, the 3 key has been loose and wobbles back and forth and is mushy. Actually, strangely enough, that has improved with time... it's still wobbly but the mushiness is less. Recently though the enter key has gone mushy and kind of collapsed down, and it's really annoying. You have to jab down on it with greater force than the rest of the keys and you can never really tell when it registers or not. I was wondering if anyone here knows if it's possible to fix problem keys like these or has had any experience doing it... could you give me any pointers?

Thanks so much

Re: has anyone had any luck repairing calculator keys?

*Message #2 Posted by **Han** on 12 Sept 2010, 9:34 p.m.,*
in response to message #1 by hpnewbie

To open the calculator, you first need to pry up the plastic screen guard. There is a video of this on youtube.

Here is one such link.

Once you have the screen guard off, you will then need to be careful with how you open it. After removing to screws at the top, you should be able to simply pry the two halves apart with your hands. (This is actually hard to do, but with a LOT of patience, it will separate.) Do NOT pull the halves apart too quickly as the speaker wire connects the two halves. You can pry the speaker apart (it's merely glued to the battery half) and then safely separate the two halves.

Once you have completed this, unscrew the mini screws and also cut through the plastic rivets that hold the PCB to the keyboard. What I did was simply drill away at the top with a hand drill and this was enough to defeat the rivets yet still leave enough of it to use the screws to keep the PCB in place.

What has likely happened is that the "peg" underneath the [3] key got bent, broken, worn, etc. Or, the metal dome has gone kaputz. If, however, the problem is that the key's "hinge" has broken, you can probably fix it with some flexible epoxy. You may as well throw on an epoxy layer for the other keys while you're at it to prevent future problems. If you look at the photos, you can see how poorl even the most current keyboard design is. The little pegs underneath each key are simply to thin/small and their strength is easily compromised from normal usage. (Those pegs are at least 4 times as thick on the HP48 series) Moreover, the keys nearly puncture through the thin layer of rubber foam that is used to give the keys a soft feel upon pressing them.

Here are some photos which you may find useful:

Photo 1

Photo 2

Photo 3

Photo 4

Photo 5

The photos won't be up for long.

Edited: 13 Sept 2010, 5:26 p.m.

Re: has anyone had any luck repairing calculator keys?

*Message #3 Posted by **hpnewbie** on 14 Sept 2010, 10:05 p.m.,*
in response to message #2 by Han

Thank you so much for the help. I will try this on my calc.

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HP Forum Archive 19

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New to HP, RPN and Rotate and Click.

*Message #1 Posted by **Sujith Abraham** on 11 Sept 2010, 11:03 p.m.*

I am new to HP Calculators. I got a 35s and 30b recently. Somehow the keys feel rigid and uncomfortable. I believe this is not the feel many people have come to love about HP.

Will it loosen up and feel more easy as I use it more often? What was your first feeling about this type of keys? (Just curious)

Edited: 11 Sept 2010, 11:05 p.m.

Re: New to HP, RPN and Rotate and Click.

*Message #2 Posted by **designnut** on 11 Sept 2010, 11:33 p.m.,*
in response to message #1 by Sujith Abraham

Can you tell clearly when a key has been pressed? do you heara click and get tactile feedback? That's what mostof us expect from a HP keyboard. What is it you wish?

Re: New to HP, RPN and Rotate and Click.

*Message #3 Posted by **Walter B** on 12 Sept 2010, 2:40 a.m.,*
in response to message #1 by Sujith Abraham

Let your finger rest on a key. Nothing happens. Decide to press it. As soon as it "clicks" you *know* it's registered. Direct feedback to your finger - you don't have to watch the display for reactions. That's the way it should be. BTW, it's comparable with computer mice: do you want a mouse not clicking? Why not? Now you know :)

Try this with any other calculators (Casio, Sharp, etc.) and you'll feel the difference immediately.

This feature will last until your HP calc dies.

Edited: 12 Sept 2010, 2:44 a.m.

Re: New to HP, RPN and Rotate and Click.

*Message #4 Posted by **Eric Smith** on 12 Sept 2010, 4:07 a.m.,*
in response to message #1 by Sujith Abraham

Are you saying that you actually **prefer** having the keys feel mushy?

Re: New to HP, RPN and Rotate and Click.

*Message #5 Posted by **Tim Wessman** on 12 Sept 2010, 11:28 a.m.,*
in response to message #4 by Eric Smith

I have heard similar things from other people before.

The issue generally boils down to that they are used to a mushy key, and so they mash it down as hard as they can. The HP key clicks and then stops, while on a TI you push hard, it bottoms out and there is some squishy "give" at the end to absorb the press.

TW

Re: New to HP, RPN and Rotate and Click.

*Message #6 Posted by **Joerg Woerner** on 12 Sept 2010, 1:23 p.m.,*
in response to message #5 by Tim Wessman

Tim,

The BA-II Professional is from TI, too ;-))

Regards, Joerg

Re: New to HP, RPN and Rotate and Click.

*Message #7 Posted by **Tim Wessman** on 12 Sept 2010, 7:11 p.m.,*
in response to message #6 by Joerg Woerner

Yes, and I've heard people complain about that "rotate and click" keyboard not registering as well. . .

TW

Re: New to HP, RPN and Rotate and Click.

*Message #8 Posted by **Mark Harman** on 12 Sept 2010, 8:17 p.m.,*
in response to message #7 by Tim Wessman

Hmmm, Tim... I wonder where you heard that from? Just kidding. I know that I personally mentioned this to you on the phone last week. :D

To be fair to the BA II Plus Pro, though, even though its clicky keys don't always register (especially with rapid entry), they do get much better after a very long break-in period. When I was going through my bachelor's and the beginning of my MBA programs, I always had to double-check to makes sure presses register properly. Some owners have had far worse experiences with the BA II Plus Pro's keyboard than me.

Quite honestly, compared to other TI keyboards, the BA II Plus Pro is a joy to use. However, since I got my 30b a month ago, I no longer use my BA II Plus Pro (except to make side-by-side comparisons of features). Of course, there really is little comparison. The HP smokes the TI in a ridiculous number of ways.

Hands down, the 30b has the BA II Plus Pro beaten by a great deal. It would take a monumental effort from TI to improve the BA series to the point where it is comparable to the 30b. I don't think this will happen anytime soon.

Mark

Re: New to HP, RPN and Rotate and Click.

*Message #9 Posted by **Joerg Woerner** on 12 Sept 2010, 9:00 p.m.,*
in response to message #8 by Mark Harman

I guess I trade a few of my TI-30's for a HP 30B ;-))

See you guys end of September in Ft. Collins.

Have a great week.

Joerg

Re: New to HP, RPN and Rotate and Click.

*Message #10 Posted by **Mark Harman** on 12 Sept 2010, 9:19 p.m.,*
in response to message #9 by Joerg Woerner

Unfortunately, I won't be able to make it. Perhaps next year. I hope everyone else has a great time.

Mark

Re: New to HP, RPN and Rotate and Click.

*Message #11 Posted by **Martin Pinckney** on 12 Sept 2010, 9:20 p.m.,*
in response to message #4 by Eric Smith

> Quote:
>
> Are you saying that you actually **prefer** having the keys feel mushy?

This would indeed be hard to understand. I started calculator life with a TI-59. It had positive click keys, although I'm sure, not as good as the HP's of that day. It's only when the keys began to register erratically that I got rid of it. After trying a TI with mushy keys, I got my first HP (20s - which I still have and use regularly).

New to HP, RPN and Rotate and Click.

*Message #12 Posted by **Sujith Abraham** on 13 Sept 2010, 1:43 a.m.,*
in response to message #4 by Eric Smith

> Quote:
>
> Are you saying that you actually prefer having the keys feel mushy?

I don't have any problem with soft keys of Casio *fx991ms*, if that kind of keys are what you are referring as "mushy."

Maybe this feeling is because I am used to it and wasn't exposed to alternatives.

Now that I am exposed to an alternative, the resistance to embrace it might be because of my familiarity with the prior input method!

Edited: 13 Sept 2010, 1:45 a.m.

New to Rotate and Click - Mushy Keys

*Message #13 Posted by **Sujith Abraham** on 12 Sept 2010, 10:03 p.m.,*
in response to message #1 by Sujith Abraham

> Quote:
>
> Let your finger rest on a key. Nothing happens.
>
> (..)
>
> BTW, it's comparable with computer mice: do you want a mouse not clicking? Why not? Now you know :) [quote]
>
> I can rest my fingers on the keyboard and it will not alter anything if I don't consciously chose to (on my HP).

Yes the computer mice analogy makes sense :)

> Quote:
>
> Try this with any other calculators (Casio, Sharp, etc.) and you'll feel the difference immediately.

For the sake of correctness, I got my Casio and placed my fingers on it. It is registering keystrokes. Sure, an HP won't behave like this .

This exact feature is *my "problem."* I feel it requires a more conscious effort to input a number. OTOH on a Casio, I am used to a feather touch.

> Quote:
>
> The HP key clicks and then stops, while on a TI you push hard, it bottoms out and there is some squishy "give" at the end to absorb the press.

I have to say I have only used a TI while I was in 10+2. I don't even know the model number (It wasn't written on it. Mine was the only TI in the entire school!). It was an awful calculator for a scientific calculator, but not because of the keys. I think it was a solar only model and its solar panel was really nice (You can work in even indoors if lighting is OK outside,but there were times when I couldn't use it in cloudy atmosphere)

Tim: But we don't have to press as hard on a soft key. That's exactly what I am missing. I have to press harder than what I am used to!

As of now, I have used it only for doing examples in the manual. I think I will get used to it after using it for some time in real use environment.

But there are some things rotate-and-click keys are not suitable; the directional keys/arrows are a perfect example. It is taking the usability out of it.

In ALG mode, slow arrow keys makes it nearly useless and frustrating. If I can't move rapidly using arrow keys, I am getting disheartened; it is slower than what I am used in a calculator with a mushy keypad. :(

What do you guys think about excusing the directional keys from the rotate-and-click implementation?

Sorry if I sounded too whiny. Thank you for taking time to respond :-)

Edited: 13 Sept 2010, 8:33 a.m.

Re: New to Rotate and Click - Mushy Keys

*Message #14 Posted by **Dave Britten** on 14 Sept 2010, 1:02 p.m.,*
in response to message #13 by Sujith Abraham

Find an old 49g (the blue one) and use it for a while. You practically need a running start to depress the keys on that one. Any other HP's keys will feel light as a feather after using a 49g for any length of time!

As for my opinion, I think the 35s is among the nicest-feeling keyboards HP has produced, even if the plastics feel somewhat cheaply made. Shame that the software on that model is so awful, though.

Re: New to Rotate and Click - Mushy Keys

*Message #15 Posted by **Sujith Abraham** on 14 Sept 2010, 9:52 p.m.,*
in response to message #14 by Dave Britten

I have a 30b and a 35s, but I feel 35s is missing some strokes.

Getting used to the hp-keys feel now. Only problem now is the trouble RPN is throwing up now and then.

I guess its been my familiarity with soft-keys that caused this. Even now, I don't feel that soft-keys need to be bashed that much by rotate-click fans

:-)

Re: New to Rotate and Click - Mushy Keys

*Message #16 Posted by **M. Joury** on 14 Sept 2010, 10:39 p.m.,*
in response to message #15 by Sujith Abraham

Wait a while... Until you get REALLY comfortable with the feel of HP keys AND RPN, and THEN try to go back to what you are used to today. I don't know about others, but trying to use any non-RPN calc with mushy keys ends up with me doing the math by hand. At least if it involves more than 2 numbers. I can generally remember to do X + Y but then I will invariably key in the third number and THEN hit the operator and well, that just don't work <g>.

Re: New to Rotate and Click - Mushy Keys

*Message #17 Posted by **Sujith Abraham** on 16 Sept 2010, 1:02 p.m.,*
in response to message #16 by M. Joury

Feel of the keys is not a big issue now. I am bit uncomfortable with RPN though, mainly the parts were reusing already inputed data etc.. I am also a bit fearful that I might push the numbers into the oblivion by failing to properly keep track of the stack status :(

Does it come to you naturally as you get more acquainted with RPN? Any tips for me?

Re: New to Rotate and Click - Mushy Keys

*Message #18 Posted by **designnut** on 16 Sept 2010, 1:26 p.m.,*
in response to message #17 by Sujith Abraham

I never experienced anything but RPN with the original 35 as my first calculator. I liked to see the results of each operation so I could mentally check the result. If I made a mistake I could reverse it on the spot. If I were in the wrong units I could change them during the calculation. I have a horror of algebraic where everything is entered and obscured, and then you get one answer only, I could get many answers during the proiblem solution with RPN. Using the repeating t register I could execute a series of fast calculations, i'm not sure how to do this in algebraic. I learned to use the 4 stack and have never needed a larger stack. Having started with RPN I do not understand anyone using algebraic. The book formulas did not fit the capability of the calculator so I changed them to leystroke routines. I had linited storage in the 35 and I learned to solve common problems within it's limitations.

Re: New to Rotate and Click - Mushy Keys

*Message #19 Posted by **Martin Pinckney** on 16 Sept 2010, 2:21 p.m.,*
in response to message #18 by designnut

> Quote:
>
> I have a horror of algebraic where everything is entered and obscured, and then you get one answer only...

Sam, depends on which type of "algebraic" we are talking about. The more recent renditions of algebraic do only give the final answer, but certainly do not obscure anything; just the opposite: its all right there on the screen. I guess you might call this "true" algebraic. Examples would be the 38g, and 48 series when evaluating algebraic objects. These types do allow you to go back and review what you entered, either by using SHOW (38g), or just examining the object on the stack (48 series). You can then make corrections.

Some of the older algebraics, often criticized by RPN aficionados for not being true algebraic, *do* give intermediate results, every time you either close a parenthesis or proceed to an operator that would allow a partially completed result, based on math hierarchy. In other words, these do provide some of the benefits you cite for RPN. Example: 27s.

> Quote:
>
> ...I do not understand anyone using algebraic. The book formulas did not fit the capability of the calculator so I changed them ...

I think you just answered your own question.

Re: New to Rotate and Click - Mushy Keys

*Message #20 Posted by **M. Joury** on 16 Sept 2010, 2:49 p.m.,*
in response to message #17 by Sujith Abraham

Hi Sujith,

I switched over many, many years ago when I purchased my first HP 41C back in college. I had already played around with a friend's HP 67 and before that with another friend's HP 35 and already knew how RPN worked. I can't remember how long it took to become second nature but now it is completely natural. I never have a problem with pushing things off the

stack, I mentally keep track of what is where and find that it is extremely rare to run out of stack space and need to use storage registers. Of course with the newer graphing calcs and their unlimited stack this never happens (but you also lose the ability to do quick repeating calculations with a single number (T duplicates itself when it drops)--I guess that is what short programs are for).

I guess the one thing I learned to do early was "work my way out". By that I mean that my eyes naturally finds the most inside set of parens or the highest precedence operator(s) and I start working the calculation from there.

Give it time, it will become second nature with practice. As I mentioned in my earlier post I really can't use an algebraic any longer (neither can my wife) I invariably screw up along the way unless I am really concentrating and then the tool becomes a hindrance rather than a help. I am quite fanatical about RPN and am now trying to get my middle-school-age daughter to use it because I really do believe that it is an easier way to work.

Good luck!

M. Joury

Re: New to Rotate and Click - Mushy Keys

*Message #21 Posted by **Don Shepherd** on 16 Sept 2010, 4:51 p.m.,*
in response to message #20 by M. Joury

> Quote:
>
> I am quite fanatical about RPN and am now trying to get my middle-school-age daughter to use it because I really do believe that it is an easier way to work.

A friendly word of advice from a middle school math teacher: don't let your fanaticism with RPN affect your daughter. At that age, she needs to learn math the way the teacher teaches it. Middle school math is hard enough on the kids, don't make it harder than it needs to be for her. When she's in college, tell her about RPN.

Re: New to Rotate and Click - Mushy Keys

*Message #22 Posted by **M. Joury** on 16 Sept 2010, 5:17 p.m.,*
in response to message #21 by Don Shepherd

Thanks Don,

I'll keep that in mind. She happens to be pretty good at math and seems to be finding it easy so far but I would not want to get in the way, so maybe I'll have to have an algebraic lying around after all... She is also an electronic toys nut so maybe she will pick it up on her own--anything that has buttons, a screen and makes noises...

Cheers,

M. Joury

Re: New to Rotate and Click - Mushy Keys

*Message #23 Posted by **Don Shepherd** on 16 Sept 2010, 5:39 p.m.,*

in response to message #22 by M. Joury

Middle school math has changed from when I was in "junior high school" in the 60's. Most of the concepts are the same, but some have different names.

- Borrowing is now regrouping
- Simultaneous equations are now a system of equations
- Box and whiskers plots are taught (against my better judgment)
- Stem and leaf plots are taught (also against my better judgment)

Oh, and 1 is not prime.

:)

Don

Re: New to Rotate and Click - Mushy Keys

*Message #24 Posted by **M. Joury** on 16 Sept 2010, 6:22 p.m.,*
in response to message #23 by Don Shepherd

I have run into some of this already, the rest is in the future. Should be fun. Her math skills really picked up the last 2 years and she has gone from bottom third to near the top of her class. Hope she keeps it up on her own since I have forgotten most of my middle-school math and concepts. I'm just waiting for the day she has a question I can no longer answer. I guess I will know who to ask <g>!

I guess this has really gotten off-topic...

Edited: 16 Sept 2010, 6:23 p.m.

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HPCC UK Mini Conferrence today

*Message #1 Posted by **johnny bjoern rasmussen** on 11 Sept 2010, 2:30 a.m.*

Hi

HPCC UK is having their annual Mini Conferrence today from 11AM at the Imperial College in Kensington, London. Sadly I am unable to attend.

Best wishes for an exciting day.

Johnny Bjoern Rasmussen
Denmark

Edited: 11 Sept 2010, 2:32 a.m.

Re: HPCC UK Mini Conferrence today

*Message #2 Posted by **Wlodek Mier-Jedrzejowicz** on 13 Sept 2010, 10:34 p.m.,*
in response to message #1 by johnny bjoern rasmussen

Thank you - we had an excellent meeting, with 4 presentations. I hope to have a report with photos on the HPCC club website soon.

Re: HPCC UK Mini Conferrence today

*Message #3 Posted by **Johnny Bjoern Rasmussen** on 14 Sept 2010, 6:59 a.m.,*
in response to message #2 by Wlodek Mier-Jedrzejowicz

Thank you Wlodek. I am really looking forward for the report.

Re: HPCC UK Mini Conferrence today

*Message #4 Posted by **Wlodek Mier-Jedrzejowicz** on 17 Sept 2010, 9:54 p.m.,*
in response to message #3 by Johnny Bjoern Rasmussen

No detailed report yet, but photos with summaries of what happened are now posted at the HPCC club web site here. I always find our mini-conferences a great way to get into the mood for the larger HP Handhelds Conferences - for information on this year's see this page.

Re: HPCC UK Mini Conferrence today

*Message #5 Posted by **Johnny Bjoern Rasmussen** on 18 Sept 2010, 9:51 a.m.,*
in response to message #4 by Wlodek Mier-Jedrzejowicz

Very nice indeed Wlodek. How nice to have some heads to the well known names.

Johnny

Re: HPCC UK Mini Conferrence today

*Message #6 Posted by **Wlodek Mier-Jedrzejowicz** on 18 Sept 2010, 9:59 p.m.,*
in response to message #5 by Johnny Bjoern Rasmussen

Glad you liked them! I took a Konica Hexar film camera to the meeting, and got the film developed and scanned, then sent the scans to our webmaster to put up - that's why it took a few days. I proably shan't have time to put up a report now till I get back from HHC2010.

Re: HPCC UK Mini Conferrence today

*Message #7 Posted by **Johnny Bjoern Rasmussen** on 19 Sept 2010, 8:30 a.m.,*
in response to message #6 by Wlodek Mier-Jedrzejowicz

Allright. Just take it easy. I'm sure that you have more important things to do. I'll see it when it gets there.

Thanks!
Johnny

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Is there any trend to HP calc release dates?

*Message #1 Posted by **ravwalia** on 10 Sept 2010, 11:40 a.m.*

Hello All,

In my quest for a new calculator, it's beginning to seem that for me to be comfortable with it RPN is the way to go. I've tried some of the excellent suggestions in the previous thread, but of those that I could find local to me the HP35s is the winner, though after using it for a while it's going to take me some time to get used to the keyboard layout as it's so differet to the HP32sii I'm used to.

With that said, I'll get used to it if I have to, but knowing my luck, when I buy one HP will release something better. Is there a general trend of when HP releases new calcs, near the conference time, back to school, holiday season, etc. I know that no one can really say for certain and judging how the 50g has been out for a while with no replacement, should we just think that we'll have the HP35s for a long while too?

Thanks.

Edited: 10 Sept 2010, 11:41 a.m.

Re: Is there any trend to HP calc release dates?

*Message #2 Posted by **Namir** on 10 Sept 2010, 12:46 p.m.,*
in response to message #1 by ravwalia

Just buy a new HP calculator and when HP releases a new one (soon after your purchase), sell the first calculator on TAS or Amazon. This way you can influence when new calculators come out, at a moderate cost to you. Of course you will have a wonderful prestige and respect on this web site. And there is NOTHING wrong with that!

:-)

Namir

Edited: 10 Sept 2010, 12:47 p.m.

Re: Is there any trend to HP calc release dates?

*Message #3 Posted by **ravwalia** on 10 Sept 2010, 1:32 p.m.,*
in response to message #2 by Namir

Wouldn't it be so funny if that did happen!

Re: Is there any trend to HP calc release dates?

*Message #4 Posted by **M. Joury** on 10 Sept 2010, 4:11 p.m.,*
in response to message #3 by ravwalia

What Namir said. Only in my case I would keep the first one! To paraphrase a poster from an earlier thread: I believe in redundancy!

BTW, the best price I have been able to find recently is on Amazon (am I allowed to say that?) And the HP site has them for $50.99 with free shipping (but you have to pay tax).

I bought a third one recently because of all that I have been reading about flaky keyboards. I wanted a spare just in case one of my original 2 went nuts. Just FYI, I have never had a keyboard issue with either one!

Cheers,

M.J.

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OT: Ti-01? (RF microcontroller watch)

*Message #1 Posted by **Matt Kernal** on 9 Sept 2010, 7:18 p.m.*

Anyone have a one of these: TI EZ430 Chronos sports watch?

Quite a bit of hardware/software for $49.

Be sure to watch the .wmv on this Page

Re: OT: Ti-01? (RF microcontroller watch)

*Message #2 Posted by **Bruce Bergman** on 9 Sept 2010, 8:50 p.m.,*
in response to message #1 by Matt Kernal

Yup, I bought it this past spring, but admit I haven't done much with it. I can tell ya, the firmware is BEGGING to be re-written! Even WITH the manual, I am still stumped as to some of the modes it gets in. Weird.

Development kit is surprisingly sparse. The watch, a CD-ROM with the software, a USB programmer and something else (can't remember at the moment). I bought it hoping to re-write it into something interesting (there is a VERY cool door opener app that communicates via RF to an electric door lock). Just haven't had time to play.

If anyone else is messing with it, let's collaborate!

thanks,

Bruce

Re: OT: Ti-01? (RF microcontroller watch)

*Message #3 Posted by **Martin Pinckney** on 9 Sept 2010, 9:26 p.m.,*
in response to message #1 by Matt Kernal

Ugly. What can you actually do with it? (We can assume it tells time).

Re: OT: Ti-01? (RF microcontroller watch)

*Message #4 Posted by **Bruce Bergman** on 9 Sept 2010, 10:36 p.m.,*
in response to message #3 by Martin Pinckney

A completely programmable, custom watch for $49? That doesn't sound all that ugly to me! You can do anything you want with it. You could make it tell time in Klingon, set off alarms ever 3.14152653 minutes or even have it talk to your HP calculator to display results on your wrist. Basically, anything you WANT it to do, limited only by the hardware and software (which you write).

Re: OT: Ti-01? (RF microcontroller watch)

*Message #5 Posted by **Martin Pinckney** on 9 Sept 2010, 11:22 p.m.,*
in response to message #4 by Bruce Bergman

Ugly appearance.

> Quote:
>
> You can do anything you want with it... limited only by the hardware and software ...

Sounds like two *big* limitations to me.

7-segment display?

*Message #6 Posted by **Frank Boehm (Germany)** on 10 Sept 2010, 4:25 a.m.,*
in response to message #1 by Matt Kernal

Uh, sounds like a lot of things one could do there. Why not add 5 bucks to the costs and use a 80x80 pixel display instead. Now *that* would be useful for quite a couple of applications.

Re: OT: Ti-01? (RF microcontroller watch)

*Message #7 Posted by **DaveJ** on 11 Sept 2010, 9:44 a.m.,*
in response to message #1 by Matt Kernal

Yes, I have one. Have not played with it yet though.

Much thicker than I expected (15mm). My uWatch2 designs can easily beat that.

The inverted display I also find hard to read.

I also have a Timex USB Datalink which is another programmable watch. I even have a scientific calculator app in it!

Dave.

Re: OT: Ti-01? (RF microcontroller watch)

*Message #8 Posted by **Bruce Bergman** on 11 Sept 2010, 11:59 a.m.,*
in response to message #7 by DaveJ

Ah, good point. I too have a really hard time with those inverted displays. I mean, good in bright light, but MOST of the time I am not in a place where it helps. Now, if it were switchable, that would be awesome. ;-)

I have a beautiful Nixon watch with an inverted display and I have the same problem...

thanks,

Bruce

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What is your Holy Grail, and do you own it?

*Message #1 Posted by **Michael de Estrada** on 9 Sept 2010, 9:58 a.m.*

I am directing this question to those of you who regard yourselves as calculator collectors. In building my collection, I have focused on RPN LED/VFD pocket / hand held calculators, and for me the HP-35 Red Dot represents the Holy Grail as the first of the first of this genre. Several years ago I was very fortunate to acquire one of these as a complete set in perfect working condition, including all documentation tracing it to its source. Although my collection will never be complete, I feel fulfilled in owning the ultimate item.

So, I ask you, what is *your* Holy Grail and do you own it.

Re: What is your Holy Grail, and do you own it?

*Message #2 Posted by **Han** on 9 Sept 2010, 11:10 a.m.,*
in response to message #1 by Michael de Estrada

My holy grail, unfortunately, does not exist. It would be the concept of the HP50G with the casing of an HP48GX. Said another way, imagine taking an HP48GX and giving it an ARM CPU, SD card support, USB support, flash rom, and more built-in RAM.

Some long time ago, there were folks who were working on an RPN calculator casing to do more-or-less what I described above (openrpn.org?) Unfortunately, it has since disappeared.

Re: What is your Holy Grail, and do you own it?

*Message #3 Posted by **Martin Pinckney** on 9 Sept 2010, 1:41 p.m.,*
in response to message #2 by Han

Han, I would agree except in a 48sx case! However, I believe the OP is about collectibles, not what we would like to see.

Re: What is your Holy Grail, and do you own it?

*Message #4 Posted by **M. Joury** on 9 Sept 2010, 11:10 a.m.,*
in response to message #1 by Michael de Estrada

Boy, thats a tough one! I don't know that I can choose. I like the early card reader calcs (65 / 67), the 41 (of course), and I have a special liking for the HP34C (don't ask me why, I know the 15 was a better calc but I really like the looks of the 34 and the feel of it in my hand). For the same reason I like the 29C.

In general I collect all / any of the RPN scientific calculators. At the moment I am missing the following:
1. HP21
2. HP25C (I have a 25)
3. HP97
4. HP32E
5. HP11C

Cheers,

M.J.

Re: What is your Holy Grail, and do you own it?

*Message #5 Posted by **Norman Dziedzic** on 9 Sept 2010, 11:09 a.m.,*
in response to message #1 by Michael de Estrada

Near an impossibility without a great deal of luck but mine would be my old 41CX I used in college S/N 2825S20268.

Sold on TAS a long while ago...but I think it was a collector that purchased it so it still may be around somewhere. Last Known Photos 8*)

Re: What is your Holy Grail, and do you own it?

*Message #6 Posted by **Gerson W. Barbosa** on 9 Sept 2010, 12:21 p.m.,*
in response to message #5 by Norman Dziedzic

I've been lucky: some years ago I got my very first HP calculator back, the HP-15C 2343B75099, *(unique dans le monde!)*. It had been heavily used by my younger brother during his undergraduate years and up to 2006 in the field (he's a civil engineer).

Hope you'll find your unique 41CX too :-)

http://www.geocities.ws/gwbarbosa/hp-15c_.jpg

Re: What is your Holy Grail, and do you own it?

*Message #7 Posted by **Jimi** on 20 Sept 2010, 5:18 p.m.,*
in response to message #5 by Norman Dziedzic

Same here. The only one I really want is the HP-41C that I had back in HS. Unfortunately for me, the last pics I had went with a bad Seagate HD years ago, so I don't even know the serial... :cry

Is there more than one Holy Grail?

*Message #8 Posted by **Frank Boehm (Germany)** on 9 Sept 2010, 11:48 a.m.,*
in response to message #1 by Michael de Estrada

35 red dot - owned a complete one plus many prototype parts - sold
Busicom LE-120A plus a couple of other Busicoms - own them
Sinclair Sovereign "Silver Jubilee" - own it
Sterling silver encased TI-1750 - own it
Sterling silver encased Sharl EL-8009 (once belonged to Arthur Charles Nielsen) - own it
ARISTO M27 without CE key - still looking for it
2 BRUNSVIGA prototype calculators - own them
9 Faber-Castell calculators, some boxed - own them
plus about one hundred "Made in Germany" calculators :)

Re: What is your Holy Grail, and do you own it?

*Message #9 Posted by **Walter B** on 9 Sept 2010, 3:29 p.m.,*
in response to message #1 by Michael de Estrada

The last model I got - and thus the one which was hardest to achieve for me - was a working 91. Now I'm almost through with the objects I wanted, just very few are missing still: a working 29C, a 41C Blanknut, a working cassette drive, and last not least a 35 Red Dot (though this seems to be just one of the most expensive holes). Waiting for some extra money to spend and/or a good opportunity.

Re: What is your Holy Grail, and do you own it?

*Message #10 Posted by **Joerg Woerner** on 9 Sept 2010, 4:47 p.m.,*
in response to message #1 by Michael de Estrada

TI's '8' series!

People in China traditionally associate luck with numbers. As a rule in day-to-day life in China, it is customary to regard even numbers as being more auspicious than odd numbers. Eight, 'Ba' in Chinese has a similar sound to 'Fa', which means to make a fortune. All business men favor this number very much. However, for Texas Instruments the "8" in the type designation was not always a fortune.

TI-18: Own it

TI-38: Own it

TI-78: Own it

TI-88: Own it

Regards, Joerg

Re: What is your Holy Grail, and do you own it?

*Message #11 Posted by **db (martinez, ca.)** on 9 Sept 2010, 8:28 p.m.,*
in response to message #10 by Joerg Woerner

Joerg: I can see why your list ends with the incredible TI-88. It would have been a very impressive machine if it would have been sold (and with a better keyboard). But it wasn't, because hp introduced the real Holy Grail; the 41 series.

Re: What is your Holy Grail, and do you own it?

*Message #12 Posted by **Manatee** on 9 Sept 2010, 5:04 p.m.,*
in response to message #1 by Michael de Estrada

For me it's the 25C. It was my first HP, when I was a teen. I lost track of it sometime after it stopped working. I didn't realize at the time that it would hold such meaning for me.

I've picked up a bunch of other HPs over time -- 65, 67, 41CX, 12C among my favorites, but I haven't managed to hit on a 25C in the condition I'd like. The Woodstocks in general are my favorite series, and the only one I have is a lowly 21. Seems there just aren't many survivors.

Re: What is your Holy Grail, and do you own it?

*Message #13 Posted by **Bruce Bergman** on 9 Sept 2010, 8:53 p.m.,*
in response to message #12 by Manatee

I agree Manatee! (rhymes, doesn't it?)

The 25c was my first "personal" HP calculator, and although I have a fondness for many other HP calculators, I somehow bonded with that first HP and always get teary-eyed when I pull it out. Fortunately, mine is still working.

I do like the 34c too, and of course, my favorite collectible was my 19c (also still working and prints).

Fond memories.

Thanks,

Bruce

Re: What is your Holy Grail, and do you own it?

*Message #14 Posted by **Palmer O. Hanson, Jr.** on 9 Sept 2010, 5:48 p.m.,*
in response to message #1 by Michael de Estrada

I have five:

The first is my K&E Log Log Duplex Decitrig purchased in 1947.

The second is my Addometer, a rotary adder manufactured by Reliable Typewriter and Adding Machine Co. Built like a truck!

The third is my Faber-Castell 67/22R which is a 12.5 cm slide rule with an Addiator on the back.

The fourth is my Canon Pocketronic which uses a paper taper output and was based on TI's Cal Tech. Mine came with a Hi-speed Battery Charger -- would you believe 20 amperes! Unfortunately, my unit isn't operational due to some substantial cell leakage.

The fifth is my Radio Shack Model 100. Fourteen digit arithmetic and a 240x64 pixel LCD plotting capability long before the advent of the fx-7000G or HP-27C.

Palmer

Re: What is your Holy Grail, and do you own it?

*Message #15 Posted by **Dallas Osborne** on 9 Sept 2010, 7:24 p.m.,*
in response to message #14 by Palmer O. Hanson, Jr.

42s

I gots me 8 of them. 7 are vacuum packed.

I believe in redundancy... you know, just in case.

Re: What is your Holy Grail, and do you own it?

*Message #16 Posted by **Michael Plant** on 9 Sept 2010, 8:20 p.m.,*
in response to message #14 by Palmer O. Hanson, Jr.

HP-42s - own two, one MIB
HP-41CV - own it
TI-55II - own several. This was THE calculator when I was in middle school and I wanted one desperately. I thought my father was nuts going on about the HP-15c at the time

Casio fx-603p - own it

Aristo 0972 - own it
Dietzgen N1725 - own two
K&E 4081-3 - own three (two circa 1947 and one circa 1955 -
scales are different)

Still on my list an HP-65 or a 67, and an HP-71b.

If I had to pick two Holy Grails, though, they'd be the Aristo 0972 and the Casio fx-603p. I waited a long time for each of them.

This was a useful exercise. I own 82 electronic calculators and 43 slide rules and having to pick the most important to me means that I can see that there are an awful lot of them that I could probably divest myself of if I weren't so darned lazy...

Edited: 9 Sept 2010, 9:30 p.m.

Re: What is your Holy Grail, and do you own it?

*Message #17 Posted by **Palmer O. Hanson, Jr.** on 9 Sept 2010, 10:07 p.m.,*
in response to message #16 by Michael Plant

Michael:

You wrote:

> Quote:
>
> TI-55II - own several. This was THE calculator when I was in middle school and I wanted one desperately. I thought my father was nuts going on about the HP-15c at the time

Didn't you have problems with the keyboard? TI eventually had a program where one could send in a 55II, and with no questions asked, get a 55III with an improved keyboard in return.

I have two K&E 4081-3's but hadn't noticed a difference in the scales. I will have to look at them when i am in Florida next week. My serial numbers are 365144 (the one I purchased in 1947) and 279673 (which I purchased at an estate sale) which I assume was an earlier model due to the lower serial number.

I forgot to mention one holy grail that I don't have -- a Friden which calculates square roots. I have two other earlier Fridens including one manual.

Palmer

Re: What is your Holy Grail, and do you own it?

*Message #18 Posted by **Michael Plant** on 10 Sept 2010, 12:27 a.m.,*
in response to message #17 by Palmer O. Hanson, Jr.

Hi Palmer,

My two 1940's vintage 4081-3s both have the following scales:

Front: LL0, LL00, A, [B, T, ST, S,] D, DI, K Back: L, LL1, DF, [CF, CIF, CI, C,] D, LL3, LL2

The serial numbers are 382813 and 414326 and they date to 1945/6. Both these slide rules have solid celluoid covered edges.

The other one is serial number 393487 (apparently K&E reset the serial numbers every so often) and it has mahogany edges with inlaid celluloid - what Walter Shawlee at Sphere Research calls "relieved wood" edges (there's a picture of this here http://www.sliderule.ca/ken408e.jpg). The Dietzgen 1734 and N1725 have the same edging. The scales on this slide rule are:

Front: LL01, L, K, A, [B, T, SRT, S,] D, DI, LL1 Back: LL02, LL03, DF, [CF, CIF, CI, C,] D, LL3, LL2

BTW, when dating a K&E slide rule, you have to look at the serial number, the scale sets, and the patent dates:

http://www.sliderulemuseum.com/?PHPSESSID=f37c9f3c94a451c50eb872a57e936cf6 (see K&E entry)

and

http://www.mccoys-kecatalogs.com/Dating.htm

Regarding the TI-55II, yes, I don't have a single example of ANY of the TI's from that era (TI-57 LCD, TI-54, TI-55II) with a 100% functioning keyboard. The TI-55III that I have still works flawlessly, but it is lighter, smaller, and doesn't have the solid "quality" feeling that the TI-55II has... Funny, the Casio fx-570 that I had in middle school, and which I used grudgingly while salivating over a friend's TI-55II, looks and functions like it's new. Comparing them now, it seems to be more feature rich, too! I was quite disappointed when I finally got a TI-55II a couple of years ago and couldn't actually use it!

Re: What is your Holy Grail, and do you own it?

*Message #19 Posted by **Gerson W. Barbosa** on 10 Sept 2010, 4:53 p.m.,*
in response to message #14 by Palmer O. Hanson, Jr.

> Quote:
>
> The fifth is my Radio Shack Model 100. Fourteen digit arithmetic and a 240x64 pixel LCD plotting capability long before the advent of the fx-7000G or HP-27C.

It looks like the ATN function was not accurate for arguments close to (2-sqrt(3)) and 1, unless there was an improved ROM:

```
print 12*atn(2-sqr(3));4*atn(1)

 3.1415926524007  3.1415926531932
```

My old MSX computer, which had more a recent Microsoft Basic version, returns

```
 3.1415926535908  3.1415926535898
```

Forensic result:

```
10 CLS
20 K=ATN(SQR(3))/60
30 F=ATN(TAN(COS(SIN(9*K)*K)*K))/K
40 X=F: GOSUB 200: F=X
50 X=F: GOSUB 100: F=X
60 PRINT F
70 END
100 X=ATN(X/SQR(1-X*X))/K
110 RETURN
200 X=ATN(SQR(1-X*X)/X)/K
210 RETURN


 8.9999999712261
```

On the MSX I get

```
 8.9999999710834
```

Gerson.

Edited: 10 Sept 2010, 4:56 p.m.

Re: What is your Holy Grail, and do you own it?

Message #20 Posted by ***Palmer O. Hanson, Jr.*** *on 11 Sept 2010, 11:24 p.m.,*
in response to message #19 by Gerson W. Barbosa

Gerson:

You wrote:

> Quote:
>
> It looks like the ATN function [of the Model 100} was not accurate for arguments close to (2-sqrt(3)) and 1, unless there was an improved ROM:
>
> print 12*atn(2-sqr(3));4*atn(1) 3.1415926524007 3.1415926531932

The problem with that method is that you are evaluating the ATN function AND the ability of the machine to calculate 2 - sqrt(3). I don't have my Model 100's here but consider the results from two machines of similar vintage, the HP-41 and TI-59. If you just do the equivalents of 12*atn(2-sqr(3)) on those machines you will get

```
pi    3.1415 92653 58979 ...
HP41  3.1415 92649
TI59  3.1415 92653 6
```

But 2-sqr(3) = .26794 91924 3112 ... and if you enter the first ten digits into the display register of either machine, take the atn and multiply by 12 you will get

```
pi   3.1415 92653 58979 ...
HP41 3.1415 92654
TI59 3.1415 92653 24
```

and if you enter thirteen digits into the TI-59 display register by entering .2679491924 + 3.11E-11 = you will get

```
pi   3.1415 92653 58979 ...
TI59 3.1415 92653 588
```

I will have access to my Model 100's next week. The serial numbers are 30208973 and 309012942. The

unit with the first serial number was one of the first Model 100's to be made available in our county.

Palmer

Re: What is your Holy Grail, and do you own it?

*Message #21 Posted by **Gerson W. Barbosa** on 12 Sept 2010, 10:38 a.m.,*
in response to message #20 by Palmer O. Hanson, Jr.

Palmer,

> Quote:
>
> The problem with that method is that you are evaluating the ATN function AND the ability of the machine to calculate 2 - sqrt(3).

You are right, 12*ATN(.2679491924311) is better, albeit only slightly:

```
 3.1415926547795
```

However, there is indeed a problem with ATN( ) in Model 100, at least in the ROM version Virtual T Emulator currently uses. That's why I had to resort to ATN(SQR(3))/60 for pi/180 instead of ATN(1)/45.

When the emulator is set to Model 102, I obtain the same results I get on the MSX computer:

```
                4*ATN(1)   ->  3.1415926535898

  12*ATN(.2679491924311)   ->  3.1415926535896

        12*ATN(2-SQR(3))   ->  3.1415926535908
```

Gerson.

Edited: 12 Sept 2010, 10:41 a.m.

Re: What is your Holy Grail, and do you own it?

*Message #22 Posted by **Palmer O. Hanson, Jr.** on 12 Sept 2010, 11:04 a.m.,*
in response to message #21 by Gerson W. Barbosa

Gerson:

> Quote:
>
> However, there is indeed a problem with ATN( ) in Model 100, at least in the ROM version Virtual T Emulator currently uses. That's why I had to resort to ATN(SQR(3))/60 for pi/180 instead of ATN(1)/45.

You are correct in that there is a problem of some magnitude with ATN. I had successively used 4*ATN(1) in radian mode as a way to generate pi with a number of BASIC implementations, but it didn't yield the accuracy that I needed on the Model 100. I found another method but can't for the present remember what it was. I will find it next week and post it here.

Palmer

Re: What is your Holy Grail, and do you own it?

*Message #23 Posted by **Gerson W. Barbosa** on 12 Sept 2010, 9:41 p.m.,*
in response to message #22 by Palmer O. Hanson, Jr.

Palmer,

I found the problem: someone made a small mistake when typing one of the coefficients of the arctangent polynomial. It should be -0.14285708554884 instead of -0.14285**6**08554884. PEEK(13247) returns 86 (56h), it should return 87 (57h). The fix should be easy (just a matter of changing the content of memory address 33BFh from 56h to 57h), but I don't know if a compatible 32K ROM or EPROM is still available.

http://upload.wikimedia.org/wikipedia/commons/5/55/TRS-80_Model-100_Inside.jpg

When I edited the Model 100 ROM in the emulator, the results mached those of the MSX computer. Likewise when I changed the corresponding memory address (2E54h) in the MSX computer from 57h to 56h the arctangent function started behaving exactly like it does on the Model 100.

Gerson.

Re: What is your Holy Grail, and do you own it?

*Message #24 Posted by **Gerson W. Barbosa** on 21 Sept 2010, 1:02 a.m.,*
in response to message #22 by Palmer O. Hanson, Jr.

Palmer,

Here is a workaround:

```
10 CLS:INPUT TH
15 PI=2*ATN(3E13):SR3=1.7320508075689:S1=SGN(TH):X=ABS(TH)
20 IF X<1 THEN K1=0:S2=1 ELSE X=1/X:K1=PI/2:S2=-1
25 IF X>(2-SR3) THEN X=(X*SR3-1)/(X+SR3):K2=PI/6 ELSE K2=0
30 Y=S1*(K1+S2*(K2+ATN(X)-1E-6*X^7))
35 PRINT Y
```

It should give correct results all through the valid range, except for |TH| = 1 and 1-10^-14:

```
     TH            ATN(TH)
    0.00     0.00000000000000
   -0.15    -0.14888994760950
    0.20     0.19739555984988
    0.30     0.29145679447789
    0.60     0.54041950027057
 1-1E-13     0.78539816339739
    1.05     0.80978357257017
   -3.75    -1.31019393504750
    8.15     1.44870718939760
-1000.00    -1.56979632712820


 1-1E-14      0.78539816319912   (0.78539816339744)
       1      0.78539816359578   (0.78539816339745)
```

Further tests may be required.

Regards,

Gerson.

Edited to correct a typo in line 30.

Edited: 21 Sept 2010, 5:39 p.m.

Re: What is your Holy Grail, and do you own it?

*Message #25 Posted by **Thomas Radtke** on 10 Sept 2010, 3:07 a.m.,*
in response to message #1 by Michael de Estrada

The 35 without that silly red dot ;-). Really, I'm satisfied with my used and not-so-rare sample. It is in its original hard case and with all accessories, which was a must when I wanted to get one.

Still wondering how to present it on the shelf in its case half opened without destroying the case.

Re: What is your Holy Grail, and do you own it?

*Message #26 Posted by **Giovanni Jimenez** on 10 Sept 2010, 5:45 p.m.,*
in response to message #25 by Thomas Radtke

How much is a HP-35 Red Dot ? I keep reading how rare it is, but how $$ rare is it ?

Re: What is your Holy Grail, and do you own it?

*Message #27 Posted by **Michael de Estrada** on 10 Sept 2010, 6:51 p.m.,*
in response to message #26 by Giovanni Jimenez

Based on recent history, I'd say that an HP-35 Red Dot that is authentic (there have been fakes), fully functional, original (not repaired or modified) and with all original accessories will fetch at least $1000 on the world market. However, since there have not been any public auctions such as TAS for several years, next time this happens the price could be much higher. It all depends on how much any collector is willing to pay. I've seen the HP-01 sell for over $5000 USD, and to me the HP-01 is a less significant milestone than the HP-35 Red Dot.

Edited: 10 Sept 2010, 7:08 p.m.

Re: What is your Holy Grail, and do you own it?

*Message #28 Posted by **Steve Leibson** on 10 Sept 2010, 4:32 a.m.,*
in response to message #1 by Michael de Estrada

HP 9825A Desktop Calculator/Computer with Systems Programming ROM - because I designed interface cards for the 9825A and I wrote the ROM. Have a few, one with a working refurbed tape drive. All from eBay bought 30 years after the fact.

Re: What is your Holy Grail, and do you own it?

*Message #29 Posted by **John Mosand** on 10 Sept 2010, 7:10 a.m.,*
in response to message #28 by Steve Leibson

A mint Curta, an Aristo 0972 HyperLog and yes, a HP-10C. I have those + about 80 different Aristo slide rules, and two Aristo calculators, M65 and M76. (My everyday user is a HP-48SX with an EquLibrary card and a MathPac card.)

Re: What is your Holy Grail, and do you own it?

*Message #30 Posted by **JMBaillard** on 10 Sept 2010, 4:43 p.m.,*

in response to message #29 by John Mosand

An HP-41CX with 1MB RAM
and a turbo mode (or several choices of speed)
Jean-Marc.

Re: What is your Holy Grail, and do you own it?

*Message #31 Posted by **Antoine M. Couëtte** on 11 Sept 2010, 1:27 p.m.,*
in response to message #30 by JMBaillard

Jean-Marc,

I have currently ran such a device for some 5 years ! It actually has much more than 1 Mb : simply the Wonderful "HP41X/Y/Z" HP41 Emulator running on HP48GX by HrastProgammer. I have almost never used my old trusty HP41CX since 2005.

Best Regards

Antoine

Antoine M. "Kermit" Couëtte

Re: What is your Holy Grail, and do you own it?

*Message #32 Posted by **JMBaillard** on 11 Sept 2010, 5:22 p.m.,*
in response to message #31 by Antoine M. Couëtte

Hi Antoine,

HP41/X/Y/Z is surely a great emulator,
but I'm attached to my "true" HP-41,
its keyboard...

All the Best,
Jean-Marc.

Re: What is your Holy Grail, and do you own it?

*Message #33 Posted by **Monte Dalrymple** on 11 Sept 2010, 11:15 p.m.,*
in response to message #32 by JMBaillard

Ditto on the 41 keyboard. Oh, and I do have a 41 with 256kx16 RAM and 1Mx16 Flash... but it's the only one in existence right now.

Monte

Re: What is your Holy Grail, and do you own it?

*Message #34 Posted by **Massimo Gnerucci (Italy)** on 12 Sept 2010, 7:28 a.m.,*
in response to message #33 by Monte Dalrymple

Monte, Monte... the tantalizing Monte...
;-)

Greetings,
Massimo

Re: What is your Holy Grail, and do you own it?

*Message #35 Posted by **JMBaillard** on 12 Sept 2010, 5:25 p.m.,*
in response to message #33 by Monte Dalrymple

Really ?
Did you build this wonder by yourself?
I know - but I don't own - Diego's NOVRAM but 1MB ?
Effectively tantalizing...

Re: What is your Holy Grail, and do you own it?

*Message #36 Posted by **Monte Dalrymple** on 12 Sept 2010, 9:02 p.m.,*
in response to message #35 by JMBaillard

You might review this thread:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv019.cgi?read=168952#168952

Re: What is your Holy Grail, and do you own it?

*Message #37 Posted by **JMBaillard** on 13 Sept 2010, 5:36 p.m.,*
in response to message #36 by Monte Dalrymple

Hi Monte
Thank you for the link, I had not remarked it before.
If it is (or will be) possible to purchase it,
would you please give us an idea of the price
for this super-coconut ?
All the Best,
JMB.

Re: What is your Holy Grail, and do you own it?

*Message #38 Posted by **Antoine M. Couëtte** on 12 Sept 2010, 9:14 a.m.,*
in response to message #32 by JMBaillard

Hello Jean-Marc,

Obviously the "True keyboard" of a "True" HP41 cannot be beaten in any way : I fully agree with you on this point.

However, and from experience five years ago then, I can state that after just a couple of weeks of regular use ("far too long a transition time" might you quite rightfully think) I have become as fluent with the HP48 keyboard than with the HP41 "ideally perfect" one. I had no choice then : either quit or continue with HrastProgrammer's HP41X/Y/Z Emulator !!!

Anyway, it is absolutely wonderful to observe how much enthusiam such a wonderful machine keeps raising all over the world !!!

Have a great and sunny day and

Best Regards to all

Antoine

Antoine M. "Kermit" Couëtte

Re: What is your Holy Grail, and do you own it?

*Message #39 Posted by **JMBaillard** on 12 Sept 2010, 5:29 p.m.,*
in response to message #38 by Antoine M. Couëtte

Hello Antoine,
In fact, most of my HP48GX keys don't respond anymore,
wheras the 41 keys still work well!
So, the choice is easy to do...
Best wishes,
Jean-Marc.

Re: What is your Holy Grail, and do you own it?

*Message #40 Posted by **Michael Meyer** on 10 Sept 2010, 11:18 p.m.,*
in response to message #1 by Michael de Estrada

I own almost every model of HP calculators. I finally got a 10C just today. Still missing an HP-70 and a 75 and a 92 and a 33C and 21S and 27S.

My Holy Grail? Still the HP-25. My, "first love." I "lusted" after HP's and girls when I was in 8th grade. It was a time of discovery and imagination. My HP-25 was stolen after I got my TI-59. Today I have about 6 HP-25's (assembled from the best parts of many more). I just can't resist buying and restoring them.

I doubt my wife would let me collect any girls.

Re: What is your Holy Grail, and do you own it?

*Message #41 Posted by **Thomas Okken** on 11 Sept 2010, 2:43 a.m.,*
in response to message #1 by Michael de Estrada

Aren't "having a Holy Grail" and "being a collector" somewhat contradictory? I mean, either you want one item in particular, or you want them all -- those seem like very different kinds of motivation to me.

I consider myself a big fan of HP calculators, but I'm not much of a collector. My "Holy Grails" are the HP-25 (my first!), HP-67 (really, really wanted one back in the day but couldn't afford it), HP-42S (best RPN ever), and the HP-48G (truly a hand-held computer).

I have one of each of those holy grails. I love the HP-67 the most, even though I never use it. :-)

Re: What is your Holy Grail, and do you own it?

*Message #42 Posted by **Michael de Estrada** on 11 Sept 2010, 9:24 a.m.,*
in response to message #41 by Thomas Okken

> Quote:
>
> Aren't "having a Holy Grail" and "being a collector" somewhat contradictory? I mean, either you want one item in particular, or you want them all -- those seem like very different kinds of

> motivation to me.

I see no contradiction. I want to collect many noteworthy vintage calculators, but I rank one above the rest as being the most significant historically. I don't want all the calculators ever made, but most of those that fit a certain category. In my case that category is RPN, pocket / hand held. I value most those that represent milestones, such as the HP 35 Red Dot (first of the first), HP 65 (first programmable with storage), HP 25c (first CMOS memory), HP 41C (too many firsts to list here). I value them all, but I regard the HP 35 Red Dot as the most significant and essential to a proper collection. My collection is complete in some areas and not so in others. I have all the Classics, Woodstocks and Spices, but am missing many of the later models. I will continue to collect, however, I do not have a compulsion to acquire at any cost, whereas, if I did not have my Holy Grail, I would have an almost insane drive to find one at any cost.

Re: What is your Holy Grail, and do you own it?

*Message #43 Posted by **Mike T.** on 11 Sept 2010, 9:52 a.m.,*
in response to message #1 by Michael de Estrada

Difficult for me to decide between the HP29C or the HP67, but if I had a the option I would probably choose an HP29C - unfortunately I own neither..

It isn't all bad though I do own an HP10C which I brought in 1986 to replace my first HP33C when it broke, and I did eventually manage to get another HP33C which I still use regularly.

I did find that when it came to programming the HP10C was always a bit of a disappointment, even though it had more program steps available than the HP33C.

Mike T.

Edited: 11 Sept 2010, 9:57 a.m.

Re: What is your Holy Grail, and do you own it?

*Message #44 Posted by **Michael de Estrada** on 11 Sept 2010, 10:33 a.m.,*
in response to message #43 by Mike T.

I own the HP 29C and HP 67, as well as the HP 33C. I use the HP 29C a fair amount, but have ported all my HP 67 programs via card reader to my HP 41CV. The HP 33C doesn't get used much, since I have an HP 34C. I've never owned an HP 10C, since I've had an HP 15C for 28 years, and have never seen the need for an HP 10C.

Re: What is your Holy Grail, and do you own it?

*Message #45 Posted by **Michael Meyer** on 11 Sept 2010, 10:57 a.m.,*
in response to message #44 by Michael de Estrada

I don't think anybody has a need or use for a 10C... that's why it's somewhat rare and needed to complete a collection of Voyagers. I use a beat-up, $40 15C, but the mint one is 'with the Voyagers.' (I guess that might differentiate a collector/user from a user... the collector/user uses the less pristine example and keeps the "good one" put away...)

Re: What is your Holy Grail, and do you own it?

*Message #46 Posted by **Maximilian Hohmann** on 12 Sept 2010, 2:50 p.m.,*
in response to message #1 by Michael de Estrada

Hello!

I have thought about this answer for quite some time. To me, a holy grail is something that is highly desirable, but (probably) nonexistent in reality. Something, that I will be chasing for the next 50 years (or whatever time I have left).

Therefore, _my_ holy grail is the one (vintage) pocket calculator with a green LED display. We have been discussing this topic before, but there must be one somewhere. At least a prototype!

Of my other holy grails in terms of mobile computers (certainly not a pocket computer!) at least six lie uncollected and unclaimed on the surface of the moon, ready to be picked up: The Apollo Guidance Computer. I would trade my house for one of them (but don't tell my wife...)! And I would trade even more for the ride to go up there and search for it.

Regards, Max

Re: What is your Holy Grail, and do you own it?

*Message #47 Posted by **Don Shepherd** on 12 Sept 2010, 5:14 p.m.,*
in response to message #46 by Maximilian Hohmann

> Quote:
>
> at least six lie uncollected and unclaimed on the surface of the moon

Max, was the AGC stored in the descent stage? That's the only thing that was left on the moon, right? Wouldn't the astronauts have needed the AGC to rendevous with the command module after landing on the moon?

If so, then those computers (in the ascent stage of the LM) have either burned to a crisp during eventual Earth re-entry of the ascent stage or are still orbiting the Earth somewhere.

You'd have better luck stealing one from a museum!

Re: What is your Holy Grail, and do you own it?

*Message #48 Posted by **Maximilian Hohmann** on 13 Sept 2010, 2:24 a.m.,*
in response to message #47 by Don Shepherd

Hello!

> Quote:
>
> Max, was the AGC stored in the descent stage? That's the only thing that was left on the moon, right? Wouldn't the astronauts have needed the AGC to rendevous with the command module after landing on the moon?
>
> If so, then those computers (in the ascent stage of the LM) have either burned to a crisp during eventual Earth re-entry of the ascent stage or are still orbiting the Earth somewhere.

Unfortunately, they were part of the ascent stages. One of them Aquarius/Apollo 13 has burnt up in Earth atmosphere, but six others (Apollo 11, 12, 14, 15, 16 and 17) have impacted the moon in more or less well known locations. The units were quite solidly packaged (http://ed-thelen.org/comp-hist/TheCompMusRep/TCMR-V02-P05b.jpg), but of course the impacts occurred at high speed (1.5

km/s). But aren't we well trained to combine the remains of several defective calculators into a single working one ;-) ?

Regards, max

Re: What is your Holy Grail, and do you own it?

*Message #49 Posted by **Mike Morrow** on 13 Sept 2010, 7:17 a.m.,*
in response to message #48 by Maximilian Hohmann

Don't forget about Snoopy (LM-4) from the May 1969 Apollo 10 mission.

The LM-4 ascent stage is still in solar orbit, presumably intact, after more than 41 years. It's the only flight LM that's still in flight. Though LM-4 did not land on the moon, its descent stage was allowed to impact the surface and the upper stage was put in solar orbit.

The Apollo Guidance Computer (AGC) is a fascinating device.

There was one AGC in the Command Module and one in the Lunar Module. So several more AGCs should still exist, one where ever any of the returned CMs are located today.

Re: What is your Holy Grail, and do you own it?

*Message #50 Posted by **Paul Guertin** on 13 Sept 2010, 4:42 p.m.,*
in response to message #49 by Mike Morrow

> Quote:
>
> The Apollo Guidance Computer (AGC) is a fascinating device.

ISBN-10: 1441908765 is a new book by Frank O'Brien about the AGC. It contains 100% of your daily recommended portions of acronyms.

Re: What is your Holy Grail, and do you own it?

*Message #51 Posted by **Don Shepherd** on 13 Sept 2010, 8:25 a.m.,*
in response to message #48 by Maximilian Hohmann

Oh, OK, thanks Max. From the Apollo 13 movie I knew that jettisoning the LM was the last thing they did prior to re-entry, but of course that's because they needed the LM to get home! After 13, I wonder why in later missions they didn't keep the LM attached until approaching Earth, in case the command module had some sort of problem.

Re: What is your Holy Grail, and do you own it?

*Message #52 Posted by **Jeff O.** on 13 Sept 2010, 4:17 p.m.,*
in response to message #51 by Don Shepherd

> Quote:
>
> After 13, I wonder why in later missions they didn't keep the LM attached until approaching Earth, in case the command module had some sort of problem.

That's a good question. My hope is that they evaluated all possible failure scenarios and

determined that the LM ascent stage would do no good in any of them and/or outweigh any risks of keeping the LM attached. Scenarios that come to my mind:

1. Service Module main engine fails to burn to get them out of lunar orbit and on their way back to earth. LM ascent engine too weak and/or not enough fuel to do the job, crew is doomed anyway, so jettison LM.
2. Service Module main engine gets them out of lunar orbit and on their way back to earth, but then fails so it cannot make any needed course correction burns for safe re-entry. LM ascent engine too weak and/or not enough fuel to do the job, crew is doomed anyway, so jettison LM.
3. Service Module suffers some problem, let's say it's punctured by a micro-meteor, on their way back to earth. Presume this prevents it from being used for re-entry, so even if they could use the main engine to get into earth orbit (I have no idea if the main engine had the capability to do this), probably not enough oxygen left on board to keep them alive in the LM long enough to mount a rescue mission from earth, crew is doomed anyway, so jettison LM.

Note that for 1 and 2, I do not know the capabilities of the LM engine, I am just postulating.

...

Re: What is your Holy Grail, and do you own it?

*Message #53 Posted by **Don Shepherd** on 13 Sept 2010, 4:51 p.m.,*
in response to message #52 by Jeff O.

Jeff, I wrote Sy Liebergot, EECOM for Gene Kranz's team, and asked him this. He said: most of the LM consumables would have been used up.

As you alluded to.

Don

Re: What is your Holy Grail, and do you own it?

*Message #54 Posted by **Juergen Keller** on 12 Sept 2010, 6:29 p.m.,*
in response to message #46 by Maximilian Hohmann

Your definition is good. But the Holy Grail is also something that changes its shape over time. In the beginning, it is something not so rare, and after you have found your first Holy Grail, there is suddenly another which is, of course, harder to find. And so on, and so on. After a long collector's career, you end up like Max who has to build its own rocket and fly to the moon to find another Holy Grail, just to realize that there is something even more interesting than an Apollo Guidance Computer ;-)

Anyway, one thing is for sure: searching for the Holy Grail is MUCH fun!

Enjoy, Juergen

something like this?

*Message #55 Posted by **Frank Boehm (Germany)** on 13 Sept 2010, 6:38 a.m.,*
in response to message #54 by Juergen Keller

Quote:

> just to realize that there is something even more interesting than an Apollo Guidance Computer

You mean something like this? Guidance computer

Edited: 13 Sept 2010, 8:53 a.m.

Re: something like this?

*Message #56 Posted by **Juergen Keller** on 13 Sept 2010, 2:02 p.m.,*
in response to message #55 by Frank Boehm (Germany)

That would probably be the ultimate challenge!

Re: something like this?

*Message #57 Posted by **Dave Shaffer (Arizona)** on 13 Sept 2010, 10:21 p.m.,*
in response to message #56 by Juergen Keller

We just wait a few hundred thousand years for some little green (wo)men to bring it back!

Re: something like this?

*Message #58 Posted by **Maximilian Hohmann** on 14 Sept 2010, 3:12 a.m.,*
in response to message #57 by Dave Shaffer (Arizona)

> Quote:
>
> We just wait a few hundred thousand years for some little green (wo)men to bring it back!

Much easier: One of the geniusses here who have mastered RPL programming (certainly not me) should easily be able to figure out how to build a warp drive!

Re: something like this?

*Message #59 Posted by **Walter B** on 14 Sept 2010, 4:09 a.m.,*
in response to message #58 by Maximilian Hohmann

Though I didn't master RPL either so far, if you give me a (metric!) ton of green Kryptonium, you'll get your warp drive by the end of the year. Please specify the connecting dimensions asap.

Re: What is your Holy Grail, and do you own it?

*Message #60 Posted by **Geir Isene** on 14 Sept 2010, 7:00 a.m.,*
in response to message #1 by Michael de Estrada

Still looking for a nice and working HP-27.

Apart from that: An HP-41CX in aluminum casing (or a NEWT in such casing)

Re: What is your Holy Grail, and do you own it?

*Message #61 Posted by **Michael de Estrada** on 14 Sept 2010, 2:36 p.m.,*
in response to message #60 by Geir Isene

> Quote:
>
> Still looking for a nice and working HP-27

Undoubtedly one of the most elusive vintage HP models. I was lucky enough to find one about a year ago that was in perfect working condition, but that had been butchered by the previous owner with engravings on the case and display. The case was easily swapped out with a clean one from another Woodstock, but I have to live with display engraving, which fortunately is small and below the line of sight to the led's. IIRC, another clean and working HP-27 sold about a month later as part of a very large collection for close to $500. Just a short time ago, an HP-70 sold for $680, making it another highly coveted vintage HP model. The only model I don't own that I'd really want is the HP-95C, but I think I'd have be part of the inner circle of HP enthusiasts that inhabit this forum to get my hands on one.

Another HP 27 auction

*Message #62 Posted by **Michael de Estrada** on 14 Sept 2010, 4:36 p.m.,*
in response to message #61 by Michael de Estrada

Just as I finished speaking of the rarity of the HP-27, another one pops up on TAS. I truly love the seller's description:

"You are bidding on an Hewlett Packard, HP-27, Financial Calculator with case. It appears to be in really nice shape. However, I do not have the power supply to test it. My experience is that these were built like tanks and always work."

Re: Another HP 27 auction

*Message #63 Posted by **Mark Edmonds** on 20 Sept 2010, 5:29 p.m.,*
in response to message #62 by Michael de Estrada

Doesn't seem much interest in the early desktops - holy grail for me is a 9100B with printer but a full collection of all the 98xx desktops would make me pretty happy! Sadly funds totally preclude any collecting at the moment and I doubt anyone is throwing out 9100s! I still check the charity shops though :) (And would be decent about it if lightning did strike).

Re: Another HP 27 auction

*Message #64 Posted by **Juergen Keller** on 21 Sept 2010, 3:43 a.m.,*
in response to message #63 by Mark Edmonds

I am interested in the early desktops, and I own a 9100A and B, the A with printer, the B with extended memory and plotter. Both are in fully working condition and in pretty good shape :-)

Re: Another HP 27 auction

*Message #65 Posted by **Mark Edmonds** on 21 Sept 2010, 7:02 a.m.,*
in response to message #64 by Juergen Keller

Fantastic! :) Do you use them at all? Are they rugged enough to stand regular use or really of the age that makes them museum pieces only?

Re: Another HP 27 auction

*Message #66 Posted by **Juergen Keller** on 21 Sept 2010, 4:46 p.m.,*
in response to message #65 by Mark Edmonds

Yes, I use them but just for fun. The 9100A I got recently and the first task will be to clean it. Regarding the 9100B I still work on fixing the plotter, everything else works fine. If I manage to get the plotter running I will program some drawing programs. Also planned is a short Youtube movie but currently I just have not enough spare time for that. At least I took some pictures.

Re: Another HP 27 auction

*Message #67 Posted by **Walter B** on 21 Sept 2010, 5:51 p.m.,*
in response to message #66 by Juergen Keller

Grüezi Jürgen,

great stuff! How is the orange display of register labels done? If these are fixed labels a simple light bulb would do ...

Beste Grüsse,
Walter

Re: Another HP 27 auction

*Message #68 Posted by **Juergen Keller** on 22 Sept 2010, 3:21 a.m.,*
in response to message #67 by Walter B

Hi Walter, it's done by the coloured plastic of the display (or a coloured foil mounted to the display, I don't remember exactly) and two simple light bulbs. When I touched the bulbs the lower part (the screw thread) just crumbled due to age. Thanks to eBay I got some new ones, and of course some spare ones. If you pass by the Bodensee, you are welcome to play with my 'babies' :-) Best Regards, Juergen

Re: Another HP 27 auction

*Message #69 Posted by **Mark Edmonds** on 26 Sept 2010, 12:53 p.m.,*
in response to message #68 by Juergen Keller

Looks like a great unit Juergen :)

I've never seen that rack unit before - is that the memory expansion? Seems a bit large for it even by that vintage.

Re: Another HP 27 auction

*Message #70 Posted by **Juergen Keller** on 26 Sept 2010, 3:18 p.m.,*
in response to message #69 by Mark Edmonds

Yes, it is the HP 9101A Extended Memory unit. And it has to be that large because it provides additional 3472 program steps or 248 data registers ;-) (the 9100B has 32 storage registers built-in, which are 392 program steps).

Re: Another HP 27 auction

*Message #71 Posted by **Mark Edmonds** on 29 Sept 2010, 8:15 a.m.,*
in response to message #70 by Juergen Keller

OK, thanks :) I don't suppose you've taken any pictures inside the memory expansion unit? That could be amazing to see!

Re: Another HP 27 auction

*Message #72 Posted by **Juergen Keller** on 29 Sept 2010, 2:20 p.m.,*
in response to message #71 by Mark Edmonds

Yes, I did, but I didn't yet have time to put it onto flickr. Drop me a mail, and I will send you some pictures :-)

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"While supplies last."

*Message #1 Posted by **Jon S Canale** on 8 Sept 2010, 11:30 p.m.*

HP Solve Newsletter for August seems just to have been posted. Mention of the 300s at Staples USA and the HP30b at Office Depot USA and Staples Europe both make a point of stating "while supplies last".

What is with this? Did HP just make a short run of these calculators and then we'll never see them again?

More and more, it just doesn't look like HP is really serious about the calculator market. If it says it is, it's the craziest marketing strategy that I've ever seen!

Re: "While supplies last."

*Message #2 Posted by **Tim Wessman** on 9 Sept 2010, 12:53 a.m.,*
in response to message #1 by Jon S Canale

Nah, 30b is in Office Depot now. (Hurrah!)

I think the staples thing is a special shipper - one of those stand up display things for back to school time frame. I might be wrong on that. That is probably what is meant by while supplies last I would guess.

I hope they are serious! Otherwise I will be out of a job. :-(

TW

Re: "While supplies last."

*Message #3 Posted by **Jon S Canale** on 9 Sept 2010, 8:49 a.m.,*
in response to message #2 by Tim Wessman

Tim,

Hope you keep your job! And I hope HP wakes up and starts putting some effort into the calculator market!

Re: "While supplies last."

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 10 Sept 2010, 5:45 p.m.,*
in response to message #3 by Jon S Canale

HI;

I think WE (all of us who actually can) should make an effort into the actual calculator market, I mean, professionals in the scientific and educational areas (mostly educational) who are committed on doing the right thing. I know that it will cause argument fighting (and should), but once possible calculator users do not care too much developing their own skills in professional acting (hence no need for calculators to help them so) chances are that they prefer enhancing their skills in using any calculating

devices, and I mean all kinds (computers and pocket wizards with all kinds of software).

When HP was about to present the Expander, somehow the market signalized something else. I miss the time the market used to eagerly wait for new scientific developments do find its way ahead; today we see that scientific development is stuck in the marketing lack of ability to identify its own way ahead.

Cheers.

Luiz (Brazil)

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Did I miss something durimg Labor Day Weekend?

*Message #1 Posted by **Joerg Woerner** on 8 Sept 2010, 9:00 p.m.*

Hello HP community,

I just returned from a trip to North Carolina and browsed that auction site with the "e"...

I found:

HP Charger 82026A $119.97

HP Charger 82002A $179.97

HP Charger 82041A $179.97

Was there a steep inflation during Labor Day? Was the exchange rate of the US dollar adjusted to the Mr. Hurd's severence package?

I plan to list this Saturday a working HP 34C - what Buy-It-Now price do you suggest?

1% severence pay?

Five times a TI-150?

Ten times a dumb power supply?

Have a good evening!

Regards, Joerg

Re: Did I miss something durimg Labor Day Weekend?

*Message #2 Posted by **Martin Pinckney** on 8 Sept 2010, 9:35 p.m.,*
in response to message #1 by Joerg Woerner

As far as this group goes, you did not miss much. Kinda quiet.

As far as the referenced auctions, the same seller has many wall chargers of all kinds for sale from $30 up.

I must have a fortune sitting in a box, with 40 or so chargers I've kept from all kinds of equipment that died. Anyone interested? (sorry, only 2 HP calculator ones, which I already sold. For about $20 each).

Re: Did I miss something durimg Labor Day Weekend?

*Message #3 Posted by **Namir** on 8 Sept 2010, 11:19 p.m.,*
in response to message #1 by Joerg Woerner

Joerg,

The Buddha would call these prices "an illusion", so relax, have some ice tea and enjoy life!

Namir

Re: Did I miss something durimg Labor Day Weekend?

*Message #4 Posted by **Joerg Woerner** on 9 Sept 2010, 8:06 a.m.,*
in response to message #3 by Namir

Namir,

If you lived 46 years in Germany and move to the United States of America -------- you don't drink ice tea ;-))

The real thing is spelled:

b like beautiful

e like everyday

e like ease

r like relaxing

Cheers,

Joerg

Re: Did I miss something durimg Labor Day Weekend?

*Message #5 Posted by **bill platt** on 9 Sept 2010, 12:09 a.m.,*
in response to message #1 by Joerg Woerner

We built an entire economy on the presumption of rising real estate prices. Holland built an economy on rising tulip prices. Both turned out rather badly.

(In the US, but I don't know about other places, real estate is actually the *worst* long term investment. It loses money. All you have to do is go to the poor neighborhoods of any old city to discover that the houses of the rich of the past are now the houses of the present poor.)

Maybe this is a bit oblique, but I see similarities...

Re: Did I miss something durimg Labor Day Weekend?

*Message #6 Posted by **Walter B** on 9 Sept 2010, 2:52 a.m.,*
in response to message #1 by Joerg Woerner

Hallo Jörg,

seems to be an international phenomenon. Look here. Didn't see much of c...n but there are successors definitively.

Re: Did I miss something durimg Labor Day Weekend?

*Message #7 Posted by **Michael de Estrada** on 9 Sept 2010, 8:47 a.m.,*

in response to message #1 by Joerg Woerner

Those any many other fixed price BIN auctions have been around since the dawn of time, and those items rarely if ever sell. There is an infamous TAS BIN seller, whose name begins with the letter "C" whose listings have been on TAS for many years, and almost none have ever sold. I doubt that the actual selling prices of vintage calcs and accessories have changed much over the years, as the supply and demand remains fairly constant. The wall warts that you've listed are common as dirt, and I have bushel loads of them, the vast majority acquired along with the calculator itself. It will be a cold day in hell when I pay such absurd prices for such common items.

Re: Did I miss something durimg Labor Day Weekend?

*Message #8 Posted by **Maximilian Hohmann** on 9 Sept 2010, 9:53 a.m.,*
in response to message #1 by Joerg Woerner

Hello Joerg!

> Quote:
>
> Was there a steep inflation during Labor Day?

We didn't have Labor Day over here, but the German branch of our favourite auction site had the second "free weekend" (no fees for sellers) in a row. So "our" auction site is cluttered (or better: littered!) with similar inflationary offers. This really takes the fun out of it. I think I collect Rolex watches and Ferraris in the future, saves a lot of money!

Regards, Max

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Re: PIL-Box - communication with external HP71B

*Message #1 Posted by **Roland Storz** on 8 Sept 2010, 1:31 p.m.*

Jean-Francois,

following you instruction I did not succeed with copying files from HP71b (HPIL ERR: Invalid Mode). Quite honestly, I'm lost and have no idea what to do next.

Any further advice.

Roland

Re: PIL-Box - communication with external HP71B

*Message #2 Posted by **J-F Garnier** on 8 Sept 2010, 3:51 p.m.,*
in response to message #1 by Roland Storz

I assume you tried this:

My recommended method for reliable communication between Emu71 and HP71 with the PILBox is to use the IL-Per software (available on my PIL-Box page): do not declare any XIL in Emu71.ini and use IL-Per as a gateway by sharing the hdrive1.dat file: You can now copy files between Emu71 and HP-71B. Do 'COPY file TO :HDRIVE1' on the one side, then do 'COPY file:HDRIVE1' on the other side. Fast and efficient.

The error "HPIL ERR: Invalid Mode" means the HP-71B is in device mode and you attempt to do a command requiring that the HP-71B is the loop controller - such as the COPY command above. So do CONTROL ON, then RESTORE IO (just to be sure), and try again...

In case of HP-IL problem with the HP-71B, it is always a good idea to do RESET HPIL then RESTORE IO. It solves a lot of abnormal HP-IL situations, that can happen very easily with this machine.

Do not hesitate to contact me directly if you have problems with the PIL-Box.

J-F

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A perfect stranger gave me a HP-41CV today.

*Message #1 Posted by **hecube** on 7 Sept 2010, 6:40 p.m.*

This is not a joke but there's a back story.

We can post personal ads on the intranet at work and I posted several months ago an ad asking for old HP calculators donation.

I completely forgot about it until today when someone came by my desk to give me a HP-41CV with Surveyor pac. The calculator is in very good condition and works perfectly.

Re: A perfect stranger gave me a HP-41CV today.

*Message #2 Posted by **Mike T.** on 7 Sept 2010, 6:54 p.m.,*
in response to message #1 by hecube

You lucky ...

Though to be truthful I was given an HP100LX in similar circumstances.

Have fun.

Mike T.

Re: A perfect stranger gave me a HP-41CV today.

*Message #3 Posted by **Martin Pinckney** on 7 Sept 2010, 7:46 p.m.,*
in response to message #1 by hecube

Where ya been, hecube? Stirrin' things up somewhere else? I've missed you.

Re: A perfect stranger gave me a HP-41CV today.

*Message #4 Posted by **hecube** on 7 Sept 2010, 8:01 p.m.,*
in response to message #3 by Martin Pinckney

Well thanks!

Last year was a funny time for me. There was the commemoration of Apollo XI's 40th anniversay (I'm a big space nerd), the fact that my main hobby (playing guitar) was not satisfying (I had just quit my band) and the fact that I needed to throw myself into something all led me to become much more active in this forum.

I made a big push to acquire a small calculator collection. However, at the end of the summer I thought about where I was going and it became obvious that the calculator collection was not going to sustain my interest as much as my passion for guitar. I decided to only keep calculators that were in relation with space exploration, sold back the rest and I jumped back into guitar.

That's about it!

Re: A perfect stranger gave me a HP-41CV today.

*Message #5 Posted by **aj04062** on 7 Sept 2010, 10:00 p.m.,*
in response to message #4 by hecube

I'm with ya on the guitar!

However, I think I'm still going to keep the collecting going. I'm sure my wife wants the collection cut down.

You made me remember the "laser art" pictures I got when I was a kid. I remember writing to NASA for these things. I still got about 20 of them, including some cool patches from Apollo 13.

Re: A perfect stranger gave me a HP-41CV today.

*Message #6 Posted by **Michael Plant** on 8 Sept 2010, 12:21 a.m.,*
in response to message #1 by hecube

I got jealous and made caustic remarks until I remembered that my own 41CV came to me in similar circumstances. Last year, I posted a note on my one of my favourite boards about my calculator obsession and noted that I had bought a 35s because I couldn't afford a 41. I wasn't posting to request giveaways or items for sale, but a board member sent me a mint one and wouldn't even accept money for postage. My favourite calculator!

Re: A perfect stranger gave me a HP-41CV today.

*Message #7 Posted by **hpnut** on 8 Sept 2010, 3:55 a.m.,*
in response to message #1 by hecube

I have had a few pieces of calculators (HP 50g, HP 33s, HP 20b and HP 30b) sent to me by a few members (who shall remain anonymous) of this forum to me all the way from the USA. I did not solicit them but I was offered them (for nothing).

not exactly complete strangers but these people are examples of genuine, warm hearted human beings. To you my friends, you know who you are.

hpnut in Malaysia

Re: A perfect stranger gave me a HP-41CV today.

*Message #8 Posted by **Borja** on 8 Sept 2010, 4:18 a.m.,*
in response to message #7 by hpnut

A friend gave me a rarity, an HP-10C in perfect working order last year :)

Re: A perfect stranger gave me a HP-41CV today.

*Message #9 Posted by **John Mosand** on 8 Sept 2010, 11:36 a.m.,*
in response to message #8 by Borja

...and an engineer friend of mine gave me a 1982 10C, with the original batteries still working!

Re: A perfect stranger gave me a HP-41CV today.

*Message #10 Posted by **Michael Meyer** on 8 Sept 2010, 7:41 p.m.,*
in response to message #8 by Borja

Someone here is going to give me an HP-70. I can't get over how kind and generous people here are!

Re: A perfect stranger gave me a HP-41CV today.

*Message #11 Posted by **Philip Reagan (Texas)** on 8 Sept 2010, 6:25 p.m.,*
in response to message #1 by hecube

Someone gave me a pristine 16C once he found out I collected and he wanted to give it to a good home.

Re: A perfect stranger gave me a HP-41CV today.

*Message #12 Posted by **Norman Dziedzic** on 9 Sept 2010, 7:12 a.m.,*
in response to message #1 by hecube

I got a 42s from someone on a different newsgroup after posting about calculators. It is pretty beat up and suffers from short battery life but the price was right He even paid to ship it from Europe to the States. His kids who are US sports fans got some nice jerseys for Christmas :-).

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Sudoku

*Message #1 Posted by **KC** on 7 Sept 2010, 1:11 a.m.*

No, I am not talking about sophisticated programming techniques to solve sudoku puzzles. I like to solve by myself, but what I find out is that most of my solving time is "wasted" on figuring out what numbers are still available to be used on a particular cell. For example, if the row has 1 3 5, column has 1 4 6, the 9-square cell has 1 5 7, then I know that 2 8 9 is still available. One day I was sitting and thinking about writing an rpn program that, when I input those numbers already appeared (i.e. 135146157) (bear in mind that the same number may appear more than once), the program would return 289. I intially thought it would be easy (just counting numbers,right?), but then after some thoughts, I found it was not as easy as I originally thought!

If somebody thinks it is just simple programming stuff and have some of your precious time to spare, would you please help me by providing me the program codes? Thanks a lot.

KC

Re: Sudoku

*Message #2 Posted by **Ivan Nejgebauer** on 7 Sept 2010, 8:26 a.m.,*
in response to message #1 by KC

> Quote:
>
> One day I was sitting and thinking about writing an rpn program that, when I input those numbers already appeared (i.e. 135146157) (bear in mind that the same number may appear more than once), the program would return 289. I intially thought it would be easy (just counting numbers,right?), but then after some thoughts, I found it was not as easy as I originally thought!

Quick'n'dirty: accumulate the sum of 10^(every digit of the input number); zeroes in the result denote unoccupied positions. The program is for the 15C, but won't work for arbitrary input values, since you simply can't enter a number longer than 10 digits.

```
LBL B
0
STO 0
STO 1
Rv
LBL 0
x=0?
GTO 1
10
/
ENTER
FRAC
10
*
10^x
STO+0
Rv
INT
GTO 0
LBL 1
.009
```

```
STO I
RCL 0
LBL 2
10
/
ENTER
FRAC
TEST 0
GTO 3
Rv
10
STO*1
Rv
RCL I
INT
STO+1
LBL 3
Rv
INT
ISG I
GTO 2
RCL 1
RTN
```

Re: Sudoku

*Message #3 Posted by **Norman Dziedzic** on 7 Sept 2010, 2:02 p.m.,*
in response to message #1 by KC

This is what I came up with on the 35s.

The test number is stored in A and B is cleared. B will hold the result number. Then indirect registers 1 through 9 are zeroed.

Divide the test number modulo 10 to get the last digit and increment the indirect register based on this digit. Then divide the test number by 10, take the integer part and store back in A.

At this point, indirect registers are filled with the frequencies of digits in the test number.

Then loop through the indirect registers adding a digit to the output if the frequency is > 0. Use multiplies by 10 to shift left a digit.

```
001 LBL S
002 STO A
003 0
004 STO B
005 1.009
006 STO I
007 0
008 STO(I)
009 ISG I
010 GTO S008
011 RCL A
012 10
013 RMDR
014 STO J
015 1
016 STO+(J)
017 RCL A
018 10
019 /
020 IP
021 STO A
022 X>0?
023 GTO S011
024 0.009
025 STO I
026 ISG I
027 GTO S029
028 GTO S038
029 RCL(I)
030 X>0?
```

```
031 GTO S026
032 RCL I
033 IP
034 STO+B
035 10
036 STO* B
037 GTO S026
038 10
039 STO/ B
040 VIEW B
041 RTN
```

Edited: 7 Sept 2010, 2:05 p.m.

Re: Sudoku

*Message #4 Posted by **Norman Dziedzic** on 7 Sept 2010, 5:23 p.m.,*
in response to message #3 by Norman Dziedzic

The program I posted does have the limitation of only recognizing the first 12 digits entered.

Re: Sudoku

*Message #5 Posted by **Katie Wasserman** on 7 Sept 2010, 7:09 p.m.,*
in response to message #4 by Norman Dziedzic

Here's my 12C code.

Start with a <Clear Reg>, then enter numbers and hit R/S. You can enter at most 10 numbers at a time but you can keep running it and marking off more numbers, as long as you don't do a <Clear Reg>. It should work on any model 12C or 12C clone.

```
01 STO 0
02 x=0
03 GTO 16
04 1
05 0
06 STO / 0
07 RCL 0
08 FRAC
09 x
10 STO n
11 0
12 STO Nj
13 RCL 0
14 INTG
15 GTO 01
16 1
17 +
18 STO n
19 RCL Nj
20 x=0
21 GTO 27
22 1
23 0
24 STO x 0
25 RCL n
26 STO + 0
27 8
28 RCL n
29 x<=y
30 GTO 16
31 RCL 0
32 GTO 00
```

[edited September 8: Tony(nz) found that two lines can be removed -- 10 is already in the Y register when (now) line 09 is executed.]

[edited September 15: Tony(nz) found that three lines can be saved by rearranging the 2nd part of the code a bit and making use of a zero left in X from the 1st part of the code.]

Edited: 15 Sept 2010, 9:06 p.m. after one or more responses were posted

Re: Sudoku

*Message #6 Posted by **KC** on 7 Sept 2010, 9:15 p.m.,*
in response to message #5 by Katie Wasserman

All you guys are so helpful. Thanks.

KC

Re: Sudoku

*Message #7 Posted by **David Hayden** on 11 Sept 2010, 4:41 p.m.,*
in response to message #1 by KC

Here's a version in user RPL. You put a number containing the existing digits on the stack and then run the program. It replaces the top of stack with a number containing the digits not in the input number:

```
@ Given a number N, create a number with all
@ digits not in N
« STR 0.  N result «
  1 9 FOR i @ for each digit
    IF N i STR POS NOT THEN
      result 10. * i + 'result' STO
    END
  NEXT
  result
  »
»
```

Note that in a real sudoku solver it's much faster to store the possibilities as bits in a binary number and then use binary operations for logic like this. For example, in C code, you can gather up digits that are in a row like this:

```
int i;
int existingDigits = 0;
for (i=0; i < 9; ++i) {
    /* row[i] contains the digit in cell i of the row.
       zero means no digit in that cell.  "=" is the
       assignment operator. "|" is binary "OR" operator
       "<<" is arithmetic shift left operator.
    existingDigits = existingDigits | (1<< row[i]);
}
```

Experienced C programmers will recognize that this can be further simplified by using the "|=" operator.

Now that you have existingDigits, it's easy to get the missing digits, it's just the binary NOT of the existingDigits:

```
int missingDigits = ~existingDigits;
```

Note that this sets the bits that don't represent digits (e.g. bit 12).

Re: Sudoku

*Message #8 Posted by **Norman Dziedzic** on 12 Sept 2010, 12:56 a.m.,*
in response to message #7 by David Hayden

David,

You blew me away for efficiency. I haven't done any RPL programming so as an exercise, I put together a version of the 35s program that works with integers so no 12 digit limitation. I'll post it anyway for yucks. Start with a number on the stack, returns digits not in that number.

```
<< 0 -> n s
   << 9 1 ->LIST 0 COM
      WHILE n 0 > REPEAT
         n 10 MOD 1 PUT
         n 10 IQUOT 'n' STO
      END


      1 9 FOR k
         IF 0 == THEN
            10 's' STO*
            k 's' STO+
         END
      NEXT
      DROP
      's' RCL
   >>
>>
```

Re: Sudoku

*Message #9 Posted by **David Hayden** on 12 Sept 2010, 10:28 a.m.,*
in response to message #7 by David Hayden

Here it is in C code for HPGCC. This takes a real or integer number on level 1 and replaces it with an integer containing the digits that aren't in the input number. Because it converts the number to a 64 bit binary number internally, integer inputs can be no more than 19 digits.

Mostly, this is just a plug for the hpobjects library :).

```
// C program to figure the digits missing from a sudoku row/column/box.
// Given a number on level 1, this replaces it with an integer containing
// the digits not in the number.


#include <hpgcc49.h>
#include "hpobjects.h"


// Given a Saturn integer or real, return a C long long. Minimal error checking
long long  getInt(SatAddr obj)
{
    long long result = 0;


    if (isREAL(obj)) {
        double d;
        REALdecode(obj, &d);
        result = d;
    } else if (isZINT(obj)) {
        ZINTdecodell(obj, &result);
    }
    return result;
}



int main()
{
    long long N;                /* number of primes to find */
    int i;                      /* counter variable */
    int digits=0;               /* If bit X is set, then digit X is in N */
    int result = 0;             /* the resulting number */


    // pop the stack and convert the ZINT or REAL to a long long.
    N = getInt(STACKpop());
```

```
    // Set "digits" to indicate which digits appear in N.
    while (N) {
        i = N % 10;
        digits |= (1 << i);
        N /= 10;
    }


    // Flip the bits in "digits" so it indicates if a digit is NOT in N:
    digits = ~digits;


    // Now set "result" to indicate digits not in N. Note that we don't
    // care if zero appears since it isn't a valid in sodoku
    for (i = 1; i < 10; ++i) {
        if (digits & (1 << i)) {
            result = 10*result + i;
        }
    }


    // Convert "result" to a ZINT in tempOb and push it on the stack
    STACKpush(ZINTencodell(result, 0));
    return 0;
}
```

Re: Sudoku

*Message #10 Posted by **Norman Dziedzic** on 13 Sept 2010, 1:03 p.m.,*
in response to message #9 by David Hayden

David,

Can I use hpgcc on a 48gii or only on a 50g?

Thanks

HPGCC on a 48gii

*Message #11 Posted by **David Hayden** on 13 Sept 2010, 10:22 p.m.,*
in response to message #10 by Norman Dziedzic

Hi Norman,

Yes, you can get HPGCC to generate programs for a 48gii! If you do, then you and I will probably be the only people on the planet to have done it successfully. Here is how you do it:

First, you need HPGCC version 1.1. You can get it from the sourceforge page here

Install HPGCC 1.1 on your computer. In the rest of this message, I've assumed that you installed it into c:\arm-hp.

I had to add c:\arm-hp\libexec\gcc\arm-elf\3.4.6 to my path so the compiler could find cc1.exe. I'm not sure if that was a problem with my installation. To make this easy, I created the following file called env.bat in the directory where I installed hpgcc (c:\arm-hp):

```
set HPGCC=C:\HPGCC1-1
PATH %HPGCC%\bin;%HPGCC%\libexec\gcc\arm-elf\3.4.6;%HPGCC%\arm-elf\bin;%PATH%
```

The sat_createtemp() function that comes with HPGCC 1.1 doesn't work properly so you need to replace it with the one from HPGCC2.0 and rebuild the libraries. Here is the replacement file:

```
// These functions replace sat_create_tempob() in HPGCC 1.1.  They are taken
// from HPGCC 2.0.  The ones in 1.1 don't work with the 48gii.
// Copy this file over c:\hp-arm\sources\hplib\saturn\sat_createtemp.c
// and then rebuild the library.


#include <hpgcc49.h>


unsigned int
sat_map_a2s(unsigned int arm_addr)
{
    int f;
    unsigned int a=arm_addr&0xfffff800;


    for(f=0;f<256;++f) {
        if(_saturn_cpu->Read[f]==a) return (f<<12)+((arm_addr&0x7ff)<<1);
    }
    return 0xffffffff;
}


// AUXILIARY FUNCTION
// FINDS PAGE CLOSEST TO RSKTOP USED BY HPGCC
// RETURN 0xffffffff IF NONE.


unsigned __find_main_ram_start(int rsktop)
{
  int f;
  extern unsigned _mmu_table_addr,_mmu_table_entries;


  int *ptr=(int *)_mmu_table_addr;
  int minaddr=sat_map_s2a(rsktop);
  unsigned int page=0xffffffff,a;


  for(f=0;f<_mmu_table_entries;++f) {
      a=ptr[f]&0xfffff000;
      if(a>minaddr && a<page) page=a;
  }


  return page;
}




// AUXILIARY FUNCTION, RETURNS THE AMOUNT OF USEABLE TEMPOB IN NIBBLES


int sat_getfreetempob()
{
    int rstk=sat_peek(SAT_RSKTOP,5);
    int freeend;


    freeend=__find_main_ram_start(rstk);


    if(freeend==0xffffffff) {
        // C PROGRAM IS NOT USING MAIN RAM
        return sat_peek(SAT_DSKTOP,5)-rstk-11;
    }
    freeend=sat_map_a2s(freeend);


    return freeend-rstk-11;
}




int
sat_createtemp(int objsize)
```

```
{
    // CREATETEMP IMPLEMENTATION
    // objsize=size of object including prolog
    // in nibbles


    int ttop=sat_peek(SAT_TEMPTOP,5);
    int rstk=sat_peek(SAT_RSKTOP,5);
    int size=rstk-ttop;
    int freemem;
    int ptr;


    // check for enough room here
    if(objsize>sat_getfreetempob()) {
        // insufficient memory to create object
        return 0;
    }


    // make room in memory
    sat_moveup(ttop,ttop+objsize+6,size);



    // adjust tempob chain
    ptr=ttop+1+objsize;
    sat_poke(ptr,objsize+6,5);


    // adjust pointers


    // RSKTOP
    sat_poke(SAT_RSKTOP,sat_peek(SAT_RSKTOP,5)+objsize+6,5);


    // TEMPTOP
    sat_poke(SAT_TEMPTOP,sat_peek(SAT_TEMPTOP,5)+objsize+6,5);


    // adjust free memory
    freemem=sat_peek(SAT_DSKTOP,5)-sat_peek(SAT_RSKTOP,5);
    freemem/=5;
    sat_poke(SAT_AVMEM,freemem,5);


    // return addr to prolog of new object
    return ttop+1;
}
```

Copy the above text into c:\arm-hp\sources\hplib\Saturn\sat_createtemp.c, replacing the existing file.

Edit c:\arm-hp\sources\hplib\hpmath.h and replace this line:

```
#define _fabs(x) ( (x) < 0.0 ? (-x) : (x) )
```

with this:

```
#define _fabs(x) ( (x) < 0.0 ? -(x) : (x) )
```

also replace this:

```
#define abs(a) ((a) < 0 ? (-a) : (a))
```

with this:

```
#define abs(a) ((a) < 0 ? -(a) : (a))
```

Now rebuild the libraries as follows:

1. Start a command window.

2. Cd c:\arm-hp\
3. Run env.bat to set up environment variables to use hpgcc
4. Cd c:\arm-hp\sources\hplib
5. Type “make clean”
6. Type “make”. This will rebuild the libraries, including the new copy of sat_createtemp.c
7. Type “make install” to copy the new version of libhplib.a to the right place.

There are separate versions of the ARMToolbox for the HP48 and HP 49. You need to install c:\arm-hp\ARMToolbox\LIB275-48.lib on your calculator. Note that you'll want to rename this library first because LIB275-48.LIB is an invalid variable name on the calculator.

It looks like the ArmToolbox's "S->exe" command isn't supported on the 48gii. You can only run programs via the PrRUN command. This means you can't create stand-alone programs on the HP48 - they require the ARMToolbox to be installed.

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HP-67 Auction

*Message #1 Posted by **aj04062** on 6 Sept 2010, 9:50 p.m.*

http://cgi.ebay.com/Vintage-HP-67-Calculator-HP-67-/170537031368?pt=Calculators&hash=item27b4cc96c8

Does anyone agree with me that the possible reason why this calculator works as describes is because it doesn't have the battery?

Re: HP-67 Auction

*Message #2 Posted by **Michael de Estrada** on 6 Sept 2010, 10:49 p.m.,*
in response to message #1 by aj04062

No, I do not agree. An HP-67 or HP-65 will work fine powered from the ac adapter w/o a battery present. The card reader sensor may be damaged, affecting card reader operation, but the main logic circuitry and display will not be affected.

Re: HP-67 Auction

*Message #3 Posted by **aj04062** on 7 Sept 2010, 6:34 a.m.,*
in response to message #2 by Michael de Estrada

Thanks, Looks like it may be more trouble than its worth!

Re: HP-67 Auction

*Message #4 Posted by **Namir** on 7 Sept 2010, 1:17 p.m.,*
in response to message #1 by aj04062

That machine has problems! You can still buy it but it needs some serious fixing.

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HP30b

*Message #1 Posted by **Antonio Maschio (Italy)** on 6 Sept 2010, 5:51 a.m.*

Hi,

I must confess it's been a long time since last time I visited this site, though I set it as my starting page; it's because I've recently being involved in projects not related to calculators, and this set aside my mind.

I recently read on this Forum about the "new" HP30b; it seems to be a very good calculators, the most scientific among the financial ones, and thus useful for both worlds.

What puzzles me is that no reference of it is present on the Italian, French, Uk, Spanish, Russian (and maybe other countries) HP site still today.

Questions:

1. Is it a USA-only calculator?
2. Do you know when (the date) it has been issued for the first time?

Forgive me for these (quite stupid and) useless questions, but since I planned to buy one, I'd avoid the overprice of the transoceanic delivery...

Thanks in advance.

-- Antonio

Re: HP30b

*Message #2 Posted by **Walter B** on 6 Sept 2010, 6:15 a.m.,*
in response to message #1 by Antonio Maschio (Italy)

Ciao Antonio,

answers AFAIK:

1. No. It's also available in Germany, for example.
2. Please search the forum.

Cordialmente!

Re: HP30b

*Message #3 Posted by **hpnut** on 6 Sept 2010, 11:53 p.m.,*
in response to message #2 by Walter B

Ciao Antonio,

The HP30b is on sale in Malaysia. You can't use the HP website as a guide as to what is available.

For example, the PDF manual for the 30b is not there. I had some members sent me the softcopy.

Re: HP30b

*Message #4 Posted by **Antonio Maschio (Italy)** on 7 Sept 2010, 5:56 a.m.,*
in response to message #3 by hpnut

Thanks both. The fact you can't rely on HP site is another sign of HP decadence.

Ciao!

-- Antonio

Re: HP30b

*Message #5 Posted by **Ujval** on 16 Sept 2010, 3:49 a.m.,*
in response to message #3 by hpnut

hpnut, can you pl email me a copy of the 30b pdf manual? Been searching in vain all over. Thanks.

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HP-71 matrix methods (LU decomp?)

*Message #1 Posted by **Karl Schneider** on 5 Sept 2010, 8:13 p.m.*

A recent post noted a bug in the HP-71B (ROM 1BBBB and earlier) in which some leap years were incorrectly identified. J-F Garnier responded that it was a known bug, but did not cite his own web page listing them:

http://www.jeffcalc.hp41.eu/emu71/bug71.html

At the bottom of the page are listed some inexact results of matrix arithmetic using the HP-71 Math ROM. E.g., the calculated determinant of the matrix

```
[ 1  2 ]
[ 3  4 ]
```

is not quite an integer (-2.00000000001 instead of -2), and the elements of the calculated inverse similarly are not quite exact. Also, the calculated determinant of the singular matrices

```
[ 0  1 ]  and  [ 0  0 ]
[ 0  0 ]       [ 1  0 ]
```

are returned respectively as 0 with a message "WRN: Overflow", and -0 (with no message).

I suspect that the HP-71B (1983) and its Math Pac ROM (1984) utilizes linear-algebra methods similar to those of the 1982 HP-15C (with its 10-digit Coconut processor), adapted for the 12-digit Saturn processor. These methods seem to have been refined further for the Saturn-based HP-28C (1986), HP-42S (1988), HP-48S (1990), and HP-48G (1993), which do not exhibit all of these minor flaws.

Valentin Albillo has explained that the functionality contained in the HP-71 Math ROM was removed from the base HP-71 ROM in order to make room for other features (i.e., support for the IEEE floating-point standard that was then a proposal and was later adopted). So, time might have been short for incorporating all refinements in the HP-15C to the HP-71's new Saturn processor.

For reasons of RAM size and execution speed, the HP-15C performs an LU decomposition of a square matrix A (larger than 1 x 1) prior to calculating determinants, inverses, and system solutions. The Doolittle algorithm is used, producing a lower-triangular unit matrix L having ones on the main diagonal, while the upper-triangular matrix U has non-zero values. The permutation matrix P performs any necessary row transpositions, and is an identity matrix if none are required:

$$PA = LU \quad => \quad A = P^{-1}LU$$

$$det(A) = det(P^{-1}) * det(L) * det(U) = (-1 \text{ or } 1) * 1 * det(U)$$

where det (U) is the product of its main-diagonal entries, and det (P^{-1}) is odd for an odd number of row transpositions.

It follows that

$$A^{-1} = P^{-1}LU^{-1}$$

```
A   = (P  LU)   = U  L  P
```

On the HP-15C, L and U are composed "in place", and row-swap information is stored in spare bits (no P matrix is stored). L and U can be inverted in place, and the resulting inverses can also be multiplied together in place.

In the case of a singular or near-singular input matrix, the HP-15C will also modify elements slightly to allow the necessary LU decomposition without divide-by-zero or overflow.

The Saturn-based models use a Crout algorithm, which produces an *upper*-triangular unit matrix U. Otherwise, it appears that all of these models take the same basic approach as that of the HP-15C. The HP-71B's methods are stated on pp. 86-88 of the Math Pac Owner's Manual.

For the matrix

```
A = [ 1  2 ]
    [ 3  4 ]
```

the following can be extracted from the HP-15C calculation of determinant or system solution:

```
P = [ 0  1 ]  L = [ 1             0 ]  U = [ 3               4 ]
    [ 1  0 ]      [ 0.3333333333  1 ]      [ 0    0.6666666668 ]
```

The "LU" command of the HP-48G returns the following:

```
P = [ 0  1 ]  L = [ 3               0 ]  U = [ 1  1.33333333333 ]
    [ 1  0 ]      [ 1  0.666666666667 ]      [ 0               1 ]
```

It is easy to see where these methods may produce non-integer or inexact values in determinants and inverses. However, the HP-15C, HP-42S, and HP-48G did produce 'cleaner' results, as listed below:

A^{-1} =

```
exact, HP-48G       HP-71B, HP-28C, HP-42S, HP-48S(?)         HP-15C
[ -2     1   ]   [ -1.99999999998   0.999999999994 ]  [ -2  0.9999999999 ]
[  1.5  -0.5 ]   [  1.49999999999  -0.499999999997 ]  [  1.5         -0.5 ]
```

As J-F Garnier pointed out, and as is documented on page 88 of the HP-71B Math Pac Owner's Manual, inverses can be computed more accurately by using the linear-system command MAT X = SYS(A,I) with an identity matrix as I. In this case, an exact inverse is returned by the HP-71B (but not by the HP-42S "SIMQ" command).

It seems possible that some algorithmic refinements in the HP-15C did not get incorporated into the HP-71 Math ROM. For example:

1. Not adjusting elements of the singular matrix A might explain the "overflow" messages that likely occurred during LU decomposition.

2. Some inexactitude in the calculations using elements of the Crout-algorithm L and U matrices might explain the determinant of 2.0000000001
(3. * .66666666667), as well as the slightly-inexact elements of the inverse.

The HP-28C, HP-42S, and HP-48G return integer values for the determinants, and in the process do not warn of overflows or return "-0". However, the HP-28C and HP-42S return the very same inexact matrix-inverse values as the HP-71B does, while the HP-48G returns the exact values.

The HP-48G does return "LU error: Overflow" for LU decomposition of the singular matrix

```
[ 0  1 ]
[ 0  0 ]
```

apparently becuase no non-zero element is present in the left column. However, a valid Crout LU decomposition can apparently be produced; please see this Forum thread from 2006.

A comment by Rodger Rosenbaum in a thread from 2007:

> Quote:
>
> The HP48G and its successors have matrix arithmetic that was reworked by Paul McClellan to use 15 digit arithmetic for internal operations, rounding to 12 digits only occurring after everything is done.
>
> The HP71 and HP48S rounded internal operations to 12 digits at intermediate steps in the carrying out of matrix operations.

Further insights, anyone?

-- KS

Edited: 7 Sept 2010, 4:58 a.m. after one or more responses were posted

Re: HP-71 matrix methods (LU decomp?)

*Message #2 Posted by **Egan Ford** on 5 Sept 2010, 10:28 p.m.,*
in response to message #1 by Karl Schneider

There is a newer MATH ROM I can send you. More info here: http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv017.cgi?read=112732.

Re: HP-71 matrix methods (LU decomp?)

*Message #3 Posted by **Karl Schneider** on 5 Sept 2010, 10:48 p.m.,*
in response to message #2 by Egan Ford

> Quote:
>
> There is a newer MATH ROM I can send you. More info here: http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv017.cgi?read=112732.

Hello, Egan --

That seemed to be an extremely generous offer, given that I'm using a physical HP-71B with Math ROM version 1A. (I don't know if there was a later version.)

I read the archived thread you posted, but still don't quite understand the "MATHROM" product that is recorded on EPROM. Is it a hardware item? Is it designed to plug into the HP-71B, or must it be loaded via HP-IL or other means? Or, is it an emulator for the HP-48GX or HP-49g+/50g? (I have neither.)

A comment by Rodger Rosenbaum in the same 2007 thread you cited indicates that further refinement was done for the HP-48G, so I would doubt that any official HP product for the HP-71B would address these minor issues.

My main objective in starting this new thread was to explain the HP-71 results listed by J-F Garnier in his bug list, and to re-introduce HP matrix methods and LU decomposition.

Thanks,

-- KS

Edited: 6 Sept 2010, 4:18 a.m.

Re: HP-71 matrix methods (LU decomp?)

*Message #4 Posted by **Egan Ford** on 6 Sept 2010, 11:03 a.m.,*
in response to message #3 by Karl Schneider

> Quote:
>
> I read the archived thread you posted, but still don't quite understand the "MATHROM" product that is recorded on EPROM. Is it a hardware item? Is it designed to plug into the HP-71B, or must it be loaded via HP-IL or other means?

I do not have a MATH ROM for the 71B, so I opted to have one burned to an EPROM. The individual that did this for me had a newer unofficial version of the MATH ROM. It is discussed in the aforementioned thread (last post).

I can send you the LEX file. If you have enough RAM and HP-IL you can transfer it into memory. To avoid confusion you may want to remove your MATH ROM first. Or I can send you an HDRIVE1.DAT with MATHROM.LEX for testing with EMU71.

> Quote:
>
> I would doubt that any official HP product for the HP-71B would address these minor issues.

Agreed.

Re: HP-71 matrix methods (LU decomp?)

*Message #5 Posted by **Karl Schneider** on 9 Sept 2010, 1:14 a.m.,*
in response to message #4 by Egan Ford

> Quote:
>
> I can send you the LEX file. If you have enough RAM and HP-IL you can transfer it into memory. To avoid confusion you may want to remove your MATH ROM first. Or I can send you an HDRIVE1.DAT with MATHROM.LEX for testing with EMU71.

Hello again, Egan --

Thank you. I do have a physical HP-71B with 36 kB added RAM and HP-IL. However, I do not have Jean-Francois' PIL-Box HPIL-USB device, HP's HPIL-to-ISA bus device, or Emu71 software. I'd have to obtain some hardware before being able to put MATHROM.LEX to use.

I'll send an e-mail before too long.

-- KS

Re: HP-71 matrix methods (LU decomp?)

*Message #6 Posted by **Werner** on 6 Sept 2010, 3:37 a.m.,*
in response to message #1 by Karl Schneider

```
- the HP48G and successors get the inverse right thanks to the 15 digits used throughout.
- the 42S calculates the determinant of a 2x2 matrix directly. If you calculate the
determinant of
 [[ 1 2 0 ]
  [ 3 4 0 ]
  [ 0 0 1 ]],
it is no longer exactly 2.
- the 48G series and successors have an additional test: if the matrix contains only
integers, the determinant returned will be rounded to the nearest integer.
```

Re: HP-71 matrix methods (LU decomp?)

*Message #7 Posted by **Karl Schneider** on 9 Sept 2010, 1:26 a.m.,*
in response to message #6 by Werner

Werner --

> Quote:
>
> - the HP48G and successors get the inverse right thanks to the 15 digits used throughout.

Yes. Incidentally, I added that piece of info independently as an edit to my original post, after Egan provided a link to an archived thread.

> Quote:
>
> - the 42S calculates the determinant of a 2x2 matrix directly. If you calculate the determinant of [[1 2 0] [3 4 0] [0 0 1]], it is no longer exactly 2.

That makes sense, as the determinant of a 2 x 2 matrix is more easily calculated in a straightforward manner than via LU decomposition.

Incidentally, for a 1 x 1 matrix, the HP-15C still produces an (identical) 1 x 1 result matrix with the determinant, but doesn't identify it as an LU decomposition (e.g., "C--"). All things considered, that is the best approach -- and another example of attention to detail in the HP-15C.

-- KS

Edited: 9 Sept 2010, 4:35 a.m.

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(Another) HHC 2010 kind request, please.

*Message #1 Posted by **Johnny Bjoern Rasmussen** on 5 Sept 2010, 6:20 a.m.*

Hi
I have no financial ways of getting to HHC 2010. Therefore I will really appreciate if some of the HHC participants somehow can share their photos after the conference.
I'm sure that I not the only one who would really like to be there ;-)

Thanks in advance!

Johnny Bjoern Rasmussen Denmark

Edited: 5 Sept 2010, 6:20 a.m.

Re: (Another) HHC 2010 kind request, please.

*Message #2 Posted by **Namir** on 5 Sept 2010, 7:16 p.m.,*
in response to message #1 by Johnny Bjoern Rasmussen

Usually the HHC web site posts pictures taken during the last HHC conference.

Namir

Re: (Another) HHC 2010 kind request, please.

*Message #3 Posted by **sjthomas** on 5 Sept 2010, 7:55 p.m.,*
in response to message #2 by Namir

And last year, Eric (I believe) kindly tweeted during the course of the conference. Much appreciated!!

Re: (Another) HHC 2010 kind request, please.

*Message #4 Posted by **Jake Schwartz** on 5 Sept 2010, 8:57 p.m.,*
in response to message #2 by Namir

Hi,

There will also be DVDs of the entire conference video available some time afterward as well. The conferences have been videotaped for the past 23 consecutive years.

Jake Schwartz

Better Late Than Never: HHC2009 Conference Video Now Available

*Message #5 Posted by **Jake Schwartz** on 9 Sept 2010, 5:04 p.m.,*
in response to message #1 by Johnny Bjoern Rasmussen

Hi,

Although this is ridiculously late, I wanted to mention that the 6 DVD set of the 16-hour HHC2009 Conference video is now available. I interested, check http://www.pahhc.org/video.htm .

Jake Schwartz

P.S. - See you at HHC 2010 on Sept. 25th.

Re: Better Late Than Never: HHC2009 Conference Video Now Available

*Message #6 Posted by **Pal G.** on 9 Sept 2010, 5:38 p.m.,*
in response to message #5 by Jake Schwartz

Jake,

Have you thought about streaming the conference live this year (except for NDA stuff)? Probably not too difficult and inexpensive these days. And bandwidth is hardly an issue..

Thoughts?

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How to fix vintage 12C enter key?

*Message #1 Posted by **Peter Matthews** on 3 Sept 2010, 9:46 p.m.*

I have just purchased a 12C off eBay and the ENTER key is not working well. It doesn't press down very much. Everything else is fine but the ENTER. It almost feels as if it does not move (but it does work if you mush it down).

Is this fixable if I open it up?

If not, where might I get a "part" to fix it?

I recall seeing a photo with a bubble-like keyboard layer. Maybe that's the culprit?

Please advise, oh HP experts!

Thanks

Re: How to fix vintage 12C enter key?

*Message #2 Posted by **Randy** on 5 Sept 2010, 9:52 a.m.,*
in response to message #1 by Peter Matthews

Try pushing on TOP of the key, directly between the Clx and 1 keys... chances are good you are pressing in the middle or at the bottom. Since the key hinges at the bottom, the normal travel can only be felt by pushing the top of the key.

Re: How to fix vintage 12C enter key?

*Message #3 Posted by **Peter Matthews** on 6 Sept 2010, 4:30 a.m.,*
in response to message #2 by Randy

Hi - thanks but I think the key needs to be mechanically fixed. I have a 11C and the travel is totally fine.

I tried opening up the 12C but there seems to be many layers of plastic wrapping and some kind of black paper wrapping. I didn't want to cut through the paper without knowing ahead of time what's going on.

Re: How to fix vintage 12C enter key?

*Message #4 Posted by **Jeff O.** on 7 Sept 2010, 8:36 a.m.,*
in response to message #3 by Peter Matthews

The following is from memory from disassembling an 11C a few years ago.

You should be able to unwrap or unfold the plastic wrapping to expose the back side of the keyboard printed circuit board, i.e., no cutting should be necessary. It may be necessary to peel off an adhesive edge on the plastic, I do not really recall. With the back off and plastic out of the way, the rest of the calculator (keyboard pcb, key contacts and top half of the calculator shell) is held together by about 40 plastic pins, known as heat stakes. The top of each of these pins is mushroomed over the keyboard pcb

to hold the “sandwich” together. So further disassembly requires these heat stakes to be removed. Do not just slice the head off of each stake, instead carefully trim just the mushroomed portion off of each stake, leaving the center of the post sticking through the pcb. Once they are all trimmed, the keyboard pcb should come off. The key contacts consist of a sheet of metal domes, my guess is that the dome for the enter key is collapsed. I do not know if it will be possible to repair a bad dome, you might need a new sheet of contacts from a donor unit. If you succeed in repairing/replacing the contact, then you get to the hard part: reassembling the keyboard “sandwich.” You must hold the “sandwich” tightly together while either melting over the remaining portion of each heat stake or gluing each stake with your choice of adhesive. I believe someone here once reported building some sort of jig to hold the sandwich together while gluing or melting the stakes, but I do not recall who or if they reported total success.

I am not really a repair expert and like I said, the above is from memory. So, while I believe the information to be accurate, follow at your own (or your 12C’s) risk.

...

Re: How to fix vintage 12C enter key?

*Message #5 Posted by **Peter Matthews** on 9 Sept 2010, 8:29 p.m.,*
in response to message #4 by Jeff O.

Wow thanks Jeff! That really puts things in perspective and is great info before I even attempt such a thing.

Re: How to fix vintage 12C enter key?

*Message #6 Posted by **David** on 18 Sept 2010, 11:07 p.m.,*
in response to message #5 by Peter Matthews

If you do pull apart your calculator, you have some luck on your side:

The buttons each have a 'snap disk', which is both a simple electrical switch, and also what makes them feel right. The Enter key has two, one which is used (at the top) and one which is not (at the bottom); this because the Enter key takes two positions on the 4x10 grid.

You could conceivably take the lower disk and put it in the upper position, restoring snappiness.

Fair warning: this will be a lot of work with risk of not getting the disk position correctly. The disks are joined into strips of 5 disks, and you would be moving a disk from one strip to another. Plus the adhesive film will likely be destroyed and will need to be replaced. Not a big deal as it is pretty much the same a box sealing tape, though you may find it challenging to find some tape wide enough.

Electrically you should be fine making this change, because the PCB wires the disks together redundantly with respect to their continuity being formed from strips.

The other disk is utterly unused and is there surely for the manufacturing economies.

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HHC Carpool to/from Denver

*Message #1 Posted by **PeterP** on 3 Sept 2010, 1:52 p.m.*

Hi, not sure if there is a better place for this but - I'm coming from NYC on Friday night, landing in Denver at 7:56 coming from NYC) and leaving from Denver Sunday night at 5:52.

Anyone with compatible travel schedule who is interested in car-pooling please contact me via the forum email link (just click on my name)

Looking forward to my first HHC!

Cheers

Peter

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Display tech

*Message #1 Posted by **Jimi** on 3 Sept 2010, 11:22 a.m.*

I was writing this into another thread I started, but then I sort of thought it deserved it's own.

After playing with this new TI-89 for a few more days, and gone through some tutorials I found for it, I've decided that the main thing that really sucks about it is the screen. To me anyway, it's only readable in bright light conditions, and only in the morning, since my eyes are too tired to read the amazingly small stuff on it in the evening. The screen on my 48s isn't the best either though, but there is nothing on it that is ever too small. Maybe just a better menu font.

In these days with all these amazing devices coming out, ePaper displays, oLED, "retinal" displays on phones, I really wish someone would put some thought into improving the screens on these calculators. While certainly limited in many ways, I loved my old LED HPs (think 34C) for being so readable indoors. Imagine a nice backlit screen even. Sure, battery life would suffer, but it did on older calculators as well. I think in this day, people are used to charging devices every so often. Imagine something like a HP-50 with an iPhone like screen for graphing and display. I'd be waiting in line to buy one.

Just wondering what your thoughts were. Yes, I know that the market for $300 calculators would be limited, but who among us never spent that on one. I've never compared the $300 I spent on my HP-41C when it first came out, but I can only imagine what that is equivalent to today.

Re: Display tech

*Message #2 Posted by **Don Shepherd** on 3 Sept 2010, 12:21 p.m.,*
in response to message #1 by Jimi

> Quote:
>
> the main thing that really sucks about it is the screen

I agree, the font is so tiny that you can barely read it sometimes. And the NSpire is no better. The NSpire's resolution is better but you still need a very strong light source to be able to read it; I keep a flashlight next to mine when I use it.

The best black and white display going these days is the Casio 9860g slim, with a marvelous backlight. Once you see that backlight you really realize how substandard the screens such as the TI-89 and NSpire are.

I would hope the manufacturer would improve these screens, but I'm not holding my breath.

Re: Display tech

*Message #3 Posted by **Donald Williams** on 3 Sept 2010, 12:26 p.m.,*
in response to message #1 by Jimi

If you ever get the chance to try the Casio 9850 G slim you will never be satisfied with any other calculator

display. It also has backlighting. It is the only display my tired 63 year old eyes can handle anymore.

Re: Display tech

*Message #4 Posted by **Don Shepherd** on 3 Sept 2010, 12:42 p.m.,*
in response to message #3 by Donald Williams

The only downside to the fx9860g slim is the software for transferring programs between the unit and your PC. It's awful. I've never been able to figure it out so I just write my programs on the calc.

Re: Display tech

*Message #5 Posted by **Katie Wasserman** on 3 Sept 2010, 2:32 p.m.,*
in response to message #3 by Donald Williams

You don't need to buy the "slim" the regular format "fx9860g ii" model has the same back light. It also offers a newer operating system/programing language with more features.

BTW, the "slim" is back on sale at J&R for $60 w/free shipping.

Re: Display tech

*Message #6 Posted by **Nigel J Dowrick** on 3 Sept 2010, 1:52 p.m.,*
in response to message #1 by Jimi

When I first got my TI-89 I thought the display was fine; certainly it was a significant improvement on the TI-92 which I'd had previously. I could even read it without glasses! No longer - it's far too small for that! I don't think that the contrast is all that bad, though.

Manufacturers don't seem to give the contrast of their LCD calculators the priority I would expect. The contrast of the original HP-48SX was abysmal (even to my early 1990s eyes!). The HP-42s and other machines using the same two-line display are better, but still not very clear to me. The TI Nspire display is a big step backwards, without even the excuse of a touch-sensitive layer to justify its poor contrast.

I don't really understand the issue. Back in 1990 or so I had a Psion 3a organizer with a high-resolution display and splendid contrast. Why can't all displays be at least this good? At least Casio have shown that the art of high-contrast monochrome displays is not entirely lost!

Nigel

Re: Display tech

*Message #7 Posted by **Martin Pinckney** on 3 Sept 2010, 2:03 p.m.,*
in response to message #1 by Jimi

This discussion has come up many times. Many of us say the same thing as you, Jimi, but the naysayers always counter that "everyone expects calculators to turn on instantly, and the batteries to last a long time."

Personally, I think the calculator business needs a little thinking outside the marketing "box". I.e., spend that extra proverbial dollar on quality keyboards, backlit displays, easy I/O. Maybe the professional world, starved for so long for truly great calculators, will respond favorably.

Edited: 3 Sept 2010, 2:05 p.m.

Re: Display tech

*Message #8 Posted by **Tim Wessman** on 3 Sept 2010, 2:57 p.m.,*
in response to message #7 by Martin Pinckney

The "maybe" in your statement is the issue there. Businesses tend not like maybe. . . :-(

TW

Re: Display tech

*Message #9 Posted by **Jimi** on 3 Sept 2010, 3:47 p.m.,*
in response to message #8 by Tim Wessman

And this is what is in the back of my mind as well. Maybe the market isn't there, since most people I know pull up the Windows calculator for example. I rarely see one on someone's desk anymore, and I was working in an engineering environment till last year.

In poking around though, I did find a cool thing though. Maybe it's been on here before, but this app for the iPhone, Windows Mobile, is pretty neat.

http://www.spacetime.us/

I downloaded it and played around. It'll do everything the TI was meant to do, and is easy to read. The lack of a keyboard is a real negative though.

Think about it though. Come up with a calculator looking case with a keyboard and a dock that you plug an iPod Touch into. Much like portable keyboards I've seen with docks, just have it translate the keys or something, and work with the company a little on the interface. That would be pretty slick.

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advice needed to visit USA

*Message #1 Posted by **Patrice** on 2 Sept 2010, 4:29 p.m.*

Hello all,

off topics mode

I will attend to HHC 2010 and will have some holidays around HHC and I'd like to visit intersting things.

I will travel by car between Montréal and Fort Collins.

I already know interresting places:

```
Niagara Falls
Cedar Point (Roller coster park)
Rushmore mountains
NIST on Monday :)
Rocky mountain park
American Computer Museum in Montana (I have read that they have a replica of the antikytera
artifact)
```

If you know other interesting places, just let me know.

Patrice

Re: advice needed to visit USA

*Message #2 Posted by **JDonley** on 2 Sept 2010, 4:51 p.m.,*
in response to message #1 by Patrice

Yellowstone Park in Montana and Wyoming.

Re: advice needed to visit USA

*Message #3 Posted by **Martin Pinckney** on 2 Sept 2010, 5:09 p.m.,*
in response to message #2 by JDonley

Well, that might be a little out of the way, but if you go to Wyoming, the Tetons.

Re: advice needed to visit USA

*Message #4 Posted by **Martin Pinckney** on 2 Sept 2010, 5:06 p.m.,*
in response to message #1 by Patrice

How much time do you have? Personally, I just enjoy sight-seeing along the way, no matter which way it is.

Vermont is unusual because it tends toward small businesses instead of the big box stores. I might be considered an oddball, since I think downtown Cleveland is beautiful. The Chicago skyline is fabulous! I would seek out dairy farms in Wisconsin, cornfields in Iowa and wind turbine fields in Nebraska.

Of course in Colorado, the Rockies...

Re: advice needed to visit USA

*Message #5 Posted by **DaveJ** on 2 Sept 2010, 5:22 p.m.,*
in response to message #1 by Patrice

I'd recommend you continue on to Zion, Bryce, and Grand Canyons.

Not that far from Fort Collins, after having gone all that way already.

I found Meteor Crator very interesting too.

Dave.

Re: advice needed to visit USA

*Message #6 Posted by **Dave Shaffer (Arizona)** on 2 Sept 2010, 5:57 p.m.,*
in response to message #5 by DaveJ

> Quote:
>
> I'd recommend you continue on to Zion, Bryce, and Grand Canyons.

I live near these, and certainly second DaveJ's nominations. The Grand Canyon should be first.

My wife and I talk occasionally about those things that are even better in person than you can possibly imagine. On our list: The Grand Canyon, Niagara Falls, and the Fjords of Norway.

If you can get as far as Meteor Crater, let me know. I'm an astronomer and live only 40 miles away (and, in fact, the owner (Drew Barringer - the crater's other name: Barringer Crater) lives just a few hundred yards/meters from us!). I'd be glad to be a tour guide if it fits my schedule.

Re: advice needed to visit USA

*Message #7 Posted by **Tim Wessman** on 2 Sept 2010, 7:49 p.m.,*
in response to message #6 by Dave Shaffer (Arizona)

I have to disagree. Grand Canyon is one of those places that is lots of fun if you actually hike down into it. Just for looking though, Arches NP or Zion NP is much more interesting and fun.

Course, that is just my biased opinion and carries no real weight.

TW

Re: advice needed to visit USA

*Message #8 Posted by **DaveJ** on 3 Sept 2010, 2:31 a.m.,*
in response to message #7 by Tim Wessman

> Quote:
>
> I have to disagree. Grand Canyon is one of those places that is lots of fun if you actually hike down into it. Just for looking though, Arches NP or Zion NP is much more interesting and fun.

I wouldn't disagree. Grand canyon is awesome in it's size, but others like Bryce and Zion are places you can easily get into and appreciate up close.

If you go to Zion and don't do the canyoning, then do the Angles Landing walk, it's pretty awesome.

On my whole world trip the place I took the most photos was Bryce canyon. Make of that what you will!

Dave.

Re: advice needed to visit USA

*Message #9 Posted by **Walter B** on 3 Sept 2010, 12:15 a.m.,*
in response to message #5 by DaveJ

I concur. Try to reach the Grand Canyoun from the south, turn to the west and proceed to Zion from the south again. Most spectacular IIRC. Imagine when the Spanish first came to the south rim of the Grand Canyon - mierda, no way further north!

Death valley may be worth a detour as well. And ...

It all depends on the amount of time you have and the amount of miles you are willing to drive. And of your personal interests and hobbies, of course.

Re: advice needed to visit USA

*Message #10 Posted by **David Hayden** on 2 Sept 2010, 5:25 p.m.,*
in response to message #1 by Patrice

The Garden of the Gods in Colorado Springs, Colorado is about 2.5 hours south of Ft Collins and one of the most memorable places I've ever seen. Well worth the trip.

Re: advice needed to visit USA

*Message #11 Posted by **Tim Wessman** on 2 Sept 2010, 7:47 p.m.,*
in response to message #10 by David Hayden

Don't forget Pikes peak.

TW

Re: advice needed to visit USA

*Message #12 Posted by **bill platt** on 3 Sept 2010, 1:20 a.m.,*
in response to message #1 by Patrice

National Music Museum at the Univ of South Dakota

http://orgs.usd.edu/nmm/HomePageRedirects/Collections.html

Re: advice needed to visit USA

*Message #13 Posted by **DaveJ** on 3 Sept 2010, 6:17 a.m.,*
in response to message #1 by Patrice

The Computer History Museum is a must see if you eventually make it across to Silicon Valley.

Dave.

Re: advice needed to visit USA

*Message #14 Posted by **DaveJ** on 3 Sept 2010, 6:19 a.m.,*
in response to message #1 by Patrice

Not to hijack the thread :->, but I'm also in the US in October. LA for about a week and then 10 days off. The wife wants to go to the new Harry Potter world in Orlando, so we'll probably end up over there on the east coast.

Any other random recommendations for down that way?

Dave.

Re: advice needed to visit USA

*Message #15 Posted by **Walter B** on 3 Sept 2010, 8:14 a.m.,*
in response to message #14 by DaveJ

Pima air museum in Arizona, and some oily beaches at the Gulf coast ;)

Re: advice needed to visit USA

*Message #16 Posted by **Martin Pinckney** on 3 Sept 2010, 8:51 a.m.,*
in response to message #14 by DaveJ

The Everglades.

Re: advice needed to visit USA

*Message #17 Posted by **mike reed** on 3 Sept 2010, 9:52 a.m.,*
in response to message #14 by DaveJ

Orlando isn't that far from Cape Canaveral. They have so much there to see and do you could easily spend a whole week there, alone! Very impressive - and totally geek friendly... ;o)

Re: advice needed to visit USA

*Message #18 Posted by **David Hayden** on 3 Sept 2010, 3:31 p.m.,*
in response to message #17 by mike reed

Dave, just to be clear, Cape Canaveral is where NASA is located so you can see and learn all sorts of things about the US space program.

Re: advice needed to visit USA

*Message #19 Posted by **Jeff O.** on 3 Sept 2010, 7:37 p.m.,*
in response to message #18 by David Hayden

Home of the Kennedy Space Center.

Edited: 3 Sept 2010, 7:41 p.m.

Re: advice needed to visit USA

*Message #20 Posted by **DaveJ** on 4 Sept 2010, 2:17 a.m.,*
in response to message #19 by Jeff O.

Already been to the Kennedy Space center. Yes, very cool.

Dave.

Re: advice needed to visit USA

*Message #21 Posted by **db (martinez, ca.)** on 5 Sept 2010, 1:58 a.m.,*
in response to message #14 by DaveJ

Dave;
If you are going to be in lala land, when you get free you should see Yosemite - for 9 of those ten days. Or slightly less if you *want* to stay married. There are only a couple of places in the world with that kind of astounding unrelenting dizzying vertical relief; Torres del Paine in Patagonia, some gorge in the Himalaya i can't remember the name of, and the Ruth amphitheater on Denali - but that's half filled with ice. There will be people all over the valley but Muir's *gentle wilderness* starts just a few feet from every road and his *range of light* is 95% of the park.

Re: advice needed to visit USA

*Message #22 Posted by **Dave Shaffer (Arizona)** on 5 Sept 2010, 2:25 p.m.,*
in response to message #21 by db (martinez, ca.)

Quote:

> There will be people all over the valley but Muir's gentle wilderness starts just a few feet from every road

In technical terms: the 1/e distance for the thinning out of the tourist crowd is about 100 meters from the nearest car-accessible point (except, perhaps, on the MOST popular of trails)!

Yosemite

*Message #23 Posted by **designnut** on 5 Sept 2010, 11:20 p.m.,*
in response to message #21 by db (martinez, ca.)

Just visited Sequoia and Yosemite, went to Glacier point, what a vista. It has been a year of high snowfall and many minor waterfalls are magnificent. If there was ever a time to go, this is it. We added SFO, Monterey acquarium, LA and return to San Diego Sam

Re: advice needed to visit USA

*Message #24 Posted by **htom trites jr** on 3 Sept 2010, 10:21 a.m.,*
in response to message #1 by Patrice

If you're going to Montana, you should go to Glacier National Park (they've shrunk, but are still there.) One of the best ways to enter Yellowstone National Park is via the Beartooth Pass (using the Beartooth Highway); it is a spectacular drive through the mountains. I used to recommend Yellowstone, but it's so crowded and built up ... the scenery is still spectacular. Go through that park and into the Tetons National Park next door, not really as crowded, and then south.

South Dakota's Badlands, Crazy Horse Memorial, Mt. Rushmore, and Devil's Tower are all close together and worth seeing.

The canyons are spectacular. The Grand Canyon is perhaps best by river; from ground level it's overwhelmingly huge, from the water it's eternal. The smaller ones are much more user-friendly and at maybe even more beauty-filled.

Of all of those, though, Jenny Lake in the Tetons is where I'd love to be, any day.

Re: advice needed to visit USA

*Message #25 Posted by **George Bailey (Bedford Falls)** on 3 Sept 2010, 11:17 a.m.,*
in response to message #1 by Patrice

> Quote:
>
> advice needed to visit USA

1) DON'T ;)

2) If you really must, watch Stephen Fry in America, driving through all the 50 states.

http://en.wikipedia.org/wiki/Stephen_Fry_in_America

Make your choice then! ;)

Re: advice needed to visit USA

*Message #26 Posted by **DaveJ** on 4 Sept 2010, 2:18 a.m.,*
in response to message #25 by George Bailey (Bedford Falls)

I like the Top Gear US road trip!

http://www.youtube.com/watch?v=J6wvdwwUlDM

Dave.

Re: advice needed to visit USA

*Message #27 Posted by **Patrice** on 4 Sept 2010, 2:44 a.m.,*
in response to message #1 by Patrice

Hello all,

Thanks guys for all the advices.

Actually, I am putting points on the maps to see what is possible

To be precise, I arrive in Montréal the 17 of septembre and go back to France the 7 of October.

So it is about 1 week before HHC and 2 little weeks after.

Thanks again

Patrice

Re: advice needed to visit USA

*Message #28 Posted by **Dave Shaffer (Arizona)** on 4 Sept 2010, 4:13 p.m.,*
in response to message #27 by Patrice

Perhaps the most important advice would be: don't try too much!

Unless you have another driver, you don't want to do more than perhaps 400-500 miles (700-800 km) a day (on days when you are not visiting anywhere). The Interstate highways allow high speed (65-70-75 MPH; 105-120 km/h) travel, but I find stayinhg alert while traveling that fast and that far wears me out by the end of the day.

Take the time to more fully explore some of the places we have suggested.

Re: advice needed to visit USA

*Message #29 Posted by **Patrice** on 4 Sept 2010, 6:42 p.m.,*
in response to message #28 by Dave Shaffer (Arizona)

Hi Dave,

It is about what I was planning.

Meteor crater is very appealing, I will let you know if I make it or not. If I visit Meteor Crater, I think it will be on 21 or 22 of September.

Patrice

Re: advice needed to visit USA

*Message #30 Posted by **htom trites jr** on 7 Sept 2010, 6:48 p.m.,*
in response to message #29 by Patrice

It might make more sense to fly from Montreal to Phoenix, AZ, and rent a car there, and drive north, or to Seattle, rent and drive through the Going to the Sun Pass and then south. One-way rental so you don't have to drive a loop.

Re: advice needed to visit USA

*Message #31 Posted by **Eric Rechlin** on 5 Sept 2010, 2:12 p.m.,*
in response to message #1 by Patrice

A lot of people have suggested things that are nowhere near the route you will be taking, but if you're going to be going to the Rapid City area anyway (and presumably Badlands National Park), you could go a little bit farther west and see Devils Tower just across the border in Wyoming.

If you're willing to go out of your way and travel farther south, I second the suggestion of Pikes Peak, and if you keep going south you might want to see Great Sand Dunes and Mesa Verde, but by the time you are at Mesa Verde you're halfway to the Grand Canyon, and might as well keep on going (but that will be hard to properly do in just a couple weeks).

If you're serious about making it out to Bozeman, definitely go a bit farther north to Glacier, and then go back into Canada so you can see Banff, Jasper, and Yoho. But doing all that would probably have to be done separately from the above paragraph -- you simply don't have enough time.

But thinking about your route and what you have listed, most of those are right on your way and are no-brainers. Bozeman and Rapid City are the only ones that are not, but Rapid City isn't that far out of the way (maybe even stop by the corn palace in Mitchell on your way there!), and Bozeman would make sense if you are planning a northern loop on your return trip.

Re: advice needed to visit USA

*Message #32 Posted by **Mike Morrow** on 6 Sept 2010, 3:02 p.m.,*
in response to message #31 by Eric Rechlin

If one travels southwest from, say, the Yellowstone and Teton parks, on Interstate 15 toward the Grand Canyon, the interesting Mountain Meadows site will be found a few miles southwest of Cedar City, Utah. That was another tragic 9/11 event, in 1857.

Edited: 6 Sept 2010, 3:04 p.m.

Re: advice needed to visit USA

*Message #33 Posted by **Jeff Davis** on 6 Sept 2010, 10:51 a.m.,*
in response to message #1 by Patrice

Hoover Dam is a must see. Very impressive. Take the tour for sure. And of course, Las Vegas.

Re: advice needed to visit USA

*Message #34 Posted by **JDonley** on 6 Sept 2010, 2:25 p.m.,*
in response to message #33 by Jeff Davis

If you're in Utah, Monument Valley is most impressive. There is way too much to see in the West in a couple of weeks. I've lived in Montana and Wyoming for 45 years and alot I have not seen. The plains Indian museum in Cody, Wyoming is world class if that is your thing.

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Seller's Hyperbole

*Message #1 Posted by **Michael de Estrada** on 1 Sept 2010, 11:15 p.m.*

We've all seen how advertisers use hyperbole to get the attention of potential buyers and to outdo their competitors. Words like "super" and "ultra" and "premium". Well, I just saw two competing TAS listings for an HP-31E, in which the first seller refers to it as "rare." So, not to be outdone, the second seller refers to it as "ultra rare." I'm wondering what would happen if there were to be a third listing. Would it then become "super ultra rare" ?

Re: Seller's Hyperbole

*Message #2 Posted by **Martin Pinckney** on 1 Sept 2010, 11:48 p.m.,*
in response to message #1 by Michael de Estrada

The use such superlatives has always puzzled me. Typically the item is far from rare. I have seen this term used many times to describe a garden-variety 48sx, for crying out loud.

Now if a true collector is reading the description, he or she will know if the item is rare or not.

If the viewer is not knowledgeable about the type of product, would they jump to buy something just because the seller says it's rare? And why would someone be collecting something they know nothing about?

So the use of the term "rare" is worse than useless, it actually makes the seller look shady.

Re: Seller's Hyperbole

*Message #3 Posted by **Namir** on 2 Sept 2010, 12:06 a.m.,*
in response to message #2 by Martin Pinckney

Those descriptions pale in front of erroneous model names, like HP- 12CC and HP84GX. These errors appear in the title and auction text, repeated over and over. Does the seller ever bother to look at the machine and learn the ACTUAL product name???

Namir

Re: Seller's Hyperbole

*Message #4 Posted by **M. Joury** on 2 Sept 2010, 12:19 a.m.,*
in response to message #3 by Namir

How about those items with a starting bid price that is 1.5 to 2 times as high as the HP direct or Amazon price. Or items being sold for 100's of dollars when further down the page they are $20-$30. I always have to wonder if they ever sell anything. Based on some of those prices I could sell off my collection and retire to a mansion somewhere.

M. Joury

Re: Seller's Hyperbole

*Message #5 Posted by **Namir** on 2 Sept 2010, 12:43 a.m.,*
in response to message #4 by M. Joury

I sometimes track this kind of auctions and to no one's surprise they don't sell--especially not in this terrible economy where many folks are watching their wallets.

I guess there are auction sellers who put these HP items (and my guess they know little to nothing about) with a personal hunch or the advice of an uninformed friend that they will be worth a lot. I have seen an A/C charger for vintage HP calculators being offered for something like $150!!! Really???!! Of course there was no takers.

Namir

Edited: 2 Sept 2010, 12:45 a.m.

Re: Seller's Hyperbole

*Message #6 Posted by **Walter B** on 2 Sept 2010, 12:50 a.m.,*
in response to message #5 by Namir

> Quote:
>
> I guess there are auction sellers who put these HP items (and my guess they know little to nothing about) with a personal hunch or the advice of an uninformed friend that they will be worth a lot. I have seen an A/C charger for vintage HP calculators being offered for something like $150!!!

Your guess doesn't match my experience. At least some of them offering repeatedly know their items pretty well.

Re: Seller's Hyperbole

*Message #7 Posted by **Mike** on 2 Sept 2010, 12:58 a.m.,*
in response to message #5 by Namir

You mean "no takers" on every auction. The reason there are often no takers, is because the seller DOES know the value of the item. Items put up for auction, in auction style, typically sell at far below actual value.

The best seller model is one where an item is priced at what the top 10% are happy with; not what the other 90% might be happy with. But I guess there are other models.

The ones I can't figure out are the ones who put a $50 actual value item and try to get $500. And when you check their feedback, you see they have never sold one. Never!

Edited: 2 Sept 2010, 1:05 a.m.

Re: Seller's Hyperbole

*Message #8 Posted by **Namir** on 2 Sept 2010, 10:09 a.m.,*
in response to message #7 by Mike

Also, I sometimes check to see **WHAT ELSE** that seller is offering. Often I discover that the expensive calculator (or accessory) is the **ONLY piece of electronic offered** among a

wide selection of clothes, ceramics, and other non-electronic items. In such case, it's easy to conclude that the seller has little or no idea about what they are selling--probably doing it as a favor for a friend.

Edited: 2 Sept 2010, 10:10 a.m.

Re: Seller's Hyperbole

*Message #9 Posted by **M. Joury** on 2 Sept 2010, 11:58 a.m.,*
in response to message #7 by Mike

Those $50 items for $500 are the auctions I was referring to. An HP41 HPIL module for over $300? Something I remember seeing at some time in the past. Isn't that a bit steep?

Re: Seller's Hyperbole

*Message #10 Posted by **Walter B** on 7 Sept 2010, 12:30 p.m.,*
in response to message #9 by M. Joury

Take a look here and you'll find many examples. Background: two "free Weekends" recently :-/

Re: Seller's Hyperbole

*Message #11 Posted by **Walter B** on 2 Sept 2010, 12:44 a.m.,*
in response to message #4 by M. Joury

That's sales policy :((We all know some sellers doing this over and over again. They benefit from special days at TAS ("no fee this weekend"), put their stuff in for nothing at starting prices 5 to 10 times exceeding the usual values and wait for stupid buyers. Usually those people won't sell a lot, but one or two may balance their effort which is near zero, since they have their offers prepared for long and recycle them repeatedly. Not that I like that, but it's a free market so we'll have to live with that :-/ After all, they are few and regular visitors of TAS learn about them pretty fast.

Re: Seller's Hyperbole

*Message #12 Posted by **Don Shepherd** on 2 Sept 2010, 7:50 a.m.,*
in response to message #3 by Namir

Quote:

> erroneous model names

Major retailers are guilty of this too, although it is probably the manufacturer's fault (marketing morons). Office Depot is currently selling the "HP-30bii".

Re: Seller's Hyperbole

*Message #13 Posted by **Norman Dziedzic** on 2 Sept 2010, 10:25 a.m.,*
in response to message #3 by Namir

Quote:

> Those descriptions pale in front of erroneous model names, like HP- 12CC and HP84GX. These errors appear in the title and auction text, repeated over and over. Does the seller

ever bother to look at the machine and learn the ACTUAL product name???

Namir

My favorite is the HP 12C **Scientific** Calculators that are often up for auction.

Re: Seller's Hyperbole

*Message #14 Posted by **Walter B** on 2 Sept 2010, 11:22 a.m.,*
in response to message #13 by Norman Dziedzic

Quote:

My favorite is the HP 12C Scientific Calculators that are often up for auction.

My favorites are ...

Sorry, just couldn't resist d;->

Re: Seller's Hyperbole

*Message #15 Posted by **Norman Dziedzic** on 2 Sept 2010, 12:11 p.m.,*
in response to message #14 by Walter B

Quote:

My favorites are ...

Sorry, just couldn't resist d;->

That why I are an engineer and not a english goodly teacher. 8^)

Re: Seller's Hyperbole

*Message #16 Posted by **Namir** on 2 Sept 2010, 3:17 p.m.,*
in response to message #13 by Norman Dziedzic

That's what C in 12C stands for .... sCientific. Who says it has to be the first letter all time time! How about giving the SECOND letter a break!

Re: Seller's Hyperbole

*Message #17 Posted by **Bill Zimmerly** on 2 Sept 2010, 3:36 p.m.,*
in response to message #16 by Namir

Quote:

That's what C in 12C stands for .... sCientific. Who says it has to be the first letter all time time! How about giving the SECOND letter a break!

(Laughing!)

Re: Seller's Hyperbole

*Message #18 Posted by **Gerson W. Barbosa** on 2 Sept 2010, 6:17 p.m.,*
in response to message #16 by Namir

> Quote:
>
> That's what C in 12C stands for .... sCientific.

I like this one. It might make sense in Portuguese and Spanish (The initial 's' in words that began with 'sc' has long been dropped).

When I see that...

*Message #19 Posted by **Mike** on 2 Sept 2010, 1:03 a.m.,*
in response to message #1 by Michael de Estrada

When I see that kind of puffery, I will often write (tongue in cheek) and ask, "What is so rare about this? There are 5 others at half the price"

Re: When I see that...

*Message #20 Posted by **M. Joury** on 2 Sept 2010, 12:01 p.m.,*
in response to message #19 by Mike

I have been tempted... But all I can see is an email war on the horizon and so I cave. Have you ever gotten an answer to that question?

Re: When I see that...

*Message #21 Posted by **Jim Horn** on 2 Sept 2010, 2:27 p.m.,*
in response to message #19 by Mike

Regarding hyperbole - my favorite (relevant) joke is of three pizza restaurants on the same block. The first had a large sign claiming it has the best pizza in the country. The second's sign claims the best pizza in the world.

The third's sign claims that it has the best pizza on the block.

One day decades ago, my brother (Joe) and I were stranded in Billings, Montana and, on a lark, tried a local pizza restaurant. The above joke came to mind abundantly when we tried their product.

Sometimes the seller doesn't know what the competition is...

Re: Seller's Hyperbole

*Message #22 Posted by **bill platt** on 2 Sept 2010, 3:01 p.m.,*
in response to message #1 by Michael de Estrada

Sound like a Sunoco product to me.

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HP-35 Microcode-level Emulator (in JavaScript!)

*Message #1 Posted by **Ashley Nathan Feniello** on 1 Sept 2010, 10:13 p.m.*

Inspired by Eric Smith, David Hicks, Peter Monta, Jacques Laporte, et al, I spent some time and wrote a microcode-level emulator for the HP-35.

You can play with it here: http://www.lkjsdf.com/archive/hp/35/

Blogged a bit about it here: http://blogs.msdn.com/b/ashleyf/archive/2010/08/27/microcode-level-hp-35-emulator-in-javascript.aspx

Have fun!

Edited: 1 Sept 2010, 10:18 p.m.

Re: HP-35 Microcode-level Emulator (in JavaScript!)

*Message #2 Posted by **Pal G.** on 2 Sept 2010, 1:39 a.m.,*
in response to message #1 by Ashley Nathan Feniello

Welcome, and your blog and simulator looks interesting. Thank for you contribution. I'll have to play with it more tomorrow.

Cheers.

Edited: 2 Sept 2010, 1:41 a.m.

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HP-35 Manual Online

*Message #1 Posted by **Ashley Nathan Feniello** on 1 Sept 2010, 10:10 p.m.*

I spent a little time and scanned my HP-35 operating manual and put up here: http://www.lkjsdf.com/archive/hp/35/manual/ You may also link to specific pages with http://www.lkjsdf.com/archive/hp/35/manual/?42 Have fun!

Edited: 1 Sept 2010, 10:19 p.m.

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HP 28C - horizontal bars across display ?

*Message #1 Posted by **Kao_Tai** on 1 Sept 2010, 4:54 p.m.*

This afternoon my HP 28C would no longer work!

(Had worked properly ever since I bought it 23 year ago, and still did so this morning.)

When I tried to switch it on, there were only two horizontal lines on the display. http://www.stadler-christoph.de/P1030754.jpg

And I could no longer turn it off.

I tried the self tests, and they would still work, and the display was fine during these tests.

But afterwards there still were only these bars.

I replaced the batteries for a new set (gladly our company still has them in stock). But this didn't help.

After putting the calculator away for a few hours I tried it again. And now it works again properly - for the time being ...

Any idea what could be the problem ?

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sad news

*Message #1 Posted by **db (martinez, ca.)** on 1 Sept 2010, 4:38 p.m.*

Ted Kerber, the Land Surveyor who wrote the D'zign programs for the 65, 67, 41, 42, 48 & 50 series calculators died a couple of days ago, in the arms of his wife Phyllis, after a long battle with cancer. Many of you here met Ted and Phyl (who is also a surveyor) at the San Jose and San Diego HHCs. Many more used his work. His signature was writing routines for unusual applications like the barnet's spiral and tunneling for handheld calculators - and back when there were no programs to do that at all.

I'm wrote out, so i'll just copy part of what i wrote to Phyllis here:
Ted is irreplaceable, in different ways, to all of us. Besides the thousands that used his programs daily; he was a mentor and teacher to more surveyors than i will ever know. He was a great teacher too - i've still got his red pencil all over my apprentice papers. I won't make those mistakes again, and i'll know how - because he took the time to explain why. He was a great man and a fine human being in a line of work, and world, where neither of those is obligatory. In everything, Ted exceeded his specifications.

If you have any stories or memories of Ted, i'm sure that the family would enjoy hearing them. You could send them to dzign@msn.com or look up the real world address at the D'zign website.

Sorry to have this bad news to give - den belillo

Re: sad news

*Message #2 Posted by **Namir** on 1 Sept 2010, 5:35 p.m.,*
in response to message #1 by db (martinez, ca.)

I am sorry to hear that sad news. I enjoyed seeing ted at the HHC conferences in the past few years. He will be greatly missed!

namir

Re: sad news

*Message #3 Posted by **BruceH** on 1 Sept 2010, 8:36 p.m.,*
in response to message #2 by Namir

Me too. At HHC2009 I gave Ted a lift somewhere during the afternoon break - I forget exactly what for now. Anyway, it took rather longer than I was expecting, what with chatting, Ted taking everything real slow, plus a stop for a smoke or three, so we missed all of Richard Nelson's talk and half of yours, Namir. So not so bad after all. </cheapshot>

;-)

Re: sad news

*Message #4 Posted by **sjthomas** on 1 Sept 2010, 11:25 p.m.,*
in response to message #1 by db (martinez, ca.)

Ted always remembered me at the HHUC meetings I've been able to attend -- although he had no reason to. I'm not a surveyor and have never purchased any of his products. He was very "down to earth" -- which I suppose is appropriate for a surveyor. Go with God. Requiescat in pacem, Ted.

Re: sad news

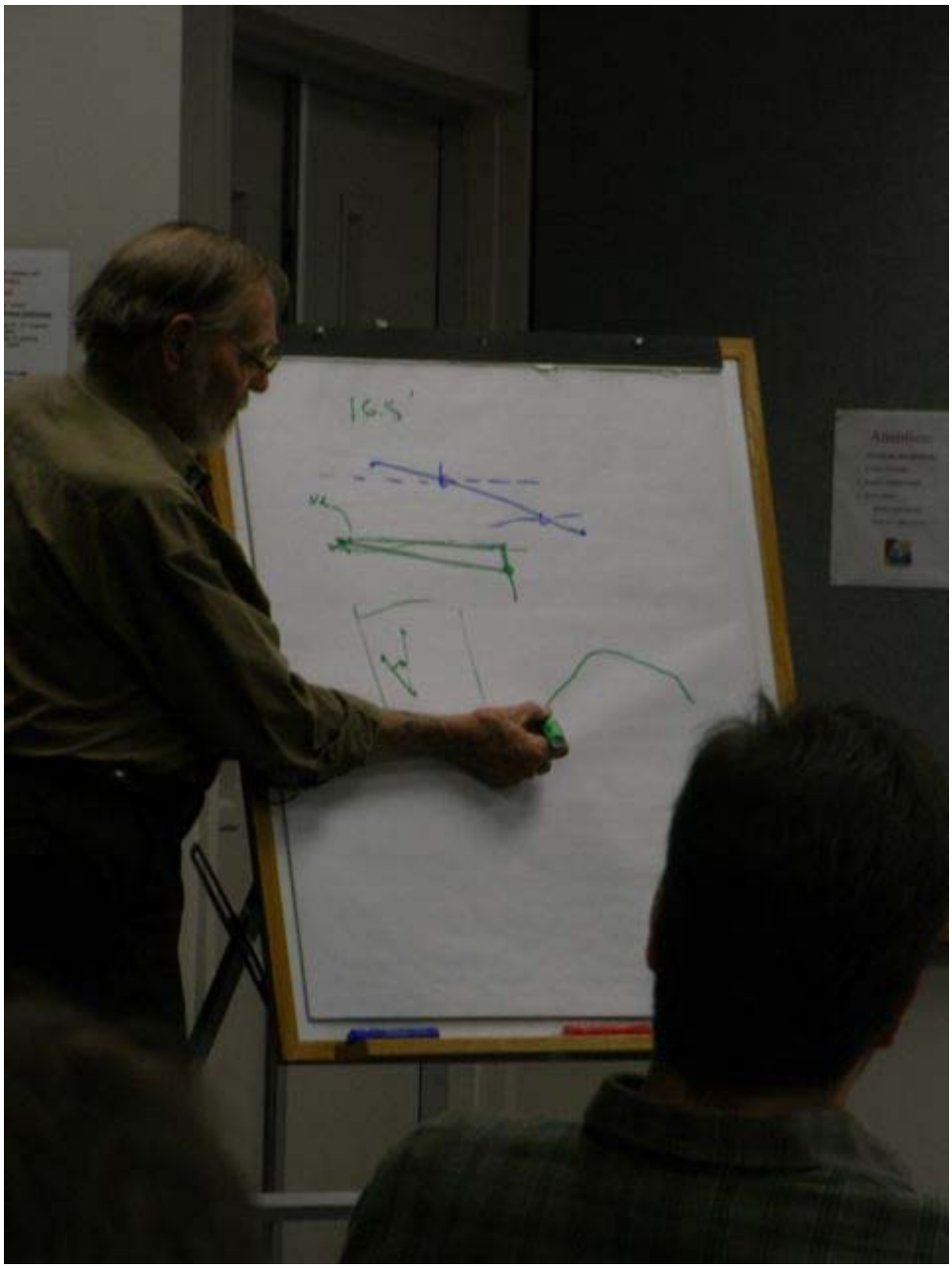
*Message #5 Posted by **Iqbal** on 3 Sept 2010, 10:19 p.m.,*
in response to message #4 by sjthomas

My condolences to his wife and family. He was a very good programmer, and I know he would be missed by the surveying community.

Re: sad news

*Message #6 Posted by **BruceH** on 5 Sept 2010, 6:00 p.m.,*
in response to message #1 by db (martinez, ca.)

Here is Ted presenting at HHC2009 and giving all us non-surveyors an insight into how the job drove his software.



Re: sad news

*Message #7 Posted by **db (martinez, ca.)** on 7 Sept 2010, 1:03 a.m.,*
in response to message #6 by BruceH

Bruce; Good point about job driven. That is exactly what i like about his programs. For example: all routines to stake slope cuts and fills are based on an alignment & offset from a line. Like Ted's, most are IDd like surveyors think - station & offset. Ted took that one step further. He lets the shot that you take tell you the station and offset with the cut or fill. This lets one find the "daylight" point where cut and fill meet very easily. All but one other commercially available program that i know of forces the user to input a station and then find the catch point - again and again till he trips over the daylight accidentally. This is also true of the the nose of maximum cut or fill, which is another useful point to know. BTW: That one semi-good program won't let you enter a precise alignment like D'zign, just a "spline curve" approximation. So yes; "job driven" is fine indeed.

Brian; Re: sharing information. You & me probably don't know the half of it. One example of that was Ted giving away his 41 program books to any apprentice in our union, while he was still selling them through

stores like International Calculator in Florida & Educalc in Ca., and in the professional magazines.

Re: sad news

*Message #8 Posted by **Brian Walsh** on 6 Sept 2010, 1:34 p.m.,*
in response to message #1 by db (martinez, ca.)

Very sorry to hear this. Ted was an example to all by the way he openly shared information and helped others. He was down to earth, easy going, and quick to smile.

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Have to shout out - I have a 41 again!

*Message #1 Posted by **Norman Dziedzic** on 1 Sept 2010, 12:23 p.m.*

It's new (old) calculator week here!

After ditching my original 41CX post college I once again have a true blue HP41 (Not a CX but CV). Loving every minute of it and the Survey Pack I got with it is way cool! Should be getting another 41-CV later this week to mess around with (it is non-functioning).

Now if the post office can find the 31E that was shipped to me I'll be happier than a pig in <>.

Edited: 1 Sept 2010, 12:24 p.m.

Re: Have to shout out - I have a 41 again!

*Message #2 Posted by **Jerry Raia** on 6 Sept 2010, 7:31 p.m.,*
in response to message #1 by Norman Dziedzic

Congrats! I just got my old 41CV, which was not working, up and running again. Now I'm working on the card reader. :)

Re: Have to shout out - I have a 41 again!

*Message #3 Posted by **Jim L (OHIO)** on 6 Sept 2010, 9:45 p.m.,*
in response to message #1 by Norman Dziedzic

Yeah, I can't explain it, but I absolutely agree! Something about holding such a well designed--and well made piece of machinery--just makes one elated. I had an early HP-41C which I gave up on when the battery terminals corroded and I (mistakenly) thought it wasn't worth repairing. Went with that many peripherals too.

So in a fit of nostalgia recently, I went crazy to simply buy up a bunch of stuff on the popular auction site. So now I have a very nice HP-41CX, Advantage module, combined Math/Stats module, Finance module, and most recently a PPC ROM. So now the machine is "fully loaded" and not only can I not recall how to use 99% of the functions available to me, I don't have any reason to use them anyway. How's that for irrational?

Re: Have to shout out - I have a 41 again!

*Message #4 Posted by **Gerson W. Barbosa** on 6 Sept 2010, 11:11 p.m.,*
in response to message #3 by Jim L (OHIO)

Back in the day I had a 15C which was all I needed. I would press **g SF 8** to get into complex mode and I was all set for circuit analysis class. Even so I wanted to have a 41, but because it cost twice or three times as much, not to mention the peripherals, I resisted... until about four years ago. I was lucky enough to get an unused late production run 41CX from a friend, for a reasonable price. Later I got a card-reader, an Advantage module and two IR modules. Although I like the 41CX, I think I would have regretted if I had switched my 15C for a 41, but it would be great if I had owned both then.

http://www.geocities.ws/gwbarbosa/hp-41cx_.jpg

Re: Have to shout out - I have a 41 again!

*Message #5 Posted by **Norman Dziedzic** on 7 Sept 2010, 3:01 p.m.,*
in response to message #3 by Jim L (OHIO)

> Quote:
>
> How's that for irrational?

Everyone has their own version of irrationality. There are a lot of collections I can't understand but then again, the people collecting spoons are not likely to understand why anyone would collect calculators.

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Rarity and Value of the 82184A Plotter Module

*Message #1 Posted by **DavidShenk** on 1 Sept 2010, 12:27 a.m.*

As part of a box of HP stuff I bought was the HP 41 Plotter module and manual. The manual is quite thick. I always like to look things up to see how good of a deal I got, but it does not seem that these sell on TAS that often.

Any ideas from previous auctions?

Re: Rarity and Value of the 82184A Plotter Module

*Message #2 Posted by **M. Joury** on 1 Sept 2010, 12:36 a.m.,*
in response to message #1 by DavidShenk

I don't have any idea, but I have several of the things so I would be interested in any answers you get.

Cheers,

M.J.

Re: Rarity and Value of the 82184A Plotter Module

*Message #3 Posted by **Juergen Keller** on 1 Sept 2010, 3:07 a.m.,*
in response to message #1 by DavidShenk

The plotter module is not that rare, it appeared regularly on eBay in the last few years. To get a plotter with an HP-IL interface is more difficult. But fortunately, there is also the HP-IL/HP-IB interface so you can also look for a plotter with HP-IB interface. These plotters are more common and therefore much cheaper.

Plotting using an HP-41 is SLOW. If you want to see it in action, look at my YouTube video: HP-41 draws sine curve

Cheers, Juergen

Re: Rarity and Value of the 82184A Plotter Module

*Message #4 Posted by **DavidShenk** on 1 Sept 2010, 1:42 p.m.,*
in response to message #3 by Juergen Keller

Hi Juergen, I have a plotter with the HP-IB and a converter, but have not used the plotter module with it yet. I saw your video when you first posted it and I think that is what got me excited to get a plotter. It looks like the module has some ML routines that may speed up things some, so I'm going to rewrite a program I created and see if it does. It draws a "spirograph" type of design.

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HP30b Naming programs

*Message #1 Posted by **M. Joury** on 31 Aug 2010, 11:44 p.m.*

I have not seen this mentioned (of course I have not read everything on this calc either), but if you place a text message (MSG Shift-Hold-9) as line 1 of your program the program number "Prgm X" will be replaced by the supplied text.

M.J.

Re: HP30b Naming programs

*Message #2 Posted by **Katie Wasserman** on 1 Sept 2010, 12:18 a.m.,*
in response to message #1 by M. Joury

This feature has been mentioned a few times here and used in some programs posted by users in the threads of this forum. It's also described in Gene's programming reference module here, which contains all you need to know on how to program the 30b.

Re: HP30b Naming programs

*Message #3 Posted by **M. Joury** on 1 Sept 2010, 12:20 a.m.,*
in response to message #2 by Katie Wasserman

Hi Katie,

Thanks for the link. I have just started playing with the 30b and have not caught up on everything out there.

Cheers,

M.J.

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Backed into corner on HP48GX

*Message #1 Posted by **Don Jennings** on 31 Aug 2010, 8:30 p.m.*

I was learning the equation solver, hit solver and entered an equation but it didn't work out, I wanted to delete that equation and start another one but can't get to the edit mode. I have a bunch of stack objects, like list 1 and #'s, but can't clear them out or anything. Nothing I do seems to be able to clear the stack or get back to delete the original equation. Not sure what to do here. Tried a bunch of buttons, drop, next, back, clear, purge, nothing I do helps. HELP! For some reason the top bar says pgm and I don't know how I did that, I didn't start out in program mode.

Re: Backed into corner on HP48GX

*Message #2 Posted by **M. Joury** on 1 Sept 2010, 12:11 a.m.,*
in response to message #1 by Don Jennings

Have you tried "ON" or "ON+C" ?

Re: Backed into corner on HP48GX

*Message #3 Posted by **Don Jennings** on 1 Sept 2010, 6:08 a.m.,*
in response to message #2 by M. Joury

> Quote:
>
> Have you tried "ON" or "ON+C" ?

Yep, tried that of course, not sure what to do.

Re: Backed into corner on HP48GX

*Message #4 Posted by **M. Joury** on 1 Sept 2010, 11:37 a.m.,*
in response to message #3 by Don Jennings

If ON+C does not fix things I don't have any real good ideas that don't result in a Memory Lost state. Anything else I can think of would potentially lose your RAM. I am guessing that you don't want to pull the batteries because you don't have a current backup? You say that "PGM" is displayed on the status line? That indicates that you are in program entry mode. Are you using the built-in editor or a third part tool? Not that the answer to that really helps, just wondering.

Re: Backed into corner on HP48GX

*Message #5 Posted by **Don Jennings** on 1 Sept 2010, 1:05 p.m.,*
in response to message #4 by M. Joury

I was just using the built in 'solver' function, where you get the line to input an equation and such. I imagine an expert could get me out of trouble in seconds if he actually had it his hands but it sure is flummoxing me!

Re: Backed into corner on HP48GX

*Message #6 Posted by **Don Jennings** on 1 Sept 2010, 1:31 p.m.,*
in response to message #5 by Don Jennings

I don't know why it worked now, but doing 'solve' again got me back to the beginning, was able to delete the formula. Now I can start over! The formula btw, is one used to calculate chess ratings, I was starting with the 'win expectancy' part of it:

1/(10^((opponents rating-your rating)/400)+1) One question I have is, on a casio scientific calculator, you have the ^ function isolated so you can do 10^ or 4^ or whatever but I don't see just the ^ function on the HP. Is it there somewhere? It has a 10^x function but it calls itself 'ALOG()'. Is that exactly the same thing as 10^ ? I put that expression in using variables O for opponents rating and Y for Your Rating to see if it would solve ok, and assigned 1500 to each variable (the results in that case better be 0.5, the expected win percentage of two chess players with the same rating (1500 in this case). I was not able to get expression solve to work, it just sat there. Doing it again, I input 1/(ALOG((O-Y)/400)+1) and it gives an Invalid Syntax error message. with ALOG highlighted. What am I doing wrong? Thanks for your help eveyone!

Edited: 1 Sept 2010, 1:43 p.m.

Re: Backed into corner on HP48GX

*Message #7 Posted by **Don Jennings** on 1 Sept 2010, 3:28 p.m.,*
in response to message #6 by Don Jennings

> Quote:
>
> I don't know why it worked now, but doing 'solve' again got me back to the beginning, was able to delete the formula. Now I can start over! The formula btw, is one used to calculate chess ratings, I was starting with the 'win expectancy' part of it:
>
> 1/(10^((opponents rating-your rating)/400)+1) One question I have is, on a casio scientific calculator, you have the ^ function isolated so you can do 10^ or 4^ or whatever but I don't see just the ^ function on the HP. Is it there somewhere? It has a 10^x function but it calls itself 'ALOG()'. Is that exactly the same thing as 10^ ? I put that expression in using variables O for opponents rating and Y for Your Rating to see if it would solve ok, and assigned 1500 to each variable (the results in that case better be 0.5, the expected win percentage of two chess players with the same rating (1500 in this case). I was not able to get expression solve to work, it just sat there. Doing it again, I input 1/(ALOG((O-Y)/400)+1) and it gives an Invalid Syntax error message. with ALOG highlighted. What am I doing wrong? Thanks for your help eveyone!

I got past that by re-entering the formula and have the formula highlighted and hit EXPR= it came up with a solution but put a number of 201166.1581 in the "O" variable slot which previously held 1500. Any reason why? I thought, stupid me, that with the formula highlighted and you hit EXPR= it should come up with 0.5, the correct answer but I didn't want it to 'solve' for O. I wanted to just input O and Y and solve the frigging expression but no joy yet. ?? It also took a minute or two just to calculate that rediculous 201166 number. Why would it take so long for this simple expression?

My impression is that ALOG is not the same as 10^ on the casio. I did the same thing, but

with the O=1500 highlighted and after that long delay it came up with the same number. Any ideas here? Thanks for your patience with my bumbling here.

Edited: 1 Sept 2010, 3:37 p.m.

Re: Backed into corner on HP48GX

*Message #8 Posted by **Gerson W. Barbosa** on 1 Sept 2010, 4:01 p.m.,*
in response to message #7 by Don Jennings

If you solve 'P=1/(10^((O-Y)/400)+1)' for R, assuming you have assigned 1500 for O and Y, you will get P=0.5. Is this what you are looking for? By the way, exponentiation is accessed through the *y^x* key, but if you prefer you can use the ALOG function instead of 10^x, of course.

Edited: 1 Sept 2010, 4:04 p.m.

Re: Backed into corner on HP48GX

*Message #9 Posted by **M. Joury** on 1 Sept 2010, 4:25 p.m.,*
in response to message #8 by Gerson W. Barbosa

Beat me to it <g>.

Re: Backed into corner on HP48GX

*Message #10 Posted by **Gerson W. Barbosa** on 1 Sept 2010, 8:50 p.m.,*
in response to message #9 by M. Joury

Just found the formula and some theory:

http://www.chessrankings.com/theory.aspx

I am a patzer at chess, now I'll be able to measure my *patzerness* :-)

Re: Backed into corner on HP48GX

*Message #11 Posted by **Don Jennings** on 2 Sept 2010, 8:23 a.m.,*
in response to message #10 by Gerson W. Barbosa

Do you play chess online? The site I play at is called Red Hot Pawn, redhotpawn.com where you can take 3 days to make a move if you want, you can play for free as long as you play a max of 6 games at once or about 30 bucks a year for full subscription. The thing I like there is the forum system. There are separate forums for sports, religion, debates, science, general topics, puzzles and posers, and the like. My handle there is Sonhouse, I play blues on guitar and Son House was one of the great ones. You can access anyone's games and play them over, you can record your own games and play them back if you want to improve your own skills. I think it's a great site. There are others of course but a lot of other sites like Pogo games and Yahoo have some real asssholes who boost their ratings using computer programs like Fritz or Rybka to play the games and you don't have a chance against those extremely strong programs but at RHP they have people who check out games of suspicious nature, they can match the game play against a certain CPU/program combination and find an almost total match between the

players moves and the moves generated by some combination cpu/pgm and when they spot that they kick that person off the site. There have been many people kicked off that way so it leaves the rest with a fair degree of confidence you are playing an actual person not some chess engine. So that's my story and I am sticking with it:) Check the place out, it's a blast. I contribute to the puzzles forum, the science forum, the culture forum a lot as sonhouse.

Re: Backed into corner on HP48GX

*Message #12 Posted by **Gerson W. Barbosa** on 2 Sept 2010, 11:19 a.m.,*
in response to message #11 by Don Jennings

No, I don't play chess online. I tried it a couple of times, it's really better than playing against the computer, but I think I have to improve my game a bit before getting back. Some years ago I played blitz 5-minutes games at work during lunch-time on a regular basis. I have Ubisoft's ChessMaster (Grandmaster edition), but I don't play with it often. Also I have Leonard Barden's "Play Better Chess", but haven't read it seriously yet. Thanks for the tip, anyway.

Re: Backed into corner on HP48GX

*Message #13 Posted by **Don Jennings** on 2 Sept 2010, 12:20 p.m.,*
in response to message #12 by Gerson W. Barbosa

RHP has over 100,000 members, and at all levels. Try it out, it's free, there are people with ratings from 700 to 2400 there. You can find your level and work up from there for sure. Anyway, good luck.

Re: Backed into corner on HP48GX

*Message #14 Posted by **Don Jennings** on 1 Sept 2010, 9:46 p.m.,*
in response to message #8 by Gerson W. Barbosa

> Quote:
>
> If you solve 'P=1/(10^((O-Y)/400)+1)' for R, assuming you have assigned 1500 for O and Y, you will get P=0.5. Is this what you are looking for? By the way, exponentiation is accessed through the *y^x* key, but if you prefer you can use the ALOG function instead of 10^x, of course.

Yes, if you use most any equal rating you will get 0.5 as the answer, 1200 V 1200, 2400 V 2400, etc. That just means if you are both say, 1600, and you play 100 games, you are pretty sure of winning 50 games and losing 50 games or drawing all games, like most of the games of the Kasparov/Karpov matches, titanic struggles that ended up one game up after something like 130 games, not in one match of course, but they tied a lot of games!

So to use Y^x you would go say, 10, enter, Y^x, ((bla bla bla)) for the exponent? or in the equation solver, 10, Y^x, ((Bla))? Does it recognize that last as the proper format for exponents?

I was just sneaking up on the full rating formula, it's a bit more complex than just the win expectancy part, but I wanted to get that right before I finished the rest. The win expectancy is the key, if you don't have that right you are screwed trying to get the change in rating after a game.

Well it sure isn't working like I thought it should, I simplified the expression just to see it work, I entered 4/6 in the equation line of the 'solve' function and hit EXPR= and the exact same thing happened, the hourglass came on for about a half second, goes off and nothing else happens, no answer pops up. What am I doing wrong here?

Ok, figured that one out. You have to hit NXT and do CALC and EVAL, THEN the frigging answer comes out.

Edited: 1 Sept 2010, 10:37 p.m. after one or more responses were posted

Re: Backed into corner on HP48GX

*Message #15 Posted by **M. Joury** on 1 Sept 2010, 10:26 p.m.,*
in response to message #14 by Don Jennings

Don,

I entered it on a 48SX (GX should be identical--if you have issues I'll dig my GX out) exactly as you presented it and it worked perfectly. Here are the Keystrokes I used (more or less)

'P=1/(10 Y^X ((O-Y)/400)+1)'

ENTER

'RATE'

STO

LftShft-SOLVE

'RATE'

STEQ (soft menu)

SOLVR

1500 O

1500 Y

LftShft-P

Fraction of a second later I get 0.5

Hope this helps.

Edited: 1 Sept 2010, 10:27 p.m.

Re: Backed into corner on HP48GX

*Message #16 Posted by **M. Joury** on 1 Sept 2010, 11:03 p.m.,*
in response to message #14 by Don Jennings

Don,

I tired it on the 48GX and it is slightly different. Here are the keystrokes after entering the equation:

LftShft-SOLVE
ROOT (sub menu)
'RATE'
LftShft-EQ (stores the equation)
SOLVR (and then you are at the soft menu where you enter your variables)
1500 O
1500 Y
LftShft-P

Note that on the GX you can also do this with a CHOOSE menu.

RgtShft-SOLVE (pulls up a window menu)
Solve equation (first option-already selected)
OK
CHOOSE (soft menu to select your equation)
'RATE' OK
use the arrow keys, the number keypad, and OK to enter your knowns.
Use the arrow keys to go to your unknown (P) and hit SOLVE (soft menu)

Re: Backed into corner on HP48GX

*Message #17 Posted by **Don Jennings** on 1 Sept 2010, 11:32 p.m.,*
in response to message #16 by M. Joury

Thanks, I was having a bit of trouble with the SX version, that's a big help.

I was considering this a training exercise to do the whole rating formula as a real program rather than just an equation solver thing. I guess it wouldn't make a lot of difference but I want to do the program thing also, it adds score, K factor and so forth.

Edited: 1 Sept 2010, 11:35 p.m.

Re: Backed into corner on HP48GX

*Message #18 Posted by **M. Joury** on 1 Sept 2010, 11:39 p.m.,*
in response to message #17 by Don Jennings

No problem. I'm happy to help when and where I can. Sometimes I have to do my real work which is a whole lot less fun but I should not complain-playing around with computers all day is not the worst thing in the world.

Cheers

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Question for Tim Wessman

*Message #1 Posted by **Namir** on 31 Aug 2010, 2:15 p.m.*

Tim,

What algorithm does the HP-50G use to find the roots of polynomials? Is it the Jenkins-Traub algorithm? The HP-50G seem to have a polynomial roots solver that works pretty well.

Namir

Re: Question for Tim Wessman

*Message #2 Posted by **Tim Wessman** on 31 Aug 2010, 4:04 p.m.,*
in response to message #1 by Namir

I assume you are talking about the PROOT command, or the Solve Poly interface? This is what is found in the source there:

** The algorithm is Laguerre iteration with stepsize control
** and is based upon the ZERPOL program contained in the thesis
** entitled "A Zero Finding Algorithm Using Laguerre's Method"
** by Brian T. Smith (directed by W. Kahan).

** The implementation is a modified version of the HP-71 Math
** ROM PROOT runtime execution code implemented by Laurence Grodd.

TW

Edited: 31 Aug 2010, 4:06 p.m.

Re: Question for Tim Wessman

*Message #3 Posted by **Gerson W. Barbosa** on 31 Aug 2010, 5:19 p.m.,*
in response to message #2 by Tim Wessman

More information about the HP-71B Math ROM Polynomial Root Finder can be found in the July 1984 issue of Hewlett-Packard Journal, pages 33 through 36:

http://www.hpl.hp.com/hpjournal/pdfs/IssuePDFs/1984-07.pdf

Re: Question for Tim Wessman

*Message #4 Posted by **Namir** on 31 Aug 2010, 8:49 p.m.,*
in response to message #3 by Gerson W. Barbosa

Thanks Gerson!

Re: Question for Tim Wessman

*Message #5 Posted by **Namir** on 31 Aug 2010, 8:50 p.m.,*
in response to message #2 by Tim Wessman

Thanks Tim ... gives me a good insight of how the 50G (and other graphing machines) handle getting the roots of polynomials.

Namir

Re: Question for Tim Wessman

*Message #6 Posted by **Namir** on 31 Aug 2010, 9:35 p.m.,*
in response to message #2 by Tim Wessman

Tim and Gerson,

I was looking at the HP-71B Math Pac manual and it does mention the Laguerre method as being used for that ROM (and I am sure for many other HP calculators). I have a Matlab function that implements of the Laguerre method and it works very well ... so the method is good, even though my implementation is bare bone -- not scaling or other programming tricks.

Namir

Edited: 31 Aug 2010, 10:33 p.m.

Re: Question for Tim Wessman

*Message #7 Posted by **Didier Lachieze** on 3 Sept 2010, 3:04 a.m.,*
in response to message #6 by Namir

Hi Namir,

You may be interested by the discussion/comparison of several Polynomial Rootfinder programs as well as the matlab sample program (Appendix A) in this document: Iterative Methods for Roots of Polynomials

Regarding PROOT on HP calculators, the following post from Bill Wickes on comp.sys.hp48 back in 1992 shows that it was quite easy to port HP 71B assembler functions to the HP-48: HP 48 Polynomial Rootfinder

Given this, I'm a bit surprised that the results for the second test on the HP 71B (+ Math Pac) and the HP 48GX (same CPU, same algorithm, same assembler code?) or the 49G+ in the following post on this forum are somewhat different (The Turtle (HP-71B) and the Hare (HP49G+) [LONG]):

```
0.999999999944, 1.312E-12 for the HP 71B
0.999999994032, 2.066E-12 for the 48GX
0.999999994031, 1.441E-12 for the 49G+
```

... the HP 71B while being the oldest machine is the closest to the exact result (1,0)!

Edited: 5 Sept 2010, 6:03 a.m.

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Organizer 1.1 on HP 50g

*Message #1 Posted by **Gil Gutierrez** on 31 Aug 2010, 12:28 a.m.*

Hi, I installed Scribe and Organizer on my HP 50g today. I have the libraries installed in Port 1, but I have also tried Port 0. After I entered my first phone number into the phone number data base and exited the next time I try to view my phone numbers I get a Bad Argument Type error. What I am doing wrong? Organizer works fine on my HP-48GX. Thanks.

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Estate sale calculators

*Message #1 Posted by **Michael Meyer** on 30 Aug 2010, 9:05 p.m.*

I see that someone is selling calculators from a lot of 40 they bought at an estate sale. Thoughts: 1. Did we lose one of our community's collectors? 2. Make sure to tell family not to sell all of our calculators at once at an estate sale!

Re: Estate sale calculators

*Message #2 Posted by **Katie Wasserman** on 30 Aug 2010, 9:18 p.m.,*
in response to message #1 by Michael Meyer

I don't know about you, but I'm taking my calculators with me. I've got "my people" working on a pyramid in my back yard as I write this :)

Re: Estate sale calculators

*Message #3 Posted by **Michael Meyer** on 30 Aug 2010, 10:20 p.m.,*
in response to message #2 by Katie Wasserman

Now, is that the best of each model, or does it include all the duplicates? Do HP's break in the after-life?

Re: Estate sale calculators

*Message #4 Posted by **Don Shepherd** on 30 Aug 2010, 10:23 p.m.,*
in response to message #2 by Katie Wasserman

Now we'll hear tales of 15c batteries lasting 2,000 years!

Re: Estate sale calculators

*Message #5 Posted by **Katie Wasserman** on 30 Aug 2010, 11:15 p.m.,*
in response to message #4 by Don Shepherd

I'm counting on pyramid power to preserve both the calculators and the batteries. So I don't really need the duplicates ..... well, ... maybe just a few.

Edited: 30 Aug 2010, 11:17 p.m.

Re: Estate sale calculators

*Message #6 Posted by **Namir** on 30 Aug 2010, 11:18 p.m.,*
in response to message #2 by Katie Wasserman

Not sure how secure a Pyramid is. Pharaoh Ramses II had his beautiful collection of HP-67, HP-41, and HP-15C (here HP stands for Holy Pharaoh) ALL stolen by grave robbers (actually was my greet great great .... great great uncle Ali Baba and his 40 thieves)!!!

:-(

Namir

Re: Estate sale calculators

*Message #7 Posted by **Walter B** on 31 Aug 2010, 6:06 a.m.,*
in response to message #6 by Namir

AFAIK, that theft was only possible due to the fact that twice the base length divided by the height of this pyramid deviates from pi by 4E-4 after the plaster cover was washed down in the great Egyptian flooding of 1123 B.C. <<8-)>

So thereafter, pyramid power broke down to minimum, i.e. ppm.

Edited: 31 Aug 2010, 6:07 a.m.

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Why No Solar Calculators?

*Message #1 Posted by **Jeff** on 30 Aug 2010, 6:11 p.m.*

My Casio G-Shock is solar-powered. I have a Casio 4-function solar calculator.

Why can't HP go solar? Aesthetics? Power limitations? I like solar because the batteries tend to last a long, long time.

Re: Why No Solar Calculators?

*Message #2 Posted by **Lyuka** on 30 Aug 2010, 8:09 p.m.,*
in response to message #1 by Jeff

HP easy calc 100, office calc 100, office calc 300, 10S and SmartCalc 300s are all solar and battery powered.

Re: Why No Solar Calculators?

*Message #3 Posted by **Katie Wasserman** on 30 Aug 2010, 8:19 p.m.,*
in response to message #2 by Lyuka

... and the 6S solar. I like this one a lot. I found a ton on a liquidation site for next to nothing and put them in geocaches.

Re: Why No Solar Calculators?

*Message #4 Posted by **Tim Wessman** on 30 Aug 2010, 9:15 p.m.,*
in response to message #1 by Jeff

Anything but the simplest chip won't have enough power to run with solar. The ARM7 in the 20/30 and 12c spike too high to be fed with solar.

I would like to see someone power a 50g with solar though. Would be interesting to see exactly how big of a panel it would need. . .

TW

Re: Why No Solar Calculators?

*Message #5 Posted by **Maximilian Hohmann** on 31 Aug 2010, 5:14 a.m.,*
in response to message #4 by Tim Wessman

Hello!

> Quote:
>
> Would be interesting to see exactly how big of a panel it would need. . .

How many hours a day do people actually use their calculator? And how many hours a day are the lighting conditions sufficient to charge a battery? So even a small solar panel can be totally sufficient to provide enough electricity for a calculator. Even for one with a powerful processor.

Regards, max

Re: Why No Solar Calculators?

*Message #6 Posted by **DaveJ** on 31 Aug 2010, 6:00 a.m.,*
in response to message #5 by Maximilian Hohmann

> Quote:
>
> How many hours a day do people actually use their calculator? And how many hours a day are the lighting conditions sufficient to charge a battery? So even a small solar panel can be totally sufficient to provide enough electricity for a calculator. Even for one with a powerful processor.

In theory, yes. In practice, no, not even close.

If you do the math it just isn't practical.
Factor in indoor fluoro light being orders of magnitude less capacity than sunlight.
Factor in battery charging circuit efficiency at low power levels.
Factor in that lights get turned off at night.
Factor in calcs get left in draws etc.
It simply isn't practical for all but the most flea power processors.

You'd only have to have the thing run down on you and not be ready to use when you need it ONCE to realise who annoying and unreliable it would be to have a solar rechargeable calculator. You are infinitely better off having it simply battery powered.

I've been there and done the calcs and the measurements.

Dave.

35 years later

*Message #7 Posted by **Frank Boehm (Germany)** on 31 Aug 2010, 8:54 a.m.,*
in response to message #6 by DaveJ

Considering the first solar powered calculators have been sold 35 years ago, I wonder where the technological advancement got stuck. (OK, solar & battery tech has not advanced much further, but CPU tech certainly has...)

Re: 35 years later

*Message #8 Posted by **DaveJ** on 31 Aug 2010, 6:05 p.m.,*
in response to message #7 by Frank Boehm (Germany)

> Quote:
>
> Considering the first solar powered calculators have been sold 35 years ago, I wonder where the technological advancement got stuck. (OK, solar & battery tech has not advanced much further, but CPU tech certainly has...)

Not by a huge amount when it comes to this sort of stuff.

Those ASIC's used in the solar calc from 20+ years ago were already very low voltage and had a quite high mips/MHz figures.

Today's devices with all the improvements in solar and silicon manufacturing technology might only might give you say an order of magnitude increase at best. But even 10x the performance of the old solar scientific calc's ain't much to right home about.

That's evidenced by the fact you can still only buy pretty basic scientifics as a solar calc. The 300S would maybe be an order of magnitude more powerful than the old scientifics for example, but it's got battery backup.

Dave.

Edited: 31 Aug 2010, 6:09 p.m.

Re: Why No Solar Calculators?

*Message #9 Posted by **Crawl** on 31 Aug 2010, 10:47 a.m.,*
in response to message #4 by Tim Wessman

Several years ago (maybe more like 10...) I saw some solar panels that were intended to power Game Boys. They were about 4 inches by 6 inches, as I recall.

I know someone who used a 3"x3" solar panel to power an MP3 player (of course, that only had to replace a single battery, not four). The Game Boy thing was a commercial product; this was more of a hobbyist project. He had to use something like a 1F supercapacitor to get it to deliver continuous power.

Re: Why No Solar Calculators?

*Message #10 Posted by **John B. Smitherman** on 31 Aug 2010, 12:04 p.m.,*
in response to message #9 by Crawl

There are many usb chargers on the market. I like devices like this which provide flexibility for charging cell phones, iPods, etc. from a/c, auto d/c or solar sources.

Link to usb charger

I assume that something like this could be used to power the 50G. Does anyone have any experience with solar usb chargers?

Regards,

John

Re: Why No Solar Calculators?

*Message #11 Posted by **Crawl** on 31 Aug 2010, 1:02 p.m.,*
in response to message #10 by John B. Smitherman

That supposedly can put out 3W, and, if this is right, the HP50g uses about 0.6W at most -- it might be possible! (in bright, direct sunlight)

Failing that, I do have a battery charger for AAA's that can use solar power, but I think the ratio of

the time spent charging the batteries to the time they can be used in a calculator is rather large.

Re: Why No Solar Calculators?

*Message #12 Posted by **DaveJ** on 31 Aug 2010, 5:50 p.m.,*
in response to message #11 by Crawl

> Quote:
>
> That supposedly can put out 3W, and, if this is right, the HP50g uses about 0.6W at most -- it might be possible! (in bright, direct sunlight)

And there's the kicker, that would drop to an order of 10's of mW indoors. Who wants a solar calc that's only usable/charagable in direct sunlight?

Dave.

Edited: 31 Aug 2010, 5:59 p.m.

Re: Why No Solar Calculators?

*Message #13 Posted by **DaveJ** on 31 Aug 2010, 5:51 a.m.,*
in response to message #1 by Jeff

hope/http://www.eevblog.com/2009/12/04/eevblog-48-solar-power-hope/

Dave.

Re: Why No Solar Calculators?

*Message #14 Posted by **Walter B** on 31 Aug 2010, 6:34 a.m.,*
in response to message #13 by DaveJ

Very nice video :)

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HP Forum Archive 19

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Forced to buy a TI-89 for school....I feel dirty

*Message #1 Posted by **Jimi** on 30 Aug 2010, 4:05 p.m.*

Really. I've played with it for a while now, and it's junk. Why couldn't they at least require a 35 or something I wouldn't mind owning. A 50 would be nice, and surely I could use the pile of 48 variants I have laying around. Instead, I'm out $100+ for what will basically end up in a drawer at the end of the semester.

Re: Forced to buy a TI-89 for school....I feel dirty

*Message #2 Posted by **Nigel J Dowrick** on 30 Aug 2010, 4:59 p.m.,*
in response to message #1 by Jimi

I feel sorry for you to the extent that you could probably do most of what the TI-89 can do on the HP-48s that you already own (though I think you'd need an HP-49 or 50 to equal or beat it in all areas), but I'm afraid that I can't agree that the TI-89 is junk! I remember being astounded when I got mine, both by how much it could do and by how easy and intuitive I found it to use. At that time I didn't have any HP machines (that has changed now!) so perhaps that explains our different reactions, but I'm afraid that I still love it. Apart from the lack of RPN, what bothers you about it so much?

I agree with you that a course should specify what a calculator is required to do and then leave it to the students to choose any model that fits the requirements. Tying a course closely to a particular calculator seems odd to me, although I realise that it is common (at least in the U.S.?)

Nigel (in the U.K.)

Re: Forced to buy a TI-89 for school....I feel dirty

*Message #3 Posted by **Jimi** on 30 Aug 2010, 10:37 p.m.,*
in response to message #2 by Nigel J Dowrick

I unfortunately don't find it intuitive at all. To me, a scientific calculator shouldn't hide all it's primary functions in menus you have to dig for. Luckily I bought it at Walmart. If I end up not using it, can use something else, then I'll take it back. It was an extra $110 I really did not want to spend this semester. Definitely a new record for school expenses (books and misc).

Re: Forced to buy a TI-89 for school....I feel dirty

*Message #4 Posted by **Nigel J Dowrick** on 31 Aug 2010, 8:25 a.m.,*
in response to message #3 by Jimi

I liked (and still like!) two main things about it. First, the ability to copy previous answers and inputs directly into the new command line. Making exploratory calculations using this editor is arguably even easier than with RPN, and I don't say this lightly! Second, the brave decision to devote four primary keys (X, Y, Z, and T) to one-character variables. This makes algebraic expressions so much faster to type, and algebra was/is one of its main selling points.

This decision means that sin, cos, and tan are shifted functions (and log to base 10 is missing entirely

from the keyboard, I think), but I felt that this was a price worth paying. I understand that others may feel differently!

In any case, make the most of a bad job and enjoy the machine. The algebra in particular is fun!

Nigel

Re: Forced to buy a TI-89 for school....I feel dirty

*Message #5 Posted by **David Hayden** on 31 Aug 2010, 3:45 p.m.,*
in response to message #4 by Nigel J Dowrick

> Quote:
>
> Tying a course closely to a particular calculator seems odd to me, although I realise that it is common (at least in the U.S.?)

Look at it from the teacher's perspective. If they require a calculator, then they will need to answer questions that students will inevitably have. So rather than becoming experts in several calculator models, the teacher learns one model and then requires that one for the course.

> Quote:
>
> This decision means that sin, cos, and tan are shifted functions (and log to base 10 is missing entirely from the keyboard, I think), but I felt that this was a price worth paying. I understand that others may feel differently!

If HP provided keyboard overlays for their calculators similar to the HP 41, then this issue would largely disappear. Each of us would assign the functions that we use most often to keys and that would be the end of it. To me, the lack of overlays seriously impairs the usefulness of assignable keys.

Re: Forced to buy a TI-89 for school....I feel dirty

*Message #6 Posted by **Palmer O. Hanson, Jr.** on 31 Aug 2010, 9:37 p.m.,*
in response to message #5 by David Hayden

> Quote:
>
> Tying a course closely to a particular calculator seems odd to me, although I realise that it is common (at least in the U.S.?)
>
> Look at it from the teacher's perspective. If they require a calculator, then they will need to answer questions that students will inevitably have. So rather than becoming experts in several calculator models, the teacher learns one model and then requires that one for the course.

Perhaps my memory is really failing me and I am starting to remember things that didn't happen but I seem to recall earlier posts in this forum that noted that some professors insisted on the use of RPN machines in their courses.

Re: Forced to buy a TI-89 for school....I feel dirty

*Message #7 Posted by **Nigel J Dowrick** on 1 Sept 2010, 5:22 a.m.,*
in response to message #5 by David Hayden

> Quote:
>
> Look at it from the teacher's perspective. If they require a calculator, then they will need to answer questions that students will inevitably have. So rather than becoming experts in several calculator models, the teacher learns one model and then requires that one for the course.

Fair point, although they could still say "Use the preferred model and I can help you; if you choose to use anything different you can, but you're on your own." I personally teach Physics (ages 11-18), for which any basic scientific calculator is fine, and I know that the maths department in my school is equally relaxed. In practice this means that nearly all the students have the Casio FX-83 or its close relatives; here in the UK it is very rare to see a student with a TI calculator, and HP (as a calculator manufacturer) is unknown.

Incidentally, I showed one of my classes the HP-300s. Functionally this is a clone of the Casio FX-83, but it looks gorgeous in its elegant blue casing. From their reaction it's clear that if the HP had been next to the Casio in the shops they would have chosen the HP!

Nigel

Re: Forced to buy a TI-89 for school....I feel dirty

*Message #8 Posted by **Crawl** on 31 Aug 2010, 10:52 a.m.,*
in response to message #3 by Jimi

Any calculator that has as many functions as the TI89 would have to have most of its functions in a menu. The HP50g is the same way. Worst come to worst, sometimes I'll use a graphing calculator in conjunction with a cheaper scientific that does have all its functions on the keyboard. That gives the best of both worlds.

I think the TI89 is a great calculator. I don't know what sort of class you're using it for, but if you have to derive expressions, as opposed to just crunch numbers, it can be tremendously useful, and a huge time saver. I only wish I had gotten a CAS calculator earlier.

Re: Forced to buy a TI-89 for school....I feel dirty

*Message #9 Posted by **Hal Bitton in Boise** on 2 Sept 2010, 12:04 p.m.,*
in response to message #2 by Nigel J Dowrick

> Quote:
>
> Apart from the lack of RPN, what bothers you about it so much?

I'll respond to that one...it's cumbersome to use. Consider the following points:
1. The command line on the TI89 is a tedious environment for anything but the simplest of expressions. It's single line format requires you to add parenthesis for groupings that would be implicit in other notations. Although the TI89 has "pretty print", you will note that you don't get to see your expression displayed in pretty print until you're done with the problem and it goes into the history stack (so you can then confirm that you entered it wrong!).
2. Why is there no 1/x key on the 89? My theory for that is that TI viewed a 1/x key as a concession to the

superiority of postfix notation, so they just omitted it. Think about it...taking the reciprocal of anything with terms in it requires you to scroll to both ends to add brackets, then key in either "1/" in front, or "^-1" behind, and finally hit enter! In fact, any unary function you want to use in a follow on calculation requires you to use this "keystroke happy" technique.
3. Want to use the matrix writer on the 89? You must first assign your matrix to a variable, and then specify the dimensions before you're allowed into this application. Even after all that, you can't put your matrix onto the command line, only it's variable name.

I could go on, but I think I've made my point; this machine just confounds you with (many) extra keystrokes and convoluted logic at every juncture. I honestly think most people that use it do so because they just don't know any better.
...but I digress...
Best regards, Hal

Re: Forced to buy a TI-89 for school....I feel dirty

*Message #10 Posted by **Palmer O. Hanson, Jr.** on 3 Sept 2010, 3:17 a.m.,*
in response to message #9 by Hal Bitton in Boise

Hal:

You wrote:

> Quote:
>
> Why is there no 1/x key on the 89? My theory for that is that TI viewed a 1/x key as a concession to the superiority of postfix notation, so they just omitted it.

As far as I can tell from my collection TI introduced the use of x^{-1} in place of a 1/x key when they introduced the Equation Operating System with the TI-68 and TI-80. TI's subsequent graphic calculators from the TI-81 through the TI-86 and the Voyage 200 all have an x^{-1} key instead of a 1/x key. I can't explain the omission of either a dedicated x^{-1} or 1/x key on the TI-89. Maybe there really is a bogeyman behind every bush.

Palmer

Re: Forced to buy a TI-89 for school....I feel dirty

*Message #11 Posted by **Nigel J Dowrick** on 3 Sept 2010, 2:07 p.m.,*
in response to message #9 by Hal Bitton in Boise

My take on your three points:

1. What you say is true; however, the big advantage of the command line approach is the ready availability of previous inputs and outputs. For complicated expressions I find the advantage of this outweighs the extra typing. It is rarely necessary to assign results to a variable, because you can simply scroll back to them when needed. I could really fly on this machine!

2. The omission of the 1/x key is odd, but there is a (postfix, of course) ^(-1) function in the catalogue. (I much prefer this to the prefix INV() function that HP use in algebraic mode.) Assigning this to the custom menu allows access to it in two keystrokes (plus enter if you want to see the answer, of course!).

3. You are correct that the matrix editor isn't as elegant as the one on the HP-48/49/50. On the other

hand, you can type a matrix directly into the command line if you want to, and specifying the dimensions when using the editor isn't really so hard.

Like you, I've used lots of calculators and for me the TI-89 is one of my all-time favourites. It's got an infinity key, for heavens' sake! How cool is that?!

Nigel

Re: Forced to buy a TI-89 for school....I feel dirty

*Message #12 Posted by **Tom Mathes** on 2 Sept 2010, 2:00 p.m.,*
in response to message #2 by Nigel J Dowrick

> Quote:
>
> I agree with you that a course should specify what a calculator is required to do and then leave it to the students to choose any model that fits the requirements. Tying a course closely to a particular calculator seems odd to me, although I realise that it is common (at least in the U.S.?)
>
> Nigel (in the U.K.)

I worked for TI for a few years (in semis, not calcs), but I can tell you exactly why classes are like this in the US. TI spends most of it's money in the calc operations on sales/marketing, and the main marketing is creating free course materials for high school classes with a TI calc as the star.

Teachers get all of these learning materials free, and a free TI calc. They spend millions doing this, hence the penetration into the educational market. The calc division at TI is small, has few people, is a spot on TI's income statement, but the margins are obscenely high.

You can liken this a bit to other professions where you're heavily solicited by a company and then you recommend that product. Good example is in the pharmaceutical biz; docs get bombarded with salesdroids/literature/freebies/etc., and it does influence what prescriptions they write.

Re: Forced to buy a TI-89 for school....I feel dirty

*Message #13 Posted by **Garth Wilson** on 30 Aug 2010, 5:30 p.m.,*
in response to message #1 by Jimi

It was upposedly required for both our sons too, but I had the older one just use my old TI-59 and he got through just fine. My wife got one for the second son, but the model again proved to not matter, and he could have just as easily used any basic non-programmable scientific. Both of them said what most kids used the required calc for was playing games while looking studious.

Re: Forced to buy a TI-89 for school....I feel dirty

*Message #14 Posted by **Ron Ross** on 31 Aug 2010, 2:53 p.m.,*
in response to message #1 by Jimi

I took a lot of flak for rating the Ti-89 over the Hp 50g in my calculator review.

http://www.rskey.org/buyguide.pdf

However, the Ti-89 is the natural upgrade path for the Ti-83/84 line (which 90+% of high schooler’s use) and

most people do not know or want to adopt the advantages of RPN. Since most people who buy graphing calculators wouldn't switch over to RPN on the Hp50G, the Ti-89 is a better algebraic calculator and I was forced to endorse that calculator from an objective view. I noted that trig functions (and other often used functions) are second shifted functions.

However, a flaw of the Hp 50G (that is not realized or noticed by RPN users) is the poor units' conversion and the flawed vector functions / features in algebraic mode. For RPN user's that use the Hp50G for common vector math, put it in algebraic mode and try your hand at using it. If the Hp50G had implemented its algebraic function set better, I would have happily endorsed it as the superior calculator.

That left me with the dilemma of recommending a superior (Hp50G in RPN mode) calculator to an audience of 80+% that would not use it in RPN. Therefore the superior calculator for the normal algebraic user is the Ti-89 for the majority of applications. The La'Place and Fourier transforms functions of the Hp50G can be of use to some of these users' but the majority are best served by a Ti-89.

Power user's often augment their high end calculator with a Math package as well or often bypass the high end calculator market altogether. With the popularity of notebooks and low cost math software, this is certainly another option.

I welcome positive feedback from my knowledgeable friends on this review and will take serious offense to wild, unsubstantiated, biased, ridiculous criticism from all other crazy fanatics. However, every so often, I sometimes listen to the crazy fanatics too. ;o)

Re: Forced to buy a TI-89 for school....I feel dirty

*Message #15 Posted by **Israel Otero** on 3 Sept 2010, 4:28 p.m.,*
in response to message #14 by Ron Ross

Greetings from Puerto Rico.

I agree on the TI-89 as a better algebraic calculator to the HP-50g.

I wonder why HP did not make the algebraic CALC mode like the HP-71B on which the intermediate answers appeared when the close parenthesis key is pressed so you can follow and pinpoint errors better. That's will be a definitive advantage.

Re: Forced to buy a TI-89 for school....I feel dirty

*Message #16 Posted by **Manatee** on 1 Sept 2010, 9:19 a.m.,*
in response to message #1 by Jimi

I've been out of school for a long time (30 years), so I'm wondering what sort of math in involved here? I realize calculators have far greater capability now than they had when I was a student. We were were just using them for trig, stats and such in the late '70s, and almost everyone had a different calculator. (Ahh, there were so many choices in those days.) Nobody expected a teacher to know a particular calculator, and math wasn't taught as "keying a recipe into a calculator". The calculator was just for solving the problem -- however you chose to do it.

I understand that it can be challenging for a student to learn math that is new to her/him, and then immediately have to figure out how to use a particular calculator to solve problems. But still, it seems like the learning process should not be dependent on a student knowing which combination of buttons to push in order to actually solve problems. The understanding of the concepts should be largely independent of solving a particular numerical example.

So... as long as you take responsibility for understanding your own calculating device, why does it matter to an

instructor which one you use? Do assignments and exams consist of indicating to the instructor which button you push to solve the problem?

I know, I'm a dinosaur, and I've been out of academia for a long time. In my day, understanding the math and understanding the tools were separate joys, and they were both truly joys.

Re: Forced to buy a TI-89 for school....I feel dirty

*Message #17 Posted by **Martin Pinckney** on 1 Sept 2010, 10:04 a.m.,*
in response to message #16 by Manatee

Manatee, I say you are right on target... for college instruction, for sure. My guess is, the middle/high school teachers on here will say its much different in that environment. My wife teaches high school English, and from the anecdotes I hear, there are so many challenges to teaching theses days, that any simplification possible is welcome, to include standardization of calculators.

Re: Forced to buy a TI-89 for school....I feel dirty

*Message #18 Posted by **Don Shepherd** on 1 Sept 2010, 10:50 a.m.,*
in response to message #17 by Martin Pinckney

I'm in my fifth year of teaching middle school math, and the presence and use of calculators in the math classroom is totally up to the teacher. Some teachers allow them and encourage their use, some don't. I don't know of any teacher in middle school that "requires" students to have a calculator, much less a certain brand. High school is probably different.

Most of the "older" teachers (who were in school before calculators were even invented) don't use them very much at all, even the simple 4-function ones. Most of the "newer" teachers allow them, but can't really answer students' questions regarding calculators (teachers, unlike us, are not geeks, typically).

The good (or bad, depending upon your perspective) news is that kids are still learning and practicing math concepts much as we did when we were in school.

Except, of course, 1 is not prime today.

:)

Don

Re: Forced to buy a TI-89 for school....I feel dirty

*Message #19 Posted by **Joe Burwell** on 1 Sept 2010, 11:13 a.m.,*
in response to message #16 by Manatee

Wow! how things change. I was in High School in the early 70's. I used a slide ruler. What a pain when the battery would die!

Joe

Re: Forced to buy a TI-89 for school....I feel dirty

*Message #20 Posted by **MIKE REED** on 2 Sept 2010, 10:07 a.m.,*
in response to message #19 by Joe Burwell

Me too, Joe! And I seem to recall it had a LOT of vertical lines in the display, too! Appalling! Such low-end computational devices - how did we EVER get by?? :o)

Re: Forced to buy a TI-89 for school....I feel dirty

*Message #21 Posted by **Walter B** on 2 Sept 2010, 12:39 p.m.,*
in response to message #20 by MIKE REED

So did I. Trained us guessing orders of magnitude, and taught us about error propagation. Beyond that it was tedious but we didn't know better.

Re: Forced to buy a TI-89 for school....I feel dirty

*Message #22 Posted by **Palmer O. Hanson, Jr.** on 2 Sept 2010, 8:53 p.m.,*
in response to message #19 by Joe Burwell

One thing we didn't have in the slide rule days was professors dictating which manufacturers machine to use. They did encourage us to get a log-log trig as soon as we could afford it. Meter readers were encouraged to get a log-log vector.

I didn't know it at the time but there was one advantage to using the Mannheim slide rules which had a "well" behind the slide. Many years later I saw one of those at a garage sale and another person told me that he never would have passed physics without it. I asked why. He told me that he used the well as a crib sheet for formulas that he had trouble remembering.

Re: Forced to buy a TI-89 for school....I feel dirty

*Message #23 Posted by **Jimi** on 1 Sept 2010, 6:06 p.m.,*
in response to message #16 by Manatee

I think the idea of how to use them in the class is somewhat for the graphing, and perhaps, also to check your solutions. While the calculator isn't going to solve the problems step by step, it will let you know if you properly derived the trig function as an example.

In the first class, which wasn't much more than going over the syllabus, the professor acknowledged that the requirement is forced on him by the math department, but he could personally care less if we had one or not. He's going to want to see the problems worked out by hand, and said that while some teachers in the department use them in class, he does not.

Really, for checking answers, I can probably just as easily use something online like Wolfram Alpha.

Re: Forced to buy a TI-89 for school....I feel dirty

*Message #24 Posted by **Dave Britten** on 2 Sept 2010, 8:16 a.m.,*
in response to message #1 by Jimi

The big problem with the TI-89 is that it's running an OS that was specifically designed for a device with a full QWERTY keyboard - namely, the TI-92. Thus there's not a lot of thought to menu usability, since you can generally type function names more quickly on the 92. By putting this OS on the 89, you end up with a calculator that's actually pretty good, albeit algebraic, but which is crippled with terrible usability as a result of severely reducing the number of keys, and falling back on menu structure that wasn't that great to begin with.

My advice is to skip the 89 and just get a 92+ or Voyage 200. They're the same thing, minus the suck.

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Forced to buy a TI-89 for school....I feel dirty

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Am I the only one?

*Message #1 Posted by **Donald Williams** on 30 Aug 2010, 2:27 p.m.*

Recently there has been much discussion, pro and con, concerning the new calculator model releases by HP. Since I am a collector, I am interested enough to acquire each and every model, and at least briefly put them through a few of their paces.

Unfortunately it is only “briefly” since I do not consider any of them candidates for a professional in the work place.

HP where is the I/O?

I just don’t understand why this feature is missing in all the new releases. I don’t hear it mentioned by others. Am I the only one who insists upon the option of backing up my work?

Re: Am I the only one?

*Message #2 Posted by **Norman Dziedzic** on 30 Aug 2010, 2:34 p.m.,*
in response to message #1 by Donald Williams

I don't think any programmable calculator should be allowed to be produced without a USB or Ethernet port. It just doesn't make sense in this day and age to not be able to transfer programs back and forth to your laptop or PC.

So I'm going to say I'm with you!.

I think this is the main reason I gravitate to my 48gii (w/ USB) and not my 35s. (That and the multiple equation solver :-)).

[Edit: Spelling]

Edited: 30 Aug 2010, 4:23 p.m.

Re: Am I the only one?

*Message #3 Posted by **Tim Wessman** on 30 Aug 2010, 2:51 p.m.,*
in response to message #1 by Donald Williams

Testing approval.

Communication scares them - regardless of how limited.

TW

Edited: 30 Aug 2010, 2:53 p.m.

Re: Am I the only one?

*Message #4 Posted by **Donald Williams** on 30 Aug 2010, 3:18 p.m.,*
in response to message #3 by Tim Wessman

That makes sense. I knew there had to be resistance somewhere along the line. I spoke to Cyrille at the 2008 meeting and came away convinced that USB OTG was at least theoretically possible and might???? be "just around the corner".

I don't want to disparage the great strides the calculator division has made as of late, but I think the lack of this feature is a “deal breaker” for at least some segment of the potential market.

I guess I will continue along with my Casio 9860 and hope for a remedy soon.

Re: Am I the only one?

*Message #5 Posted by **Norman Dziedzic** on 30 Aug 2010, 5:43 p.m.,*
in response to message #3 by Tim Wessman

With all due respect, I think the testing bodies should enter the 21st century.

They should either make the tests so that you don't need a calculator which I would argue should be doable for almost any test (perhaps with the help of a table or two)

OR

Allow any calculator to be used because that will mimic what the real world looks like anyway.

Re: Am I the only one?

*Message #6 Posted by **Martin Pinckney** on 30 Aug 2010, 8:44 p.m.,*
in response to message #5 by Norman Dziedzic

It has nothing to do with the way calculators are used in the real world. It's just about keeping someone from stealing the test questions.

Re: Am I the only one?

*Message #7 Posted by **Pal G.** on 30 Aug 2010, 6:36 p.m.,*
in response to message #3 by Tim Wessman

Why doesn't HP make a case that has a "cut-out" for the IO? Put a mini-USB connector behind the case somewhere, indicate the shape, and let us use an exacto-knife to expose the connector.

It might take less time to expose a connector behind a plastic enclosure than it took me to open my HP 35s blister pack!

Re: Am I the only one?

*Message #8 Posted by **Donald Williams** on 30 Aug 2010, 7:19 p.m.,*
in response to message #7 by Pal G.

I cannot be absolutely certain, but I strongly suspect that USB I/O capability already exists in the underlying silicon. I am very frustrated that no attempts have been made to expose it. Using some method like you have mentioned does not seem be so terribly difficult. However I would hate to see the same “lame” excuse for serial I/O that was implemented on the 50G

Re: Am I the only one?

*Message #9 Posted by **Katie Wasserman** on 30 Aug 2010, 8:46 p.m.,*
in response to message #8 by Donald Williams

At least in the 20b/30b/12C+ the only silicon inside (except for some diodes maybe) is an AT91SAM7L128 and it's doens't have USB support. It's a pretty limited processor on many accounts, but is has just enough i/o pins to drive an LCD display for a simple calculator, a low off state current draw and good speed.

Needing many LCD driving pins is a real limitation in choosing a processor. I think using two or three chips: a processor and two LCD drivers would give HP a lot more flexibility to pick a processor with more memory (RAM and ROM), USB drive, etc. while allowing for a display with more segments. Is it really that much less expensive to use a single chip design than one with three chips?

Re: Am I the only one?

*Message #10 Posted by **Egan Ford** on 30 Aug 2010, 2:52 p.m.,*
in response to message #1 by Donald Williams

I'm with you as well.

I've been using a 48GX since 1993 and more recently a 50g. I/O is not an option for me. The only calculator I've used for an extended period of time that didn't have I/O was the 15C. However, the 15C's limited memory allowed me to backup manually to my Moleskin notebook.

My recreational needs are best served by the 41CX and the 71B because they both have I/O.

Lastly, having I/O is fun. I've automated my lights with the 41CX. I've used my 71B with a GPS. I've used my 48GX as a programmable remote. I've used my 50g to drive MS Paint as a plotter. And, I've always had backups and can use my PC/Mac/whatever for development and testing and then download to my calc.

Edited: 30 Aug 2010, 2:55 p.m.

Re: Am I the only one?

*Message #11 Posted by **Martin Pinckney** on 30 Aug 2010, 5:37 p.m.,*
in response to message #10 by Egan Ford

> Quote:
>
> Lastly, having I/O is fun. I've automated my lights with the 41CX.

Egan, is I've been thinking about this recently. Is/was there a way to run say an X10 controller off a 48sx?

Re: Am I the only one?

*Message #12 Posted by **Egan Ford** on 30 Aug 2010, 6:30 p.m.,*
in response to message #11 by Martin Pinckney

Depends on the X10. The old firecracker toggles DTR/RTS to provide power and generate 0s and 1s. There is no RTS on the 48SX. If a newer X10 uses Rx/Tx and provides its own power then it should be possible.

For more details: http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=763

Re: Am I the only one?

*Message #13 Posted by **Ron Ross** on 30 Aug 2010, 2:55 p.m.,*
in response to message #1 by Donald Williams

I like the idea of taking an Hp 17Bii+ and cutting in a mini USB slot and a Micro 1 gig (or more) SD slot. Re-crafting the Hp42s software with extended Memory and directory support (or gut the graphics and CAS from the present ARM line of Hp48/50g series) and stuff that into a scientific calculator in the Hp 17Bii+ package.

When I was a field tech calibrating instruments, a calculator with a timer helped me immensely. If my Hp48G had been the size of an Hp42s. The lack of real I/O, no directories (for my 32K Hp42s) and no clock are the only three faults of the Hp42s. Yeah, I like the nicer programming set of an Hp48G, but that isn't really needed for a pocket calculator for number crunching.

Re: Am I the only one?

*Message #14 Posted by **Crawl** on 30 Aug 2010, 2:58 p.m.,*
in response to message #13 by Ron Ross

Yeah, I don't think even USB is enough anymore. A serious programmable calculator should also have an SD (or microSD) card slot.

Anyway, all this is partially why I use my 50g about a hundred times more frequently than my 35s.

Re: Am I the only one?

*Message #15 Posted by **Garth Wilson** on 30 Aug 2010, 4:11 p.m.,*
in response to message #1 by Donald Williams

> Quote:
>
> HP where is the I/O?
>
> I just don't understand why this feature is missing in all the new releases. I don't hear it mentioned by others. Am I the only one who insists upon the option of backing up my work?

That's the same reason all this talk doesn't interest me either. They're "justacalculators." I want a hand-held controller. Even USB does not qualify because it does not allow a battery-powered hand-held to be a controller, and you can't connect one port to more than one thing at a time unless you use external hubs. I've controlled a rack full of lab test equipment with the 41cx and 71B though, through the HP82169A HPIL-to-HPIB (IEEE488) converter which is transparent in most ways, ie, IEEE-488 equipment looks like it's on HPIL.

P.S., based on other posts below: I don't care one bit about exam approval.

Edited: 30 Aug 2010, 5:32 p.m.

Re: Am I the only one?

*Message #16 Posted by **Martin Pinckney** on 30 Aug 2010, 4:41 p.m.,*
in response to message #1 by Donald Williams

> Quote:
>
> I just don't understand why this feature is missing in all the new releases.

As Tim said, it's to get the calculators approved for professional tests.

> Quote:
>
> I don’t hear it mentioned by others. Am I the only one who insists upon the option of backing up my work?

It's been mentioned a huge amount of times over the last three years. But not so much recently because the testing explanation has also been discussed here a lot.

Tim: Another good reason for HP to come out with another scientific. One that may not be test-approved, but more user-friendly.

Re: Am I the only one?

*Message #17 Posted by **DaveJ** on 30 Aug 2010, 4:52 p.m.,*
in response to message #1 by Donald Williams

HP design and sell calculators to specific market segments and/or price points.
The non-programmable scientific ones are necessary to meet exam approval.

The rest are financial calcs that probably have no real market requirement for USB, so they presumably left it out to save cost and development time.

Dave.

Re: Am I the only one?

*Message #18 Posted by **Egan Ford** on 30 Aug 2010, 7:59 p.m.,*
in response to message #17 by DaveJ

I'm sure this is true for many other calc manufactures as well. The number of people that actually program calculators is shrinking as is the need to provide I/O.

However, I think it is reasonable to expect that any programmable calculator with a large memory to provide some type of backup capability.

Re: Am I the only one?

*Message #19 Posted by **Jerry Raia** on 30 Aug 2010, 6:25 p.m.,*
in response to message #1 by Donald Williams

HP abandoned its roots a long time ago. I don't think we will see anything like the HP41/71 with all the capabilities (IO included) it had, ever again. The 48/50 are nice, but they don't have the HP feel or quality anymore. There is a reason this site is called a museum. The really good stuff is now history I think. I doubt anyone will be looking for an old 35s 20 years from now.

Edited: 30 Aug 2010, 6:27 p.m.

Re: Am I the only one?

*Message #20 Posted by **David Hayden** on 31 Aug 2010, 4:02 p.m.,*
in response to message #19 by Jerry Raia

Another big reason to provide I/O is to allow programs to be loaded on the calculator. This thread describes a student desperate to get surveyor software loaded onto a 35s. Personally, the only reason I haven't bought a 35s is the inability to easily load programs on it. I don't want to type them in by hand.

If test acceptance is an issue, then I'd take the approach they used with the 39gs and 40gs: two nearly identical models except one supports I/O and the other doesn't.

Or return to the expandability of the 41C (and 48 I think) lines where all the good stuff is available as an add-on. We geeks just love to buy our add-ons :)

I don't think SD cards are required as long as the calculator has sufficient built-in storage. What I really mean here is that given the choice between USB and an SD card, I'd take USB. I'm sure others would differ, but that's another reason to make these things add-ons - everyone can get what they want while still buying the same base model calculator.

Re: Am I the only one?

*Message #21 Posted by **Walter B** on 31 Aug 2010, 4:54 p.m.,*
in response to message #20 by David Hayden

Think of SD cards as one opportunity for easy I/O. Program and/or data transfer by transport of an SD card ...

Re: Am I the only one?

*Message #22 Posted by **Thomas Radtke** on 1 Sept 2010, 11:32 a.m.,*
in response to message #1 by Donald Williams

> Quote:
>
> HP where is the I/O?

Build into the 50G.

Add too many features and the user needs a manual all the time and/or has to look up functions in menus.

Add I/O and the users ask e.g. for naming programs.

... and gone are the easy-to-use programmable calculators the 3x models once were.

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Recommended Oscilloscope

*Message #1 Posted by **aj04062** on 29 Aug 2010, 10:37 p.m.*

Anyone have a recommended inexpensive oscilloscope for debugging HP calcs?

Is 1Mhz bandwidth sufficient?

Edited: 29 Aug 2010, 10:37 p.m.

Re: Recommended Oscilloscope

*Message #2 Posted by **Lyuka** on 30 Aug 2010, 4:29 a.m.,*
in response to message #1 by aj04062

Hi.

'Inexpensive' is different according to the purpose. 1MHz bandwidth is not sufficient except some audio applications.

Expressions to choose an adequate oscilloscope from signal-bandwidth are,

1. Signal-BW(band width) = 0.5 / rise-time
2. Oscilloscope-BW >= 2 * Signal-BW
3. Oscilloscope-sampling-rate >= 4 * Oscilloscope-BW

Example: If you wand to measure a circuit operating at several MHz of system clock and its rise-time is assumed to be 10ns,

1. Signal-BW = 0.5/10ns = 50MHz
2. Oscilloscope-BW >= 2 * 50MHz = 100MHz
3. Oscilloscope-sampling-rate >= 4 * 100MHz = 400Msps

Regards,
Lyuka

Re: Recommended Oscilloscope

*Message #3 Posted by **Katie Wasserman** on 30 Aug 2010, 9:24 a.m.,*
in response to message #1 by aj04062

I have a feeling that you're asking about one of those very inexpensive USB 'scopes or one that's built into a DMM. Mostly what you need to work on digital electronics is a logic analyzer, but given that most vintage calculators were bit-serial devices you don't need too many channels, just one to watch the signal line and a couple of others to watch the handshake lines. Also an oscilloscope will let you debug problem power supply lines and such while a logic analyzer won't help at all in that regard.

If you're only interest is in old HP LED calculators the clock speeds were pretty slow, you could just barely

get by with a 2MHz 2 channel 'scope, but 4 channels and some more speed would be most helpful. I wouldn't recommend anything less than 5MHz. Some of the low cost USB scopes have 2 analog channels and 8 digital ones (these are usually referred to as a mixed signal oscilloscope or MSO). They might be a good compromise. Here's one such device but you should read the reviews of this.

However, I find that there's nothing as good as having a dedicated digital oscilloscope of some sort on your workbench, it defiantly beats a USB scope feeding a computer for ease of use. You also want to look for one with a lot of memory depth so that you can scroll around and see the history of the signals you capture.

Re: Recommended Oscilloscope

*Message #4 Posted by **Bruce Bergman** on 30 Aug 2010, 9:02 p.m.,*
in response to message #1 by aj04062

This is the one I've used for many of my embedded projects, and it's a beautiful device. Works great too! ;-)

Portable oscilloscope

I highly recommend it.

For the logic analyzer side, I chose this...

USBee DX

...after a long period of research, which included comments and opinions from many on this forum. The second choice unit was this one:

Saleae logic analyzer

I ultimately chose the USBee unit because of the software, which I thought was better. Plus, it had some nicer features in the hardware design (external trigger). The Saleae unit was a very close second, though -- it's a beautiful device too.

Now below is another interesting new product with many functions built in, and it would be great for many embedded projects:

Protolyzer

thanks,

Bruce

Re: Recommended Oscilloscope

*Message #5 Posted by **DaveJ** on 31 Aug 2010, 6:06 a.m.,*
in response to message #4 by Bruce Bergman

> Quote:
>
> This is the one I've used for many of my embedded projects, and it's a beautiful device. Works great too! ;-)
>
> Portable oscilloscope
>
> I highly recommend it.

I don't!

http://www.eevblog.com/2010/05/11/eevblog-86-buy-a-real-analog-oscilloscope-please/

Plus:

http://www.eevblog.com/2009/06/17/eevblog-13-part-1-of-2-digital-storage-oscilloscope-tutorial/

http://www.eevblog.com/2009/06/17/eevblog-13-part-2-of-2-pc-based-digital-storage-oscilloscope-comparison/

But as usual, horses for courses.

Dave.

Re: Recommended Oscilloscope

*Message #6 Posted by **Bruce Bergman** on 31 Aug 2010, 10:55 a.m.,*
in response to message #5 by DaveJ

But I *DO* have a "real" oscilloscope as well. A nice color Fluke 100MHz with all the bells and whistles. I just don't find the need to bust it out all that often. When I do, it's nice to know it's there, but 90% of the time the little one is sufficient for my small projects.

And, it's important to recognize the difference between someone who NEEDS a full-blown oscilloscope and sits in front of one all day (like Dave here! ;-), and someone who just putts around in the embedded world from time to time (like me). With that distinction, I stand by my original recommendation (but, of course, I respect yours too, Dave ;-).

Thanks,

bruce

Re: Recommended Oscilloscope

*Message #7 Posted by **DaveJ** on 31 Aug 2010, 6:10 a.m.,*
in response to message #1 by aj04062

> Quote:
>
> Anyone have a recommended inexpensive oscilloscope for debugging HP calcs?
>
> Is 1Mhz bandwidth sufficient?

Define inexpensive.

Define what you want to "debug"

If you just want to see if a signal is there or not then a 2nd hand 20MHz or so analog oscilloscope is just fine.

If you want to capture and debug signals then a USB logic analyser is a better bet.

If you want a "real" digital storage bench scope that is excellent value for money with a deep sample memory. Go the Rigol DS1052E. I have a ton of info on it on my site and the EEVblog forum.

http://www.eevblog.com/episodes/

Dave.

Re: Recommended Oscilloscope

*Message #8 Posted by **Dan W** on 5 Sept 2010, 3:14 p.m.,*
in response to message #7 by DaveJ

I bought an old Tektronix 2235 100MHz 2 channel analog scope off TAS for about $200 many years ago. It has served me well in debugging the Classics.

Re: Recommended Oscilloscope

*Message #9 Posted by **marais** on 5 Sept 2010, 4:35 p.m.,*
in response to message #8 by Dan W

I'm using a Hameg 605 from 1984. A 20MHz model would be sufficient for the classics, though.

Marais

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When was 1 a prime number?

*Message #1 Posted by **Palmer O. Hanson, Jr.** on 29 Aug 2010, 9:21 p.m.*

In my first response to Bill's Bowling Challenge Variation challenge I used 1 as a prime number. Don Shepherd noted that 1 isn't a prime number, but Katie came to my rescue by noting that 1 had been considered to be a prime number in the past.

Even so, I wasn't sure what I might have relied on from the olden days to accept 1 as a prime number. Then I found that Table 24.9 on page 870 of my copy of AMS-55 published in 1964 didn't include 1 in the list of prime numbers. But yesterday I was looking up something else in my copy of *Mathematical Tables from the Handbook of Chemistry and Physics* (1959). I looked at the table of factors and primes starting on page 242. A note at the top of the table states "If n is prime the mantissa of its logarithm is given." The mantissa is given as 0000000 for 1.

Re: When was 1 a prime number?

*Message #2 Posted by **Egan Ford** on 29 Aug 2010, 9:42 p.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

> Quote:
>
> When was 1 a prime number?

In hindsight it never was. However, according to http://en.wikipedia.org/wiki/Prime_number#Primality_of_one, the 18th century, 1956, and 1941 (death of the last believer).

Re: When was 1 a prime number?

*Message #3 Posted by **htom trites jr** on 30 Aug 2010, 1:12 a.m.,*
in response to message #2 by Egan Ford

Always was, never was, depending on how you defined "prime number". These days it's mostly not, but the question shows up sometimes when non-professional people are asked about prime numbers. We had this just last week at our health club, the daily question was "What is the sum of the first five prime numbers?" and the "correct" answer was (1 2 3 5 7 11) either 18 or 28, depending on whether you started with 1 or 2.

(The definition "a natural number divisible, without remainder, only by itself and one" leads to the conflict; there's an implication that that the word "and" means "itself <> one" but not everyone sees or agrees with that.)

Edited: 30 Aug 2010, 1:18 a.m.

Re: When was 1 a prime number?

*Message #4 Posted by **Don Shepherd** on 30 Aug 2010, 7:39 a.m.,*
in response to message #3 by htom trites jr

The definition of prime number that the school textbooks use today is "a number with exactly 2 factors, 1 and itself", and a composite number is "a number with more than 2 factors". Since 1 has only 1 factor, it can't be prime, nor can it be composite.

Re: When was 1 a prime number?

*Message #5 Posted by **Gerson W. Barbosa** on 30 Aug 2010, 8:48 a.m.,*
in response to message #4 by Don Shepherd

> Quote:
>
> The definition of prime number that the school textbooks use today is "a number with exactly 2 factors, 1 and itself",

Don,

Shouldn't this be "a number with exactly 2 **distinct** factors, 1 and itself"? Otherwise one could argue that 1 is prime because 1 = 1 * 1. I was taught composite numbers are those that can be expressed as a finite product of prime numbers. This would exclude 1 from the set of prime numbers because 6, for instance, could be expressed by the infinite product 2 * 3 * 1 * 1 * ...

Gerson.

Re: When was 1 a prime number?

*Message #6 Posted by **Don Shepherd** on 30 Aug 2010, 12:27 p.m.,*
in response to message #5 by Gerson W. Barbosa

Gerson, I see what you are saying, but I don't know that you need the word "distinct." I think the definition works because 1 only has 1 factor, which is 1 (you can't count 1 twice), and a prime number needs to have exactly 2 factors, and 1 doesn't.

We teach it that way. We teach that both 0 and 1 are neither prime nor composite, they are special cases. I'm sure kids couldn't care less.

Re: When was 1 a prime number?

*Message #7 Posted by **Egan Ford** on 30 Aug 2010, 1:42 p.m.,*
in response to message #6 by Don Shepherd

IMHO, "exactly 2" implies a quantity with no mention of uniqueness. *Distinct* implies uniqueness. I know I can find a person on the street that will insist that 1 factors into exactly 2 numbers. 1 x 1. Because, most children spend a lot of time on a x b = c and remember that as adults.

From Wikipedia:

A prime number (or a prime) is a natural number that has exactly two distinct natural number divisors: 1 and itself.

Re: When was 1 a prime number?

*Message #8 Posted by **Don Shepherd** on 30 Aug 2010, 3:18 p.m.,*
in response to message #7 by Egan Ford

Hey Egan.

Well, I have no doubt that you could find a person on the street who would agree to almost anything; that doesn't mean they are right. I'm sure there are some today who would say man never landed on the moon. And, please everyone, let's not steer this thread into an examination of did man, in fact, ever land on the moon!

The Wikipedia definition is fine. Middle school textbooks typically don't say "distinct", but that's OK, most kids are able to correctly distinguish prime and composite numbers, at least long enough to demonstrate that knowledge on a test. And, believe me, kids have no interest in debating whether or not 1 is prime.

I'd bet that if you took a survey of people on the street and asked what is the difference between a prime and a composite number, maybe 5% would know. Things like that are just not relavent in people's lives.

Edited: 30 Aug 2010, 3:19 p.m.

Re: When was 1 a prime number?

*Message #9 Posted by **David Hayden** on 31 Aug 2010, 4:14 p.m.,*
in response to message #6 by Don Shepherd

> Quote:
>
> Gerson, I see what you are saying, but I don't know that you need the word "distinct." I think the definition works because 1 only has 1 factor, which is 1 (you can't count 1 twice), and a prime number needs to have exactly 2 factors, and 1 doesn't.

Don, So, does that mean that 12 has only 2 prime factors? ... I think you'll confuse the kids greatly if you don't say when duplicates matter.

Regarding the primality of 1, I think the key thing is that defining it as non-prime makes some other mathematical concepts work out better. I wish I could remember what those concepts were though.... :) This is an example of a key concept that I think should be taught explicitly in school - that sometimes in math we define things a particular way to make the model work better or easier.

Re: When was 1 a prime number?

*Message #10 Posted by **Don Shepherd** on 31 Aug 2010, 6:08 p.m.,*
in response to message #9 by David Hayden

Well, 12 has 6 factors, which makes it a composite number (>2 factors). That's as far as middle school kids get into this subject.

The non-primality of 1 (and 0, for that matter) is just something we don't get into with these kids. And most of them understand which numbers are prime and which are not. And they LOVE making factor trees, which is nice.

Then we move from prime/composite into greatest common factor and least common multiple, which of course are used for simplifying and adding/subtracting fractions with different denominators.

But by the time they graduate high school, they've probably forgotten it all. Which, honestly, doesn't disturb me. They've exercised their minds and learned how to think logically, and that's really the important part.

Re: When was 1 a prime number?

*Message #11 Posted by **Palmer O. Hanson, Jr.** on 31 Aug 2010, 9:51 p.m.,*
in response to message #10 by Don Shepherd

Don:

You wrote:

> Quote:
>
> But by the time they graduate high school, they've probably forgotten it all.

That pretty much agrees with my experience. Somewhere in my early education I was exposed to prime numbers, Mersenne numbers, perfect numbers, et al, but in forty years of work with military electronics systems I can't recall a single instance in which I had any use for any of them. Is work with these numbers primarily limited to mathematicians? Are there engineering disciplines depend on them in some way?

Palmer

Re: When was 1 a prime number?

*Message #12 Posted by **Don Shepherd** on 31 Aug 2010, 10:10 p.m.,*
in response to message #11 by Palmer O. Hanson, Jr.

> Quote:
>
> Is work with these numbers primarily limited to mathematicians? Are there engineering disciplines depend on them in some way?

Palmer, I can't speak for the engineering disciplines regarding their possible use of prime numbers, but I do know that the entire security system behind the Internet is based upon the impossibility of factoring certain very large numbers into their two prime factors. I believe this is the RSA public key encryption system. I'm certainly no expert in that, but I do tell my students that if they can figure out a way to factor huge integers, they just might put the Internet out of business or, more likely, earn a few million dollars by agreeing to keep their discovery secret!

RSA at one time offered lots of money to anyone who could factor certain large numbers; I believe they discontinued that. I printed out one of those numbers and showed it to my students and told them how much they could win if they could factor it. One student actually spent the weekend trying to divide the number by 2, and when he reached the last digit he realized that there would be a remainder. On Monday morning he brought in his work, and I remember the really bad feeling he had when I pointed out that he could have saved himself all that work

if he had only realized that the number ended in 3 and therefore could not be divisible by 2!

Re: When was 1 a prime number?

*Message #13 Posted by **David Hayden** on 1 Sept 2010, 7:02 a.m.,*
in response to message #10 by Don Shepherd

Don, do you teach Euclid's algorithm to find the greatest common factor? I think it would be a great way to show kids the joy of a good algorithm and a nice way to introduce them to the concept of programming. I'm not suggesting that they would write a program, but you could explain the algorithm and then say "this is the sort of step-by-step procedure that can be done by a computer."

Re: When was 1 a prime number?

*Message #14 Posted by **Don Shepherd** on 1 Sept 2010, 7:50 a.m.,*
in response to message #13 by David Hayden

For the sixth graders, we generally teach it this way. For the seventh and eighth graders (if it is included in their curriculum), I might teach them Euclid's algorithm like this if I think they are capable of understanding it. With some classes, the simplest method is the best, but a good teacher challenges inquisitive students with methods they are capable of understanding and using. I try to be a "good teacher," of course.

It is much easier to tailor your instruction to the individual student if you have 13 students a day, as opposed to 150 students a day. Fortunately, I have 13.

Re: When was 1 a prime number?

*Message #15 Posted by **Mike** on 1 Sept 2010, 9:18 a.m.,*
in response to message #5 by Gerson W. Barbosa

I disagree with the belief that 1 isn't a prime number the same as I disagree with Pluto not being a planet.

However, "exactly 2 factors" means 2 and no more or less. 1 = 1 * 1 is two factors but not "exactly" 2 factors because 1 = 1 * 1 * 1 also.

However, I think that definition is also wrong. Definition changes are done for one reason and that reason is to try and exclude 1, for no particular purpose. 1 being a prime violates nothing in mathematics and fits the old definition of a prime number.

Re: When was 1 a prime number?

*Message #16 Posted by **Don Shepherd** on 1 Sept 2010, 10:30 a.m.,*
in response to message #15 by Mike

Mike, you are free to believe what you like, of course. But the reality is that 1 is not a prime number, and that's what kids are taught.

Re: When was 1 a prime number?

*Message #17 Posted by **Gerson W. Barbosa** on 1 Sept 2010, 12:40 p.m.,*

in response to message #15 by Mike

Ultimately, 1 is defined as non-prime to keep a pattern intact, according to Dr. Math:

http://mathforum.org/library/drmath/view/57058.html

Re: When was 1 a prime number?

*Message #18 Posted by **Katie Wasserman** on 1 Sept 2010, 12:51 p.m.,*
in response to message #17 by Gerson W. Barbosa

I've been staying out of this since my initial comment on Palmer's use of 1 as a prime number.

But if you want to debate something more relevant to HP calculators, why does the 20b and 30b define 0^0 as 1? I think that this is wrong but there are plenty of examples of this, try the Google calculator.

Edited: 1 Sept 2010, 12:55 p.m.

Re: When was 1 a prime number?

*Message #19 Posted by **Gerson W. Barbosa** on 1 Sept 2010, 4:40 p.m.,*
in response to message #18 by Katie Wasserman

For 0^0 the 33s returns INVALID y^x, the 48GX returns 1.The HP 50g returns ?, that is, a mathematical indetermination, however for 0.^0. it returns 1. Perhaps there's a practical reason for this behavior, but I can only guess.

Re: When was 1 a prime number?

*Message #20 Posted by **Martin Pinckney** on 1 Sept 2010, 5:45 p.m.,*
in response to message #18 by Katie Wasserman

Maybe this sheds some light (from Wikipedia):

> Quote:
>
> **Treatment on computers**
>
> The IEEE 754-2008 floating point standard is used in the design of most floating point libraries. It recommends a number of different functions for computing a power:[19]
>
> * pow treats 0^0 as 1. This is the oldest defined version, it checks if the power is an exact integer and uses the value defined by pown in that case otherwise the value is as for powr except for some extra exceptional cases. * pown treats 0^0 as 1. The power must be an exact integer. The value is defined for negative bases, e.g. pown(-3,2) is 9. * powr treats 0^0 as NaN (Not-a-Number - undefined). The value is also NaN for cases like powr(-3,2) where the base is less than zero.
>
> **Programming languages**
>
> Most programming language with a power function are implemented using the IEEE pow function and therefore evaluate 0^0 as 1. The later

> C[20] and C++ standards, and the Java standard[21] mandate this behavior. The .NET Framework method System.Math.Pow also treats 0^0 as 1.[22]

Re: When was 1 a prime number?

*Message #21 Posted by **Katie Wasserman** on 1 Sept 2010, 6:20 p.m.,*
in response to message #20 by Martin Pinckney

There's a good, short discussion of the issue here. The vast majority of HP calculators (and I think all of them from the Pioneer series backward) return an error for 0^0 as do most other calculators. I wonder if there's much thought given to this or whether it's just a matter of convenience as to what the calculator returns.

Just curious, has TI been consistent over the years as to how they handle this? (I don't have enough TI calculators to check.)

Re: When was 1 a prime number?

*Message #22 Posted by **Gerson W. Barbosa** on 1 Sept 2010, 7:53 p.m.,*
in response to message #21 by Katie Wasserman

> Quote:
>
> Just curious, has TI been consistent over the years as to how they handle this?

```
 TI-82: ERR:DOMAIN
TI-83+: ERR:DOMAIN
 TI-85: ERROR 04 DOMAIN
 TI-86: ERROR 04 DOMAIN
 TI-89: 1.
TI-92+: 1.
```

Re: When was 1 a prime number?

*Message #23 Posted by **Don Shepherd** on 1 Sept 2010, 8:22 p.m.,*
in response to message #22 by Gerson W. Barbosa

Some more TI's:

```
NSpire CAS     undef
34ii           error
34 Multiview   error
30XIIS         error
30XS           error
36X            error
15             error
```

Sharp EL531W gives error (the only calculator I've seen with a built-in base 5).

Edited: 1 Sept 2010, 8:27 p.m.

Re: When was 1 a prime number?

*Message #24 Posted by **Katie Wasserman** on 1 Sept 2010, 8:37 p.m.,*
in response to message #23 by Don Shepherd

It seems like TI and HP have been following a similar path, I think it pretty strange (and a bit disturbing) that both companies chose to abandon consistency on this with some of their recent high-end calculators. Pretty soon they'll start returning answers when you divide by zero like some of the earliest calculators did.

Re: When was 1 a prime number?

*Message #25 Posted by **Gerson W. Barbosa** on 1 Sept 2010, 8:45 p.m.,*
in response to message #24 by Katie Wasserman

> Quote:
>
> Pretty soon they'll start returning answers when you divide by zero like some of the earliest calculators did.

Actually on the HP 48/49/50 this is achieved by setting flag -22.

Edited: 1 Sept 2010, 8:46 p.m.

Re: When was 1 a prime number?

*Message #26 Posted by **Gerson W. Barbosa** on 1 Sept 2010, 8:39 p.m.,*
in response to message #23 by Don Shepherd

> Quote:
>
> the only calculator I've seen with a built-in base 5

An interesting feature for former abacus users?

http://en.wikipedia.org/wiki/Quinary

Re: When was 1 a prime number?

*Message #27 Posted by **Palmer O. Hanson, Jr.** on 1 Sept 2010, 9:50 p.m.,*
in response to message #21 by Katie Wasserman

Katie:

You wrote:

> Quote:
>
> Just curious, has TI been consistent over the years as to how they handle this? (I don't have enough TI calculators to check.)

Here are some results from older TI's:

```
TI Business Analyst I  1
TI-30  1
SR-40  1
TI-55  1
TI-59  1
TI-68  Error
TI-80  ERR:DOMAIN
TI-81  ERROR 04 MATH
TI-83+ ERR: DOMAIN
TI-85  ERROR 04 DOMAIN
TI-86  ERROR 04 DOMAIN
TI-89 Titanium  undef
voyage200  undef
```

where my result for the TI-89 Titanium is different from the result reported by Gerson. I don't know how to explain the difference unless there is a difference between the TI-89 and the TI-89 Titanium. I get the "undef" result whether I am in AUTO, EXACT, or APPROXIMATE. Using my results there is a consistency of sorts. Before the TI-68 the result is 1, and from the TI-68 forward the result is an error.

Here is an interesting one from the HP-19BII: ERROR: 0^0

where it has separate error messages for 0^NEG, 0/0, 0^0, and /0.

Palmer

Edited: 1 Sept 2010, 9:55 p.m.

Re: When was 1 a prime number?

*Message #28 Posted by **Chuck** on 1 Sept 2010, 11:20 p.m.,*
in response to message #18 by Katie Wasserman

0^0 = 1 is somewhat logical if you look at the graph of y=x^x, and then take the limit as x->0 from the right. Obviously the limit is 1. Weird #$@%$#!! happens from the left, but I'm comfortable with the right-hand limit value 95% of the time. :)

Re: When was 1 a prime number?

*Message #29 Posted by **Mike** on 31 Aug 2010, 7:18 p.m.,*
in response to message #4 by Don Shepherd

> Quote:
>
> "a number with exactly 2 factors, 1 and itself",

Factor 1: 1 Factor 2: itself

Factors imply multiplication

1 * itself = 1

IF one is not a prime, then the definition was changed along the way. The definition I was taught (in olden times) was "a prime is a number that is divisible only by itself and one". And I'm sticking with that, unless someone asks me to bet on that sum of first five primes question.

Edited: 31 Aug 2010, 7:19 p.m.

Re: When was 1 a prime number?

*Message #30 Posted by **Don Shepherd** on 31 Aug 2010, 8:18 p.m.,*
in response to message #29 by Mike

One is not prime today. It and zero are neither prime nor composite. That's what we teach the kids.

Re: When was 1 a prime number?

*Message #31 Posted by **Mike** on 1 Sept 2010, 9:40 p.m.,*
in response to message #30 by Don Shepherd

Yeah! But what we teach kids, isn't the the criteria for deciding whether or not 1 should be prime. It's not a prime today, for only one reason... to be consistent with a new definition.

Mathematics has been around for eons. Up until a hundred years ago, and even into the 20th century, many professional mathemiticians considered 1 a prime. Up until the 50s and even in the 60s when I was in school, '1' was a prime number.

What has changed is a definition; not mathematics.

Hell, "what we teach kids" is not only often wrong, but irrlevant. It wouldn't surprise me that some history revisionists "teach" that the U.S. lost the Vietnam war and offer as proof, the helicopters landing on the embassy in Saigon. Nevermind that the U.S. had alread been out of Vietnam for 2+ years and the war ended in a peace agreement.

Edited: 1 Sept 2010, 9:42 p.m.

Re: When was 1 a prime number?

*Message #32 Posted by **Don Shepherd** on 1 Sept 2010, 10:09 p.m.,*
in response to message #31 by Mike

> Quote:
>
> But what we teach kids, isn't the the criteria for deciding whether or not 1 should be prime.

I agree. In 2010, 1 is not regarded as a prime number. That is the mathematically-accepted truth. We teach kids the mathematically-accepted truth.

> Quote:
>
> "what we teach kids" is not only often wrong, but irrlevant.

You've got it partially right. We don't teach kids "wrong" things. We teach the curriculum, and the curriculum is defined by the state educational organizations. Now they are not perfect, but at least where math is concerned I can't think of a single fact that we teach our kids that is "wrong."

Some of what we teach is, in my opinion, irrelevant. Box-and-whiskers plots and stem and leaf plots are examples. Kids will never see one of these once they leave middle school. But, truth be told, most kids will never see a quadratic equation once they leave high school either. But we teach them, because they make the kids think, and that's a

value that never goes out of style.

Re: When was 1 a prime number?

*Message #33 Posted by **Egan Ford** on 30 Aug 2010, 10:39 a.m.,*
in response to message #3 by htom trites jr

> Quote:
>
> Always was, never was, depending on how you defined "prime number".

I was taught that a prime was a positive integer that was only divisible by 1 and itself. 1 does fit that definition. And there may have been a period of time in my youth that I also believed it. The missing term *distinct* I read from a book later on. I believe that confusion is still being spread because that term is being dropped from casual (and perhaps formal) conversation.

1 is neither prime or composite--it is truly the loneliest number. 1 does have the unique distinction of being the *unit*, i.e. unit = 1/unit (or unit == 1/unit for TW, et al :-).

Edited: 30 Aug 2010, 10:40 a.m.

Re: When was 1 a prime number?

*Message #34 Posted by **John B. Smitherman** on 31 Aug 2010, 12:00 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

Palmer, in my opinion defining 1 as non-prime is similar to defining 0! = 1. It seems to be an arbitrary way to get the math to work.

Regards,

John

Re: When was 1 a prime number?

*Message #35 Posted by **John Mosand** on 31 Aug 2010, 8:27 a.m.,*
in response to message #34 by John B. Smitherman

One reason why 1 is not a prime is that it would be in conflict with the Fundamental Theorem of Arithmetic.

Re: When was 1 a prime number?

*Message #36 Posted by **Ken Shaw** on 31 Aug 2010, 10:13 a.m.,*
in response to message #35 by John Mosand

This is elegantly expressed in the video found here:

http://www.mathacademy.com/pr/#1

Re: When was 1 a prime number?

*Message #37 Posted by **Mike** on 1 Sept 2010, 9:25 a.m.,*
in response to message #35 by John Mosand

I must be in a disagreeable mood today.

How does 1 violate the Fundamental Theory of Arithmetic? If what you say is true, then making 1 a prime number would violate that theorem. But if 1 was prime, it fits perfectly with the definition of Fundamental Theory of Arithmetic.

Fundamental Theory of Arithmetic

"In number theory and algebraic number theory, the Fundamental Theorem of Arithmetic (or Unique-Prime-Factorization Theorem) states that any integer greater than 1 can be written as a unique product of prime numbers."

In fact, in my view if that is the definition, you it is flawed without 1 being a prime.

For instance, according to that theory, what is the factors of 2?

2 must have uniquie product of prime number**s**.

2 = 2 * 1

According to the theory, those factors must be prime. In order for that theory to hold, 1 must be a prime. If 1 is not a prime number, then there is no product of factors at all for 2. Product implies multiplication of 2 numbers.

The problem I see, is that all of these definitions are designed to exclude 1 from the list of primes, for no particularly good reason. The definitions are flawed. 1 being a prime voilates no rules of mathematics that I know of, unless it's related to a flawed definition.

So here is a test

1) What is the oldest known list showing 1 as a prime? (no definitions please; just lists of numbers)

2) What is the oldest known list showing 2 as the first prime? (no definitions please; just lists of numbers)

3) Which is older?

I know "todays" answer as to whether or not 1 is prime. I know when I was going to school, many, many moons ago 1 was prime. I also know that when I was going to school, Pluto was a planet.

From where I sit now; nothing has changed but definitions.

Edited: 1 Sept 2010, 9:43 a.m.

Re: When was 1 a prime number?

*Message #38 Posted by **Palmer O. Hanson, Jr.** on 1 Sept 2010, 1:46 p.m.,*
in response to message #37 by Mike

Mike:

You asked

> Quote:
>
> 1) What is the oldest known list showing 1 as a prime? (no definitions please; just lists

> of numbers)
>
> 2) What is the oldest known list showing 2 as the first prime? (no definitions please; just lists of numbers)
>
> 3) Which is older?

If you look at the first item in this thread you will see that my AMS 55 of 1964 does not show 1 as prime.

My *Mathematical Tables from Handbook of Chemistry and Physics* does show 1 as prime. It is fourth printing of the eleventh edition with the first printing in December 1959. The book was originally copyrighted in 1931.

In its definitions of "prime' my *Webster's Collegiate Dictionary* (Fifth Edition 1946) states

> Quote:
>
> 5. *math* a. divisible by no number except itself or unity; as, 7 is a *prime* number. b. Having no common divisor but 1; -- used with *to*; as, 12 is *prime* to 25.

My 1969 issue of *Encyclopedia Britannica* says

> Quote:
>
> PRIME NUMBER, a positive integer (whole number) greater than 1 that cannot be expressed as the product of two positive integers neither of which is one.

Those are the oldest references that I have here in North Carolina. I have some older references in Florida including the "Mathematical Tables from ..." that I purchased in 1946 when I was a freshman in college. I also have the algebra and geometry texts that my father used in about 1918 where my memory says that the copyrights were in the very early 1900's. I will be able to look at those in about two weeks.

I told my wife that those old books would come in handy sometime!

Palmer

"Is 1 a prime number" and "0! = 1"?

*Message #39 Posted by **Karl Schneider** on 2 Sept 2010, 12:50 a.m.,*
in response to message #34 by John B. Smitherman

> Quote:
>
> Palmer, in my opinion defining 1 as non-prime is similar to defining 0! = 1. It seems to be an arbitrary way to get the math to work.

There's been much parsing in this thread about the reasons for or against the primality of 1, but the fundamental point seems clear to me:

The purpose of integer factorization is to decompose an integer into a product of factors (smaller integers). A prime factor is one that itself cannot be decomposed. Any number -- integer or not -- can be expressed

as the product of itself and unity (1), which renders 1 a "sub-factor" that cannot be used for decomposition. Thus, 1 would be trivial as a prime number.

It follows that two (2) cannot *possibly* be broken down, due to an absence of any smaller factors. However, to divide a positive even number by 2 will render an integer quotient that is smaller than the original number, so 2 is a valid factor that is prime.

As for the factorial of 0 (0! = 1): Yes, it seems arbitrary, but it fits the inductive mathematical definition and is useful in practice:

```
1! = 1        (by definition)
k! = k(k-1)!  {k is integer}

--> (k-1)! = (k!)/k

Let k = 1,

--> (1-1)! = (1!)/1
-->     0! = 1/1 = 1
-->  (-1)! = (0!)/0 = 1/0  (undefined)
```

-- KS

Edited: 2 Sept 2010, 1:50 a.m.

Re: When was 1 a prime number?

*Message #40 Posted by **Don Shepherd** on 31 Aug 2010, 9:06 p.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

I can verify that 1 is not prime from the highest authority.

TI-89 Titanium isprime(1) = false TI-NSpire isprime(1) = false

Surely this should convince everyone.

:) big smiley

Don

Re: When was 1 a prime number?

*Message #41 Posted by **Gerson W. Barbosa** on 31 Aug 2010, 9:21 p.m.,*
in response to message #40 by Don Shepherd

HP 50g:

```
1 ISPRIME? -> 0
```

Now, I am convinced! :-)

Edited: 31 Aug 2010, 9:23 p.m.

Re: When was 1 a prime number?

*Message #42 Posted by **Mike** on 1 Sept 2010, 9:46 p.m.,*

in response to message #40 by Don Shepherd

And I wager the algorithm is different for '1' than any other number. I bet the algorithm is something like:

```
isprime (n)
 {
  if (n==1)
  {
    return "false"
  }
  is_modernconvention_prime(n);
 }
```

It's simply one extra step to the actual algorithm, to eliminate '1' by convention and nothing more.

I also bet you think Pluto isn't a planet?

Edited: 1 Sept 2010, 9:52 p.m.

Re: When was 1 a prime number?

*Message #43 Posted by **Don Shepherd** on 1 Sept 2010, 10:54 p.m.,*
in response to message #42 by Mike

Mike, slavery is also no longer accepted in the United States.

Things change.

If you want to consider 1 prime or Pluto a planet, hey, it's a free country. But I've got to teach prime numbers to kids, and I want to teach the truth, and the truth is 1 is not a prime number. Maybe it once was, fine, but today it's not.

If you really feel strongly about this, perhaps you should write the American Mathematical Association and plead your case. I wish you luck.

Don

Re: When was 1 a prime number?

*Message #44 Posted by **Martin Pinckney** on 1 Sept 2010, 11:29 p.m.,*
in response to message #43 by Don Shepherd

I think I understand both viewpoints. There appear to be valid reasons why today 1 is defined as not prime, whether we* understand them or not; that is mathematical convention today, so that is what is taught in the schools.

However, "convention" is not the same as "truth". As David Hayden said:

> Quote:
>
> ...sometimes in math we define things a particular way to make the model work better or easier.

*By "we", I mean "me". To me, it seems intuitive that 1 is prime. However, intuition often fails to maintain rigor in mathematics.

Re: When was 1 a prime number?

*Message #45 Posted by **htom trites jr** on 1 Sept 2010, 11:46 p.m.,*
in response to message #44 by Martin Pinckney

It seems that the natural numbers are divided these days into four classes: 0; 1; primes; and composites. Glad I'm not a mathematician, and I still call Pluto a planet. Wrong, wrong.

Anyway, MathWorld has a discussion of this, with dates and sources. It's one of those arbitrary "math things". Primacy of One, and Primes

The Fundamental Theorem thing doesn't do it for me. If N is a prime > 1, then it has two factors, itself and one, and is the product of those two primes. But one is not a prime, so the theorem seems to fail. I suspect this is one of those "don't do math in English" problems, which I'm frequently reduced to in attempts to explain quantum and relativity physics.

Edited: 1 Sept 2010, 11:50 p.m.

Re: When was 1 a prime number?

*Message #46 Posted by **Gerson W. Barbosa** on 2 Sept 2010, 1:20 p.m.,*
in response to message #45 by htom trites jr

It's just occurred to me that the Eratosthenes Sieve would not work if 1 were defined as prime. In that case all multiples of 1 (that is, the whole set of integer numbers but 1) would be striken from the list and 1 would be the only prime number. Perhaps 1 should be called a *primary number* to distinguish it from the primes, but I'm not sure this is another Mathematics reserved word.

Including 1 in the set of prime numbers would spoil the mnemonic for the first seven primes in your reference. Likewise the exclusion of Pluto from the planetary family has ruined "My Very Educated Mother Just Served Us Nine Pizzas" :-)

Re: When was 1 a prime number?

*Message #47 Posted by **Dieter** on 2 Sept 2010, 1:46 p.m.,*
in response to message #46 by Gerson W. Barbosa

> Quote:
>
> Likewise the exclusion of Pluto from the planetary family has ruined "My Very Educated Mother Just Served Us Nine Pizzas" :-)

Ah, very interesting - in German it's "Mein Vater Erklärt Mir Jeden Sonntag Unsere Neun Planeten", so the loss of Pluto is even worse since both the number nine and the word "planet" are explicitely mentioned. ;-)

And what about other languages? How do you memorize the planets in French, Spanish or in other parts of the the world?

Dieter

Re: When was 1 a prime number?

*Message #48 Posted by **Gerson W. Barbosa** on 2 Sept 2010, 5:25 p.m.,*
in response to message #47 by Dieter

In Portuguese it is, or used to be, "Meu velho terno marrom joguei sábado último no porão" which means "Last saturday I threw my old brown suit in the basement".

P.S.: I don't know if this is widespread as I cannot find any reference on the web. I rembember my father told it to me once (not every Sunday :-)

Another one, which takes into account the exclusion of Pluto, is "Meu Velho Tio Me Jurou Ser Um Netuniano", that is, "My old uncle has sworn me to be from Neptune". But who needs this to memorize only eight planets anyway?

Edited: 2 Sept 2010, 5:48 p.m.

Re: When was 1 a prime number?

*Message #49 Posted by **Etienne Victoria** on 3 Sept 2010, 6:17 a.m.,*
in response to message #47 by Dieter

Hi all,

The one I was taught in french:

"Mais Viendras-Tu Manger Jeudi Sur Une Nappe Propre ?"

and when Pluton was demoted, this was changed to:

"Mais Viendras-Tu Manger Jeudi Sur Une Nappe ?"

Which respectively mean:

"Will You Come To eat Thursday On a Clean Tablecloth?"

and

"Will You Come To eat Thursday On a Tablecloth?"

When Pluton was dropped, the tablecloth went dirty...

:-)

Etienne

Edited: 3 Sept 2010, 6:20 a.m.

Re: When was 1 a prime number?

*Message #50 Posted by **Gerson W. Barbosa** on 3 Sept 2010, 9:52 a.m.,*
in response to message #49 by Etienne Victoria

Salut Etienne!

It appears these are not so difficult to create. *Par éxample*: "M'amie Voulait Toujours Me Jeter Sur Une Noce". However, does this one make any sense? :-)

Gerson.

Re: When was 1 a prime number? Solar system, Granma, weddings...

*Message #51 Posted by **Etienne Victoria** on 3 Sept 2010, 4:35 p.m.,*
in response to message #50 by Gerson W. Barbosa

Dear Gerson,

Well...it would make sense if my Grandmother could "throw me on a wedding" :-)

Even though she passed away a couple of years ago, she lived long enough to meet and appreciate my wife-to-be.

So...no question "she would have thrown me on a wedding" :-)

All the best

Etienne

Re: When was 1 a prime number? Solar system, Granma, weddings...

*Message #52 Posted by **Gerson W. Barbosa** on 3 Sept 2010, 6:32 p.m.,*
in response to message #51 by Etienne Victoria

The following isn't any better:

"Mers Vertes, Tremblez Maintenant ! Je Suis Un Navigant !"

Also, there is rhyme but no rhythm. I quit, this is not so easy as I imagined ...

The best so far is the German one, which is related to the (planets) subject.

Regards,

Gerson.

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HP-15C for Windows, Linux and Mac OS X

*Message #1 Posted by **Torsten** on 29 Aug 2010, 12:38 p.m.*

I released version 2.0.00 of my HP-15C simulator. It can be downloaded from the simulator home page.

This version now supports Windows 2000, XP, Vista and 7, Linux x86 and - for the first time - Mac OS X (x86).

Mobile operating systems, like PocketPC, Windows Mobile or Android, are not supported.

Torsten

Re: HP-15C for Windows, Linux and Mac OS X

*Message #2 Posted by **Gerson W. Barbosa** on 29 Aug 2010, 7:35 p.m.,*
in response to message #1 by Torsten

Thanks!

The HP-15C was my first HP calculator. I still have it plus two more, including one of the last units made (1989).

Quoting from your website:

> Quote:
>
> The Simulator uses the Simpson method to compute an integral. Unfortunately, I do not know which method the HP-15C uses (the handbook does not say a word about it).
>
> Quote:
>
> I do not know which method the real HP-15C uses to find the roots of an equation. The Simulator uses the "Regula Falsi" method.

The HP-15C, like its predecessor HP-34C, uses a Romberg method. Perhaps the author of both SOLVER and INTEGRATE algorithms, Prof. Kahan, can give more detailed explanations:

http://www.cs.berkeley.edu/~wkahan/Math128/INTGTkey.pdf

http://www.eecs.berkeley.edu/~wkahan/Math128/SOLVEkey.pdf

Regards,

Gerson. [[/link]

Edited: 29 Aug 2010, 7:40 p.m.

Re: HP-15C for Windows, Linux and Mac OS X

*Message #3 Posted by **Namir** on 29 Aug 2010, 10:39 p.m.,*
in response to message #2 by Gerson W. Barbosa

Yes, the 34C and the 15C use Romberg's method.

Regarding contacting professor Kahan, I did a few years ago to ask about details for the SOLVER. He wrote back and said that he had a master's student work on the details of implementing the algorithm and he (Kahan) did not have any info.

Namir

Edited: 29 Aug 2010, 10:40 p.m.

Re: HP-15C for Windows, Linux and Mac OS X

*Message #4 Posted by **Gerson W. Barbosa** on 30 Aug 2010, 12:29 a.m.,*
in response to message #3 by Namir

Namir,

l meant (or intended to mean) Prof. Kahan's articles would give more information. I should have revised my post. Sorry!

Gerson.

Edited: 30 Aug 2010, 12:31 a.m.

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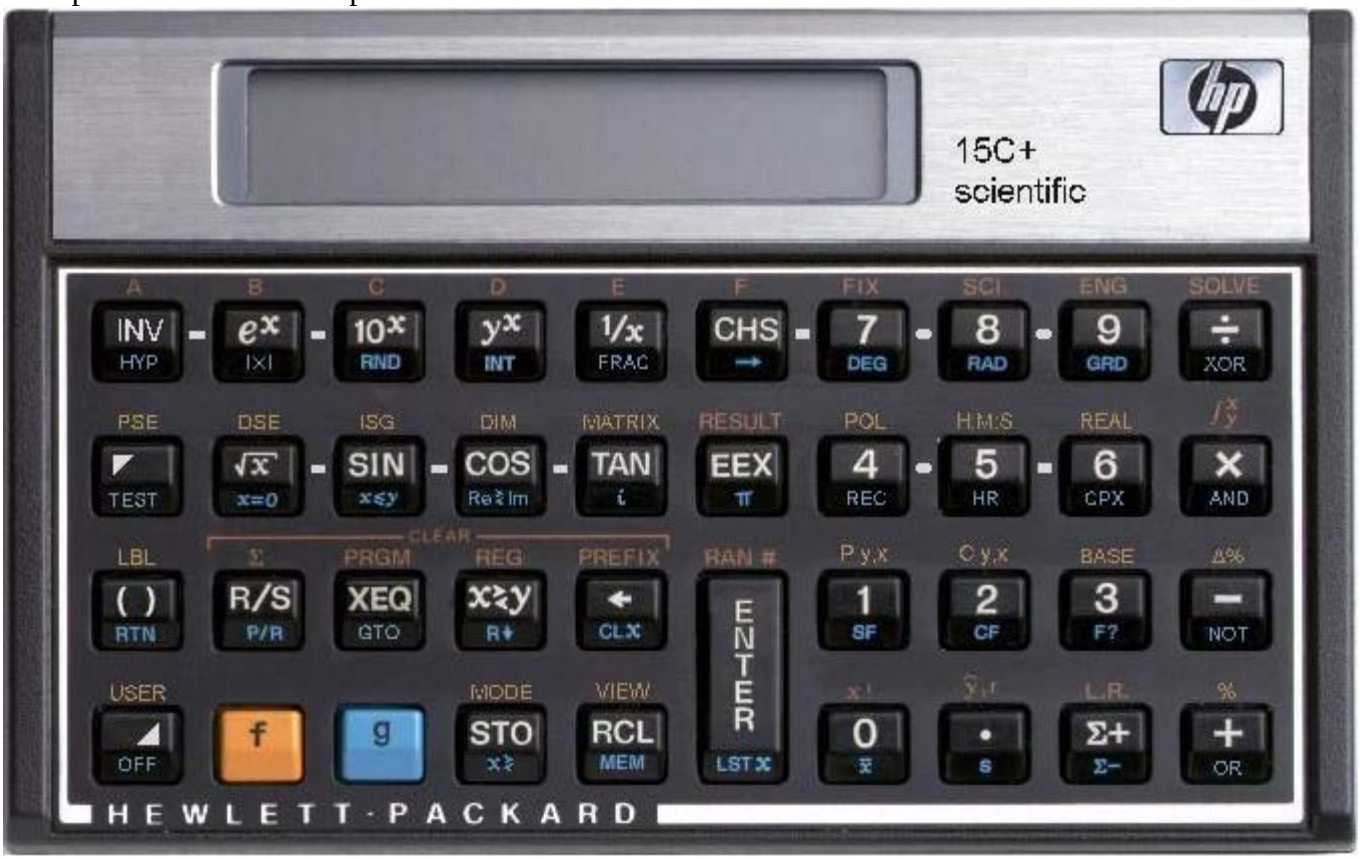
Design contest ;)

*Message #1 Posted by **Walter B** on 29 Aug 2010, 1:59 p.m.*

Ok, I didn't want to do that again, but since two requests were posted recently you find here a number of drafts showing some opportunities present HP calculator housings allow. As mentioned elsewhere, most drafts were posted earlier already. With respect to the upcoming HHC2010, they are published here in a new thread to foster discussions about a new **scientific** RPN calculator. After all, these financial guys drove us into last crisis, now, HP, give the engineers a good, handy pocket calculator **before** they will do alike! ;)

First picture shows what's possible based on a 15C with minimal modifications:

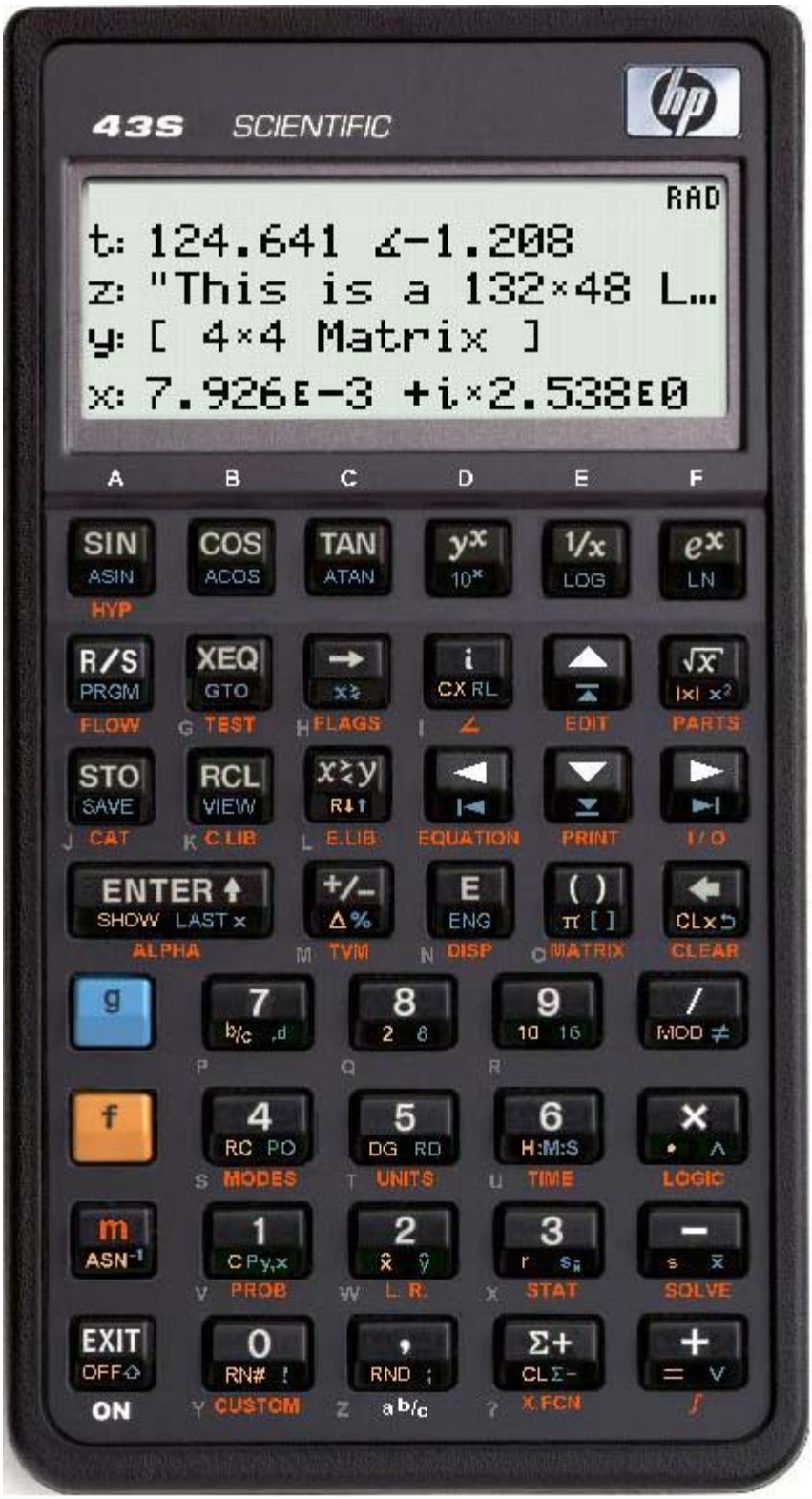


You may note an INV prefix for inverting functions top left, and an arrow prefix for conversions (top right). Respective applicable functions are connected with a white dash. Everything else is old technology (no need to get used to something new, hurrah!).

With a little more effort, particularily a full dot matrix display (hey, a change after almost 30 years! How dare you!), one may reach something like this:

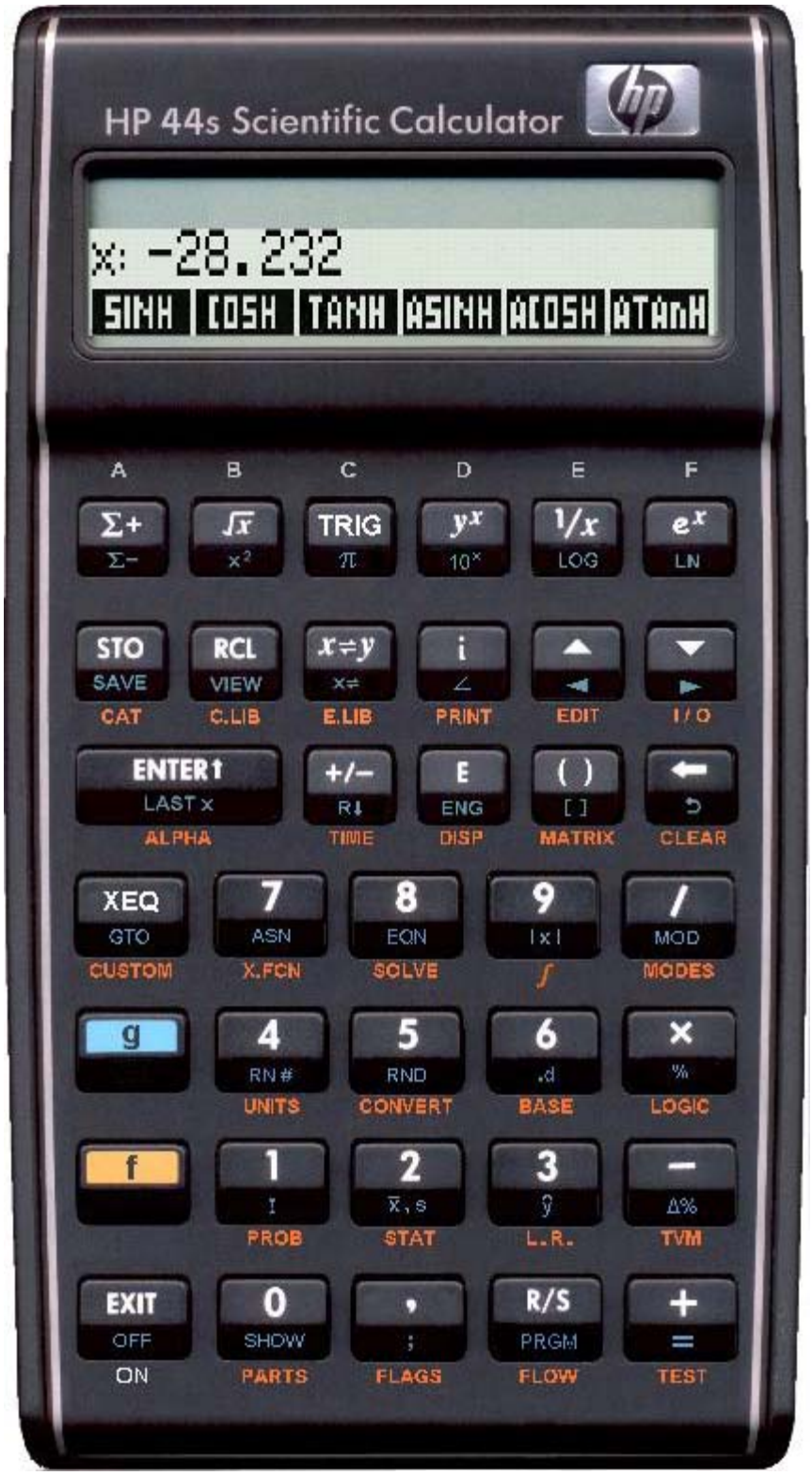
Design contest ;)

Similar layouts can be done easily based on

a 42S: 

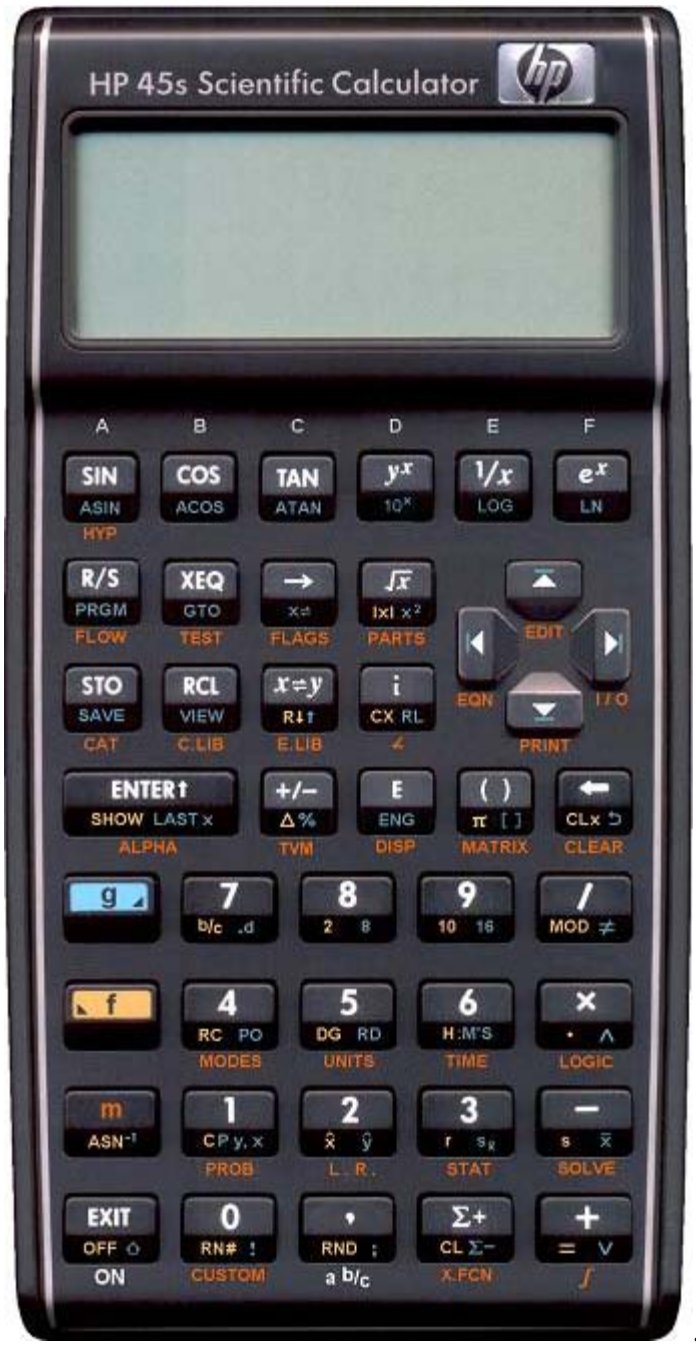
, a 17BII Silver:

Design contest ;)



, or a 35S:

Design contest ;)



As many of you know, Paul Dale and me have started a 20B repurposing project some (many) months ago. This is our present layout:

Of course, we'll use the 30B HW now. There is a 49-page manual available for this draft already - if you want a copy please drop me a note.

This as well as all other drafts published here and the related documentation are subject to updates without notice. So, as written elsewhere already, comments, critics, suggestions etc. are most welcome, especially if some reasoning is included. Don't hesitate to ask questions you may have! Though you can't buy any of these models yet, maybe you may get one of them once when either our repurposing project will end successfully or a renowned calculator corporation which will not be named here will take the chance ... ;)

Ceterum censeo: HP, launch a new scientific!

FWIW,

Walter

Re: Design contest ;)

*Message #2 Posted by **Jerry Raia** on 29 Aug 2010, 2:26 p.m.,*
in response to message #1 by Walter B

Put me down for a 34s :)

Re: Design contest ;)

*Message #3 Posted by **Thomas Radtke** on 29 Aug 2010, 3:01 p.m.,*
in response to message #1 by Walter B

Hi Walter,

> Quote:
>
> As many of you know, Paul Dale and me have started a 20B repurposing project some (many) months ago. This is our present layout: [...]
> Of course, we'll use the 30B HW now. There is a 49-page manual available for this draft already - if you want a copy please drop me a note.

note

Is there a working implementation?

What do I need to install the new firmware if given? I'm asking for a dummies guide here ;-).

Is / would the 20b still (be) supported?

Thomas

Re: Design contest ;)

*Message #4 Posted by **Paul Dale** on 30 Aug 2010, 5:48 a.m.,*
in response to message #3 by Thomas Radtke

> Quote:
>
> Is there a working implementation?

Not quite. The bulk of the coding is done & runs fine in a terminal window. The port to the actual hardware isn't done.

> Quote:
>
> Is / would the 20b still (be) supported?

Yes.

- Pauli

Edited: 31 Aug 2010, 3:37 a.m.

Re: Design contest ;)

*Message #5 Posted by **ravwalia** on 29 Aug 2010, 3:23 p.m.,*
in response to message #1 by Walter B

All these implementations look good, especially those based on the 15C. However, the question that we have to ask ourselves is, is anyone with any power to bring out a new calculator, listening.

It seems that the calls for a good rpn scientific calculator have been going on for years. The 33s with it's chevron keyboard and it's decimal point, wasn't an option. The 35s apparently has keyboard issues.

That said though, those mock ups look really good.

Re: Design contest ;)

*Message #6 Posted by **Namir** on 29 Aug 2010, 4:55 p.m.,*
in response to message #1 by Walter B

What would really be cool is implementing software that makes these working emulators (since there is real model to simulate).

Other than that, **I WANT ALL THOSE MODELS!!! PLEEEEEAAAAASE.**

Namir

What's inside

*Message #7 Posted by **Walter B** on 31 Aug 2010, 2:38 a.m.,*
in response to message #1 by Walter B

Responding to the questions raised by M. Joury in the old thread:

> Quote:
>
> If you were able to design your own machine where would you start? What current or past implementation would you base it on? I think I would vote for the HP42S as the starting point. Then add the best of the current crop (35s, 30b, etc.) and make sure to give it at least 32K RAM and some form of offline backup.

For the 34S, we took the function set of the HP-42S as you suggest. We added the

- function set of the HP-16C,
- fraction mode of the HP-32SII and successors,
- statistical distributions of HP-21S,
- constants and conversions of HP-35S,
- complete Greek and extended Latin letter set (beyond English),
- a real time clock,
- date and time calculations,
- and more SI<->IMP conversions, physical constants, statistical distributions (like Poisson, Exponential, Geometric, Weibull and the error function), and some more arcane functions (like Euler's Beta, incomplete regularized gamma etc., coming Paul's way while coding ;))

RAM is given and thus limited there, of course, but it's sufficient for all this and 500 program steps, 100 general purpose registers, and 100 user flags. No way for I/O for backup as you suggested. And we had to drop the matrix functions due to display limitations :(

A little more than a simplistic start :)

The other drafts are just this - drafts - based on the housings given. Sometimes I dared to dream of reasonable displays allowing matrix operations and a row of softkeys, and an SD or Micro SD slot for I/O. FWIW

Edit: Forgot date and time.

Edited: 31 Aug 2010, 12:57 p.m.

Re: What's inside

*Message #8 Posted by **M. Joury** on 2 Sept 2010, 2:34 p.m.,*
in response to message #7 by Walter B

When I posited my question I was thinking more in terms of a clean slate design. No restrictions and not assuming current hardware. But I like what you have here and would definitely buy 1 or more! As others have noted I think that it is obvious that for some of us a powerful scientific calculator in a compact package with a smallish (compared to graphing calculators) screen and the straight-forward HP41/HP42 programming paradigm is badly needed.

Thanks for your answer.

M. Joury

Re: Design contest ;)

*Message #9 Posted by **David Hayden** on 31 Aug 2010, 4:19 p.m.,*
in response to message #1 by Walter B

The mere fact that we're having this discussion shows the desperate need for keyboard overlays and assignable keys. If you have those, then question of which functions are on which keys largely goes away. If you don't like them, just change them.

Dave

Re: Design contest ;)

*Message #10 Posted by **Walter B** on 31 Aug 2010, 6:06 p.m.,*
in response to message #9 by David Hayden

That's the reason for the golden ASN on some drafts below of orange "m". Quoting an explanatory text of January 2009:

> Quote:
>
> ASSIGN will allow you assigning a command, program, variable, character, or a menu to the key you specify. Pressing {m} plus this specific key thereafter will execute the command or program, recall the variable, display the menu or insert the character assigned, respectively.
>
> - Enter {f} {ASN} *name* {key} . {key} may include prefixes if necessary.
> For example, to assign a program 'ABC' to the m-shifted SQRT key of a 45S, you enter

{f} {ASN} 'ABC' {SQRT}. Thereafter, whenever you press {m} {SQRT} , your 45S will execute your program 'ABC' instead of the previous m-shifted function of this key.
...

- You may use keyboard overlays to show your assignments. If you want to reset a particular key, use {g} {ASN^-1} {key} to recall the default m-shifted function of this key.

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Jean-Marc Baillard is a (HP-41) Genius!!!

*Message #1 Posted by **Namir** on 29 Aug 2010, 7:04 a.m.*

In the last few weeks I have been looking at various algorithms for solving polynomials. Our own museum web site contains routines developed by Jean-Marc Baillard that handle the roots of polynomials with real and complex coefficients. I have been working with Matlab (as the first language to implement various polynomial root seeking methods) and realize that some techniques are not easy to implement. Yet when I look at the work of Jean-Marc Baillard it is beyond amazing! Today I found on TOS his (new?) JMB Matrix ROM which handles matrices and polynomials. Some the ROM's routines are the same/similar to Baillard's posting on this web site. With the ROM module loadable in the HP41CX software, you don't have to type the code! It does not get any better!!

So, Jean-Marc if you visit this museum site often, I want you to know the very high level of esteem I hold you and your work, making the HP41C perform tasks not so easily suited for it, especially with complex math.

Your humble fan, Namir

PS: The JMB ROM is based on Baillard's initials. If his name was something like Jean Irene Marie Bailliard Obergonois ... his ROM would be **JIMBO ROM** ..... :-) .... sorry could not help myself!

Edited: 29 Aug 2010, 5:00 p.m.

Re: Jean-Marc Baillard is a (HP-41) Genius!!!

*Message #2 Posted by **Gerson W. Barbosa** on 29 Aug 2010, 6:55 p.m.,*
in response to message #1 by Namir

> Quote:
>
> PS: The JMB ROM is based on Baillard's initials. If his name was something like Jean Irene Marie Bailliard Obergonois ... his ROM would be **JIMBO ROM** ..... :-) .... sorry could not help myself!

The acronym would be more appropriate if the first name were Jacques instead of Jean, since Jacques is the French equivalent of James. By the way, have you ever heard of **GW B**asic? :-)

Regards,

Gerson.

Re: Jean-Marc Baillard is a (HP-41) Genius!!!

*Message #3 Posted by **Namir** on 29 Aug 2010, 8:52 p.m.,*
in response to message #2 by Gerson W. Barbosa

GW-Basic ... very funny! Does Gates pay you any royalties?

I see the reference about Jacques instead of Jean. I was thinking about the initials adding up to JIMBO.

:-)

Namir

Edited: 29 Aug 2010, 10:15 p.m.

Re: Jean-Marc Baillard is a (HP-41) Genius!!!

*Message #4 Posted by **JMBaillard** on 29 Aug 2010, 5:21 p.m.,*
in response to message #1 by Namir

Hi Namir,

Thank you for all these appeciations !
I must also say that these new ROMs
have been put together by Angel Martin,
and they wouldn't exist without his huge job !

I'll try to continue to write programs
for our fantastic HP-41s.

Best wishes,
Jean-Marc.

Re: Jean-Marc Baillard is a (HP-41) Genius!!!

*Message #5 Posted by **Namir** on 29 Aug 2010, 10:12 p.m.,*
in response to message #4 by JMBaillard

Looking forward to seeing more HP-41C from you. Also hope to see HP-42s since it can handle matrices and complex numbers more easily than the HP-41C.

Namir

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Labelling HP41/67/97 magnetic cards

*Message #1 Posted by **Dieter** on 28 Aug 2010, 8:53 a.m.*

At the moment I am having my good old HP-41 card reader serviced. From what I've heard so far it has come back to life, almost 20 years after the fatal day I dropped it and it broke into pieces.
Now I would like to reuse the magnetic cards I still have from the eighties and early nineties. I think some of them may be overwritten without the loss of important (or just interesting :-)) programs or other data.
However, in the old days most of these cards were labelled with a black overhead marker (Staedtler Lumocolor permanent SF). So the first question is how to remove this (with alcohol?) while the second, more interesting idea is to make a completely new label, preferably laser-printed.

So I made a kind of template in Photoshop, having the look and size of a blank HP magnetic card, so that individual text and other info can be easily added. My first idea is to print this on self-adhesive labels or adhesive paper, but - will the added thickness cause any problems while the card passes trough the reader?
Or maybe someone has a better idea?

Dieter

Re: Labelling HP41/67/97 magnetic cards

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 28 Aug 2010, 11:27 a.m.,*
in response to message #1 by Dieter

Hi, Dieter;

I usually follow the manufacturer suggestion, so, based on the HP82104A manual, I'd not try adhesive labels on it. I am also taking into consideration the fine adjustment available with the pressure roller, and I think it is almost as fine as a paper thickness. Should check.

I use CD markers and have achieved good results. If you are actually going to remove the existing labels, I'd suggest backing their contents up (read all cards, save their contents into another media like disk, tape, MLDL2000 RAM, CLONIX series and related HEPAX stuff, then save it into the computer) prior to any cleaning procedure. Just in case... Then perform the cleaning and new labeling and check if contents are still valid.

I have cards written in the 80's that were all backed up about eight years ago. Most of the original cards still retain their contents, others I had to rewrite and just two of them (amongst 80) are lost.

Hope this gives you some perspective.

Cheers.

Luiz (Brazil)

Edited: 28 Aug 2010, 11:35 a.m.

Re: Labelling HP41/67/97 magnetic cards

*Message #3 Posted by **Dieter** on 28 Aug 2010, 2:47 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Hi, Luiz -

I couldn't resist and made a sample card with an self-adhesive label. With the label attached the card is 0.32 mm thick, compared to 0.22 mm without. Since my card reader is being serviced at the moment I can't say whether this will cause any problems or not. On the one hand it's only 0.1 mm more, on the other hand it's about 50 percent. :-)

Back in the eighties I used black permanent marker pens, similar to what's today known as CD marker, just with an extra fine tip. About half of the cards still looks fine, i.e. with sharp contours, perfectly readable, while others appear somewhat washed-out.

Most of the cards hold programs that I would like to keep (if they can still by read). Others are less important and can be overwritten, and for these cards I'm looking for a way to remove the existing labelling and/or provide a new one. And, if possible, something that looks better than before. :-)

Backups? Disks? Tape? MLDL-stuff? Sorry, I don't have anything like that. Yes, some kind of computer connectivity would be nice, recently I read about this PIL-box thing. I think I have yet to get familiar with all this. I'm more interested in software and algorithms than in hardware. You know, I'm one of these guys with *five left thumbs on each hand*, as we say over here. ;-) Well... maybe using MCODE could be something I would like to try. But that's a different story.

Dieter

Re: Labelling HP41/67/97 magnetic cards

*Message #4 Posted by **geoff quickfall** on 28 Aug 2010, 8:06 p.m.,*
in response to message #3 by Dieter

from experience, DO NOT use adhesive labels. ;-(

The added thickness (which translates into resistance) stresses the pinch roller, dampening couple and therefore the motor.

I tried the clear adhesive lable type and they look fantastic but ended up ruining the the dampening couple which then cause me to enter the calc and repair the already repaired couple.

Cheers, Geoff

In the old days letroset worked but did smudge after a time.

Cheers again!!

Re: Labelling HP41/67/97 magnetic cards

*Message #5 Posted by **Gerson W. Barbosa** on 29 Aug 2010, 12:54 a.m.,*
in response to message #4 by geoff quickfall

Besides, new old stock magnetic cards are easily available at TAS (or at least they used to be).

Gerson.

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HHC 2010

*Message #1 Posted by **David Hayden** on 27 Aug 2010, 10:15 p.m.*

I thought I'd start a new thread for all things related to HHC 2010.

I have a question: what do people think of renting a car vs. taking one the shuttles? I'm coming in Friday and leaving Monday.

Dave

Re: HHC 2010

*Message #2 Posted by **Bruce Bergman** on 28 Aug 2010, 12:25 a.m.,*
in response to message #1 by David Hayden

I haven't been there before, but it's like an hour drive. I'm just planning on Green shuttling it (assuming they don't stop a hundred times between the airport and the hotel).

Re: HHC 2010

*Message #3 Posted by **Tim Wessman** on 28 Aug 2010, 4:33 a.m.,*
in response to message #1 by David Hayden

The shuttle is about an hour. It is very quick.

Really, I think the only reason to rent a car is if you plan on going to other places around the area by yourself, or really want to get off the beaten path. I'll have the minivan so we can fit plenty in that, and there should be at least a few more local people.

TW

Edited: 28 Aug 2010, 4:35 a.m.

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New HP 12C Platinum - 2 Batteries???

*Message #1 Posted by **Jeff** on 27 Aug 2010, 7:44 p.m.*

I had to replace my 25th Anniversary edition because one of the keys doesn't work right. The new Platinum has two 2032 batteries instead of one. I wasn't happy to see that.

What is the reason? Faster processor? Will the batteries last longer than one?

Re: New HP 12C Platinum - 2 Batteries???

*Message #2 Posted by **Don Shepherd** on 27 Aug 2010, 8:11 p.m.,*
in response to message #1 by Jeff

Yeah, this was reported a couple of months ago by another user. The probable reason for two batteries in the platinum is that the ARM-based 12c+ has two batteries now, so it's probably more economical to have one case format for both the 12c+ and 12c platinum. I think the processor in the platinum is the same as the older platinum, so no speed advantage. I would think that two batteries would last longer than just one, but I'm no power expert.

Re: New HP 12C Platinum - 2 Batteries???

*Message #3 Posted by **Allen** on 28 Aug 2010, 11:50 a.m.,*
in response to message #1 by Jeff

I think this is a very good sign that the Platinum has joined the Gold 12c+ in housing 2 batteries. (Whether absolutely necessary or not!)

This design change suggests a migration to a common body design for 21st century Voyagers. To me, the common body might also suggest the existence of a medium- to long-term strategy for the Voyager series to amortize design/production costs for later models.

Re: New HP 12C Platinum - 2 Batteries???

*Message #4 Posted by **Nigel J Dowrick** on 29 Aug 2010, 7:40 a.m.,*
in response to message #1 by Jeff

Have you tried running it with just one of the two batteries installed? Maybe they are connected in parallel. (If this works, it would clearly cut the battery life in half.)

Nigel

Re: New HP 12C Platinum - 2 Batteries???

*Message #5 Posted by **Jeff** on 30 Aug 2010, 11:27 a.m.,*
in response to message #4 by Nigel J Dowrick

I will try that today. I am wondering if having two batteries is a good thing or a bad thing. I liked having

only one battery in my previous 12C.

Too bad it's not a solar calculator.

Re: New HP 12C Platinum - 2 Batteries???

*Message #6 Posted by **Katie Wasserman** on 30 Aug 2010, 5:28 p.m.,*
in response to message #5 by Jeff

You can run it just fine with one cell, the cells are in parallel with no blocking diode. While 2 cells will last longer than one it's a bad arrangement when considering low battery replacement. When the low battery indicator comes on it means that both cells are near dead. One of them may indeed be completely dead and if that's not the one replaced first you're likely to lose memory when changing the cells.

Using one cell at a time will remedy this problem since you can put in a new cell in the other position then remove the one that's nearly dead.

I think it's preferable to only use one cell in the new 12C's with dual cr2032 cells -- whether it's ARM processor or the older one.

-Katie

Re: New HP 12C Platinum - 2 Batteries???

*Message #7 Posted by **DaveJ** on 31 Aug 2010, 6:13 a.m.,*
in response to message #4 by Nigel J Dowrick

> Quote:
>
> Have you tried running it with just one of the two batteries installed? Maybe they are connected in parallel. (If this works, it would clearly cut the battery life in half.)

Most likely less than half actually.

http://www.eevblog.com/2009/04/16/eevblog-4-low-power-calculator-design-and-fpgas/

Dave.

Re: New HP 12C Platinum - 2 Batteries???

*Message #8 Posted by **Jeff** on 31 Aug 2010, 11:58 a.m.,*
in response to message #7 by DaveJ

> Quote:
>
> Most likely less than half actually.
>
> http://www.eevblog.com/2009/04/16/eevblog-4-low-power-calculator-design-and-fpgas/
>
> Dave.

It does work. My question is if there is any advantage to 2 batteries vs. being designed with one. In other words, do the 2 batteries last longer than 12C calculators that are just designed with one?

Thanks. P.S. Good clip, by the way!

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OT: Which non HP Scientific calculator?

*Message #1 Posted by **ravwalia** on 27 Aug 2010, 4:11 p.m.*

Hello All,

I know this is OT, but thought I would ask your thoughts anyway.

My 32sii has seen better days and the 35s seems not to be very highly regarded, so which calculator would you recommend if one didn't want to go to the second hand market.

I really only need the standard trig functions, logs and a basic solver.

It seems that HP feels it has covered the Scientific calc bases with the 50g and the 35s, but I though I read good things about the 50g, I don't about the 35s.

Thanks.

Re: OT: Which non HP Scientific calculator?

*Message #2 Posted by **Juergen Keller** on 27 Aug 2010, 4:22 p.m.,*
in response to message #1 by ravwalia

> Quote:
>
> I really only need the standard trig functions, logs and a basic solver.

Why not go for the new 30b? It's cheap, has a good keyboard, RPN, standard scientific functions and HP Solve, it is even programmable, and looks stylish ...

Re: OT: Which non HP Scientific calculator?

*Message #3 Posted by **ravwalia** on 27 Aug 2010, 4:39 p.m.,*
in response to message #2 by Juergen Keller

Firstly, I really need to have quick access to log10 and 10^ buttons and also as an engineer I'd hate to have so many primary buttons that I would never use.

thanks for the suggestion though.

Re: OT: Which non HP Scientific calculator?

*Message #4 Posted by **gene wright** on 27 Aug 2010, 5:52 p.m.,*
in response to message #3 by ravwalia

The 30b keyboard can be reassigned. You can make those keys be pretty much anything you want.

Just saying. Might still be better to buy a dedicated scientific, but ...

Re: OT: Which non HP Scientific calculator?

*Message #5 Posted by **Crawl** on 27 Aug 2010, 6:31 p.m.,*
in response to message #1 by ravwalia

I like this, but it you want an HP-style calculator it might not be to your liking. But it's got LOG, trig, and a basic solver.

Re: OT: Which non HP Scientific calculator?

*Message #6 Posted by **Katie Wasserman** on 27 Aug 2010, 6:57 p.m.,*
in response to message #1 by ravwalia

While it's more than a basic scientific calculator, I and many others here really like the Casio fx9860g series. It's graphic, algebraic and programmable with a solver and a lot more, but it also can be loaded with a completely customized application. Several users here have created some really nice RPN calculators for it, see this thread

The "II" version and the "slim" have a fantastic back light that helps makes this the easiest screen to read that I've ever seen on a calculator. Look around and you can sometimes find the "slim" for $50, even though it normally sells for about $100. Other models are normally less than $100.

Edited: 28 Aug 2010, 11:22 a.m.

Re: OT: Which non HP Scientific calculator?

*Message #7 Posted by **Bruce Bergman** on 27 Aug 2010, 8:43 p.m.,*
in response to message #1 by ravwalia

Agreed with several points above.

First, you should consider the 30b. You can make any of your "important" keys the main ones on the keyboard by simple reassignment. You can even put your version of the function on them.

Second, Katie (and I, both) love the Casio FX-9860G, especially the "Slim" version. You can get an RPN program for it that's easy to install and use. There are several new models (9860G-II's) that are also out.

From there, go to TI.

thanks,

bruce

Re: OT: Which non HP Scientific calculator?

*Message #8 Posted by **Martin Pinckney** on 27 Aug 2010, 9:08 p.m.,*
in response to message #1 by ravwalia

> Quote:
>
> It seems that HP feels it has covered the Scientific calc bases with the 50g and the 35s, but I though I read good things about the 50g, I don't about the 35s.

What about the HP SmartCalc 300s? Yes, I know, its' not a real HP, but all of them are outsourced now

anyway.

Re: OT: Which non HP Scientific calculator?

*Message #9 Posted by **Katie Wasserman** on 27 Aug 2010, 9:36 p.m.,*
in response to message #8 by Martin Pinckney

I don't have a SmartCalc 300s so I'm not sure, but I don't think that it has a solver which is one of ravwalia's requirements.

Re: OT: Which non HP Scientific calculator?

*Message #10 Posted by **Martin Pinckney** on 27 Aug 2010, 11:45 p.m.,*
in response to message #9 by Katie Wasserman

> Quote:
>
> I don't think that it has a solver ...

You're right, Katie, it doesn't.

Re: OT: Which non HP Scientific calculator?

*Message #11 Posted by **Mike Morrow** on 27 Aug 2010, 11:55 p.m.,*
in response to message #1 by ravwalia

Everything you ask for (as long as it isn't RPN and programmability) is provided in the amazing solar/battery-powered Casio fx-115ES, which is known in some places as the fx-991ES. A look at the User's Guide reveals a Newton's method solver and a Gauss-Kronrod numerical integrator, among many other features. It provides the most numerically accurate results of any calculator that I have ever owned. Best of all, it's dirt cheap. In the US, Wal-Mart has been selling it for $13, though $18 is typical in other places. It also packs 40 conversions and 40 constants. I carry this when I don't want to put my HP 42S in harm's way, and I don't feel ill-served.

Edited: 28 Aug 2010, 12:26 a.m.

Re: OT: Which non HP Scientific calculator?

*Message #12 Posted by **Walter B** on 28 Aug 2010, 12:57 a.m.,*
in response to message #11 by Mike Morrow

This Casio, however, has a very soft keyboard - key feedback is as on a 20b. On the 30b this is as you know it from your 32sii.

Re: OT: Which non HP Scientific calculator?

*Message #13 Posted by **Crawl** on 28 Aug 2010, 10:27 a.m.,*
in response to message #11 by Mike Morrow

I have that calculator, but I prefer the Sharp I mentioned above for a few reasons.

Superficially (sue me), I think black calculators usually look better than silver ones.

I also like that the Sharp has more functions directly accessible from the keyboard. For example, all the linear regression functions are there out in the open. For the Casio, you need to go into menus. This is also

something the Sharp has over the HP35s (another is that the HP35s's base 2/16 stuff is really poor)

As I recall, both the Sharp and the Casio use a number code to select scientific constants (Eg., 01 gives the speed of light in m/s), which is not a very good way of doing things. The HP35s (or 50g...) has the advantage here.

On the plus side, the Casio has a pseudo-programming feature which isn't even documented. The manual mentions the multiple line replay feature, but it's not clear why you would ever want to use it. However, the lines can use the memory registers and can be used to assign values to them, so you use the feature to do things like calculate infinite series more easily. It's only "pseudo" programming because it doesn't run automatically, you need to press the equals button to step, and of course there's no branching.

Though if you'd want programmability, I guess you could ask why you wouldn't just get the HP35s (or, again, the 50g)

Re: OT: Which non HP Scientific calculator?

*Message #14 Posted by **Tommy** on 1 Sept 2010, 3:31 p.m.,*
in response to message #11 by Mike Morrow

Quote:

... the amazing solar/battery-powered Casio fx-115ES...

I always make a simple test when I grab a new calculator: (-) 2 x^2 If I get -4 the calculator goes in the bin. How about this Casio? /Tommy

Re: OT: Which non HP Scientific calculator?

*Message #15 Posted by **Chuck** on 28 Aug 2010, 1:28 a.m.,*
in response to message #1 by ravwalia

I too vote for the Casio Slim. I've used most everything from the 11C (28 32 41 48 49 50 35) and recently the 30B along with the various TI's over the last 20 years. I've not yet found one that would make me sell everything else, but the slim seems to be able to do just about everything I need. In times it doesn't I'll use Mathematica which is always up and running.

I also agree that that the Casio fx115 powers a huge punch for $15, and Sharp also has an under $20 calc that knocks the sock off most TI calculators (I forget the exact model number as it's at work.)

There are several non-HP and non-TI calcs out there that our feature packed and easy to use. I tell all my students to purchase a solar powered two-variable stats calc under $20 for all my classes; far better to learn and do math with than any graphing calculator (in my opinion).

Re: OT: Which non HP Scientific calculator?

*Message #16 Posted by **George Bailey (Bedford Falls)** on 28 Aug 2010, 3:36 a.m.,*
in response to message #1 by ravwalia

Quote:

the 35s seems not to be very highly regarded

Quote:

> I really only need the standard trig functions, logs and a basic solver.

If you really want just these functions and a very good looking RPN calculator with the right feel to it: the 35s is the one you should get. All the flaws for which it "seems not to be very highly regarded" will never bother you!

Re: OT: Which non HP Scientific calculator?

*Message #17 Posted by **Martin Pinckney** on 28 Aug 2010, 10:38 a.m.,*
in response to message #16 by George Bailey (Bedford Falls)

> Quote:
>
> ...the 35s is the one you should get. All the flaws for which it "seems not to be very highly regarded" will never bother you!

Except perhaps the unread keypresses ...

Hi, George! Long time no see!

Re: OT: Which non HP Scientific calculator?

*Message #18 Posted by **Michael de Estrada** on 29 Aug 2010, 12:58 p.m.,*
in response to message #1 by ravwalia

It seems to me that the HP-35s is the best choice for your needs. The layout of the key legends is very good and easy to read with only one shifted legend above the key and the other on the bottom of the sloping key. For me it's much easier to use than my HP-32SII, with both the shifted legends cramped together above the key. Key action is good and the display is clear. All your basic trig and log functions are either on the keys or one shift key away. The equation and root solver is easy to use. The basic quality of the calculator is just as good or better than the non-HP competition.

Re: OT: Which non HP Scientific calculator?

*Message #19 Posted by **ravwalia** on 29 Aug 2010, 3:05 p.m.,*
in response to message #1 by ravwalia

Thanks for the responses guys.

I suppose it's been said a lot on the forums here and on the web, but I wish that HP would give us some more options regarding scientific calculators.

I can understand why they might think that the business decisions don't justify more scientific calculators. However, I do hope that they'll bring some more out, especially when I see so many financial calculators from them.

Doesn't seem much point for new calculator users to learn rpn unless they're going down the finance route.

With that said, it may be time that I start to look at some other brands and try and get used to non rpn calculators.

The 35s does look like a good machine, but the reports of the keyboard problems are too numerous to ignore.

So it seems that I'm going to be looking at the Casio and Sharp calculators mentioned above.

Thoughts?

Re: OT: Which non HP Scientific calculator?

*Message #20 Posted by **Michael de Estrada** on 29 Aug 2010, 5:32 p.m.,*
in response to message #19 by ravwalia

> Quote:
>
> Doesn't seem much point for new calculator users to learn rpn unless they're going down the finance route.
>
> With that said, it may be time that I start to look at some other brands and try and get used to non rpn calculators.

The HP-35s gives you the choice of RPN mode (default) and algebraic. Again, you seem to be trying very hard not to want it, when in fact it offers everything you need.

Edited: 29 Aug 2010, 5:40 p.m.

Re: OT: Which non HP Scientific calculator?

*Message #21 Posted by **Martin Pinckney** on 29 Aug 2010, 6:19 p.m.,*
in response to message #20 by Michael de Estrada

> Quote:
>
> The HP-35s gives you the choice of RPN mode (default) and algebraic. Again, you seem to be trying very hard not to want it, when in fact it offers everything you need.

But ravwalia just said

> Quote:
>
> The 35s does look like a good machine, but the reports of the keyboard problems are too numerous to ignore.

What I get out of the many posts about the 35s, is that there is one group that knocks it about the bugs, another group that doesn't like the keyboard layout, another that doesn't like the implementation of the feature set, and finally a group that says in spite of all the above, it is a good calculator, a welcome new effort by HP, *but if one cannot rely on keypress registers*, then all else is moot.

Perhaps ravwalia belongs to the latter.

Re: OT: Which non HP Scientific calculator?

*Message #22 Posted by **Michael de Estrada** on 29 Aug 2010, 7:12 p.m.,*
in response to message #21 by Martin Pinckney

I haven't had any problems with the keyboard. Does the fact that a few people have complained mean that this is a widespread problem?

Re: OT: Which non HP Scientific calculator?

*Message #23 Posted by **Martin Pinckney** on 29 Aug 2010, 7:58 p.m.,*
in response to message #22 by Michael de Estrada

Good question. Don't know the answer. I wonder if anyone at HP even knows?

Re: OT: Which non HP Scientific calculator?

*Message #24 Posted by **Palmer O. Hanson, Jr.** on 29 Aug 2010, 8:49 p.m.,*
in response to message #20 by Michael de Estrada

> Quote:
>
> The HP-35s gives you the choice of RPN mode (default) and algebraic.

But anyone who is used to working with the classical algebraic mechanizations won't like the HP-35s very much. The problem is the parentheses key which enters both an opening and a closing parentheses at the same time. The user then has to use the right arrow key to navigate across a closed parenthesis when he wants to close it.

RPNers who don't understand what the fuss is about over a change in accepted keyboard practices with algebraic need only consider the amount of fussing directed at HP when the HP-33s came out with a single width ENTER key.

Palmer

Re: OT: Which non HP Scientific calculator?

*Message #25 Posted by **Martin Pinckney** on 29 Aug 2010, 9:02 p.m.,*
in response to message #24 by Palmer O. Hanson, Jr.

Palmer, I agree the single parenthesis key is foreign to users of dedicated ALG calculators, which always separated the opening and closing parentheses on different keys, whether or not both or either parenthesis were visible on the display.

But there is an HP precedent in the 48 series.

But anyway, the OP wanted RPN, not ALG.

Re: OT: Which non HP Scientific calculator?

*Message #26 Posted by **Michael de Estrada** on 29 Aug 2010, 9:04 p.m.,*
in response to message #24 by Palmer O. Hanson, Jr.

OK, fair enough. I've never bothered to use algebraic mode with my HP-35s or even my HP-50g for that matter, so I wasn't aware of any idiosyncrasies. It's just that I find it irritating when people complain about every miniscule detail of what is basically a very good and easy to use basic scientific calculator. If you want sophisticated programming and built-in everything, buy a HP-50g.

Re: OT: Which non HP Scientific calculator?

*Message #27 Posted by **Martin Pinckney** on 29 Aug 2010, 11:48 p.m.,*
in response to message #26 by Michael de Estrada

Quote:

It's just that I find it irritating when people complain about every miniscule detail of what is basically a very good and easy to use basic scientific calculator.

Point well taken. But the members of this forum are holding the 35s up to the higher quality standard of the HP of yore, so to speak.

Re: OT: Which non HP Scientific calculator?

*Message #28 Posted by **Palmer O. Hanson, Jr.** on 31 Aug 2010, 10:01 p.m.,*
in response to message #27 by Martin Pinckney

Quote:

Point well taken. But the members of this forum are holding the 35s up to the higher quality standard of the HP of yore, so to speak.

Before I obtained some of the older HP machines I believed the story of "higher quality standards of the HP of yore". Then I discovered battery contact problems that could yield a burnup of internal circuitry and machines that needed to be twisted to make the displays and keyboards work. Sometimes I think that the newer machines aren't being held to actual higher standards of yore but rather to mythical higher standards of yore.

Edited: 31 Aug 2010, 10:02 p.m.

Re: OT: Which non HP Scientific calculator?

*Message #29 Posted by **Martin Pinckney** on 31 Aug 2010, 11:14 p.m.,*
in response to message #28 by Palmer O. Hanson, Jr.

Palmer, you are right about design faults with certain of the older HP's. Someone once remarked that the power circuitry design on the Woodstocks was "criminal".

However, I think most comments about HP quality are referring to the excellent keyboards, molded key legends, general quality of manufacture that gives these machines their look and feel. These are not mythical.

I started with TI's, and only moved to HP when 1) Two TI's keyboards failed; 2) I learned that HP made algebraic models; 3) The cost of HP's came down. The first HP I purchased (1993) still looks and works fine.

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Symbolic math with the 35s (well.. sort of)

*Message #1 Posted by **Dieter** on 27 Aug 2010, 8:14 a.m.*

After reading this forum for about three or four years I now decided to join this community, so this is my very first post here. Hope I'm doing everything right. :-)

I'd like to discuss a special feature of the 35s (and possibly other HP-calculators with HP Solve) that I haven't seen mentioned yet. It's about the way the Solver handles equations while it tries so solve for a given variable.

Consider the following equation:

```
A^2 + 2xAxB + B^2 = 8
```

Let's keep it simple and assume B = 0. This leads to A = +/- sqrt(8) = +/- 2.8284...
After providing two guesses in A and x like...

```
0  STO A   9
```

...and starting Solve A, leaving B=0, the 35s is SOLVING for a few seconds and finally returns the expected result A=2.82842712475 in x. The y-register holds the second-best result 2.82842712474, indicating that the result that solves this equation exactly is somewhere between these two values (which in fact is the case). Changing the initial guesses to 0 and -9 returns the same values with a negative sign. So far everything works like expected.

Now let's try the same equation, just simplified to

```
(A+B)^2 = 8
```

Again we provide two guesses 0 and 9, start Solve A and let B=0. What happens now? The 35s *immediately*(!) comes back with A=2.82842712475, both in x and y - there are no two adjacent solutions, just one single value: the one the 35s returns for sqrt(8).

Now let's try to find the negative solution with the same negative guesses as before: 0 and -9. And again, the 35s *immediately* returns the same positive (!) solution as before. For any intial guess this is the only result it returns.

Okay, what happens here? It seems to be something like this: If the 35s realizes that it can easily solve an equation because the desired variable appears only once, it *transforms* this equation symbolically, in this case giving A = sqrt(8) - B. In all other cases the usual iterative numeric approach is used.

Please forgive me if this is old news, but I was a bit puzzled when I found this... er... "special feature" of the 35s. :-)

Regards, Dieter

Re: Symbolic math with the 35s (well.. sort of)

*Message #2 Posted by **gene wright** on 27 Aug 2010, 11:54 a.m.,*
in response to message #1 by Dieter

Hi Dieter! Good post.

You are quite correct. The HP 35s attempts to compute a "direct solution" first, and if possible, returns that value without completely invoking the solver.

This is described in a learning module for the HP 35s found here:

HP 35s learning modules

The one you want to check out is the Part 2 of the Formula Solver module, found here:

Part 2

But, that's not exactly flashing on a page somewhere, is it? So it is always good to bring these things out like you have done very well.

Re: Symbolic math with the 35s (well.. sort of)

*Message #3 Posted by **Thomas Radtke** on 27 Aug 2010, 12:23 p.m.,*
in response to message #2 by gene wright

Btw., the very first RPL calculator already tried to find the 'direct solution'. In 1985!

Re: Symbolic math with the 35s (well.. sort of)

*Message #4 Posted by **Dieter** on 27 Aug 2010, 5:21 p.m.,*
in response to message #2 by gene wright

Hi Gene,
thank you very much for your friendly reply. And I thought I had read all the learning modules. Well, so it seems I've reinvented the wheel. #-)
However, there still is one thing I'd like to know. In part 2 the learning module says on page 6:

> Quote:
>
> Where more than one solution is possible, for example ASIN(Y)=0, the direct solution is the "principal" value. For example, for ASIN(Y)=0, this is 0 degrees, not 180 degrees, or –180 degrees

If I understand this example correctly, the only solution of the equation arcsin(y) = 0 simply is y = sin(0) = 0, so there is exactly one single result for this equation. Did I miss something here?
On the other hand, the solver obviously does *not* try a direct solution if periodic functions like sin(), cos() or tan() are involved. In this case a direct solution would require e.g. an arcsine which in fact has an infinite number of possible values. So, as far as I can see, an equation like sin(x) = 0.5 is always solved numerically, so that it will return x = 30 or x = 150 or any other solution, depending on the user's initial guesses.

Sorry, I don't want to bore you with these details, but I just want to know... ;-)

Regards, Dieter

Re: Symbolic math with the 35s (well.. sort of)

*Message #5 Posted by **Karl Schneider** on 28 Aug 2010, 1:35 a.m.,*
in response to message #1 by Dieter

Hello, Dieter --

Excellent first post! And impeccable English, I might add...

The HP-35s "direct method" rootfinder was carried over from the HP-33s; a direct method was also implemented in the HP-17B/27S Solve routine, IIRC.

Please read this archived thread from 2004 for some discussion regarding the HP-33s direct-method rootfinding. (Apparently, my suggested "seven step" approach was not adopted in the HP-35s.)

We even independently employed the same tongue-in-cheek phrase ("special feature") to describe the logic that always returns the directly-calculated solution wherever possible. Such logic is not an attribute, because it may preclude identification of the physically-meaningful root(s) of interest. The best workaround is likely to add an inert term like "+0*X" to the equation. This causes the solution variable X to appear more than once in the equation, rendering it to the calculator 'possibly unsolvable' by algebraic methods.

-- KS

Edited: 29 Aug 2010, 3:45 p.m.

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Reverse Polish notation calculator

*Message #1 Posted by **Thomas Klemm** on 27 Aug 2010, 3:47 a.m.*

Found in an appealing tutorial: Learn You a Haskell

> Quote:
>
> While most modern calculators use infix notation, some people still swear by RPN calculators.

Quiet a few of them can be found in this forum, I guess.

Just for those interested in the code: *foldl* is pretty much the same as *STREAM* in RPL.

Cheers
Thomas

PS: Unfortunately the calculator is **NOT** RPN.

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Scientific, Financial Calculator

*Message #1 Posted by **Gerry Schultz** on 26 Aug 2010, 4:53 p.m.*

I've been reading a lot of positive reports about the 30b here on this forum and I'm glad to see HP produce a calculator that is so well received. When I first saw a 30b last year in HHC 2009, I didn't think much of it (I didn't get a 30b as there weren't enough samples for all the attendees) and I don't use financial calculators much. I do wish it has more programming memory an I/O.

This is the second new calculator that has been released by HP that's specifically for the financial field which obviously indicates this this is their strongest market. I would like to see a new scientific, programmable calculator but as was indicated to me in a previous post, there is little market for a new scientific calculator with all the other products, like Laptops, Netbooks, iPhones, etc., that do a great job and do lots of other things as well.

So, perhaps what HP could do is make the successor to the 30b be a scientific, financial calculator that would be fully programmable and have a full set of financial functions. That way financial power users would be able to program whatever they wanted to do using the scientific functions. We users with a scientific bend would also buy it to program it for our uses and ignore the financial functions.

It would also need some kind of I/O (USB) to store and retrieve programs from a PC. One area of a scientific, programmable calculator that I'm not sure how to solve is the display. One solution might be to use a 30b display on the calculator itself and reserve all graphing for the software emulator that HP would release to the Windows, Mac, and Linux platforms. Any calculator plotting commands written in a program on the computer simulator would show up as XROM commands (a la 41C) in the calculator itself, or something more friendly to the user.

Or perhaps a display peripheral could plug into the top of this imaginary calculator's USB port, like a 41C card (you can see what old HP clacs I like) reader that would have a full dot-matrix display for local plotting. It too would have a USB port on top of the Dot-matrix display to still connect to a PC. It would be more expensive that the 30b but less than a 50G which would help fill out a line of HP calculators for various needs.

I know this is just idle dreaming but if those of us who prefer scientific calculators need to take a back seat to the needs of the financial market to get a scientific calculator built by HP, I for one am willing to sit at the back of the bus.

Just my 2 cents worth of thoughts for today. See you at HHC 2010.

Gerry

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HP 35s

*Message #1 Posted by **Brian Healy** on 26 Aug 2010, 2:56 p.m.*

I have previously given up on my HP-35s because the keyboard was unreliable, not good for a structural engineer. That was almost 2 years ago. I use my trusty HP-32sii that was made in 1993, and it has been 100% reliable.

My HP-35s is a replacement unit that HP sent me because the original one that I purchased also had an unreliable keyboard. When I complained to HP that my replacement unit also had problems with the keyboard, they refused to do anything about it.

Does anyone know if this problem has been corrected by HP, or are people still experiencing keyboard reliability issues with newly purchased HP-35s?

Re: HP 35s

*Message #2 Posted by **Chris Randle (UK)** on 26 Aug 2010, 3:28 p.m.,*
in response to message #1 by Brian Healy

I bought one in the UK at the end of April this year. One of the keys (GTO) *sometimes* requires a *slightly* more positive prod than the others before it registers.

I thought for a while about returning it, but intuitively felt that there was a good chance that its replacement would be no better or perhaps even worse.

It's not something that bothers me unduly, but it's certainly not the way things used to be. But what is? :-)

Re: HP 35s

*Message #3 Posted by **Thomas Radtke** on 27 Aug 2010, 3:34 a.m.,*
in response to message #2 by Chris Randle (UK)

> Quote:
>
> One of the keys (GTO) *sometimes* requires a *slightly* more positive prod than the others before it registers.

It's one of the arrow keys on my sample and this problem developed over the time. Since then, my 35s is retired. I do not use a keyboard which doesn't register a key press despite a 'key click' feedback. That's more disgusting than no key click at all.

Besides all keyboard problems, the firmware bugs makes it a serious tool only to those who know them inside out to get around them.

Nothing happened about the various problems since it came out several years ago, so I doubt there will be anything done about it in the future.

I'm currenty using the 32SII (again) and watch this forum for any comments about the 30b. When no problems arise over the next years, it will probably be my next choice (when the 32SII breaks). Either that, or HP brings back the 15C, which I would probably buy immediately.

Re: HP 35s keyboard reliability

*Message #4 Posted by **Jeff Kearns** on 26 Aug 2010, 9:14 p.m.,*
in response to message #1 by Brian Healy

My 35s, SN CNA 72500764 purchased in 2007, is also prone to missed keystrokes, but they are not repeatable. I have noticed the problem while entering statistics data and solving lenghty equations.

Bottom line: Unless they have since corrected this problem, you cannot trust the 35s calculator's keyboard without veryfying each number entered. I also prefer the 32sii or even the 33s in many ways, not the least of which is keyboard 'layout' - the 35s has no primary key for STO, LN or e^x as an example. Too bad, since the calculator is a very nice looking unit an 'could' have been so much better, if for example, it had checksums that meant something, or even rectangular to polar conversions on the keyboard. It is a failed unit.

Jeff Kearns

Re: HP 35s keyboard reliability

*Message #5 Posted by **Maarten Ambaum (Reading, UK)** on 27 Aug 2010, 4:53 a.m.,*
in response to message #4 by Jeff Kearns

This all seems a bit harsh ... the bugs are irritating but haven't bitten me in any serious fashion at all. You really need to seek out the bugs to see them. The only serous bug in my opinion is the flaky implementation of complex numbers, but then I hardly use those myself.

The keyboard on my 35s is very good indeed, although I need to press the () key harder than the others; luckily, in RPN this key is not used. Surely it is more logical to have RCL as the primary key and STO as the secondary key? One STO for several RCLs of a variable in some calculation and RCL is used effectively as the ALPHA key in program/equation input. I agree with the LN, e^x problem; but a keyboard has to make compromises and this compromise is not bad.

IMHO there are too many keys with programming instructions on; I would have preferred to have these in menus. But that would probably make it into a 42s clone - which would have been great!

I'd recommend the 35s to anyone without hesitation. You have to compare it with the competition and the 35s is really a much nicer machine than most of them. See also Tim Wesman's recent post.

Re: HP 35s keyboard reliability

*Message #6 Posted by **brian healy** on 27 Aug 2010, 8:59 a.m.,*
in response to message #5 by Maarten Ambaum (Reading, UK)

I compare the HP-35s to the HP-32sii, and the 32sii is the winner in my opinion. I say that because of its total reliability. My 32sii is one of the older versions that has the numbers molded into the keys, I understand that the later ones made in China are not as well built. In fact, even the HP 33s that I have has a reliable keyboard.

The reason that I do not use my 35s is because the keyboard is unreliable; I have not had a problem with the bugs mentioned by others. If only the keyboard was reliable, the 35s would be my daily use calculator.

How hard is it to make a calculator with a reliable keyboard? HP used to be able to do it. I think it is sad that they have not corrected this problem.

Rather than give HP any more of my money, I have bought enough 32sii's on ebay to last me the remainder of my career (about 25 years). I also have my HP 11c from 1986 that continues to function reliably too.

Re: HP 35s keyboard reliability

*Message #7 Posted by **Martin Pinckney** on 27 Aug 2010, 10:28 a.m.,*
in response to message #6 by brian healy

> Quote:
>
> I have bought enough 32sii's on ebay to last me the remainder of my career (about 25 years).

So *that's* why none of the rest of us can manage to snag one. [:-)

Anyway, the one you have is already 17 years old; assuming worst case (it fails today) and you assume all will fail at 17 years, you only need 1.47 to last your career.

Re: HP 35s keyboard reliability

*Message #8 Posted by **Thomas Radtke** on 27 Aug 2010, 11:17 a.m.,*
in response to message #7 by Martin Pinckney

> Quote:
>
> Anyway, the one you have is already 17 years old; assuming worst case (it fails today) and you assume all will fail at 17 years, you only need 1.47 to last your career.

Yes, if he manage to buy a *new* calculator when the old one fails. Unfortunately, they are aging despite not being used. So, if half-life is 17 years, he'd need 3 calculators (calculated on my 32SII ;-).

Re: HP 35s keyboard reliability

*Message #9 Posted by **brian healy** on 27 Aug 2010, 3:47 p.m.,*
in response to message #8 by Thomas Radtke

Actually, I'm on my second HP32sii in 17 years. I dropped my first one repeatedly from drafting tables, I had a stack of books fall on it once, and one time an aluminum stick file speared it. Finally, some of the keys became loose. I ripped the thing apart to see if I could fix the keys, but saw that I couldn't. That calculator still works, and if I carefully press the loose keys they still register. The same cannot be said for my replacement 35s.

I decided to stop using it because of the loose keys, and bought an almost unused 32sii on ebay. I did try the 33s, and of course had the issues with the wierd (imho) colors and layout (little enter key), and also the invisible decimal point when you typed 2.2. I also had to replace it once because after a couple months of using it a key became loose and it wouldn't work.

Then when the 35s came out I thought, "at last they finally got it right again". And then I noticed that various keys would sometimes not register. This also happenend on the replacement, and HP said, "too bad", but at least they were polite about it. And now it seems that several years after introducing the 35s, the problems remain. At least with the 33s they addressed the invisible decimal point. In my opinion HP is just a purveyor of cheaply disposable electronics. I understand they do not have a large staff working on calculators, but they should at least be able to do a reliable keyboard! Come on HP, pull it together!

I treat my current 32sii like it was gold, and it almost looks like it was brand new (except where I engraved my initials into the aluminum around the display. It is truly a tool for an engineer.

Re: HP 35s keyboard reliability

*Message #10 Posted by **Walter B** on 27 Aug 2010, 10:43 a.m.,*
in response to message #5 by Maarten Ambaum (Reading, UK)

This is printed in the Owner's Handbook of my first HP, a 25C:

> Quote:
>
> **"The success and prosperity of our company will be assured only if we offer our customers superior products that fill real needs and provide lasting value, and that are supported by a wide variety of useful services, both before and after sale."**
> *Statement of Corporate Objectives.*
> *Hewlett-Packard*

I do not find this in recent manuals anymore, presumably because of changed corporate objectives. IMHO, however, this old statement is in no way outdated for a company striving to make professional quality tools. One major difference between such tools and toys is RELIABILITY: such tools must be 100% reliable, 99.5% are unacceptable. You won't accept a medical instrument missing a keystroke, will you? So if HP wants to be regarded as a maker of professional quality calculators still, then it must fulfill the necessary conditions :-/ else ... :-((

Personally, I'd feel sad seeing the original HP spirit fading. Hope dies last. No personal offense to any forum poster intended.

Re: HP 35s keyboard reliability

*Message #11 Posted by **Katie Wasserman** on 27 Aug 2010, 12:00 p.m.,*
in response to message #10 by Walter B

I agree completely and urge HP to create a detailed list of known bugs for all their calculators. This would go a long way toward giving users confidence in what they're using. I know that all the current HP calculators have bugs in them -- some more than others -- and HP should recognize this and publish an easy to find list of them.

While I play with all the HP calculators, old and new, quite a lot, I only trust the older calculators for my real work because I can't afford a mistake. Keyboard reliability is critical as well, I too continue to use a 32sii and now a 12C+ (it's got the old firmware).

-Katie

Re: HP 35s keyboard reliability

*Message #12 Posted by **Thomas Radtke** on 27 Aug 2010, 12:27 p.m.,*
in response to message #11 by Katie Wasserman

> Quote:
>
> I agree completely and urge HP to create a detailed list of known bugs for all their calculators. This would go a long way toward giving users confidence in what they're using.

Yes, publishing the 35s buglist would indeed give users confidence in using a different calculator ;-).

Re: HP 35s keyboard reliability

*Message #13 Posted by **Thomas Klemm** on 27 Aug 2010, 1:02 p.m.,*
in response to message #12 by Thomas Radtke

cf. HP-35s bug list

Re: HP 35s keyboard reliability

*Message #14 Posted by **Walter B** on 27 Aug 2010, 1:45 p.m.,*
in response to message #13 by Thomas Klemm

So diagnosis is there already. Now, HP, please proceed to therapy!

Edit: P.S.: There are lots of standard quality tools I can quote if you force me to. Think of good ol' Deming and his circle for example ...

Edited: 27 Aug 2010, 1:49 p.m.

Re: HP 35s keyboard reliability

*Message #15 Posted by **Tom Mathes** on 27 Aug 2010, 11:13 a.m.,*
in response to message #4 by Jeff Kearns

> Quote:
>
> My 35s, SN CNA 72500764 purchased in 2007, is also prone to missed keystrokes, but they are not repeatable. I have noticed the problem while entering statistics data and solving lenghty equations.
>
> Bottom line: Unless they have since corrected this problem, you cannot trust the 35s calculator's keyboard without veryfying each number entered. I also prefer the 32sii or even the 33s in many ways, not the least of which is keyboard 'layout' - the 35s has no primary key for STO, LN or e^x as an example. Too bad, since the calculator is a very nice looking unit an 'could' have been so much better, if for example, it had checksums that meant something, or even rectangular to polar conversions on the keyboard. It is a failed unit.
>
> Jeff Kearns

Same situation here. My 33S has a better, non-error prone keyboard but I detest the layout. My 35S has been replaced once under warranty, and the replacement still occasionally misses key strokes, namely the

"4" and "ENTER" key. I have to wonder why HP bragged about the keyboard in the 35S when so many find it error prone.

Re: HP 35s

*Message #16 Posted by **Martin Pinckney** on 27 Aug 2010, 5:20 p.m.,*
in response to message #1 by Brian Healy

Every few months this same topic pops up again here and gets beat to death again, still no fix from HP.

OTOH, the 30b continues to get good reviews on here, and so far as I know, no keyboard reliability issues have surfaced.

So I repeat my earlier prediction: HP doesn't fix the 35s because they plan to drop it as soon as sales slow after the market for this particular model is saturated.

Then they create some excitement by introducing a ARM-based emulated 15c, followed up with a completely new scientific, perhaps based on the 30b form factor.

Re: HP 35s

*Message #17 Posted by **gene wright** on 27 Aug 2010, 5:56 p.m.,*
in response to message #16 by Martin Pinckney

Nah, it will be this! :-)

HP-45s

Re: HP 35s

*Message #18 Posted by **Walter B** on 28 Aug 2010, 9:14 a.m.,*
in response to message #17 by gene wright

Since my links in that old thread are broken, how about this or this, that, this, that, or even this here? Though not in 3D and without marbles ;) Please vote :)

Edited: 28 Aug 2010, 9:28 a.m.

Re: HP 35s

*Message #19 Posted by **Martin Pinckney** on 28 Aug 2010, 10:47 a.m.,*
in response to message #18 by Walter B

The 45s is what I used to think HP would introduce.

Now I think the 34s is more likely.

And I still think the 15c+ will appear.

The 43s is the one I would prefer.

In the meantime, I will keep using my Pioneers.

Re: HP 35s

*Message #20 Posted by **Reth** on 28 Aug 2010, 4:56 p.m.,*

in response to message #19 by Martin Pinckney

43S with R/S and Sigma+ swapped

Re: HP 35s

*Message #21 Posted by **Martin Pinckney** on 28 Aug 2010, 5:47 p.m.,*
in response to message #18 by Walter B

Walter, thanks for bringing these concepts together again for easy viewing, but if you really want to get votes, why not start a new thread to bring it to everyone's attention? Would start all the old arguments again, but might also elicit some interesting comments from some of the newer members.

Hi, newbies, there may be NEW stuff for you ...

*Message #22 Posted by **Walter B** on 29 Aug 2010, 6:09 a.m.,*
in response to message #21 by Martin Pinckney

... to discover in my post above. Perhaps it didn't catch your attention before. Comments, critics, suggestions etc. are most welcome. Orders, however, cannot be taken for obvious reasons ;)

(*Martin, thanks for your advise. Though my post above was mainly for completing Gene's link. And the regular "old" forumers have seen most of it already except some modifications in the last draft. Nevertheless, with HHC2010 upcoming in a galaxy far far away ;-/ I gladly took the opportunity to RCL these drafts FWIW. As mentioned, hope dies last.*)

Ceterum censeo: HP, launch a 43s or whatever other scientific layout you prefer.

Edited: 29 Aug 2010, 6:12 a.m.

Re: Hi, newbies, there may be NEW stuff for you ...

*Message #23 Posted by **Dieter** on 29 Aug 2010, 9:18 a.m.,*
in response to message #22 by Walter B

Walter, wouldn't it be a good idea to start a new thread here? This way the old one wouldn't t get even longer and the new subject would stand out better - so that it's much easier to find for us Newbies. ;-)

Dieter

Re: HP 35s

*Message #24 Posted by **M. Joury** on 30 Aug 2010, 5:20 p.m.,*
in response to message #18 by Walter B

I'll take 'em all!

Seriously, I like aspects of all the designs shown and being a HP nut I would buy any/all of them. But I am really more interested in the programming implementation than in the exterior (beyond it HAVING to have a full width/height enter key).

So, what do you all say? If you were able to design your own machine where would you start? What current or past implementation would you base it on? I think I would vote for the HP42S as the starting point. Then add the best of the current crop (35s, 30b, etc.) and make sure to give it at

least 32K RAM and some form of offline backup.

Ok, how's that for a simplistic start...

Have at it.

M.J.

Edited: 30 Aug 2010, 5:50 p.m.

Re: HP 35s

*Message #25 Posted by **Walter B** on 31 Aug 2010, 2:40 a.m.,*
in response to message #24 by M. Joury

Please find my response in the new thread.

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Calculator watch returns

*Message #1 Posted by **Bruce Bergman** on 26 Aug 2010, 12:48 p.m.*

ThinkGeek, purveyors of everything awesome, have resurrected the old Casio Calculator watch. $19 is a pretty good price. Of course, it doesn't do RPN, but it still brings back fond memories.

What I found hilarious, though, is the second picture in the item description. There was some recent discussion about just this thing, but I thought you all would appreciate the picture. Take a look:

Calculator Watch

:-)

Thanks,

Bruce

Re: Calculator watch returns

*Message #2 Posted by **Tim Wessman** on 26 Aug 2010, 1:36 p.m.,*
in response to message #1 by Bruce Bergman

I remember the "Zelda" watch when I was in 2nd grade. Man, I sooooo wanted one of those. . . :-)

TW

Re: Calculator watch returns

*Message #3 Posted by **Jeff Kearns** on 26 Aug 2010, 2:33 p.m.,*
in response to message #1 by Bruce Bergman

Judging by the un-likelihood of a potential offendee seeing that ad and complaining, one can understand the risk they took in posting it. It is simply not as geeky as the U-Calc!

Re: Calculator watch returns

*Message #4 Posted by **Howard Owen** on 27 Aug 2010, 3:03 a.m.,*
in response to message #1 by Bruce Bergman

That's Think Geek for you: Homer Simpson all the way. :)

Re: Calculator watch returns

*Message #5 Posted by **DaveJ** on 27 Aug 2010, 7:06 a.m.,*
in response to message #1 by Bruce Bergman

Casio have never stopped selling 4 function calculator watches.[ul] Unfortunately they stopped selling the

scientific model around 1987 or so.

Now if they bring that back, THEN I'll get excited!
They even still sell the exact same case that was used for the CFX-400 scientific model, so all they need is a new keypad overlay and firmware.

Dave.

Re: Calculator watch returns

*Message #6 Posted by **Andrés C. Rodríguez (Argentina)** on 27 Aug 2010, 8:57 a.m.,*
in response to message #5 by DaveJ

> Quote:
>
> They even still sell the exact same case that was used for the [... ... ...] model, so all they need is a new keypad overlay and firmware.

Almost the same could be said about HP12C and HP15C :-)

Re: Calculator watch returns

*Message #7 Posted by **Martin Pinckney** on 27 Aug 2010, 10:31 a.m.,*
in response to message #6 by Andrés C. Rodríguez (Argentina)

> Quote:
>
> Almost the same could be said about HP12C and HP15C :-)

It has been said, many times on this forum.

Re: Calculator watch returns

*Message #8 Posted by **Andrés C. Rodríguez (Argentina)** on 27 Aug 2010, 12:38 p.m.,*
in response to message #7 by Martin Pinckney

Yes, I know... but I just feel it could be said once more; the quoted phrase was too tempting!

BTW, DaveJ, I hope you keep going with your excellent work with the uWatch, uCalc, video-blog, etc.!!!

Re: Calculator watch returns

*Message #9 Posted by **DaveJ** on 27 Aug 2010, 7:02 p.m.,*
in response to message #8 by Andrés C. Rodríguez (Argentina)

> Quote:
>
> BTW, DaveJ, I hope you keep going with your excellent work with the uWatch, uCalc, video-blog, etc.!!!

The uWatch2 is always an on-again off-again project. I just played around with it last night actually. Hard to make a decision on direction. I need my toes to count the design revisions! Keypad is always the sticking point.

The uCalc sits there ready to be fired up, it just need the firmware and the backing plate.

The blog is going strong. So well in fact that I can see it one day becoming a full time job...

Dave.

Re: Calculator watch returns

*Message #10 Posted by **Jim Horn** on 27 Aug 2010, 12:55 p.m.,*
in response to message #5 by DaveJ

Considering that HP has put their logo on all sorts of products that they've bought from other OEMs (e.g. Kinpo, Epson, Canon), I've often wished (and stated) that it would be great if HP would sell rebranded Casios but with HP firmware in them. Specifically, the Casio Scientific with RPN would make a terrific HP-02 (or HP-01C) with minimal NRE for HP and no risk for Casio - a win-win for both.

Casio already wrote the firmware for the algorithms, user interface, etc. decades ago so the customization would be minor.

Of course, my Android phone is easier to use for this than the tiny buttons on a watch - but I still want one...

Re: Calculator watch returns

*Message #11 Posted by **Bruce Bergman** on 27 Aug 2010, 8:44 p.m.,*
in response to message #10 by Jim Horn

Jim, I totally agree. Make a nice Casio variant with some RPN in it and I'm on board. They've done similar things (but not as RPN) before.

Thanks,

Bruce

Re: Calculator watch returns

*Message #12 Posted by **DaveJ** on 28 Aug 2010, 3:12 a.m.,*
in response to message #1 by Bruce Bergman

I couldn't resist!

Dave.

Re: Calculator watch returns

*Message #13 Posted by **Johnny Bjoern Rasmussen** on 29 Aug 2010, 2:41 p.m.,*
in response to message #12 by DaveJ

Ha ha, very nice Dave!
I actually had the exact Casio that Bruce linked to. It was handy when I was a TV-service guy back in 1992 and had to do miscellaneous calculations on the fly. I knew that this little "beauty" was always on my wrist.
Anyway if Casio or HP (?) ever starts a production of wrist watch calculators with scientific functions I

gotta have one. If not for the high prices on Casio CFX's on E*** I would really like to wear one.
uCalc is really a fantastic piece of technology but just too big for the wrist. No wonder when it is developed by hand - certainly not to offend you, Dave. But HP should really consider a cooperation with Dave.
Geekish? Naaaa!

Johnny Bjoern Rasmussen
Denmark

Edited: 29 Aug 2010, 2:57 p.m.

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30b, Reviews, HHC2010

*Message #1 Posted by **Tim Wessman** on 26 Aug 2010, 12:42 p.m.*

Hello,

I wanted to post this in a separate thread as it is a bit assorted and doesn't fit perfectly with the ongoing discussion. There are several things I want to bring up to the group in whole.

First, if you are not aware, I work for the HP calculator group as one of the R&D engineers. Everything I say here is my own opinion and is not official policy or thinking.

I am glad to see a bit of general excitement about the 30b. I think it is a great unit, (granted with some shortcomings as some point out) but a very nice machine overall. I definitely think it beats the BAII+ professional hands down. :-D

One of the most frustrating things to see for me personally is how there are some many ridiculous reviews out there on the internet, and a shortage of knowledgeable ones. For example, I remember reading one on the HP website that basically gives the 39gs a 1 of 5 rating because the user couldn't install notes easily using the connectivity kit (for cheating during exams I'd presume).

Granted, there are issues with the 39gs series in terms of connectivity ease of use, but the fact that there is almost no useful information there, and no other informed reviews leaves a potential buyer with little information and the idea that it is a horrible machine. Personally, I think it is better than the 83/84 series, much better in many ways, and a bit lacking in others, but overall a superior choice if it isn't for a specific class that require it. A general consumer would have no way to know anything though to make an informed decision. . . :-(

Other times, there is just silly or strange things. For example, there are plenty of people who make reviews of the 12c and say things like "I've had mine for 25 years now and it still works. A+++!!!! Highly recommended!" and so on. Unfortunately, they often do this on a 12cp model. . .

People often wonder how they can help the calculator group. Writing useful, informative reviews on internet sites (amazon, hp.com, and the like) is a simple way to do so. Simply put, the more calculators that are sold, the more likely the calculator group will grow and develop things that continue to excite us calculator nuts.

Please note, I am *NOT* in ***ANY WAY*** suggesting that people go out and write padded, glowing reviews; nor am I trying to imply that by doing so you will receive any personal benefit or compensation.

Feel free to criticize or complain as needed in reviews. A larger number of knowledgeable, informed, and easy to find reviews is always an aid to consumers. What doesn't help is reviews with bad information, no information, or just nothing relevant. Unfortunately, those tend to be all there are for many machines. :-(

Rather, if you have an informed, knowledgeable review or comment, don't hesitate to share it in places *besides* the hpmuseum forum. General customers don't tend to hang around here, and so they don't see the amazing

discussion that happens.

Wrapping up, I'd like to extend a personal invitation to everyone out there to come to HHC2010. It is hosted in Fort Collins, Colorado (United States) again this year. HP is taking a big part in the conference and there will be many very exciting things.

Have you wanted to ask us why the calculator group does X or Y and not Z? What was the thinking behind N? What are the plans for Q? This is the chance to do so.

You also get to put faces to names, talk about lots of fun stuff we all love, and just have a great experience. I don't think I've ever heard anyone express regrets after going to an HHC conference.

Please also invite other people you know that enjoy math, calculators, or things like that. You never know who might want to go.

TW

Edited: 26 Aug 2010, 12:56 p.m.

Re: 30b, Reviews, HHC2010

*Message #2 Posted by **Bruce Bergman** on 26 Aug 2010, 1:13 p.m.,*
in response to message #1 by Tim Wessman

Well said Tim!

I am ashamed to admit that I probably do not put positive reviews out there as often as I should for good products that I buy. I, too, occasionally come across a completely bogus review out there and it's frustrating. I suppose I should do more to actually write some that are positive and help balance it out. In fact, I'm going to go blog about the 30b today. Count on it. ;-)

I have to say, though, that SOME of this is HP's fault. Now you KNOW that I love HP and their calculators, so take this as constructive criticism from someone who is a huge supporter. The sad fact is that someone above you -- perhaps in charge of the marketing and sales of recent calculators -- is doing a really really BAD job of promoting these calculators!

I mean, it's one thing to say that we should post positive reviews, but it's quite another to consider that there are like FIVE places you can buy some of the HP calculators. If they were available in more places (like at Target, Wal-Mart (only 50g, 17bii, 10bii), Radio Shack, OfficeMax, Costco, etc), then you probably would see many more reviews. All of those sites have a review section which can be used to pass the message, but they do not sell HP calculators (or only sell the token ones).

The idea of getting the word out only works if the word is wide spread and available everywhere. If I wrote 1,000 positive reviews of the 30b, but it was only available at Office Depot, then what value is that? On the other hand, if I wrote 10 positive reviews on 10 different sites where it was available, THAT would be helpful.

Another issue is misinformation.

If the information being sent out were accurate (like the fact that the 30b does NOT have 32kb of RAM, even though that's been corrected about 100 times), then we probably would have fewer negative reviews as well. Fortunately, I have yet to see one person complain about mis-marketing the memory size on a 30b, but it will happen one day. I would think HP would really want to go to great lengths to correct these mistakes and make sure the right information is out there. My perception is that this is NOT happening at all. It's not just the 30b,

but also the 12c/p/+ family.

Finally, the other issue is the education market. As you know, this is my pet peeve. HP let this market fall to TI back in the past, and that is understandable given what happened then. But it doesn't appear that HP is doing anything to try and take back that market (or heck, even just make some sincere inroads). I can write positive reviews of the 50g (or 39g) all I want, but the fact is that TI has like 5-6 models in the same space, all heavily marketed, available just about anywhere (including my local supermarket, for goodness sake), and which students are conditioned to use. If you want good press, get the dang calculators into the hands of the teachers and students! Incur a cost of marketing and *give away* a crapload of them to a bunch of schools! Give huge discounts to students on back-to-school promotions! And then go write learning modules that show how the same exercises in textbooks can be done with non-TI calculators.

I'm not saying that any of these items are things you and Cyrille need to address, but that they are perceptions of why it's hard for us dedicated fans to keep supporting the brand. It almost feels like HP is working AGAINST us at times, you know? Try helping us out and giving us opportunities to praise, and I bet you'll see it.

I also bet that if you asked members of this forum for more information, the majority would say that they are frustrated by the lack of marketing by HP. I mean, most of us here *really* have no problem with any of the calculators. Some are better than others. But it's incredibly frustrating to try and be the field sales force for HP when HP is working against us, you know?

(Okay, I feel better now... ;-)

I will be there at HHC2010, so can't wait to hear what everyone has to say!

Thanks!

bruce

Re: 30b, Reviews, HHC2010

*Message #3 Posted by **M. Joury** on 30 Aug 2010, 5:07 p.m.,*
in response to message #2 by Bruce Bergman

Just a note (since Bruce brought it up), the PDF version of the specs on HP's site (linked to from the specs page) STILL states that the 30b has 32KB of RAM. Copied below.

Memory Stores up to 50 cash flows or statistic data items, plus 10 storage memory registers. Stores up to 32KB of user programs.

Cheers,

M.J.

Re: 30b, Reviews, HHC2010

*Message #4 Posted by **Don Shepherd** on 30 Aug 2010, 5:15 p.m.,*
in response to message #3 by M. Joury

I'm sure Tim knows, and I imagine he's reported it to somebody with authority to do something about it. The fact that it is still not fixed speaks volumes about HP's support for its calculators.

Re: 30b, Reviews, HHC2010

*Message #5 Posted by **David Hayden** on 26 Aug 2010, 3:07 p.m.,*
in response to message #1 by Tim Wessman

An excellent point Tim, and well articulated.

You might also consider tapping the user community for other volunteer work. For example, if HP needs learning modules for the 39gs, you could ask here for volunteers to write them and post them to hpcalc.org.

I'll be at HHC2010 and I hope to meet you and others from this forum.

Dave

Re: 30b, Reviews, HHC2010

*Message #6 Posted by **gene wright** on 26 Aug 2010, 3:39 p.m.,*
in response to message #5 by David Hayden

There *are* learning modules for the HP 39gs. :-)

HP 39gs learning modules

Re: 30b, Reviews, HHC2010

*Message #7 Posted by **David Hayden** on 28 Aug 2010, 8:04 p.m.,*
in response to message #5 by David Hayden

Here's another idea for volunteer work. It's my understanding that many math books have exercises for calculators but they are taylored to the TI 83 line of calculators. Perhaps we could write companions to these textbooks that show how to setup the problems with various HP calculators instead. That way, if a teacher wanted to use HP's with a certain textbook, they'd have the resource.

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HP35 exp(ln(x)) bug, a new number found.

*Message #1 Posted by **Kiwi Geoff** on 25 Aug 2010, 11:35 p.m.*

The famous exp(ln(2.02)) bug on the original HP35 resulted in HP printing an Errata, part of which said:

" The numbers are 0.7030975114 and 0.995033085 x 10E-2, or integer multiples of the latter number through nine, by itself, or when added to the former. "

I was curious as to whether there were any other numbers that were not in the above "set" that would cause an incorrect answer on the original HP35.

Doing a numerical search, I did find another number that does not compute the exponential correctly on the original HP35.

exp(ln(1.12211)) = 1.111

After a little more number crunching, it seems the full list of original HP35 exp(ln(x)) errors are as follows. They all produce values that need to be multiplied by 1.01 to give the correct answer:

exp(ln(1.0201))

exp(ln(1.04060401))

exp(ln(1.12211))

exp(ln(2.02))

exp(ln(2.060602))

Only 5 numbers, from an astronomical number of correct results.

A true needle in a haystack problem.

For those who do not have an original HP35 (circa 1972) calculator, you can try the above numbers on this

HP35 Simulator.

If anyone can find more than the above 5 numbers - I would be very interested.

Story of the new number and the HP35 Errata.

Regards, Geoff Hitchcox (Christchurch, New Zealand).

Re: HP35 exp(ln(x)) bug, a new number found.

*Message #2 Posted by **Chuck** on 26 Aug 2010, 1:07 a.m.,*
in response to message #1 by Kiwi Geoff

Was this error barring internal rounding error? I tried exp(ln(3.2001)) and got 3.2000999999. Does this fall under the "bug" category or does the result need to be "way off"?

Re: HP35 exp(ln(x)) bug, a new number found.

*Message #3 Posted by **Kiwi Geoff** on 26 Aug 2010, 2:46 a.m.,*
in response to message #2 by Chuck

> Quote:
>
> Was this error barring internal rounding error? I tried exp(ln(3.2001)) and got 3.2000999999.

Hi Chuck, I should have explained what the bug is. It's when you go exp(Ln(x)) and get an answer that is not x, but needs to be multiplied by 1.01 to get back to x.

The example you gave is simply a "rounding" issue Chuck, if we take your answer of 3.200099999 and multiply by 1.01 we get 3.232101 which is not your starting number.

> Quote:
>
> Does this fall under the "bug" category or does the result need to be "way off"?

The "bug" is at the 1% level Chuck. It is fascinating to study why this bug happened, because it's every programmer's nightmare, where an issue way down in the 12th place, can suddenly become a very much larger error.

The original HP35 firmware was an absolute wonder (mainly by Dave Cochran)- even the exp(ln(x)) bug is still a salient lesson for modern programmers.

If interested, Jacques Laporte has a great web resource discussing the bug, and how the HP 35 works internally.

Regards, Geoff Hitchcox, (Christchurch, New Zealand).

Re: HP35 exp(ln(x)) bug, a new number found.

*Message #4 Posted by **Namir** on 26 Aug 2010, 4:01 a.m.,*
in response to message #3 by Kiwi Geoff

Thanks for the link to Jacques Laport site. What a wealth of info!!!

Re: HP35 exp(ln(x)) bug, a new number found.

*Message #5 Posted by **Dieter** on 27 Aug 2010, 8:45 a.m.,*
in response to message #2 by Chuck

Chuck wrote:

> Quote:
>
> I tried exp(ln(3.2001)) and got 3.2000999999

Well, this is one of the many cases where the calculator seems to give a wrong result just because it works perfectly correct. :-)

Your calculator does not evaluate exp(ln(3.2001)), but exp(1.163182059) - simply because every result carries at most ten significant digits, and 1.163182059 is the best possible 10-digit result for ln(3.2001). So, in the second step this 10-digit value is exponentiated, which equals 3.2000 99998 98425... or, rounded to ten digits, exactly the 3.20009 99999 you mentioned.

This also is the reason why even a perfect calculator with limited (n-digit) precision usually will not return the original value after evaluating some transcendent functions followed by their inverses. Try sqrt(5) on a 10-digit calculator: the exact result is right in the middle between 2.236067977 and ...78. Squaring these two values gives 4.999999998 resp. 5.000000002. So there simply **is** no 10-digit value whose square (even when rounded to 10 digits) equals exactly 5.

Dieter

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HP 41 to PC possible?

*Message #1 Posted by **SpeedyVV** on 25 Aug 2010, 7:37 p.m.*

Hello: I have "restored" my HP41CX that had been put away since Uni back in 85. My daughter asked if I had a scientific calculator...I said..."do I ever".

I was very surprised that the batteries on it while dead did not ruin the calculator.

To my bigger surprise, the Source in Canada still sold N size batteries, and that the calculator came to life. :)))

Last but not least, there is all this stuff on the net regarding this calculator, including a virtual museaum. How cool is that.

My HP has a PPC, Math I, abd Circuits I rom.

The one thing I could not find on the net, is if there is a way today to connect the 41CX to a Windows PC. That was the one thing I always wished this calculator could do.

Save programs, files, etc., on the PC and be able to send it back would be really cool.

I remember there was a HP\IL interface to connect to devices but there was nothing to connect to a PC.

Does anyone know if there is a solution today for that?

Thanks

Re: HP 41 to PC possible?
*Message #2 Posted by **Allen** on 25 Aug 2010, 8:19 p.m.,*
in response to message #1 by SpeedyVV

Yes, 2 options: 1) ISA HP-IL board (HP82973A) (requires ISA Slot) http://www.hpcc.org/datafile/hp41/PCGatewayEmulator.html

2) PIL box for USB connectivity: http://www.jeffcalc.hp41.eu/hpil/index.html

Re: HP 41 to PC possible?
*Message #3 Posted by **SpeedyVV** on 25 Aug 2010, 9:40 p.m.,*
in response to message #2 by Allen

Thanks... the PIL box looks like a great option.

Re: HP 41 to PC possible?
*Message #4 Posted by **John Robinson** on 26 Aug 2010, 1:13 a.m.,*
in response to message #1 by SpeedyVV

Welcome back to the wonderful world of the HP41 !! - Of course with your daughter using you're old calc, you'll need to obtain another for yourself - HAHA !!

I can vouch for the PIL-box, I bought one a few months ago - way cool !! You'd probably need some other tools to do anything with the files written to the Mass Storage (HP-IL Cassette Drive) device, as they are written in LIF format. Jeff has a viewer called ILvlif, but it shows raw bytes on the media.

Cheers, John

Re: HP 41 to PC possible?

*Message #5 Posted by **DavidShenk** on 26 Aug 2010, 11:52 p.m.,*
in response to message #4 by John Robinson

I have a PIL box too. You can get them as a kit or prebuilt. I found it easy to build and it works great!

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The equals sign again

*Message #1 Posted by **BruceH** on 25 Aug 2010, 2:13 p.m.*

The Welsh town of Tenby is staging an exhibition to celebrate the 500th anniversary of the birth of Robert Recorde, the inventor of the equals sign.

I note the comment from the curator: *"His books are not like maths textbooks that are printed today – they are written in dialogue between a master and a scholar"* -- Roo-Man and Joey anyone?

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Only slightly off-topic

*Message #1 Posted by **Dusan Zivkovic** on 25 Aug 2010, 8:59 a.m.*

BBC's article on A-level students getting classes in retro-programming.

http://www.bbc.co.uk/news/technology-10951040

(I don't know whether the users outside of the UK will be able to see the video which accompanies the article as BBC has strange rules on what can be seen by the 'aliens' :)

Re: Only slightly off-topic

*Message #2 Posted by **Walter B** on 25 Aug 2010, 9:09 a.m.,*
in response to message #1 by Dusan Zivkovic

Thanks for the link! The video runs on the continent, at least ;)

Re: Only slightly off-topic

*Message #3 Posted by **Don Shepherd** on 25 Aug 2010, 9:35 a.m.,*
in response to message #1 by Dusan Zivkovic

Video works fine in the US. Great story. BASIC with line numbers. Yes, yes, yes! Kids having fun writing simple programs. Yes, yes, yes. Well done, Britain. It would be a good idea in the old US of A too.

Re: Only slightly off-topic

*Message #4 Posted by **Egan Ford** on 25 Aug 2010, 10:30 a.m.,*
in response to message #1 by Dusan Zivkovic

Video link: http://www.bbc.co.uk/news/technology-11079823

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Woodstock battery tip

*Message #1 Posted by **Michael Meyer** on 24 Aug 2010, 11:19 p.m.*

I wanted to post a quick tip that I don't think I've seen mentioned here. I've had some problems with intermittent contact in Woodstocks with modified battery packs replaced with primary cells. This intermittent contact is due to the slight misalignment of the positive pole of the battery. The contact in the calculator ends up rubbing against the side of the postive end of the battery. I've started inserting a small piece of double sided mounting tape under the positive cell. This corrects the alignment, resulting in perfect and reliable contact every time. A very simple modification that has made a big difference in all of my Woodstocks.

Edit: make sure you only uncover one side of the tape so that the battery will slide on the other.

Edited: 25 Aug 2010, 11:03 a.m.

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Can the HP 41 Read HP 65 Programs

*Message #1 Posted by **aj04062** on 23 Aug 2010, 9:20 p.m.*

I continue to try and debug/fix my newly acquired 65. If I knew the 65 can write a program (to be read by the 41), it might help me narrow down some things.

Re: Can the HP 41 Read HP 65 Programs

*Message #2 Posted by **Andrés C. Rodríguez (Argentina)** on 23 Aug 2010, 10:40 p.m.,*
in response to message #1 by aj04062

IIRC, the HP-41 can read HP-67/97 cards; but no HP-65 cards. I think the recording format is the same, but the data (op codes) are possibly meaningless... However, trying will not hurt.

Re: Can the HP 41 Read HP 65 Programs

*Message #3 Posted by **Jim Horn** on 24 Aug 2010, 1:07 p.m.,*
in response to message #2 by Andrés C. Rodríguez (Argentina)

The HP-65 used six bit op codes to store its programs; the HP-67 and 97 used 8 bit codes. No machine after the 65 could read its card data (programs or registers). Sorry.

Trivia - the 65's program storage was a dynamic shift register so the program was constantly circulated around same. There was no addressing for the data. The way a particular instruction was found was that a particular index value (all zeros if I recall) was stored *once* in the register. When that came by the read circuit, a counter was started. When the appropriate number of values clocked by after that, the desired value was read.

Of course, if more than one index value ended up in the program store the data read would be randomly chosen as so many values after either one. I'm still boggled that one of the old HP-65 Users Club members figured this all out on his own without any logic analyzers, oscilloscopes, internal documentation, etc.

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HP71B (Ver. 1BBBB) Date Bug?

*Message #1 Posted by **M. Joury** on 23 Aug 2010, 7:06 p.m.*

I often need to know the day of the year in my job. So for fun I decided to write a program for each of my calcs to get this info. Easy enough with a calculator with date support such as a 41C/CV with Time Module or a 41CX or a 48. A little more complex if you don't have date support. At any rate I had written programs for my 41, 35S, and 42S and had gotten around to taking a look at my 71B.

It took me about 5 minutes from putting in the batteries (I had not played with it in a while) to figure out that this support was built right in. DATE returns YYDDD where YY is the year and DDD is the day of the year. So, no fun here, works right out of the box. I set the correct date and time and keyed in "date" and I got 236 (for 8/23/10)… WOAH! Wrong answer! My 48, 42, 41, and 35 all agree that the correct answer should be 235. I thought about this for a moment and then set the date to 2/28/10. Date = 10059. Ok, all good. Now try 3/01/10. Date = 10061. Uh-Oh. Not so good. It seemed to think that 2010 was a leap year. Ok, so try to 'setdate "10/02/29"'. Nope, caught that, won't let it happen. Ok, so 'setdate 10060'. That works fine. Now try date again. Answer? 10061. Tried the same series of tests for 2011, no problems there. So the calc appears to have a problem with the numeric date routines for 2010 but the setdate routines recognize the fact that 2010 is NOT a leap year just fine. Note that date$ also appears to work correctly in that 'setdate 10060' returns the correct string date when DATE$ is used.

I have not bothered to try any other ROM versions which I might get around to a little later as I have a couple more of these beasties.

Cheers,

M. Joury

Re: HP71B (Ver. 1BBBB) Date Bug?

*Message #2 Posted by **Jerry Raia** on 23 Aug 2010, 7:35 p.m.,*
in response to message #1 by M. Joury

I'm curious, did you set the year as '2010' or just '10'?

Re: HP71B (Ver. 1BBBB) Date Bug?

*Message #3 Posted by **M. Joury** on 23 Aug 2010, 7:49 p.m.,*
in response to message #2 by Jerry Raia

Just 10. Did I miss something in the docs? Mind you, Year 10 can't be a leap year either and all other dates appear correct.

Now you got me thinking. Back to the drawing board.

Although, it would seem that using 'setdate 10060' should handle any issues of string date formatting that may show up in using 'setdate 10/03/01'. And the fact that setdate 10060 results in date returning 10061 would seem to indicate a problem.

Cheers,

M. Joury

Re: HP71B (Ver. 1BBBB) Date Bug?

*Message #4 Posted by **J-F Garnier** on 24 Aug 2010, 12:17 p.m.,*
in response to message #3 by M. Joury

This is a known bug of version 1BBBB: "Invalid leap year determination for even year in odd decade". Was occuring in all these 90's years, and now in 2010, 2012 up to 2018. But will work well again in 2020 :-)

Fixed in versions 2CCCC/2CDCC.

J-F

Re: HP71B (Ver. 1BBBB) Date Bug?

*Message #5 Posted by **M. Joury** on 24 Aug 2010, 12:42 p.m.,*
in response to message #4 by J-F Garnier

Thanks J-F, I was not aware of that. I appreciate the info.

M. Joury

Re: HP71B (Ver. 1BBBB) Date Bug?

*Message #6 Posted by **BruceH** on 24 Aug 2010, 4:59 p.m.,*
in response to message #5 by M. Joury

That's actually good news... because now you get to write your program for the HP-71 after all. ;-)

Re: HP71B (Ver. 1BBBB) Date Bug?

*Message #7 Posted by **M. Joury** on 24 Aug 2010, 5:34 p.m.,*
in response to message #6 by BruceH

Thanks Bruce,

I hadn't thought of that aspect of it <g>. I was simply messing with ways to correct the odd decade/even year bug. But what the heck, just roll my own!

Cheer,

M. Joury

Re: HP71B (Ver. 1BBBB) Date Bug?

*Message #8 Posted by **Karl Schneider** on 26 Aug 2010, 11:39 p.m.,*
in response to message #4 by J-F Garnier

> Quote:
>
> This is a known bug of version 1BBBB: "Invalid leap year determination for even year

in odd decade". Was occuring in all these 90's years, and now in 2010, 2012 up to 2018. But will work well again in 2020 :-)

Fixed in versions 2CCCC/2CDCC.

J-F --

Thanks for the info; did personal modesty preclude you from providing the link to your own fine webpage, where presumably all the known HP-71 bugs are listed? Many users may not know that it moved to a new URL (away from Lycos) since the previous retrieval...

My own HP-71B with 1BBBB ROM exhibited the bug, as might be expected. The bug surprises me, as the leap-year rule is rather straightforward.

-- KS

Re: HP71B (Ver. 1BBBB) Date Bug?

*Message #9 Posted by **M. Joury** on 23 Aug 2010, 7:57 p.m.,*
in response to message #2 by Jerry Raia

Here is the example of setdate usage from the manual:

Both these statements set the date to March 7, 1985...

SETDATE 85066

SETDATE "85/03/07"

Of course what you are getting at is 1910 as opposed to 2010. But that is not a leap year either.

I guess I was not seeing the obvious implication of your question in my first response.

Here we go... From the reference manual:

For numeric date inputs and for date string inputs, if you use the two-digit year format, and if:

* 60 <= YY <= 99, then YY = YY + 1900

* 0 <= YY <= 59, then YY = YY + 2000

So I guess the HP71B is Y2K safe <g>.

M. Joury

Edited: 23 Aug 2010, 7:58 p.m.

Re: HP71B (Ver. 1BBBB) Date Bug?

*Message #10 Posted by **Jerry Raia** on 23 Aug 2010, 8:21 p.m.,*
in response to message #9 by M. Joury

Yes I thought about that because I had recently resurrected my 71B. The first thing was to set the time and date. Years ago I had written date and time LEX file utilities. I remember how the 71 handled dates and times. Thats why I asked :)

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12C Key Problem

*Message #1 Posted by **Jeff** on 23 Aug 2010, 6:58 p.m.*

I have the 25th Anniversary edition and the blue "G" key only works sometimes.

Is this a known problem, and is there an easy fix?

Thanks!

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30b - Not Impressed

*Message #1 Posted by **Jeff** on 23 Aug 2010, 9:33 a.m.*

I have to admit that I haven't taken it out of the package yet. If I do, I can't take it back.

I am having trouble with the size of the thing. It's looks bulky and unwieldy.

Your thoughts?

Re: 30b - Not Impressed

*Message #2 Posted by **Bruce Bergman** on 23 Aug 2010, 9:56 a.m.,*
in response to message #1 by Jeff

It's the exact same size as the 20b, and smaller than the 35s. Have you tried or used either of those? What makes you think it's unwieldy or bulky? I actually think it's pretty sweet...

Thanks,

Bruce

Re: 30b - Not Impressed

*Message #3 Posted by **Walter B** on 23 Aug 2010, 11:59 a.m.,*
in response to message #2 by Bruce Bergman

It has approximately the same size as an HP 17bii Silver, which compares well with other calc sizes. It's shirt pocketable for sure, though it could even have been made some mm smaller.

Re: 30b - Not Impressed

*Message #4 Posted by **Jeff O.** on 23 Aug 2010, 12:57 p.m.,*
in response to message #2 by Bruce Bergman

I agree with Bruce, I think the 20b/30b package feels pretty good. Much smaller and more nimble than the 35s, for example. My only (slight) complaint is with the sharp edge on the gray plastic outside edge. That can easily be remedied with a file and some sandpaper. I did that to one of my 20b's, now it feels nice and smooth when held in my hand. I haven't gotten around to doing it to my 30b yet, but plan to do so.

...

Re: 30b - Not Impressed

*Message #5 Posted by **John B. Smitherman** on 23 Aug 2010, 1:19 p.m.,*
in response to message #2 by Bruce Bergman

What's your opinion of the keys, display and overall build quality?

Regards,

John

Re: 30b - Not Impressed

*Message #6 Posted by **Mike Morrow** on 23 Aug 2010, 11:17 p.m.,*
in response to message #2 by Bruce Bergman

I have to wonder why one would make judgements like this without even taking the unit out of the packaging. What's keeping one from opening the package???

I too think that the HP 30b size, shape, and style is very well executed. I'd love to see an HP42S-capable machine in the same package. I've been playing with the one I bought at Office Depot last Saturday. The programming model is rather different from any other HP that I've tried. For example:

(1) Number entry is not completed by initiating program execution. The INPUT key must be pushed. Likewise, within a program, entering a numerical value is not complete until INPUT has been programmed after the last digit...entering, say, a LBL 00 after the last digit will not enter the value.
(2) The mathematical routines accessed by the MATH key *within a program* must be selected by the DOWN key (Hold SHIFT and push the DOWN ARROW/DEL key) or by the UP key (Hold SHIFT and push the UP ARROW/INS key). For each push of the ARROW key, the calculator actually performs the indicated operation on the X-value without replacing the X-value until the desired value is selected. For example, to select arctan(x), one must push SHIFT, MATH, INPUT, DOWN, DOWN, DOWN. If this example is performed in run mode, the display will show the value of PI after INPUT, the value of arcsin(x) after the first DOWN, the value of arccos(x) after the second DOWN, and finally the value of arctan(x) after the third DOWN. The program can be shortened slightly (and perhaps the speed improved) in this case by selecting the arctan(x) function with SHIFT, MATH, INPUT, UP. There is no clue given

while in program mode how many DOWNs or UPs it will take to select the desired function, nor is there indication within the program listing after the function has been selected just which function has been programmed.
(3) The "programming overlay" included at the back of the "manual" for affixing to the keyboard is helpful. But...even though the 114-page HP 30b User Guide says the overlay is intended to remain affixed for the lifetime of the calculator, the labeling on it rubs away *very* easily after the overlay has been affixed. (The User Guide is not available on the HP website unless one knows the URL of the FTP site where Tim Wessman posted it recently. However, a fair number of "learning modules" are available.)
(4) When inserting a new program step during a program edit, the new step appears in the listing BEFORE the step that was displayed, not AFTER as I would have expected.
(5) While getting accustomed to the quirks of the HP 30b programming model, I somehow caused a "reverse video" display of "Prgm 0" for which the User Guide gave no clue to its significance or cure. I could only make it go back to normal by deleting program 0.

I wrote a version of the well-known Savage Benchmark for HP 30b.
In Prgm 0:
1 STO 0
2 0
3 Input
4 Lbl 00
5 1
6 +
7 sqrt
8 x^2
9 Ln
10 e^X
11 Math
12 Input
13 Up
14 Tan
15 DSE 0
16 Gto 00
17 Stop

(Checksum 22.085)

Set the HP 30b for RPN, RADIANS, and FIX 11. Then execute:

2500
Input
Prgm 0
=

The result is 2499.99946106 (perfect would be 2500). Execution time (from a stopwatch) is 6.5 seconds!

The User Guide states that the CPU speed is reduced to conserve batteries when program execution lasts longer than one second. Regardless of that, the observed HP 30b speed is TEN times faster than the same routine performed by the HP 50g. The HP 50g numerical result is identical to that of the HP 30b, but takes about 65 seconds. That really shows the price paid for the HP 50g having ARM-emulated Saturn coding, rather than native ARM coding.

The HP 30b result takes about seven seconds if the arctan function is selected by MATH, INPUT, DOWN, DOWN, DOWN rather than MATH, INPUT, UP.

Edited: 24 Aug 2010, 9:08 a.m. after one or more responses were posted

Re: 30b - Not Impressed

*Message #7 Posted by **Bruce Bergman** on 24 Aug 2010, 12:07 a.m.,*
in response to message #6 by Mike Morrow

If you see "Prgm x" in the display in reverse video, that indicates that the program has been assigned to a key. For example, you could create your own addition routine as program 0 (I dunno what for, but...) and assign it to the "+" key. Once you do that, the display will show "Prgm 0" in reverse video.

You assign programs to keys by going into the program and pressing UP (to move BACK a program step) into Step 0, then press the key you want that program to be assigned to.

You can remove a key assignment by going UP to Step 0 and using the "<-" key to erase the keystroke. Likewise, you can see what key a program is assigned to by doing the same thing, but just don't press "<-". ;-)

Thanks,

Bruce

Re: 30b - Not Impressed

*Message #8 Posted by **Bruce Bergman** on 24 Aug 2010, 12:09 a.m.,*
in response to message #6 by Mike Morrow

And yes, the 30b is one of the fastest production calculators on the market right now. It's even faster than the previous champ (the Casio FX-9860G) by quite a margin. It's a marvelous calculator!

Thanks,

Bruce

Re: 30b - Not Impressed

*Message #9 Posted by **Don Shepherd** on 24 Aug 2010, 5:59 a.m.,*
in response to message #6 by Mike Morrow

> Quote:
>
> entering, say, a LBL 00 after the last digit will not enter the value

You don't need to press INPUT after entering a label. After you enter the second digit (all labels are 2 digits) it should let you enter the next instruction without pressing INPUT. Also, numbers are terminated with things like STO or RCL, so you don't need to do 12 INPUT STO 4. But just entering a number, like 0, does leave the cursor hanging there. If you want a 0 in the display, use shift+hold ON (clear), rather than 0 INPUT.

You do need INPUT (or =) after menu choices, for example FP (fractional part) is MATH shift+hold UP =. That's a nuisance, but a bigger nuisance is that it takes 3 bytes and not just 1 as in most HP calcs. Because of this, the 290 bytes available is roughly equivalent to the 12c's 99 bytes of program space. And, yes, when entering a program you need to know that FP is math up = and IP is math up up =. But as you use it more you'll remember these.

See the article I put in the articles section recently for some more tips and observations. Programming the 30b is quirky, no doubt about it, but it is fast.

Re: 30b - Not Impressed

*Message #10 Posted by **Mike Morrow** on 24 Aug 2010, 7:07 a.m.,*
in response to message #9 by Don Shepherd

Don, I see that I did not clearly express what I meant.

Within my benchmark program, I initially tried:

```
1 STO 0
2 0
3 Lbl 00
```

and expected that the value 0 would be placed in X by the Lbl 00 step. But it was not. I had to use:

```
1 STO 0
2 0
3 Input
4 Lbl 00
```

to accomplish what I needed.

In RUN mode, to begin execution of my benchmark, I initially tried:

```
2500
Prgm 0
=
```

which behaved as if 0 were in X rather than the desired 2500. I had to use:

```
2500
Input
Prgm 0
=
```

to get 2500 in X before starting Prgm 0.

These examples where an INPUT was required to actually get the desired value in X were a surprise to me.

Edited: 24 Aug 2010, 7:25 a.m. after one or more responses were posted

Re: 30b - Not Impressed

*Message #11 Posted by **Don Shepherd** on 24 Aug 2010, 7:22 a.m.,*
in response to message #10 by Mike Morrow

Yeah, I see what you mean, you're right.

It would have been nice if LBL terminates digit entry, like STO and RCL does.

Cyrille/Tim, how about it?

Re: 30b - Not Impressed

*Message #12 Posted by **Don Shepherd** on 24 Aug 2010, 7:44 a.m.,*
in response to message #10 by Mike Morrow

Mike, not that it will solve this particular problem, but I strongly suggest assigning each program to a key and running the program from that key.

I never execute programs from within the PRGM environment by pressing =. My favorite key for this purpose is the AMORT key since I never run amortization schedules.

If your program starts out this way:

```
STO 0
etc.
```

and you enter 123 and press the key to start your program (or = = within PRGM mode), it will store 123 in R0 as you would expect. But if your code starts out this way:

```
5
STO 0
```

you will get 1235 in R0.

Not like most RPN calcs, but that's the way it is for this one.

Re: 30b - Not Impressed

*Message #13 Posted by **Walter B** on 24 Aug 2010, 7:19 a.m.,*
in response to message #9 by Don Shepherd

> Quote:
>
> Programming the 30b is quirky, no doubt about it, but it is fast.

Program execution is fast, programming is slow :(

Re: 30b - Not Impressed

*Message #14 Posted by **Don Shepherd** on 24 Aug 2010, 7:24 a.m.,*
in response to message #13 by Walter B

Yeah, I meant execution is fast. Programming is slow, but the more you do it the easier it gets.

Reverse video...

*Message #15 Posted by **gene wright** on 24 Aug 2010, 7:27 a.m.,*
in response to message #6 by Mike Morrow

is covered in one of the programming learning modules.

The modules covering programming are **much** more detailed sources of information regarding programming that the manual.

One module is dedicated as a *reference* module containing as much information as was available about all sorts of areas related to programming.

So... moral of the story? :-)

Treat the learning modules as extensions of the manual and refer to them when possible.

Re: 30b - Not Impressed

*Message #16 Posted by **Don Shepherd** on 23 Aug 2010, 2:29 p.m.,*
in response to message #1 by Jeff

Don't forget, the case is in that package too, right behind the calculator. The calculator itself is not big and bulky at all.

Re: 30b - Not Impressed

*Message #17 Posted by **Jeff** on 23 Aug 2010, 5:37 p.m.,*
in response to message #16 by Don Shepherd

Thanks - I'll look at it in a new light...

Re: 30b - Not Impressed

*Message #18 Posted by **Jeff** on 24 Aug 2010, 10:12 a.m.,*
in response to message #17 by Jeff

Office Depot will not accept calculator returns if the packages have been opened.

I will never buy from them again, but that's a different story.

And, look over the sample 30b programs ... Re: 30b - Impressed

*Message #19 Posted by **gene wright** on 24 Aug 2010, 10:12 a.m.,*
in response to message #17 by Jeff

Several good sample programs for the 30b are included in the learning modules related to programming and using HP Solve.

Don't forget that HP Solve is present either.

The sample programs include:

PI finder (written by Katie). Shows very nice usage of the CF/STATS data registers that can be accessed indirectly.

Odd Days Loan solver program - very nice if you're buying / refinancing a house!

Lunar Lander game ;-)

etc.

Re: And, look over the sample 30b programs ... Re: 30b - Impressed

*Message #20 Posted by **Thomas Klemm** on 24 Aug 2010, 5:40 p.m.,*
in response to message #19 by gene wright

Example 3: Base conversions

This program can be made somewhat shorter. I transliterated an old HP-15C (or whatever) program to the new 30b syntax.

Here's the original:

```
001 - 42,21,11   LBL A
002 -    44  2   STO 2
003 -       34   x<>y
004 -    44  1   STO 1
005 -       30   -
006 -       34   x<>y
007 -    44  0   STO 0
008 - 42,21, 0   LBL 0
009 -    45  1   RCL 1
010 -       34   x<>y
011 -    45  2   RCL 2
012 -       10   ÷
013 -   43  44   INT
014 -   43  20   x=0
015 -    22  1   GTO 1
016 -       33   R-v
017 -       20   ×
018 -       33   R-v
019 -       20   ×
020 - 44,30, 0   STO - 0
021 -       33   R-v
022 -    22  0   GTO 0
023 - 42,21, 1   LBL 1
024 -    45  0   RCL 0
025 -   43  32   RTN
```

And here's the 30b version:

```
Step    function        comments
1       STO 2           Store the output base in memory 2.
2       ) Swap          Performs a stack swap of the X and Y registers.
3       STO 1           Store the input base in memory 1.
4       -               Difference of output base and input base.
5       x<>y            Performs a stack swap of the X and Y registers.
6       STO 0           Store the number to convert in memory 0.
7       LBL 00          Label 00 is the main loop.
8       RCL 1           Recall input base.
9       ) Swap          Performs a stack swap of the X and Y registers.
10      RCL 2           Recall output base.
11      /               Divide number by output base.
12      Math            Accesses the IP (integer part) function in the math menu.
13      Up              Accesses the IP (integer part) function in the math menu.
14      Up              Accesses the IP (integer part) function in the math menu.
15      Input           Accesses the IP (integer part) function in the math menu.
16      Input           Duplicates value to stack y since GF consumes stack x value.
17      GF 01           Exit loop if value is zero.
18      ( R-v           This executes a roll down of the 4-level stack.
19      *               Multiply weight by input base.
20      ( R-v           This executes a roll down of the 4-level stack.
21      *               Multiply dividend by weight.
22      STO - 0         Subtract from the number to convert.
23      ( R-v           This executes a roll down of the 4-level stack.
24      Gto 00          Loop back to label 00.
25      LBL 01          Exit from the main loop ends here.
26      RCL 0           Recall final output number in new base.
27      Stop            Inserts a Stop command. Program ends execution.
```

Unfortunately I can't test the program as don't own a 30b. Yet I hope I didn't forget something this time.

The usage is the same as in the example:

> Quote:
>
> Convert 175 base 8 to base 10. Key in 175 = 8 = 10 = and run the program.

How does it work? The number is continuously divided by the output base while the difference of input base and output base is multiplied by the input base. The product of dividend and weight is added (or subtracted) from the original number.

```
175             =    175
 17  *      -2  =  -  34
  1  *     -16  =  -  16
                    -----
```

```
                  125
                  ===
```

> Quote:
>
> 175 base 8 is equal to 125 base 10. Now convert this result to base 2.

```
125               =        125
 62   *       8   =   +    496
 31   *      80   =   +   2480
 15   *     800   =   +  12000
  7   *    8000   =   +  56000
  3   *   80000   =   + 240000
  1   *  800000   =   + 800000
                     -------
                     1111101
                     =======
```

In the HP 30b programming example the following is used to get a digit:

> Quote:
>
> - Divide number to convert by output base.
> - Accesses the FP (fractional part) function in the math menu.
> - Multiply fractional part by output base to get digit.

I assume severe rounding errors may happen when trying to convert big numbers and/or when one of the bases is not 2, 4, 5, 8 or 10.

On the HP 15C you get:

`1,234,567,890 ENTER 7 / FRAC 7 *   ->   2.8`

While the correct answer for 1,234,567,890 MOD 7 is 3. On the HP 30b you get probably a similar result.

Therefore I assume the following conversion will not work correctly when the program from the HP 30b programming examples is used:

$123{,}456{,}789_{(10)} \rightarrow 3{,}026{,}236{,}221_{(7)}$

These kind of errors can't happen with the program above as only integer values are used (given that only integers are entered).

Kind regards
Thomas

Addendum:

> Quote:
>
> Bases greater than 10 are not supported by this program.

True, but you may use the following trick to convert a decimal number to its hexadecimal presentation:

`51966 = 100 = 16 =`

Run the program to get:

`12:10:15:14`

This can easily be transliterated to:

`CAFE`

Edited: 24 Aug 2010, 6:33 p.m.

Re: HP-30b sample program

*Message #21 Posted by **Karl Schneider** on 25 Aug 2010, 1:17 a.m.,*
in response to message #20 by Thomas Klemm

Hello, Thomas --

> Quote:
>
> ```
> 12      Math            Accesses the IP (integer part) function in the math menu.
> 13      Up              Accesses the IP (integer part) function in the math menu.
> 14      Up              Accesses the IP (integer part) function in the math menu.
> 15      Input           Accesses the IP (integer part) function in the math menu.
> ```

Hmm, if these 'instructions' are actually recorded as such... that is not good, because they are *incomplete and/or relative* rather than *absolute*. It's better to record only the specific command, even if it is reached by scrolling through multiple levels of a menu. For example, the HP-32S and HP-42S record only specific instructions, not all the steps required to reach them.

> Quote:

> On the HP 15C you get:
>
> ```
> 1,234,567,890 ENTER 7 / FRAC 7 *   ->   2.8
> ```
>
> While the correct answer for 1,234,567,890 MOD 7 is 3. On the HP 30b you get probably a similar result.

Doesn't the HP-30b have the MOD function? The only way to do modulo division robustly is to process entirely at machine-code level. Otherwise, rounding errors can spoil the results.

A few years ago, a number of Forum regulars held a programming challenge to write a robust keystroke program for the MOD function. I did not participate, but no one really succeeded, as I remember.

-- KS

Edited: 25 Aug 2010, 1:44 a.m.

Re: HP-30b sample program

*Message #22 Posted by **Walter B** on 25 Aug 2010, 4:22 a.m.,*
in response to message #21 by Karl Schneider

Karl,

> Quote:
>
> > Quote:
> >
> > ```
> > 12      Math            Accesses the IP (integer part) function in the math menu.
> > 13      Up              Accesses the IP (integer part) function in the math menu.
> > 14      Up              Accesses the IP (integer part) function in the math menu.
> > 15      Input           Accesses the IP (integer part) function in the math menu.
> > ```
> >
> > Hmm, if these 'instructions' are actually recorded as such... that is not good, because they are *incomplete and/or relative* rather than *absolute*. It's better to record only the specific command, even if it is reached by scrolling through multiple levels of a menu. For example, the HP-32S and HP-42S record only specific instructions, not all the steps required to reach them.

Please don't blame Thomas for this. This is not an error, this is a feature of 30b programming :(We all know better programming paradigmas - and you mentioned two of them - but apparently the creator(s) of the 30b did not ... :-/

Re: HP-30b sample program

*Message #23 Posted by **Thomas Klemm** on 25 Aug 2010, 7:22 a.m.,*
in response to message #22 by Walter B

Just be assured that I didn't feel blamed.

Have a nice day
Thomas

Re: HP-30b sample program

*Message #24 Posted by **Thomas Klemm** on 25 Aug 2010, 7:18 a.m.,*
in response to message #21 by Karl Schneider

Hi Karl

What's even worse is that several possibilities of these *instructions* may lead to the same function depending on whether you prefer using up- or down-keys in the menue. This makes reading code a nightmare. Okay, most of us will take the shortest path but this isn't unique in all cases (e.g. COS^{-1} may be accessed by both Math-Input-Up-Up-Input and Math-Input-Down-Down-Input).

> Quote:
>
> Doesn't the HP-30b have the MOD function?

Apparently not. You may also miss the roll-up-key. Instead you have to hit the roll-down-key thrice:

> Quote:
>
> From Jeff's program 3:
>
> ```
> 7       ( Rv            Roll down
> 8       ( Rv            Roll down
> 9       ( Rv            Roll down
> ```

> Quote:
>
> A few years ago, a number of Forum regulars held a programming challenge to write a robust keystroke program for the MOD function. I did not participate, but no one really succeeded, as I remember.

Interesting! Do you still remember what can go wrong with the obvious idea:

```
MOD(Y, X) = Y - IP(Y/X)*X
```

Kind regards
Thomas

The 30b programming "paradigm"

*Message #25 Posted by **gene wright** on 25 Aug 2010, 11:12 a.m.,*
in response to message #21 by Karl Schneider

Does anyone remember the early 20b manual seemed to have "Macro" in it?

The 30b programming paradigm is somewhat macro-ish because it records keystrokes and essentially "plays them back".

Hence, the MATH UP INPUT DOWN type of thing. It is also the reason that when you type 12 and then start a program, if the program begins with 3, you get 123 entered as a value because the program has essentially pressed a 3.

When the 30b executes a program, it plays back the keystrokes, very fast, of course.

Think Choose boxes vs. soft menus. It is simply the paradigm being used. Isn't necessarily good or bad, it is just the approach.

The 30b has some amazing capabilities given is speed. It blows the n-queens benchmark program out of the water - roughly 11 seconds to do that program that is easily keyed by the user where the 50g using UserRPL at 203Mhz takes 67 seconds and the 42s in FAST mode takes over 200 seconds and the HP 35s takes over 250 seconds. 11 seconds vs. 250?

All for $49.99?

Would all of us have liked 16MB of ram, a USB connection and a touch screen? Sure! :-)

Key (to me) is movement in the right direction.

Not to mention it blows the TI financial calculators to pieces on a functional comparison. :-)

Re: The 30b programming "paradigm"

*Message #26 Posted by **Walter B** on 25 Aug 2010, 12:18 p.m.,*
in response to message #25 by gene wright

If the 30b were a bad calc, we won't discuss it here at length. Looking at it from the 20b, it's a step in the right direction for sure. Based on what we experienced in other HP vintage calcs, it seems to be ambiguous (random walk?). Being a technical person like many fellow forumers, and an old European (ambiguous as well ;), I see the achievements but focus on the shortcomings. What I've liked (for the US: loved) to get from HP:

- a *scientific* calc featuring
- a display as flexible as in the 17bII+ Silver, allowing soft keys,
- keystroke programmable like the 42S
- with the amount of memory the 42S provides.

IMHO, this is kind of a minimum request after 22 years. OTOH I'd be willing to spend significantly more than 50 US$ for this. It may well be within the form factor of the 30b. I appreciate the opportunity to reconfigure this animal, but it's difficult to overcome HW limits. So if HP wants to focus on financial business calcs, and this potential 40b as sketched above will be reconfigurable, I think many of us could live with this as second best solution.

FWIW

Edited: 25 Aug 2010, 12:20 p.m.

Re: The 30b programming "paradigm"

*Message #27 Posted by **gene wright** on 25 Aug 2010, 2:03 p.m.,*
in response to message #26 by Walter B

And I am not disagreeing. I want a 40b as well. :-)

I'm just trying to provide additional information and make sure that it isn't dismissed as useless if it doesn't have a MOD function. And, that's another :-)

Re: The 30b programming "paradigm"

*Message #28 Posted by **Raymond Del Tondo** on 27 Aug 2010, 12:19 p.m.,*
in response to message #26 by Walter B

I got my 30b today.

First impression when looking at the sealed blister: Looks very nice, has a nice keyboard layout. Then I took it out of the package, and the next thought was: Who the hell designed that housing, with the shiny back, and worse, the awful sharp edge around the case! It can easily be seen that the designer(s) took the Woodstock series as model, but why didn't they also take over the ergonomic idea of the Woodstock series, with case sides which don't hurt the holding hand.

The Woodstock series calcs fit into the hand like a glove around (the hand). The 30b (and obviously the 20b) fit into the palm if you don't try to hold it in place. If you do, the unnecessary sharp edge will press into your fingers, a very unpleasant and unergonomic thing.

One of the first things I tried after turning it on was to switch the calc to RPN. There are no ALG/RPN legends on the keyboard, and no Alg/RPN menu items.

Believe it or not, the RPN toggle sits behind a menu entry called "Chain". There are three options, Chain, Algebraic, and RPN.

For this I had to consult the manual, which enlighted the issue on page 8. At least for me, the "Chain" mode was rather unexpected. After all, this mode may make sense on a business calc.

BTW the legends of the shifted functions of keys printed in the manual are next to unreadable.

> Quote:
>
> If the 30b were a bad calc, we won't discuss it here at length. Looking at it from the 20b, it's a step in the right direction for sure.

I also believe the 30b is a good calc, technically. But the ergonomics of the case are not very good IMHO. A slope on the back is good for the palm, but the sides should be more finger-friendly. Take a look at the Woodstock series, at the Pioneer series, or even at the 35s to see how it can be made much better.

This is surely the last calc in this housing that I'll ever buy, and I'm still not sure whether returning it to the seller and get a 17bII silver instead.

Hopefully the 17bII+ silver has a better designed housing. If it's similar to the one of the 35s, it should be ok.

Sorry for the "negative-sounding" impressions, but I was so eager to get my hands on that very interesting 30b, and then the first touch was such a disappointment, that I had to write down my opinions.

Don't get me wrong, the housing feels solid, the keys feel good so far, and overall it is a nice machine, but OTOH it's one of the very few HP calcs which I don't like to hold in my hand because of the unpleasant sharp edge. I remember only one HP calc series with similar bad ergonomics regarding the housing, the Clamshell series. If you fold the left keyboard to the back, the calc sits very unpleasant in your hand.

Sorry for the maybe OT;-)

Ray

Re: The 30b programming "paradigm"

*Message #29 Posted by **Jeff O.** on 27 Aug 2010, 1:02 p.m.,*
in response to message #28 by Raymond Del Tondo

Ray,
The sharp edge feel can be significantly improved with a file and/or sandpaper, or even scraped with a knife blade held perpendicular to the edge. It can be rounded over quite a lot without any structural problems. Of course I won't blame you if you feel that you should not have to use such tools on your new calculator.

...

Re: The 30b programming "paradigm"

*Message #30 Posted by **Walter B** on 27 Aug 2010, 1:41 p.m.,*
in response to message #28 by Raymond Del Tondo

These slopes are the oldest tricks to make calcs looking smaller and more elegant than they really are. An extreme example was the HP-19C. Take a look at the picture on the ad sheet, and compare it with the real thing. Such pictures are usually taken under an angle slightly steeper than the slope of the lower section of the housing so you won't see this part on the picture. The sharper the edge of the upper section of the housing the flatter the calc looks. Simple but successful :-/

Re: The 30b programming "paradigm"

*Message #31 Posted by **Walter B** on 29 Aug 2010, 5:46 a.m.,*
in response to message #30 by Walter B

The same method is often used for designing and advertising watches. Watch it 8)

Re: The 30b programming "paradigm"

*Message #32 Posted by **Mike Morrow** on 27 Aug 2010, 11:08 p.m.,*
in response to message #28 by Raymond Del Tondo

I've always admired the Woodstocks more than any other HP line for their natural fit for hand held use. But now the Woodstocks have been relegated to second-place. The HP 30b provides a package that is much better.

The edges on my HP 30b (serial 4CY024xxxxx, made in June) are not sharp in any conceivable sense of the word. They have a definite palpable and visible round-off. (Could there have been a late manufacturing change?) The unit is very comfortable to use in the hand. This is the sturdiest and most attractive calculator of the 30-plus HPs that I've owned in the past 34 years.

I simply love the mechanical/industrial design of the HP 30b!

Edited: 28 Aug 2010, 8:17 a.m. after one or more responses were posted

Re: The 30b programming "paradigm"

*Message #33 Posted by **Martin Pinckney** on 27 Aug 2010, 11:52 p.m.,*
in response to message #32 by Mike Morrow

> Quote:
>
> ...I don't like to hold in my hand because of the unpleasant sharp edge.
>
> The edges ... are not sharp in any conceivable sense of the word...

Interesting debate. After reading the comments about the sharp edges, I looked up all the side and angled views of this calculator that I could find, and I just don't see them. I guess you have to hold one to get what's being discussed.

Re: The 30b programming "paradigm"

*Message #34 Posted by **Raymond Del Tondo** on 28 Aug 2010, 6:40 p.m.,*
in response to message #33 by Martin Pinckney

The problem is that I didn't find good pictures of the sides of the unit before, else I would not have bought it.

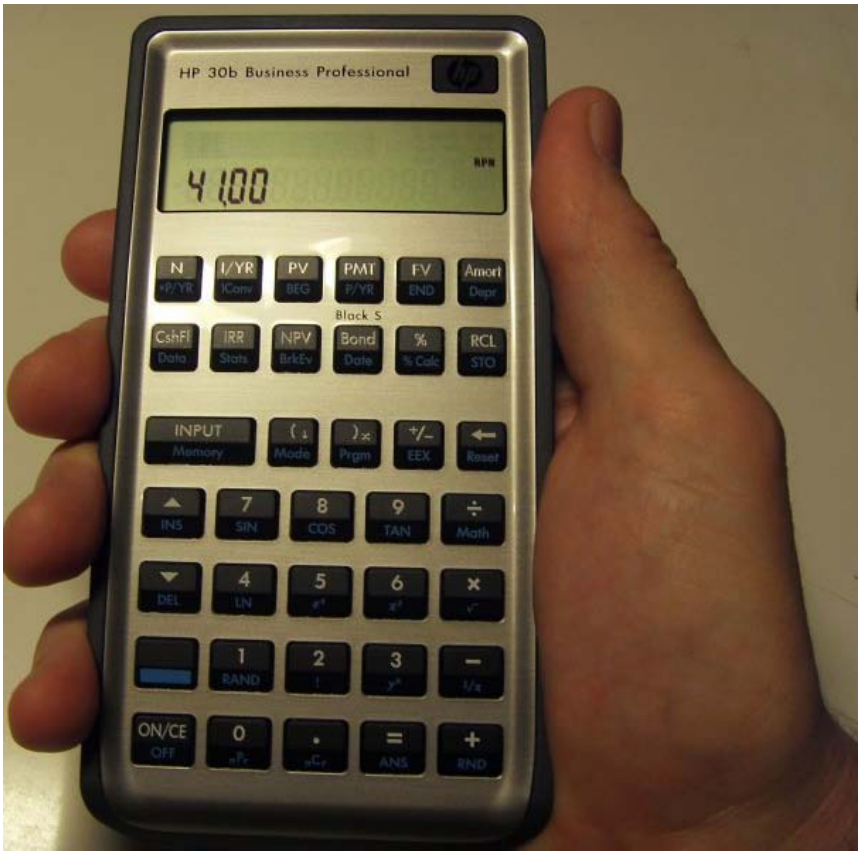
Below are some pics of the 30b comparing to a Woodstock and a Pioneer calculator.

As can be easily seen, the side edge of the 30b is very sharp compared to the Woodstock and Pioneer. On the Woodstock and Pioneers, one holds the calc by pressing the finger and prolonged thumb (palm) against the sides of the housing, which are flat and wide (Woodstock), slightly rounded (Pioneer), or sharp (30b). The finger contact surface is very narrow on the 30b, at least if one holds the calc in a way shown in the pics, to prevent it from slipping out of the hand accidently. This is very uncomfortable for my taste. The Pioneer calc shows how a flat calc can be made, still featuring rounded, finger-friendly sides. The 30b is thicker than the Pioneer series calcs.

Needless to say, my brand-new 30b already has tiny hair scratches on the awful shiny back. I really handled it extremely carefully, and always put it into the protective sleeve immediately after looking at it.

So given that I actually did not really use the unit, it has usage marks, and if I wanted to return it to the dealer, he may not give me a full refund. Now _that's_ an experience I could have lived without:-(

Holding in hand:



The 30b from top. Here one can directly see that this device will be unpleasant to hold in the hand. Even most cheap remote controls have a more ergonomic housing (but worse keys;-)

Both from the side:

and side by side (25C 30b 22S):

Re: The 30b programming "paradigm"
*Message #35 Posted by **Don Shepherd** on 28 Aug 2010, 7:15 p.m.,*
in response to message #34 by Raymond Del Tondo

Nice pictures, Raymond. I just picked up my 30b and did some calculations, then I picked up my 32s and did some calculations. Yes, there is a different feel because of the shape the two calculators, but honestly I wouldn't say that one is better or worse than the other. To me, either is acceptable.

And, yes, the back of the 30b is shiny, as opposed to the textured back of the 32s. But I won't be looking at the back until I have to change the batteries, so that's not a major factor for me.

It comes down to personal tastes, like most things. Aesthetically and physically, I have no problems with the 30b.

I wish it had more memory, however.

Don

Edited: 28 Aug 2010, 8:42 p.m.

Re: The 30b programming "paradigm"
*Message #36 Posted by **Martin Pinckney** on 28 Aug 2010, 9:10 p.m.,*
in response to message #34 by Raymond Del Tondo

Indeed, the pictures do explain the issue. I would probably say the edges are "sharply angled" (which may be uncomfortable to hold because of the shape), rather than "sharp", which to me implies actually digging in to the hand.

Re: The 30b programming "paradigm"
*Message #37 Posted by **Mike Morrow** on 28 Aug 2010, 10:41 p.m.,*
in response to message #36 by Martin Pinckney

The slope of the sides of the HP 30b and that of the bottom half of the Classic series are very close. I've never heard anyone disparage, say, the HP-45 as "sharp-edged" or uncomfortable in any way.

This issue appears to be one of individual aesthetics, not ergonomics, identical in that aspect to a dislike of the bottom cover color.

The HP 30b has outstanding ergonomics, possibly the best ever on an HP calculator. It is very comfortable when used in the hand, and it is very stable when used on the tabletop. It is an excellent example of superior industrial design.

I kind of like it. :-)

Re: The 30b programming "paradigm"

*Message #38 Posted by **Raymond Del Tondo** on 28 Aug 2010, 11:58 p.m.,*
in response to message #37 by Mike Morrow

> Quote:
>
> The slope of the sides of the HP 30b and that of the bottom half of the Classic series are very close. I've never heard anyone disparage, say, the HP-45 as "sharp-edged" or uncomfortable in any way.

Please read the text and look at the pics, I'm not talking about the bottom half, but the top edge.

> Quote:
>
> This issue appears to be one of individual aesthetics, not ergonomics, identical in that aspect to a dislike of the bottom cover color.

It has nothing to do with aesthetics. From an aesthetical point of view the 30b looks very good IMHO, regardless of the fact that I don't like shiny surfaces on calculators. It's the "sharp angled edges" I dislike.

> Quote:
>
> The HP 30b has outstanding ergonomics, possibly the best ever on an HP calculator.

This is simply not true. If the "sharp angled edges" would have been smoother, or more rounded, then maybe it would be very good regarding ergonomics. Nearly every other HP calc (except the Clamshells and the 6s) is better from an ergonomic point of view.

> Quote:
>
> It is an excellent example of superior industrial design.

No. The Pioneer Series were examples of superior industrial design, the 30b is way behind.

> Quote:
>
> I kind of like it. :-)

Glad you like it, but as I wrote, I pointed out reasons why I don't like certain aspects of the 30b.

Overall I'm sure it's a nice machine, but not as perfect as the Pioneer series. And for me, the 30b has some ergonomic flaws.

Re: The 30b programming "paradigm"

*Message #39 Posted by **Mark Harman** on 29 Aug 2010, 1:33 a.m.,*
in response to message #38 by Raymond Del Tondo

Raymond,

The HP 30b looks like it was designed to follow the natural angles of the hand while it is in its relaxed position (curved). This allows the calculator to be held in this rested position while maintaining a good grip. Personally, I think it fits very well in the hand and is extremely comfortable because of this design. However, looking at your photos it appears you are doing an almost a flat-palmed wraparound grip. Perhaps you might want to change your approach to holding the device.

Try resting the sides of the 30b against the pads of your fingers, thumb, and thumb side of the palm instead of wrapping your fingers and thumb over the edges (so, behind the edges). Make sure your hand is in its relaxed curved position. You still get an excellent grip this way with minimal force. In fact, holding the 30b this way I can turn my hand over and the device still wont fall on the floor - and that is with little force in my grip.

If you hold it the way I describe, I think you might look at the ergonomic design of 30b in a new light.

Now, if HP can redesign the programming overlay with better ink, I would be very happy. As it stands, my DISP and ISG are almost completely worn off.

I am also hoping they fix the Best Fit bug and the Cash Flow Reset bug, which I reported to them last week. If you or anyone else wants details on these bugs, please feel free to ask and I will describe them in detail. Other than these issues, I think the HP 30b is the best financial calculator ever made. Heck, it is what finally got me to switch from a TI BA II Plus Professional. I've had mine for almost a month and I absolutely love it.

Regards,

Mark

Edited: 29 Aug 2010, 1:36 a.m.

Re: The 30b programming "paradigm"

*Message #40 Posted by **Massimo Gnerucci (Italy)** on 29 Aug 2010, 5:09 a.m.,*
in response to message #39 by Mark Harman

> Quote:
>
> Perhaps you might want to change your approach to holding the device.

Are you also an iPhone 4 user? :-)
Sorry, couldn't resist!

Greetings,
Massimo

Re: The 30b programming "paradigm"

*Message #41 Posted by **Mark Harman** on 29 Aug 2010, 8:34 p.m.,*
in response to message #40 by Massimo Gnerucci (Italy)

No, I'm not an iPhone 4 user. However, I have a pretty good sense of humor and your joke wasn't lost on me. :D

Regards,

Mark

Re: The 30b programming "paradigm"

*Message #42 Posted by **Mike Morrow** on 29 Aug 2010, 12:48 p.m.,*
in response to message #39 by Mark Harman

> Quote:
>
> Now, if HP can redesign the programming overlay with better ink, I would be very happy. As it stands, my DISP and ISG are almost completely worn off.

That's exactly what happened on my HP 30b. All four overlay labels on that row of keys have half disappeared, plus the label above the N key.

I wish there were some way to order replacements, because that overlay is very useful. I'd like to see its labels permanently fixed as part of the keyboard.

But, that's a minor issue on such a great design.

My wish, which Katie explains as reasonably possible with only minor hardware modification, is for an upgraded version with real-time clock/calendar functions and a few K-bytes more programming RAM (plus those permanently affixed programming labels).

Edited: 29 Aug 2010, 12:58 p.m.

Re: The 30b programming "paradigm"

*Message #43 Posted by **Raymond Del Tondo** on 29 Aug 2010, 12:06 a.m.,*
in response to message #36 by Martin Pinckney

> Quote:
>
> Indeed, the pictures do explain the issue. I would probably say the edges are "sharply angled" (which may be uncomfortable to hold because of the shape), rather than "sharp", which to me implies actually digging in to the hand.

Many thanks for pointing out a more suitable description. I think I should have written "sharply angled" in the 1st place to avoid any confusion:-)

Re: The 30b programming "paradigm"
*Message #44 Posted by **bill platt** on 29 Aug 2010, 11:49 a.m.,*
in response to message #34 by Raymond Del Tondo

I can't understand why they can't make the new machines smaller than the 1970s machines. They are thinner, but larger. What's up with that ?!

Re: The 30b programming "paradigm"
*Message #45 Posted by **Mike Morrow** on 29 Aug 2010, 12:53 p.m.,*
in response to message #44 by bill platt

Smaller is not necessarily better, just cuter. I'd much rather have my hand held calculators be the size and shape of the HP 30b, rather than say, credit card sized.

Re: The 30b programming "paradigm"
*Message #46 Posted by **bill platt** on 29 Aug 2010, 1:24 p.m.,*
in response to message #45 by Mike Morrow

Yes, credit card sized is too small. But Voyager size is certainly not, and Pioneer is even larger. Both are significantly smaller than the 30B.

The voyager can easily fit in almost any pocket, even a trouser front pocket.

The Pioneer is somewhat too large for that.

The 30b is even larger. So is the 35s. It doesn't make sense.

Nowadays, the calculator is even more marginalized than ever. If it is going to be larger than an ipod touch, then it is sort of useless...you can put a 42s sim on an ipod touch...

Since so many people now carry cell phones around, they will need a really good reason to carry a calculator around...and size really gets in the way of that.

Maybe HP is thinking, "we can't compete with 'mobility' devices" and so we will focus on desktop applications...where it is somehow easier and better than the computer...

It is a tough market for sure!

Edited: 29 Aug 2010, 1:35 p.m.

Re: The 30b programming "paradigm"
*Message #47 Posted by **Martin Pinckney** on 29 Aug 2010, 3:29 p.m.,*
in response to message #46 by bill platt

What strikes me, is there are so many differing opinions on this forum about most recent HP calculators. Some comments are rather strident. Perhaps it's no wonder HP does not appear to "listen". Which voices do they listen to? Angled sides or straight? Smaller or bigger? Landscape or portrait? Menus or shifted keys? I could go on.

About the only commonly held opinion is that the keys must click and actually register!

Re: The 30b programming "paradigm"
*Message #48 Posted by **Katie Wasserman** on 29 Aug 2010, 7:07 p.m.,*
in response to message #47 by Martin Pinckney

> Quote:
>
> What strikes me, is there are so many differing opinions on this forum about most recent HP calculators.

True, but that's telling in and of itself. I don't think you'll find many (if any) negative comments about the calculators in the voyager or pioneer series. HP got these "right" and even now these calculators are in high demand.

Back in the day, HP didn't ask for our opinions at all. They had a core group of talented people that carefully hashed out the ideas themselves and collectively refined them until they reached near perfection. This takes a large corporate commitment. Although HP has a couple of very talented people in the calculator group now I don't get the sense that the company has made much of a commitment to calculator development. I don't know if we can expect too much in the way of innovative new scientific calculators until HP is willing to commit more resources to their development and support (starting with

posting the 30b manual on their main website, for crying out loud).

Re: The 30b programming "paradigm"
*Message #49 Posted by **Karl Schneider** on 29 Aug 2010, 9:12 p.m.,*
in response to message #48 by Katie Wasserman

> Quote:
>
> ...I don't think you'll find many (if any) negative comments about the calculators in the voyager or pioneer series. HP got these "right" and even now these calculators are in high demand.
>
> Back in the day, HP didn't ask for our opinions at all. They had a core group of talented people that carefully hashed out the ideas themselves and collectively refined them until they reached near perfection. This takes a large corporate commitment...

Katie --

A big "amen" to that!

And the core team must have included electronics engineers, software engineers, mechanical engineers, mathematicians, and technical writers, as a minimum...

-- KS

Re: The 30b programming "paradigm"
*Message #50 Posted by **Raymond Del Tondo** on 30 Aug 2010, 5:06 a.m.,*
in response to message #47 by Martin Pinckney

> Quote:
>
> What strikes me, is there are so many differing opinions on this forum about most recent HP calculators. Some comments are rather strident.

Sorry if some of my comments sounded harsh, I didn't meant to offend anyone...

However, I had (too?) high expectations regarding the 30B, since from what was written in the forum and in the HPCC datafile, it sounded like a machine I had to get my hands on. And I have to admit the 30B looks good, no question!

When I got my hands on a 30B actually, I realized that this machine was not meant for me because of the IMHO suboptimal case sides. I know that I don't like to take this calc into my hands. Therefore I was disappointed. Today, I returned the 30B to the calc dealer. If the price had been about 30 Euros, like in the US, _maybe_ I would have kept the unit for my collection, but here in Germany the 30B costs 50 Euro + shipping, and that's too much to waste for a thing I don't even like to touch. I think I'll get a 17BII+ silver, which at least seems to have a more hand-friendly housing;-)

> Quote:
>
> About the only commonly held opinion is that the keys must click and actually register!

This seems to be an immanent problem since (and inluding) the 49g FHB. How does the 17BII+ silver compare in this respect?

Re: The 30b programming "paradigm"
*Message #51 Posted by **Martin Pinckney** on 30 Aug 2010, 9:34 a.m.,*
in response to message #50 by Raymond Del Tondo

> Quote:
>
> Sorry if some of my comments sounded harsh, I didn't meant to offend anyone...

I wasn't pointing a finger at you. There have been many, shall we say, strong opinions voiced about HP's recent offerings.

Re: The 30b programming "paradigm"
*Message #52 Posted by **Marcus von Cube, Germany** on 3 Sept 2010, 10:08 a.m.,*
in response to message #50 by Raymond Del Tondo

> Quote:

> Quote:
>
> Quote:About the only commonly held opinion is that the keys must click and actually register!
>
> This seems to be an immanent problem since (and inluding) the 49g FHB. How does the 17BII+ silver compare in this respect?

I had to return mine for a replacement because some keys were registering unreliably despite the click.

Re: The 30b programming "paradigm"
*Message #53 Posted by **Raymond Del Tondo** on 4 Sept 2010, 6:43 p.m.,*
in response to message #52 by Marcus von Cube, Germany

Hmmm, doesn't sound too good. Is the replacement more reliable, or does it miss key strokes, too?

Re: The 30b programming "paradigm"
*Message #54 Posted by **Raymond Del Tondo** on 10 Sept 2010, 7:44 p.m.,*
in response to message #53 by Raymond Del Tondo

Yesterday I got my NIB and still sealed 17bII+ silver/gun (s/g) metallic overlay.

Now _that's_ a difference compared to the 30b! The 17bII+ s/g has much better haptics IMHO. The housing has a slightly trapezoid form, too, but the upper left and right edges, which were the reason to return the 30b to the dealer, are much better (less sharply) angled on the 17bII+ s/g. The 17bII+ s/g is much nicer and comfortable to hold than the 30b.

The 17bII+ s/g LCD resolution is the same as on the classic Pioneer high-end machines (17BII, 42S), but the contrast is much better. So far no missed or bounced keys.

And as if this weren't good enough, the price I paid for the new in blister and still sealed unit was 39 Euros incl. shipping, and there was a free promotional QuickCalc in the blister, too.

This 17bII+ s/g was a very good compensation for my annoyances with the 30b:-)

Now if hp made a 42SII based on the 17bII+ s/g , but with a reachable serial I/O connector, I would definitely buy at least one or two units.

Ray

Re: The 30b programming "paradigm"
*Message #55 Posted by **Mike Morrow** on 11 Sept 2010, 10:36 a.m.,*
in response to message #54 by Raymond Del Tondo

> Quote:
>
> This 17bII+ s/g was a very good compensation for my annoyances with the 30b:-)
>
> Now if hp made a 42SII based on the 17bII+ s/g , but with a reachable serial I/O connector, I would definitely buy at least one or two units.

IMHO, the HP 17bII+ is a cheaply-made replacement for the HP 17BII. Other than improved display contrast, there is nothing about the HP17 BII+ that is an improvement over the HP 17BII, or any other HP calculator design. Like the unfortunate HP 35S, it's really too large to be termed a shirt-pocket calculator.

The HP 30b, IMHO, has far better ergonomics, is smaller than the HP 17BII+, has much much better scientific and programming support, is blazingly fast, and is mechanically far better designed and constructed.

But I will admit, there is ONE feature that the HP 17BII+ has that is missing (without any reasonable justification) on the HP 30b: Real time clock/date/calendar functions. I wish I didn't have to pull out my old HP 17BII for those functions.

I would hate to see HP waste time and effort producing an HP42S successor in the obsolete HP 17BII+ package. In that event, I'd just have to be satisfied with my three old HP 42S units. But an HP 42S successor in the form of the HP 30b would be an instant and universal hit. I'd buy several. Especially if it had micro-SD card support, and the battery capability to support it (likely not practical). Serial I/O, if not USB, would be valueless in the modern era.

Re: The 30b programming "paradigm"

*Message #56 Posted by **Raymond Del Tondo** on 11 Sept 2010, 1:16 p.m.,*
in response to message #55 by Mike Morrow

This is getting boring, but anyhow...

> Quote:
>
> IMHO, the HP 17bII+ is a cheaply-made replacement for the HP 17BII.

This is one of the few points we seem to have the same opinion.

> Quote:
>
> Other than improved display contrast, there is nothing about the HP17 BII+ that is an improvement over the HP 17BII, or any other HP calculator design. Like the unfortunate HP 35S, it's really too large to be termed a shirt-pocket calculator.

Sorry, here it becomes clear that you never had a 17bII+ silver in your hands. The 17bII+ has much more memory than the 17BII, and more functions.
And about dimensions: The 17bII+ silver has a **smaller** footprint than the Pioneer series calcs. The 17bII+ is about 1mm thicker than the Pioneers, but the belt size is still smaller, so it fits into smaller shirt pockets than a Pioneer.
The front view of the 17bII+ may be similar to the 35S, and maybe the keys are similar, but the housing of the 17bII+ silver is completely different from that of the (agreed too large) 35S.
It's ok if you more like the 30b, that's why they make different models. Tastes are different, and facts are facts, see above.

> Quote:
>
> I would hate to see HP waste time and effort producing an HP42S successor in the obsolete HP 17BII+ package.

I don't think the package is obsolete. IMHO it's the better, but more expensive package. It looks as if the 20b/30b housing is made for the low-cost entry models with limited graphics, and that's ok.
The 17bII+ package is much more suited as a replacement for the higher-end models, with better display, less sharply edged sides, etc.

Edited: 11 Sept 2010, 2:48 p.m.

Re: The 30b programming "paradigm"

*Message #57 Posted by **Walter B** on 12 Sept 2010, 3:05 a.m.,*
in response to message #55 by Mike Morrow

Design is a matter of taste, so either you feel it or not.

To the hard ;) facts:

- **The 30b is even some 4mm longer than the 17bii+ Silver, while the latter is 1mm wider.**
- The 17bii+ S has approximately the same size as the Pioneers.
- Both have slanted keys - an advantage over the Pioneers allowing cleaner keyboards.
- The display of the 17bii+ S is far more versatile than that of the 30b. Softkeys are only possible on the 17bii+ S.
- The 30b may be reconfigured, the 17bii+ S not.

So, if HP would give the 30b a reasonable display like the 17bii+ S then I'd be happy :) - as if HP would make the 17bii+ S reconfigurable. I'd be even happier if they would give them a state-of-the-art display and some way of data I/O as well :)), but I've learned that's expecting too much :-/

My 20 milli Euros only.

Ceterum censeo: HP, launch a 43S d8)

Edited since I made a wrong size statement :(Sorry, but corrected now :-/

Edited: 17 Sept 2010, 4:12 a.m.

Re: The 30b programming "paradigm"

*Message #58 Posted by **Xerxes** on 25 Aug 2010, 8:19 p.m.,*
in response to message #25 by gene wright

I've updated the n-queens benchmark with the new result of 9.3 seconds for the 30B. This speedup was possible by replacing register arithmetic with DSE/ISG commands.

I've also tested the fast mode tsys=on, but the execution speed doesn't increased significantly. The reason is the DOWN command for accessing the ABS function, that puts the calculator temporarily (less than 1 second) into the fast mode. With other words DOWN, UP and BACKSPACE can be used for speeding up loops without using tsys=on. Possibly there is a better way to do this. Now we know why the 30B is so fast in the n-queens benchmark.

Re: 30b - Not Impressed

*Message #59 Posted by **Egan Ford** on 24 Aug 2010, 12:18 p.m.,*
in response to message #1 by Jeff

I am also not impressed, but not disappointed either. Ambivalent perhaps.

I cannot comment on the 30bs usefulness as a financial calculator since I do not rely on them.

Aesthetically I feel that its case design was designed just to be designed. Whereas the Pioneer series were minimalist. I still feel that the Pioneer platform was one of the best ever for a calculator. That said the trapezoidal design does fit very well and feel good in the hand. Function trumps form perhaps?

The buttons feel good, but why do I need an overlay for programming? That should have been printed on the face.

The new programming model is different. Neither good or bad. Just different.

The display is easy to read, but I'd give up a little bit of readability for the more flexible 42S screen.

When I look at the 30b it doesn't invoke any passionate response. But it is a business calculator, perhaps it shouldn't.

Re: 30b - Not Impressed

*Message #60 Posted by **Martin Pinckney** on 24 Aug 2010, 5:17 p.m.,*
in response to message #59 by Egan Ford

> Quote:
>
> When I look at the 30b it doesn't invoke any passionate response. But it is a business calculator, perhaps it shouldn't.

Now that's an interesting comment, Egan. By inference, a scientific calculator should?

Are all business folks dull? Engineers exciting? I'm liking this more and more.

Re: 30b - Not Impressed

*Message #61 Posted by **Egan Ford** on 24 Aug 2010, 10:53 p.m.,*
in response to message #60 by Martin Pinckney

The first sentence was serious. My initial response to the 30b was, "yet another business calculator." *sigh* I'm sure for many here the response was "Wow! Another business calculator! 2K of RAM! Yippee!!!"

The second sentence was just a friendly jab at our business types on this forum. I probably should have added a smiley face. :-) Or, perhaps since I work for very large three letter company with "business" in their name, their smiley face. :-| Just in case there is any doubt. :-)

Re: 30b - Not Impressed

*Message #62 Posted by **gene wright** on 25 Aug 2010, 7:27 a.m.,*
in response to message #61 by Egan Ford

Oh, business types have thick skin.

However, rather than "just another business calculator", the 30b does have several advantages.

1) Cheapest RPN programmable from HP.

2) Includes a VERY nice (IMO) set of scientific and statistics functions for a business model.

and

3) Is the fastest native-programming programmable calculator HP has ever made.

Not a bad list.

Re: 30b - Not Impressed

*Message #63 Posted by **Egan Ford** on 25 Aug 2010, 10:19 a.m.,*

in response to message #62 by gene wright

No arguments here. The 30b represents forward motion. And that is exciting.

Re: 30b - Not Impressed

*Message #64 Posted by **Katie Wasserman** on 25 Aug 2010, 11:14 a.m.,*
in response to message #62 by gene wright

> Quote:
>
> 3) Is the fastest native-programming programmable calculator HP has ever made.

I have to take exception to this. The new 12C+ is faster in some instances. Depending on where the program is located in memory on the 30b the 12C+ is faster in the "loops of addition" test and other programs that require the 30b to do a long label search. Even with a clear program memory on the 30b, the 12C+ is nearly the same speed as the 30b. In addition, many programs that use indirect register access are faster on the 12C+, bubble sort in particular is much faster.

Since the 12C+ is running an emulator of the original 12C processor and the running the original 12C firmware this is a testament to both the efficiency of the emulator and the original 12C code.

Re: 30b - Not Impressed

*Message #65 Posted by **Egan Ford** on 25 Aug 2010, 2:18 p.m.,*
in response to message #64 by Katie Wasserman

Correct me if I'm wrong, but can't you write ARM ASM on the 50g? That'd make the 50g the fastest native-programming programmable calculator HP has ever made. Or does native mean the default language?

Re: 30b - Not Impressed

*Message #66 Posted by **gene wright** on 25 Aug 2010, 2:28 p.m.,*
in response to message #65 by Egan Ford

Katie, good point. Exception taken! The loop + test does show the 30b faster if Test sys is turned on, but on an "out of the box" 12c+ or 30b running the "normal" + test, the 12c+ is faster. The 30b does have the 12c+ beat on price. :-)

Egan, perhaps I should say "non-assembly language" native programming environment - something you can take out of the box, turn on, type in, and run.

The percentage of any users who can take out a 50g, type up an ARM program on the calculator itself from scratch and run it must be vanishingly small, but I think I will amend my statement to "non-assembly" as above. :-)

And, I also have to imagine it would take a lot longer than writing something in the 12c+ RPN or the 30b "mostly" RPN language.

Re: 30b - Not Impressed

*Message #67 Posted by **Maarten Ambaum (Reading, UK)** on 25 Aug 2010, 9:06 a.m.,*
in response to message #1 by Jeff

What I am not impressed by is that it is still not for sale in Europe (ok ... I mean the UK, but I believe there are no European vendors either) :-(

Was there such an enormous delay for the other recent worthwhile HP calculators (35s, 20b)? I don't believe so - I think I bought my 35s just a few months after introduction.

Re: 30b - Not Impressed

*Message #68 Posted by **Walter B** on 25 Aug 2010, 9:22 a.m.,*
in response to message #67 by Maarten Ambaum (Reading, UK)

"Believing" means "not knowing" (hope this translation of a German saying is correct): Please see here . HTH

Re: 30b - Not Impressed

*Message #69 Posted by **Maarten Ambaum (Reading, UK)** on 26 Aug 2010, 9:38 a.m.,*
in response to message #68 by Walter B

OK - it's available in Germany; it would cost me an extra 13 euros to get it delivered to the UK. I am not too keen on that.

Slightly cagey response there regarding UK and Europe; it is really just a manner of speaking in Britain. Europe can be used to mean Europe proper (that is, including UK), or used to mean the European continent (that is, Europe, excluding UK). I agree it may be a bit much to use the two meanings in a single sentence. Anyway, being from the Netherlands myself (or Holland - don't start on this one as well!), I do not subscribe to anti-European feelings that some people may have here in the UK. And also: it is not as bad as some might think. Do remember that the French, Dutch, and Irish (am I missing out other countries here?) fairly recently voted against one European reform or another - that cannot be said of the British.

Re: 30b - Not Impressed

*Message #70 Posted by **Walter B** on 25 Aug 2010, 9:29 a.m.,*

in response to message #67 by Maarten Ambaum (Reading, UK)

Maarten,

> Quote:
>
> What I am not impressed by is that it is still not for sale in Europe (ok ... I mean the UK, but I believe there are no European vendors either) :-(

That's a quite interesting statement in the view of basic logic. First you claim UK being a subset of Europe, then you claim UK and Europe don't overlap d;-) I'd vote for part 1.

Re: 30b - Not Impressed

*Message #71 Posted by **Joerg Woerner** on 25 Aug 2010, 8:42 p.m.,*
in response to message #70 by Walter B

Before we had the high-speed passenger train Eurostar operating between France and UK (British people would say "between England / The Kingdom and France"), we were joking around...

The British / Brits / Britons news channel reported at every other thunderstorm:

Oh, look at the English Channel (UK) / Aermelkanal (DE) / la Manche (FR), it's really rough today. The Mainland is cut-off!

Tells you a lot ;-))

Auf Wiedersehen,

Joerg

Re: 30b - Not Impressed

*Message #72 Posted by **Walter B** on 26 Aug 2010, 2:31 a.m.,*
in response to message #71 by Joerg Woerner

Hallo Jörg,

I know this good ol' joke with the *continent* being cut-off. Doesn't change the attitude, however.

Tschüß,
Walter

OT - Not Impressed

*Message #73 Posted by **Martin Pinckney** on 26 Aug 2010, 8:41 a.m.,*
in response to message #72 by Walter B

> Quote:
>
> Doesn't change the attitude, however.

Rather, *illustrates* the attitude.

Well, after all, at one time "the sun never sets on the British Empire", and today English is the "international language" (witness this forum). The general principles of English common law prevail in many parts of the world, as does the parliamentary system of government.

Re: OT - Not Impressed

*Message #74 Posted by **Walter B** on 26 Aug 2010, 9:31 a.m.,*
in response to message #73 by Martin Pinckney

Martin,

> Quote:
>
> > Quote:
> >
> > Doesn't change the attitude, however.
>
> Rather, *illustrates* the attitude.

Guess why I added "however"? Hint: Please read Jörg's post.

Re: OT - Not Impressed

*Message #75 Posted by **Martin Pinckney** on 26 Aug 2010, 2:57 p.m.,*
in response to message #74 by Walter B

Well, of course I did read his post, which contained the joke you were referring to, which illustrated the British attitude.

Re: OT - Not Impressed
*Message #76 Posted by **Walter B** on 28 Aug 2010, 12:45 a.m.,*
in response to message #75 by Martin Pinckney

Well, and the change of words (mainland -> continent) didn't change the attitude ;)

HTH

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Surveryor needs help with HP 35s program entry

*Message #1 Posted by **Stefan Vorkoetter** on 22 Aug 2010, 8:15 p.m.*

I received an e-mail from a land surveying student who's about 2 months from her license exams. She purchased some HP 35s surveying software, but is getting confused by the details of entering programs into the 35s. She asked if I could enter and test the programs for her. There are 37 pages of programs, and 10 pages of test cases.

Unfortunately, I don't have time to do this right now, and was wondering if anyone here would be interested. If so, please contact her directly:

Elisabeth K. Lucas
elisabethkonzelucas at hotmail.com

Edited: 22 Aug 2010, 8:15 p.m.

Re: Surveryor needs help with HP 35s program entry

*Message #2 Posted by **Martin Pinckney** on 22 Aug 2010, 8:56 p.m.,*
in response to message #1 by Stefan Vorkoetter

> Quote:
>
> She asked if I could enter and test the programs for her. There are *37 pages of programs, and 10 pages of test cases.* [emphasis added]

This would probably require a very good friend.

Re: Surveryor needs help with HP 35s program entry

*Message #3 Posted by **db (martinez, ca.)** on 22 Aug 2010, 11:50 p.m.,*
in response to message #1 by Stefan Vorkoetter

Maybe someone here could take those pesky license exams for her too.

Re: Surveryor needs help with HP 35s program entry

*Message #4 Posted by **bill platt** on 23 Aug 2010, 12:50 a.m.,*
in response to message #1 by Stefan Vorkoetter

37 pages of programs?! For what? Taking an exam? If she knows and understands the material, I'd bet she doesn't need a single one of them. It is an exam, not a computer programming project...

Re: Surveryor needs help with HP 35s program entry

*Message #5 Posted by **Stuart Sprott** on 23 Aug 2010, 7:36 a.m.,*
in response to message #4 by bill platt

I am a Surveyor and would just like to add that I think that all your responses are spot on.

Now days if you ask a young Surveyor to solve a problem, there response usually is, "where do I find the program to solve it." This applies to simple as well as complex problems.

I love to program and have written a lot of survey programs, but I come from a generation who knew how to all solve all the problems just from first principles.

The trouble is that we programmers have made it too easy for the current generation.

Re: Surveryor needs help with HP 35s program entry

*Message #6 Posted by **Norman Dziedzic** on 23 Aug 2010, 8:37 a.m.,*
in response to message #5 by Stuart Sprott

It might depend on the requirements of the test.

In a test with ample time to work the problems and partial credit then I would have to agree that there should be no need for extra programs.

If the test is designed to only allow time to run the problems through a calculator then shame on the test makers.

Re: Surveryor needs help with HP 35s program entry

*Message #7 Posted by **db (martinez, ca.)** on 23 Aug 2010, 10:02 p.m.,*
in response to message #6 by Norman Dziedzic

Norman; In the California LS exam, the writer of each question grades his or her question and gives partial credit if applicable. Furthermore; a failing student is shown the correct answers and what partial credit was given. One may also contest the credit given. A wrong answer due to a mathematical bust but figured with a good method can score well. However, once in the mid '80s it seemed that everyone scoring the test figured that his question should be graded hard but those other folks would make up for him and grade easy. Only about 3% of the people sitting for the exam passed that year.

Then, there is the theory that they pass one resident from each county, each year. This has unprepared but hopeful mathophobes getting an Alpine County post office box each year.

Re: Surveryor needs help with HP 35s program entry

*Message #8 Posted by **Stefan Vorkoetter** on 23 Aug 2010, 11:05 a.m.,*
in response to message #1 by Stefan Vorkoetter

Just in defense of the (young?) lady, here's the full text of the original message. Notice that the HP35s was suggested by the board, and that she's willing to pay someone to program the calculator.

> Quote:
>
> Good evening Stefan,
>
> I have purchased an Hp 35s calculator along with the programing notes for different problems I solve in Land Surveying. I have tried to start programing it on my own, but became frustrated and put it away. Programing is new to me. I have to take my license test in October and would love to be able to use this calculator. It is suggested by the licensing board. It is also one of 3 types of

calculators that we are aloud to use during the exam. So, my question is: would you be interested in programing it for me and I will be happy to pay the price. In fact I would be overjoyed!

Thanks in advance for addressing my problem,

Elisabeth Lucas Sutter Creek, CA

Re: Surveryor needs help with HP 35s program entry

*Message #9 Posted by **Frank Rottgardt** on 23 Aug 2010, 12:22 p.m.,*
in response to message #8 by Stefan Vorkoetter

Whats about these links?

Preprogrammed HP-33s / 35 s

or this one

Re: Surveryor needs help with HP 35s program entry

*Message #10 Posted by **Martin Pinckney** on 23 Aug 2010, 6:38 p.m.,*
in response to message #9 by Frank Rottgardt

If I had already purchased the aloud calculator, and printed programs for it, then I might cry out llowed if I now had to buy another!

Re: Surveryor needs help with HP 35s program entry

*Message #11 Posted by **Frank Rottgardt** on 24 Aug 2010, 4:53 p.m.,*
in response to message #10 by Martin Pinckney

But she already told us that she is willing to pay somebody else for doing the programming of her calculator. Do you think this could be done for less than 150 bugs she would have to pay for a pre-programmed one?

Re: Surveryor needs help with HP 35s program entry

*Message #12 Posted by **Katie Wasserman** on 24 Aug 2010, 5:00 p.m.,*
in response to message #11 by Frank Rottgardt

> Quote:
>
> less than 150 bugs

Freud would have a field day with this slip :)

Re: Surveryor needs help with HP 35s program entry

*Message #13 Posted by **Martin Pinckney** on 24 Aug 2010, 5:26 p.m.,*
in response to message #12 by Katie Wasserman

> Quote:

> Freud would have a field day with this slip :)

Perhaps not a slip.

Furthermore, perhaps Freud would be amused with your term "field day" since the OP was about a surveyor!

Re: Surveryor needs help with HP 35s program entry

*Message #14 Posted by **Katie Wasserman** on 24 Aug 2010, 5:41 p.m.,*
in response to message #13 by Martin Pinckney

Freud would probably have all of us here institutionalized for calculator induced OCD.

Re: Surveryor needs help with HP 35s program entry

*Message #15 Posted by **Thomas Klemm** on 24 Aug 2010, 6:01 p.m.,*
in response to message #14 by Katie Wasserman

From Wikipedia:

> Quote:
>
> aversion to odd numbers

Maybe aversion to odd decades as well?

Poor HP71B (Ver. 1BBBB).

Re: Surveryor needs help with HP 35s program entry

*Message #16 Posted by **Martin Pinckney** on 24 Aug 2010, 11:58 p.m.,*
in response to message #15 by Thomas Klemm

How did this get in here instead of in the 71B thread?

Re: Surveryor needs help with HP 35s program entry

*Message #17 Posted by **Namir** on 24 Aug 2010, 6:10 p.m.,*
in response to message #12 by Katie Wasserman

I will tell him when I visit his apartment in Vienna in early October (reason I am not attending HHC 2010).

:=)

Namir

PS: Packing a time machine so I can visit with the Freud ... I have to choose what year to visit AND which calculators to take with me to impress the heck out of him ... if that is ever possible. The man IS A COLLECTOR ... of little status of various deities ... all there in his Marsfield Garden house in London!!

Edited: 24 Aug 2010, 7:29 p.m.

Re: Surveryor needs help with HP 35s program entry

*Message #18 Posted by **Iqbal** on 24 Aug 2010, 10:57 p.m.,*
in response to message #17 by Namir

For freee surveying programs for the 35S, you can check out the website below:

http://homepage.mac.com/nwjh/HP-35S/index.html

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30b programming tips

*Message #1 Posted by **Don Shepherd** on 22 Aug 2010, 6:55 p.m.*

Since the 30b is widely available now and people are starting to buy it, here are some programming tips in an article on this site.

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Need help finding info from ace math folks

*Message #1 Posted by **Namir** on 22 Aug 2010, 2:54 p.m.*

Hi All,

I am searching for good pseudo-code or source code or very clear step-by-step explanation for the Lehmer-Schur algorithm used in calculating polynomial roots by applying a special version of root-bracketing method.

Any links or info (beyond Wikipedia and the general algorithm description in Acron's book "Numerical Methods that Work") is greatly appreciated.

Thanks!

Namir

Edited: 22 Aug 2010, 3:02 p.m.

Re: Need help finding info from ace math folks

*Message #2 Posted by **Massimo Gnerucci (Italy)** on 22 Aug 2010, 3:23 p.m.,*
in response to message #1 by Namir

Thank you Google! :-)

Follow the links...

Greetings,
Massimo

Re: Need help finding info from ace math folks

*Message #3 Posted by **Namir** on 22 Aug 2010, 3:34 p.m.,*
in response to message #2 by Massimo Gnerucci (Italy)

Thanks .. I have already seen those in my net search. I am hoping to find better code. I will dig into the material if nothing else comes along.

I have developed a complex-plain search scheme that works very well and can find all roots, including multiple ones. I am curious about the Lehmer-Schur algorithm as it basically seems to use a geometrical search *based on the description in Acton's book). The LS algorithm seems a bit elaborate.

Namir

Edited: 22 Aug 2010, 3:41 p.m.

Re: Need help finding info from ace math folks

*Message #4 Posted by **Eric Smith** on 23 Aug 2010, 1:56 a.m.,*
in response to message #3 by Namir

I have developed a complex-plain search scheme

Is that a plain search scheme for the complex plane? Will you have a fancy search scheme for the complex plane later?

[Sorry, couldn't resist. GDR!]

Re: Need help finding info from ace math folks

*Message #5 Posted by **Namir** on 23 Aug 2010, 2:46 a.m.,*
in response to message #4 by Eric Smith

Eric,

Actually I have developed a very simple scheme in Matlab that I will translate to other languages that do not support complex math. I also have a more efficient version for languages that DO support complex math. In latter version I perform polynomial deflation and detect complex conjugate roots (when the polynomial coefficients are all real). The more advanced version can detect multiple roots, while the simple one calculates distinct roots only. Both methods work with polynomial coefficients that are real and complex.

Namir

Edited: 23 Aug 2010, 11:26 a.m.

Re: Need help finding info from ace math folks

*Message #6 Posted by **Crawl** on 24 Aug 2010, 4:22 p.m.,*
in response to message #1 by Namir

It doesn't seem like it would be too hard to implement on a TI89, which can do complex numeric integrals (I think the HP50 for some reason doesn't like it if integrals are complex).

I imagine you start with

a < real part < b

m < imaginary part < n

You believe there is one (or more) zeros in that rectangle.

Then you divide the rectangle into quarters, a to (a+b)/2 to b, and m to (m+n)/2 to n

Then you just numerically integrate f'/f around the rectangle. So, for the upper left one, it could be the sum of integrals

from a + m i to b + m i

then from b + m i to b + n i

then from b + n i to a + n i

and finally from a + n i back to a + m i

Then divide this number by 2 * pi * i. It should be an integer greater than or equal to zero. Because we're working with polynomials, there should be no poles, and the integer should equal the number of roots in the rectangle.

If the number of roots is greater than zero, quarter this new rectangle and try again.

If the number of roots equals zero, forget about this rectangle and move on to the next.

I'll see if I can whip up an example program on the TI89 later.

I can give one example that's simple enough to do by hand.

x-1=0.

Suppose the rectangle is bounded by

0<real<2 -1<imaginary<+1

In this case, f'/f = 1/(x-1)

The integral of this is log(x-1) = log|x-1| + theta * i

Along the bottom side of the rectangle, the integral will be

(log(sqr(2))- pi i / 4) - (log(sqr(2) - 3 pi i / 4)

= pi i / 2

Likewise, each other side contributes pi i / 2. So the total integral is 2 pi i. Divide by 2 pi i to get 1, the number of roots in the rectangle.

In this case, the next step, the quartering of the rectangle, will fail, because the root is exactly at the center. So all four rectangles will have zero for their winding number. But in the unlikely event that that happens, you should know that's where the root exactly is.

Re: Need help finding info from ace math folks

*Message #7 Posted by **Crawl** on 24 Aug 2010, 5:08 p.m.,*
in response to message #6 by Crawl

Actually, I'm not even sure if the TI89 likes to do numeric complex integrals. I can finesse it into doing some, but I'm not sure if it's really doing them numerically, or if it's doing them exactly, then converting the exact result to a number.

I guess you could always use your own numeric integration techniques.

For the previous example, if you used either the trapezoidal rule or the midpoint rectangle rule, with one rectangle / trapezoid on each side, then each side would give an approximate integral of i. Then the whole loop integral would be 4i, and the winding number would be 2/pi ~ 0.6. That's not exactly 1, but I guess your program could be prepared for approximations like that.

Re: Need help finding info from ace math folks

*Message #8 Posted by **Namir** on 24 Aug 2010, 8:04 p.m.,*
in response to message #6 by Crawl

Crawl,

Can you rewrite your pseudo-code using indentations, loops, and decision making constructs?? It looks very interesting.

Of course a TI-89 example will be splendid since it will spell out things more clearer than pseudo-code.

Thanks!

Namir

Edited: 24 Aug 2010, 8:06 p.m.

Re: Need help finding info from ace math folks

*Message #9 Posted by **Crawl** on 25 Aug 2010, 8:24 p.m.,*
in response to message #8 by Namir

Okay. I think I'll try it for the HP50g after all, since it looks like with either calculator I'd have to numerically integrate.

My batteries are dead, though, and I'm charging rechargeables for it as I type (the first time I'll try that). So I won't be able to get around to it until tomorrow at the earliest.

Re: Need help finding info from ace math folks

*Message #10 Posted by **Crawl** on 27 Aug 2010, 12:05 p.m.,*
in response to message #9 by Crawl

Update: Looks like I might have to go back to the TI89. I can't figure out for the life of me how to do complex integration on the Hp50g (not counting "making my own routine" as an option -- I don't want to do that much work)

I figured out how to do it on the TI89, though.

Say you want to integrate e^(-x^2) from -1+i to 1+i. (You can be sure the calculator isn't doing this symbolically, since that would be impossible)

Just change it to

e^(-(x+i)^2), from -1 to 1. Then it works.

It seems as though the problem the TI89 has is with complex arguments in the LIMITS, so if you can avoid that (it doesn't matter if the integrand is complex), you can make it work.

I'm a little annoyed by this since I prefer programming on the HP50g, but whatever.

Re: Need help finding info from ace math folks

*Message #11 Posted by **Namir** on 27 Aug 2010, 2:57 p.m.,*
in response to message #10 by Crawl

Thanks Crawl!

I am going to try to code some of cubic routines on the HP50G next ewek. I think I have come across some bugs in Matlab since two functions that use basically the same equations (expressed

somewhat differently) give different results IN SOME CASES!!!

I would like to see if the 50G can do the job AND does not show similar bugs.

Namir

Re: Need help finding info from ace math folks

*Message #12 Posted by **Crawl** on 27 Aug 2010, 5:45 p.m.,*
in response to message #11 by Namir

If you're interested in cubic equations, I posted a solution to the quartic equation (and the cubic) for the HP50g here. It works for symbolic or numeric input. I believe it has no bugs, but if you could find one I'd be interested.

Some day I might enter the simplified (from Mathematica) solution to the quartic into the HP50g.

Okay, I have to go back to the HP for the other thing. I figured out how to do complex integrals on it. Not only do the limits need to be real, the integrand does, too. But if you put a complex integrand in the RE() or IM() functions, it'll work.

On the other hand, the roadblock I was running into on the TI was that f(x+i)->g(x) doesn't work. Let's say f(x) = 1/(x-1), like in the earlier example. Then obviously what you want is g(x)=1/(x+i-1). However, what you actually get is g(x)=f(x+i). In other works, it doesn't evaluate the function f before making the assignment to g. You obviously could do that manually in normal calculator mode, but since program mode doesn't work the same as calculator mode (that's the advantage to programming in RPL), I don't know a workaround.

Re: Need help finding info from ace math folks

*Message #13 Posted by **Crawl** on 27 Aug 2010, 11:26 p.m.,*
in response to message #12 by Crawl

And ... it's done! And I checked it with at least one example.

You can download the programs from here. WIND calculates the Winding Number of the curve on the given rectangle for the given function. LEHMER is the main program, and each time it's run it quarters the previous rectangle.

First, you need to define F(X) to be f'(x)/f(x), with f(x) the function you're trying to zero.

In our example, f(x)=x^4-2*x^2+10. Then F(X)=(4x^3-4x)/(x^4-2*x^2+10)

I so happen to know that the exact solution to this equation is x = sqrt(1+3i)~1.442+1.0397i. Let's say that we know the solution is between x = 1+i and 2 + 2i.

So, you put those numbers on the stack. I believe that I intended the lower left corner of the rectangle to be on the stack first, but I also think I tried to make the program work even if the numbers were reversed.

Then just press LEHMER to iterate.

This is what it looks like:

The program assumes that there is one, and only one, root in the given rectangle, and also no poles. The case for which multiple zeroes are in the rectangle can be left as an exercise for the reader.

One thing you'll note about this program (really the method's fault more than my programs): It is INCREDIBLY slow! And somewhat error prone. I would definitely not recommend using it on a real HP50g. I did, and the first iteration took about a half an hour. Even on an emulator, it seems as when you approach the root, the integrations become slower. For the GIF I posted, even on an emulator, the last iteration took quite a while. So be forewarned.

Also, the first time I tested it, I checked to make sure the calculated winding number was within 0.1 of 1. It ran for a while, and terminated with "ERROR". I single stepped through the program, and the calculated winding number was something like 1.15. So I changed the margin of error to 0.3. It still should have to be closer to 1 than 0.

I don't know if this method has much use. It seems to me to be much worse than bisection for real numbers -- and bisection is a pretty poor algorithm. At least bisection is robust -- if there's a root in the interval, you're almost guaranteed to find it. This method has all kinds of problems.

Edited: 27 Aug 2010, 11:32 p.m.

Re: Need help finding info from ace math folks

*Message #14 Posted by **megarat** on 24 Aug 2010, 7:19 p.m.,*
in response to message #1 by Namir

If it's of any help, in my copy of "Numerical Recipies 3rd Ed.", for a detailed description of Lehmer-Schur it refers me to "Newton Methods for Nonlinear Problems" (P. Deuflhard, pub. Springer 2004).

Re: Need help finding info from ace math folks

*Message #15 Posted by **Namir** on 24 Aug 2010, 7:37 p.m.,*
in response to message #14 by megarat

The Deuflhard books looks interesting (and so is it's price). I may bite the bullet and buy it.

I have been a fan of solving nonlinear equation since the mid 70s. I have always focused on non-polynomial functions and solved for real roots. Armed with Matlab, RPL, and other piece of software, solving for ALL roots of polynomial now seems possible. So I am cataloging iterative and non-iterative methods to solve for the roots of polynomials. The Matlab roots() function is a good tool to check my code, since it yields all of the roots of a polynomial. I think the roots() function is based on the Jenkins-Traub algorithm.

Namir

Re: Need help finding info from ace math folks

*Message #16 Posted by **Allen** on 24 Aug 2010, 10:23 p.m.,*
in response to message #15 by Namir

Who needs matlab? :) Wave [link:http://www.wolframalpha.com/input/?i=x^4+-3i*x^2-84] the magic Wolfram Alpha wand [/link] and find the roots of

```
x^4+-3i*x^2-84
```

Link http://www.wolframalpha.com/input/?i=x^4+-3i*x^2-84

Note: the forum link function seems not to be working.

Edited: 24 Aug 2010, 10:25 p.m.

Re: Need help finding info from ace math folks

*Message #17 Posted by **Namir** on 24 Aug 2010, 11:28 p.m.,*
in response to message #16 by Allen

I have used the WolframAlpha site to solve for the roots of polynomial. It works very well. My real intent is to program the various algorithms in several languages. I am starting with Matlab and will work my way into different languages, including RPL.

I was impressed to find that the HP-65 math pac had programs to solve cubic and quartic polynomials.

Namir

Edited: 25 Aug 2010, 10:32 a.m.

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HP-97S External Printer?

*Message #1 Posted by **Katie Wasserman** on 22 Aug 2010, 12:03 p.m.*

I've never seen one of these before but it looks to have been professionally made.

What's really curious about this is that the 97s has no obvious way of using this as printer since it has only 4 flag bits for output. All the other pins on that 50 pin connector are for input with a couple of handshaking lines. Is this auction just wrong about the printer plugging in to the 97s i/o pod?

Re: HP-97S External Printer?

*Message #2 Posted by **Bill (Smithville, NJ)** on 22 Aug 2010, 3:04 p.m.,*
in response to message #1 by Katie Wasserman

Katie,

If you look down the listing, he shows it hooked to a BCD Interface box and then to the HP-97. Check his other listings. He has a HP-97S with the BCD interface listed as a separate auction. From the photos, on the other listing, it looks like the BCD interface box is hard wired to the 97S. A shame he didn't list the entire package as a single listing. You need to win both auctions to have a complete working printer/interface/97S.

Bill

Re: HP-97S External Printer?

*Message #3 Posted by **Katie Wasserman** on 22 Aug 2010, 6:36 p.m.,*
in response to message #2 by Bill (Smithville, NJ)

Bill,

I think that the "BCD interface box" mentioned is the 97s i/o pod. The 97s came with the i/o pod hard wired to the 97, that's what the "s" indicated. The 4 flag lines for output and all the input pins are on the 50-pin connector of the i/o box. Unless there is some addition equipment not shown it appears as though this external printer plugs into the i/o pod of the 97s and that's what seems so strange to me.

I may have to bid on this for a chance to see what it's all about.

-Katie

Re: HP-97S External Printer?

*Message #4 Posted by **BobVA** on 22 Aug 2010, 10:30 p.m.,*
in response to message #3 by Katie Wasserman

That's fun to think about. A couple of possibilities:

- It really isn't for output from the 97S, but rather is supposed to echo data sent *to* the 97S; i.e. it's

listening on the 97S input bus and printing the data. Why? Perhaps for record or debug purposes? Or, if the measured parameter was intended to be included with whatever thing was being tested/measured as part of its documentation, the ink-printed paper would have been a lot more durable than the thermal print from the HP.

- You could, of course, use the four lines to shove out characters in two or three bit nibbles (using one line as a data strobe), or asynchronously using all four lines. That could then be buffered by the printer until a special "print" byte was received (or, if using two bit nibbles for data, a "print" line was strobed). But doing that AND using those lines for other signaling (for normal input via the pod) would be a mess. Seems pretty elaborate, but I guess if you needed ink hardcopy...

Separate topic: Thanks again for posting on the AAA battery pack trick for classic HP's. (Rather than glue on contacts I used some adhesive copper foil which seems to be working OK and made for a fast build.)

Regards, Bob

Re: HP-97S External Printer?

*Message #5 Posted by **Bill (Smithville, NJ)** on 23 Aug 2010, 6:37 a.m.,*
in response to message #3 by Katie Wasserman

Katie,

Thanks for the clarification on the 97s and it's i/o pod. I wasn't that familar with the 97s version. If you win the auction, please let us know of your conclusions on how it could work.

Bill

Re: HP-97S External Printer?

*Message #6 Posted by **Katie Wasserman** on 23 Aug 2010, 10:16 a.m.,*
in response to message #5 by Bill (Smithville, NJ)

I made a minimum bid and didn't win the auction, I hope that whoever was the winner reads this forum and will tell us about it. But, I agree, we might have more fun by continuing with Bob's speculations.....

I think that there must be some other input to this printer box. If so, the printer might indeed be there just to echo the input while the HP-97 crunches it. Sending data 2, 3 or 4 bits at a time via the flag lines would be painfully slow.

> Quote:
>
> Separate topic: Thanks again for posting on the AAA battery pack trick for classic HP's. (Rather than glue on contacts I used some adhesive copper foil which seems to be working OK and made for a fast build.)

Actually what I did was to melt the added beryllium-copper contacts into the plastic of the battery holder. But your solution seems just as good as long as the foil is pretty thick and can take some abuse.

Edited: 23 Aug 2010, 10:17 a.m.

Re: HP-97S External Printer?

*Message #7 Posted by **Michael Meyer** on 23 Aug 2010, 7:17 p.m.,*
in response to message #6 by Katie Wasserman

I've used adhesive copper foil strips that are sold in rolls to wire doll houses. Well, I'm actually on my first and only roll. They're thick enough to be soldered, etc. There's even a different shade on the positive and negative foil, but, of course, since they run next to each other in parallel, I have to cut them apart. Perfect for HP classics, thin connections in Spices, etc.

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HP 9845A vs 9845B vs 9845B/A

*Message #1 Posted by **Mike** on 22 Aug 2010, 10:51 a.m.*

I have a very nice and nearly perfect 9845A. The printer is the only thing less than ideal. A few of the dots are not working (in just one area).

I bought a junker 9845B, in hopes that between the two, I could get my printer back to 100%.

When the 9845B arrive, it was marked 9845B/A. The A was hand labeled. Also, the ROM drawers have Brown and Red colors, which is what was used on the "A". And they have the OS in them. I believe the B has them internal and not in ROM drawers.

Is this likey an in between model. Or is it more likely that they keyboard might just have been swapped and remarked to show that it's actually an "A".

There is no monitor on the new unit so I can't really test it. I hesitate to put my great 9845A monitor on it, for fear that something might damage my nice monitor. I tried typing PRINTER IS 0 and then typing something on the keyboard, to see if the printer works. But I get nothing. It might be because the monitor is missing. Anyone know if the monitor being removed will keep the 9845 from starting and running (minus the display however)?

Anyone familar with these, to know what might be going on here, **with the B/A lableing**? I don't have time to disassemble it just yet.

Edited: 22 Aug 2010, 10:54 a.m.

Re: HP 9845A vs 9845B vs 9845B/A

*Message #2 Posted by **Tony Duell** on 23 Aug 2010, 4:44 a.m.,*
in response to message #1 by Mike

To answer the last part first, I believe you do need a monitor on a 9845 for it to work. There is some synchronisation signal sent back from the monitor, and the processors get somewhat confused without it. HP actually made a 'turnon fixture' for the 9845 (I am not talking about the one for the colour monitor) that would allow you to power the machine up without a monitor for testing. Good luck in finding that!

I don't know the 9845A very well (not having got one), but AFAIK the easiest way to tell the -A from the -B or -C (the latter 2 are very similar) is to remove the cover (it takes a few minutes max) and look at the processors. If you have a PCB with 2 HP hybrid processors (in the big metal heatsinks nicknamed 'Honda Heads' :-)) on one PCB it's a -A . If you have the 2 processors on separate PCBs, one at each side of the machine, it's a -B or -C. And if you have just one hybrid processor module on a PCB at the left and a set of 3 PCBs connected by a little backplane on top at the right, then you are lucky enough to have a -B or -C opt 200 (high speed language processor).

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HP71B Demo Program

*Message #1 Posted by **Jerry Raia** on 21 Aug 2010, 9:46 p.m.*

When I first got into all of this I worked at an HP dealer. I found on a tape a demo program that HP made that runs on the 71. It starts with the HP logo and a little man running across the screen. then goes on to describe the features of the "new" HP71. It's pretty cool to watch it. There was also a little memory game that you can run too.

I miss the old HP

HP71B - My favorite HP

*Message #2 Posted by **Mike** on 22 Aug 2010, 10:38 a.m.,*
in response to message #1 by Jerry Raia

I wonder if I have a copy of the program. It's probably in the LIF archive somewhere.

I have owned over 200 of these devices over the years. I'm down to 3 right now, I think. Well, 3 that work. I probably have a dozen or so in various states of decomposition. The most I ever bought at one time was 24. .

I love the HP-71B. In my opinion, it is the best handheld that HP ever made. I still use one at work. I have owned almost every handheld that HP ever produced. The HP 71B and the HP 41 were two calculators that I drove from Seattle to Corvallis, on the day of release, to get one. I still remember having to beg one of the sales staff to take one home and I'd pick it up at his home, since I couldn't get there before they closed. He obliged. :-) Direct from HP. That was service. Those days are gone. .

Edited: 22 Aug 2010, 10:46 a.m.

Re: HP71B - My favorite HP

*Message #3 Posted by **Martin Pinckney** on 22 Aug 2010, 4:47 p.m.,*
in response to message #2 by Mike

> Quote:
>
> I have owned over 200 of these devices over the years. I'm down to 3 right now, I think. Well, 3 that work. I probably have a dozen or so in various states of decomposition. The most I ever bought at one time was 24. .
>
> I love the HP-71B.

Can anyone say *Understatement?*

Re: HP71B Demo Program

*Message #4 Posted by **Diego Diaz** on 22 Aug 2010, 3:10 p.m.,*

in response to message #1 by Jerry Raia

Hi,

I have an EPROM copy of this DEMO... ;-) running on a "card reader" HHP EPROM box.

Mail me if you're interested in the file (EPROM binary image), I'll be happy to share.

Best from the Canary Islands.

Re: HP71B Demo Program

*Message #5 Posted by **Jerry Raia** on 22 Aug 2010, 8:15 p.m.,*
in response to message #4 by Diego Diaz

If anyone wants to send me a tape I can do likewise. I wish I still had the 9114 floppy drive.

Edited: 22 Aug 2010, 8:16 p.m.

Re: HP71B Demo Program

*Message #6 Posted by **Mike** on 23 Aug 2010, 7:46 p.m.,*
in response to message #5 by Jerry Raia

> Quote:
>
> If anyone wants to send me a tape I can do likewise. I wish I still had the 9114 floppy drive.

I'm down to 24 of those.

Re: HP71B Demo Program

*Message #7 Posted by **Jerry Raia** on 23 Aug 2010, 8:31 p.m.,*
in response to message #6 by Mike

24 tapes or 9114 drives? :)

Re: HP71B Demo Program

*Message #8 Posted by **Mike** on 23 Aug 2010, 10:04 p.m.,*
in response to message #7 by Jerry Raia

Drives.

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HP 50g SD card reader problem

*Message #1 Posted by **JJB299** on 21 Aug 2010, 8:29 p.m.*

The card reader on my 50g always thinks the card is "write protected" and gives an error when trying to format the SD card or paste into the SD card directory.

So.. I tried to fix it. Unsuccessfully.

But I have some really cool pictures of the inside of the 50g.

Does anyone know what pins or wires need to be connected/disconnected so a card reader disables the write protection? I can send images if needed.

I've tried a few different configurations without success (and without frying the calculator, so I guess that is a small victory).

Thanks. -Justin

Re: HP 50g SD card reader problem

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 22 Aug 2010, 12:38 a.m.,*
in response to message #1 by JJB299

Hi, JJB299;

please, forgive me if the questions seem silly, I do not mean to:

1 - have you tried with different Secure-Data cards?
2 - what is the size of the SD card you are using?
3 - Brand?
4 - Have you used the SD card elsewhere?

I just want to figure out possible reasons hence applicable solutions. I used many cards in my HP49G+ and HP50G (three units), all of them from 256MB to 2GB (this one checks only 1GB, discussed here some months ago). Apart of not being able to 'see' more than 1GB (I successfully tried two different SD cards, different brands), I had no problems formatting/writing with the HP50G.

One 'last minute' possibility: have you tried to update, if applicable, the O.S.?

Success!

Luiz (Brazil)

Edited: 22 Aug 2010, 12:42 a.m.

Re: HP 50g SD card reader problem

*Message #3 Posted by **JJB299** on 22 Aug 2010, 1:06 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Luiz,

I found the problem! To answer your questions, yes I've tried all of those points. The card is a lowly 256MB, but the card wasn't the cause.

The card reader assembly inside of the calculator had a bad contact. I was focusing on the upper portion of the card reader near the SD card contact. But the problem was a contact on the lower left corner of the card reader (when facing the back of the calculator with the case open). I'll try to recreate it here (view with Courier font):

|| | | | | | | | | (top pins into board) _____ | | | SD card reader |
~~~~~~~~~~~~~~~~~~~~~~ (break) | | |*_____|

* = bad contact near bottom of calculator.

I couldn't manage to solder it on, since the original contact was adhesive and the solder wouldn't stick. I just tried to hold it against the board contact with padding. After that, the card formatted and wrote just fine.

Hope this helps someone else with the same problem. P.S. Not for the faint of heart (look for how to disassemble a 50g on Y**Tube). It looks painful, but the screen went back on fine.

-Justin

Re: HP 50g SD card reader problem

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 22 Aug 2010, 12:45 a.m.,*
in response to message #1 by JJB299

Hi;

about the 'write lock': you could try with an empty SD card adapter and safely measure which terminals are shorted while opening/closing the 'write lock' switch.

Success!

Luiz (Brazil)

Edited: 22 Aug 2010, 12:46 a.m.

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Poking a string directly into the 71B as a lex file problems

*Message #1 Posted by **Jerry Raia** on 20 Aug 2010, 1:10 p.m.*

Ok here is what I am trying to do. I want to poke a lex file into the 71B as just a plain string not using the pokelex basic program. I assembled the lexfile on my pc. All this lex file does is display the number one (this is the sample in the 71B forth/assembler rom manual). I have the file length correct when I make the dummy file. When I poke the string into the 71B directly on top of the Dummy file as the pokelex program does it creates it fine. The keyword even works and displays the "1" but the file chain must be getting trashed because after that I can no longer create a new file. When I do a CAT ALL the files are all there until I get to the end of the list, then I get strange characters and I have to reset the 71B (INIT:3).

Here is how I'm doing this on the 71b:

```
CREATE TEXT DUMMY,34 ! LENGTH REPORTED BY THE DUMPLEX PROG AS WELL
DIM F$[100] ! ACTUAL LENGTH OF STRING
A$=ADDR$('DUMMY')
ENTER 1; F$ ! GETS THE STRING FROM THE PC VIA THE RS232 INTERFACE
POKE A$,F$
```

I know the string I'm trying to poke is correct and matches what the dumplex program shows. What am I missing here? any ideas?

Edited: 26 Aug 2010, 9:27 p.m. after one or more responses were posted

Re: Poking a string directly into the 71B as a lex file problems

*Message #2 Posted by **J-F Garnier** on 24 Aug 2010, 12:38 p.m.,*
in response to message #1 by Jerry Raia

You are corrupting the file chain with this method. A cleaner way is to encapsulate your LEX file with a LIF header, and do a "COPY :1", the HP-71B will take care of the file chain.

I made such a tool: aLIFhdr (add LIF header), available in my JPC ROM page here

J-F

Re: Poking a string directly into the 71B as a lex file problems

*Message #3 Posted by **Jerry Raia** on 25 Aug 2010, 4:50 p.m.,*
in response to message #2 by J-F Garnier

Yes thanks I figured thats what I was messing up. I did find a way and that was to add NIBHEX 00000 to the end of the source file. The dummy text file has a FFFFF at the end which was not being accounted for. I'm sure you already knew that. I will your try your solution as it is cleaner. Thank you for the link! :)

Edited: 25 Aug 2010, 11:29 p.m.

Re: Poking a string directly into the 71B as a lex file problems

*Message #4 Posted by **Jerry Raia** on 25 Aug 2010, 5:54 p.m.,*
in response to message #2 by J-F Garnier

BTW any change of seeing emu71 on 64 bit windows, or perhaps making the source code available?

I cant copy anything except a string of ascii characters to my HP71. So I had to use this method. I'll use the sample lex file from the Forth/Assembler ROM manual:

```
0003 00000 B4549575          NIBASC 'KEYWORD '
     00008 F4254402
0004 00010 802E              NIBHEX 802E      file type lex
0005 00014 00                CON(2) 0         flags and copy code
0006 00016 82                CON(2) #28       * creation time
0007 00018 90                CON(2) #09       *
0008 0001A 20                CON(2) #02       * creation date
0009 0001C 80                CON(2) #08       *
0010 0001E 01                CON(2) #10       *
0011 00020 94000             REL(5) FiLeNd    offset to next file
0012 00025 D5                CON(2) #5D       flex file ID
0013 00027 10                CON(2) 001       lowest token
0014 00029 10                CON(2) 001       highest token
0015 0002B 00000             CON(5) 0         next lex table link
0016 00030 F                 NIBHEX F         no speed table
0017 00031 7100              REL(4) 1+TxTbSt  text table offset
0018 00035 0000              CON(4) 0         no msg handler
0019 00039 00000             CON(5) 0         no poll handler
0020 0003E                   * * * M A I N   T A B L E * * *
0021 0003E 000               CON(3) (TxEn01)-(TxTbSt)
0022 00041 41000             REL(5) FNCT      Keyword code starts at this label
0023 00046 F                 CON(1) #F        The keyword is a BASIC function
0024 00047                   * * * T E X T   T A B L E * * *
0025 00047           TxTbSt
0026 00047           TxEn01
0027 00047 5                 CON(1) 05
0028 00048 F4E454            NIBASC 'ONE'     This keyword is called "ONE"
0029 0004E 10                CON(2) 1
0030 00050 1FF               NIBHEX 1FF       End of BASIC keyword tables
0031 00053 00                NIBHEX 00        Minimum and Maximum number of parame
0032 00055 AF2       FNCT    C=0    W         Clear register C
0033 00058 2E                P=     14        Point to most signifcant digit in C
0034 0005A 301               LCHEX  1         Load a hex 1
0035 0005D 8D612F0           GOVLNG =FNRTN1   Send result to the system
0036 00064 00000             NIBHEX 00000     Padding for copy to 71B
```

Notice the padding at the end. This makes the file big enough to cover the end of the dummy text file which is FFFFF and not included in the size of the text file in bytes. Now I can copy the string to the 71 and run this basic program. It's sloppy but it works. I'm sure there are better ways to do this.

```
10 DESTROY ALL
20 INPUT "LENGTH? ";L  ! Length of Lex String
30 DIM F$[L]
40 SFLAG -23
50 ENTER :1 ;F$        ! Get string from RS232 Interface
60 T$=F$[33,37]        ! Get length of lexfile after header
70 T=HTD(REV$(T$))
80 N=IP((T-4)/2)       ! Compute size of Dummy file
90 CREATE TEXT DUMMY,N
100 A$=ADDR$('DUMMY')
110 POKE A$,F$         ! Poke it over the Dummy file
120 DISP "DONE!"
```

Edited: 27 Aug 2010, 7:50 p.m.

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Some 30b Routines

*Message #1 Posted by **Jeff O.** on 20 Aug 2010, 1:02 p.m.*

In the absence of a complete repurposing of the 30b, I decided to come up with a set of key reassignments and/or programs to make the 30b more easily useable (to me, at least) as a scientific calculator. I decided to implement the following functions in the 10 available program slots:

SIN^{-1}

COS^{-1}

TAN^{-1}

Complex add
Complex subtract
Complex multiply
Complex divide
Complex Invert
Polar to Rectangular Conversion
Rectangular to Polar Conversion

Complex numbers and Rectangular to Polar functions are based on the (old) paradigm of representing a complex number in rectangular form with the real in stack-x and the imaginary in stack-y. Stack-z and stack-t hold the second complex value for add, subtract, multiply and divide, with the 4-level real stack considered a 2-level complex stack. Complex invert preserves the stack-z and stack-t values. The polar to rectangular routine also preserves the stack so you can enter a complex rectangular value, then enter a complex polar value, convert it to rectangular form and then add, subtract, multiply or divide with the first value. R->P and P->R work in both radians and degrees mode. All programs display a message when complete to announce the function just executed. I also put the same message as step 1 to act as a program label for several of the routines, but did not have enough room to do so for all. I did not really attempt to optimize the programs - once I got them working with all routines fitting in memory, I stopped. I'm sure there is room for improvement. I'd like to have enough room to add the program labels to all programs, but I'll leave that as an exercise for the reader.

I wish the 30b had 10 more program slots and maybe double the memory so I could move a few more functions to the keyboard and create some additional routines.

```
Prgm 0
Program Description:    Arc Sine
bytes and checksum: 18.057
Step        function        comments
0       SH7             assign to shift-hold 7
1       message SIN-1        Program label
2       Math            execute SIN-1 function
3       Input           execute SIN-1 function
4       Down            execute SIN-1 function
5       Input           execute SIN-1 function
6       message SIN-1        displays SIN-1 upon completion
7       Stop


Prgm 1
Program Description:    Arc Cosine
bytes and checksum: 13.253
Step        function        comments
```

0	SH8	assign to shift-hold 8
1	Math	execute COS^{-1} function
2	Input	execute COS^{-1} function
3	Up	execute COS^{-1} function
4	Up	execute COS^{-1} function
5	Input	execute COS^{-1} function
6	message COS^{-1}	displays COS^{-1} upon completion
7	Stop	

Prgm 2
Program Description: Arc Tangent
bytes and checksum: 12.009

Step	function	comments
0	SH9	assign to shift-hold 8
1	Math	execute TAN^{-1} function
2	Input	execute TAN^{-1} function
3	Up	execute TAN^{-1} function
4	Input	execute TAN^{-1} function
5	message TAN^{-1}	displays TAN^{-1} upon completion
6	Stop	

Prgm 3
Program Description: Add two rectangular form complex numbers
bytes and checksum: 24.218

Step	function	comments
0	SH+	assign to shift-hold +
1	message CPLX+	Program label
2	) Swap	
3	(Rv	Roll down
4	+	
5	(Rv	Roll down
6	+	
7	(Rv	Roll down
8	(Rv	Roll down
9	(Rv	Roll down
10	message CPLX+	displays CPLX+ upon completion
11	Stop	

Prgm 4
Program Description: Subtract two rectangular form complex numbers
bytes and checksum: 25.053

Step	function	comments
0	SH-	assign to shift-hold -
1	message CPLX-	Program label
2	) Swap	
3	(Rv	Roll down
4	-	
5	(Rv	Roll down
6	) Swap	
7	-	
8	(Rv	Roll down
9	(Rv	Roll down
10	(Rv	Roll down
11	message CPLX-	displays CPLX- upon completion
12	Stop	

Prgm 5
Program Description: Multiply two rectangular form complex numbers
bytes and checksum: 49.254

Step	function	comments
0	SH*	assign to shift-hold x
1	message CPLX*	Program label
2	Lbl 04	Program label for call from divide routine
3	STO 1	
4	STO 3	
5	(Rv	Roll down
6	STO 2	
7	STO 4	
8	(Rv	Roll down
9	STO * 1	
10	STO * 4	
11	(Rv	Roll down
12	STO * 2	

```
13      STO * 3
14      RCL 4
15      +
16      RCL 1
17      RCL - 2
18      message CPLX*   displays CPLX* upon completion
19      RTN             Return for Call


Prgm 6
Program Description:    Divide two rectangular form complex numbers
bytes and checksum: 20.047
Step        function        comments
0       SH/             assign to shift-hold /
1       message CPLX/   Program label
2       Call03          execute complex invert routine
3       Call04          execute complex multiply routine
4       message CPLX/   displays CPLX/ upon completion
5       Stop


Prgm 7
Program Description:    Invert a rectangular form complex number
bytes and checksum: 47.060
Step        function        comments
0       NPV             assign to the NPV key
1       message CPLX x^-1 Program label
2       Lbl 03          Program label for call from divide routine
3       STO 1
4       ( Rv            Roll down
5       ( Rv            Roll down
6       ( Rv            Roll down
7       STO 2           Store value that was at top of stack
8       ( Rv            Roll down
9       STO * 1
10      ) Swap
11      +/-
12      Input
13      x^2
14      RCL + 1
15      /
16      ) Swap
17      Ans
18      /
19      RCL 2
20      ( Rv            Roll down
21      message CPLX x^-1 displays CPLX x^-1 upon completion
22      RTN             Return for Call


Prgm 8
Program Description:    Rectangular to Polar Conversion (by Thomas Klemm)
Bytes and checksum: 55.134
Step        function        comments
0       IRR             assign to the IRR key
1       message R->P    Program label
2       STO 1           store real component
3       x^2             square real component
4       ) Swap          swap squared real component and imaginary component
5       STO 2           store imaginary component
6       x^2             square imaginary component
7       +               add squared imaginary component
8       square root     take square root to calculate magnitude
9       STO 3           store magnitude
10      Input           duplicate magnitude to stack y since GF consumes stack x value
11      GF 02           branch to end if magnitude = 0
12      RCL + 1         add real component: r + x
13      Input           duplicate r + x to stack y since GF consumes stack x value
14      GF 01           branch if magnitude + real component = 0
15      RCL 2           imaginary component: y
16      ) Swap          swap y and r + x
17      /               divide to calculate tangent of half-angle: y / (r + x)
18      Math            execute TAN-1 function
19      Input           execute TAN-1 function
20      Up              execute TAN-1 function
21      Input           execute TAN-1 function
22      Gto 02          branch to end
23      Lbl 01          Routine to handle magnitude + real component = 0 part
24      Math            execute COS-1 function to obtain 180 (or Pi)
25      Input           execute COS-1 function to obtain 180 (or Pi)
```

```
26      Up              execute COS-1 function to obtain 180 (or Pi)
27      Up              execute COS-1 function to obtain 180 (or Pi)
28      Input           execute COS-1 function to obtain 180 (or Pi)
29      Lbl 02          Label for branch in steps 11 and 22
30      2               enter two
31      *               multiply half-angle by 2 to get angle
32      RCL 3           recall magnitude
33      message R->P    displays R->P upon completion
34      Stop


Prgm 9
Program Description:    Polar to Rectangular Conversion
bytes and checksum: 25.058
Step        function        comments
0       CashFl          assign to the CashFl key
1       message P->R    Program label
2       STO 1           store magnitude
3       ( Rv            Roll down to preserve stack
4       Cos             take cosine of angle
5       Ans             recall the angle
6       Sin             take sine of angle
7       RCL * 1         calculate imaginary component
8       ) Swap
9       RCL * 1         calculate real component
10      message P->R    displays P->R upon completion
11      Stop
```

edited to use much better R->P routine by Thomas Klemm and add more program labels.

Edited: 24 Aug 2010, 8:23 p.m. after one or more responses were posted

Re: Some 30b Routines

*Message #2 Posted by **gene wright** on 20 Aug 2010, 1:44 p.m.,*
in response to message #1 by Jeff O.

Good job!

The assignment programs for the inverse trig functions are in one of the learning modules for the 30b.

If you haven't seen those, they are available at the link that Tim Wessman set up.

Not sure WHY they aren't available on HP's website somewhere.

Re: Some 30b Routines

*Message #3 Posted by **Thomas Klemm** on 20 Aug 2010, 4:09 p.m.,*
in response to message #1 by Jeff O.

> Quote:
>
> ```
> Prgm 8
> Program Description:    Rectangular to Polar Conversion
> ```

You might consider the following formula:

$$\tan(t/2) = \frac{\sin(t)}{1 + \cos(t)} = \frac{r \sin(t)}{r + r \cos(t)} = \frac{y}{r + x}$$

1. r = 0: t = 0
2. r + x = 0: t = 180 (or Pi)

3. `else:  t = 2 atan(y/(r+x))`

It makes the program somewhat shorter:

```
Prgm 8
Program Description:    Rectangular to Polar Conversion


Step    function        comments
0       IRR             assign to the IRR key
1       message R->P    Program label
2       STO 1           store real component
3       x^2             square real component
4       ) Swap          swap squared real component and imaginary component
5       STO 2           store imaginary component
6       x^2             square imaginary component
7       +               add squared imaginary component
8       square root     take square root to calculate magnitude
9       STO 3           store magnitude
10      GF 02           branch to end if magnitude = 0
11      RCL + 1         add real component: r + x
12      GF 01           branch if magnitude + real component = 0
13      RCL 2           imaginary component: y
14      ) Swap          swap y and r + x
15      /               divide to calculate tangent of half-angle: y / (r + x)
16      Math            execute TAN-1 function
17      Input           execute TAN-1 function
18      Up              execute TAN-1 function
19      Input           execute TAN-1 function
20      2               enter two
21      *               multiply half-angle by 2 to get angle
22      Gto 02          branch to end
23      Lbl 01          Routine to handle magnitude + real component = 0 part
24      1               enter 1
25      -               subtract 1 from 0 leading to -1
26      Math            execute COS-1 function to obtain 180 (or Pi)
27      Input           execute COS-1 function to obtain 180 (or Pi)
28      Up              execute COS-1 function to obtain 180 (or Pi)
29      Up              execute COS-1 function to obtain 180 (or Pi)
30      Input           execute COS-1 function to obtain 180 (or Pi)
31      Lbl 02          Label for branch in steps 10 and 22
32      RCL 3           recall magnitude
33      message R->P    displays R->P upon completion
34      Stop
```

As I don't have a 30b I can't test the program nor can I show the amount of bytes and the checksum. However I like your style of commenting each line very much and tried to preserve it.

Kind regards
Thomas

Edited: 21 Aug 2010, 11:34 a.m.

Re: Some 30b Routines

*Message #4 Posted by **Jeff O.** on 23 Aug 2010, 12:36 p.m.,*
in response to message #3 by Thomas Klemm

Thomas,
Thanks, that is a much more elegant method and a major improvement in program length. When I entered your program as listed above, it did not function properly. Since you do not have a 30b, did you realize that the "GF" statements in step 10 and step 12 consume the value in stack-x? I added a couple of steps (Input function in steps 10 and 13) which I believe will fix this issue and ran some tests. All seems well now, the program seems to handle all cases. I like the way it normalizes angles over 180 to be negative, and handles an input of 0, 0 (which my version did not handle). But I may have missed something, so please feel free to review to make sure it will still work as you intended. The revised listing is below.

> Quote:
>
> ... I like your style of commenting each line very much and tried to preserve it.

Thanks, I'm glad you like it, although I don't think I can take credit for inventing it. :-)

Best regards,
Jeff

```
Prgm 8
Program Description:    Rectangular to Polar Conversion
Bytes and checksum: 57.255
Step        function        comments
0       IRR             assign to the IRR key
1       message R->P    Program label
2       STO 1           store real component
3       x^2             square real component
4       ) Swap          swap squared real component and imaginary component
5       STO 2           store imaginary component
6       x^2             square imaginary component
7       +               add squared imaginary component
8       square root     take square root to calculate magnitude
9       STO 3           store magnitude
10      Input           duplicate magnitude to stack y since GF consumes stack x value
11      GF 02           branch to end if magnitude = 0
12      RCL + 1         add real component: r + x
13      Input           duplicate r + x to stack y since GF consumes stack x value
14      GF 01           branch if magnitude + real component = 0
15      RCL 2           imaginary component: y
16      ) Swap          swap y and r + x
17      /               divide to calculate tangent of half-angle: y / (r + x)
18      Math            execute TAN-1 function
19      Input           execute TAN-1 function
20      Up              execute TAN-1 function
21      Input           execute TAN-1 function
22      2               enter two
23      *               multiply half-angle by 2 to get angle
24      Gto 02          branch to end
25      Lbl 01          Routine to handle magnitude + real component = 0 part
26      1               enter 1
27      -               subtract 1 from 0 leading to -1
28      Math            execute COS-1 function to obtain 180 (or Pi)
29      Input           execute COS-1 function to obtain 180 (or Pi)
30      Up              execute COS-1 function to obtain 180 (or Pi)
31      Up              execute COS-1 function to obtain 180 (or Pi)
32      Input           execute COS-1 function to obtain 180 (or Pi)
33      Lbl 02          Label for branch in steps 11 and 24
34      RCL 3           recall magnitude
35      message R->P    displays R->P upon completion
36      Stop
```

....

Re: Some 30b Routines

*Message #5 Posted by **Thomas Klemm** on 23 Aug 2010, 6:21 p.m.,*
in response to message #4 by Jeff O.

> Quote:
>
> Since you do not have a 30b, did you realize that the "GF" statements in step 10 and step 12 consume the value in stack-x?

Oops, I forgot that in this aspect the 30b behaves more like RPL. So it's necessary to DUP the top of the stack using "Input" before executing "GF". This makes two additional lines. Mmh, let me see how we could get rid of them:

Remove the following two lines:

```
26      1               enter 1
27      -               subtract 1 from 0 leading to -1
```

Shift lines 22-23 down to LBL 02:

```
33      Lbl 02          Label for branch in steps 11 and 24
22      2               enter two
23      *               multiply by 2
34      RCL 3           recall magnitude
35      message R->P    displays R->P upon completion
36      Stop
```

Of corse the line numbering has to be adjusted.

However now the program might lack some clarity. Why do I have to multiply 0 by 2, you may ask. Well, it just doesn't hurt.

Best regards
Thomas

Edited: 23 Aug 2010, 7:03 p.m.

Re: Some 30b Routines

*Message #6 Posted by **Jeff O.** on 24 Aug 2010, 7:41 a.m.,*
in response to message #5 by Thomas Klemm

Very nice. Feel free to keep making it shorter!

```
Prgm 8
Program Description:    Rectangular to Polar Conversion
Bytes and checksum: 55.134
Step        function        comments
0       IRR             assign to the IRR key
1       message R->P    Program label
2       STO 1           store real component
3       x^2             square real component
4       ) Swap          swap squared real component and imaginary component
5       STO 2           store imaginary component
6       x^2             square imaginary component
7       +               add squared imaginary component
8       square root     take square root to calculate magnitude
9       STO 3           store magnitude
10      Input           duplicate magnitude to stack y since GF consumes stack x
value
11      GF 02           branch to end if magnitude = 0
12      RCL + 1         add real component: r + x
13      Input           duplicate r + x to stack y since GF consumes stack x
value
14      GF 01           branch if magnitude + real component = 0
15      RCL 2           imaginary component: y
16      ) Swap          swap y and r + x
17      /               divide to calculate tangent of half-angle: y / (r + x)
18      Math            execute TAN-1 function
19      Input           execute TAN-1 function
20      Up              execute TAN-1 function
21      Input           execute TAN-1 function
22      Gto 02          branch to end
23      Lbl 01          Routine to handle magnitude + real component = 0 part
24      Math            execute COS-1 function to obtain 180 (or Pi)
25      Input           execute COS-1 function to obtain 180 (or Pi)
26      Up              execute COS-1 function to obtain 180 (or Pi)
27      Up              execute COS-1 function to obtain 180 (or Pi)
28      Input           execute COS-1 function to obtain 180 (or Pi)
29      Lbl 02          Label for branch in steps 11 and 22
30      2               enter two
31      *               multiply half-angle by 2 to get angle
32      RCL 3           recall magnitude
33      message R->P    displays R->P upon completion
```

```
34      Stop
```

...

Edited: 24 Aug 2010, 8:37 a.m.

Re: Some 30b Routines

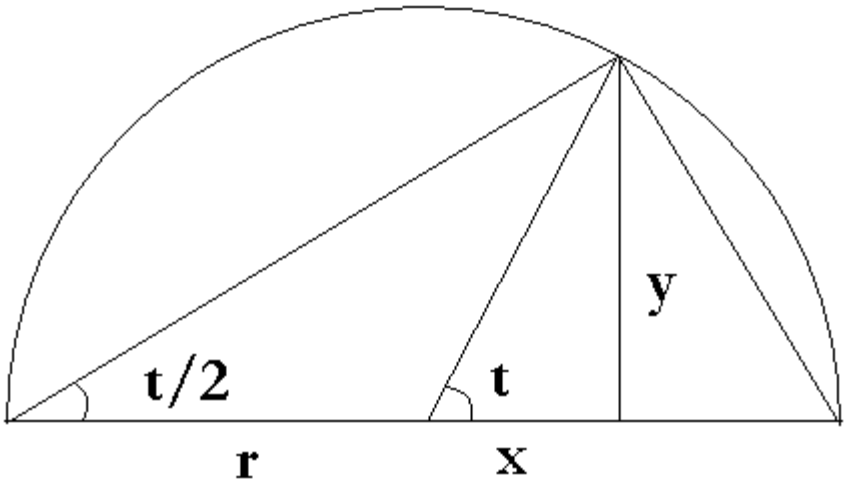
*Message #7 Posted by **Thomas Klemm** on 24 Aug 2010, 1:01 p.m.,*
in response to message #6 by Jeff O.

> Quote:
>
> Feel free to keep making it shorter!

I'm afraid I've come to an end. All I can offer is a sketch that hopefully makes the formula plausible:

$$\tan(t) = \frac{y}{x}$$

$$\tan(t/2) = \frac{y}{r + x}$$



Cheers
Thomas

Re: Some 30b Routines

*Message #8 Posted by **Jeff O.** on 24 Aug 2010, 8:07 p.m.,*
in response to message #7 by Thomas Klemm

I looked up half-angle formulas to verify your method (for my own information, I did not doubt that you were correct.) The diagram shows nicely why it is true.

> Quote:

> I'm afraid I've come to an end.

Feel free to tackle the others. The improvements to R->P allowed me to label all but two routines, but I need a few more bytes to label COS^{-1} and TAN^{-1}

...

Re: Some 30b Routines

*Message #9 Posted by **Don Shepherd** on 24 Aug 2010, 8:27 p.m.,*
in response to message #8 by Jeff O.

> Quote:
>
> but I need a few more bytes to label COS-1 and TAN-1

Jeff, I think STOP's at the end of programs are optional. Get rid of them and see if it still works, I suspect it will. Might give you a few bytes.

Don

Re: Some 30b Routines

*Message #10 Posted by **Jeff O.** on 24 Aug 2010, 8:52 p.m.,*
in response to message #9 by Don Shepherd

The programs work, but is that "poor programming practice"? :-)

However, I still need one more byte.

Re: Some 30b Routines

*Message #11 Posted by **Katie Wasserman** on 24 Aug 2010, 9:26 p.m.,*
in response to message #10 by Jeff O.

You really don't need the first message step in each program since they only serve to remind you which function is in which memory slot when you are in program mode. Your keystroke assignment in step 0 is probably a good enough reminder.

Re: Some 30b Routines

*Message #12 Posted by **Jeff O.** on 25 Aug 2010, 10:23 a.m.,*
in response to message #11 by Katie Wasserman

> Quote:
>
> You really don't need the first message step in each program..

I agree that I don't *need* them, but I do *want* them. It's nice to be able to scroll through the program list and see the labels instead of "Prgm 0", Prgm 1", etc. Besides, now it's personal - the classic challenge to fit what you want in the available memory. (Strange that we have this challenge with a new machine

in 2010...)

> Quote:
>
> Your keystroke assignment in step 0 is probably a good enough reminder

The message I put as the last step to be displayed after the program runs is an even better reminder :-)

...

Re: Some 30b Routines

*Message #13 Posted by **Katie Wasserman** on 25 Aug 2010, 11:45 a.m.,*
in response to message #12 by Jeff O.

> Quote:
>
> (Strange that we have this challenge with a new machine in 2010...)

Although I like these kinds of challenges there should be little need for them these days considering how cheap memory is. I understand HP's requirement to stick to a single processor capable of running the LCD directly, that has a low quiescent current draw, enough ROM, etc.. This Atmel processor fits the bill on that account, it's a good choice for a non-programmable calculator. But a programmable calculator needs more memory and this chip should be supplemented by some external RAM at least.

Re: Some 30b Routines

*Message #14 Posted by **Jeff O.** on 25 Aug 2010, 1:02 p.m.,*
in response to message #13 by Katie Wasserman

Agreed!

Re: Some 30b Routines

*Message #15 Posted by **Thomas Klemm** on 25 Aug 2010, 3:44 a.m.,*
in response to message #8 by Jeff O.

Jeff, you could try the following:

```
Prgm 5
Program Description:    Multiply two rectangular form complex numbers


Step    function        comments
0       SH*             assign to shift-hold x
1       message CPLX*   Program label
2       Lbl 04          Program label for call from divide routine
3       STO 1
4       ( Rv            Roll down
5       STO 2
6       ) Swap
7       STO * 1
```

```
8       *
9       ( Rv            Roll down
10      STO * 2
11      ) Swap
12      ( Rv            Roll down
13      *
14      +
15      RCL 1
17      RCL - 2
18      message CPLX*   displays CPLX* upon completion
19      RTN             Return for Call
```

If I counted correctly this saves 6 bytes. Not much, but maybe just enough.

Cheers
Thomas

Re: Some 30b Routines

*Message #16 Posted by **Jeff O.** on 25 Aug 2010, 9:48 a.m.,*
in response to message #15 by Thomas Klemm

I knew you could do it!

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Interesting idea for a calculator (non-HP, non-RPN)

*Message #1 Posted by **Bruce Bergman** on 20 Aug 2010, 3:00 a.m.*

Mind you, this is just your basic $10 desk calculator, but it DOES have a very interesting twist to it. I can see this would be very useful if you were routinely calculating numbers and showing people the results. Anyhow, check it out:

Interesting calculator

Thanks,

Bruce

Re: Interesting idea for a calculator (non-HP, non-RPN)

*Message #2 Posted by **Walter B** on 20 Aug 2010, 3:36 a.m.,*
in response to message #1 by Bruce Bergman

Good idea for tourist markets throughout the world. Wherever the buyer doesn't understand the language of the seller and the seller doesn't speak the language of the buyer :)

Re: Interesting idea for a calculator (non-HP, non-RPN)

*Message #3 Posted by **Don Shepherd** on 20 Aug 2010, 6:19 a.m.,*
in response to message #1 by Bruce Bergman

Cool. You can get "ShELL.01L" without having to turn it upside down!

Sorry. :)

Don

Re: Interesting idea for a calculator (non-HP, non-RPN)

*Message #4 Posted by **DaveJ** on 20 Aug 2010, 9:14 a.m.,*
in response to message #3 by Don Shepherd

> Quote:
>
> Cool. You can get "ShELL.01L" without having to turn it upside down!

Or 80085!

Dave.

Re: Interesting idea for a calculator (non-HP, non-RPN)

*Message #5 Posted by **DaveJ** on 20 Aug 2010, 9:11 a.m.,*
in response to message #1 by Bruce Bergman

Neat.
And it took how many decades for someone to finally think of such a thing on a desk calc?!

Dave.

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11C Keyboard Rattle

*Message #1 Posted by **Dallas Osborne** on 19 Aug 2010, 11:42 a.m.*

If someone with an 11C-ish model could do me the courtesy of giving it a gentle little shake like you are fanning yourself with it?

Do the keys rattle a bit in their sockets?

Re: 11C Keyboard Rattle

*Message #2 Posted by **Allen** on 19 Aug 2010, 6:47 p.m.,*
in response to message #1 by Dallas Osborne

Some of them rattle a little, some do not. I'd only be concerned if one or two keys alone (usually the ENTER) rattles but the others on the same machine don't.

Re: 11C Keyboard Rattle

*Message #3 Posted by **Jon S Canale** on 19 Aug 2010, 7:52 p.m.,*
in response to message #2 by Allen

Yes, seems like one or two keys rattle. Seems like the enter and the 6 key.

Use it every day - haven't noticed any problem.

Re: 11C Keyboard Rattle

*Message #4 Posted by **Dallas Osborne** on 21 Aug 2010, 8:04 a.m.,*
in response to message #1 by Dallas Osborne

Thanks folks! Everything works of course, but I am less worries now about what seemed to sound like a mass exodus of my keys.

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Unit conversion on the 50G

*Message #1 Posted by **Jim Creybohm** on 19 Aug 2010, 3:49 a.m.*

Does anyone know an easier method for converting units on the 50G? Here is the process I have found thus far:

Enter the first number

select orange "units"

select correct unit (say, degrees C)

Enter a 1

select the second unit (to convert to say, degrees F)

Press white "convert"

-> Units -> tools -> convert

Coming from the 41, I find this a little bit of a challenge for a fairly simple process. And I haven't even tried variations of units such as hogsheads per fortnight!

Does anyone know of an easier method to do this? Am I doing this correctly?

Re: Unit conversion on the 50G

*Message #2 Posted by **Ralf Fritzsch** on 19 Aug 2010, 5:24 a.m.,*
in response to message #1 by Jim Creybohm

Do it the plain old HP48 way.

- make sure you use RPN mode
- use Soft MENU rather than CHOOSE boxes (flag 117)

and then:

- select orange "units"
- press NXT then soft key F6 (labeled TEMP)
- enter a 1
- press soft key F1 (labeled °C)
- press left (white) shift, then soft key F2 (labeled °F)

and you get the converted temperature 33.8_°F

Hope that helps,
Ralf.

Re: Unit conversion on the 50G

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 19 Aug 2010, 5:30 a.m.,*
in response to message #1 by Jim Creybohm

Hi;

I think the fastest way is through menu instead of choose boxes.

First, set flag -117 (your way)

Then:

1 - enter first number
2 - press [orange][UNITS]
3 - choose and press softkey for 'origin' unit
4 - locate 'destination' unit
5 - press [white] [destination unit softkey]

You´ll press less keys, though you must be in menu mode instead of choose boxes (I prefer so).

Hope this helps.

Luiz (Brazil)

(after editing: I decided to maintain... matter of six minutes)

Edited: 19 Aug 2010, 5:31 a.m.

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Why engineers need both scientific and business calculators

*Message #1 Posted by **Martin Pinckney** on 18 Aug 2010, 11:05 p.m.*

In addition to the obvious need for TVM and date calculations, I find the % functions on scientific calculators to be woefully lacking for the kind of % calculations that I do on a regular basis. Even the 27s (my overall favorite), which has excellent TVM and date math, only has the typical scientific implementation of % math. Of course I could easily write a Solver routine, but that takes precious memory.

This is one reason why I always keep a 17b handy.

Following the recent thread on the 30b, I was gratified to see it also has the full implementation of % math, what the 17 series calls "Business" functions (%Change, %MU-cost, %MU-price, %Total). With the added bonus of the scientific functions, I can see why it has developed a big following.

Re: Why engineers need both scientific and business calculators

*Message #2 Posted by **Angel Martin** on 19 Aug 2010, 2:05 a.m.,*
in response to message #1 by Martin Pinckney

I always suspected me as not a good engineer, I guess now I know why :)

Well, I did my part to redeem myself - the SandMath module includes a %Total function, but I confess not having any inkling about the "other" percentages you mention.

Many times I found the issue with financial terms was on their insisstence to name and label every possible ratio, inverse ratio, and combination of ratios. The real problem for me wasn't to calculate what you needed to find out, but to "map out" the available ratios names to the problem in question.

Just as I said, typical of a bad engineer no doubt :)

Cheers, "AM

Re: Why engineers need both scientific and business calculators

*Message #3 Posted by **Paul Dale** on 19 Aug 2010, 3:24 a.m.,*
in response to message #1 by Martin Pinckney

%Change is on many scientific calculators already.

%MU-cost corresponds to "% +" which isn't onerous.

%Total is "SWAP / 100 *", again not too difficult.

I doubt that a decent engineer would have trouble with any of these :-) I'm not sure what %MU-price is.

- Pauli

Re: Why engineers need both scientific and business calculators

*Message #4 Posted by **Martin Pinckney** on 19 Aug 2010, 9:38 a.m.,*
in response to message #3 by Paul Dale

> Quote:
>
> I doubt that a decent engineer would have trouble with any of these :-)

Wow, and I always thought I *was* a decent engineer.

> Quote:
>
> Sheesh. I think I'd prefer to just do those operations myself, based on what I wanted to do at any given time. The minuscule amount of time I'd save by having them be built in functions would have to be more than offset by the difficulty of memorizing what percentage operation does what.

Seriously, though you could say the same about many built-in functions. But isn't that the value of having a calculator with many built-in functions, to save time? Why don't we all just go back to using the HP 35, and forget about all the added utility since.

Re: Why engineers need both scientific and business calculators

*Message #5 Posted by **Norman Dziedzic** on 19 Aug 2010, 1:01 p.m.,*
in response to message #3 by Paul Dale

> I'm not sure what %MU-price is.

This is used when you want to make a specific margin on selling an item. For instance, if it costs you $20 for something and you want to make a 15% margin, you don't sell it for 20*1.15=$23.00. You have to sell it for 20/(1-.15)=$23.529.

The %MU-Price does this.

All our commissioned sales people use this type of calculation all the time. Many can do it in their heads but none of them use HP calculators :-(

Re: Why engineers need both scientific and business calculators

*Message #6 Posted by **Paul Dale** on 20 Aug 2010, 7:47 p.m.,*
in response to message #5 by Norman Dziedzic

Thanks for this. I know of this just not by the name given. Something to add to the firmware when I eventually get back to it.

- Pauli

Re: Why engineers need both scientific and business calculators

*Message #7 Posted by **Walter B** on 19 Aug 2010, 4:40 a.m.,*
in response to message #1 by Martin Pinckney

Do you think of something like this?

Δ%	Calculates $100 \cdot \frac{x-y}{y}$ like %CH in HP-42S.
%	Calculates $x \cdot y/100$.
%T	Calculates $100 \cdot x/y$.
%Σ	Calculates $100 \cdot x/\sum x$.
%+	Adds a mark-up of x% to y , calculating $y \cdot (1+0.01 \cdot x)$.
%–	Subtracts a discount of x% from y , calculating $y \cdot (1-0.01 \cdot x)$.

Re: Why engineers need both scientific and business calculators
*Message #8 Posted by **Paul Dale** on 19 Aug 2010, 4:48 a.m.,*
in response to message #7 by Walter B

I spy the percent functions from the stalled 20b/30b scientific firmware :-)

- Pauli

Re: Why engineers need both scientific and business calculators
*Message #9 Posted by **Walter B** on 19 Aug 2010, 7:06 a.m.,*
in response to message #8 by Paul Dale

Pauli,

you hit the nail on the head. I didn't want to invent the wheel twice. BTW, there are some minor updates in the project docs ...

Re: Why engineers need both scientific and business calculators
*Message #10 Posted by **Crawl** on 19 Aug 2010, 8:46 a.m.,*
in response to message #7 by Walter B

Sheesh. I think I'd prefer to just do those operations myself, based on what I wanted to do at any given time. The minuscule amount of time I'd save by having them be built in functions would have to be more than offset by the difficulty of memorizing what percentage operation does what.

Re: Why engineers need both scientific and business calculators
*Message #11 Posted by **Walter B** on 19 Aug 2010, 9:26 a.m.,*
in response to message #10 by Crawl

:) So do I. But typical users of business calculators are ... different ;)

Re: Why engineers need both scientific and business calculators
*Message #12 Posted by **Ken Shaw** on 19 Aug 2010, 9:58 a.m.,*

in response to message #10 by Crawl

Absolutely.

The %-related keys are the biggest waste of real estate on all the keyboards. My main calculator is the 17BII and I have no use for the % key.

Re: Why engineers need both scientific and business calculators

*Message #13 Posted by **Martin Pinckney** on 19 Aug 2010, 10:28 a.m.,*
in response to message #12 by Ken Shaw

> Quote:
>
> My main calculator is the 17BII and I have no use for the % key.

Just to be clear, I wasn't talking about the % key on the 17 series, but the % functions in the [BUS] softkey menu. I for one find them to be very useful. Am I the *only* engineer (or non-business type) on here that does?

Re: Why engineers need both scientific and business calculators

*Message #14 Posted by **Bruce Bergman** on 19 Aug 2010, 10:40 a.m.,*
in response to message #13 by Martin Pinckney

You're not the only one -- I like 'em too. ;-)

Thanks,

Bruce

Re: Why engineers need both scientific and business calculators

*Message #15 Posted by **Martin Pinckney** on 19 Aug 2010, 5:21 p.m.,*
in response to message #14 by Bruce Bergman

Thanks, Bruce.

Re: Why engineers need both scientific and business calculators

*Message #16 Posted by **Palmer O. Hanson, Jr.** on 20 Aug 2010, 4:07 p.m.,*
in response to message #1 by Martin Pinckney

If you need both a scientific and business calculator then why not get a 19BII?

Re: Why engineers need both scientific and business calculators

*Message #17 Posted by **Jeff Kearns** on 21 Aug 2010, 7:09 p.m.,*
in response to message #16 by Palmer O. Hanson, Jr.

Hear, hear! I bought one in mint condition a few months ago for $40CAD and enjoy using it. I have stored a number of useful equations in it, such as solving for Canadian mortgages and some machine design problems in pressure vessel design. BUT, for pocketability, I often bring the 12C to meetings.

Jeff

Re: Why engineers need both scientific and business calculators

*Message #18 Posted by **Martin Pinckney** on 21 Aug 2010, 8:45 p.m.,*
in response to message #16 by Palmer O. Hanson, Jr.

Clamshell design is why not. 27s comes closest, except maybe the new 30b might fill the bill. That was my original point.

Edited: 21 Aug 2010, 8:46 p.m.

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HEPAX manual Vol. 2 reprint.

*Message #1 Posted by **Diego Diaz** on 18 Aug 2010, 11:00 p.m.*

Hi all,

I've been heavily using the copy of the HEPAX manual, and found it useful to develop my NoV's project.

However, the available copy is not very handy since it's just a scanned image.

So I've taken the time to rebuild the volume 2 (the one I use more often) and think it may be of interest to some of you.

Thanks to Ángel Martín for providing the scanned images of the covers.

The PDF file is available here.

I've tried to make it as accurate as possible, including the addendum errata, as well as correcting some known errors in the original print. Anyhow, some OCR errors may have found their path into the PDF file. Please notify if you find any.

A couple of Appendices have been removed since they are not useful any longer: "Warranty and service information" & "Addresses of User groups"

Best wishes from Spain.

Diego.

P.S. I don't use the volume 1 very often, however, if there is a general interest in having it also reprinted. I can do it (just allow a few weeks, it's a time consuming task... ;-) A good quality scan of the pictures on module insertion/extraction will also be welcome for the volume 1... :-)

Edited: 18 Aug 2010, 11:07 p.m.

Re: HEPAX manual Vol. 2 reprint.

*Message #2 Posted by **Angel Martin** on 19 Aug 2010, 2:00 a.m.,*
in response to message #1 by Diego Diaz

What a wonderful job Diego, many thanks for taking the time and effort to get this jewel avaiable to the masses (all those people programming 41 MCODE :)

Even if you never do a byte of MCODE this manual is worth reading from cover to cover, so great news it's now here, searchable and in all full glory.

Best wishes, 'AM

Re: HEPAX manual Vol. 2 reprint.

*Message #3 Posted by **Diego Diaz** on 19 Aug 2010, 5:00 a.m.,*
in response to message #2 by Angel Martin

Ha, ha... good point indeed Ángel...

Not that Dan Brown is gonna feel uncomfortable by this new Best Seller pushing him out of the "Top List"... but may his editor is about to seek my cel. number... :-))

Ok, bit more serious now, I've done that mostly for myself, and think it may be useful for the NoV's users out there who

may find easier to gaining access to M-code; even if they just give a go for the fun...

I'm glad you appreciate it.

Best from "The Canaries"

Diego

Re: HEPAX manual Vol. 2 reprint.

*Message #4 Posted by **Antoine M. Couëtte** on 19 Aug 2010, 2:02 a.m.,*
in response to message #1 by Diego Diaz

Diego,

Thank you very much for the high quality of your job.

If you happen to scan Vol. 1, I would be most happy to download a copy also.

I have an HEPAX Module and I use it now and then but I could certainly use it much better with a User's Manual.

Thank you and Best Regards

Antoine M. Couëtte

Re: HEPAX manual Vol. 2 reprint.

*Message #5 Posted by **Diego Diaz** on 19 Aug 2010, 5:09 a.m.,*
in response to message #4 by Antoine M. Couëtte

Thanks for your compliments Antoine.

Vol. 1, will more likely see the light sooner or later, although it may take a while. (I travel a lot...)

I have not the originals, and the scanned copy available is not of much quality, therefore, the pictures in the vol. 1 are not useful for a verbatim replica of the original. But that can be worked out (with a little help of some friends around here... :-))

Kind regards and enjoy your 41!

Diego.

Re: HEPAX manual Vol. 2 reprint.

*Message #6 Posted by **John Robinson** on 19 Aug 2010, 2:55 a.m.,*
in response to message #1 by Diego Diaz

Good effort Diego - a pdf of an old HP document that is searchable - Woo Hoo !! I like the way it's nicely formatted for double sided printing too.

I guess Volume 1 would be nice for completeness :-)

I wish someone would do the same for Ken Emery's book.

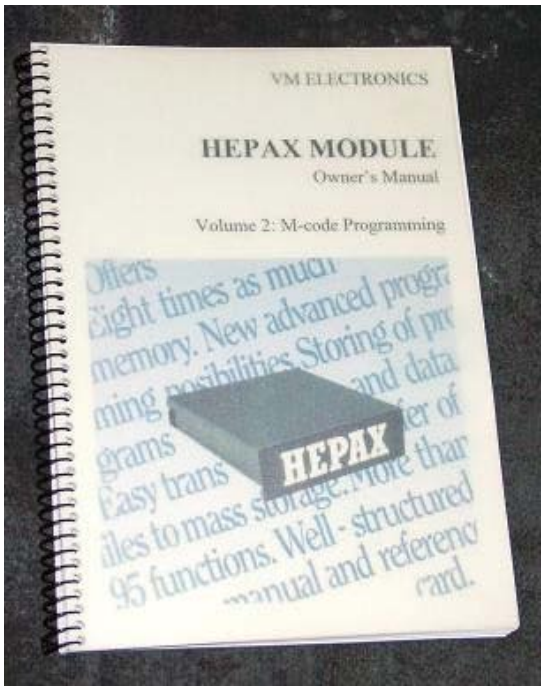
Cheers, John

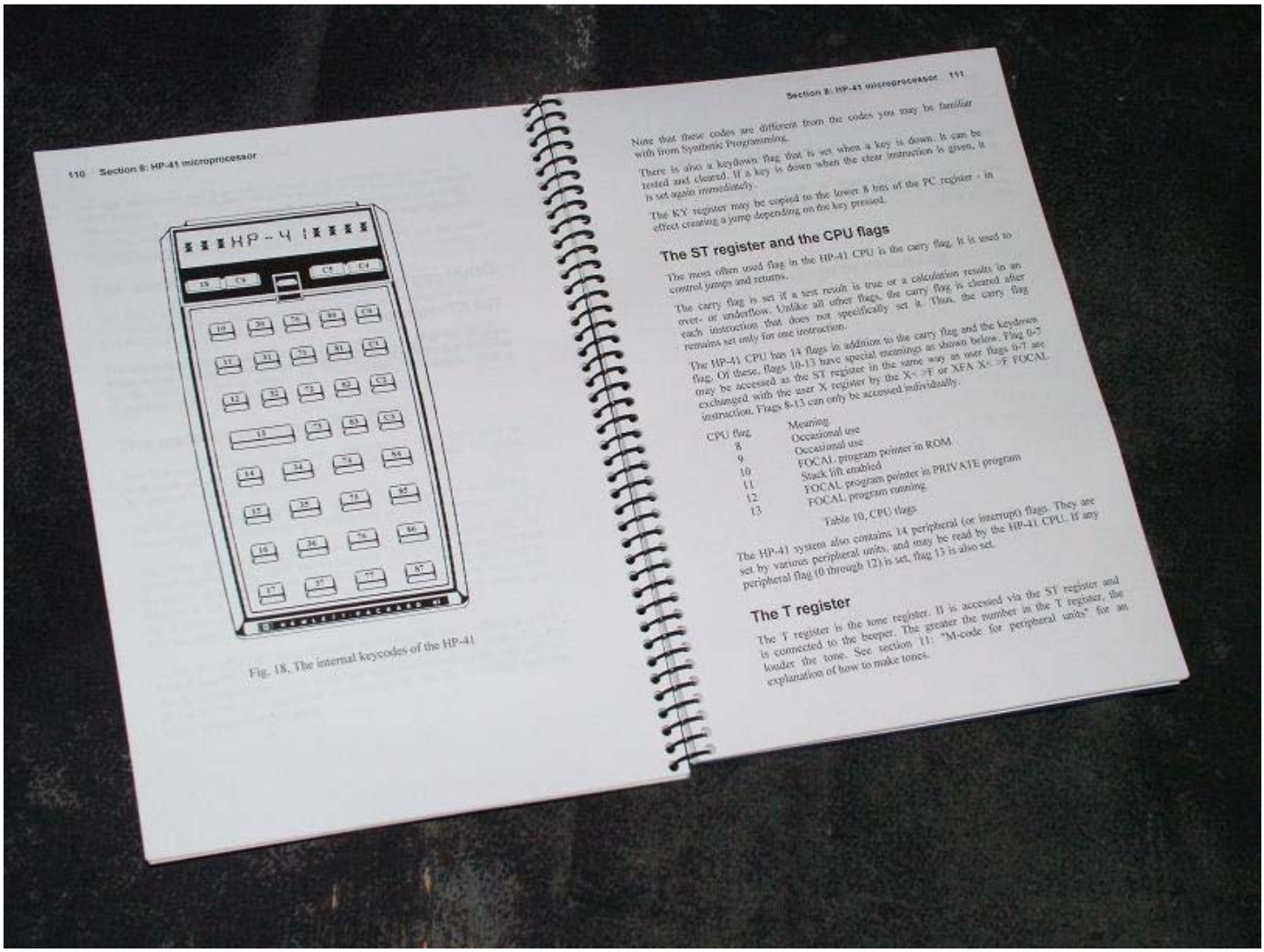
Re: HEPAX manual Vol. 2 reprint.

*Message #7 Posted by **Diego Diaz** on 19 Aug 2010, 4:42 a.m.,*
in response to message #6 by John Robinson

Thanks for your kind words.

This was the primary aim: a printed, good quality manual:


VM ELECTRONICS
HEPAX MODULE
Owner's Manual
Volume 2: M-code Programming
HEPAX


110 Section 8: HP-41 microprocessor
HP-41
Fig. 18. The internal keycodes of the HP-41
Section 8: HP-41 microprocessor 111
Note that these codes are different from the codes you may be familiar with from Synthetic Programming.
There is also a keydown flag that is set when a key is down. It can be tested and cleared. If a key is down when the clear instruction is given, it is set again immediately.
The KY register may be copied to the lower 8 bits of the PC register - in effect creating a jump depending on the key pressed.
The ST register and the CPU flags
The most often used flag in the HP-41 CPU is the carry flag. It is used to control jumps and returns.
The carry flag is set if a test result is true or a calculation results in an over- or underflow. Unlike all other flags, the carry flag is cleared after each instruction that does not specifically set it. Thus, the carry flag remains set only for one instruction.
The HP-41 CPU has 14 flags in addition to the carry flag and the keydown flag. Of these, flags 10-13 have special meanings as shown below. Flag 0-7 may be accessed as the ST register in the same way as user flags 0-7 are exchanged with the user X register by the X<>F or XFA X<>F FOCAL instruction. Flags 8-13 can only be accessed individually.
CPU flag Meaning
8 Occasional use
9 Occasional use
10 FOCAL program pointer in ROM
11 Stack lift enabled
12 FOCAL program pointer in PRIVATE program
13 FOCAL program running
Table 10. CPU flags
The HP-41 system also contains 14 peripheral (or interrupt) flags. They are set by various peripheral units, and may be read by the HP-41 CPU. If any peripheral flag (0 through 12) is set, flag 13 is also set.
The T register
The T register is the tone register. It is accessed via the ST register and is connected to the beeper. The greater the number in the T register, the louder the tone. See section 11: "M-code for peripheral units" for an explanation of how to make tones.

:-)

Cheers.

BTW, I've already found a few "formatting bugs"... they're *de-bugged* now.

Re: HEPAX manual Vol. 2 reprint.

*Message #8 Posted by **Egan Ford** on 19 Aug 2010, 9:30 a.m.,*
in response to message #1 by Diego Diaz

Very nice. Thank you.

Re: HEPAX manual Vol. 2 reprint.

*Message #9 Posted by **Massimo Gnerucci (Italy)** on 19 Aug 2010, 3:19 p.m.,*
in response to message #1 by Diego Diaz

Thanks a lot Diego!
I know it will come the day when I'll have time to study it... :)

Greetings,
Massimo

Re: HEPAX manual Vol. 2 reprint.

*Message #10 Posted by **Diego Diaz** on 20 Aug 2010, 7:04 p.m.,*
in response to message #9 by Massimo Gnerucci (Italy)

You're welcome!

The "final cut" document will be ready by next Monday.

Thanks to Thomas Klemm for pointing out many misspelled words in the previous PDF.

A permanent link is also available on TOS.

Cheers.

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30b Built-In Functions

*Message #1 Posted by **Jeff** on 18 Aug 2010, 8:05 p.m.*

HP's web site sure doesn't have much information about the 30b. Does anyone know if it has any cool and useful built-in functions?

Many thanks.

Re: 30b Built-In Functions

*Message #2 Posted by **Tim Wessman** on 18 Aug 2010, 8:17 p.m.,*
in response to message #1 by Jeff

ftp://hp30bqsg:Rescore3@ftp.usa.hp.com/

TW

Re: 30b Built-In Functions

*Message #3 Posted by **Jon S Canale** on 18 Aug 2010, 9:20 p.m.,*
in response to message #2 by Tim Wessman

Tim,

WHY does HP make this stuff so difficult to find? They couldn't try any harder to NOT sell calculators.

Thanks for the link.

Re: 30b Built-In Functions

*Message #4 Posted by **Tim Wessman** on 18 Aug 2010, 9:37 p.m.,*
in response to message #3 by Jon S Canale

Go to the HHC conference on Sept 24-25 and you can ask that. :-)

/shameless plug

TW

Re: 30b Built-In Functions

*Message #5 Posted by **Jeff** on 19 Aug 2010, 9:42 a.m.,*
in response to message #2 by Tim Wessman

> Quote:
>
> ftp://hp30bqsg:Rescore3@ftp.usa.hp.com/

TW

Thanks, Tim. Wow - HP doesn't make it easy! I wonder why they hide that kind of information.

Re: 30b Built-In Functions

*Message #6 Posted by **Tim Wessman** on 19 Aug 2010, 12:08 p.m.,*
in response to message #5 by Jeff

That is just a temporary FTP location (will expire in 30 days) I set up yesterday to stick it together. The problem is being worked on and should be fixed, but in the meantime there you go.

TW

Re: 30b Built-In Functions

*Message #7 Posted by **Allen** on 19 Aug 2010, 6:49 p.m.,*
in response to message #2 by Tim Wessman

Tim, Thank you.. The manual looks great!

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HP-12C Clone, New?

*Message #1 Posted by **Katie Wasserman** on 17 Aug 2010, 10:16 p.m.*

I don't think this has been discussed here before...

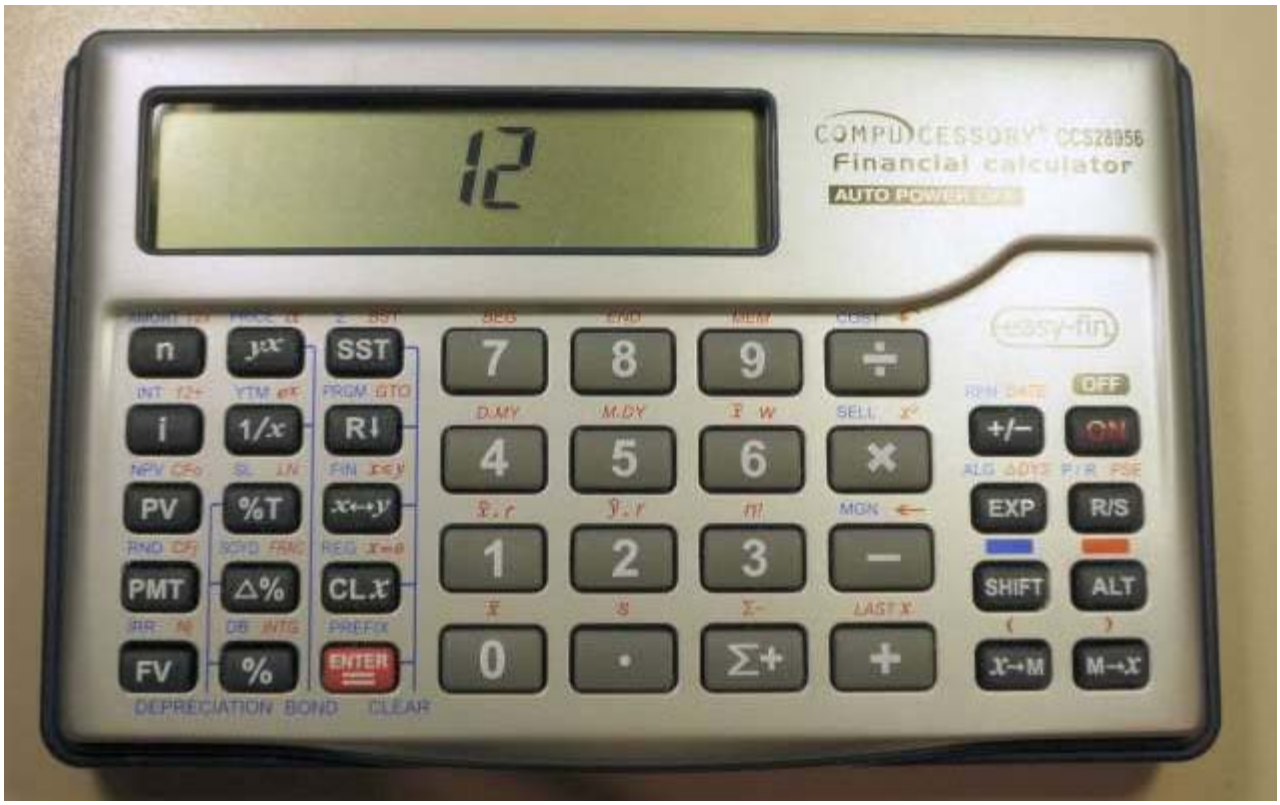
I came across another HP-12C clone calculator on the web -- not the Victor V12 nor the Aurora FN1000 -- the Compucessory CCS 28956.

Functionally it's a modified version of the code used in the earliest version of the HP-12C Platinum. It has RPN/ALG, parenthesis, undo, and 400 program steps but only 31 cash flow registers. It adds a Cost/Sell/Margin subsystem complete with dedicated annunciators on the display. The key layout is completely different than the 12C but the unsifted/shifted function bindings are identical, with the new functions making use of non-designated shifted keys on the 12CP.

It comes in a hinged, clamshell case, which is sort of nifty but cheap. While the display is pretty large and readable with adjustable contrast, the decimal points and commas are tiny. But the real problem with this machine are the tiny keys making the overall ergonomics of this calculator simply horrible. The manual at first blush looks complete if brief but it omits much of the functionality that's actually in the the firmware (like storage register arithmetic).

It runs off of one CR2032 cell and it's pretty fast. About 4.5 times faster than the 12CP Anniversary edition. The best part about this is that it sells for about $20 (shipping included) on many websites.

Here's are some pictures of it:



LFa
Sn-Ag-Cu
KC-FN11 REV05
FT 0933
VPP
VDD
GND
PA0
PA1
PA2
PA3
PA4
RESET
Y1
C1
C3
C4
C5
C6
C7
R1
R3
R4
S1
S2
S3
S4
S5
S6
S7
S8
S9
S10
D1
D2
D3
D4
D5
D6
D7
D8
D9
D10

COMPUCESSORY
Financial calculator
CCS28956

Most of the firmware in this machine is apparently taken directly form the 12CP since it has the standard built-in tests, which are undocumented. The keyboard test requires that you press the keys in the same order as they appear on a 12C which has no relationship to the layout on this calculator. If you do that this display ends by showing "12" in the middle of it!

Cyrille and Tim, did you know about this machine?

-Katie

Edited: 17 Aug 2010, 10:19 p.m.

Re: HP-12C Clone, New?

*Message #2 Posted by **Tim Wessman** on 17 Aug 2010, 10:20 p.m.,*
in response to message #1 by Katie Wasserman

Nope. How long has it been around? Still shipping?

TW

Re: HP-12C Clone, New?

*Message #3 Posted by **Katie Wasserman** on 17 Aug 2010, 10:25 p.m.,*
in response to message #2 by Tim Wessman

I have no idea, it's all over the place but I hadn't noticed it until a few days ago when i bought one.

Re: HP-12C Clone, New?

*Message #4 Posted by **Don Shepherd** on 18 Aug 2010, 3:12 a.m.,*
in response to message #1 by Katie Wasserman

Katie, very interesting. Good find!

x->m and m->x, are those STO RCL?

Since you said it uses the early platinum firmware, apparently, does it have that bug about GOTO's not working correctly if you have more than 200+ program lines? If it does, how can this company legally just use the same ROM as HP?

I can't see the blue-chip financial types replacing their nice gold professional looking 12c's for this.

Re: HP-12C Clone, New?

*Message #5 Posted by **PatrickR** on 18 Aug 2010, 4:19 a.m.,*
in response to message #4 by Don Shepherd

Illegal or not (I don't imagine this will hurt HP sales), for 10$/piece you can buy a few and lose a few. As a student I'm always afraid or misplacing or losing the 12C, this is a great find for the coatpocket.

Re: HP-12C Clone, New?

*Message #6 Posted by **Katie Wasserman** on 18 Aug 2010, 10:26 a.m.,*
in response to message #4 by Don Shepherd

> Quote:
>
> Since you said it uses the early platinum firmware, apparently, does it have that bug about GOTO's not working correctly if you have more than 200+ program lines?

The GOTO bug doe not seem to be there, the firmware was from a later model Platinum but not the most recent one. The most recent one uses 12 digit math and allows for more cash flows.

I wonder if whoever made this calculator had the source code or just intercepted the keystrokes in order to include the added Cost/Sell/Margin functionality along with the adjustable contrast. The contrast adjustment is done with <shift-hold>+<x> or <shift-hold>+</> which happen to be the same keys used for Cost and Sell. This lends credence to the idea that the additional functionality is done with intercepting keystrokes and that the programmer just had the object code from the Platinum. Besides, if they had the source code, why leave in the keyboard self test that makes zero sense on this calculator.

Re: HP-12C Clone, New?

*Message #7 Posted by **Michael de Estrada** on 19 Aug 2010, 9:28 a.m.,*
in response to message #4 by Don Shepherd

> Quote:
>
> x->m and m->x, are those STO RCL?

That's what I was wondering. Surely that can't just be the X stack register. How many storage registers does it actually have, and how do you access them?

Re: HP-12C Clone, New?

*Message #8 Posted by **Katie Wasserman** on 19 Aug 2010, 10:32 a.m.,*
in response to message #7 by Michael de Estrada

Yep, they are just STO and RCL.

The firmware in this thing is identical to the 12CP (version just before the latest one) with the addition of Cost/Sell/Margin and contrast adjustment. The keys and functions the are bound to are also identical except for their position on the keyboard. The key labeling is not identical however.

Re: HP-12C Clone, New?

*Message #9 Posted by **Gerson W. Barbosa** on 18 Aug 2010, 8:12 a.m.,*
in response to message #1 by Katie Wasserman

> Quote:
>
> Functionally it's a modified version of the code used in the earliest version of the HP-12C Platinum. It has RPN/ALG, parenthesis, undo, and 400 program steps but only 31 cash flow

Looks like Compucessory is not aware of the specifications of the calculator they have *created*. In their site they say 99 steps and 20 cash flows:

http://compucessory.com/?page_id=4&nav=39|208&catfilter=1240&keyword=&search=&page=1&id=1014440533

Re: HP-12C Clone, New?

*Message #10 Posted by **gene wright** on 18 Aug 2010, 10:59 a.m.,*
in response to message #9 by Gerson W. Barbosa

Might be time to pick one up... just in case it suddenly disappears from the market. ;-)

Re: HP-12C Clone, New?

*Message #11 Posted by **Namir** on 18 Aug 2010, 12:02 p.m.,*
in response to message #1 by Katie Wasserman

Thanks Katie for the info. I bought two calculators from Amazon.

Namir

Re: HP-12C Clone, New?

*Message #12 Posted by **hpnut** on 18 Aug 2010, 12:34 p.m.,*
in response to message #11 by Namir

Woohoo! nice find, Katie

will try to get a few units

Re: HP-12C Clone, New?

*Message #13 Posted by **Katie Wasserman** on 18 Aug 2010, 1:14 p.m.,*
in response to message #12 by hpnut

I normally don't quote myself, however

> Quote:
>
> ... the real problem with this machine are the tiny keys making the overall ergonomics of this calculator simply horrible

You've all been warned!

-Katie

Re: HP-12C Clone, New?

*Message #14 Posted by **Namir** on 18 Aug 2010, 2:44 p.m.,*
in response to message #13 by Katie Wasserman

fair enough!

:-)

Namir

Re: HP-12C Clone, New?

*Message #15 Posted by **Tim Wessman** on 18 Aug 2010, 1:40 p.m.,*
in response to message #11 by Namir

Want to send one of them on to me? (Or drop it off at the conference)

:-)

TW

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48GX

*Message #1 Posted by **Robin Shelton** on 17 Aug 2010, 8:02 p.m.*

Is there anyone out there that knows how to operate the 48GX?

Re: 48GX

*Message #2 Posted by **Allen** on 17 Aug 2010, 8:48 p.m.,*
in response to message #1 by Robin Shelton

email me your address, I'll mail you a free set of manuals. (US only)

Re: 48GX

*Message #3 Posted by **Robin Shelton** on 18 Aug 2010, 11:13 a.m.,*
in response to message #2 by Allen

Actually I have the manual but it's so confusing to me.I was hoping that there would be someone that I could e-mail back and forth with specific questions on operations. I'm an engineering student and really want to use this calculator instead of the TI 89 which is what all my teachers use.

Re: 48GX

*Message #4 Posted by **Pal G.** on 18 Aug 2010, 11:33 a.m.,*
in response to message #3 by Robin Shelton

You may be better off searching first and then posting questions about the 48GX at comp.sys.hp48

http://groups.google.com/group/comp.sys.hp48/topics?lnk=gschg

This group is very knowledgable when it comes to the 48 family, but I would say prefers RPN calcs, collecting HP calcs, and discussing math, engineering and other trivia. The comp.sys.hp48 group is a much better resource if you are in school and/or just learning the 48 series.

Re: 48GX

*Message #5 Posted by **Allen** on 18 Aug 2010, 1:55 p.m.,*
in response to message #3 by Robin Shelton

Do you have the Quick Start Guide? That might help matters compared to the thick manual. If you have any specific questions, post them here, there are plenty of 48GX aficionados in this forum..

Re: 48GX

*Message #6 Posted by **Martin Pinckney** on 18 Aug 2010, 3:06 p.m.,*
in response to message #3 by Robin Shelton

> Quote:
>
> ... I have the manual but it's so confusing to me...

You are not alone. I have been slowly learning my 48SX for about 2 years now. Some folks seem to pick up and learn how to use these 48/49/50 series models so easily, but for me they are not very intuitive to use, other than for some simple RPN math. Still, I press on, because of the power that these machines hold.

It seems to me the biggest initial hurdles were understanding that *everything* is an object, and *everything* is entered postfix, even STO and RCL.

Re: 48GX

*Message #7 Posted by **Steve Simpkin** on 18 Aug 2010, 3:43 p.m.,*
in response to message #6 by Martin Pinckney

I was lucky. I worked my way up slowly via the following machines: HP-25-->HP-11C-->HP-28C-->HP-28S-->HP-48SX-->HP48GX. Still the transition to a HP-28C (which is simpler than a 48GX) was a big jump.

Re: 48GX

*Message #8 Posted by **Norman Dziedzic** on 19 Aug 2010, 2:07 p.m.,*
in response to message #3 by Robin Shelton

For me understanding the VARS menu and the directories in the calculator really helped a lot (48gii but same thing or this discussion).

I have a directory that I call Junk where I sit when just mucking around in general. If I have a specific type of problem I'm working on then I will set up a directory and maybe even some sub directories and only go there when working on those problems. Otherwise, I find my list of variables gets unruly very quickly. I purge the junk directory regularly.

Have you worked with any other HP calculators in the past?

Re: 48GX

*Message #9 Posted by **Robin Shelton** on 20 Aug 2010, 7:14 p.m.,*
in response to message #8 by Norman Dziedzic

This is my first Hp calc. Actually this is my first graphing calc. I bought it at a garage sale, I have both the huge manual and the quick start one. I have used it in my trig class and college algebra. In the college algebra there were a couple things that I couldn't figure out. Now I'm in calculus and getting worried that I won't be able to use it because no one knows how, not even the teacher. I would like to keep it because I've heard so many great things that it can do, and that it's great for engineering students. But now that I've found this forum I will just post my question/problem here and see if anyone can help me. You people are great.

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How to install/run this program in an Hp 50g.

*Message #1 Posted by **Vasheer** on 17 Aug 2010, 5:37 p.m.*

Hi all

I just bought a 50g and dont know how to install this one program for plotting root locus'. Here is the address of the files (http://www.hpcalc.org/details.php?id=1178). Im familliar with library instalations but this is beyond me because these files are only .dir and .src

So what do i do with them.

Thanks.

Re: How to install/run this program in an Hp 50g.

*Message #2 Posted by **Tim Wessman** on 17 Aug 2010, 6:31 p.m.,*
in response to message #1 by Vasheer

Haven't looked at it, but my guess is to move the .dir file into your HOME memory, and then access the directory using VARS.

TW

Re: How to install/run this program in an Hp 50g.

*Message #3 Posted by **Daniel Oliva** on 17 Aug 2010, 6:34 p.m.,*
in response to message #1 by Vasheer

Move RLocus3.dir file to HOME using an SD card. That is, using your PC, unzip the RLocus3.dir file to the SD card. Then put the SD card on the 50g, hit L-Shift Apps to open the filer, go to the SD card, copy the RLocus3.dir file to HOME. Get out of the filer with ON, then press VAR and you'll see the program dir (RLOCU). Press F1 to access the program dir.

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display compatibility

*Message #1 Posted by **alessio136** on 17 Aug 2010, 11:53 a.m.*

some days ago a dark spot appeared on my hp15c display. i dont know how it could happen, maybe i just pressed it in the bag.

anyway, i'd like to fix it becouse i'm quite afficionated to that calculator.

i'm thinking to substituting the display with one from a hp12c. do you think it will work? since i dont own a 12c yet, i'm not sure aboute it...

for example, does the 12c have the exponent small digits?

thank you in advance :)

Re: display compatibility

*Message #2 Posted by **Eric Smith** on 17 Aug 2010, 7:05 p.m.,*
in response to message #1 by alessio136

for example, does the 12c have the exponent small digits?

No, but neither does the 15C!

The 15C display is the same as the display of a 12C from approximately the same timeframe, but not from one much earlier or later. You definitely can't use one from a 12C that uses one or two CR2032 coin cells; it has to be a 12C that uses three button cells. But even that isn't sufficient to guarantee that they are interchangeable. Early 12C and 15C calculators used a 2:1 multiplex display with about 52 electrical contacts, and later ones used a 4:1 multiplex display with about 29 electrical contacts.

Re: display compatibility

*Message #3 Posted by **Randy** on 17 Aug 2010, 10:01 p.m.,*
in response to message #2 by Eric Smith

> Quote:
>
> ...You definitely can't use one from a 12C that uses one or two CR2032 coin cells; it has to be a 12C that uses three button cells...

Need to change "definitely can't" to "might be able to" as both the later three cell and the one cell 12C's all used the 4:1 arrangement as did the last version 15C with two IC's.

The only difference on the 15C was that for a while, they used a silver polarizer rather than the 12C's gold. They eventually used gold on the last 15C's. It is obvious if you're looking for it, otherwise you need to put an older 15C next to the later versions to see the difference.

The two cell supply 12C's have thermally bonded displays so they cannot be reused.

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HP82069B charger, weird ...

*Message #1 Posted by **Alberto Fenini** on 17 Aug 2010, 4:25 p.m.*

ciao a tutti,

while sorting out things in a drawer I have found this :

I think it's weird because it clearly says 110V but it also has an EU plug
I have searched the website but couldn't even find it as a model
anyone has ever seen it before ?

take care Alberto

Re: HP82069B charger, weird ...

*Message #2 Posted by **Etienne Victoria** on 17 Aug 2010, 5:38 p.m.,*
in response to message #1 by Alberto Fenini

Hi Alberto,

Sure, it's a 90-120V adapter/charger for countries using a "European plug".

More info here

IIRC a couple of years ago a part of Europe was still on 110V.

Ciao

Etienne

Re: HP82069B charger, weird ...

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 18 Aug 2010, 3:23 p.m.,*
in response to message #1 by Alberto Fenini

Ciao, Alberto;

I have one almost like this (same AC IN connector) for more than 20 years, it came with a n 82143A bought in Europe (not by me...). The only two differences are:

1 - it reads 220V~ 50Hz (Germany?) and
2 - it is coded 82066B Eurocharger.

Luiz (Brazil)

Re: HP82069B charger, weird ...

*Message #4 Posted by **Walter B** on 18 Aug 2010, 4:22 p.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

Ola Luiz,

what you have was the normal European type. IIRC, some 15 to 20 years ago they merged 220 VAC 50 Hz(continental Europe) and 240 VAC 50 Hz (UK) to 230 VAC 50 Hz with tolerances that everybody was happy. I do not remember, however, any larger European country with 110 or 120 VAC. But I will try to find out.

Re: HP82069B charger, weird ...

*Message #5 Posted by **Massimo Gnerucci (Italy)** on 18 Aug 2010, 6:01 p.m.,*
in response to message #4 by Walter B

I remember that in the sixties, when I still was in Rome, we had both 110 VAC and 220 VAC in hour homes. A few years later only 220 VAC was left.

Of course you had to be careful where you put what... ;-)

Greetings,
Massimo

Re: HP82069B charger, weird ...

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 18 Aug 2010, 6:42 p.m.,*
in response to message #5 by Massimo Gnerucci (Italy)

> Quote:
>
> Of course you had to be careful where you put what... ;-)

If we consider a DC, controlled power source with interchangeable poles, this goes far beyond where to put what...

Some people have their equipments also fried after a wrong DC connection (capacitors usually blow away...). That´s why I prefer having a full-bridge, four-diode rectifier inside the equipment right after a low-voltage input connector. No matter polarity or even if it is AC, having the source enough amps and being it in the voltage range, all goes well.

Cheers.

Luiz (Brazil)

Re: HP82069B charger, weird ...

*Message #7 Posted by **Gerson W. Barbosa** on 18 Aug 2010, 10:16 p.m.,*
in response to message #6 by Vieira, Luiz C. (Brazil)

> Quote:
>
> That´s why I prefer having a full-bridge, four-diode rectifier inside the equipment right after a low-voltage input connector. No matter polarity or even if it is AC,

having the source enough amps and being it in the voltage range, all goes well.

Of which the HP 82240A/B Infrared Printer is a nice example.

Re: HP82069B charger, weird ...

*Message #8 Posted by **Vieira, Luiz C. (Brazil)** on 18 Aug 2010, 11:56 p.m.,*
in response to message #7 by Gerson W. Barbosa

Hi, Gerson;

to be honest, I had it in mind when I wrote that... You got it!

Cheers.

Luiz (Brasil)

Edited: 19 Aug 2010, 12:16 a.m.

Re: HP82069B charger, weird ...

*Message #9 Posted by **Alberto Fenini** on 19 Aug 2010, 12:00 p.m.,*
in response to message #5 by Massimo Gnerucci (Italy)

Ciao a tutti,
I'm from 1964 and I can't remember back in the seventies
that we had in Milano 110 volts with that plug.
Well, I can't remember of any european country either.
I'll see my parents tonight for a pizza and I'll sure ask them.

I'll let you know

Re: HP82069B charger, weird ...

*Message #10 Posted by **Massimo Gnerucci (Italy)** on 19 Aug 2010, 2:42 p.m.,*
in response to message #9 by Alberto Fenini

Ciao Alberto,
be careful: I mentioned Rome not Milan! A quick Google search confirms I am not (totally) mad... :-) AC in Rome...
I am just 4 years older than you and I only found this when I lived in Rome, during the sixties: I never found 110VAC in Milan since 1970.

Greetings,
Massimo

Re: HP82069B charger, weird ...

*Message #11 Posted by **Alberto Fenini** on 20 Aug 2010, 2:18 a.m.,*
in response to message #10 by Massimo Gnerucci (Italy)

I asked my father last night
btw he worked at Enel the Italian Electrical Energy Company for a long time in the IT dept
which is where I have been using my first HP-25 just to tell where the story began
and as far as he can remember we had in Italy 115, than 125 then 220.

Anyway, the oldest model for which the charger is suitable is a Topcat unit,
which has been introducted at earliest in 1976, by that time in Italy the distribution was all at 220 ,
which lead me to say that the charger wasn't for Italy.
On the other side, that plug will not fit in all EU sockets, UK for example has a different one
the question we should find an answwer to is : which EU country had 110V back in 1976 ?

P.S. : Massimo remember to send me your email address for the boxes scans ...

Re: HP82069B charger, weird ...

*Message #12 Posted by **Walter B** on 20 Aug 2010, 3:28 a.m.,*
in response to message #11 by Alberto Fenini

Ciao,

I found a somewhat older website claiming different AC voltages for different Italian cities. Seems it was still worth mentioning in the nineties. No idea about the plugs, however.

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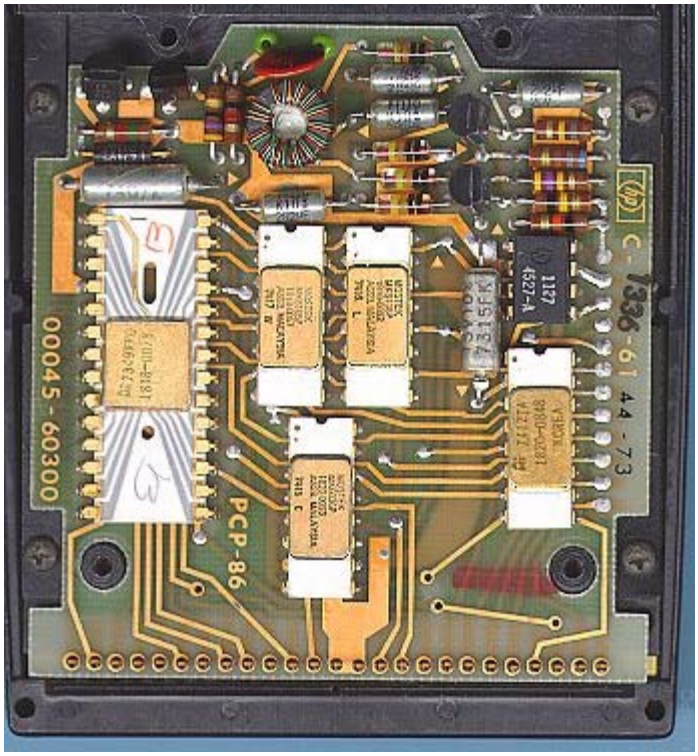
HP45 - internal pics

*Message #1 Posted by **Alberto Fenini** on 17 Aug 2010, 3:57 p.m.*

ciao a tutti
I'm trying to bring back to life an HP45
I do have the motherboard and most of the components
but I can't find the draw I did (I'm sure I did it)
with the position of the ICs.



I had a look at this pic
but I can't read the fine printing ....
Any help very welcome !
thanks in advance Alberto

Re: HP45 - internal pics

*Message #2 Posted by **Ignazio Cara (Italy)** on 17 Aug 2010, 4:16 p.m.,*
in response to message #1 by Alberto Fenini

Ciao Alberto,

Oh, I have understood, now. You need a best pic of the logic PCB with all the component. I will send you the pics at your mail address.

Regards

Ignazio

P.S. Hai fatto buone ferie?

Re: HP45 - internal pics

*Message #3 Posted by **Alberto Fenini** on 17 Aug 2010, 4:27 p.m.,*
in response to message #2 by Ignazio Cara (Italy)

Thanks Ignazio !

P.S. Parto il 21 e torno il 7 settembre, e tu ?

P.S. I'll leave for vacation the 21st and I'll return Sept. 7th, what about you ?

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Loops of Addition benchmark for the 41CL

*Message #1 Posted by **Monte Dalrymple** on 17 Aug 2010, 1:34 p.m.*

I am finally able ot run the "Loops of addition" benchmark on the 41CL. The code is the usual: LBL 00 + GTO 00, and runs for 60 seconds. Starting condition is X=0, Y=1, Z=1, T=1.

1X mode: 1,055
2X Turbo mode: 1,913
5X Turbo mode: 4,153
10X Turbo mode: 6,538
20X Turbo mode: 9,179
50X Turbo mode: 12,022

The results are not linear because the NEWT CPU automatically throttles back to 1X for those instructions that must run at this speed for compatibility. For a user program such as this, each program line samples the keyboard flag and the peripheral request flag, and both of these operations must be done at 1X. In addition, all LBL program lines move the "goose" in the display, and both the display select and the display update must be done at normal speed.

Even with these "speed bumps" the results are pretty good...

Monte

Re: Loops of Addition benchmark for the 41CL

*Message #2 Posted by **Massimo Gnerucci (Italy)** on 17 Aug 2010, 1:41 p.m.,*
in response to message #1 by Monte Dalrymple

> Quote:
>
> Even with these "speed bumps" the results are pretty good...

Indeed!

Thanks for the update Monte! Always waiting for one/two of those marvels...

Greetings,
Massimo

Re: Loops of Addition benchmark for the 41CL

*Message #3 Posted by **gene wright** on 17 Aug 2010, 4:24 p.m.,*
in response to message #1 by Monte Dalrymple

Excellent! I can't wait.

I've been saving an HP 41c fullnut with this in mind.

:-)

Re: Loops of Addition benchmark for the 41CL

*Message #4 Posted by **Angel Martin** on 19 Aug 2010, 2:22 a.m.,*
in response to message #3 by gene wright

I can already see all those auctions for plain 41C's skyrocketing in a while..

So Gene, will you update your comprehensive article to include these data?

Best, 'AM

Edited: 19 Aug 2010, 2:24 a.m.

Re: Loops of Addition benchmark for the 41CL

*Message #5 Posted by **Paul Dale** on 19 Aug 2010, 3:04 a.m.,*
in response to message #4 by Angel Martin

They'd better not go up too much, I don't have a plain 41c and that would be ideal for conversion...

- Pauli

Re: Loops of Addition benchmark for the 41CL

*Message #6 Posted by **gene wright** on 19 Aug 2010, 7:29 a.m.,*
in response to message #5 by Paul Dale

As I think I remember, Monte has said that this **requires** a fullnut HP 41c.

Is that right, Monte?

Re: Loops of Addition benchmark for the 41CL

*Message #7 Posted by **Monte Dalrymple** on 19 Aug 2010, 10:45 a.m.,*
in response to message #6 by gene wright

The replacement CPU board goes in any fullnut: C/CV/CX. The flash contains CX operating system code. It will contain the CX version of the time module code, but you'll need a Time Module plugged in to get the actual timer functionality. I couldn't fit that function into the circuitry.

Monte

Re: Loops of Addition benchmark for the 41CL

*Message #8 Posted by **gene wright** on 19 Aug 2010, 11:50 a.m.,*
in response to message #7 by Monte Dalrymple

Thanks for the clarification.

I'm sure quite a few people at the conference in Fort Collins will be interested in hearing more too. :-)

Re: Loops of Addition benchmark for the 41CL

*Message #9 Posted by **Wlodek Mier-Jedrzejowicz** on 19 Aug 2010, 9:48 p.m.,*
in response to message #8 by gene wright

As Gene Wright says:

> Quote:
>
> I'm sure quite a few people at the conference in Fort Collins will be interested in hearing more too. :-)

Some might even bring a fullnut 41 with them!

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MoHPC *The Museum of HP Calculators*

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HP71b - which power supply

*Message #1 Posted by **Alberto Fenini** on 17 Aug 2010, 12:27 p.m.*

ciao a tutti,

which external power supply can be used safely with an HP71b ?
my guess would be the same as for the HP41 family
but I will appreciate your help

take care, Alberto

Re: HP71b - which power supply

*Message #2 Posted by **Raymond Del Tondo** on 17 Aug 2010, 12:37 p.m.,*
in response to message #1 by Alberto Fenini

Ciao Alberto,

the one that fits into the 82161A will do, in Germany it's the 82066B.

Regards

Raymond

Re: HP71b - which power supply

*Message #3 Posted by **Don Shepherd** on 17 Aug 2010, 12:47 p.m.,*
in response to message #1 by Alberto Fenini

The 82059D works fine with my 71b.

Re: HP71b - which power supply

*Message #4 Posted by **Gerson W. Barbosa** on 17 Aug 2010, 1:47 p.m.,*
in response to message #3 by Don Shepherd

That's the one I use on mine. The output is rated 8VAC/3VA MAX but on I measuring it I found 13.4V (12.6V when the 71B is turned on, but not running). This should be normal since the HP-71B represents no load to the power supply. However the first time I used it one tantalum capacitor blew up inside the 71B (which has not been replaced yet). I don't remember what I did wrong, I only remember I had removed the batteries, but this would not damage the computer, according to the manual. The recommendations in the manual might be useful:

"Turn the HP-71B off before connecting the unit to a power outlet. This will prevent unexpected voltage 'spikes' from disturbing the contents of memory. When connected to a power outlet, the HP-71B uses the batteries as a backup power and normally doesn't draw any power from them. You won't damage the HP-71B by using the computer without batteries, but you may lose everything in memory should there be a

power outage or an intermittent connection to the voltage source."

Re: HP71b - which power supply

*Message #5 Posted by **Etienne Victoria** on 17 Aug 2010, 5:40 p.m.,*
in response to message #1 by Alberto Fenini

The 82066 is fine in Europe 220V

The 82059 is suitable to the 110V mains.

Ciao

Etienne

Re: HP71b - which power supply

*Message #6 Posted by **RamLab** on 18 Aug 2010, 10:36 a.m.,*
in response to message #5 by Etienne Victoria

Not only for the Power Supply, but also to replace a Capacitor, have a look at the hpmuseum site http://www.hpmuseum.net/collection_document.php ther you can find the 71 Handheld Computer Service Manual 5-13 AC Adapters.

RamLab

Re: HP71b - which power supply

*Message #7 Posted by **Alberto Fenini** on 18 Aug 2010, 12:32 p.m.,*
in response to message #6 by RamLab

Thanks everybody, very helpful, as always, grazie !!

Alberto

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HP 35s - scratched screen

*Message #1 Posted by **Matt Schilling** on 17 Aug 2010, 2:36 a.m.*

I was wondering if anyone has any solutions to repairing scratches to the display of the 35s? Any other information about the type of screen and whether it is a cover would be helpful. I don't want to go trying to fix it and making things worse. Cheers

Re: HP 35s - scratched screen

*Message #2 Posted by **Thomas Radtke** on 17 Aug 2010, 3:17 a.m.,*
in response to message #1 by Matt Schilling

There's a plastic cover on top of the LCD in my sample. It can likely be repaired by e.g. Displex. However, I've read in this forum that there were 35s without that cover IIRC, so be careful.

I'd try to replace it with a less reflective material if my 35s were concerned (and were still in use).

Re: HP 35s - scratched screen

*Message #3 Posted by **Dallas Osborne** on 17 Aug 2010, 11:35 a.m.,*
in response to message #1 by Matt Schilling

Yup, pop it apart and replace it.

Here you go: HP 35S Screen Replacement/Upgrade (and alignment)

EDIT: I used the plastic LCD cover from an unsuspecting co-workers office phone. (He hasn't noticed yet.)

Edited: 17 Aug 2010, 12:29 p.m.

Re: HP 35s - scratched screen

*Message #4 Posted by **Bruno Férard** on 17 Aug 2010, 2:40 p.m.,*
in response to message #3 by Dallas Osborne

Very good tutorial, thanks for sharing. I haven't this problem at the moment, but it can be useful someday...

Re: HP 35s - scratched screen

*Message #5 Posted by **Matt Schilling** on 23 Aug 2010, 2:29 a.m.,*
in response to message #3 by Dallas Osborne

Thanks for the help. How do I pop it open? And will it go back together the way it was beforehand?

Re: HP 35s - scratched screen

*Message #6 Posted by **Jeff O.** on 23 Aug 2010, 1:13 p.m.,*

in response to message #5 by Matt Schilling

Matt,
Opening the case is easy. Remove the rubber plugs in the four corners of the battery compartment, then peel off the rubber strip on the bottom of the calculator, and remove the six screws. The front and back halves of the case are also held together by five plastic catches, one in the middle on the top edge, one in the middle on each side, and one near the bottom on each side. These catches are not exceptionally tenacious; some gentle tugging at the case halves and careful prying between them will fairly easily separate the front and back. When re-assembled it should appear is if it has never been opened.

For further information on the internal construction of the 35s, you may wish to review this post of mine from a few years ago when excitement was high over the prospect of repurposing the 35s.

....

Re: HP 35s - scratched screen

*Message #7 Posted by **Dallas Osborne** on 23 Aug 2010, 2:27 p.m.,*
in response to message #6 by Jeff O.

Oops,

Jeff, I missed your post while I was typing that response.

That is one detailed disassembly!

Re: HP 35s - scratched screen

*Message #8 Posted by **Dallas Osborne** on 23 Aug 2010, 2:23 p.m.,*
in response to message #5 by Matt Schilling

Okay… this is the fun part and there are many more experts here. I strongly suggest searching the archives for posts concerning this type of surgery.

Here we go!
Prep the work area.
-Good lighting.
-Serving tray (keep the bits and pieces from making a break for it) -Cellophane tape (the kind that comes off easily without leaving sticky patches)
-Pencil
-Straight edge (ruler)
-Little Philips screw driver
-Tweezers
-Double sided tape.
-Plastic something for prying. I use a plastic knife with the end cut off and filed down a bit.
-X-acto knife with a little pointy bit or a sewing needle.
-A wee bit of superglue. (Cyanoacrylate)
-New screen material. This is entirely up to you and I don't have any good sources to recommend. You will need to look around for something with about the same thickness. Again, I used the LCD cover from a co-workers office phone. He never noticed(and he uses a TI). The material has a nice matt finish.
-Lots of time. Working under pressure, such as before the spouse comes back and finds you at the table with a naked… calculator, is not good. Some spouses don't understand why one would devote that type of time to something that can be purchased new at the local office store when there are plenty of other useful things to do around the house. The serving tray is nice because you can just shove it somewhere.

-Lastly, place two pieces of tape at the top of the work tray: one flat about 10 cm long and the other with the ends folded back to keep the sticky side up. This is the landing pad for the rubber feet (nonsticky-side-up piece) and the screws & springs (sticky-side up).

*) Go to the link in my above post and review the photos. (EDIT: The photos in Jeff's post are also encreadibly helpful in seeing the guts before you dive in.)
1) Remove the batteries.
2) Remove the rubber feet by using the X-acto knife or needle.
3) Remove the six screws and put them on the sticky-side-up tape.
4) Remove the back cover and put the two springs next to the screws. I put another piece of tape over the batch to keep them all together. (Photo 1 & 2)
5) Gently lift the LCD/cushion foam set away from the front cover. You can use the plastic pry piece, but I urge you to go at it very, very slowly. Some folks have had success changing the temperature to alter the adhesive properties of the double-sided goo. Mine worked just time with slow and gentle pressure. Flip this package over and cover with a lint-free cloth. (Photo 3)
6) With gentle pressure again, press out the screen cover from the front while lifting from the back. Remove any residue on the inside front of the calculator.
7) Now look at the old cover. There is cushion foam that frames the original cover. BE VERY CAREFUL WHEN REMOVING THIS; you want to use it again. The adhesive is very tenacious and the foam is weak and stretchy. Maybe lifting it away with while working the gap with the edge of the X-acto blade may work as well. To be honest, I just started pulling gently and did end up with a bit of stretching and tearing. As I put it back together, I just mushed it back into place best as possible and it worked out right in the end. Set this very lightly aside somewhere.
8) Prepare your new screen by covering the new front part with tape. (Remember… the type that comes off easily and doesn't leave sticky leftovers.)
9) Match up the old screen and mark up the corners on the new plastic. Now for cutting fun! I used a ruler and placed it to the outside of new cover and on the markings. Then ever so carefully, I scored the new edge before cutting through with a few strokes. About five to six did the trick.
*This may take a couple of runs if you goof up somewhere.
10) Test fit the new screen cover.
11) Put the foam boarder back on the inside of the new piece. (Photo 4)
12) Remove the tape from the front and put this front-side up on a piece of cloth.
13) Replace the double-sided adhesive that will hold the new cover in place to the front of the calculator. Place strips of new double-sided tape to the front along the edge at a width slightly less than the inside ledges of the hole in the calculators front plate. (Photo 5) Then trim off the excess.
14) Place the new cover into the front plate and carefully seat it. (Photo 6)
15) Replace the LCD/foam cushion over the cover and check the alignment. Obviously, you will need to put the springs back in, close the back, and replace the batteries. (Photo 7. You can see, I eagerly put the screws back in, too. This was when I decided to fix the screen alignment issue that bugged me from about thirty seconds after I turned the calculator on for the first time.)
16) If needed, cut a little shim – I used a piece of a plastic zip-tie; the thickness was perfect. Yours may not need adjustment. If less adjustment is needed, use a thinner shim or grind the thicker one down (pop a piece of double-sided tape between your finger and the shim this work it over a nail file?). Stuff this shim between the screw post and the LCD frame. Check the alignment. If it is good, pry enough of a gap to wick a small bead of the superglue into the space between the screw post and the shim. (If you have decent humidity, this should cure in around ten seconds.) (Photo 8)
17) Confirm alignment. (Photo 9)
18) Put your new rig back together and show off to yourself. (Photos 10, 11, and 12)

(Photo 13 was only to show off my spiral bound manual. Na-na-na-na-nah-nah!)

Best of luck!
-Dallas

EDIT: Fixed line spacing and spelling

Edited: 23 Aug 2010, 2:36 p.m.

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Oldies and goodies?

*Message #1 Posted by **Egan Ford** on 16 Aug 2010, 10:05 p.m.*

Just ran across this and thought I'd share.

http://www.vintage-technology.info/pages/calculators/general/calccompany.htm

Forgot to add this.

http://www.aaronaddingmachines.com/

Edited: 16 Aug 2010, 10:20 p.m. after one or more responses were posted

Re: Oldies and goodies?

*Message #2 Posted by **Don Shepherd** on 16 Aug 2010, 10:09 p.m.,*
in response to message #1 by Egan Ford

It seems that one company is missing.

:)

Re: Oldies and goodies?

*Message #3 Posted by **Egan Ford** on 16 Aug 2010, 10:21 p.m.,*
in response to message #2 by Don Shepherd

Yes. Very odd. When I think calculator I've always thought HP.

Re: Oldies and goodies?

*Message #4 Posted by **Jerry Raia** on 17 Aug 2010, 12:03 a.m.,*
in response to message #1 by Egan Ford

I did have the TI SR10. I think it was my first calculator.

Edited: 17 Aug 2010, 12:04 a.m.

Re: Oldies and goodies?

*Message #5 Posted by **Andrés C. Rodríguez (Argentina)** on 17 Aug 2010, 8:11 a.m.,*
in response to message #4 by Jerry Raia

I had a SR-10, later replaced with a SR-11 when the first got lost. My next calculator was a HP-25, and from that moment I never looked back to TI models.

Re: Oldies and goodies?

*Message #6 Posted by **Jerry Raia** on 17 Aug 2010, 8:05 p.m.,*
in response to message #5 by Andrés C. Rodríguez (Argentina)

I believe the 25 was my next one too :)

Missing from the list

*Message #7 Posted by **Palmer O. Hanson, Jr.** on 17 Aug 2010, 1:22 a.m.,*
in response to message #1 by Egan Ford

It isn't only HP which is missing from the list. Others from my limited collection include Checkmate, Cybernet, Korvette, Miida, Monroe, Montgomerry Ward, Royal, Soundesign, Teal and Unicom.

As to old adding machines I prefer some of the genuine antiques where my favorites include the rotary Addometers (made by a typewriter company and built like a truck) and the Magic-Brain pocket size push down adders.

Palmer

Re: Oldies and goodies?

*Message #8 Posted by **Martin Pinckney** on 17 Aug 2010, 8:55 a.m.,*
in response to message #1 by Egan Ford

From the first site:

> Quote:
>
> I am slowly revamping the images and descriptions - and have another 100+ calculators to put on - so keep looking!

Odds are the 100+ includes many HP's. Saving the best for last?

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HP Forum Archive 19

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Office Depot - HP30b & HP 12c

*Message #1 Posted by **Joe Burwell** on 16 Aug 2010, 7:53 p.m.*

Interesting that the Office Depot in Athens, Georgia has completely redone the calculator section. The HP 30b is there - has a spot. The HP 12c Platinum is there - has a spot. I saw no HP 12C or place for it. Surely they are not going to stop carrying it.

I must admit, now that I know how to program the HP 30b it is fast becoming my favorite. I did not think any calculator would measure up to the HP 12C.

Re: Office Depot - HP30b & HP 12c

*Message #2 Posted by **Bruce Bergman** on 16 Aug 2010, 10:57 p.m.,*
in response to message #1 by Joe Burwell

That's what I keep telling people: give the 30b a chance! It truly is an amazing calculator. Far underrated by many people here who give it only a passing glance and then write it off. It has a ton of features, it's blazing fast, and is a very capable programmable. It's just different in some ways. Still, a lovely calculator.

(Oh, and I too am keeping an eye on my local Office Depot, but no sign of a 30b yet).

Thanks,

Bruce

Re: Office Depot - HP30b & HP 12c

*Message #3 Posted by **Allen** on 17 Aug 2010, 5:09 p.m.,*
in response to message #2 by Bruce Bergman

I agree with Bruce.. Today I saw 2 "30bii" calculators in Office depot for $49.95 a piece, along with several SmartCalc 300, some 10s, and 10bii. I'm very proud to finally see HP calcs showing up again in mainstream B&M stores. Quality calculators like the 30b and retail store shelf space: that's a good way to open up name recognition and branding back to the younger generation. Not that I know anything about selling calculators.

Re: Office Depot - HP30b & HP 12c

*Message #4 Posted by **Mike Morrow** on 26 Aug 2010, 8:58 a.m.,*
in response to message #2 by Bruce Bergman

I wholeheartedly agree with Bruce's (and Don's and Martin's and Gene's) assessment of the HP 30b. I'm on my sixth day of ownership, and the last time I was this satisfied and happy with a new HP calculator was the HP 42S, 20 years ago. The mechanical qualities alone make this unit remarkable. It is the most comfortable *handheld* calculator that HP has made since the Woodstocks (IMO). This is a very sturdy and handy package, and the keyboard feel is excellent. The mechanical/industrial design is the best of any of the 30+ HPs that I've owned since 1976.

There is really very little to complain about, and a tremendous amount to praise. Right now, the most irksome characteristic to me is how easily the labels rub off of the programming overlay. I lost most of one line while trying to press the overlay on to the keyboard. I can safely predict that the rest of the labels won't last very long, and I doubt that overlay replacements are available. That's a shame, because the overlay information is very helpful. I wish its labels had been permanently marked on the keyboard.

Office Depot sells the HP 30b for $50, and the HP 12C+ Platinum for $90. There's no doubt in my mind of which is the better machine, regardless of price. Plus, the Voyager landscape configuration is very inconvenient for a handheld calculator that will actually be used hand held.

To return to the discussion thread, I'm surprised in the listings of former great HP calculators that there has been no mention of the machine that many consider the greatest RPN calculator of all time...the HP 42S. Right now, my dream machine would be an updated HP 42S (including IR printer output and tone functions) in the form of the HP 30b (and native-ARM firmware...no Saturn emulation!).

The HP 30b...it is one beautiful product! Thanks, HP.

Edited: 26 Aug 2010, 9:12 a.m.

Re: Office Depot - HP30b & HP 12c

*Message #5 Posted by **Ron Ross** on 26 Aug 2010, 10:19 a.m.,*
in response to message #4 by Mike Morrow

In Response to this statement: “To return to the discussion thread, I'm surprised in the listings of former great HP calculators that there has been no mention of the machine that many consider the greatest RPN calculator of all time...the HP 42S.”

I feel the Hp 42s is overlooked because it did not sell well. People cannot comment on something they never had. And for that, Hp is really to blame. Hp priced the Hp42s at the same price as the Hp48G and no self respecting student would buy the Hp 42s when they could buy the Hp48G and have a machine that was the ugly twin of the better featured Hp48gx (I am biased towards hand held calculators and graphing models barely qualify). If Hp had sold the Hp 42s for $20 less, I suspect the Hp 42s would have sold much better. If Hp had developed the serial port (yes, it was supposed to have one), it would have been the darling of Hp calculators, but Hp did NOT want to rob sales from the Hp 48g line.

I suspect (and am only speculating) that Hp felt students would buy the Hp48g, graduate and then buy the Hp 48gx. The advent of cheaper, portable computers and laptops negated this along with the superior long lasting quality of the Hp48g meant there was never a great demand for the Hp48gx outside of the surveying field.

So to beat a dead horse, the Hp 42s is often brought up in discussions about which calculator was Hp’s best ever. It usually loses to the Hp 32sii due to “Great LCD, perfect complexity or fractions capability of the Hp 32sii, etc”. Most often though most Hp 32sii users never used an Hp 42s or had a brief experience and note the poor readability of the Hp 42s (in comparison to an Hp 32s or LCD display of the earlier voyager lines).

However, in only one or two cases have I ever heard of an Hp42s user / owner prefer any other calculator.

I still love my Hp 42s the most, but use an Hp 48g+ due to the ability to reload programs into the calculator should I have a machine reset when I change batteries. Let that happen one or two times with a couple K of RAM lost and you will tend to become somewhat fickle with the Hp 42s. And an Hp 48G or G+ is 25-50% the cost of an Hp42s to replace.

Re: Office Depot - HP30b & HP 12c

*Message #6 Posted by **JDonley** on 27 Aug 2010, 10:59 p.m.,*
in response to message #2 by Bruce Bergman

Got my 30b two days after ordering from HP. It is going to stay on my desk, rather than going into a drawer like the 20b did. The keypad is outstanding. They really got this one right. The one change I would make would be to have a dedicated "store" key in place of the "%" key.....do many people actually use the "%" key (programming maybe?)?

Well done HP.

Re: Office Depot - HP30b & HP 12c

*Message #7 Posted by **Don Shepherd** on 27 Aug 2010, 11:16 p.m.,*
in response to message #6 by JDonley

As Gene and Bruce have said many times, you can reassign the % key (or any key) to the STO function. Then it's a one-keypress to STO.

Re: Office Depot - HP30b & HP 12c

*Message #8 Posted by **Mike Morrow** on 28 Aug 2010, 8:36 a.m.,*
in response to message #7 by Don Shepherd

I've always liked the requirement to use a shift function to access STO. That way, it takes two active errors to wipe out the memory's contents with something that I did not intend to store there.

Re: Office Depot - HP30b & HP 12c

*Message #9 Posted by **Katie Wasserman** on 28 Aug 2010, 12:42 p.m.,*
in response to message #7 by Don Shepherd

Don,

I don't think you can assign STO to another key. STO requires at least a register number in order to enter it into a program. You could assign 'STO 0', for example, to a key but not just 'STO'.

This isn't really a macro recording calculator, although it acts like it in some circumstances.

-Katie

Re: Office Depot - HP30b & HP 12c

*Message #10 Posted by **Don Shepherd** on 29 Aug 2010, 11:03 a.m.,*
in response to message #9 by Katie Wasserman

Yeah, that's right.

Re: Office Depot - HP30b & HP 12c

*Message #11 Posted by **M. Joury** on 2 Sept 2010, 12:11 a.m.,*
in response to message #9 by Katie Wasserman

You can, however, use the TVM keys as single key STOs. You don't actually have to key 'SHIFT STO N'. Simply keying 'N' will store the value in the 'N' register. Of course you now

really don't have any protection from a finger fumble.

At least I have yet to find any situation where this does not work. Of course you can't store 0 in 'N' but you can in the other TVM registers.

Re: Office Depot - HP30b & HP 12c

*Message #12 Posted by **Jim L (OHIO)** on 17 Aug 2010, 8:04 p.m.,*
in response to message #1 by Joe Burwell

> Quote:
>
> ...I must admit, now that I know how to program the HP 30b it is fast becoming my favorite. I did not think any calculator would measure up to the HP 12C.

Great, now that I've read this, I feel a bit like a calculator snob. After my incredible find of an HP-12C for $5 at a garage sale a few years ago, I thought it was the perfect calculator--functions, form factor, quality, etc. So much so that I recently scored a great deal (about 1/2 of new in box) on eBay for a pristine one just to ensure that I have another ready to go just in case.

But in spite of the fact that this 30b may be more functional, it just doesn't seem to have the panache of the 12c--it's svelte good looks, heft, and provenance. Please don't kill me by saying that something else has replaced my HP-41CX that I just got...

Re: Office Depot - HP30b & HP 12c

*Message #13 Posted by **Martin Pinckney** on 18 Aug 2010, 12:59 p.m.,*
in response to message #12 by Jim L (OHIO)

Jim, not sure how familiar you are with the whole HP calculator landscape, but here goes. The 41c series was top-of-the-line in it's day. This status was replaced by the evolving 48/49/50g series, which are quite different animals.

But if you like the build quality, look and feel, and capabilities of the 41cx (and 12c, for that matter), why worry about any superseding models?

Re: Office Depot - HP30b & HP 12c

*Message #14 Posted by **Jim L (OHIO)** on 25 Aug 2010, 11:48 p.m.,*
in response to message #13 by Martin Pinckney

> Quote:
>
> Jim, not sure how familiar you are with the whole HP calculator landscape, but here goes. The 41c series was top-of-the-line in it's day. This status was replaced by the evolving 48/49/50g series, which are quite different animals.
>
> But if you like the build quality, look and feel, and capabilities of the 41cx (and 12c, for that matter), why worry about any superseding models?

Thanks for weighing in on my dilemma. It's not really a problem though, as I was just pontificating on how I am apparently not opened minded enough to see the advances in calc design since I last had a big interest in them (all HP of course).

As for my awareness, I started in 1974 with a used HP-45 (which still works on AC!), an HP-34C, then moved to an HP-32SII, an HP-41C (with memory, Math, Stats, Machine Design, Structural, and Advantage pacs and the Wickes Synthetic Programming book), an HP-48S, and now the HP-12C. Strangely, along the way I also tried a Novus and Sinclair (I think those were their names), since they were also RPN. My brother went the route of HP-19C, HP-29, and then HP-15C which he still has.

So basically, I'm just stuck in the past...

Re: Office Depot - HP30b & HP 12c

*Message #15 Posted by **Martin Pinckney** on 26 Aug 2010, 8:54 a.m.,*
in response to message #14 by Jim L (OHIO)

> Quote:
>
> So basically, I'm just stuck in the past...

Me, too. I use several Pioneers and a couple 48sx's.

This illustrates my point: The calculators I use have all the features I need, and the look and feel, build quality, are superior to anything new available today. So I'm not really "stuck", but use these HP's by choice. Some use the argument that the older models are not easily replaceable. This may have been true years ago, but not since the advent of eB**.

Martin

P.S. I also use Nikon film cameras from the 1970's.

Re: Office Depot - HP30b & HP 12c

*Message #16 Posted by **Mike Morrow** on 26 Aug 2010, 9:27 a.m.,*
in response to message #15 by Martin Pinckney

> Quote:
>
> P.S. I also use Nikon film cameras from the 1970's.

I still use table top vacuum-tube (er...valve) radios like my two Philcos from 1937 and 1940, a Crosley from 1934, and a RCA from 1939. (No old Volksempfänger sets, though. I bought one once, but the only thing it would pick up was "Deutschland Über Alles".)

Re: Office Depot - HP30b & HP 12c

*Message #17 Posted by **Walter B** on 26 Aug 2010, 9:40 a.m.,*
in response to message #16 by Mike Morrow

Mike,

> Quote:
>
> No old Volksempfänger sets, though. I bought one once, but the only thing it would pick up was "Deutschland über alles".

Judging from that you must be a collector for a verrry long time ;) This verse is out of use

for over 65 years now.

Re: Office Depot - HP30b & HP 12c

*Message #18 Posted by **Mike Morrow** on 26 Aug 2010, 9:56 a.m.,*
in response to message #17 by Walter B

Ah yes, but it was part of a pretty good vintage joke.

And...those who recognize it must be pretty vintage themselves (though obviously, not necessarily as old as the joke itself)!

Re: Office Depot - HP30b & HP 12c

*Message #19 Posted by **Jeff** on 30 Aug 2010, 9:24 a.m.,*
in response to message #18 by Mike Morrow

I was going to buy a 12C at Office Depot here in Denver, Colorado. They wanted $90. I found it on Amazon for $20 less.

Office Depot isn't even close to being competitive.

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HP Forum Archive 19

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Where are the Internals for the 50g?

*Message #1 Posted by **Jerry Raia** on 15 Aug 2010, 10:55 p.m.*

I have searched and searched and so far I haven't found any info on the 50g internals, entry points etc. are they there somewhere and I just haven't found them?

Re: Where are the Internals for the 50g?

*Message #2 Posted by **Han** on 16 Aug 2010, 8:03 p.m.,*
in response to message #1 by Jerry Raia

The HP50G entry points are more or less the same as that for the HP49 and HP49G+. The addresses themselves may be slightly different depending on what ROM version you have, but the list of entries can be found at hpcalc.org.

You may also want to download Debug4x (also available at hpcalc.org) which also has the complete list of entries.

Re: Where are the Internals for the 50g?

*Message #3 Posted by **Jerry Raia** on 17 Aug 2010, 12:06 a.m.,*
in response to message #1 by Jerry Raia

Ah thanks. I will start with that. What I really wish for was the full documentation similar to what was available for the 71B

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Thank you Dave!

*Message #1 Posted by **Katie Wasserman** on 15 Aug 2010, 8:58 p.m.*

We haven't heard from Dave Hicks in a long, long time. I finally got around to ordering the latest DVD documentation set and he sent it to me post-haste, so I know that he's out there somewhere.

I want to say a pubic THANK YOU for all your work on the DVD set, for this fantastic site and for everything else you do for us HP calculator fans.

You're the best!

-Katie

Edited: 15 Aug 2010, 8:59 p.m.

Ditto! (N.T.)

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 15 Aug 2010, 9:38 p.m.,*
in response to message #1 by Katie Wasserman

...

Re: Thank you Dave!

*Message #3 Posted by **Jerry Raia** on 15 Aug 2010, 11:08 p.m.,*
in response to message #1 by Katie Wasserman

It is amazing to still have so many interested in these classic devices. I thought I was the only one left! :)

Please, have a seat! (N.T.)

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 16 Aug 2010, 8:38 a.m.,*
in response to message #3 by Jerry Raia

...

Re: Please, have a seat! (N.T.)

*Message #5 Posted by **Jerry Raia** on 16 Aug 2010, 6:27 p.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

Seated and ready! :)

Ditto (N.T.)

*Message #6 Posted by **Walter B** on 16 Aug 2010, 12:54 a.m.,*
in response to message #1 by Katie Wasserman

...

Re: Ditto (N.T.)

*Message #7 Posted by **Martin Pinckney** on 16 Aug 2010, 10:52 a.m.,*
in response to message #6 by Walter B

> Quote:
>
> ...

I have seen this used often on this site. Meaning, please?

Re: Ditto (N.T.)

*Message #8 Posted by **bill platt** on 16 Aug 2010, 1:11 p.m.,*
in response to message #7 by Martin Pinckney

If you don't put a character into the text field, you get an error message.

Re: Ditto (N.T.)

*Message #9 Posted by **Gerson W. Barbosa** on 16 Aug 2010, 1:44 p.m.,*
in response to message #8 by bill platt

Ditto!!! (N.T)

*Message #10 Posted by **Ignazio Cara (Italy)** on 16 Aug 2010, 2:00 a.m.,*
in response to message #1 by Katie Wasserman

...

Re: Ditto!!! (N.T)

*Message #11 Posted by **Alberto Fenini** on 16 Aug 2010, 4:16 a.m.,*
in response to message #10 by Ignazio Cara (Italy)

.....

Ditto (N.T.)

*Message #12 Posted by **Massimo Gnerucci (Italy)** on 16 Aug 2010, 5:07 p.m.,*
in response to message #1 by Katie Wasserman

Re: Thank you Katie and everyone! (N.T.)

*Message #13 Posted by **Dave Hicks** on 16 Aug 2010, 11:05 p.m.,*
in response to message #1 by Katie Wasserman

.

Thank you Dave!

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HP Hurd 40 million parachute

*Message #1 Posted by **designnut** on 15 Aug 2010, 12:47 p.m.*

http://www.marketwatch.com/story/hurds-severance-pay-may-be-40-million-report-2010-08-15

Re: HP Hurd 40 million parachute

*Message #2 Posted by **Tom Mathes** on 15 Aug 2010, 4:30 p.m.,*
in response to message #1 by designnut

As Mel Brooks said decades ago:

"It's good to be da king".

Re: HP Hurd 40 million parachute

*Message #3 Posted by **Karl Schneider** on 15 Aug 2010, 9:20 p.m.,*
in response to message #1 by designnut

HP's webpage for former CEO's:

http://www.hp.com/hpinfo/execteam/formerceos.html

See what happens when the link for Mark Hurd is clicked. (It seems that the page had been created, and it wouldn't seem too difficult to make minor updates as necessary.)

Also, Carly Fiorina's page seems terse, but maybe there isn't as much useful biographical content available as for the others.

-- KS

Edited: 15 Aug 2010, 9:22 p.m.

Re: HP Hurd 40 million parachute

*Message #4 Posted by **Palmer O. Hanson, Jr.** on 15 Aug 2010, 9:56 p.m.,*
in response to message #1 by designnut

There is an interesting article on all of this on page 54 of the August 14th issue of *The Economist*. Here are two important quotes from the article but you need to read the entire article:

> Quote:
>
> ... It is all rather confusing. If his ethical lapses were serious, then why is he being given a golden parachute of $12.2m? And if they weren't serious, then why is the company getting rid of a star exectutive?

and

> Quote:
>
> ... HP needs to find a good replacement executive, and fast. That should not be hard; the firm has one of the deepest benches in high-tech. But it also has a patchy record in picking the boss. And history suggests that a good one can make the difference between success and failure: look at how Lou Gerstner revived IBM or how Jack Welch opened up General Electric's lead over Westinghouse. Or look at the way that HP itself began to crumble under Ms Fiorina.

Meanwhile, Carly wants to be a senator.

Palmer

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Still in awe over HP50g

*Message #1 Posted by **Glenn Shields** on 15 Aug 2010, 12:29 a.m.*

I know I'm a random contributor and biased toward the 50g (but still like the 35s, 33s, and 20s). Looking at the "recursive programming" examples in the AUR, I recalled the number of nested subroutines of the 35s, which is 20. But the 50g has this ability only limited by its memory, and can "unwind" this nesting with amazing speed. As an illustration, this program will run through recursions of itself until the limiting number is reached (1000 here), then unwind through the "end"s in just a fraction of a second. If you make it 2000 loops, it barely becomes noticable that it is busy "ending" the loops and finishing the program. << 1 + DUP IF 1000 =/= THEN DUP 1 DISP RECUR END >> Store in 'RECUR' and start with a 0 in the stack. Pretty amazing, no? cheers, Glenn

Re: Still in awe over HP50g

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 15 Aug 2010, 6:23 p.m.,*
in response to message #1 by Glenn Shields

Hi, Glenn;

I wrote a small recursive program (recursive programs tend to be small while doing big things...) for DFS - Depth-First Search - using matrix representations for graphs. I still need to refine it because it has some parts that might be reduced, but it calls itself each tine a vertex is found in a branch being searched. Because it uses local and global variables and it is not optimized, searching takes a lot of time and adding new branches causes the program to take some considerable extra time. It does not use Dijkstra's algorithm, the idea is just to show that it must test all possibilities, not only the shortest path.

I wrote it to show my students that if an HP50G could handle DFS with such a small code, they would be able to do that with Delphi easily.

It´s been two years and none of them has yet beaten my listing...

User RPL is amazing, ahn?

Cheers.

Luiz (Brazil)

Edited: 15 Aug 2010, 8:13 p.m.

Re: Still in awe over HP50g

*Message #3 Posted by **Glenn Shields** on 16 Aug 2010, 1:26 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Thank you, Luiz, for your input - I don't know much about your subject but appreciate having something new to explore. I found so many additional tips and info for the 50g and RPL in general through this forum and other posts (Graham Kendall?), and I hope that by sharing random stuff that somebody new to this system will have more to work with. Cheers, Glenn

Re: Still in awe over HP50g

*Message #4 Posted by **David Hayden** on 16 Aug 2010, 10:53 p.m.,*
in response to message #1 by Glenn Shields

I have the same awe but for a different reason. I enjoy playing with C code on the 50g and it's hard to believe that this little hand-held device is as fast as a desktop PC from 10 or 15 years ago.

Re: Still in awe over HP50g

*Message #5 Posted by **Crawl** on 17 Aug 2010, 9:43 a.m.,*
in response to message #1 by Glenn Shields

I've had a 49g+ since 2004 (updated to a 50g not because I really needed to, but when Circuit City put them on clearance when they went out of business I figured why not) and have been in awe of it continuously ever since. It makes me feel like I'm living in the future every time I use it. For some people, they'd need a flying car to feel like that. For me, it's a pocket (more or less...) calculator that can do algebra.

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HP 30b finally arrived

*Message #1 Posted by **Hubert Weikert** on 14 Aug 2010, 9:03 a.m.*

Hello,

More than five months after ordering here in Germany, I received my HP 30b today. Packaged in a blister pack, he arrived with three manuals, a French, Italian and German, with about 40 pages. The programmers keyboard overlay was well hidden in the French manual.

The package also contained a nice pouch, looks like black brushed aluminium, but is made of some sort of flexible leather like material.

Serial No. is 4CY02100084.

SW Version date is "4 5 2010", with a 1 in the exponent display.

Hubert

Re: HP 30b finally arrived

*Message #2 Posted by **gene wright** on 14 Aug 2010, 12:49 p.m.,*
in response to message #1 by Hubert Weikert

The "1" indicates the day of the week.

Re: HP 30b finally arrived

*Message #3 Posted by **Hubert Weikert** on 15 Aug 2010, 3:15 a.m.,*
in response to message #2 by gene wright

Thank you!

Having changed the date display format (to dd.mmyyyy) I get now the same string ("4 5 2010"), but 2 as the day of the week.

Hubert

Re: HP 30b finally arrived

*Message #4 Posted by **Tim Wessman** on 15 Aug 2010, 12:10 p.m.,*
in response to message #3 by Hubert Weikert

That would be as expected.

The hard coded date version code assumes mdy format since that is the default like would be seen in the factory. When you change it, the calc reads it as d.my and displays as such, but since this isn't a value you input it is really displaying May 4, not April 5.

TW

Re: HP 30b finally arrived

*Message #5 Posted by **Jean-Michel** on 15 Aug 2010, 5:53 a.m.,*
in response to message #1 by Hubert Weikert

Güten Morgen, Hubert.

FIVE MONTHS!!!!!

How is it possible?! It's incredible and really disappointing. Nowadays, one gets quite everything in days, sometimes weeks, but months?! This delay sounds more likely for cars, not for a simple electronic device. Do you have any idea of what made it that long? Or does HP sell that few units that they wait to launch a production batch until they have enough units ordered?

Herzliche Grüsse,

JML

Edited: 15 Aug 2010, 5:59 a.m.

Re: HP 30b finally arrived

*Message #6 Posted by **JoeGeller** on 19 Aug 2010, 9:26 p.m.,*
in response to message #1 by Hubert Weikert

I just got S/N 4CY02400091 (an auction buy). How do I check the software revision version and/or date? Thanks!

Re: HP 30b finally arrived

*Message #7 Posted by **Don Shepherd** on 20 Aug 2010, 6:23 a.m.,*
in response to message #6 by JoeGeller

Press ON and PMT at same time, then down arrow 4 times.

Re: HP 30b finally arrived

*Message #8 Posted by **Juergen Keller** on 20 Aug 2010, 6:22 p.m.,*
in response to message #1 by Hubert Weikert

You are lucky, I still didn't got mine (I live in Switzerland). Perhaps they first have to drill some holes into to adapt it to the Swiss market ;-)

Re: HP 30b finally arrived

*Message #9 Posted by **Christoph Giesselink** on 22 Aug 2010, 4:29 p.m.,*
in response to message #8 by Juergen Keller

Hello Juergen,

I ordered a 30B on Tuesday late evening at http://www.dynatech.de/ and it arrived on Thursday.

It may not be too difficult for you to order the calculator in Germany. They accept credit cards.

Christoph

Re: HP 30b finally arrived

*Message #10 Posted by **Mike Morrow** on 22 Aug 2010, 6:31 p.m.,*
in response to message #1 by Hubert Weikert

I bought one for $50 yesterday at Office Depot in Huntsville, Alabama. They had several on the rack where the calculators are displayed, but I don't think they've been there very long.

Mine is software version "4 5 2010" and physical serial number 4CY02404593. (I guess this must be some sort of new HP serial numbering system.)

Interesting machine. So far, to me the most significant problems are: (1) very little program memory, (2) the lack of a real-time clock/calendar, and (3) the very minimal and barely usable manual.

The HP 20b/HP 30b User Guide that TW referenced does not explain how to initiate the self tests or the significance of each.

Edited: 22 Aug 2010, 6:52 p.m. after one or more responses were posted

Re: HP 30b finally arrived

*Message #11 Posted by **Tim Wessman** on 22 Aug 2010, 6:41 p.m.,*
in response to message #10 by Mike Morrow

They aren't discussed in the users guide because they aren't there for the user. They are there for factory and support use.

TW

Edited: 22 Aug 2010, 6:42 p.m.

Re: HP 30b finally arrived

*Message #12 Posted by **Mike Morrow** on 22 Aug 2010, 7:08 p.m.,*
in response to message #11 by Tim Wessman

Yes, but what about us techno-geeks?

I really like what I've seen of the HP 30b, except for the very small program memory. It's much better than my 25-year-old HP-12C. It has a compact, classy, modern but high quality feel.

I'd love to see a similar machine with HP 42S capabilities (including IR printer and audio tone capability). I'd buy several of those in a heartbeat.

IMHO, the HP 30b is, overall, a very fine product.

Re: HP 30b finally arrived

*Message #13 Posted by **Katie Wasserman** on 22 Aug 2010, 7:04 p.m.,*
in response to message #10 by Mike Morrow

The processor used in the 20b/30b is the AT91SAM7L128 and is limited to just 2K of battery backed RAM. There's another 4K available for run time use but anything in that RAM would be lost at power down. I agree it's quite small, the same limitation that the HP-28C had, but without the overhead of RPL.

Adding an external 4K flash memory chip would allow for use of all 6K of RAM at minimal expense I think.

The AT91SAM7L128 does have a RTC subsystem and an independent low power 32KHz clock. All that would be needed to add this functionality to a 20b/30b is a cheap 32K crystal, no more than $0.20 in quantity and there's a provision for this on the PCB. You can do this yourself and "re-purpose" the calculator with time/date functions and whatever else.

I agree that it would have been nice to have this built into the 20b/30b firmware. This processor has 128K of ROM which seems like a huge amount to me, more than enough to include some time/date functions, but if you program it all in C/C++ (see the SDK) it's hard to make the most efficient use of that.

-Katie

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HP 9101A Memory Unit

*Message #1 Posted by **Rick Bensene** on 13 Aug 2010, 10:26 p.m.*

I recently came across a 9101A memory expansion unit for the HP 9100 calculators. I hooked it up to one of my HP 9100B machines, and found that it mostly works but there are some memory locations that always report that they are protected and no amount of fiddling with the settings change this behavior. I have cleaned all of the circuit board connectors and reseated boards with no improvement. I haven't been able to find any service info on this device. Does anyone here have insights into how to go about diagnosis and repair?

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Bowling Challenge Variation

*Message #1 Posted by **Bill (Smithville, NJ)** on 12 Aug 2010, 9:30 a.m.*

Don's bowling challenge has led me to come up with a variation on it.

1. Each throw of the ball results in a prime number of pins falling.

2. No gutter balls allowed.

3. The running frame totals are prime.

What is highest game total?

Confession - I do have one solution but I have don't know what the maximum total could be.

Bill

Re: Bowling Challenge Variation

*Message #2 Posted by **Don Shepherd** on 12 Aug 2010, 4:07 p.m.,*
in response to message #1 by Bill (Smithville, NJ)

Well, let me start the "ball rolling" (sorry for the tired pun). Spares are tricky, I tried a couple of them and couldn't make much progress, but how about this for a start:

frame	1	2	3	4	5	6	7	8	9	10
roll	2,5	3,3	2,2	3,3	5,3	3,3	3,3	2,2	3,3	5,3
cum. score	7	13	17	23	31	37	43	47	53	61

Re: Bowling Challenge Variation

*Message #3 Posted by **Bill (Smithville, NJ)** on 13 Aug 2010, 6:56 a.m.,*
in response to message #2 by Don Shepherd

Don,

Very good. Spares are possible. Just to tease you, I have one solution with three spares in it.

Bill

Re: Bowling Challenge Variation

*Message #4 Posted by **Palmer O. Hanson, Jr.** on 13 Aug 2010, 11:31 p.m.,*
in response to message #1 by Bill (Smithville, NJ)

frame	1	2	3	4	5	6	7	8	9	10	
roll	5,5	3,1	3,3	7,1	5,5	2,2	3,3	3,3	1,7	5,5	2
cum. score	13	17	23	31	43	47	53	59	67	79	

Re: Bowling Challenge Variation

*Message #5 Posted by **Don Shepherd** on 13 Aug 2010, 11:37 p.m.,*
in response to message #4 by Palmer O. Hanson, Jr.

Palmer, at the risk of starting world war III, 1 is not a prime number.

Don

Re: Bowling Challenge Variation

*Message #6 Posted by **Katie Wasserman** on 14 Aug 2010, 2:06 a.m.,*
in response to message #5 by Don Shepherd

1 is not a prime but the modern definition, but it used to be considered so and not all that long ago.

Besides, this would be an excellent reason for WW III, it sure beats race, land, resources and religion.

Edited: 14 Aug 2010, 2:08 a.m.

Re: Bowling Challenge Variation

*Message #7 Posted by **Bill (Smithville, NJ)** on 14 Aug 2010, 2:34 p.m.,*
in response to message #4 by Palmer O. Hanson, Jr.

Hi Palmer,

Well, I hadn't really considered 1 as a prime, but as Katie showed, it could be.

Good solution using 1's, and three spares. As far as I can tell, 79 is the maximum that can be achieved without considering one as a prime. So it's interesting that by using 1, 79 can still be achieved.

I tried starting with 83 & 89 and working the frames backwards from the tenth frame with no success.

Bill

My non-geezer solutions

*Message #8 Posted by **Palmer O. Hanson, Jr.** on 14 Aug 2010, 9:29 p.m.,*
in response to message #1 by Bill (Smithville, NJ)

Since one isn't considered to be a prime number in modern times I will have to admit that a solution using ones is a geezer solution. The solutions below which don't use ones are my non-geezer solutions:

```
frame         1    2    3    4    5    6    7    8    9   10
roll        5,5  3,3  2,2  5,3  5,5  2,2  3,3  3,5  3,3  5,5  2
cum. score   13   19   23   31   43   47   53   61   67   79
```

and a second solution only changes the first two frames

```
frame         1    2    3    4    5    6    7    8    9   10
roll        5,2  5,5  2,2  5,3  5,5  2,2  3,3  3,5  3,3  5,5  2
cum. score    7   19   23   31   43   47   53   61   67   79
```

where both solutions yield 79, and I agree with Bill that a score of 79 may be the maximum attainable.

Palmer

Re: My non-geezer solutions

*Message #9 Posted by **Bill (Smithville, NJ)** on 15 Aug 2010, 6:37 a.m.,*
in response to message #8 by Palmer O. Hanson, Jr.

Hi Palmer,

Your second one matches the one I came up with.

I had tried several times to get a spare to work in the first frame, with no success. But I now see it is possible.

Thanks,

Bill

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HP 'boffin' claims million-dollar maths prize

*Message #1 Posted by **BruceH** on 11 Aug 2010, 7:00 p.m.*

http://www.theregister.co.uk/2010/08/11/the_p_versus_np_problem/

Re: HP 'boffin' claims million-dollar maths prize

*Message #2 Posted by **Mike T.** on 11 Aug 2010, 7:48 p.m.,*
in response to message #1 by BruceH

See also http://www.bbc.co.uk/news/science-environment-10938302

Edited: 11 Aug 2010, 7:49 p.m.

Re: HP 'boffin' claims million-dollar maths prize

*Message #3 Posted by **Mike** on 12 Aug 2010, 12:00 a.m.,*
in response to message #1 by BruceH

Too bad the conclusion wasn't "yes", then we could check his results. :-)

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70% of US students don't understand the equal sign

*Message #1 Posted by **DavidShenk** on 11 Aug 2010, 11:42 a.m.*

Perhaps RPN is more popular than we thought? ;)

Story here.

I wonder why.

*Message #2 Posted by **Frank Boehm (Germany)** on 11 Aug 2010, 11:49 a.m.,*
in response to message #1 by DavidShenk

They probably never heard of "All animals are created equal." Maybe there is some connection. Who knows.

Re: 70% of US students don't understand the equal sign

*Message #3 Posted by **Thomas Radtke** on 11 Aug 2010, 12:14 p.m.,*
in response to message #1 by DavidShenk

That's probably due to scholarships mostly going to football aces in the US. Or is that just a myth like germans always waering leather trousers?

On a second thought, the example given in that article might indicate that these students have an approach to that equation like they would have when ordered to type something into their calculators. But then, why only in the US?

No, it's clearly football.

Wonder how many statisticians don't understand the percent (%) sign?

*Message #4 Posted by **Allen** on 11 Aug 2010, 1:04 p.m.,*
in response to message #1 by DavidShenk

:)

Re: 70% of US students don't understand the equal sign

*Message #5 Posted by **Tim Wessman** on 11 Aug 2010, 3:09 p.m.,*
in response to message #1 by DavidShenk

Equal sign? You mean this thing? --> =

That my friend, is an assignment operator.

TW

Re: 70% of US students don't understand the equal sign

*Message #6 Posted by **Mike** on 11 Aug 2010, 4:28 p.m.,*
in response to message #5 by Tim Wessman

This is an equal sign: =

This is an assigment operator: =

These are railroad tracks: =

Edited: 11 Aug 2010, 4:28 p.m.

Re: 70% of US students don't understand the equal sign

*Message #7 Posted by **David Hayden** on 11 Aug 2010, 4:56 p.m.,*
in response to message #5 by Tim Wessman

> Quote:
>
> Equal sign? You mean this thing? --> =
>
> That my friend, is an assignment operator.
>
> TW

Right on baby!!

Re: 70% of US students don't understand the equal sign

*Message #8 Posted by **Crawl** on 11 Aug 2010, 9:03 p.m.,*
in response to message #1 by DavidShenk

Yeah, the question is ambiguous, so who is to blame? The students, obviously.

Re: 70% of US students don't understand the equal sign

*Message #9 Posted by **DaveJ** on 12 Aug 2010, 5:41 a.m.,*
in response to message #1 by DavidShenk

Considering that around 1/3rd of US college graduates believe in creationism, stats like that no longer surprise me!

Dave.

Re: 70% of US students don't understand the equal sign

*Message #10 Posted by **Mark Storkamp** on 12 Aug 2010, 10:15 a.m.,*
in response to message #9 by DaveJ

Even scarier is that 2/3 don't. But then politics and religion are two topics that don't belong here anyway.

Re: 70% of US students don't understand the equal sign

*Message #11 Posted by **Martin Pinckney** on 12 Aug 2010, 1:55 p.m.,*
in response to message #10 by Mark Storkamp

Good science and good religion coexist well. Bad science and bad religion are an anathema to each other.

Politics doesn't go with either.

IMO.

Re: 70% of US students don't understand the equal sign

*Message #12 Posted by **Juan J** on 12 Aug 2010, 9:40 p.m.,*
in response to message #11 by Martin Pinckney

> Quote:
>
> Good science and good religion coexist well. Bad science and bad religion are an anathema to each other.
>
> IMO.

...and atheism is not an excuse to act like a jerk.

Juan

Re: 70% of US students don't understand the equal sign

*Message #13 Posted by **db (martinez, ca.)** on 13 Aug 2010, 1:01 a.m.,*
in response to message #11 by Martin Pinckney

Martin; You sound like a candidate for conversion to the Baha'i faith. They believe that god expects people to use science to study his universe, education is obligatory, and that work is worship, among many other sensible things. I'd be one, but i just can't get myself to believe in their god either.

Re: 70% of US students don't understand the equal sign

*Message #14 Posted by **Walter B** on 13 Aug 2010, 1:47 a.m.,*
in response to message #13 by db (martinez, ca.)

AFAIK buddhism originally had a very similar approach. But during 2600 years these clear ideas became heavily decorated ...

Re: 70% of US students don't understand the equal sign

*Message #15 Posted by **DaveJ** on 13 Aug 2010, 1:51 a.m.,*
in response to message #13 by db (martinez, ca.)

Dave.

Edited: 13 Aug 2010, 2:04 a.m.

Re: 70% of US students don't understand the equal sign

*Message #16 Posted by **Paul Dale** on 13 Aug 2010, 3:38 a.m.,*
in response to message #15 by DaveJ

I want that t-shirt.

I've educated my daughters on the noodly goodness of the FSM.... Much to their enjoyment.

- Pauli

Re: 70% of US students don't understand the equal sign

*Message #17 Posted by **DaveJ** on 13 Aug 2010, 4:28 a.m.,*
in response to message #16 by Paul Dale

Quote:

> I want that t-shirt.

You're in luck, it's FOR SALE.

Dave.

Re: 70% of US students don't understand the equal sign

*Message #18 Posted by **Paul Dale** on 13 Aug 2010, 4:39 a.m.,*
in response to message #17 by DaveJ

You've made my weekend.

And probably my daughters' week :-)

- Pauli

Re: 70% of US students don't understand the equal sign

*Message #19 Posted by **DaveJ** on 13 Aug 2010, 6:31 a.m.,*
in response to message #18 by Paul Dale

May you be touched by his noodly appendage!

Dave.

Re: 70% of US students don't understand the equal sign

*Message #20 Posted by **Paul Dale** on 15 Aug 2010, 3:48 a.m.,*
in response to message #18 by Paul Dale

Ordered one for me and some for my children :-)

- Pauli

Re: 70% of US students don't understand the equal sign

*Message #21 Posted by **DaveJ** on 15 Aug 2010, 4:31 a.m.,*
in response to message #20 by Paul Dale

> Quote:
>
> > Ordered one for me and some for my children :-)

More muffin money for me :-D
The Zazzle shirts are all top quality, no made in China stuff.
I might draw some more FSM designs, I just can't get enough of His Noodleness!

Enjoy. Dave.

Re: 70% of US students don't understand the equal sign

*Message #22 Posted by **DaveJ** on 13 Aug 2010, 2:07 a.m.,*
in response to message #13 by db (martinez, ca.)

Two gods, pictured at the place of creation:

Dave.

Re: 70% of US students don't understand the equal sign

*Message #23 Posted by **Martin Pinckney** on 13 Aug 2010, 1:38 p.m.,*
in response to message #13 by db (martinez, ca.)

> Quote:
>
> ...Baha'i faith. They believe that god expects people to use science to study his universe, education is obligatory, and that work is worship, among many other sensible things.

db, These are all principles that can be gleaned from the Judeo-Christian scriptures, as well, although not what you usually hear emphasized, or perhaps not stated exactly so.

Re: 70% of US students don't understand the equal sign

*Message #24 Posted by **Bill Zimmerly** on 14 Aug 2010, 3:27 p.m.,*
in response to message #9 by DaveJ

> Quote:
>
> Considering that around 1/3rd of US college graduates believe in creationism, stats like that no longer surprise me!
>
> Dave.

Maybe they're just being good engineers and wondering how many generations it took to evolve fully functional reproductive organs?

Re: 70% of US students don't understand the equal sign

*Message #25 Posted by **Palmer O. Hanson, Jr.** on 13 Aug 2010, 3:32 a.m.,*
in response to message #1 by DavidShenk

Does anyone know how I can obtain a printout of the original article in the Psychological Journal?

Re: 70% of US students don't understand the equal sign

*Message #26 Posted by **Sancerre (Phoenix)** on 13 Aug 2010, 11:46 a.m.,*
in response to message #25 by Palmer O. Hanson, Jr.

This link was available from Slashdot:

Link to Story

--Sancerre

Re: 70% of US students don't understand the equal sign

*Message #27 Posted by **Palmer O. Hanson, Jr.** on 13 Aug 2010, 10:35 p.m.,*
in response to message #26 by Sancerre (Phoenix)

Sancerre:

Thank you for your help. Here are couple of interesting quotes from the reference:

> Quote:
>
> Students who exhibit the correct understanding of the equal sign show the greatest achievement in mathematics and persist in fields that require mathematics proficiency like engineering, according to their research.

As a fan of algebraic I loved that quote. But I read on and here is another quote that troubles me:

> Quote:
>
> “Students who have learned to memorize symbols and who have a limited understanding of the equal sign will tend to solve problems such as 4+3+2=( )+2 by adding the numbers on the left, and placing it in the parentheses, then add those terms and create another equal sign with the new answer,” he explains. “So the work would look like 4+3+2=(9)+2=11.
>
> “This response has been called a running equal sign—similar to how a calculator might work when the numbers and equal sign are entered as they appear in the sentence,” he explains. “However, this understanding is incorrect. The correct solution makes both sides equal. So the understanding should be 4+3+2=(7)+2. Now both sides of the equal sign equal 9.”

So, here are some questions that may display my lack of familiarity with the way algebra is taught these days:

Do modern students really solve problems in algebra that way?

Is the use of adjacent opening and closing parentheses without anything enclosed a standard procedure? It isn't acceptable when using the solver in the hp-35s and will result in a syntax error. The syntax error can be avoided by enclosing a variable inside the parentheses, or by simply replacing the () with a variable.

I have stumbled on some even stranger examples of students using the running equal sign technique which suggest to me that the reason students in India, China, Turkey and elsewhere who do better do so only because they haven't been allowed to use the running equal sign technique.

Palmer

Re: 70% of US students don't understand the equal sign

*Message #28 Posted by **Don Shepherd** on 14 Aug 2010, 12:04 a.m.,*
in response to message #27 by Palmer O. Hanson, Jr.

> Quote:
>
> Do modern students really solve problems in algebra that way?

No. At least my students don't. The example quoted might be used to teach the student that the equality must be "balanced." That is, the value to the left of the equal sign must be the same as the value to the right of the equal sign. So they would fill in the parentheses with the value that would make that true. That's fine for teaching how things must be balanced, but it is not "solving" an algebraic equation.

An "algebraic equation" must contain a variable, something to solve for. The example shown is not an algebraic equation.

I wouldn't read too much into this example. Kids are learning algebra today the same way we learned it years ago, at least in most schools.

Re: 70% of US students don't understand the equal sign

*Message #29 Posted by **bbeamer** on 14 Aug 2010, 10:35 a.m.,*
in response to message #28 by Don Shepherd

I'll second what Don said. I also teach algebra the old fashioned way, with x's and y's. I think the problem may illustrate the idea of equations needing to be "balanced", but I don't think it's a good problem.

As far as the running equal, that's something I've not really seen at all.

Brian

Re: 70% of US students don't understand the equal sign

*Message #30 Posted by **Crawl** on 15 Aug 2010, 12:18 a.m.,*
in response to message #29 by bbeamer

Again, the question is ambiguous. There is no established meaning for (), so it's up to the student to guess what the question is asking. Really, the correct interpretation of the results is not "Students don't understand the equals sign" but rather "Students don't understand what the meaningless "()" symbol means ... but why should they?"

I recently saw another study -- was it linked here? -- that ALSO said that students don't understand the equals sign. But the test-makers in that case meant it to mean something completely different! There example was

a=5 b=2 a=b

So now what?

Of course, the answer is supposed to be that now a=b=2, but if you think "equals" always means "you must balance", then those statements made no sense.

In my opinion, teachers often do a very poor job of asking unambiguous questions. One example from my education I remember was when I was asked in an oral example about things traveling backwards in time. I had no idea what was being asked. I ventured, "Are you talking about tachyons?" That seems to me, then as now, to be a reasonable interpretation of the question. Then they rephrased the question, "No, I mean does time have an arrow?" Well, phrased that way, I immediately knew they were talking about entropy. Although in that case, it wasn't so much a question testing my understanding of entropy so much as a test of me having read A Brief History of Time, and knowing that specific

phraseology from it.

Re: 70% of US students don't understand the equal sign

*Message #31 Posted by **bbeamer** on 15 Aug 2010, 4:46 p.m.,*
in response to message #30 by Crawl

Yes, context is important. In this example, the context seems to be more related to programming than to algebra and the = is interpreted as "is assigned the value" .

Brian

Re: 70% of US students don't understand the equal sign

*Message #32 Posted by **Don Shepherd** on 15 Aug 2010, 6:02 p.m.,*
in response to message #31 by bbeamer

> Quote:
>
> 4+3+2=( )+2

I think I would agree with crawl. Just that statement with no other directions would be ambiguous as best, meaningless at worst. If this was a problem in a math textbook or workbook and the directions for the problem stated: "In the following problems, enter a value within the parentheses that makes both sides of the equation equal, such as 3+5+1=(**4**)+4+1", then that would be reasonable.

In the absence of a clear instruction like that, the problem is meaningless and it would be impossible to draw any valid conclusions from the answers provided by the students.

That's my opinion.

Edited: 15 Aug 2010, 6:11 p.m.

Re: 70% of US students don't understand the equal sign

*Message #33 Posted by **Vieira, Luiz C. (Brazil)** on 15 Aug 2010, 6:36 p.m.,*
in response to message #1 by DavidShenk

I vote for the KR "C"´s implementation:

= is attribution, so 'A=2' is not "A is equal to two", instead it is "Attribute 2 to variable A";
== is a relational operator, so 'A==2' is not "Attribute 2 to variable A", instead it is "A is equal to two", and a 'TRUE' or a 'FALSE' flag returns.

No doubts about, no double interpretation. But hey, when the equals sign was created there was no such thing as a programmable computer nor programming languages, right?

Cheers.

Luiz (Brazil)

Re: 70% of US students don't understand the equal sign

*Message #34 Posted by **Gerson W. Barbosa** on 16 Aug 2010, 2:15 p.m.,*
in response to message #33 by Vieira, Luiz C. (Brazil)

Hello, Luiz!

> Quote:
>
> I vote for the KR "C"´s implementation:
>
> = is attribution, so 'A=2' is not "A is equal to two", instead it is "Attribute 2 to variable A"; == is a relational operator, so 'A==2' is not "Attribute 2 to variable A", instead it is "A is equal to two", and a 'TRUE' or a 'FALSE' flag returns.

Pascal totally avoids the ambiguity by using **:=** for assignment. So does the **LET** instruction in BASIC (when it's not omitted).

Cheers,

Gerson.

Re: 70% of US students don't understand the equal sign

*Message #35 Posted by **Palmer O. Hanson, Jr.** on 15 Aug 2010, 10:19 p.m.,*
in response to message #1 by DavidShenk

I found the following discussion at this site: http://castingoutnines.wordpress.com/2010/08/11/student-misunderstanding-of-the-equals-sign/"

> Quote:
>
> The biggest problem I seem to encounter with “=” sign use is that students use it to mark a transition between steps in a problem. For example, when solving the equation for x, you might see:
>
> 3x - 2 = 10 = 12 = x = 4
>
> The thought process can be teased out of this atrocious syntax, but clearly this is not acceptable math — even though the last bit of that line (x=4) is a correct statement. If the student would just put spaces, tabs, or even a semicolon between the steps, it would be a big improvement. But many students are so trained to believe that the right answer — the ending “4? — is all that matters, they have little experience with crafting a good solution, or even realizing that a mathematical solution is supposed to be a form of communication at all.

Do some mathematics teachers really allow stuff like that? We would have discouraged it when I was teaching algebra by grading not only the solution but also the solution process.

Palmer

Re: 70% of US students don't understand the equal sign

*Message #36 Posted by **Don Shepherd** on 16 Aug 2010, 6:23 a.m.,*
in response to message #35 by Palmer O. Hanson, Jr.

> Quote:

> Do some mathematics teachers really allow stuff like that?

Good God no!!!

As I teach algebra, the equals sign separates the two sides of an equation, and there better be one per each line when you re-write the modified equation, and each line is a step of solving the equation. It better look something like this:

```
3x-4=8
  +4 +4
3x  =12
/3   /3
x   =4
```

Re: 70% of US students don't understand the equal sign

*Message #37 Posted by **Walter B** on 18 Aug 2010, 1:51 a.m.,*
in response to message #36 by Don Shepherd

FYI, we were taught this way some decades ago to solve such problems:

```
3x-4=8    | +4
3x  =12   | :3
x   =4
```

Unambiguous, one line per step, easy to follow, economic. But only possible where you write a real 1. Sorry d8-)

Re: 70% of US students don't understand the equal sign

*Message #38 Posted by **Martin Pinckney** on 18 Aug 2010, 12:49 p.m.,*
in response to message #37 by Walter B

I was taught exactly like Don showed, 47 years ago. But I agree, Walter, your system is certainly more efficient.

Re: 70% of US students don't understand the equal sign

*Message #39 Posted by **Don Shepherd** on 18 Aug 2010, 1:51 p.m.,*
in response to message #37 by Walter B

Walter, I kind of like that style, but what do you mean by "only possible when you write a real 1"?

Don

Re: 70% of US students don't understand the equal sign

*Message #40 Posted by **Karl Schneider** on 18 Aug 2010, 2:47 p.m.,*
in response to message #39 by Don Shepherd

> Quote:
>
> Walter, I kind of like that style, but what do you mean by "only possible when you write a real 1"?

I didn't originally make the effort to 'get the reference' at first, but I see it now.

Europeans write the numeral "one" with a 'streamer' connecting to the top. Americans tend to write only a vertical line segment, which could be confused with the vertical bar in Walter's notation.

-- KS

Re: 70% of US students don't understand the equal sign

*Message #41 Posted by **Don Shepherd** on 18 Aug 2010, 3:10 p.m.,*
in response to message #40 by Karl Schneider

So he's really referring to the delimiter between the equation and the steps you take to solve it, here.

Like I say, I kind of like this approach but it's not taught this way in the US and, as a teacher, I would be reluctant to teach it to my students when the next math teacher they have may not understand it.

Re: 70% of US students don't understand the equal sign

*Message #42 Posted by **Walter B** on 18 Aug 2010, 4:41 p.m.,*
in response to message #41 by Don Shepherd

Don,

there is a single vertical stroke in each line, no continuous line over the whole calculation. Behind that stroke stands the operation to be applied to both sides of the equation in the respective calculation line, resulting in the next line. The stroke will stay close to the right end of an equation. So particularily in the process of reducing long formulae, the stroke will wander to the left from line to line. Another nice thing is you may use this notation in matrix algebra as well.

And Karl is right, at least in good ol' Germany people write 1 like printed here, but without the horizontal bar at the bottom. OTOH, a handwritten 7 often gets an extra horizontal stroke through its middle.

Re: 70% of US students don't understand the equal sign

*Message #43 Posted by **Don Shepherd** on 18 Aug 2010, 5:23 p.m.,*
in response to message #42 by Walter B

Thanks Walter and Karl. Yeah, my wife puts horizontal bars through her sevens, and she's not even German!

Don

Re: 70% of US students don't understand the equal sign

*Message #44 Posted by **Walter B** on 19 Aug 2010, 2:51 a.m.,*
in response to message #43 by Don Shepherd

The "1" is written like this:
It took me some time, however, to find a quotable sample for the "7" in the internet, but here it is:

Edited: 19 Aug 2010, 3:22 a.m.

Re: 70% of US students don't understand the equal sign

*Message #45 Posted by **Massimo Gnerucci (Italy)** on 18 Aug 2010, 6:07 p.m.,*
in response to message #42 by Walter B

> Quote:
>
> And Karl is right, at least in good ol' Germany people write 1 like printed here, but without the horizontal bar at the bottom. OTOH, a handwritten 7 often gets an extra horizontal stroke through its middle.

So I was taught, here in Italy, back in the days... :)

Greetings,
Massimo

Re: 70% of US students don't understand the equal sign

*Message #46 Posted by **Jeff Kearns** on 21 Aug 2010, 7:41 p.m.,*
in response to message #45 by Massimo Gnerucci (Italy)

The Continental Europeans and French Canadians among others (I was educated in French in Quebec), and presumably most non-anglophone Americans (North and South), generally do not confuse the 1 and 7 in hand-written form, by adding the horizontal line across the seven.

In a high school math book, I recall learning that there is apparently a historical reason why this is so, as well as why the '1' is written with the upward slash almost like an inverted 'v' but without the horizontal line at the base; if you write all numbers from 1-9 'properly', using straight lines, you should have a number of acute + right angles equal to the number itself. A little creativity is required for the 9, as I recall... This explains the horizontal line in the 7. Try it! The zero is no exception, of course; no angles at all in a circle.

Jeff Kearns
p.s. Not sure about the Brits, Aussies, Kiwis, etc... Dave J.?

Re: 70% of US students don't understand the equal sign

*Message #47 Posted by **Jeff Kearns** on 21 Aug 2010, 7:57 p.m.,*
in response to message #46 by Jeff Kearns

Why numbers are written that way

Re: 70% of US students don't understand the equal sign

*Message #48 Posted by **Manolo Sobrino** on 17 Aug 2010, 8:57 a.m.,*
in response to message #1 by DavidShenk

That's because less and less students have heard about Logic these days. I used to explain the = sign with the Leibniz definition: a=b iff every (and all) property that a has, b has it too. Tarski has a nice elementary book called Introdution to Logic (very cheap now), that provides just enough background in Logic for any Maths student. (I'm a physicist and sometimes have a hard time trying to cope with the poor formal reasoning in my

mates' "proofs").

Edited: 17 Aug 2010, 8:58 a.m.

Re: 70% of US students don't understand the equal sign

*Message #49 Posted by **John B. Smitherman** on 22 Aug 2010, 10:00 p.m.,*
in response to message #48 by Manolo Sobrino

Thanks for the tip. I picked up a copy and am making my way through it.

Regards,

John

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an interesting challenge

*Message #1 Posted by **Don Shepherd** on 10 Aug 2010, 9:18 p.m.*

Now here is something very interesting. I'm not sure it requires a program to calculate, although you may try.

What is the highest possible score in a standard game of bowling if your score in each of the ten frames is required to be a prime number?

Re: an interesting challenge

*Message #2 Posted by **Karl Schneider** on 10 Aug 2010, 11:27 p.m.,*
in response to message #1 by Don Shepherd

> Quote:
>
> What is the highest possible score in a standard game of bowling if your score in each of the ten frames is required to be a prime number?

Note to international readers: this is 10-pin American bowling, not German 'Kegeln' or other game...

- The player throws twice in each of ten frames, or until all ten pins are knocked down, whichever comes first.
- For a 'strike' (all pins down in one throw), the player gets to add the number of pins knocked down in the next two throws.
- For a 'spare' (all pins down in two throws), the player gets to add the number of pins knocked down in the next throw.

So, a score in one frame may be contingent on the success in subsequent frames. A perfect game is 12 strikes, for a score of 300, because up to two extra throws can be allowed in frame 10.

There's the trivial solution of a seven in every frame for a total of 70, but we can do better...

Assume strikes in frames 1 and 2, followed by a nine and a miss (zero) in frame three. This gives 29 and 19 as the scores in frames 1 and 2 (excellent!), but leaves a non-prime nine in frame 3. A nine as the first throw in frame 3 leaves no acceptable outcome, so we must make the next-largest prime: 23.

Now assume strikes in frames 1 and 2, followed by a three and a four in frame 3. This gives 23 and 17 as the scores in frames 1 and 2, with a seven in frame 3 -- all primes.

Repeat that sequence twice for frames 4-9, then two strikes and a nine in frame 10:

3(23 + 17 + 7) + 29 = 170.

That's my best answer...

-- KS

Edited: 11 Aug 2010, 11:48 p.m. after one or more responses were posted

Re: an interesting challenge

*Message #3 Posted by **Don Shepherd** on 10 Aug 2010, 11:33 p.m.,*
in response to message #2 by Karl Schneider

Thanks, Karl. According to my source, that is not the correct answer. I'll leave it at that for now.

Don

Re: an interesting challenge

*Message #4 Posted by **Don Shepherd** on 10 Aug 2010, 11:38 p.m.,*
in response to message #2 by Karl Schneider

And the 10th frame final score of 170 is not a prime number!

Re: an interesting challenge

*Message #5 Posted by **Bart (UK)** on 11 Aug 2010, 10:31 a.m.,*
in response to message #4 by Don Shepherd

You said:
"score in each of the ten frames"
means the score of each *individual* frame (which still would depend on the consecutive frame depending on spare/strike).

But if you had said:
"the ten frame scores" or "the scores of the ten frames"
it could be interpreted as the score at the end of each frame, i.e. cumulative, as is the norm of the scoring.

"each of" implies individual, don't complain when people interpret correctly what you say rather than what you think you are saying. Although the second way of stating it could still be open to mis-interpretation, you could correct those less familiar with scoring norms without exclamation marks and examples of how wrong they are.

Re: an interesting challenge

*Message #6 Posted by **Don Shepherd** on 11 Aug 2010, 12:22 p.m.,*
in response to message #5 by Bart (UK)

Bart, I used the same language that was used in the source of this riddle. I assumed that those who know about how bowling scores are calculated know that "score" = cumulative score, not the pins knocked down in an individual frame. Bowling score sheets have a little box at the top of each frame where you record either the pins knocked down (on each of two throws) or strike (X) or spare(/). But then, when you can--and this might be two frames later--you write the final cumulative score in the bigger part of the box for each frame, at the bottom. So if you realize that "score" = cumulative score, then the language "score in each of the ten frames" means the cumulative score as recorded in each frame, and those 10 numbers must all be prime.

My post about 170 not being a prime number was written before I realized that Karl had interpreted "score" as an individual frame score, which was not the intent.

And I didn't "complain." Don't interpret an exclamation point as a "complaint." I merely pointed out that 170 was not prime and it has to be given what "score" means in this context.

Don

Re: an interesting challenge

*Message #7 Posted by **Bart (UK)** on 12 Aug 2010, 5:16 a.m.,*
in response to message #6 by Don Shepherd

> Quote:
>
> I assumed that those who know about how bowling scores are calculated know that "score"

Your replies came after Karl's message clearly highlighted that those outside the US may not be that familiar with the game.

> Quote:
>
> My post about 170 not being a prime number was written before I realized that Karl had interpreted "score" as an individual frame score, which was not the intent.

It was followed by a terse one liner that "cumulative" was the norm and a reference to a single obcure picture of a scoring card, rather than - as Karl did - a link to the whole article so as to benefit the wider international audience of the forum.

It may or may not have been your intent, but your messages *cumulatively* did come across as "stupid man, do you not know that". May I kindly remind you that there is a "rest of the world" outside the US.

Re: an interesting challenge

*Message #8 Posted by **Don Shepherd** on 12 Aug 2010, 7:42 a.m.,*
in response to message #7 by Bart (UK)

Bart, if you were offended by anything that I wrote, and apparently you were, then I'm sorry. But, honestly, I don't care.

My purpose in posing this problem was not to educate the rest of the world on how bowling is done. It was to offer an interesting problem related to mathematics. And two people were able to arrive at the final solution, and I congratulate them, and I hope that some of us learned something in this little exercise.

Don

Re: an interesting challenge

*Message #9 Posted by **Mike** on 11 Aug 2010, 5:04 p.m.,*
in response to message #5 by Bart (UK)

Someone said: "score in each of the ten frames"

You replied: means the score of each individual frame (which still would depend on the consecutive

frame depending on spare/strike).

I reply:

You don't bowl, do you. The score "in each frame" has been the accumulated total, since the game was invented. :-)

Re: an interesting challenge

*Message #10 Posted by **Bart (UK)** on 12 Aug 2010, 5:38 a.m.,*
in response to message #9 by Mike

Now your message *really* comes across as "stupid man, do you not know that". May I kindly remind you also that there is a "rest of the world" outside the US.

By the way, I have bowled (not as a regular, but 2-3 times a year), and though I may not be good at it I do know how it works (here in the UK it's the same). However, it was clear from Karl's first post that perhaps many don't, but would still like to attempt the challenge. A simple explanation and a link to the article as in Karl's second post would have been so much more beneficial rather than a few terse sentences and a link just to an obscure picture of a scorecard.

Now, I particularly like the article on scoring primes, certainly a challenge for my next game.

Re: an interesting challenge

*Message #11 Posted by **Martin Pinckney** on 12 Aug 2010, 9:29 a.m.,*
in response to message #10 by Bart (UK)

Bart, with all due respect, in this interchange between you and Don, I for one did not read anything condescending in Don's original messages. Explaining bowling scoring to "the rest of the world" is another matter.

Perhaps it's a language thing. After all, we *are* "two people separated by a common language."

Don, saying "I'm sorry... but I really don't care" is contradictory, shall we say?

My contribution to international relations for today. :-)

Re: an interesting challenge

*Message #12 Posted by **Don Shepherd** on 12 Aug 2010, 10:23 a.m.,*
in response to message #11 by Martin Pinckney

Thanks Martin.

Contradictory? I considered that possibility, but here are my thoughts.

I'm sorry that anyone would or could interpret things I wrote as offensive to anyone because, as you pointed out, that certainly was not my intent. I thought the language I used would be perfectly clear to anyone familiar with bowling. Everyone should know that we're talking about the cumulative score as listed in each frame. And so in my original post I used the exact language from the book where I first read about this riddle. I would not have predicted that this brouhaha would have ensued, and I'm sorry that it

did too.

And I would think that a "terse" explanation would be better than a lengthy explanation, but if someone doesn't see it that way, and reads offense in it, well I'm sorry about that too.

But, ultimately, I'm not going to care if someone misinterprets or feels otherwise offended because there are much bigger problems in the world to be concerned about, and life's too short to dwell on things like this.

Hope this helps.

I'm beginning to understand why we don't hear from our friend V anymore.

Don

Re: an interesting challenge

*Message #13 Posted by **Bart (UK)** on 13 Aug 2010, 5:27 a.m.,*
in response to message #12 by Don Shepherd

> Quote:
>
> there are much bigger problems in the world

I.e. in your small world that doesn't care about the 90% that don't know all the ins and outs of ten pin bowling.

> Quote:
>
> I thought the language I used would be perfectly clear to anyone familiar with bowling. Everyone should know that we're talking about the cumulative score as listed in each frame.

Sorry, I apologize, I mis-understood. Your challenge was only for those that know bowling.

Re: an interesting challenge

*Message #14 Posted by **Gerson W. Barbosa** on 12 Aug 2010, 10:47 a.m.,*
in response to message #11 by Martin Pinckney

> Quote:
>
> My contribution to international relations for today. :-)

That's a delicate matter, but it appears the British are concerned about that :-)

http://edition.cnn.com/2010/WORLD/europe/08/12/uk.olympic.etiquette/#fbid=c-Pf3d_Q1Ao&wom=false

Re: an interesting challenge

*Message #15 Posted by **Don Shepherd** on 10 Aug 2010, 11:41 p.m.,*

in response to message #2 by Karl Schneider

The score in each frame is a cumulative number, so frames 1, 2, and 3 might be, for example, 13, 23, 37, and so on.

Don

Re: an interesting challenge

*Message #16 Posted by **Karl Schneider** on 11 Aug 2010, 12:02 a.m.,*
in response to message #15 by Don Shepherd

> Quote:
>
> The score in each frame is a cumulative number, so frames 1, 2, and 3 might be, for example, 13, 23, 37, and so on.

Then you should have stated, "cumulative score". It's been a long time since I bowled, but don't the traditional score sheets have a place in each frame for the frame score and the running total? This facilitates manual addition, particularly in the era before automatic scoring. (The pinsetting machine was invented only in 1962.)

Accumulating the score as you go makes sense for convenience, and to see who's ahead.

A prime-valued cumulative score makes for a much more difficult challenge -- probably best suited for a computer program.

-- KS

Re: an interesting challenge

*Message #17 Posted by **Don Shepherd** on 11 Aug 2010, 12:13 a.m.,*
in response to message #16 by Karl Schneider

Here is an example of a bowling score sheet. The cumulative score goes in the big area at the bottom, those are the numbers that have to be prime.

Don

Re: an interesting challenge

*Message #18 Posted by **Karl Schneider** on 11 Aug 2010, 1:06 a.m.,*
in response to message #17 by Don Shepherd

Don --

The webpage where you apparently obtained that particular photo also lists frame scores under "Breaking Down a Sample Score".

Alas, of the scoring sheets offered at the sites found by web-search, I did not see any that provided a designated place to write frame scores. This may explain why arithmetic-challenged folks scribbled in the margins when necessary. Having frame scores (intermediate results) written down would have helped prevent errors in the old days of manual scoring -- a lesson on the virtues of RPN!

Another lesson pertaining to calculators and other electronic ADP equipment: Some of these sites discuss how people are forgetting (or never learned) how to score manually, because the automated systems do everything for you...

-- KS

Edited: 11 Aug 2010, 1:10 a.m.

Re: an interesting challenge

*Message #19 Posted by **Don Shepherd** on 11 Aug 2010, 7:51 a.m.,*
in response to message #18 by Karl Schneider

You are right, the "frame scores" were typically not written on the standard bowling score sheets. I think the cumulative score was deemed much more important, so that the current leader would always be known.

I'm sure many newbies to bowling today have no idea how the score is calculated, since all the bowling alleys I have been in lately use automated scoring equipment. When I was growing up in the 50's and 60's, bowling was big; my mother was always in a league at the local alley, and everyone learned how to keep score. And if you were serious about it, you bought your own bowling ball and shoes (I've still got mine from around 1970; alas, the shoes don't fit anymore).

I took my 8th grade math class bowling a couple of years ago (very small school, only 3 girls in the 8th grade). They had bowled before, and loved it.

Don

Re: an interesting challenge

*Message #20 Posted by **Karl Schneider** on 11 Aug 2010, 11:31 p.m.,*
in response to message #19 by Don Shepherd

> Quote:
>
> You are right, the "frame scores" were typically not written on the standard bowling score sheets. I think the cumulative score was deemed much more important, so that the current leader would always be known.

I noticed that some of the template score sheets provided two small boxes for recording the throws and a generous amount of space in each frame; others were compact and offered only one small box. I'll bet that many folks wrote down the frame score in small numerals on the left side of the frame box, space permitting. That might be helpful for mid-game scores like, e.g., 86 + 27 = 113.

Yes, cumulative summing keeps the players abreast of the situation, but the scores of good bowlers are always a frame or two behind in tabulation. The more important reason for as-you-go cumulative summation is so that the scorer didn't have to add up all the frames at the end, without benefit of an adding machine or calculator.

This brings to mind several features -- which may likely be a reality -- of automatic scoring:

1. An option to hide the frame and cumulative scores, then compute final scores at the

end of the game, leaving the identity of the winner a possible surprise.

2. Showing the *minimum and maximum* cumulative scores for a frame (pending subsequent throws) in a different color, until the results are complete.

-- KS

Edited: 12 Aug 2010, 1:08 a.m.

Re: an interesting challenge

*Message #21 Posted by **Don Shepherd** on 12 Aug 2010, 7:29 a.m.,*
in response to message #20 by Karl Schneider

> Quote:
>
> The more important reason for as-you-go cumulative summation is so that the scorer didn't have to add up all the frames at the end, without benefit of an adding machine or calculator.

Karl, as another poster pointed out, bowling scores have always been done this way, with the cumulative score being the prominent feature of each frame. In league play, before the advent of automated scoring, most alleys had projectors that displayed the handwritten entries on a screen above the alley, for all to see. Bowling was very competitive, and everyone wanted to see which team was ahead of the other. Sometimes bets were made, and there was keen interest in the current score. The little box (or, as you say, sometimes boxes) at the top were really there only for the purpose of calculating the cumulative score, especially for strikes and spares. And every bowler knew how to keep score. For many, probably, it was the only math they used on a regular basis.

In recent years, with the automated scoring system, I've only been bowling about 3 times, so I can't speak to the options available in those automatic scoring systetms. But I'd be very surprized if they have an option to suppress the cumulative score until the end of the game. Imagine a football or basketball game where the scoreboard was blank until the end of the game. I think the fans would revolt!

Thanks for participating in this little exercise.

Don

Re: an interesting challenge

*Message #22 Posted by **Karl Schneider** on 14 Aug 2010, 3:36 a.m.,*
in response to message #21 by Don Shepherd

> Quote:
>
> Karl, as another poster pointed out, bowling scores have always been done this way, with the cumulative score being the prominent feature of each frame. In league play, before the advent of automated scoring, most alleys had projectors that displayed the handwritten entries on a screen above the alley, for all to see.

I am not unfamiliar with any of this. I've a bowled a few times (decades ago), and I've been inside bowling alleys over the years. Next opportunity, I'll take a closer look at the scoring technology inside the alley I pass by on a routine basis.

> Quote:
>
> Bowling was very competitive, and everyone wanted to see which team was ahead of the other. Sometimes bets were made, and there was keen interest in the current score.

Of course, in the case of good bowlers, that 'current score' is rarely known precisely, due to the need for adding the results of one or two pending throws. Still, it would make little sense not to accumulate scores 'as you go', especially when the arithmetic was done manually.

> Quote:
>
> The little box (or, as you say, sometimes boxes) at the top were really there only for the purpose of calculating the cumulative score, especially for strikes and spares.

Hmm? They are there for recording the results of the individual throws...

> Quote:
>
> ...I can't speak to the options available in those automatic scoring systems. But I'd be very surprised if they have an option to suppress the cumulative score until the end of the game. Imagine a football or basketball game where the scoreboard was blank until the end of the game. I think the fans would revolt!

I'd also thought of the (American) football or basketball comparison: Football and basketball are clock-driven, and a team's strategy and tactics as the clock winds down will be influenced by the ahead-or-behind standing. Bowling, like baseball, is not clock-driven. Also, I doubt that a player's objective would normally depend on the score: just try to roll strikes and spares each time. (Knowing he's behind, though, may put some pressure on a player.)

-- KS

Edited: 14 Aug 2010, 3:37 a.m.

Re: an interesting challenge

*Message #23 Posted by **Don Shepherd** on 14 Aug 2010, 7:01 p.m.,*
in response to message #22 by Karl Schneider

> Quote:
>
> I doubt that a player's objective would normally depend on the score: just try to roll strikes and spares each time.

I fully agree. A bowler's strategy is to get as many strikes as possible. Failing

that, spares. Failing that, just knock down as many pins as you can. That is the strategy, regardless of the current score. But the goal is to beat the other players (if you are in a league, especially, and especially if there is money riding on it, which is not uncommon). And to beat the other players, you need to know where you, and they, currently stand. Hence, cumulative score.

If you're bowling for fun, which is what I have always done, your goal is just to have a good time.

Don

Re: an interesting challenge

*Message #24 Posted by **Chuck** on 11 Aug 2010, 12:53 a.m.,*
in response to message #1 by Don Shepherd

Well, I get 181 with the following sequence:

23 43 53 61 89 109 127 137 157 181

Any higher than that?

Re: an interesting challenge

*Message #25 Posted by **Don Shepherd** on 11 Aug 2010, 7:42 a.m.,*
in response to message #24 by Chuck

Chuck, my source shows a higher score than that.

Don

Re: an interesting challenge

*Message #26 Posted by **Alex L** on 11 Aug 2010, 10:54 a.m.,*
in response to message #25 by Don Shepherd

Here's the result of manually applying a greedy algorithm...

```
X   X   3/  8/  8/  8/  6/  8/  X   XXX
23  43  61  79  97  113 131 151 181 211
```

Curious to see if there are improvements.

Re: an interesting challenge

*Message #27 Posted by **Don Shepherd** on 11 Aug 2010, 12:05 p.m.,*
in response to message #26 by Alex L

Alex, a higher score is possible.

Don

Re: an interesting challenge

*Message #28 Posted by **Alex L** on 11 Aug 2010, 1:02 p.m.,*
in response to message #27 by Don Shepherd

I figured more might be possible, looking heuristically for runs of primes separated by 30 & 20...

```
 -/  7/  X   X   X   X   X   42  -/ XXX
 17  37  67  97 127 151 167 173 193 223
```

The two gutter balls can actually be any rolls.

Re: an interesting challenge

*Message #29 Posted by **Bill (Smithville, NJ)** on 11 Aug 2010, 1:27 p.m.,*
in response to message #28 by Alex L

> Quote:
>
> The two gutter balls can actually be any rolls.

But I really like the idea that you can start with a gutter ball and still end up with a high score.

Bill

Re: an interesting challenge

*Message #30 Posted by **Don Shepherd** on 11 Aug 2010, 1:35 p.m.,*
in response to message #28 by Alex L

You're getting there.....

:)

Don

Re: an interesting challenge

*Message #31 Posted by **Alex L** on 11 Aug 2010, 1:58 p.m.,*
in response to message #30 by Don Shepherd

I'm actually enjoying working this problem manually. But I have to think that with 6 consecutive strikes and no open frames, I've got to be close.

At least I've narrowed down any brute force search. :)

```
 -/  7/  X   X   X   X   X   X   2/ 2/8
 17  37  67  97 127 157 179 199 211 229
```

** after posting, I see that Jeff O. beat me to this score. **

Edited: 11 Aug 2010, 2:03 p.m.

Re: an interesting challenge

*Message #32 Posted by **Bill (Smithville, NJ)** on 11 Aug 2010, 8:59 a.m.,*
in response to message #1 by Don Shepherd

Don,

Very interesting challenge. What's interesting is the question "do you want to maximize the first frame score", or would a lower score in the first frame ultimatelly result in a higher total score.

From a calculation point, I'm thinking a brute force recursive method would solve it on a computer, but wouldn't work on a calculator.

For the mathematical bowlers, you might want to try the following bowling game next time at the lanes:

Rules for Bowling for Primes

Bill

Re: an interesting challenge

*Message #33 Posted by **Katie Wasserman** on 11 Aug 2010, 10:22 a.m.,*
in response to message #32 by Bill (Smithville, NJ)

I like it, but the scoring is a little complex and hard to remember. Maybe we can convince Nintendo to add this option to their Wii bowling games. I'm sure the retired mathematicians in the Wii bowling league will appreciate this. For brick and mortar bowlers, this would be a perfect program to put on your favorite, programmable HP calculator.

Re: an interesting challenge

*Message #34 Posted by **Ken Shaw** on 11 Aug 2010, 12:59 p.m.,*
in response to message #1 by Don Shepherd

This is starting to look hard.

If this problem is extended to an arbitrary number of frames (greater than 10), could someone here figure out if it's another one of those NP-complete problems? Maybe we can get the Clay Institute to offer up $1,000,000

:-)

Re: an interesting challenge

*Message #35 Posted by **Alex L** on 11 Aug 2010, 1:38 p.m.,*
in response to message #34 by Ken Shaw

Once the score reaches 1327, there's a prime gap of 34, so no next frame score is possible (Wikipedia - Prime Gap). So there's an upper bound on the number of frames.

Re: an interesting challenge

*Message #36 Posted by **Ken Shaw** on 11 Aug 2010, 2:27 p.m.,*
in response to message #35 by Alex L

I guess that was obvious. Oops.

Re: an interesting challenge

*Message #37 Posted by **Jeff O.** on 11 Aug 2010, 1:41 p.m.,*
in response to message #1 by Don Shepherd

How about:

```
Frame:  1   2   3   4   5   6   7   8   9  10
Pins:  7-  X   X   X   X   X   X   X   2/ 2/8
Score:  7  37  67  97 127 157 179 199 211 229
```

Re: an interesting challenge

*Message #38 Posted by **Don Shepherd** on 11 Aug 2010, 2:17 p.m.,*
in response to message #37 by Jeff O.

Jeff and Alex, congratulations, you got it. You are steely-eyed misslemen, or at least math whizzes.

My source.

Re: an interesting challenge

*Message #39 Posted by **Jeff O.** on 11 Aug 2010, 3:38 p.m.,*
in response to message #38 by Don Shepherd

Well, I don't think that I "devised an ingenious solution to a tough problem under extreme pressure." There was no pressure, other than the glory of being first to get the correct answer in a very clever group. Not a math whiz either, got it more or less by trial and error. Figuring the highest score would start with two strikes, I then tried "rolls" that continued to give prime numbers. If I hit a dead end, I back-tracked and tried again. The best I could do starting with two strikes was 193, which did not seem very high. Then I tried starting with one strike and came up with 193 again. I thought I tried starting with a spare, but if so I must have made an error because as Alex demonstrated, doing so can lead to the correct answer. I ended up going with an open first frame with the highest score possible, 7, and went from there. Helped a lot that 37, 67, 97, 127, and 157 are all primes, as seven strikes in a row does a lot to get a good score.

Regarding your source, great, another book about prime numbers that I will have to buy. I already have "Music of the Primes" and "Prime Obsession" (which is an awesome book that didn't make me feel too stupid.) I'm sure there many, many more books about prime numbers, but I only have so much time to read such things.

Edited: 11 Aug 2010, 3:40 p.m.

Re: an interesting challenge

*Message #40 Posted by **Don Shepherd** on 11 Aug 2010, 4:19 p.m.,*
in response to message #39 by Jeff O.

Thanks, Jeff. As you and Alex showed, there is more than one solution (first frame 7, first frame 17). The book's solution is first frame 17. The book's authors claim that 229 is the highest score possible, and I was wondering if anyone here in this august group might find a higher score, and we could write the authors and tell them they are wrong.

I thought it was an interesting problem, if not earth-shaking. It does make you do one thing that seems to have diminished importance today, and the word was an IBM motto for many years: think.

Congratulations to you and Alex again (and everyone who contributed) and thanks for participating.

Edited: 11 Aug 2010, 4:20 p.m.

Re: an interesting challenge

*Message #41 Posted by **Egan Ford** on 11 Aug 2010, 5:24 p.m.,*
in response to message #40 by Don Shepherd

I would argue that Alex's 223 solution is the practical highest since the 229 solutions (there is more than one) requires that 2 pins be knocked down on the first ball. Near impossible.

Maybe that can be the HHC 2010 challenge--knock down 2 pins on the first ball.

Edited: 11 Aug 2010, 5:24 p.m.

Re: an interesting challenge

*Message #42 Posted by **Don Shepherd** on 11 Aug 2010, 5:34 p.m.,*
in response to message #41 by Egan Ford

Near impossible? Bowl with me sometime and you'll change your mind!

:)

Don

Re: an interesting challenge

*Message #43 Posted by **Palmer O. Hanson, Jr.** on 11 Aug 2010, 9:38 p.m.,*
in response to message #42 by Don Shepherd

Don:

In response to the statement that getting two pins on the first ball was nearly impossible you wrote

> Quote:
>
> Near impossible? Bowl with me sometime and you'll change your mind!

I think getting two on the first ball is about as likely as a golfer getting a hole-in-one. It is particularly unlikely for a bowler who has just got the string of strikes in the solution. While I can't recall seeing a two on a first ball I can recall seeing a bowler pick up a seven-ten split but I can't recall if a rebound from the pit was involved.

My bowling experience predates yours. My high school had an intramural coeducational bowling league in my senior year (1946). I was also on a team that competed (ineptly, in my case) interscholastically.

I also did some pin setting. That was one of the best paying jobs for teen age boys in those days but it was a little dangerous.

Palmer

Re: an interesting challenge

*Message #44 Posted by **Don Shepherd** on 11 Aug 2010, 10:12 p.m.,*
in response to message #43 by Palmer O. Hanson, Jr.

> Quote:

> I think getting two on the first ball is about as likely as a golfer getting a hole-in-one. It is particularly unlikely for a bowler who has just got the string of strikes in the solution.

You may be right, but I've had some pretty bad rolls in my day and I seem to recall my ball just barely hitting the 7 pin and the 7 pin then knocks over the 8 pin (or, on the other side, the 10 pin and 9 pin). I've also got many a 7-10 split for hitting the 1 pin headon, rather than aiming for the "pocket" which I've never been able to do consistently. I know I've never converted a 7-10 split into a spare, but many a time I've hit either the 7 or the 10!

Yeah, the likelihood of getting a string of strikes and THEN getting a 2 would appear to be pretty small, I admit.

And I've rolled many a gutter ball, but I'm too proud to ask for bumpers today!

Re: an interesting challenge

*Message #45 Posted by **DavidShenk** on 11 Aug 2010, 7:11 p.m.,*
in response to message #40 by Don Shepherd

Discussion of this problem can be found here.

Re: an interesting challenge

*Message #46 Posted by **Martin Pinckney** on 11 Aug 2010, 5:50 p.m.,*
in response to message #39 by Jeff O.

Hopeless geeks.

Re: an interesting challenge

*Message #47 Posted by **Don Shepherd** on 11 Aug 2010, 10:15 p.m.,*
in response to message #46 by Martin Pinckney

And proud of it! I still walk around with 80-column punchcards in my pocket sometimes. :)

Re: an interesting challenge

*Message #48 Posted by **Jeff O.** on 11 Aug 2010, 10:42 p.m.,*
in response to message #46 by Martin Pinckney

Guilty as charged.

Re: an interesting challenge

*Message #49 Posted by **Gerson W. Barbosa** on 12 Aug 2010, 7:57 a.m.,*
in response to message #39 by Jeff O.

> Quote:
>
> Regarding your source, great, another book about prime numbers that I will have to buy.

While you don't, you can take a look at the online version of his source.

Since Don's previous challenge is a dead topic now I think disclosing his source, which I had already found, should be no problem:

http://primes.utm.edu/curios/page.php?short=85837

Re: an interesting challenge

*Message #50 Posted by **Don Shepherd** on 12 Aug 2010, 8:31 a.m.,*
in response to message #49 by Gerson W. Barbosa

Yeah, thanks Gerson, I'd forgotten about that!

Don

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How to repair my HP 9100A calculator ?

*Message #1 Posted by **Jonathan** on 10 Aug 2010, 7:37 a.m.*

Hello, somebody gave me a HP 9100A calculator. It's very clean into but it doesn't work (there is only one green point on the screen). What could be the problem ? What must I test and verify firstly ? Where I can find a maintenance manual or informations about voltage? Kind regards!

Edited: 10 Aug 2010, 7:37 a.m.

Re: How to repair my HP 9100A calculator ?

*Message #2 Posted by **Joel Setton (France)** on 10 Aug 2010, 1:26 p.m.,*
in response to message #1 by Jonathan

A 9100 calculator... you're the luckiest guy on earth!!! You'll find a service manual on the Australian website: www.hpmuseum.net The service manual will definitely help!

Joel Setton

Re: How to repair my HP 9100A calculator ?

*Message #3 Posted by **Jonathan** on 10 Aug 2010, 1:41 p.m.,*
in response to message #2 by Joel Setton (France)

Thanks a lot!!!!!!! Now I can repair my calculator, I will need time but now I can repair my calculator :-)

Re: How to repair my HP 9100A calculator ?

*Message #4 Posted by **Katie Wasserman** on 10 Aug 2010, 1:55 p.m.,*
in response to message #2 by Joel Setton (France)

I'm not so sure the service manual will help. It has schematics for the power supply and video driver boards but nothing else. It, like many of the HP calculator repair manuals, suggest swapping boards. Which might be an ok thing to do (I know that Tony will disagree) but only if you have a bunch of spares.

-Katie

Re: How to repair my HP 9100A calculator ?

*Message #5 Posted by **Jonathan** on 10 Aug 2010, 2:05 p.m.,*
in response to message #4 by Katie Wasserman

Perhaps... but I think there is a first problem with the power supply of the calculator (there is only a point on the screen) and with this manual I will be able to test voltage. Of course after perhaps there will have a second problem with logic system... but if I can just repair it in order the normal display appears, I will be very happy! :-)

Re: How to repair my HP 9100A calculator ?

*Message #6 Posted by **Israel Otero** on 10 Aug 2010, 4:27 p.m.,*
in response to message #5 by Jonathan

Hi from Puerto Rico

These are very robust machines. In 1983 a service technician, that serviced the University of Puerto Rico Natural Sciences Faculty's computer centre HP-2000 Basic Access System give me a HP-9100A and he told me that he did not know if the machine worked or not (the only thing given was the power cord) I went home, plugged it in and after waiting more than 5 minutes the image on the display started to show and after that it continuing working fine ever since. Once in a while I fire it up to make sure is working as I live in the Caribbean and heat and humidity make difficult for the calculator to boot sometimes. But it is still there with me. As a matter of fact is the oldest electronic device I own. When this machine was launched in 1969 I was 15 and on high school, and I never dreamed of still having a technology of the sixties as revolutionary as this one is. On this year along with, UNIX, the Apollo Guidance Computer are the three concepts that were to change the next decade for portable operating system written in a high level language, first navigational portable computer, and the personal computer (for engineers and scientists only at least) that made me part of the history of achievements to dedicate the rest of my life to love HP classic calculators, UNIX/Linux and space exploration.

I hope Jonathan that you will able to repair your HP-9100 soon.

It represents to me the eternal truth of an ethical corporation as HP was in it's golden years and a pleasure to me to share and be here with everyone of you.

Re: How to repair my HP 9100A calculator ?

*Message #7 Posted by **Jonathan** on 11 Aug 2010, 3:21 a.m.,*
in response to message #6 by Israel Otero

Thanks for your story! It's always very interesting to listen this! This period of the beginning of the computers should have been very exciting! Nobody have invented yet the time machine ??? :-)

Re: How to repair my HP 9100A calculator ?

*Message #8 Posted by **Israel Otero** on 12 Aug 2010, 4:57 a.m.,*
in response to message #7 by Jonathan

Israel Otero from Puerto Rico.

Thanks Jonathan for your kind response.

One thing that I learned is if you want to know something very well, you need to study from its earliest beginnings so you grasp, value and make you understand it and in some way love it better. That's why history is so interesting to me.

Talking of that special year of 1969 Linus Torvalds the creator of Linux born in that year too (28.12.1969) I just discovered it today.

I see things in life linked because of the relation of dates and facts and that eases understanding.

I wished so many times that someone could invent a time machine too. Let propose it to HP

to do it. :-).

I love to know about those beautiful people who love these devices, they make feel happiness and my life has a purpose.

Let wish your HP 9100 will be alright soon.

Re: How to repair my HP 9100A calculator ?

*Message #9 Posted by **Jonathan** on 12 Aug 2010, 12:48 p.m.,*
in response to message #8 by Israel Otero

Ok for the inventor who will create the time machine: Don't forget to come back with many HP 9100A! :-) You can see my HP 9100A here: http://procedural-objects.pagesperso-orange.fr/collection.htm Have you got other calculators or just only this ? Kind regards

Re: How to repair my HP 9100A calculator ?

*Message #10 Posted by **Israel Otero** on 12 Aug 2010, 3:42 p.m.,*
in response to message #9 by Jonathan

Israel Otero from Puerto Rico

Hi Jonathan,

Unfortunately this only one I have.

I have some other HP calculators about a couple of them because of sentimental value. But a collection as such no. The ones I have were given to me when I was a student or purchased by me when they were at sale.

I feel that those machines are to be used and enjoyed because there is always persons like you are that are able and lucky enough to start and maintain a proper collection large enough to be relevant historically.

I wish you that you are able to keep growing your collection and in the future land in the hands of a person or group that value it and take proper care.

Re: How to repair my HP 9100A calculator ?

*Message #11 Posted by **Tony Duell** on 11 Aug 2010, 4:07 a.m.,*
in response to message #5 by Jonathan

The display is entirely driven by the processor section. If the digital side is malfunctioning, you will get no display (or maybe just a dot). And while (obviously), 'no display' can be caused by a problem in the CRT driver cirucits or PSU, most of the time it is a logic problem.

From the Australian museum site you can get the official HP service manual ('boardswapper guide' :-)), the interfacing manual (you may wonder why you need this -- it's actually the most technical of all the 9100 manuals and is well worth reading), but no full schematics. I don't own a 9100A, you see... But there are 9100B scehamtics that might be a starting point.

The 9100A and 9100B are similar in some areas and quite different in others. From what I remember :

The flip-flop boards are the same

The control logic (clock and core-on-a-rope microcode) board is similar, different ROM programming, but otherwise much the same

The core memory system is very different (but similar is design concepts?)

The main ROM/gate board assembly is different (again similar concepts?)

The keyboard is pretty similar.

The card reader is different

The entire top case, PSU and CRT circuitry is the same.

Now, getting started...

Firstly, I would take the whole machine apart (this includes removing the 'sideboards' that connect the ROM to the gating board) and clean all the edge contacts. Look for silly faults too at the same time.

Check the 3 fuses (mains, -15V supply, EHT supply) on the PSU chassis in the top case. Also check the 3 little filament lamps up there, you need them for the tests.

Reassemble, but leave the card reader out for the moment. You must connect the keyboard (the machine will not run if there keyboard is not present). Power up.

Check the -15V supply to the logic. Normally, if the 2 lamps that illuminate the register label to the right of the CRT are lit then the -15V supply is OK, but it's worth checking.

Press STOP twice (in case the thing is stuck in a running program), the do something that will cause an error -- 1, CHS, SQRT is my normal sequence. If the error lamp (left of the CRT) comes on, then the processor is basically working, so troubleshoot the CRT driver circuits

Check the CPU clock is running (test connector on the control logic board, leftmost in the cardcage). Check the various bias supplies on that connector (and on the flip-flop board connectors).

Now, some of the flip-flops are the program counters for the microcode and firmware ROMs. I can look up which ones they are for the 9100B, but the -A may well be different. If you can find them (I can give you hints...) then check the outputs (E and F signals) on the test connectors on the flip-flop boards. All should be toggling. If not, either the flip-flop is defective, or the logic driving it, or...

A 'silly' that will remove the display is a lost of the mains sync signal (the display routine is synchronised to the mains to prevent flicker). In the 9100B it's a transsitor on the right sideboard -- no idea where it is on the 9100A, but tracing the AC signal in the PSU cableform should find it.

Re: How to repair my HP 9100A calculator ?

*Message #12 Posted by **Jonathan** on 11 Aug 2010, 3:13 p.m.,*
in response to message #11 by Tony Duell

Hello, thanks a lot for your knowledge about this computer. My father works in electronics and he will help me to try to repair it. Of course I will tell on this place my progress on the problem. Kind regards

Re: How to repair my HP 9100A calculator ?

*Message #13 Posted by **Donald Williams** on 10 Aug 2010, 4:48 p.m.,*
in response to message #1 by Jonathan

In case you have not already done so, I suggest you remove all the boards (one at a time), clean the edges, and securely re-seat the board. Then try it again.

Re: How to repair my HP 9100A calculator ?

*Message #14 Posted by **Jonathan** on 11 Aug 2010, 3:24 a.m.,*
in response to message #13 by Donald Williams

Thanks, but like I said, into it's practically new. But ok I will clean all the connectors. Just in case, do you know if somebody had a same problem with his HP9100 ? Kind regards

Re: How to repair my HP 9100A calculator ?

*Message #15 Posted by **Tony Duell** on 11 Aug 2010, 4:09 a.m.,*
in response to message #14 by Jonathan

I've got a couple of 9100Bs that have had similar problems.

One time it was a defective address driver transistor on the main ROM PCB. The other time it was a defective transistor on the microcode branch logic on the left sideboard.

Basically, a 'no display' fault can be almost anywhere in the machine.

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PIL Box - communication with an external HP71B

*Message #1 Posted by **Roland Storz** on 10 Aug 2010, 4:08 a.m.*

Hello, since a couples of years I did use the ISA HPIL board, however, since I was trying to switch to PIL Box I have to admit I'm somehow lost (frankly speaking I do not feel like an HPIL expert).

I do hope somebody could briefly describe his procedure how to exchange files from the Emu71 HDRIVE1 to a real HP71B and backwards?

My "simple" environment looks as follows: Emu71 (latest version), PIL Box (via COM2), ILPer (via COM2), real HP71B

FTDI driver installed (driver setup OK), ILCtrl shows Device ID (1): HP71, ILper shows my "hdrive1.dat" in Mass Storage LIF file: (nothing else, no error message)

In the past I used the following procedure, which worked perfectly:

- communication with an external HP-71B To exchange program and data files with an external HP-71B, just make it a device by typing CONTROL OFF on the HP-71B. Then do RESTORE IO on Emu71. You can now copy files between Emu71 and HP-71B. Emu71 to HP-71B: do 'COPY :LOOP' on the HP-71B do 'COPY file TO :HP71' on Emu71 HP-71B to Emu71: do 'COPY file TO :LOOP' on the HP-71B do 'COPY :HP71' on Emu71

I would be very grateful for any help, Many thanks in advance, Roland,

Re: PIL Box - communication with an external HP71B

*Message #2 Posted by **Raymond Del Tondo** on 10 Aug 2010, 12:59 p.m.,*
in response to message #1 by Roland Storz

IIRC, you have to use the HDRIVE as buffer when using the PIL box.
Thus, a COPY file TO :TAPE (or whatever addr the HDRIVE is) should work;-)

However what does the doc say?

HTH

Raymond

Re: PIL Box - communication with an external HP71B

*Message #3 Posted by **Roland Storz** on 11 Aug 2010, 8:21 a.m.,*
in response to message #2 by Raymond Del Tondo

Raymond, thanks for the advice, I will try tonight,

by the way, which doc are you refering to, is there anything available to look at?

Thanks again, Roland

Re: PIL Box - communication with an external HP71B

*Message #4 Posted by **Roland Storz** on 11 Aug 2010, 1:21 p.m.,*
in response to message #2 by Raymond Del Tondo

Raymond,

the COPY to :TAPE works fine, however, to copy the file to :HP71 does not work, on my real HP71b I got: PILERR: File not found

Do you have any idea, what I could try to overcome

Thanks in advance, Roland

Re: PIL Box - communication with an external HP71B

*Message #5 Posted by **J-F Garnier** on 24 Aug 2010, 12:50 p.m.,*
in response to message #4 by Roland Storz

Roland, in case you didn't solve the problem yet: latest Emu71 version should work with the PILBox as with the HPIL ISA board, however it may fail on some systems (== not 100% reliable).

My recommended method for reliable communication between Emu71 and HP71 with the PILBox is to use the IL-Per software (available on my PIL-Box page): do not declare any XIL in Emu71.ini and use IL-Per as a gateway by sharing the hdrive1.dat file: You can now copy files between Emu71 and HP-71B. Do 'COPY file TO :HDRIVE1' on the one side, then do 'COPY file:HDRIVE1' on the other side. Fast and efficient.

J-F

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Identifying equations on HP 35s

*Message #1 Posted by **Richard S** on 9 Aug 2010, 8:30 p.m.*

Is there a way to add a title to the upper display register so it will show an easily identifiable title of the equation, while the lower display register will show the actual equation? I searched the Hp 35s manual but didnt see the answer to this question. Thanks for any help i may receive.

Richard

Re: Identifying equations on HP 35s

*Message #2 Posted by **Pablo P (Spain)** on 10 Aug 2010, 5:10 a.m.,*
in response to message #1 by Richard S

Hi Richard, yes you can do it. First add the equation in the list and then add a second equation just above the first one. The second equation will be the title that you can create usign the combination RCL + letter. You can compose any text.

For example, in the equation list you can create the next two equations. The first equation will be the "real" one and the second equation will be the title:

```
upper line: AREA CIRCLE        (PRESS: RCL + R/S, RCL + 7 ...)
lower line: PIxR^2
```

Edited: 10 Aug 2010, 5:10 a.m.

Re: Identifying equations on HP 35s

*Message #3 Posted by **Norman Dziedzic** on 10 Aug 2010, 6:20 p.m.,*
in response to message #2 by Pablo P (Spain)

That's brilliant! I was thinking this couldn't be done and I do have several equations that are similar looking which I'd like to distinguish.

Thanks!

Re: Identifying equations on HP 35s

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 10 Aug 2010, 11:56 p.m.,*
in response to message #2 by Pablo P (Spain)

Hi;

considering that the HP35S has memory enough to be used this way, I think this is worth doing. Also, HP33S users might take advantage over this tip.

Cheers.

Luiz (Brazil)

Re: Identifying equations on HP 35s

*Message #5 Posted by **Richard S** on 10 Aug 2010, 8:01 p.m.,*
in response to message #1 by Richard S

Thanks for the help!!

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Nice price?

*Message #1 Posted by **matti** on 9 Aug 2010, 11:55 a.m.*

Hi

What do you think about this auction in E___.co.uk - nice price, isn't it?

HP FINANCIAL CALCULATOR HP17B11PLUS Price: £0.99 Buy It NowBuy Postage and packaging £125.21 United Kingdom Royal Mail 1st Class Standard

wishes matti (Finland)

Re: Nice price?

*Message #2 Posted by **DavidShenk** on 9 Aug 2010, 1:41 p.m.,*
in response to message #1 by matti

Sellers that think they have outsmarted the system by hiding the purchase price in the postage should watch out. All it takes is one person to buy that and then complain that ebay's guidelines for what can be charged for postage are not being followed. I think if someone pushed the issue, you would receive the item at the cheap price with only a fair postage charged. The seller will lose on that one.

Dave

Re: Nice price?

*Message #3 Posted by **Dave Shaffer (Arizona)** on 9 Aug 2010, 2:08 p.m.,*
in response to message #2 by DavidShenk

You can (or at least used to be able to) tell ebay that a current auction violates their terms of use - excess postage to avoid selling fees being one of them.

Re: Nice price?

*Message #4 Posted by **NateB** on 11 Aug 2010, 5:14 p.m.,*
in response to message #3 by Dave Shaffer (Arizona)

You can report auctions that violate TOS, but anymore eBay doesn't seem to care.

I reported a few similar auctions, one was buy it now with a $349 shipping charge. The same seller had multiple auctions with low buy it now or start bids and shipping charges that ran several hundred dollars. The listings were never removed and several of the items sold. As a buyer using PayPal, I think you'd only be covered for the $0.99 purchace price , not the shipping...

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Nice price?

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P!=NP

*Message #1 Posted by **Frank Boehm (Germany)** on 9 Aug 2010, 11:14 a.m.*

Proof posted

Hmm, seems like I didn't take enough math lessons to win a Millenium Prize 8)

Re: P!=NP

*Message #2 Posted by **Norman Dziedzic** on 9 Aug 2010, 1:48 p.m.,*
in response to message #1 by Frank Boehm (Germany)

Wow, I didn't take enough mathematics to read the abstract!

Here is a description of P?=NP couched in the framework of the minesweeper game: Minesweeper as P?=NP

Re: P!=NP

*Message #3 Posted by **sjthomas** on 9 Aug 2010, 4:26 p.m.,*
in response to message #1 by Frank Boehm (Germany)

> Quote:
>
> The presence of conditional independencies manifests in the form of economical parametrizations of the joint distribution of covariates.

My undergraduate degree is in mathematics, yet my eyes are glazing over.

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More FPGA progress

*Message #1 Posted by **Olivier De Smet** on 9 Aug 2010, 9:29 a.m.*

Hi,

Just some news for those interested : A new HP86b+ in FPGA

Some more bugs but many progress ...

Olivier

Re: More FPGA progress

*Message #2 Posted by **Eric Smith** on 9 Aug 2010, 5:32 p.m.,*
in response to message #1 by Olivier De Smet

Looking very good!

My own recent FPGA project (RetroChallenge 2010 winner, "best hardware hack") was much less ambitious: implementing the old COSMAC ELF microcomputer from the Popular Electronics article in an FPGA. Runs 100 times faster than the original.

It's not really calculator related, but I do have CamelForth running on it, so at least it does RPN. :-)

Much thanks to Jim Donnelly, former HP Corvallis Division calculator engineer, for machining the aluminum front panel for me. Much thanks also Richard Ottosen and Jim Phillips, who also helped with the front panel. Richard recorded the demo video using my cell phone.

demo video

Blog entries

Re: More FPGA progress (OT - COSMAC)

*Message #3 Posted by **Andrés C. Rodríguez (Argentina)** on 9 Aug 2010, 6:13 p.m.,*
in response to message #2 by Eric Smith

Eric:

Back in the last 70s, I was a fan of the CDP1802 and the ELF. I built my own ELF, which is still operable today, with its eight toggle switches using DMA to initialize RAM from console (no ROM monitor needed), a speaker driven by Q, and so on. The original ELF had a couple of HP hex displays that were very nice but also expensive, so I resorted to standard 7-segment displays driven by Mitel 4368 decoders (if memory helps). I bought an 1861 for video, but never found time to put it to work. In fact, in the Memories section of the Museum, in an old article by me, there are photos of my ELF and also of a "chemical process monitor" I developed with the 1802. The fact that it was CMOS captured me, but not to the point of consuming all my hobby money; some was directed to my HP-41C and its accessories.

I would like to know more about your FPGA-based COSMAC, because I became a EE professor, and we have some courses here where the students replicate classic microprocessors using FPGA.

Best regards, congratulations, and thank you for the chance to refresh these memories!

Re: More FPGA progress

*Message #4 Posted by **Thomas Klemm** on 12 Aug 2010, 3:29 a.m.,*
in response to message #2 by Eric Smith

Cool project! Thanks for letting us know. Those of us unable to solder may still use the Cosmac Elf Emulator and key in the dice rolling program.

Edited: 12 Aug 2010, 3:30 a.m.

Willing to share?

*Message #5 Posted by **Mike** on 11 Aug 2010, 3:17 p.m.,*
in response to message #1 by Olivier De Smet

I just placed an order for this board, for another project. Is your 85B emulator available for others to try out?

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Canon's X Mark I Mouse

*Message #1 Posted by **Martin Pinckney** on 8 Aug 2010, 8:42 p.m.*

No = key, no parentheses.

RPN? Adding machine logic?

Here or here.

Re: Canon's X Mark I Mouse

*Message #2 Posted by **Katie Wasserman** on 8 Aug 2010, 9:01 p.m.,*
in response to message #1 by Martin Pinckney

I'm sure that the Enter key is just a dual purpose "=" and "enter" for use as the computer number pad. The reason I'm sure is that Canon sells a calculator called the X Mark I too, and it has an "=" key.

HP, how about one of these for us RPN fans?

-Katie

Edited: 8 Aug 2010, 9:03 p.m.

Re: Canon's X Mark I Mouse

*Message #3 Posted by **Walter B** on 9 Aug 2010, 4:29 a.m.,*
in response to message #2 by Katie Wasserman

HP has something *similar* here already, though algebraic :-/ Should be a no-brainer to add the mouse functions ...

Re: Canon's X Mark I Mouse

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 9 Aug 2010, 9:55 a.m.,*
in response to message #1 by Martin Pinckney

HI;

I am not sure if I am reasoning backwards, but... Isn't a mouse designed primarily to slide over a working surface with the smallest movement resistance possible so the user could move it easily? If so, wouldn't this 'mousulator' ('calculouser' sounds weirder to me...) sleep away while the user is trying to press the correct keys? Cannot see a way to make it work reasonably well in both circumstances.

Any thoughts?

Yup, I now, the little thing has not yet reached the sales points and I am already trying to sink it...

Cheers.

Luiz (Brazil)

Edited: 9 Aug 2010, 9:57 a.m.

Re: Canon's X Mark I Mouse

*Message #5 Posted by **Walter B** on 9 Aug 2010, 6:32 p.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

Olá Luiz,

You're right, maybe a trackball on this 'mousulator' (I love this word) is a better solution, so the whole device rests stable on the desk.

Cumprimentos,

Walter

Re: Canon's X Mark I Mouse

*Message #6 Posted by **Dave Shaffer (Arizona)** on 9 Aug 2010, 2:06 p.m.,*
in response to message #1 by Martin Pinckney

If you get a wrong answer, you can always claim you hit the "BS" button by mistake!

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HP 9845A Printer Problem

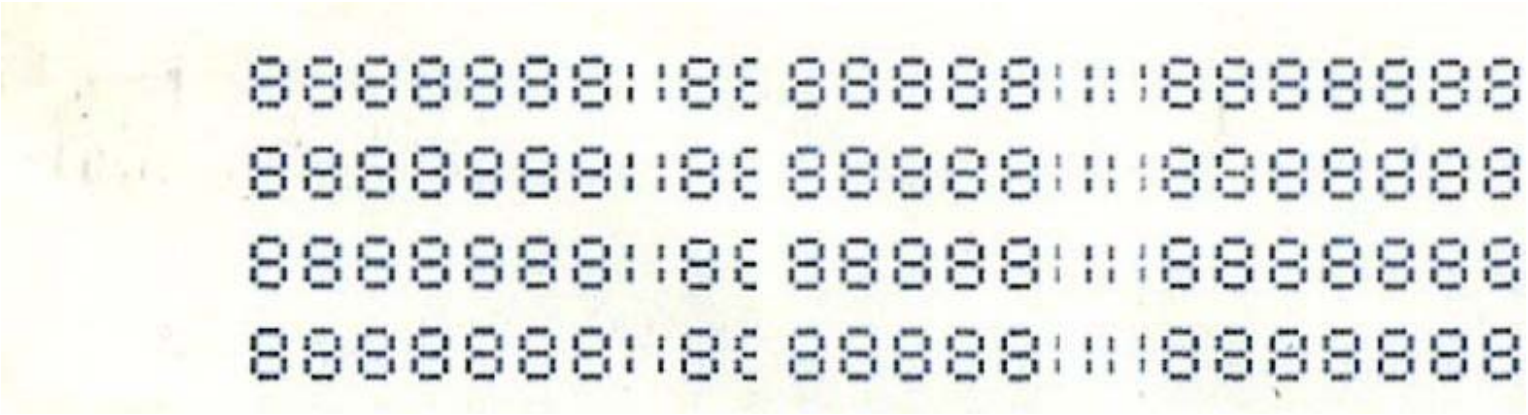
*Message #1 Posted by **Mike** on 8 Aug 2010, 7:39 p.m.*

I think I know the answer to this but I have to ask anyway.

I have a nice HP 9845A, with dual tape drives and built in printer. It's had a memory upgrade to 64K. Everything works great, after I repaired the tape capstans, except the printer. It's like a 9825 on steroids. ;)

It works fine except there are some pixels missing. Is there any way to repair these, short of finding a parted out 9845? Is this printer used in other printers or computers? I'd like to find a replacement.

This is what the print looks like:



The rest of the 80 columns look fine. Only in a few places at the beginning is it missing pixels.

Is this problem likely in the print head, or might it be in the electronics, that might allow me to repair it?

Edited: 8 Aug 2010, 7:41 p.m.

Re: HP 9845A Printer Problem

*Message #2 Posted by **Tony Duell** on 10 Aug 2010, 4:46 a.m.,*
in response to message #1 by Mike

I am going to assuem that the 9845A printer is very similar to the one used in the 9845B. I have some knowledge of the latter machine.

The printhead/mechanism is used in another HP product (at least) -- the HP9876A thermal printer. But I suspect those are as rare as 9845s now.

Anyway, the printhead is actually quite complicated. It consists of a 560 bit shift register driving the 560 thermal print elements. The shift register/drivers are contained in 7 hybrid circuits (80 bits each) mounted inside the printhead, they are connected to the thermal elements and to a simple PCB which joins the shift registers together by connectors similar to those used in the original HP41.

On the Australian museum site, you can get the 9876 service manual, and 'my' schematics of the 9845B. That may

be a start as to how things work.

The printhead can be dismantled, but you have to go carefully. Remove the printer chassis from the machine, then remove the complete printhead assembly. Hold it with the front surface down, and make sure nothing is pressing on the electrolytic capacitors on the front of the printhead. Don't bother to remove the heatsinks, but carefully remove the screws on what is now the top face of the printhead. Slacken them a bit at a time, in a diagonal pattern, like taking the cylinder head off a car engine. With the screws out, lift off the metal block.

You can now see the 7 hybrids. Take them out carefully, keep them in order. They are all the same, actually, but it will help debugging if you put them back in the same place. Take out all the connector strips (there are 2 lengths -- 7 of one type and 28 of the other -- and HP say never to touch them with your fingers. That may be going a bit far, but I use tweezers anyway..). Now lift off the plastic frame that holds the connectors.

You can test the printhead elemenets using an ohmmeter between the printhead common connection (on the PCB) and each of the 560 pads that connect to the hybrids. My notes suggest that each element should read 110 ohms or so. If any are open, you need a new printhead (or at least the front block/thermal element part).

Clean all the pads and put it back together, try again. If it works, it was just bad contacts. If not and the defective columns are in the same places, take it apart again, take out the hybrid at one end, move the others along one position and put the removed one back at the other end. Reassemble and try again. If the bad columns have moved, then you have a defective hybrid. The only source is another printhead, of course, but you could move it to the right hand end, which would let you print short lines correctly.

If the defective columns have moved after the first reassembly, it sounds like bad connectors. Try cleaning them more carefully.

Re: HP 9845A Printer Problem

*Message #3 Posted by **Mike** on 10 Aug 2010, 12:07 p.m.,*
in response to message #2 by Tony Duell

Thanks, I have a copy of the 9845B schematic that you reverse engineered. :-)

I hope it's just a contact but if it's not, I will move the first hybrid to the last position. Unfortunately, it looks like the problem area spans two hybrid positions. The first two. That is the area where most of the printing might take place, so it might just be bad hybrids. In any case, moving the first 2 to the last two positions is preferable to where they are now.

I will be looking for another trashed 9845 or other printer, when I can come across one. It's kind of a shame because the 9845A is very nice condition. No mold on monitor, almost no cosmetic conditions and tape drives both work great (now that I have repaired the capstans).

Another question

It is marked 9845A on the keyboard cover. But it has 64K RAM, a 2nd tape drive, and a built in printer. It seems to be configured as the 9845S. Did the "S" version have that designation on the keyboard cover (i.e. 9845S) or was it still a 9845A, with upgrades (options)?

I think I just got lucky on my HP-9845A

*Message #4 Posted by **Mike** on 12 Aug 2010, 1:16 p.m.,*
in response to message #2 by Tony Duell

I found someone selling an HP 9845B, that was missing the monitor, for $100. I bought it and hopefully, I'll be able to get one working printer between the two of these.

At a very minimum, I can restore the drives and sell the remainder for parts or rebuild and recoup that cost

and have a 100% working 9845B.

hmmmm... wonder which would be better to restore? I can probably get either working, assuming a 9845A monitor work on a 9845B. Anyone know?

I have heard the 9845A is more reliable and there are probably fewer of those around. Something to think about.

Edited: 12 Aug 2010, 1:17 p.m.

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HP Forum Archive 19

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Miss the print key on my HP 46

*Message #1 Posted by **Jonathan** on 7 Aug 2010, 1:24 p.m.*

Hello, somebody gave me this calculator, it works very well but it misses the print key... Where I could find it ? Could I buy it separetely (if you know a company which would make this) ? Kind regards

Re: Miss the print key on my HP 46

*Message #2 Posted by **Katie Wasserman** on 7 Aug 2010, 2:29 p.m.,*
in response to message #1 by Jonathan

This will be very hard to find. Unless you find a broken HP-46 I think there is little chance of finding an exact replacement. No other HP calculator had this Print key. I'd look for an old, cheap desktop calculator on ebay that uses a similarly shaped key.

Re: Miss the print key on my HP 46

*Message #3 Posted by **Joel Setton (France)** on 8 Aug 2010, 5:59 a.m.,*
in response to message #1 by Jonathan

Hi Jonathan,

I have a very similar key, salvaged from an unidentified HP keyboard, which may be very close to what you need. If you can send me an e-mail address, I'll send you a couple of pictures.

Salutations,

Joel Setton

Re: Miss the print key on my HP 46

*Message #4 Posted by **Jonathan** on 10 Aug 2010, 7:32 a.m.,*
in response to message #3 by Joel Setton (France)

Hello, I wrote a message but strangely it didn't appear, I give you again my address: j.civitarese(a)wanadoo.fr Kind regards

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HP Forum Archive 19

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Mark Hurd resigns

*Message #1 Posted by **Bruce Bergman** on 6 Aug 2010, 4:57 p.m.*

Interesting article:

Mark Hurd, CEO of HP, resigns

Edited: 6 Aug 2010, 4:58 p.m.

Re: Mark Hurd resigns

*Message #2 Posted by **Tim Wessman** on 6 Aug 2010, 5:20 p.m.,*
in response to message #1 by Bruce Bergman

I am preparing my resume.

TW

Re: Mark Hurd resigns

*Message #3 Posted by **Katie Wasserman** on 6 Aug 2010, 7:10 p.m.,*
in response to message #2 by Tim Wessman

Forget it Tim, they're ready for a woman now (and again) but one who will have the calculator division at the forefront of the company, and one that has no political ambitions. I'm packing to move to CA now....

Re: Mark Hurd resigns

*Message #4 Posted by **Namir** on 6 Aug 2010, 7:35 p.m.,*
in response to message #3 by Katie Wasserman

Katie,

I think the new post for HP's CEO is between yourself and Richard Nelson. It's about time a calculator-passionate person leads HP ... and brings back the 15C AND the 41C.

:-)

Namir

Re: Mark Hurd resigns

*Message #5 Posted by **John B. Smitherman** on 6 Aug 2010, 5:32 p.m.,*
in response to message #1 by Bruce Bergman

I heard that he was caught using a TI calculator. ;-)

John

Re: Mark Hurd resigns

*Message #6 Posted by **Bruce Bergman** on 6 Aug 2010, 6:50 p.m.,*
in response to message #1 by Bruce Bergman

The article mentioned "improper financial reporting"... I wonder if that was done using a non-HP calculator? Accuracy issues, perhaps? ;-)

Tim, any idea of what the new CEO, Cathie Lesjak, thinks of the calculator division? It said she's been around for 24 years, so she hopefully remembers the heyday of that end of the business.

Re: Mark Hurd resigns

*Message #7 Posted by **Tim Wessman** on 6 Aug 2010, 10:28 p.m.,*
in response to message #6 by Bruce Bergman

Um. . . yeah. . . let me just pop over and ask her.

Seriously, I have no more information, and probably less then people who watched/read about the whole thing.

I would be ok with Katie taking over though. :-) TW

Re: Mark Hurd resigns

*Message #8 Posted by **BruceH** on 8 Aug 2010, 7:06 p.m.,*
in response to message #7 by Tim Wessman

She's the CFO - send her a Print Calc 100 with compliments. :-)

Re: Mark Hurd resigns

*Message #9 Posted by **Martin Pinckney** on 8 Aug 2010, 7:12 p.m.,*
in response to message #7 by Tim Wessman

> Quote:
>
> Um. . . yeah. . . let me just pop over and ask her.

Have you tried?

Re: Mark Hurd resigns

*Message #10 Posted by **Martin Pinckney** on 6 Aug 2010, 10:44 p.m.,*
in response to message #1 by Bruce Bergman

> Quote:
>
> Hurd said it was a "painful decision" to leave but acknowledged there were "instances in which I did not live up to the standards and principles of trust, respect and integrity that I have espoused at HP." He will get a $12.2 million severance payment.

If I could get 12.2 mil for *not* working, I would resign, too.

Painful? Now he can spend all the time he wants in the "no affair and no intimate sexual relationship".

Re: Mark Hurd resigns

*Message #11 Posted by **bill platt** on 7 Aug 2010, 12:31 a.m.,*
in response to message #10 by Martin Pinckney

Man, he's getting hosed.

Only 12.2 million will barely buy him a 100 footer. That's in the bush leagues. And he needs to maintain it and use it every year--that's about 1 million.

I feel sorry for the bastard. He's going to have to settle for a 50 footer and still have to watch his pennies to keep her floating.

Re: Mark Hurd resigns

*Message #12 Posted by **db (martinez, ca.)** on 7 Aug 2010, 1:41 p.m.,*
in response to message #11 by bill platt

bill; no kidding. it's a good thing that the ruling/owning class take care of their own, or it could have been even "worse" for him.

i think that the lesson here, that not enough people will get is: give someone power and he or she will abuse it. a difference between a petty tyrant and a hitler can be measured in-- how many people have abdicated their personal responsibility to him (or again, her).

what i wonder is; how many people did he step on (to cover up his tracks or just for fun) on his way up to the "golden parachute jump"?

Re: Mark Hurd resigns

*Message #13 Posted by **bill platt** on 7 Aug 2010, 10:39 p.m.,*
in response to message #12 by db (martinez, ca.)

That is so true.

My favorite political show is the Black Adder, in the period of Richard the "IV". Hilarious and oh-so-insightful about power. which is made that much better by the hilarious British Low Comedic effect.

Kerry is just yet another sleazy politician.

I had to laff when Kennedy's spot went to an irreverent young Republican and the whole Liberal pres was "shocked" at it. I was just cracking up like a crazed hyena in a true Mogambo laffing fit, because I knew that at least part of Massachusetts had had enough!

Oh, but don't take this the wrong way. I could have written this about some Conservative SOB but since Kerry is Liberal I had to go that direction...

Edited: 7 Aug 2010, 10:40 p.m.

Re: Mark Hurd resigns

*Message #14 Posted by **bill platt** on 7 Aug 2010, 10:44 p.m.,*
in response to message #12 by db (martinez, ca.)

But I'd disagree with the ruling/owning "class' analysis. There really isn't a class of those two, because both money, and power, move too fast. Most millionaires are self-made, so they aren't a "class" because they came from something else. And with the exception of the Kennedys and the Bushes, most sleazy bastard politicians are new to the fold, in their own lifetime. That's not to say there isn't any wagon circling--there is! But it really isn't distinguished as an entrenched "class." And this is an important distinction to make, if the People are to have any way to control their rulers...

you get no argument from me bill

*Message #15 Posted by **db (martinez, ca.)** on 8 Aug 2010, 2:47 p.m.,*
in response to message #14 by bill platt

Bill;
I agree that most politicians, whether democrat or republican, are sleazy - or worse. Exceptions like Ron Paul and Jimmy Carter are rare on the ground.

I think that there are *interests* with overlapping goals. Look at the amount of "people" in politics and government that are in the oil industry, Masons, Bilderburg Group and Council on Foreign Relations, among others. To me, it is apparent that those who are supposed to be representing you, me and future generations are really the representing the transnational corporations and the military industrial complex.

So yes; I also agree that mostly these are not multi-generational dynasties, but they function like one. Instead of every time there being a Jr. or "the III" - theres a succession of asserts that are willing to see us with gutted pensions and our kids literally gutted in some war for oil or raw materials. With Democrats like Feinstein, we don't even need more Republicans.

"if the People are to have any way to control their rulers... " i think voters in the US & GB (and the rest of the world which can vote too) need to stop voting for rich kids, the well connected, and actors. We could root out the vicious next.

As a (middle) class; we need to start looking for common interest, and looking *out* for those interests. But i'm not holding my breath on that.

To bring this back on topic.....and we need to buy hp RPN calculators that are made in the free world too.

Re: you get no argument from me bill

*Message #16 Posted by **bill platt** on 8 Aug 2010, 4:07 p.m.,*
in response to message #15 by db (martinez, ca.)

I agree! Very good point about the function being equivalent to a 'bloc'.

As for the last point, I totally agree!

Re: you get no argument from me bill

*Message #17 Posted by **Martin Pinckney** on 8 Aug 2010, 7:10 p.m.,*
in response to message #15 by db (martinez, ca.)

> Quote:
>
> ...and we need to buy hp RPN calculators that are made in the free world too.

Exactly. That's why the newest one I own was probably made in 1993.

If Singapore counts as "free."

Re: Mark Hurd resigns

*Message #18 Posted by **Palmer O. Hanson, Jr.** on 8 Aug 2010, 10:30 p.m.,*
in response to message #11 by bill platt

Bill:

You wrote:

> Quote:
>
> I feel sorry for the bastard. He's going to have to settle for a 50 footer and still have to watch his pennies to keep her floating.

Don't feel too sorry and don't count on him settling for a 50 footer. One financial report says that as of May 20 he owned 396,374 shares. Even at Friday's closing price of $41.99 that's another $16.6 million. I suppose that we could feel sorry for him because the change of -$4.38 on Friday cost him over $1.7 million.

Investors really don't care about the $12.2 million severance package in a financial sense. Look at it this way. There about 2.33 billion shares outstanding. The $12.2 million amounts to about $0.0052 per share. Suppose that I had an investment portfolio of a million dollars (I don't!) and I had it all invested in HP stock (Again, I don't and I wouldn't!) then at the opening price on Friday I would have owned about 21,500 shares. The $12.2 million severance would be equivalent to a little over a hundred dollars.

Investors do care about the nearly ten percent drop in the stock price and the damage to HP's credibility.

Palmer

Re: Mark Hurd resigns

*Message #19 Posted by **db (martinez, ca.)** on 8 Aug 2010, 11:58 p.m.,*
in response to message #18 by Palmer O. Hanson, Jr.

Soft Porn Actress Jody Fischer, who's credits include such landmarks as Sheer Passion, Body of Influence, & Intimate Obsession was identified today as the object of Mark Hurd's affections. Here's a sample of her parts: http://www.youtube.com/watch?v=h9P85hnT2RQ&feature=player_embedded

I don't think that she was at the HP shindig that i got to go to. The women who put that on were real pretty, but not porny at all.

Any boat he wants?

*Message #20 Posted by **Palmer O. Hanson, Jr.** on 10 Aug 2010, 9:37 p.m.,*
in response to message #1 by Bruce Bergman

An AP story says that Hurd could leave HP with $40 million made up of " ... $12.2 million in severance, plus stock and options that could bring the value of the package to more than $40 million ..."

A 100 foot boat may not be a problem after all.

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OT: The five trillionth digit of Pi is..... 2!

*Message #1 Posted by **Egan Ford** on 6 Aug 2010, 11:04 a.m.*

New record, interesting read.

http://www.numberworld.org/misc_runs/pi-5t/details.html

Re: OT: The five trillionth digit of Pi is..... 2!

*Message #2 Posted by **Katie Wasserman** on 6 Aug 2010, 11:45 a.m.,*
in response to message #1 by Egan Ford

I'm working on the sixth trillion digit using my trusty hp-12C ARM-based calculator. My initial guess is that it will be somewhere between 0 and 9, I'll you posted.

Edited: 6 Aug 2010, 2:48 p.m. after one or more responses were posted

Re: OT: The five trillionth digit of Pi is..... 2!

*Message #3 Posted by **Namir** on 6 Aug 2010, 1:00 p.m.,*
in response to message #2 by Katie Wasserman

Personally, I am immigrating to another universe where PI is exactly 3 ... no decimals!!! I hope life there will be smooth in every other aspect!!!

I will send a post card!

:-)

Namir

Re: OT: The five trillionth digit of Pi is..... 2!

*Message #4 Posted by **Gerson W. Barbosa** on 6 Aug 2010, 1:18 p.m.,*
in response to message #3 by Namir

> Quote:
>
> I hope life there will be smooth in every other aspect!!!

Do you think bikes with wheels like that will run smoothly?

;-)

Gerson.

Re: OT: The five trillionth digit of Pi is..... 2!

*Message #5 Posted by **Namir** on 6 Aug 2010, 2:13 p.m.,*
in response to message #4 by Gerson W. Barbosa

So you HAVE been there already!!! Shucks!! I thought I will be the first earthling there ..... not my day!!!

:-)

Namir

Re: OT: The five trillionth digit of Pi is..... 2!

*Message #6 Posted by **Howard Owen** on 6 Aug 2010, 3:22 p.m.,*
in response to message #4 by Gerson W. Barbosa

> Quote:
>
> Do you think bikes with wheels like that will run smoothly?

On the other hand, squaring the circle would be possible.

Re: OT: The five trillionth digit of Pi is..... 2!

*Message #7 Posted by **Namir** on 6 Aug 2010, 4:32 p.m.,*
in response to message #6 by Howard Owen

Might work very well! Remember, we are talking about ANOTHER universe, were basic laws can be very different.

Re: OT: The five trillionth digit of Pi is..... 2!

*Message #8 Posted by **Gerson W. Barbosa** on 6 Aug 2010, 7:09 p.m.,*
in response to message #3 by Namir

Why not just redefining pi to 3 so you don't have to change universe?

Alabama's Pi

This Alabama's Pi story is fake (Indiana's not, as we know :-)

Re: OT: The five trillionth digit of Pi is..... 2!

*Message #9 Posted by **Eric Smith** on 8 Aug 2010, 3:03 p.m.,*
in response to message #8 by Gerson W. Barbosa

Why define it to 3? The correct value of Pi is exactly 3.125, and you can earn yourself 300,000 Swedish crowns if you can prove it wrong.

Re: OT: The five trillionth digit of Pi is..... 2!

*Message #10 Posted by **Glenn Shields** on 8 Aug 2010, 5:18 p.m.,*
in response to message #9 by Eric Smith

I, like most of us, would not take the time to pore over this mess, but would confidently bet real money that there is a fallacy buried deep in there, but this man, who ranks up there with the best charlatans, con men and conspiracy theorists (and Uri Geller?) is counting on our collective common sense not to pursue this, so that he may retain his "fifteen minutes" of fame. Thanks for digging out this drivel. =)

Re: OT: The five trillionth digit of Pi is..... 2!

*Message #11 Posted by **Chuck** on 6 Aug 2010, 8:03 p.m.,*
in response to message #3 by Namir

> Quote:
>
> Personally, I am immigrating to another universe where PI is exactly 3

You DO live in a place where pi=3; planet earth! Go to the North Pole with a long rope and a stake. Stake the rope down, and pull it tight exactly 30-degrees down from the pole. Draw a BIG circle at this parallel. The circumference of the circle is EXACTLY 3 times twice the "radius" (your rope). Pi does equal three in the correct geometry, (or more correctly, in special cases of the correct geometry.)

Now, how long does your "radius" need to be so that pi = e? or even 1?

Cheers

Re: OT: The five trillionth digit of Pi is..... 2!

*Message #12 Posted by **Gerson W. Barbosa** on 6 Aug 2010, 10:02 p.m.,*
in response to message #11 by Chuck

> Quote:
>
> Now, how long does your "radius" need to be so that pi = e? or even 1?

I came up with the formulas (I hope I haven't made any mistakes)

(1) $pi_L=180*\sin(L)/L$

and

(2) $R_L=pi*r*L/180$

where

  L = latitude in degrees
pi_L = pi at latitude L
 R_L = "radius" or length of the rope
  r = radius of the sphere (or the Earth radius in this case)

Thus, solving 180*SIN(L)/L=EXP(1) for L on the 33s, for instance, we get

L = 56.6160486813 degrees, which implies R_L = 0.9183233r

Likewise, solving 180*SIN(L)/L=1 for L we get

L = 132.567200683, which implies R_L = 2.313734r

Notice we can use the ->RAD function (degrees to radians conversion) to compute R_L

Edited: 6 Aug 2010, 10:18 p.m.

Re: OT: The five trillionth digit of Pi is..... 2!

*Message #13 Posted by **Chuck** on 7 Aug 2010, 3:52 p.m.,*
in response to message #12 by Gerson W. Barbosa

Nicely done. I think I came up with a little formula for what "pi" is for any angle (looks similar to what you have also):

"pi" = pi sin(a) / a

for 0<a<pi

where the unquoted pi is the usual 3.1415.....2 :)

CHUCK

Edited: 7 Aug 2010, 3:53 p.m.

Re: OT: The five trillionth digit of Pi is..... 2!

*Message #14 Posted by **Gerson W. Barbosa** on 7 Aug 2010, 5:23 p.m.,*
in response to message #13 by Chuck

Yes, it is better to work in radians instead of degrees as the answer becomes straightforward when solving P=pi*SIN(A)/A for A in radians mode. It is interesting to notice P ranges from pi at North Pole (which is understandable as the surface tends to flatness when the "radius" tends to zero) to 0 at South Pole, which is not intuitive to me. (*)

Anyway, I guess Namir would prefer a universe where pi is always 3 or at least a rational number :)

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Gerson.

(*) On second thought the latter should be easier to understand than the first, the result is just 0 over something which is obviously zero.

Edited: 7 Aug 2010, 9:02 p.m.

PI is ALWAYS 3

*Message #15 Posted by **Namir** on 8 Aug 2010, 8:07 a.m.,*
in response to message #14 by Gerson W. Barbosa

That's right ... where PI is ALWAYS 3. THEN I can (easily) boast on the hp museum web site (on THAT universe) that I have calculate PI to gazillion and kajilliam decimal places with an HP-5s.

Always a reason for my madness.

Namir

Edited: 8 Aug 2010, 10:17 a.m.

Re: PI is ALWAYS 3

*Message #16 Posted by **Andrew H.** on 9 Aug 2010, 7:11 p.m.,*
in response to message #15 by Namir

Moving back on topic, pi should ALWAYS appear on the keypad of a calculator as a shifted function of the 3-key, where it can be easily found — not on the CHS key (11C), the EEX key (15C), the RCL key (32S), the roll-down key (42S), the SPC key (50g), etc.

Re: PI is ALWAYS 3

*Message #17 Posted by **Norman Dziedzic** on 10 Aug 2010, 3:28 a.m.,*
in response to message #16 by Andrew H.

I rather like it as a shifted zero key like on the 41. The zero looks most like a circle on the keyboard so this is my "perfect" placement.

PI location on keyboard

*Message #18 Posted by **Karl Schneider** on 10 Aug 2010, 10:59 p.m.,*
in response to message #16 by Andrew H.

> Quote:
>
> Moving back on topic, pi should ALWAYS appear on the keypad of a calculator as a shifted function of the 3-key, where it can be easily found — not on the CHS key (11C), the EEX key (15C), the RCL key (32S), the roll-down key (42S), the SPC key (50g), etc.

Nah... the only important thing is that 'pi' be grouped on the keyboard with the other data-entry keys. Both the HP-11C and HP-15C meet that test, but the HP-15C's location is slightly better because the EEX key and the blue shift key are closer together than is the CHS key to the yellow shift key.

Why would it be important that the shifted '3' key be used, just because pi is approximately 3?

-- KS

Edited: 11 Aug 2010, 1:53 a.m.

Re: PI location on keyboard

*Message #19 Posted by **Andrew H.** on 11 Aug 2010, 8:41 p.m.,*
in response to message #18 by Karl Schneider

Karl,

You're right: the most important thing is that pi be grouped with the other data entry keys. However, I think that, ideally, pi should be in the same position on every HP calculator, just so it is easier to find (especially if the keypad is crowded). I'd go further and say that other common keys (e.g. STO and RCL) ought to have a consistent place on the keypad as well.

Pi is approximately 3, so I can't think of a more appropriate place on the keypad for it.

Andrew

Re: OT: The five trillionth digit of Pi is..... 2!

*Message #20 Posted by **Dan W** on 10 Aug 2010, 9:38 p.m.,*
in response to message #11 by Chuck

I recall an interesting idea in Carl Sagan's fictional "Contact". After many trillions of digits of PI were calculated, they discovered a non-random pattern of digits. Essentially the digits formed some sort of message.

Of course,for some alien intelligence to be able to insert a message in the digits of PI, they would have to be able to manipulate the universe itself.

Re: OT: The five trillionth digit of Pi is..... 2!

*Message #21 Posted by **Steve Perkins** on 11 Aug 2010, 2:58 p.m.,*
in response to message #20 by Dan W

The idea that some ultra-advanced group or entity could embed a message in pi is absurd.

Even God cannot manipulate the value of an abstract mathematical constant.

Legislatures may try it, but apparently they think they are above God!

Re: OT: The five trillionth digit of Pi is..... 2!

*Message #22 Posted by **Martin Pinckney** on 12 Aug 2010, 2:59 p.m.,*
in response to message #21 by Steve Perkins

> Quote:
>
> Even God cannot manipulate the value of an abstract mathematical constant.

Perhaps your god is too small. Mine *created* abstract mathematical constants. (It was a side effect of creating everything else).

Re: OT: The five trillionth digit of Pi is..... 2!

*Message #23 Posted by **hugh steers** on 6 Aug 2010, 3:05 p.m.,*
in response to message #2 by Katie Wasserman

not sure about 6 trillion, but you could use your 12c to calculate the nth digit of pi without having to calculate the previous n-1 digits.

article: http://pictor.math.uqam.ca/~plouffe/Simon/articlepi.html from, http://pictor.math.uqam.ca/~plouffe/

i did a 41c version once, but it was very slow. also, i think the method has been improved since then.

:-)

Re: OT: The five trillionth digit of Pi is..... 2!

*Message #24 Posted by **Gerson W. Barbosa** on 6 Aug 2010, 6:53 p.m.,*
in response to message #1 by Egan Ford

> Quote:
>
> The five trillionth digit of Pi is..... 2!

I checked this out on my HP-41CX and found it to be 5, but I counted the first 3 :-)

Now seriously, thanks for the interesting link.

Too bad it wasn't 42! That would have posed more questions.

*Message #25 Posted by **Allen** on 7 Aug 2010, 8:05 p.m.,*
in response to message #1 by Egan Ford

...is 2!

Re: OT: The five trillionth digit of Pi is..... 2!

*Message #26 Posted by **Mike** on 11 Aug 2010, 4:52 p.m.,*
in response to message #1 by Egan Ford

Since this is a record, presumably that means no one else has done this.

How do we know they are right? :-)

Re: OT: The five trillionth digit of Pi is..... 2!

*Message #27 Posted by **Egan Ford** on 11 Aug 2010, 6:42 p.m.,*
in response to message #26 by Mike

BBP algorithms have been proven mathematical correct. They can be used to find specific Pi digits without the overhead of computing all digits.

The record holders used BBP to validate some digits, but not all (it'd take far too long). It's reasonable to assume that if you got the last 100 or so correct then the path to get there must also be correct. Got faith? :-)

I'm sure there is a computable probability that there is a wrong digit somewhere. However, the percentage

of people that care round to zero.

I read somewhere that to compute the circumference of the universe to the precision of a photon you would only need 22 or 23 digits of Pi.

Re: OT: The five trillionth digit of Pi is..... 2!

*Message #28 Posted by **Dave Shaffer (Arizona)** on 12 Aug 2010, 12:58 a.m.,*
in response to message #27 by Egan Ford

> Quote:
>
> I read somewhere that to compute the circumference of the universe to the precision of a photon you would only need 22 or 23 digits of Pi.

Not quite - but close if your units are meters rather than photon (wavelengths).

Age of the universe - about 13.7e9 years. In the big bang theory, one might interpret this as (very roughly!) the radius of the universe in light years.

One light year = number of seconds in a year (3.2e7) times the speed of light (3e5 m/sec) = 9.5e12 meters.

If circumference is 2*pi*r, then the circumference is about 8e23 meters. Thus, 23 or 24 digits would suffice for full accuracy in meters if we knew everything else that accurately - about what you read.

However, the wavelength of light (in the middle of the optical spectrum) is around 5000 angstroms, or 500 nanometers (500e-9 meters) in proper SI units. So, you need to multiply the circumference just given by another 1/5e-7 = 2e6 . So, you would need more like 30 digits in wavelength (or photon) units.

Re: OT: The five trillionth digit of Pi is..... 2!

*Message #29 Posted by **Walter B** on 12 Aug 2010, 6:48 a.m.,*
in response to message #28 by Dave Shaffer (Arizona)

Dave,

may I correct a bit?

> Quote:
>
> One light year = number of seconds in a year (3.2e7) times the speed of light (3e5 m/sec) = 9.5e12 meters.

Speed of light is 3e5 **km**/s = 3e8 m/s so 1 Ly = 9.5e15 m. Thus the circumference of the universe is about 8.1e26 m so 27 digits are necessary for 1 m precision. BTW, a photon may be any electromagnetic radiation particle, so it may have an arbitrary wavelength. Assuming - as you did - visible green photons of 500 nm, we would need 33 digits for such "photon accuracy".

As my late professor in theoretical physics used to say: "For sake of simplicity, we may set pi = 1." But he would never have dropped an order of magnitude nor even three. d8-)

Edited: 12 Aug 2010, 11:03 a.m.

Re: OT: The five trillionth digit of Pi is..... 2!

*Message #30 Posted by **Dave Shaffer (Arizona)** on 12 Aug 2010, 2:05 p.m.,*
in response to message #29 by Walter B

> Quote:
>
> Speed of light is 3e5 km/s = 3e8 m/s so 1 Ly = 9.5e15 m

Of course you are right - I know that, but that's what happens when you start calculating at 10 PM, after a couple glasses of wine!

> Quote:
>
> Thus the circumference of the universe is about 8.1e26 m so 27 digits are necessary for 1 m precision.

Yep. And per ths discussion continuing below, if you want it in units of protons, then (as you point out), the proton size (a somewhat fuzzy concept in itself!) is around 1e-15 meters, so another 15 digits are needed, or about 42 in all.

Edited: 12 Aug 2010, 2:06 p.m.

Re: OT: The five trillionth digit of Pi is..... 2!

*Message #31 Posted by **Dave Shaffer (Arizona)** on 12 Aug 2010, 2:29 p.m.,*
in response to message #30 by Dave Shaffer (Arizona)

> Quote:
>
> about 42 in all.

Hmmm, maybe this is why it is the Answer to the Ultimate Question of Life the Universe and Everything

Re: OT: The five trillionth digit of Pi is..... 2!

*Message #32 Posted by **Martin Pinckney** on 12 Aug 2010, 3:06 p.m.,*
in response to message #31 by Dave Shaffer (Arizona)

So those of us who already have (HP) 42s are all set?

Re: OT: The five trillionth digit of Pi is..... 2!

*Message #33 Posted by **Walter B** on 12 Aug 2010, 4:03 p.m.,*
in response to message #32 by Martin Pinckney

Of course we are. Though Free42 will do as well. You didn't expect a deviating answer, did you?

Re: OT: The five trillionth digit of Pi is..... 2!

*Message #34 Posted by **Egan Ford** on 12 Aug 2010, 9:24 a.m.,*
in response to message #28 by Dave Shaffer (Arizona)

> Quote:
>
> Not quite - but close if your units are meters rather than photon (wavelengths).

Ok, I'll dig up the reference...

Back. You're right. I misquoted. The actual statement:

> Quote:
>
> If one were to find the circumference of a circle the size of the known universe, requiring that the circumference be accurate to within the radius of one proton, how many decimal places of Pi would need to be used?

The actual number stated was 39 decimal digits (Pi Unleashed, 1998).

Re: OT: The five trillionth digit of Pi is..... 2!

*Message #35 Posted by **Walter B** on 12 Aug 2010, 11:02 a.m.,*
in response to message #34 by Egan Ford

Egan,

> Quote:
>
> If one were to find the circumference of a circle the size of the known universe, requiring that the circumference be accurate to within the radius of one proton, how many decimal places of Pi would need to be used?

OK, that changes the game significantly. Assume a proton has a diameter of 1e-15 m (being its Compton wavelength), then the circumference as calculated above corresponds to about 1e42 protons. So 43 digits would be sufficient.

Edited: 12 Aug 2010, 11:04 a.m.

Re: OT: The five trillionth digit of Pi is..... 2!

*Message #36 Posted by **Egan Ford** on 12 Aug 2010, 1:02 p.m.,*
in response to message #35 by Walter B

A quick search has values ranging from 39 to 47. Some 39's are using a hydrogen atom vs. a proton.

Re: OT: The five trillionth digit of Pi is..... 2!

*Message #37 Posted by **Walter B** on 12 Aug 2010, 1:32 p.m.,*
in response to message #36 by Egan Ford

Don't search, think! Diameter of an atom is about 1e-10 m, so five orders of magnitude larger than a proton. So, we'll end with 1e37 atoms.

Re: OT: The five trillionth digit of Pi is..... 2!

*Message #38 Posted by **Egan Ford** on 12 Aug 2010, 1:44 p.m.,*

in response to message #37 by Walter B

I think you missed my point. Other calculations are using various other constants. Opinions and calculations range from 39 to 47. Your solution falls in the middle. It was my way of saying that others generally agree.

Re: OT: The five trillionth digit of Pi is..... 2!

*Message #39 Posted by **Katie Wasserman** on 12 Aug 2010, 2:45 p.m.,*
in response to message #38 by Egan Ford

Fram a (sort of) practical point of view, maybe we only need 50 digits of pi. But for a deeper meaning of life, the universe and everything we need to keep calculating. In Contact Carl Sagan told us that there's important stuff encoded in the expansion of pi. :)

Re: OT: The five trillionth digit of Pi is..... 2!

*Message #40 Posted by **Martin Pinckney** on 12 Aug 2010, 3:02 p.m.,*
in response to message #39 by Katie Wasserman

> Quote:
>
> Carl Sagan told us that there's important stuff encoded in the expansion of pi. :)

See Message #21 above.

Re: OT: The five trillionth digit of Pi is..... 2!

*Message #41 Posted by **Katie Wasserman** on 13 Aug 2010, 12:37 p.m.,*
in response to message #40 by Martin Pinckney

Sorry about that, I got lost in this giant thread and missed that post.

Re: OT: The five trillionth digit of Pi is..... 2!

*Message #42 Posted by **Walter B** on 12 Aug 2010, 4:36 p.m.,*
in response to message #38 by Egan Ford

I hope I got your point. IMHO it's just more than a bit disturbing that by "using various other constants ... opinions and calculations range from 39 to 47" - that's 8 orders of magnitude or a factor of 100 millions. Due to some coarse assumptions I made, though each of them is well within a confidence intervall of +/- 33%, I may be off by a factor of 3 but not more.

Assuming we all live in the same universe with the same universal laws of physics and thus the same physical constants, a range "from 39 to 47" points to very different boundary conditions, wild guessing, massive errors, or a combination of these. It may have happened in my calculation - though it is correct IMHO ;) - but in any case such big differences must be explained for the sake of science.

Re: OT: The five trillionth digit of Pi is..... 2!

*Message #43 Posted by **Martin Pinckney** on 12 Aug 2010, 5:10 p.m.,*
in response to message #42 by Walter B

> Quote:
>
> ... a range "from 39 to 47" points to very different boundary conditions, wild guessing, massive errors, or a combination of these.

And do you really think that when science attempts to define something as vast (presumably) and complex (ditto) as the universe, that it is anything else other than the above?

Re: OT: The five trillionth digit of Pi is..... 2!

*Message #44 Posted by **Dave Shaffer (Arizona)** on 13 Aug 2010, 12:15 a.m.,*
in response to message #43 by Martin Pinckney

The universe is actually amazingly well-defined!

The age is 13.7e9 years, to about a per cent or two, and the Hubble constant, which measures the expansion rate due to the Big Bang (BB), is good to a couple of per cent. Measurement of the fluctations in the "3 degree" background radiation agree to an amazing extent with the predictions of BB cosmology.

I'm not sure I want to get into an argument about god, creationism, evolution, etc., but my opinion is that everything we can measure is in COMPLETE agreement with a Big Bang cosmology that occurred 13.7e9 years ago and the accompanying evolution of the universe and life, in a system completely devoid of any requirement for divine intervention!!!!!!!

Re: OT: The five trillionth digit of Pi is..... 2!

*Message #45 Posted by **Martin Pinckney** on 13 Aug 2010, 9:19 p.m.,*
in response to message #44 by Dave Shaffer (Arizona)

Dave, not to pick on you particularly, or to knock science, but I sometimes find it amazing how utterly arrogant (so it seems to me) present-day scientists can be. Do they not realize that each generation before them also believed that the "universe" was well-defined? Do they not have any concept of the limits of human knowledge?

Now I am certainly no scientist, and claim no cosmological knowledge, but it seems to me that many theories about the nature of the universe are based on HUGE extrapolations. Somewhat akin to an ant measuring vibrations passing through his anthill in central Africa, and developing complex theories about automobile traffic in downtown Manhattan. Within 2% error.

Indeed, there are now many competing theories on the origin of the universe. Some atheists in particular are uncomfortable with Big

Bang, because it implies a beginning, and opens the question of causation.

Science in a nutshell

*Message #46 Posted by **Walter B** on 14 Aug 2010, 7:27 a.m.,*
in response to message #45 by Martin Pinckney

AFAIK the basic approach in science is as follows in plain English:

1. You observe something.
2. You try to explain it as simple as possible, and consistent with the observations explained already.
3. You check: Does the explanation meet the observation?
    - If true then you're done. Return to step 1 if you like and focus on something else.
    - Else your explanation was too simple. Return to step 2, taking into account even older explanations may be wrong.

This means in our case:

1. Egan reported 8 orders of magnitude deviations between different results for our challenge.
2. I tried to find out about the reasons - no answer yet, so we are stuck. Instead, you tell us something off topic.

BTW, there may well have been repeated big bangs, i.e. a pulsing universe, but that has no influence on the solution of our simple problem.

HTH

Edited: 14 Aug 2010, 8:22 a.m.

Re: Science in a nutshell

*Message #47 Posted by **Martin Pinckney** on 15 Aug 2010, 12:14 a.m.,*
in response to message #46 by Walter B

> Quote:
>
> Instead, you tell us something off topic.

Walter, it's only off-topic if you believe that science has the ability - right now - to apply the "scientific method", which you kindly reminded me of, and make observations of sufficient accuracy to define the universe to an order of magnitude or less.

I was responding, albeit philosophically, to your statement

> Quote:

> a range "from 39 to 47" points to very different boundary conditions, wild guessing, massive errors, or a combination of these.

I am suggesting, that just maybe, scientists 100 years from now may look back and say exactly that, just as we look back 400 years and say the same thing.

Re: Science in a nutshell

*Message #48 Posted by **Walter B** on 16 Aug 2010, 1:08 a.m.,*
in response to message #47 by Martin Pinckney

Martin,

> Quote:
>
> I was responding, albeit philosophically, to your statement
>
> > Quote:
> >
> > a range "from 39 to 47" points to very different boundary conditions, wild guessing, massive errors, or a combination of these.
>
> I am suggesting, that just maybe, scientists 100 years from now may look back and say exactly that, just as we look back 400 years and say the same thing.

Nobody knows what will be in 100 years. If, however, people will then find significantly different results, I sincerely hope they will check them and will not rest earlier than their reasons are known and thus these problems are settled.

Martin, I share your guess "we" will probably know better in 100 years. OTOH I didn't compare ancient results with those of today - that would have been unfair IMO - and I hope our successors will treat us just the same way. But they will rightfully shake their heads if they will find us unable solving today's problems. If we can't even settle such simple topics like deviating results of different authors today in a forum of educated experts, how shall mankind cope with the real challenges of our planet? Let's go - or there may be no human being left wondering in 100 years.

A basic challenge

*Message #49 Posted by **Walter B** on 13 Aug 2010, 6:21 a.m.,*
in response to message #43 by Martin Pinckney

Martin, to answer your question, let's go back a second. I wrote (and the first half of my sentence is important):

> Quote:
>
> Assuming we all live in the same universe with the same universal laws of physics and thus the same physical constants, a range "from 39 to 47" points to very different boundary conditions, wild guessing, massive errors, or a combination of these.

And you responded:

> Quote:
>
> And do you really think that when science attempts to define something as vast (presumably) and complex (ditto) as the universe, that it is anything else other than the above?

Answer: What did the other folks do differently? I agree with Dave: The universe as we know it is pretty well defined. So I don't see any reason yet for such big deviations in results (except confusing protons and atoms). Since there must be reasons (no sorcery in physics), however, we should **know** them at least IMHO to settle this problem, eeh challenge. For the advancement of science or whatever you like better.

Re: A basic challenge

*Message #50 Posted by **Martin Pinckney** on 13 Aug 2010, 9:23 p.m.,*
in response to message #49 by Walter B

> Quote:
>
> The universe *as we know it* is pretty well defined.

Emphasis added. See my response to Dave Shaffer.

Re: A basic challenge

*Message #51 Posted by **Walter B** on 14 Aug 2010, 7:00 a.m.,*
in response to message #50 by Martin Pinckney

Now you missed my point. I hate to quote myself, but:

> Quote:
>
> What did the other folks do differently? ... I don't see any reason yet for such big deviations in results ... Since there must be reasons, however, we should

know them ...

Boiled down a bit - please find the complete text above.

Re: A basic challenge

*Message #52 Posted by **Martin Pinckney** on 14 Aug 2010, 12:09 p.m.,*
in response to message #51 by Walter B

Quote:

Now you missed my point.

Actually, I got your point, although I did not explicitly acknowledge it. Rather my response is more on the philosophical side.

Re: OT: The five trillionth digit of Pi is..... 2!

*Message #53 Posted by **Pal G.** on 13 Aug 2010, 12:38 a.m.,*
in response to message #1 by Egan Ford

Egan, thanks for your original post, and I've certainly enjoyed the entire thread..

But, I hope I am not the only one who is struck by the _irony_ that the guys who calculated the five trillionth digit of pi were using hardware that has 6.17E-4 the processors of the computer you, the original poster, have the keys to..

If you wanted to, could you not own that record in a few hours??

Re: OT: The five trillionth digit of Pi is..... 2!

*Message #54 Posted by **Egan Ford** on 13 Aug 2010, 7:40 p.m.,*
in response to message #53 by Pal G.

Quote:

If you wanted to, could you not own that record in a few hours??

Dunno. The last system we built has over 30,000 cores, over 30 terabytes of RAM, and a multi-petabyte parallel file system. It also requires about a megawatt of power and has a MTBF of 24 hours. When I benchmarked it for the top500.org list last summer it was the 16th fastest system in the world (#1 in Canada).

However, systems like this need applications and data sets that can be broken up and run in parallel to realize any speed advantages. Although many of the current PC Pi programs better utilize multiple cores in a share memory system, I doubt that they can scale up to a 30K core distributed memory system. Something new would have to be written or something old in a different way. E.g. BBP.

BBP is a great algorithm that can compute any series of Pi digits without the overhead of computing all of Pi. So, I should be able to assign each of the 30K cores a slice of Pi. Furthermore, since BBP runs in $O(n^2)$ time you can speed up the computation by giving the cores that represent the beginning of Pi more digits

and the cores representing the end of Pi fewer digits (IOW, equal time slices). BBP is not the best algorithm for computing all the digits of Pi, but it may be one of the simplest to run on a distributed memory machine. IOW, its a great algorithm to through hardware at.

Another option would be to use any series that computes Pi and split that up and use a binary tree to sum it all up. That would probably be much faster. However, it would slowly bottleneck on the sum and would require a shared file system. It would be fun to see and try. Google for "distributed Pi". One call PiHex used BBP as described above. Can this be done in hours on a 30K core system? I do not know. I'd have to run a few benchmarks first.

As for the keys, well, after we finish building a system and benchmarking it, we turn the keys over. In some cases we get access to run a few benchmarks, but real work takes priority and someone has to pay the power bill. On this most recent system we automatically power off unused resources to save power. So, cycle harvesting is not an option.

These beasts take a long time to architect, sell, build, and test. This cycle takes about two years. Perhaps next year I'll have a bigger system to play with and give it a shot.

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on nicads

*Message #1 Posted by **db (martinez, ca.)** on 5 Aug 2010, 10:09 p.m.*

from the font of all knowledge:
http://www.straightdope.com/columns/read/349/do-nickel-cadmium-batteries-develop-charge-memory-if-not-fully-discharged

it sounded ok, with the exception of the damage he spoke of being the reversal of polarity and his not mentioning the possible wives tale which i heard: stating that the memory effect (or false memory effect) is not that the batteries won't charge fully - it's that they won't discharge fully.

i mostly use nimh cells now, so it's not a big deal to me. i just want to read what someone who knows a lot may write.

Re: on nicads

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 6 Aug 2010, 12:10 a.m.,*
in response to message #1 by db (martinez, ca.)

Hi, db;

all I'd add about that is something mentioned by Katie Wasserman a couple of weeks ago: NiMH cells work better/live longer if kept charged at 60% +/-15% of their full charge, based on Prius battery regulation. Please, follow this thread; Katie's is one of the last two.

I sometimes find only NiCad's when searching for certain types, like the ones to rebuild the 82143A batteries (and related cases: Topcats, 82162A, etc.). I never found NiMH Sub-C batteries where I searched for them.

Cheers.

Luiz (Brazil)

Edited: 6 Aug 2010, 12:20 a.m.

NiMH Sub-C batteries

*Message #3 Posted by **tim m.** on 6 Aug 2010, 2:12 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

I've bought many from BatterySpace.com, mainly for rebuilding Roomba battery packs (with 12 cells in series, usually one or two die, bringing down the entire pack voltage enough that I get very little operating time from the robot).

-Tim

Edited: 6 Aug 2010, 2:24 a.m.

Re: NiMH Sub-C batteries

*Message #4 Posted by **designnut** on 6 Aug 2010, 12:21 p.m.,*
in response to message #3 by tim m.

I have hadsuch good reesults with Sanyo Eneloop low discharge AA cells I use them in most appliances. I used to have 2 4 station chargers on nearly full time, now one used rarely. I read there has been further improvement lately in the self discharge rate. I use them in shells to substitute for D cells in one application where I get long life. I had a portable telephone that would lose it's nicad charge in 2 days. I bought some NiMh cells with tabs ans replaced them. They are satisfactory after years of use. Sam

---

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Something for the insomniacs

*Message #1 Posted by **BruceH** on 5 Aug 2010, 4:47 p.m.*

The recent post noting the availability of the HP30B on Amazon (US) got me looking to see if it was available on Amazon (UK) yet. Sadly not, but I did manage to find this which I'm sure will help someone get to sleep.

Re: Something for the insomniacs

*Message #2 Posted by **ron g.** on 6 Aug 2010, 2:00 a.m.,*
in response to message #1 by BruceH

zzzzzzzzzzzzzzz...

I may never wake up now...

*Message #3 Posted by **tim m.** on 6 Aug 2010, 2:27 a.m.,*
in response to message #1 by BruceH

.

Re: Something for the insomniacs

*Message #4 Posted by **Sancerre (Phoenix)** on 6 Aug 2010, 11:22 a.m.,*
in response to message #1 by BruceH

thank goodness it is only the summary....

Re: Something for the insomniacs

*Message #5 Posted by **Angel Martin** on 6 Aug 2010, 3:30 p.m.,*
in response to message #4 by Sancerre (Phoenix)

and thank god the image isn't available!

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Homebrew graphing calculator

*Message #1 Posted by **Bruce Bergman** on 5 Aug 2010, 1:47 p.m.*

Since this is all homebrew, I wonder if it's worth whipping up an RPN version of the software? A little pricey, but seems to provide a lot of functionality...

http://antipastohw.blogspot.com/2010/07/introducing-100-open-source-hwsw-r.html

Has anyone played with this unit at all?

Thanks,

Bruce

Re: Homebrew graphing calculator

*Message #2 Posted by **Egan Ford** on 5 Aug 2010, 6:15 p.m.,*
in response to message #1 by Bruce Bergman

It's nothing more than an ARM-based Linux handheld. I've had multiple over the years and you can get them cheap on eBay. Sharp and Nokia have been providing Linux/ARM handhelds for years. And you can probably run 'R' on any of them. You can also run nonpareil, free42, and x48.

IMHO, this project lacks imagination and is not very practical. If I want a backlit, ARM-based, battery draining device that can also function as a calculator, then I'd take my pick of any of the Android or Apple Phones/PDAs/PMPs.

I think we have all hashed this out over and over, but a proper calculator should have:

1. Buttons, for speed, accuracy, and ease of use.
2. Reliability. E.g. Power on when needed (incredible battery life) and use off the shelf batteries.

Re: Homebrew graphing calculator

*Message #3 Posted by **hugh steers** on 6 Aug 2010, 2:49 p.m.,*
in response to message #2 by Egan Ford

indeed. i'd say it has to have a keyboard to count. otherwise you could just run a virtual calculator on a phone.

Re: Homebrew graphing calculator

*Message #4 Posted by **Crawl** on 6 Aug 2010, 4:45 p.m.,*
in response to message #3 by hugh steers

And from the sound of it it doesn't have a CAS, so I don't see how it could replace the TI89/HP50g.

Re: Homebrew graphing calculator

*Message #5 Posted by **Mike** on 11 Aug 2010, 3:22 p.m.,*
in response to message #2 by Egan Ford

I'm not so sure buttons are required. At least not hard buttons.

I wrote a calculator program (not even RPN) and sold over 10,000 copies of it for the Palm. It has soft buttons.

I love gadgets... especially electronic gadgets. I have a house full of single board computers. :-) Or should that be :-(

I just ordered two of these. One the one shown in the photo and the other that is the MegaPalm. The one difference between these platforms and a phone device, is the ease of access to development tools AND the ability to easily add hardware.

Edited: 11 Aug 2010, 3:28 p.m.

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HP thermal printer differences

*Message #1 Posted by **Alberto Fenini** on 4 Aug 2010, 10:08 a.m.*

ciao a tutti,
this should be an easy one for most of you, but for me ...
what is difference between the Hewlett Packard HP 82162A Calculator Thermal Printer
and HP82143A ?
Would it be worth to have both ??

Thanks in advance for any suggestion,
take care Alberto

Re: HP thermal printer differences

*Message #2 Posted by **James Grenert** on 4 Aug 2010, 11:25 a.m.,*
in response to message #1 by Alberto Fenini

What calculator are you planning to use the printer with? The 82143A plugs directly into the HP 41, and it cannot be used with other devices. The 82162A plugs into the HP-IL interface, and it can be used with any HP-IL devices.

See this thread for more: http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=49059

Re: HP thermal printer differences

*Message #3 Posted by **Alberto Fenini** on 4 Aug 2010, 11:39 a.m.,*
in response to message #2 by James Grenert

Thank you very much for your reply,
actually I was just thinking about adding a new piece
to my collection, and since I have just purchased an HP71B
with the HP-IL module I think it would make sense to get this as well
right ?

take care Alberto

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HP-30b available at Office Depot.....soon

*Message #1 Posted by **Don Shepherd** on 4 Aug 2010, 10:03 a.m.*

Richard Nelson recently wrote that the HP-30b will be available at Office Depot stores in August. I checked it out today. The calculators haven't arrived yet, but there is a peg labelled "HP-30bii, HP financial calculator, $49.99". I had to laugh at the "ii" and wonder where that came from. The salesman checked his inventory and saw 0 units, but from the peg it looks like it is on the way.

Re: HP-30b available at Office Depot.....soon

*Message #2 Posted by **Joe Burwell** on 4 Aug 2010, 7:18 p.m.,*
in response to message #1 by Don Shepherd

I saw some today at the Office Depot in Athens, Georgia.

Re: HP-30b available at Office Depot.....soon

*Message #3 Posted by **Don Shepherd** on 4 Aug 2010, 9:09 p.m.,*
in response to message #2 by Joe Burwell

Thanks Joe. I'll check again in a couple of days and see if they make it to Louisville.

Re: HP-30b available at Office Depot.....soon

*Message #4 Posted by **Tom Mathes** on 5 Aug 2010, 11:24 a.m.,*
in response to message #1 by Don Shepherd

> Quote:
>
> Richard Nelson recently wrote that the HP-30b will be available at Office Depot stores in August. I checked it out today. The calculators haven't arrived yet, but there is a peg labelled "HP-30bii, HP financial calculator, $49.99". I had to laugh at the "ii" and wonder where that came from. The salesman checked his inventory and saw 0 units, but from the peg it looks like it is on the way.

I just checked their consumer on-line store and the business OD web page (for corporate clients only; company I work for uses them for office supplies). It doesn't show for on-line purchases; must be an in-store only item for now.

Re: HP-30b available at Office Depot.....soon

*Message #5 Posted by **Tim Wessman** on 5 Aug 2010, 11:59 a.m.,*
in response to message #4 by Tom Mathes

Considering the problem is usually the other way around, I'd say that is an improvement! :-)

TW

also at Amazon.com finally

*Message #6 Posted by **Don Shepherd** on 5 Aug 2010, 3:45 p.m.,*
in response to message #1 by Don Shepherd

here

Re: At Samson Cables also,

*Message #7 Posted by **Gerson W. Barbosa** on 5 Aug 2010, 5:07 p.m.,*
in response to message #6 by Don Shepherd

and they ship it worldwide.

Re: At Samson Cables also,

*Message #8 Posted by **Don Shepherd** on 5 Aug 2010, 7:30 p.m.,*
in response to message #7 by Gerson W. Barbosa

Unfortunately, the spec sheet at Samson says "programmable with 32K user memory." This has been a problem since day 1. Some nimrod, probably in marketing, put 32k in the spec sheet when, in fact, there are 290 bytes of user memory. That's a huge difference.

Tim, tell somebody in marketing that resellers are still saying 32K and it's WRONG!!

Don

Re: At Samson Cables also,

*Message #9 Posted by **Don Shepherd** on 6 Aug 2010, 12:13 p.m.,*
in response to message #8 by Don Shepherd

They fixed it! Praise be!

Re: At Samson Cables also,

*Message #10 Posted by **Gerson W. Barbosa** on 6 Aug 2010, 3:33 p.m.,*
in response to message #9 by Don Shepherd

Just yesterday it read up to 32KB RAM. Looks like they read your post (Carl?). I wish they had a couple of 33s left - I've bought twice from them, excellent service!

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TI-30 durability testing (slightly off topic, BTW).

*Message #1 Posted by **Michael Meyer** on 3 Aug 2010, 4:49 p.m.*

I've ended up with WAY too many TI-30's that have been in boxes of old calculators that I have bought for the other models. (My definition of Way too many is more than 3...) I know they've been used for various interesting purposes, such as "packing material" for HP calculators. I would like to perform some "durability tests", and would like some input on this. I know they don't stand up to every-day use very well, but I still want to give them a chance. I'm thinking I might even get around to photographing these tests. My ideas so far: running over with car, bullet resistance, dissolvability in acetone, and surviving a fall from a tall building. Oh, and there's fire resistance and blending ability. Any other ideas?

Re: TI-30 durability testing (slightly off topic, BTW).

*Message #2 Posted by **Geir Isene** on 3 Aug 2010, 5:57 p.m.,*
in response to message #1 by Michael Meyer

Video this: Testing if it will survive lying on top of a jar of glass containing zinc powder and sulfur powder with a Bunzen burner heating the jar from below... until the jar cracks.

I'd like to make a suggestion

*Message #3 Posted by **Frank Boehm (Germany)** on 4 Aug 2010, 5:57 a.m.,*
in response to message #1 by Michael Meyer

Suitable for calculator testing

Re: I'd like to make a suggestion

*Message #4 Posted by **Michael Meyer** on 4 Aug 2010, 10:55 a.m.,*
in response to message #3 by Frank Boehm (Germany)

That was highly entertaining...science can be fun.

Re: I'd like to make a suggestion

*Message #5 Posted by **Martin Pinckney** on 4 Aug 2010, 5:23 p.m.,*
in response to message #3 by Frank Boehm (Germany)

The problem with that washer is the brick(s) were in the wrong place.

I once had a front loader, and was it ever *heavy*. When I had to repair it, I found out why: It had large blocks of concrete bolted inside, just to add dead weight, so it would not vibrate so badly.

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TI-30 durability testing (slightly off topic, BTW).

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Jazz 50G v1.20 release candidate

*Message #1 Posted by **Han** on 2 Aug 2010, 3:53 p.m.*

In case anyone still prefers using HP syntax when it comes to programming in SysRPL or Saturn assembly on their HP49G+ or HP50G:

JAZZ 50G v1.20: http://www.math.uiuc.edu/~handuong/hp48/jazzv120.zip

SDB v1.20: http://www.math.uiuc.edu/~handuong/hp48/sdbv120.zip

These zip files include full documentation (and a brief overview of the software for those who aren't familiar with JAZZ).

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First impressions HP30B

*Message #1 Posted by **bt_schmidt** on 2 Aug 2010, 1:04 p.m.*

Received my new HP30B courtesy of CalcPro.com - thank you Paul Nelson. First impressions:

1) Keys are hinged. Key presses are not spongy (as unfortunately they are on my HP20B).

2) Display is easy to read with good contrast (unlike my earlier gold HP17BIIs).

3) HP30B retains the HP20B's scalloped design, but unlike HP20B, if you place it upside down the calculator's sides don't support & protect the keys. Rather the HP30B keys end up being what the calculator rests on. Odd of HP to retain the 'high sides' design without retaining this aspect of it.

4) While the HP30B is similar in appearance to the sliver HP 17BII+ and has a two-line display, it doesn't provide labels on the display over the topmost row of keys. I miss this ease-of-use feature found on the HP17BII-family and HP42S.

Conclusion:

I still prefer my silver HP17BII+ as the best HP financial calculator and, if you can live w/o the scientific functions, best readily available RPN calculator. However the HP30B adds scientific functions and a lower price point. So for me, it's just deciding which stays at work, and which lives in the briefcase.

Edited: 2 Aug 2010, 6:32 p.m.

Re: First impressions HP30B

*Message #2 Posted by **allen** on 3 Aug 2010, 9:16 p.m.,*
in response to message #1 by bt_schmidt

Thanks for your concise assessment! Have you tried the programming aspects of the 30b? The Silver 17bii+ (too bad they couldn't pick another model designator since that was already taken by the golden brick) is definitely a force to be reconed with.

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Does the HP 10B calculator not support Order of Operation?

*Message #1 Posted by **David Adams** on 2 Aug 2010, 10:34 a.m.*

Hi,

I own the HP 10B calculator which is listed as a business/scientific calculator. I noticed when entering simple algebraic equations, the calculator does not implement the order of operation feature which dictates multiplication/division operations are done prior to addition/subtraction. (ie. entering 1+2x3 result in 9, when it should be 7).

Does this calculator not support this at all or does it have to be configured first?

Thanks.

Re: Does the HP 10B calculator not support Order of Operation?

*Message #2 Posted by **Tim Wessman** on 2 Aug 2010, 11:01 a.m.,*
in response to message #1 by David Adams

The 10b and the later 10bII only implement chain algebraic, which evaluates as things are entered as you've noticed. No order of operations. Sorry. :-(

TW

Re: Does the HP 10B calculator not support Order of Operation?

*Message #3 Posted by **Walter B** on 2 Aug 2010, 12:44 p.m.,*
in response to message #1 by David Adams

David,

IIRC, some extended discussions about RPN, ALG and Chain mode took place in this very forum in the past. There were also quite nasty remarks about the reasons for Chain mode in business/financial calculators (instead of ALG supporting the common mathematical operator precedence). Many comments from technical/scientific people. Must have been past 2008 IIRC. It's a pity, but I don't find them right now anymore d;-)

Edited: 2 Aug 2010, 12:50 p.m.

Re: Does the HP 10B calculator not support Order of Operation?

*Message #4 Posted by **David Hayden** on 2 Aug 2010, 1:14 p.m.,*
in response to message #1 by David Adams

Hi David,

The "order of operations" problem is one of the great reasons to use one of HP's calculators that supports RPN entry instead. RPN is a much more natural way to evaluate an expression and you never have to worry about

the order of operations. You may want to consider an HP 20b or the much faster 30b instead.

You can learn more about RPN here.

Re: Does the HP 10B calculator not support Order of Operation?

*Message #5 Posted by **Martin Pinckney** on 2 Aug 2010, 1:53 p.m.,*
in response to message #1 by David Adams

> Quote:
>
> I own the HP 10B calculator which is listed as a business/scientific calculator.

When you say "listed as a business/scientific calculator", do you mean by HP? My 10b manual only refers to it as a "business calculator". MANY eB** sellers refer to this model (and the 12c or 17b, etc.) as "scientific", but that is just ignorance, IMO.

Re: Does the HP 10B calculator not support Order of Operation?

*Message #6 Posted by **Palmer O. Hanson, Jr.** on 3 Aug 2010, 3:28 a.m.,*
in response to message #1 by David Adams

David:

The 10B is a capable business calculator. It can not be considered a scientific calculator since the trigonometric functions are not available.

The 10b uses the the type of algebra that is generally accepted as appropriate for business calculators. It does not provide order of operation. The reason that the business community accepts that methodology has never been clear to me. Some say it is because the operation mimics that of the old mechanical desktop calculators. Others suggest that business users have trouble with order of operation or "... aren't interested in fancy ideas like ..." order of operation. You can buy calculators which don't implement order of operation from H-P, TI and Casio but you will have a hard time finding them which offer the generally accepted scientific functions such as the trigonometrics and hyperbolics.

In this forum you will always get a recommendation to use RPN as a more natural way of doing arithmetic. I have never found that to be so, probably because I had become proficient in higher order languages such as BASIC and FORTRAN in computers before obtaining my first electronic calculator. RPN is actually a lower order language akin to what I knew as machine language in computers.

If you are comfortable with order of operation and the use of parentheses in evaluating equations you will not have a problem with calculators which use those methodologies and which are widely available from TI and Casio and in a few models from H-P.

If you elect to go to RPN you should be aware of the need to manage the stack unless you limit yourself to the simplest kind of arithmetic. Otherwise, you will eventually encounter stack overflow which will result in incorrect answers for apparently innocuous calculations.

The "fancy ideas" quote is from page 120 of Wlodek Mier-Jedrzejowicz's *A Guide to HP Handheld Calculators and Computers*.

Palmer

Edited: 3 Aug 2010, 11:07 a.m.

Re: Does the HP 10B calculator not support Order of Operation?

*Message #7 Posted by **Martin Pinckney** on 3 Aug 2010, 1:52 p.m.,*
in response to message #6 by Palmer O. Hanson, Jr.

> Quote:
>
> In this forum you will always get a recommendation to use RPN as a more natural way of doing arithmetic. I have never found that to be so... If you elect to go to RPN you should be aware of the need to manage the stack unless you limit yourself to the simplest kind of arithmetic. Otherwise, you will eventually encounter stack overflow which will result in incorrect answers for apparently innocuous calculations.

At the risk of inflaming, I must say, thank you, Palmer! (from someone who gave up trying to understand this fascination with RPN).

Re: Does the HP 10B calculator not support Order of Operation?

*Message #8 Posted by **bill platt** on 3 Aug 2010, 2:52 p.m.,*
in response to message #7 by Martin Pinckney

Well, the great thing about that low-level code that is RPN is that it doesn't do anything automatic for you (except duplicating the T-register). You control precedence and everything else. The only sticky wicket is stack depth. In the 70s, compared to the then infix/postfix mix that was "algebraic" calculators, RPN was elegant. Today, not so much. But look what happened in the 80 and 90s and beyond--a rash of different versions of algebraics came out--all with their own rules--so that a user switching from one to the other could easily fall into a hole. Not so with elegant, simple RPN.

Of course I happen to like some of the albebraic designs very much! I am a dyed in the wool RPN who is not afraid of the "dark side." Yopu can probably find posts of mine here from years back, before I learned to appreciate the Algebraic versions. SO Ironically I learned about AOS by reading this forum!

Re: Does the HP 10B calculator not support Order of Operation?

*Message #9 Posted by **Katie Wasserman** on 3 Aug 2010, 3:44 p.m.,*
in response to message #7 by Martin Pinckney

I think that HP has recognized that not everyone loves RPN too (although i do). All of the recent HP RPN calculators also allow the user to switch to some form of infix operator syntax. The only exception that comes to mind is the 12C ARM-based machine, but that's not really a "new" calculator.

Re: Does the HP 10B calculator not support Order of Operation?

*Message #10 Posted by **Palmer O. Hanson, Jr.** on 3 Aug 2010, 9:42 p.m.,*
in response to message #9 by Katie Wasserman

Katie:

You wrote:

> Quote:
>
> All of the recent HP RPN calculators also allow the user to switch to some form of infix operator syntax. The only exception that comes to mind is the 12C ARM-based machine, but that's not really a "new" calculator.

Unfortunately HP hasn't done a very good job of offering an alternate algebraic mode. Part of the problem is that they run out of keyboard space. As a result the HP-33s has parentheses a second functions which is totally unacceptable in an algebraic mode. The HP-35s offers a curious single parentheses key which enters both an opening an closing parentheses which is a concept which is largely foreign to algebraic users. They are a lot like RPN users in one respect. They don't like change.

This all reminds me of something that occurred back in the eighties when I was publishing a newsletter for TI calculators. A reader wondered if my attachment was to TI or to algebraic and asked "Would I buy an algebraic if HP offered it?" I wrote back and said no. But I added that I wouldn't buy an RPN machine if TI made it either. I supported my answer with the following: Suppose that I wanted to buy some bottles of really fine scotch whiskey. Would I go to the Jack Daniels distillery in Kentucky to do that?

Palmer

Re: Does the HP 10B calculator not support Order of Operation?

*Message #11 Posted by **Walter B** on 3 Aug 2010, 5:04 p.m.,*
in response to message #7 by Martin Pinckney

I concur with Katie. Nowadays, RPN is so exotic for over 95% of the target population of pocket calculator users that even HP has to offer ALG additionally at least - and hope to gain some young RPN aficionados this way. One advantage RPN still keeps today is it allows monitoring all intermediate results in a calculation most easily, supporting the understanding.

Stack depth 4 with top level repetition, however, was cutting edge technology when the HP-35 was launched. As Palmer stated, however, 4 stack levels require stack management in real life calculations. This extra effort was justified as long as memory was expensive, but it is no more. 6 levels will allow for straightforward smooth and secure solving all real world formulae IMO. 8 levels will even take care of problems I did never encounter so far. Still, such a stack stays small enough to be handled easily. Add an operation FILL copying **x** into all stack registers in 1 step, so calculations using constants stay as known. Rv and R^ may be dropped instead. IMHO the one and only reason for keeping stack depth 4 is tradition. Or, less friendly: "We stick to this way because we've always done it this way."

And for the dying species of old RPN users (= us!) HP may offer a settable 4-level "compatibility mode" if it pays. Else we have to recode our favourite routines, so HP will keep our brains trained d;-) We shall be thankful :-)

FWIW,

Walter

Edited for emphasizing the message and correcting some expressions.

Edited: 4 Aug 2010, 6:56 a.m. after one or more responses were posted

Re: Does the HP 10B calculator not support Order of Operation?

*Message #12 Posted by **Tommy** on 4 Aug 2010, 5:53 a.m.,*
in response to message #11 by Walter B

Quote:

> 6 levels will allow for smooth and secure solving all real world formulae IMO.

I would get OVERFLOW myself. 4 level stack is OK with me. I rather use STO/RCL when the calculation is complicated
/Tommy

Re: Does the HP 10B calculator not support Order of Operation?

*Message #13 Posted by **Walter B** on 4 Aug 2010, 7:54 a.m.,*
in response to message #12 by Tommy

Tommy,

You are free to use as many general purpose registers as you like. By "straightforward smooth and secure" I wanted to say you may deal with an arbitrary real world formula trouble-free without using such registers. You don't need to memorize the contents of all stack registers. They are paid to store your data reliably - and recall them when their turn has come in your calculation.

Re: Does the HP 10B calculator not support Order of Operation?

*Message #14 Posted by **Bart (UK)** on 4 Aug 2010, 8:33 a.m.,*
in response to message #6 by Palmer O. Hanson, Jr.

> Quote:
>
> Otherwise, you will eventually encounter stack overflow which will result in incorrect answers for apparently innocuous calculations.

I've never had that problem, regardless of the complexity of operation. With DUPs ROLLs etc, I have always been a happy camper.

Today I tried using the Windows calculator with parentheses and got hopelessy lost (the fact that it doesn't have e^x didn't help - you've got to use inverse-Ln). I guess it depends what you "grew up" with, even though I had a Sharp EL-506P before my HP-28C.

Bart

Re: Does the HP 10B calculator not support Order of Operation?

*Message #15 Posted by **Palmer O. Hanson, Jr.** on 4 Aug 2010, 9:36 p.m.,*
in response to message #14 by Bart (UK)

> Quote:
>
> I've never had that problem, regardless of the complexity of operation. With DUPs ROLLs etc, I have always been a happy camper.

Have you tried the old problem

[(3+1)(4+3)+(2+6)(4+6)]/[(2+3)(2+1)+(3+5)(4+2)]

on a 4 level RPN machine.

Re: Does the HP 10B calculator not support Order of Operation?

*Message #16 Posted by **Bart (UK)** on 5 Aug 2010, 5:33 a.m.,*
in response to message #15 by Palmer O. Hanson, Jr.

The secret is in my last sentence, I started my HP life with the first RPL machine ;). I have never got on with algebraics since. I later replaced the 28C with the 28S. When that broke a few years ago, I got the 35S and had to learn about stack lift and the limits of a 4-level stack. I now have a 50G too.

I must add that I do occasionally use the modern formula display calculators. They are much easier to use, you can see the formula and go back to check for mistakes.

Getting back to your example, keeping track of the stack is as much effort as keeping track of parentheses. On simpler scientifics when formulas start getting that long I prefer to use the memory function. Multiple storage registers are very useful as found on HPs from as early as the HP-45. It was another thing that led to my frustration of the Windows calculator (It is a newly setup PC at work and I have since installed Thomas Okken's Free42). It's also a reason I like the 20S (the HP algebraic that I did use for some years), I never used parentheses on it because with 10 storage registers I didn't have to. Why bother with something I can't even spell? :) (I don't even know if I've spelt "parentheses" correctly every time in this message).

Re: Does the HP 10B calculator not support Order of Operation?

*Message #17 Posted by **Palmer O. Hanson, Jr.** on 5 Aug 2010, 9:07 p.m.,*
in response to message #16 by Bart (UK)

> Quote:
>
> Getting back to your example, keeping track of the stack is as much effort as keeping track of parentheses.

Parentheses with an algebraic computer work just like parentheses in textbook equations. There is no need to keep track of them when working with equations such as the old, supposedly hard for algebraics, Mach Number equation. You just enter them when you encounter them.

Re: Does the HP 10B calculator not support Order of Operation?

*Message #18 Posted by **Bart (UK)** on 6 Aug 2010, 4:49 a.m.,*
in response to message #17 by Palmer O. Hanson, Jr.

> Quote:
>
> Parentheses with an algebraic computer work just like parentheses in textbook equations.

Hi Palmer, as my intro to calculators was at university, textbooks were not allowed in exams. Formulas had to be remembered. Working out of my head, I never bothered to remember a formula like a parrot, but rather how the parts of the fomula were developed and fitted together. Thus an RPL calculator offered the best possible solution for me, I could work out the parts and then put them together in the correct fashion. Similarly with the 20S and it's 10 memories, I can work out each part, store it in it's own memory and then recall as necessary to form the whole. It's like having a 10-level stack. I do not scribble down my

formulas and work through them as written, so for me parentheses is a hopeless case.

So, bottom line: it's all about WHAT SUITS YOU BEST. I think both HP and TI did a disservice by fuelling the "fight" by attempting to proclaim their method better and finding "examples" to support it. It has allowed people to be discouraged to try "the other way". I believe everybody should be actively ancouraged to try different methods so that they can decide on what's best for them. HP has seen the light in some ways by offering alternate input modes on some of their calculators.

Re: Does the HP 10B calculator not support Order of Operation?

*Message #19 Posted by **Mark Storkamp** on 5 Aug 2010, 9:35 a.m.,*
in response to message #15 by Palmer O. Hanson, Jr.

And the TI-30 had what, 4 pending operations? That must also have been a limitation since newer models boasted 6 pending operations. The key was in knowing the limitations of the tools you are using, and knowing that they don't do the thinking for you.

Re: Does the HP 10B calculator not support Order of Operation?

*Message #20 Posted by **Martin Pinckney** on 5 Aug 2010, 12:29 p.m.,*
in response to message #19 by Mark Storkamp

> Quote:
>
> And the TI-30 had what, 4 pending operations? That must also have been a limitation since newer models boasted 6 pending operations.

Way back when the TI-59 had 8 levels of pending operations.

Re: Does the HP 10B calculator not support Order of Operation?

*Message #21 Posted by **Walter B** on 5 Aug 2010, 5:18 p.m.,*
in response to message #20 by Martin Pinckney

> Quote:
>
> [(3+1)(4+3)+(2+6)(4+6)]/[(2+3)(2+1)+(3+5)(4+2)]

Done straightforward with a 6 level stack in RPN:

```
                x   y    z    a    b    t
3 ENTER 1       1   3    -    -    -    -
+
4 ENTER 3       3   4   3+1   -    -    -
+ *
2 ENTER 6       6   2   ()()  -    -    -
+
4 ENTER 6       6   4   2+6  ()()  -    -
+ * +          num
2 ENTER 3       3   2   num   -    -    -
+
2 ENTER 1       1   2   2+3  num   -    -
+ *
3 ENTER 5       5   3   ()() num   -    -
+
4 ENTER 2       2   4   3+5  ()() num   -
+ * +          den num
/            result
```

That's why I claimed what I did above.

> Quote:
>
> Way back when the TI-59 had 8 levels of pending operations.

Hmmh, and you tell me TI's main competitor never went beyond 3 levels of pending operations? And they wonder why they fell behind?

Re: Does the HP 10B calculator not support Order of Operation?

*Message #22 Posted by **Palmer O. Hanson, Jr.** on 5 Aug 2010, 8:56 p.m.,*
in response to message #19 by Mark Storkamp

> Quote:
>
> And the TI-30 had what, 4 pending operations? That must also have been a limitation since newer models boasted 6 pending operations. The key was in knowing the limitations of the tools you are using, and knowing that they don't do the thinking for you.

Yes, the TI-30 had only four pending operations. The old Mach Number equation was proposed by HP as a problem easily solved with RPN but difficult on an algebraic. But the problem requires only four pending operations. Thus, the TI-30, the least capable of the TI scientifics, was able to easily handle what HP thought was a difficult problem for algebraics. If HP had wanted to make the equation too difficult for the TI-30 to handle with a straightforward left to right entry all they had to do was interchange the two bracketed quantities and five pending operations would have been required.

Re: Does the HP 10B calculator not support Order of Operation?

*Message #23 Posted by **Mark Storkamp** on 4 Aug 2010, 9:39 a.m.,*
in response to message #6 by Palmer O. Hanson, Jr.

> Quote:
>
> In this forum you will always get a recommendation to use RPN as a more natural way of doing arithmetic. I have never found that to be so, probably because I had become proficient in higher order languages such as BASIC and FORTRAN in computers before obtaining my first electronic calculator. RPN is actually a lower order language akin to what I knew as machine language in computers.

If RPN calculators only had add, subtract, shift and mask operations, I'd agree with you. And the fact that LISP is AFAIK PN, and not exactly a low level language, I'm not sure I can agree with your conclusions. As someone who learned Fortran IV, BASIC, and had a TI-30 before getting a 34C, I think RPN is more natural.

But then, anecdotal evidence does not a proof make.

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Does the HP 10B calculator not support Order of Operation?

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9-figure 10b

*Message #1 Posted by **Gerson W. Barbosa** on 2 Aug 2010, 10:13 a.m.*

It's been there for at least 10 days now. Perhaps the seller should consider a rebate ... :)

Re: 9-figure 10b

*Message #2 Posted by **Walter B** on 2 Aug 2010, 12:57 p.m.,*
in response to message #1 by Gerson W. Barbosa

So un poquinho caro de mais ;) Please compare with the price of the HP notebook in the ad above. Now you know about real values ...

Re: 9-figure 10b

*Message #3 Posted by **Gerson W. Barbosa** on 2 Aug 2010, 6:53 p.m.,*
in response to message #2 by Walter B

Hello Walter,

> Quote:
>
> So un poquinho caro de mais ;)

Quite understandable, only a light German accent :) (Só um pouquinho caro demais = just a little bit too expensive).

FYI, R$1 ~ US$ 0.56. Obviously the seller has made some kind of mistake he is still not aware of. The price of some of his other items are multiplied by 1e6 as well.

Regards,

Gerson.

Re: 9-figure 10b

*Message #4 Posted by **Walter B** on 3 Aug 2010, 2:32 a.m.,*
in response to message #3 by Gerson W. Barbosa

Olá Gerson,

> Quote:
>
> > Quote:
> >
> > So un poquinho caro de mais ;)

> Quite understandable, only a light German accent :) (Só um pouquinho caro demais ...).

Muito obrigado! Thanks for correcting my rusty Portuguese.

Regarding the seller, an erroneous factor of 1E6 is a bit too much. I wonder what (s)he was thinking when fixing the price. I am not aware of any currency conversion in your area needing a factor of 1E3, so applying this the wrong way may cause 1E6 easily. Way back, we had Italy for such conversions in Europe - now it is contributing to the strength of the Euro ;))

Cumprimentos,

Walter

Re: 9-figure 10b

*Message #5 Posted by **Martin Pinckney** on 3 Aug 2010, 1:56 p.m.,*
in response to message #3 by Gerson W. Barbosa

> Quote:
>
> The price of some of his other items are multiplied by 1e6 as well.

Did he press 1 before pressing E, or not? ;-)

Re: 9-figure 10b

*Message #6 Posted by **Gerson W. Barbosa** on 3 Aug 2010, 6:34 p.m.,*
in response to message #5 by Martin Pinckney

I am not sure about him, but I did. My computer keyboard is not smart enough :-)

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OT: Casio fx9850g Slim on Sale

*Message #1 Posted by **Katie Wasserman** on 1 Aug 2010, 11:32 a.m.*

We've discussed the Casio fx9860g calculators here quite a bit and a couple of our regulars have re-purposed them with RPN. So I thought that I'd mention that the very nice "slim" version is on sale for $50 (half the usual price) here. J&R also sells these via Amazon for the same price.

-Katie

p.s. Apparently Casio is closing these out and so there might be even better deals to be had out there.

Edited: 1 Aug 2010, 11:36 a.m.

Re: OT: Casio fx9850g Slim on Sale

*Message #2 Posted by **Bruce Bergman** on 1 Aug 2010, 11:39 a.m.,*
in response to message #1 by Katie Wasserman

Yeah, they've got a new line of "II" calcs coming out. I haven't seen any in stores yet, but they are available online.

Have you played with the new II models at all? Other than faster speed, have you noticed any new features?

Thanks,

Bruce

Re: OT: Casio fx9850g Slim on Sale

*Message #3 Posted by **Katie Wasserman** on 1 Aug 2010, 7:29 p.m.,*
in response to message #2 by Bruce Bergman

I haven't seen the "II" series yet. I hope there will be a "II slim", but I have not seen any announcements to that effect.

[OT?] SDK Capabilities?

*Message #4 Posted by **Tim Wessman** on 1 Aug 2010, 3:59 p.m.,*
in response to message #1 by Katie Wasserman

I've been meaning to check for quite a while now on what exactly the SDK for C development allows you to do because I'm curious, but I've been busy with more important things. Perhaps someone who has played with it can answer quickly if they have time. . .

1. Do the programs tie into the system in any way? (availiable as commands for graphing, in menus, etc) Or are they just run in the prgm icon area?
2. Do you have access to system calls and variables? Or are they essentially isolated, self-contained programs?

3. If just self contained, I assume you get your basic, C lib calls and not much else?
4. Can you replace the OS completely?

Thanks!

TW

Edited: 1 Aug 2010, 4:00 p.m.

Re: [OT?] SDK Capabilities?

*Message #5 Posted by **Katie Wasserman** on 1 Aug 2010, 7:20 p.m.,*
in response to message #4 by Tim Wessman

There are people here that can answer these question better than I, but.... From what I remember you are given a limited set of operating system calls that do not allow access to any of the application-level functions, just interfaces to the keyboard, screen, memory structures (you can read and modify the values of variables used by other Casio apps) and i/o. I don't know if it's possible to replace the operating system, the SDK is designed for you to write "apps". The operating system allows for one app at a time to run and presents all the apps on the "home" screen.

The calculator firmware itself is really a series of weekly interrelated apps (they share variable space and some allow sharing of the built-in math functions). There are several sites on the web where users post and share apps that they've written and Casio provides a handful of additional ones that you can download, beyond what's supplied when you purchase it. Casio also provides firmware updates, very complete manuals and the SDK on their site. They also have a simple data acquisition hardware module and a built-in app that controls that. (Actually this app is rather clever in that it generates a program in their BASIC-like language that the user can edit later to further customize.)

The PC program to talk to the calculator, for uploads/download and backups, can also serve as a editing tool for writing program off the calculator. It's must easier to write long programs this way. It does not have an emulator component, however.

For $50 it's a massive amount of technology in a wonderfully usable form factor. My only complaints are:

1) The programming language is missing some obvious functionality. They've only recently added strings but did a poor job of it slowing down the generally very fast interpreter and missing some critical functions.

2) I miss (built-in) RPN and HP key clicks.

-Katie

Re: [OT?] SDK Capabilities?

*Message #6 Posted by **hugh steers** on 2 Aug 2010, 10:04 a.m.,*
in response to message #5 by Katie Wasserman

further to Katie's description; yes, there appears only limited interface to casio's built in functionality. basically you get the screen & keyboard basics, even then it's a bit limited. For example, i wound up doing my own low-level keymatrix decoding (source of my version bugs) because i wanted to detect low level key down and up and also the shift and alpha keys. Further, for the screen, it's easier to hit the screen memory directly.

however, you might find interesting the way it works: Everything is an app - even the calculator itself.

They share a limited amount of data (eg equations for the graphing etc.). So the graphing app is a separate app (ie separate binary). Presumably casio use a common set of libraries for all their apps (eg for calculation) and just link them to each app.

To be clear, im not a big fan of this "modular" approach. it works well when you're following an education curriculum where you're either doing complex numbers, matrices, graphing, but never combinations thereof.

However, there's one really cool aspect of this architecture; each app gets the whole machine! Since you can run only one app at a time, each app can use all the RAM (only 64k). Furthermore, the app executable runs directly from flash and is not copied into RAM nor is it position independent code. I think the Hitachi chip has a built-in simplified MMU that essentially supports a few base registers for code and data (rather than a page table). This approach is also used on the Microchip 32 bit PICs.

It's possible for apps to read and write "files" to flash, so you can save/load programs or data like this. The flash memory is quite generous 1.5MB (i think), so there's lots of space for apps and their code size is not super-critical.

[As an aside here, i think your 30b architecture has the same feature. ie can self-flash. i was toying with the idea of writing a repurposed programmable that saves (and runs) its program from a portion of set-aside flash rather than the built-in RAM. as you know, this might be a way to have much bigger programs than the 2-6k built in, whilst using the true RAM for workspace (arrays, strings etc.). would be interested in your view on this]

regarding the SDK, this is really quite good. casio give away a free version of the Hitachi Renesas tool chain (superH) which is a C++ compiler, IDE, debugger and simulator (on the PC). the C++ works well. i've had no problems with it, although i haven't tried giving it template hell :-)

so: 1. No, they're just new apps 2. only screen, keyboard, some IO 3. most of Clib, plus a few extra bits. 4. Yes, when you run you're the OS! when you "exit" it causes a trap which soft-resets the machine back to the main menu.

- hugh.

Re: [OT?] SDK Capabilities?

*Message #7 Posted by **Matt Kernal** on 3 Aug 2010, 1:14 p.m.,*
in response to message #6 by hugh steers

Just want to acknowledge Hugh's "Reckon" and Nigel's "CasioRPN" applications help make the fx9860g Slim a very nice RPN calculator for the end user. The Casio's hardware is lightning fast! The backlighting is a plus too.

I've been working with both Manfred Pfieffer's and Eddie Shore's RPN aplets for the 40GS, and find the biggest obstacle to be lack-of-speed. Then again, I realize they're written in HPBasic.

Good job everyone! (and did I say how fast the Casio is? :-)

Re: [OT?] SDK Capabilities?

*Message #8 Posted by **hugh steers** on 3 Aug 2010, 2:02 p.m.,*
in response to message #7 by Matt Kernal

Thanks!

However, it turns out HP's ARM platform of the 20/30b and new 12c have faster hardware (but less ram - hint, hint). Also the 50g is faster.

It is possible, however to double (or even triple) the speed of the casio 9860g. the base speed is 14.7Mhz and this can be doubled to around 30 - approximately the same as HP.

I selectively speed double, for evaluating the plot function and inside the factorization code. otherwise i try not to because it increases power consumption.

Re: [OT?] SDK Capabilities?

*Message #9 Posted by **Nigel J Dowrick** on 3 Aug 2010, 4:48 p.m.,*
in response to message #7 by Matt Kernal

Thank you very much! I'm glad that you've found CasioRPN useful.

Of all my calculators the Casio Slim is the one that I nearly always have by my side: it has a great high-contrast display, a nice form factor, a reliable keyboard, useful built-in software, and if I lose it I can replace it. While Hugh is correct to point out that the HP-50g's hardware is faster, when used as a calculator (e.g., for evaluating definite integrals) the Casio wins hands down!

Nigel

Re: OT: Casio fx9850g Slim on Sale

*Message #10 Posted by **Paul Dale** on 2 Aug 2010, 3:54 a.m.,*
in response to message #1 by Katie Wasserman

Would any of our North American folk be willing to act as a middleman?

They don't ship to the rest of the world and this price is very good.

- Pauli

Re: OT: Casio fx9850g Slim on Sale - sold out at J&R

*Message #11 Posted by **Jeff O.** on 4 Aug 2010, 11:38 a.m.,*
in response to message #1 by Katie Wasserman

Just when I decided to buy, the Casio fx9860g calculator is now shown as sold out at J&R. "Sold out" is defined as "we have no more and we do not expect any more from the manufacturer."

It is still shown as available direct from Amazon, but the price is $78. Availability given as "Only 5 left in stock--order soon (more on the way)."

...

Edited: 4 Aug 2010, 11:38 a.m.

Re: OT: Casio fx9850g Slim on Sale - sold out at J&R

*Message #12 Posted by **Katie Wasserman** on 4 Aug 2010, 1:07 p.m.,*
in response to message #11 by Jeff O.

Here is is for $44 + shipping.

Better move on it fast!

Edited: 4 Aug 2010, 1:07 p.m.

Re: OT: Casio fx9850g Slim on Sale

*Message #13 Posted by **Eric Smith** on 13 Aug 2010, 3:55 p.m.,*
in response to message #1 by Katie Wasserman

I bought one just to see why so many people like it. The first thing that struck me is that it isn't actually "slim". It's thicker than my notebook computer!

It also seems fairly difficult to figure out how to do any non-trivial calculations without referring to the manual, which I haven't done yet.

Has anyone taken one of these apart and photographed the innards?

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HP-65 sensor chip failure

*Message #1 Posted by **aj04062** on 1 Aug 2010, 11:23 a.m.*

What are the symptoms of a failed chip (from over voltage via charger)?

Does the drive cease to operate?

I am in the middle of restoring a 65 and I just corrected all the damage from a severe battery leak and before I get into the gummy wheel repair, I'd like to know if the chip is good.

If I start a card into the slot, the drive does come on, but because the wheel is toast, I can't tell if a program will load.

Re: HP-65 sensor chip failure

*Message #2 Posted by **Michael de Estrada** on 1 Aug 2010, 12:16 p.m.,*
in response to message #1 by aj04062

I believe that the motor would not run if the card sensor were bad, but I can't say for sure, since I've never had this situation. Perhaps an expert like Randy can say for sure. I'd do the gummy wheel repair, regardless, and just see if it reads/writes cards correctly. You may also need to repair the motor/worm gear coupling (aka clutch).

Also, it's not certainty that the sensor chip will fail if operated from the AC adapter w/o a battery, just more likely.

Edited: 1 Aug 2010, 12:19 p.m.

Re: HP-65 sensor chip failure

*Message #3 Posted by **aj04062** on 3 Aug 2010, 11:35 p.m.,*
in response to message #2 by Michael de Estrada

Well I think it is OK. I have replaced the wheel and now have a smooth running card reader.

Smooth running EXCEPT it doesn't appear to read or write a card. There was a fair amount of crud on the head. Anyone have a suggested method to clean? Could this be the source for the read/write problems?

Also, any suggestions on whether I should replace, touch up or glue back on the label? What would retain the best value?

to my dismay the small piece of black flaked off due to the battery leak (yes it was pretty bad)

Re: HP-65 sensor chip failure

*Message #4 Posted by **Michael de Estrada** on 4 Aug 2010, 9:22 a.m.,*
in response to message #3 by aj04062

I use GooGone to disolve any buildup and then isopropyl alcohol to clean the heads. This may solve the read/write problem or it might not. There are many other possible reasons for read/write problems, including bad reed switch adjustment, incorrect card reader speed and bad circuits. If there is an error during card reading, you will get a blinking display, but also if you attempt to read a blank card. During normal card reading, the display does not blink and does not change.

As far as the back label is concerned, I have always simply replaced it with a replica that you can buy on TAS. As to value, I don't think about such things, since I buy calcs to repair/collect rather than resell, but IME when I've decided to sell excess inventory of a given model, I've mostly at least recovered my "investment". I noticed that the bottom feet are missing; did you remove them? Also, you have a Version 2 of the HP65, based on the serial number label being located outside of the battery compartment. Were the card reader wire connections sockets or soldered?

Re: HP-65 sensor chip failure

*Message #5 Posted by **Ignazio Cara (Italy)** on 4 Aug 2010, 11:07 a.m.,*
in response to message #3 by aj04062

Have you checked the resistance among the two couple of wires of the read/write head? You must disconnect the wires from the sense amplifier PCB and read the value between the couples red/yellow and blue/orange to know if all the coils are ok. Let us know about

Don't worry and try again with your baby!

Ignazio

BTW, if you need a couple of green feet, I can help you.

Re: HP-65 sensor chip failure

*Message #6 Posted by **aj04062** on 4 Aug 2010, 1:13 p.m.,*
in response to message #5 by Ignazio Cara (Italy)

Guys,

Good on the green feet, they are in the "box of parts"

wires are soldered into the board. I will try the goo gone/alchohol first, then move to the resistance checks. Presume that some resistance is ok and I am primarily checking for open circuits.

I too am in this for the challenge of fixing these vintage rigs and don't plan to sell this one unless I come across a better one.

How can you tell if the card WROTE to the card? The display does blink indicating nothing was read, but I don't know if it's telling me it can't read or if I'm reading a blank card.

I have no period cards with this machine, only blanks ones from my 41C.

Re: HP-65 sensor chip failure

*Message #7 Posted by **Michael de Estrada** on 4 Aug 2010, 2:34 p.m.,*
in response to message #6 by aj04062

Try writing a program to a card first, and then reading it back in.

Re: HP-65 sensor chip failure

*Message #8 Posted by **aj04062** on 4 Aug 2010, 2:58 p.m.,*
in response to message #7 by Michael de Estrada

Tried that, it blinks.

Re: HP-65 sensor chip failure

*Message #9 Posted by **Michael de Estrada** on 4 Aug 2010, 3:19 p.m.,*
in response to message #8 by aj04062

OK, then at least you have a problem with the card reader writing cards. This doesn't necessarily mean that it won't read cards, but you would need a card that had been written to test it. You can read a card written for the HP41C into a HP65 w/o getting a blinking display, although the program won't execute properly to test the read function of your card reader.

Re: HP-65 sensor chip failure

*Message #10 Posted by **Ignazio Cara (Italy)** on 5 Aug 2010, 3:30 a.m.,*
in response to message #8 by aj04062

I could send a tested card on my '65, so you can test the reading capability of your calculator. It's possible that it be able to write but due a bad capacitor, it does not read properly the cards.

Regards

Ignazio

Re: HP-65 sensor chip failure

*Message #11 Posted by **aj04062** on 8 Aug 2010, 9:56 p.m.,*
in response to message #10 by Ignazio Cara (Italy)

I tinkered some more. Cleaned and inspected the wires. None appear to be broken @ the board.

It will read a 41C program on some of my cards.

It will not read a card that I tried to write. Does it give any feedback when it writes a card correctly?

Ignazio, thanks for the offer. I think I'll pass as it does seem to be reading. Now I need to fix the writing.

I suppose the next step is to detach the wires and check the resistance across the coils.

Re: HP-65 sensor chip failure

*Message #12 Posted by **Ignazio Cara (Italy)** on 9 Aug 2010, 6:39 a.m.,*
in response to message #11 by aj04062

The '65 use a 6 bit code instructions, so it's not able to read cards from '67 or 41C. Unfortunatelly it don't leave any feedback after a writing operation. And if you are not SURE that your calculator is reading correctly the cards, you must detach the five wires and check them with an ohm-meter to verify the coils.

Lookin forward for good news.

Ignazio

Re: HP-65 sensor chip failure

*Message #13 Posted by **aj04062** on 11 Aug 2010, 10:20 p.m.,*
in response to message #12 by Ignazio Cara (Italy)

Measured 50ohms across the following: Yellow-Red Blue-Orange Remaining wire is Black. It measures about 15 ohms to the outer shell.

Sounds about right, agreed?

Must be a problem in the mechanical drive. I will try to adjust the eccentric to get better force.

Re: HP-65 sensor chip failure

*Message #14 Posted by **Ignazio Cara (Italy)** on 12 Aug 2010, 10:57 a.m.,*
in response to message #13 by aj04062

Hello, yes, the value of resistance is ok. The black wire is the ground, and must be connected to the body of the magnetic head. And now? If you want I can send you a card with a trivial program to verify the read capability of your reader. Let me know your address.

Ignazio

Re: HP-65 sensor chip failure

*Message #15 Posted by **aj04062** on 16 Aug 2010, 10:37 p.m.,*
in response to message #14 by Ignazio Cara (Italy)

Well through continued help from Ignazio, I am slowly trying to find the fault.

I have connections between the motor control board and the Sense Amplifier Chip. It seemed I had found a fault when I discovered high resistance from RA connector to the RA pin on the IC.

Well, I jumped the trace (the motor control board has seen severe battery acid) and it STILL doesn't work.

I'm Stumped. I don't have a background in electronics so this question may be dumb, but I can't check the caps & resistors while soldered in, correct?

I also can't seem to be able to correct the break in the RA trace without desoldering the IC from the board. Is this advisible?

One thing I noticed playing around with the head is that it is slightly loose. If I push it in a little, the card will not go through and jambs up. If I wiggle it out, it allows the card to pass.

More suggestions are welcome, let me know if anyone has spare parts to buy!

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RPN Programming

*Message #1 Posted by **hpnut** on 30 July 2010, 11:43 p.m.*

I wonder why HP choose to introduce difficult examples in RPN programming? for example, the HP30b modules have these examples:

1. calculating digits of PI 2. finding prime factors of an integer 3. base conversions for bases 2-10

http://h10025.www1.hp.com/ewfrf/wc/document?docname=c02047259&tmp_task=useCategory&lc=en&dlc=en&cc=us&lang=en&product=4031712

why can't they use examples like celcius to fahrenheit or solving quadratic equations like in the earlier HP 41C manuals?

I am still at a loss programming the new HP calculators from HP 35S onwards.

Re: RPN Programming

*Message #2 Posted by **bill platt** on 31 July 2010, 12:28 a.m.,*
in response to message #1 by hpnut

35s really is mostly the same as the 41C, to me. The odd parts are the new aspects with gotos that don't fit with the 32s paradigm. But it is still fundamentally the same as a 41, no?

Why not "simple" examples? Well, the two you gave are built-in functions, so that wouldn't be particularly useful, would it? May most of the "simple stuff" is already taken up with built-ins!

I think the base conversion program is very useful for learning the programming.

Re: RPN Programming

*Message #3 Posted by **Don Shepherd** on 31 July 2010, 3:09 a.m.,*
in response to message #1 by hpnut

I think the idea was just to include some examples that most folks could relate to, so that they could see how programming is done on this machine, because it is somewhat different than "standard RPN" as many of us know it.

Here is a list of some "gotcha's" that you probably need to know about the 30b in order to program it effectively. Once you get used to some of its weird habits, I think you will like it, especially its speed.

The prime factor program shown is not the fastest in the world, but it is simple. Any regular member of this forum who knows RPN should be able to write a quadratic equation solver with little effort, especially since it won't need any conditional statements, typically. The 30b conditionals are a bit tricky until you understand how they work.

Re: RPN Programming

*Message #4 Posted by **gene wright** on 31 July 2010, 11:49 a.m.,*
in response to message #1 by hpnut

Probably because there are examples of simpler programs elsewhere.

Examples of assigning programs to keys.

Examples of using HP solve.

etc.

then again, I'm certain that if the modules ONLY had the quadratic equation and F->C and C->F, more people here would have complained that the examples were too simple.

So, here you go. RPN mode assumed.

C->F... key celsius temperature, press = = while in the program catalog to execute.

```
LBL 0
9
X
5
/
3
2
+
R/S
```

F->C...key fahrenheit temperature, press = = while in the program catalog to execute.

```
LBL 1
3
2
-
5
X
9
/
R/S
```

For a quadratic, I would use the solver, not a program.

The learning module for using HP Solve shows several examples of how to do this.

HP Solve module

Example 1: Finding the roots of y = (x-2)^2 - 1

Example 2: Finding the roots of y = (x-2)^2 + 1

I can't help the typos in this web document.

Hope these help.

Edited: 31 July 2010, 11:53 a.m.

Re: RPN Programming

*Message #5 Posted by **Don Shepherd** on 1 Aug 2010, 8:17 a.m.,*
in response to message #4 by gene wright

> Quote:
>
> For a quadratic, I would use the solver, not a program.

On the 30b, to use the solver you're going to have to write a program anyhow, and if I'm going to write a program for this problem I'll implement the quadratic formula which will give me both roots without having to "guess." That's the one thing I've always disliked about the HP solver, it makes you guess in order to get both roots, and if you guess, you probably already know the answer!

Re: RPN Programming

*Message #6 Posted by **gene wright** on 1 Aug 2010, 3:36 p.m.,*
in response to message #5 by Don Shepherd

True, true.

But if someone is unsure about programming enough that they really need examples for converting F->C and C->F, then a short program in the solver for X^2-4X+4 is probably easier to type in and run than a longer one to give both roots at once.

But, I do agree with your point, certainly. :-)

Re: RPN Programming

*Message #7 Posted by **Don Shepherd** on 1 Aug 2010, 4:36 p.m.,*
in response to message #6 by gene wright

Thanks, Gene. That's one thing I like about the NSpire, it's SOLVE function. Now, I know the NSpire is a CAS and the 30b is not, but if you type in SOLVE(x^2+5x+6=0,x) it comes back with x = -2 or -3. Now that's what a solver ought to do!

Rootfinding function (SOLVE) and guesses

*Message #8 Posted by **Karl Schneider** on 2 Aug 2010, 12:15 a.m.,*
in response to message #5 by Don Shepherd

> Quote:
>
> That's the one thing I've always disliked about the HP solver, it makes you guess in order to get both roots, and if you guess, you probably already know the answer!

I can't concur with that statement. The idea behind the 'guesses' is to bound the interval for the root of interest. The user may know the approximate value of that root, but requires automated numerical iteration in order to efficiently "home in" on it.

Also, periodic functions may have an infinite number of real-valued roots.

From your subsequent post:

> Quote:
>
> ...if you type in SOLVE(x^2+5x+6=0,x) it comes back with x = -2 or -3. Now that's what a solver ought to do!

Sure, but that's a quadratic function with two exactly-specified, easily calculated roots (which may or may not be real-valued). A solver can be programmed to find all roots of a polynomial function; the convenient "SOLVE POLYNOMIAL" screen of the HP-48G series, as well as the PROOT function of the HP-71B Math Pac, will do so.

-- KS

Edited: 4 Aug 2010, 11:33 p.m. after one or more responses were posted

Re: Rootfinding function (SOLVE) and guesses

*Message #9 Posted by **Don Shepherd** on 2 Aug 2010, 7:06 a.m.,*
in response to message #8 by Karl Schneider

Karl, I guess we'll have to agree to disagree. Yeah, the user may have an idea of the value of the second root, but he may not also and will have to do more work with the solver to find it. I think the real value of the HP solver is finding solutions to first-degree equations with multiple variables, where you know the values of all variables except one and it will calculate and tell you that one. And I like the approach used in machines like the 17bii where you just enter the equation (don't have to set it to 0) and provide values for the known variables and it tells you the unknown. I like that approach more than requring you to write a program, as in the 30b for example.

But, truth be told, I think the method I like best is doing it in my head, like completing the square or factoring or using the quadratic formula manually. I've read that doing mental things as you get older (I'll be 60 in a couple of weeks) keeps you from getting Alzheimer's disease, plus it's just fun!

Re: Rootfinding function (SOLVE) and guesses

*Message #10 Posted by **Angel Martin** on 4 Aug 2010, 1:54 a.m.,*
in response to message #9 by Don Shepherd

> Quote:
>
> I've read that doing mental things as you get older keeps you from getting Alzheimer's disease, plus it's just fun!

I sure hope that's true - my ultimate anti-Alzheimer trick is 41-MCODE, highly recommended. :)

Re: Rootfinding function (SOLVE) and guesses

*Message #11 Posted by **Karl Schneider** on 5 Aug 2010, 12:04 a.m.,*
in response to message #9 by Don Shepherd

Don --

> Quote:
>
> Karl, I guess we'll have to agree to disagree. Yeah, the user may have an idea of the value of the second root, but he may not also and will have to do more work with the solver to find it.

I took your sentiment of not liking the 'make a guess' requirement in more general terms, as opposed to pertaining specifically to quadratic solutions.

I still maintain, though, that the user ought to be able to deal adroitly with quadratics, even working them out manually in lieu of programming a solution. The best way for a calculator to return both/all solutions automatically, without the benefit of guesses entered by the user, is with a polynomial-solving function.

Oftentimes, one mathematical quadratic solution will have no practical use in a real-world problem.

> Quote:
>
> I think the real value of the HP solver is finding solutions to first-degree equations with multiple variables, where you know the values of all variables except one and it will calculate and tell you that one.

They need not be 'first degree' equations; the multi-variable equation can be of any form. RPN-based HP solvers will use two 'user-supplied' guesses from stack contents and the stored value of the 'solve' variable. I would assume that the stored value (if present) is the starting point for the HP-17B/27S solver.

If the guesses are the same, the solver will decide in which direction to proceed. If the solver is to succeed, neither guess must cause a math error.

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=556

-- KS

Edited: 6 Aug 2010, 1:40 a.m. after one or more responses were posted

Re: Rootfinding function (SOLVE) and guesses

*Message #12 Posted by **Bart (UK)** on 5 Aug 2010, 7:18 a.m.,*
in response to message #11 by Karl Schneider

I think the problem is again what the older generation complains so much about - people want to just punch problems into computers and get answers, losing all inkling of whether the answer makes sense. This has been discussed so often on this forum. The same goes in this case where calculators can be programmed to give answers to simpler quadratics without guesses, but for more complex problems there can be a multitude of answers and you can be sure the calculator giving you definite solutions will give the ones you don't want. I think working with a calculator that forces you to guess even for the simple quadratics, teaches you to do it right for the more complex ones.

Re: Rootfinding function (SOLVE) and guesses

*Message #13 Posted by **Don Shepherd** on 5 Aug 2010, 9:24 a.m.,*
in response to message #12 by Bart (UK)

> Quote:
>
> This has been discussed so often on this forum.

I think we can all agree with that!

Here's what I think. It's not the calculator's responsibility to make sure that the person

pushing its buttons understands the answer it provides. That's probably somebody's responsibility, but not the machine's. If a solver application can find a solution without the button-pusher providing a guess first, do it. Personally, I'd like the solver to do this for a quadratic equation: recognize that it's a quadratic, get the coefficients of x^2 and x and the constant term (a, b, and c), apply the quadratic formula, and return the two solutions (if there are two solutions) in x and y. Now, there may be a legitimate reason that the solver has not taken this approach in the past, so that's OK. But maybe it's time to update the solver (radical idea).

I teach my middle school students to find the solutions to quadratics by factoring, if possible, then completing the square, then applying the quadratic formula, and I think that's good because it makes them think (and work!). Once they leave school, they will probably never have to do such things again in their life (similar to box-and-whiskers plots, don't get me started on those), but the process of doing it now exercises their brains in ways that video games cannot.

Re: Rootfinding function (SOLVE) and guesses

*Message #14 Posted by **Karl Schneider** on 6 Aug 2010, 2:56 a.m.,*
in response to message #13 by Don Shepherd

> Quote:
>
> Personally, I'd like the solver to do this for a quadratic equation: recognize that it's a quadratic, get the coefficients of x^2 and x and the constant term (a, b, and c), apply the quadratic formula, and return the two solutions (if there are two solutions) in x and y.

This requires that the equation be entered in full detail. And, what if the terms had not been gathered -- should the calc still be able to recognize it as a quadratic? Any sophisticated solution will entail CAS.

I still say that the ideal solution is a polynomial solver, like that of the HP-48G and its descendants: Choose "Solve Polynomial" from the SOLVE menu, enter [1 5 6], hit "Solve", and read -2 and -3 as the answers. A PC might be a better tool if the problem is more complicated than that.

A quadratic-equation problem came up at work recently. After failing for a short while at simply reckoning an operating point, I derived a quadratic expression, programmed it as an equation on the HP-32SII, and quickly solved it numerically, knowing what a realistic answer would look like. (The other solution, which I computed manually, was indeed unrealistic -- well outside the operating limits of the equipment. The HP-32SII found that one, too, with suitable guesses steering it in that direction.)

-- KS

Edited: 8 Aug 2010, 2:21 a.m. after one or more responses were posted

Re: Rootfinding function (SOLVE) and guesses

*Message #15 Posted by **Don Shepherd** on 6 Aug 2010, 3:48 a.m.,*
in response to message #14 by Karl Schneider

Yeah, trying to determine if a solver program represents a quadratic equation would be problematic, given all the possibilities and different coding styles of users. So I admit, that's a bad idea.

One thing I like about the SOLVE command on the TI-Nspire is that it is general purpose. It solves simple equations, quadratic and higher order equations, and systems of equations (what we called simultaneous equations when I was in high school, I always wondered why they changed the name). And it doesn't require you to set the whole thing equal to zero.

```
solve (x-12=30,x) yields x=42
solve (x^2+5x+6=0,x) yields x=-2 and x=-3
solve (x+y=11 and x-y=-3,x,y) yields x=4 and y=7
```

There is also a CSOLVE command for complex numbers, but I've never used it.

Edited: 7 Aug 2010, 3:01 a.m.

Re: Rootfinding function (SOLVE) and guesses

*Message #16 Posted by **Namir** on 5 Aug 2010, 8:30 a.m.,*
in response to message #11 by Karl Schneider

Solving for the roots of polynomials (with real coefficients) using the Lin-Bairstow algorithm requires no guesses for the roots. This algorithm will find all of real and complex roots of the polynomial. Unfortunately, when it comes to non-polynomial functions, at least one guess for the root is required to tell, whatever algorithm being used, where to start looking.

Namir

Re: Rootfinding function (SOLVE) and guesses

*Message #17 Posted by **Thomas Klemm** on 5 Aug 2010, 3:20 p.m.,*
in response to message #16 by Namir

> Quote:
>
> using the Lin-Bairstow algorithm requires no guesses for the roots

However you need to give initial values (guesses) for the quadratic polynomial. Also Wikipedia states:

> Quote:
>
> As first quadratic polynomial one may choose the normalized polynomial formed from the leading three coefficients of f(x),

Is there a reason for that choice? In my experience it just doesn't matter much, what you chose.

For those interested I once wrote a program for the HP-11C. However the trick using L.R. to solve the linear equation might not always work with later HP models since n is checked to be positive.

My first encounter with this algorithm was with an article in PRISMA, the magazine of the former CCD. The program was written for the HP-41C (of course) and I didn't understand a single thing, what was going on. It must have been around 1984. Unfortunately I've lost the copy of the article but maybe someone in this forum can still find it.

Jean-Marc Baillard contributed a solution to the MoHPC HP-41C Software Library: Polynomials for the HP-41
cf. g) Quadratic factors (Bairstow's method)

Kind regards
Thomas

Re: Rootfinding function (SOLVE) and guesses

*Message #18 Posted by **Namir** on 5 Aug 2010, 3:51 p.m.,*
in response to message #17 by Thomas Klemm

Thomas,

The implementation I use of Lin-Bairstow internally provides the initial guesses for the quadratic coefficients. The caller to the Lin-Bairstow subroutine needs not supply any initial guesses.

Thank you sooooo much for the HP-11C listing your provided. I was looking for such an implementation that uses no memory registers. Good job!!

Also thanks to the link to Baillard's excellent 41C listings. I was thinking of writing a (new) Bairstow method. The listing is interesting/

Namir

Edited: 5 Aug 2010, 3:55 p.m.

Re: Rootfinding function (SOLVE) and guesses

*Message #19 Posted by **Thomas Klemm** on 5 Aug 2010, 4:33 p.m.,*
in response to message #18 by Namir

The images in the Wikipedia-article suggest that there are initial guesses that might lead to divergence for certain polynomials. Do you know how this is avoided in the implementation you use? Are there best initial guesses that can be easily computed from the coefficients as suggested? Do you know the reason for this suggestion?

My implementation of course uses some memory registers but I tried to use as few as possible. Otherwise you run out of memory for the program. IIRC it's possible to solve polynomials up to degree 7, probably even a little more if you sacrifice the quadratic solver program at LBL A.

It's nice you like the program.

Re: Rootfinding function (SOLVE) and guesses

*Message #20 Posted by **Namir** on 5 Aug 2010, 5:22 p.m.,*

in response to message #19 by Thomas Klemm

I emailed you the listing of a VB SUB that implements the Lin-Bairstow algorithm. The museum email server may have converted some characters. You can write me at nshammas{AT]aol[DOT].com if you want me to send you the entire Excel file.

Namir

Re: Rootfinding function (SOLVE) and guesses

*Message #21 Posted by **Thomas Klemm** on 6 Aug 2010, 2:39 a.m.,*
in response to message #20 by Namir

From the listing you sent me:

```
' start the main Lin-Bairstow iteration loop
' initialize the counter and guesses for the
' coefficients of quadratic factor:
'
' p(x) = x2 + alfa1 * x + beta1
'


alfa1 = 1
beta1 = 1
```

It appears the same initial values are used as in the example of my solution:

```
1       STO 7
        STO 8
```

Remark: Please note the slight difference in the definition of the remainder polynomial:

Wikipedia:

```
cx + d
```

My solution:

```
R(x) = b1 ( x + p ) + b0
```

It turns out to make the algorithm more concise since there's no special case in calculating b0 (in my solution) as it would be for:

```
d = a0 - v b0
```

Please note also the shift of indexes by 2 when comparing the quotient:

$Q(x) = b_n x^{n-2} + b_{n-1} x^{n-3} + ... + b_4 x^2 + b_3 x + b_2$

These kind of subtleties may have a considerable impact on the code.

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ADV or STD HEPAX?

*Message #1 Posted by **Diego Diaz** on 30 July 2010, 6:44 p.m.*

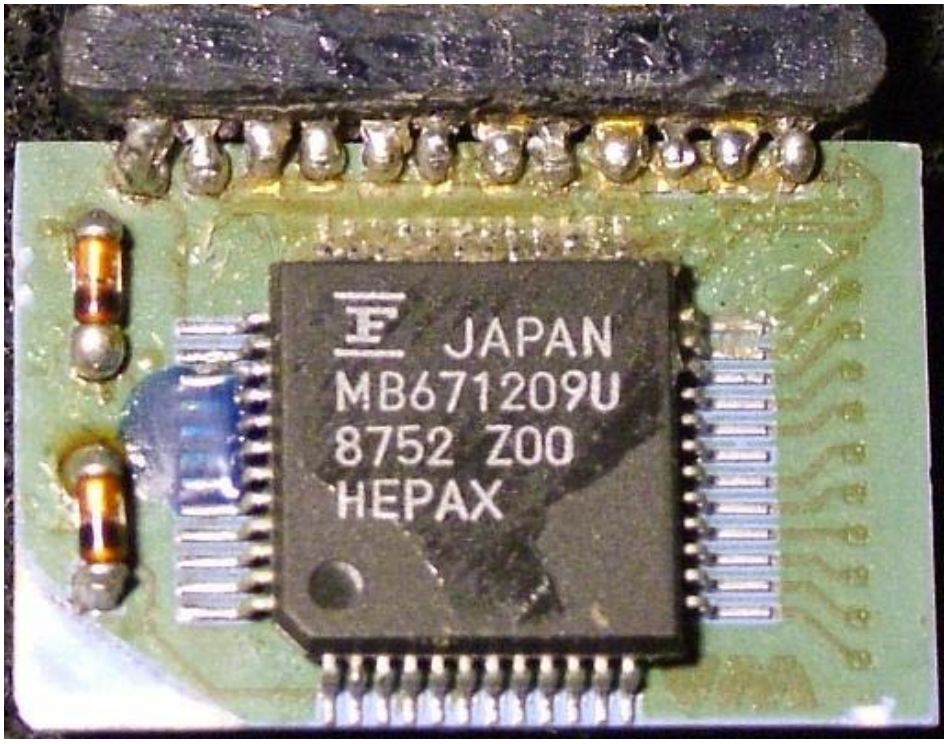
Hi all,

I'm trying to restore an HEPAX module to its better day's splendor... :-)

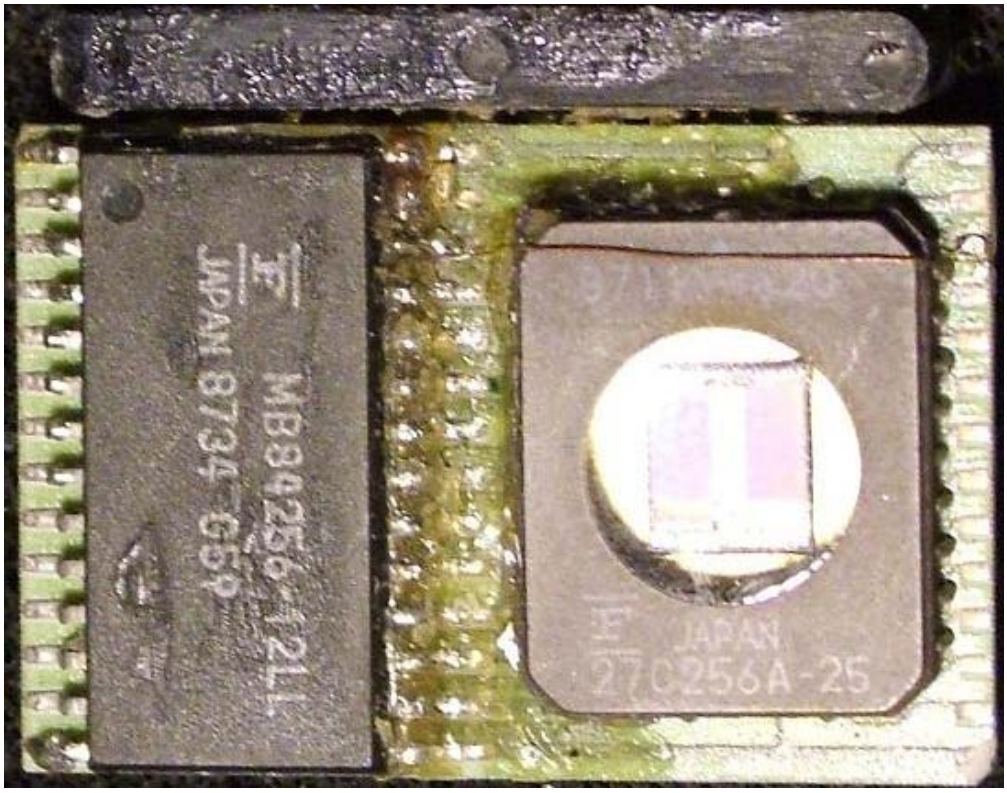
The poor little thing arrived in a very bad state.

See pics:

Seems that someone has attempted sort of repair with little success.



It also seems that back in the late 80's silicon glue must be considered the coolest thing on earth! (what a mess) :-(



Ok, the silicon glue has been removed, the connector solders have been reworked and the RAM chip replaced (the original one had one broken pin, thus the tiny wire in the second PIC).

I need some help from those which may have pictures (or may take them) form HEPAX chip (MB671209U) both from STD and ADV HEPAX.

The question comes from the fact that the rebuilt HEPAX above arrived into an "ADV HEPAX" labelled shell, however, once rebuilt it shows only two pages of HEPAX RAM.

Also both port-detecting lines (B3 & B4) are connected to the HEPAX chip. Advanced HEPAX only needs B4.

But, to make things a little bit more confuse, the module shows up in CAT 2 as "HEPAX 1D".

Possibilities:

- Module is a late (ver 1D) STD HEPAX, and it was placed into the wrong shell.

- Module is an ADV HEPAX with a faulty address line, thus the lack of two RAM pages.

Questions:

Are there different chips for STD and ADV HEPAX?

Does someone have pictures to clarify this doubt?

Test which can also help:

With ADV HEPAX inserted into port 2, [<-] [ON] (perform memory lost)*, then execute "HEPAX 002" and check which page is HEPAX 1D using. Try with ports 4, 3 and 1.

*NOTE: [ENTER] [ON] [ON], may also work without losing main memory contents.

Any help will be very welcome.

"clonix41(at)gmail(dot)com" in case you can't place pictures in the forum.

Thanks and best wishes for the summer... ;-)

Diego.

Re: ADV or STD HEPAX?

*Message #2 Posted by **Raymond Del Tondo** on 30 July 2010, 7:51 p.m.,*
in response to message #1 by Diego Diaz

Hi Diego,

I thought the difference between STD and ADV HEPAX was that the latter has RAM pages at all..

Peter P should have pics of both variants;-)

Regards

Raymond

Re: ADV or STD HEPAX?

*Message #3 Posted by **Diego Diaz** on 30 July 2010, 9:15 p.m.,*
in response to message #2 by Raymond Del Tondo

Hi Raymond,

Thanks for your reply, I'll mail Peter if he doesn't show up around here... ;-)

According to HEPAX manual Standard HEPAX comes with 8K (two pages of RAM) which are allocated to the port addresses where the HEPAX is plugged in... (that's exactly the way the module I've rebuilt is behaving) and Advanced HEPAX comes with 16K RAM (4 pages), and uses both ports addresses (1 & 2, if you plug it into port 1 *or* 2) or (3 & 4 if you plug it into port 3 *or* 4).

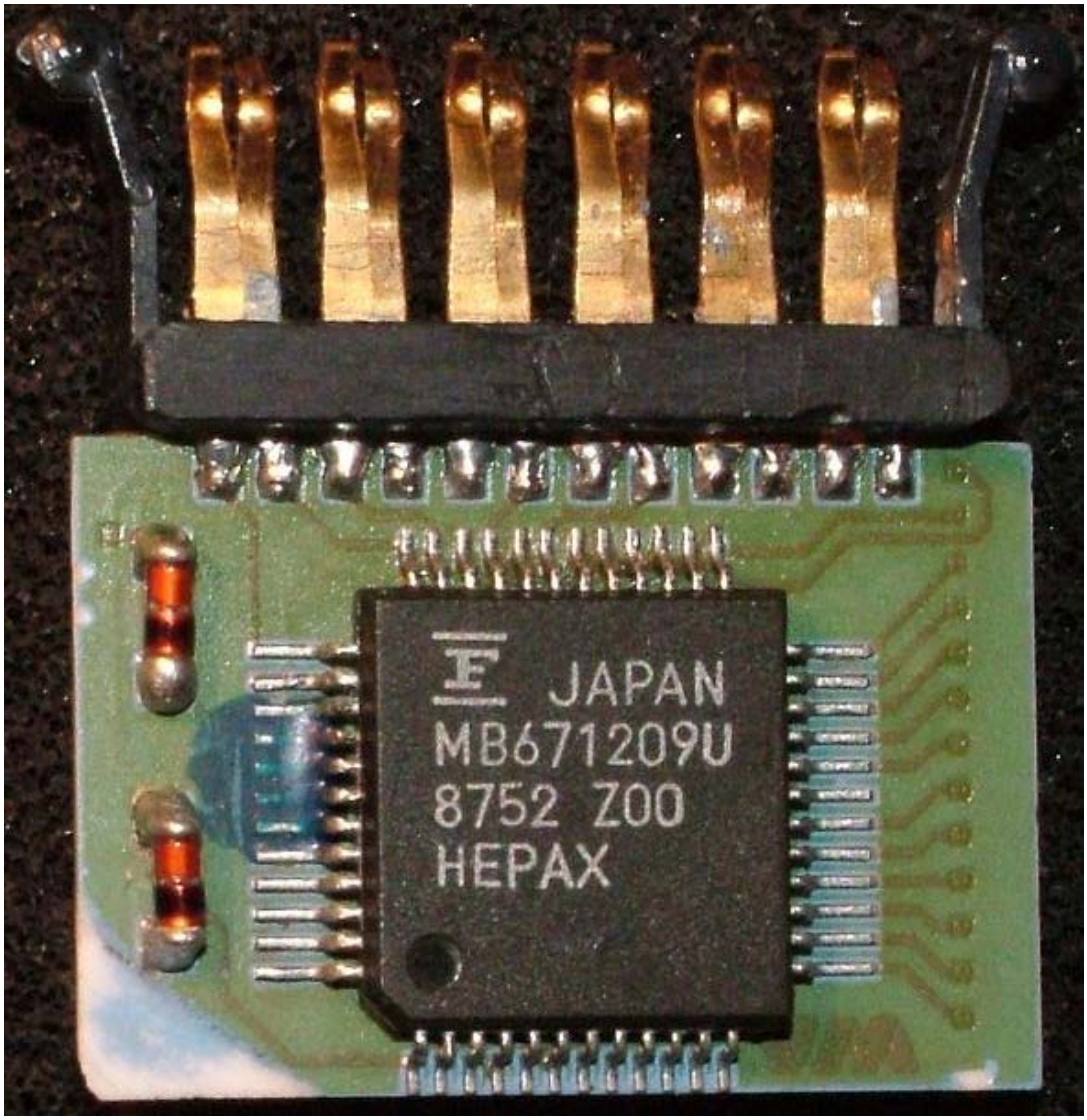
With this info alone, the referred module should be a Standard HEPAX. Which BTW is ok for me. The doubt arises from the fact that is shows-up in CAT 2 as HEPAX 1D. I assume that this is the ROM version for ADV HEPAX. (I may be wrong on that). At a more technical level there are two contradictory facts:

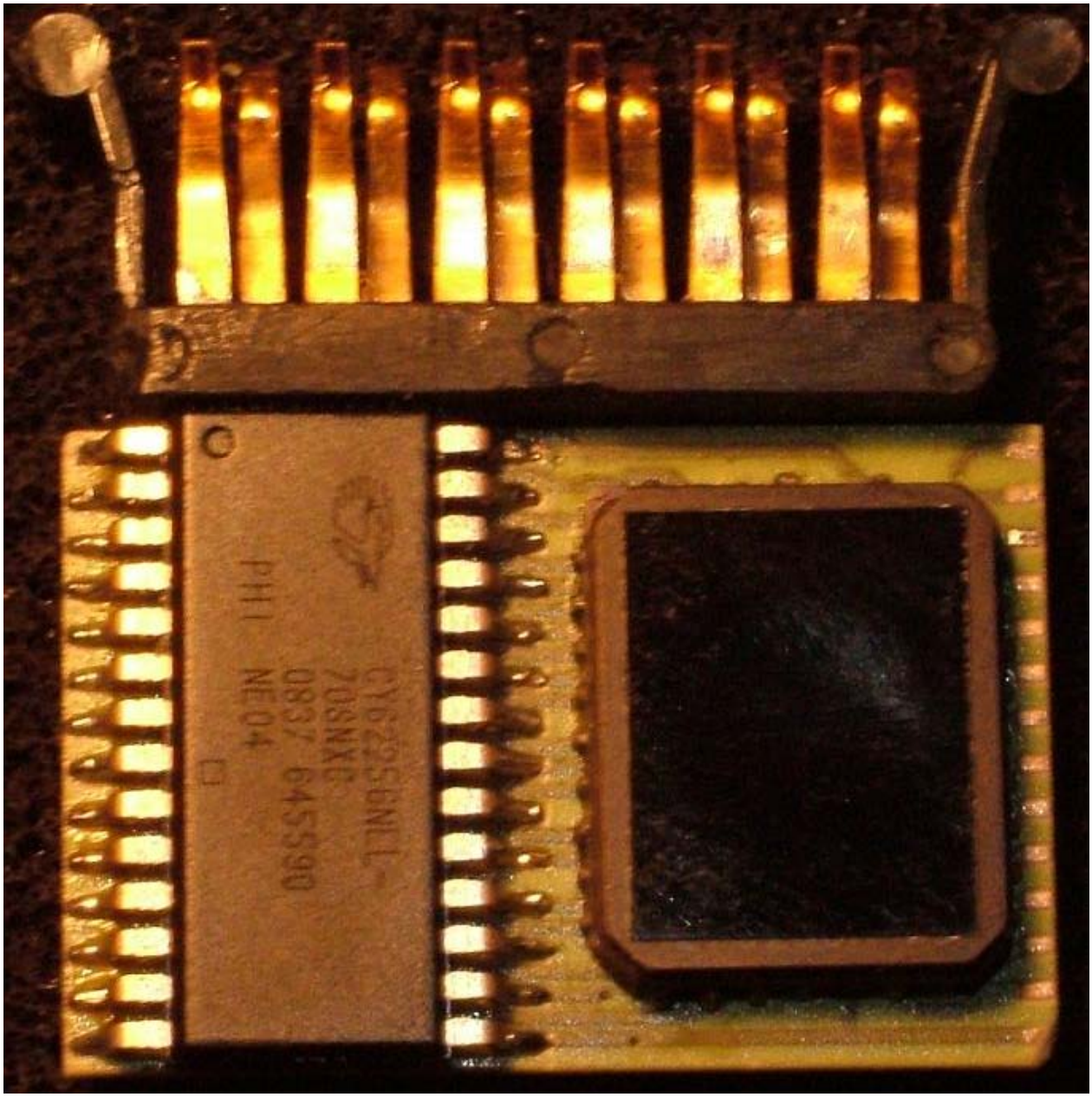
- On one hand, the Address line A14, required to address two more pages, is properly connected to the RAM chip. Thus pointint to an ADV HEPAX.

- On the other hand, the lines B3 and B4, required to sense the port in which the module is plugged in, are both connected. Pointing to a STD HEPAX, since ADV. HEPAX only needs B4.

Either case I'm very happy to have bring back to life a very badly damaged HEPAX module.

To whom may be interested in the "after" pictures, here they are:


JAPAN
MB671209U
8752 Z00
HEPAX



Cheers.

Re: ADV or STD HEPAX?

*Message #4 Posted by **Angel Martin** on 31 July 2010, 1:52 a.m.,*
in response to message #3 by Diego Diaz

What a superb restoration Diego! There's no telling that the before and after pics come from the same unit, fantastic job.

I can confirm (as though it were required, which it isn't) that the Advanced Hepax has 4 pages of memory as you indicate - so perhaps there's something elso wrong with that unit.

Saludos, 'AM

Re: ADV or STD HEPAX?

*Message #5 Posted by **J-F Garnier** on 31 July 2010, 4:52 a.m.,*
in response to message #3 by Diego Diaz

I always suspected that the STD and ADV HEPAX varieties were only a marketing plan. The RAM chip is 32Kbytes in both cases, providing 16kwords. At the time (and still now), there was 8kbytes and 32kbytes chips but no 16kbytes chip.

The ROM version is independant of the STD or ADV variations. If I was the HEPAX designer, I would have differentiate the 2 variations at PCB level, maybe using a pin of the ASIC.

J-F

Re: ADV or STD HEPAX?

*Message #6 Posted by **Diego Diaz** on 31 July 2010, 7:17 a.m.,*
in response to message #5 by J-F Garnier

Hi Ángel, J-F,

Thanks for your kind words Ángel. A nice part of the good final appearance is thanks to the ceramic PCB which allows a high level of abuse.

J-F, as usual your contributions are both enlighting and accurate :-))

Paraphrasing Sting: "There's a little 'blue' spot in the 'board' today..."

One of the things that called my attention was this "blue spot" you can see in the pictures covering a few pins of the HEPAX IC.

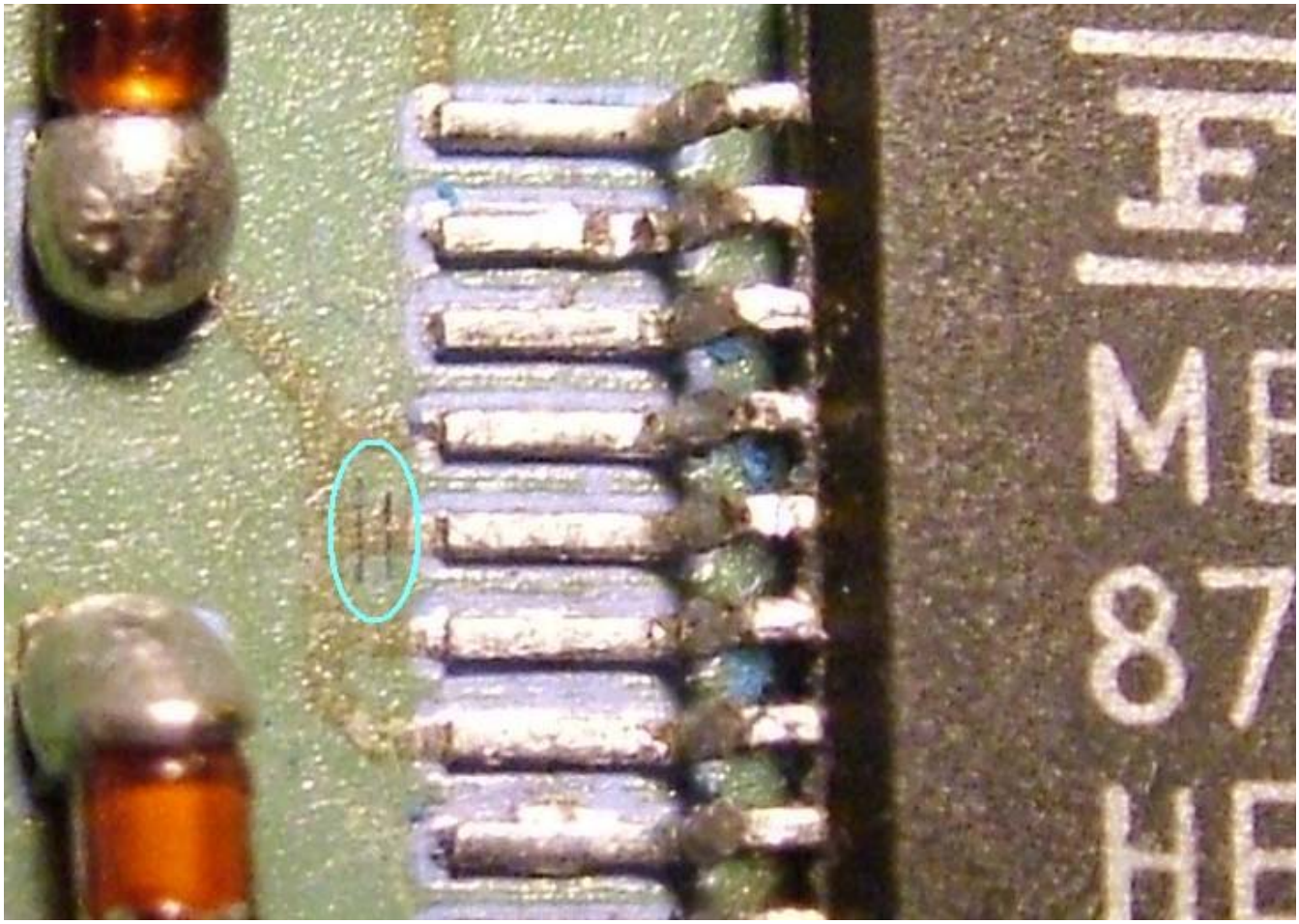
It was suspictious just because:

a) it was completely useless

b) it was extremely hard

c) it was just covering four contiguous pins from which 3 are connect to Vcc and the other one was not connected to anything...

Took me about 30 minutes to remove... to find this:



Circled in blue the (astoundingly narrow) cuts, probably made by a diamond saw, since very few materials can cut ceramic with this precision.

The four pins are too conspicuous to be a sort of PCB strapping cofiguration as J-F, has pointed out.

Now, all that we need is some generous ADV HEPAX user who can confirm which of these four pins are connected/cutted in the ADV type module. (16 possibilities ar too many to test soldering/unsoldering...)

Hopefully every HEPAX module out there could be converted into ADV type... :-))

As a collateral effect I've ended up with a full detailed schematic of the HEPAX module. Will place it at TOS as soon as I move it from paper to file.

Cheers.

Diego.

Re: ADV or STD HEPAX?

*Message #7 Posted by **Angel Martin** on 31 July 2010, 7:39 a.m.,*
in response to message #6 by Diego Diaz

wow, it'd be something if you had uncovered the HEPAX plot :)

Perhaps now we know why they were so keen on using silicon glue!

I wonder sometimes: where are all those people who created these masterpieces? How come they don't peep into this (or other forums)? I'd give an arm and half leg to have the documented source code for the HEPAX, or the CCD for that matter (BTW, I suspect *someone* must have them... I wish he'd share it with the community but no such luck).

Never mind, just rumbling about it I guess.

Cheers, 'AM

Edited: 31 July 2010, 7:57 a.m.

Re: ADV or STD HEPAX?

*Message #8 Posted by **Diego Diaz** on 31 July 2010, 11:27 a.m.,*
in response to message #7 by Angel Martin

Hi again,

I think it can be assumed that the population of ADV HEPAX owners, who have the module case opened, and a handy multimeter is anything but large... ;-)

So, I decided to give a go myself and after some more testing here is the (so called) "HEPAX plot" unveiled:

The pins in the strap are numbers 40, 41, 42 & 43 (top to bottom). In fact #43 is internally connected to Vcc so it doesn't matter.

#41 is open (as seen in the picture above) for the STD HEPAX, just open #42 and you'll have an Advanced HEPAX in a snap!! ;-))

Hope someone can confirm my point (assumend someone dares to fiddle into his/her beloved Standard HEPAX...)

Thanks a lot for your comments and support, and enjoy your 41's!

Cheers from the Canary Islands.

Diego.

Edited: 31 July 2010, 11:28 a.m.

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HP 32S Successor

*Message #1 Posted by **ka6uup** on 30 July 2010, 6:45 a.m.*

My beloved HP 32S died after about 20 years of continual use and about 5 years of twisting and such to get the right row of buttons to work. Since I had nothing to lose, I managed to get it apart and determined that it was the lower right corner of the pc board that was at fault. While pressing HARD on it I could get it to work but even after cleaning everything no luck. Then I managed to break of the tab on that corner and finis. Which of the current HP calculators comes closest to a replacement for the 32S? Thanks, Chuck

Re: HP 32S Successor

*Message #2 Posted by **David Hayden** on 30 July 2010, 7:28 a.m.,*
in response to message #1 by ka6uup

Look at the 33s and possibly the 35s. I think these have similar features to the 32s, although things like programming and entering complex numbers is probably different.

There are others on the forum who know much more about these models than I do, so if someone disagrees with me, you should believe their opinion, not mine :)

Dave

Re: HP 32S Successor

*Message #3 Posted by **bill platt** on 30 July 2010, 9:31 a.m.,*
in response to message #1 by ka6uup

33s is very similar in programming--almost identical. It has equations as well as RPN and you can put the equations in the programs, too. The 33s is a newer replacement for the 32sii, which also had equations but in all other senses was almost identical in function to your 32s.

The 35s is also similar, but there are some significant differences in the details of programming it, compared to the 32s. You will find that the 33s takes no adjustment to your programming understanding, though you do have to get used to the new keyboard layout. The 35s takes more reading of the manual to understand the "aha!" differences.

Or you can try for an ebay special.

Re: HP 32S Successor

*Message #4 Posted by **Ed Look** on 30 July 2010, 11:04 a.m.,*
in response to message #1 by ka6uup

Let me chime in with these guys and suggest the 33S. I also am using the 33S as a replacement for my 32SII, which I love (but it's getting OLD). Initially, I was put off by the 33S, which did not physically resemble much the black/brown Pioneer series machines. But after using it, I love it, just as much as the 32SII because of its similarity in use and not only in its programming. While the 33S keyboard is obviously not quite the same as

that of the 32SII, there's essentially no real learning curve involved with switching from the 32SII to the 33S. And then, the 33S has more program memory, which is nice. I did not program my 32SII much; I do program my 33S. Oh yeah, the 33S feels good in my hand.

As to the 35s, it looks much nicer, but I like the 33S more, most likely due to its operational ease and similarity to the 32SII.

Re: HP 32S Successor

*Message #5 Posted by **Michael de Estrada** on 30 July 2010, 12:28 p.m.,*
in response to message #4 by Ed Look

I have an HP 32SII, 33S and 35S. The keys and display on the 32SII are much better that the 33S (awful) and 35S (just OK). I've long ago removed the batteries from the 33S and use the 35S infrequently, but use the 32SII regularly. I don't do any programming with any of these calcs, and mostly do programming on my 50g in RPL.

Re: HP 32S Successor

*Message #6 Posted by **Dave Shaffer (Arizona)** on 30 July 2010, 1:03 p.m.,*
in response to message #1 by ka6uup

You might get BOTH a 33S and a 35S - total on ebay (the site which is not to be mentioned, but which gets mentioned a lot here!) should be under $100 - less than a replacement 32S on ebay.

Try them and see which you like better, then sell the other one! I have both. The 35S looks better, but they both do what I need (which doesn't involve much programming). They are what I grab to do something quick (rather than my 11S and 41CV, which seem to be living in the drawer these days - maybe subconsciously I don't want to risk damaging them).

(PS 73 from W8MIF)

Edited: 30 July 2010, 1:04 p.m.

Re: HP 32S Successor

*Message #7 Posted by **Trent Moseley** on 30 July 2010, 3:29 p.m.,*
in response to message #6 by Dave Shaffer (Arizona)

I disliked the 35s so much that I took out the batteries and put it on the proverbial shelf. Out of my 10 Hp's the only other one that got that treatment was the 31E.

tm

Re: HP 32S Successor

*Message #8 Posted by **bill platt** on 30 July 2010, 9:46 p.m.,*
in response to message #7 by Trent Moseley

I lent mine to my son, who promptly lost it at school.

Re: HP 32S Successor

*Message #9 Posted by **Walter B** on 30 July 2010, 4:41 p.m.,*
in response to message #1 by ka6uup

Please note the previous posters talked about the 33S and 35S succeeding the 32**SII**, not really the 32**S**. There is a big difference in keyboard layout between the 32S and 32SII, however. So if you loved your 32**S** - try to get another one on TAS. Since many people prefer more functions printed on the keyboard (i.e. the 32SII kind of layout), you may even get a 32S for less $$$.

Re: HP 32S Successor

*Message #10 Posted by **Martin Pinckney** on 1 Aug 2010, 9:31 p.m.,*
in response to message #9 by Walter B

I second this. The 32s and 32sii have rather different user interfaces.

Re: HP 32S Successor

*Message #11 Posted by **db (martinez, ca.)** on 30 July 2010, 9:20 p.m.,*
in response to message #1 by ka6uup

have you tried randy at fixthatcalc.com ?

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New versions of Emu28 and Emu48 available

*Message #1 Posted by **Christoph Giesselink** on 29 July 2010, 5:16 p.m.*

New versions of Emu28 v1.21 and Emu48 v1.50 are available at http://hp.giesselink.com/.

Emu28 v1.21 is a hotfix release. I recognized that the checksum correction for ROM patches (like the BEEP patch) modified wrong addresses assuming that these are the ROM checksum addresses. The assumed byte at each end of the four pages is code. I confirmed this on the first two pages. Because nobody was able to tell me, where are the four checksum addresses for the ROM 1BB and 1CC are, I disabled the checksum correction for ROM patches.

To avoid a ROM checksum fail during the self test with the BEEP patch, I modified the BEEP.28C file adjusting the checksum in the skin archive.

Emu48 v1.50 mainly is a source code fix version. Now the document file of a x64 compiled version is compatible with the IA32 (Win32) version. The WinXP common control styles are now also enabled in versions generated with VS2005, VS2008 and VS2010. The new MS VS2010 compiler has a strange bug in the code optimizer. The release versions of Emu48 v1.49 and earlier created with VS2010 aren't working.

The Emu28 v1.21 and Emu48 v1.50 sources have a workaround for this problem (hopefully the only one). The Emu42 v1.12 source still has this problem. Both Emu28 and Emu48 are still compiled with the old VC6 compiler.

Regards

Christoph

Re: New versions of Emu28 and Emu48 available

*Message #2 Posted by **Alejandro Paz (Germany)** on 30 July 2010, 2:23 a.m.,*
in response to message #1 by Christoph Giesselink

Note: Be aware of the "loose" "lose" confusion in your pages :)

Re: New versions of Emu28 and Emu48 available

*Message #3 Posted by **Christoph Giesselink** on 30 July 2010, 8:15 a.m.,*
in response to message #2 by Alejandro Paz (Germany)

Ops, TNX.

Re: New versions of Emu28 and Emu48 available

*Message #4 Posted by **Gerson W. Barbosa** on 30 July 2010, 12:27 p.m.,*
in response to message #2 by Alejandro Paz (Germany)

No problem with this and other minor spelling and grammar slips. Most importantly, Emu48 rocks!
Thanks, Christoph, for this new version!

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The most annoying feature on the 35s

*Message #1 Posted by **Tommy** on 29 July 2010, 3:04 p.m.*

Hello
The most annoying feature on the 35s is: you must press key "1" before "E" in order to enter one million. Is this the only calculator with this feature? What about the 30b?
Cheers Tommy (Sweden)

Re: The most annoying feature on the 35s

*Message #2 Posted by **Martin Pinckney** on 29 July 2010, 3:25 p.m.,*
in response to message #1 by Tommy

I did an inventory of my calculators.

17b, 27s require this extra step.

10b, 14b, 20s, 32sii, 42s, and 48sx do not.

1Enn on the 35s and others: likely reason

*Message #3 Posted by **Karl Schneider** on 2 Aug 2010, 1:52 a.m.,*
in response to message #2 by Martin Pinckney

> Quote:
>
> The most annoying feature on the 35s is: you must press key "1" before "E" in order to enter one million. Is this the only calculator with this feature?
>
> ...
>
> I did an inventory of my calculators.
>
> 17b, 27s require this extra step.
>
> 10b, 14b, 20s, 32sii, 42s, and 48sx do not.

(Also, the HP-12C does not require the extra step.)

The likely rationale:

The HP-17B and HP-27S are business models having the same alphanumeric paradigm as the HP-42S. Business-oriented users are less likely than scienctific/engineering users to utilize the exponential-entry function -- denoted "E" instead of the traditional "EEx" -- and might confuse it with the alphabetical "E". Forcing pre-entry of a "1" or other numerical value on the HP-17B and HP-27S eliminates that risk. The HP-12C, HP-10B, and HP-14B were not alphanumeric, so that was not an issue.

I also disagree with requiring this extra data-entry step for the scientific-based HP-35S.

-- KS

Edited: 2 Aug 2010, 2:17 a.m.

Re: 1Enn on the 35s and others: likely reason

*Message #4 Posted by **Norris** on 5 Aug 2010, 3:31 p.m.,*
in response to message #3 by Karl Schneider

The 35S (introduced 2007) is the latest model in an evolving series, which began with the 32S (1988), and continued with the 32SII (1991), and 33S (2003).

I have a 32SII and 33S, and they both allow one million to be entered as "E" "6", without an initial "1". Don't have a 32S, but expect that it would do the same.

If the 35S is different, then it would appear that this change was introduced as the 35S was developed.

Edited: 5 Aug 2010, 3:36 p.m.

Re: 1Enn on the 35s and others: likely reason

*Message #5 Posted by **Karl Schneider** on 7 Aug 2010, 12:53 a.m.,*
in response to message #4 by Norris

> Quote:
>
> If the 35S is different, then it would appear that this change was introduced as the 35S was developed.

Hello, Norris! Long time no post?

I and others have noted that some RPL-based 'ways of doing things' were adopted in the HP-35S, such as:

- Entry of input into a buffer that is processed upon completion, rather than handling entry as a 12-digit number (except in Alpha, Program or Equation mode) and processing it as it is entered.
- Identification of a binary, octal, or hexadecimal number by an appended lowercase letter instead of by entry mode.

Perhaps the intent was unification of source code, but we RPN fans didn't like it very much...

-- KS

Re: The most annoying feature on the 35s

*Message #6 Posted by **Don Shepherd** on 29 July 2010, 3:34 p.m.,*
in response to message #1 by Tommy

> Quote:
>
> What about the 30b?

You don't need to press 1 first on the 30b, but EEX is normally a shifted function. However, you could assign it to a non-shifted key via a macro.

Re: The most annoying feature on the 35s

*Message #7 Posted by **designnut** on 3 Aug 2010, 11:40 p.m.,*
in response to message #6 by Don Shepherd

OK, so that is a minor annoyance, but try revising a program. It has some sticky labels hiddden in it that it won't let go of until you start all over. It doesn't tell you anoutt it, but it can surely make you put it away and turn to another calc. Sam

Re: The most annoying feature on the 35s

*Message #8 Posted by **Don Shepherd** on 4 Aug 2010, 7:53 a.m.,*
in response to message #7 by designnut

Sam, what exactly do you mean by "sticky labels"? I've had no trouble revising 30b programs as long as I remember that a new line is inserted BEORE the current displayed line, not AFTER.

Don

Re: The most annoying feature on the 35s

*Message #9 Posted by **gene wright** on 5 Aug 2010, 12:02 p.m.,*
in response to message #8 by Don Shepherd

I don't know what he's referring to either.

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The mother of all distributions with HP SOLVER?

*Message #1 Posted by **Peter A. Gebhardt** on 29 July 2010, 8:00 a.m.*

Dear fellow forists,

although the headline might be exaggerating, the Gamma Distribution is nowadays heavily used in financial problem solving (eg. insurance) - besides its many uses in engineering & operations research.

Therefore I'm kindly asking you: Has anybody already tried to implement a Gamma Distribution with the HP17bII+ (or compatible) SOLVER routines?

I have a working solution already, but because of it's implementor (me), it's far from being a quick to enter formula - albeit working correctly, as far as I can tell (I used Gauss Integration & coefficients from Stegun).

Somebody able to reach a helping hand?

TIA!

Peter A. Gebhardt

Edited: 29 July 2010, 8:28 a.m.

Re: The mother of all distributions with HP SOLVER?

*Message #2 Posted by **Martin Pinckney** on 29 July 2010, 11:38 a.m.,*
in response to message #1 by Peter A. Gebhardt

I remember seeing that Viktor T. Toth has a Gamma function for the 17BII on his site at:

http://www.rskey.org/detail.asp?manufacturer=Hewlett-Packard&model=HP-17BII

Perhaps this can help? (Sorry, I am not very literate in statistical mathematics).

Re: The mother of all distributions with HP SOLVER?

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 29 July 2010, 1:33 p.m.,*
in response to message #1 by Peter A. Gebhardt

Hi, Peter;

I know that the Gamma Distribution implies some hard brainjob (see here or the Wikipedia's way), but I do not recall seeing the implementations you mention. Not an excuse of mine, at the time I was studying at the engineer's course, I did not have the inclination to go deeper in math and research tools. If I only could tell how I regret...

Can you point me to some reference? I am always digging to find information, it is easy when we know where to dig.

Thanks.

Luiz (Brazil)

Re: The mother of all distributions with HP SOLVER?

*Message #4 Posted by **Angel Martin** on 29 July 2010, 3:30 p.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

Here's the obvious (and obligued) reference for the Gamma distribution:

http://en.wikipedia.org/wiki/Gamma_distribution

Having a Gamma function takes you half way there, the rest is just achievable with a little further effort.

cheers, 'AM

Re: The mother of all distributions with HP SOLVER?

*Message #5 Posted by **Peter A. Gebhardt** on 29 July 2010, 7:27 p.m.,*
in response to message #1 by Peter A. Gebhardt

Luiz, Angel,

could you pls. send me your PM address, so I can enclose not only the ASCII .EQN code of my trial but also the .STA files for the 200LX (needed for the GAUSS method of integration).

Both can be used either on a native 200LX or on HPCALC under DOS.

Thanks to all of you for your kind responses!

Peter A. Gebhardt

PS: A final (hopefully optimized) solution will be provided as an article here, if we are successful ;-)

Edited: 29 July 2010, 7:29 p.m.

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HELP with programming the HP50G

*Message #1 Posted by **Namir** on 28 July 2010, 6:33 p.m.*

I am tinkering with RPL on the HP graphing calculators. Today I wrote a program on my HP50G to do multiple regression using vector/matrix commands. I was able to store, debug, and run the program just fine. **HOWEVER,** For some reason I was unable to store my test data in variables (I created a special directory for the program). When I enter the name of a variable (enclosed in single quotes) to store a vector or matrix, and click the STO button, the data disappears! I don't see new variables listed in either the current directory OR ANY OTHER directory. I ended up having to re-key in the data many times in several debugging sessions. Ugh!!!

What setting must I change for the HP50G to store data like it should?? I must be missing something or must have set something in the Mode->Flags menu that produces this bizarre behavior.

Thanks,

Namir

Edited: 28 July 2010, 6:34 p.m.

Re: HELP with programming the HP50G

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 28 July 2010, 7:57 p.m.,*
in response to message #1 by Namir

Hi, Namir;

the only explanation that comes (at this point, at least) to my mind is that you are storing data in local variables that have been created by instance(s) of the program still HALTed. Please, check if the HLT annunciator is shown in the upper right corner of the display and, if so, use KILL to stop/remove any pending session, hence killing any local variables still active.

I am not sure if there is something else, like storing/retrieving data in a directory chain, but once I had observed such particular memory handling structure while step-by-step executing HP48/49/50 programs, I think yours is the same case.

You see, if you are debugging a program and notice one problem, edit it, correct the problem, store the edited version and go ahead stepping through the halted version, you are actually stepping into the original, unmodified version. If you start a new one without KILLing any pending programs, you have something like a memory leak (described in previous threads... I liked the term!!!): the newly executed program, either in straight execution or in step-by-step mode, does not automatically kill the halted executions, and these program 'ghosts' use memory in a 'hidden' way. You can only go back to previously halted program(s) instances once you go ahead and finish the one(s) halted after those. KILL, however, wipes them all out.

Hope this helps a bit.

Luiz (Brazil)

Edited: 28 July 2010, 8:06 p.m.

Re: HELP with programming the HP50G

*Message #3 Posted by **Namir** on 28 July 2010, 8:44 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Luiz,

You are a genius!!! Since I was debugging the program (several times) I had pressed the HTL menu and the HLT annunciator was on. I pressed KILL as you suggested and the proceeded to store data. It worked!

Thank you very much for your valuable help!

Namir

Edited: 28 July 2010, 8:44 p.m.

Just to add.. (was: HELP with programming the HP50G)

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 28 July 2010, 9:23 p.m.,*
in response to message #3 by Namir

Hi, Namir;

good to know that the mystery is solved.

> Quote:
>
> Luiz, You are a genius!!!

I´m flattered, thanks! Anyway, the actual geniuses are the ones who created such gentle beasts... I just figured that out prior to read about it later, though.

Cheers!

Luiz (Brazil)

Edited: 28 July 2010, 10:27 p.m.

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HP-10 repair, strange piece of plastic.

*Message #1 Posted by **Kees van der Sanden** on 28 July 2010, 11:48 a.m.*

Currently I am repairing an HP-10 calculator.
I opened the case and cleaned all PCB's.
On the backside of the CPU PCB I found a piece of red colored plastic.
It seems that there is something broken/missing here.
What is the original shape of this piece of plastic and
what is its function?

Photo of the back side of the CPU print

Any help is welcome,

Kees van der Sanden

Re: HP-10 repair, strange piece of plastic.

*Message #2 Posted by **Michael Meyer** on 28 July 2010, 1:18 p.m.,*
in response to message #1 by Kees van der Sanden

I'd have to look at one of mine to be sure, but I believe that is exactly how it is supposed to look. The plastic is to keep the moving print mechanism (ribbon cable) from scraping against the back of the circuit board.

Re: HP-10 repair, strange piece of plastic.

*Message #3 Posted by **Kees van der Sanden** on 28 July 2010, 1:45 p.m.,*
in response to message #2 by Michael Meyer

Michael,

Many thanks for your fast and clear response.

Kind regards,

Kees

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HP-35s that does not exhibit LOCKUP DEMO bug

*Message #1 Posted by **NateB** on 27 July 2010, 5:32 p.m.*

I was running through the bug list with my 35s. I can not repeat bug 16. From this thread, the problem seemed to be caused by R/S being pressed after 'LOCKUP DEMO' was displayed. I can run the program without issue.

The calc was purchased from Amazon in May of this year, Serial No. CNA 00207423.

Any thoughts? All of the other bugs are repeatable, except for 11. The program correctly displays I=10. If HP was going to fix bugs, why not fix all of them (especially the mantissa issue with 'DISPLAY ALL.')?

Re: HP-35s that does not exhibit LOCKUP DEMO bug

*Message #2 Posted by **Seth Morabito** on 27 July 2010, 5:59 p.m.,*
in response to message #1 by NateB

Hello Nate,

Can you tell us what ROM version your 35s is?

This page has instructions for finding it through the self-test menus.

My 35s is ROM version 1 (meaning, it shows the '0' flag annunciator in the LCD). Maybe yours is newer?

Re: HP-35s that does not exhibit LOCKUP DEMO bug

*Message #3 Posted by **NateB** on 27 July 2010, 6:08 p.m.,*
in response to message #2 by Seth Morabito

ROM version is still 1

Re: HP-35s that does not exhibit LOCKUP DEMO bug

*Message #4 Posted by **Seth Morabito** on 27 July 2010, 6:25 p.m.,*
in response to message #3 by NateB

How strange! Oh well, there goes that theory.

Re: HP-35s that does not exhibit LOCKUP DEMO bug

*Message #5 Posted by **NateB** on 27 July 2010, 6:40 p.m.,*
in response to message #4 by Seth Morabito

False alarm it seems... I ran

```
X001 LBL X
X002 SF 10
X003 EQN HERE COMES Y!
X004 CF 10
```

```
X005 VIEW Y
X006 PSE
X007 GTO X007
```

and it locked up. After resetting, I re-entered

```
A001  LBL A
A002  SF 10
A003  LOCKUP DEMO
A004  0
A005  GTO A004
```

and it also locked up. Previously that program was not giving me a problem. I re-chechecked several times to make sure I had entered it correctly. Strange.

Re: HP-35s that does not exhibit LOCKUP DEMO bug

*Message #6 Posted by **Gerson W. Barbosa** on 27 July 2010, 6:51 p.m.,*
in response to message #1 by NateB

> Quote:
>
> If HP was going to fix bugs, why not fix all of them (especially the mantissa issue with 'DISPLAY ALL.')?

This is not exactly a bug, but an annoying feature. By the way this is what I disliked most on the 35s. I also disliked the XEQ LABEL ENTER sequence to execute a program. But I suspect HP will not change these features just because I didn't like them :-) Anyway, it's good news if a couple of bugs have really been addressed.

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HP-65 repair

*Message #1 Posted by **aj04062** on 26 July 2010, 9:10 p.m.*

I've just acquired a 65 that has had a pretty bad battery leak.

Before I took it appart, I cleaned the battery cavity and contacts and tried it. Nothing. Then I plugged in a charger and viola it can to life.

Well almost. It briefly showed 0.00 (left justified) but now most of the time shows 00 00 (center/right). Does the display show four 0's in program mode?

More importantly, NO KEYBOARD ACTION.

I decided the leak must have been bad enough to foul something inside. Now I have it apart and the card reader PCB had some copper oxide buildup as did the backside of the keyboard. There is some oxide on the front side and I'm afraid there may be some beneath one or two rows of the keyboard.

I've carefully scraped and washed these areas I can get to. Still nothing when I tried it. Works the same way.

suggestions? keep cleaning or is it on of the chips?

Peace

Re: HP-65 repair

*Message #2 Posted by **tim m.** on 26 July 2010, 11:14 p.m.,*
in response to message #1 by aj04062

Do you have any electrical contact cleaner? It might be worth giving the contacts a good douse-and-scrub. I found a can at Radio Shack a while back for the princely sum of $10.

Failing that, any corrosion on specific components that might help localize failure?

Re: HP-65 repair

*Message #3 Posted by **Lincoln R.** on 27 July 2010, 12:37 a.m.,*
in response to message #2 by tim m.

I'd be wary of Radio Shack contact cleaner on calculators. Much of the contact cleaner I've seen there contains oil (Look at the ingredients on the can, see if it says "Mineral Oil" somewhere). Problem is, lots of contact cleaners were formulated for old open-air variable capacitor TV and radio tuners, not so much for digital electronics. The contact cleaner I've had the best results with is Deoxit.

Re: HP-65 repair

*Message #4 Posted by **tim m.** on 27 July 2010, 12:43 a.m.,*
in response to message #3 by Lincoln R.

Good point. I checked my bottle and it does not list mineral oil as part of the formulation. That said, when I do use the cleaner, I try to confine it to the metal parts only, sometimes by spraying it onto a Q-tip and using the saturated cotton swab to clean metallic parts.

-Tim

Re: HP-65 repair

*Message #5 Posted by **aj04062** on 27 July 2010, 6:50 a.m.,*
in response to message #4 by tim m.

I'll try it. You mean the gold plated contacts connecting the boards, correct?

Re: HP-65 repair

*Message #6 Posted by **tim m.** on 27 July 2010, 8:52 a.m.,*
in response to message #5 by aj04062

I'd probably go for those, as well as the keyboard switch contacts and anything near the area where the leak occurred.

Re: HP-65 repair

*Message #7 Posted by **aj04062** on 27 July 2010, 11:07 p.m.,*
in response to message #6 by tim m.

Well I've tried some Newtek "Tronic Clean" It was the only thing I could get locally. I'll try to get Deoxit later.

Cleaned up the gold pretty good. While moving items around the ground wire broke off of the keyboard. Perhaps it was this bad connection causing the issue.

In any event, it's ALIVE.

Anyone have some pointers why the unit will not run without the charger? I repaired a 35 by fixing the gold contact in the socket. I tried this here, but didn't seem to fix. This one is far less corroded than the 35.

Re: HP-65 repair

*Message #8 Posted by **Michael de Estrada** on 28 July 2010, 9:54 a.m.,*
in response to message #7 by aj04062

> Quote:
>
> Anyone have some pointers why the unit will not run without the charger?

Could be the bridge contact in the AC adapter receptacle isn't making good contact. Try shorting the 2 outer pins. Otherwise, there is probably an open circuit someplace between the battery terminals and the circuit board.

Also, don't operate the calculator from the AC adapter w/o a battery installed; you may damage the card reader electronics.

Re: HP-65 repair

*Message #9 Posted by **aj04062** on 28 July 2010, 6:40 p.m.,*
in response to message #8 by Michael de Estrada

I've had the battery in everytime I plug it in.

I haven't tried the card reader yet, hopefully it is ok

Re: HP-65 repair

*Message #10 Posted by **aj04062** on 28 July 2010, 10:14 p.m.,*
in response to message #9 by aj04062

I can't find a break.

Continuity from the contact to the socket pin (red wire). the contact is pretty coroded where the wire connects but is hangin on.(anyone know a source? I presume a donor calc is needed)

Continuity from pin (either one) to the pad for the power switch.

Still nothing. When unit is plugged in, everything works. If the battery loses contact the UNIT SHUTS OFF. Is this a clue?

Re: HP-65 repair

*Message #11 Posted by **Michael de Estrada** on 29 July 2010, 8:23 p.m.,*
in response to message #10 by aj04062

The calculator does not need a battery to operate from the AC adapter, so loss of battery contact should not cause the calculator to turn off. When you insert the AC adapter plug into the calculator, you bypass the battery for power to the calculator main board, keyboard and LED display. Only the card reader receives power from both the AC adapter and the battery, which is why the card reader circuit can be damaged if a battery is not present, since it's receiving power from the charging side of the AC adapter, which outputs about 17 vdc no load.

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finding Df and variation and calculing limite but ...

*Message #1 Posted by **wassims** on 25 July 2010, 6:57 p.m.*

helllo i find a program in hp website it find the domain of definition and tracing (graph) the table of variation and calculating the limites (lim x-->) but it does some error lik this try to enter this function (2x^2+4x+1)/(x^2+2x) he give the Df like this]-infinity.0[U]0.+infinity[and iths inccorect the correct DF is]-infinity.-2[U]-2.0[U]0.+infinity[and some times he can't find the Df if the function is large or contenaing EXPONENTIAL OR LOGHARIME and now if there's any one can devellope this programe o give me another do all this funtions(limite.variation table.derivative.DF) . tnx for all and sorry for my english becaus ispeak just french or arabic and this is the link for the prgrame DOWNLOADhttp://www.hpcalc.org/hp48/programming/hacker/etude.zip http://www.hpcalc.org/hp48/programming/hacker/etude.zip

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HP-28C ROM checksum addresses?

*Message #1 Posted by **Christoph Giesselink** on 25 July 2010, 8:25 p.m.*

Hello together,

I'm looking for the addresses of the four block byte checksums of the 1BB and 1CC HP-28C ROM's.

In difference to the CRC checksums of the HP-28S, these are not at the end of each protected block. I confirmed this on a 28C-1CC ROM at address #0FFFF and #1FFFF. On both positions is valid assembler code, so there can't be two of the checksum addresses.

Regards

Christoph

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HP-45 board swap

*Message #1 Posted by **kubla** on 25 July 2010, 2:52 p.m.*

This is probably answered somewhere here, but I couldn't find it. If I swap the logic board from an HP-45 into an HP-80 of the same vintage, is it compatible with the mating display/keypad board?

Re: HP-45 board swap

*Message #2 Posted by **Dan W** on 28 July 2010, 9:46 p.m.,*
in response to message #1 by kubla

Yes, you could put a 45 mainboard in an 80, but then it would act like a 45. The keyboard/display PCB is common between the 35, 45 and 80.

Re: HP-45 board swap

*Message #3 Posted by **kubla** on 28 July 2010, 10:34 p.m.,*
in response to message #2 by Dan W

Thanks.

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New Version of the 41Z

*Message #1 Posted by **Angel Martin** on 25 July 2010, 4:42 a.m.*

A new version of the 41Z module is available and should be posted at TOS in a few days.

In addition to some bug fixing and code optimization, version 5C includes programs to calculate the Lambert W, and Bessel functions for complex variable and in all cases (yes, including negative and positive integer orders!).

Don't expect blazing performance on the coconut CPU (use V41 for that!) - but of course accurate results :)

I also separated the buffer functions into their own dedicated ROM, also available. That freed up some space on the 41Z module to add the new functions.

If used, the buffer module should be loaded in the next contiguous page after the 41Z. It's basically a diagnostics facility so there's no point in having it always on-line (which would turn the 41Z into another 12k ROM).

Your feedback and suggestions is welcome. Hope you enjoy it as much as I did programming them.

Cheers, 'AM

Re: New Version of the 41Z

*Message #2 Posted by **Angel Martin** on 25 July 2010, 6:22 a.m.,*
in response to message #1 by Angel Martin

In case you're curious, here are the formulae used in the Bessel functions implementation:

Orders can be either real or complex. I use an iterative algorithm for J (and I) which is valid for Re(z)>0 and all orders but negative integers due to the Gamma singularities.

J(w,z) = SUM {U(k)|k=1,2,….} * (z/2)^w / G(w+1)
U(k) = -U(k-1) * (z/2)^2 / k(k+w)
U(0) = 1

Then I use the following two continuation rules:

1. for negative integers, J(-n,z) = (-1)^n * J(n,z)
2. for Re(z)<0, J(w,-z) = (-z)^w * (z)^(-w) * J(w,z)

For non-integer orders, Y and K are derived from J and I using the well-known formulas involving sin(pi z) and cos(pi z).

Y(w,z) = [J(w,z) cos(w(pi)) - J(-w,z)] / sin(w(pi))
K(w,z) = (pi/2) [I(-w,z) - I(w,z)] / sin(w(pi))

For integer orders however those don't work, and I have to resort to the more elaborate summations, as follows:

pi* Y(n,z) = 2[geu + Ln z/2] J(n,z) – SUM{(-1)^k fk(n,z)} – SUM{gk(n,z)}
(-1)^n+1 * 2 K(n,z) = 2 [geu + Ln z/2] I(n,z) – SUM{fk(n,z)} – (-1)^n * SUM{(-1)^k * gk(n,z)}

where: gk(n,x) = (z/2)^2k-n (n-k-1)! / k! ; k=0,2,…(n-1)
fk(n,z) = (z/2)^2k+n [H(k) + H(n+k)] / [k! (n+k)!] ; k=0,1,2,…..
H(n) = SUM {1/k}, k=1,2...n

Hope this helps.

Edited: 25 July 2010, 6:24 a.m.

Re: New Version of the 41Z

*Message #3 Posted by **Namir** on 25 July 2010, 10:13 a.m.,*
in response to message #2 by Angel Martin

Sounds like a cool update to an already cool module. Unfortunately my therapist highly recommended that I stay away from "imaginary" friends AND numbers and stick with reality and real numbers.

:-)

Namir

Re: New Version of the 41Z

*Message #4 Posted by **Angel Martin** on 25 July 2010, 3:15 p.m.,*
in response to message #3 by Namir

> Quote:
>
> Unfortunately my therapist highly recommended that I stay away from "imaginary" friends AND numbers

mmm, that's strange, Are you sure you didn't imagine it?

Cheers, 'AM.

Dr. Michael Meyers... calling Dr. Michael Meyers...

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 26 July 2010, 12:22 a.m.,*
in response to message #3 by Namir

8^)

Re: Dr. Michael Meyers... calling Dr. Michael Meyers...

*Message #6 Posted by **Michael Meyer** on 27 July 2010, 7:29 p.m.,*
in response to message #5 by Vieira, Luiz C. (Brazil)

I guess sometimes we need to have an "imaginary part" to understand our "real part"....

Re: New Version of the 41Z

*Message #7 Posted by **Vieira, Luiz C. (Brazil)** on 25 July 2010, 9:31 a.m.,*
in response to message #1 by Angel Martin

HI, Angel;

congratulations, great brain job! And thanks, o'course!

As soon as it is available I'll download and run it. For these days I'm delving into a 3421 unit and because I intend using it for some experiments, vectors and complex calculus are always welcome when dealing with AC measuring and related stuff.

Gracias!

Luiz (Brazil)

Re: New Version of the 41Z

*Message #8 Posted by **Angel Martin** on 25 July 2010, 3:18 p.m.,*
in response to message #7 by Vieira, Luiz C. (Brazil)

Not a problem Luiz, hope your adventures w/ the AC unit fare well...

If I'd only had the 41Z when I was in eng. school... although it may have ruined all my exams so on reflection it's probably better that I didn't.

Cheers, 'AM

Ditto!

*Message #9 Posted by **Vieira, Luiz C. (Brazil)** on 26 July 2010, 12:20 a.m.,*
in response to message #8 by Angel Martin

I had an HP41C with one memory module, and later I bought an HP15C. This was 'heavy army' at that time (80´s), but the fact that I was so desperate to use them led me to study harder, mostly to write the programs for the HP41C.

If, at that time, I had access to all information I have now about the HP41´s internals and had the chance to build some of the stuff I see now, chances are that I'd have many subjects flunk... (is this construction correct? Never used the verb 'flunk' before...)

Cheers.

Luiz (Brazil)

Re: Ditto!

*Message #10 Posted by **db (martinez, ca.)** on 26 July 2010, 12:40 a.m.,*
in response to message #9 by Vieira, Luiz C. (Brazil)

Luiz; Since you asked; it's flunked, with the ed sounding like a lone t. Your english has improved from good (better than New Yorkers) to usually idiomatically correct in the last few years. Are you still studying?

I've had cause to use that verb, but never in the low level math, surveying and physics classes i took, just in waste of time classes like "critical thinking" (a.k.a. "agree with teacher") and "logic" (a.k.a. "forget Boole, let's all worship Aristotle for an entire semester").

Re: New Version of the 41Z

*Message #11 Posted by **Antoine M. Couëtte** on 25 July 2010, 12:25 p.m.,*
in response to message #1 by Angel Martin

Enhorabuena Angel ! Congrats again Angel ! Will 41Z run on either HP41X/Y/Z by HrastProgrammer and on Emu41 by Jean-François Garnier ? I think it should and will ...

Thank you for your kind attention and reply, and

Best Regards from

Antoine M. "Kermit" Couëtte

Re: New Version of the 41Z

*Message #12 Posted by **Angel Martin** on 25 July 2010, 3:13 p.m.,*
in response to message #11 by Antoine M. Couëtte

> Quote:
>
> Will 41Z run on either HP41X/Y/Z by HrastProgrammer and on Emu41 by Jean-François Garnier ?

I think so, there's not anything esoteric about the 41Z approach after all. It runs like a champ on V41 and i41CX...

Thanks for the praise, it's good to share things with appreciative folks like you.

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new book on the Apollo Guidance Computer

*Message #1 Posted by **Don Shepherd** on 24 July 2010, 3:04 a.m.*

Just published.

Anyone interested in how early digital computers were designed to work aboard spacecraft will find this book fascinating. It illustrates how far we have come in the past 50 years, in terms of computer systems development. This should be required reading for all newly-hatched engineers and programmers.

Re: new book on the Apollo Guidance Computer

*Message #2 Posted by **Maximilian Hohmann** on 24 July 2010, 4:45 a.m.,*
in response to message #1 by Don Shepherd

Hello!

Thanks for the information, this will make a welcome addition to my stack of books on the Apollo/early space program.

> Quote:
>
> This should be required reading for all newly-hatched engineers and programmers.

Well, applying the same principle, when I finished university 25 years ago (aerospace engineering) this would have meant reading books on abacusses and slide rules... No, I think it is far more important that newly hatched engineers have a thorough understanding of present, state-of-the-art technology!

Regards, max

Re: new book on the Apollo Guidance Computer

*Message #3 Posted by **Don Shepherd** on 24 July 2010, 7:42 a.m.,*
in response to message #2 by Maximilian Hohmann

> Quote:
>
> this would have meant reading books on abacusses and slide rules

Thanks, Max. Well, I admit abacusses (abacusi?) would be a bit much, but I'd bet that some of the slide rule fanatics among our little group would say that a new engineer would be a better engineer if he/she understood what a slide rule did, in the years prior to the HP-35.

On the software side, when I went to programming school (1968) we learned to "desk check" our code, which meant following the code, instruction by instruction, on paper with some test data to make sure it really did what you wanted it to. We were taught to do this even before running our program on the computer with real data, and we almost always found errors that otherwise might have slipped by us. I

don't think the current generations of programmers are taught that, and despite huge advances in the software development and testing fields today, errors can still slip by.

Heck, we all know from experience that in order to find bugs in our RPN programs we sometimes just have to SST through it and look at the stack and registers along the way. Desk checking just means doing this manually before running it, and I don't think that is taught today in programming classes, and maybe it should be. There was an old saying my boss used to repeat: don't use the computer to debug your program. I think that is still good advice.

Don

Re: new book on the Apollo Guidance Computer

*Message #4 Posted by **Walter B** on 24 July 2010, 7:59 a.m.,*
in response to message #3 by Don Shepherd

Don, thanks for the information. Having programmed pdp-11s in the late Seventies, this will be an interesting reader for me.

> Quote:
>
> Well, I admit abacusses (abacusi?) ...

I'd propose "abaci" but that's just my personal view.

Re: new book on the Apollo Guidance Computer

*Message #5 Posted by **Gerson W. Barbosa** on 24 July 2010, 10:22 a.m.,*
in response to message #4 by Walter B

> Quote:
>
> I'd propose "abaci" but that's just my personal view.

This agrees with Merriam-Webster, my dictionary of choice. By the way, *abacuses* is the alternative plural form.

Re: new book on the Apollo Guidance Computer

*Message #6 Posted by **David Hayden** on 24 July 2010, 10:09 a.m.,*
in response to message #3 by Don Shepherd

> Quote:
>
> On the software side, when I went to programming school (1968) we learned to "desk check" our code, which meant following the code, instruction by instruction, on paper with some test data to make sure it really did what you wanted it to. We were taught to do this even before running our program on the computer with real data...

The reason you had to desk check your code before running it on the computer was because it was expensive and time consuming to run it on the computer. These days, it's much faster and easier to run the real data through the program itself to see if it gets the right answer. So the purpose for desk checking has largely gone away.

The one time when desk checking is useful is when you're changing a piece of code to deal with input that is hard to reproduce, such as a rare failure condition deep within the program. In this case, we usually get 2 or 3 different people to desk check the code.

> Quote:
>
> There was an old saying my boss used to repeat: don't use the computer to debug your program. I think that is still good advice.

Ask yourself "why is this good advice?" The computer is the perfect tool to debug your program and I think you should use it whenever possible.

The key is that you do need to debug your program. You need to feed it real-world input and, most important, you need to feed it erroneous input to test the error handling.

Dave

Re: new book on the Apollo Guidance Computer

*Message #7 Posted by **Don Shepherd** on 24 July 2010, 11:51 a.m.,*
in response to message #6 by David Hayden

> Quote:
>
> The reason you had to desk check your code before running it on the computer was because it was expensive and time consuming to run it on the computer. These days, it's much faster and easier to run the real data through the program itself to see if it gets the right answer. So the purpose for desk checking has largely gone away.

Thanks, David. I'd agree with that assessment to a large extent. Certainly mainframe computer time was expensive in the 70's, and where I worked they funded the computer division by charging the other divisions time for their use of the system. So, yes, desk checking was always encouraged.

I've been out of software development since the late 80's, and I wonder if the quality of the code produced by programmers today is comparable to the quality of code produced in the 70's and 80's. I suspect it is somewhat better, given the automated testing systems that exist today as well as peer reviews.

Interestingly, when I became a programmer in 1974 I was the only person who tested the FORTRAN code I developed prior to putting it into production. If I felt it was ready, that was good enough. I think those days have long since past!

Don

Re: new book on the Apollo Guidance Computer

*Message #8 Posted by **David Hayden** on 24 July 2010, 1:25 p.m.,*
in response to message #7 by Don Shepherd

Don,

More important than automated testing systems are the large standardized libraries of working code that handle much of the drudgery that was hand-coded over and over again. Many of the common bugs that were made in the past gone now.

The industry is also VERY slowly starting to realize that you need to think about reliability and maintainability when designing programming languages. Java, for example, does all the memory management for you because the designer realized that memory management bugs were common in languages like C. So he took the approach of designing the problem right out of the language.

Still, programming is, to a large extent, still in the dark ages. Ironically, it's about the ONLY discipline where you still work mainly with flat ASCII files.

Re: new book on the Apollo Guidance Computer

*Message #9 Posted by **Don Shepherd** on 24 July 2010, 2:44 p.m.,*
in response to message #8 by David Hayden

> Quote:
>
> Java, for example, does all the memory management for you because the designer realized that memory management bugs were common in languages like C. So he took the approach of designing the problem right out of the language.

David, can you give an example of what this means? I was always under the impression that Java and C were somewhat closely related (and, therefore, I stayed away from Java!), as opposed to VBScript and C which were totally non-related. For example, what does C make you do that Java does not?

thx, Don

Edited: 24 July 2010, 2:45 p.m.

Re: new book on the Apollo Guidance Computer

*Message #10 Posted by **David Hayden** on 24 July 2010, 4:11 p.m.,*
in response to message #9 by Don Shepherd

Hi Don,

The issue arises when the program needs to allocate memory at run-time to store some data. In C, you call malloc(), which returns a pointer to some memory that you can use. When you're done using the memory, you have to call free(), passing it the pointer that malloc() originally returned. If you don't call free(), then the program thinks that you're still using the memory. This is called a memory leak, and if it happens frequently, or if the program runs for a long time, it can eat up all the memory in the computer.

In Java, you don't have to call free() or anything like it. Instead, the runtime environment keeps track of whether you're still using the memory and when you no longer are, it automatically makes it available again through garbage collection.

The 50g calculator uses the same basic principle as Java: every now and then, it does garbage collection where it figure out which objects are still in use and which aren't, and gets rid of the ones that aren't in use.

Hope this helps, Dave

Re: new book on the Apollo Guidance Computer

*Message #11 Posted by **Don Shepherd** on 24 July 2010, 4:32 p.m.,*
in response to message #10 by David Hayden

I see what you mean, thanks David.

On the last software project I worked on, the programs had severe memory leak problems. That was using Ada on the IBM RISC/6000.

Re: new book on the Apollo Guidance Computer

*Message #12 Posted by **Vieira, Luiz C. (Brazil)** on 26 July 2010, 11:12 a.m.,*
in response to message #10 by David Hayden

Hi;

this made me remember PACKING and TRY AGAIN in the HP41 series. Interesting: I never used malloc() when programming in C/C++ because I never had to allocate memory after the initial variables were defined/created. In fact, I have always programmed in C/C++ with a predefined memory space to be used.

Time to go ahead learning some more...

Cheers.

Luiz (Brazil)

C / Java

*Message #13 Posted by **Karl Schneider** on 27 July 2010, 2:12 a.m.,*
in response to message #10 by David Hayden

> Quote:
>
> In C, you call malloc(), which returns a pointer to some memory that you can use. When you're done using the memory, you have to call free(), passing it the pointer that malloc() originally returned. If you don't call free(), then the program thinks that you're still using the memory. This is called a memory leak, and if it happens frequently, or if the program runs for a long time, it can eat up all the memory in the computer.

So, that's what a "memory leak" is! I'd believed that it was a block of object code or data that was lost/overwritten during execution due to poor memory management or sloppy coding.

> Quote:
>
> In Java, you don't have to call free() or anything like it. Instead, the runtime environment keeps track of whether you're still using the memory and when you no longer are, it automatically makes it available again through garbage collection.

So that might explain in part why Java-based apps tend to be so sluggish. I use a commercial software package whose calculation engine is written in C, but the graphical user interface is in Java. Screens that have not been used in a while as other applications were performed, tend to take a very long time to respond to input when they are revisited. I had attributed that to lack of abundant RAM on my PC, requiring use of virtual memory on hard disk.

"malloc" and "calloc" provide capabilities of dynamic memory allocation that were not available in Fortran '77 and prior. Programs in those versions of Fortran, if I understood correctly, grabbed all the RAM they would need at the outset, and didn't give it up until the program was finished, or virtual RAM was used. I would also believe that dynamic memory allocation made recursion practicable: C and Fortran '90/'95 have them; Fortran '77 didn't.

Edited: 28 July 2010, 1:41 a.m.

Re: C / Java

*Message #14 Posted by **David Hayden** on 28 July 2010, 12:38 p.m.,*
in response to message #13 by Karl Schneider

Hi Karl,

> Quote:
>
> So that might explain in part why Java-based apps tend to be so sluggish.

Partly, yes. The other big performance hit with Java is the fact that it is an interpreted language. I'm no expert, but I've heard that newer java runtime environments will compile sections of the code on-the-fly to improve performance, so you may want to see if your JRE is recent and fast.

> Quote:
>
> "malloc" and "calloc" provide capabilities of dynamic memory allocation that were not available in Fortran '77 and prior. Programs in those versions of Fortran, if I understood correctly, grabbed all the RAM they would need at the outset, and didn't give it up until the program was finished, or virtual RAM was used. I would also believe that dynamic memory allocation made recursion practicable: C and Fortran '90/'95 have them; Fortran '77 didn't.

You are partly correct. To make recursion possible, you need a stack, which provides a limited way of allocating memory at run-time in the form of local variables per-call return addresses. The RPL calculators have this in the form of the return stack. Malloc()/calloc() on the other hand let the program allocate memory at any point in program execution, so they are much more flexible (and dangerous as a result).

Dave

Re: new book on the Apollo Guidance Computer

*Message #15 Posted by **Mark Edmonds** on 24 July 2010, 1:44 p.m.,*
in response to message #7 by Don Shepherd

During I chat I had with a programmer who had grown up totally within the Windows generation, I was aghast to find he didn't know how many bits were in a byte! When I pushed him on this, he replied, "why do I need to know?".

That sums it up for me.

There just isn't the need to know or understand low level details these days and no doubt, techniques which might use bitfields and such could well be discouraged for "code readability" or the economies afforded by the bit aren't important or relevant in C++ etc.

So is this a problem?

Well, we might be gradually losing the skill to build code akin to the most finely crafted miniature watch but we are gaining applications that enable anyone to produce a hit record on an average laptop or produce films that would have been the preserve of professional establishments a few years ago and so on.

I'd consider that progress!

Mark

PS: I understand with the AGC that once it was built, they dunked the whole thing in epoxy to seal it up! There's something about that which always makes me laugh!

Re: new book on the Apollo Guidance Computer

*Message #16 Posted by **David Hayden** on 24 July 2010, 4:26 p.m.,*
in response to message #15 by Mark Edmonds

> Quote:
>
> During [a] chat I had with a programmer who had grown up totally within the Windows generation, I was aghast to find he didn't know how many bits were in a byte! When I pushed him on this, he replied, "why do I need to know?".

That programmer will be very confused indeed when he tries to store 256 in byte. Or maybe even 128.

For readers who don't twiddle bits, a byte can store 256 unique bit patterns. These usually represent the numbers 0-255, or -128 to +127. Attempting to store a number outside that range will result in an error, or, more typically, a different number will be silently stored in the byte.

Dave

Re: new book on the Apollo Guidance Computer

*Message #17 Posted by **Norman Dziedzic** on 26 July 2010, 2:02 p.m.,*
in response to message #15 by Mark Edmonds

> Quote:

> There just isn't the need to know or understand low level details these days and no doubt, techniques which might use bitfields and such could well be discouraged for "code readability" or the economies afforded by the bit aren't important or relevant in C++ etc.

I can assure you that the need for bit twiddlers is alive and well in the machine control area wherever Programmable Logic Controllers (PLC's) are used.

We use bits and words like they were going out of style. We have to understand signed vs. unsigned, etc. and even have to deal with big endian vs. little endian when connecting hardware made by various manufacturers.

We connect analog signals into hardware inputs with varying bit A/D sections and have to scale those numbers back into engineering units for display to the machine operators.

Although, some of the machine controls manufactured by Siemens have now become the target of a Worm so I'm sure we'll be assimilated into the Borg of Computer programming before long and all this ancient knowledge will be relegated to the threads of obscure news groups frequented by dinosaurs and ghosts.

Re: new book on the Apollo Guidance Computer

*Message #18 Posted by **Palmer O. Hanson, Jr.** on 27 July 2010, 10:38 p.m.,*
in response to message #6 by David Hayden

We used the kind of line-by-line checking of programs that Don describes in a computer programming class at the University of Minnesota in 1961. We were using a RemRand 1103. We prepared our programs on paper tape and presented the tapes to a computer operator. If our program ran satisfactorily we received the output data on another paper tape which was read out on a flexowriter.

The people who were using the 1103 for more serious things considered the use of the machine to support a class in programming as a necessary nuisance for a machine owned by a university. Our machine time was limited. Our class of 30 students was broken up into teams of three individuals. For the final exam each team wrote a program and submitted it to the computer. If it ran successfully the members of the team were given an A. If it did not run successfully their next submission could not yield a grade higher than a B, and so on. So you can see that careful off-line checking of our program was a necessity.

I left the university that summer and rejoined Honeywell as a field engineer on the H-317 inertial system for the Fairchild SD-5 drone. The computer was the M-252 manufactured by Hughes. It was a drum machine in which multiplication and division took many word times. If you are interested in more details you can read about the M-252 at http://www.ed-thelen.org/comp-hist/BRL61-h.html. Efficient programming required that division be avoided like the plague and that the machine was kept multiplying while additions and subtractions were going on in parallel. The user could scale the result of a multiply or divide by a premature readout. That kind of programming was truly an art.

I could read code fairly well but was not very good at writing code. I described one of my mistakes in a thread on "My Greatest Computer Fault" back May 2005 -- http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=72743. That was a case where careful line-by-line checking failed to reveal that there was an error in concept not in code.

That was a long time ago. One of the irritants was in the use of hexadecimal notation. Hughes used

a through f for 10 through 15 in their documentation and with the flexowriter delivered with the computer. The Army used U through Z for system input and output so we had to be able to jump back and forth between the two notations. That was long before TI and HP offered their programmer models. We did our conversion between decimal, octal and hexadecimal on a Friden or with a set of conversion tables.

Re: new book on the Apollo Guidance Computer

*Message #19 Posted by **Don Shepherd** on 28 July 2010, 1:33 a.m.,*
in response to message #18 by Palmer O. Hanson, Jr.

Palmer, your experience using a computer at university predates my experience doing the same thing by about 10 years. I used an HP-2000 minicomputer at University of Louisville in the early 70's. We wrote and ran BASIC programs using that system. I well remember my very first program, it determined the Koppen climate classification code for a region based on things like average precipitation, temperature, level of humidity, and things like that. My geography teacher was so impressed with that program I think he gave me an A mostly because of it. We also used paper tape to save our programs.

The book that is the subject of this thread has a very good section where the author describes how computing was done in the early days of computing, the 50's and 60's. The Apollo Guidance Computer had an instruction word that was 15 bits long (not including the parity bit): 3 bits for the op code (allowing 8 instructions) and 12 bits for the operand code (allowing the addressing of up to 4096 words). The problem was that the final computer needed 41 instructions and 38,000 words of memory to be addressed. How the designers achieved that, given the hardware, was a very interesting story. It's a great book.

Re: new book on the Apollo Guidance Computer

*Message #20 Posted by **Palmer O. Hanson, Jr.** on 28 July 2010, 9:13 a.m.,*
in response to message #19 by Don Shepherd

Don:

If you include mechanical analog computers my experience goes back to 1951 and the Mark 1A fire control computer used with the 5"38 caliber gun fire control system. While assigned to the fire control technician school I also worked as a draftsman making overhead projector images for use in classes on one of the first non-mechanical systems.

When the Fairchild drone project was cancelled in late 1962 I worked in-house on the Dynasoar program which was a idea similar to what later was the shuttle program. The system computer was a Verdan DDA manufactured by Autonetics. All I can say about the DDA mechnization is that it was a foreign to my way of thinking then as RPL is now.

I left the Dynasoar program in mid 1963 to go on the Blackbird programs. The system on the YF-12 used a Hughes computer similar to the M-252 but with extended capability to allow it to do more than just the inertial navigation problem. The lead programmer on both the SD-5 and YF-12 projects was Bruce Robinson of Hughes -- a really, really bright guy.

On the A-11 we used a Honeywell computer which was similar to a computer that had originally been designed for use on another classified program. In 1966 we used those computers as part of an ESG based navigation system.

Palmer

Re: new book on the Apollo Guidance Computer

*Message #21 Posted by **Don Shepherd** on 28 July 2010, 10:15 a.m.,*
in response to message #20 by Palmer O. Hanson, Jr.

Boy, Palmer, you do go back a long way. Did you ever meet Grace Hopper in your career? I never did, but I would have liked to. I think she was a brilliant lady.

I know I read somewhere about the Dynasoar project recently, but I can't find the reference.

I feel the way you do about RPL. I appreciate its power, but I like the simplicity of RPN. And if you are going to approach this as a hobby, which I do, simplicity is the way to go. Katie got me interested in the 32s recently, and I got one and I have to say that I really like it. Of all the RPN calcs I have programmed, the 32s has become my favorite now.

Re: new book on the Apollo Guidance Computer

*Message #22 Posted by **Walter B** on 28 July 2010, 1:04 p.m.,*
in response to message #21 by Don Shepherd

Don,

the advantage of the 32S in programming is readability. IMO it was the first HP scientific featuring function name display in browsing instead of key codes. This eases debugging a lot. And the 32S sports a very clean keyboard.

Enjoy,

Walter

Re: new book on the Apollo Guidance Computer

*Message #23 Posted by **Don Shepherd** on 28 July 2010, 2:00 p.m.,*
in response to message #22 by Walter B

Display readability, function names instead of keycodes when stepping through code, and clean keyboard. Yep, I like 'em all. Also, rich programming feature set, speed of execution is pretty nice, base conversions on a 36 bit word with easy shift right/left to see the whole result, 390 bytes of user memory, great manual, plus it just looks professional.

Katie's right, it's about as good as it gets.

Re: new book on the Apollo Guidance Computer

*Message #24 Posted by **Andrés C. Rodríguez (Argentina)** on 28 July 2010, 4:20 p.m.,*
in response to message #22 by Walter B

The HP-41 allowed for browsing programs by function name instead of keycodes (row-column). On the old, 7-segment LED models, keycodes were the only possible option; although the HP-97 offered funtion names and abbreviations on printed paper (IIRC). A minor improvement was the "key phrases" from the HP-25 on, where keycodes were "merged" in one line when multiple keystrokes were

needed for a function (i.e.: STO + 05, f SIN, etc.).

When the displays become alphanumeric with the HP-41, function names appeared. However, a little after HP-41 time, Voyagers using LCDs (HP 10, 11, 15, etc) still used a 7-segment display, hence keycodes were unavoidable for them.

Re: new book on the Apollo Guidance Computer

*Message #25 Posted by **Palmer O. Hanson, Jr.** on 29 July 2010, 9:13 p.m.,*
in response to message #21 by Don Shepherd

Don:

> Quote:
>
> Boy, Palmer, you do go back a long way. Did you ever meet Grace Hopper in your career? I never did, but I would have liked to. I think she was a brilliant lady.

I'm sorry to say that I did not cross paths with Grace Hopper. That's not surprising. I suspect that she was working on newer technology at the time that I was working on the Mark 1 and 1A gunfire computer where the original design preceded WW II. You can read about that at http://en.wikipedia.org/wiki/Mark_I_Fire_Control_Computer. One of the relatively new things at the time that I was working with it was an increase in range rate capability to handle post WWII aircraft speeds. It could handle significantly larger negative range rate than positive range rate the idea being that it was more important to track and fire on incoming aircraft. The stable vertical for the system used the old foot high mercury vapor tubes and a Rube Goldberg system of weights and screw drives to provide the precession required to compensate for earth rate.

I will try to find something on Dynasoar. It was a lifting body device. The program was cancelled in late 1963.

Palmer

Re: new book on the Apollo Guidance Computer

*Message #26 Posted by **sylvandb** on 25 July 2010, 8:31 p.m.,*
in response to message #3 by Don Shepherd

> Quote:
>
> I admit abacusses (abacusi?) would be a bit much, but I'd bet that some of the slide rule fanatics among our little group would say that a new engineer would be a better engineer if he/she understood what a slide rule did, in the years prior to the HP-35.

The slide rule fanatics might say that. It wouldn't make it true. Just like spending an hour in school with an abacus would be interesting, so would an hour or two with a slide rule. Any more than that rapidly becomes a waste of time.

You do realize that the first engineers to start a career **after** the scientific calculator was invented, have pretty much all retired? The majority of engineers working now had scientific calculators before they

started college. (I started using a scientific calculator before age 12, and they were widely available very cheaply by then even if my teachers had no clue.)

> Quote:
>
> On the software side, when I went to programming school (1968) we learned to "desk check" our code, which meant following the code, instruction by instruction, on paper with some test data to make sure it really did what you wanted it to. ... Desk checking just means doing this manually before running it, and I don't think that is taught today in programming classes, and maybe it should be. There was an old saying my boss used to repeat: don't use the computer to debug your program. I think that is still good advice.

A colossal waste of time. This manual work would have to be done after every change to the program. The modern equivalent is writing unit tests that when run *by the computer* put test data thru the code and validate the result. Even those don't get done, because programmer (software engineer) time to create the unit tests is very expensive compared to computer time and test person time to find functional problems.

Unit tests can be run automatically on every build to catch regressions rather than requiring a manual "desk check" which is prone to human error.

Re: new book on the Apollo Guidance Computer

*Message #27 Posted by **Don Shepherd** on 25 July 2010, 10:31 p.m.,*
in response to message #26 by sylvandb

You have a lot more faith in computer tests finding all errors in code than I do. Even automated test systems can only find errors they are programmed to find. The fact is that, even today, it is possible for a programmer to make a mistake and have a bad line of code that may cause disastrous consequences if a certain set of circumstances occurs, and all the computer testing in the world may not find that error, but desk checking may (and it may not also). I wouldn't call it a waste of time; I'd call it doing everything you can to make sure the code is right.

I think the first line of defense against software errors is the programmer him/her self. The person who wrote the code should verify that it does what it was intended to do, and desk checking should be part of that process. The second line of defense is peer review of the code. Then the test organization gets involved to make sure the original system requirements are being satisfied. Unit tests, module tests, regression tests, build tests, integration tests, all have their place. The more tests you have, the more likely you will have bug-free code. Sure, it's expensive, but consider the consequences if the code fails, especially in areas like air traffic control where lives are literally at risk.

I'm all for automated test systems, intelligently used. But I want the original programmer systematically looking at his/her code and verifying its correctness.

Edited: 26 July 2010, 3:52 p.m.

Re: new book on the Apollo Guidance Computer

*Message #28 Posted by **MikeO** on 25 July 2010, 9:32 p.m.,*
in response to message #3 by Don Shepherd

With the surplus of disk, memory, etc., current programmers write tests as part of the complete development project (a.k.a test driven development). The requirement is that all tests complete

successfully before checking code into the shared repository - which triggers a new build. Breaking the build results in a usually ribald sharing of commentary from ones peers ;)

Re: new book on the Apollo Guidance Computer

*Message #29 Posted by **BruceH** on 28 July 2010, 7:12 p.m.,*
in response to message #3 by Don Shepherd

> Quote:
>
> Desk checking just means doing this manually before running it, and I don't think that is taught today in programming classes, and maybe it should be.

We called it a dry run.

The thing that I find frustrating is that a load of effort has been put into developing programming languages and programming styles that seek to eliminate errors before they can be made e.g. the automatic garbage collection in Java, but precious little effort has been put into standardising 'display environments' (for want of a better phrase). So, back in the days of glass teletypes, most screens worked to VT100 as a minimum and you could safely code assuming that. Then graphical terminals came along and X windows was developed but the whole Window manager business (e.g. Motif v. XWM) caused fragmentation and a standard was never reached.

Then the Web came along and the horror that is Internet Explorer. All the time, effort and cost savings gained by using Java were immediately squandered many times over by the difficulties of trying to code around the bugs in the various versions of IE.

Sometimes I really do think that Microsoft have held back the economy more than advanced it, because of their poor software. No doubt in a few years time, some economist will analyse it and pronounce one way or the other.

Things are better now with HTML4 being widely implemented properly but did it really need the best part of 20 years to get there?

Re: new book on the Apollo Guidance Computer

*Message #30 Posted by **Paul Dale** on 24 July 2010, 4:46 a.m.,*
in response to message #1 by Don Shepherd

Interesting that the look inside seems to have the entire book...

- Pauli

Re: new book on the Apollo Guidance Computer

*Message #31 Posted by **Don Shepherd** on 24 July 2010, 7:27 a.m.,*
in response to message #30 by Paul Dale

Paul, you can see quite a bit, but not all pages. The "look inside" feature of Amazon makes selected pages available, but not the whole book. For instance, page 106 is not available (the index says that the famous 1201 alarm is discussed there, but you can't see that page).

Don

Re: new book on the Apollo Guidance Computer

*Message #32 Posted by **Walter B** on 24 July 2010, 8:16 a.m.,*
in response to message #30 by Paul Dale

Seems to work nicely in Australia and the USA. Here where I live, I can't see anything between page 17 and 420 :(

Re: new book on the Apollo Guidance Computer

*Message #33 Posted by **Gerson W. Barbosa** on 24 July 2010, 10:40 a.m.,*
in response to message #32 by Walter B

Walter,

If you have an Amazon account, just sign in and you'll be able to see more pages.

Thanks, Don, for the book recommendation.

Regards,

Gerson.

Re: new book on the Apollo Guidance Computer

*Message #34 Posted by **Walter B** on 24 July 2010, 6:55 p.m.,*
in response to message #33 by Gerson W. Barbosa

Gerson,

thanks for the hint, though it doesn't work this way here. Being logged in I won't get neither the first part of the TOC nor the pages mentioned above. Anyone in Europe seeing more?

Re: new book on the Apollo Guidance Computer

*Message #35 Posted by **David Hayden** on 24 July 2010, 9:57 a.m.,*
in response to message #1 by Don Shepherd

The InfoAge center in New Jersey has one of the Apollo Guidance Computers, along with all sorts of other interesting stuff related to computers and radio. It's on the site of the old Marconi receiving station.

Re: new book on the Apollo Guidance Computer

*Message #36 Posted by **Maximilian Hohmann** on 24 July 2010, 3:20 p.m.,*
in response to message #35 by David Hayden

Hello!

> Quote:
>
> The InfoAge center in New Jersey has one of the Apollo Guidance Computers...

I think it has been referenced on this site before, but you can have your own Apollo Guidance Computer (simulated) on your PC or Macintosh: http://www.ibiblio.org/apollo/.

One thing the new generation of engineers and programmers has hopefully learnt is making decent man-

machine interfaces. The flight management computer that I have to use at work (http://auto.manualsonline.com/manuals/mfg/honeywell/gnsxl.html) looks and feels much more similar to the apollo guidance computer than to my Macintosh at home.

Regards, max

Edited: 24 July 2010, 3:23 p.m.

Re: new book on the Apollo Guidance Computer

*Message #37 Posted by **Don Shepherd** on 24 July 2010, 4:39 p.m.,*
in response to message #36 by Maximilian Hohmann

I wonder when the people who make FMS computers are going to leave the Apollo-age!

As I have begun to read this book today, I can't help but think of the astronauts who had to learn how to use this system (they had no choice; it was the only way to get to the moon). Now, they were undoubtedly used to entering octal digits in their transponders, but learning how to use the AGC must have been pretty foreign to them, with all its "programs" and "nouns" and "verbs" and "program alarm codes." They were probably thinking "just let me fly the damned thing."

Don

Re: new book on the Apollo Guidance Computer

*Message #38 Posted by **Garth Wilson** on 24 July 2010, 6:04 p.m.,*
in response to message #1 by Don Shepherd

Quote:

> I'd bet that some of the slide rule fanatics among our little group would say that a new engineer would be a better engineer if he/she understood what a slide rule did

Yes. The slide rule gives a better understanding of number relations-- not that you have to keep using it, but I still benefit from having gotten proficient at it even though I haven't used it in many years.

Quote:

> Quote:
>
> > On the software side, when I went to programming school (1968) we learned to "desk check" our code, which meant following the code, instruction by instruction, on paper with some test data to make sure it really did what you wanted it to. We were taught to do this even before running our program on the computer with real data, and we almost always found errors that otherwise might have slipped by us. I don't think the current generations of programmers are taught that, and despite huge advances in the software development and testing fields today, errors can still slip by.
>
> The reason you had to desk check your code before running it on the computer was because it was expensive and time consuming to run it on the computer. These days, it's much faster and easier to run the real data through the program itself to see if it gets the right answer. So the purpose for desk checking has largely gone away.

When I started in school on the mainframe computer in the late 1970's, you had to write your code out by hand, then go to the machines where you punch it into the cards, then submit your card pile to the operators, then come back sometime later hoping they had run your program, only to find a long printout of all the reasons it wouldn't run. Turnaround was anything but instant. But, continuing:

> Quote:
>
> > Quote:
> >
> > There was an old saying my boss used to repeat: don't use the computer to debug your program. I think that is still good advice.
>
> Ask yourself "why is this good advice?" The computer is the perfect tool to debug your program and I think you should use it whenever possible.

I would change the advice to "The computer should not be the only thing you use to debug your program." Debugging needs to be like a concurrently running mental task, part of the process even before you run anything. Working by myself for small, low-budget outfits, I have found that when the lack of expensive debugging tools actually teaches you to write better code. You can't have the attitude that "I'll whip out this code in record time and debug it later." Out of necessity, I've become more structured and neat in my programming, documenting everything thoroughly, making the code as readable as I know how, and proofreading.

Ten years ago, large companies finally started seeing the value in this, and the industry magazines ran some articles on code inspection and having committees of the programmers' peers proofread the code. I sometimes catch bugs when further commenting code that's already working but not exhaustively tested yet. I comment as if trying to explain it to someone else who hasn't been following my train of though on it. (If I need to change it a year later, I'll need the comments anyway.) As a result of this madness, no user has ever found a software bug in any product or automated test equipment I programmed. The projects have ranged from 700 to 10,500 lines of code, and have always been for control of equipment, quite different from desktop applications or data processing.

BTW, using a lines-of-code-per-day benchmark of programming performance is a sure way to end up with inefficient, buggy code that's hard to figure out and fix or modify later. I once worked with a programmer who typed non-stop. I always wondered what he was typing. After he left the company, I had to fix a 4-page routine he wrote. When I was done, it was down to a half page, bug-free, clearer, faster, and did more with less memory. Eventually most of what he wrote had to be redone.

> Quote:
>
> More important than automated testing systems are the large standardized libraries of working code that handle much of the drudgery that was hand-coded over and over again. Many of the common bugs that were made in the past gone now.

It just frees you up to advance to the next level of programming and therefore the next level of bugs. ;) As long as there's programming, there will be bugs of some kind.

> Quote:
>
> Still, programming is, to a large extent, still in the dark ages. Ironically, it's about the ONLY discipline where you still work mainly with flat ASCII files.

That's a good thing. I can express myself most clearly and accurately in writing, and I hope the keyboard never goes away. I do of course use INCLude files, which can be nested, so it's not flat in that respect. I also like the DOS/ANSI characters above 127 for drawing diagrams and tables with smooth lines in the source code, as well as for the Greek letters, special symbols, etc. that we use all the time in engineering.

> Quote:
>
> During I chat I had with a programmer who had grown up totally within the Windows generation, I was aghast to find he didn't know how many bits were in a byte! When I pushed him on this, he replied, "why do I need to know?"

It's like people in Washington not having a grasp on what a trillion is, or even the cost of a single dollar. Bloatware anyone? Of course it matters! And if you're writing applications for embedded control of equipment where you have to know the ports and various hardware resources intimately, there's no way around it.

Re: new book on the Apollo Guidance Computer

*Message #39 Posted by **Don Shepherd** on 27 July 2010, 3:19 a.m.,*
in response to message #38 by Garth Wilson

Good points, Garth.

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3421: any tips on calibrating?

*Message #1 Posted by **Vieira, Luiz C. (Brazil)** on 23 July 2010, 11:03 p.m.*

Hi, all;

after a while waiting (some years...) I got my 3421, at last! My friend that had it actually took good care of it and had some personal issues (it took him about seven years to send me the unit... no problem, I can handle it once knowing we are dealing with friendly human beings that may surely have their reasons and circumstances), but anyway I finally have my own 3421!

These 'beasts' are timeless...

Before trying anything, I opened it and saw a 6.3V/2,4Ah sealed lead-acid battery. I also noticed that it came with a multiplexer/actuator assembly board. Needless to say the battery was dead: 1.8Vcc. I did not even try to charge it; the poor thing has already been sent to a proper recycle container, only for batteries (I do my part...). Then I measured the small battery that keeps RAM data and found 3Vcc! Amazing! That one was alive.

Before plugging it into the AC line (I found the mains supply voltage selection quickly), I replaced the lead-acid battery for another (taken from a 9114 battery pack) and the 3421 reacted with a small 'click' from a relay, I guess. I tried the POWER switch and it woke up with ERROR 0 (no RAM data). After plugging it into the AC line, the lead-acid battery voltage raised from plain 6.12Vcc to 7.01Vcc: the power supply seems OK.

I plugged it to an HP41 with MLDL2000 previously loaded with the X-IO and Data Acquisition ROM, and I tried some HPIL commands. The 3421 responded to all acceptable commands as expected, and generated some error messages, also as expected. I also performed the fastest measuring test described in the first pages of the manual: shorting the resistance input terminals and turn the unit ON. Both errors 0 and 7 (shortened input) showed up in the display. INSTAT returned a number to the X-register and set related flags.

Because I never had any HPIL measuring device before, I am still 'trying it out' with a lot of reasonable care. I will take some specific time this weekend to read some material about it: user manual, HP41 Data Acquisition ROM manual and four application notes related to calibration. The 254-page manual will give me the basics, I hope, along with the HP41 data acquisition ROM manual, but if there is something else I should know about, I'd appreciate any info/advise you can give me.

I remember seeing some posts about the 3421 at this very forum many years ago, but back then I neither have my HPIL, nor many stuff I have now (9114 disk driver, MLDL2000, Clonix/NoVRAM, documentation, knowledge basis... thanks to many of you, guys!), so I just read those messages briefly. I am now collecting many of them and I'll read them prior to go ahead.

I am positive it will take me some time, but hey! Better now then never. This is my first HPIL measuring device, I really want to go ahead using it accordingly.

Thanks a lot, from a 3421 'newbie'.

Luiz (Brazil)

Edited: 23 July 2010, 11:22 p.m.

Re: 3421: any tips on calibrating?

*Message #2 Posted by **RamLab** on 2 Aug 2010, 6:44 a.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

Hi Luiz,

Indeed, those HP3421A's are timeless. I have two of them, that I frequently use, most of the times as MUX in front of an HP34401A, under HP-IB control. But sometimes on Battery under HP-71B control (battery charge measurements) One of them also has the Self Test Failed #0 (Calibration RAM Checksum error). I have so far not been able to find out what the cause is, nor how to fix it. There is a remark in the Service Manual "Error #0 will occur if an option 442A 10 channel multiplexer Assembly is added or moved to another slot after the 3421A was calibrated". I added a second MUX to slot 1, still #0, and a third to slot 1, still #0. So I only used a MUX in Slot 0, and did the Temperature Calibration (in a faint attempt hoping that due to this the correct Checksum would be stored..) but to no avail.

To do a full Calibration you will need at least a 6 1/2 Digit DAM, and a lot of time.

RamLab

Re: 3421: any tips on calibrating?

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 3 Aug 2010, 3:33 a.m.,*
in response to message #2 by RamLab

Dank je, RamLab!

I was afraid I'd have to spend some considerable amount of time calibrating this 'little' beast. I began reading the maintenance and calibration manual but I decided to ask if there is anything about it that was not written there. No problem, I'll just go ahead reading it.

I do not have a 6 1/2 digit measuring device, but I'll find a way to get this done. There is a 17-page operating note (03421-90011), page #5 and ahead, describing some calibrating procedures that predict the possibility of using the 3421 internal voltmeter to do so, but there is a Temperature Calibrator Board (03421-66505) that must be plugged onto the Multiplexer/Actuator Assembly. I do not have it and I am not aware of what such temperature calibrator board has in it. Given that currently available components and devices may achieve accuracy better than the ones form the 80's, I thought I could at least try building an equivalent calibrator board even if I do not achieve the same HP standard. Would you have any info about it?

Thanks again.

Luiz (Brazilie)

Re: 3421: any tips on calibrating?

*Message #4 Posted by **RamLab** on 3 Aug 2010, 5:22 a.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

Hello Luiz,

It all depends on what you want to do with the 3421, and what causes the #0 Self test error. Are you intending to measure Temperature with it, do you have Thermocouples, the correct connecting block ?

What do you get back from the 3421 when you send "REF" ?? This should return the temperature of the temp sensor on the MUX board in Slot 0. Do you get Temperature reading, an error, other than #0

Doing a Temperature Calibration is actually simple if you have a Fluke 51/2/3 or Fluke 16 with a K-couple. Place the K-couple as in the manual described for the Thermistor. Simple follow the instructions : "REF--" followed by "C00----" and fill the Temperature reading of the Fluke on the blacks.

Regards,

RamLab

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HP-71b DTH$() and HTD() commands

*Message #1 Posted by **Don Shepherd** on 23 July 2010, 2:49 p.m.*

I am curious about the background of these commands to convert between decimal and 5-digit hex values. What's so special about 5-digit hex values? Does it have anything to do with importing machine code into the 71b?

Re: HP-71b DTH$() and HTD() commands

*Message #2 Posted by **Raymund Heuvel** on 23 July 2010, 5:19 p.m.,*
in response to message #1 by Don Shepherd

Hi Don

Assumption: 71B addresses are 20 bit -> 5 nybbles. The 71B Peek and Poke commands use 5 nybble addresses.

Also Forth is 20 bit based, probably also due to the 20 bit 'A' field in the working registers.

BR

Ray

Re: HP-71b DTH$() and HTD() commands

*Message #3 Posted by **John Pierce** on 23 July 2010, 5:24 p.m.,*
in response to message #1 by Don Shepherd

There are five HEX digits in the highest memory address in the HP-71B, ... FFFFF(HEX)=1048575(10).

Re: HP-71b DTH$() and HTD() commands

*Message #4 Posted by **Don Shepherd** on 23 July 2010, 6:23 p.m.,*
in response to message #1 by Don Shepherd

Thanks Raymund and John. I wasn't aware of the address space on the 71b, and now these commands make some sense.

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1996

*Message #1 Posted by **Eric Smith** on 23 July 2010, 12:49 p.m.*

http://xkcd.org/768/

Re: 1996

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 23 July 2010, 1:01 p.m.,*
in response to message #1 by Eric Smith

Hi, Eric;

someone was faster... See here.

Cheers.

Luiz (Brazil)

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Do you have to "help" cards through the 97?

*Message #1 Posted by **Keith Beyer** on 23 July 2010, 7:08 a.m.*

Hi all,

Just finished replacing the gummy wheel on the card reader of my 97. Many, many, thanks to those who have posted detailed instructions/advice on how to do this, particularly Mike Davis.

I replaced the gummy wheel with two rubber o-rings bought on e-bay. The cards feed fine now, however, I was getting Error with most feeds until I discovered that if I give the card just a little push as it is feeding through, then it reads the card fine. Again, this is just a gentle guiding of the card as the motor pulls the card. Just wondering if this is normal? Or should you just be able to feed the card in until the wheel grabs it and pulls it through with no extra assistance. Again, I would say I am not really "pushing" the card myself, just a little pressure on the card as it is moving.

Thanks for any thoughts!

Re: Do you have to "help" cards through the 97?

*Message #2 Posted by **Michael de Estrada** on 23 July 2010, 9:22 a.m.,*
in response to message #1 by Keith Beyer

What is happening is that the card sensor switch is detecting the card and starting the motor before the card is engaged by the wheel, and you are simply moving the card slightly further so that the wheel can fully grab it and pull it through. On a perfectly adjusted card reader wheel using exactly the right size model aircraft fuel line tubing, this won't be necessary, however, I've found this generally to be the case with O-rings, which only partially grip the the card across its width.

Re: Do you have to "help" cards through the 97?

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 23 July 2010, 12:50 p.m.,*
in response to message #1 by Keith Beyer

Hi;

I'd add some extra comments to Michael´s. I have noticed that in one of my cards readers the cards are pulled, say, differently. In the newest, G-version, if I hold the cards with the tip of my fingers while inserting them, I feel the card reader ferociously pulling them out of my fingers. In the earliest, E-version, the cards are pulled somehow softer, and in some cases, if I hold the cards with extra strength in the tip of my fingers, I get reading error. In both readers, if I partially insert the card and then push it by using the side of the finger, instead of holding it with the tips, the pulling wheels find their own way reading them, and error conditions do not happen so often.

I once thought it was a matter of adjusting the pressure of the pulling wheel, but it seems to me now that it is related to the motor control. I have not seen the motor power supply and I do not know if the different readers also have different motor control circuitry, but if the earlier units have a different current handling, chances are that either a current peak detector or a narrower speed tolerance might also trigger an error.

My thoughts, though. And my 2¢, too!

Cheers.

Luiz (Brazil)

Edited: 23 July 2010, 12:55 p.m.

Re: Do you have to "help" cards through the 97?

*Message #4 Posted by **Keith Beyer** on 23 July 2010, 12:59 p.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

Thanks, both of your comments make sense. It does seem that I only need to add a bit of pressure initially when I put the card in to ensure no Error. I have switched to putting the card in part way, then pushing it forward with the end of my finger, and that seems to work.

Thanks for those insights. I really didn't want to have to go back into "surgery" to fix something if this behavior was not normal.

Keith

Re: Do you have to "help" cards through the 97?

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 23 July 2010, 1:04 p.m.,*
in response to message #4 by Keith Beyer

Hi, Keith;

have you tried to adjust the pressure? There is a way to slightly adjust it. I adjusted both my card readers to a minimum.

Cheers.

Luiz (Brazil)

Re: Do you have to "help" cards through the 97?

*Message #6 Posted by **Keith Beyer** on 23 July 2010, 9:30 p.m.,*
in response to message #5 by Vieira, Luiz C. (Brazil)

Hi Luiz,

I don't know how to adjust the "pressure" - is there an article on that or what do you do?

Thanks, Keith

Re: Do you have to "help" cards through the 97?

*Message #7 Posted by **Vieira, Luiz C. (Brazil)** on 23 July 2010, 9:57 p.m.,*
in response to message #6 by Keith Beyer

Hi, Keith;

My mentioning of "pressure" without a concise reference 'sounded' dull, sorry...

Unfortunately, you'll have to remove at least the card reader's upper cover, meaning the four small screws and the big one in the rear of the card reader´s case. After that, you can follow both this thread and this other one, mostly from the second follow-up, written by Ed Sowell himself (message header) and ahead. If you have not noticed yet, the pulling gear´s shaft has a cut in the outer edge so you can use a small screw driver to rotate the shaft. It has a slight eccentricity so you can adjust its pressure over the card while reading/writing. The follow ups in the above mentioned thread give some info about how to adjust it. If you need extra advice, let us know, OK?

Cheers.

Luiz (Brazil)

Edited: 23 July 2010, 9:59 p.m.

Re: Do you have to "help" cards through the 97?

*Message #8 Posted by **Keith Beyer** on 25 July 2010, 10:22 p.m.,*
in response to message #7 by Vieira, Luiz C. (Brazil)

Thanks for the information. Upon further testing of several cards, it seems that some cards read well, while others do not. Do HP 67/97 cards "go bad" after some time? I know they are magnetic media, and as such probably don't last forever. The manual suggests cleaning cards with alcohol solution. Does this really work?

Thanks for any thoughts.

Keith

Re: Do you have to "help" cards through the 97?

*Message #9 Posted by **Vieira, Luiz C. (Brazil)** on 26 July 2010, 12:09 a.m.,*
in response to message #8 by Keith Beyer

Hi, Keith;

I have a few cards that no longer read their contents, some written by the HP41´s card reader, others by the HP97.

In fact, I had the contents of some old cards (others), recorded in the 80's, recovered after cleaning them with alcohol. You'll see that the card surface reflects differently when it is dirty (flat with some spots) and when it is clean (regular and glossy, not shiny).

I just get some soft cotton with alcohol (not enough to drip, something more than moistened), then I place the cards over an absorbent, clean, straight surface (some sheets of paper over a table) then I firmly press one of the edges of the card (tip of a finger) and then I pass the cotton over the surface with a bit of pressure, in the same direction as the card is read/written (after that, clean the small surface under the finger tip the same way). I have not done it more than twice in one single cleaning, mostly because I am afraid of removing part of the magnetic material OR any protective layer. Anyway, the cotton usually comes out with dirty material on it. I never lost a card with such cleaning procedure, just have many of them recovered.

BUT if they are stored closer to strong magnetic fields OR exposed to direct sunlight for

extended periods of time, chances are that their own magnetic field variations AND related contents will change. In these cases, chances are that overwriting may succeed, but it is not 100% guaranteed. Also, I am not aware of any effects on the card reader's head if the card has residual strong magnetic field after being exposed. This should also be taken into account.

Success!

Luiz (Brazil)

Edited: 26 July 2010, 12:12 a.m.

Forgot to mention... Please, read also!

*Message #10 Posted by **Vieira, Luiz C. (Brazil)** on 26 July 2010, 11:03 a.m.,*
in response to message #9 by Vieira, Luiz C. (Brazil)

Hi, Keith;

I forgot to mention that I also use a soft tissue to clean any exceeding material immediately after cleaning with alcohol. It also helps drying out any residue left by the alcohol itself.

Cheers.

Luiz (Brazil)

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HP 31, 32 ,33, etc Battery covers

*Message #1 Posted by **aj04062** on 21 July 2010, 9:45 p.m.*

I posted before that I was going to make some of these via rapid proto plastic. Here are picts of the Alpha unit:

It needs more work. Please comment if you would like to see a finshed product. I plan to tweak the dims and make a Beta unit soon.

Edited: 21 July 2010, 9:46 p.m.

Re: HP 31, 32 ,33, etc Battery covers

*Message #2 Posted by **db (martinez, ca.)** on 21 July 2010, 11:42 p.m.,*
in response to message #1 by aj04062

that is one of the most useful replacement parts you could have made. a lot of those doors are lost. be sure to try your prototype in a few spice units. some doors will fit one calculator but not others. they had great keys but not very good casting (or whatever you call that process).

Re: HP 31, 32 ,33, etc Battery covers

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 22 July 2010, 9:51 a.m.,*
in response to message #1 by aj04062

Yep, I agree with db, some of these doors are always made for the other calc...

I have seen some of these broken, but it seems to me it is because of this very same fact: as they do not fit in, a bit of extra 'brute force' and they snap. Some of them are a bit loose sideways, and in this case they fit in almost every Spice. Something to check out... I cannot tell for sure, but I have been with a bunch of Spices and I saw at least three broken doors. I glued one of them and kept it in one of my Spices, 'just in case', and it is still in one piece. Of course, I do my job removing and replacing it carefully, so it does not count for a daily use.

Great handcraft! In time: have you thought about the little Voyager´s battery door? They are smaller and a lot easier to disappear and/or crack. Well, because they are smaller they may also be harder to carve, but they have less details to be considered and they are much easier to place/remove, so they do not crack so easy. I think it would find some more interested people, too.

About the color of the prototype:: you know what? I do not dislike it. My HP34C would look very distinctive with a white/beige battery door...

Cheers.and Congrats!

Luiz (Brazil)

Re: HP 31, 32 ,33, etc Battery covers

*Message #4 Posted by **Mark Henderson** on 23 July 2010, 9:02 p.m.,*
in response to message #1 by aj04062

I would definitely buy a couple.

Re: HP 31, 32 ,33, etc Battery covers

*Message #5 Posted by **Xavier A. (Brazil)** on 29 July 2010, 8:47 p.m.,*
in response to message #1 by aj04062

Excellent work, and very helpful!

Thank you!

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Searching the Database

*Message #1 Posted by **aj04062** on 21 July 2010, 9:27 p.m.*

I know this is dumb, BUT for the life of me, I can't seem to get the search tool to find old posts.

I know they are there, as I try to find ones my myself and I can't find them. Arghh!

Any tips?

I am seeking repair advice in a HP 10 printer.

Re: Searching the Database

*Message #2 Posted by **Crawl** on 21 July 2010, 10:06 p.m.,*
in response to message #1 by aj04062

Maybe this?

Found with this.

Re: Searching the Database

*Message #3 Posted by **Gerson W. Barbosa** on 21 July 2010, 10:28 p.m.,*
in response to message #2 by Crawl

> Quote:
>
> Found with this.

Or more specifically with this.

Re: Searching the Database

*Message #4 Posted by **aj04062** on 21 July 2010, 10:57 p.m.,*
in response to message #3 by Gerson W. Barbosa

Ok, Ok,

so I know Google works. why does the Forum's search NOT work?

Re: Searching the Database

*Message #5 Posted by **Gerson W. Barbosa** on 21 July 2010, 11:36 p.m.,*
in response to message #4 by aj04062

> Quote:

> I can't seem to get the search tool to find old posts.
>
> Quote:
>
> I am seeking repair advice in a HP 10 printer.

Sorry, I thought your second statement were more relevant so I completely ignored the first one. Well, I cannot get the Museum's search tool to find what I want either. Not a problem though, as other search engines do the job...

Regards,

Gerson.

Re: Searching the Database

*Message #6 Posted by **tim m.** on 22 July 2010, 1:28 a.m.,*
in response to message #5 by Gerson W. Barbosa

Same issue here.

The forum should just do away with its own search and add a Google search box.

-Tim

Re: Searching the Database

*Message #7 Posted by **Walter B** on 22 July 2010, 2:47 a.m.,*
in response to message #5 by Gerson W. Barbosa

Museum search works here as usual. I.e. go here and

1. click on the archive you are interested in - e.g. #19.
2. Then click Search, and enter your search pattern - e.g.
   List: Only messages containing All of the following keywords: HP-10 printer repair.
3. Click View Message Index and you'll get what you want.

I agree it's tedious to search each and every archive separately. Seems it was meant to work differently. Anyway, this may be fixed pretty easily by making more entries on the search page "sticky" and adding at least a button "go to previous archive". More comfortable solutions are possible, of course. And I understand not everybody wants Google to know everything.

Edited: 23 July 2010, 2:27 a.m.

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Thermal paper for the HP-10

*Message #1 Posted by **Kees van der Sanden** on 20 July 2010, 2:52 p.m.*

Today I bought a nice HP-10 calculator with manual, charger and pouch. To check the printer function i need a roll of thermal paper. The manual advices to use original HP paper but it don't mention the exact size or HP code. Is this thermal paper still for sale?

Regards,

An enthusiastic HP calculator collector.

Re: Thermal paper for the HP-10

*Message #2 Posted by **Katie Wasserman** on 20 July 2010, 6:59 p.m.,*
in response to message #1 by Kees van der Sanden

Please see this thread.. The HP-19C and HP-10 use the same printer mechanism and therefore the same paper.

Edited: 20 July 2010, 7:00 p.m.

Re: Thermal paper for the HP-10

*Message #3 Posted by **Michael Meyer** on 20 July 2010, 7:41 p.m.,*
in response to message #1 by Kees van der Sanden

I'd test the printer before buying a lot of paper. Any old thermal paper cut to 1.5" strips would do. If it works, then you can buy a life-time supply!!

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OT: TI Calcs Cartoon

*Message #1 Posted by **DaveJ** on 20 July 2010, 12:11 a.m.*

http://xkcd.com/768/

Dave.

LOL! (was: OT: TI Calcs Cartoon)

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 20 July 2010, 12:57 a.m.,*
in response to message #1 by DaveJ

...

Re: OT: TI Calcs Cartoon

*Message #3 Posted by **Walter B** on 20 July 2010, 5:11 a.m.,*
in response to message #1 by DaveJ

Please see here.

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Back on the Forum

*Message #1 Posted by **Trent Moseley** on 19 July 2010, 9:20 p.m.*

Just wanted to hello to Luiz Vieira and all the Oldtimers that I'm back on the Web.

tm

Re: Back on the Forum

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 19 July 2010, 9:25 p.m.,*
in response to message #1 by Trent Moseley

Hi, Trent! Long time no... read!

It´s been a while... A few weeks ago I ran into the 2001/2002 archives and found many names of people I haven´t heard of these last years.

Well, I for one would like to give you the friendliest Welcome back!

Cheers!

Luiz (Brazil)

Edited: 19 July 2010, 9:26 p.m.

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48gx Memory Cards

*Message #1 Posted by **Hugh Evans** on 19 July 2010, 7:08 p.m.*

I recently picked up a mint condition 48gx for $100 and it's starting to appear that RAM Cards will cost far more than the machine. Is there a good source for these at the moment?

Re: 48gx Memory Cards

*Message #2 Posted by **aj04062** on 19 July 2010, 8:18 p.m.,*
in response to message #1 by Hugh Evans

These are pretty hard to come by. There is one guy on the auction site that seems to mfg from some source.

Re: 48gx Memory Cards

*Message #3 Posted by **bill platt** on 19 July 2010, 9:25 p.m.,*
in response to message #1 by Hugh Evans

I bought some of them from Oliver Klotz in Germany, about 5 years ago. I don't know if he still makes them.

Re: 48gx Memory Cards

*Message #4 Posted by **Antoine M. Couëtte** on 21 July 2010, 4:43 p.m.,*
in response to message #3 by bill platt

I also bought some HP 48GX RAM Cards from CYNOX Germany some five years ago (http://www.cynox.de/index_e.htm).

Until now I have been extremely happy with these Cynox made HP48Gx RamCards.

Best Regards to all

Antoine M. Couëtte

Re: 48gx Memory Cards

*Message #5 Posted by **Richard Reed** on 20 July 2010, 4:46 a.m.,*
in response to message #1 by Hugh Evans

I can give a little perspective. I wound up buying a 1 MByte SMI card last November for $170, but you may eventually do better. Shipping between US and Europe usually ruins the deal, so I had mine shipped to my brother in the US. The previous August, I got a 128K HP one for £49 ($75) shipped locally in Britain. Bear in mind that these prices are a lot less than when originally released. They were always more than the calculator (about the same for 128K).

It's a question of waiting, I think. Stay away from the 'built-in battery' types, as these will require surgery when the old batteries stop taking a charge. Also stay away from seller 'coburlin', although his prices are at least

three times too high anyway. He also sells 'GRID' cards as 'for 48GX'. These have a nasty low-voltage detector that can ruin the calculator.

There are a number of sellers who have bought up a lot and are dribbling them out at 'collector' prices, but occasionally, someone shows up who just wants to auction one they own. You may do best buying a whole combination of calc and cards from one of these real owners, then selling on what you don't need.

I haven't seen the current manufacturer -- there is an 'OEM' from Singapore, but that again is expensive, and with a built-in battery.

Use lots of combinations of hp48gx, 48gx, hp 48 gx, hp48, etc to search. You do want one for the GX as opposed to 'bank-switched'.

Edited: 20 July 2010, 4:59 a.m.

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Another dumb HP-41 question

*Message #1 Posted by **Monte Dalrymple** on 19 July 2010, 6:03 p.m.*

Is there any way to disable the "goose" during program execution? It's a waste of time...

Thanks, Monte

Re: Another dumb HP-41 question

*Message #2 Posted by **Massimo Gnerucci (Italy)** on 19 July 2010, 6:15 p.m.,*
in response to message #1 by Monte Dalrymple

Have a look here, Monte.

Greetings,
Massimo

Re: Another dumb HP-41 question

*Message #3 Posted by **Monte Dalrymple** on 19 July 2010, 6:41 p.m.,*
in response to message #2 by Massimo Gnerucci (Italy)

Ahh... thank you Massimo. If I can get the display update
disabled perhaps I can get my design to do better on the
"loop of add" benchmark.

Monte

Re: Another dumb HP-41 question

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 19 July 2010, 6:16 p.m.,*
in response to message #1 by Monte Dalrymple

Hi, Monte;

I have no idea about how to do it, but I am curious about how much of system time is spent with it.

AFAIK, the goose NORMALLY moves one digit to the right everytime a LBL is 'executed' in a running program, unless a user/system message is shown in the LCD; is that correct? I also have a vague recollection about one other circumstance it is also updated, but I cannot remember it.

So, if it moves only after a LBL is 'executed', I'd guess it would be a matter of either finding the part of the code that updates the goose on each LBL and remove the jump to it (replace the jump for NOP´s, perhaps).

Also, Bill Wickes' Synthetic Programming on the HP41 shows a way to make it fly backwards. Never tried it, though...

Not much of a help, I know. But I am curious a lot about it.

Cheers.

Luiz (Brazil)

Oops! : Another dumb HP-41 question

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 19 July 2010, 7:17 p.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

Hi, Monte;

I thought you were trying to change the OS for your Newt experiment...

Luiz (drifting out of Space...)

Re: Oops! : Another dumb HP-41 question

*Message #6 Posted by **Monte Dalrymple** on 19 July 2010, 9:32 p.m.,*
in response to message #5 by Vieira, Luiz C. (Brazil)

Hi Luiz,

It was never my intention to change the OS. I'm not a software guy, although I've become rather familiar with the code out of necessity. And there isn't really a way to patch the OS on the board without reprogramming the FPGA into something other than a NEWT while doing so.

The issue with my turbo mode is that I have to slow down the clock to normal speed when talking to the display or any other peripheral device. I also have to run 1x while fetching register data (writes run at speed). So my first numbers for the simple benchmark were disappointing, but not surprising. If I can somehow eliminate the display update the code won't have to throttle back as often.

I should have some numbers tomorrow.

Thanks,
Monte

Re: Oops! : Another dumb HP-41 question

*Message #7 Posted by **Vieira, Luiz C. (Brazil)** on 20 July 2010, 12:41 a.m.,*
in response to message #6 by Monte Dalrymple

Hi, Monte;

about speeding up the machine: I support Raymund´s suggestion of compiling GTO´s. In fact, if I am not wrong, your HP41MD (how did you like it?) already deals with expansions, right? In a way, it incorporates features available with, say, MLDL2000 and HEPAX memory, right? If so, compiling programs is automatic when you incorporate their codes into HEPAX memory (HSAVEP), for instance. I am using HEPAX as an example because it needs only a few keystrokes

to generate a compiled copy of a user code as a ROM program, and this compiled program runs as fast as any other ROM-based user code, AFAIK.

If a single CLA (or any suggestive message, like WAIT...) AVIEW is added to the beginning of a time consuming routine or procedure, the LCD contents will be unchanged till it ends. Based on what has been written in the follow-ups, that would be just a matter of choice while writing programs.

Just an extra comment: back in the 80´s, when I was at the University, I remember being scared to death when running a program with controlled loops, error detection and status messages. Suddenly the message in the display began to rotate around the edges in the LCD and I briefly thought: "God d*** it! My 41C is broken!" I felt my heart pumping in my cheeks for a while, and then I decided to investigate. The only possible explanation was related to flag 25: after an error occurrence the display contents would behave as the flying goose. Scary experience of mine...

Cheers.

Luiz (Brazil)

Edited: 20 July 2010, 12:52 a.m.

Re: Oops! : Another dumb HP-41 question

*Message #8 Posted by **Monte Dalrymple** on 20 July 2010, 6:31 p.m.,*
in response to message #7 by Vieira, Luiz C. (Brazil)

Hi Luiz,

I actually call the design the 41CL (41C -> 41CV -> 41CX -> 41CL ... roman numerals!).

As far as tricks like compiled GTO, perhaps I'll try that once I get the various bugs worked out. I just wanted to do something simple to see how the design was working.

You are right about the capabilities of the design. I have written and included some "Y-functions", and
it's a good thing that I did, because I use them in the debugging. Unfortunately I have some errors in the functions
so I have to patch them before I can use them. This involves copying the 4K block to RAM and the POKEing
different values to about a dozen different locations in the copy in RAM. Then I have to manually program the MMU
to point to this patched copy (because the PLUG function has a bug for RAM addresses) and then manually
enable the MMU (because the MMUEN function has a bug). All of this patching takes about 10 minutes, which
is more time than it takes to modify the design and download it to the FPGA. In retrospect I wish I had
included a way to reprogram the Flash memory easily. Live and learn I suppose.

Once I have the patched version of the Y-functions available it's cool to turn on the Turbo mode or
virtually plug ROM images into the ports and play with them.

Thanks, Monte

Re: Oops! : Another dumb HP-41 question

*Message #9 Posted by **Ángel Martin** on 21 July 2010, 2:09 a.m.,*
in response to message #8 by Monte Dalrymple

The more I read about this project the more difficult is to stop salivating all over it... Good luck with the debugging, is there anything we can help with??

Re: Oops! : Another dumb HP-41 question

*Message #10 Posted by **Massimo Gnerucci (Italy)** on 21 July 2010, 7:18 a.m.,*
in response to message #9 by Ángel Martin

> Quote:
>
> The more I read about this project the more difficult is to stop salivating all over it...

Ángel, maybe is this salivation from us all that causes bugs in Monte's actual design... :-D

Greetings,
Massimo

Re: Oops! : Another dumb HP-41 question

*Message #11 Posted by **Monte Dalrymple** on 21 July 2010, 4:58 p.m.,*
in response to message #9 by Ángel Martin

Answering my dumb questions is about all anyone can do right now. I only have two boards built up
(I ruined three trying to solder them myself). Until I figure out why the current drain in Light Sleep
is high I don't dare have more boards fabricated. At some point I _might_ ask for a beta tester for the
second board, but I haven't decided yet.

Since I am a hardware guy, my hope is that others will take the initiative to write software to do more
with the available memory. I have functions that plug module images into ports or unplug them from ports.
And of course the 4k block copy, but nothing like file management. I also don't have anything to use the
RS232 port except a way to PEEK and POKE bytes one at a time.

By the way is it okay that I include images of the 41Z, Sandmath and Games software in the Flash
memory on the board?

Thanks, Monte

Re: Oops! : Another dumb HP-41 question

*Message #12 Posted by **Angel Martin** on 22 July 2010, 1:03 a.m.,*

in response to message #11 by Monte Dalrymple

> Quote:
>
> By the way is it okay that I include images of the 41Z, Sandmath and Games software in the Flash memory on the board?

It's more than ok to include them, I feel honored and glad to have something to contribute with to the project. BTW an updated version of the 41Z is in final testing stages, should be posted in a few more days. Also, don't forget the Alpha ROM and the ToolBox ROM :)

Re: Another dumb HP-41 question

*Message #13 Posted by **Raymund Heuvel** on 19 July 2010, 7:23 p.m.,*
in response to message #1 by Monte Dalrymple

Hi Monte

If your goal is maximum speed, consider using compiled GTO's in your program. Requires heavy synthetics, See "Synthetic Programming on the HP-41C" by Bill Wickes.

Don't forget to change the END instruction into "Packed"!

BR

Raymund

Re: Another dumb HP-41 question

*Message #14 Posted by **Ángel Martin** on 20 July 2010, 9:41 a.m.,*
in response to message #1 by Monte Dalrymple

The simplest way I can think of would be by displaying a blank (or any other text) message at the beginning of the program execution.

The caveat is error conditions with flag 25 set - then the complete message scrolls instead of the goose... even worse for your purpose.

AFAIK changing this would require patching the OS...

HTH.

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Stupid question re HP-41 Sigma key...

*Message #1 Posted by **Jim L (OHIO)** on 19 July 2010, 10:30 a.m.*

Having only recently re-entered the world of the HP-41CX, I also acquired a Math/Stat module. In the module's stats manual, it refers to executing specific functions using a sequence of keystrokes, such as XEQ [Alpha]‡”STAT[Alpha]. I get everything with the exception of the summation character itself. How do I enter the ‡” symbol from the keyboard, or combination of keystrokes?

Re: Stupid question re HP-41 Sigma key...

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 19 July 2010, 11:15 a.m.,*
in response to message #1 by Jim L (OHIO)

Hi;

if you are referring to the Greek letter *SIGMA* (cannot add it with current character set) it is available with [shift][F] while in ALPHA mode. In PRGM or RUN mode, [shift][F] performs [CL*SIGMA*] (clears statistical registers contents). Look at the back of your HP41, right below the battery compartment, and you'll see a drawing of the keyboard in ALPHA mode. You´ll find these symbols there.

BTW, there is no such thing as a stupid question once you do not know the answer...

Cheers.

Luiz (Brazil)

Edited: 19 July 2010, 11:23 a.m.

Re: Stupid question re HP-41 Sigma key...

*Message #3 Posted by **Jim L (OHIO)** on 19 July 2010, 1:22 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

First, allow me to express my sincere appreciation for such a quick and kind response to a rather simple (to answer) question. I am constantly amazed at the collegiality and expertise shown in this forum. The Greek letter Sigma is exactly what I was searching for.

In my defense, I haven't even seen an HP-41 since my days using it constantly through 1993--some 17 years ago. However, that hardly explains my inability to see the answer right on the back of the machine! I imagine this is what makes IT support personnel crazy--when the answers to the questions are right in front of the inquirers! Thanks again.

Edited: 19 July 2010, 1:23 p.m.

Re: Stupid question re HP-41 Sigma key...

*Message #4 Posted by **Bill Zimmerly** on 19 July 2010, 1:52 p.m.,*

in response to message #3 by Jim L (OHIO)

> Quote:
>
> First, allow me to express my sincere appreciation for such a quick and kind response to a rather simple (to answer) question. I am constantly amazed at the collegiality and expertise shown in this forum.

Luiz is one of the friendliest and helpful people here. ;)

Re: Stupid question re HP-41 Sigma key...

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 19 July 2010, 4:27 p.m.,*
in response to message #4 by Bill Zimmerly

I cannot find words to express my thankfulness. I appreciate. I just do what I think that must be spontaneously done to honor my place here, amongst you all.

Best regards.

Luiz (Brazil)

Re: Stupid question re HP-41 Sigma key...

*Message #6 Posted by **BruceH** on 19 July 2010, 6:04 p.m.,*
in response to message #4 by Bill Zimmerly

> Quote:
>
> Luiz is one of the friendliest and helpful people here. ;)

I think you'll find that he is joint first with about 20 other people. :-)

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TI bash - and HP too?

*Message #1 Posted by **Jim Horn** on 19 July 2010, 1:39 a.m.*

A particularly on-topic XKCD:

http://xkcd.com/768/

Re: TI bash - and HP too?

*Message #2 Posted by **Walter B** on 19 July 2010, 1:53 a.m.,*
in response to message #1 by Jim Horn

Sad but true. As I've written here several times a state-of-the-art LCD is an important feature for advanced calculators. Don't expect customers being satisfied with the standard of 96.

FWIW

Re: TI bash - and HP too?

*Message #3 Posted by **Don Shepherd** on 19 July 2010, 4:27 a.m.,*
in response to message #1 by Jim Horn

In the case of the TI-83 family, I think there is probably another dynamic going on here. One might say that TI is a victim of its own success, but you don't usually picture a "victim" as driving to the bank with boatloads of cash day after day. I'd say you continue to see a technologically-inferior graphing calculator (TI-83) dominate the education market for the same reason you continue to see another technologically-inferior financial calculator (HP-12c) dominate the financial market: don't mess with a proven winner.

Don't look for revolutionary technical innovation to come from companies with a vested financial interest in maintaining the status quo, although the TI-NSpire and HP-30b do represent some degree of technical innovation.

Re: TI bash - and HP too?

*Message #4 Posted by **Ron Ross** on 19 July 2010, 8:27 a.m.,*
in response to message #1 by Jim Horn

I feel that it may be counter productive to make to good of a display. These are calculators, whose main purpose is to do math, not be great game machines. Teachers and other educators may balk at great graphics that are mainly used for gaming.

Just my $0.02

Re: TI bash - and HP too?

*Message #5 Posted by **Crawl** on 19 July 2010, 9:31 a.m.,*
in response to message #4 by Ron Ross

I do think color would help sort out which trace is which when you're graphing multiple functions, though. It also might help with making 3D plots more intelligible.

Someone here a while ago said that the TI89 display was terrible compared to the HP50g. Normally, I think both are serviceable. However, after then, I was trying to photograph them for some reason, and the HP50g screen showed up easily while the TI89's did not. So I guess there is some "objective" way in which the 50g's display is better.

Re: TI bash - and HP too?

*Message #6 Posted by **Katie Wasserman** on 19 July 2010, 10:01 a.m.,*
in response to message #1 by Jim Horn

Even though the Casio fx-9860g series now as a beautifully readable backlit display, it too should be better by today's standards. It needs to have much higher resolution.

OLED displays, inexpensive enough to be used on the $20 Sansa Clip (in monochrome), would look fantastic in a calculator but they suck up too much power. E-Ink would be a great solution, I think.

One of the success points of the HP-12C is that its display is still the most readable of any financial calculator made. While the 30b can run circles around the 12C in functionality, it's display is nowhere near as easy to see.

-Katie

Re: TI bash - and HP too?

*Message #7 Posted by **Tim Wessman** on 19 July 2010, 10:56 a.m.,*
in response to message #1 by Jim Horn

I'd like nothing better to have a screen with a decent refresh rate, full color and the like.

The problem is that calculators really have to be "more convenient" then the other options out there or they just don't make sense. Does anyone think a calculator should take 45 seconds to boot?

1) Dedicated buttons/interfaces for inputting and solving math problems means it is quicker and easier to solve a certain level of calculation 2) You can stick it in a drawer/bag and be able to pull it out a week later and it turns on immediately.

Number 2 is a sticking point with all the display technolgies out there unfortunately. :-(

TW

Re: TI bash - and HP too?

*Message #8 Posted by **Don Shepherd** on 19 July 2010, 11:18 a.m.,*
in response to message #7 by Tim Wessman

> Quote:
>
> Does anyone think a calculator should take 45 seconds to boot?

Tim is right. In order to save power, when you switch on the current TI-NSpire, if you haven't used it in a few days (I think that is adjustable), it has to "reboot" or copy the OS from some type of memory to

another type of memory, and this takes about 30-40 seconds it seems, which we find unacceptable in a calculator. We've come to accept our computers taking awhile to become operational, but we want our calculators to be instant-on.

Re: TI bash - and HP too?

*Message #9 Posted by **Martin Pinckney** on 19 July 2010, 11:42 a.m.,*
in response to message #8 by Don Shepherd

I don't understand all this. My cell phone takes some time to boot the cellular network, but the display comes on instantly.

Re: TI bash - and HP too?

*Message #10 Posted by **Tim Wessman** on 19 July 2010, 11:46 a.m.,*
in response to message #9 by Martin Pinckney

Let me guess, you don't use a smartphone?

Even then, my simple, cheapest cell from a cold power on takes about 10 seconds before it is fully running. . .

TW

Re: TI bash - and HP too?

*Message #11 Posted by **David Hayden** on 19 July 2010, 2:22 p.m.,*
in response to message #10 by Tim Wessman

> Quote:
>
> Let me guess, you don't use a smartphone?
>
> Even then, my simple, cheapest cell from a cold power on takes about 10 seconds before it is fully running. . .
>
> TW

I think there are two issues here. A cell phone takes a long time to boot, but that isn't because it's waiting for the *display* to be fully functional.

Tim may correct me, but I think the problem with putting a more modern display on a calculator is one of battery life. Color, backlit, or OLED displays probably consume more power than acceptable for a calculator.

This thread has pointed out two of the main requirements of a calculator. Meeting these requirements puts limitations on the implementation. The requirements are:

1. Long battery life
2. "instant on" boot time.

Sure a cell phone or a PDA has a better display, but would you be willing to recharge your calculator every couple of days? Would you be willing to wait 30 or 60 seconds for your calculator to turn on? And more importantly, would your 15 year old kid be willing to put up

with either of these things?

Re: TI bash - and HP too?

*Message #12 Posted by **Tim Wessman** on 19 July 2010, 2:32 p.m.,*
in response to message #11 by David Hayden

Just a follow on to your comment regarding 15 year olds.

Us young'uns are perfectly willing to charge our phones and things because we use them so much. A calculator that sits in a bag for a week or two though is another story. Makes it far to easy to say "Teacher! I can't take my test because my calculator is out of power. . ." :-)

TW

Re: TI bash - and HP too?

*Message #13 Posted by **David Hayden** on 21 July 2010, 8:23 a.m.,*
in response to message #12 by Tim Wessman

Tim,

"Willing" is one thing, but "able" is another. Many young teens are extremely forgetful. They forget to charge their phone, forget to bring their hockey stick to hockey practice. Sometimes it seems that they forget to open their mouth before putting food in it.... :)

But you'll get to experience this special time in what, about 12 years? :) :) :) How is the little one anyway?

Hoping to meet you in person at HHC in September, Dave

Re: TI bash - and HP too?

*Message #14 Posted by **Ren** on 29 July 2010, 1:05 p.m.,*
in response to message #9 by Martin Pinckney

A cell phone takes so long to boot because it first has to determine its location in relationship to multiple cell towers it may be receiving and forward that information to Big Brother(BB), so if you're on a watch list, BB can begin monitoring your movements and communications, when that's done the phone will let you use it.

B^)

Re: TI bash - and HP too?

*Message #15 Posted by **Lincoln R.** on 19 July 2010, 12:21 p.m.,*
in response to message #1 by Jim Horn

The main difference I see between a 1996 TI calculator and a modern one (other than USB and a restyled case) is that the newer ones (Since about 2003 or 2004) are very poorly made. I think TI just simply does not care, they have a de facto monopoly on the 'calculators for high school' market, and as a result nobody looks outside of TI even in college. (Yeah, I used to own a TI-89 until it got stolen from me, and a friend convinced me to try RPN so I bought an old 48g...)

I've seen lots of TIs start having display problems after 3-4 years. Culprit? The ribbon cable between the main PCB and the LCD is thinner than the cellophane wrapping on a piece of candy, and they make it too long and

fold up the excess. Those folds make the tiny carbon traces break, and you start getting dead lines on the screen. I just fixed this on a circa 2004 TI-83 Plus for my roommate, it involved cutting off the ribbon cable and painstakingly soldering on 20 or so little metal wires.

Re: TI bash - and HP too?

*Message #16 Posted by **Tim Wessman** on 19 July 2010, 12:34 p.m.,*
in response to message #15 by Lincoln R.

> Quote:
>
> I've seen lots of TIs start having display problems after 3-4 years.

You think this is unintentional that they just happen to die soon after the student graduates high school?

TW

Re: TI bash - and HP too?

*Message #17 Posted by **Lincoln R.** on 19 July 2010, 12:40 p.m.,*
in response to message #16 by Tim Wessman

Heh, I'm certain TI sells a lot of TI-89s and n-spire's that way. Unfortunately I can't say anything about the build quality of the HP 50g other than what I've read here, but I couldn't see it being terribly difficult to do a better job than TI, who I'm pretty sure contracts all the hardware design to Inventec... the last TI I disassembled didn't even contain any TI parts. (If HP still does any of their own hardware design)

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Chewing gum for the 50g

*Message #1 Posted by **Glenn Shields** on 18 July 2010, 1:26 p.m.*

The use of 'POS' in the last challenge gave me an idea, just type in these two programs: << 1 10 FOR i RAND 4 RND i E-6 * + NEXT 10 ->LIST SORT << E4 * FP 100 * R->I >> MAP >> and store in 'ARRY' then << 1 10 FOR j DUP j POS SWAP NEXT DROP 10 ->LIST R->I >> and store in 'SHUFF'. Then create a list with 'ARRY' to give a permutation of the first 10 (or however many you want) numbers. Then repeated use of 'SHUFF' returns a list of where the numbers were positioned in the first list, but then it toggles back to the original list, on and on, and it seems to work no matter how long the list. Can anyone offer the theory behind this? Thanks in advance. Glenn

Re: Chewing gum for the 50g

*Message #2 Posted by **Han** on 20 July 2010, 12:17 a.m.,*
in response to message #1 by Glenn Shields

'SHUFF' as programmed a bijective map that is its own inverse.

Re: Chewing gum for the 50g

*Message #3 Posted by **Glenn Shields** on 20 July 2010, 9:33 a.m.,*
in response to message #2 by Han

Thanks for your swift and sure response. I didn't know what I had stepped into, but it's amazing what a great resource these forum members can be (plus Wikipedia) - who needs school! I also noted which lists are invariant, like numbers in their "proper" positions or pairs in "each other's" position, such as {6,7,4,3,5,1,2,8,10,9}. Cheers, Glenn

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almost RPN

*Message #1 Posted by **db (martinez, ca.)** on 18 July 2010, 2:00 a.m.*

There's a *Miida* desktop on ebaby that is billed as RPN and i thought "oh yea". Sure. Another pinhead seller using a buzzword that he heard somehow magically gets higher bids. I looked and at first glance it was just an adding machine logic calculator: i.e. postfix in + & -, prefix in X & /. Then i saw that - **only in "Konstant" mode** - it would be a type of postfix in multiplication and division too, with a permanently entered number in the X register. Even with my loose definition of RPN, this isn't it. But it is an attempt to take advantage of the ease of RPN's entry system while doing repetitive operations such as a surveyor checking cut sheets. I have seen "constant arithmetic" on old calculators before. I'll have to see if they all work like this.

They saw the reason that RPN is superior but just couldn't shed that silly assed equals key. Like a baby with a pacifier:

http://cgi.ebay.com/RARE-1972-RPN-MIIDA-MC1214-CALCULATOR-VTG-WORKS-/110561007703?cmd=ViewItem&pt=Calculators&hash=item19bdf31857

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NoV-64 SW update (RAM2ROM4)

*Message #1 Posted by **Diego Diaz** on 17 July 2010, 9:50 p.m.*

Hi all,

For the Clonix/NoV's users:

A new update for NoV-64 has been released. (180710)

The only mod is the RAM2ROM4.exe file that was faulty on the previous CD compilation and has been fixed.

Link is here.

Production for Clonix & NoV's modules has been stopped as usual during summer rest... :-)

However, this year will restart later (mid/end fall) since I've run out of required parts and can't build nothing bigger than a simple Clonix-41.

Best wishes.

Diego.

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HP 41 System I and II

*Message #1 Posted by **Casey Drew** on 16 July 2010, 5:43 p.m.*

Hi, Does anyone know what years these two items were sold? And any other info about these sets would be greatly appreciated. Thanks

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COMPU-LS and COMPU-DC

*Message #1 Posted by **Mike** on 15 July 2010, 8:26 p.m.*

I have two EPROMs for the HP-71B that have these programs. When run they ask for Points, and some angle information and distances. Seems like it might be a survey or navigation program or such but I'm clueless at what they are for.

It has a file

Anyone know what these program are?

Re: COMPU-LS and COMPU-DC

*Message #2 Posted by **Forrest Switzer** on 16 July 2010, 10:50 p.m.,*
in response to message #1 by Mike

Mike,

COMPU-LS is a Land Surveyors COGO (COrdinate GeOmetry) program. HP did considerable business in serving Surveyors with programs and in the case of the 41, a module. HP had their own very capable survey module for the 71.

The Compu-Ls module was written and manufactured by Martin & Company, Alberta. Mathias was kind enough to send me a copy of the manual. I do not have the module. (if you decide to trade or sell yours I might be interested.) Basically a COGO program facilitates calculations in three dimensional rectilinear space. Points are generally described with Northing, Easting, and Elevation, and are given lable numbers or names. Then you can work directly with the point numbers to do circular curve, line, and intersection calculations.

I assume that COMPU-DC is the Data Collector complement to the COGO program, and I dont have a copy of the manual for it.

Like the HP 71 module, this COGO program could work in the field along with the ThinkJet (2225B), or the 2" 82162A printer, the Casette Drive (82161A), the Disk Drive (9114A), and HP or other memory modules, as a totally battery powered system. I assume that there may have been a cable connection from certain Total or Semi Total Station survey instruments, that allowed the surveyor to download shots into the Data Collector module, and to upload points from the Data Collector into the theodolite or Total Station.

Most Total Stations had their own manufactured and dedicated Data Collectors, but even so, there are a lot of Surveyors that preferred HP calculators and used HP95 thru HP200 and HP 48 calculators as data collectors. Some still use those, as you can see by the current cost and business in COGO and Data Collector Cards for the HP48 on the auction site.

forrest

Edited: 16 July 2010, 10:57 p.m.

Re: COMPU-LS and COMPU-DC

*Message #3 Posted by **Mike** on 17 July 2010, 3:30 a.m.,*
in response to message #2 by Forrest Switzer

Thanks for the info. The logo does say Martin & Co., when the program is executed. It is protected BASIC but I might be able to transfer it to floppy. How large is the manual? I have sent you an email.

Re: COMPU-LS and COMPU-DC

*Message #4 Posted by **Forrest Switzer** on 17 July 2010, 12:07 p.m.,*
in response to message #3 by Mike

Mike,

The listed e-mail is probably wrong - too many years since joining the forum. Try f-l-e-e-a-z-at-g-m-a-i-l-dot-c-0-m.

The manual does have the company phone number (of course maybe 20-years ago). I think it is probably the same company. The digital copy that I received was quite large (a high density scan), and I will have to look back in history to see if I still have it digitally. It would however be easy for me to scan the 100+ pages from the printed version that I have.

Forrest

Re: COMPU-LS and COMPU-DC

*Message #5 Posted by **Mike** on 17 July 2010, 1:06 p.m.,*
in response to message #4 by Forrest Switzer

Not necessary to scan 100 pages. It might help just to have enough information to see how the program works. That is, what data is expected, what format it should be input in, what are the expected outputs, etc.

I really don't need the program but I will try and put it onto floppies or get an electronic copy. The programs were protected but I think I can save a copy.

Re: COMPU-LS and COMPU-DC - company website?

*Message #6 Posted by **Jim Creybohm** on 17 July 2010, 8:04 a.m.,*
in response to message #1 by Mike

Not really certain, but is this the Martin geomatics company that created the module?

http://www.mgcl.ca/

I used to travel through this city a lot, and saw a lot of their signs up around construction zones. The founder is unfortunately, passed on.

Re: COMPU-LS and COMPU-DC - company website?

*Message #7 Posted by **Forrest Switzer** on 17 July 2010, 7:34 p.m.,*
in response to message #6 by Jim Creybohm

Jim,

I am reasonably certain it is the same company.

Martin & Company Land Surveyors & Consulting Engineers 725 - 29th Street North Lethbridge, Alberta T1H 5G3 ph. 403-329-0050

This would have been probably 1985 to 1990

There is no date on the manual

Forrest

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A Most Unusual Number, on the 10c/11c/12c/15c

*Message #1 Posted by **Katie Wasserman** on 14 July 2010, 11:44 p.m.*

I was thinking about the keyboard test timeout on the Voyagers and what it left on the display. See this thread for a little background.

If you start the keyboard test (turn off the calculator, hold down the divide key then press ON) on any of the original Voyagers (and the 12C+) and let it time out -- a few minutes, but only 2 seconds on the 12c+ -- you're left with a number ranging from 0.1 to 4.0 on the display after you clear the "Error 9" message. This number is apparently there it indicate the last key pressed that registered correctly starting with .1 (no key pressed) ending at 4.0 (sigma+ key pressed). However, these are not your run of the mill numbers, they have some very weird properties, some of which are potentially useful in programs.

For example:

1) Start the keyboard test but don't press any keys, let it time out, then press ENTER to clear the "Error 9" message

2) Store the ".1" shown in register 0, just to have it around to play with.

3) Take the reciprocal of it. It's zero, but there's more.... try 123.456 RCL 0 /, You'll see 234.56.

Dividing this magical number into any other number results in the removal of the left most digit followed by a divide by a real 0.1. The exception is when you divide this number by itself, it returns 1.

Here's another magical property of this number:

RCL 0 Ln returns 1, it's a pseudo Euler's number.

I haven't explored it's complex properties on the 15c, but I'll bet that they are equally interesting. I also haven't explored any of the other numbers that can be gotten to using the keyboard test timeout.

On the 16C, you can see that this is one strange number. It displays as an impossibly large binary number based on the word size but it can't stored nor used in calculations, not even in floating point mode. Other models of the 12C don't timeout the keyboard test so you can't get to this number on them.

I'm curious if anyone here has explored these numbers and what else they might allow the Voyagers to do.

-Katie

Re: A Most Unusual Number, on the 10c/11c/12c/15c

*Message #2 Posted by **Eric Smith** on 15 July 2010, 1:56 a.m.,*
in response to message #1 by Katie Wasserman

Except on the 16C, these are called non-normalized numbers (NNNs), and behave much the way that they did on earlier HP calculator. (The 16C in float mode deals with them in about the same way as the others.)

On the 15C, some NNNs are matrix descriptors. There are 16 possible matrix descriptors, of which only five are used. The other 11 do strange and wonderful things.

Re: A Most Unusual Number, on the 10c/11c/12c/15c

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 15 July 2010, 2:43 a.m.,*
in response to message #2 by Eric Smith

Hi, guys;

after reading Katie´s post (and before reading Eric´s), I wondered that the HP16C would let us know what are these numbers made of. I mean, considering that the keyboard test timeout also brings the same number to the display in an HP16C in floating point mode, storing this .1 in R0, setting HEX (or BIN or OCT) and recalling it back to the stack would show its guts, bit-by-bit.

I´ll try it later, but if anyone wants to go ahead and post about it, I'd gladly read it as well.

Cheers.

Luiz (Brazil)

Re: A Most Unusual Number, on the 10c/11c/12c/15c

*Message #4 Posted by **Eric Smith** on 15 July 2010, 3:14 a.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

On the 16C, the low 56 bits of the stack registers are stored in individual registers in the R2D2 chip, just as in the other Voyagers. The high 8 bits of the stack registers are combined in a separate R2D2 register.

When one of the stack registers has a value with bits set beyond the word length, it still gets displayed. However, setting the word length to 56 bits prior to doing this experimentation would be the best way to facilitate seeing the actual leftover X register contents.

Re: A Most Unusual Number, on the 10c/11c/12c/15c

*Message #5 Posted by **Katie Wasserman** on 15 July 2010, 3:51 a.m.,*
in response to message #2 by Eric Smith

Eric,

I just found and read Allyn Tennant's article on HP-15C synthetics on your web site, interesting stuff! I also found this thread from a few years ago where we discussed some of this too. All this seems to have been pretty well hashed out before, but it's still fun to play around with these things.

BTW, I found that ON+PMT doesn't work on the 12C+, it appears to have no effect on the X register at all. I guess the ARM-bsed emulator isn't quit perfect.

-Katie

Re: A Most Unusual Number, on the 10c/11c/12c/15c

*Message #6 Posted by **Eric Smith** on 15 July 2010, 11:03 p.m.,*
in response to message #5 by Katie Wasserman

The 12C ON+PMT is a hardware function of the 1LE3/1LF5 chips, independent of the Nut instruction

set. It forces a hardware reset, but at a specific time during the serial processing of a word, so it causes all of the processor registers to be shifted. There is no firmware involved in that process, so a Nut instruction set simulator won't reproduce it.

I suppose that in principle a simulator could have special-case code to do the equivalent, but it doesn't really seem very worthwhile.

Re: A Most Unusual Number, on the 10c/11c/12c/15c

*Message #7 Posted by **Katie Wasserman** on 16 July 2010, 2:34 p.m.,*
in response to message #6 by Eric Smith

That an interesting hardware function, are there others that you know of?

Re: A Most Unusual Number, on the 10c/11c/12c/15c

*Message #8 Posted by **Thomas Klemm** on 15 July 2010, 3:32 a.m.,*
in response to message #1 by Katie Wasserman

Quote:

I'm curious if anyone here has explored these numbers and what else they might allow the Voyagers to do.

cf. HP-15C Synthetics

Cheers
Thomas

Edited: 15 July 2010, 3:33 a.m.

Re: A Most Unusual Number, on the 10c/11c/12c/15c

*Message #9 Posted by **Katie Wasserman** on 15 July 2010, 3:53 a.m.,*
in response to message #8 by Thomas Klemm

Thomas,

Thanks! I was just reading that and posting my reply above when you posted your link!

-Kaite

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HP-35 Manuals

*Message #1 Posted by **aj04062** on 14 July 2010, 9:09 p.m.*

I just picked up a HP-35 Manual at auction and would like to know if there is a source that can tell me the versions of this book.

Thi picture on the front shows a 35 without the model number and, I think, the raised dot on the 5.

I am trying to pair it with the same era calc (with bug) to complete a collection.

It has a number on the back cover 00035-90008.

Same year? S/N on Calc is 1249A 03920

Re: HP-35 Manuals

*Message #2 Posted by **Lincoln R.** on 14 July 2010, 10:01 p.m.,*
in response to message #1 by aj04062

I don't think they revised the manual. This is the same one that came with my HP 35 version 3 (No raised dot, no bug, no red dot, Hewlett-Packard 35 on nameplate, serial # 1302A 47940). And I'm quite sure that this stuff is all original because there was a paper inside the back of the manual with a date of purchase of 9/17/73 and a matching serial number.

Re: HP-35 Manuals

*Message #3 Posted by **aj04062** on 14 July 2010, 10:35 p.m.,*
in response to message #2 by Lincoln R.

Okay,

the copy I have has the accesory & service card still in it. They aren't even torn apart.

It's actually in very good shape for being almost 40 yrs old.

Edited: 14 July 2010, 10:35 p.m.

Re: HP-35 Manuals

*Message #4 Posted by **Lincoln R.** on 14 July 2010, 10:51 p.m.,*
in response to message #3 by aj04062

Yeah, that is in really good condition. Now for the hard part: Finding an HP 35 in equally good condition.

I got lucky on mine, the battery pack was missing so it didn't sell for quite what they normally go for, and I got the leather carrying case, manual, service card, AC adapter, and plastic hardcase. And then I managed to acquire a rebuilt battery pack by trading someone for an HP 10b I had no use for.

early manual

*Message #5 Posted by **Frank Boehm (Germany)** on 15 July 2010, 4:08 a.m.,*
in response to message #1 by aj04062

I think the early V2 were delivered with a red dot manual, too.

Re: early manual

*Message #6 Posted by **aj04062** on 15 July 2010, 7:31 a.m.,*
in response to message #5 by Frank Boehm (Germany)

wo do you think it is unlikely an early v2 with bug came with the manual I have?

Should it have the one you have?

early manual

*Message #7 Posted by **Frank Boehm (Germany)** on 15 July 2010, 11:17 a.m.,*
in response to message #6 by aj04062

depends on the definition of "early V2" - the early ones have a red dot like serial number sticker, the later V2s have the common serial number sticker inside the battery compartment, these certainly didn't come with a red dot manual.
The manual will probably match your calculator fine, at least no one will notice :)
I just checked with my remaining HP stuff - there *are* different revisions of the manual. I have one stating only the part number and another one stating the part number and next to it "Rev. 08/73" (if I remember correctly) - the back of the manual is completely different too.

Re: early manual

*Message #8 Posted by **aj04062** on 15 July 2010, 8:59 p.m.,*
in response to message #7 by Frank Boehm (Germany)

This one has no Rev Date. Hmmm. Close enough I guess.

Re: HP-35 Manuals

*Message #9 Posted by **tim m.** on 16 July 2010, 1:49 a.m.,*
in response to message #1 by aj04062

My manual is identical to yours. I purchased it along with an HP-35, charger, hard case, leather case, receipts, repair slips, and personal correspondence--all from the original owner. My '35 is an early version 2 (no "35" on the front label, no red dot, raised bump on the "5" key, serial number label between the two bottom feet). It originally had the infamous bug, but was repaired and so has a newer "HP-35" back instruction label. The calculator has a serial number of 1143A 31237.

Hope that helps,

Tim

Re: HP-35 Manuals

*Message #10 Posted by **aj04062** on 16 July 2010, 7:48 a.m.,*
in response to message #9 by tim m.

Great. It's always better to be able to state the collection is original and correct.

Re: HP-35 Manuals

*Message #11 Posted by **tim m.** on 16 July 2010, 9:40 a.m.,*
in response to message #10 by aj04062

And for what it's worth, the receipts accompanying my calc state it was purchased in 1972 (can't remember what month off-hand, but it was the first half of the year, I think).

-Tim

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[OT] FC5025 USB 5.25" Floppy Controller

*Message #1 Posted by **Gerry Schultz** on 14 July 2010, 2:27 p.m.*

I know this is WAAY off-topic but I ran across this piece of hardware/software and I find it interesting in that it allows me to access 5 1/4" floppies from a Mac or PC. It's called the FC5025 USB 5.25" floppy controller and it's available from Device Side Data (http://www.deviceside.com/). It works by taking a Teac FD-55GFR floppy drive (very available on eBay) and hooking it up to a Mac or PC via USB. It's been tested with 32-bit versions of WinXP SP3, OSX 10.4.11 and Linux x86 2.6.24. The Disk Image and Browse application allows you to browse the contents of MS-DOS and ProDOS disks directly from the floppy and copy individual files. It also does disk imaging of floppy disks. From what I've read, this interface supports MS-DOS, Apple II DOS 3.2, 3.3 and ProDOS disks, Atari and Commodore formats. It's a read-only device so its primary function is to read old 5 1/4" floppies and bring their files into modern PCs.

I purchased the interface based upon a review I read in the latest issue of Juiced.GS and I just got it today so I hope to test it this weekend. I'm mentioning it here because I am assuming that I'm not the only one looking for a solution to copying old 5 1/4" disks but not having a functioning computer that still reads them. I have several of the old HP disks that was used to share files and I don't even know if they are any good. Plus, I have old MS-DOS disks and a few Apple II floppies.

I will post more when I get some time to try out the FC5025 to see just how it works. I do have a Teac drive and an old Sony DVD burner case that I pulled the drive out of, so I can to see if I can set up an external 5.25 floppy drive with a USB connection.

It should be fun, Gerry

Re: [OT] FC5025 USB 5.25" Floppy Controller

*Message #2 Posted by **Egan Ford** on 14 July 2010, 2:51 p.m.,*
in response to message #1 by Gerry Schultz

This is the one of two solutions I've seen that does this (other: http://www.softpres.org/glossary:kryoflux). Both are limited to read-only. Since I only need to read (and write) Apple II floppies I opted to go with ADTPro. It's free, but you need a real Apple II and a serial cable.

Perhaps we should bring our gear to HHC 2010 and do floppy to image conversions for the masses.

Re: [OT] FC5025 USB 5.25" Floppy Controller

*Message #3 Posted by **Dave Shaffer (Arizona)** on 14 July 2010, 4:08 p.m.,*
in response to message #1 by Gerry Schultz

I'll make standing offer: I DO HAVE a PC with a functioning 5.25 drive and will be happy to take a look at any such disks sent to me.

Now, if I could only find a better way to get the files off of an old Apple Power PC (7600/132) hard drive. The HD has an Apple SCSI interface. Trying to get a few files at a time from it via 3.5 floppy is mind-numbingly slow, not to mention the messed up file names (translating to DSO 8.3 name style).

Re: [OT] FC5025 USB 5.25" Floppy Controller

*Message #4 Posted by **Egan Ford** on 14 July 2010, 4:25 p.m.,*
in response to message #3 by Dave Shaffer (Arizona)

Can I assume you have the Apple PPC? If so, try using a serial cable. Does it have Ethernet? If so, use that.

BTW, there are free Apple PPC emulators out there. If you can find a way to image the drive you can then boot in an emulator. From there file xfer should be easy.

Re: [OT] FC5025 USB 5.25" Floppy Controller

*Message #5 Posted by **Frank Boehm (Germany)** on 14 July 2010, 4:53 p.m.,*
in response to message #3 by Dave Shaffer (Arizona)

The easiest way would be the mentioned machine. Grab an AAUI to 10BaseT (RJ45 jack) adapter and fire up Ethernet. Already mentioned: the serial port. Other solution: Adaptec SCSI card (Mac version)

Re: [OT] FC5025 USB 5.25" Floppy Controller

*Message #6 Posted by **Gerry Schultz** on 14 July 2010, 9:14 p.m.,*
in response to message #3 by Dave Shaffer (Arizona)

Dave:

'I'll make standing offer: I DO HAVE a PC with a functioning 5.25 drive and will be happy to take a look at any such disks sent to me.'

Thanks for the offer Dave, but in my case, the P4 machine I have only supports 3.5" drives and the new Intel i7 machine I just built (using an Asus P6X58D MB) doesn't support floppy drives. What I especially like about the FC5025 is that it supports several floppy formats and since I still belong to an Apple II user group (for 25 years) and we meet monthly. Being able to read old Apple II floppies is important to me. And, no, I don't have any Apple II hardware anymore. My wife was ready to kill me with all the computers I had so the old Apple IIGS (fully loaded) had to be sold. Also, a fellow member owns an HP-15C and we chat about HP calculators regularly.

I do have an IBM 486 machine that still works, it runs Win95, but IBM uses an custom I/F (power in the connector) for the 3.5" drive so I can't daisy-chain in a standard 5 1/4" drive. I do have several 3.5"/5.25" floppy combo drives that work, just not a functioning machine to control them.

Gerry

Re: [OT] FC5025 USB 5.25" Floppy Controller

*Message #7 Posted by **Gerry Schultz** on 19 July 2010, 1:52 p.m.,*
in response to message #6 by Gerry Schultz

Quick follow up. I installed my 5 1/4" drive in an old external Syquest 88MB drive case along with the I/F card that has built-in a 5v and 12v power supply to run the drive. It appears to read MS-DOS disks well as it read some Microsoft distribution disks properly. But some of my older disks it showed read errors including my 5 1/4" HP-48 goodies disk.

The Windows software that's included works okay but is pretty crude. For instance, I could read the HORN subdirectory on the goodies disk but the file listing ran right off the bottom of the screen and

the command buttons to copy individual files are at the bottom of the window. When I maximized the window, I could get to the necessary buttons but then I could only access the bottom end of the file listing.

I was able to image the entire floppy and the resulting file is an .IMG filetype. Now I need to figure out what software can read and use the data file.

Just in case anyone was curious.

Gerry

Re: [OT] FC5025 USB 5.25" Floppy Controller

*Message #8 Posted by **Alejandro Paz (Germany)** on 21 July 2010, 1:06 p.m.,*
in response to message #3 by Dave Shaffer (Arizona)

The SCSI interface should be a standard Fast SCSI II 50 pins, like in the PowerMac 8600. Almost any PC SCSI controller should be able to talk to such a disk. If you use Linux (a LiveCD for instance) you mount the disk using the built-in hfs/hfs+ filesystem you can read the files. A cheap SCSI controller for PCI can for few $$ in that or other auction sites be bought.

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Sinclair Calculator Repair

*Message #1 Posted by **John Robinson** on 14 July 2010, 8:25 a.m.*

Hi All, I know this is not HP related, but I didn't know where else to turn. I am looking for help to repair a Sinclair Cambridge Scientific calculator, can anyone point me in the right direction please ?

Thanks John

how-to-fix-a-pile-of...

*Message #2 Posted by **Frank Boehm (Germany)** on 14 July 2010, 10:24 a.m.,*
in response to message #1 by John Robinson

Sorry to say that, but the Sinclair calculators were never constructed to last (nor to work as expected when new) - I'd clean all key and switch contacts and check battery contacts for corrosion or cold solder, too. A really "dead" unit is unlikely, but expect bouncy keys...

Re: how-to-fix-a-pile-of...

*Message #3 Posted by **John Robinson** on 14 July 2010, 9:17 p.m.,*
in response to message #2 by Frank Boehm (Germany)

Thanks for the tips Frank, I will try them out. I do agree with you about Sinclair calcs being "a pile of ...", but this one is my wifes from her school days, so I wanted to get it going for her :-)

Cheers, John

Re: how-to-fix-a-pile-of...

*Message #4 Posted by **Palmer O. Hanson, Jr.** on 14 July 2010, 10:47 p.m.,*
in response to message #3 by John Robinson

> Quote:
>
> I do agree with you about Sinclair calcs being "a pile of ...",

That's a little harsh. Ammong other things the Sinclairs were truly shirt pocket size. No need to speculate on just how big the pockets in Bill Hewlett's shirts really were. And I think that the four volume library of programs for the Sinclair Cambridge Programmable was a impressive work for the time.

I have three. I will suggest one thing. You need to be sure that the 9 volt battery is in good condition. A battery which will run TI-30's, Business Analysts, etc., without a problem will give you fits in a Sinclair.

They are slow by today's standards Two solutions for Gene Wright's addition test are

```
Sinclair Cambridge Programmable
Count:  355
Code:  rcl + 1 = sto gto 00


Sinclair Cambridge Proigrammable
Count:  384
Code:  + 1 gto 00
```

Re: how-to-fix-a-pile-of...

*Message #5 Posted by **John Robinson** on 19 July 2010, 2:09 a.m.,*
in response to message #4 by Palmer O. Hanson, Jr.

Hi Palmer,

Thanks for the tip about the battery. I think you're thinking of the Cambridge Scientific Programmable which took a 9V battery. I had one of those, but gave it away :-) The one I actually have now is the Cambridge Scientific (non-programmable), and it's powered by 2 x AA batteries, but taking your advice, I'll make sure they are fresh.

BTW, I have total respect for Clive, and his ideas, just sometimes the implementations lacked the quality they deserve - shame really.

Cheers, John

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Amazing RPN calculator discovered

*Message #1 Posted by **Joerg Woerner** on 13 July 2010, 8:47 p.m.*

I just found this incredible scientific RPN calculator from xxxxx, made in Japan in 1982.

The specification sheet reads like a dream:

Floating Point 1.00000000001E-1024 ... 9.9999999999E1024

12 digits accuracy on most functions, some only 10 digits

Double wide ENTER key

DISP key shows "height" of stack

12 Memories

Statistical functions

And - it is not in db's photo collection ;-))

Your bet?

Regards, Joerg

Re: Amazing RPN calculator discovered

*Message #2 Posted by **Lincoln R.** on 13 July 2010, 9:49 p.m.,*
in response to message #1 by Joerg Woerner

Omron, I'd guess? I don't think Sharp/Casio/Toshiba ever bothered with RPN, but I know Omron made some RPN models. Anyhow, sounds like a nice acquisition.

Re: Amazing RPN calculator discovered

*Message #3 Posted by **db (martinez, ca.)** on 14 July 2010, 12:16 a.m.,*
in response to message #1 by Joerg Woerner

You found a Panasonic.
Pinche puta malcreado avericioso. I'll trade you my TI 150 for it.

Re: Amazing RPN calculator discovered

*Message #4 Posted by **Joerg Woerner** on 14 July 2010, 7:46 a.m.,*
in response to message #3 by db (martinez, ca.)

Deal....

Quasar HHC-1400 with RPN ROM ;-))

Regards, Joerg

Re: Amazing RPN calculator discovered

*Message #5 Posted by **Katie Wasserman** on 14 July 2010, 12:03 p.m.,*
in response to message #4 by Joerg Woerner

Joerg,

Are you referring to their version of FORTH called SNAP?

-Katie

Re: Amazing RPN calculator discovered

*Message #6 Posted by **Joerg Woerner** on 14 July 2010, 7:02 p.m.,*
in response to message #5 by Katie Wasserman

Katie,

I'm not sure - it might be based on Forth... See the pictures below.

Regards, Joerg

Re: Amazing RPN calculator discovered

*Message #7 Posted by **Katie Wasserman** on 14 July 2010, 9:23 p.m.,*
in response to message #6 by Joerg Woerner

I'm almost certain that this is SNAP, and it's the built-in language on this machine. It has BASIC too, but that was on a plug in ROM.

-Katie

Forth and Age

*Message #8 Posted by **Joerg Woerner** on 14 July 2010, 9:25 p.m.,*
in response to message #5 by Katie Wasserman

Katie,

We shouldn't talk too much about Forth - it reveals our age ;-))

I finished my diploma of Electrical Engineering in 1986 in Stuttgart and worked as a freelancer for companies like Bosch, AGIE and EPSON before joining a "Rapid Protoyping" company in Switzerland in 1990. In the years before 1990 I programmed microcontrollers (I-8085, HD6303) in Assembler and the famous Epson HC-20 in Basic.

My project in Switzerland were the Main-Controller and Display-Controller boards of a desktop blood analyzer, a total of 12 (!) microcontrollers. The smallest ones were National Semi Cops400, the larger ones nice NEC V25's. Every single controller was programmed in Forth, we teamed up with Mr. Flesch from Forth Systems in Germany.

I think early in the 90's it was still a very cool language! Very efficient in performance and compact

in the ROM and RAM.

Well, these days the smallest controller we use in our products are ARM9's, TI C6400 DSP's - don't ask about ROM sizes ;-))

By the way, I turned last month 50 ;-))

Cheers, Joerg

Re: Forth and Age

*Message #9 Posted by **Borja** on 18 July 2010, 9:59 a.m.,*
in response to message #8 by Joerg Woerner

Ohh, 6303 in Forth :) ¡That brings really nice memories!

I even made a decent multitasking kernel for the 6303-based TDS9090/9092 from the recently disappeared Triangle Digital Services.

Re: Forth and Age

*Message #10 Posted by **Garth Wilson** on 18 July 2010, 10:59 a.m.,*
in response to message #8 by Joerg Woerner

> Quote:
>
> We shouldn't talk too much about Forth - it reveals our age ;-))

It is not embarassing. Although some Forth *methods* are outdated, Forth itself is timeless--not outdated at all--and still offers huge advantages over other more-popular languages today.

Re: Amazing RPN calculator discovered

*Message #11 Posted by **Eric Smith** on 15 July 2010, 2:05 a.m.,*
in response to message #5 by Katie Wasserman

The RPN calculator ROM for the HHC is written in SNAP, but it doesn't provide direct access to SNAP programming.

I've done a fair bit of work on reverse-engineering the mainframe ROM, including the SNAP interpreter, though there's still a long way to go. SNAP is a token-threaded variant of FORTH, with some one-byte and some two-byte tokens. From the disassembly I've worked out what many of the tokens are.

I do have the SNAP development module, but unfortunately not the technical documentation.

I've got one other rare HHC module, which is SNAP BASIC. It's a BASIC implemented in SNAP, entirely unrelated to the more common Microsoft BASIC ROM.

Re: Amazing RPN calculator discovered

*Message #12 Posted by **Katie Wasserman** on 16 July 2010, 2:32 p.m.,*
in response to message #11 by Eric Smith

BASIC in SNAP, I love it! Ages ago I wrote a forth-like language for the Commodore PET and

used it to write a BASIC-like language too, even though it had an early Microsoft BASIC in ROM. I may have to find one of these HHC computers to play with too.....

-Katie

Re: Amazing RPN calculator discovered

*Message #13 Posted by **db (martinez, ca.)** on 14 July 2010, 8:34 p.m.,*
in response to message #4 by Joerg Woerner

deal. i'll email you tomorrow.

.....how do you FIND this stuff?

Re: Amazing RPN calculator discovered

*Message #14 Posted by **Vieira, Luiz C. (Brazil)** on 14 July 2010, 8:47 p.m.,*
in response to message #13 by db (martinez, ca.)

How does he FIND this kind of stuff? I wonder how do you KNOW about this kind of stuff... Makes me feel like living in another planet, for God's sake! <*^D

Cheers.

Luiz (Brazil)

Edited: 14 July 2010, 10:44 p.m. after one or more responses were posted

Re: Amazing RPN calculator discovered

*Message #15 Posted by **db (martinez, ca.)** on 14 July 2010, 9:34 p.m.,*
in response to message #14 by Vieira, Luiz C. (Brazil)

Luiz; It's calculator lust. As a Brazilian - you understand about lust. - db

Re: Amazing RPN calculator discovered

*Message #16 Posted by **Joerg Woerner** on 14 July 2010, 9:15 p.m.,*
in response to message #13 by db (martinez, ca.)

This one by accident!

A huuuuge box with some nice TI's ;-))

Regards, Joerg

Re: Amazing RPN calculator discovered

*Message #17 Posted by **Vieira, Luiz C. (Brazil)** on 14 July 2010, 10:56 p.m.,*
in response to message #4 by Joerg Woerner

Hi, Joerg, guys;

as I was not aware of this model, I searched the www for it and found that one of these was sold in Brazil for R$400,00 (about US$200) but I could not find any reference about when it was sold. I was also pointed to this link about the Panasonic HHC 1400.

And Joerg: not fair! Without the RPN ROM it is a regular pocket computer!!! Well, it also needs a BASIC ROM, anyway... And as Katie mentioned, the resident OS is SNAP (BTW, what the heck does SNAP stand for? Could not find any concise info...)

NICE! The OS comes in (EP)ROM packets...

Cheers.

Luiz (Brazil)

Edited: 14 July 2010, 11:13 p.m.

Re: Amazing RPN calculator discovered

*Message #18 Posted by **Eric Smith** on 15 July 2010, 1:58 a.m.,*
in response to message #4 by Joerg Woerner

The Panasonic and Quasar branded HHCs are identical other than the brand and minor cosmetic differences.

Re: Amazing RPN calculator discovered

*Message #19 Posted by **Eric Smith** on 15 July 2010, 2:01 a.m.,*
in response to message #3 by db (martinez, ca.)

I'd expect a TI-150 to be much more valuable than a Panasonic/Quasar HHC; the HHC routinely sells for a mere pittance on eBay.

On the other hand, the RPN calculator ROM for the HHC is fairly rare. I've got one, but if I didn't, I'd find an extra HHC ROM (maybe an extra copy of Microsoft BASIC), remove the chip, and replace it with a suitably programmed MC68764 EPROM.

Re: Amazing RPN calculator discovered

*Message #20 Posted by **Joerg Woerner** on 15 July 2010, 9:38 a.m.,*
in response to message #19 by Eric Smith

And I don't expect a TI-150 for the HHC ;-))

db contributed a lot of nice stuff to my little Datamath Museum and he will receive the whole HHC box with lots of manuals for free...

Just shipped.

Regards, Joerg

Re: Amazing RPN calculator discovered

*Message #21 Posted by **db (martinez, ca.)** on 16 July 2010, 12:55 a.m.,*
in response to message #20 by Joerg Woerner

Manuals??? Joerg; you're a prince.

Hey Eric; if you know how to copy the rpn rom and anyone wants a copy we could get together sometime and burn a couple (i'm assuming you need two HHCs to do it). i still live only 45 minutes

north of where you were living.

does anyone need a new RPN?

Can I (we) see it, now? (N.T.)

*Message #22 Posted by **Vieira, Luiz C. (Brazil)** on 14 July 2010, 12:22 a.m.,*
in response to message #1 by Joerg Woerner

...

Re: Can I (we) see it, now?

*Message #23 Posted by **Walter B** on 14 July 2010, 1:17 p.m.,*
in response to message #22 by Vieira, Luiz C. (Brazil)

Hallo Jörg,

ein Foto ist doch nicht so schwierig, oder? Ich bin genauso neugierig wie Luiz, wie das Rechnerchen aussieht ;)

(I concur supporting Luiz' request)

Re: Can I (we) see it, now? (N.T.)

*Message #24 Posted by **Joerg Woerner** on 14 July 2010, 5:19 p.m.,*
in response to message #22 by Vieira, Luiz C. (Brazil)

Here we are - sorry that you had to wait almost a day.

We are rather busy these days (what is good...).

Regards, Joerg

Re: Can I (we) see it, now? (N.T.)

*Message #25 Posted by **Egan Ford** on 14 July 2010, 5:47 p.m.,*
in response to message #24 by Joerg Woerner

Interesting likeness to:

NICE!

*Message #26 Posted by **Vieira, Luiz C. (Brazil)** on 14 July 2010, 10:47 p.m.,*
in response to message #24 by Joerg Woerner

HA! This IS 'calculator lust'...

Danke, Joerg; Gracias, db!

Luiz (Brazil)

Re: Can I (we) see it, now? (N.T.)

*Message #27 Posted by **Walter B** on 15 July 2010, 12:45 p.m.,*
in response to message #24 by Joerg Woerner

Danke für die Bilder. Mit 5 unbelegten Tasten sieht es so aus, als hätte man den Rechner umgewidmet. Wie sieht er aus, wenn man die Tastaturschablone entfernt?

(Thanks for the pictures. Due to 5 unused keys, it seems the calculator has been "customized". How does it look with the keyboard overlay removed?)

Re: Can I (we) see it, now? (N.T.)

*Message #28 Posted by **Joerg Woerner** on 15 July 2010, 2:34 p.m.,*
in response to message #27 by Walter B

Like any Quasar HHC-1400 ;-)) Regards, Joerg

Thank you d;-) (N.T.)

*Message #29 Posted by **Walter B** on 15 July 2010, 4:31 p.m.,*
in response to message #28 by Joerg Woerner

...

Re: Can I (we) see it, now? (N.T.)

*Message #30 Posted by **Ren** on 29 July 2010, 1:22 p.m.,*
in response to message #24 by Joerg Woerner

Wow! I have one of those, it came with a carrying case, charger, some ROM chips, and the Printer/Cassette adapter, some paperwork. My nephew gave it to me as a (goofy) wedding present (10 years ago). It apparently had been used by an insurance agent for giving on-site quotes for policies.

I didn't know it was RPN! But it is Y2K compatible!

It's batteries (NiCd's) are old and don't hold a charge long.

Follow-up: Oops! I just checked again, mine doesn't have the Scientific Calc overlay or the ROM chips needed for that function. Is it possible I can get a HEX dump of the those ROM chips?

Edited: 29 July 2010, 1:31 p.m.

Re: Can I (we) see it, now? (N.T.)

*Message #31 Posted by **db (martinez, ca.)** on 30 July 2010, 9:46 p.m.,*
in response to message #30 by Ren

Ren; Joerg & me checked out the HHC he was talking about and it turns out that although it has the manual and overlay; it did not have the RPN ROM itself. We were bummed. I have found that the Motorola chip was still available as of 3 years ago and it is mountable in one of those plastic frames that the insurance ROMs are sitting in. I think there is a very small market (about 6 or 7) for these: you, me, probably Katie, Michael, Viktor (since this allows three short RPN programs), Telly, & maybe Craig. Who knows - maybe one or two more. I have had no luck so far but if you can find

how/where we can get them burned, maybe Eric or somebody can provide the code off their chip and we are all in business. I am waiting for a response on where to get the bare-nekid ROMs. and waiting.....

Re: Can I (we) see it, now?

*Message #32 Posted by **Ren** on 8 Aug 2010, 9:46 p.m.,*
in response to message #31 by db (martinez, ca.)

What is the chip?, I do have a small chip burner for 27xxx? family chips, Hmmm, IIRC the burner needs to plug into an ISA bus slot...

I still might have one of those...

Re: Can I (we) see it, now?

*Message #33 Posted by **db (martinez, ca.)** on 8 Aug 2010, 11:28 p.m.,*
in response to message #32 by Ren

ren; supposedly the eprom is the motorola mc68764. abra electronics had them as late as last january and they can be programmed. the guy who found them had his programmed somehow. i have tried to use abra's website to look it up but their search function can't find it. the search function can't find adapters, boards, resistors, LEDs or anything else either, so i think it is FUBAR, or it just doesn't like linux. i'll try to call soon. -db

Re: Can I (we) see it, now?

*Message #34 Posted by **Paul Berger (Canada)** on 10 Aug 2010, 7:21 a.m.,*
in response to message #33 by db (martinez, ca.)

I have at least one EPROM programmer that can program MC68764, and I may even have some of them as they where the EPROM equivalent of the ROMs used in the original IBM PC. I also recall making adapters to replace them with the more common 2764, but that would probably not be an option in the confined space of a hand held device.

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HP11C

*Message #1 Posted by **Dominique Deprez** on 13 July 2010, 3:56 p.m.*

Hello I recently bought a new unit 11c on the ebay. I am a frequent user of my old 11c of 1986 that shows orange markings above the numerals. The recent unit shows yellow markings. It has number USA 2331A04119 What is the difference between these 2 units ?

Re: HP11C

*Message #2 Posted by **Raymond Del Tondo** on 13 July 2010, 6:51 p.m.,*
in response to message #1 by Dominique Deprez

Hello,

you mean the yellow keyboard legends, right?

Your frequently used HP-11C was made 1986 (as you say), and the latter one was mad in 1983.
There's a chance that these units have a totally different inner layout, regarding the pcbs, battery and LCD connections.

Depending on the production year and materials used, colors may vary to a certain degree.
If you compare HP-41CV units of every single production year, you'll notice slightly different keyboard legend colors, too;-)

HTH

Raymond

Re: HP11C

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 13 July 2010, 7:13 p.m.,*
in response to message #1 by Dominique Deprez

Hi;

I have two HP16C´s. In one of them (oldest) the [f] functions are printed in pale yellow, and in the other one (newest) they are in fairly visible orange. Both are US-made.

Cheers.

Luiz (Brazil)

Edited: 13 July 2010, 7:14 p.m.

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Mostly OT: What's your experience with LED flashlights?

*Message #1 Posted by **Paul Brogger** on 13 July 2010, 12:42 p.m.*

(The LED's involved aren't red, but they *are* LED's . . .)

Most of the stubby, multi-LED, 3-AAA flashlights I've purchased seem to be undependable, and when turned on often require a sharp knock against something to (at least temporarily) get them lit again. Some of those I've purchased have been clearly El Cheapo, and others not so much. They're not of identical manufacture, but share the same basic design: six or seven white LEDs in a stubby aluminum case, with three AAA batts in a plastic insert, and the on/off button on the end.

I find it strangely amazing that several different models, from several different manufacturers, could all share a similar problem.

I started casting about for a better LED flashlight, and the one I've found that behaves flawlessly (and gives TONS of light) is one that came with a Leatherman tool ("Blast", I think) from Costco. The flashlight ("LGX 200") is a single AA model with a single, large square yellow-looking-when-off LED, and has worked absolutely without problem.

I recently bought another Leatherman ("Freestyle" knife) from Costco, because it also came with an LED flashlight -- this one a single AAA style that is more compact ("Monarch 300"). It seemed to work for a while, and though not quite as bright as the other, it's smaller in the pocket.

However, lo & behold! The newer unit is now acting intermittently, and I have to slap it to get the light to come back on.

I'm more than a little perplexed. Is there something inherent in LED flashlight design that makes them vulnerable to corroded contacts or loose connections of one sort or another? It's amazing that, as many of these as I've tried, 90% share this annoying trait.

Any insight or work-around suggestions will be appreciated!

Re: Mostly OT: What's your experience with LED flashlights?

*Message #2 Posted by **Bill (Smithville, NJ)** on 13 July 2010, 12:58 p.m.,*
in response to message #1 by Paul Brogger

Paul,

I've had several different LED flashlights over the past few years and they are all still working today. Never a problem with them. There's one in each car and they get bounced around a lot, but always work.

I have a nice Energizer 3W LED, two AA batteries. It's all metal with a gasketed battery cap. It came with Energizer Lithium AA batteries. I use it for job site visits and it gets banged around alot - but still works great after two years. Throws out a very strong beam of light.

I think I paid about $15-20 on sale for each of the ones I have.

If you can find the Everyready one, I;d highly recommend it.

Bill

Re: Mostly OT: What's your experience with LED flashlights?

*Message #3 Posted by **Bill Zimmerly** on 13 July 2010, 1:03 p.m.,*
in response to message #1 by Paul Brogger

Amazing timing for your question! At this moment, I'm expecting the mail(wo)man to deliver my new LD10. All I read about is how great the quality of the Fenix series is. These videos describe it.

Re: Mostly OT: What's your experience with LED flashlights?

*Message #4 Posted by **Jim Horn** on 13 July 2010, 1:23 p.m.,*
in response to message #1 by Paul Brogger

I've had a pile of the multi-LED lights, a few single LED / single AA cell units and others over the course of over six years.

The first group has no electronics. Only the current limiting of the three AAA cells and the voltage / current curve of the LEDs control the current. When the cells are new, the LEDs are bright but they taper off rapidly and you finally replace the batteries when they're too dim to do the job. They have a number of pressure contacts that have to pass current to work (two per cell, two for the cell holder, two for the switch & endcap, at least one for the front - totalling at least eleven). Those are notorious for intermittents. A cheap switch doesn't help reliability either.

The single LED / single AA cell lights are generally more reliable if made well. With no cell carrier and only one cell, they have six less failure points. But again, cheap ones can often have intermittent case-to-switch and case-to-LED connections. They do include a switching power supply to boost the single cell voltage to the 3 to 4 volts needed for the LED. But the circuitry can vary drastically in quality and efficiency.

Be aware that many flashlights run their LEDs far beyond their design specifications. The manufacturers seem to feel that degrading a LED's 50,000 hour lifetime to 500 or so is worthwhile if they can blast 3 or 5 watts through a 1 watt LED (or similar abuse in general). Apparently they don't expect most users to have the flashlight that long.

My favorites have become an Energizer 1W single AA for US$16 that fits comfortably in my pocket all the time. A Maglight 3W 3AA and a Home Depot Husky 3W 2D sit in my car. They all blow the multiLED 3AAA units away in performance and reliability.

Others may mention Fenix and a raft of others. Those are spectacularly fine, being head and shoulders above the run of the mill units found in most stores. Of course, they're priced to match. The above three I mentioned cost me under US$20 each.

You will find a whole discussion group at <http://candlepowerforums.com/vb/index.php> if you really want to dive into this head first. Hmmm - I've heard of calculator enthusiasts doing so too, somewhere...

Jim Horn, Hood River, Oregon USA (PPC 1402, etc^n)

Re: Mostly OT: What's your experience with LED flashlights?

*Message #5 Posted by **M Tulloch** on 13 July 2010, 2:16 p.m.,*
in response to message #4 by Jim Horn

Jim you said "Be aware that many flashlights run their LEDs far beyond their design specifications. The manufacturers seem to feel that degrading a LED's 50,000 hour lifetime to 500 or so is worthwhile if they can blast 3 or 5 watts through a 1 watt LED (or similar abuse in general). Apparently they don't expect most users to have the flashlight that long."

I wasn't aware LEDs had such a short lifetime and that their lifetime could be shortened by a factor of 100 by having them run at too high a wattage. Do you think this applies as well to LED nightlights? We have 4 watt incandescent nightlights throughout our house that we mostly leave on all the time so it's easier to walk around at night, and just today we were thinking of replacing them with LED nightlights from Superstore, but if they fail in a year or less then it'll be more expensive to replace them than to purchase new bulbs for our existing nightlights (assuming you can still buy such bulbs) :(

Re: Mostly OT: What's your experience with LED flashlights?

*Message #6 Posted by **Jim Horn** on 13 July 2010, 3:31 p.m.,*
in response to message #5 by M Tulloch

For nightlights that won't be an issue. We have a number of Feya 4W replacement night light bulbs that work fine. As such, like most LED replacments for screw-in bulbs, the 3mm or 5mm diameter bipin LEDs are run at low enough power that they should last a long time. The overall efficiency is no better than incandescents as they use series resistors to drop the rectified but not filtered 120 VAC down to the 9-11 volts the three LEDs in series use. That's nearly a 90% efficiency loss right there. But the power is so low it's not a real concern.

Haven't had one fail yet in about 6 device years of use... Of course, higher power screw-in replacements are another kettle of fish that is changing by the hour.

Re: Mostly OT: What's your experience with LED flashlights?

*Message #7 Posted by **Dave Shaffer (Arizona)** on 14 July 2010, 1:04 p.m.,*
in response to message #6 by Jim Horn

> Quote:
>
> The overall efficiency is no better than incandescents as they use series resistors to drop the rectified but not filtered 120 VAC down to the 9-11 volts the three LEDs in series use. That's nearly a 90% efficiency loss right there. But the power is so low it's not a real concern.
>
> Haven't had one fail yet in about 6 device years of use... Of course, higher power screw-in replacements are another kettle of fish that is changing by the hour.

Maybe for cheap night lights, and low power, the efficiency is not so good for the LEDs.

However, I splurged ($20 bucks!) for a 8 W (rated by the manufacturer) bulb to replace the 26 W fluoroescent bulb (100 W equivalent) for the desk lamp at my computer. The light output from the LED is fully adequate for desk work. I just measured the actual power consumption of both with my "Kill A Watt" meter (another handy device to have around the house) and the LED shows 6 watts while the fluoroescent shows 26 W. Unless there is a power factor that the meter doesn't handle well, this LED bulb is quite efficient. It clearly runs cooler than the fluoroescent, although the ballast in the LED base does get too hot to touch after awhile. If it lasts the guaranteed 8 or 10 years (I kept the receipt for this one!), I will be quite happy with it - light wise and power wise.

Re: Mostly OT: What's your experience with LED flashlights?

*Message #8 Posted by **Martin Pinckney** on 14 July 2010, 2:27 p.m.,*
in response to message #7 by Dave Shaffer (Arizona)

> Quote:
>
> If it lasts the guaranteed 8 or 10 years (I kept the receipt for this one!), I will be quite happy with it - light wise and power wise.

Time will tell, of course. My experience with the highly-touted fluorescent replacements is that they do not last nearly as long as claimed. Sometimes barely twice as long as an incandescent. Perhaps the life claimed is theoretical, not actual "Made in China" performance.

Re: Mostly OT: What's your experience with LED flashlights?

*Message #9 Posted by **Bart (UK)** on 14 July 2010, 4:39 a.m.,*
in response to message #5 by M Tulloch

> Quote:
>
> I wasn't aware LEDs had such a short lifetime ....

What???? you think 50,000 hours is "short"?

Quality household incandescant lights typically last 1000 to 2000 hrs. Flashlights almost always are used at higher than rated voltage and will probably only last 100 or so hours.

Note that nightlights are usually run at less than rated power because they are required to give a reduced output, so they'll last at least their design life. There are 8760 hours in a year, so even if you never switch your LED nightlight off, they'll last around 6 years (probably longer). Depending on construction, LEDs could use significanty less power than equivalent brightness incandescants. They are probably the most effecient light source we have available today. What you pay for the extra initial cost, you'll probably save on energy.

Edited: 14 July 2010, 4:48 a.m.

Re: Mostly OT: What's your experience with LED flashlights?

*Message #10 Posted by **M Tulloch** on 14 July 2010, 10:11 a.m.,*
in response to message #9 by Bart (UK)

Sorry, by "short" I meant comparing cost/hour based on replacement cost and bulb lifetime, and not just bulb lifetime in hours.

4W incandescent nightlight bulbs cost about 45 cents at our local outlet and they typically last about 2 years in our house since we never turn them off. (My experience is that an incandescent bulb's lifetime is shortened considerably if you cycle it on and off frequently.) The cost/hour for incandescent nightlights thus works out to about 2.6E-5 $/hr.

LED nightlights cost about $2.50 each at the same outlet, and if they last 6 years then cost/hour works out to 4.8E-5 which is around double the cost of replacing incandescent nightlight bulbs when they fail, and if 90% of the electrical power used by LED nightlights is wasted as heat (the resistor) then not green either and what's the point using them?

Re: Mostly OT: What's your experience with LED flashlights?

*Message #11 Posted by **Bart (UK)** on 14 July 2010, 11:06 a.m.,*
in response to message #10 by M Tulloch

Oh, sorry. Of course I think cost/life is just down to production issues. Although LEDs have been around a long time, they have not really been produced for "light for the masses". White light LEDs have been particularly expensive. However, I think that as popularity grows and production numbers increase, they will come down in price (more producers will enter the market fuelling competition).

Unfortunately there's always the cheap and nasty side, and particularly with low power nightlights there's no incentive to use anything other than resistors to drop the voltage and limit the current. One can just hope that for higher power lighting, some form of voltage convertor would be used. Maybe in future houses will be wired with low voltage supplies for LED lighting.

Of course I am seeing the advantage of LED in the flash lights I have, my head lamp runs on 3 AAA which seldom need changing, one of my scouting colleagues has an incandescent headlamp requiring 3 AA that need changing on every camp. As for the 3W LED flashlight, the power consumption is the same as my old incandescent 3W torch, but the light is MUCH brighter.

Edited: 14 July 2010, 11:14 a.m.

Re: Mostly OT: What's your experience with LED flashlights?

*Message #12 Posted by **Jim Horn** on 14 July 2010, 1:11 p.m.,*
in response to message #10 by M Tulloch

Please don't misunderstand me - the LED nightlights are less efficient than incandescents but they are so much lower in power that it's not an issue. They aren't nearly as bright, either, but are plenty bright enough for our house. Four watt incandescents have such long, thin and fragile filaments that they are notorious for failing if tapped or their power is cycled. We have automatic night lights that turn them off during the day.

If 1 watt incandescents were available they'd give enough light but would fail in no time (more so in countries with more than 120VAC - i.e. most outside the USA & Canada). As such, the roughly .6 watt LED lamps work just fine. Since they're only running at about 6mA, I expect they'll last far beyond 50k hours.

Why do LEDs fail? Two main causes: for white LEDs, the phosphors that fluoresce to make the blue LED die appear white fade with time, almost linearly with intensity. And the die reliability decreases with increasing temperature. When run at low power, that's not an issue either.

So don't worry about the el-cheapo night light replacements. I suspect they should outlast me. And hey, I'm not all *that* old...

Re: Mostly OT: What's your experience with LED flashlights?

*Message #13 Posted by **ron g.** on 21 July 2010, 12:47 a.m.,*
in response to message #4 by Jim Horn

My son got a 5-pack of Husky LED flashlights for $10. They're pretty much the standard cheapo lights. But there's a "twist." Both ends are threaded, and screw/twist off. The thing is, the light end, has soldered

wiring inside. You can't unscrew the end, without seriously twisting the wires, and basically ruining the flashlight. And if you do break and resolder the wires, you have to pretwist them (more damage), before returning the end to the barrel. It's a really odd arrangement.

Re: Mostly OT: What's your experience with LED flashlights?

*Message #14 Posted by **Lyuka** on 21 July 2010, 3:29 p.m.,*
in response to message #4 by Jim Horn

Hi.

I've ever designed and wrote an article on "Simple single cell white LED driver" which is published in the part of the appendix of "Technique to utilize the high luminance power LED " (written in Japanese)

It can operates for about 200 hours with one AA battery in a wide voltage and temperature range.

Regards,
Lyuka

Re: Mostly OT: What's your experience with LED flashlights?

*Message #15 Posted by **Dan M (Vermont, USA)** on 13 July 2010, 1:30 p.m.,*
in response to message #1 by Paul Brogger

My experience is with the cheapest of the cheapest El Cheapo brand. 3 AAA battery cylindrical version in particular. Of course, I get what I pay for so I am not complaining.

I had a problem with the ground connection from the LED board to the metal body of the device, and had to bang the things to get them to turn on, even with fresh batteries, etc. This may be a common design feature: the ones I had used a solder pad on the back of the PCB (with a little bump of solder on it) to make contact with the rim of the cylinder. There isn't any spring or other device to keep the pressure on this connection, so it is susceptible to coming open. I dismantled my problem devices (taking the LED board out), cleaned up the solder bumps, and slammed it all back together again. They have worked OK since.

Again, I got what I paid for, and the bonus "pleasure" of using cheaply designed and constructed Chinese devices (with everything that implies) comes free.

Re: Mostly OT: What's your experience with LED flashlights? - Mag-Lite RULES !

*Message #16 Posted by **John Stark** on 13 July 2010, 2:09 p.m.,*
in response to message #1 by Paul Brogger

To all:

MAG-LITE 3-AA COMPACT LED !

Excellent battery life

Built like a 1970's HP-35 or 45

Doubles as kubotan if required.

This said after numerous experiences with other junk on the market. Have three of these little gems: Car,briefcase,house.

FWIW..

John

Re: Mostly OT: What's your experience with LED flashlights? - Mag-Lite RULES !

*Message #17 Posted by **megarat** on 13 July 2010, 3:40 p.m.,*
in response to message #16 by John Stark

I'm a Maglite fan as well. My favorites are the 2xAA model and the 3xD-cell model, and their LED models have worked fine for me w/o any problems several years now, even when banged around quite a bit.

There are certainly more "advanced" makes of flashlight out there, but the Maglite, in my opinion, is tried and true, highly effective, and utterly rugged. It's the flashlight equivalent of the Colt M1911.

Re: Mostly OT: What's your experience with LED flashlights? - Mag-Lite RULES !

*Message #18 Posted by **Dave Shaffer (Arizona)** on 14 July 2010, 12:24 a.m.,*
in response to message #16 by John Stark

Mag-Lite also guarantees their lights for life/forever.

I have no experience with their LED flashlights, but we had an incandescent 2 AA mini-maglite fail, after MANY years, and sent it back to the factory (without any "original receipts" which so many places want - who knows where they are after 15 years!?). Back it came (or a new one - hard to tell which) in a few weeks, no charge (except for our postage to send it in).

As to el-cheapo multi-light LEDs, my favorite of the moment are the 9 light / 3 AAA versions given away by Harbor Freight - look for their coupons in almost any magazine (The Sunday inserts, AARP, ...). I got three, and they are all still working after several months of mild use.

I have found that many of the TV remotes we use are intermittent much of the time. A good rap fixes them. I think the currents are so low that even a little bit of oxidation anywhere in the circuit breaks the connection(s). As noted somewhere above, keeping things jiggling around (in a car or truck) seems to help.

Re: Mostly OT: What's your experience with LED flashlights? - Mag-Lite RULES !

*Message #19 Posted by **Martin Pinckney** on 14 July 2010, 2:17 p.m.,*
in response to message #16 by John Stark

Love MagLites. Made in the good ol' USA (my apologies to the "rest of the world").

I did have a failure of a MagLite 3-D LED. Someone dropped it on a hard surface; a few weeks later it failed. (Glows very faintly).

I saw the 3-AAA ones at Home Depot; they want $40 for one. Has anyone found a cheaper price?

Re: Mostly OT: What's your experience with LED flashlights? - Mag-Lite RULES !

*Message #20 Posted by **Karl Schneider** on 15 July 2010, 12:37 a.m.,*
in response to message #16 by John Stark

I just bought a 2-AA, 1-LED $24 Mini Mag-Lite, replacing the incandescent Mini Mag-Lite I've had for years (one of the AA cells leaked, and is unremovable).

The light is quite bright, allowing me to see down a 13-mm portal several inches long into a cylinder head.

-- KS

Re: Mostly OT: What's your experience with LED flashlights? - Mag-Lite RULES !

*Message #21 Posted by **Martin Pinckney** on 15 July 2010, 10:22 a.m.,*
in response to message #20 by Karl Schneider

Karl,

Is yours the multi-mode one? I particularly like the reduced-power mode. Also, if I am ever out wandering in the wilds, I hope I remember to bring it along for the SOS mode, just in case!

Re: Mostly OT: What's your experience with LED flashlights? - Mag-Lite RULES !

*Message #22 Posted by **Dave Shaffer (Arizona)** on 15 July 2010, 12:24 p.m.,*
in response to message #20 by Karl Schneider

Karl,

The leaked, stuck battery is actually what happened to our Maglite. They still fixed it for free - they apparently have deals with the major battery manufacturers who typically warrant that if battery leakage damages your equipment, they will replace it.

Try sending it to Maglite (in Ontario, Calif, I think) and you may get a new one back!

Re: Mostly OT: What's your experience with LED flashlights? - Mag-Lite RULES !

*Message #23 Posted by **Karl Schneider** on 15 July 2010, 3:08 p.m.,*
in response to message #22 by Dave Shaffer (Arizona)

Dave --

Thanks; worth a try. Otherwise, I could keep it for spare parts, or as a tool for pounding or pressing things...

-- KS

Re: Mostly OT: What's your experience with LED flashlights?

*Message #24 Posted by **Maximilian Hohmann** on 13 July 2010, 3:33 p.m.,*
in response to message #1 by Paul Brogger

Hello!

> Quote:
>
> Any insight or work-around suggestions will be appreciated!

The only work-around I know is to throw them back into the bay and get decent ones ;-) I have experienced the same problems that you describe with various el-cheapo multi-led flashlights (one of them had 26! LEDs

from which not more than 10 are still working - after a couple of hours of use.)

Now I have a couple of real good and rather expensive ones that do what they are supposed to do. Always. One is a 4D-cell LED-Maglite (single LED) that I use at home, and the others are various small ones from the German manufacturer "Zweibrueder Optoelectronics" (http://www.zweibrueder.com/ENG/startseite_1024.php) that I take with me at work (flying). They are simply the best ones - rather expensive, but money well spent. Sooner or later I will buy their top product X21 (http://www.zweibrueder.com/ENG/produkte/html_highperformance/html_Xserie/x21.php?id=x21) ... a portable car headlight. In the price range of a good HP-71B.

Regards, Max

Edited: 13 July 2010, 3:34 p.m.

Re: Mostly OT: What's your experience with LED flashlights?

*Message #25 Posted by **David Hayden** on 13 July 2010, 3:51 p.m.,*
in response to message #1 by Paul Brogger

I keep a wind-up LED flashlight in the car for emergencies. Never need to worry about batteries, though my daughter has a habit of taking it :(.

And here's an interesting thought. When they really perfect LED lights, their lifetime will be comparable to other building materials. At that point, we'll start to see permanent lighting built into homes and offices. By that, I mean that the design and placement of the lights won't worry about replacing the bulbs, anymore than the design of your interior walls worries about the replacement of your wallboard.

Hmm. I guess this is an OT response to an OT post.... Bad Dave! Bad! No RPL for you tonight! :)

Dave

Re: Mostly OT: What's your experience with LED flashlights?

*Message #26 Posted by **DaveJ** on 13 July 2010, 6:07 p.m.,*
in response to message #1 by Paul Brogger

I've done a review of the excellent Fenix LD01 AAA light:

http://www.eevblog.com/2010/04/19/eevblog-78-fenix-ld01-led-keychain-flashlight-and-victorinox-minichamp-review/

You get what you pay for. The cheap ones are just poorly designed rubbish.

Dave.

Re: Mostly OT: What's your experience with LED flashlights?

*Message #27 Posted by **Matthias Wehrli** on 13 July 2010, 6:42 p.m.,*
in response to message #26 by DaveJ

I use Zweibrüder LED flashlights for geocaching. very popular are the P7 and the P14....arround 200 lumes.

Re: Mostly OT: What's your experience with LED flashlights?

*Message #28 Posted by **db (martinez, ca.)** on 13 July 2010, 7:40 p.m.,*

in response to message #1 by Paul Brogger

Hi Paul; I like LED headlamps. When in the dark i find i usually want two hands.... I got my first about eleven years ago at REI. it's a Black Diamond (formerly Chouinard) with two low intensity LEDs and one big long distance one. It has worked flawlessly in really shitty conditions, and as i just discovered; it's made in China! I've also bought several of the multi-fixture type at the flea market for five bucks to keep in the truck, at work, or give away. The results vary. If there is a problem it's in the switch. Last winter i found a few marketed by Iron Bridge Tools at home Depot for $3.70 a piece in the bargain bin and gave away all but one. They sport a single bright LED and so far all are working.....or lost. Their idea seems sound; design a solid light with only a few good parts and it will be cheap to build and last.

The best thing for me about the multi LED lights is that they are not focused at the same spot and you get this even haze of light that is generally in front of you without one bright focused spot. I've used them for mountaineering where you start at midnight so you come down before the avalanches start. Even (or especially) cheap LEDs provide low intensity light where you are looking without ruining you vision for routefinding out past where the light shines.

Plus; their low power use/frugal nature is going to save more energy than any invention since the bicycle.

Re: Mostly OT: What's your experience with LED flashlights?

*Message #29 Posted by **Paul Guertin** on 13 July 2010, 10:55 p.m.,*
in response to message #28 by db (martinez, ca.)

> Quote:
>
> Hi Paul; The best thing for me about the multi LED lights is that they are not focused at the same spot and you get this even haze of light that is generally in front of you without one bright focused spot.

Take a look at Zebralights. They make great no-spot, all-flood headlamps. Not affiliated, yadda yadda, just a satisfied customer.

Re: Mostly OT: What's your experience with LED flashlights?

*Message #30 Posted by **db (martinez, ca.)** on 14 July 2010, 12:23 a.m.,*
in response to message #29 by Paul Guertin

it says they have a red flood. i always meant to try red light to save my night vision.

Re: Mostly OT: What's your experience with LED flashlights?

*Message #31 Posted by **Maximilian Hohmann** on 14 July 2010, 2:14 a.m.,*
in response to message #30 by db (martinez, ca.)

Hello!

> Quote:
>
> i always meant to try red light to save my night vision.

Not worth the effort: http://stlplaces.com/night_vision_red_myth/ In older aeroplanes, red night lighting used to be standard. Modern ones (at least those that I fly) have white cockpit lighting.

Regards, Max

Re: Mostly OT: What's your experience with LED flashlights?

*Message #32 Posted by **DaveJ** on 14 July 2010, 6:58 a.m.,*
in response to message #28 by db (martinez, ca.)

> Quote:
>
> I like LED headlamps.

Speaking of which, I've done one of those too, the Princeton Tec EOS
http://www.eevblog.com/2010/03/10/eevblog-67-hacking-the-princeton-tec-eos-led-headlamp-with-a-cree-xpg/

Dave.

Re: Mostly OT: What's your experience with LED flashlights?

*Message #33 Posted by **Paul Guertin** on 13 July 2010, 10:52 p.m.,*
in response to message #1 by Paul Brogger

In the no-frills one-AAA LED flashlight category, I can recommend the Fenix E01. Available online for $15 or so, it lasts for about 10 hours on a AAA battery (I use Eneloop rechargeables), weighs 14 grams + battery, outputs a bright-but-not-too-bright 10 lumens, and is very dependable. In years of use, it has never failed to turn on when I wanted it to.

Re: Mostly OT: What's your experience with LED flashlights?

*Message #34 Posted by **DaveJ** on 14 July 2010, 7:33 a.m.,*
in response to message #33 by Paul Guertin

> Quote:
>
> In the no-frills one-AAA LED flashlight category, I can recommend the Fenix E01. Available online for $15 or so, it lasts for about 10 hours on a AAA battery (I use Eneloop rechargeables), weighs 14 grams + battery, outputs a bright-but-not-too-bright 10 lumens, and is very dependable. In years of use, it has never failed to turn on when I wanted it to.

I used to have a 10 lumen ARC-AAA Premium, but upgraded to the Fenix LD01 single AAA keychain. Having 85 lumens on your keychain is just awesome. Much more expensive than the E01 but worth every cent.

Dave.

Re: Mostly OT: What's your experience with LED flashlights?

*Message #35 Posted by **Bart (UK)** on 14 July 2010, 4:22 a.m.,*
in response to message #1 by Paul Brogger

About 2 years ago I purchased the al cheapo Tesco brand LED headlamp (powered by 3 AAA) and the Tesco brand 3W LED torch (powered by 2 C cells). I use them at home and on Scout hikes/camps. They both still work perfectly.

I use the headlamp lots at home too, perfect for working on the car or lighting up the PCB I'm working on, etc. How did I ever cope without one?

Edited: 14 July 2010, 7:34 a.m.

Re: Mostly OT: What's your experience with LED flashlights?

*Message #36 Posted by **Paul Brogger** on 20 July 2010, 10:48 a.m.,*
in response to message #1 by Paul Brogger

Thanks to all for your input -- I appreciate the time.

For now, I found a Fenix LD01, which seems like a step up. Three brightness levels is nice, no push button is a minor drag (two hands required to turn on -- though that's one less thing to break). And, the price was more right than some of the other fabulous-sounding lights out there.

Thanks again!

Re: Mostly OT: What's your experience with LED flashlights?

*Message #37 Posted by **Garth Wilson** on 20 July 2010, 2:49 p.m.,*
in response to message #36 by Paul Brogger

If it's ok for it not to be a traditional flashlight shape, you could use a bicycle LED headlight. They're made to take incredible pounding for hours (possibly thousands of hours), mounted to the handlebars. Our road bikes with higher speed and hard, skinny tires definitely give them more pounding than a mountain bike would. I and my family of cyclists have used a lot of Cateye ones, first little halogen ones and later LED ones, stepping up as brighter and brighter models came out. We had trouble with earlier models where the various pieces of metal only pressed against each other and I had to solder them when the connections got intermittent, but it was easy to do and then they gave no further trouble. Now I have an EL-530 (see http://www.cateye.com/en/product_detail/345) which is a very nice, bright light considering it does not have the battery pack separate like the super-expensive HID and LED ones that practically give you stadium lighting. On those, the battery pack usually straps to the frame or takes up a water-bottle cage, which is not acceptable to us. The EL-530 however is about the size of my fist or a little smaller, and gets 90 hours from four alkaline AA batteries (although batteries have gotten so ridiculously inexpensive that I don't try to string them out that long).

Edited: 20 July 2010, 2:54 p.m.

Re: Mostly OT: What's your experience with LED flashlights?

*Message #38 Posted by **Katie Wasserman** on 20 July 2010, 7:10 p.m.,*
in response to message #37 by Garth Wilson

I have an earlier Cateye, the EL-510, and it's been reliable even without soldering the connections. It's a great bicycle light but I'm not sure I'd want to walk around holding it. I also have a Fenix LD01 in stainless steel (they don't seem to make this any more), it's just fantastic. I'm pretty sure that it will outlast everything else I own, me included.

Edited: 20 July 2010, 7:49 p.m.

Re: Mostly OT: What's your experience with LED flashlights?

*Message #39 Posted by **nick lidakis** on 28 July 2010, 12:54 a.m.,*
in response to message #1 by Paul Brogger

At work (paramedic) I've been using a Surefire 6P LED Defender for more than a few years. Link: http://www.surefire.com/6PDL Zero complaints. It's been dropped, smashed, handled by surly NYC cops, covered in bodily fluids and sustained multiple cleanings with hospital grade disinfectants. Zero problems. The bezel is also crenellated in case you need to use it as a weapon. 120 Lumens of beautiful output.

Off duty, I carry the Surefire ED2 LED Defender. Link: http://www.surefire.com/E2DL Slimmer than the 6P. Has _200_ lumens or 5 lumens output with a simple press of the tail cap switch. The 200 lumens can easily blind somebody for a few seconds. Bezel is also crenellated. (I live in NYC)

Worth. Every. Penny.

P.S. Every EMT or medic I've known has always had issues with Maglites in the field, whether they were LED or incandescent.

Edited: 28 July 2010, 1:02 a.m.

Re: Mostly OT: What's your experience with LED flashlights?

*Message #40 Posted by **Ren** on 29 July 2010, 1:38 p.m.,*
in response to message #1 by Paul Brogger

I've been buying those cheap 3 LED flashlights that have a small NiMH battery inside and a small DC motor/generator for recharging. They certainly aren't rugged, but I don't worry about having dead batteries when I need a flashlight.

I also have had a number of keychain LED flashlights, but many of them would turn on and run their Lithium batteries down when I'd put the keychain in my pocket.

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HP 27S - Adjust screen contrast?

*Message #1 Posted by **M Tulloch** on 13 July 2010, 12:13 p.m.*

Does anyone know how to adjust the screen contrast on an HP 27S? Unfortunately I've lost my manual...thx

Re: HP 27S - Adjust screen contrast?

*Message #2 Posted by **Jeff O.** on 13 July 2010, 12:51 p.m.,*
in response to message #1 by M Tulloch

If it is like other pioneers, try turning on, then press and hold down the "ON" key. Then press and release the "+" key to make it darker, or press and release the "-" key to make it lighter.

...

Re: HP 27S - Adjust screen contrast?

*Message #3 Posted by **M Tulloch** on 13 July 2010, 2:09 p.m.,*
in response to message #2 by Jeff O.

Thank you!!

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Arrested and charged with "calculating."

*Message #1 Posted by **Bill Zimmerly** on 13 July 2010, 11:06 a.m.*

One website I visit daily is "Mathematician of the Day" and I found the story of John Dee particularly interesting. How refreshing it is to live in the times that we all live in...

Re: Arrested and charged with "calculating."

*Message #2 Posted by **Lincoln R.** on 13 July 2010, 11:52 a.m.,*
in response to message #1 by Bill Zimmerly

Well, I imagine if you showed up in the 1940s with a 48gx people would think you were an alien or something.

Re: Arrested and charged with "calculating."

*Message #3 Posted by **Bill Zimmerly** on 13 July 2010, 12:03 p.m.,*
in response to message #2 by Lincoln R.

I'll have to remember that the next time I go time traveling. ;)

Re: Arrested and charged with "calculating."

*Message #4 Posted by **Gerson W. Barbosa** on 13 July 2010, 6:00 p.m.,*
in response to message #2 by Lincoln R.

> Quote:
>
> Well, I imagine if you showed up in the 1940s with a 48gx people would think you were an alien or something.

What about an HP-10C in the late 17th century?

http://membres.multimania.fr/albillo/calc/pdf/DatafileVA004.pdf

Re: Arrested and charged with "calculating."

*Message #5 Posted by **Lincoln R.** on 14 July 2010, 1:58 p.m.,*
in response to message #4 by Gerson W. Barbosa

eh, I'm pretty sure that'd just be sorcery/magic. You wouldn't get dissected, just burned at the stake or dunked :-P

Great story, BTW. I'd imagine Newton would have been quite amazed by an HP 10c (Although I suspect he too would have suspected magic)

Re: Arrested and charged with "calculating."

*Message #6 Posted by **Howard Owen** on 13 July 2010, 3:48 p.m.,*
in response to message #1 by Bill Zimmerly

Sad story, all in all.

Re: Arrested and charged with "calculating."

*Message #7 Posted by **Han** on 14 July 2010, 3:59 p.m.,*
in response to message #6 by Howard Owen

Indeed, a sad story... and at that, I'm heading back to my sorcery... I mean math.

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HP 67 card reader error

*Message #1 Posted by **Mark Puscas** on 11 July 2010, 9:06 p.m.*

Looking for any troubleshooting suggestions...

Recently got an HP-67, disassembled it, cleaned it, repaired gummy wheel (thanks to reading the forums on this site!); everything seems to work fine mechanically, but magnetic cards all give me an "error" reading. I've tried pre-programmed cards, blank cards, all give the same "error" message. I've tried writing to cards, and that seems to work (although no way to verify). I re-opened calculator, verified all the little white balls in place, white roller pin in place, gold weird-shaped contact switch is well-positioned, cleaned the read/write head (several times), all to no avail.

Any suggestions? Mark

by the way, for the gummy wheel repair I got a 2 foot length of Du-Bro #222 Silicone fuel line tubing, purchased at a local shop that caters to remote controlled cars/planes. Fit and worked perfectly!

Dyslexic agnostic insomniac calculators like ours.

*Message #2 Posted by **Michael Meyer** on 11 July 2010, 10:57 p.m.,*
in response to message #1 by Mark Puscas

Check out this link:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv006.cgi?read=12398

My HP-67 no longer stays up late at night wondering if there is a dog.

Edited: 11 July 2010, 10:58 p.m.

Re: Dyslexic agnostic insomniac calculators like ours.

*Message #3 Posted by **Mark Puscas** on 12 July 2010, 12:56 a.m.,*
in response to message #2 by Michael Meyer

Thanks for the link, it looks like it should be resolvable with the suggestions listed.

-Mark

Re: HP 67 card reader error

*Message #4 Posted by **Alejandro Paz (Germany)** on 12 July 2010, 2:44 p.m.,*
in response to message #1 by Mark Puscas

My 67 has the same problem, it does not read back what it writes. But I do not have a magnetic card here, and it badly needs some restoration and a back cover.

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HHC2010 Web Page Is "Open for Business"

*Message #1 Posted by **Jake Schwartz** on 10 July 2010, 10:54 p.m.*

Hi,

The online registration for HHC2010 has finally gone "live". Please join us on September 25-26th at HP's Facility in Fort Collins, Colorado for this year's annual HP Handhelds Conference. Since this is the current location of HP calc-team "headquarters" and since they are offering us a great no-cost meeting spot for another year, Fort Collins is hard to pass up. As always, attendees will be gaining insight into HP's activities straight from "the horse's mouth", as well as connecting with fellow HP enthusiasts. You are not going to want to miss this one.

Check out the HHC2010 Web Page at http://holyjoe.net/hhc2010/ and please join us in the Fall. We've been meeting since 1979 and it is always fun.

Jake Schwartz

Re: HHC2010 Web Page Is "Open for Business"

*Message #2 Posted by **David Hayden** on 11 July 2010, 8:54 a.m.,*
in response to message #1 by Jake Schwartz

Woo hoo! I'm hoping to attend my first HHC this year.

Re: HHC2010 Web Page Is "Open for Business"

*Message #3 Posted by **Han** on 13 July 2010, 6:36 p.m.,*
in response to message #2 by David Hayden

Me too! I've been meaning to attend for so many years!

Re: HHC2010 Web Page Is "Open for Business"

*Message #4 Posted by **Patrice** on 14 July 2010, 5:07 p.m.,*
in response to message #1 by Jake Schwartz

Hi Jake,

I can't find details about the hotel. Last year, the special rate was available with a "shoulder" thing of 3 days before and 3 days after the conf. Is it the same this year ?

Patrice

Re: HHC2010 Web Page Is "Open for Business"

*Message #5 Posted by **Jake Schwartz** on 14 July 2010, 10:35 p.m.,*
in response to message #4 by Patrice

On the conference web site, it currently says the following:

"To reserve a room at the Cambria Suites, call the hotel direct at 970-267-9000. Be sure to mention HHC 2010 for the special $84 rate. This special rate offer is not available online or by toll-free telephone; it is only available by direct telephone call to 970-267-9000. The offer is good until they run out of rooms or September 10th, whichever comes first.

Cambria Suites 2921 Harmony Road Fort Collins, CO 80528 http://www.cambriasuites.com/hotel-fort_collins-colorado-CO214 Phone: (970) 267-9000 "

I am not sure what portion of this is unclear.

Jake

Re: HHC2010 Web Page Is "Open for Business"

*Message #6 Posted by **Patrice** on 15 July 2010, 1:48 p.m.,*
in response to message #5 by Jake Schwartz

Hi Jake,

> Quote:
>
> I am not sure what portion of this is unclear.

What the site says is very clear to me .
What is unclear, is what it don't says.
My first sentence was telling that I have a problem with hotel details. The next sentence was explaining where is my problem.

So, to be precise, /hhc2009/Cambria-Suites-Hotel.pdf , on page 2 is saying :

> Quote:
>
> Shoulder dates +/- 3 days

My question is "Is it the same this year ?"

Did I make myself clear ?

Patrice

Re: HHC2010 Web Page Is "Open for Business"

*Message #7 Posted by **Jake Schwartz** on 15 July 2010, 3:52 p.m.,*
in response to message #6 by Patrice

Hi Patrice,

I just made my hotel reservations and they indicated that the special conference rate of $84. is good from the 22nd of August up to 30th of August.

Jake

Re: HHC2010 Web Page Is "Open for Business"

*Message #8 Posted by **Patrice** on 15 July 2010, 9:27 p.m.,*
in response to message #7 by Jake Schwartz

HI Jake,

Thank for your answer. I guess you wanted to say September ?

Patrice

Re: HHC2010 Web Page Is "Open for Business"

*Message #9 Posted by **Jake Schwartz** on 16 July 2010, 11:27 p.m.,*
in response to message #8 by Patrice

You are correct.....why did I say "August"? (shaking head)

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a new challenge!

*Message #1 Posted by **Don Shepherd** on 10 July 2010, 10:30 p.m.*

Write a program for your favorite programmable calculator to determine this. The only prime number p with digits abcde such that p = (a! + b! + c! + d! + e!) + (a + b + c + d + e).

For example, if 10343 is prime, then 10343 = (1! + 0! + 3! + 4! + 3!) + (1 + 0 + 3 + 4 + 3). Of course, that's not the one (although 10343 is prime).

Don't give away the winning answer for a few days, but post your masterpiece program here for the world to see, or at least us nerds.

Re: a new challenge!

*Message #2 Posted by **Allen** on 11 July 2010, 10:15 a.m.,*
in response to message #1 by Don Shepherd

Don, Thanks for an interesting challenge! Shall we assume from the wording of the question that the answer is 5 digits long? (e.g. maximum search space is primes from 10,000 to 99,999) Cheers, Al

Re: a new challenge!

*Message #3 Posted by **Don Shepherd** on 11 July 2010, 11:29 a.m.,*
in response to message #2 by Allen

yes

Re: a new challenge!

*Message #4 Posted by **Glenn Shields** on 11 July 2010, 12:16 p.m.,*
in response to message #1 by Don Shepherd

Great challenge for a Sunday morning. This took 32 minutes on my HP50g - I started with 10007, the first 5 digit prime: << 10007 -> pri << DO ; pri NEXTPRIME DUP 'pri' STO ->STR 0 SWAP 1 5 FOR i HEAD LASTARG TAIL SWAP OBJ-> DUP ! + ROT + SWAP NEXT DROP DUP UNTIL pri == END >> >> The ; is "safedrop" for when the stack is empty. I wish it could be faster -- will watch and wait!! Thanks, Glenn (in West LA).

Re: a new challenge!

*Message #5 Posted by **Don Shepherd** on 11 July 2010, 12:49 p.m.,*
in response to message #4 by Glenn Shields

Thanks Glenn. I wish I understood RPL, but I'm too much of an RPN man to take the time to learn it. I'm working on a solution on the 30b, which I believe has the same processor as your 50g. Will post later today.

Don

Re: a new challenge!

*Message #6 Posted by **Glenn Shields** on 11 July 2010, 1:43 p.m.,*
in response to message #4 by Glenn Shields

Yes, Don, it's hard to be comfortable in both - when I got the 35s, I was doing lots of RPN, last one was a Mastermind program. Now I can't even remember it, but have written a new one for the 50g, which can do more for such a game (like display the history of your guesses and results). But for anyone else into RPL, here is another version of the one just posted, and faster (18 minutes) because I dumped the string manipulation for a loop using FP/IP decomposition of the number (of course we know 10007 is not it):

<< 10007 -> pri << DO ; pri NEXTPRIME DUP 'pri' STO 0 SWAP 1 5 FOR i 10 / FP LASTARG IP SWAP 10 * DUP ! + ROT + SWAP NEXT DROP DUP UNTIL pri == END >> >>

Cheers, Glenn

Re: a new challenge!

*Message #7 Posted by **Glenn Shields** on 11 July 2010, 2:56 p.m.,*
in response to message #6 by Glenn Shields

Sorry, when I ran this program it had real numbers, everything had a decimal point. Apparently this beast handles real numbers faster than integers (I'm sure this was mentioned somewhere in the past), so here is my final entry (Beta-tested):

<< 10000. -> pri << DO ; pri NEXTPRIME DUP 'pri' STO 0. SWAP 1 5 FOR i 10. / FP LASTARG IP SWAP 10. * DUP ! + ROT + SWAP NEXT DROP DUP UNTIL pri == END >> R->I >> (more like 19 minutes) :-)

Re: a new challenge!

*Message #8 Posted by **Mark Storkamp** on 11 July 2010, 3:07 p.m.,*
in response to message #1 by Don Shepherd

62 minutes on i41CX+

```
01 LBL "CHLNG"
02 .009
03 STO 10
04 LBL 01
05 RCL 10
06 INT
07 FACT
08 LASTX
09 +
10 STO IND 10
11 ISG 10
12 GTO 01
13 1 E4
14 STO 10
15 LBL 02
16 RCL 10
17 NEXTPRM
18 STO 10
19 0
20 X<>Y
21 LBL 03
22 10
23 /
24 INT
25 X<>Y
26 LASTX
```

```
27 FRC
28 10
29 *
30 X<>Y
31 RCL IND Y
32 +
33 X<>Y
34 RDN
35 X<>Y
36 X>0?
37 GTO 03
38 X<>Y
39 RCL 10
40 X!=Y?
41 GTO 02
42 END
```

Re: a new challenge!

*Message #9 Posted by **Allen** on 12 July 2010, 1:23 a.m.,*
in response to message #8 by Mark Storkamp

Mark, remind me which ROM contains "NEXTPRM" or is it built into the 41c?

Re: a new challenge!

*Message #10 Posted by **Don Shepherd** on 12 July 2010, 9:02 a.m.,*
in response to message #8 by Mark Storkamp

Thanks for your solution, Mark. Is the NEXTPRM at line 17 a standard feature of the 41 instruction set, or is it in a separate library? I don't really know much about the 41. I know most CAS calculators have an isprime function, and I wonder if the standard vanilla 41 has that too.

Re: a new challenge!

*Message #11 Posted by **Mark Storkamp** on 12 July 2010, 9:22 a.m.,*
in response to message #10 by Don Shepherd

As far as I know it's only available in the i41CX-Math module on the iPod/iPhone. Even if it were available in the regular 41, I don't have the patience (or enough batteries) to wait for it to solve it.

Since the answer must contain 7s or 8s, but no 9s, I thought there might be a way to dump out of the inner loop faster if I don't meet that criteria, but it seems the test for that is just as expensive.

If I could get to the BCD values, then adding 11111 and masking just the MSB of each nibble would tell me if I had a 7 or 8, but I haven't done MCode programming on the 41 yet.

Re: a new challenge!

*Message #12 Posted by **Mark Storkamp** on 12 July 2010, 2:41 p.m.,*
in response to message #8 by Mark Storkamp

Now I'm down to 6m 8.47s on the i41CX+. Also took out NEXTPRM so it should run on any 41CX.

```
01 LBL "CHLNG2"
02 STOPSW
03 0
04 SETSW
05 RUNSW
06 CF 29
07 FIX 00   <- Using the ALPHA reg now, remove all punctuation.
08 48.057   <- pre-compute !+n and store in regs returned by ATOX
09 STO 01
10 LBL 01
```

```
11 RCL 01
12 INT
13 48
14 -
15 FACT
16 LASTX
17 +
18 STO IND 01
19 ISG 01
20 GTO 01
21 88779  <- start with largest possible value, decrement by 2
22 STO 01
23 LBL 02
24 RCL 01
25 2
26 -
27 STO 01
28 CLA
29 ARCL X
30 CLST
31 ATOX   <- loop is unrolled and repeated 4 more times
32 RCL IND X
33 X<>Y
34 RDN
35 +
36 ATOX
37 RCL IND X
38 X<>Y
39 RDN
40 +
41 ATOX
42 RCL IND X
43 X<>Y
44 RDN
45 +
46 ATOX
47 RCL IND X
48 X<>Y
49 RDN
50 +
51 ATOX
52 RCL IND X
53 X<>Y
54 RDN
55 +
56 RCL 01
57 X!=Y?  <- if not done yet, repeat with next value
58 GTO 02
59 STOPSW
60 RCLSW
61 BEEP
62 END
```

Re: a new challenge!

*Message #13 Posted by **Egan Ford** on 12 July 2010, 5:02 p.m.,*
in response to message #12 by Mark Storkamp

Since you are using the ALPHA register you can probably use POSA and check for the existence of the number 9 (9! is too large). That will cut your number of tests from 1471 to 953. You also need at least one 8 or two 7's or 7 and 8. Unsure how quickly you can test for that; useless test *after* you know the answer.

If possible you could also count down avoiding numbers that end in 5. E.g. if number mod 5 == 0 then -2 from number.

Edited: 12 July 2010, 5:54 p.m.

Re: a new challenge!

*Message #14 Posted by **Don Shepherd** on 11 July 2010, 8:54 p.m.,*
in response to message #1 by Don Shepherd

Well, I planned on doing a 30b version but that turned out to be more trouble than I thought, so I did a TI-NSpire CAS Touchpad solution. It found the solution in 1 minute and 23 seconds! Seriously!

```
Define prime()=
Prgm
:Local i,a,b,j
:For i,10007,99999,2
:  If isPrime(i) Then
:    a:=i:b:=0
:    For j,1,5
:      b:=b+mod(a,10)+(mod(a,10))!
:      a:=iPart(((a)/(10)))
:    EndFor
:    If i=b Then
:      Disp i
:      Stop
:    EndIf
:  EndIf
:EndFor
:EndPrgm
```

Re: a new challenge!

*Message #15 Posted by **hpnut** on 11 July 2010, 9:08 p.m.,*
in response to message #14 by Don Shepherd

Programming the HP 30b in RPN is difficult. the fact that current hp calculators also have algebraic and "chain" modes only makes for a muddled instruction manual.

Re: a new challenge!

*Message #16 Posted by **Don Shepherd** on 11 July 2010, 10:19 p.m.,*
in response to message #15 by hpnut

I admit that programming the 30b takes some getting used to. Unlike the 12c and other "traditional" RPN calcs, it's not "pure" RPN; it's kind of a hybrid RPL/RPN environment. And the conditional tests don't obey the traditional "do if true" rule, and that REALLY takes some getting used to.

But if you can learn its habits you will appreciate its speed and the fact you can assign any command to any key (well, almost any key).

Re: a new challenge!

*Message #17 Posted by **Allen** on 12 July 2010, 1:03 a.m.,*
in response to message #1 by Don Shepherd

Here's a basic working versionfor 42s. Starts with 88,777 value and decrements by 2, printing all values that match the "abcde" requirement above. (as it turns out, there appears to be only 1 so it is not necessary to check for primacy)

```
(Assumes display is already set to ALL)
00 { 86-Byte Prgm }
01>LBL 01               'Begin program
02 SIZE 60              ' Set sz to 60 for indirect regs "0" to "8"
03 CLRG                 ' Clear the numbered registers
04 9                    ' Initial value for calculating n!
05 STO 09
06 48                   ' set up the indirect registers 48 above the
07 +                    ' number to correct for ATOX numbering scheme
08 STO 10               ' Setup indirect addresses for the numbers
09>LBL 06     <-        ' Loop for calculating n! for 1..9
10 RCL 09         |
11 N!             |
```

```
12 48
13 -                    ' subtract 48 for ATOX (will get added back)
14 STO IND 10           ' initialize values
15 DSE 10               ' decrement indirect register counter
16 DSE 09               ' decrement value counter
17 GTO 06       --      ' loop for initial values
18 -47
19 STO 48               ' Only add 1 for 0! (1-48)
20 -44
21 STO 44               ' trap the "," Character from "xx,xxx"
22>LBL 05
23 88777                ' using greedy method 99,999-max(n!) so we
24 STO 09               ' should start at 88777 and decrement by 2
25>LBL 02         <--   ' Main decrementing loop
26 CLA                  ' Clear alpha reg
27 ARCL 09              ' move current counter into alpha
28 CLX
29>LBL 03       <--     ' Main summation loop
30 ATOX
31 X=0?                 ' if all numbers used,
32 GTO 04               ' exit summation loop
33 RCL+ IND ST X        ' add ATOX value to indirect address val.
34 +                    ' Add to prev. sum
35 GTO 03       --
36>LBL 04               ' Check to see if sum = counter
37 X<>Y
38 RCL 09
39 X=Y?                 ' if sum = counter
40 GTO 07               ' Print the value
41 X<=0?
42 STOP                 ' HALT if negative counter
43 DSE 09
44 DSE 09               ' Otherwise decrement 2
45 GTO 02         --    ' Go back to main decrement loop
46>LBL 07               ' Subroutine to print the counter value
47 PRX
48 CLST                 ' This CLST will allow the loop to continue
49 GTO 04               ' by decrementing 2 on the next loop
```

Edited: 12 July 2010, 1:04 a.m.

Re: a new challenge!

*Message #18 Posted by **Katie Wasserman** on 12 July 2010, 1:45 a.m.,*
in response to message #17 by Allen

Here it is for the 12C. On the 12C+ this take about 1 hour, 25 minutes -- that translates to about 10 days on the original 12C.

```
01 9
02 9
03 9
04 9
05 STO 0
06 2
07 STO+0
08 RCL 0
09 SQR
10 1
11 +
12 STO 4
13 3
14 STO 1
15 RCL 0
16 RCL 1
17 /
18 FRAC
19 x=0
20 GTO 06
21 2
22 STO+1
23 RCL 4
24 RCL 1
25 x<=y
26 GTO 15
27 0
```

```
28 STO 2
29 RCL 0
30 STO 3
31 1
32 0
33 /
34 INTG
35 STO 3
36 LST X
37 FRAC
38 1
39 0
40 x
41 STO+2
42 n!
43 STO+2
44 RCL 3
45 x=0
46 GTO 48
47 GTO 30
48 RCL 2
49 RCL 0
50 -
51 x=0
52 GTO 54
53 GTO 06
54 RCL 0
55 GTO 00
```

Since most of the time is spent checking for primes using the simplest possibly method. The following code doesn't bother to check for primes and simply tests all odd numbers. It gets the right answer (because there's only one integer between 10001 and 99999 that meets the condition anyway) and runs considerably faster.

```
01 9
02 9
03 9
04 9
05 STO 0
06 2
07 STO+0
08 0
09 STO 2
10 RCL 0
11 STO 3
12 1
13 0
14 /
15 INTG
16 STO 3
17 LST X
18 FRAC
19 1
20 0
21 x
22 STO+2
23 n!
24 STO+2
25 RCL 3
26 x=0
27 GTO 29
28 GTO 12
29 RCL 2
30 RCL 0
31 -
32 x=0
33 GTO 35
34 GTO 06
35 RCL 0
36 GTO 00
```

-Katie

Re: a new challenge!

*Message #19 Posted by **Don Shepherd** on 12 July 2010, 3:24 a.m.,*
in response to message #18 by Katie Wasserman

Thanks Katie and Allen for those very interesting solutions.

Well, I took the primality test out of the NSpire version, and the speed difference was remarkable. IT TOOK LONGER! Much longer, so long that I stopped it after 5 minutes. I used two methods to remove the prime test: comment out the two lines (If...Endif) and physically delete the two lines. It didn't matter, it was still running after 5 minutes.

I can't explain it, but unless I'm stupid (which is possible) there seems to be a bug on the NSpire. I'll post something to their forum and see what response I get.

Re: a new challenge!

*Message #20 Posted by **Don Shepherd** on 12 July 2010, 3:33 a.m.,*
in response to message #19 by Don Shepherd

I was stupid. If you remove the isprime() check code, it's going to execute all the code in the For loop for every number in the For loop, not just primes. That causes a longer execution time, obviously.

Duh.

Re: a new challenge!

*Message #21 Posted by **hugh steers** on 12 July 2010, 7:25 p.m.,*
in response to message #20 by Don Shepherd

unless isPrime is very slow. so, not dumb and worth a try!

Re: a new challenge!

*Message #22 Posted by **Egan Ford** on 12 July 2010, 7:35 p.m.,*
in response to message #20 by Don Shepherd

Without the knowledge that the only solution is prime, isPrime at some point is required.

Re: a new challenge!

*Message #23 Posted by **Don Shepherd** on 12 July 2010, 8:34 p.m.,*
in response to message #22 by Egan Ford

Thanks Hugh and Egan. I think isPrime() on the NSpire is very fast, which would explain why eliminating it resulted in a much longer execution time: the time saving by eliminating isPrime() is more than offset by having every number go through the following code.

I've tried to find the algorithm that isprime uses on the NSpire, and TI says it uses the trial factor increments for multiples of 2, 3, and 5 up to 1200, and then uses Montecarlo method for higher numbers, but the Montecarlo method sometimes will say that a prime is not prime, or something like that, I probably don't have it exactly right.

I'm in a lot of pain today; I had knee surgery to remove a huge infection area and I can barely walk. Gotta go take a pain pill.

Don

Re: a new challenge!

*Message #24 Posted by **David Hayden** on 12 July 2010, 8:48 a.m.,*
in response to message #1 by Don Shepherd

Here is my solution for the 50g. It takes 20 minutes 51 seconds to find the answer. In the listing "sigmaLIST" is the command to add the elements of a list (capital sigma, followed by "LIST").

I took a slightly different approach and used list processing. After finding the next prime, I break it into a list of the digits, then take the factorial of the list, etc. I haven't compared this to other solutions to see which is faster.

```
«
9999 -> PRI «
  DO
    PRI NEXTPRIME DUP 'PRI' STO
    PRI 1. DISP
    @ 12345
    I->R
    1. 5. FOR i
      DUP 10. MOD SWAP
      10. / IP
    NEXT
    DROP


    @ 1. 2. 3. 4. 5.
    5. ->LIST @ Now you have the digits as a list
    DUP
    ! sigmaLIST
    SWAP sigmaLIST
  UNTIL
    + PRI ==
  END
  PRI
  »
»
```

Re: a new challenge!

*Message #25 Posted by **Don Shepherd** on 12 July 2010, 9:06 a.m.,*
in response to message #24 by David Hayden

Nice solution, David. So the 50g can break up a number into its individual digits pretty easily, apparently. That is always harder to do in RPN or BASIC.

Re: a new challenge!

*Message #26 Posted by **David Hayden** on 14 July 2010, 7:37 a.m.,*
in response to message #25 by Don Shepherd

> Quote:
>
> Nice solution, David. So the 50g can break up a number into its individual digits pretty easily, apparently. That is always harder to do in RPN or BASIC.

Don,

Breaking numbers into their component digits is actually pretty easy. In pseudo code:

```
while number <> 0 begin
    digit = number MOD 10
    ( store the digit somewhere)
```

```
    number = Integer_Part(number / 10)
end
```

Dave

Re: a new challenge!

*Message #27 Posted by **Don Shepherd** on 14 July 2010, 8:29 a.m.,*
in response to message #26 by David Hayden

Yeah, that's pretty straightforward. The problem is with machines that don't have the mod or rmdr function, such as the 12c or 30b. It takes three steps to get the digit on those machines:

```
/ 10
fp
x 10
```

I always save the result of step 1 above so I don't have to divide by 10 again later in the loop to adjust the number, just do an ip at that point.

Re: a new challenge!

*Message #28 Posted by **Palmer O. Hanson, Jr.** on 14 July 2010, 9:57 p.m.,*
in response to message #25 by Don Shepherd

> Quote:
>
> Nice solution, David. So the 50g can break up a number into its individual digits pretty easily, apparently. That is always harder to do in RPN or BASIC.

Actually, breaking a number up into its individual digits is easy in BASIC if you use the string commands; for example, on the CC-40 and TI-74

10 INPUT N

20 S = 0

30 A$ = STR$(N)

40 FOR I = 1 TO 5

50 S = S + VAL(SEG$(A$,I,1))

60 NEXT I

70 DISPLAY S

80 PAUSE

will display the sum of the digits of a five digit number. A similar program on the Sharp PC-1261 requires only that SEG$ be changed to MID$.

If you store the factorials of the digits in an array F then you can get the sum you are looking for in your challenge by adding the term F(VAL(SEG$(A$,I,1))) to line 50.

And, if you want to automatically accept different numbers of digits you can change the upper limit of the loop to LEN(A$).

I could go on and on, but you get the idea.

Palmer

Re: a new challenge!

*Message #29 Posted by **Don Shepherd** on 14 July 2010, 10:42 p.m.,*
in response to message #28 by Palmer O. Hanson, Jr.

> Quote:
>
> breaking a number up into its individual digits is easy in BASIC if you use the string commands

Agreed, as you have showed. But strings don't exist in most programmable calculators, at least the ones I play with today. If I wanted to use strings I'd get out my 71b, but I hate to think how long that program would run before finding the solution.

And, no, I don't believe in emulators.

Re: a new challenge!

*Message #30 Posted by **Miles Willmek** on 15 July 2010, 4:19 a.m.,*
in response to message #29 by Don Shepherd

> Quote:
>
> ... I'd get out my 71b, but I hate to think how long that program would run before finding the solution.

For the record: 40 minutes, 4 seconds using basically the same alogorithm as the TI-NSpire.

I couldn't resist trying it out. :-)

Re: a new challenge!

*Message #31 Posted by **Don Shepherd** on 15 July 2010, 6:51 a.m.,*
in response to message #30 by Miles Willmek

Thanks Miles. I would have thought it would have taken a bit longer.

Don

Re: a new challenge!

*Message #32 Posted by **Glenn Shields** on 12 July 2010, 10:21 a.m.,*
in response to message #24 by David Hayden

Thanks, David, tried your prgm and loved it, especially the DISP, that's always nice. Been working with this machine for 10 months, which is not long enough to get it all under your belt- like parallel processing with lists, and the use of MOD -- great stuff. But how do these number wizards find these unique numbers - kind of mind-blowing.

Re: a new challenge!

*Message #33 Posted by **Don Shepherd** on 12 July 2010, 11:31 a.m.,*
in response to message #32 by Glenn Shields

Glenn, this particular factoid came from this book.

Re: a new challenge!

*Message #34 Posted by **Dave Shaffer (Arizona)** on 12 July 2010, 1:36 p.m.,*
in response to message #33 by Don Shepherd

Don: What is the plot on the cover of the book?

Re: a new challenge!

*Message #35 Posted by **Don Shepherd** on 12 July 2010, 2:58 p.m.,*
in response to message #34 by Dave Shaffer (Arizona)

That plot shows the distribution of small Eisenstein primes.

This site is associated with that book and briefly discusses this.

Re: a new challenge!

*Message #36 Posted by **David Hayden** on 13 July 2010, 6:56 a.m.,*
in response to message #32 by Glenn Shields

Oops! The run time that I listed with without lines to display the progress. So for faster run time, remove "PRI 1. DISP"

Dave

Re: a new challenge!

*Message #37 Posted by **Alex G** on 25 July 2010, 5:28 p.m.,*
in response to message #24 by David Hayden

Hi - I am a newbie to RPL and the HP50g, though I have a smattering of functional programming understanding, and I really like what I've seen so far. Thanks to David and others, who've been useful signposts on the early stages of the road.

Here's my approach. I split it up into 3 programs, I'm a great believer in readability and re-use.

First the main proggy, FINDSPPR, to find that 'special' prime:
« DO NEXTPRIME
UNTIL DUP SPECPR
END
»
The above calls the function SPECPR, which returns 1 if the prime is 'special', 0 otherwise.
« DUP INT2LIST
« DUP ! +
» MAP sigmaLIST ==
»
(Lovely to have MAP available, BTW, FILTER is easy to write, too)

Finally INT2LIST, which turns the integer to a string of digits. Had a bit of trouble here, but in the end I used David's approach.
« DUP SIZE -> N
« 1. N
FOR J DUP 10. MOD SWAP 10. / IP
NEXT DROP N ->LIST REVLIST
»
»
27 minutes for the above! Too much really, for an ARM machine, but then , I suppose, I should remember it's an ARM emulating a Saturn. It would be nice to have the INT2LIST function built-in, or at least, maybe at SysRPL level. I found out a lot about the calc while writing it, and in a way, it was the biggest time-hog for this program.

My initial approach was recursive, using lists, and took about four times as long as "David's", above. I realised iteration would be quicker. I also used STO+ with lists, but this was still too slow. Then I realised that my indefinite WHILE loop was still taking too long. It was worth getting the SIZE and using a FOR (75% speedup). Finally, my intial approach was to use IDIV2 rather than MOD and IP, falsely thinking it would be faster. Wrong.
« DUP SIZE -> N
« 1. N
FOR J 10. IDIV2 SWAP
NEXT DROP N ->LIST REVLIST
»
»
Takes almost twice as long as the version finally used.

Now, I do realise that there are a whole lot of clever optimizations and/or assumptions available to sped things up, but I was really looking for a simple answer, without such ingenuities.

Much as I am liking RPL I think the speed issue is a huge problem, I wrote a similar program to the one above on my PDA using Scheme and SLIB and it ran in seconds! Hmm, I see there is an RPL/2 available out there... (lamp emoticon here)

Edited: 25 July 2010, 5:49 p.m. after one or more responses were posted

Re: a new challenge!

*Message #38 Posted by **Alex G** on 25 July 2010, 5:36 p.m.,*
in response to message #37 by Alex G

Oops, sorry for the «s, some problems handling Unicode, I see, the symbols are meant to be << and >>, of course. (PS. Appears fixed now, oh... I dunno)

Edited: 25 July 2010, 6:14 p.m.

Re: a new challenge!

*Message #39 Posted by **Katie Wasserman** on 12 July 2010, 11:53 a.m.,*
in response to message #1 by Don Shepherd

Curiously enough, there's also only one 6-digit number with this same property, x = (a! + b! + c! + d! + e! + f!) + (a + b + c + d + e + f). However 'x' is a composite number.

Re: a new challenge!

*Message #40 Posted by **Kiyoshi Akima** on 13 July 2010, 1:10 p.m.,*
in response to message #39 by Katie Wasserman

Katie, is that a number with a==0?

Re: a new challenge!

*Message #41 Posted by **Kiyoshi Akima** on 13 July 2010, 1:25 p.m.,*
in response to message #40 by Kiyoshi Akima

Never mind. There was a typo in my program that was only showing a five-digit number. Fixing the typo, I found the six-digit number.

Program coming soon...

Re: a new challenge!

*Message #42 Posted by **Kiyoshi Akima** on 13 July 2010, 1:48 p.m.,*
in response to message #39 by Katie Wasserman

Okay, a brute force unoptimized program for six digits on the HP 50g. The program doesn't stop when it finds a solution, but keeps looking for more, leaving each one on the stack.

```
<<
 1. 9. FOR a
  0. 9. FOR b
   0. 9. FOR c
    0. 9. FOR d
     0. 9. FOR e
      a 10. * b + 10. * c + 10. * d + 10. * e + 10. *
      a DUP ! + b DUP ! + + c DUP ! + + d DUP ! + + e DUP ! + +
      0. 9. FOR f
       DUP2 f ! +
       IF == THEN
        OVER f + UNROT
       END
      NEXT
      DROP2
     NEXT
    NEXT
   NEXT
  NEXT
 NEXT
>>
```

I haven't done any timing test to see whether it's quicker to break a number apart or to put it together as I'm doing here. Another possibility might be to use an indexed table instead of a factorial computation.

Some combinatorics might be a possibility. We know there are at most two 9s in the number. If there are no 9s then there must be at least three 8s.

I have put in one minor optimization, in that I'm checking to see whether the number abcde0 == (a! + b! + c! + d! + e! + f!) + (a + b + c + d + e) [simply subtract f from both sides of Katie's expression].

Estimated runtime is somewhere between three hours and overnight.

Re: a new challenge (plus one more)!

*Message #43 Posted by **Egan Ford** on 12 July 2010, 6:42 p.m.,*
in response to message #1 by Don Shepherd

Hmmm... how about:

p = +/- a! +/- b! +/- c! +/- d! +/- e! +/- a +/- b +/- c +/- d +/- e

There are three solutions (where p is prime). If you completed Don's challenge then you know one of them, but what are the other two?

Hint: Don't be quick to rule out 9's. E.g. 39869 -> + 3! + 9! + 8! - 6! - 9! + 3 + 9 + 8 + 6 + 9 and is only off by 228.

Edited: 12 July 2010, 7:57 p.m.

Re: a new challenge (plus one more)!

*Message #44 Posted by **Don Shepherd** on 12 July 2010, 8:45 p.m.,*
in response to message #43 by Egan Ford

Egan, I don't understand. Why isn't plus and minus all those numbers zero?

Re: a new challenge (plus one more)!

*Message #45 Posted by **Egan Ford** on 12 July 2010, 8:49 p.m.,*
in response to message #44 by Don Shepherd

+ *or* - not + *and* -. You have 1024 sums to search/number. E.g. in the above example there is a mix of - and +.

Edited: 12 July 2010, 8:50 p.m.

Re: a new challenge (plus one more)!

*Message #46 Posted by **Don Shepherd** on 18 July 2010, 9:13 a.m.,*
in response to message #45 by Egan Ford

> Quote:
>
> + or - not + and -. You have 1024 sums to search/number

Egan, I must be dense because I still don't understand.

Suppose you had 2 numbers (1 and 2 let's say) instead of 10.

```
+1 +2 = 3
+1 -2 = -1
-1 +2 = +1
-1 -2 = -3
```

It still adds up to zero. What am I not seeing here?

Don

Re: a new challenge (plus one more)!

*Message #47 Posted by **David Hayden** on 18 July 2010, 10:09 a.m.,*
in response to message #46 by Don Shepherd

Don,

Let me try to rephrase Egan's challenge.

Given the digits of p (a, b, c, d, and e), combine a, b, c, d, e, a!, b!, c! d! and e! using only addition and subtraction to create an expression for p.

The original challenge was to use ONLY addition. Egan is saying "can you find other numbers using addition AND subtraction?"

Re: a new challenge (plus one more)!

*Message #48 Posted by **Don Shepherd** on 18 July 2010, 10:49 a.m.,*
in response to message #47 by David Hayden

Now that I understand! Thanks David.

Now to solve it....

Re: a new challenge (plus one more)!

*Message #49 Posted by **Egan Ford** on 25 July 2010, 6:21 p.m.,*
in response to message #47 by David Hayden

Yes. Thanks David. I just got back from vacation. So, no takers?

Re: a new challenge (plus one more)!

*Message #50 Posted by **David Hayden** on 25 July 2010, 8:50 p.m.,*
in response to message #49 by Egan Ford

Please don't give the answer yet, Egan. I may give it a try this week.

Re: a new challenge!

*Message #51 Posted by **Han** on 13 July 2010, 10:44 p.m.,*
in response to message #1 by Don Shepherd

You should be able to reduce the runtime by pre-computing a table of factorials for each digit. Also, you can also rule out 9 as a digit as 9! is already too big (more than 5 digits), let alone being added to anything positive.

On machines such as the HP50G where exact numbers are handled differently from approximate numbers, it is faster to use the approximate form if you know the result will not overflow. I believe this was already mentioned. In general, though, the commands that take more than one argument (e.g. "+") will always convert to approximate numbers provided at least one of the arguments is as such. The overhead that notice in the runtime is due to this conversion.

Re: a new challenge!

*Message #52 Posted by **Han** on 15 July 2010, 1:36 a.m.,*
in response to message #51 by Han

Up late packing for a trip tomorrow; thought I'd share my program. Finds the answer in 12 minutes, 30 seconds.

```
<<
  40320. 5040. 720. 120.    @ 8! 7! 6! 5!
  24. 6. 2. 1. 1.           @ 4! 3! 2! 1! 0!
  9999. -> p                @ initial "prime"
```

```
  <<
    DO
      p                    @ (fixed a typo)
      DO
        NEXTPRIME          @ find next prime
      UNTIL
        DUP ->STR          @ in which 9 is
        "9" POS NOT        @ not a digit
      END
     'p' STO               @ save prime


      0. p                 @ sum ; p


      1. 5.
      FOR n
        DUP 10. MOD        @ get digit: d
        DUP 4. + PICK      @ get d!
        + ROT +            @ new total
        SWAP 10. / IP      @ remove LSD
      NEXT


      DROP                 @ unneeded 0.


    UNTIL
      p ==
    END


    9. DROPN p             @ drop !'s; p
  >>
>>
```

Edited: 20 July 2010, 11:55 p.m. after one or more responses were posted

Re: a new challenge!

*Message #53 Posted by **Glenn Shields** on 17 July 2010, 6:49 a.m.,*
in response to message #52 by Han

Han, I tried your program, but it seemed to get stuck in a loop of 10007 NEXTPRIME 10009, so with the test loop rewritten like this:

DO DO p NEXTPRIME 'p' STO UNTIL p ->STR "9" POS NOT END ...

the program ran as expected, it took 13 minutes, 10 seconds for me. Thanks for this "extra" challenge, with all due respect a great approach. Regards, Glenn

Re: a new challenge!

*Message #54 Posted by **Han** on 19 July 2010, 8:32 p.m.,*
in response to message #53 by Glenn Shields

> Quote:
>
> Han, I tried your program, but it seemed to get stuck in a loop of 10007 NEXTPRIME 10009, so with the test loop rewritten like this:
>
> DO DO p NEXTPRIME 'p' STO UNTIL p ->STR "9" POS NOT END ...
>
> the program ran as expected, it took 13 minutes, 10 seconds for me. Thanks for this "extra" challenge, with all due respect a great approach. Regards, Glenn

Glenn,

You are right in that there is a typo. My program has:

DO p DO NEXTPRIME UNTIL DUP ->STR "9" POS NOT END 'p' STO

(There should be a p between the two DOs, and not after.)

Re: a new challenge!

*Message #55 Posted by **Glenn Shields** on 22 July 2010, 8:50 p.m.,*
in response to message #54 by Han

Thanks for that correction, Han. I tried your program again, and it does run in the time you say, about 30 seconds faster than my re-write. Could this be because i call p again, while you leave it in the stack with DUP ? It must be a real but very small difference, to add up to only 30 seconds in many (thousands?) iterations. Can't wait for the next one.

Re: a new challenge!

*Message #56 Posted by **Kiyoshi Akima** on 16 July 2010, 5:08 p.m.,*
in response to message #51 by Han

Sometimes the amount of that overhead can be staggering.

I first unrolled the innermost loop (the factorial lookups) and got the program to run in just under 12 minutes. Then I converted to SysRPL, which forces the programmer to worry about the data types. That almost doubled the speed, to 6.5 minutes.

```
::
 AtUserStack        ( no stack arguments required )
 40320 5040 720 120 24 6 2 ONEONE
 9973 FPTR2 ^#>Z    ( largest four-digit prime )
 BEGIN
  BEGIN             ( reject primes containing nines )
   FPTR2 ^Prime+ DUP FPTR2 ^Z>S tok9 ONE POS$ #0=
  UNTIL
  DUP FPTR2 ^Z>S DISPROW1
  DUP FPTR2 ^Z>R COERCE DUP
  TEN #/ SWAP DUP #5+ PICK #+ SWAP
  TEN #/ SWAP DUP #6+ PICK #+ SWAP
  TEN #/ SWAP DUP #7+ PICK #+ SWAP
  TEN #/ SWAP DUP #8+ PICK #+ SWAP
              DUP #8+ PICK #+
  #+ #+ #+ #+
  #=
 UNTIL
 10UNROLL 9 NDROP
;
```

PS: Is it too soon to mention that a tremendous speed gain can be achieved by starting from the other end?

Re: a new challenge!

*Message #57 Posted by **Don Shepherd** on 16 July 2010, 6:30 p.m.,*
in response to message #56 by Kiyoshi Akima

> Quote:
>
> Is it too soon to mention that a tremendous speed gain can be achieved by starting from the other end?

No, this thread started several days ago and most folks have had time to digest it, I think. Yes, starting at 99999 and going down should reduce the times (since I know that the magic number is obviously >50000).

What surprizes me with the run times I have seen so far is that the TI-NSpire, running BASIC, seems to be somewhat faster than the 50g running RPL. I thought the 50g could do almost anything in less than a nano-second. I'm exaggerating, of course. I'm thinking that the NSpire isprime() function must be really optimized or something.

Don

Re: a new challenge!

*Message #58 Posted by **Palmer O. Hanson, Jr.** on 16 July 2010, 10:26 p.m.,*
in response to message #57 by Don Shepherd

> Quote:
>
> No, this thread started several days ago and most folks have had time to digest it, I think. Yes, starting at 99999 and going down should reduce the times (since I know that the magic number is obviously >50000).

Because the solution also can't stand three eights it would be possible to further reduce the time by starting somewhere in the neighborhood of 88800 and going down. To avoid that sort of silliness it would be better to require that the solution scan the entire range.

Palmer

Re: a new challenge!

*Message #59 Posted by **Don Shepherd** on 17 July 2010, 12:00 a.m.,*
in response to message #58 by Palmer O. Hanson, Jr.

> Quote:
>
> To avoid that sort of silliness it would be better to require that the solution scan the entire range.

But if someone can make a mathematical case for scanning a smaller range, as some have done in this thread, I think, then more power to them, use the smaller range and tell us why you can do it. For example, several folks mentioned that the number can't have a 9 in it because 9! is larger than a 5 digit number. The number 8 has limitations too. I'd rather see the thought behind these things than just scanning all 5-digit numbers. My NSpire method just did that too, because I was lazy and dumb! But I value and admire smarts.

Re: a new challenge!

*Message #60 Posted by **Allen** on 17 July 2010, 9:31 a.m.,*
in response to message #58 by Palmer O. Hanson, Jr.

> Quote:
>
> To avoid that sort of silliness it would be better to require that the solution scan the

entire range.

What's the point? I can prove fully that the number must:

```
1) The number is odd
2) The number is less than 88777 ( e.g. greedy algorithm by subtracting the
max n! from 99,999) and larger than 10087
3) The sum of digits (SOD) is between 14 and 37 (corollary to 2)
4) There exists at least one digit above 6, but no nines anywhere in the
number
5) The SOD is not a multiple of 3
6) The last digit is a 1,3, or 7
```

By implementing a selection of these rules, you can reduce the naive search by more than 60%. While that might not be important on the range of 99,000, imagine if the problem were expanded to six-digit numbers as Katie suggested? Suddenly a hard problem becomes much easier with a more purposeful algorithm.

For any problem like this, searching the entire range is like paying full price at one store despite the half-off sale next door.

Re: a new challenge!

*Message #61 Posted by **Kiyoshi Akima** on 17 July 2010, 3:16 p.m.,*
in response to message #60 by Allen

7) There must be an odd number of the digits {0,3,5,7}, which implies that there is an even number (possibly zero) of the digits {1,2,4,6,8}. From #4 above there are no nines.

Re: a new challenge!

*Message #62 Posted by **Glenn Shields** on 17 July 2010, 4:40 p.m.,*
in response to message #61 by Kiyoshi Akima

Thanks, Katie, for this new challenge, and thanks Han for the method of pre-computing the factorials. I modified Han's program to include 9! and to increment by 1. It was hard to guess a range of numbers, but those around 770000 to 880000 seemed likely. But incrementing by ones was taking forever. I have two hp50g's, and set one to go up (using INCR) and one to go down from 775000. Six hours later, no answer, and batteries were getting low.

So, deciding to skip by 10, and taking a wild guess that the number ends in 7, the answer popped up in a short while (but far from the initial guess, btw). Also, the answer, I must confess, does have a 9 in it, and the sod is a multiple of 3.

Here's the program all in a row: << 362880. 40320. 5040. 720. 120. 24. 6. 2. 1. 1. 100007. -> n << DO 0. n 10 + DUP 'n' STO 1. 6. FOR i DUP 10. MOD DUP 4. + PICK + ROT + SWAP 10. / IP NEXT DROP UNTIL n == END 10. DROPN n >> >>

Again, thanks to Katie for this calculator fun! Incidentally, neither this number nor the original challenge number is listed in the "numeropedia" on-line which covers a huge range of numbers (yes I tried to cheat!) Cheers, Glenn

Re: a new challenge!

*Message #63 Posted by **Katie Wasserman** on 18 July 2010, 1:36 a.m.,*
in response to message #62 by Glenn Shields

I cheated too, I found the number using a tiny AWK program on my PC in a couple of seconds. It's a lot of number crunching for a calculator.

Re: a new challenge!

*Message #64 Posted by **Han** on 20 July 2010, 4:44 p.m.,*
in response to message #62 by Glenn Shields

> Quote:
>
> I have two hp50g's, and set one to go up (using INCR) and one to go down from 775000. Six hours later, no answer, and batteries were getting low.

Don't forget -- the HP50G can run off of USB power. Just plug it into your laptop or PC when doing heavy calculations for "free" power =)

Re: a new challenge!

*Message #65 Posted by **Gerson W. Barbosa** on 23 July 2010, 5:27 p.m.,*
in response to message #57 by Don Shepherd

Hello Don,

> Quote:
>
> since I know that the magic number is obviously >50000

Since you've given no other hints, we curious people here had to write our own programs or run someone else's program to know what it is. I won't spoil it all by simply listing it here. Instead, I present the following sequence that should work on any 10-digit HP RPN calculator that has Gamma function, like the HP-11C and 15C. I've made some arrangements to make your *magic* number look like one: 14 (2*7) palindromic lines, some 7s and exactly 7 calls to x! in the fourth line.

```
          7  1  1/x  1  7

                +

           SQRTx   SQRTx

       x!  x!  x!  x!  x!  x!  x!

                7

                1

               1/x

             3 SQRTx 3

                x!
```

```
                    /

                    +

                    2

                    *

                    -
```

Of course a simple INT might replace 10 lines (and make it work on 12-digit calculators too), but I like this pattern.

Gerson.

Edited: 23 July 2010, 5:41 p.m.

Re: a new challenge!

*Message #66 Posted by **Don Shepherd** on 23 July 2010, 6:21 p.m.,*
in response to message #65 by Gerson W. Barbosa

To borrow a quote from Apollo 13: And you, sir, are a steely-eyed missleman!

How clever.

thx, Don

Re: a new challenge!

*Message #67 Posted by **Gerson W. Barbosa** on 17 July 2010, 6:59 p.m.,*
in response to message #56 by Kiyoshi Akima

> Quote:
>
> ... a tremendous speed gain can be achieved by starting from the other end?

Indeed! Even my last-hour very inelegant solution on the 50g below finds the solution in less than 73 seconds (Too busy at work last week to give it a try). I tested only odd numbers ending in 7, 3 and 1 (There is no prime number ending in 5 but 5 itself and 9 cannot be in the solution).

```
%%HP: T(3)A(R)F(,);
DIR
  PRG
  \<< 88777
    DO DUP ISPRIME?
      \<< CHK
      \>> IFT 4 - DUP ISPRIME?
      \<< CHK
      \>> IFT 2 - DUP ISPRIME?
      \<< CHK
      \>> IFT 4 - DUP 10000 <
    UNTIL
    END
  \>>
  CHK
  \<< DUP N2L DUP ! + \GSLIST ==
    \<< KILL
    \>> IFT
```

```
  \>>
  N2L
  \<< DUP \->STR DUP HEAD STR\-> { } + SWAP TAIL DUP HEAD STR\-> ROT + SWAP TAIL DUP
HEAD STR\-> ROT + SWAP TAIL DUP HEAD STR\-> ROT + SWAP TAIL STR\-> +
  \>>
END
```

Re: a new challenge!

*Message #68 Posted by **Thomas Klemm** on 20 July 2010, 9:27 p.m.,*
in response to message #1 by Don Shepherd

First I wanted to have a rough estimate of the number of primes between 10,000 and 88,888. Using the aproximation n/log(n) I got 6,714 while the correct answer is 7,382. The constraint concerning the factorial of the digits seemed to be more rigid than that of beeing a prime. Since the order of the digits doesn't change the sum I wondered how many possibilities I'd have to check. I decided to have the digits ordered descending from left to right. Since we need at least two 7's and at most three 8's I check the following two ranges:

```
77000 - 77777: comb(10, 7) = 120
80000 - 88888: comb(12, 8) = 495
```

Thus I'd have to check only 615 cases. For each case the "magic" sum is calculated. To make it easier to compare the digits I use a representation where the position counts the digits, e.g. 34316 -> 1012010. When they agree the program stops and displays this representation. From this the number can be calculated using the "magic" sum. Now you only have to verify that this number is a prime.

Initialization (some may call it cheating):

```
10  STO 0
```

1st run (77000 - 77777):

```
7.007  STO 1  STO 2
0.007  STO 3
GTO 3  R/S
```

There's no solution within this range.

2nd run (80000 - 88888):

```
8.008  STO 1
0.008  STO 2
GTO 2  R/S
```

There's exactly one solution: 210101000. So we know we have two 8's, one 7, one 5 and one 3. I'm leaving it up to you to calculate the number. You probably already know it.

Here's the program for the HP-15C:

```
LBL A
STO 1  LBL 1  RCL 1
STO 2  LBL 2  RCL 2
STO 3  LBL 3  RCL 3
STO 4  LBL 4  RCL 4
STO 5  LBL 5
5  STO I
CLx  ENTER
LBL 9
  RCL (i)  INT  ENTER
  10^x  R-^  +
  x<>y  ENTER  x!  +
  R-^  +
DSE I  GTO 9
0  x<>y
LBL 0
  RCL / 0  INT  x<>y
```

```
  LSTx  FRAC  RCL * 0
  10^x  +  x<>y
TEST 0  GTO 0
R-v
TEST 5  R/S
ISG 5  GTO 5
ISG 4  GTO 4
ISG 3  GTO 3
ISG 2  GTO 2
ISG 1  GTO 1
RTN
```

This is just a raw version. It could be improved when some of the repeating results were cached in registers. It runs quiet fast in the emulator of my iPhone but I don't know how long it would take on the real calculator.

Thanks for the nice challenge and all the other solutions.

Best regards
Thomas

Edited: 20 July 2010, 10:17 p.m.

Re: a new challenge!

*Message #69 Posted by **Don Shepherd** on 21 July 2010, 1:20 a.m.,*
in response to message #68 by Thomas Klemm

Thomas, what a nice algorithm! I appreciate the fact you could pick this problem apart logically without resorting to the brute-force approach. Well done!

Don Shepherd

Re: a new challenge!

*Message #70 Posted by **Gerson W. Barbosa** on 21 July 2010, 10:16 a.m.,*
in response to message #68 by Thomas Klemm

> Quote:
>
> Since we need at least two 7's and at most three 8's

Shouldn't it be two 8's at most as 3*8! is a 6-digit number? Anyway, I haven't understood how you set up the range you want to check.

> Quote:
>
> I don't know how long it would take on the real calculator.

The second run took about 46 minutes on my 2.2x 15C, which translates to about 1 hour and 40 minutes on a normal 15C (or 1 and a half hour if the speed-up factor is 2 - I don't remember whether I changed it or not).

Regards,

Gerson.

Re: a new challenge!

*Message #71 Posted by **Thomas Klemm** on 21 July 2010, 7:05 p.m.,*
in response to message #70 by Gerson W. Barbosa

> Quote:
>
> Shouldn't it be two 8's at most as 3*8! is a 6-digit number?

Absolutely correct! Yet three 8's are still a correct upper limit.

> Quote:
>
> Anyway, I haven't understood how you set up the range you want to check.

Actually I'd like to check the digits 77000 - 88800. However my program doesn't allow to configure that directly, but it's possible to configure a range as 000 - 777 or 0000 - 8888. So I expanded the range a little and split it into two parts: 77000 - 77777 and 80000 - 88888. In the first case two digits are constant (7) while in the second only one is (8).

Many thanks for taking the time to meassure the runtime of my program. I'm surprised it took so long but the calculation in the inner-most loop is quiet complex. It might be possible to use something simpler as the (alternate) sum of the digits. It all depends on how many false positives are produced.

Cheers
Thomas

Re: a new challenge!

*Message #72 Posted by **Gerson W. Barbosa** on 21 July 2010, 11:49 p.m.,*
in response to message #71 by Thomas Klemm

Hello Thomas,

Thanks for your explanations.

> Quote:
>
> I'm surprised it took so long but the calculation in the inner-most loop is quiet complex.

That's not so long, considering the HP-15C is a slow calculator. At least its power consumption is very low: it's running on a set of batteries that my HP-42S used to exaustion, yet there's some energy left to power up even a sped-up 15C (no blinking star so far).

Regards,

Gerson.

Edited: 22 July 2010, 9:52 a.m.

Re: a new challenge!

*Message #73 Posted by **Don Shepherd** on 26 July 2010, 6:47 a.m.,*
in response to message #1 by Don Shepherd

Here is a solution for the HP-30b. It finds the number in 31 seconds. The primacy of the number can be verified in less than 1 second using the code in message# 30 of this thread.

I start with 88777, the largest possible 5-digit number based upon 8! and 7!, and decrement by 2 to check only odd numbers. Following is BASIC-like pseudocode and the 30b RPN code that follows the BASIC model.

```
for i = 88777 to 1 step -2
  a=i
  b=0
  for j = 0 to 4
    d = a mod 10
    b = b + d + d!
    a = ip (a/10)
  next j
  if b = i then print b/stop
next i
```

```
88777
sto 0
lbl 10
sto 2
0
sto 3
4
eex
3
+/-
sto 1
lbl 11
rcl 2
10
/
ans
x<->y
math
up
=
x
sto+3
!
sto+3
rcl 2
10
/
math
up
up
=
sto 2
isg 1
goto 11
rcl 3
rcl 0
?=
gt 12
2
-
sto 0
goto 10
lbl 12
stop
```

Thanks to all who participated in this little endeavor, especially those who offered non-brute-force solutions. The intelligence and creativity of members of this forum are amazing.

Edited: 26 July 2010, 7:11 a.m.

Re: a new challenge!

*Message #74 Posted by **Gerson W. Barbosa** on 27 July 2010, 2:30 p.m.,*
in response to message #73 by Don Shepherd

No improvement from what's been posted so far. The number is found in 7 minutes and 48 second on my HP 33s (batteries starting to get low). Four more seconds can be gained if the constant in lines D0004 and D0014 is recalled from a register. Now the number only has to be checked for primality, which shoud take no more than a few seconds.

```
B0001 LBL B
B0002 4
B0003 STO A
B0004 STO C
B0005 2
B0006 STO B
B0007 88777
B0008 STO N
B0009 -1
B0010 STO X
F0001 LBL F
F0002 1
F0003 STO+ X
F0004 RCL X
F0005 3
F0006 RMDR
F0007 1
F0008 +
F0009 STO i
F0010 RCL(i)
F0011 STO- N
F0012 0
F0013 STO S
F0014 RCL N
D0001 LBL D
D0002 ENTER
D0003 ENTER
D0004 10
D0005 RMDR
D0006 8
D0007 x<y?
D0008 GTO F
D0009 Rv
D0010 STO+ S
D0011 x!
D0012 STO+ S
D0013 Rv
D0014 10
D0015 INT/
D0016 x#0?
D0017 GTO D
D0018 RCL S
D0019 RCL N
D0020 x=y?
D0021 STOP
D0022 GTO F


     length   checksum
B      78       0D17
F      90       7D36
D     102       A8D7
```

Re: a new challenge!

*Message #75 Posted by **Don Shepherd** on 27 July 2010, 4:05 p.m.,*
in response to message #74 by Gerson W. Barbosa

Thanks Gerson. I know that many here don't like the 33s because of its chevron keyboard, but that never bothered me, it is a fast little calculator, much faster than its successor, the 35s.

Until HP releases an ARM-based scientific RPN programmable calculator, I do recommend the 30b. It is a bit quirky to program, but it is blazingly fast.

Re: a new challenge!

*Message #76 Posted by **Gerson W. Barbosa** on 27 July 2010, 5:38 p.m.,*
in response to message #75 by Don Shepherd

You're welcome, Don. Than YOU for the interesting problems you've been posting.

I prefer the 33s over the 35s for a many reasons. Among them:

- It's faster;

- Checksums work;

- ALL mode works the way I like;

- XEQ works like it should (XEQ label only to execute a program);

- Many functions accessible right from the keyboard.

The 33s keyboard, however, is not good.

Regards,

Gerson.

Re: a new challenge!

*Message #77 Posted by **Gerson W. Barbosa** on 29 July 2010, 12:56 p.m.,*
in response to message #74 by Gerson W. Barbosa

```
B0001 LBL B
B0002 1.009            ; precompute factorial of digits as per Han's suggestion
B0003 STO i
C0001 LBL C
C0002 RCL i
C0003 IP
C0004 1
C0005 -
C0006 x!
C0007 STO(i)           ; the factorial of digits 0..8 will be stored in registers A
through I
C0008 ISG i
C0009 GTO C
C0010 88781
C0011 STO N
C0012 1
C0013 STO X
F0001 LBL F
F0002 1
F0003 STO+ X
F0004 4
F0005 RCL X
F0006 3
F0007 RMDR
F0008 2
F0009 RMDR
F0010 LASTx
F0011 *
F0012 -                ; 4 - 2*mod(mod(x,3),2) -> this generates the sequence
4,4,2,4,4,2,... when x=2,3,4,5,6,7,...
F0013 STO- N           ; which is successively subtracted from n, so that odd
numbers ending in 5 or 9 are skipped
F0014 0
F0015 STO S            ; initialize sum
F0016 RCL N
D0001 LBL D
D0002 ENTER
D0003 ENTER
D0004 10
D0005 RMDR             ; get single digits of n starting from the last significant
digit
```

```
D0006 8
D0007 x<y?
D0008 GTO F             ; abort process when a digit greater than 8 is found
D0009 Rv
D0010 STO+ S            ; add digit to sum
D0011 RCL+ A            ; increment digit
DOO12 STO i             ; and use it as a pointer to table of factorials
D0013 RCL (i)           ; get factorial of digit
D0014 STO+ S            ; and add it to sum
D0015 Rv
DO016 Rv                ; discard digit and factorial
D0017 10
D0018 INT/
D0019 x#0?
D0020 GTO D             ; repeat until there is no digit left
D0021 RCL S
D0022 RCL N
D0023 x=y?
D0024 STOP              ; stop when n matches sum
D0025 GTO F             ; next n


     length   checksum


B      21       E56B
C      75       E81F
F     108       08CF
D     111       3F33


Running time: 6m 23s
```

A somewhat faster version:

```
B0001 LBL B
B0002 1.008
B0003 STO i
C0001 LBL C
C0002 RCL i
C0003 IP
C0004 x!
C0005 STO(i)
C0006 ISG i
C0007 GTO C
C0008 8
C0009 STO I
C0010 10
C0011 STO J
C0012 88781
C0013 STO N
C0014 1
C0015 STO X
F0001 LBL F
F0002 RCL A
F0003 STO+ X
F0004 4
F0005 RCL X
F0006 3
F0007 RMDR
F0008 RCL B
F0009 RMDR
F0010 LASTx
F0011 *
F0012 -
F0013 STO- N
F0014 0
F0015 STO S
F0016 RCL N
D0001 LBL D
D0002 ENTER
D0003 ENTER
D0004 RCL J
D0005 RMDR
D0006 RCL I
D0007 x<y?
D0008 GTO F
D0009 Rv
D0010 STO+ S
```

```
D0011 x=0?
D0012 x!
DOO13 STO i
D0014 RCL (i)
D0015 STO+ S
D0016 Rv
DO017 Rv
D0018 RCL J
D0019 INT/
D0020 x#0?
D0021 GTO D
D0022 RCL S
D0023 RCL N
D0024 x=y?
D0025 STOP
D0026 GTO F


     length   checksum


B      21       71FD
C      93       D48D
F      84       2659
D      78       6BDC


Running time: 6m 11s
```

Edited: 29 July 2010, 2:40 p.m.

Re: a new challenge!

*Message #78 Posted by **Gerson W. Barbosa** on 12 Aug 2010, 9:11 p.m.,*
in response to message #77 by Gerson W. Barbosa

> Quote:
>
> ```
> Running time: 6m 11s
> ```

4m 29s after replacing batteries with brand-new ones. This means it would take about 23 seconds on a 30b running the same algorithm (considering the performance of both calculators on Xerxes's benchmark).

Re: a new challenge!

*Message #79 Posted by **Don Shepherd** on 12 Aug 2010, 10:15 p.m.,*
in response to message #78 by Gerson W. Barbosa

> Quote:
>
> This means it would take about 23 seconds on a 30b running the same algorithm

In message #1 in this thread I used a different algorithm, but it took 31 seconds on the 30b. Quite a fast little machine, I wish Office Depot in my town had it, I'd like to get another one. Richard Nelson says August...

Don

Re: a new challenge!

*Message #80 Posted by **Gerson W. Barbosa** on 13 Aug 2010, 8:01 a.m.,*
in response to message #79 by Don Shepherd

23 seconds is just an estimation which may be wrong. The actual timing would be only known by porting the algorithm to the 30b, but I fear this is not so straightforward. Anyway, the half minute running time you have actually obtained is pretty impressive. I don't have a 30b yet (I am reluctant to get another financial calculator - I got rid of one 12C Platinum, one 19BII and one 17BII. Only one 12C and one 12C+ left now, the first because it's a Voyager and the latter because it's its extremely fast version). Still waiting for a new 30s or something like that ...

Gerson.

Re: a new challenge!

*Message #81 Posted by **Don Shepherd** on 13 Aug 2010, 8:19 a.m.,*
in response to message #80 by Gerson W. Barbosa

The algorithm I used on the 30b should be translatable to the 12c+. You'd need to control the loop manually since there's no ISG, but we've been doing that for years on the 12c. The 30b and 12c+ use the same processor, so the timing should be similar.

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HP Forum Archive 19

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HP-41CX halfnut speedup

*Message #1 Posted by **Theo Kas (Australia)** on 9 July 2010, 9:55 p.m.*

I have an HP-41CX HALFNUT that I would like to modify to run at 2X (or faster) normal speed. I have seen posts on speeding up hp-41 fullnuts but not half nuts. I have successfully increased the speed of a 41CX fullnut many years ago and would now like to do the same on a spare half nut that I have.

Any help would be greatly appreciated.

Thanks, Theo

Re: HP-41CX halfnut speedup

*Message #2 Posted by **Garth Wilson** on 10 July 2010, 12:47 a.m.,*
in response to message #1 by Theo Kas (Australia)

I got the kit from Educalc in the 80's when they were selling it, but when I read in the instructions that you couldn't use it with HPIL or combined modules (both of which I had and used regularly), I returned it. I believe it was for both Halfnut and Coconut. (There never was a "Fullnut.") Mine is a halfnut.

Edited: 10 July 2010, 12:48 a.m.

Re: HP-41CX halfnut speedup

*Message #3 Posted by **Theo Kas (Australia)** on 10 July 2010, 2:15 a.m.,*
in response to message #2 by Garth Wilson

I remember reading about the EduCalc kits long after production of the 41 had ceased - I think there were two kits available, fast and Turbo. However, I was a PPC member many years ago and read where members had increased the speed of their 41's by replacing a 140pF cap with anywhere from a 33pF to 22pF cap. I tried this - using a 22pF cap on my first 41CX (which has the same 41C LCD display and 41C/CV/CX common logic PC board - hence the 'fullnut' reference) which I still have and all modules including x-memory, HPIL AND card reader worked (and still do, although the card reader now has a gummy wheel) OK. I thought I would speed up a spare 41CX halfnut that I have, however, opening the machine reveals a totally different setup - there is a small PCB mounted on to the main PCB. I am assuming that any mod to increase the speed would have to be done to this small PCB....?????

Re: HP-41CX halfnut speedup

*Message #4 Posted by **Diego Diaz** on 11 July 2010, 12:27 a.m.,*
in response to message #3 by Theo Kas (Australia)

Hi Theo,

> Quote:
>
> I am assuming that any mod to increase the speed would have to be done to this small

PCB....?????

Nope! The LC resonant circuit in on the keyboard PCB.

The main question you'll have to answer is if you want a "permanent" speed-up or a "switchable" one.

In the firt case just replace the SMD capacitor between pins 9 and 10 of the CPU (just under key [5]) with one in the range 22pF to 47pF (depending on how much "thrust" you want to make your 41 run at)

The second case is somehow more complicated since you'll need a suitable means to turn the "turbo" mod ON and OFF; and involves some type of switch and cabling for the task and, eventually, some case mods (filing, drilling, etc.) to gain acces to the switch.

Wish you the best of lucks with your project.

Cheers from Spain.

Diego.

PD. Not intended to refrain your enthusiasm, but IMHO 41's were not "born to run" (even at 4x they're still pretty slow). As I said, just my opinion.

Re: HP-41CX halfnut speedup

*Message #5 Posted by **Theo Kas (Australia)** on 12 July 2010, 7:03 a.m.,*
in response to message #4 by Diego Diaz

Hi Diego, thanks for you help and advice. I think that I will leave it as it is and continue to use the one that is already modified. It must be a fluke that my 2X 41CX works with all modules and peripherals - maybe modding another might not be so lucky. Cheers, Theo

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HP Forum Archive 19

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Replacing dead screen on my HP17BII with one from HP27S?

*Message #1 Posted by **John Hinz** on 9 July 2010, 8:16 p.m.*

Hi

My 18 month old son just threw my 17BII on the floor when it was turned on. The screen has stopped working and it is black over part of it, so I assume is is a goner. I have two HP27S's that are in hardly used condition but because they don't have RPN I don't like using them? Is it feasible to put a good screen from a HP27S in my HP17BII? I am not very good with electronics so would have to get someone to do it for me. If it's feasible can anyone recommend someone here in Australia who could do it for a reasonable price? Does anyone have any idea what this might cost? Otherwise I can buy a new HP17BII+ or a used 17BII ex ebay. The just dead 17BII is a used one that I bought on ebay to replace one that got drowned in a glass of wine. I bought this because I read some forum comments that the older model is superior to the new one. Has anyone got any thoughts on this + whether I should just get another machine rather than muck about swapping screens over?

Thanks

John

Re: Replacing dead screen on my HP17BII with one from HP27S?

*Message #2 Posted by **Raymond Del Tondo** on 9 July 2010, 8:26 p.m.,*
in response to message #1 by John Hinz

Hi,

I wouldn't bother fiddling with replacing LCDs, effectively wrecking even more HP calcs;-)

My suggestion: Sell the 27S units, and buy another used 17BII, either from TAS or elsewhere.

HTH

Raymond

Re: Replacing dead screen on my HP17BII with one from HP27S?

*Message #3 Posted by **John Hinz** on 9 July 2010, 10:49 p.m.,*
in response to message #2 by Raymond Del Tondo

Hi Raymond

Thanks for the advice. I just remembered I have the older 17BII that had wine split on the key board. Thanks to advice I got on this forum I was able to revive it several times but it eventually died. The screen on this one is OK, so assuming that on my recent accident the screen is the only issue, I could feasibly make one good one out of two dead ones. This would avoid me having to wreck one of the good 27S's. I have no idea how difficult it is to swap the screens so if I'm totally on the wrong track let me know. Looking at ebay I can probably pick up a good used 17BII for $50.

Thanks

John

Re: Replacing dead screen on my HP17BII with one from HP27S?

*Message #4 Posted by **Martin Pinckney** on 9 July 2010, 11:02 p.m.,*
in response to message #3 by John Hinz

Indeed, *please* do not sacrifice a 27s for a 17bii. That is moving in the wrong direction.

Re: Replacing dead screen on my HP17BII with one from HP27S?

*Message #5 Posted by **Lyuka** on 10 July 2010, 7:26 p.m.,*
in response to message #4 by Martin Pinckney

> Quote:
>
> Indeed, *please* do not sacrifice a 27s for a 17bii. That is moving in the wrong direction.

I sacrificed a good 17B for a 27s. right direction?

HP-27S LCD transplantation

Re: Replacing dead screen on my HP17BII with one from HP27S?

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 10 July 2010, 3:25 p.m.,*
in response to message #1 by John Hinz

Hi!

Some people (PICK ME! PICK ME!) would gladly give you a mint (or two mint... PICK ME!) HP17BII+ for one of your HP27S...

About swapping LCD´s: I have once tried, and let me tell you that the 'operation' involves many steps: disassembled a calculator with many plastic rivets, totally remove the mainboard by twisting six metal tabs that may crack and you´ll be in trouble setting the mainboard back in place, choose between removing the 'metal chassis plate' with the keyboard contacts OR the LCD that is glued in the chassis plate, then bringing it all together in one piece, all of the steps above backwards...

Cheers!

Luiz (Brazil)

P.S. - just in case... PICK ME!

Edited: 10 July 2010, 3:32 p.m.

Re: Replacing dead screen on my HP17BII with one from HP27S?

*Message #7 Posted by **John Hinz** on 10 July 2010, 5:52 p.m.,*
in response to message #6 by Vieira, Luiz C. (Brazil)

Hi

I had no idea that HP27's were so attractive. To me the fact they don't have RPN makes them painful to use. Are they a lot rarer or the fact they are a scientific calculator that makes them appealing? I'll keep you in mind Luiz if my repair process fails. I've already started trying to make one good 17BII out of my two bad 17BII's, so both HP27's live on. Basically I have nothing to lose apart from wasting my time.

I'm following the procedures I found in this link headed "HP Pioneer Observational Internals" http://www.hpmuseum.org/guest/brogpion.htm

I've now got the two halves of the first calculator separated after using a small drill bit to ream out the plastic heat stakes inside the battery compartment.

I've now hit a snag with removing the board from the front half of the case.I've twisted the 6 tags so they line up with the slots in the PCB but the board won't easily pull away and feels like it's jammed. It feels like it's another problem, different to one or more of the tags not being lined up exactly with a slot. Any suggestions on what to do next? I'm worried that if I try and use a small thin bladed screwdriver to lever the board out near the tags I'm going to crack the board. Any suggestions would be most welcome.

The link explains how to remove and replace the screen from the steel frame. Hopefully this will go smoothly but any extra comments or ideas would be appreciated.

Thanks

John

Re: Replacing dead screen on my HP17BII with one from HP27S?

*Message #8 Posted by **Vieira, Luiz C. (Brazil)** on 10 July 2010, 9:57 p.m.,*
in response to message #7 by John Hinz

Hi, John;

FYI, here in Brazil we have an 'e-bay' local equivalent called 'Mercado Livre' (could translate to Free Market). There are two HP27S´s being sold right now. One is new in the box for about R$450,00 (~US$255,00) and the other is just the calculator and protective cover, for about R$290,00 (~US$165,00). Used HP17BII can be found for less than half of it...

I like the HP27S because it is versatile. It lacks programming (but it has the SOLVER) and RPN, but it offers a lot more. If you are a Production Engineer the HP27S is a handy 'swiss knife' calculator. Of course, you can buy a new HP50G and customize it to go far beyond the HP27S, but the HP27S is from 1988, an almost 23 Y.O. design. And was available NIB from HP for no more than four years. It is a rare piece.

One of the guys that has been restoring and repairing calculators is Geoff Quickfall, along with some others. His works in restoration and repair led him to write a book about it. I consider it a must have...

Now for the HP17BII repair. I once rebuilt an HP42S from a non-working HP17BII 'who' donated the LCD and the keyboard contacts (the whole metal plate) and another HP42S with a relatively good case and mainboard. I also used this little 'frankencalc' as my first 32KRAM transplantation, and the little thing survived! Well, it has two columns and one row in the LCD that do not turn on (its 'scars'), but hey! That´s fine, I use it regularly.

I know that 'peeling' the keyboard faceplate out allows the plastic rivets to be accessed and the frame to be replaced, but I did that only with an HP15C I rebuilt from an HP11C´s case and mainboard. I removed the 11C´s IC´s and kbd faceplate and 'inplanted' the IC's and faceplate from two different HP15C's. I must tell you I had a lot of difficulties do remove the kbd faceplate, but one of our regular

contributors has the skills and have found a way This the 'frankensister' or 'frankenbrother' of teh other one... (sound too familiar, I know). The cosmetics are not exactly what I expected, but this little one is also working for many years.

About the mainboard: there must be a better way to remove it, if it feels jammed than I'd think twice prior to try to pop it out with a cutting blade. If I may, I'd suggest using something that bends itself instead of something that might bend the calculator case, the PCB or that might damage something...

Not so much of a help, though, but that´s what I'd try to.

Success!

Luiz (Brazil)

(P.S. - I'd LOVE to have an HP27S like the one announced in 'Mercado Livre' here, and I have an HP17BII of the early type - brown case, no language option - but I am not so sure if it is worth risking the mail for a trade... Picking me for a trade was more like a wish than a request... Others, fairly closer to you, would benefit in such trade, and I'd encourage so)

Edited: 10 July 2010, 10:00 p.m.

Re: Replacing dead screen on my HP17BII with one from HP27S?

*Message #9 Posted by **Martin Pinckney** on 10 July 2010, 10:47 p.m.,*
in response to message #7 by John Hinz

> Quote:
>
> I had no idea that HP27's were so attractive. To me the fact they don't have RPN makes them painful to use. Are they a lot rarer or the fact they are a scientific calculator that makes them appealing?

Bear in mind that the 27s was born in the era when HP finally realized there was a huge potential market they were missing: folks (Like me!) who find *RPN* a pain to use, but who longed for the legendary HP quality. So they came out with, 10b, 14b, 17b, 20s, 21s, 22s, 27s, all "algebraic" models, and later 17bii, dual mode, as you know. IMO the 27s is by far the best of them, combining both scientific and business functions. And it's Solver is just fabulous. The 27s is so good that *even some RPN users* (gasp!) get it and "put up" with its algebraic-ness.

Re: Replacing dead screen on my HP17BII with one from HP27S?

*Message #10 Posted by **bill platt** on 11 July 2010, 11:07 a.m.,*
in response to message #9 by Martin Pinckney

> Quote:
>
> The 27s is so good that even some RPN users (gasp!) get it and "put up" with its algebraic-ness.

That would be me. except that I "embrace" rather than "put up with" the algebraic.

I kick myself for not looking into this machine long ago. In 1995, when I lost my 11c, I remember seeing this 27S in the store. I turned my nose up at the "Algebraic" thinking, "I want something that is as like my 11c as possible." So I got the 32sii. Looking back, I chuckle. The 27s is fantastic and

soooo much better than the 32sii for my needs.

Maybe I shouldn't post this. It will drive up the prices on ebay.

Re: Replacing dead screen on my HP17BII with one from HP27S?

*Message #11 Posted by **Csaba Tizedes (Hungary)** on 10 July 2010, 3:56 p.m.,*
in response to message #1 by John Hinz

Hi John!

I've got a dismantled HP17BII (it have a "keyboard-not-responding" malfunction). If you want to trade your one 27S to my 17BII please send me a private email!

Thank you!

Csaba

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HP Forum Archive 19

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My First Red LED Machine (HP 45)

*Message #1 Posted by **Norman Dziedzic** on 8 July 2010, 12:09 p.m.*

Whoo Hoo! I finally have red LED's in my Collection!!! S/N: 1350A10347

More images later. I have a field case, hard case and some literature too.

Re: My First Red LED Machine (HP 45)

*Message #2 Posted by **DavidShenk** on 8 July 2010, 12:27 p.m.,*
in response to message #1 by Norman Dziedzic

Looks good, I hope you also have batteries in that thing! You may already know, but you should never run it just on a/c. Many here even charge the batteries separate from the calculator. Because you have the a/c plugged in, I thought I would mention it.

Dave

Re: My First Red LED Machine (HP 45)

*Message #3 Posted by **Norman Dziedzic** on 8 July 2010, 12:37 p.m.,*
in response to message #2 by DavidShenk

Ouch! The previous owner, a college prof., said he ran it for years on the A/C alone. I guess I'm off to e-bay to find a battery pack. I did get what looks to be an external battery charger with the deal.

Thanks for the warning. It would be shame to fry my new baby.

Re: My First Red LED Machine (HP 45)

*Message #4 Posted by **Michael de Estrada** on 8 July 2010, 12:59 p.m.,*
in response to message #3 by Norman Dziedzic

Don't worry about running that particular calc off AC w/o a battery installed; it's completely safe. When you plug in the adapter, you completely bypass the battery circuit anyway, so the calc is going to see the same voltage regardless of whether or not a battery is installed. The models where that is a sure kiss of death are the Woodstocks and Stings, and to a lesser extent the Classic models with card readers.

Re: My First Red LED Machine (HP 45)

*Message #5 Posted by **Jeff O.** on 8 July 2010, 1:00 p.m.,*
in response to message #2 by DavidShenk

It can certainly do no harm to only use the adapter/charger with a battery installed, but I do not believe there is any danger at all in powering the 45 (or the 35, 55, 70 or 80 models) directly from the AC adapter/charger with no battery in the calculator. The AC adapter/charger used on the 45 provides a regulated supply voltage to power the calculator. When the connector is plugged into the calculator, the calculator’s internals get connected directly to the regulated supply from the AC adapter/charger. The battery gets completely disconnected from the calculator's internal circuitry and is connected to the variable-voltage charging output of the AC adapter/charger. Page 48 of the HP-45 manual discussed what to do if your battery pack went bad, stating "Remember, you can use your HP-45 on AC power until the replacement battery pack arrives.”

This does **not** apply to the HP-65 or HP-67 which use the same charger, but (if I recall correctly) leave the card reader circuitry connected to the battery and the variable voltage charging supply, so if there is no battery that voltage jumps up to something like 17 Volts which could damage things.

...

Re: My First Red LED Machine (HP 45)

*Message #6 Posted by **Thomas Radtke** on 8 July 2010, 1:24 p.m.,*
in response to message #1 by Norman Dziedzic

Congratulations! I was likewise happy when I got the 45, it's a good calculator. Use it!

Re: My First Red LED Machine (HP 45)

*Message #7 Posted by **Walter B** on 8 July 2010, 4:42 p.m.,*
in response to message #1 by Norman Dziedzic

Enjoy! It's a sturdy scientific calc and has got everything you need to master a major physics lab course at university - at least in 1975 and as long as a mains outlet is within reach ;-)

Re: My First Red LED Machine (HP 45)

*Message #8 Posted by **Namir** on 8 July 2010, 5:35 p.m.,*
in response to message #1 by Norman Dziedzic

Congratulations! Today I received a working HP-80. It's fun to play with a non-programmable vintage HP. Have fun with your HP-45.

Namir

Re: My First Red LED Machine (HP 45)

*Message #9 Posted by **Norman Dziedzic** on 9 July 2010, 8:02 a.m.,*
in response to message #1 by Norman Dziedzic

Here are some more pictures of the 45 and accessories. There is a little corrosion on the battery contacts an a little dust and wear on the front but otherwise very nice. All can be viewed at: Photo Set

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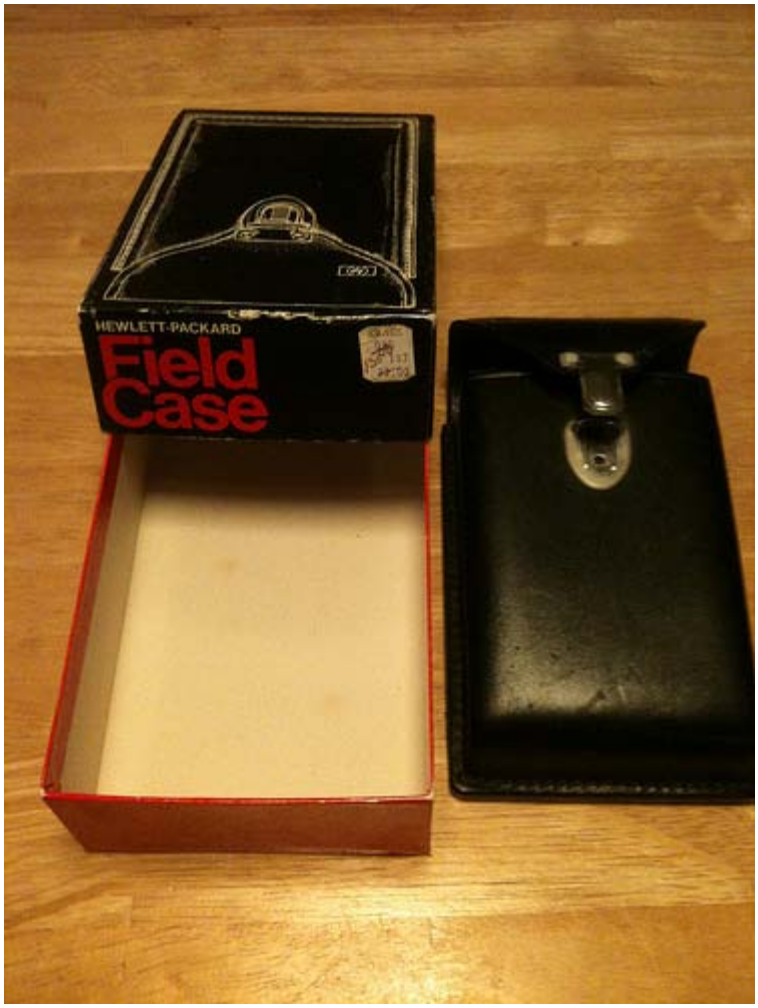
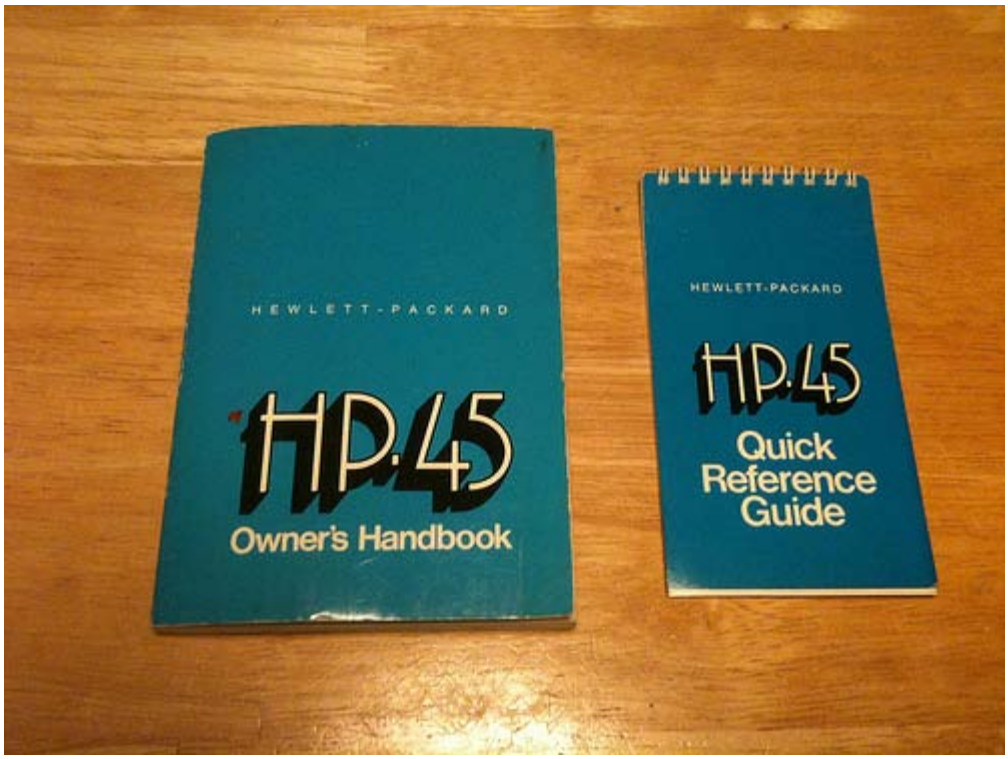

HEWLETT-PACKARD
Field
Case

HP Pocket Calculator
Security Cradle Instructions



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HP Forum Archive 19

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Optimizing programs: Writing a number VS calling a variable

*Message #1 Posted by **Pablo P (Spain)** on 7 July 2010, 5:54 p.m.*

Hi all!

Consider these programs:

```
(First store 1.999 in C)
| A001 | LBL A    |
| A002 | 1        |
| A003 | ISG C    |
| A004 | GTO C002 |
| A005 | RTN      |


(First store 1.999 in C and 1 in O)
| B001 | LBL B    |
| B002 | RCL O    |
| B003 | ISG C    |
| B004 | GTO B002 |
| B005 | RTN      |
```

Both programs do the same thing: to put number 1 in REGX 1000 times. But, in the HP 35s, program A takes 69 seconds and program B takes 42 seconds, so putting a number in REGX directly is 1.63 times slower than calling a variable.

When I am writing a program for the HP 35s and I need a constant in a loop, I store that constant in a variable and then I recall it in the loop insead of putting the constant directly as a number. With this, execution time is considerably reduced in many situations.

I know that this is not a new topic, others have mentioned it. But I want to know if this happens in other calculators.

Edited: 7 July 2010, 5:56 p.m.

Re: Optimizing programs: Writing a number VS calling a variable

*Message #2 Posted by **Jim Horn** on 7 July 2010, 8:51 p.m.,*
in response to message #1 by Pablo P (Spain)

That's been the case since the first machines (HP-65/25/67). The reason is that numeric entry requires the machine to go through entry checking, scaling the value as needed, adding it to a number being created, etc. The overall algorithm is pretty complex. Merely recalling a number takes a simple transfer that's easy.

By the way, your two programs may run at a roughly 1.6:1 speed ratio. However, most of the steps of both programs are similar so the difference of *just the number being loaded* is even greater still.

Back in the day we used to use "E" instead of entering "1" as it was a few clock cycles faster. In the '67, every 7 program steps had a semi-sawtooth execution time overhead. 'Tis amazing how many little tweakes these wonders can take to make them run faster...

All of which gives examples of why compiled programs run so much more quickly as they eliminate much of

all this overhead.

Re: Optimizing programs: Writing a number VS calling a variable

*Message #3 Posted by **Werner** on 12 July 2010, 4:05 a.m.,*
in response to message #2 by Jim Horn

You sure it's not a 1.618 : 1 speed ratio? Ah, another example where the golden mean turns up unexpectedly ;-)

Re: Optimizing programs: Writing a number VS calling a variable

*Message #4 Posted by **Don Shepherd** on 8 July 2010, 1:57 a.m.,*
in response to message #1 by Pablo P (Spain)

Well, here are the "surprizing" results for the HP-32s, optimized by placing subroutines W and Z at the beginning of code.

```
Factoring 99,999,989 (a prime number)
Old method, using numeric constants 2, 1, 4, and 6:  144 seconds
New method, assigning 2, 1, 4, and 6 to variables A, B, C, and D (outside the loops) and
RCL them:  146 seconds
```

So this would indicate the 32s does not seem to suffer from this malady.

Re: Optimizing programs: Writing a number VS calling a variable

*Message #5 Posted by **Katie Wasserman** on 12 July 2010, 11:25 a.m.,*
in response to message #4 by Don Shepherd

The 32s, 32sii (and many others) pre-process numbers on entry and store them not as keystrokes but in their near final, usable form. That's why you see them as the full number when editing programs rather than as a sequence of digits, one per step. Furthermore, some of these calculators take the trouble to store small integers in a more compact form to save memory instead of using say, 8 bytes for any number they will only use a fraction of a byte.

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HP 50G says the SD card is write protected

*Message #1 Posted by **Daniel Perry** on 6 July 2010, 10:42 p.m.*

I have know idea what is going on! I have bought a new SD card after HP told me that the problem must be with the HP card that came with the calculator when I purchased it. The calc won't format the card or let me store things on it. The memory does appear in my filer on the calc but that is the best I can do. I have tried formating the sd cards in my laptop (HP also). I format as FAT, though I am a little skeptical about that because windows7 only shows Fat as fat 32. The options for formating the card are as follows: Fat 32, Fat (default) with an allocation size of 32kb, which makes that fat32 right? There is an option under Fat (default) for default allocation size, but even formatting the card like that hasn't given the calc access to it.

Please help I really love this calc and want all the option available to me.

Oh yeah, the calc's format option doesn't work on either card.

Re: HP 50G says the SD card is write protected

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 7 July 2010, 12:23 a.m.,*
in response to message #1 by Daniel Perry

Hi;

what is the memory size of your SD card? I succeeded formating 1GB SD cards in a PC and fully use them in the HP50G, but I never succeeded formating SD cards bigger than 512MB in the calculator itself. Also, even after formating a 2GB SD card in a PC, the calculator never reads more than 1GB. I tried to format the 2GB in the HP50G and, after an error message (don´t recall which one), the calculator identified about 997MB and the card could not be red in a PC (the computer asked me if I wanted to format the media...).

I also recall reading something about format error due to discharged batteries, because the formating process demands some extra current.

Because you can format the cards in your computer I guess that there are no chances that the LOCK switch is in the wrong position, right?

In time: OS Rev. #2.15

Not much of a help, though...

Success!

Luiz (Brazil)

Edited: 7 July 2010, 12:25 a.m.

Re: HP 50G says the SD card is write protected

*Message #3 Posted by **Andrés C. Rodríguez (Argentina)** on 7 July 2010, 8:51 a.m.,*

in response to message #1 by Daniel Perry

Just to mention that FAT32 is not related to 32-kBy allocation untit size (a.k.a. "cluster"). Succesive versions of FAT included the original FAT12, for the IBM PC diskettes and 5-MBy hard disks (1980-1981). FAT12 cannot manage drives larger than 32 MBy. FAT16 then replaced it (around 1988, if memory helps), to allow for drives up to 2 GBy. To manage large drives, FAT16 needed to use large allocation units (32 kBy), which may be inefficient. FAT32 (around 1998) moved the limit to TBy heights, allowing for small-cluster options at the same time.

Suggestions:

a) Check that the SD card capacity is not greater than 2 GBy. Larger cards follow the SDHC standard, and are not backwards compatible with plain SD devices.

b) Format the card in a PC with the FAT16 option (your FAT with 32 kBy allocation units may do).

Good luck!

Re: HP 50G says the SD card is write protected

*Message #4 Posted by **Mike Reed** on 7 July 2010, 10:02 a.m.,*
in response to message #1 by Daniel Perry

I currently have a 1GB EP Memory (brand) SD card in my HP-50 - the calc sees and formatted it just fine. I notice on the side opposite the clipped corner there is s switch to lock/unlock the card; mine is in the unlocked position. I have used up to 2GB SD cards of several different manufactures in my calc with no problems at all. I have also used microSD's in SD adapters with no problems. The only time I have ever had problems was if I exceeded the 2GB limit, or if I tried to use SDHC - for some odd reason, the HP-50 does NOT like SDHC cards. Hope this helps!

polarbear Mike

Re: HP 50G says the SD card is write protected

*Message #5 Posted by **Tim Wessman** on 7 July 2010, 10:54 a.m.,*
in response to message #1 by Daniel Perry

A card greater that 2GB will not function. It actually isn't an SD card, but rather an SDHC card.

If the card is smaller than 2GB, your lock switch on the card is down.

TW

Edited: 7 July 2010, 10:55 a.m.

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How would a new HP 15c+ affect 15c market value?

*Message #1 Posted by **megarat** on 6 July 2010, 7:20 p.m.*

Hey all,

I'm curious to hear your thoughts: if HP released a shiny new 15c+ calculator (akin to the 12c+, as repeatedly requested/fantasized about here), how do you think it would it affect the market value of the original 15c?

I think it's interesting that the original (pre-1990) 12c -- in spite of better construction quality and (probably) battery life -- only goes for $40 or so on eBay, unlike its no-longer-extant cousins. I suspect this has to do with the fact that the 12c never went out of production, so it never really achieved collector's status, as it's been there all along. Even though it got slowly downgraded in terms of production quality and experienced minor stepwise changes in engineering (e.g., different batteries, now a different CPU), people, even collectors, regard them as equivalent.

But what about the 15c?

My own opinion: I suppose it would have a lot to do with the quality of the finished product, but I still have a difficult time seeing how even a well-made, feature-for-feature 15c tribute, even with a faster CPU and more memory, would negatively affect the original 15c's current market value. In fact, the release of such a calculator might even (temporarily?) raise the original's market value, as its release would get the original back into the public eye and renew/ignite their interest in obtaining one.

I'm curious to hear what others think.

Re: How would a new HP 15c+ affect 15c market value?

*Message #2 Posted by **bill platt** on 6 July 2010, 9:06 p.m.,*
in response to message #1 by megarat

I think it would lower it. The 33s and 35s definitely put a damper on 32sii prices.

Re: How would a new HP 15c+ affect 15c market value?

*Message #3 Posted by **Michael de Estrada** on 6 July 2010, 10:50 p.m.,*
in response to message #2 by bill platt

I think this is a purely speculative question. Despite all the ruminations on this forum, the HP-15c+ seems unlikely.

Re: How would a new HP 15c+ affect 15c market value?

*Message #4 Posted by **Katie Wasserman** on 6 July 2010, 11:10 p.m.,*
in response to message #1 by megarat

I love rehashing speculations on the 15C+! I'd vote for a decrease in the original 15C values since a 15C+ would run 150 times faster and that would much more than make up for an lower quality issues that might

exist.

However, I have to say that the quality on the 12C+ is really excellent. Key clicks are superb, maybe even better than the original and the display seems to have more contrast too. The only thing to nit pick about is the plastic used to make the keys, it's not quite as dense as the original 12C used and the lettering appears to not be molded in.

-katie

Re: How would a new HP 15c+ affect 15c market value?

*Message #5 Posted by **DaveJ** on 6 July 2010, 11:29 p.m.,*
in response to message #4 by Katie Wasserman

> Quote:
>
> I love rehashing speculations on the 15C+! I'd vote for a decrease in the original 15C values since a 15C+ would run 150 times faster and that would much more than make up for an lower quality issues that might exist.

At the expense of battery life.
Forget the battery life that the old 15C got, that is history.

I think a new one that's essentially identical could do nothing but drop the price of the originals.

Many still buy the old 15C to actually use it, and that market would surely vanish overnight.

Dave.

Re: How would a new HP 15c+ affect 15c market value?

*Message #6 Posted by **John Stark** on 7 July 2010, 6:48 p.m.,*
in response to message #4 by Katie Wasserman

Dear Katie:

Quote: ----------

However, I have to say that the quality on the 12C+ is really excellent. Key clicks are superb, maybe even better than the original and the display seems to have more contrast too. The only thing to nit pick about is the plastic used to make the keys, it's not quite as dense as the original 12C used and the lettering appears to not be molded in.

My sentiments exactly. I recently obtained a current 12.C after keen disappointment with a 30.B so-called "Professional".

General "feel" and "aura" of this unit closest I've seen to vintage HP gear in modern series.

Anyway, this is what I now have in my nassty little pockettses.

Does what I need with considerable 1980s Gordon Gekko retro chic :).

John Stark

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Self tests: what do they actually do?

*Message #1 Posted by **megarat** on 6 July 2010, 7:06 p.m.*

Hey all,

I was performing the "ON"-"x" self test for my HP 15c lately and it caused me wonder just what is going on behind the "Running" message.

The keyboard/display tests on modern HP calculators are pretty self-explanatory, but what about the other (ROM/RAM) tests? I suppose the actions taken by the test will vary by model, but for ROM/"circuitry" tests: does it do a checksum on the ROM to make sure it isn't corrupt? Or perform a battery of operations and make sure the results are as expected? For RAM tests, does it read/write to all/some addresses/registers to make sure they work?

Just curious.

Re: Self tests: what do they actually do?

*Message #2 Posted by **Thomas Falk** on 8 July 2010, 1:52 a.m.,*
in response to message #1 by megarat

Hello,

self test for the rom check typically the checksum of the content of the memory. They do not check the correctness of the software. This must be tested during the developement and in going to production, but not later anymore.

For testing RAM certain patterns are written into the memory and read back. If you read the same as you have writtem the memory is assumed to be ok. The releability of this test depends on the patterns used.

What a definit calculator does in its self test only HP can say. The above is how we are doing it for comparable systems.

Best regards,

Thomas

Re: Self tests: what do they actually do?

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 8 July 2010, 8:07 a.m.,*
in response to message #1 by megarat

Hi;

the big question might also be:

In case a self-test procedure returns an error/faulty message, could it be an error in the self-test routine itself, hence the circuit/routine under test is OK?

I have seen, and I guess many others here too, such circumstance in regular, hardware-based supervisory circuits. I worked in a switching network system (telephony) about 15 years ago (Siemens ESK), and from time to time we needed to change the contacts of some relays. I remember once in a while having to replace contacts in relays signaling false errors: it happened that they were the error themselves.

But this is something I saw in a 'hardwired' switching network. Never found such event in solid state, software controlled systems.

Have any of you?

Cheers.

Luiz (Brazil)

Edited: 8 July 2010, 8:08 a.m.

Re: Self tests: what do they actually do?

*Message #4 Posted by **Marc Ferrer (France)** on 8 July 2010, 12:11 p.m.,*
in response to message #1 by megarat

Hello,

As a personal story, I remember back in the 80s some systems which at power-up ran BISTs (Built-in Self-Tests) during hours ! before booting -Intel systems running iRMX.

Besides that, I read an HP Journal issue related to some "big" HP processors in HP 9000 systems; they gave a very interesting description of a thorough self-test for a microcoded CPU :

1- a hardwired sequencer triggers CPU functional blocks while a hardware check is done on various output signals. Then the microcode ROM is checked the same way.

2- using as few instructions as possible, a first routine tests register banks or caches, then some RAM and so on...

3- if everything is still OK, extensive tests are done on the whole RAM array.

A funny note : If I remember well, in some systems of that era the first test was done using an on-board microcontroller -which of course had to run, first of all, its own BIST... eh ? who said "matrioshka ?"

As you can see it's a hierarchical process in the way that you can only rely on already-tested devices. And if you really want to test everything, it can take forever to complete.

Returning to our calculators, Eric Smith (please Eric, correct me if I'm wrong) told that the Spice series added new instructions to their CPU, devoted to the ROM test, and even a hardware CRC checker I think. I suppose that the goal was to use as few CPU hardware as possible at this stage of testing.

By the way, it means also that if the CPU is defective, the calculator won't even start, as you already guessed.

Luiz : I worked with people who did maintenance on relay-based switching telephone equipment, they all said it quickly could become a real nightmare, crowded with false errors :-)

Regards from France,

Marc

Edited: 8 July 2010, 12:20 p.m.

Re: Self tests: what do they actually do?

*Message #5 Posted by **Eric Smith** on 12 July 2010, 2:08 p.m.,*
in response to message #4 by Marc Ferrer (France)

The self-test code in the Spice and Voyager series mainly check the ROM and the RAM. In the Spice, they added a special instruction to the CPU which causes it to compute the CRC10 of a 1Kx10 "quad" of ROM. The Nut CPU used in Voyager does not have a comparable instruction, so it uses a loop that computes a checksum of the ROM.

The RAM test is very cursory. It really just makes sure that each RAM location can be written and read back, but does not test all the bits of a word independently nor does it test for pattern sensitivity.

Re: Self tests: what do they actually do?

*Message #6 Posted by **Mike (Stgt)** on 9 July 2010, 9:29 a.m.,*
in response to message #1 by megarat

If you like I may log the trace in my emulator/CPU-simulator. I will do it this WE and could send it on Monday. But I have only a copy of the ROM at hand Eric Smith removed 2008 from his Nonpareil distribution and which is most probably modified.

Just an other story: The Service ROM for the HP-41 made my emulator/simulator display "CPU OK" but the Time Module calculated the 1-Jan-1900 to be a Sunday, it was a Monday (I am told). So you may only be sure that there _is_ something wrong if it displays "CPU BAD" but not that everythings fine if you see "CPU OK".

Nice WE.....Mike

Re: Self tests: what do they actually do?

*Message #7 Posted by **Ron Ross** on 9 July 2010, 9:59 a.m.,*
in response to message #6 by Mike (Stgt)

That anomaly may be attributed to the fact that 1900 was not a Leap year. That would offset all days before Feb 28th by one day.

Just an FYI and my $0.02

Re: Self tests: what do they actually do?

*Message #8 Posted by **Mike (Stgt)** on 9 July 2010, 11:19 a.m.,*
in response to message #7 by Ron Ross

No-no, it was an error in my emulator/CPU-simulator. But even with this error the Service ROM testet the CPU OK.

Ciao.....Mike

Re: Self tests: what do they actually do?

*Message #9 Posted by **Mike (Stgt)** on 12 July 2010, 10:31 a.m.,*
in response to message #6 by Mike (Stgt)

To megarat: if you are interested (if yes I need your mail address) I have a 10k-ZIP with two trace logs for

sending you. The first is just the ON/OFF sequence (from deep sleep back to deep sleep) and the second one is the ON+* sequence. Alas it is without contents of the CPU registers, it shows only the address and command.

As I assumed, I have only a modified ROM at hand where the checksum is not corrected. So the selftest ends with "Error 9" in the display and the number 2 in register X. In contrast Nonpareil 0.77 shows the same message but has the number 3 in the regsiter X. So my question to Eric Smith is if his Nonpareil allows log tracing.

Ciao.....Mike

Re: Self tests: what do they actually do?

*Message #10 Posted by **megarat** on 12 July 2010, 1:36 p.m.,*
in response to message #9 by Mike (Stgt)

> Quote:
>
> To megarat: if you are interested (if yes I need your mail address) I have a 10k-ZIP with two trace logs for sending you.

Thanks, a personal message will be sent shortly.

Re: Self tests: what do they actually do?

*Message #11 Posted by **Mike (Stgt)** on 15 July 2010, 2:38 p.m.,*
in response to message #10 by megarat

Hello Craig! Did you get the log files?

Ciao.....Mike

Re: Self tests: what do they actually do?

*Message #12 Posted by **Eric Smith** on 12 July 2010, 2:10 p.m.,*
in response to message #9 by Mike (Stgt)

Yes, Nonpareil can generate trace logs when it is compiled with HAS_GUI_DEBUGGER=1.

Re: Self tests: what do they actually do?

*Message #13 Posted by **Mike (Stgt)** on 13 July 2010, 6:40 a.m.,*
in response to message #12 by Eric Smith

Thank you for the hint. BTW, do you have a list about the meaning of the number in the X-register after the error in the self test?

Ciao.....Mike

Re: Self tests: what do they actually do?

*Message #14 Posted by **Eric Smith** on 14 July 2010, 1:57 a.m.,*
in response to message #13 by Mike (Stgt)

No, sorry.

Re: Self tests: what do they actually do?

*Message #15 Posted by **Mike (Stgt)** on 14 July 2010, 6:38 a.m.,*
in response to message #14 by Eric Smith

Someone else here in the community has a clue?

TIA.....Mike

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HP 9120A Printer Platen Gone Gooey

*Message #1 Posted by **Rick Bensene** on 6 July 2010, 2:57 p.m.*

Hello, all,
I recently acquired an HP 9120A printer for my 9100A/B calculators. The platen that feeds the electrosensitive paper through the printer is made of a rubber substance that has turned to an oily black goo, rendering the unit useless. I have taken it apart and removed the platen and cleaned up all of the parts, but there was no way to find out what the thickness of the rubber material was.
I'm trying to figure out something that could serve as a replacement. I've thought of surgical tubing with the appropriate inside and outside diameters that could slide into the metal shaft that served as the base for the rubber material, but without knowing the proper outside diameter for the material, it's difficult to go shopping for the right sized tubing, or any other material for that matter. Has anyone else had this problem and been successful in repairing it? I'd love to hear from anyone that might have any ideas. Or, perhaps someone who has a working 9120A would be willing to try to measure the diameter or circumference of the platen and let me know.
Thanks,
Rick Bensene
The Old Calculator Museum
http://oldcalculatormuseum.com

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optimized prime factor finder for HP-32s

*Message #1 Posted by **Don Shepherd** on 6 July 2010, 1:38 p.m.*

In this thread, Dave Britten presented excellent prime factor finders for both the HP-20s and HP-32sii. This was also implemented on the HP-30b by Tim Wessman. Katie Wasserman pointed out that faster results will be obtained (on machines like the 30b and 32sii) by moving the most frequently-called subroutines to the top of code.

I recently acquired an HP-32s, a very beautiful machine. I wanted to implement the optimized algorithm on the 32s and reduce the label count if possible, since labels are a valuable resource on these machines. I was able to eliminate the V label (which was required because the 32s does not have a x<=y instruction like the 32sii) by reversing the order of variables M and F on the stack and using x>y, and I was able to eliminate the X label by simplifying the logic involved with displaying the final factor.

Here is the code that works on the HP-32s:

```
optimized prime factor program for HP-32s


Usage:
num to factor
xeq f
r/s to see all factors
0 = done


lbl w
rcl + f
sto f
rcl x
x<->y
/
fp
x=/=0
rtn
rcl x
rcl / f
sto x
sqrt
ip
sto m
view f
0
goto w
lbl z
4
xeq w
2
xeq w
4
xeq w
2
xeq w
4
xeq w
6
xeq w
2
xeq w
6
xeq w
rcl x
```

```
ln
x=0
rtn
rcl f
rcl m
x>y
goto z
rcl x
sto f
view f
clx
rtn
lbl f
sto x
sqrt
ip
sto m
0
sto f
2
xeq w
1
xeq w
2
xeq w
2
xeq w
rcl x
ln
x=0
rtn
goto z
```

Re: optimized prime factor finder for HP-32s

*Message #2 Posted by **Pablo P (Spain)** on 7 July 2010, 8:34 a.m.,*
in response to message #1 by Don Shepherd

Hi Don, a time ago I wrote a program in the HP 35s to factorize numbers. I am curious, how long it takes to factorize 999,983 in the HP 32s?

Re: optimized prime factor finder for HP-32s

*Message #3 Posted by **Don Shepherd** on 7 July 2010, 10:20 a.m.,*
in response to message #2 by Pablo P (Spain)

Pablo, that takes exactly 15 seconds.

Optimized prime factor finder for HP-35s

*Message #4 Posted by **Pablo P (Spain)** on 7 July 2010, 11:41 a.m.,*
in response to message #3 by Don Shepherd

HP 35s takes 18.2 seconds using a modified version of Dave Britten's program.

Basically, I rewrote the original program to use one label, simplified the logic involved with displaying the final factor and replaced each appearance of 2, 4 and 6 with RCL D, RCL C, RCL S respectively.

The last is because in the HP 35s putting a number directly is 1.62 times slower than recalling a variable. In fact without doing this, the program takes 25 seconds to calculate the factors of 999,983 (by the way, does this happen in other calc?)

Line	Instruction
F001	LBL F
F002	STO X
F003	SQRT

```
F004   IP
F005   STO M
F006   0
F007   STO F
F008   2
F009   STO D
F010   XEQ F054
F011   1
F012   XEQ F054
F013   RCL D
F014   XEQ F054
F015   RCL D
F016   XEQ F054
F017   RCL X
F018   LN
F019   x=0?
F020   RTN
F021   4
F022   STO C
F023   6
F024   STO S
F025   RCL C
F026   XEQ F054
F027   RCL D
F028   XEQ F054
F029   RCL C
F030   XEQ F054
F031   RCL D
F032   XEQ F054
F033   RCL C
F034   XEQ F054
F035   RCL S
F036   XEQ F054
F037   RCL D
F038   XEQ F054
F039   RCL S
F040   XEQ F054
F041   RCL X
F042   LN
F043   x=0?
F044   RTN
F045   RCL M
F046   RCL F
F047   x=<y?
F048   GTO F025
F049   RCL X
F050   STO F
F051   VIEW F
F052   CLx
F053   RTN
F054   RCL+ F
F055   STO F
F056   RCL X
F057   x<>y
F058   /
F059   FP
F060   X!=0?
F061   RTN
F062   RCL X
F063   RCL/ F
F064   STO X
F065   SQRT
F066   IP
F067   STO M
F068   VIEW F
F069   0
F070   GTO F054
```

Edited: 7 July 2010, 11:48 a.m.

Re: Optimized prime factor finder for HP-35s

*Message #5 Posted by **Don Shepherd** on 7 July 2010, 3:32 p.m.,*
in response to message #4 by Pablo P (Spain)

Quote:

> HP 35s takes 18.2 seconds

I'm surprized it's that fast! I did some benchmarks on the 35s a few years ago and noticed it was markedly slower in executing programs than its predecessor, the 33s. Running the unoptimized algorithm on the 33s for 999,983 takes 10 seconds; optimizing the program by moving the W and Z subroutines to the top of memory (before Lbl F) would probably take a second or two off that, at the most.

> Quote:
>
> I rewrote the original program to use one label

Ah, you took advantage of a feature available in the 35s but unavailable in the 32s or 33s. I wish that was available in the 32s, but wishing just won't make it come true!

> Quote:
>
> in the HP 35s putting a number directly is 1.62 times slower than recalling a variable

Interesting. I'll have to modify my 32s program to do that and see if it makes a timing difference. I'll do that and let you know.

Re: optimized prime factor finder for HP-32s

*Message #6 Posted by **Pablo P (Spain)** on 7 July 2010, 5:23 p.m.,*
in response to message #1 by Don Shepherd

> Quote:
>
> ...and I was able to eliminate the X label by simplifying the logic involved with displaying the final factor.

Basically you fused LBL W with LBL X and replaced XEQ X with VIEW F, isn't it? At least this is what I did.

As this is so simple I am wondering why did not Dave do it? So I am asking if this modification is correct. (I have not had time to study carefully the original algorithm).

Re: optimized prime factor finder for HP-32s

*Message #7 Posted by **Don Shepherd** on 7 July 2010, 6:23 p.m.,*
in response to message #6 by Pablo P (Spain)

> Quote:
>
> As this is so simple I am wondering why did not Dave do it? So I am asking if this modification is correct.

When I looked at the code around the original label x:

```
x=0
goto x
rtn
lbl x
```

I realized that that whole goto/lbl could be avoided if I changed the x=0 to x!=0. But then I saw the reference to xeq x over at the end of the z routine, and I knew this would have to change if I eliminated label x, obviously. So then I considered that the end of the label z routine is really the end of the program, which has the net effect (although achieved in a rather roundabout way) of displaying the final factor which is still in x, if you reach that point in the code. So, yes, I basically replaced xeq x with view f, and that seemed to have the effect I wanted and it made the end-of-file logic clearer, at least to me.

Now, why didn't Dave do it that way too? I suspect because he adapted his programs for the 32sii and 20s from an existing HP-67 program that did MORE than just find prime factors, and considering the other functions that that program had, there was probably a reason that the original programmer did xeq x and handled end-of-file that way. Dave also had an extra label that was unnecessary (Lbl A for the 20s and Lbl Y for the 32sii) in this code that was undoubtedly in the original code and Dave just left it there in case it was necessary here, which is is not since there are no other references to A or Y.

The other label I got rid of, Lbl V (which a followup poster in the original thread listed as a solution to the problem that the 32s has no x<=y), could be safely deleted by changing the order of variables M and F on the stack and using x>y. The followup poster probably considered this option but was unsure if changing the stack order would harm the rest of the program, and I looked at it and determined that it wouldn't. As you know, changing the order of things on the stack sometimes goofs everything up, but sometimes it has no effect, as in this case (I hope and think!).

I'm pretty sure these changes are correct. I've tested them with a bunch of numbers that are prime and not prime and it still seems to give me the correct factorization.

Don

Edited: 7 July 2010, 6:33 p.m.

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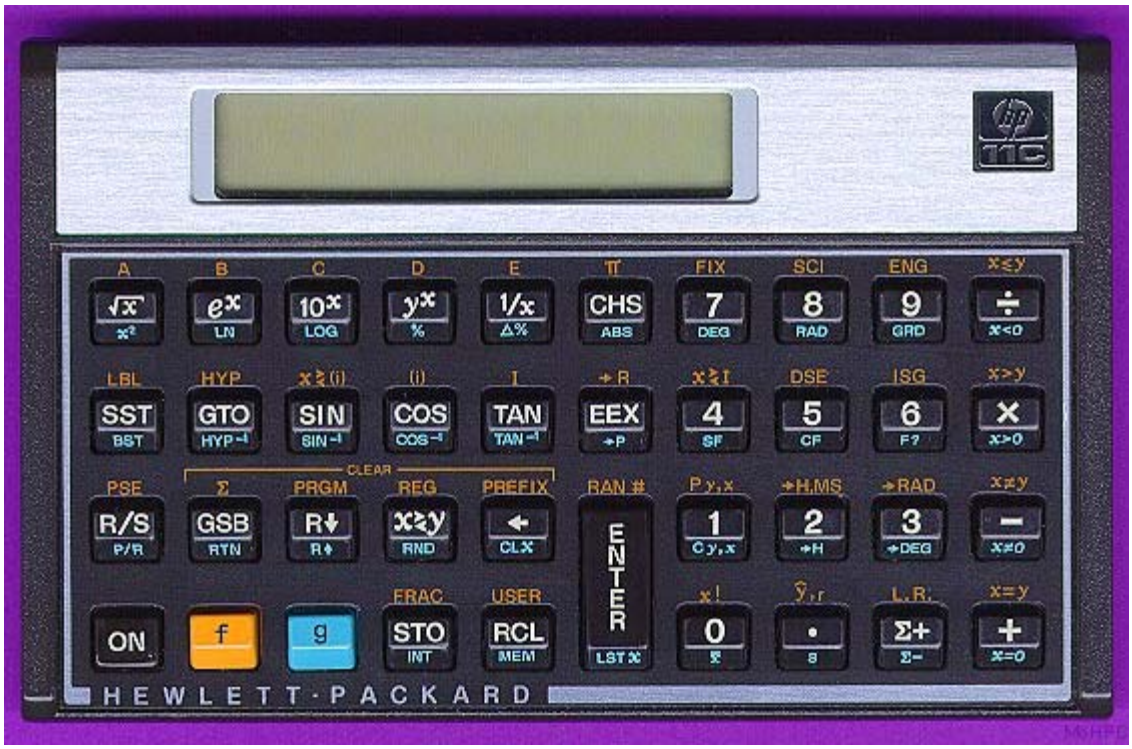
HP-11C - Amazing Battery Life

*Message #1 Posted by **Bill Zimmerly** on 6 July 2010, 8:13 a.m.*

Today (7/6/2010) I removed the *original* batteries from my 1986 HP-11C and wrapped it up for permanent storage in my collection. I used the calculator infrequently over the years, but it was always nearby for a quick calculation. Believe it or not, the batteries still powered it enough for usage today. I am amazed! 24 years on the original set of batteries! Wow!!!



(The image is from *this* site and is not my calc.)

Edited: 6 July 2010, 8:16 a.m.

Re: HP-11C - C'mon HP !!! Bring 'em Back !

*Message #2 Posted by **John Stark** on 6 July 2010, 12:47 p.m.,*
in response to message #1 by Bill Zimmerly

Dear Bill:

What a beauty.

I know this has been beaten to death already, but here is another plea to HP to bring back a horizontal-format scientific of traditional construction and layout.

I recently bought a "gold", garden-variety HP.12C (no "Platinum" or "Anniversary" gingerbread) and am

pleased to say that, at least in feel, it approaches the 1980's original.

We'll see how it holds up - I may not be around in 24 years to check the batteries :).

In any case, HP CAN produce a stout, well built horizontal format machine, and with use of modern central processor and ROM system program it any way they want.

New faceplate and keys and you have ---->>>> HP.11/15C II ++

Last, but not least, some of you microcode experts may be able to "reprogram" the 12.C through its plug and provide a keyboard overlay for an "Ersatz-15" or such.

John Stark

Re: HP-11C - C'mon HP !!! Bring 'em Back !

*Message #3 Posted by **Mike Morrow** on 6 July 2010, 11:47 p.m.,*
in response to message #2 by John Stark

> Quote:
>
> ...here is another plea to HP to bring back a horizontal-format scientific of traditional construction and layout.

There is no such thing as a traditional landscape (or as you term it...horizontal-format) HP calculator. Everything before and after the unfortunate landscape Voyagers has been in the much more practical portrait format...for very good reason: The landscape format is terrible for those who ever actually use a handheld calculator as (imagine this!) a handheld calculator. HP has done a number of stupid things in the years since the HP-35 appeared...but they've never been stupid enough to re-introduce the Voyager format except for those interminable HP-12C variants that appeal to business major types.

Re: HP-11C - C'mon HP !!! Bring 'em Back !

*Message #4 Posted by **bill platt** on 7 July 2010, 9:24 a.m.,*
in response to message #3 by Mike Morrow

Financial guys have big mahogany desks. Well, maybe not as big as the lawyer's, but big enough.

Re: HP-11C - C'mon HP !!! Bring 'em Back !

*Message #5 Posted by **Bill Smith** on 7 July 2010, 4:32 p.m.,*
in response to message #3 by Mike Morrow

As one of those who have actually used the 15C as a hand held, I must disagree with your assessment of its utility. It is my favorite calculator, precisely because it worked so well as a shirt-pocketable and hand held device in my earlier days, mostly spent on my feet in a lab and field environment. The HP-25 and and 41 rarely left my desk.

Re: HP-11C - C'mon HP !!! Bring 'em Back !

*Message #6 Posted by **Mike Morrow** on 7 July 2010, 9:58 p.m.,*
in response to message #5 by Bill Smith

There is nothing natural about using a Voyager as a **handheld** calculator unless one has a very bizarre palm and finger-length arrangement. Those who like that layout usually will ultimately

admit that its real appeal is that it is sooo "cutesy". I still have two HP-15C units and one HP-12C unit that I've used for more than 25 years, and IMHO their landscape arrangement is idiotic in the extreme. The portrait Pioneer HP42S greatly exceeded and improved the capabilities of the HP-15C in every aspect. Unfortunately, the HP42S is 1988 technology, and HP hasn't the technical talent to produce something with the capability and size of the 22-year-old HP42S. Instead, abominations like the HP32SII, HP33S, and HP35S characterize the best that HP has been able to muster the past two decades. However, I fully admit that for a rather large calculator, the HP50G is a damned fine machine, one that is much better than TI competition. I wonder who HP got to design it.

Re: HP-11C - C'mon HP !!! Bring 'em Back !

*Message #7 Posted by **Thomas Radtke** on 8 July 2010, 12:01 a.m.,*
in response to message #6 by Mike Morrow

Maybe just a problem of mine: I rarely have enough 'vertical' space left on the desk to place a portait calculator, but my TI-66 fits nicely underneath (would 'below' be the better word to use?) my keyboard. I agree, it certainly is not made to fit the palm, but I prefer using the calculator on a more stable surface anyway.

I don't want to buy another new HP calculator due to all the problems they have. OTOH, a reintroduced 15C could make me think twice.

Edited: 8 July 2010, 12:02 a.m.

Re: HP-11C - C'mon HP !!! Bring 'em Back !

*Message #8 Posted by **Bill Zimmerly** on 13 July 2010, 11:57 a.m.,*
in response to message #2 by John Stark

Yes John, it is quite a beauty! :)

Re: HP-11C - Amazing Battery Life

*Message #9 Posted by **db (martinez, ca.)** on 7 July 2010, 12:42 a.m.,*
in response to message #1 by Bill Zimmerly

what brand of battery are they?

i removed a set of union carbide cells a few years ago that had served 15 or 16 years.

Re: HP-11C - Amazing Battery Life

*Message #10 Posted by **Bill Zimmerly** on 13 July 2010, 11:59 a.m.,*
in response to message #9 by db (martinez, ca.)

I don't know what the brand is - but as I had written they were originally packaged with the calculator.

Re: HP-11C - Amazing Battery Life

*Message #11 Posted by **Andrés C. Rodríguez (Argentina)** on 13 July 2010, 6:18 p.m.,*
in response to message #10 by Bill Zimmerly

Probably they are silver-oxide (SR44), which are supposed to last twice as their cheaper alkaline equivalents (LR44)... However, more than 20 years is amazing, indeed!

Re: HP-11C - Amazing Battery Life

*Message #12 Posted by **bill platt** on 7 July 2010, 9:23 a.m.,*
in response to message #1 by Bill Zimmerly

My Wife's Sharp Elsimate from around the same time is still on its original AAA battery.

Re: HP-11C - Amazing Battery Life

*Message #13 Posted by **Bill Zimmerly** on 13 July 2010, 12:01 p.m.,*
in response to message #12 by bill platt

It is amazing how little "juice" these machines need to function. :)

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An Agilent patent on a calculator

*Message #1 Posted by **Eric Smith** on 5 July 2010, 6:54 p.m.*

http://www.google.com/patents?id=Kp4GAAAAEBAJ

Re: An Agilent patent on a calculator

*Message #2 Posted by **bill platt** on 5 July 2010, 10:17 p.m.,*
in response to message #1 by Eric Smith

That's a Pioneer Keyboard!

Re: An Agilent patent on a calculator

*Message #3 Posted by **Johnny Bjoern Rasmussen** on 6 July 2010, 2:15 a.m.,*
in response to message #1 by Eric Smith

Yes, looks like an eg. HP-42S with larger display. Very nice find Eric. Someone here who knows more about it?

Johnny

Re: An Agilent patent on a calculator

*Message #4 Posted by **Alejandro Paz (Germany)** on 6 July 2010, 2:47 a.m.,*
in response to message #1 by Eric Smith

But, have you seen the applications ? neither college nor school...

Re: An Agilent patent on a calculator

*Message #5 Posted by **Namir** on 6 July 2010, 3:07 a.m.,*
in response to message #4 by Alejandro Paz (Germany)

I'd blame the HP web site for not posting this product (on time) ... what else is new???

:-)

Namir

Re: An Agilent patent on a calculator

*Message #6 Posted by **gene wright** on 6 July 2010, 10:12 a.m.,*
in response to message #4 by Alejandro Paz (Germany)

I wonder if, as part of the HP / Agilent split a few years ago, there had to be an agreement of some sort agreement that Agilent would not develop any directly competing products.

If so, they would have to focus on specific markets like this and might not be able to produce a "for the masses" device.

Just speculating. Really. I have no knowledge at ALL whether such an agreement is / was made. If there WERE an agreement, then this speculation might explain. But...

Re: An Agilent patent on a calculator

*Message #7 Posted by **Namir** on 6 July 2010, 10:28 a.m.,*
in response to message #6 by gene wright

My diabetes specialist has complained for over 10 years about the decentralization of medical records and the lack of specialized tools that gather and access patients' data. Today he has such tools in his office. The machine in question might be an attempt to service the medical market using a calculator-based tool.

Namir

Re: An Agilent patent on a calculator

*Message #8 Posted by **Alejandro Paz (Germany)** on 6 July 2010, 12:32 p.m.,*
in response to message #7 by Namir

I thought Agilent sold its medical business to Philips (or was it LG?) some 10 years ago...

Re: An Agilent patent on a calculator

*Message #9 Posted by **Ljad** on 7 July 2010, 5:56 a.m.,*
in response to message #8 by Alejandro Paz (Germany)

Would like such a device! But I don't think it will ever enter production. And now with all those computers, laptops, PDA's, Apps I don't think there is a market for this.

Re: An Agilent patent on a calculator

*Message #10 Posted by **Arnaud Amiel** on 7 July 2010, 12:11 p.m.,*
in response to message #8 by Alejandro Paz (Germany)

The patent itself is 10 years old!

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CFA Exam and calculators

*Message #1 Posted by **Joe Burwell** on 5 July 2010, 5:48 p.m.*

I believe the HP 12C is the only HP calculator approved for the CFA exam. Is there any chance the HP 30b will ever be approved to use on the exam?

Re: CFA Exam and calculators

*Message #2 Posted by **gene wright** on 5 July 2010, 6:35 p.m.,*
in response to message #1 by Joe Burwell

Don't know. Probably not something HP can really answer either. The group that administers the CFA exam is probably reluctant to change, as many groups are.

On another note, in the past, I was a video review lecturer for a CFA exam review course. Did 2 hours on using the 12c. 3 hours on using the TI BAII Plus.

Did a live session in San Francisco on statistics - inferences and hypotheses testing. Yum. :-)

But, as to your basic question, the answer really is that no one here knows or would be able to predict. Sorry!

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Valuing of Calcs and Related Stuff?

*Message #1 Posted by **Woody** on 5 July 2010, 2:37 p.m.*

Although I have been and probably always will be a great HP calc fan, I have been away from the forum for the last few years with work, I have sort of lost track of the value of some of the calc-related stuff that I have.

I am probably going to sell most of what I have gathered together, since my work and interests have taken me in different directions, but I don't know what any of the calcs, parts, or manuals are worth. I assume this question also comes up when considering another purchase, insurance coverage, shipping costs, etc.

Is there any other way of identifying what to sell it for other than the obvious auction site? I have looked through the classifieds and don't see enough history to tell me. I thought that there used to be a vintage calculator website, but I haven't found it. I remember the pricing guide of several years ago, but I don't think that it has been updated for a while.

I am not trying to post an ad in the forum, but if this violates the rules please delete it.

Re: Valuing of Calcs and Related Stuff?

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 5 July 2010, 3:07 p.m.,*
in response to message #1 by Woody

Hi, Woody;

what about having a look at the Classified Adds? Chances are you'll find better, up-to-date references.

Cheers.

Luiz (Brazil)

(I am still trying to find an HP41 HPIL unit for sale, to be kept as a spare unit, and a CX fullnut... The very moments, amongst many, I would like to have a chance to buy somewhere else without worrying about paying more of taxes then price/cost...)

Re: Valuing of Calcs and Related Stuff?

*Message #3 Posted by **Don Shepherd** on 5 July 2010, 3:36 p.m.,*
in response to message #1 by Woody

> Quote:
>
> Is there any other way of identifying what to sell it for other than the obvious auction site?

Well, the advantage of the auction site is that you don't have to determine the value, the bidders will do that. There are enough people wanting to buy classic HP calcs that you will most certainly get the highest price that knowldegeable (and unknowledgeable, sometimes) bidders are willing to pay.

If I wanted to sell any of my HP calcs, which I don't, I'd probably try the museum classified ads first, because you know that these folks really care about and know HP calcs. I recently bought a calc through the museum classified ads and it was a very pleasant experience; I recommend it.

Re: Valuing of Calcs and Related Stuff?

*Message #4 Posted by **Woody** on 5 July 2010, 4:22 p.m.,*
in response to message #3 by Don Shepherd

Actually, I have sold a few items in the classifieds several years ago. I also think it is probably a good place to post things like this.

Re: Valuing of Calcs and Related Stuff?

*Message #5 Posted by **Juergen Keller** on 5 July 2010, 5:59 p.m.,*
in response to message #4 by Woody

Auction site: good chance to get a high price for your HP stuff
Classified ads: good chance to find a good new home for your HP stuff
If you are lucky you get both, good price and good home, on both sites ...

Re: Valuing of Calcs and Related Stuff?

*Message #6 Posted by **Namir** on 6 July 2010, 2:59 a.m.,*
in response to message #5 by Juergen Keller

Agree ... you can experiment by selling a few items on both sites and see which site gives you more satisfaction (ease of transactions, prices, payments, mailing fees/issues, and so on). After selling a few items you can focus on one site to sell the rest of your calculators and accessories.

Namir

Edited: 6 July 2010, 3:01 a.m.

Re: Valuing of Calcs and Related Stuff?

*Message #7 Posted by **Maximilian Hohmann** on 6 July 2010, 9:38 a.m.,*
in response to message #5 by Juergen Keller

Hello!

> Quote:
>
> ... good chance to find a good new home for your HP stuff ...

Just out of curiosity: What would you consider to be a _bad_ home for your HP stuff?

Regarding the question: I would go the eBay (not afraid to call it by name!) route. Using the classifieds, I think would be a little suspicious - unless the buyer is one of the regular posters here - especially with high-value items.

Regards, Max

Re: Valuing of Calcs and Related Stuff?

*Message #8 Posted by **megarat** on 6 July 2010, 11:59 a.m.,*
in response to message #7 by Maximilian Hohmann

> Quote:
>
> Just out of curiosity: What would you consider to be a _bad_ home for your HP stuff?

I think the definition of "good home" comes to mean "someone who really appreciates, knows a lot about, and wants the calculator for the long term".

Myself, the quintessential "bad home" would be someone that I gave a good deal to, under the expectation that they're a kindred spirit and happy about the acquisition, but then they turn it around and try to profit from the deal, coburlin-style.

(EDIT: I also suppose the definition would also include someone who intends to destroy the calculator while wearing a TI t-shirt as a means of performance art, but I don't think there are many of those out there.)

When I had the nice luck of finding a lot of working HP 27 calculators at a surplus sale, I sold nearly all of them through this forum and they were great transactions. I think it worked out best all around: I got a reasonable price (~ current eBay auction value minus 20%), the buyers finally got the scarce calculator they were looking for (at a reasonably good price), and I got to meet all these nice HP enthusiasts all over the world. I wish I could have that sort of luck again, and only partially for the money.

Edited: 6 July 2010, 12:26 p.m.

Re: Valuing of Calcs and Related Stuff?

*Message #9 Posted by **Juergen Keller** on 6 July 2010, 2:06 p.m.,*
in response to message #7 by Maximilian Hohmann

> Quote:
>
> Just out of curiosity: What would you consider to be a _bad_ home for your HP stuff?

Hmm, a 'good' home is where the stuff is appreciated and taken good care of. A 'bad' home is just the opposite ;-)

Probably, you just have more control when selling by ads than by auction. But as prices are quite high, only fans will spend so much money, so the new home will be 'good' anyway.

Re: Valuing of Calcs and Related Stuff?

*Message #10 Posted by **Maximilian Hohmann** on 6 July 2010, 4:18 p.m.,*
in response to message #9 by Juergen Keller

Hi!

> Quote:

> Hmm, a 'good' home is where the stuff is appreciated and taken good care of. A 'bad' home is just the opposite ;-)

I once (not so long ago) killed a nice HP-25, actually my all-time favorite calculator, by using it every day. Maybe not really using it, but carrying it around in my bag in case I might need it.

I am still unsure if I was a good owner (using it what it was designed for despite it's old age) or a bad owner (by not putting it into a shoe-box together with hundreds of its companions)?

Regards, Max

Re: Valuing of Calcs and Related Stuff?

*Message #11 Posted by **Michael de Estrada** on 6 July 2010, 4:53 p.m.,*
in response to message #10 by Maximilian Hohmann

Funny you should mention the HP-25, because it is one of my favorites as well and IMO about the best hand-held ever made. I believe that all my calculators, regardless of rarity, deserve to be used, but not abused or misused. Therefore, I do not have any truly "mint" calculators, and have chosen to use all my calculators, even when I received them NIB, never used and in original packaging. I take what I consider to be reasonable precautions, such as not charging the battery pack inside my Woodstocks. Yes, even my Red Dot gets powered up on occasion, although admittedly I don't use it heavily.

Re: Valuing of Calcs and Related Stuff?

*Message #12 Posted by **Juergen Keller** on 7 July 2010, 8:38 a.m.,*
in response to message #10 by Maximilian Hohmann

You're a good owner if you bring the HP-25 back to life, or if you at least don't throw it to the bin ;-)

I have the same attitude as you: I use my HP calcs (or rather play with them) and don't put them to storage. For me it's just too boring to only look at them ...

Re: Valuing of Calcs and Related Stuff?

*Message #13 Posted by **DaveJ** on 6 July 2010, 7:12 p.m.,*
in response to message #1 by Woody

Ebay has a "completed items" option that tells you what things have actually sold for in the past 3 months. Just search for your model(s) and there should be some history there, then set your minimum price a bit below the average figure.

Dave.

Re: Valuing of Calcs and Related Stuff?

*Message #14 Posted by **DavidShenk** on 7 July 2010, 1:35 a.m.,*
in response to message #13 by DaveJ

Unfortunately, it's more like 3 weeks. That is fine for popular items, but not too good for researching more rare items. I'm still curious about the value of the plotter module for the HP41, but they just don't sell

often.

If there is a website that keeps track of previously sold items, or a way to do a google search, I'd like to know.

Dave

Re: Valuing of Calcs and Related Stuff?

*Message #15 Posted by **DaveJ** on 7 July 2010, 4:15 a.m.,*
in response to message #14 by DavidShenk

Hmm, so it seems. It used to be 3 months!
Seller feedback and links to items still dates back 3 months, so you can do it the real hard way if needed.

Dave.

Edited: 7 July 2010, 4:18 a.m.

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Happy 4th. of Jully, folks!

*Message #1 Posted by **Vieira, Luiz C. (Brazil)** on 4 July 2010, 1:29 p.m.*

Hi, all you North-Americans. *(edited to add: after some apologies, please read U.S. citizens...)*

Just to congratulate you and your country for the date you celebrate today.

I wish you all the best.

Luiz (Brazil)

Edited: 4 July 2010, 5:54 p.m. after one or more responses were posted

Re: Happy 4th. of Jully, folks!

*Message #2 Posted by **P.Hart** on 4 July 2010, 2:00 p.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

Thanks, but your 4th July congrats are neither appropriate for nor wanted by Canadian north americans.

Re: Happy 4th. of Jully, folks!

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 4 July 2010, 2:47 p.m.,*
in response to message #2 by P.Hart

HI;

Forgive me but I am not aware of what you are referring to; lack of historical background from a foreigner, perhaps. Anyway, my wishes go to those who are celebrating the date, right?

BTW, forgive me again if I am jumping into conclusions but as your biblio tells you are in England and you are thanked for what I wrote, are you from the US as well?

Cheers and thanks for the warning.

Luiz (Brazil)

Re: Happy 4th. of Jully, folks!

*Message #4 Posted by **Geoff quickfall** on 4 July 2010, 3:11 p.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

No need to apologize Luiz!

Canadians, part of the North American continent which includes Mexico, celebrate the Confederation day on July 1st (aniversary of July 1st, 1867; akin to the U.S. residents celebrating July 4th, 1776). My ignorance extends to the Mexican's founding day (?).

The confusion occurs when people refer to U.S. citizens as North Americans excluding the other two nations. The correct terms would be U.S. citizens, Canadians and Mexicans which are all North Americans by definition.

So the appropriate statement would be:

Happy 4th of July to our U.S. friends (of which I totally agree).

Cheers, Geoff

Re: Happy 4th. of Jully, folks!

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 4 July 2010, 5:51 p.m.,*
in response to message #4 by Geoff quickfall

Yep, I see what you mean.

Something like to congratulate the South Americans for, say, Brazilian´s 7th. of September (our independence day). My fault.

Cheers.

Luiz (Brazil)

Re: Happy 4th. of Jully, folks!

*Message #6 Posted by **P.Hart** on 5 July 2010, 9:56 a.m.,*
in response to message #4 by Geoff quickfall

Besides the geographical exceptions it's a good idea to keep in mind the historical exceptions to triumphalist celebrations. Many loyalists were involved in the New England rebellion (aka American revolution) and suffered at the hands of the rebels but they are never remembered. King George was protecting the loyalists as well as trying to crush the rebels. Also, probably many descendants of native people displaced after the rebellion do not celebrate 4th July.

Re: Happy 4th. of Jully, folks!

*Message #7 Posted by **db (martinez, ca.)** on 5 July 2010, 10:54 a.m.,*
in response to message #6 by P.Hart

Your King George picked the wrong rebels to try to crush.

Our King George The Second made the same mistake in Iraq, while ignoring the real enemy hiding in the hills of Afghanistan. I think they must all belong to the same secret club, which is not for *our* benefit.

Political O.T. Happy 4th. of July, folks!

*Message #8 Posted by **Martin Pinckney** on 5 July 2010, 6:55 p.m.,*
in response to message #7 by db (martinez, ca.)

> Quote:
>
> Your King George picked the wrong rebels to try to crush.

Agreed.

> Quote:
>
> Our King George The Second made the same mistake in Iraq, while ignoring the real enemy hiding in the hills of Afghanistan.

Even though I take issue with your characterization of Bush 43, You are correct that the Iraq insurgency was poorly prepared for (if I take your point properly), however, don't ignore the later success in stabilizing the country and bringing democratic elections.

Certainly Bush did not give Afghanistan the full military attention it deserved, and one may make the case that the resources necessary to stabilize Iraq could have been used in Afghanistan. However, don't ignore the fact that Bush did send forces to Afghanistan *first.*

I believe the jury is still out on whether the Iraq incursion was ultimately a good thing or not. Time will tell.

Re: Political O.T. Happy 4th. of July, folks!

*Message #9 Posted by **P.Hart** on 6 July 2010, 5:12 p.m.,*
in response to message #8 by Martin Pinckney

> Quote:
>
> I believe the jury is still out on whether the Iraq incursion was ultimately a good thing or not. Time will tell.

I guess that statement was written by one who has not known the horrors of war and is ignorant of the effect of the invasion on ordinary Iraqis. Just a few facts:- Before the invasion Iraq was internally stable. Since then well over 100,000 civilians have died violently, many of them by actions of the invading armies. Killings continue. Some huge number of people are now refugees from Iraq. One of the birthplaces of western civilisation has been vandalised. In 2003 guards were provided for the ministry of oil but cultural treasures were left to be looted from museums. The US army has built a base on at least one ancient site. One could go on. The invasion of Iraq was completely unnecessary and thoroughly wicked.

Re: Political O.T. Happy 4th. of July, folks!

*Message #10 Posted by **Martin Pinckney** on 7 July 2010, 5:12 p.m.,*
in response to message #9 by P.Hart

> Quote:
>
> I guess that statement was written by one who has not known the horrors of war and is ignorant of the effect of the invasion on ordinary Iraqis.

I would guess the above was written by someone who conveniently ignores the conditions that existed prior to the 2003 invasion, and the positive changes that have happened since.

> Quote:

> Just a few facts:- Before the invasion Iraq was internally stable.

Most repressive dictatorships are indeed "internally stable". Most of the time. It is approaching stability again - but now with a democratic government.

> Quote:
>
> Since then well over 100,000 civilians have died violently, many of them by actions of the invading armies. Killings continue. Some huge number of people are now refugees from Iraq.

The deaths caused by Saddam and his regime are so numerous that no firm number is agreed upon by researchers. In any case several times the number you quote.

Using your logic is akin to saying that the Allied war against Germany was reprehensible because it resulted in the deaths of over 4,000,000 Germans!

War is always an evil thing. So let me rephrase my offending statement:

I believe the jury is still out on whether the Iraq incursion was ultimately the lesser of evils, compared to allowing the dictator to continue to murder his own people, and threaten his neighbors. Time will tell.

Re: Political O.T. Happy 4th. of July, folks!

*Message #11 Posted by **P.Hart** on 8 July 2010, 3:31 p.m.,*
in response to message #10 by Martin Pinckney

See http://english.aljazeera.net/news/middleeast/2010/07/2010 7717324072400.html for news of the latest 50 to die violently in Iraq (some pilgrims, yesterday). I wonder how many would have preferred to be alive under Saddam rather than dead in a dubious democracy which (given Iraqi tribal structure) can last only while propped up by US guns. See also e.g. http://www.opendemocracy.net/conflict-iraqconflict/women_ 2681.jsp for the deteriorating situation of women in Iraq since the invasion.

The Iraq invasion had nothing to do with democracy nor with anti-terror (Saddam did not tolerate Al Quaeda). The sole touted excuse for the invasion was non-existent WMD, and the UN inspectors had to be turfed out before they reached the unwelcome conclusion that there were no WMD. Numerous dictators elsewhere need not worry as they will not be bombed into democracy if they have no oil. Even in the anti-Nazi war (which you mention) the US was content to rake in the dollars for armaments (while I was being bombed nightly by Adolf Hitler) until it was forced into the war by Japan. Oh, and in the Iraq/Iran war Saddam was the US's favoured belligerent.

"Time will tell", you say. Time was all that was needed for the democratisation of e.g. Portugal, Spain and the Soviet satellites. Much better than democratisation by US bombs, bullets and depleted uranium.

Re: Happy 4th. of Jully, folks!

*Message #12 Posted by **megarat** on 6 July 2010, 12:09 p.m.,*

in response to message #4 by Geoff quickfall

> Quote:
>
> The confusion occurs when people refer to U.S. citizens as North Americans excluding the other two nations.

Additionally, there's more to North America than Canada/Mexico/USA. The "continent" also includes central America down to Panama, the Caribbean, and Greenland. All said, there are approximately 23 countries defined being within the boundaries of North America.

Even Trinidad and Tobago, which is within eyeshot of Venezuela's urban glow (and you could probably swim there if you absolutely had to (sharks notwithstanding)), is regarded as part of North America.

Re: Happy 4th. of Jully, folks!

*Message #13 Posted by **Andrés C. Rodríguez (Argentina)** on 7 July 2010, 9:42 a.m.,*
in response to message #12 by megarat

Usually, the american continent is divided in North America, Central America, and South America. Your classification effectively merges Central America as part of North America (granted, it is above the Equator, after all...)

Re: Happy 4th. of Jully, folks!

*Message #14 Posted by **megarat** on 7 July 2010, 6:02 p.m.,*
in response to message #13 by Andrés C. Rodríguez (Argentina)

This isn't my classification, actually. (I.e., I'm not making this up.) There are many location-dependent definitions of continental boundaries (and yours may use the north/central/south demarcations), but this is the one most "officially" (if not commonly) employed by those in North America.

More here: http://en.wikipedia.org/wiki/North_america

Edited: 7 July 2010, 6:03 p.m.

Re: Happy 4th. of Jully, folks!

*Message #15 Posted by **Andrés C. Rodríguez (Argentina)** on 7 July 2010, 11:17 p.m.,*
in response to message #14 by megarat

... some definitions state that Argentina belongs to the SoSA subcontinent: South of South America! (and they may be not wrong at all!) It depends on conventions and local uses, as you said.

Re: Happy 4th. of Jully, folks!

*Message #16 Posted by **Don Shepherd** on 4 July 2010, 3:51 p.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

> Quote:
>
> your biblio tells you are in England

July 4, 1776 was not exactly a red-letter day in England. Probably a bit of animosity still exists. But, hey, you gave us the Beatles, for which I am thankful!!

Re: Happy 4th. of Jully, folks!

*Message #17 Posted by **ClausB** on 4 July 2010, 4:27 p.m.,*
in response to message #16 by Don Shepherd

> Quote:
>
> But, hey, you gave us the Beatles, for which I am thankful!!

And Doctor Who.

Happy 4th!

Re: Happy 4th. of Jully, folks!

*Message #18 Posted by **Raymund Heuvel** on 9 July 2010, 11:23 a.m.,*
in response to message #17 by ClausB

> Quote:
>
> And Doctor Who.
>
> Happy 4th!

And Catweazle with his toad.

Happy 7/4!

Re: Happy 4th. of Jully, folks!

*Message #19 Posted by **Katie Wasserman** on 4 July 2010, 9:49 p.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

Not to worry, there are a vast number of Americans who know nothing about the meaning of July 4th, at least according to this poll. OTOH, I'll bet that this same 40% of 18 to 29 year olds could tell you everything about Lady Gaga.

Edited: 4 July 2010, 9:51 p.m.

Re: Happy 4th. of Jully, folks!

*Message #20 Posted by **David Hayden** on 4 July 2010, 8:11 p.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

And for those who are still wondering. Today America celebrates the anniversary of our Declaration of Independence. This was written in Philadelphia in 1776 in the midst of the revolutionary war against England.

Re: Happy 4th. of Jully, folks!

*Message #21 Posted by **Walter B** on 6 July 2010, 6:14 p.m.,*
in response to message #20 by David Hayden

Sorry for cutting the dramatics, but in my humble understanding that was a guerilla war of independence in 1776, not a "revolution". A revolution overthrows the government or administration in *its own* country or state. E.g. the British had their revolution in 1688, the French in 1789, the Russians in 1917, the East Germans in 1989. OTOH, former colonies had their movements, struggles or wars for becoming independent from their "motherlands" - and sometimes needed a revolution many years later.

Just my personal 20 Milli-Euros, of course d;-)

linguistics

*Message #22 Posted by **db (martinez, ca.)** on 7 July 2010, 1:27 a.m.,*
in response to message #21 by Walter B

Walter; you're right. i never looked at it that way. that's what the words mean though.

Luiz; i saw your original post and i just thought that Brazilians must use norte-americano as the polite replacement for "gringo" like the folks in spanish speaking South America do. Being one tenth our population; Canadians get lumped in with us a lot. They hate it. We like it, mostly because they are such good hockey players. And the Molsen. The fourm's main Canuk, George, didn't take offense so i guess you didn't make a bad mistake. I do the same thing by dragging "Americanisms" into my bad Spanish. Example: if an American girl is "hot", that's a compliment. I learned that a Chilean woman is **NOT** caliente, even if she is, and it's no compliment, and please remove your fangs from my throat so i can apologize again, senorita. por favor.

db to the rescue... (gracias, ermano!)

*Message #23 Posted by **Vieira, Luiz C. (Brazil)** on 7 July 2010, 2:09 a.m.,*
in response to message #22 by db (martinez, ca.)

> Quote:
>
> (...)i just thought that Brazilians must use norte-americano as the polite replacement for "gringo" like the folks in spanish speaking South America do.

You could not be more correct! Whenever we say 'norte-americano' (sounds closer to North-American) in Brazil, it is actually a general reference to anything related the U.S. : people, technology, movies, food, music and so. If the reference goes to anything else we use 'america do norte' (now meaning 'north american').

I honestly regret having started this thread the way I did. Have I briefly suspected it would cause such controversy, I'd never do it. And As I saw it drifting to politics, I gave up trying to clear it out. Thank you, db, for opening the correct door.

But I still keep my wishes to congratulate the nation and people who celebrate the 4th. of July. That ´s all I wanted to do.

Best regards.

Luiz (Brazil)

Edited: 7 July 2010, 2:19 a.m.

"Correction" to a non-mistake

*Message #24 Posted by **Andrés C. Rodríguez (Argentina)** on 7 July 2010, 9:04 a.m.,*
in response to message #23 by Vieira, Luiz C. (Brazil)

I once (1987?) wrote a column for a national newspaper, covering Videotex systems (Videotex was a prehistoric, primitive predecessor of the current WWW). I mentioned the NAPLPS protocol, expanding the acronym as "norteamericano" [northamerican]; which was right in this case because NAPLPS was sort of an offspring from the Canadian TELIDON. NAPLPS was an ANSI standard, but it was used both in the USA and in Canada, and it was far superior than its European counterparts.

The newspaper editor felt my "mistake" should be corrected, and published NAPLPS as "estadounidense" [from the USA]...

Re: Happy 4th. of Jully, folks!

*Message #25 Posted by **bill platt** on 7 July 2010, 9:31 a.m.,*
in response to message #21 by Walter B

Yep, as a (US)American, I agree with you, indeed. And our "revolution" was fought by a pretty small portion of the population, albeit an influential part.

And we did have our true revolution later: the Civil War.

(just to get the politics thing really going here...)

Edited: 7 July 2010, 9:33 a.m.

Re: Happy 4th. of Jully, folks! (Now completely O.T.)

*Message #26 Posted by **Walter B** on 7 July 2010, 7:27 p.m.,*
in response to message #25 by bill platt

> Quote:
>
> And our "revolution" was fought by a pretty small portion of the population, albeit an influential part.

Successful revolutions were always controlled by small fractions of the local "intelligenzia" - no other way the brute forces of the masses can be focussed sufficiently, wherever it may be. Seems to hold for guerrilla wars as well d;-)

Re: Happy 4th. of Jully, folks!

*Message #27 Posted by **Thomas Okken** on 7 July 2010, 7:47 p.m.,*
in response to message #25 by bill platt

> Quote:
>
> And we did have our true revolution later: the Civil War.

I thought that was just a plain old civil (i.e. internal) war -- no overthrow of government was attempted, just a secession?

Where I'm from (Netherlands) the word "revolution" specifically means a popular overthrow of government, like the French Revolution of 1789 or the Russian October Revolution of 1917. Less popular takeovers like Hitler's power grab of 1933 are not usually called "revolutions" -- I guess we've mostly allowed Communists and other leftists to appropriate the word.

I was confused when I first saw books about the American Revolution in bookstores in the U.S. -- I thought to myself, didn't we cover modern history pretty well in High School? What did I miss? *grin* (In Europe the event is usually referred to as the American War of Independence or words to that effect.)

Re: Happy 4th. of Jully, folks!

*Message #28 Posted by **Walter B** on 7 July 2010, 8:07 p.m.,*
in response to message #27 by Thomas Okken

Thomas, thanks for your support (please see my post above). Apparently, high schools in the Netherlands and Germany are pretty much alike in their history curricula.

BTW, congratulations for reaching the world cup final! Now, since Germany is out, I'll support the Oranjes against the Spanish (history repeats itself, but less bloody now).

Edited: 7 July 2010, 8:08 p.m.

Re: Happy 4th. of Jully, folks!

*Message #29 Posted by **Martin Pinckney** on 7 July 2010, 8:14 p.m.,*
in response to message #21 by Walter B

> Quote:
>
> ...in my humble understanding that was a guerilla war of independence in 1776, not a "revolution".

Not at all. The main military effort on behalf of the American colonies was by a uniformed formal army, the Continental Army. Guerrilla tactics played only a small part. (Frances Marion comes to mind).

It was indeed a revolution against British Royal authority.

Re: Happy 4th. of Jully, folks!

*Message #30 Posted by **Walter B** on 7 July 2010, 8:32 p.m.,*
in response to message #29 by Martin Pinckney

> Quote:
>
> It was indeed a revolution against British Royal authority.

So in analogy you must call the Indian struggle for independence against British Royal authority before 1947 a revolution. Really? Hard to believe d:-?

Edited: 7 July 2010, 8:33 p.m.

Re: Happy 4th. of Jully, folks!

*Message #31 Posted by **Martin Pinckney** on 8 July 2010, 11:14 a.m.,*
in response to message #30 by Walter B

Walter, I must admit I do not know enough about the history of the Indian independence movement to comment on that (But perhaps now I will study it!).

My comment was mostly about the American Revolution not being a guerrilla war. That is, independence was openly declared by an elected representative body (Continental Congress), and the war (mainly) prosecuted by an army raised by the same body. With help from militias and the French, of course.

Now during 1775, it was more of a guerrilla war, fought by militias.

Re: Happy 4th. of Jully, folks!

*Message #32 Posted by **Walter B** on 8 July 2010, 11:42 a.m.,*
in response to message #31 by Martin Pinckney

Martin, my post was just for stating my opinion the term "revolution" is not the right word for the events at the north American east coast of 1776. So I used the history of another continent for a "reductio ad absurdum". Nothing more.

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MLDL2000 update

*Message #1 Posted by **Meindert Kuipers** on 4 July 2010, 11:56 a.m.*

I have worked out the hardware redesign and most of the preliminary layout, and will have a meeting with the assembler soon, I hope to have a quote before the holidays. currently the MLDL2000 V2 will be a (appr) 60 * 110 cm PCB. I have selected a transparant blue housing that is external to the HP41. It connectes with a cable to the HP41, and for that an old module with connector is needed. If you want an MLDL2000 V2, do not throw away your old modules! The new MLDL will come with a small additional piggyback PCB that has a few LEDs (visible through the transparant housing) and digital I/O signals. These LEDs and I/Os can be controlled from mcode! Instead of the I/O piggyback a microSD card controller may be piggybacked. This is a standard product that comes seperately or can be purchased by the user (see www.ghielectronics.com). As a background project, I have decided to create support for the MLDL2000 on operating systems other than Windows (Linux and OSX) and I am therefore switching from my trusted Delphi to Lazarus. During the porting I am meeting some challenges, but this is now priority before adding any more features to M2kM. In a test version I can import MOD and HEPAX RAM files mailed from i41CX (but that is still in Delhpi). Lazarus has compliers for various operating systems, and thus M2kM can become a real cross-platform application.

Re: MLDL2000 update

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 4 July 2010, 12:24 p.m.,*
in response to message #1 by Meindert Kuipers

Hi, Meindert;

these are GREAT news, indeed.

Looking forward to see (and buy, as I really do want) one of these 'specimens'.

Cheers and congratulations.

Luiz (Brazilië)

Re: MLDL2000 update

*Message #3 Posted by **Ángel Martin** on 5 July 2010, 5:37 a.m.,*
in response to message #1 by Meindert Kuipers

Hi Meindert,

Sounds like you have quite a number of "moving parts" going on with this new project - hope you can control the spin of that many simultaneous changes, not an easy feat.

Have you given some thought to some USB support enhancements, like device auto-recognition? I have no idea how complex that'd be (or if even feasible) but it'd be a great enhancement.

Cheers, ÁM

Edited: 5 July 2010, 5:37 a.m.

Re: MLDL2000 update

*Message #4 Posted by **Håkan Thörngren** on 5 July 2010, 9:12 a.m.,*
in response to message #1 by Meindert Kuipers

This sounds very interesting, the Mac OS X support in particular. Are there any more in depth information available of specifications?

Will the Mac OS X support also be available for MLDL2000 V1?

I like to see pictures! :)

Re: MLDL2000 update

*Message #5 Posted by **Meindert Kuipers** on 8 July 2010, 6:02 a.m.,*
in response to message #4 by Håkan Thörngren

It will certainly support V1, as there will always be only one software version, supporting both MLDL2000 V1 and V2. I will first port a Linux version (as I can test that easier) and then OSX. I do not have a MAC myself, and need to go to a friend to test it.

Meindert

Re: MLDL2000 update

*Message #6 Posted by **Geir Isene** on 5 July 2010, 11:45 a.m.,*
in response to message #1 by Meindert Kuipers

Linux support makes this a Me-Want.

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HP-41 Games Library near completion

*Message #1 Posted by **Ángel Martin** on 3 July 2010, 11:17 a.m.*

Greetings

The Games project is close to completion - after a few weeks collecting old classic games from different sources
 - notably this museum and TOS, as well as dozens of old PPC issues.

When I first started with this idea I thought I'd end up with a couple of 8k

modules, but soon enough it became apparent that it'd have to be quite some more.

Then I got some requests to also include "adventure" games, and that of course changed things even more.

So meet the "HP-41 Games Library", which so far has reached 52k split into 4 modules as follows:

Volume I.- Rubik & Chess, an 8k Module already available at TOS
Volume II.- Funstuff, a 16k module containing traditional games
Volume III.- Adventures, a 24k Module with... yes, that!
Volume IV.- Trekkies, a (meager) 4k ROM with ST favorites.

Here's a short index of the contents, no doubt you'll recognize
 some titles (and some authors, a real who's who in the 41 world):

Volume II
=========

Function	Description	Author
-PLAYGROUND	Section Header	Ángel Martin
3DTTT	3D Tic-Tac-Toe	hp
BSHIP	Battle Ship	Luis Gasperini
FLIP	Flip-Flop	hp
HANGM	Hangman	Michael Harwood
HANOI	Hanoi Towers	Stefan Fegert
MAGIC	Magic Squares	JM Baillard
MMIND	Master Mind	JM Baillard
MN?	MM Utility	JM Baillard
PANMGC	Pan-Magic Squares	JM Baillard
ROBOTS	Robot Trap	hp
ROLLERS	High Rollers	Ross Cooling
WARI	Game of Wari	hp
RNG	Random Number Gen.	JM Baillard
7P<>S	Register Swap	hp
-ALBILLOS	Section Header	Ángel Martin
CDAT	Chess Data Load	Ángel Martin
CHKERS	Checkers	Valentín Albillo
CPRT	Chess Print board	Valentín Albillo
KPRT	Checkers Print board	Valentín Albillo
MNCHSS	Mini-Chess 5x5	Valentín Albillo
REVERSI	Reversi (Othello)	Valentín Albillo
-ROMANS	Section Header	Ángel Martin
N>R	Arab to Roman	JM Baillard
PMTR	Roman prompt	Ángel Martin
R>N	Roman to Arab	JM Baillard

-ACTION	Section Header	Ángel Martin
GOUF	Catch the Goufers	Thomas Fange
LANDER	Planet Lander	hp
SCATTER	Scatter	hp
SIMON	Simon	hp
TARG	Target	Mark Gessner
ZCAR	Zcar - An Action Game	Cary E. Reinstein
-CASINO	Section Header	Ángel Martin
BJ	Black Jack	??
DOMINO	Dominoes	??
GAMBL	Gambler	??
PETALS	Petals around the Rose	Edward M. Keefe
POKER	Poker	JM Baillard
RLTTE	American Roulette	JM Baillard
SKK	Skunkers	Gene Wright
SNLD	Snakes & Ladders	JM Baillard
YATZ	Yathzee	Gene Wright
-PINBALL	Section Header	Ángel Martin
WIZARD	Pinball Wizard	Craig Pearce
PDAT	Pinball Data load	Ángel Martin
INIT	Initialization	Ángel Martin
-SLOT MCH	Section Header	Ángel Martin
FRUIT	Fruit Machine	Brian Ward
HOLD	Hold Reels	Brian Ward
NUDGE	Nudge Reels	Brian Ward
SPIN	Spin Reels	Brian Ward
WIN	Winners	Brian Ward
-SOUND FX	Section Header	Ángel Martin
BZZON	Buzz mode on	Andreas Meyer
CLAXON	Claxon	Mark Power
NOBZZ	Buzz mode Off	Ángel Martin
MORSE	Morse Code	JM Baillard
RASP	Rasp	Mark Power
TONEXY	Tone	Nelson Crowle
LEFT	Moves display to left	Nelson Crowle
GOOSE	Left Goose chr	Nelson Crowle

Volume III
==========

Dungeons, by Antonio Lagana (Yes, the author of i41CX!)
Adventure, by Bruce Bailey
The Caves, by James Surber
Black Tower, by Doug Hanson
The Castle, by P. Legros & P. Marysaael
The Hobbit, by Dejan Ristanovic
Hunt the Wumpus, by David Hayden
Swords & Sorcery, by Peter O. Johnson
Arena of Death, by Tom Longland
Terror Damm, by Layne Johnsoon
Truck, by hp??

There's of course material for more, and I'll gladly add your contributions if you send me RAW files for them (both my firgertips and my wand are too tired to keep expanding it more!)

The project is under final testing phase, should be ready in a few more days. As you can imagine the testing won't be exhaustive, specially for the adventure games of course. Feel free to report errors back for correction if you happen to find some.

Have fun!

ÁM

Edited: 3 July 2010, 5:53 p.m. after one or more responses were posted

Re: HP-41 Games Library near completion

*Message #2 Posted by **gene wright** on 3 July 2010, 4:23 p.m.,*
in response to message #1 by Ángel Martin

You really ARE trying to get me to upgrade my original NoVRAM to a NoVRAM 64, aren't you? :-)

Thanks for all this work. Have to dig out my burner and remember who to load these things. Had not changed my configuration in quite a while!

Re: HP-41 Games Library near completion

*Message #3 Posted by **Ángel Martin** on 4 July 2010, 11:16 a.m.,*
in response to message #2 by gene wright

Well, you can also crank up your V41 or i41CX+... it's quite something seeing the Chess/Checkers/Reversi virtual printouts on the iPod Touch, kind of a retro-gaming spree :)

Re: HP-41 Games Library near completion

*Message #4 Posted by **Diego Diaz** on 4 July 2010, 11:44 a.m.,*
in response to message #2 by gene wright

Hi Ángel, Gene,

Outstanding compilation... looks like PS3 now have a serious contender!... and much more portable indeed.

Gene, Your NoVRAM is certainly enough to run any of these modules... (unless you want to have them all at your fingertips). Anyhow, if you're looking for a good "excuse" to get your NoV-64, this might well be one of the best... :-))

Cheers

Diego

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DIM LCD HP-11

*Message #1 Posted by **aj04062** on 3 July 2010, 8:41 a.m.*

I posted this question a while ago and am reposting to see if there are any new ideas.

I picked up a Brazilian HP-11C that has a very dim LCD. One forum member suggested the Capacitor. Can someone confirm this is the cause?

If it is, can someone identify it for me?

SN is 2825B29156

Re: DIM LCD HP-11

*Message #2 Posted by **Randy** on 3 July 2010, 9:55 a.m.,*
in response to message #1 by aj04062

There are two caps, one across the battery and one in the rc clock oscillator. The battery bypass would have no effect but if the clock circuit is not the correct speed, it could affect the contrast.

The simplest means to test is to run the "X" key self-test. Typical time is about 25 seconds to complete.

Re: DIM LCD HP-11

*Message #3 Posted by **aj04062** on 3 July 2010, 10:30 a.m.,*
in response to message #2 by Randy

using a stopwatch it took about 13.5 seconds for the display to read all 8's.

Does this mean the clock is too fast. Does too fast result in a dim lcd or the other way around?

BTW, I ran the same test on my 12C and it finished about the same time. It's display is fine. (SN MY81707265)

I have a donor 12C from singapore (SN 3519S05250) which is built with the same 1 pc board. I want to determine if I can fix this with caps or if I should tear into it to replace the LCD. I prefer to do this as a last resort but will do so if it is the cause.

Thanks, Adam

Edited: 3 July 2010, 10:46 a.m.

Re: DIM LCD HP-11

*Message #4 Posted by **Randy** on 4 July 2010, 9:33 a.m.,*
in response to message #3 by aj04062

How many chips in the 15C? Two or three?

Re: DIM LCD HP-11

*Message #5 Posted by **aj04062** on 4 July 2010, 12:29 p.m.,*
in response to message #4 by Randy

on the donor 12C or the 11C (the unit I want to fix is a 11C)? Both have 1 main chip. If you mean the caps, I'll have to pull them apart again to confirm, but I think they both have 2 caps.

Re: DIM LCD HP-11

*Message #6 Posted by **Randy** on 5 July 2010, 8:40 p.m.,*
in response to message #3 by aj04062

The time you saw is correct for the one chip variant. Most likely a bad LCD but there is no way for sure to know other than to swap it out.

Re: DIM LCD HP-11

*Message #7 Posted by **aj04062** on 6 July 2010, 8:21 p.m.,*
in response to message #6 by Randy

Randy,

The donor 12C does not work so I do no know if the LCD is good. Do you know of a way to energize the display to test?

Adam

Re: DIM LCD HP-11

*Message #8 Posted by **Randy** on 7 July 2010, 8:52 a.m.,*
in response to message #7 by aj04062

The only way to test is on a working calculator.

Re: DIM LCD HP-11

*Message #9 Posted by **aj04062** on 9 July 2010, 10:03 p.m.,*
in response to message #8 by Randy

Randy,

Can you confirm for me that the LCDs are interchangeable? Donor 12C on top, 11C to fix on bottom. I'd like to be sure before I cut apart the 11C

Re: DIM LCD HP-11

*Message #10 Posted by **Randy** on 10 July 2010, 11:57 a.m.,*
in response to message #9 by aj04062

Yes, they should have the same pinout.

Re: DIM LCD HP-11

*Message #11 Posted by **aj04062** on 10 July 2010, 9:29 p.m.,*
in response to message #10 by Randy

Eureka! WAS:

NOW:

Bad LCD.

Edited: 10 July 2010, 9:30 p.m.

Re: DIM LCD HP-11

*Message #12 Posted by **Bill Zimmerly** on 13 July 2010, 12:08 p.m.,*
in response to message #11 by aj04062

Cool ... there's nothing like that feeling of accomplishment after a successful repair project. Time for a good beer!

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Russian mathematician turns down $1 million prize

*Message #1 Posted by **Don Shepherd** on 1 July 2010, 11:22 p.m.*

Amazing.

Re: Russian mathematician turns down $1 million prize

*Message #2 Posted by **Ángel Martin** on 2 July 2010, 1:33 a.m.,*
in response to message #1 by Don Shepherd

Indeed, yet not that completely unexpected given his former responses to similar events. Something to reflect on, that's for sure.

Re: Russian mathematician turns down $1 million prize

*Message #3 Posted by **jbssm** on 2 July 2010, 11:03 a.m.,*
in response to message #1 by Don Shepherd

It's strange. This news is about 1 year old already but only now was published in the site you mention.
Seems like one of the reasons for turning down the prize was some attrition with a Japanese researcher that was trying to take credit for what he made.
But it's also nice to know that some people are in science just for knowledge, not for the money, even if given to them.

Re: Russian mathematician turns down $1 million prize

*Message #4 Posted by **bill platt** on 2 July 2010, 1:53 p.m.,*
in response to message #3 by jbssm

I love science, but I also have to eat :-)

Re: Russian mathematician turns down $1 million prize

*Message #5 Posted by **Gerson W. Barbosa** on 2 July 2010, 4:23 p.m.,*
in response to message #4 by bill platt

So does he, but apparently he doesn't spend much money on food. Quoting from this link:

"Every day they see him walk to a grocery shop at 1.30pm where he buys the same things: eggs, cheese, spaghetti, sour cream, bread and a kilo of oranges."

Re: Russian mathematician turns down $1 million prize

*Message #6 Posted by **Glenn Shields** on 2 July 2010, 4:49 p.m.,*
in response to message #5 by Gerson W. Barbosa

At least he peels his own citrus fruit, unlike Paul Erdos, the late number theory genius who had no

home of his own, but would get his "guardian" to peel his grapefruits for him. From the article in Atlantic Monthly about "The man who loved only numbers" (is there a book?) about 10 years ago. According to him, Mr. Perelman has "died" (left the math world), but if a mathematician friend of his had passed away, he "left." A unique breed to be sure. :~)

Re: Russian mathematician turns down $1 million prize

*Message #7 Posted by **bill platt** on 2 July 2010, 5:23 p.m.,*
in response to message #6 by Glenn Shields

I think that article on Paul Erdos was more like 20 years ago! I remember reading in Atlantic or something like it about a "homeless" mathematician who could only wear silk.

I stopped reading Atlantic regularly after college--work and HAM radio and other fun stuff got in the way--so it *must* have been 20 years ago:-)

Re: Russian mathematician turns down $1 million prize

*Message #8 Posted by **Gerson W. Barbosa** on 2 July 2010, 5:44 p.m.,*
in response to message #6 by Glenn Shields

> Quote:
>
> ... "The man who loved only numbers" (is there a book?) ...

Yes, there is:

http://www.amazon.com/MAN-WHO-LOVED-ONLY-NUMBERS/dp/0786884061#_

By the way, the grapefruit story can be read at page 20.

Re: Russian mathematician turns down $1 million prize

*Message #9 Posted by **Dave Shaffer (Arizona)** on 2 July 2010, 2:26 p.m.,*
in response to message #1 by Don Shepherd

Guess he doesn't need to buy any old HP calculators!

Re: Russian mathematician turns down $1 million prize

*Message #10 Posted by **Dusan Zivkovic** on 2 July 2010, 6:16 p.m.,*
in response to message #1 by Don Shepherd

I recently spoke about this to a colleague of mine, a Russian mathematician, a fellow City geek, who set me straight. "Perelman is a very reasonable chap," he said. "He's much safer and has a much simpler life not possessing one million dollars in Russia." Huh, that didn't occur to me...

Re: Russian mathematician turns down $1 million prize

*Message #11 Posted by **Martin Pinckney** on 2 July 2010, 6:47 p.m.,*
in response to message #10 by Dusan Zivkovic

> Quote:
>
> "He's much safer and has a much simpler life not possessing one million dollars in Russia."

With a million dollars he could *leave* Russia.

Re: Russian mathematician turns down $1 million prize

*Message #12 Posted by **designnut** on 3 July 2010, 10:10 a.m.,*
in response to message #11 by Martin Pinckney

I(had a brilliant EE Prof ands I asked hum why he didn't go into industry. He said I have graduate students to do my every bidding, I can order any equipment I want. I make more in the wsummer as a consultant than my salary as a professor. Maybe the man is just where he wants to be. I never made good money, if I hadn't liked the work I w3ould never have done it. Sam 81

Re: Russian mathematician turns down $1 million prize

*Message #13 Posted by **BruceH** on 4 July 2010, 1:27 p.m.,*
in response to message #11 by Martin Pinckney

[quote With a million dollars he could *leave* Russia. [/quote] And where would he go? ;-)

Pace current events, if he went to the US he might have to register as an agent of a foreign power. Or in his case, an agent of a foreign geometric topology.

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HP Forum Archive 19

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HP 85 power failure

*Message #1 Posted by **Claudio Perottoni (Brazil)** on 1 July 2010, 9:29 p.m.*

Hi Folks!

I have a HP85 that just stopped to power on (no beep, no leds on, nothing on CRT). I have noticed that the power transformer (HP part number 00085-60017) has become very hot, as did the 2N6317 component on the PS/PTN board. Could anyone please provide me some details about the power transformer? For instance, what are the expected voltages on the connector J7 of the PS/PTN board (three conectors, red-white-red, that comes from the power transformer) for 220V input voltage? Before attempting anything I would like to check the output from the power transformer. Any other hint on the possible origin of this problem that could help to bring my HP85 back to life is very welcome!

Regards,

Claudio

Re: HP 85 power failure

*Message #2 Posted by **Thomas Falk** on 2 July 2010, 6:45 a.m.,*
in response to message #1 by Claudio Perottoni (Brazil)

Hi Claudio,

at the address

http://www.series80.org/Manuals

you can find an service manual for the hp85 under the name of a Computer Laerning Guide:

http://www.series80.org/PDFs/HP85-RepairCourse.pdf

On Page B5 you will find some voltages to expect on the boards. I suspect that the transformator is not the cause of your problem.

I wish you luck,

Thomas

Re: HP 85 power failure

*Message #3 Posted by **Claudio Perottoni (Brazil)** on 2 July 2010, 2:33 p.m.,*
in response to message #2 by Thomas Falk

Dear Thomas,

Thank you for your comments. I have taken a look at the HP85-Repair Course manual and there is now

information regarding the output voltage of the power transformer. I agree that the transformer is probably ok, but I would like to start checking the board voltages from the very beginning. Following the instructions on the Repair Course manual, I have checked voltages on J1 and J2 board connectors on the HP 85 rear board and they are all dead. There is probably a short-circuit somewhere...

Claudio

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HP Forum Archive 19

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HP Solve Issue 19 available - has several articles by museum forum contributors!

*Message #1 Posted by **gene wright** on 1 July 2010, 1:51 p.m.*

[link:http://h20331.www2.hp.com/hpsub/cache/580500-0-0-225-121.html?dimid=1170660730&dicid=null&jumpid=em_edm/us/jun10/smb/across-psg/newsletter/mrm/mcc|xxxx/loc/handhelds/calc-pdf]HP Solve[/link]

Richard Nelson of PPC fame is now the editor.

Has several articles of interest.

MCode on the HP 41

Calculator restoration

and more. PDF download.

Edited: 1 July 2010, 1:52 p.m.

Re: HP Solve Issue 19 available - has several articles by museum forum contributors!

*Message #2 Posted by **Johnny Bjoern Rasmussen** on 1 July 2010, 2:43 p.m.,*
in response to message #1 by gene wright

That magazine is simply great. A nice bunch of interesting articles regarding 'our' nice HP's.
Very nice work indeed!

Re: HP Solve Issue 19 available - has several articles by museum forum contributors!

*Message #3 Posted by **bill platt** on 1 July 2010, 3:00 p.m.,*
in response to message #1 by gene wright

Hi Gene,

I saw your name in my inbox the other day from some HP email list I'm on that I never read. Had to do with the 30b I think.

Re: HP Solve Issue 19 available - has several articles by museum forum contributors!

*Message #4 Posted by **gene wright** on 1 July 2010, 3:35 p.m.,*
in response to message #3 by bill platt

Hey, I never gave them permission to spam people with my name! Lol

I did put an article in this HP Solve issue about making key assignments on the HP 30b. Was it related to that?

Downloading the PDF of the HP solve by opening the HP email and clicking through it is VERY important to indicate to HP that these things are USED by the recipients!

I think this will become as close to a reincarnation of PPC as we will ever see again, Datafile present exception of course. ;-)

[NT] Re-post of the link

*Message #5 Posted by **PeterP** on 1 July 2010, 4:20 p.m.,*
in response to message #4 by gene wright

HP Solve Issue 19 June 2010

Re: [NT] Re-post of the link

*Message #6 Posted by **gene wright** on 1 July 2010, 4:34 p.m.,*
in response to message #5 by PeterP

Thanks... not sure why I messed it up. Tried to edit it more than once. :-)

Re: [NT] Re-post of the link

*Message #7 Posted by **Ángel Martin** on 2 July 2010, 1:27 a.m.,*
in response to message #5 by PeterP

Congrats on a very-well written article Peter! And very kind of yours mentioning my contributions to the "modern day" 41 world - which perhaps best aspect is that they're... from today :)

Cheers, 'AM

Re: [NT] Re-post of the link

*Message #8 Posted by **Don Shepherd** on 2 July 2010, 9:49 a.m.,*
in response to message #5 by PeterP

On page 69, the link to the San Antonio math teacher does not seem to work (IE7).

Re: [NT] Re-post of the link

*Message #9 Posted by **Diego Diaz** on 3 July 2010, 9:12 p.m.,*
in response to message #5 by PeterP

Hi Peter,

Great contribution indeed.

Also want to say thanks for the mention. I feel really honoured.

Warm regards from Spain.

Diego.

Re: HP Solve Issue 19 available - has several articles by museum forum contributors!

*Message #10 Posted by **bill platt** on 1 July 2010, 4:59 p.m.,*
in response to message #4 by gene wright

Haha, I only saw you because you were in my field of vision in the preview pane. Now I see that Geoff is in there, too, and Jake and Richaard and and and.

And here is a good tidbit from Jake:

"One such idea, HP Solve #19 Page 44 Page 3 of 5 proposed in 2005 by Tim Wessman, won HP's annual Design-the-Calculator contest. He suggested physical keys surrounded by an E-Ink surface where the key labels would appear and remain there (even if powered off), until changed. More recently, Samsung has developed a mobile phone called the "Alias 2", with E-Ink on each key so the labels may change depending upon the currently-active application. (See figure 4.)"

No wonder Tim has a job now!

I wonder where Ben S. is these days? He won that contest as a high school student some years ago--maybe the first year they did it?

Re: HP Solve Issue 19 available - has several articles by museum forum contributors!

*Message #11 Posted by **Bill Zimmerly** on 2 July 2010, 3:11 a.m.,*
in response to message #4 by gene wright

> Quote:
>
> Downloading the PDF of the HP solve by opening the HP email and clicking through it is VERY important to indicate to HP that these things are USED by the recipients!
>
> I think this will become as close to a reincarnation of PPC as we will ever see again, Datafile present exception of course. ;-)

Great issue! The quality has definitely increased since Richard took over. I'm thinking about writing an article myself - what format does he want it in? PDF, DOC, TXT, etc.?

Re: HP Solve Issue 19 available - has several articles by museum forum contributors!

*Message #12 Posted by **gene wright** on 2 July 2010, 8:29 a.m.,*
in response to message #11 by Bill Zimmerly

.doc file I believe.

Send it to hpsolve@hp.com.

Re: HP Solve Issue 19 available - has several articles by museum forum contributors!

*Message #13 Posted by **Bill Zimmerly** on 2 July 2010, 2:29 p.m.,*
in response to message #12 by gene wright

> Quote:

.doc file I believe.

Send it to hpsolve@hp.com.

Thanks Gene! :)

Re: HP Solve Issue 19 available - has several articles by museum forum contributors!

*Message #14 Posted by **Paul Dale** on 2 July 2010, 4:32 a.m.,*
in response to message #1 by gene wright

Interesting. I think I've solved the puzzle but don't see how to enter...not that I looked too deeply.

- Pauli

Re: HP Solve Issue 19 available - has several articles by museum forum contributors!

*Message #15 Posted by **gene wright** on 2 July 2010, 8:29 a.m.,*
in response to message #14 by Paul Dale

Richard has an HP Solve email address.

hpsolve@hp.com

Simply email your solution to that address.

Re: HP Solve Issue 19 available - has several articles by museum forum contributors!

*Message #16 Posted by **Paul Dale** on 2 July 2010, 8:27 p.m.,*
in response to message #15 by gene wright

Thanks.

- Pauli

Good edition, thanks Richard et al

*Message #17 Posted by **geoff quickfall** on 2 July 2010, 7:58 p.m.,*
in response to message #1 by gene wright

Hello all,

Gene, Pete and Jake as well as Richard, thanks for the interesting articles. The HP 30b is on the desk as well as the 41CX (again). Nothing like a good magazine to cause one to haul out the calcs from the display case.

As with any essay, thesis or article, typos manage to squeak through. Having read and re-read and had others do the same, somehow the instructions on page 4 of 13 on my restoration article got duplicated in mid stream replete with the appropriate sequential numbers!

Easy fix but to late for the editor to change it; so it you are reading that article, remove instructions 7 through 12 associated with figure 5, smoothing the label. It is obvious when you read the instructions, but what the heck. These are just repeats of the first 6 instructions:

```
7. Heat the label.
8. Remove the label.
9. Remove the adhesive from the label, citric based adhesive
   remover will work.
10. Remove the adhesive from the bottom shell.
11. Place the label between two thick sheets of vinyl, an
    ID .holder works well.
12. Place the ID holder and label facing up on a flat surface; a
    thick glass pane on a kitchen counter for example
```

The other articles are fantastic and Richard Nelson has given us something that we all will find informative, historical and interesting.

Cheers, Geoff

Edited: 2 July 2010, 8:02 p.m.

Re: Good edition, thanks Richard et al

*Message #18 Posted by **Diego Diaz** on 3 July 2010, 9:16 p.m.,*
in response to message #17 by geoff quickfall

Hi Geoff,

Sure I'm not alone in saying that I'm hanging on the edge of my seat to see your book published... ;-)

Best wishes.

Diego.

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HP Forum Archive 19

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97 printer paper not advancing

*Message #1 Posted by **Keith Beyer** on 30 June 2010, 10:44 p.m.*

Hi, I've looked at the articles to repair the 97 printer gear, but my problem is that the paper is not advancing. The pinter prints fine, but the paper does not, or barely advances. Does anyone have a solution for this?

Thanks!

Re: 97 printer paper not advancing

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 30 June 2010, 11:01 p.m.,*
in response to message #1 by Keith Beyer

Hi;

In the HP41 peripheral printer (82143A) there are two small springs in each edge of the clutch axis that ensure enough pressure is provided to pull the paper as the clutch rotates. Can you check if the HP97 also has them and, if so, if they are correctly placed?

Cheers.

Luiz (Brazil)

Edited: 30 June 2010, 11:01 p.m.

Re: 97 printer paper not advancing

*Message #3 Posted by **Ignazio Cara (Italy)** on 1 July 2010, 1:05 p.m.,*
in response to message #1 by Keith Beyer

Hello Keith, I can suggest my procedure for fix this problem, but you must know that will require to take apart all the printer assembly. If you aren't skill enough, I can fix your printer if you send it to me. BTW I live in Italy! If it's not a problem for you...

Take care

Ignazio

Re: 97 printer paper not advancing

*Message #4 Posted by **Keith Beyer** on 5 July 2010, 5:54 p.m.,*
in response to message #3 by Ignazio Cara (Italy)

Hi Ignazio,

Thanks for the offer. I did find some more postings in the archive. It appears all advance wheels are turning, but the rollers just don't grab the paper. So I will try one of the fixes I saw very carefully using

sand paper to "roughen" the surface of the rollers.

Thanks again, but I think sending the calc to Italy would be a bit much for me.

Re: 97 printer paper not advancing

*Message #5 Posted by **Klaus** on 6 July 2010, 1:54 a.m.,*
in response to message #4 by Keith Beyer

I don't know the condition of your rollers, but one some of my calcs, the rollers, which should have a circumference shaped like a circle have a flat spot on them. Sandpaper helps a bit, but still produces uneven paper advance. I think you still have to rebuild the rollers.

Re: 97 printer paper not advancing

*Message #6 Posted by **Keith Beyer** on 6 July 2010, 8:06 p.m.,*
in response to message #5 by Klaus

Hi,

Thanks for the posts. I followed the procedure I found in Archive 15:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=89643

Basically, I cut a narrow (about 3 mm) and long (a few inches) piece of 600 grit sandpaper. I fed it through with the grit facing the roller (grit toward the front of the calc) and pressed the paper advance as I alternately held the tail of the piece of sandpaper and released it. This way it would scrape the roller and advance alternately. It took multiple passes on each roller, but now the paper is advancing as it should!

Thanks to those who posted and thanks to the original posts in the archive - and the Museum for maintaining the archive to begin with!!

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Es un milagro

*Message #1 Posted by **Michael de Estrada** on 30 June 2010, 7:05 p.m.*

Some of you may recall that I previously reported the demise of my HP-25C, or more specifically it's continuous (CMOS) memory. It had been working fine for years off NiCads, which I only charged outside the calculator. Then, suddenly, I could no longer store programs in memory or data in the registers, however, all other functions of the calculator worked fine. I figured that CMOS memory had finally failed, perhaps stressed by prior use of the AC charger.

I went about looking for a donor calc with CMOS memory, but then found another perfectly functional and cosmetically excellent HP-25C for a very reasonable price IMO, and so I bought it. Meanwhile, I opened up my old failed unit, and decided to give the main PCB a good cleaning in white vinegar, since there was some evidence of corrosion. When I re-assembled the calc and switched it on, all I got was some faint activity in the display and then nothing. I opened it up again, and noticed that a solder joint connecting circuit traces near one of the battery terminals was missing. So I fired up the soldering iron and laid down some solder to re-establish the connection. When I re-assembled the calc and powered it up, it was again working. But then came the astonishing thing, CMOS memory was working again! I stored and ran a short program, and stored and recalled a number from all 8 registers. Furthermore, when I switched the calc off and then on again, the contents of memory had been retained.

I don't know if there is any direct connection between the bad solder joint and the previous problem with CMOS memory, or if perhaps the cleaning had something to do with this, but frankly I am just happy to have my calc fully operational again. To me, it's simply a miracle.

Yo non creo en las brujas...

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 30 June 2010, 9:40 p.m.,*
in response to message #1 by Michael de Estrada

...pero si crees, no lo pruebas a me! 8^D

Saludos! (and congratulations for your HP25C!)

Luiz (Brasil)

Edited: 1 July 2010, 1:03 a.m.

Re: yo tampoco... pero sin embargo existen!

*Message #3 Posted by **Ángel Martin** on 1 July 2010, 5:43 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

:)

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HP 35s. Base conversions, fast way

*Message #1 Posted by **Pablo P (Spain)** on 30 June 2010, 2:00 p.m.*

Hi all, we know that base conversions in HP 35s require many keystrokes. Input of numbers in bases other than 10 require the suffix to be explicitly entered. Apart from that, to type A B C D E F digits require the hexadecimal mode to be set. I will prove that these programs will reduce the keystrokes in many situations.

```
HP 35s. Base conversions, fast way.


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        1.2 Example 2: Convert (63)d to binary
        1.3 Example 3: Convert (99)d to hexadecimal and return to decimal mode
        1.4 Example 4: Convert (FF)h to binary, go back to decimal mode and later convert
(17)o to binary
2 Program listing
3 Registers
4 Revision


1 Using the program
~~~~~~~~~~~~~~~~~~~


  This set of programs are intended to do base
  conversions using less keystrokes. I will show you
  some examples comparing the standard way and the use
  of this set of programs:


1.1 Example 1: Convert (F1)h to decimal
---------------------------------------


    This is the best case. When you convert from
    hexacecimal to any other base:


      Original method   This program
     -----------------+--------------
             blue-key   XEQ
                    1   D
                    2   ENTER
              1/x (F)   1/x (F)
                    1   1
             blue-key   blue-key
                    1   1
                    6   6
             blue-key   R/S
                    1
                    1


        11 keystrokes   9 keystrokes


1.2 Example 2: Convert (63)d to binary
--------------------------------------


    This is the worse case. When you convert from
```

non-hexacecimal to other base:

Original method	This program
blue-key	XEQ
1	B
4	ENTER
6	6
3	3
ENTER	R/S
6 keystrokes	6 keystrokes

After converting the base, the calculator is set on binary mode (in this example). In many situations we want to go back to decimal mode to do other calculations. I will show you this in the next example.

1.3 Example 3: Convert (99)d to hexadecimal and return to decimal mode

Original method	This program
blue-key	XEQ
1	H
2	ENTER
9	9
9	9
ENTER	R/S
blue-key	R/S
1	
1	
9 keystrokes	7 keystrokes

1.4 Example 4: Convert (FF)h to binary, go back to decimal mode and later convert (17)o to binary

This is a common situation.: We do a conversion. Then we go back to decimal mode to do other stuff. And after a while we need to make other conversion to the same base as before:

Original method	This program
blue-key	XEQ
1	B
2	ENTER
1/x (F)	1/x (F)
1/x (F)	1/x (F)
blue-key	blue-key
1	1
6	6
blue-key	R/S
1	R/S
4	R/S
blue-key	1
1	7
1	blue-key
blue-key	1
1	7
4	R/S
1	
7	
blue-key	
1	
7	
ENTER	

```
        23 keystrokes   17 keystrokes


2 Program listing
~~~~~~~~~~~~~~~~~


  Line   Instruction   Notes
 ------+-------------+-----------
  B001   LBL B
  B002   HEX
  B003   SF 10
  B004   ->BIN         see note*
  B005   BIN
  B006   STOP          press R/S
  B007   DEC
  B008   STOP
  B009   GTO B002


  Line   Instruction   Notes
 ------+-------------+-----------
  D001   LBL D
  D002   HEX
  D003   SF 10
  D004   ->DEC         see note*
  D005   DEC
  D006   STOP          press R/S
  D007   GTO D002


  Line   Instruction   Notes
 ------+-------------+-----------
  H001   LBL H
  H002   DEC
  H003   SF 10
  H004   ->HEX         see note*
  H005   HEX
  H006   STOP          press R/S
  H007   DEC
  H008   STOP
  H009   GTO H002


  Line   Instruction   Notes
 ------+-------------+-----------
  O001   LBL O
  O002   HEX
  O003   SF 10
  O004   ->OCT         see note*
  O005   OCT
  O006   STOP          press R/S
  O007   DEC
  O008   STOP
  O009   GTO O002


  * To insert the right arrow press: EQN, BLUE-KEY, 2,
    RIGHT-KEY, CLEAR-KEY, CLEAR-KEY


3 Registers
~~~~~~~~~~~


  No registers used.



4 Revision
~~~~~~~~~~


  06/30/10 - First version.
```

Edited: 30 June 2010, 2:05 p.m.

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HP Forum Archive 19

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hp 41 register swap

*Message #1 Posted by **Sok-khieng Chum Hun** on 30 June 2010, 1:48 a.m.*

Hi, I saw that in some program in hte hp 41 program library section, this function : X<>T or X<>Z

how do I do this on my calcualtor? I tried to figure it out on my calculator but didn't find how to :S

Thank you :)

Re: hp 41 register swap

*Message #2 Posted by **Karl Schneider** on 30 June 2010, 2:51 a.m.,*
in response to message #1 by Sok-khieng Chum Hun

> Quote:
>
> Hi, I saw that in some program in the hp 41 program library section, this function : X< >T or X< >Z

Good question. That one's rather arcane, and I had to learn it as well, about eight years ago.

```
[XEQ]
[ALPHA] X
[SHIFT] I   (gives < ; check the plate on the back of the HP-41)
[SHIFT] J   (gives > ; check the plate on the back of the HP-41)
[ALPHA]     (wait for the HP-41 to show 'X<> __', prompting for a two-digit register
number)
  .         (The HP-41 shows 'X<> ST _', now prompting for a stack register X, Y, Z, T, or
L)
  Z         ('X<> Z' is displayed or executed)
```

"X< > " is an open-ended function, found in CATALOG 0. Completion with stack register X will form an "X< > X" function that can be programmed or executed, useful only as a no-op that consumes clock cycles. It is also noted that "X< > Y" is not displayed the same as the built-in
"X< >Y", and likely does not have the same op-code.

If the [SHIFT] key is pressed instead of [.], indirection "IND" is invoked. [SHIFT] [.] will allow exchange with a storage register whose number is in a stack register.

Among the RPN calc's, only the HP-41 and HP-42S offer direct exchange between stack registers. The HP-42S will display "X< > ST Z", because 'Z' can also be the name of a variable.

Voyager-series connection: On the face of the HP-15C, the open-ended "X< > " replaced "X< >I" and "X< >(i)" on the face of the HP-11C, opening a valuable position and creating 27 unique functions completed with {0-9}, {.0-.9}, {A-E}, I, and (i). Sharp thinking; sound engineering.

-- KS

Edited: 6 July 2010, 1:45 a.m. after one or more responses were posted

Re: hp 41 register swap

*Message #3 Posted by **Sok-khieng Chum Hun** on 30 June 2010, 10:37 a.m.,*
in response to message #2 by Karl Schneider

Thank you very much! :)

Re: hp 41 register swap

*Message #4 Posted by **Thomas Klemm** on 30 June 2010, 8:14 p.m.,*
in response to message #1 by Sok-khieng Chum Hun

OWNER'S HANDBOOK AND PROGRAMMING GUIDE HP-41C

Search for "Exchanging X and Any Register" or everything you always wanted to know about the HP-41 (but were afraid to ask).

Best regards
Thomas

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uCalc

*Message #1 Posted by **DaveJ** on 29 June 2010, 9:39 p.m.*

For those interested in the uCalc, there was some talk about it on my latest live blog show:
http://www.youtube.com/watch?v=U460PkQnwZA

Jump to 37:00

Dave.

Re: uCalc

*Message #2 Posted by **Pablo P (Spain)** on 30 June 2010, 2:16 p.m.,*
in response to message #1 by DaveJ

Hi, where can I find more information about ucalc (its hardware, specifications, etc...)? Any official website?

Thanks Pablo (from Spain)

Edited: 30 June 2010, 2:29 p.m.

Re: uCalc

*Message #3 Posted by **BobVA** on 30 June 2010, 7:19 p.m.,*
in response to message #2 by Pablo P (Spain)

I don't know of a website, but there's some very interesting design discussions here , here and here .
Current status is discussed within this thread

Cheers, Bob

Re: uCalc

*Message #4 Posted by **John Robinson** on 30 June 2010, 8:43 p.m.,*
in response to message #2 by Pablo P (Spain)

Website is http://www.calcwatch.com/

Re: uCalc

*Message #5 Posted by **Martin Pinckney** on 1 July 2010, 11:43 a.m.,*
in response to message #4 by John Robinson

Well, that's the uWatch.

As Dave said, he hasn't had time to finish the uCalc.

Re: uCalc

*Message #6 Posted by **Pablo P (Spain)** on 1 July 2010, 6:05 a.m.,*
in response to message #1 by DaveJ

Hi Dave, I have read the links about uCalc and I can say that it is amazing. I am waiting for the final version!

If you release it I'd buy one.

Edited: 1 July 2010, 6:14 a.m.

Re: uCalc

*Message #7 Posted by **Bill Zimmerly** on 2 July 2010, 4:21 a.m.,*
in response to message #1 by DaveJ

Dave - your Youtube videos are fantastic! Great job, and I love the enthusiasm that you bring to your work.

Not only was I highly entertained, but I learned a lot of things too.

Although they were all great, my favourite video was #31 on the documentation of the NEC micro-controllers. Also, the series on your DIY watch and the Bible of Electronics, "The Art of Electronics" - keep up the good work!

- Bill, a bloody yank in Hillsboro, Missouri, USA (Laughing!)

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Sting curiosity

*Message #1 Posted by **Alberto Fenini** on 29 June 2010, 12:52 p.m.*

ciao a tutti,

pure curiosity...
Has ever existed an external battery charger for the
HP10 and HP19C ??

Take care Alberto

Re: Sting curiosity

*Message #2 Posted by **Katie Wasserman** on 29 June 2010, 2:51 p.m.,*
in response to message #1 by Alberto Fenini

Hi Alberto,

I've asked the same question before, and the answer is no.

-Katie

Re: Sting curiosity

*Message #3 Posted by **Alberto Fenini** on 29 June 2010, 5:27 p.m.,*
in response to message #2 by Katie Wasserman

ciao Katie, thanks for the reply
That's too bad,
I'm thinking about adapting a HP91/92/97 power pack
To me,it should make sense, both batteries packs have the same
voltage output although maH capacity is different.
Even the width of the power pack should be make possibile to host the
Sting battery pack

What do you think ? Waste of time or it might work ?

Re: Sting curiosity

*Message #4 Posted by **Michael Meyer** on 29 June 2010, 6:33 p.m.,*
in response to message #3 by Alberto Fenini

Alberto, I've modified all of my Sting packs by cutting out the two cross-bars on the front side and gluing in three sets of double springs to allow me to place regular AA rechargeable batteries into the packs. You can then easily charge the batteries in a regular charger. This eliminates the danger of trying to charge the pack in the calculator. With the newer NiMH batteries that hold their charge for up to a year, I've had no problems at all. Just a thought.

Re: Sting curiosity

*Message #5 Posted by **DavidShenk** on 29 June 2010, 10:08 p.m.,*
in response to message #4 by Michael Meyer

That is a good idea. From a comment in another thread, isn't the danger to the calculator "eliminated" if you only charge in the calculator, never turning it on when it is plugged in? I just bought a 19c, so I'm trying to figure out what I want to do.

Dave

Re: Sting curiosity

*Message #6 Posted by **Michael de Estrada** on 30 June 2010, 10:11 a.m.,*
in response to message #5 by DavidShenk

Well, it is probably only totally safe to charge a battery in a Woodstock/Sting calculator w/o continuous memory, because even with the calculator switched off, power is still being delivered to continuous (CMOS) memory. Any calculator with the "C" suffix in the model number (25c, 29c, 19c) has continuous memory.

Re: Sting curiosity

*Message #7 Posted by **Alberto Fenini** on 30 June 2010, 5:49 a.m.,*
in response to message #4 by Michael Meyer

ciao Michael,

that's a good idea, no doubt about it.
This said, let me tell you that I do belong to the category of collectors that will not use his toys(*)
I'm trying to keep them as much as possible close to the original look, which is why I have recelled my pacs and I wish I can avoid the modification.
Considering that even the power supply has the same voltage output for both Topcat and Sting, I think it should work.

It's more the pleasure of making it that the real need ....

(*) not really true, this is my idea of using the collected items :

1st unit : definetely collection item, not for use
2nd unit of the same model : backup of the collection, not for use
3rd unit of the same model : you never know, may be you'll need a donor ... not for use
4th unit : i'm running out of space, may be will be traded ... not for use

Honestly ... Do I need some treatment ??

Re: Sting curiosity

*Message #8 Posted by **Donald Williams** on 30 June 2010, 11:12 a.m.,*
in response to message #7 by Alberto Fenini

-"Honestly ... Do I need some treatment ?? "

Yes definitely!

And your not the only one. Example. Some of the endless discussion about purely subjective perceptions about keyboards, favourite models, etc.etc.

As a corporation, HP should do the right thing and step up to the plate, and get some help for the majority of the members of this forum. I am talking about a "12 Step Program" for the HP calculator obssesed.

Sorry I woun't be able to participate. Someone has to stay home and take care of my collection.

Programming challenge - can someone write a "12 step Program" for the calculator obssesed in RPN? :>)

Edited: 30 June 2010, 11:23 a.m.

Re: Sting curiosity

*Message #9 Posted by **Michael Meyer** on 30 June 2010, 11:31 a.m.,*
in response to message #7 by Alberto Fenini

I can understand re-celling packs, but to really preserve these calculators, you'd have to re-cell every 5 years or so... the cells eventually leak, etc. I think modification is an acceptable alternative that will hopefully allow the calculators to last much longer. I re-celled a bunch of non-HP's 10 years ago, and I haven't had the motivation to begin to recheck all of them. I'm sure that they will all need them replaced again.....

Re: Sting curiosity

*Message #10 Posted by **Katie Wasserman** on 30 June 2010, 11:57 a.m.,*
in response to message #9 by Michael Meyer

Michael,

I moved to using AAA and AA primary lithium cells to solve this issue.

For the classics, I made up a bunch of replacement battery packs using a 3xAAA plastic battery holder and glused metal contacts to the bottom of the holder. This fits nicely in the battery compartment.

For the spices, woodstocks and stings the solution was to just use AA lithium cells in place of the nicads.

For the topcats I used a 4xAAA plastic battery holder glued on top of one-half of the standard topcat battery pack plastic frame, with metal contacts like the classics.

So all the LED (HP and non-HP) calculators in my collection now have replaceable lithium cells that will hopefully never leak and not self discharge for many years.

But.... I remember your problem with your 19C not liking the slightly higher voltage of the AA lithium cells. I haven't had that problem yet, but it's something to be aware of.

-Katie

Re: Sting curiosity

*Message #11 Posted by **Michael Meyer** on 30 June 2010, 3:36 p.m.,*

in response to message #10 by Katie Wasserman

So far, so good. I've been asking about the lithium cells for years, now, on the Forum, and I've not heard a single report of cell leaking. (O.K., a few of the 3v flashlight cells have reportedly exploded, but that's a different formulation.) Pretty good track record over about 10 years. They all still seem to work, too! Not bad. I guess we'll find out for sure once they start dying... I'll probably end up with exploding Woodstocks or something. Anyway, so far so good.

Re: Sting curiosity

*Message #12 Posted by **BobVA** on 30 June 2010, 7:05 p.m.,*
in response to message #10 by Katie Wasserman

> Quote:
>
> ... For the classics, I made up a bunch of replacement battery packs using a 3xAAA plastic battery holder and glused metal contacts to the bottom of the holder. This fits nicely in the battery compartment...
>
> -Katie

Ok - Now I know what I'll be doing this weekend. Thanks for posting this!

Edited: 30 June 2010, 7:05 p.m.

Re: Sting curiosity

*Message #13 Posted by **Michael Meyer** on 1 July 2010, 11:01 a.m.,*
in response to message #10 by Katie Wasserman

I've been very pleased with having AA lithiums in all my HP's. I can pick up any calculator in my display case and turn it on and show it or use it, even ones that have sat for years. To me, it's well worth the higher cost of the cells. They predict a 10 year shelf life, but I'm suspecting it will be much longer than that. I'll find out fairly soon: some of my cells are approaching that age.

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Help with RPL programs

*Message #1 Posted by **N.Bressanin** on 29 June 2010, 11:04 a.m.*

Hello world. I have about 5-6 programs for ODEs that i've written for my ex casio 7450g in Casio Basic.They're pretty short and straight forward. I tried to translate them to UserRPL because i need them for friday 2,but Hp language takes me a little longer to understand that initially tought. Can someone please help me with themhere or by mail?It's a quick task,i promise. Thanks

Re: Help with RPL programs

*Message #2 Posted by **Crawl** on 29 June 2010, 2:03 p.m.,*
in response to message #1 by N.Bressanin

Probably, but you need to give us something to go on.

Re: Help with RPL programs

*Message #3 Posted by **bill platt** on 29 June 2010, 2:20 p.m.,*
in response to message #1 by N.Bressanin

Do you have the "HP 48G Series User's Guide" (widely available on ebay)? That is the official and detailed reference for user RPL.

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exponential function on hp 12 c?

*Message #1 Posted by **Gene Hoelscher** on 29 June 2010, 8:47 a.m.*

My hp is an 'oldie' and the keys are significantly worn. Is there a key to raise a number to a power?

thanks,

gene

Re: exponential function on hp 12 c?

*Message #2 Posted by **Bart (UK)** on 29 June 2010, 9:25 a.m.,*
in response to message #1 by Gene Hoelscher

> Quote:
>
> My hp is an 'oldie' and the keys are significantly worn. Is there a key to raise a number to a power?

y^x is on the second button from the top, leftmost column.

See (print?) this museum picture for reference HP 12C picture.

HTH
Bart

Edited: 29 June 2010, 10:15 a.m. after one or more responses were posted

Re: exponential function on hp 12 c?

*Message #3 Posted by **Bart (UK)** on 29 June 2010, 10:14 a.m.,*
in response to message #2 by Bart (UK)

On second thoughts, were the main functions these keys not made with the double shot injection molding technique? This means that the key legends should never wear off?

Re: exponential function on hp 12 c?

*Message #4 Posted by **Vladan Dugaric** on 29 June 2010, 12:00 p.m.,*
in response to message #3 by Bart (UK)

On newer Chinese (and probably Indonesian) made HP-12C calculators the labels are silkscreened then the keys are sprayed with a clear matt coat that is somewhat resistant to rubbing. They do wear out after long and intensive use.

Re: exponential function on hp 12 c?

*Message #5 Posted by **Don Shepherd** on 29 June 2010, 10:27 a.m.,*
in response to message #1 by Gene Hoelscher

Gene, how about a pic of a worn 12c? Folks here would like to see that.

Re: exponential function on hp 12 c?

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 29 June 2010, 12:20 p.m.,*
in response to message #5 by Don Shepherd

Yep, I'm curious, too.

Not that any of us is wondering if it is a troll catch, just that it is so unusual that deserves an image.

Please?

Cheers.

Luiz (Brazil)

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Blanknut differences

*Message #1 Posted by **Casey Drew** on 28 June 2010, 4:45 p.m.*

Hi,

I just acquired an HP41 Blanknut. I was wondering what is the easiest way to confirm if it is the Model 41C, 41CV or 41CX. There is no model labeling on the unit. Thanks!

Re: Blanknut differences

*Message #2 Posted by **Raymond Del Tondo** on 28 June 2010, 6:03 p.m.,*
in response to message #1 by Casey Drew

In an empty unit, w/o any modules plugged, CAT 2 shows whether it's a C/CV or CX. A C/CV doesn't show any CAT 2 entries.

To check for C vs CV, do SIZE 100 , then RCL 99. If no error (either in SIZE or RCL), it's a CV.

HTH

Raymond

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Woodstock collectors: electrical care/prevention tips and practices?

*Message #1 Posted by **megarat** on 28 June 2010, 3:15 p.m.*

Hey all,

In the process of finding new homes for the HP27 calculators that I propitiously found at a local-ish university surplus sale, I've come to the conclusion that (unless I'm missing something) there isn't any real SOP about how to take care of these calculators, given that they are, shall I say, electrically sensitive.

For those of you who have Woodstocks, what are your thoughts? Particularly about:

-- Plugging the calculator into the wall. (E.g., is there ever a good reason to do this?)

-- What types of battery solutions are available?

-- 1.5V alkalines vs. 1.2V rechargables. (E.g., are 1.5V cells okay for long-term use?)

-- Is there a "best way" to safely charge the batteries and use the calculator to sustain its longevity? What strategy do you use?

I've found a lot of related information on this site, but scattered across different topics. Hence this post, to hopefully consolidate. I'm thinking that if we can get enough authoritative (or authoritative-ish) info for a FAQ or SOP then it can be re-posted as an article.

If you have any thoughts, I'd be curious to hear it.

Re: Woodstock collectors: electrical care/prevention tips and practices?

*Message #2 Posted by **Michael de Estrada** on 28 June 2010, 3:32 p.m.,*
in response to message #1 by megarat

My failsafe strategy is to NEVER plug the AC adapter into the calculator and wall, regardless of the condition of the batteries or whether or not the calculator is turned on. I use ONLY flat top 1.2v AA NiCads, and only charger them outside the calculator. I recently found a power pack charger so I no longer need to remove the battery cells from the holder in order to charge them.

Whether or not all of these precautions are necessary, I do not know, however, all my Woodstocks have remained functional over the years and I sleep comfortably.

Operating the calculator while the AC adapter is connected is risky, even if good NiCad batteries are installed, because if the electrical connection between the battery and calculator is not perfect, serious damage can occur.

Re: Woodstock collectors: electrical care/prevention tips and practices?

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 28 June 2010, 4:13 p.m.,*
in response to message #1 by megarat

Hi;

I totally agree with the fact that it is not safe charging the batteries while using Woodstocks, but it is harmless to charge the batteries while the regular Woodstocks (not the Continuous Memory type) are switched to OFF. By analyzing their circuits, the AC adapter is isolated from the calculator circuitry for as long as the ON/OFF switch is turned to OFF.

Anyway, some circumstances must be considered:

IF the batteries' contacts fail and you inadvertently switch it to ON, then you may regret that good time...

In the particular case of the HP27, which uses N-MOS circuits that are not compatible with the circuits from other Woodstocks (cannot donate to nor receive from other Woodstocks than another HP27)

The new batteries are different of the ones used some 30 years ago (ampere capacity, charging time/current, etc.) and these oldtimers would not charge these batteries accordingly.

SOOO... just let the batteries 'eat' energy from an outside source. It´s not worth the risk of burning such fine, rare and expensive HP27´s.

Cheers.

Luiz (Brazil)

P.S. - BTW, if there is any possible, tinny chance of selling one of these, a friend of mine here in Brazil is dying to have an HP27. Not me, a friend, really!

Edited: 28 June 2010, 4:14 p.m.

Re: Woodstock collectors: electrical care/prevention tips and practices?

*Message #4 Posted by **megarat** on 28 June 2010, 4:27 p.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

Hi Luiz,

I think your sentence beginning with "In the particular case of the HP27" was truncated. Or am I just mentally missing something?

Re: HP27 availability. Alas, all five of the ones that I found are now at new homes. That said (and with no regrets), it would have been fun had I heard from you earlier, as the first four ended up on four different continents (without trying). The sale of the fifth to South America would have diversified their distribution even further. Five calculators on five continents: that would have put a smile on my face.

(If you're of the teaching that North and South America are a single continent, ignore me.)

Edited: 28 June 2010, 4:38 p.m.

Re: Woodstock collectors: electrical care/prevention tips and practices?

*Message #5 Posted by **Gerson W. Barbosa** on 28 June 2010, 5:44 p.m.,*
in response to message #4 by megarat

> Quote:
>
> The sale of the fifth to South America would have diversified their distribution even further.

Even further than we could ever have imagined :-) link

Re: Woodstock collectors: electrical care/prevention tips and practices?

*Message #6 Posted by **megarat** on 28 June 2010, 7:08 p.m.,*
in response to message #5 by Gerson W. Barbosa

Awesome! We Americans are so worldly.

(Come on, who doesn't know that South Africa is located just south of Mumbambu ?)

Edited: 28 June 2010, 7:10 p.m.

Re: Woodstock collectors: electrical care/prevention tips and practices?

*Message #7 Posted by **Dave Shaffer (Arizona)** on 28 June 2010, 10:20 p.m.,*
in response to message #6 by megarat

I almost died laughing at this (fortunately (?!) my wife tells me that the Onion News Network is a spoof!). That was great. I am already planning my first trip to Mumbambu!

Re: OT: The Onion

*Message #8 Posted by **megarat** on 30 June 2010, 1:10 a.m.,*
in response to message #7 by Dave Shaffer (Arizona)

If you liked that one, I recommend looking at some of their others. They're consistently very funny.

On the topic of technology, I highly recommend this one.

Re: Woodstock collectors: electrical care/prevention tips and practices?

*Message #9 Posted by **David Hayden** on 30 June 2010, 9:30 a.m.,*
in response to message #6 by megarat

Can we have the HHCC in Mumbambu this year...?

On another note, a friend of mine says he was at a party one day. Someone asked "what is the capitol of Africa?" Without missing a beat he answered "Swahili." We American's can be so stupid sometimes.

Re: Woodstock collectors: electrical care/prevention tips and practices?

*Message #10 Posted by **Vieira, Luiz C. (Brazil)** on 30 June 2010, 9:46 a.m.,*
in response to message #9 by David Hayden

In this case, I would go. Go Mumbambu!

Luiz (Brazil - in the south of America!)

Edited: 30 June 2010, 9:48 a.m.

Re: Woodstock collectors: electrical care/prevention tips and practices?

*Message #11 Posted by **Vieira, Luiz C. (Brazil)** on 28 June 2010, 9:46 p.m.,*
in response to message #4 by megarat

> Quote:
>
> I think your sentence beginning with "In the particular case of the HP27" was truncated.

Yep, you are correct. I thought about writing:

'This is even worse in the particular case...'

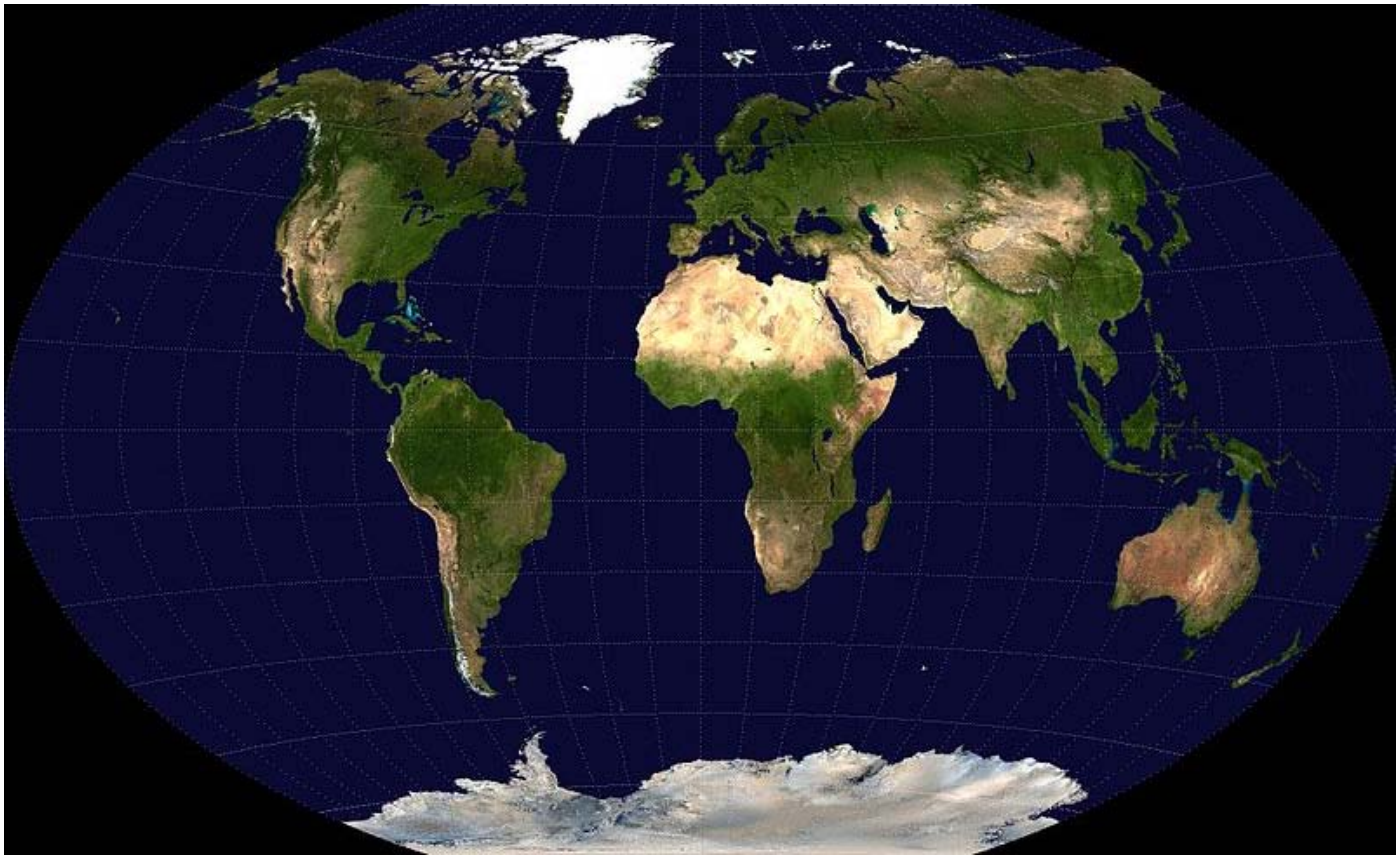
Then I worked it out and intended to write:

'In the particular case of the HP27 this is even worse...'

And I ended up missing the 'this is even worse' part of it. I left home right after that and went back right now.

Thanks! (I hope now it is everything in place...)

About the America: geographically I see them all as one America only (hence a single name), but I must consider three of them as for their different people, cultures and history living in three different 'slices'. I cannot only take the fact that the three 'slices' are joined by common land (no ocean between them) because Europe, Asia and Africa also have a lot of joined lines.



Luiz (Brazil)

Edited: 28 June 2010, 9:57 p.m.

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Was that an HP50G in a commercial?

*Message #1 Posted by **Han** on 28 June 2010, 12:47 p.m.*

I was watching Wimbledon today on NBC and there was a commercial from some financial firm (Franklin Templeton Investments) and at one point I could have sworn I saw an HP50G! It was shown for about 1 second, sitting on a desk in front of someone looking through a portfolio...

Re: Was that an HP50G in a commercial?

*Message #2 Posted by **Bill Zimmerly** on 30 June 2010, 3:02 p.m.,*
in response to message #1 by Han

Do you see it in THIS list of videos?

If so, which one?

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Protective layer of the aluminium part on voyager series.

*Message #1 Posted by **jbssm** on 27 June 2010, 8:12 a.m.*

Hi all,

I've unexpectedly noticed while restoring an old HP-16C that the aluminium zone around the display is not really just aluminium; there seems to be some very thin film over it, maybe to give it a more mate finish, maybe for a bit of protection against scratching, maybe both.

I wonder if other members know what it is and how can it be re-applied to those unfortunate units that where not well taken care of and are full of scratches.

And one other thing. When polishing the unit aluminium parts, in those cases where they are heavily scratched, I managed to get a really good result, but still, I can't get the corners correct no matter how much I try, it just seems impossible to get to them and make them look exactly like the rest of the bezel. Have any tips for that?
Greets, Bruno

Re: Protective layer of the aluminium part on voyager series.

*Message #2 Posted by **BobVA** on 27 June 2010, 9:55 a.m.,*
in response to message #1 by jbssm

Hi Bruno:

See message #10 by Geoff Quickfall in this thread

Cheers, Bob

Edited: 27 June 2010, 9:56 a.m.

Re: Protective layer of the aluminium part on voyager series.

*Message #3 Posted by **jbssm** on 27 June 2010, 8:34 p.m.,*
in response to message #2 by BobVA

Thanks Bob, that article is fantastic!
Do you know if the book already came out?

Re: Protective layer of the aluminium part on voyager series.

*Message #4 Posted by **geoff quickfall** on 28 June 2010, 1:34 a.m.,*
in response to message #3 by jbssm

Hopefully this year!

Work, house, job change, articles and stuff have delayed 3 chapters.

I am aiming for the HCC 2010 conference for the unvailing.

Now back to work.

Also, I will pm all the owners of their projects tomorrow. I apologize as this last two months have been extremely hectic.

Cheers all,

Geoff

Re: Protective layer of the aluminium part on voyager series.

*Message #5 Posted by **db (martinez, ca.)** on 28 June 2010, 10:00 a.m.,*
in response to message #4 by geoff quickfall

Re: work, house, job change, articles, book and research for same, classic Toyota rebuild etc.

Get with it man. You are wasting seven or eight hours per day. You can sleep when you're dead.

Re: Protective layer of the aluminium part on voyager series.

*Message #6 Posted by **geoff quickfall** on 28 June 2010, 11:55 a.m.,*
in response to message #5 by db (martinez, ca.)

;-)

Re: Protective layer of the aluminium part on voyager series.

*Message #7 Posted by **BobVA** on 28 June 2010, 4:41 p.m.,*
in response to message #4 by geoff quickfall

We should take up a collection to hire a relief pilot for your house repair. And preflighting your HP collection.

Edited: 28 June 2010, 4:43 p.m.

Re: Protective layer of the aluminium part on voyager series.

*Message #8 Posted by **jbssm** on 30 June 2010, 9:07 a.m.,*
in response to message #4 by geoff quickfall

Nice to know the books is coming out Geoff. I'll be waiting and be hoping it will be available in Europe.

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Re: HP-41CY emulation for NoV-64.

*Message #1 Posted by **Antoine M. Couëtte** on 27 June 2010, 1:03 a.m.*

I wish to offer just one comment about the following remark recently made in this third post down by Jean-François Garnier : " *I think the RAMBox just drives the ISA line in a weak way, so an external ROM can overdrive it.* " .

My comment is as follows :

YES ! things seem to happen exactly like this in a RAMBOX I (32K) or RAMBOX II (64K).

During my visit to him in Bergisch Gladbach Germany some 15 years ago Dr Wilfried Koëtz President of **W&W Software GmbH** explained it to me exactly as follows :

" ***A plugged in ROM will SPEAK LOUDER to the machine than a RAMBOX page*** " .

I can think of no better way to fully confirm this assumption of yours, Jean-François.

Antoine

Antoine M. "Kermit" Couëtte

Edited: 27 June 2010, 1:04 a.m.

Re: HP-41CY emulation for NoV-64.

*Message #2 Posted by **Diego Diaz** on 27 June 2010, 10:50 a.m.,*
in response to message #1 by Antoine M. Couëtte

Thanks for the confirmation Antoine,

The NoV-64 emulation of the CY indeed uses the principle suggested by J-F Garnier (and now confirmed by yourself), to allow physical modules to be plugged and "mask" the corresponding RAM pages.

One note to those that want to give this CY emulation a try: it does not work on Half-Nuts. Though it has nothing to do with the "weak ISA"...

I'll try to get a new version in short which can also run in Half-Nuts.

Best from the Canaries.

Diego.

Re: HP-41CY emulation for NoV-64.

*Message #3 Posted by **Winfried Maschke** on 27 June 2010, 12:06 p.m.,*
in response to message #2 by Diego Diaz

Quote:

... CY emulation a try: it does not work on Half-Nuts ...

Really? - It should be the other way around because the CY could only be a Half-Nut as there was not enough room inside the Full-Nut.

Re: HP-41CY emulation for NoV-64.

*Message #4 Posted by **Diego Diaz** on 27 June 2010, 2:25 p.m.,*
in response to message #3 by Winfried Maschke

I know, but that's how it is.

However the trouble has nothing to do with the CY (RAMBOX) code itself but with the way it is implemented into a NoV-64 module.

Cheers.

Diego.

Re: HP-41CY emulation for NoV-64.

*Message #5 Posted by **gene wright** on 29 June 2010, 4:34 p.m.,*
in response to message #3 by Winfried Maschke

And, Winfried, thanks for your bar code 82143 printing program all those years ago.

That was you, wasn't it?

:-)

Re: HP-41CY emulation for NoV-64.

*Message #6 Posted by **Winfried Maschke** on 30 June 2010, 6:27 a.m.,*
in response to message #5 by gene wright

Quote:

... bar code 82143 printing program ... That was you, wasn't it?

Yes, 30 years ago I "invented" the conversion of the HP 82143 printer to print with half linefeed and wrote some programms for printing barcode. It was the time before the IL-printer HP 82162 came out and the only way to print barcode for a poor student.

And some years later when I started using internet, I found my name at www.rskey.org/gene/calcmuseum/162bc2.htm ;)

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Funny Museum Posts From The Past...

*Message #1 Posted by **DavidShenk** on 26 June 2010, 7:16 p.m.*

I was searching for something or other and ran into this set of amusing postings from 2003. I thought I'd repost them for those of us that haven't been around here that long.

Anyone have another to share?

Dave

Nick on 10 May 2003 - Hello: I have a HP32sII that wont accept keystrokes, unless I press on the bezel. Then it works fine. I haven't taken it apart yet. Anybody run into such a problem? I am also wondering if it is possible to send a calculator in to HP for repair? Anybody try it recently on a recently discontinued 32sii? Thanks, Nick

Norm - the way to fix it is to carefully balance it on the mainline Burlington Northern railroad tracks. Wait for a train to come thru. After the train has passed, everything should be okey-dokey.

Randy Sloyer - Norm - don't give away all your good repair secrets. Is this the method for repairing all those 34C's you have? I was wondering how you got those chips to stay in the case. Now we know. A forged calculator :^)

Nick - Norm: I went to the railroad track. There are 2 tracks. Which one do I balance it on? I dont want to make a mistake an ruin my calculator.

Patrick - That was really funny! You idiot, it doesn't matter which track you use so long as you make sure you are standing *between* the tracks as you balance it.

Vieira, Luiz C. (Brazil) - At the moment the train passes, so you keep it in place???

Have anyone tried this enough times to confirm if it works fine? Anyone? Ahn? You?

Thanks!

8^D

Norm - If you are a really fussy repair person, you can be extra thorough with a bit of ducktape to keep it in place on the track.

As to which track (there are 2 ?) don't use the one that is used for a side-spur. If you use a sidespur, you'll be waiting too long for your calculator to get fixed.

:o)

Re: Funny Museum Posts From The Past...

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 26 June 2010, 8:18 p.m.,*
in response to message #1 by DavidShenk

Hi;

try the first five follow-up's from this one. I was taken by surprise, could not think of a better joke, like: 'Which doggie collar? The red-velvet one?'

There is a particular one I am trying to find... Gimme a few more minutes.

Luiz (Brazil)

Re: Funny Museum Posts From The Past...

*Message #3 Posted by **DavidShenk** on 26 June 2010, 8:43 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Yes, that's funny. I see a common thread: your postings are in both of these!

For some reason, it never occurred to me to just post the link to it instead of trying to recreate the posting. Funny how your brain works (or doesn't).

Dave

Re: Funny Museum Posts From The Past...

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 27 June 2010, 12:01 a.m.,*
in response to message #1 by DavidShenk

Hi;

You might want to check this out. It has invaluable appearances (about the middle of the thread)... and priceless thoughts.

Cheers.

Luiz (Brazil)

Edited: 27 June 2010, 12:57 a.m.

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slip cases for HP 35S

*Message #1 Posted by **Gerardo Rincon** on 26 June 2010, 3:38 p.m.*

I see the HP 35S comes now with slip cases (it's like the case for the hp 30b but bigger). My hp 35S came with a clam zipper case, which I think is too bulky. Is there a place where I can order a slip case for the HP 35S? I can't find them in ebay.

Edited: 26 June 2010, 3:39 p.m.

Re: slip cases for HP 35S

*Message #2 Posted by **megarat** on 28 June 2010, 12:11 p.m.,*
in response to message #1 by Gerardo Rincon

CalcPro tends to sell individual calculator cases, but I don't see any for the 35s right now. Dropping them a note with a request might be a smart way to go.

Re: slip cases for HP 35S

*Message #3 Posted by **John Stark** on 29 June 2010, 11:31 a.m.,*
in response to message #1 by Gerardo Rincon

Gerardo:

My experience is the same.

Slip Case for HP.33 series fits perfectly.

FWIW..

John Stark

Re: slip cases for HP 35S

*Message #4 Posted by **megarat** on 30 June 2010, 12:51 a.m.,*
in response to message #3 by John Stark

I second this. When I had a 35s, I used a 33s slipcase and it was a terrific solution.

You can get a used 33s for pretty cheap, and then sell the calculator/manual to help alleviate the cost.

Re: slip cases for HP 35S

*Message #5 Posted by **Martin Pinckney** on 30 June 2010, 8:23 a.m.,*
in response to message #4 by megarat

An eB** seller named teketron357 sells the cases by themselves. I bought one for about 10 U$D, I

think. They also work with Pioneers.

He calls them "leather", but they may be leatherette. In any case (pun not intended), they are very nice, a quality feel. They certainly look like leather, but don't smell like leather.

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Owner's Manuals

*Message #1 Posted by **Don Shepherd** on 26 June 2010, 8:58 a.m.*

OK, we have discussed this topic to death, I know, but maybe if we keep hammering away at it something good might happen. I'm talking about including a comprehensive printed Owner's Manual with each new calculator. Not a file on a CD or DVD, but the real printed copy.

I've recently been playing around with my HP-20S, which came with an absolutely excellent Owner's Manual. It's got plenty of diagrams, a typeface you can actually read, example programs based upon real-world applications, all the technical information pertaining to its functions and operations, complete listing of error messages, a great index; in short, everything an owner would need to get the most out of his/her investment. And it's only 128 pages.

HP should include this type of Owner's Manual with every calculator they sell, and it should be in the package. If it means increasing the cost of the product by $5, fine, do it.

The 30b has a manual, Tim posted a link to it. But how likely is it that a non-member of this forum will ever see it (on the other hand, how likely is it that a non-member of this forum will ever buy a 30b)?

HP, are you listening? Printed User Manuals are not outdated anachronism's, they are essential ingredients of the calculator package.

Do the right thing.

Edited: 26 June 2010, 9:13 a.m.

Re: Owner's Manuals

*Message #2 Posted by **Michael de Estrada** on 26 June 2010, 9:33 a.m.,*
in response to message #1 by Don Shepherd

I hear ya. But I'm thinking that it's a waste of time attempting to make spiritual contact with the ghost of HP. The old printed manuals were written brilliantly, both technically and linguistically, and were as valuable as the calculator itself. Sadly, I'm resigned to the fact that we're unlikely to see the return of good printed owner's manuals.

Re: Owner's Manuals

*Message #3 Posted by **Katie Wasserman** on 26 June 2010, 12:51 p.m.,*
in response to message #1 by Don Shepherd

I agree, a well written printed manual with each calculator is the right way to do it. The 20b/30b manual isn't bad (I hope it will be on the HP website soon) but is lacking an appendix with the formulas used for the various financial functions. It's also lacking in examples, the on-line learning modules are indented to make up for that.

I would like to see the manual expanded to include these things and printed. It's really hard to print a properly sized manual at home with a decent binding. This can be done most cost effectively in mass by HP.

Re: Owner's Manuals

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 26 June 2010, 1:22 p.m.,*
in response to message #1 by Don Shepherd

Hi, all;

up until today I use HP manuals as source of information and in-class material. A couple of months ago I showed a Portuguese (Brazilian) HP37 manual to a friend and he felt himself intrigued with its contents. Then I showed him the other two financial-addressed complements and he felt amazed with their contents. He borrowed the three of them and used many parts of them to compose some of its teaching material (amortization, cash flow and the like).

I have already used many examples taken from old manuals: HP55, HP25, HP67/97, HP34 and HP41 application packs/manuals mostly. So I treasure them all in all aspects.

BUT... I'd agree with a mid-term proposal. Sell the calculators with the CD/DVD, a brief, printed 'get started guide' like the ones that came with the HP48G, and a discounted coupon (50%? 75%?) for buying a VALUABLE, WORTH BUYING printed manual. So anyone who wants just the calculator (office? class-room?) would buy them as-is, and anyone who wants to have the manual, readily available at the sales office, would buy them cheaply, considering the affordable, discounted price. And if you loose yours, buying another would not be a problem.

If the HP ghosts are reading and you, guys, agree with, I think it would be harmless to everyone.

Cheers.

Luiz (Brazil)

Edited: 26 June 2010, 1:26 p.m.

Re: Owner's Manuals

*Message #5 Posted by **Gerardo Rincon** on 26 June 2010, 3:31 p.m.,*
in response to message #1 by Don Shepherd

I agree - Printed manuals make a huge difference. I just recently gave an HP 35S as a gift to a college freshman. I was hoping I could convert another TI owner to HP RPN. The manual that came with the brand new HP 35S was truly an embarrassment. It was like a flyer and the real manual came in a CD. That is no way to gain new users. I had a real manual that came with my HP 35S when it first came out and gave it to him and ordered another one from eBay for me.

Question: Are there services in the internet where one can send a PDF file and they print a manual, bind it and send it to you for a fee? It would probably be too expensive.

Edited: 26 June 2010, 3:45 p.m.

Re: Owner's Manuals

*Message #6 Posted by **NateB** on 1 July 2010, 7:50 p.m.,*
in response to message #5 by Gerardo Rincon

A manual for the 35s can be had by calling the 800 number listed in the quick ref. There is no charge, they only ask for the serial number of the calculator. I called for one on a Friday and had it on Monday.

LuLu.com is a print on demand service that has reasonable prices. The manual may have to be split depending on page count. I think they can only handle about 600 pages per book.

Re: Owner's Manuals

*Message #7 Posted by **Vieira, Luiz C. (Brazil)** on 1 July 2010, 8:49 p.m.,*
in response to message #6 by NateB

Hi;

this is even better! I did not know about this because I have one HP35S (a gift from a friend: GWB, thanks!) without manual, and another one that came with an English manual, so I just red the manual without taking care for the telephone numbers and additional services because they'd not apply to my case.

I wonder where else buyers would have this kind of charge-free service.

Cheers.

Luiz (Brazil)

Re: Owner's Manuals

*Message #8 Posted by **Eric Rechlin** on 26 June 2010, 4:03 p.m.,*
in response to message #1 by Don Shepherd

It's not going to happen. I suspect that 90% of the buyers won't even open the manuals, and 90% of those who open it won't need more than is already provided in a <100 page quick start guide.

It's not fair to the majority of people who don't need the full manual to have to pay for the minority who do, especially when the full manual adds quite a bit to the shipping cost (a full set of manuals for the 50g weighs over 6 pounds!).

I think the best option would be for HP to provide a coupon with each calculator to obtain the full printed manuals at minimal or no cost. Few enough people would take them up on this offer that it wouldn't cost them much, while making everybody happy.

Re: Owner's Manuals

*Message #9 Posted by **Gerardo Rincon** on 26 June 2010, 4:31 p.m.,*
in response to message #8 by Eric Rechlin

Eric,

The Coupon suggestion is a great idea!

Re: Owner's Manuals

*Message #10 Posted by **Xavier A. (Brazil)** on 26 June 2010, 8:55 p.m.,*
in response to message #9 by Gerardo Rincon

Quote:

Eric,

The Coupon suggestion is a great idea!

> True, Coupon idea is brilliant.
>
> And above all, it is Luiz's idea ;)
>
> Regards

Re: Owner's Manuals

*Message #11 Posted by **Bill (Smithville, NJ)** on 26 June 2010, 4:33 p.m.,*
in response to message #1 by Don Shepherd

While I agree that a bound printed manual is nice, the days of printed manuals are gone and have been for quite sometime. When was the last time you received a bound manual of any size for anything you have purchased?

I much perfer the PDF of a manual than the actual bound manual. The one that usually ships is a half size or smaller manual. With a PDF, I can print it out full letter size and it really makes it a pleasure to read with my old eyes. I'm lucky to have a high speed double side printer and then a quick trip to Staples and I have a spiral bound manual.

Bill

Re: Owner's Manuals

*Message #12 Posted by **Garth Wilson** on 26 June 2010, 4:50 p.m.,*
in response to message #1 by Don Shepherd

> Quote:
>
> I suspect that 90% of the buyers won't even open the manuals.

I think a major reason people don't read manuals anymore is that the art of good manual-writing has been lost, and manuals are not clear and attractive. Another reason is that products frequently won't last long enough to warrant the time to read the manual.

> Quote:
>
> The Coupon suggestion is a great idea!

+1. I would always get it.

> Quote:
>
> I much perfer the PDF of a manual than the actual bound manual.[...] With a PDF, I can print it out[...]

When something gets that big, I won't try to print it at home. What I have done many times with technical documents is to email the file to a Kinko's or similar business for them to print it, then I go pick it up later. Even though I have the .pdf file there to see on the screen, I want it on paper. Outside of the computer's "search" function, the paper is faster to find things in, and I can put my notes in it, put markers along the edge with Post-It (or similar) notes, etc..

Re: Owner's Manuals

*Message #13 Posted by **Bruce Bergman** on 26 June 2010, 5:24 p.m.,*
in response to message #12 by Garth Wilson

Agreed -- the coupon idea is brilliant!

I'd easily pay a nominal cost for a printed manual that I can get after the fact.

thanks,

Bruce

Re: Owner's Manuals

*Message #14 Posted by **Don Shepherd** on 26 June 2010, 6:30 p.m.,*
in response to message #13 by Bruce Bergman

OK, I'll agree with the coupon idea too. HP, please make a quality printed manual available for ordering for those who want one, and I will want one!

Re: Owner's Manuals

*Message #15 Posted by **megarat** on 28 June 2010, 12:32 p.m.,*
in response to message #13 by Bruce Bergman

In a way, I think HP would regard the coupon idea as more unattractive (financially) than including it in the package and driving the price up.

In HP's cost-benefit analysis, they would need to consider the total number of manuals sold vs. the cost of production. The cost of production would be dominated by the salary/benefits/fringe/etc. of the technical writer, graphic designer, etc. If you want a clear, well-written manual, that would probably take 3-6 months to produce, which would be in the area of US$40-80k, not counting printing and logistics.

Would HP sell enough manuals to break even? I have no idea, but I suspect that this wouldn't be a clear-enough "win" for HP to go ahead with it. The cost of writing and laying out the manual is a big up-front cost that HP will need to invest whether they're printing one manual or a million.

However: if they're also releasing a PDF version of the same manual either with the calculator or for download (and thus investing in the cost of production anyway), and you're only asking for HP to print and ship a manual on demand, then HP only needs to worry about logistics. Still, HP seems to be pretty conservative about such details, so I would be surprised if they did it anyway.

Edited: 28 June 2010, 12:35 p.m.

Re: Owner's Manuals

*Message #16 Posted by **Peter A. Gebhardt** on 26 June 2010, 7:20 p.m.,*
in response to message #1 by Don Shepherd

Only my .02 EUROs:

Pls. HP take a PDF of (say) the old HP42 or HP17b manuals as a guide and use the very same typeface, keylegends and representations of numbers and symbols - and reformat the (say 30b) manual to a more readable version.

I think most of the PDF preferring forists, as well as the "printing" faction would honor this approach.

No SKU changes, no coupon handling stress - for anybody!

Best regards,

Peter A. Gebhardt

Re: Owner's Manuals

*Message #17 Posted by **Tim Wessman** on 26 June 2010, 8:38 p.m.,*
in response to message #16 by Peter A. Gebhardt

Typefaces/fonts are dictated by the corporate standard of the day. We have no choice in which fonts are used for text. Even the formatting must comply to an extent with this.

The same applies for packaging. It must match whatever the standard is at the time it is launched.

TW

Edited: 26 June 2010, 8:39 p.m.

Re: Owner's Manuals

*Message #18 Posted by **Peter A. Gebhardt** on 27 June 2010, 7:29 a.m.,*
in response to message #17 by Tim Wessman

Tim,

I feel with you, BUT did you ever try to convince upper ranks in PM or Marketing, that my proposal would only been applied to the PDFs of a "real" manual shipped on CD???

Make it happen (someway) that some "big brass" have to read the (say) 30b SKU "manual" w/o glasses - and look what happens afterwards ... ;-)

Cordially,

Peter A. Gebhardt

Re: Owner's Manuals

*Message #19 Posted by **megarat** on 28 June 2010, 12:40 p.m.,*
in response to message #18 by Peter A. Gebhardt

I suspect that the "big brass" are MBAs, not engineers. Thus they'll be more concerned about consistent branding than legibility.

Re: Owner's Manuals

*Message #20 Posted by **BruceH** on 28 June 2010, 6:09 p.m.,*
in response to message #1 by Don Shepherd

Don,

Try this. Think of it as another new hobby. :-)

Re: Owner's Manuals

*Message #21 Posted by **Don Shepherd** on 28 June 2010, 6:30 p.m.,*
in response to message #20 by BruceH

arrgghh!

Thanks Bruce, but I don't **want** another hobby. I'd rather be writing elegant algorithms on my HP calcs, and using HP-written printed manuals to assist me!

:)

Don

Re: Owner's Manuals

*Message #22 Posted by **Katie Wasserman** on 29 June 2010, 1:47 a.m.,*
in response to message #21 by Don Shepherd

I came across this ProClick system a while back. It's cheap, easy to use, close to spiral binding and sort of fun. The downside is that the low end punch machine can really only do 4 pages at time but it goes quickly.

It's much faster than a trip to Kinkos!

Re: Owner's Manuals

*Message #23 Posted by **Martin Pinckney** on 29 June 2010, 10:48 a.m.,*
in response to message #22 by Katie Wasserman

Depends on how many pages and how far to Kinkos. (The nearest one to me is 4 blocks).

Someone write an optimization program for this. {:-)

Re: Owner's Manuals

*Message #24 Posted by **Dave Shaffer (Arizona)** on 29 June 2010, 12:38 p.m.,*
in response to message #23 by Martin Pinckney

> Quote:
>
> Someone write an optimization program for this. {:-)

You may be closer than you think.

Most word processing programs have an option to print either the odd or even pages. If you do that (print odd, say) and then put the output stack back in the printer (properly oriented - may take a bit of fooling around to determine which side should be up and front or back in the paper tray!) and then print the even pages, you will have a stack of paper ready for Katie's hole puncher.

Also, check out acrobat printing. I have full-blown (i.e. not just the reader) version 5, and it, too, will print odd or even pages. Reader version 9 does not seem to have the odd/even option, but it will create a booklet: in my first try, I got it to print properly organized sheets with two (half-size) pages on one side of a sheet of paper. Then print front and back - using the two pass

method noted above. So, the first sheet had pages 1 and 96, the next sheet was pages 2 and 95, etc. These sheets are intended to be folded in the middle. Binding/punching might be trickier. I didn't look for, or try, other page size options.

Many (most?) printers also have multi-page options - you can print 2, 4, 9, or 16 pages (reduced in size, of course) on a single sheet of paper.

So, check your favorite software and hardware. With a bit of experimenting, you may already be ready to print optimized pages.

Re: Owner's Manuals

*Message #25 Posted by **Katie Wasserman** on 29 June 2010, 3:01 p.m.,*
in response to message #24 by Dave Shaffer (Arizona)

All good suggestions if you don't have an automatic double-sided printer (or even if you do) but I think...

> Quote:
>
> Someone write an optimization program for this. {:-)

... was referring to the choice between printing/punching yourself vs getting to Kinko's and waiting for them to do it.

My nearest Kinko's is 4 miles away with several traffic lights, I'd need a pretty big document for the Kinko's solution to be optimal. Martin only has 4 blocks so Kinko's is likely always the optimal solution for him -- unless the weather is really bad :)

-Katie

Edited: 29 June 2010, 3:01 p.m.

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82240B vs 82240A

*Message #1 Posted by **Alberto Fenini** on 26 June 2010, 7:58 a.m.*

ciao a tutti,

since I began to add LCD units to my collection, the moment has
arrived to add a printer too...
However, it fails me what is the main difference between the A and the B model.

Thanks in advance for the explanation ! Alberto

Re: 82240B vs 82240A

*Message #2 Posted by **Diego Diaz** on 26 June 2010, 9:47 a.m.,*
in response to message #1 by Alberto Fenini

Hi,

And welcome to the LCD side... :-)

I think you should find a complete answer here.

Cheers from the Canary Islands.

Diego.

Re: 82240B vs 82240A

*Message #3 Posted by **Michael de Estrada** on 26 June 2010, 4:47 p.m.,*
in response to message #1 by Alberto Fenini

Alberto,

It depends which calculator you are using. For example, if you use an 82240A printer with an HP-48S(X) calculator, 24 of the HP-48S character set cannot be printed, whereas they can be with an 82240B. Also, many characters have to be remapped, because thay have different character codes. So, basically, if you can get a 82240B then do so, since it will be backwards compatible with older calculators as well as fully support newer ones. I use an 82240B with an HP-41CV with IR module, HP-28S, HP-42S, HP-48SX and HP-50g.

Michael

Edited: 26 June 2010, 4:48 p.m.

Re: 82240B vs 82240A

*Message #4 Posted by **Ignazio Cara (Italy)** on 27 June 2010, 3:48 a.m.,*
in response to message #1 by Alberto Fenini

Ciao Alberto,

take a look here as well.

Regards

Ignazio

Re: 82240B vs 82240A

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 27 June 2010, 10:17 a.m.,*
in response to message #1 by Alberto Fenini

Ciao, Alberto;

I have one unit of each type, and I must confess I have not been using them for some time. I recently bought an 82240A for the sake of having one sample of it, not for the need.

I used the 82240B a lot since its printout reads much better than the 82240A (graphics print the same in both), but when 'heavy work' is needed with ASCII-based text files, I prefer collecting the IR emissions with an HP48 (S or G, no matter), save a copy of the file in a computer, organize the text in a word processor and then print it in a laser (or inkjet) printer. I choose this kind of output when there is a lot of things to be printed: program listings, registers/variables/memory contents, track programs (TRACE mode), and so.

Although it seems a lot of unnecessary work, you control the output format as you want/need, and the final printout is actually saved as a file, not only as a hard-copy (that may fade away with time and environment conditions).

I use the 82240A/B only when I need fast, fewer lines as output. The process above applies with many advantages when tracing programs. I found that useful back in the beginning of this 'century' (2002, perhaps) when tracking down large HP41 programs prior to generate their HP48, RPL versions. Looking at the trace output (200, 300 lines and even more) in a PC monitor or in A4-size paper sheets (three/four columns) was a lot easier. And whenever I needed, the plain-text file was available for further formatting.

Cheers.

Luiz (Brazil)

Edited: 27 June 2010, 1:01 p.m.

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TI-58 Slimline

*Message #1 Posted by **ClausB** on 25 June 2010, 7:24 p.m.*

I never liked the bulky shape of the TI-58/9. It was necessary for the 59's card reader but not for the 58. Opening it up shows a lot of empty space. So why not cut it out?

A kind forum member sent me some disused case backs and I applied a Dremel cutter and some wet sandpaper. I added a new clear bottom and a cell phone battery. It needs finishing, such as black paint around the edges. It's now only as thick as a TI-84 and I hope to use it as a daily driver, if the battery life allows.

Re: TI-58 Slimline

*Message #2 Posted by **Martin Pinckney** on 25 June 2010, 9:27 p.m.,*
in response to message #1 by ClausB

Another example of a geek with too much time on his hands. [:-)

Where were you 30 years ago?

Re: TI-58 Slimline

*Message #3 Posted by **ClausB** on 26 June 2010, 8:53 a.m.,*

in response to message #2 by Martin Pinckney

30 years ago I was programming my 2nd personal computer, a TI-59 (couldn't afford an HP). 1st was a TI SR-56, 3rd was an Atari 400 (couldn't afford an Apple II).

Besides, where were Lithium ion batteries 30 years ago?

Edited: 26 June 2010, 10:13 a.m. after one or more responses were posted

Re: TI-58 Slimline

*Message #4 Posted by **Pierre Brial** on 26 June 2010, 9:36 a.m.,*
in response to message #3 by ClausB

Very nice, I love it also. Keep us informed about battery life.

Re: TI-58 Slimline

*Message #5 Posted by **Martin Pinckney** on 27 June 2010, 12:03 a.m.,*
in response to message #3 by ClausB

> Quote:
>
> 30 years ago I was programming my 2nd personal computer, a TI-59 (couldn't afford an HP).

I was programming a TI-59 myself, my first calculator/computer. A slimmer TI might have appealed to me back then...

Re: TI-58 Slimline

*Message #6 Posted by **BobVA** on 25 June 2010, 9:41 p.m.,*
in response to message #1 by ClausB

I love it! Very nice work.

Edited: 25 June 2010, 9:42 p.m.

Re: TI-58 Slimline

*Message #7 Posted by **Garth Wilson** on 26 June 2010, 3:58 a.m.,*
in response to message #1 by ClausB

Since it won't hold itself at an angle anymore, now all you need is one of those neat angled desk calculator holders EduCalc used to sell!

Re: TI-58 Slimline

*Message #8 Posted by **ClausB** on 4 July 2010, 4:20 p.m.,*
in response to message #1 by ClausB

Finally, the back is finished.

Click and discover Imageshack.

Pretty neat!!!!

*Message #9 Posted by **Vieira, Luiz C. (Brazil)** on 4 July 2010, 5:56 p.m.,*
in response to message #8 by ClausB

Pretty neat!!!! Congratulations!

Luiz (Brazil)

Re: TI-58 Slimline

*Message #10 Posted by **Diego Diaz** on 5 July 2010, 7:01 a.m.,*
in response to message #8 by ClausB

Hi,

Nice job indeed. One tech question: Is the Li-Ion battery charger included into the calculator body or is the battery charged by a separate charger/device?

Cheers from Spain.

Diego.

Re: TI-58 Slimline

*Message #11 Posted by **ClausB** on 5 July 2010, 7:54 a.m.,*
in response to message #10 by Diego Diaz

I use a broken cell phone to charge the battery. But yours is an interesting idea, if I can remove the charging circuit from the phone or find a small charger. Hmm, I thought I was done with this project!

Re: TI-58 Slimline

*Message #12 Posted by **Thomas Radtke** on 5 July 2010, 6:32 a.m.,*
in response to message #1 by ClausB

I wonder if that's possible with the 48G housing.

Re: TI-58 Slimline

*Message #13 Posted by **ClausB** on 5 July 2010, 8:05 a.m.,*
in response to message #12 by Thomas Radtke

The 3.7 V Li Ion battery does 850 mAh, which matches nicely the voltage and capacity of the old 3-cell NiCd packs from HP and TI. I don't know about the 48G, though.

In use, the battery does not get as warm to the touch as the 58's DC-DC converter.

Re: TI-58 Slimline

*Message #14 Posted by **Michael Meyer** on 5 July 2010, 2:38 p.m.,*
in response to message #1 by ClausB

Very nicely done!!!!!

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Dave Britten, please contact me (NT)

*Message #1 Posted by **Don Shepherd** on 25 June 2010, 12:10 p.m.*

Dave, please contact me regarding the thread you started back in January regarding the speeds of the 20s vs. 32sii.

Don Shepherd

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number of calculators built of each model

*Message #1 Posted by **Jose Gonzalez Divasson** on 25 June 2010, 11:45 a.m.*

Good morning,

Is there any way of knowing how many calculators were produced of each HP model? I am interested, in particular, on the Voyager series.

The serial numbers on the back just tell how many were built each week, in each location - hard work!

Re: number of calculators built of each model

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 25 June 2010, 2:25 p.m.,*
in response to message #1 by Jose Gonzalez Divasson

Hi;

I tried Craig Finseth´s Data Base and, although it has a 'Production-run' placeholder for for each entry, I found just a few with some numbers on it (e.g.: HP12C that is in the case of millions, or the HP41 that ran about about 1.5 millions for all types).

Cheers.

Luiz (Brazil)

Edited: 25 June 2010, 10:25 p.m.

Re: number of calculators built of each model

*Message #3 Posted by **Eric Smith** on 25 June 2010, 10:05 p.m.,*
in response to message #1 by Jose Gonzalez Divasson

Even HP probably no longer has that information about most models.

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OT: HP 5036A lab kit

*Message #1 Posted by **Johnny Bjoern Rasmussen** on 25 June 2010, 2:02 a.m.*

Hello
Not directly calculator oriented. Just if anyone is interested I have knowledge of the whereabouts of a couple of HP 5036A lab kits available here in Denmark.

Best regards
Johnny

Edited: 25 June 2010, 2:06 a.m.

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How many non-HP RPN calculators do you own?

*Message #1 Posted by **Michael de Estrada** on 24 June 2010, 10:10 p.m.*

We all know that HP is synonumous with RPN, but the great guru DB has shown us the path to the alternative universe of non-HP RPN calculators. I was oblivious to this fact until only several years ago when I first came across the Spyropoulos site and then DB's wonderful collection of non-HP RPN calculators. Since then I've been ravenously collecting these wonderful machines, and today my collection increased its size to 17 when my most expensive acquisition to date, an immaculate OMRON 12SR, arrived in the mail. The quality of this Japanese made calculator rivals anything that HP ever made and was absolutely state of art with features like hyperbolic functions even before HP introduced them in the HP-32e. Definitely not a pocket calculator, it has nearly the size and heft of an HP-19c. Though not quite as clicky as the keyboard buttons on an HP, they have an excellent feel and action. Finally, the power system is very versatile in that it can be operated using AA alkaline cells, AA NiCad cells or a AC adapter; the only caveat being that any alkaline cells must be removed if the AC adapter is used. Unlike HP, the AC adapter uses a universal plug and there is no special battery pack. The same convenience applies to its Corvus 500 sibling. Anyways, lots to like in these old calcs.

I'm curious as to how many of you also possess and collect non-HP RPN calcs and how many you have. I am pleased to report that all 17 of mine are fully operational, although some needed repair, mostly internal battery transplants. I think my favorite is the Soviet Elektronika MK61, which is programmable. It even comes with it's circuit schematic, so presumably owner repairs can be made or it can be hacked. And of course, the keyboard is in cyrillic and the manual is in Russian.

Re: How many non-HP RPN calculators do you own?

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 24 June 2010, 10:43 p.m.,*
in response to message #1 by Michael de Estrada

Hi;

I have only one non-HP RPN 'Frankencalc', something that was made with two different calculators. I´ll let the picture speak for itself.

Click to enlarge

What called my attention in this model is that the T-register contents is not duplicated when the stack registers contents drop after a two-number function (+, -, etc).

In time: I know that many of you know which Commodore is it. Any info?

Cheers.

Luiz (Brazil)

Re: How many non-HP RPN calculators do you own?

*Message #3 Posted by **Michael de Estrada** on 24 June 2010, 10:51 p.m.,*

in response to message #2 by Vieira, Luiz C. (Brazil)

Based on DB's site, it looks like a Commodore 4921

Yep, you bet it is!

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 24 June 2010, 10:58 p.m.,*
in response to message #3 by Michael de Estrada

Hi, Michael.

It is a 4921, indeed.

Thanks.

Luiz (Brazil)

Re: Yep, you bet it is!

*Message #5 Posted by **db (martinez, ca.)** on 25 June 2010, 12:41 a.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

Frankencalc? You Betcha. I'm going to have nightmares.

Luiz; is your country where bad calculators go when they die? Brazil- the land of beautiful women and tormented electronics.

LOL 8^D (edited, with text)

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 25 June 2010, 1:57 a.m.,*
in response to message #5 by db (martinez, ca.)

Well, it seems that the bad calculators come here to 'reilectronate' when they die, though...

About the beautiful Brazilian women... I've seen many. In the magazines, TV, movies... none closer enough to make sure they are real. <*^(

Edited: 25 June 2010, 3:38 p.m.

Re: How many non-HP RPN calculators do you own?

*Message #7 Posted by **bill platt** on 25 June 2010, 3:53 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Do you count the 8, 10, 10 solar, 30 as HP?

Do you count the 33S. 35S?

Re: How many non-HP RPN calculators do you own?

*Message #8 Posted by **BobVA** on 25 June 2010, 9:45 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

A TI SR-10 (since it was my first calculator) an SR-50 (since it was touch-and-go between it and an HP for my second) and an HP-01.

I think any more non-HP additions would be because of a unique display (e.g. Nixie or incandescent).

Edited: 25 June 2010, 9:47 p.m.

Re: How many non-HP RPN calculators do you own?

*Message #9 Posted by **Michael de Estrada** on 25 June 2010, 9:49 p.m.,*
in response to message #8 by BobVA

They are not RPN, through. I'm only interested in RPN calculators that are not HP.

Re: How many non-HP RPN calculators do you own?

*Message #10 Posted by **BobVA** on 26 June 2010, 2:47 p.m.,*
in response to message #9 by Michael de Estrada

Oops - for some reason I just saw "non-HP" and completely blew by the RPN part. An effect of the haze of nostalgia it generated, I guess :-)

I do have a Sinclair which uses postfix notation, but I'm not sure it's really RPN (see Katie's post below - I tend to agree).

Edited: 26 June 2010, 2:47 p.m.

Re: How many non-HP RPN calculators do you own?

*Message #11 Posted by **Michael de Estrada** on 26 June 2010, 2:55 p.m.,*
in response to message #10 by BobVA

I also have a Sinclair Scientific, and by my definition it qualifies as RPN (see post below), although it's extremely crude.

Re: How many non-HP RPN calculators do you own?

*Message #12 Posted by **JDonley** on 24 June 2010, 11:41 p.m.,*
in response to message #1 by Michael de Estrada

an Aurora FN1000 (I own 8 of them.....aspergers syndrome??) It is the calc I carry in shirt pocket every day.....made in China and absolutely good quality (sorry keypad though). Got them when they were $20-$25.

Re: How many non-HP RPN calculators do you own?

*Message #13 Posted by **db (martinez, ca.)** on 25 June 2010, 12:31 a.m.,*
in response to message #12 by JDonley

"....aspergers syndrome??".....or Alzheimer's!

but who am i to point at someone who bought a couple of extra calcers? A rough count of my psychosis returns 64 non-hp RPNs, and to add insult to injury; 8 of them have no differences from others in the collection except the name on the badge. Help me Dr. Mike.

Wapner's on at five.

Edited: 25 June 2010, 12:47 a.m.

Re: How many non-HP RPN calculators do you own?

*Message #14 Posted by **Michael Meyer** on 25 June 2010, 11:47 a.m.,*
in response to message #13 by db (martinez, ca.)

Oh, sure: turn to a shrink with a calculator addiction for guidance!

Re: How many non-HP RPN calculators do you own?

*Message #15 Posted by **Michael de Estrada** on 25 June 2010, 11:56 a.m.,*
in response to message #13 by db (martinez, ca.)

> Quote:
>
> A rough count of my psychosis returns 64 non-hp RPNs

I'd be willing to relieve you of the burden if you'd like. I'll even pay the shipping. I'm just that kind of considerate guy.

Re: How many non-HP RPN calculators do you own?

*Message #16 Posted by **Bart (UK)** on 25 June 2010, 4:16 a.m.,*
in response to message #1 by Michael de Estrada

Only one, an Elektronika MK61.

Re: How many non-HP RPN calculators do you own?

*Message #17 Posted by **Paul Dale** on 25 June 2010, 5:12 a.m.,*
in response to message #16 by Bart (UK)

Same here.

- Pauli

Re: How many non-HP RPN calculators do you own?

*Message #18 Posted by **Didier Lachieze** on 25 June 2010, 5:17 a.m.,*
in response to message #17 by Paul Dale

Only one, a National Semiconductor Mathematician 4510.

Re: How many non-HP RPN calculators do you own?

*Message #19 Posted by **hpnut** on 25 June 2010, 10:18 a.m.,*
in response to message #1 by Michael de Estrada

i have two Soviet Elektronika MK-61 RPN calculators. they are the only non-HP calculators in my stable.

i would love to own an Omron SR-12

Edited: 25 June 2010, 10:20 a.m.

Re: How many non-HP RPN calculators do you own?

*Message #20 Posted by **Jim Horn** on 25 June 2010, 1:54 p.m.,*

in response to message #19 by hpnut

Wow - considering that you use it by looking up two numbers first then moving a dual curser to find the result, would my circular slide rule qualify?

Jim (hey, it got me through college) Horn

Re: How many non-HP RPN calculators do you own?

*Message #21 Posted by **Gerardo Rincon** on 26 June 2010, 7:13 a.m.,*
in response to message #1 by Michael de Estrada

I have two Novus 650 (one non-working and one almost non-workinhg) Both novus 650 have the LED flex ribbon cables broken which I have tried to solder them together.

I also have one Victor V12 (an HP 12C clone)

http://www.rinconcentral.com/Other1.html

Edited: 26 June 2010, 7:16 a.m.

Re: How many non-HP RPN calculators do you own?

*Message #22 Posted by **Katie Wasserman** on 26 June 2010, 12:28 p.m.,*
in response to message #1 by Michael de Estrada

I'd like to ask a question...

What's the definition of an RPN calculator? Some of the calculators in db's collection aren't quite RPN in my opinion (sorry, db), they just use an alternate method to do basic arithmetic.

I'd say that a "real" RPN calculator has to have at least a 3-level stack and an ENTER key that pushes up the stack. I'd like to add the SWAP key into this too, but that's really just a convenience not a necessity, same for other stack manipulation functions.

I think that the Commodore Minuteman 6/6X is an interesting case to consider in defining an RPN calculator. The 6 and 6X are in fact exactly the same calculator with the 6X having an ENTER key which is simply a 2nd key that performs the exact same function as the "+=" key does. (That's right, the ENTER key does addition on this calculator.)

I'm curious what other people here think about this definition.

-Katie

Definition (functional requirements) of RPN?

*Message #23 Posted by **Karl Schneider** on 26 June 2010, 2:20 p.m.,*
in response to message #22 by Katie Wasserman

> Quote:
>
> I'd say that a "real" RPN calculator has to have at least a 3-level stack and an ENTER key that pushes up the stack. I'd like to add the SWAP key into this too, but that's really just a convenience not a necessity, same for other stack manipulation functions.
>
> ...

> I'm curious what other people here think about this definition.
>
> ---

Katie --

I'd say that Exchange (SWAP) and Roll Down are absolutely essential in order for RPN to be useful. RPN relies upon placement of mathematical arguments in the correct postions; Exchange and Roll Down allow the stack to be arranged in any order.

Roll Up, however, is convenient but not essential with a fixed stack if Roll Down is present. Roll Up is available but not directly accessible on the HP-41 and HP-42S; it is unavailable on the HP-32S and HP-10C.

-- KS

Edited: 26 June 2010, 7:38 p.m.

Re: How many non-HP RPN calculators do you own?

*Message #24 Posted by **Michael de Estrada** on 26 June 2010, 2:36 p.m.,*
in response to message #22 by Katie Wasserman

Hi Katie,

To me it's a matter of semantics. I have a NOVUS 650, which has a 2-level stack, no "=" key and a key labelled "ENT +". The first time a number is keyed and the ENT + is pushed, the number is raised in the stack. If a second number is keyed and ENT + is pushed, then the two numbers are added, however, the stack does not drop and the first number remains as constant in the stack. If I continue to depress the ENT + key, or -, or X, the number in the stack continues to be added, or subtracted, or multiplied. I consider this to be an RPN calculator, simply because it is postfix, where every time an arithmetic button is pushed it results in the execution of the arithmetic operation. However, what this calculator lacks is the ability to perform chained operations, which is equivalent to an algebraic calculator without parentheses. So, although it is very crude and limited, I still think it meets the basic definition of RPN.

BTW - This calculator lacks decimal arithmentic as well, and division results in truncation, so 9/6 = 1.

Edited: 26 June 2010, 2:46 p.m.

Re: How many non-HP RPN calculators do you own?

*Message #25 Posted by **BobVA** on 26 June 2010, 2:56 p.m.,*
in response to message #22 by Katie Wasserman

I tend to associate "RPN" with HP's particular implementation of post-fix notation, but I may be way off the formal definitions of these terms.

The most stripped-down non-algebraic (i.e. in-fix) interface I've seen is on the old Sinclair Scientific - it doesn't have a multi-level stack, roll operators or even an ENTER key! (Edit: very similar to the calculator Michael mentions above) I usually call it a "post-fix notation" calculator rather than RPN.

Edited: 26 June 2010, 2:58 p.m.

Re: How many non-HP RPN calculators do you own?

*Message #26 Posted by **db (martinez, ca.)** on 26 June 2010, 4:26 p.m.,*

in response to message #25 by BobVA

There's a concept in formal logic where one carries a proposition over literally and far beyond it's intended meaning. Like most of what i learned in college; i forget what it's called. Anyway:

To be an Real Hairy Chested Manly RPN; a calculator **must** equal or exceed HP's perfect implementation of postfix notation. It must have rechargeable nicads, a Norm friendly red LED screen, two shift keys, 1/100th the calculator forensics error of a 41, and a FIVE level stack with a replicating top register. It's just got to. The Heathkit 1401 is the only real RPN.

But really; i only get all-inclusive so i can say that there have been over 180 RPN (& RPL) calculators marketed so far. I don't mind being in a minority, and i know i'm unique (just like everyone else), but i don't want my calculator logic to be weird. Or an endangered species.

Re: How many non-HP RPN calculators do you own?

*Message #27 Posted by **Michael de Estrada** on 26 June 2010, 5:05 p.m.,*
in response to message #26 by db (martinez, ca.)

Actually, the only really good implementation was in the HP RPL calcs, because they have virtually unlimited stack levels. I can remember more than one frustrating instance at work where I carelessly wrote long chained calculations with more than 3 pending operations, and somewhere along the line lost results out the back of the t register. So even the HP's much heralded 4-level stack is quite limited. Even today, I use my HP-50g for all serious computing instead of my HP-35s.

Re: How many non-HP RPN calculators do you own?

*Message #28 Posted by **db (martinez, ca.)** on 26 June 2010, 3:41 p.m.,*
in response to message #22 by Katie Wasserman

Hi Katie; No lesser an authority than Dave Hicks has said that like you, he doesn't count a calculator with only a two level stack as true RPN. So i'm going against the big guns here.

IMHO, i count anything that uses postfix notation for all arithmetic functions as RPN. *Adding machine logic* calcs like most of the early units based on TI ROMs, and others, can use postfix in addition and subtraction but need an equals key in multiplication and division so they are not RPN to me. The Commodores insist on the user clearing the stack before beginning any calculating, so using the + or - key is literally just combining the first number with zero as it puts it into the x & y registers and gets ready to accept a second entry. One strokes clear, 2, +, 3, X, and gets 6. Then she can just continue on like on an hp or hit clear again to start a new chain. That's not too much of a stretch for me to call that RPN. And disqualification of two level stacks means that the scientific programmable MC 1103 doesn't count, How can that be good?

Everything i can think of uses postfix for one number functions like trig and log. So as an aside; i think RPN is the most consistent entry system. It's the only one that is always postfix.

Re: How many non-HP RPN calculators do you own?

*Message #29 Posted by **Mike T** on 1 July 2010, 5:05 p.m.,*
in response to message #1 by Michael de Estrada

None - unless you count the Sinclair Scientific... Rest of the family have various Casio models but I don't get on with them.

Mike T.

Re: How many non-HP RPN calculators do you own?

*Message #30 Posted by **Michael de Estrada** on 1 July 2010, 7:06 p.m.,*
in response to message #29 by Mike T

Yes, as per my above posts, I consider any postfix calc such as the Sinclair Scientific to be RPN. I have one of those beasts in my collection and use it occasionally as a 4-banger, since the trig functions work only in radians mode and pi isn't even present. Also, logs are base 10 only. Pretty useless for technical work. I also used to own a Sinclair ZX81, but it died many decades ago. Learned Basic programming on it.

Ditto!

*Message #31 Posted by **Vieira, Luiz C. (Brazil)** on 1 July 2010, 8:36 p.m.,*
in response to message #30 by Michael de Estrada

Ola, Michael;

I also learned (Sinclair) BASIC with a ZX-81 'clone', named 'NE-Z80'. I had it till a decade ago, but the 'flat keyboard' no longer worked and now I have some extra components for teaching digital electronics to my students... Needless to say that I totally regret not making any effort to repair it (it´s been about 12 years now) because it is worth showing our students what kind of tool we had some 30 years back in time... At least I have the HP's family to show them.

Cheers.

Luiz (Brazil)

Re: Ditto!

*Message #32 Posted by **megarat** on 2 July 2010, 11:29 a.m.,*
in response to message #31 by Vieira, Luiz C. (Brazil)

Likewise. I learned programming on the "next generation" Sinclair, the Timex-Sinclair 1000. After 2-3 years w/the TS-1000, I moved on to the Atari 8-bit.

BTW, w/r/t finding Sinclair parts, you can still buy the kits new. Many places online sell the kits; most are in the UK or elsewhere in the EU. The one below is based in N. America.

http://www.zebrasystems.com/zebrasystems/zx81/index.html

Edited: 2 July 2010, 11:30 a.m.

Re: Ditto!

*Message #33 Posted by **Martin Pinckney** on 2 July 2010, 6:43 p.m.,*
in response to message #32 by megarat

> Quote:
>
> I learned programming on the "next generation" Sinclair, the Timex-Sinclair 1000. After 2-3 years w/the TS-1000, I moved on to the Atari 8-bit.

2-3 *years!* I gave up on that thing after 3 *days!*

Moved on to a PCjr!

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"First Light"

*Message #1 Posted by **Monte Dalrymple** on 24 June 2010, 4:29 p.m.*

Many thought that this couldn't be done...

Re: "First Light"

*Message #2 Posted by **Massimo Gnerucci (Italy)** on 24 June 2010, 4:36 p.m.,*
in response to message #1 by Monte Dalrymple

Well done Monte!!!
Eagerly awaiting for samples on sale...

Greetings,
Massimo

My name in the list, please!!!

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 24 June 2010, 10:00 p.m.,*
in response to message #2 by Massimo Gnerucci (Italy)

I want two!

Luiz

Re: "First Light"

*Message #4 Posted by **PeterP** on 24 June 2010, 5:07 p.m.,*
in response to message #1 by Monte Dalrymple

Nice!!!!

Re: "First Light"

*Message #5 Posted by **gene wright** on 24 June 2010, 5:28 p.m.,*
in response to message #4 by PeterP

Yes, eagerly awaiting samples OR sales... ha!

Congrats!

Re: "First Light"

*Message #6 Posted by **Martin Pinckney** on 24 June 2010, 5:51 p.m.,*
in response to message #1 by Monte Dalrymple

> Quote:
>
> Many thought that this couldn't be done...

OTOH, some have no idea *what* was done.

Re: "First Light"

*Message #7 Posted by **Reth** on 24 June 2010, 5:59 p.m.,*
in response to message #6 by Martin Pinckney

:) Yea, I could have done "that" too - to take a picture of my HP41 with weak batteries and after reset, sitting on top of some wires next to some electronics

Re: "First Light"

*Message #8 Posted by **Don Shepherd** on 24 June 2010, 6:14 p.m.,*
in response to message #7 by Reth

Yeah, what exactly are people lining up here to buy? Please enlighten us.

Re: "First Light"

*Message #9 Posted by **Raymond Del Tondo** on 24 June 2010, 6:55 p.m.,*
in response to message #8 by Don Shepherd

Hi,

it's a 3rd party reimplementation of the HP-41 CPU pcb, using modern electronics.

HTH

Re: "First Light"

*Message #10 Posted by **Monte Dalrymple** on 24 June 2010, 7:58 p.m.,*
in response to message #8 by Don Shepherd

The electronics is a form-fit-function (plus enhancements)
replacement for a fullnut HP41 CPU board. The board contains
a 2MByte Flash memory containing images of every HP plug-in
ROM, plus a number of others. The RAM on board is 512KBytes
that holds registers and full X-mem. The remainder of the RAM
can be used as program or data memory, RAM disk, etc. The CPU
contains a "turbo" mode that allows it to run at up to 50x
normal speed. Code is present that allows one to "virtually"
plug a ROM image or block of RAM into a port from the keyboard
or under program control. The board will work with HPIL, the
82143 printer, a wand or card reader.

There are still some bugs to iron out. For example, CAT 2
doesn't seem to work, I can't enter PRGM mode or XEQ a named
function. But it powers up and does keyboard functions, which
(at least to me) is no small feat.

More information is available at The NEWT status page

BTW, the BAT annunciator is on in the photot because I have
an error on the PCB that requires that I limit the power supply
to less than 4V. The rev of the PCB will correct that error.

Monte

Re: "First Light"

*Message #11 Posted by **John Robinson** on 24 June 2010, 8:06 p.m.,*
in response to message #10 by Monte Dalrymple

Great work !! - I'd like to see the HP65 board done the same :-)

Cheers, John

Re: "First Light"

*Message #12 Posted by **gene wright** on 24 June 2010, 8:22 p.m.,*
in response to message #10 by Monte Dalrymple

As I said, Monte, where do I line up to buy one?

I'm really thankful you kept working on this project after you talked about it at HHC in San Jose (?) several years ago now.

If you have a version working by this year's HHC, any chance you could bring it and show?

Keep going! :-)

Re: "First Light"

*Message #13 Posted by **Monte Dalrymple** on 25 June 2010, 10:48 a.m.,*
in response to message #12 by gene wright

My objective is to be done before September, but debugging is
very slow. The speed difference between the native 41 bus
(155uS cycle time) and the memory bus (220nS cycle time) is a
real pain. Plus I didn't have a logic analyzer until yesterday.
It doesn't help that I didn't include a lot of test points on
the board because of space constraints.

But it's probably only one or two CPU instructions that aren't
quite working right that are the root cause of what doesn't
work, so the task is at least finite.

As far as HHC, we'll have to wait and see...

Thanks, Monte

Re: "First Light"

*Message #14 Posted by **Vieira, Luiz C. (Brazil)** on 24 June 2010, 10:05 p.m.,*
in response to message #10 by Monte Dalrymple

> Quote:
>
> But it powers up and does keyboard functions, which (at least to me) is no small feat.

Be sure, Monte, to most of us who have been following your developments (and cheering...), this is no small feat at all!

THANK YOU!

BTW, I really want to sign for buying two boards.

Luiz (Brazil)

Edited: 24 June 2010, 10:07 p.m.

Re: "First Light"

*Message #15 Posted by **megarat** on 24 June 2010, 10:56 p.m.,*
in response to message #10 by Monte Dalrymple

Wow, if this is half as cool as it sounds, I might want to get one as well. And I don't even own a fullnut. (Yet?)

Re: "First Light"

*Message #16 Posted by **Ángel Martin** on 26 June 2010, 2:50 a.m.,*
in response to message #10 by Monte Dalrymple

The waiting list just got one more (two perhaps?). Pls. add my name as well, can't stop dreaming about this happening in the non-virtual realm!

'AM

Edited: 26 June 2010, 2:50 a.m.

Re: "First Light"

*Message #17 Posted by **db (martinez, ca.)** on 24 June 2010, 9:16 p.m.,*
in response to message #1 by Monte Dalrymple

Hey Monte;
We sat next to each other at the 2004 HHC. I told you i'd be first in line for one but it looks like i'm about fifth. Anyway; sign me up. I've even got a brain-dead full nut to turn into a full NEWT. - db

Re: "First Light"

*Message #18 Posted by **Diego Diaz** on 24 June 2010, 10:40 p.m.,*
in response to message #17 by db (martinez, ca.)

Hi there,

First of all, congrats on an impressive job!

... and of course, I'm also in the waiting list... :-))

Cheers.

Diego.

Re: "First Light"

*Message #19 Posted by **Paul Dale** on 25 June 2010, 3:03 a.m.,*
in response to message #1 by Monte Dalrymple

I'm down for one too.

- Pauli

Re: "First Light"

*Message #20 Posted by **Geir Isene** on 25 June 2010, 7:05 a.m.,*
in response to message #1 by Monte Dalrymple

Count me in for at least one unit. And quickly before I completely dehydrate from all the drooling.

Re: "First Light"

*Message #21 Posted by **Bill Zimmerly** on 25 June 2010, 2:45 p.m.,*
in response to message #20 by Geir Isene

> Quote:
>
> Count me in for at least one unit. And quickly before I completely dehydrate from all the drooling.

(Laughing!) Me too! ;) I have an HP-41CV that I would love to upgrade to something like this. ;)

By the way, Monte, what city do you call home?

Re: "First Light"

*Message #22 Posted by **Monte Dalrymple** on 25 June 2010, 6:28 p.m.,*
in response to message #21 by Bill Zimmerly

Livermore, California - home of the world's largest laser and
a couple of the world's fastest computers...

Re: "First Light"

*Message #23 Posted by **Meindert Kuipers** on 25 June 2010, 2:52 p.m.,*
in response to message #1 by Monte Dalrymple

Congrats Monte,

I know how difficult it is to get a project like this done!

Meindert

Re: "First Light"

*Message #24 Posted by **Monte Dalrymple** on 29 June 2010, 5:02 p.m.,*
in response to message #23 by Meindert Kuipers

First, thank you everyone for the congratulations. After all this time I was afraid that people might have lost interest.

I will start posting status on NEWT status page shortly, but I am now able to do CAT 2, with the new functions showing up, and XEQ functions.

Something still isn't right, because Gene's benchmark won't run properly. And when I try to enter Turbo mode it somehow messes up the program space available and sets PRIVATE mode.

Now I _really_ have to hook up the logic analyzer.

Monte

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HP-42S display

*Message #1 Posted by **Dick** on 24 June 2010, 3:56 p.m.*

I inherited an HP-42S calulator and have no manual for it.

I have been able to use it for simple math functions, which is all I require. However, all of a sudden it changed display formats and I don't know how to get it to switch back to the normal 2 line basic display??

Any help would be most appreciated.

Thanks

Dick

Re: HP-42S display

*Message #2 Posted by **Thomas Okken** on 24 June 2010, 4:13 p.m.,*
in response to message #1 by Dick

It sounds like it's showing a menu and that's why you're only seeing X, instead of seeing both X and Y. If that is indeed the case, you can get rid of the menu by pressing EXIT; you may have to press it more than once if you're inside a nested menu.
If it's the number display format you're talking about, you can control that using the DISP menu (Shift E): FIX, followed by a two-digit number from 0 to 11, selects fixed mode, where you see a constant number of digits behind the decimal; SCI selects scientific notation, where there's always an exponent of 10, even if the number could be displayed without one; ENG, or engineering mode, is like SCI mode except the exponent is always a multiple of 3, making it easier to convert to SI-style magnitude prefixes. ALL mode is like FIX 11 but does not display trailing zeroes.

HTH,

- Thomas

Re: HP-42S display

*Message #3 Posted by **DavidShenk** on 24 June 2010, 4:19 p.m.,*
in response to message #1 by Dick

Hi Dick,

It sounds like your calculator is defective and should be sold to someone on the forum for $10 ;)

You can try resetting it by turning it off, then hold down the "ON" key, press and hold the E+ and XEQ buttons, then release the On button. This will erase everything in it's memory, but should bring you back to default.

Dave

Re: HP-42S display

*Message #4 Posted by **Walter B** on 24 June 2010, 5:32 p.m.,*
in response to message #1 by Dick

What Dave describes is a RESET of your HP-42S. Think of the 3 keys in Windows d;-)

You may as well have entered complex or matrix mode. Please note scans of the original manuals are available in pdf through this museum for little money. Excellent ROI.

Re: HP-42S display

*Message #5 Posted by **Martin Pinckney** on 24 June 2010, 5:57 p.m.,*
in response to message #4 by Walter B

> Quote:
>
> Please note scans of the original manuals are available in pdf through this museum for little money. Excellent ROI.

However, if you want quick and *free*, try this.

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Warning regarding a TAS auction

*Message #1 Posted by **Michael de Estrada** on 23 June 2010, 7:19 p.m.*

I have decided to remove this post after receiving some hostile responses. It was not my intent to create discord on this forum; only to provide what I thought might be helpful information. If any of you are interested in what was posted, please send me a PM.

Thanks,

Michael

Edited: 24 June 2010, 12:31 p.m. after one or more responses were posted

OT: Warning regarding a TAS auction

*Message #2 Posted by **Martin Pinckney** on 23 June 2010, 10:14 p.m.,*
in response to message #1 by Michael de Estrada

Would be an interesting study for psychologist who likes to figure out people remotely. As an amateur, it would appear that such a person is so arrogant that he cannot keep himself from insulting others, even if it is detrimental to his goal (as in trying to sell something).

A true con man, OTOH, would conceal his contempt.

Re: OT: Warning regarding a TAS auction

*Message #3 Posted by **Randy** on 23 June 2010, 11:12 p.m.,*
in response to message #2 by Martin Pinckney

Another interesting study: those who would "warn" others off an auction with unverifiable information.

(deleted post)

*Message #4 Posted by **deleted** on 23 June 2010, 11:44 p.m.,*
in response to message #3 by Randy

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: OT: Warning regarding a TAS auction

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 24 June 2010, 1:07 a.m.,*
in response to message #4 by deleted

Hi, Michael;

I´d guess that the 'unverifiable information' applies to the auction terms, not your warning.

If there is anything wrong, surely it is not in your intention to avoid some newbie to believe that the HP19C has an ink-based printer. How often do people try to warn others in such cases?

Cheers.

Luiz (Brazil)

Edited: 24 June 2010, 1:12 a.m.

Re: Warning regarding a TAS auction

*Message #6 Posted by **David Hayden** on 24 June 2010, 7:43 a.m.,*
in response to message #1 by Michael de Estrada

I see this as a likely case of miscommunication.

I think you were really pointing out a problem with his description that reads "the printing function also worked, though there wasn't ink." Since it uses thermal paper, it would seem that the printing function *doesn't* work and he should change the description.

The seller's response indicates that he didn't see the connection between your message and the inaccurate description. Without making that connection, he thought you were just pointing out some meaningless detail of the calculator, like the fact that it uses BCD. If he had any sense of professionalism, he would have written something like "I don't understand why you're telling me this" instead of his rude response.

So both your question and his response left out the main parts of the communication - that the description may be inaccurate and that the seller didn't understand why you were writing.

Dave

Re: Warning regarding a TAS auction

*Message #7 Posted by **gene wright** on 24 June 2010, 8:29 a.m.,*
in response to message #6 by David Hayden

Of course, it *may* be that the printer simply doesn't have thermal paper in it. That would also cause it not to print.

(deleted post)

*Message #8 Posted by **deleted** on 24 June 2010, 9:11 a.m.,*
in response to message #7 by gene wright

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

who knows

*Message #9 Posted by **Frank Boehm (Germany)** on 24 June 2010, 9:35 a.m.,*
in response to message #8 by deleted

Thermal paper is known to "fail" too - who knows how the paper/printer has been stored the last 30 years. Might as well be that someone put normal paper in there. I agree that the sellers respond

would certainly put a full stop to any intention to bid :)

(deleted post)

*Message #10 Posted by **deleted** on 24 June 2010, 9:56 a.m.,*
in response to message #9 by Frank Boehm (Germany)

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: who knows

*Message #11 Posted by **bill platt** on 24 June 2010, 10:22 a.m.,*
in response to message #10 by deleted

Why do you care so much about this particular auction? Who cares?

Caveat Emptor.

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HP-32s doesn't turn on

*Message #1 Posted by **Giovanni Jimenez** on 23 June 2010, 6:13 p.m.*

I am sure that this has already been answered on this forum, but it is very difficult to look for specific previous threads.

I have a very nice HP-32s that doesn't turn ON. Any suggestions ?

I already tried the "coin" on the conctacts and replaced the batteries. Any new ideas ?

thank you

Giovanni

Re: HP-32s doesn't turn on

*Message #2 Posted by **DavidShenk** on 23 June 2010, 7:15 p.m.,*
in response to message #1 by Giovanni Jimenez

Hi,

Try pressing on the metal bezel below the screen while turning it on to see if that helps. If so, you'll want to take it apart and clean the contact strip located there.

Dave

Re: HP-32s doesn't turn on

*Message #3 Posted by **Giovanni Jimenez** on 24 June 2010, 10:24 p.m.,*
in response to message #2 by DavidShenk

Tried that but doesn't work either.

Am I out of options now ?

Thanks again

Re: HP-32s doesn't turn on

*Message #4 Posted by **Dave Britten** on 27 June 2010, 10:31 p.m.,*
in response to message #3 by Giovanni Jimenez

I had the same problem with a 32s a few months ago. The problem was that the 1 key was stuck. If any keys are stuck, the CPU never starts properly, and it looks like the calculator won't turn on. If you look closely, the LCD does receive power, but none of the display elements are darkened.

Feel all the keys and see if any of them might have the little plastic dome switch stuck down. A firm

smack to the rear of the case may release it, otherwise you'll have to pop the back off and open the keyboard.

Re: HP-32s doesn't turn on

*Message #5 Posted by **Alexandre Penna** on 27 June 2010, 11:04 p.m.,*
in response to message #1 by Giovanni Jimenez

Did you try remove the batteries and short circuit the battery contacts? I had one of first 32S and it happened w/ it long time ago. Them I did this "hard reset" as instructed by HP manual and voila, it backs to live!

Regards

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HP 35s Day of the week program

*Message #1 Posted by **Pablo P (Spain)** on 23 June 2010, 4:38 p.m.*

Hi all, I was watching a tv show about an extraordinary man who calculates mentally the day of the week of any date. Then I wrote this program for the HP 35s that uses one of that algorithms.

```
DAY OF THE WEEK FOR HP 35s (FROM 1901 TO 2099)


Table of Contents
=================
1 Using the program
2 Program listing
3 Registers
4 Revision


1 Using the program
~~~~~~~~~~~~~~~~~~~


  First execute the program: XEQ W ENTER.
  Insert the day and press R/S.
  Insert the month and press R/S.
  Insert the year (from 1901 to 2099) and press R/S.


  Then it will show a number that corresponds to the
  day of the week according to this table:


    Day          Number
   -----------+--------
    Sunday            0
    Monday            1
    Tuesday           2
    Wednesday         3
    Thursday          4
    Friday            5
    Saturday          6


2 Program listing
~~~~~~~~~~~~~~~~~


  Line   Instruction
 ------+--------------------
  W001   LBL W
  W002   INPUT D
  W003   INPUT M
  W004   INPUT Y
  W005   033614625035
  W006   1E13
  W007   10
  W008   RCL M
  W009   y^x
  W010   ÷
  W011   ÷
  W012   FP
  W013   10
  W014   x
  W015   IP
  W016   STO N
  W017   RCL Y
```

```
  W018   4
  W019   RMDR
  W020   x!=0? ;(not equal)
  W021   GTO W038
  W022   RCL Y
  W023   100
  W024   RMDR
  W025   x!=0? ;(not equal)
  W026   GTO W032
  W027   RCL Y
  W028   400
  W029   RMDR
  W030   x!=0? ;(not equal)
  W031   GTO W038
  W032   RCL M
  W033   3
  W034   x>y?
  W035   GTO W038
  W036   1
  W037   STO+ N
  W038   RCL Y
  W039   1
  W040   -
  W041   ENTER
  W042   ENTER
  W043   ENTER
  W044   100
  W045   INT÷
  W046   1
  W047   +
  W048   4
  W049   INT÷
  W050   -3
  W051   x
  W052   x<>y
  W053   4
  W054   INT÷
  W055   +
  W056   +
  W057   RCL N
  W058   +
  W059   RCL D
  W060   +
  W061   7
  W062   RMDR
  W063   STO W
  W064   VIEW W
  W065   RTN


  234 Bytes


3 Registers
~~~~~~~~~~~


  Register   Use                Notes
 ----------+------------------+----------------
  D          Day of month
  M          Month
  Y          Year
  N          Modulus           Internal usage
  W          Day of the week



4 Revision
~~~~~~~~~~


  06/23/10 - Initial release
```

Edited: 23 June 2010, 5:29 p.m. after one or more responses were posted

Re: HP 35s Day of the week program

*Message #2 Posted by **Pablo P (Spain)** on 23 June 2010, 5:18 p.m.,*

in response to message #1 by Pablo P (Spain)

Sorry, there is a problem with leap years. I will fix it.

Re: HP 35s Day of the week program

*Message #3 Posted by **Pablo P (Spain)** on 23 June 2010, 5:31 p.m.,*
in response to message #1 by Pablo P (Spain)

Fixed.

Re: HP 35s Day of the week program

*Message #4 Posted by **Jeff O.** on 24 June 2010, 4:30 p.m.,*
in response to message #1 by Pablo P (Spain)

Hello Pablo,
Thanks for the program. I think I saw the show about the man who could tell the day of the week for any given date. There was a discussion here a while back about a method to determine on which day of the week the last of February, 7 March, 4 April, 9 May, 6 June, 11 July, 8 August, 5 September, 10 October, 7 November and 12 December will fall in a given year. From there you can quickly figure what day of week any other date will fall. It was called the "doomsday" method, but I preferred to think of it as the "magic day", so that's what I called the program I wrote to calculate it. The meat of the program is the equation below, which was found at the links in message 8 of the discussion.

RMDR((2+REGX+IP(REGX/4)-IP(REGX/100)+IP(REGX/400),7)

The year you are interested in must be in stack register x.

.

Edited: 25 June 2010, 1:17 p.m.

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Nice Step by Step 50g (49+/48gii) Tutorial Videos

*Message #1 Posted by **Norman Dziedzic** on 23 June 2010, 2:17 p.m.*

The first one is here:

http://www.youtube.com/watch?v=x7I15VD1BV0

Search YouTube for further episodes. They are all titled HPxx where xx is a sequence number (01, 02 ...)

Later installments have an electrical engineering bent.

Re: Nice Step by Step 50g (49+/48gii) Tutorial Videos

*Message #2 Posted by **hpnut** on 23 June 2010, 5:30 p.m.,*
in response to message #1 by Norman Dziedzic

Nice. Thanks.

Re: Nice Step by Step 50g (49+/48gii) Tutorial Videos

*Message #3 Posted by **David Hayden** on 24 June 2010, 7:58 a.m.,*
in response to message #1 by Norman Dziedzic

Thanks Norman.

I especially like the way you show the keyboard at the beginning and the cursor that highlights the keys you press.

I have one suggestion for this first video. You don't show how you navigate through the menus. Perhaps you could display some text at the bottom that says "use the arrow keys to move around the menu." Also when you select "2" for the number of decimals to show, say that you pressed the number "2" on the keyboard.

Dave

Re: Nice Step by Step 50g (49+/48gii) Tutorial Videos

*Message #4 Posted by **Norman Dziedzic** on 24 June 2010, 10:00 a.m.,*
in response to message #3 by David Hayden

As a clarification, I did not create these videos and do not know the person who did. I just happened to stumble upon them when searching for something else and thought some people here would be interested.

I believe you can make comments at the YouTube site to the creator. It appears he has replied to some previous commentators.

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HP-35S, display settings for entry line

*Message #1 Posted by **Mike (Stgt)** on 22 June 2010, 10:44 a.m.*

On an HP-35S if you enter a number the 1000-th separator is not shown, after you pressed ENTER the 1000-th separator is shown in the 2nd line but still not on the first. Other HP calculators show those separators during the entry of the number already. Is it possible to change this on the HP-35S too? (A colleague asked me and I have no time to RTFM.)

TIA.....Mike

Re: HP-35S, display settings for entry line

*Message #2 Posted by **Pablo P (Spain)** on 22 June 2010, 12:47 p.m.,*
in response to message #1 by Mike (Stgt)

Hi Mike, I have got an HP-35s and during the enter of a number the 1000-th separator is not shown. You cannot change it.

Once you press ENTER the separators are shown in both lines. In this case, you can disable the separators or you can choose a dot or a comma, whatever you want.

For example, I have a dot as separator and decimal places fixed to 3:

```
First with 0 in x and y registers:
  0,000
  0,000


I type 1234567:
  0,000
  1234567   //the separators are not shown


I press ENTER:
  1.234.567,000
  1.234.567,000
```

Edited: 22 June 2010, 1:02 p.m.

Re: HP-35S, display settings for entry line

*Message #3 Posted by **gene wright** on 22 June 2010, 1:22 p.m.,*
in response to message #2 by Pablo P (Spain)

This ability went away with the RPL graphing calculators, because it was possible to enter a value with a comma as a valid value. Tough to know what is in the display when 123,456 might be 123456 or a complex number of 123 and 456, for example.

Most calculators since the RPL models probably use the RPL command-line approach for accepting inputs and don't allow the display of commas until after the line has been entered.

Been this way for 10+ years now, for what it's worth.

Re: HP-35S, display settings for entry line

*Message #4 Posted by **Mike (Stgt)** on 22 June 2010, 2:01 p.m.,*
in response to message #3 by gene wright

TNX 4 this explanation, sounds reasonable.

Ciao.....Mike

Re: HP-35S, display settings for entry line

*Message #5 Posted by **Norman Dziedzic** on 22 June 2010, 2:16 p.m.,*
in response to message #4 by Mike (Stgt)

Maybe your friend may have the calculator in ALG mode.

I'm set for showing 4 decimal places and ALG mode and when I key in 1 0 0 0 <ENTER>

The display looks like:

```
------------------
1000
         1,000.0000
------------------
```

Ergo, the easy answer is to use the much more efficient RPN mode. %^)

Edited: 22 June 2010, 2:16 p.m.

Re: HP-35S, display settings for entry line

*Message #6 Posted by **Mike (Stgt)** on 23 June 2010, 4:17 a.m.,*
in response to message #5 by Norman Dziedzic

Hehe! That's what I try to tell him since 1945. But tonite I had a look on my HP-35S which _is_ in RPN mode. Alas it is almost the same, the number you enter is shown in the bottom line without 1000th separator(s). It (they) show up after you pressed ENTER.

Ciao.....Mike

Re: HP-35S, display settings for entry line

*Message #7 Posted by **Katie Wasserman** on 22 June 2010, 2:55 p.m.,*
in response to message #3 by gene wright

That's not the case on the 20b/30b, they insert/remove as you enter/edit the number. This is true regardless of the mode (Chain, Algebraic, or RPN/RPL).

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New HP-15C simulator

*Message #1 Posted by **Greg Hewgill** on 22 June 2010, 5:40 a.m.*

I've put together a new HP-15C simulator at http://hp15c.com. It does almost everything, with some minor exceptions as noted on the About page. I'm continuing to work on it to implement the missing bits, so expect updates.

Please try it out - feedback, bug reports, and even contributions are welcome!

Re: New HP-15C simulator

*Message #2 Posted by **Namir** on 22 June 2010, 8:53 a.m.,*
in response to message #1 by Greg Hewgill

Greg,

I checked the SOLVE feature with my usual test function, and your simulator came through with flying colors.

I want to salute your valiant effort to create an HP-15C simulator for browsers. Not an easy job, especially if you are using Javascript (are you?).

Namir

Edited: 22 June 2010, 8:59 a.m.

Re: New HP-15C simulator

*Message #3 Posted by **Greg Hewgill** on 22 June 2010, 3:25 p.m.,*
in response to message #2 by Namir

Thanks! It is indeed written in Javascript (which is a pretty capable language, all things considered). The "Source" link on the site links to the source repository if you want to have a look.

Re: New HP-15C simulator

*Message #4 Posted by **MK-52** on 22 June 2010, 10:35 a.m.,*
in response to message #1 by Greg Hewgill

SIN(PI = 3.14159265359) = 1.224646799e-16
SIN(3.14159265) = 3.589793029e-09
SIN(0.01) = 9.999833334e-03
SIN(PI-0.01) = 9.999833334e-03
TAN(355/226) = -7.497258179e+06

Very accurate trig. BTW, CHS doesn't work in EEX.

Re: New HP-15C simulator

*Message #5 Posted by **MK-52** on 22 June 2010, 10:48 a.m.,*
in response to message #4 by MK-52

If unimplemented functions is used in looping program, for example, Solver and Integration, the simulator keeps showing error messages. I think this is a small problem.

Edited: 22 June 2010, 10:49 a.m.

Re: New HP-15C simulator

*Message #6 Posted by **Greg Hewgill** on 22 June 2010, 3:26 p.m.,*
in response to message #4 by MK-52

The trig functions come straight out of the Javascript "Math.*" library, so I can't claim any credit for their accuracy. :)

I'll add the CHS in EEX bug to the known issues list.

Re: New HP-15C simulator

*Message #7 Posted by **hugh steers** on 22 June 2010, 3:00 p.m.,*
in response to message #1 by Greg Hewgill

some missing complex trigs.

also, try adding 0.1 ten times, then press H.MS to get 0.5960 opps!

large factorials go bad, also in FIX 9, you dont get the exponent.

otherwise neat!

keep up the good work.

Re: New HP-15C simulator

*Message #8 Posted by **Greg Hewgill** on 22 June 2010, 3:30 p.m.,*
in response to message #7 by hugh steers

Thanks! The missing complex trig functions are noted on the known issues list. I'll have a look at that ->H.MS rounding problem.

I suspect the large factorials are due to some display rounding problems, especially with numbers slightly less than 1e100. Which number did you notice specifically?

Re: New HP-15C simulator

*Message #9 Posted by **hugh steers** on 23 June 2010, 6:49 a.m.,*
in response to message #8 by Greg Hewgill

try FIX 9. then 69!

Re: New HP-15C simulator

*Message #10 Posted by **Greg Hewgill** on 23 June 2010, 7:46 a.m.,*
in response to message #9 by hugh steers

Thanks, should be fixed now.

Re: New HP-15C simulator

*Message #11 Posted by **Mike T.** on 23 June 2010, 3:06 p.m.,*
in response to message #8 by Greg Hewgill

Try 48.0 minus 47.8 then subtract 0.2 from the answer, the result should be zero - but it isn't so I know you are doing binary math.

Mike T.

Re: New HP-15C simulator

*Message #12 Posted by **Greg Hewgill** on 23 June 2010, 3:33 p.m.,*
in response to message #11 by Mike T.

Yes, that's true. I don't claim to be doing BCD math, that would be a substantial amount more work (but still possible). The simulator uses the native Javascript math library (as implemented in your browser) for all arithmetic.

Re: New HP-15C simulator

*Message #13 Posted by **hugh steers** on 24 June 2010, 2:32 p.m.,*
in response to message #12 by Greg Hewgill

is there a JS "decimal" type, or is that java only?

alternatively, you could pull a trick to "fix" these sorts of problems when working in binary as follows:

```
a + b = a <+> b  if |a <+> b| >= eps*|a|
      = 0 otherwise
```

where <+> represents computed addition rather than mathematical addition and eps is epsilon eg 10^-15

use the same idea for subtraction.

some real world calculators actually work in binary and they must do a trick like this, because i've tried to embarrass them with a binary rounding error and not been successful.

Re: New HP-15C simulator

*Message #14 Posted by **Steve Simpkin** on 22 June 2010, 5:25 p.m.,*
in response to message #1 by Greg Hewgill

Very nice!!! It even works using the browser on my Android phone.

Re: New HP-15C simulator

*Message #15 Posted by **Egan Ford** on 22 June 2010, 6:02 p.m.,*
in response to message #14 by Steve Simpkin

I tried it on my iPad. Works too. However "test" reported errors:

```
Unimplemented: complex log

Fail: 45g)
```

Update: Test also failed on Firefox, fail: 3^.

Test now working on iPad. I just turned it sideways, reloaded the page so I could see the registers and test passed after 1 min 45 sec.

Hmmmm.... Just tested on iPad again, this time the orientation is the same as my failed test and it passed.

Hmmmm..... 4th try. I cannot get it to fail again on the iPad. BTW, no need for 'h' on the iPad, fingers work great. :-)

Update 2: Firefox fails repeatably (fail: 3^). iPad works every time now. Unsure what the original issue was.

Feature requests:

Sound (click), some type of visual button press notification.

Excellent work. Thanks!

Update 3:

I tested with Safari 5.0. Also failed like Firefox 3.6.3 with "fail: 3^". If I press test again I get the error above (complex log). BTW Safari screams compared to Firefox.

Chrome is also a screamer and passes, but a retest generates the "complex log" error.

I speculate the "complex log" error is erroneous.

Update 4:

Just got the "fail 3^" with Chrome. I cannot get Chrome to pass again without restarting Chrome. After that I got 3 passes and then non-stop fail 3^.

Edited: 22 June 2010, 6:30 p.m.

Re: New HP-15C simulator

*Message #16 Posted by **Greg Hewgill** on 23 June 2010, 4:31 a.m.,*
in response to message #15 by Egan Ford

Wow, thanks for all the testing! I suspect many of those failures were due to the test function not resetting some critical flags (like the Complex flag) before running the test. Since the test ends with C set, this was sort of a problem. I've updated the script so the Test runs twice on my system, and would be interested to see whether that fixes the issues you saw.

Re: New HP-15C simulator

*Message #17 Posted by **Egan Ford** on 23 June 2010, 8:46 a.m.,*
in response to message #16 by Greg Hewgill

Complex Log issue fixed, however:

Firefox 3.6.3, Safari 5.0 (OS/X 10.6.4):

```
The page at http://hp15c.com/ says:

fail: 3^
result: 352.00000000000006
expected: 352
diff: 2.220446049250313e-16
```

Chrome 5.0.375.70 (OS/X 10.6.4). Passed 3 times, then I closed the pop-up, clicked on the image again to get a new session and then test failed with:

```
The page at http://hp15c.com/ says:

fail: 3^
result: 352.00000000000006
expected: 352
diff: 2.220446049250313e-16
```

2.220446049250313e-16 is a familiar number with 64-bit floats. The "diff:" is the relative machine precision (i.e., the smallest number + 1 > 1), e.g.:

```
perl -e '$eps=1;while($eps+1>1){$eps/=2.0}$eps*=2;print"$eps\n"'
```

and

```
#include <stdio.h>

int main(void)
{
    double eps = 1.0;

    while(eps + 1.0 > 1.0)
        eps /= 2.0;
    eps *= 2.0;
    printf("Epsilon is %.14e\n", eps);
}
```

yield:

```
2.22044604925031e-16
```

Rounding issues?

Why this works then fails on Chrome is odd. It should be consistent one way or another. Are all variables/arrays initialized? Does that question make sense for JavaScript?

Edited: 23 June 2010, 8:50 a.m.

Re: New HP-15C simulator

*Message #18 Posted by **Greg Hewgill** on 23 June 2010, 4:45 p.m.,*
in response to message #17 by Egan Ford

The nondeterministic behaviour is indeed odd. I haven't seen that on any of the browsers I've tried, but I'll investigate.

Re: New HP-15C simulator

*Message #19 Posted by **Bart (UK)** on 23 June 2010, 7:05 a.m.,*
in response to message #14 by Steve Simpkin

And on my Nokia 5800!! Just fits in on Full Screen mode.

Re: New HP-15C simulator

*Message #20 Posted by **Walter B** on 22 June 2010, 6:09 p.m.,*
in response to message #1 by Greg Hewgill

Good work!

Just pressing EEX without any preceding digit will not execute properly. You may even end with one stack level in a different format, i.e. displaying less decimals.

Re: New HP-15C simulator

*Message #21 Posted by **Greg Hewgill** on 23 June 2010, 4:44 a.m.,*
in response to message #20 by Walter B

Indeed, that does look like it's doing the wrong thing. Will fix!

Re: New HP-15C simulator

*Message #22 Posted by **Chuck** on 23 June 2010, 1:52 p.m.,*
in response to message #1 by Greg Hewgill

Nice simulator. Through trial and error I found that values can be as large as 1x10^308. Though only the last two digits are displayed in the exponent, all three are actually still there because if you Log the value you get 308.

This means for large factorials (or for any large number) the integer part of the log of the answer is the correct exponent. For factorials I believe you can go up to 170! which shows

```
7.2574     06
```

But logging the number shows the exponent is actualyl 306. Possibly an improvement over an actual 15C, as long as you are aware of this when dealing with large numbers (like e^500).

CHUCK

Edited: 23 June 2010, 1:58 p.m.

Re: New HP-15C simulator

*Message #23 Posted by **Greg Hewgill** on 23 June 2010, 3:45 p.m.,*
in response to message #22 by Chuck

Good catch - that's one of the situations I alluded to in the fine print, where "the numeric display is known to be totally wrong". :)

Behind the scenes, the calculator simulator uses the native Javascript Math library as implemented in your browser, which has the IEEE 754 double precision exponent range of approximately -308 to 308. I plan to detect such out of bounds display (beyond -99 to 99) and blink the result as a real 15C would do, rather than attempt to improve upon it.

Re: New HP-15C simulator

*Message #24 Posted by **Mike T.** on 23 June 2010, 2:59 p.m.,*
in response to message #1 by Greg Hewgill

Very cool - looks great and the buttons move too.

Mike T.

Re: New HP-15C simulator

*Message #25 Posted by **megarat** on 23 June 2010, 4:52 p.m.,*
in response to message #1 by Greg Hewgill

Please don't take me as a troll, because I'm honestly curious (plus a huge fan of the 15c).

Ignoring (a) the joy of creating such an application, and (b) the joy of dinking around with such an application, does anyone find that web-based calculator sims like this have practical application?

Loading it on a webphone sounds semi-practical ... but not nearly as practical as a native RPN calculator app. IMHO, most of these web apps are missing the features that make them truly useful, e.g., copying/pasting the results from the calculator into another app.

If I'm missing something, please enlighten me!

Edited: 23 June 2010, 4:53 p.m.

Re: New HP-15C simulator

*Message #26 Posted by **Greg Hewgill** on 24 June 2010, 3:34 a.m.,*
in response to message #25 by megarat

I think the idea of calculator simulators does not necessarily lean toward the "useful" side. Although some enthusiasts (like me and others that are probably found here) will use a simulator as their desktop calculator for nostalgic reasons (or even to provoke questions from curious bystanders), I don't think they are intended to be general purpose replacements for a fully functional calculator program or service.

For the 15C specifically, all of the "advanced" functions offered (complex, matrix, integration, solver) are provided in a much more usable, useful, and practical way by other services such as Wolfram Alpha. Surely you're aware of how tedious it is to actually enter matrix data into a 15C, for example.

Having said that, creating a web app does not preclude also creating a desktop app. A web user interface is an easy, quick, and widely accessible way of getting code out there that people can run instantly. The code is written in JavaScript, which is one of the most portable languages around today. I wouldn't rule out creating a corresponding application for desktop or mobile use. In fact, since it's open source, I would even encourage that!

I hope you enjoy the calculator simulators. That's what it's all about.

Re: New HP-15C simulator

*Message #27 Posted by **megarat** on 24 June 2010, 1:40 p.m.,*
in response to message #26 by Greg Hewgill

Thanks for your thoughts. Simulators like this definitely put a smile on my face (I especially like the web-based slide rule simulators), but I wasn't sure if there was something more to it than the fun/novelty.

I also use a 15c simulator (application) as a calculator in Mac OS X, but it has the added advantage of being able to give/receive data via copy/paste, which I use routinely. (IIRC, it will also save/load programs to disk, although I've never used that feature since, as I'm already using a computer, it's typically easier to write the code I need in something else.)

Edited: 24 June 2010, 1:41 p.m.

Re: New HP-15C simulator

*Message #28 Posted by **BobVA** on 23 June 2010, 9:56 p.m.,*
in response to message #1 by Greg Hewgill

Nice job!

The PSE function needs some attention - looks like it puts the X register up on the display, but doesn't really pause to show it.

Cheers, Bob

Re: New HP-15C simulator

*Message #29 Posted by **Greg Hewgill** on 24 June 2010, 3:35 a.m.,*
in response to message #28 by BobVA

Good catch, I had that disabled for the self-test. I'll find a better way to handle that within the test, and enable PSE for interactive use.

Re: New HP-15C simulator

*Message #30 Posted by **Thomas Klemm** on 24 June 2010, 12:20 p.m.,*
in response to message #1 by Greg Hewgill

Thanks for the contribution. What do you think, how difficult would it be to port Eric Smith's Nonpareil to JavaScript instead?

Best regards
Thomas

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Another PILBox ...

*Message #1 Posted by **Juergen Keller** on 21 June 2010, 1:45 p.m.*

PILBox

Probably I need such a PILBox when my HP-41 dies and I need several different tranquillizers a day ... ;-)

Re: Another PILBox ...

*Message #2 Posted by **Walter B** on 21 June 2010, 6:32 p.m.,*
in response to message #1 by Juergen Keller

Ok, I knew why Jean-Francois's calculator PILBox contained one "L" only. Now I learned the French take their pills with only one "L", too. In German, we still have two d;-)

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June issue?

*Message #1 Posted by **Glenn Shields** on 20 June 2010, 1:56 p.m.*

Does anyone know why the June "hp solve" newsletter is not available? All the previous issues are archived, but they ask for you to sign up - is that really necessary (for Big Brother HP)? Thanks in advance, Glenn

Re: June issue?

*Message #2 Posted by **geoff quickfall** on 20 June 2010, 3:01 p.m.,*
in response to message #1 by Glenn Shields

It is in the works!

Big issue, lots of pages and even for the electronic magazine, lots of editing required for this issue.

Richard Nelson took over the editors position as of Issue 18. I like the direction it is taking. More of a general interest for users and collector/users. If you have not seen it, check out issue 18.

Also, I just go to this link when I want to see the issues.

HP Solve

Cheers, Geoff

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non hp RPN

*Message #1 Posted by **db (martinez, ca.)** on 19 June 2010, 7:21 p.m.*

I've added three more calculators to the alternate universe RPN museum.

National Semiconductor Scientist RPN

hp 94 RPN

Norman RPN

These are the calculators that Dave would have, in the continuum where Spock has a beard, Kirk is indecisive and Hoshi is Empress.

Re: non hp RPN

*Message #2 Posted by **Michael de Estrada** on 19 June 2010, 8:23 p.m.,*
in response to message #1 by db (martinez, ca.)

I have the NOVUS Scientist, and the front looks identical to your NS Scientist, except for the label at the top above the display. My label on the back says NOVUS 4520; what does yours say?

Also, what kind of display does the Norman have, VFD? I have a Microcifra 10, courtesy of Juan Denim.

Edited: 19 June 2010, 8:30 p.m.

Re: non hp RPN

*Message #3 Posted by **Andrés C. Rodríguez (Argentina)** on 20 June 2010, 4:01 p.m.,*
in response to message #2 by Michael de Estrada

IIRC, Norman 700 and Norman 701 had a .3 red 7-segment LED display

Re: non hp RPN

*Message #4 Posted by **Katie Wasserman** on 20 June 2010, 12:41 a.m.,*
in response to message #1 by db (martinez, ca.)

Finding the hp94 in this collection might only have occurred in City on the Edge of Forever. Where the hp94 line of hand held devices was wildly successful, Apple was defeated and Hewlett Packard became the biggest name in pocket computing. Heil HP!

So, db, how do you explain this seemly contradictory RPN entry? Have you been messing around with your time machine again?

Re: non hp RPN

*Message #5 Posted by **Joerg Woerner** on 21 June 2010, 3:24 p.m.,*
in response to message #1 by db (martinez, ca.)

While adding wonderful pictures to the alternate universe...

db, you missed the boxed OMRON 12SR and its power supply.

Regards, Joerg

replies

*Message #6 Posted by **db (martinez, ca.)** on 21 June 2010, 3:25 p.m.,*
in response to message #1 by db (martinez, ca.)

Michael; My Nat Semi Scientist has no back label affixed but is in all ways the same as it's Novus and Hiradastechnika siblings. The Norman has an 8 digit, 7 segment LED with a negative sign on the left, pretty standard for Novus clones. BTW: What would we know about all those Argentine RPNs without Juan? Our display cases would certainly be less crowded if he collected them, instead of using hp programmables.

Katie; I may have inadvertently involved you in a paradox. Please look closely at any photos you have of your grandmother at your present age and get back to me.

Joerg; The Omron i got from you years ago still works great, I didn't want to get into a bidding war (i know *you* wouldn't have minded) on the wall wart. Anyway, 32 gollies total - must be some sort of record for a non-hp power supply. You couldn't have gotten that high a price for a non-RPN ac adapter. Score another win for postfix notation.

Edited: 21 June 2010, 3:35 p.m.

Re: replies

*Message #7 Posted by **Michael de Estrada** on 21 June 2010, 6:59 p.m.,*
in response to message #6 by db (martinez, ca.)

Yes, we all are forever indebted to Juan Demin for his generosity. I really enjoy playing with the Microcifra 10, which is built like a brick "outhouse", and twice as massive as its NS/NOVUS counterparts. It truly rivals any HP Classic for its ruggedness.

As to the recent auction for the AC adapter, I think it also works with the non-RPN Omron Financial that was also being auctioned, so technically it is not an RPN power supply ;>). I didn't see how much it sold for, however, the OMRON 12SR sold for $237, which if memory serves is about what the identical GE one went for some time ago. For sure the word "RPN" adds many C-notes to the value of a vintage calculator.

Edited: 24 June 2010, 2:52 p.m. after one or more responses were posted

Re: replies

*Message #8 Posted by **Alejandro Paz (Germany)** on 22 June 2010, 2:16 a.m.,*
in response to message #7 by Michael de Estrada

I remember those microcifra... but did you know about the CZCERWENY RPN models ?.. I'm not sure if they are the same. I ever saw 2 models (when I was still in Argentina) one with programming capabilities and one without. They dated from the early 80s or end of 70s if I'm not mistaken.

Re: Omron 12F

*Message #9 Posted by **Joerg Woerner** on 22 June 2010, 10:21 a.m.,*
in response to message #7 by Michael de Estrada

The 12F didn't sell - I have to spent a few bucks for a battery cover first ;-))

Maybe I buy from db some nice [ENTER] keys and upgrade or Photoshop the 12F to a 12SR ;-))

Regards, Joerg

Re: replies

*Message #10 Posted by **juan demin** on 24 June 2010, 2:32 p.m.,*
in response to message #7 by Michael de Estrada

You guys are definitely cheaper than a shrink… whenever I need to fuel my ego…!!! jaja But please Michael, my last name is not like jeans…

Re: replies

*Message #11 Posted by **Michael de Estrada** on 24 June 2010, 3:05 p.m.,*
in response to message #10 by juan demin

Perdoname Juan, lo corregí.

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hp 41

*Message #1 Posted by **Sok-khieng Chum Hun** on 19 June 2010, 9:04 a.m.*

Hi, I have a problem with my hp 41cx, when I try to set or clear a flag it returns : "nonexistent"

is this normal?

Re: hp 41

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 19 June 2010, 9:31 a.m.,*
in response to message #1 by Sok-khieng Chum Hun

Hi;

if you are trying to set or clear any flag above 30, it is normal. These are system flags, you can only test them. The system sets or clears these flags when a particular condition (or command) is verified. E.g.: flag 55 is set when you connect an 82143A printer and cleared when you remove it. You can test it, though, to make sure if a printer is connected to the calculator while running a program with exclusive printer commands and avoid premature program halting.

Cheers.

Luiz (Brazil)

Edited: 19 June 2010, 6:53 p.m.

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OT: Blackberry LifeScan barcode capture

*Message #1 Posted by **hpnut** on 19 June 2010, 6:16 a.m.*

Hi all.

LifeScan is a barcode capture program for most cellphones with cameras. I installed it on my Blackberry and took a snapshot of the barcode on the back of the HP 30b calculator.

After the software processes the scanned barcode, I got this image on my Blackberry:

http://i167.photobucket.com/albums/u151/topoguy/Capture16_16_6.jpg

it's kinda fun snapping various barcodes of items in my house and finding what they represent. a truly geeky pastime :-)

hpnut in Malaysia

Edited: 19 June 2010, 10:31 a.m.

Re: OT: Blackberry LifeScan barcode capture

*Message #2 Posted by **Jean-Michel** on 19 June 2010, 3:01 p.m.,*
in response to message #1 by hpnut

Hi,
a single barcode contains that much informations, I mean including the enconding of the picture also?!
I am rather surprised. If someone could explain, I would be pleased to learn about this.
Anyway, thanks for posting this.
Kind regards.

Jean-Michel

Re: OT: Blackberry LifeScan barcode capture

*Message #3 Posted by **Don Shepherd** on 19 June 2010, 3:12 p.m.,*
in response to message #2 by Jean-Michel

Oh, I'm sure the barcode number links to a database somewhere that contains all that stuff.

Re: OT: Blackberry LifeScan barcode capture

*Message #4 Posted by **hpnut** on 19 June 2010, 7:14 p.m.,*
in response to message #3 by Don Shepherd

Don is right.

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What it’s got in its nassty little pocketses

*Message #1 Posted by **Norman Dziedzic** on 18 June 2010, 10:24 a.m.*

In the recent 32Sii thread there seems to be a lot of emphasis on being able to put a calculator in your pocket. Again I find myself feeling in the minority as I rarely have put a calculator in my pocket. I have a couple in my laptop bag. A couple in my desk drawer and if I'm moving about the workplace, I usually have a pile of papers to carry around and just plunk the calc I need on top and carry it around.

So, here's my informal poll to ask how important is it to you all to be able to put a calculator in your pocket. I'm thinking in the interest of being able to compare result to stick with a scale of 1 to 4 with

```
1 - Don't Care
2 - Nice but not critical
3 - Highly desirable but not essential
4 - Essential
```

My Vote: 1 - Don't Care

Re: What it’s got in its nassty little pocketses

*Message #2 Posted by **Bill Zimmerly** on 18 June 2010, 10:28 a.m.,*
in response to message #1 by Norman Dziedzic

At the very least, a calculator should be smaller than a Netbook.

Re: What it’s got in its nassty little pocketses

*Message #3 Posted by **Bart (UK)** on 18 June 2010, 10:36 a.m.,*
in response to message #1 by Norman Dziedzic

3 - Highly desirable but not essential

I like to carry a good scientific calculator around, but I don't want one hanging on my belt.

Re: What it’s got in its nassty little pocketses

*Message #4 Posted by **db (martinez, ca.)** on 18 June 2010, 8:52 p.m.,*
in response to message #3 by Bart (UK)

for me: #3. i sewed a big interior pocket vertically in my orange vest.
Bart (or anyone) - a fashion tip:
If you ever start to carry a calculator around on your belt, make sure the case matches the tape that holds your glasses together.

Re: What it’s got in its nassty little pocketses

*Message #5 Posted by **Bart (UK)** on 20 June 2010, 4:21 p.m.,*
in response to message #4 by db (martinez, ca.)

:-))))

Re: What it’s got in its nassty little pocketses

*Message #6 Posted by **Garth Wilson** on 18 June 2010, 10:45 a.m.,*
in response to message #1 by Norman Dziedzic

Putting it in your pocket is a good way to get a lot of lint in the keyboard. If it's in your shirt pocket, you bend over and it falls out. If it's in your pants pocket, you damage it. The calc is more practical to hold if it has some thickness to it.

Re: What it’s got in its nassty little pocketses

*Message #7 Posted by **Bart (UK)** on 18 June 2010, 11:06 a.m.,*
in response to message #6 by Garth Wilson

> Quote:
>
> Putting it in your pocket is a good way to get a lot of lint in the keyboard.

Minimised by keeping it in it's cover.

> Quote:
>
> If it's in your pants pocket, you damage it.

I've done this quite often and not damaged any. I have kept my mobile phone in my pants pocket every day for the last 8 years without any problems. Perhaps if you put it in the back pocket and sit.... :)

Re: What it’s got in its nassty little pocketses

*Message #8 Posted by **Egan Ford** on 18 June 2010, 11:47 a.m.,*
in response to message #1 by Norman Dziedzic

Since I have a dozen great emulators for my iPhone and my iPhone is almost always in my pocket I'd have to say "1" for a physical calc. But "3" for a virtual one. I travel; a lot. And, do not need the extra weight of a physical calc.

Point missing?????

*Message #9 Posted by **Vieira, Luiz C. (Brazil)** on 18 June 2010, 12:15 p.m.,*
in response to message #1 by Norman Dziedzic

From the MoHPC´s HP35 page:

> Quote:
>
> Based on marketing studies done at the time, the HP-9100 was the "right" size and price for a scientific calculator. The studies showed little or no interest in a pocket device. However Bill Hewlett thought differently. He began the development of a "shirt pocket-sized HP-9100" on an accelerated schedule. It was a risky project involving several immature technologies. HP originally developed the HP-35 for internal use and then decided to try selling it. Based on a marketing study, it was believed that they might sell 50,000 units. It turned out that the marketing study was

> wrong by an order of magnitude. Within the first few months they received orders exceeding their guess as to the total market size. General Electric alone placed an order for 20,000 units.

I am not quite sure that "shirt pocket-size HP-9100" means it was made to be carried in our pockets, instead that it fits. I surely remember an HP12C´s folder where the calculator is actually placed in (or is taken from) a shirt pocket. How many others show such circumstance amongst the so too many where it is not?

Also, IIRC, the size of the HP35 was based on the internal pocket of one of Bill Hewlett´s coat (cannot remember the correct suit's name, sorry), a good pocket for safely keeping a calculator.

Cheers.

Luiz (Brazil)

Edited: 18 June 2010, 1:10 p.m.

Re: What it’s got in its nassty little pocketses

*Message #10 Posted by **Manatee** on 18 June 2010, 12:40 p.m.,*
in response to message #1 by Norman Dziedzic

3 - I like to be able to slip it in my pocket, like a Voyager or Pioneer. Back in the days of the earlier series, the cases had loops and I wore them on my belt, so that was fine. Now... what to do with my iPad?

Re: What it’s got in its nassty little pocketses

*Message #11 Posted by **Marcus von Cube, Germany** on 18 June 2010, 1:03 p.m.,*
in response to message #10 by Manatee

> Quote:
>
> Now... what to do with my iPad?

I'm just thinking of an *iHat*. :)

Re: What it’s got in its nassty little pocketses

*Message #12 Posted by **Mark Storkamp** on 18 June 2010, 3:04 p.m.,*
in response to message #10 by Manatee

http://www.tuaw.com/2010/04/18/look-out-flava-flav-ipad-as-fashion-statement/

Re: What it’s got in its nassty little pocketses

*Message #13 Posted by **megarat** on 18 June 2010, 12:58 p.m.,*
in response to message #1 by Norman Dziedzic

I suppose my vote is: 3 - Highly desirable but not essential

W/r/t regular use, I have a tremendous preference for small-form-factor ("pocket-sized") calculators. But even so, I cannot recall a single time that I have ever put a calculator in my pocket.

I also use a 48sx, which is clearly not pocket-sized, but it doesn't get the regular use that my 15c (or 12c/16c) get. (Since it is more of a hand-held computer rather than a calculator, it thus fills a rarer niche.)

Re: What it’s got in its nassty little pocketses

*Message #14 Posted by **Michael Plant** on 18 June 2010, 1:03 p.m.,*
in response to message #13 by megarat

I'd go with #3 as well. My preference is more for a handheld form factor; I never put a calcultor in my pocket.

Re: What it’s got in its nasty little pockets

*Message #15 Posted by **Marc Ferrer (France)** on 18 June 2010, 1:24 p.m.,*
in response to message #1 by Norman Dziedzic

Hello,

One more count for the 2nd option :

In the days I was doing electronics and prototyping at work, the hp11C was always in my shirt pocket. So lightweight, and just the right size. It made me let the 21 on my desk as a ..guess what ? desk calculator ;-)

More generally, I think that if a tool serves you well enough that you miss it as soon as you don't have it with you, no matter the size, the form factor, the weight... you carry it with you, it's a "must have"..

Regards from France, Marc

Re: What it’s got in its nassty little pocketses

*Message #16 Posted by **Crawl** on 18 June 2010, 2:05 p.m.,*
in response to message #1 by Norman Dziedzic

#3.

I guess I can't say #4 because the HP50g does NOT fit in most of my pockets. Somehow I make do.

I have damaged a calculator once when I had it in a lapel pocket and I leaned over and it fell out (onto a concrete floor). Pants pockets are a better alternative.

What? Who’s got nasty little pockets?

*Message #17 Posted by **Martin Pinckney** on 18 June 2010, 3:48 p.m.,*
in response to message #1 by Norman Dziedzic

I would say 2 for me. I occasionally actually carry one in my pants pocket, never shirt. Then I always have one in my back-of-the-seat pocket in my truck, but that's a big pocket.

Re: What it’s got in its nassty little pocketses

*Message #18 Posted by **Maximilian Hohmann** on 18 June 2010, 4:28 p.m.,*
in response to message #1 by Norman Dziedzic

Hello!

#1

Even in the days when I needed a calculator, I never carried one in a pocket. I always hated (and still do) to have things in my pockets.

max

Re: What it’s got in its nassty little pocketses

*Message #19 Posted by **Jim Horn** on 18 June 2010, 4:54 p.m.,*
in response to message #18 by Maximilian Hohmann

Perhaps #2. I use Free42 the most (it's in my Palm Tungsten E2 that's almost always with me) followed by my HP50g (thank you, Joe!!) then my HP20b (Thank you, Cyrille!!). I *used* to use my Casio scientific calculator watch daily until the "8" key fell out. I still wish somebody would license the Casio Databank watches and redo the ROM slightly to make them scientific and RPN. Now that is a calculator that would always be available.

Jim Horn (don't use my HP-01 any more - too heavy and limited - and really miss my HP42S)

Re: What it’s got in its nassty little pocketses

*Message #20 Posted by **Peter A. Gebhardt** on 18 June 2010, 4:59 p.m.,*
in response to message #1 by Norman Dziedzic

Putting it (Pioneers size and less) into my jackets inner pockets often - not in shirts pockets.

So I'm preferring #3

Best regards

Re: What it’s got in its nassty little pocketses

*Message #21 Posted by **Walter B** on 18 June 2010, 6:15 p.m.,*
in response to message #20 by Peter A. Gebhardt

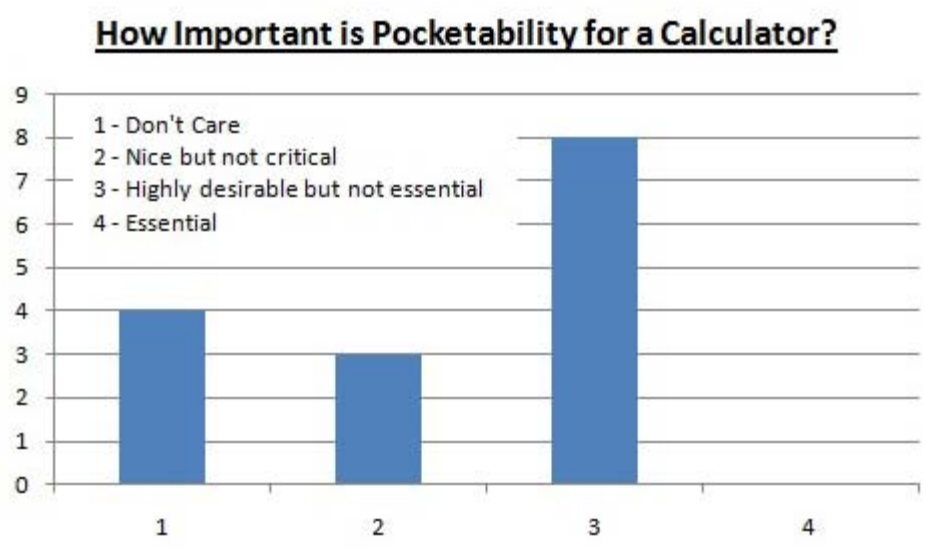
#3, too. I like to put it in my shirt pocket or - safer - in the inner pocket of my jacket. But I won't wear my jacket wherever I may need a calc. Yes, there's a risk it may fall out of my shirt - my Nokia does it every once and a while but survived so far, so why can't a calc be as sturdy? No such problem with the old belt bags, a more modern design may do it today as well.

Edited: 18 June 2010, 6:16 p.m.

Re: What it’s got in its nassty little pocketses

*Message #22 Posted by **Norman Dziedzic** on 19 June 2010, 11:31 a.m.,*
in response to message #1 by Norman Dziedzic

Here is what we have so far. The 3's are in the lead!



Re: What it’s got in its nassty little pocketses

*Message #23 Posted by **Thomas Radtke** on 19 June 2010, 12:56 p.m.,*
in response to message #1 by Norman Dziedzic

I'd say, it's essential to fit the pocket if you're a pocket calculator ;-).

Seriously, to me it is essential. And it is likewise essential not to put it in before tying my shoes (thanks Walter for reminding me!).

Re: What it’s got in its nassty little pocketses

*Message #24 Posted by **DaveJ** on 19 June 2010, 8:31 p.m.,*
in response to message #1 by Norman Dziedzic

> Quote:
>
> 4 - Essential

Simply because the vast majority around DON'T fit in your pocket, there are hardly any truly small scientific calculators around. Small can be good for many reasons, not just fitting in your pocket.

Wish I had the time to finish this one:

Dave.

Re: What it’s got in its nassty little pocketses

*Message #25 Posted by **Gordon Strickland** on 19 June 2010, 9:41 p.m.,*
in response to message #24 by DaveJ

Has anyone else noticed how gender-specific these responses are? No consideration of how well a given calculator fits into a purse, to what extent the key spacing accommodates long fingernails, and similar considerations.

Some would say that it is this kind of thing that is keeping women out of technical fields, but I don't know.

Perhaps the problem is more general. After all, women have been slaves for the last 5,000 years; why should they now want to get into science or engineering?

If you-all don't stop being nassty, I'll button up my pocketses and go home.

*Message #26 Posted by **Martin Pinckney** on 19 June 2010, 10:15 p.m.,*
in response to message #25 by Gordon Strickland

> Quote:
>
> Has anyone else noticed how gender-specific these responses are?

Has anyone notice how gender-specific the membership on this forum is? I can name the women members that I know of on the fingers of one hand... uh, I meant 1 finger!

> Quote:
>
> Some would say that it is this kind of thing that is keeping women out of technical fields...

Who?

> Quote:
>
> After all, women have been slaves for the last 5,000 years;

Huh???

Edited: 19 June 2010, 11:14 p.m.

Re: If you-all don't stop being nassty, I'll button up my pocketses and go home.

*Message #27 Posted by **Katie Wasserman** on 20 June 2010, 12:51 a.m.,*
in response to message #26 by Martin Pinckney

Some good points here. Fingernails are a big problem so I find that I use my Qualitron La Femme most of the time.

Edited: 20 June 2010, 12:52 a.m.

Re: If you-all don't stop being nassty, I'll button up my pocketses and go home.

*Message #28 Posted by **Thomas Radtke** on 20 June 2010, 3:03 a.m.,*
in response to message #27 by Katie Wasserman

How does the keyboard of your 32SII look like, Katie? I have an IBM Selectric I and could take molds of its previous owners fingernails from the keytops. So, women can actually adapt keyboards to their needs!

Re: If you-all don't stop being nassty, I'll button up my pocketses and go home.

*Message #29 Posted by **Don Shepherd** on 20 June 2010, 8:56 a.m.,*
in response to message #27 by Katie Wasserman

A mirror on the back of the calculator. Gee, that's probably more important than a double-width ENTER key!

Re: If you-all don't stop being nassty, I'll button up my pocketses and go home.

*Message #30 Posted by **Maximilian Hohmann** on 20 June 2010, 12:52 p.m.,*
in response to message #29 by Don Shepherd

> Quote:
>
> A mirror on the back of the calculator.

Obviously, there is a market for this kind of calculator (well, around 50 percent of the population I would estimate ;-)). I have this one in my collection (no-name product):

Re: If you-all don't stop being nassty, I'll button up my pocketses and go home.

*Message #31 Posted by **Hugh Evans** on 23 June 2010, 10:23 p.m.,*
in response to message #30 by Maximilian Hohmann

Actually, it's closer to 52% since males don't have the benefit of backup x and y chromosomes.

Re: What it’s got in its nassty little pocketses

*Message #32 Posted by **Jeff O.** on 21 June 2010, 1:18 p.m.,*
in response to message #24 by DaveJ

You are cruel to taunt us!

> Quote:
>
> Wish I had the time to finish this one:

Me too!

...

Re: What it’s got in its nassty little pocketses

*Message #33 Posted by **megarat** on 21 June 2010, 2:03 p.m.,*
in response to message #24 by DaveJ

Dude, I wish you had time to finish that one as well. I'd buy two!

Dave J: Please find time.

*Message #34 Posted by **db (martinez, ca.)** on 24 June 2010, 9:38 a.m.,*
in response to message #24 by DaveJ

you make it and i'll buy one & wear it around my neck every day at work - held by a bungee lanyard so i can hold it far enough away to read.

Re: Dave J: Please find time.

*Message #35 Posted by **DaveJ** on 25 June 2010, 9:38 p.m.,*
in response to message #34 by db (martinez, ca.)

> Quote:
>
> you make it and i'll buy one & wear it around my neck every day at work - held by a bungee lanyard so i can hold it far enough away to read.

With work, the video blog, other higher priority projects, and a bunch of other everyday stuff, I doubt I'll ever get time to even work on it again, let alone finish it.
It's a shame really, as in theory it just requires the firmware and the back panel (that holds the batteries in place) and it's complete. That's assuming the capacitive touch sensor keypad works as expected, that's the big unknown. The LCD should of course work, and the micro SD card is just an SD card. The hardware just sits there, I haven't even got Hello World on the LCD yet!

It really needs someone to take over the firmware I think.

Dave.

Edited: 25 June 2010, 9:39 p.m.

Re: Dave J: Please find time.

*Message #36 Posted by **Paul Dale** on 25 June 2010, 9:59 p.m.,*
in response to message #35 by DaveJ

I'd offer but I'm flat out at my new job and don't get much time to do anything out of hours :-(

- Pauli

Re: Dave J: Please find time.

*Message #37 Posted by **Katie Wasserman** on 25 June 2010, 11:03 p.m.,*
in response to message #35 by DaveJ

Dave,

I enjoy your video blogs, but take some time off from them and do this project. It will give you even more to blog about!

-Katie

Re: What it’s got in its nassty little pocketses

*Message #38 Posted by **Keith Midson** on 20 June 2010, 5:21 a.m.,*
in response to message #1 by Norman Dziedzic

I'm a bit late in responding to this one, but seeing as I made a comment in the 32Sii thread, here goes ...
For me it's [3] - nice but not really essential. I recently wrote an article for a local engineering newsletter along these thoughts - not so long ago, no self respecting engineer would be caught without his trusty calculator by his side - his tool of the trade ... these days most things are done by computer. We carry around laptops, we have a computer at our desk, and the role of the powerful calculator seems to have diminished.
I find this fascinating. I used to feel 'incomplete' without a calculator (of course an HP!), but these days tend to rely on spreadsheets more than anything.
Before the reign of calculators there were slide rules (this was before my time, but my grandfather was in this generation).
For me, I still have the need to have a good quality calculator on-site, or in a meeting, or in a court room (I do some expert witness cases as an engineer), so having a trusty HP in my jacket pocket can be essential.
Cheers, Keith

Re: What it’s got in its nassty little pocketses

*Message #39 Posted by **Geir Isene** on 21 June 2010, 7:21 a.m.,*
in response to message #1 by Norman Dziedzic

3

Unless the uCALC goes into production, then I might reconsider and say 4.

Re: What it’s got in its nassty little pocketses

*Message #40 Posted by **Ken Shaw** on 21 June 2010, 10:02 a.m.,*
in response to message #1 by Norman Dziedzic

A bit late, but I also vote "3".

I never put a calculator in my pocket, but the so-called pocket-size has some kind of "je ne sais quoi"/convenience factor to it that is not satisfied by the larger models.

Re: What it’s got in its nassty little pocketses

*Message #41 Posted by **Hugh Evans** on 23 June 2010, 2:41 a.m.,*
in response to message #1 by Norman Dziedzic

Filthy thieving Bagginses!

3

I keep a 35s at work and my 11c, 42s, and 48sx at home. Being able to carry the 11c in my shirt pocket was always nice, but I don't like risking such a fine vintage machine for daily use :(Can HP please reissue a programmable scientific voyager?

Re: What it’s got in its nassty little pocketses

*Message #42 Posted by **Martin Pinckney** on 23 June 2010, 9:15 a.m.,*
in response to message #41 by Hugh Evans

> Quote:
>
> Can HP please reissue a programmable scientific voyager?

You mean like a "15c+"? Shall we start that discussion again?

Re: What it’s got in its nassty little pocketses

*Message #43 Posted by **Hugh Evans** on 23 June 2010, 9:36 p.m.,*
in response to message #42 by Martin Pinckney

That would be nice. Work has traveling quite a bit at the moment, and once things settle down I plan to do some dissections and start discussing the manufacture of some new guts. Even if it won't fit in my pockets(es) I'd love to have free42 running in calculator hardware.

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Jazz 50G and SysRPL debugger

*Message #1 Posted by **Han** on 17 June 2010, 3:28 p.m.*

I have finished porting Jazz over to the HP49G+ and HP50G (ROM 2.15). The latest version (version 1.1) includes support for FPTR2 and ZINT tokens, as well as all new opcodes. The SysRPL debugger (SDB) is also now available. One caveat is that Jazz has its own entries table (which can now be installed in any port without speed limitations nor RAM requirements to copy the tables from covered ports) whereas SDB uses extable. This choice was due to the fact that there are users who prefer the internal MASD compiler (which uses extable) and only want to use SDB.

The files have been uploaded to hpcalc.org, but until the site is refreshed, you can download the new versions via:

Download Jazz 50G v1.1

Download SDB

Cheers! Han

Edited: 17 June 2010, 3:28 p.m.

Re: Jazz 50G and SysRPL debugger

*Message #2 Posted by **Bill Zimmerly** on 17 June 2010, 5:43 p.m.,*
in response to message #1 by Han

What is Jazz? (Besides great nightclub music, that is. :)

Re: Jazz 50G and SysRPL debugger

*Message #3 Posted by **Han** on 17 June 2010, 7:28 p.m.,*
in response to message #2 by Bill Zimmerly

> Quote:
>
> What is Jazz? (Besides great nightclub music, that is. :)

Hi Bill!

Jazz is a programming suite for program development on the calculator (HP50G) itself. It is a library consisting of commands that allow one to write machine language, system RPL programs, and libraries, as well as debug machine language and debug system RPL programs -- again all on the calculator itself. It also includes a robust editor that allows the user to disassemble the ROM all while simultaneously editing source code program.

If you have a postscript reader (perhaps acrobat reader can read postscript files?), the full documentation can be found at:

http://www.hpcalc.org/hp48/programming/asm/jazz-ps.zip

Re: Jazz 50G and SysRPL debugger

*Message #4 Posted by **Bill Zimmerly** on 18 June 2010, 10:28 a.m.,*
in response to message #3 by Han

Thanks Han! :)

Re: Jazz 50G and SysRPL debugger

*Message #5 Posted by **Han** on 26 June 2010, 11:42 p.m.,*
in response to message #1 by Han

Here's a quick update to Jazz 50G. Minor fixes to label generation during disassembly. Major fixes in SDB, including updates to CK&DISPATCH1 emulation to handle updated sym/arry classes, conversion of integers to reals, and a patch to work around the 2 bugs in ROM 2.15.

Until hpcalc.org does another refresh of files, you can get the updates at:

Jazz 50G

Jazz 50G Source Code

SDB (SysRPL Debugger) - Standalone version

This update of the standalone version of SDB also includes the source code.

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30B - On The Way - from USA !

*Message #1 Posted by **John Stark** on 17 June 2010, 11:52 a.m.*

To All:

30B finally on HP domestic shopping site:

http://www.shopping.hp.com/product/calculator/HP/1/storefronts/NW238AA%2523ABA?jumpid=reg_R1002_USEN

Ordered the beastie today and will have a review after receipt and familiarization.

As a Classic (45 and 80 used daily) and 12-C fan (when the 80 is "too little gun") , this will be an interesting experience.

Re: 30B - On The Way - from USA !

*Message #2 Posted by **Marcus von Cube, Germany** on 17 June 2010, 12:44 p.m.,*
in response to message #1 by John Stark

I'm still waiting for mine from Dynatech.de. I sent an inquiry and got the response that HP wasn't shipping yet.

...

Still waiting...

Re: 30B - On The Way - from USA !

*Message #3 Posted by **John Stark** on 17 June 2010, 1:38 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Dear Marcus:

Uh-oh.....

Thought they were rolling this machine out in Europe first.

Will keep everyone posted on the buying experience as it unfolds.

HP sure is not what is when the 45,55,and 65 ruled the roost.

Cheers.

John

30B - Showed up Sharp!

*Message #4 Posted by **John Stark** on 18 June 2010, 12:13 p.m.,*

in response to message #1 by John Stark

To All:

My 30B showed up today - sharp one day after ordering.

Initial impressions:

- Nice blister packaging - "Cut Here" line to remove; no Kung-Fu swordplay to open the retail packaging

- Case shape similar to "Casio" -derived SmartCalc 300S - would prefer closer to HP-35S

- Unusually light weight. Put some lead or depeleted plutonium in the hollow spaces to give it some heft :)

- Good keyboard tactile feel

- Scientific functions on shifted Blue keys; i believe they were originally buried in a menu somewhere.

- Crappy sleeve/pocket case - typical Ch****e stuff.

- Overall a nice horizontal-format business/stat/scientific machine. Good successor to HP-27 "Woodstock" (one of my favorites)

Will post detailed functional evaluation later.

Marcus - I hope you get yours quickly.

John Stark

Correction-VERTICAL format

*Message #5 Posted by **John Stark** on 18 June 2010, 12:33 p.m.,*
in response to message #4 by John Stark

To all:

Sorry 'bout describing HP.30B as "nice HORIZONTAL format unit", I ment nice "VERTICAL" format calculator layout.

John

Re: 30B - Showed up Sharp!

*Message #6 Posted by **Martin Pinckney** on 19 June 2010, 10:07 p.m.,*
in response to message #4 by John Stark

> Quote:
>
> Put some lead or depeleted plutonium in the hollow spaces to give it some heft :)

Better stick with lead; however, if you really need the extra density, use depleted *uranium.*{:-)

Re: 30B - Showed up Sharp!

*Message #7 Posted by **Norman Dziedzic** on 21 June 2010, 3:16 p.m.,*
in response to message #6 by Martin Pinckney

Here is something with a little less component of unobtainium:

http://www.maximum-velocity.com/tungstenputty.htm

Re: 30B - Showed up Sharp!

*Message #8 Posted by **Katie Wasserman** on 20 June 2010, 1:01 a.m.,*
in response to message #4 by John Stark

John,

Did you get a keypad "programming" overlay in the package? Per the 20b/30b User's Guide, it's supposed to be included and shows the position of the programming functions that are accessed by pressing and holding SHIFT along with one of the keys marked on the overlay.

-Katie

Re: 30B - Showed up Sharp!-Programming Overlay

*Message #9 Posted by **John Stark** on 20 June 2010, 9:31 a.m.,*
in response to message #8 by Katie Wasserman

Dear Katie:

Sure did. Slipped in amongst the HP promotional flyers and reply card.

I have no use for it. If it can't be done with keystrokes, out comes Excel,SPSS,Systat and the like on the ol' Lap-top.

If you need one, I will be happy to send mine to you.

John Stark

Re: 30B - Showed up Sharp!-Programming Overlay

*Message #10 Posted by **Don Shepherd** on 20 June 2010, 10:00 a.m.,*
in response to message #9 by John Stark

John, but suppose there is a keystroke that is in a menu somewhere on the 30b, and you need to use it frequently so you'd like to assign it to a key (or a shift key or, even better, a shift hold key). You can do it with a simple program. See Gene's examples in the learning modules at the HP site.

Don

Re: 30B - Showed up Sharp!-Programming Overlay

*Message #11 Posted by **Don Shepherd** on 20 June 2010, 11:07 a.m.,*
in response to message #9 by John Stark

John, here is Gene's learning module about assigning functions in menus to a key. He has two examples here. It's really pretty cool.

Edited: 20 June 2010, 11:08 a.m.

Re: 30B - Showed up Sharp!-Programming Overlay

*Message #12 Posted by **Sancerre (Phoenix)** on 20 June 2010, 12:32 p.m.,*
in response to message #9 by John Stark

John,

I didn't get an overlay (and I just purchased it a couple of weeks ago via hp.com). Can I take you up on your offer of sending the overlay? If so, you can contact me at sancerre @ gmail . com (no spaces).

--Sancerre

Re: 30B - Showed up Sharp!-Programming Overlay

*Message #13 Posted by **Tim Wessman** on 20 June 2010, 2:05 p.m.,*
in response to message #12 by Sancerre (Phoenix)

They usually are in the back cover of the QSG. Did you flip through all of the pages there?

TW

Re: 30B - Showed up Sharp!-Programming Overlay

*Message #14 Posted by **John Stark** on 21 June 2010, 11:00 a.m.,*
in response to message #12 by Sancerre (Phoenix)

Dear Sancerre:

Will be glad to forward the overlay.

Please send address info to:

jtstark@gmail <<<dot>>>com

Have a fine day.

John

Re: 30B - Showed up Sharp!-Programming Overlay

*Message #15 Posted by **Katie Wasserman** on 20 June 2010, 12:46 p.m.,*
in response to message #9 by John Stark

John,

I'm not a fan of keyboard overlays either, but thank you for the offer. Given the "Black S" (Black Scholes) printing above the "Bond" key I think it would have been ok if HP printed all the programming-related SHIFT-HOLD functions as well instead of providing them on a template. I suppose that this might make the calculator more intimidating to financial users, but no more so than the HP-12C is. Anyway, it's not hard to memorize the key locations and avoid the overlay.

-Katie

Re: 30B - Showed up Sharp!-Programming Overlay

*Message #16 Posted by **John Stark** on 20 June 2010, 1:19 p.m.,*

in response to message #15 by Katie Wasserman

Katie:

Assume you don not want the overlay; if that is the case then Sancerre gets it.

John

Re: 30B - Showed up Sharp!-Programming Overlay

*Message #17 Posted by **Katie Wasserman** on 20 June 2010, 4:36 p.m.,*
in response to message #16 by John Stark

John,

Thanks again, but please send it to Sancerre.

-Katie

Don't quite understand this...

*Message #18 Posted by **gene wright** on 21 June 2010, 12:19 p.m.,*
in response to message #9 by John Stark

I must admit I can't quite understand the comment:

"I have no use for it. If it can't be done with keystrokes, out comes Excel..."

For example, computing the coefficient of variation requires accessing the standard deviation and the mean. Both of these are in menus, so they are accessible by "keystrokes". By my count, it takes 5 keystrokes to get to the mean and 7 to get to the standard deviation, plus the keystrokes to store these values and do the required division. Since those are keystrokes, your comment might suggest you would use the 30b and not go off to Excel.

However, by writing an INCREDIBLY short / easy program ONE TIME, you can compute the coefficient of variation in a total of 2 keystrokes.

So, at least 14-15 keystrokes turned into 2 by spending 5-10 minutes writing a program.

Sure, if you only compute that one time, then why bother? But if there are any things you do that you might need to do repeatedly, then the time spent is very well rewarded.

Using functions in menus are much more user-friendly when placed into VERY short programs and assigned to keys. The examples in the learning modules show how to assign the inverse trig functions to the shift-hold trig key positions. MUCH easier and faster than going through the menus.

I think that was Don's point. You can certainly access those through keystrokes, but why not consider entering a few short programs one time to reduce your keystroke count by a large number?

And, yes, we're all different, I know.

Testy..testy

*Message #19 Posted by **John Stark** on 21 June 2010, 2:16 p.m.,*
in response to message #18 by gene wright

Now I remember why I switched majors from Engineering to Finance.

Engineers ALWAYS HAVE TO BE RIGHT. AND SAY IT IN CAPS.

Anyway, will investigate doing repetitive things on the 30B via short "keystroke" programs.

John

Re: Testy..testy

*Message #20 Posted by **db (martinez, ca.)** on 21 June 2010, 2:41 p.m.,*
in response to message #19 by John Stark

John; Not sure you knew it but Gene is a bean counter, albeit one of the few that writes his own programs (not to mention- a textbook on bean analysis).

Re: Testy..testy

*Message #21 Posted by **Tim Wessman** on 21 June 2010, 2:52 p.m.,*
in response to message #19 by John Stark

That was actually the original intent of the 30b "programming". In fact, it was called "macros" for a long time. The idea was you could pull frequently used things out of menus, and write a short little equations to use with the solver.

However, those nasty beta testers kept asking and complaining for more and more. . . pretty soon you had loops, tests, subroutines and more just to shut them up! ;-)

TW

Re: Testy..testy - Muddled Feature Set

*Message #22 Posted by **John Stark** on 21 June 2010, 3:17 p.m.,*
in response to message #21 by Tim Wessman

Dear Tim:

Very interesting. Good example of a "muddled" feature set, terminology, and message to the end-user.

"Programmable" scares off some folks, and raises the expectations of others.

"Keystroke Shortcuts", or "Macros" implies convenience and end user customization.

The latter recalls the user-defined keys on the Classic card-programmables and the 48-50 series. Indeed I have used the U/D keys on 48-series to quickly access functions buried in the menu system, although I am by no means a "programmer".

Appreciate everyone's comments - hope HP is listening.

John

Re: Testy..testy - Muddled Feature Set

*Message #23 Posted by **Tim Wessman** on 21 June 2010, 9:39 p.m.,*

in response to message #22 by John Stark

We do. Whether we can do anything about it is another question entirely. :-D

TW

P.S. - Does this forum support a signature of any kind? It would be very nice to have if not. . .

Re: Muddled Feature Set

*Message #24 Posted by **Martin Pinckney** on 21 June 2010, 10:21 p.m.,*
in response to message #23 by Tim Wessman

> Quote:
>
> We do.

By "We", you mean Cyrille and yourself?

> Quote:
>
> Whether we can do anything about it is another question entirely. :-D

Then who can?

Re: Testy..testy

*Message #25 Posted by **Bart (UK)** on 22 June 2010, 5:32 a.m.,*
in response to message #21 by Tim Wessman

> Quote:
>
> However, those nasty beta testers kept asking and complaining for more and more. . . pretty soon you had loops, tests, subroutines and more just to shut them up! ;-)

Again, this makes me concerned about the processes and procedures at HP.

First determine the feature set
Then freeze the baseline
Minimize product feature creep - beta testers are *testers*, not product developers
Keep the valuable feature requests from your beta testers as a wish list for a product upgrade, people are more willing to buy an upgrade if the original worked properly in the first place.

40 years ago one could get away with loose development methods because markup margins were high, but in today's cut-throat, short-time-to-market environment, stricter processes and procedures are needed and have to be followed in order to survive.

AND THIS IS MY OPINION (which is always right, of course ;-))

Re: Testy..testy

*Message #26 Posted by **David Hayden** on 22 June 2010, 8:59 a.m.,*
in response to message #25 by Bart (UK)

> Quote:
>
> Again, this makes me concerned about the processes and procedures at HP.
>
> First determine the feature set
> Then freeze the baseline
> Minimize product feature creep - beta testers are *testers*, not product developers
> Keep the valuable feature requests from your beta testers as a wish list for a product upgrade [...]

But if the beta testers are screaming for something, it's a very safe bet that the end-users will also. Basically, it means that the original feature set wasn't right.

If the 30b just had macros and no loops or other flow-of-control instructions, we would be roasting HP for making such an obvious mistake.

Dave

Re: Testy..testy

*Message #27 Posted by **Tim Wessman** on 22 June 2010, 10:24 a.m.,*
in response to message #26 by David Hayden

Just so you feel a bit better Bart, all the major features were determined before the full beta group was officially organized. I was being a bit sarcastic when I was talking about them "whining and complaining" causing things to be added. In initial product feedback with a few individuals is where the requests for that showed up. Us being calculator nuts, we tend to agree with stuff like that. :-)

Mostly, the beta testers did a fantastic job with the polishing - especially to get the 30b the point that everyone was happy with the program editing. Originally, it had a few quirks due to the underlying system and everyone was much happier after the polishing.

What you describe fits very well using a traditional waterfall development method. However, your description of a 1) cut-throat 2) short-time-to-market situation describes a perfect example of where one would choose to use a more agile method IMO.

TW

Edited: 22 June 2010, 10:25 a.m.

Re: Testy..testy

*Message #28 Posted by **Bart (UK)** on 23 June 2010, 6:42 a.m.,*
in response to message #27 by Tim Wessman

> Quote:

> Just so you feel a bit better Bart, all the major features were determined before the full beta group was officially organized.

That's good to know.

> Quote:
>
> I was being a bit sarcastic...

Sorry, I didn't pick up on that, having a glum day at the office.

> Quote:
>
> Mostly, the beta testers did a fantastic job with the polishing...

I realise that and did say their input was "valuable".

> Quote:
>
> However, your description of a 1) cut-throat 2) short-time-to-market situation describes a perfect example of where one would choose to use a more agile method IMO.

I feel exactly the opposite, let's agree to dis-agree.

I guess I've touched on this point enough times now, so I'll attempt to restrain myself from doing so in future posts.

Re: Testy..testy

*Message #29 Posted by **Bart (UK)** on 22 June 2010, 10:27 a.m.,*
in response to message #26 by David Hayden

Either the original feature set wasn't thought out properly, otherwise, TOUGH - there's too much risk of faults like those on the 35s slipping through due to last miniute changes.

We're already continually roasting HP for not making the quality products of old and going on and on about "HP integrity" and quoting the "2.02 ln e^x" bug. Both sides (producers and users) must understand you can't have it all. In 1972 it was easy, there was nothing like the original 35 out there. Now everybody has had calculators for years there's an endless wish list - we all know how to build a better one.

By the way, apart from a few eager programmers (which most of this forum's members consist of), there are probably many more financial calculator users out there that just want to acces deep menu items quickly - macro's would be just fine for them. They would probably not need to program new functions or formula's or routines that require loops etc.

Besides, adding loops and flow control would be well partnered with more user memory, in a 30bii.

Re: Testy..testy

*Message #30 Posted by **gene wright** on 21 June 2010, 5:29 p.m.,*
in response to message #19 by John Stark

Actually, I didn't feel I was being all that testy.

I just didn't understand the blanket rejection of anything "non-keyboard".

If you really don't want to be efficient (and finance people usually do), then by all means, pull out a laptop, wake it from sleep, start Excel, and do something you could have already loaded into the HP 30b.

I did not even mention the HP SOLVE feature on the HP 30b. Since you are in finance, you might have a need to solve loan problems where the first period does not have exactly 30 days in it. By entering the program found in this learning module once, you will always have the ability to run the program and solve for all the TVM variables when there are an odd number of days in the first period. Useful? Perhaps.

Generalized odd-days loan solver example for the HP 30b

And, yes, I have enough of my undergraduate computer science degree to act somewhat like an engineer, but as a former college professor, I have always tried to encourage people to choose wisely and not dismiss things out of hand.

Testy? Not yet.

Re: Testy..testy

*Message #31 Posted by **Martin Pinckney** on 21 June 2010, 10:31 p.m.,*
in response to message #19 by John Stark

> Quote:
>
> Engineers always have to be right. And say it in caps.

JOHN, I THINK YOU MUST BE WRONG, BECAUSE I'M NOT LIKE THAT AT ALL.

Re: Testy..testy

*Message #32 Posted by **John Stark** on 22 June 2010, 11:56 a.m.,*
in response to message #31 by Martin Pinckney

dear martin:

neither am i.

perhaps you are the exception to the observed anecdotal rule.

anyway - what an INTERESTING!!!! :) thread on the 30B; to repeat meyself, I sure hope HP listens to this entire forum and considers it in its development cycle.

of course, not being ever involved in a large corporate structure, i do not konw or understand the details of how a new product is developed in today's lean, mean world.

keep on posting, everyone !

john

PS: My fling with the 30B started when I wanted to supplement an HP.80 in use for some time. I had an older 12.C which started getting flaky.

Bought 30B online and began my narrative.

This morning, went to Office Despot and got another 12.C. Two batteries and a "programming" plug under the cover. You experts can tell me what that means.

Bottom line, emotionally, not logically: The 12.C still has a "soul"; the 30B is "hollow". Both do what I need in terms of simple financial,bond,and statistical work.

30B will most likely wind up in the "For Sale" section of this forum available to a good home.

Thanks for listening to a "McCoy" in the midst of a forum of "Spocks" :).

JTS

Re: Testy..testy

*Message #33 Posted by **Katie Wasserman** on 22 June 2010, 12:33 p.m.,*
in response to message #32 by John Stark

> Quote:
>
> This morning, went to Office Despot and got another 12.C. Two batteries and a "programming" plug under the cover. You experts can tell me what that means.

It means that you bought a calculator with "the soul of an old machine". It's got an new ARM-based processor in there that's running an emulator of the original voyager CPU and the code the emulator is running is the original 12C ROM image. So it's both really fast and really old.

I have to say that I like the 12C+ (what you bought) better than the 30b as a financial calculator. You can certainly do much more on the 30b, in the way of financial functions, statistics and programming, but for overall usability and looks I like the 12C+ the best.

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LIF file viewer for windows ?

*Message #1 Posted by **John Robinson** on 17 June 2010, 9:09 a.m.*

Does one exist ?, if so, can someone point me towards it.

Thanks John

Re: LIF file viewer for windows ?

*Message #2 Posted by **Raymund Heuvel** on 19 June 2010, 5:03 p.m.,*
in response to message #1 by John Robinson

What do you mean with a Lif File viewer?

View a single lif file, depending on the file type? Is the file on a Lif-Disk?

Re: LIF file viewer for windows ?

*Message #3 Posted by **John Robinson** on 21 June 2010, 9:05 a.m.,*
in response to message #2 by Raymund Heuvel

Hi Raymund,

I mean an image file of a 9114 disk. Is there any such tool ?

Thanks John

Re: LIF file viewer for windows ?

*Message #4 Posted by **Raymund Heuvel** on 21 June 2010, 11:45 a.m.,*
in response to message #3 by John Robinson

Hi John,

a long time ago, I started such a thing.. I'll look in the deep
archives and let you know. I am afraid it is still in Win-ME
times. The version worked did NOT work on a disk, just on an image file of it.

What functionality do you expect? An image file editor at hex
level, directory functionality, file viewing functionality,
directory entry editing ... :)

Please give me a month or so.

BR

Ray

Re: LIF file viewer for windows ?

*Message #5 Posted by **John Robinson** on 21 June 2010, 8:01 p.m.,*
in response to message #4 by Raymund Heuvel

Hi Raymund,

That sound like what I am after, something to view the image. I don't actually have the disk.

I am wanting to view the contents of the 9114 disk image written by the PILBox. So viewer would be great.

Cheers, John

Re: LIF file viewer for windows ?

*Message #6 Posted by **Juergen Keller** on 21 June 2010, 4:24 p.m.,*
in response to message #1 by John Robinson

Look here:
The HPDir Project
I use this tool to transfer data between PC and HP-85 using floppy disks. It should also work for 9114 disks.

BTW, http://www.hp9845.net/ is an amazing site if you are interested in the HP 98xx workstations!

Hope it helps,
Juergen

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Interchanging IC´s in Spices

*Message #1 Posted by **Vieira, Luiz C. (Brazil)** on 17 June 2010, 1:09 a.m.*

Hi, all;

as we all share experiences, here comes one of mine.

A few hours ago I was struggling to make one working Spice of about four different nonworking units. I checked Eric´s marvelous reference page and found that some Spices - HP34C, HP38C and HP33E - share the same processor - 1820-2162 or 1820-2162A. I also remembered reading somewhere (old posts, very old posts...) that although Spices might have processors with same identification, they might not be interchangeable from one model to another (I concluded that the firmware might be different, though).

Anyway, desperate circumstances lead to desperate measures, so after trying different power boards and 'sandwiched' flex circuit, I took an HP38C´s 1820-2162 and tested it with an HP34C´s chipset. It worked well, and I (sadly) concluded that I have at least two Spices´ processors burnt out!

Well, I must confess that the HP34C worked well at least until I assembled the whole unit and realized that I kept an E-series power board inside of it, I mean, the poor thing shows

```
Pr Error
```

in the display every time it is turned on if left off for more then a couple of seconds. There we go again...

Although many people do not feel too well with Spices, I would like to point out some of their characteristics that call my attention:

- they are the last LED-based series calculators from HP;
- the HP38E/C is the first of all programmables with a [P/R] toggle key (all prior units have PRGM/RUN switch keys)
- the HP38E/C and the HP34C are the first pocket calculators with registers/program shared memory (I am not sure if the HP95C also have it, but anyway, it is not a pocket calculator, right?)
- they were the only HP pocket calculators with solderless assembly (yep, I know it is the cause of many bad contact and faulty operation, but there is nothing easier to maintain...)
- they were cheap instead powerful (someone once mentioned that the postfixed 'E' was from Economics...)

Please, if there is anything wrong in the above list I apologize. I wrote it by heart, and chances are that some data miss accuracy.

Yep, I like them. No favorites, I only prefer the HP34C and the HP38C because they have continuous memory and offer more resources than the others.

Cheers.

Luiz (Brazil)

Edited: 17 June 2010, 1:18 a.m.

Re: Interchanging IC´s in Spices

*Message #2 Posted by **Jeff Kearns** on 17 June 2010, 8:52 a.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

Interesting story... I only have the 33E and 32E units. Without continuous memory, the 33E is, in my opinion, not a very practical programmable calculator. My favorite (until I get my paws on a 34C) is the 32E, which I purchased for an exam a couple of years ago that did not allow programmables. This is a well-designed and very useful general purpose scientific and statistical calculator with built-in hyperbolics and normal and inverse normal distribution functions. The keyboard layout is indicative of the ergonomics of the day. A far cry from the 50G (a 49g+ with different colours), with the poorly placed and sized ENTER key and division key that is smaller than the other three. What's up with that?

Although not as 'sturdy' as some of the other older models - Valentin Albillo's review of the 34C described it as "...rather flimsy, like you could crush it by merely closing your fist...", the Spice series calculators (34C in particular) were a great alternative for students to the more expensive contemporary models like the 41C.

Jeff Kearns

Re: Interchanging IC´s in Spices

*Message #3 Posted by **Mark Henderson** on 17 June 2010, 4:04 p.m.,*
in response to message #2 by Jeff Kearns

As I posted a few weeks ago after receiving and reviving my first Spice - a 34C - although I thought I was a Classic guy (with some Woodstock yearnings since my first HP was a 25) I really quite like these Spices. I did a full tear-down on the 34C and it's looking good and working really well. I do like the continuous memory, and the LEDs (of course) and the thousands separators! So I picked up a reasonable deal on a clean 38C, which arrived yesterday, and it's also a very nice little calc (it needs some clean-up around the battery/charger area but that's easy).

Couple of questions to the experts:

- The thin foam layer under the keyboard of the 34C is breaking up, does anyone have a good, readily available substitute for this ? the keyboard actions on both my Spices are really good, I don't want to mess this up. - The battery cover on the 34C was all warped and won't stay in place, but the one on the 38C is tight and straight. The locking features look the same on both, is there a trick to these things?

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Interesting HP-32E with comma for decimal point

*Message #1 Posted by **Michael de Estrada** on 16 June 2010, 5:40 p.m.*

The HP-32E in this auction uses a comma (,) for the decimal (radix) point and a period (.) as the thousands separator. Note that the serial number on the back of the case has an asterisk (*) as a prefix to indicate this convention. I have converted one of my Spice units to this convention by cutting a jumper on the power circuitry board inside the calculator.

See here

Re: Interesting HP-32E with comma for decimal point

*Message #2 Posted by **Bart (UK)** on 16 June 2010, 6:45 p.m.,*
in response to message #1 by Michael de Estrada

I have one like that given to me from Brazil (made in Singapore though). Probably made for the likes of continental Europe (UK uses period for decimal like the US).

Re: Interesting HP-32E with comma for decimal point

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 17 June 2010, 12:07 a.m.,*
in response to message #2 by Bart (UK)

Hi;

actually the comma for decimals and period for thousands applies to Brazilian standard, too. I also have a Woodstock with a LED display that happens to use comma instead of period. I´ll post pictures later (have to find the LED display, first...)

Cheers.

Luiz (Brazil)

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Loops of addition

*Message #1 Posted by **Palmer O. Hanson, Jr.** on 15 June 2010, 10:10 p.m.*

A loop of addition is inherent in a FOR-NEXT loop. A FOR-NEXT loop typically provides a substantial increase in the accumulated count relative to that provided by an A = A + 1 function in a GOTO loop. Some examples:

TI CC-40:

Count: 12,110 where the previously reported count for a GTO loop was 9,339

Code: 10 FOR I = 1 TO 99999 20 NEXT I

Sharp EL-5500III:

Count: 9,140 where the previously reported count for a GOTO loop was 2,056 where I was surprised by the 4.5 fold increase.

Code: 10 FOR I = 1 TO 9999 : 20 NEXT I

Substantial increases in the count are also realized with the TI graphic machines using the code :For(I,1,99999) :End

TI-80: Count: 3,080

TI-83+: Count: 19,020

TI-85: Count: 15,490

TI-86: Count: 12,690

Palmer

Re: Loops of addition

*Message #2 Posted by **Don Shepherd** on 16 June 2010, 9:56 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

Palmer, I suspect Gene did not take that approach because all programmable calculators do not have looping instructions like FOR/NEXT or ISG/DSZ DSE, etc. He wanted some simple method of doing addition that could be used to compare lots of calculators. For example, the 12c has no looping instructions, but you can still loop manually.

My experience with the 33s, which does have looping instructions, is that using the looping instructions takes significantly longer than just controlling the loop manually. I did some benchmarks years ago and determined that.

Re: Loops of addition

*Message #3 Posted by **Palmer O. Hanson, Jr.** on 16 June 2010, 10:40 p.m.,*
in response to message #2 by Don Shepherd

Don:

The introduction to Gene's Article 1002 states in part:

> Quote:
>
> ... Alternative methods that count one at a time are allowed and included, such as going through an ISG/DSE loop. ...

For an example, see the entry for HP30b with TSTSYS ON.

I agree with you that the methods which use looping instructions other than a simple GOTO tend to be slower. The FOR/NEXT loop seems to be the exception.

My recollection is that Maurice Swinnen did some of this back when the TI-88 came out as a way to show that it was faster than the TI-59, but I have't been able to find the material.

Palmer

Edited: 16 June 2010, 10:51 p.m.

Re: Loops of addition

*Message #4 Posted by **Xerxes** on 17 June 2010, 2:12 a.m.,*
in response to message #3 by Palmer O. Hanson, Jr.

I've found some speed comparisons of the TI-88 vs. TI-59 here: http://www.ti59.com/V7N9.pdf
Thanks to Viktor Toth, the TI-88 is also present in the n-queens benchmark.

Re: Loops of addition

*Message #5 Posted by **Palmer O. Hanson, Jr.** on 18 June 2010, 10:06 p.m.,*
in response to message #2 by Don Shepherd

OOPS! The numbers reported herein are with the machines operating in the APPROXIMATE mode. When the mode is changed to EXACT the count for the TI-89 for the Lbla ... Goto a changes from 6,790 to 8.860 which is substantially closer to the previously published value. Furthermore, the For ... EndFor loop increases the count instead of decreasing it as with the APPROXIMATE mode. So, I'll have to generate a new set of data for the EXACT mode and (maybe) generate a new set of data for the AUTO mode as well.

Don:

> Quote:
>
> My experience with the 33s, which does have looping instructions, is that using the looping instructions takes significantly longer than just controlling the loop manually.

I did some work with my TI-89 which is in agreement with your idea that use of looping instructions takes longer. First, I did a :Lbl a :b + 1 > b :Goto a : EndPrgm loop and got 6,790 counts which is subtantially lower than the previously published value of 9,339. I could not make the Ans + 1 method work. A

For...EndFor loop gave a reduced count of 4,685 per minute. That is consistent with your comment but is not consistent with results from other TI graphic machines. A Loop...EndLoop lop gave an increased count of 7,266 counts per minute. The details are:

TI-89 Platinum: Count: 6,790: Code :Prgm :Lbl a :b + 1 > b :Goto a :EndPrgm

TI-89 Platinum: Count: 4,685: Code :Prgm : For a,1,99999 :EndFor :EndPrgm

TI-89 Platinum: Count: 7,266: Code :Prgm :Loop :a + 1 a :EndLoop :EndPrgm

I did the same tests on my TI Voyage 200 with similar results but with with counts about 3 to 4 percent higher:

TI Voyage 200: Count: 7,000: Code :Prgm :Lbl a :b + 1 > b :Goto a :EndPrgm

TI Voyage 200: Count: 4,860: Code :Prgm : For a,1,99999 :EndFor :EndPrgm

TI Voyage 200: Count: 7,546: Code :Prgm :Loop :a + 1 a :EndLoop :EndPrgm

Palmer

Edited: 18 June 2010, 11:52 p.m.

Re: Loops of addition

*Message #6 Posted by **Don Shepherd** on 19 June 2010, 3:15 a.m.,*
in response to message #5 by Palmer O. Hanson, Jr.

Palmer, it is interesting that using the looping instructions sometimes takes longer than just controlling the loop index yourself on some machines; I put a yellow post-it note in my 33s manual years ago to NEVER use ISG/DSE. But it really does depend upon the individual machine. I did a benchmark on the new 30b, and on that machine it is much faster to use the looping instructions than to do it manually.

I guess it depends upon how efficiently these instructions were implemented by the OS programmer. Obviously, Tim and Cyrille did a good job on the 30b. But Katie pointed out another area in which the 30b is not nearly as efficient as, for example, the 42s and others. I believe she said that the 42s caches the physical address of each label (object of a Goto or Call), so subsequent executions do not have to search for the location to goto. The 30b does not do this, and some programs take much longer to run because of this. We created an optimized version of the prime factor program in which the most commonly used labels are located at the beginning of memory, and did some benchmarks comparing this version with the non-optimized version, and the results were striking. Let's hope that, if the 30b ROM is ever updated, this is fixed. Of course, one could argue that the 30b is not primarily a programming machine...

Don

Re: Loops of addition

*Message #7 Posted by **Palmer O. Hanson, Jr.** on 21 June 2010, 3:08 a.m.,*
in response to message #6 by Don Shepherd

Don:

> Quote:

> I put a yellow post-it note in my 33s manual years ago to NEVER use ISG/DSE.

I admit that the ISG and DSE functions are not "speedy" when it comes to counting. But, that is not all that they do, and more importantly, they do what they do without messing with the stack.

Palmer

Re: Loops of addition

*Message #8 Posted by **Don Shepherd** on 21 June 2010, 5:26 a.m.,*
in response to message #7 by Palmer O. Hanson, Jr.

True, but I value speed over stack (and number of instructions, usually). And, in almost every loop I've ever done, I want the loop index in X when I begin the loop during each iteration, so to loop from 1 to 30, for example, at the end of the loop I would do this on the 33s:

```
1
STO + 1
30
RCL 1
X<=Y
GOTO A01
```

In the benchmarks I did on the 33s, this code runs faster than ISG 1.

On the 30b, there is no X<=Y, there is ?<= (which is really Y<=X), which would require a GF 1, or ?> (which is really Y>X) with GT 1, to maintain the desired loop index in X. The ISG on the 30b is much more efficient than the ISG on the 33s, however.

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HP-32Sii

*Message #1 Posted by **jweisskohl** on 15 June 2010, 7:05 p.m.*

I just received an HP-32sii calculator is new condition. It looks as if it was hardly used and is in perfect pristine condition. The back says Singapore with the HP logo and the year 1987. S/n is 3318S20199.

I paid $175 on Ebay for it. The seller said he won it from HP and it was hardly used.

Having only the new HP-35s to compare against I'm really liking the limited menus and the two shift keys with direct keyboard access.

How does this model rate against the other HP models? It seems to me that it is head and shoulders over the newer 35s. I understand that it has 384 bytes of memory but for me this is not a big limitation.

Would be interested in how well the 32sii was received in it's day.

Jerry Weisskohl

Re: HP-32Sii

*Message #2 Posted by **Jeff Kearns** on 15 June 2010, 9:28 p.m.,*
in response to message #1 by jweisskohl

Your calculator S/N 3318S20199, was made in the 18th week of 1993, according to the first four digits of the serial number.

You will find many positive reviews on this model if you search the site. The 33S and 35S were based on the 32sii - a Pioneer. It was and is an excellent calculator made with the classic quality that is now a thing of the past.

Although the 15C (for the most part) and the 42S rival its capabilities, you will undoubtedly enjoy using it! Don't be fooled by the condition either; I used mine daily from 1994, when I bought it new, until 2005 when I retired it from daily use. I still use it now and then and it also looks like new. The previous owner may have simply taken good care of it.

Jeff Kearns

Re: HP-32Sii

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 15 June 2010, 9:31 p.m.,*
in response to message #1 by jweisskohl

Hi;

I was checking the HPmuseum files and I saw that the HP32II is mentioned to be introduced in 1991. Yours is a 1993 uint (taking the first two digits of the serial# plus sixty: 33 + 60 = 93)

It was my first year after finishing the University when HP introduced the HP32SII, and I remember that the 'HP41 fever' was getting lower because of the Sharp and Casio pocket computers, along with the advent of the PC's (at least here in Brazil they were beginning to take place). I cannot tell for sure, but the HP32SII, as an HP32S upgrade, had bigger competitors in the HP48S/SX and the HP42S, both introduced in a very closer period of time.

I did not see so many HP32SII as I saw HP41's, HP11C's (15C's were fewer) and HP28's, but I still think Sharp, Casio and PC's themselves were their actual competitors.

Cheers.

Luiz (Brazil)

Edited: 15 June 2010, 10:19 p.m.

Re: HP-32Sii

*Message #4 Posted by **bill platt** on 15 June 2010, 10:03 p.m.,*
in response to message #1 by jweisskohl

32sii positives: Good buttons. Good display. Lots of functions. Fraction handling is really neat. Unit conversions is useful. Ability to put algebraic equations into a solver is very useful. For 11c users, feels like a more powerful 11c.

32sii negatives: Keyboard function layout is busy, and not as "unified" or something, as say, the 11c was.

"Unary minus" in the equation list is very weird and confusing, and there is even a bug with it. I think it might be discussed at craig finseth's site. There was some bug with the fraction feature on early units.

The Equation List is not a fully functional system. No editing without backspacing over stuff. Very limited memory makes equation list very limited in long term utility. Of course who wants to put a lot of long term stuff on a non-io machine anyway.

32sii is currently the most in-demand "obsolete" model, and also possibly the most numerous as far as I can tell.

Re: HP-32Sii --- USA specific?

*Message #5 Posted by **Randy** on 15 June 2010, 10:40 p.m.,*
in response to message #1 by jweisskohl

To those that use it, the fractions function is without a doubt one of the 32sii's most unique features.

Re: HP-32Sii --- USA specific?

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 16 June 2010, 1:31 a.m.,*
in response to message #5 by Randy

True!

Dealing with inches is somehow easier when you can see their non-integer part as a fraction. I know that the HP33S allows choosing the denominator basis, is it the same with the HP32S/SII?

O.T.: I was not aware of some non-HP modules for the HP41 series until I bought and built my first MLDL2000. I tried many (at least for me) unknown modules and I must confess that the AECROM was a big, pleasant surprise (I´m an electrical engineer), and its ability to deal with length units (including

fractions viewing) and expression writing is amazing.

Cheers.

Luiz (Brazil)

Edited: 16 June 2010, 1:31 a.m.

Re: HP-32Sii

*Message #7 Posted by **Mike Morrow** on 15 June 2010, 10:43 p.m.,*
in response to message #1 by jweisskohl

I purchased an HP32SII in 1997 to retire a ten year old HP-15C. What a disappointment! The HP32SII has incredibly poor complex number support, compared to the HP-15C. The HP32SII "pioneered" the sorry, awkward, illogical, un-natural complex number support that infected the later HP33S and HP35S models. I immediately retired that new HP32SII in favor of the old HP-15C.

I was later able to get a couple of new HP42S units. The HP42S is similar in appearance to the HP32SII, but far more capable, versatile, and easy to use (as numerous threads on this forum have demonstrated in the past). Most acknowledge the HP42S as the finest RPN machine ever made, even today, 22 years after introduction, and 15 years after discontinuance. The HP42S is THE most sought after RPN calculator on sites such as ebay. Prices well above $300 are common.

To be fair, the HP32SII is a limited but servicable calculator if one doesn't need competently or logically implemented complex number support, and if one can forget that the HP-15C and HP42S ever existed.

Re: HP-32Sii

*Message #8 Posted by **Karl Schneider** on 16 June 2010, 12:40 a.m.,*
in response to message #7 by Mike Morrow

Gee whiz, Mike. You never miss an opportunity to express your vendetta against the HP-32S/SII. We've read it a number of times, over and over again.

> Quote:
>
> The HP32SII "pioneered" the sorry, awkward, illogical, un-natural complex number support that infected the later HP33S and HP35S models.

That is incorrect. The functionality closely parallels that of the HP-41 Math Pac of 1980, and first appeared as built-in microcoded routines in the HP-32S. I've posted that information a few times.

Although admittedly awkward for interactive use, that functionality is quite useful in programs. Just today, for a real-world problem, I employed my Two-bus AC Power Transfer routine, which computes complex power using five of the HP-32SII's complex-domain functions.

> Quote:
>
> To be fair, the HP32SII is a limited but servicable calculator if one doesn't need competently or logically implemented complex number support, and if one can forget that the HP-15C and HP42S ever existed.

Harsh assessment, there. I have all three, starting with the HP-15C in 1983. My AC power program could

be ported to the HP-15C, but it wouldn't be nearly as user-friendly without the INPUT and VIEW functions, as well as single-letter storage registers. Also, the HP-32SII runs 12 times as fast as the HP-15C.

The HP-42S could run a more-refined implementation of that program, but the display is not easy to read.

-- KS

Edited: 16 June 2010, 1:32 a.m.

Re: HP-32Sii

*Message #9 Posted by **Bart (UK)** on 16 June 2010, 4:28 a.m.,*
in response to message #7 by Mike Morrow

Don't knock the 32S/Sii because you made the wrong choice. The 42S was a compatible replacement for the 15C, not the 32.

To compare: The 15C was the top-of-the-line scientific Voyager
The 42S was the top-of-the-line scientific Pioneer
The 32S/Sii was the middle-of-the-line scientific Pioneer, which is more akin to the 11C, which does not have complex number support at all.

Edited: 16 June 2010, 4:38 a.m.

Re: HP-32Sii

*Message #10 Posted by **Bart (UK)** on 16 June 2010, 4:31 a.m.,*
in response to message #1 by jweisskohl

Personally I prefer the 32S above the 32Sii/33S/35S because I prefer menus. I hate having to scan the keyboard for a function. Everytime I need a less used function, I have to scan the keyboard - "is it a keytop/orange/blue function?" What a bother! Arranged logically in menu's I know to just go to a menu and there it is.

Bart

Re: HP-32Sii

*Message #11 Posted by **Norman Dziedzic** on 16 June 2010, 7:23 a.m.,*
in response to message #10 by Bart (UK)

I must be in the minority here but I used a 32Sii for about 5 years and much prefer the 35s. I don't use much in the way of complex numbers or programming so that probably tilts my perspective.

I love having the two line display and make a lot of use of the equation solver which I like better in the 35s.

I do keep the 32sii around for doing calculations in different bases as the 35s is a pain there (and I don't have a 16c).

Re: HP-32Sii

*Message #12 Posted by **Martin Pinckney** on 16 June 2010, 10:55 a.m.,*
in response to message #1 by jweisskohl

Jerry, as you can see, there are differing opinions on this machine. But after 3 years of reading posts here, I think it reasonable to say that most members here view it positively. I am not an RPN man, I have no need for complex numbers, and I prefer the 27s Solver, so I use it mostly for fractions, which IMO is well-implemented.

I bought a 35s thinking since it was dual RPN/ALG, it would roll the best of 32sii and 27s into one (plus all that memory), but was very disappointed that it kept the very limited 32sii Solver.

There is always the debate over multiple keyboard shifted functions vs. menus, but IMO that is a user preference issue, not good/bad design issue. You pays your money you makes your choice.

Re: HP-32Sii

*Message #13 Posted by **Katie Wasserman** on 16 June 2010, 11:19 a.m.,*
in response to message #1 by jweisskohl

You've got a ton or responses here with a good amount of detail. I'll just add that I have virtually all the HP calculators (duplicates of the voyagers and pioneers) and the 32sii is the one I use every day, it's my clear favorite. I think it strikes the right balance of function, form and easy of use (especially when it comes to programming).

-Katie

Re: HP-32Sii

*Message #14 Posted by **Patrick Rendulic** on 17 June 2010, 1:16 a.m.,*
in response to message #13 by Katie Wasserman

I've been using my 32sii for 12 years virtually every day. It is very rare that I don't have it with me.

Not a single problem up to now and it still is in a very good shape. For me the last serious non graphing calculator HP made.

It's successors, above all the HP-35s are pure CRAP, because of design faults and bad hardware. And the worst, HP doesn't have the guts to admit that and to change something.

For the case that something goes wrong with my 32sii I still have 5 brand new in the box, which I bought for less than $80 a piece. That stock should be sufficient for my lifetime ;) (currently I am 32).

Re: HP-32Sii

*Message #15 Posted by **Martin Pinckney** on 17 June 2010, 8:54 a.m.,*
in response to message #14 by Patrick Rendulic

> Quote:
>
> For the case that something goes wrong with my 32sii I still have 5 brand new in the box, which I bought for less than $80 a piece. That stock should be sufficient for my lifetime ;) (currently I am 32).

Yes, I think you have it covered. Don't know how long you plan to live, but let's assume 92 is a good number. That's 92 <Enter> 32 - 5 ÷ years apiece, not counting the one still in service. Perhaps someone on here has computed the MTF for a 32sii, but I feel confident it is > 12 years.

Of course to be accurate we would have to know if yours are Singapore or Indonesia, and what the

difference in MTF for these is.

Come to think of it, we would also have to know from your family history, your own MTF.

Perhaps someone can write a calculator program for this? {:-)

Re: HP-32Sii

*Message #16 Posted by **Frank Rottgardt** on 17 June 2010, 12:23 p.m.,*
in response to message #15 by Martin Pinckney

> Quote:
>
> Yes, I think you have it covered. Don't know how long you plan to live, but let's assume 92 is a good number. That's 92 <Enter> 32 - 5 ÷ years apiece, not counting the one still in service. Perhaps someone on here has computed the MTF for a 32sii, but I feel confident it is > 12 years.

I think the problem is that electronics do age even when not used. So maybe one will end up after 30 yrs with all spare calculators in bad condition, so to say "new crap in box" I always think to myself the best way to honour these HP folks who developed such calculators is to use em daily, what is what I do.

I own a swedish made mechanical calculator "Original Odhner" from 1925. What a beauty under the hood. Handmade parts in bronze. It works like a charme and I bet these quality calculators can easily get 150 yrs old without any problems at all. No need for spare calculators here :-)

Re: HP-32Sii

*Message #17 Posted by **Keith Midson** on 17 June 2010, 4:41 a.m.,*
in response to message #13 by Katie Wasserman

I agree with Katie, I have all Pioneer models (and pretty much every other HP calc ever made!) and the 32Sii is one of my favourites. I have 3 x 32Sii's - the only one i'm not overly happy with is the green/purple version made in Indonesia - the quality isn't as nice as the Singapore version.
I *love* the 42S, but for quick calculations it is hard to beat the 32Sii as all the functions are easy to find. And as someone else rightly pointed out, the 32Sii was a mid-range calculator - the 42S is far more powerful and an amazing machine for lots of other reasons.
I actually don't mind the 35S, but it's size in its cover is an issue for me as it doesn't fit into my jacket pocket!
Cheers, Keith

Edited: 17 June 2010, 4:42 a.m.

Re: HP-32Sii

*Message #18 Posted by **LMMT** on 17 June 2010, 9:08 a.m.,*
in response to message #1 by jweisskohl

Without any doubt you are free to buy whatever you want but I would not pay 175 $ for a second hand machine if you want it for daily use. You can buy at a cheaper price an HP 49 GII: its big screen, endless stack, amount of menus and functions and its connectivity should be a better option.

Re: HP-32Sii

*Message #19 Posted by **Bart (UK)** on 17 June 2010, 9:30 a.m.,*
in response to message #18 by LMMT

> Quote:
>
> You can buy at a cheaper price an HP 49 GII

But it doesn't beat the 32S* (or any Pioneer) for pocketability. I don't think HP currently has anything on offer to match the Pioneers. The 10S just doesn't look the part and the 300s & 35s are just that bit bigger. The Pioneers were perfect "pocket calculators".

Re: HP-32Sii

*Message #20 Posted by **Martin Pinckney** on 17 June 2010, 11:35 a.m.,*
in response to message #19 by Bart (UK)

> Quote:
>
> The Pioneers were perfect "pocket calculators".

And so many different models to suit everyone's needs. Perhaps HP is headed in that direction again with the 20b/30b series.

Re: HP-32Sii

*Message #21 Posted by **Katie Wasserman** on 17 June 2010, 12:23 p.m.,*
in response to message #20 by Martin Pinckney

> Quote:
>
> And so many different models to suit everyone's needs. Perhaps HP is headed in that direction again with the 20b/30b series.

Interesting thought, but it looks to me like it's more of an all-in-one approach in that the 30b does everything the 20b does and a whole lot more. Also, the 30b has a lot of scientific functionality for a business calculator. However, the form factor is obviously taken from the Pioneer series, the key layout is nearly identical and the outer dimensions are within a couple of millimeters of the Pioneers.

Re: HP-32Sii

*Message #22 Posted by **Martin Pinckney** on 17 June 2010, 2:11 p.m.,*
in response to message #21 by Katie Wasserman

> Quote:
>
> ... the form factor is obviously taken from the Pioneer series, the key layout is nearly identical and the outer dimensions are within a couple of millimeters of the Pioneers.

Yes, with updated styling. And HP has already produced two models in this form factor. Can't say that about 33s, 35s, 17bii+.

Re: HP-32Sii

*Message #23 Posted by **Thomas Radtke** on 17 June 2010, 2:54 p.m.,*
in response to message #22 by Martin Pinckney

> Quote:
>
> Yes, with updated styling. And HP has already produced two models in this form factor.

Unfortunately, yes. The bevelled edges make this models quite wobbly. It is interesting that HP repeated this mistake with the 30b. Usuallay, they introduce a *new* problem with each calculator.

Both approaches (keeping a bad design and replacing a bad design by another bad design) are hard to understand. One would think that a "design evolution" as a third approach would be far more superior. It should reduce necessary investments and should lead to designs of increasing quality/usability. HP never used it in a notable manner, not even in the good old days (the Woodstock - Spice transition comes to mind).

But this thread is about a Pioneer calculator (sorry for hijacking it for my little rant). Whoever designed it, he created the best series of calculators of all times, with the 32SII on top of all others due to display and programming (as Katie already mentioned).

Re: HP-32Sii

*Message #24 Posted by **Andrés C. Rodríguez (Argentina)** on 17 June 2010, 3:35 p.m.,*
in response to message #22 by Martin Pinckney

Well, 17BII+ Silver is rather Pioneer-like (size, layout display). Of course, 33S and 35S are not.

Re: HP-32Sii

*Message #25 Posted by **Bart (UK)** on 18 June 2010, 4:51 a.m.,*
in response to message #21 by Katie Wasserman

OK, if we're including financial calculators, the new 10bii is a nice form factor. It's compact and has a contoured soft slip on cover like the pioneers, unlike the bulky 35s zipper (or even the 33s cover, which although it's "slip-on" it adds about 1cm to the dimentions). It also looks nice with the dark body and silver bezel on the top.

Re: HP-32Sii

*Message #26 Posted by **Katie Wasserman** on 18 June 2010, 11:15 a.m.,*
in response to message #25 by Bart (UK)

I agree, I like the form of the 10bii quite a lot, much more than the 20b/30b. It just needs an RPN option and an double-wide ENTER key somewhere to make it one of the great HP calculators.

Re: HP-32Sii

*Message #27 Posted by **Bart (UK)** on 18 June 2010, 5:12 p.m.,*

in response to message #26 by Katie Wasserman

> Quote:
>
> It just needs an RPN option and an double-wide ENTER key somewhere to make it one of the great HP calculators.

And a scientific version....but I think we're into wishful thinking territory here :(

Re: HP-32Sii

*Message #28 Posted by **megarat** on 18 June 2010, 12:50 p.m.,*
in response to message #19 by Bart (UK)

And there is also the joy of using a calculator that you really appreciate the design, build, functionality, and feel of. $200 might seem like a lot for the up-front cost of a calculator, especially one that is 10-15 years old, but amortize that over the 5-10+ (or more) years of using it. It's totally worth it, at least in my humble opinion.

Re: HP-32Sii

*Message #29 Posted by **Martin Pinckney** on 17 June 2010, 4:21 p.m.,*
in response to message #1 by jweisskohl

I gotta think that newcomers like Jerry must marvel at the long threads of (sometimes) argumentative responses received from a relatively innocent original post.

Or did you intend to spark a discussion, ... Jerry?

Re: HP-32Sii

*Message #30 Posted by **Don Shepherd** on 17 June 2010, 6:09 p.m.,*
in response to message #29 by Martin Pinckney

I agree Martin, such a variety of responses from those who like it and don't like it. A couple of observations on this thread:

> Quote:
>
> 32sii is currently the most in-demand "obsolete" model

> Quote:
>
> The HP42S is THE most sought after RPN calculator on sites such as ebay.

Is there any scientific evidence to support either claim, or are these maybe just opinions of the respective authors?

Re: HP-32Sii

*Message #31 Posted by **Allen** on 17 June 2010, 7:58 p.m.,*
in response to message #30 by Don Shepherd

Don, I think you make a good point. Although I suspect the long and short term price trends are

slightly higher for the HP-42s, ebay is not a perfect supply/demand environment, and that 10-20% average margin may or may not equate to "higher demand". A collector-quality 42s will generally sell for more than a collector quality 32sii, I think because the 42s is slightly harder to find in fine condition- which may also drive the price up for the really nice ones.

I also suspect there were far fewer 42s calculators made, perhaps as many as three or four 32sii's for every 42s that came off the HP line.

Re: HP-32Sii

*Message #32 Posted by **bill platt** on 17 June 2010, 9:44 p.m.,*
in response to message #31 by Allen

I would bet the ratio is more like 10 or 20 more 32sii than 42s!

the 42s was discontinued pretty quickly. The 32sii kept going right up into the new millennium--and it had the distinction of being the last scientific RPN machine on the market--for quite a long time.

Maybe the ratio was 4:1 while they were concurrent, but not in the long haul.

Edited: 17 June 2010, 9:45 p.m.

Re: HP-32Sii

*Message #33 Posted by **megarat** on 17 June 2010, 7:58 p.m.,*
in response to message #30 by Don Shepherd

> Quote:
>
> Is there any scientific evidence to support either claim, or are these maybe just opinions of the respective authors?

And what does "in-demand" and "sought after" mean? To me they mean number of people that are looking for such items, not the prices they go for. In which case neither of those claims might be true.

Re: HP-32Sii

*Message #34 Posted by **Martin Pinckney** on 18 June 2010, 9:51 a.m.,*
in response to message #30 by Don Shepherd

> Quote:
>
> Is there any scientific evidence to support either claim, or are these maybe just opinions of the respective authors?

Surely such claims are subjective, but even so, not without merit.

Anyway, how would you set up a "scientific" study of such questions. No. of bidders? No. of bidders per auction occurrence? Price range from starting bid to final? Number of watchers? Some combination of above? Perhaps someone could write a test algorithm and program it into their 32sii/42s. {:-)

From reading the news, it seem even the scientists don't know what scientific evidence is these days.

Re: HP-32Sii

*Message #35 Posted by **Don Shepherd** on 18 June 2010, 10:36 a.m.,*
in response to message #34 by Martin Pinckney

Oh, I'd say they are without merit.

When someone makes a claim like "the HP-15c is the most desired calculator among collectors" and doesn't cite any verifiable evidence to back it up, the claim is without merit; it's just one's opinion. Now, opinions are fine, we all have them (just look at this forum!). But to state a "fact" without saying it is one's opinion is, well, I don't know the right word to use, but it just strikes me as wrong.

You are right, there are countless ways to study Ebay sales and auctions and arrive at statistics, and if one wants to do that and show how they arrived at a "fact," then fine, do it; readers can determine for themselves how valid they believe the results to be based upon the method used.

Facts, without cited supporting evidence, are just opinions and should be identified as such.

That's my "opinion"!!

Re: HP-32Sii

*Message #36 Posted by **Martin Pinckney** on 18 June 2010, 2:43 p.m.,*
in response to message #35 by Don Shepherd

Don, perhaps I should have said "not *totally* without merit".

Yes they are opinions, and should be stated as such. Nevertheless, it *should* be somewhat obvious to anyone who tracks these calculators on eB** that both the 32sii and 42s are in high demand, at least most of the time. It's definitely a stretch to say either are the *highest* demand, without some data to back it up. So the statement is partially true, hence not *totally* without merit.

My opinion, of course.

Re: HP-32Sii

*Message #37 Posted by **Don Shepherd** on 18 June 2010, 3:22 p.m.,*
in response to message #36 by Martin Pinckney

Agreed. And, really, all the old HP calcs get a lot of interest, which speaks to their great workmanship I'd say. There aren't many things that old that still work! I got a 65 about 3 or 4 years ago and it is one of my favorite calcs, and my students love those flashing LEDs when a program is running.

Re: HP-32Sii

*Message #38 Posted by **jweisskohl** on 21 June 2010, 8:07 a.m.,*
in response to message #29 by Martin Pinckney

I wanted to thank everyone for the replies. I appreciate all the responses. I have now had a chance to use the HP-32sii and also have spent considerable time trying out the HP-42s, which is also a very impressive calculator with all the Functions available, albeit a difference interface with the menus. I'm not sure how I feel about the menus, they are not bad but I see they are necessary with all the functionality the 42 has.

You probably just need some time to get comfortable with them.

I have plans to go get my Doctorate in Computer Science and find that I need to take the GRE's as part of the entrance requirements. I work as a computer programmer (actually, now in management so I am no longer hands-on) but it's been about 15 or more years since I have used any of the math that are on the GRE's. I'm more than a bit rusty. So my immediate goal is to get back up to speed with the help of a Scientific Calculator, therefore, I picked up the HP-32sii. I'm also looking for a good review book.

I really like the HP-32. The display is nice and big and it certainly appears to have the functions that I will need. I work with computers all day and don't like turning one on in the evening, unless I need to find something on the Web and read email. The Hp-32sii is light enough to carry around and turns on and responds quickly. My computer takes 5 - 10 minutes from boot time before it quiets down and is fully usable.

I know that the trend is now towards computers and was a bit disappointed to see that many of the more capable HP calculators have been retired. This HP-32sii I hold in my hands looks extremely durable and I am hoping it will last me through my doctorate program.

Jerry Weisskohl

Re: HP-32Sii

Message #39 Posted by ***Katie Wasserman*** *on 21 June 2010, 10:30 a.m.,*
in response to message #38 by jweisskohl

Jerry,

The 32sii is a good choice and I'm sure will keep going long enough for you to complete your thesis and get your PhD. I used a brand new HP-11C and later an HP-16c to get me though grad school in CS, they're both still going strong.

-Katie

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Msg to Vieira, Luiz C

*Message #1 Posted by **Jean-Michel** on 15 June 2010, 3:20 p.m.*

Hello Luiz,

in case you did not receive my mails, could you please contact me at:
jms (dot) lecointre (at) wanadoo (dot) fr ?
Thanks.
Kind regards.

JM.

You have mail (hopefuly)

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 15 June 2010, 4:10 p.m.,*
in response to message #1 by Jean-Michel

n.t.

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41 SWAP disk documentation?

*Message #1 Posted by **Ángel Martin** on 15 June 2010, 1:46 p.m.*

I'm looking for documentation on a couple of programs included on the 41SWAP disk (see TOS). In particular the games DOMINO and BJ (blackjack), any ideas on where to look?

Cheers, "AM

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Re: Hoping my 41CX Found a good home

*Message #1 Posted by **Norman Dziedzic** on 15 June 2010, 12:42 p.m.*

```
>Message #5 Posted by Dan W on 18 Nov 2009, 6:43 p.m.,
>in response to message #4 by Egan Ford

>Do you have a record of the serial number? Who knows, maybe someone >here has it.
```

I Finally found my old pictures from when I sold my 41CX.

S/N: 2825S20268

Hopefully this link works to the pictures:
Pictures of 41CX 2825S20268

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Another auction to lust over

*Message #1 Posted by **Michael de Estrada** on 14 June 2010, 7:38 p.m.*

I want you so much

Re: Another auction to lust over

*Message #2 Posted by **Egan Ford** on 14 June 2010, 9:24 p.m.,*
in response to message #1 by Michael de Estrada

Ahhhh, the 70's artwork.

GASP! (n.t.)

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 14 June 2010, 10:31 p.m.,*
in response to message #1 by Michael de Estrada

...

Re: Another auction to lust over - HP 27

*Message #4 Posted by **John Stark** on 15 June 2010, 10:41 a.m.,*
in response to message #1 by Michael de Estrada

HP-27 always made sense - still does.

30B is modern reinterpretation of the same idea; it is a shame that HP is not strongly promoting this model.

My $0.02

John Stark

Re: Another auction to lust over - HP 27

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 15 June 2010, 10:46 a.m.,*
in response to message #4 by John Stark

Hi;

there is also the HP27S, a remarkable Pioneer.

My 2¢.

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Another auction to lust over

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Newbie w/ Relay Actuator on HP-IL with 71B

*Message #1 Posted by **Miles Willmek** on 13 June 2010, 12:07 p.m.*

I have been trying trial and error to figure out commands to control an Air Therm ATC-0010 relay device connected by HP-IL to my 71B. I have searched the web but can't find any documentation. Does anybody have any experience with this device or something similar?

It is the only other device on the loop. RESTOREIO is successful and DEVID$(1) returns "HP82166A". I have tried sending some strings like OUTPUT:1,"A1" and the device seems to respond, but not as expected (channels 2 + 4 seem to come on whatever i send). ENTER:1,A$ always just times out.

I would appreciate some pointers to get me started.

Re: Newbie w/ Relay Actuator on HP-IL with 71B

*Message #2 Posted by **DavidShenk** on 13 June 2010, 12:31 p.m.,*
in response to message #1 by Miles Willmek

I've been curious about these myself. I hope someone has some info about them.

Dave

Re: Newbie w/ Relay Actuator on HP-IL with 71B

*Message #3 Posted by **Garth Wilson** on 13 June 2010, 5:38 p.m.,*
in response to message #1 by Miles Willmek

> Quote:
>
> I have tried sending some strings like OUTPUT:1,"A1" and the device seems to respond, but not as expected

I'm not familiar with the 82166, but I suspect you might need an actual string, like A1$, not A1. I've done a lot of equipment control with HPIL and never had any problems when I just followed the manuals. As I remember though, it always had to be an actual string.

Re: Newbie w/ Relay Actuator on HP-IL with 71B

*Message #4 Posted by **Garth Wilson** on 13 June 2010, 11:06 p.m.,*
in response to message #3 by Garth Wilson

Correction: my apologies-- I guess I was in too big of a hurry. I missed the quotes and thought you were sending numeric *variable* A1.

Re: Newbie w/ Relay Actuator on HP-IL with 71B

*Message #5 Posted by **Raymund Heuvel** on 13 June 2010, 9:15 p.m.,*
in response to message #1 by Miles Willmek

```
You could try:


Assuming HP82166A is #1 in the loop:


RESET HPIL                       // Optional
RESTORE IO                       //
SEND IFC UNL UNT LISTEN 1        // Resets devices on the loop, makes HP82166A a listener
OUTPUT 1;CHR$(161)              // THIS IS HEX A1 !


Br


Ray
```

Re: Newbie w/ Relay Actuator on HP-IL with 71B

*Message #6 Posted by **Miles Willmek** on 15 June 2010, 9:18 a.m.,*
in response to message #5 by Raymund Heuvel

Thanks, for the responses guys.

I still am not having any luck getting a consistent response.

I looked HP2166A and it is apparently an embedded HP-IL to HP-IB interface. So I think I need to put one side or the other on some kind of pass thru mode.

I know some information is going through to the relay, but how do I ensure I am talking to the device and not the interpreter?

Re: Newbie w/ Relay Actuator on HP-IL with 71B

*Message #7 Posted by **Garth Wilson** on 15 June 2010, 1:49 p.m.,*
in response to message #6 by Miles Willmek

> Quote:
>
> I looked HP2166A and it is apparently an embedded HP-IL to HP-IB interface. So I think I need to put one side or the other on some kind of pass thru mode.

The HPIL-to-HPIB interface converter is the 82169A which I have used a lot. For most things, it is transparent, meaning the HPIB devices appear as though they were on the HPIL. It does have a mailbox mode, but it sounds like what you're looking for is better addressed in the next question:

> Quote:
>
> I know some information is going through to the relay, but how do I ensure I am talking to the device and not the interpreter?

Without being familiar with the '166A, I suspect REMOTE will make the device interpret the stuff you send as commands, and LOCAL will make it pass it on as data to whatever equipment is on the other side.

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HP 30b pdf manual

*Message #1 Posted by **hpnut** on 13 June 2010, 10:35 a.m.*

To: Gene Wright

In your review of the 30b in the HPCC site http://www.hpcc.org/ you mentioned "A larger PDF manual is available online as well as"

Please tell me where to find this at the HP site. I found only the learning modules.

Thanks

Re: HP 30b pdf manual

*Message #2 Posted by **gene wright** on 13 June 2010, 11:47 a.m.,*
in response to message #1 by hpnut

You know, I have no idea. The HP website is often a mystery to me and even learning modules come and go randomly sometimes.

I believe they deleted the updated learning modules for the HP 17bII+ a while ago and substituted the ones from 6 years earlier. Go figure.

I have a copy... Email me and magic may occur. :-)

Re: HP 30b pdf manual

*Message #3 Posted by **gene wright** on 13 June 2010, 3:28 p.m.,*
in response to message #2 by gene wright

Magic has occurred for 4 of you.

Re: HP 30b pdf manual

*Message #4 Posted by **jweisskohl** on 14 June 2010, 12:09 p.m.,*
in response to message #2 by gene wright

Gene, I too just purchased an HP-30b and can't locate the PDF manual. After searching the HP site I went as far as calling HP Support Help Line. The representative told me that he has no idea when the manual is expected to be posted.

Would it be possible for you to email it to me? It would be very helpful to have the manual as there are many features I have no idea how to use.

Thank you in advance.

Jerry Weisskohl

Re: HP 30b pdf manual

*Message #5 Posted by **Tim Wessman** on 14 June 2010, 1:05 p.m.,*
in response to message #4 by jweisskohl

ftp://hp2030ma:Waxlike3@ftp.usa.hp.com/

Direct Link

TW

Edited: 14 June 2010, 1:06 p.m.

Re: HP 30b pdf manual

*Message #6 Posted by **jweisskohl** on 14 June 2010, 1:18 p.m.,*
in response to message #5 by Tim Wessman

Thank you! Much Appreciated.

Jerry

Re: HP 30b pdf manual

*Message #7 Posted by **Philip Solosky** on 18 June 2010, 2:04 p.m.,*
in response to message #2 by gene wright

Hi Gene, I just received my HP30b and would like if you could also send me some magic (PDF manual) to psolosky@cnm.edu. Thank you.

Re: HP 30b pdf manual

*Message #8 Posted by **Tim Wessman** on 18 June 2010, 4:50 p.m.,*
in response to message #7 by Philip Solosky

See the message I posted up 2.

TW

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Excellent purchase! (not mine, what a pity)

*Message #1 Posted by **Gonzalo Fernandez (Spain)** on 13 June 2010, 6:11 a.m.*

See http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=260615657091

Re: Excellent purchase! (not mine, what a pity)

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 13 June 2010, 10:01 a.m.,*
in response to message #1 by Gonzalo Fernandez (Spain)

And it is a `serviceable` coconut... The CX of my dreams!

Cheers.

Luiz (Brazil...)

Re: Excellent purchase! (not mine, what a pity)

*Message #3 Posted by **DavidShenk** on 13 June 2010, 11:30 a.m.,*
in response to message #1 by Gonzalo Fernandez (Spain)

No, not quite. I was watching this auction and I know it was ended early, though it really does not say that anywhere. To end an auction early, you have to give a reason, so that really should be displayed somewhere on the page. I think the seller must have realized that the included PPC ROM module should have been listed separately and so he ended the auction to do that.

Dave

Re: Excellent purchase! (not mine, what a pity)

*Message #4 Posted by **Juergen Keller** on 14 June 2010, 5:07 p.m.,*
in response to message #3 by DavidShenk

Or probably he got a BIN offer and couldn't resist ...

Re: Excellent purchase! (not mine, what a pity)

*Message #5 Posted by **DavidShenk** on 14 June 2010, 6:15 p.m.,*
in response to message #4 by Juergen Keller

That could be, I didn't think of that. I don't ever do that, so I forget that there could be things going on "under the table".

Dave

Re: Excellent purchase! (not mine, what a pity)

*Message #6 Posted by **ron g.** on 20 June 2010, 12:20 a.m.,*
in response to message #3 by DavidShenk

Look at the bids page. It ended after six days.

Edited: 20 June 2010, 2:45 a.m.

Re: Excellent purchase! (not mine, what a pity)

*Message #7 Posted by **Jim L (OHIO)** on 21 June 2010, 11:00 p.m.,*
in response to message #1 by Gonzalo Fernandez (Spain)

Well, I never saw this auction; with a PPC ROM and all. But--I was successful (in my 1st ever eBay attempt) in getting a 41CX with an Advantage Module for $275, and I'm happy with that. Especially considering I was foolish enough to have gotten rid of an early HP-41C, Finance, Statistics, Mechanics, Statics, and Memory modules back in the late '80s. And the Wickes Synthetic Programming book too.

Guess I'm trying to recreate that era, and since the $275 I just paid for a 41CX is less than the $395 I paid for the 41C plus inflation, I think I'm not doing too bad so far.

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HP 12c Platinum

*Message #1 Posted by **Joe Burwell** on 12 June 2010, 10:07 a.m.*

For the first time I have seen the new HP 12c Platinum. The model that has the 2 batteries. I saw it at Office Max in the Atlanta area. Just like the new HP12c you have to look at the battery compartment through the package to tell it is the new model.

Re: HP 12c Platinum

*Message #2 Posted by **Katie Wasserman** on 12 June 2010, 11:54 a.m.,*
in response to message #1 by Joe Burwell

Joe,

Are you saying that HP as a redesigned 12C Platinum that uses 2 CR2032 cells to power an ARM-based CPU? Furthermore that they're doing a soft roll-out of it like they did with the 12C+. If so, that's news to me, did I miss some discussion on this?

-Katie

Edited: 12 June 2010, 11:58 a.m.

Re: HP 12c Platinum

*Message #3 Posted by **Tim Wessman** on 12 June 2010, 12:46 p.m.,*
in response to message #2 by Katie Wasserman

Would be news to me too. . .

TW

Re: HP 12c Platinum

*Message #4 Posted by **Joe Burwell** on 12 June 2010, 4:13 p.m.,*
in response to message #2 by Katie Wasserman

Katie,

That is certainly what it looks like. I am a financial calculator junkie so I bought it. It does have the two batteries. Concerning the ARM-based CPU that is beyond my knowledge. I am just a financial planner and I love RPN calculators and financial calculators in general. I do a little programing on the calculator but nothing like the kind of stuff ya"ll do.

Joe

Re: HP 12c Platinum

*Message #5 Posted by **Don Shepherd** on 12 June 2010, 5:01 p.m.,*
in response to message #4 by Joe Burwell

Joe, I think Katie is questioning whether what you bought is a "platinum." 12c platinums have a silver faceplate; regular 12c's, including the new ARM-based 12c+ with the two CR2032's, have a gold faceplate. If the faceplate on the unit you just bought is gold, it is not a "platinum", it is the ARM-based 12c+ and you will find that it is extremely fast.

Re: HP 12c Platinum

*Message #6 Posted by **Joe Burwell** on 12 June 2010, 7:36 p.m.,*
in response to message #5 by Don Shepherd

Don,

No question it is the platinum. I also have the 25th anniversary edition of the platinum and a regular platinum model with the one battery. Is this new model faster, I don't know. The platinum models have always been fast unlike the older 12c gold models.

Joe

Re: HP 12c Platinum

*Message #7 Posted by **Martin Pinckney** on 12 June 2010, 8:56 p.m.,*
in response to message #6 by Joe Burwell

> Quote:
>
> No question it is the platinum.

Wow, this is interesting. Try reconciling this post with #3 above...

Re: HP 12c Platinum

*Message #8 Posted by **Joe Burwell** on 12 June 2010, 9:33 p.m.,*
in response to message #7 by Martin Pinckney

I don't know what to tell you. I collect HP 12c models. I have calculators going back to the 1980's, at least one from each county they were made in. It is easy to tell the platinum from the gold 12c model. The platinum model actual has Platinum written out on the silver trim. Maybe someone from HP will jump in with info.

Re: HP 12c Platinum

*Message #9 Posted by **Don Shepherd** on 12 June 2010, 9:37 p.m.,*
in response to message #8 by Joe Burwell

Joe, how about a picture, including the inside of the battery compartment? If this is a new ARM-based unit, we need to do some benchmarks!

Don

Re: HP 12c Platinum

*Message #10 Posted by **Gene Wright** on 12 June 2010, 10:31 p.m.,*
in response to message #9 by Don Shepherd

Don, note the comment by Tim. I figure he will know and he's not aware of a new ARM unit in Platinum.

Not worth getting worked up over.

Re: HP 12c Platinum

*Message #11 Posted by **Don Shepherd** on 12 June 2010, 10:55 p.m.,*
in response to message #10 by Gene Wright

Well, the fellow says it is definitely a platinum with two batteries. Was the platinum ever sold in the past with two batteries?

Re: HP 12c Platinum

*Message #12 Posted by **Katie Wasserman** on 13 June 2010, 2:44 a.m.,*
in response to message #11 by Don Shepherd

Don,

Not according to this battery chart from HP

-Katie

Re: HP 12c Platinum

*Message #13 Posted by **Joe Burwell** on 13 June 2010, 8:51 a.m.,*
in response to message #9 by Don Shepherd

Don,

Thanks for at least giving me the benefit of the doubt and asking for pictures. I thought everyone would be interested in my find. Man oh man the negative waves and from some of my favorite people. I don't know why Tim does not know about it or why it is not on the HP battery chart.

I have taken pictures of the package, the front, and the back but I don't know how to get them into this message box. I have tried dragging them over but that does not work or at least I can not open them after I do that. I am use to e-mail where you attach the file. If someone will let me know how to get the photos into this message box I will be glad to post them. I use an Apple, which is new to me, so I don't know if that makes a difference.

O yes the calculator also comes with a CD.

Joe

Re: HP 12c Platinum

*Message #14 Posted by **gene wright** on 13 June 2010, 9:59 a.m.,*
in response to message #13 by Joe Burwell

Joe, the reason I am skeptical is entirely because of Tim. :-)

He and Cyrille will know about any and all new HP models and if Tim doesn't know about it, then I'm 99.99% sure it don't float. At the same time, I'm not trying to be ugly toward you. Not at all. :-)

Feel free to email the pictures to me and I will post them.

genewright143@hotmail.com

Re: HP 12c Platinum

*Message #15 Posted by **Joe Burwell** on 13 June 2010, 10:07 a.m.,*
in response to message #14 by gene wright

Thanks. I just e-mailed the photos.

Joe

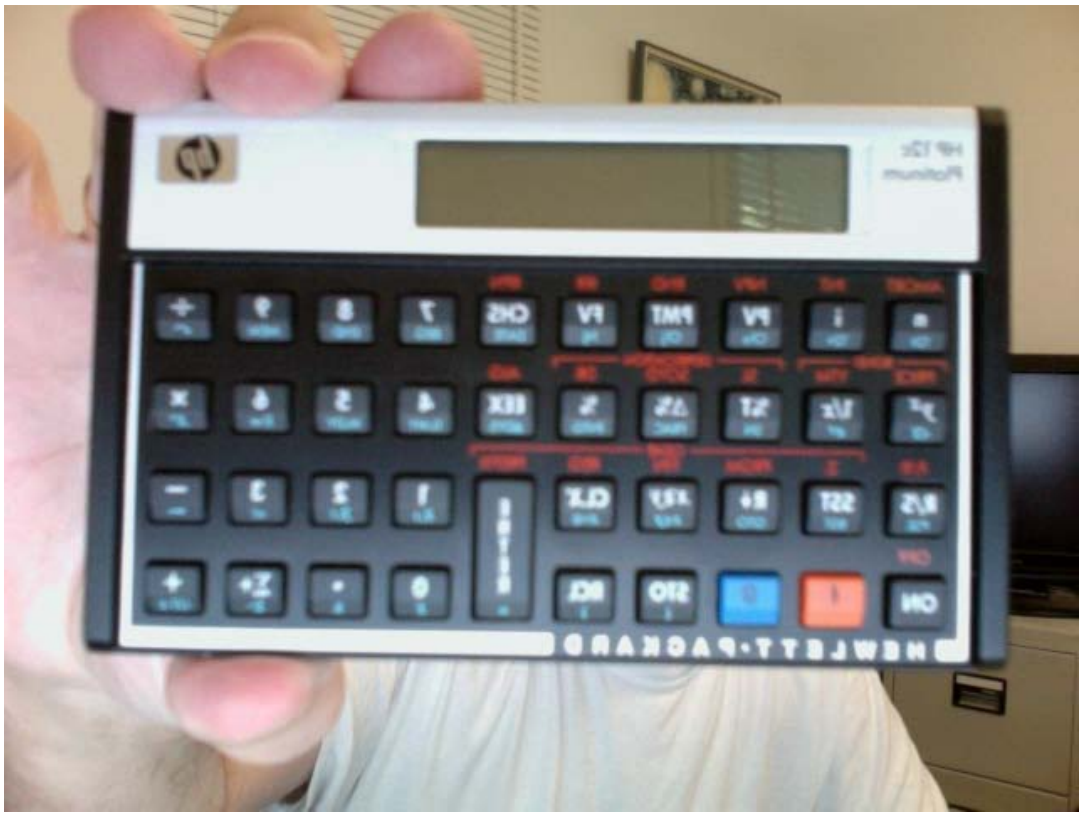
Re: HP 12c Platinum ... here are the pics ... Hmm... :-)

*Message #16 Posted by **gene wright** on 13 June 2010, 10:19 a.m.,*
in response to message #15 by Joe Burwell

Sorry Joe... my apologies. Now a loop test of + GTO 01 to test the speed is in order.

Consider this a public Oops! :-)

12c PLATINUM
FINANCIAL CALCULATOR



Re: HP 12c Platinum ... here are the pics ... Hmm... :-)
*Message #17 Posted by **Joe Burwell** on 13 June 2010, 10:33 a.m.,*
in response to message #16 by gene wright

Gene,

Thanks again for helping me with this. If you let me know how to do the loop test I will give it a try.

Joe

Re: HP 12c Platinum ... here are the pics ... Hmm... :-)
*Message #18 Posted by **gene wright** on 13 June 2010, 11:40 a.m.,*
in response to message #17 by Joe Burwell

Here's what to do for the loop test.

Press:

```
shift P/R
shift CLPRGM
+
shift GTO 001
shift P/R


1 ENTER ENTER ENTER ENTER CLX


shift GTO 000
```

R/S and let it run for 60 seconds. The number in the display is the important one.

Re: HP 12c Platinum ... here are the pics ... Hmm... :-)
*Message #19 Posted by **Joe Burwell** on 13 June 2010, 12:49 p.m.,*
in response to message #18 by gene wright

Gene,

When I let it run for 60 seconds and stop it by pressing the R/S key the number in the display is 1,402.

Joe

Re: HP 12c Platinum ... here are the pics ... Hmm... :-)

*Message #20 Posted by **megarat** on 13 June 2010, 5:23 p.m.,*
in response to message #19 by Joe Burwell

That's about what I get (1415) on my one-battery bog-standard 12cp.

Re: HP 12c Platinum ... here are the pics ... Hmm... :-)

*Message #21 Posted by **Mike Morrow** on 13 June 2010, 12:56 p.m.,*
in response to message #16 by gene wright

I'd have bought one of these, based only on everything being mirror-image of the standard HP-12. :-)

Re: HP 12c Platinum

*Message #22 Posted by **Tim Wessman** on 13 June 2010, 11:20 a.m.,*
in response to message #14 by gene wright

It was mainly the implication that it is now an ARM processor that would be news to me. The platinum was done long before I showed up, but I definitely know it isn't running the same chip as the 20/30.

I know there was the original silvery one that had a few issues, such as having forgotten parenthesis and so on. When it was changed to black did it sprout another battery? There was also a 25th anniversary one if I remember correctly. Was that when it gained another battery?

As a side note, should we ever get to go back to the 12cp, are there any known issues with the current one, or additions/changes anybody thinks should happen?

TW

Re: HP 12c Platinum

*Message #23 Posted by **Don Shepherd** on 13 June 2010, 11:36 a.m.,*
in response to message #22 by Tim Wessman

My 25th Anniversary edition of the 12c platinum has a single 2032. From the picture of the battery compartment furnished by Joe, I don't see the little 6 pin connector that is associated with the ARM. This two-battery version is interesting. Thanks Joe.

Re: HP 12c Platinum

*Message #24 Posted by **gene wright** on 13 June 2010, 11:41 a.m.,*
in response to message #23 by Don Shepherd

The 25th anniversary edition became the default 12c platinum once the 25th anniversary units ran out, I think.

So, sadly, it isn't an ARM unit, but a slight mod. :-)

Re: HP 12c Platinum

*Message #25 Posted by **Joe Burwell** on 13 June 2010, 11:40 a.m.,*
in response to message #22 by Tim Wessman

Tim,

This is what I remember of my purchases of the platinum. The very first one was completely silver and had a very cheap feel to it. I did not like it, rarely used it, and am not sure if I still

have it. Then later when the 25th anniversary model came out and I purchased it. It just has one battery. Later a platinum model came out that looked like the 25 anniversary model but without 25th Anniversary Edition on the face plate. Again this model has just one battery. Then last week the new platinum with the two batteries.

I like collecting calculators, financial calculators. There are 10 office supply stores within about 35 miles of my home. I regularly check out what is in the stores just to see if there is something new. I know it is a little odd but as my wife says at least it is not blondes or red sports cars that interests me.

Joe

Re: HP 12c Platinum

*Message #26 Posted by **Tim Wessman** on 13 June 2010, 11:44 a.m.,*
in response to message #25 by Joe Burwell

My pure *guess* then would be that the same mold used for the ARM 12c body is now being used for the 12cp. That one has two batteries, so rather than have two sets of different parts, it was standardized on the one mold.

TW

Re: HP 12c Platinum

*Message #27 Posted by **Katie Wasserman** on 13 June 2010, 1:02 p.m.,*
in response to message #26 by Tim Wessman

Tim,

This is an interesting statement. Does that mean that once calculators are in production they are no longer in your hands as far as management goes? Adding a 2nd battery and likely a correspondingly changed circuit board I think would at least need some testing and certainly a manual change about the battery configuration.

-Katie

Edited: 13 June 2010, 1:02 p.m.

Re: HP 12c Platinum

*Message #28 Posted by **Tim Wessman** on 13 June 2010, 1:57 p.m.,*
in response to message #27 by Katie Wasserman

I don't think it is SOP anywhere that R&D is also in charge of manufacturing operations. The only time I'd expect R&D to be involved in any organization is if there is a problem with something that isn't a manufacturing type problem (plastic warpage, bad components, etc), or if changes are made.

TW

Re: HP 12c Platinum

*Message #29 Posted by **Katie Wasserman** on 13 June 2010, 3:00 p.m.,*
in response to message #28 by Tim Wessman

Of course, but doens't a circuit board of this type constitute development/change. There's at least a decent chance that adding a 2nd battery could affect the low battery indication function, for example.

I'm not at all trying to be critical, just trying to understand how HP manages its calculator group. How much of the responsibility lies in the US verses with manufacturing in China?

-Katie

Edited: 13 June 2010, 3:01 p.m.

Re: HP 12c Platinum

*Message #30 Posted by **Tim Wessman** on 13 June 2010, 7:49 p.m.,*
in response to message #29 by Katie Wasserman

Just out of curiosity, do both batteries power it Joe? Or is there one that isn't really connected? :-)

TW

Re: HP 12c Platinum

*Message #31 Posted by **Joe Burwell** on 13 June 2010, 8:08 p.m.,*
in response to message #30 by Tim Wessman

I took out each battery one at a time and they both have metal connectors. Also, the inside of the battery cover has the following "Warning Turn off before changing batteries. Please replace batteries one at at time."

Joe

Re: HP 12c Platinum

*Message #32 Posted by **Joe Burwell** on 13 June 2010, 8:21 p.m.,*
in response to message #30 by Tim Wessman

Tim,

I put in the CD that came with it and looked at the users guide. In the section on the batteries, page 264, it indicates the platinum shipped with 2 batteries. It actually does say platinum. Further down it has a drawing of the double compartment and indicates the batteries should be replaced one at a time.

Joe

Re: HP 12c Platinum

*Message #33 Posted by **Katie Wasserman** on 13 June 2010, 1:16 p.m.,*
in response to message #13 by Joe Burwell

Joe,

I need to apologize too as much of this was my fault. I assumed that a 2nd battery would imply an ARM-processor or at least a different processor that needed more power. That would be a major change and would no doubt have resulted in a discussion here.

In any event I very much appreciate your posting this "find" and your question here. Sorry if you got some negative waves about it we're really a friendly group almost all of the time.

-Katie

Re: HP 12c Platinum

*Message #34 Posted by **Joe Burwell** on 13 June 2010, 2:00 p.m.,*
in response to message #33 by Katie Wasserman

Katie,

Thank you very much. I have a great deal of respect for you and Gene. I have picked up some great tips from both of you on this site.

Joe

Re: HP 12c Platinum

*Message #35 Posted by **gene wright** on 13 June 2010, 3:05 p.m.,*
in response to message #34 by Joe Burwell

Oh, Katie is the wizard around here.

I just wanted to dampen Don's enthusiasm :-) since Tim quickly through cold water on the ARM aspect of the find.

Re: HP 12c Platinum

*Message #36 Posted by **Katie Wasserman** on 13 June 2010, 4:42 p.m.,*
in response to message #35 by gene wright

Gene,

Thank you for the complement but the hands down title of HP-12C wizard goes to Tony Hutchins. Of course, you're the overall HP financial calculator wizard. I don't even want to speculate about who should get the title of HP scientific calculator wizard, there are many gurus here who could claim it.

-Katie

Re: HP 12c Platinum

*Message #37 Posted by **Don Shepherd** on 13 June 2010, 4:59 p.m.,*
in response to message #35 by gene wright

I have to admit that the prospect of an ARM-based 12c with 400 lines of programming space did have me salivating a bit!

:)

Re: HP 12c Platinum

*Message #38 Posted by **Jim L (OHIO)** on 21 June 2010, 11:21 p.m.,*
in response to message #4 by Joe Burwell

Okay, while I am a huge HP fan, I'm certainly no afficienado of the genre. I bought an HP-12C at a garage sale maybe 8-9 years ago. The lady didn't know what she had and asked $5 for it so I had to snap it up.

Here's my question: It has 3 A76 button batteries in it. Does that help identify what generation it is, or approximately a range of years? Any help would be appreciated. Thanks.

Re: HP 12c Platinum

*Message #39 Posted by **Bart (UK)** on 22 June 2010, 6:04 a.m.,*
in response to message #38 by Jim L (OHIO)

This would be the first genre of the HP-12C. However, there were some modifications to this too. Some forumers may be able to give you better details if you provide the first four digits and fifth letter of the serial number. (See decoding serial numbers).

You may be interested in the following link: HP Voyager Calculator Variants.

Re: HP 12c Platinum

*Message #40 Posted by **Jim L (OHIO)** on 23 June 2010, 12:38 a.m.,*
in response to message #39 by Bart (UK)

Bart, many thanks for your quick and kind response. The link to the Voyager page was most helpful. While I cannot find a S/N on the bottom of my calculator, I am satisfied that it is an earlier version, albeit year unknown. For my $5 and the value I have received from it since purchase I am very happy. Thank you again.

Re: HP 12c Platinum

*Message #41 Posted by **Vieira, Luiz C. (Brazil)** on 12 June 2010, 11:59 a.m.,*
in response to message #1 by Joe Burwell

Hi;

I also saw, in the beginning of this year, a 'regular' (at least from the outside) HP12C with two CR2032 (3.3Vcc) cells. What I am not sure is if it was a regular, golden HP12C or an HP12C Platinum. What called my attention was the fact that it did not perform the [ON][X] selftest, so I was asked about a possible failure. When I look at the back of the calculator, I saw the large cover of the battery compartment. Surprise, surprise: two cells!

Although it was here, in Brazil, I cannot tell if it was bought here.

Cheers.

Luiz (Brazil)

Edited: 12 June 2010, 12:02 p.m.

Re: HP 12c Platinum

*Message #42 Posted by **Katie Wasserman** on 12 June 2010, 1:21 p.m.,*
in response to message #41 by Vieira, Luiz C. (Brazil)

Luiz,

That would be the 12C+ (ARM-based 12C replacement that HP still calls the regular 12C) that you held in your hands. The first release of it did not implement the standard 12C self tests but that's been corrected.

-Katie

Re: HP 12c Platinum

*Message #43 Posted by **Vieira, Luiz C. (Brazil)** on 12 June 2010, 9:25 p.m.,*
in response to message #42 by Katie Wasserman

So, there`s a new breed...

Well, matter of fact, after all of this repurposing discussion, I believe that reprogramming an HP12C+ to act as an HP12C Platinum would just be a matter of available user RAM. Is it correct?

Cheers. And thanks, Katie!

Luiz (Brazil)

Re: HP 12c Platinum

*Message #44 Posted by **Katie Wasserman** on 13 June 2010, 2:36 a.m.,*
in response to message #43 by Vieira, Luiz C. (Brazil)

I'm speculating since Tim said that there is no ARM-based 12C Platinum calculator. The ARM chip used in the 12C+ (20b and 30b too) has 2K of non-volatile RAM and 128K of ROM, both of which should be more than adequate for a 12C Platinum design. However, I think it would be quite a bit of work to make the 12C+ into a 12C+ Platinum.

The 12C+ is running an emulator of the chip used in the Voyager calculators the emulator runs the ROM image from the original 12C. The 12C Platinum uses an 8502 processor chip with en entirely different code base. So the ARM chip would either have to emulate an 8502 and run the ROM image from a 12C Platinum, or would need to be re-written to run on the ARM natively. It's also possible that the 12C Platinum code was written in C and complied for the 8502 so the conversion to an ARM-based calculator might not require a complete re-write, but I suspect it would still be a lot of work.

-Katie

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HP 41 batteries

*Message #1 Posted by **Peter Creyf** on 11 June 2010, 4:49 p.m.*

Hi, I've got my HP 41 (CV) and the rechargeable batteries do not charge very well any more. There are some battery holders online (ebay), but read a thread where some handy users replaced the N-batteries with what I think are AAA batteries (I think 4 ea) and where they described having done some sanding and grinding work to make it fit. I am not adventurous to do this and am afraid to kill my battery pack altogether. (mine is a rechargeable module, so I'm guessing this person was talking to start from the non-rechargeable pack). Any suggestions, or since I am not too handy in these kind of things, is there anyone who has done this in the past (and available to do this again?) Many thanks, Peter

Re: HP 41 batteries

*Message #2 Posted by **DavidShenk** on 12 June 2010, 2:04 p.m.,*
in response to message #1 by Peter Creyf

Hi Peter,

If I were you, I would buy an N size battery holder and be done with it. For the more adventurous, you can rebuild the rechargeable packs. I did two a few months ago, but had a little trouble because the springy metal contacts in one had corroded and needed to be replaced. I have not tried, nor see, photos of a holder modified to take AAAs.

You can also sell your rechargeable pack to help pay the cost of the regular holder and let someone else work on it.

Dave

Re: HP 41 batteries

*Message #3 Posted by **Peter Creyf** on 13 June 2010, 4:44 p.m.,*
in response to message #2 by DavidShenk

Dave, Both you and Etienne (see message below) suggest the same. I was thinking in the rebuilt type because of "short" battery life. I've been working with the rechargeable ones, and these didn't last very long (any more, and I can't remember how long they lasted in the beginning). But the non-rechargeable batteries should last well enough. So I'll just buy the battery holder (I only seem to find this on eBay), and fit it with the correct size battery.

Many thanks, I do agree this is probably the easiest solution. Cheers, Peter

Re: HP 41 batteries

*Message #4 Posted by **Etienne Victoria** on 12 June 2010, 2:11 p.m.,*
in response to message #1 by Peter Creyf

Hi Peter,

- AAA rechargeable batteries will not fit: too long.

- 1/3 AAA will fit

- 1/3 AA will fit with great effort and pain but hold more power. I've done it once and the fit is extremely tight.

Therefore, if you're not absolutely comfortable doing it yourself, I suggest you get a regular battery holder and feed it with either regular N's or N-sized Nicads or NiMHs. You would have to recharge the latter externally though.

Best

Etienne

Edited: 12 June 2010, 2:11 p.m.

Re: HP 41 batteries

*Message #5 Posted by **Peter Creyf** on 13 June 2010, 4:49 p.m.,*
in response to message #4 by Etienne Victoria

Etienne, thank you to you as well. I will as explained in my response to Dave buy a battery pack and fit this with the N-Nicad batteries. Many thanks to you to Etienne. Thank you both to your support to the HP Museum forum !!! Cheers, Merci,

Peter

Re: HP 41 batteries

*Message #6 Posted by **Garth Wilson** on 13 June 2010, 5:44 p.m.,*
in response to message #5 by Peter Creyf

NiCads are 1.2V, meaning my 41's low-battery indicator would *never* go off. With alkalines, I normally got two years to a set, but it dropped to about six months when I got the double extended memory module. That's still way, way longer than it takes NiCads to self-discharge, even if they did have a high enough voltage.

Edited: 13 June 2010, 5:45 p.m.

Re: HP 41 batteries

*Message #7 Posted by **James Grenert** on 13 June 2010, 7:54 p.m.,*
in response to message #4 by Etienne Victoria

Anyone know where to buy a holder for N batteries? I'm looking for a generic holder to use for a charger, not one specific for the calculator. I can put together the charging circuit, but I would rather not try to cobble a battery holder.

Thanks! -J. P.

Re: HP 41 batteries

*Message #8 Posted by **Katie Wasserman** on 13 June 2010, 10:30 p.m.,*
in response to message #7 by James Grenert

Keystone makes them and you can order them in single quantity from Mouser, but apparently they don't normally keep these in stock.

Edited: 13 June 2010, 10:31 p.m.

Re: HP 41 batteries

*Message #9 Posted by **Katie Wasserman** on 13 June 2010, 10:51 p.m.,*
in response to message #8 by Katie Wasserman

This place has an incredible selection of battery holders, including several holders for 1, 2 or 4 N cells. They have a really lame order form page and prices too in a weird way. Batteryholders.com, of course!

Edited: 13 June 2010, 10:54 p.m.

About life expectancy of any rechargeable battery (was: HP 41 batteries)

*Message #10 Posted by **Vieira, Luiz C. (Brazil)** on 14 June 2010, 12:45 a.m.,*
in response to message #1 by Peter Creyf

Hi;

about four (maybe five) years ago I started using a pack of four Sanyo Cadnica 150mAh N-cells, and they are still working. I

have at least five working HP41´s (halfnut and coconut units), and two CX kept without batteries (the internal clock is not a good friend of rechargeable batteries...), so using disposable batteries is not an option. I also have three 82242 IR modules, three card readers and one 82153A (optical wand), and all of these guys use battery power. Using rechargeables makes perfect sense, right?

Now for the facts. The current capacity in batteries is measured in Ampere X hours, and the nominal value (e.g. 150mAh in this case) means the maximum current in one hour till the nominal voltage in the battery terminal drops to 90% (I also found 85% in some literature). So, if a NiCad, 1.2Vcc, 150mAh battery keeps a 150mA load, after one hour its terminals might be measuring about 1,08 (or 1,02 if 85% is the factor). The 150mAh pack I have still keeps an HP41CV memory contents (no modules at all) for about three to four months before the battery indicator lits.

I ended up buying a brandless Chinese pack of four NiMH 400mAh, which lasts less than double the time of the four Sanyo. I was also given twelve 190mAh Sanyo Cadnica (three packs of four) that work almost the same time as the 400mAh Chinese units.

But the secret lies in the way you charge them, not the way you use them.

The average 1,000 charging cycles applies only if you respect the '10% nominal current' charge limit while charging (that's why the charging time is always 10 hours). Any fast charger will charge the batteries according to a non-linear charging curve, but chances are that fast charging will also reduce battery life or discharging characteristic. Also, many of the standard charges apply high current to the batteries, and most of them heat the batteries up somehow. I measured a regular charger right after getting my first 150mAh NiCads and it gave me almost 100mA charging current. It would kill the batteries very soon, I guess.

While measuring the charge current I noticed that the charger had about 3.8Vcc in its terminals with no batteries, so I measured its current and voltage in many circumstances and I realized it was just a passive current source. So I used a pair of NiCads in series (about 2.4Vcc) and added a small series resistor. Please, look at the pictures: (link to photobucket)

Assembly with two batteries

I used two-side coated PCB´s to accommodate the resistors

Assembly with batteries and resistors

As I did not open the charger to see the circuit, I simply tested with two different resistor values, measured their voltage drop with the two NiCads in series then I computed the correct one that would give me something closer to 15mA needed to charge the two NiCads (47 ohms) and another one closer to the 40mA for the two NiMH (27 ohms - should be smaller, about 23 ohms, but I decided to use a higher, commercially available value, hence a smaller current).

The batteries never heat up after their ten hours charging time (they do not even get warm to the touch) and their discharging periods did not significantly reduce so far.

Hope this helps a bit.

Luiz (Brazil)

Edited: 14 June 2010, 1:59 a.m.

Re: About life expectancy of any rechargeable battery (was: HP 41 batteries)
*Message #11 Posted by **Katie Wasserman** on 14 June 2010, 2:42 a.m.,*
in response to message #10 by Vieira, Luiz C. (Brazil)

Luiz,

Nifty idea, and nicely done! Yes, high charge rates result in high heat and that's what kills batteries. Some nicads tolerate heat better than other and these are rated for faster charging, but the best rule of thumb is to not charge at a rate more than C/10 where C is their capacity in mAh. Nimh cells are similar but to maximize their life you need to not fully charge nor fully discharge them. In fact, hybrid cars like the Prius carefully control their battery charge/discharge to vary +/- 15% around a set point of about 60% of a full charge.

-Katie

Re: About life expectancy of any rechargeable battery (was: HP 41 batteries)

*Message #12 Posted by **Vieira, Luiz C. (Brazil)** on 14 June 2010, 1:27 p.m.,*
in response to message #11 by Katie Wasserman

Hi, Katie;

> Quote:
>
> the Prius carefully control their battery charge/discharge to vary +/- 15% around a set point of about 60% of a full charge

Thanks for the valuable information! From now on I´ll charge the NiMH´s for no more than 7 hours. I measured their charging current and found about 36mA with the 27 ohms resistor. Considering that the batteries voltage increase as they charge and the series resistor does not significantly changes its value, the charging current tends to reduce as the batteries charge.

Thanks again!

Luiz (Brazil)

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6114A power supply initial price (sorry, slightly OT)

*Message #1 Posted by **Marc Ferrer (France)** on 11 June 2010, 1:26 p.m.*

Hello,

Last year I put hands on a venerable hp6114A power supply at no cost.

To my delightment, it was perfectly working. Within days it was cleaned, and I even found a service manual ^^

It found a quiet home in my little lab, and a question arose : how much dit it cost 30 years ago ? I'd be happy if someone could answer. Considering how well built and designed it is, I suppose it wasn't a cheap item.

It helped me doing funny things, amongst them rebuilding a little bit of the technology lying in the HP 9100 : based on the "green machine" patent, I successfully built a BCD counter, then I devised a 7-segment decoder.... just for fun !

Now I wish I have enough time to build a clock, but that's another (OT) story...

Cheers, Marc

Re: 6114A power supply initial price (sorry, slightly OT)

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 11 June 2010, 1:54 p.m.,*
in response to message #1 by Marc Ferrer (France)

Hi;

I have an HP 1978 Electronic Instruments and Systems Catalog and the 6114A (DC-Power Supply) is listed US$830,00 at page 638. Opt. 009 (10-turn control) is listed US$35,00 and Opt. 015 (decadial C Contr) is listed R$85,00.

I have some other HP catalogs, not all in a series, up until 1991.

Hope this helps.

Cheers.

Luiz (Brazil)

Edited: 11 June 2010, 1:56 p.m.

Re: 6114A power supply initial price (sorry, slightly OT)

*Message #3 Posted by **Marc Ferrer (France)** on 11 June 2010, 3:15 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Hi Luiz,

Thanks a lot for your answer, I've been enjoying reading your posts for a long time.

I expected a high price, but not to such an extent -and mine has the 015 option. Needless to say, it was just for information, I don't plan to make money with it.

Besides that, maybe some of you will ask why I'm doing strange things like rebuilding some of the 70's technology stuff ?

- it's funny, I like it. - it is the best way to understand how it works. - after 25 years doing software and computing at work, I find it mind-refreshing to get back to my "electronic" roots as a hobby.

And in our days of billion-transistor processors, I think it's a good thing to remember these times when you had to get the most of what you had -so few hardware.

These constraints led engineers to produce masterpieces which still work. I consider it a duty to preserve all that, because behind well-done and well-thought items, one always discover great men. Thomas E. Osborne is one of them, IMHO.

Just my 2 cents, and...

Thanks again, Luiz !

Regards, Marc

Re: 6114A power supply initial price (sorry, slightly OT)

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 11 June 2010, 4:57 p.m.,*
in response to message #3 by Marc Ferrer (France)

Hi, Marc;

First of all, mercy!

> Quote:
>
> I've been enjoying reading your posts for a long time.

What else could I ask for? 8^) Thank you! I appreciate.

Next, I cannot tell you how much I agree with you. All the way!

I have complete collections of 70´s and 80´s Brazilian magazines and some foreign literature I red that time, and now I treasure them all so much. Technology of that time is the very foundation of what we have today.

I am building some stuff myself, and the project I'm dealing with right now is a 10Hz-1MHz frequency meter with scratch stuff. So far I have a partially working prototype with:

```
six LED digits, seven segment;
1 CD4511 (BCD -> 7 segment decoder/driver);
3 CD4518 (dual decade up-counter);
4 CD4503 (hex buffer, tristate, for multiplexing the CD4518 outputs);
2 CD4017 (timing/control);
1 CD4011 (some control signals)
```

Join to these a time reference (Xtal-based) and an input equalizer/squarer (I´ll use an MC10116 line driver configured as a programmable Schmitt-trigger) and we have a complete frequency meter with

hold and event-counting possibilities. I was able to generate all multiplexing and control signals from the two CD4017, so the frequency meter needs only the guys up here. Actually I tested it with the power line -60Hz- as clock reference and it worked well. I just need to provide a stable power supply and a custom PCB layout. Will post the pictures soon.

BTW, have you checked my photobucket album for Electronics and the other one for HP calculators? Please, be my guest!

I think I gave my students some hope about Electronics because there's a group very interested on a summer course in Electronics and hardware, preferably in this very July.

As soon as I have news I'll post about.

Cheers.

Luiz (Brazil)

Edited: 11 June 2010, 5:05 p.m.

Re: 6114A power supply initial price (sorry, slightly OT)

*Message #5 Posted by **Marc Ferrer (France)** on 12 June 2010, 1:22 p.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

Hello Luiz,

It's always good finding people sharing same points of view and hobbies :-)

I wish you good luck for your frequency meter, hoping it'll soon work. Nice project, your design is clever ! (from what I guess given the parts list)

It reminds me of a TTL-based stopwatch I built many years ago -it was in my young years, when I already collected electronics magazines (didn't understand everything by then) which I consider now as a treasure -just like you do.

This morning I took a look at your photobucket albums, the HP side is impressive; I'd love to have as much time as you : I've got many machines (HPs, TIs, mechanical ones) waiting for restoration.

The other side brought me straight back to the times I dismantled every out-of-service electronic item I could grab; the kid I was had as much fun doing this as playing with Lego...

I'm happy that you spark interest in electronics by your students, teaching is such a noble task... and speaking about kids (they're already students, aren't they ?) : my 13-year old daughter masters the soldering iron an impressive way ! Eh eh

Keep up the good work !

Regards, Marc

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Autistic HP-65 needs help!

*Message #1 Posted by **Michael Meyer** on 11 June 2010, 10:27 a.m.*

I bought an HP-65 that is showing an odd display, but responds to keypresses. The logic board is fine... operates in another HP-65. That leaves only the two chips on the keyboard circuit board as culprits. Does anyone know which chip to look at, and are these interchangeable with a dead HP-45 or HP-80? Thanks! Mikey

Re: Autistic HP-65 needs help!

*Message #2 Posted by **db (martinez, ca.)** on 11 June 2010, 2:49 p.m.,*
in response to message #1 by Michael Meyer

Maybe it can be used as-is to design abattoirs.

Re: Autistic HP-65 needs help!

*Message #3 Posted by **Martin Pinckney** on 11 June 2010, 2:57 p.m.,*
in response to message #2 by db (martinez, ca.)

?

Re: Autistic HP-65 needs help!

*Message #4 Posted by **Thomas Okken** on 11 June 2010, 4:23 p.m.,*
in response to message #3 by Martin Pinckney

That sounded like a reference to Temple Grandin.

Re: Autistic HP-65 needs help!

*Message #5 Posted by **db (martinez, ca.)** on 11 June 2010, 4:51 p.m.,*
in response to message #4 by Thomas Okken

Yes. Her. The most famous autistic person i know of, fascinating speaker, and straight thinker. She alone has done more for animals' welfare than PETA will do in a century. I guessed Dr. Mike would have read about her, if only to learn how to get along around here.

BTW: With it's card reader, wouldn't the 65 have been the worlds first NON-autistic pocket calculator?

Re: Autistic HP-65 needs help!

*Message #6 Posted by **bill platt** on 11 June 2010, 4:56 p.m.,*
in response to message #5 by db (martinez, ca.)

I heard an interview with Temple Grandin on NPR. She was very interesting. She described going into the cattle chutes to get a cow's eye view and her perceptions were really interesting--the sort that afterwards you think, "of course! why didn't I think of that!"

Re: Autistic HP-65 needs help!

*Message #7 Posted by **Michael Meyer** on 11 June 2010, 9:06 p.m.,*
in response to message #1 by Michael Meyer

O.K... I was just trying to have a sequel to my dyslexic/agnostic/insomniac calculator of the past. This 65 computes, but just

communicates in an odd fashion that, for now, I don't understand....

Re: Autistic HP-65 needs help!

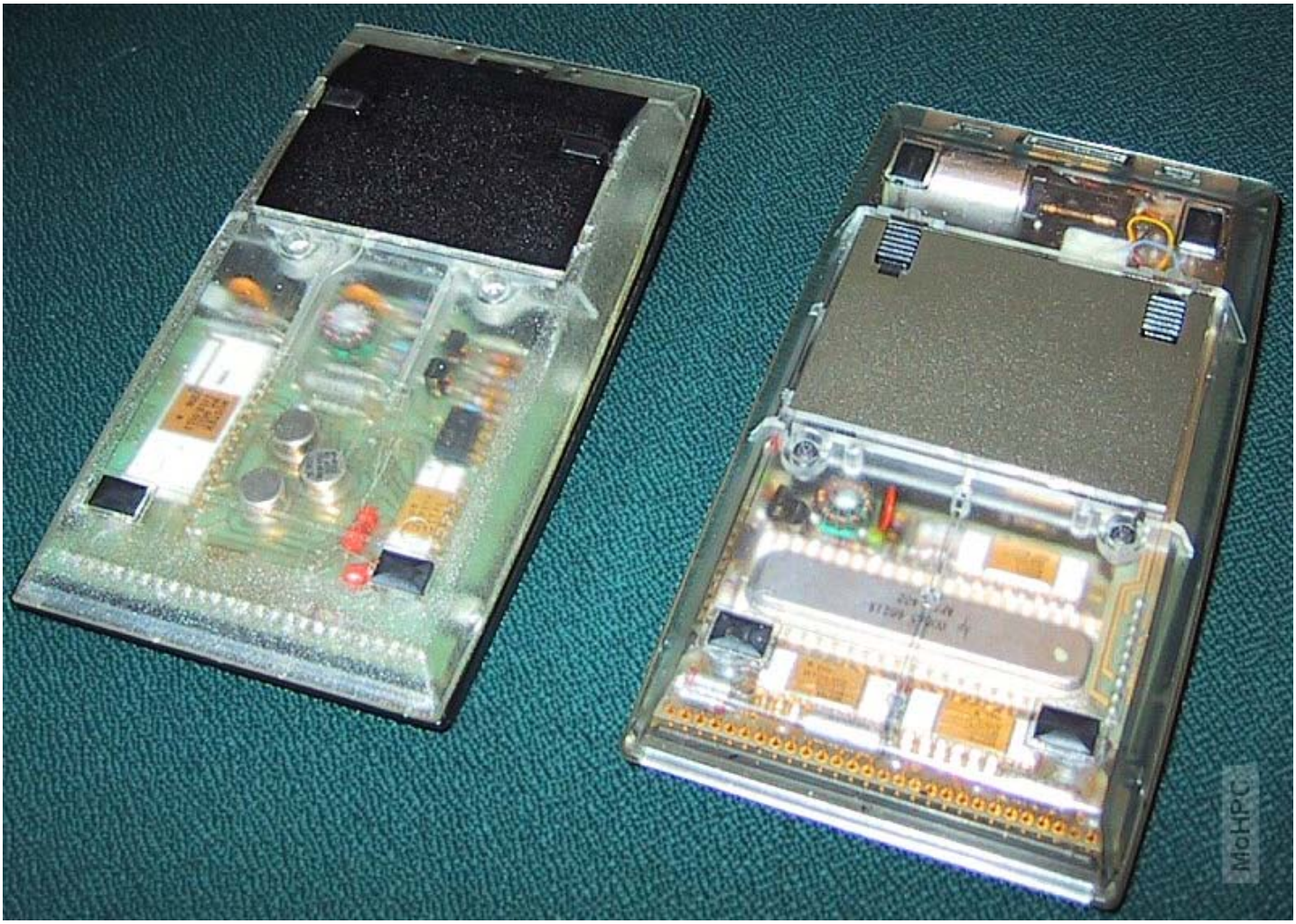
*Message #8 Posted by **Vieira, Luiz C. (Brazil)** on 11 June 2010, 11:03 p.m.,*
in response to message #7 by Michael Meyer

HI, Doc;

I do not know the HP65 circuitry, but if you have a display with 'garbage', I'd suspect either the display driver/decoder OR the main ROM contents. As you managed to test the mainboard in another HP65 and it works fine, you are in the right way trying to find the problem in the external circuitry. So, my question would be: the LED display is driven by circuit(s) in the mainboard or somewhere else in the calculator? I have an HP55 but I do not recall how do its internals look like, neither if they remind the HP65's... Anyway, if the LED driver/decoder chips are not in the mainboard, they may also be the cause of it.

The other way to get into a conclusion would be running a pre-recorded program (mag. card) and see it the calculator´s display shows something understandable. I also do not know if the HP65 has the auto-run feature (I know nothing about this dude...), but if it has, that would help a lot.

The closer way to 'see' inside of it was through this picture:



But I did not get too much insight from it.

Sorry not helping the way I would like to...

Cheers.

Re: Autistic HP-65 needs help!

*Message #9 Posted by **Randy** on 11 June 2010, 11:53 p.m.,*
in response to message #1 by Michael Meyer

Can you describe what is wrong with the display? Enter 8 ten times then press EEX and 8 two more times. Do you have:

- All digits illuminating but are missing the same segment(s)?
- All segments working but one or more digits are missing?
- Something totally random every time you press a key?

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HP-25C needs chips to come back to life

*Message #1 Posted by **Jean-Michel** on 10 June 2010, 3:52 p.m.*

Hello all,

my HP-25 I was given recently powers up and shows "0.00" on display, but unfortunately the keyboard remains non responsive. Sounds like the keyboard controller is dead. One or probably three chips are fried.

If anyone of you has some spare chips he could give/sell me, please contact me, I will give him the exact part numbers of the chips and the way to proceed.

Before you tell me: I have already asked Randy (FixThatCalc). Unfortunately he does not have the parts.

Kind regards. Jean-Michel.

Re: HP-25C needs chips to come back to life

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 10 June 2010, 5:46 p.m.,*
in response to message #1 by Jean-Michel

Hi/

e-mail me. Chances are I may have one/some of these.

linux *underline* lcv (at) yahoo (dot) com.br

Cheers.

Luiz (Brazil)

Edited: 10 June 2010, 9:14 p.m.

By the way... (was: HP-25C needs chips to come back to life)

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 10 June 2010, 9:20 p.m.,*
in response to message #1 by Jean-Michel

Hi;

did you read this post? That's the main reason I may have the chips you need. In fact, I have already tested two of the ACT units and they are not OK. I use an HP25 PCB with IC´s sockets so I can easily test any of them. Even the two IC's under the LED display are readily changeable.

Cheers.

Luiz (Brazil)

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HP-15C program to compute 3x3 complex matrix determinant

*Message #1 Posted by **Karl Schneider** on 10 June 2010, 11:58 a.m.*

Please refer to the following archived thread:

Complex Matrix Determinant on the 15C

The HP-15C represents an *m* x *n* complex-valued matrix as an *m* x *2n* real-valued matrix. The HP-15C's built-in utility functions will transform an
m x *m* complex-valued square matrix represented in this 'complex' format into an *2m* x *2m* real-valued square matrix. The determinant of such a matrix is the squared magnitude of the complex-valued determinant of the *m* x *m* original matrix.

This procedure can be employed to obtain the magnitude of the determinant of a complex-valued matrix dimensioned up to 4 x 4. However, no built-in capability is available to return the complex-valued determinant itself.

Here's my completed program to calculate the complex-valued determinant of a 3 x 3 complex-valued matrix on the HP-15C. The matrix must be entered as a 3 x 6 real-valued matrix "A" in standard HP-15C 'complex' format. The program was tested with the following matrix **A** on the HP-15C, and verified using the built-in DET function on the HP-42S:

A =

```
[ 1+i3  2-i5   7+i1 ]
[ 4-i2  6+i9  -8+i4 ]
[-3-i7  3+i2  -1+i6 ]
```

det **A** = -217 + i231, as computed exactly by this HP-15C program and by the HP-42S. The HP-15C's native capabilities return 100,450.0000 as the squared magnitude of the determinant, whose calculation time is 15 seconds.

If **A**(1,3) is edited to 7-i1, my HP-15C program returns the exact determinant of -75 + i289, and the HP-15C's native capabilities return 89,146.00002. (The HP-42S computes a slightly-inexact -74.9999999999 + i289, suggesting that the HP-42S does not calculate determinants directly.)

It may be that the exact answers produced by the HP-42S for the original matrix are attributable to the squared magnitude of the determinant exceeding 10^5. If so, that was pure luck. My only criterion for populating **A** was that each component of each element be a single-digit integer, with a variety of signs.

This HP-15C program consumes about 25 registers and takes 21 seconds to run. It utilizes indirect access of any matrix {A-E} by storing the descriptor of the matrix into the indirect register I.

```
Procedure:  Store 3 x 6 matrix in 'complex' form with identifier {A-E}; RCL {A-E}; GSB D.



  1.  Check if dimension of matrix is 3 x 6
  2.  (If not, display blinking descriptor and stop)
  3.  Compute and store first complex sub-determinant
```

```
  4.  Compute second sub-determinant
  5.  Combine with first sub-determinant and store
  6.  Compute third sub-determinant
  7.  Combine with first two sub-determinants
  8.  Display complex result
  9.  NOTE: "(u)" denotes user mode, which is necessary for advancing the matrix-element index.


001 LBL D           056 MATRIX 1    102 MATRIX 1
002 STO I           057 2           103 2
003 RCL DIM I       058 STO 0       104 STO 0
004 f I             059 RCL(i) (u)  105 RCL(i) (u)
005 3               060 RCL(i)      106 RCL(i)
006 ENTER           061 f I         107 f I
007 6               062 3           108 3
008 f I             063 STO 0       109 STO 0
009 -               064 5           110 STO 1
010 x=0?            065 STO 1       111 R_down
011 GTO 8           066 R_down      112 RCL(i) (u)
012 CF 8            067 R_down      113 RCL(i)
013 RCL I           068 RCL(i) (u)  114 f I
014 SF 9            069 RCL(i)      115 *
015 RTN             070 f I         116 2
016 LBL 8           071 *           117 STO 0
017 2               072 2           118 3
018 STO 0           073 STO 0       119 STO 1
019 3               074 5           120 R_down
020 STO 1           075 STO 1       121 R_down
021 RCL(i) (u)      076 R_down      122 RCL(i) (u)
022 RCL(i) (u)      077 R_down      123 RCL(i)
023 f I             078 RCL(i) (u)  124 f I
024 3               079 RCL(i) (u)  125 MATRIX 1
025 STO 0           080 f I         126 3
026 R_down          081 RCL(i) (u)  127 STO 0
027 RCL(i) (u)      082 RCL(i)      128 R_down
028 RCL(i)          083 f I         129 RCL(i) (u)
029 f I             084 *           130 RCL(i)
030 *               085 -           131 f I
031 2               086 MATRIX 1    132 *
032 STO 0           087 3           133 -
033 CLx             088 STO 1       134 MATRIX 1
034 5               089 R_down      135 5
035 STO 1           090 RCL(i) (u)  136 STO 1
036 R_down          091 RCL(i)      137 R_down
037 RCL(i) (u)      092 f I         138 RCL(i) (u)
038 RCL(i) (u)      093 *           139 RCL(i)
039 f I             094 RCL 2       140 f I
040 3               095 RCL 3       141 *
041 STO 1           096 f I         142 RCL 2
042 R_down          097 x<>y        143 RCL 3
043 RCL(i) (u)      098 -           144 f I
044 RCL(i)          099 STO 2       145 +
045 f I             100 Re<>Im      146 PSE
046 *               101 STO 3       147 Re<>Im
047 -                               148 PSE
048 MATRIX 1                        149 Re<>Im
049 RCL(i) (u)                      150 RTN
050 RCL(i)
051 f I
052 *
053 STO 2
054 Re<>Im
055 STO 3
```

Edited: 19 June 2010, 2:52 p.m. after one or more responses were posted

Re: HP-15C program to compute 3x3 complex matrix determinant

*Message #2 Posted by **hugh steers** on 11 June 2010, 12:57 p.m.,*
in response to message #1 by Karl Schneider

i wonder if the 42s does its complex matrices through LU decomposition, like the 15c does real ones. This would then give it a working complex matrix math which the 15c lacks.

it might explain the slight inaccuracy in this case.

Re: HP-42S computation of complex matrix determinant

*Message #3 Posted by **Karl Schneider** on 12 June 2010, 10:44 p.m.,*
in response to message #2 by hugh steers

> Quote:
>
> I wonder if the 42s does its complex matrices through LU decomposition, like the 15c does real ones.

It's certainly a possibility, although that is not documented, in my recollection. If so, however, I would assume that the HP-42S internally transforms the complex matrices to the 'quadrupled' real-valued matrices.

The HP-48 and descendants provide an "LU" function that returns the L, U, and P matrices. The Crout algorithm -- instead of the Doolittle algorithm of the HP-15C -- is employed.

-- KS

Edited: 12 June 2010, 11:58 p.m.

Re: HP-42S computation of complex matrix determinant

*Message #4 Posted by **Thomas Okken** on 13 June 2010, 10:49 a.m.,*
in response to message #3 by Karl Schneider

Regarding the algorithms used, I tried DET on the matrix

```
   [ 1+i3  2-i5   7-i1 ]
A= [ 4-i2  6+i9  -8+i4 ]
   [-3-i7  3+i2  -1+i6 ]
```

I get these results:

HP-42S: -74.9999999999 + i289
Free42: -74.999999999999999999982 + i288.999999999999999999998

Free42 uses a straightforward LU decomposition algorithm straight from *Numerical Recipes in C*. The similarity of the errors makes me suspect the 42S does, too.

Trying this same test case on the 48G, the result is -75 + i289 exactly. This is interesting because the 48G uses the same floating-point representation as the 42S. I wonder: is the 48G more accurate because it uses a different algorithm, or does it use the same algorithm but with 15-digit intermediaries? Given that the 48 series has a lot more RAM than the 42S, it would make sense to use some of that to gain some extra precision.

Re: HP-42S computation of complex matrix determinant

*Message #5 Posted by **Werner** on 20 June 2010, 5:19 a.m.,*
in response to message #4 by Thomas Okken

- The HP-42S uses LU-decomp for complex matrices, not the transformation to real-valued ones. That can be verified: with a matrix in X, executing DET will need to have spare memory for a copy of the matrix (since the original one must be kept in L). If the transformation to a real-valued matrix would be used, the amount of spare memory needed would be twice the size of the original matrix. In my case, I have about 5900 bytes free. With a Cplx 13x13 matrix in level X, that is

reduced to about 3200 bytes, leaving enough room for a second 13x13 Complex matrix (a bit over 2700 bytes), but not enough for a 26x26 Real matrix, which is twice the size. And I can run DET without problems.

- The HP48 and successors have a refinement built-in: since the determinant of a matrix with integer elements is itself an integer (or a complex number with integer real and imag components), the calculated result is *rounded* to the nearest integer, which of course occasionally produces a wrong result.

Re: HP-15C program to compute 3x3 complex matrix determinant

*Message #6 Posted by **Thomas Klemm** on 14 June 2010, 3:14 p.m.,*
in response to message #1 by Karl Schneider

Inspired by Andrew's request I had a look at Wikipedia where I found the following formula to calculate the determinant of a 3x3 matrix **A**:

$$\det(A) = (\mathrm{tr}(A)^3 - 3\mathrm{tr}(A)\mathrm{tr}(A^2) + 2\mathrm{tr}(A^3))/6;$$

Calculating the powers of matrix **A** would be easy but what about the trace function?

```
|R * *|     |R * * I * *|     |R * * I * * *|     |R R R|                 |R|
|* R *|  ->  |* R * * I *|  ->  |R * * I * * *|  ->  |* * *|  x  |1|  =  |*|   ->  R + iI
|* * R|     |* * R * * I|     |R * * I 0 0 0|     |I I I|     |1|     |I|
|I * *|                                            |* * 0|     |1|     |*|
|* I *|                                            |* * 0|               |*|
|* * I|                                            |* * 0|               |*|
```

With the picture above in my mind I wrote the following program:

```
                                          X:              Y:              Z:
T:


001 - 42,21,11   LBL A
002 - 45,16,11   RCL MATRIX A            A   6 3
003 - 42,16, 4   f MATRIX 4              A   3 6
004 - 45,23,11   RCL DIM A              6               3               A   3 6
005 -         1  1                      1               6               3
A   3 6
006 -        40  +                      7               3               A   3 6
A   3 6
007 - 42,23,11   f DIM A                 7               3               A   3 7
A   3 7
008 -        34  x<>y                   3               7               A   3 7
A   3 7
009 -   43   36  g LSTx                  1               3               7
A   3 7
010 - 42,23,12   f DIM B                 1               3               7
A   3 7
011 - 44,16,12   STO MATRIX B            1               3               7
A   3 7
012 -   43   33  g R-^                   A   3 7         1               3
7
013 - 45,16,12   RCL MATRIX B            b   3 1         A   3 7         1
3
014 - 42,26,13   f RESULT C              b   3 1         A   3 7         1
3
015 - 42,16, 5   f MATRIX 5              C   7 1         1               3
3
016 - 42,16, 1   f MATRIX 1              C   7 1         1               3
3
017 -   45   13  RCL C                   R               C   7 1         1
3
018 -   43   33  g R-^                   3               R               C   7 1
1
019 - 44,40, 0   STO + 0                 3               R               C   7 1
1
020 -        34  x<>y                   R               3               C   7 1
```

```
1
021 -    45  13   RCL C                          I               R               3
C    7 1
022 -    42  25   f I                            R + iI          3               C    7 1
C    7 1
023 -    43  32   RTN                            R + iI          3               C    7 1
C    7 1
```

But unfortunately there's not enough memory to do the calculation of the powers of a complex 3x3 Matrix. Still the program might be useful.

Best regards
Thomas

Edited: 15 June 2010, 2:18 a.m.

Re: HP-15C program to compute 3x3 complex matrix determinant

*Message #7 Posted by **Karl Schneider** on 16 June 2010, 11:55 p.m.,*
in response to message #6 by Thomas Klemm

Thomas --

Thank you for the contribution. The HP-15C, due to modest data-storage capability and computational speed, is certainly not the ideal tool for heavy-duty matrix calculations. However, it's good to demonstrate that certain things can be done within the limited resources available.

-- KS

Edited: 17 June 2010, 1:54 a.m.

Re: [edited] HP-15C program to compute 3x3 complex matrix determinant

*Message #8 Posted by **Andrew H.** on 17 June 2010, 2:41 a.m.,*
in response to message #1 by Karl Schneider

Karl,

Thanks very much for all the work you have done on this.

I originally thought it might be possible to achieve this without having to resort to 'brute force', e.g. using the trace formula, but it appears that the 15C just doesn't have the capacity to do so.

However, I do like your original solution: get a 42S!

Thanks again,

Andrew

Re: HP-15C program to compute 3x3 complex matrix determinant

*Message #9 Posted by **Karl Schneider** on 19 June 2010, 1:38 a.m.,*
in response to message #8 by Andrew H.

Andrew H --

> Quote:

> Thanks very much for all the work you have done on this.

You're welcome. It's a topic that came up a few years ago, but which I never tackled.

My program is now improved, in that any matrix {**A**-**E**} can be used, not just **A**. The HP-15C allows matrix descriptors to be stored in any register; the "I" register allows indirect access to an element in any matrix. Note also that the program checks matrix dimensions in a concise manner for correctness by using built-in logical comparisons in complex mode. The thoroughness and attention to detail exhibited by the HP-15C's developers has always impressed me -- it is a case study of first-rate software engineering.

> Quote:
>
> I originally thought it might be possible to achieve this without having to resort to 'brute force', e.g. using the trace formula, but it appears that the 15C just doesn't have the capacity to do so.

'Brute force' is a bit pejorative; I'd prefer to call it the 'direct' or 'straightforward' method. There's a certain amount of computational grinding involved with multiplying two complex-valued matrices, as well -- the traces are the easy part.

In fact, my modest program could be utilized four times in succession to calculate the complex-valued determinant of a 4 x 4 matrix:

1. Store three columns of the last three rows of a 4 x 4 complex matrix in two parts: a 3 x 6 real matrix, and the remaining 'short column' as a separate 3 x 2 matrix.
2. Use the program to calculate one sub-determinant, multiply by the corresponding complex element of the top row, and accumulate in registers R4 and R5.
3. Swap one 'short column' with the separate column (maybe write a short utility program for that), and repeat step 2.
4. Repeat step 3 twice more.

This procedure will fit within the HP-15C's capabilities: 18 registers for the 3 x 3 complex submatrix, 6 more for the 3 x 1 complex submatrix, 25 registers for the program, 4 registers for temporary storage, 5 registers for complex mode, with space left over for a column-swapping utility program.

Or, use an HP-42S or RPL-based calc...

-- KS

Edited: 20 June 2010, 10:32 p.m.

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Chalkboard Math

*Message #1 Posted by **Chuck** on 10 June 2010, 12:21 a.m.*

The recent thread about the chalkboard math from the movie "The Day the Earth Stood Still" reminded me of a photo from the current Discover magazine (July/August) advertising a calculus course. I asked my son (recent AP calc student) what was wrong in this picture. Took him about 5 seconds to see the omission. Not that I'm perfect on a chalkboard (or white board) either, but it's a fun past-time to spot these things. Any others out there?

CHUCK

Re: Chalkboard Math

*Message #2 Posted by **Bill Zimmerly** on 10 June 2010, 1:15 a.m.,*
in response to message #1 by Chuck

I believe the middle formula should be $$f''(x) = \lim_{h \to 0} \frac{f(x+h) - 2f(x) + f(x-h)}{h^2}.$$

Re: Chalkboard Math

*Message #3 Posted by **Karl Schneider** on 10 June 2010, 1:22 a.m.,*
in response to message #1 by Chuck

> Quote:
>
> "I asked my son (recent AP calc student) what was wrong in this picture. Took him about 5 seconds to see the omission. Not that I'm perfect on a chalkboard (or white board) either, but it's a fun past-time to spot these things"

The derivation looked fine, assuming that the function was f(x) = x^2. Was it the missing hash mark from the second "f(x)"?

-- KS

Edited: 10 June 2010, 1:23 a.m.

Re: Chalkboard Math

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 10 June 2010, 7:48 a.m.,*
in response to message #3 by Karl Schneider

> Quote:
>
> Was it the missing hash mark from the second "f(x)"?

I´d have mentioned the same thing... mostly because the thread refers to an omission. The second line of the derivative evaluation should start with

```
f'(x)=
```

instead of

```
f(x)=
```

Luiz (Brazil)

Edited: 10 June 2010, 7:51 a.m.

Re: Chalkboard Math

*Message #5 Posted by **Walter B** on 10 June 2010, 5:25 p.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

FWIW, I concur d:-)

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The Astro2010 module

*Message #1 Posted by **Geir Isene** on 9 June 2010, 1:04 p.m.*

To my very pleasant surprise, I discovered the new ASTRO2010 module over at TOS.

Excellent stuff by Jean-Marc Baillard!

Now, the MOD-file breaks down to three ROM-files (ASTRO-1, ASTRO-2 and ASTRO-3) all with XROM #6.

Whereas I haven't yet done the needed cleaning out of less interesting modules on my NoV-64 to accommodate for this gem, I wanted to ask how to make it work on the NoV-64 (if there are any issues to tackle with the three-in-one module).

Any thoughts?

Re: The Astro2010 module

*Message #2 Posted by **JMBaillard** on 9 June 2010, 5:16 p.m.,*
in response to message #1 by Geir Isene

Hi Geir

I wrote the programs & RAW files
but Angel Martin has built the MOD & ROM files.
He is the expert in those things
and I cannot answer to your question, sorry...

All the Best
Jean-Marc.

Re: The Astro2010 module

*Message #3 Posted by **Ángel Martin** on 9 June 2010, 6:16 p.m.,*
in response to message #1 by Geir Isene

It should not be any issue to burn on NoVo-RAM or any other advanced MLDL system. The only requirement is to put the ROM files in the sequential order (1-2-3) in adjacent addresses - that's where the single FAT needs the programs to be located.

Best, ÁM

Re: The Astro2010 module

*Message #4 Posted by **Geir Isene** on 13 June 2010, 6:11 p.m.,*
in response to message #3 by Ángel Martin

Works like a charm!

This is the most excellent stuff. Thanks.

Re: The Astro2010 module

*Message #5 Posted by **Antoine M. Couëtte** on 26 June 2010, 6:43 a.m.,*
in response to message #1 by Geir Isene

June 26, 2010 from most Sunny, Warm and Beautiful France

Hello to all !

CONGRATULATIONS to Both Jean-Marc and Angel for this Superb and Wonderful Astro2010 Module !

Jean-Marc you also have achieved a very professionnal and excellent User's Guide.

Angel, you have it perfectly right : as I just checked, Astro2010 works extremely well also on :

- HP41X/Y/Z, the HP-41Y ("RAMBOX II") Emulator running on HP-48GX from HrastProgrammer, and

- Emu41, the Ms-Dos HP-41Y ("RAMBOX II") Emulator from Jean-François Garnier

And if it works with me, it should work with absolutely anybody else (see here) :-)

Again CONGRATULATIONS to the four of you : Jean-Marc, Angel, Hrast and Jean-François !!!

And Very Best and Most Grateful Regards to you all !

Antoine M. "Kermit" Couëtte

Re: The Astro2010 module

*Message #6 Posted by **J-F Garnier** on 26 June 2010, 1:23 p.m.,*
in response to message #5 by Antoine M. Couëtte

We are now waiting for the 64-Kbyte Astronav module, a unique masterpiece of HP-41 software (see here and here for an history)! And now with the HP-41CY emulation for Nov-64 by Diego Diaz, every HP-41C can have it!

J-F

Re: The Astro2010 module

*Message #7 Posted by **JMBaillard** on 27 June 2010, 5:00 p.m.,*
in response to message #5 by Antoine M. Couëtte

Thank you, Antoine !

Angel is preparing a FUNSTUFF module
that will be great too !

All the Best
Jean-Marc.

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HHC 2010 - Look's like we've got a date and a place! :)

*Message #1 Posted by **Bill Zimmerly** on 8 June 2010, 5:46 p.m.*

HHC 2010 Website

Re: HHC 2010 - Look's like we've got a date and a place! :)

*Message #2 Posted by **Allen** on 8 June 2010, 6:21 p.m.,*
in response to message #1 by Bill Zimmerly

I'm OK with Ft Collins.. Great climes that time of year.

Re: HHC 2010 - Look's like we've got a date and a place! :)

*Message #3 Posted by **Don Shepherd** on 8 June 2010, 6:49 p.m.,*
in response to message #1 by Bill Zimmerly

Theme: Getting Back to basics ....

hmmm

HP-71b reissue?

Re: HHC 2010 - Look's like we've got a date and a place! :)

*Message #4 Posted by **hpnut** on 9 June 2010, 10:44 a.m.,*
in response to message #1 by Bill Zimmerly

The hotel is ideal for "comparing programming techniques while lounging in the hotel’s indoor hot tub, and so on. "

i dread to think how many valuable classic HP calculators are at risk of drowning in jacuzzis in this way :-)

Re: HHC 2010 - Look's like we've got a date and a place! :)

*Message #5 Posted by **Eric Smith** on 9 June 2010, 4:42 p.m.,*
in response to message #1 by Bill Zimmerly

I called the hotel to book a reservation, but they don't yet have an HHC 2010 group rate. I imagine that the committee is still working on that.

Re: HHC 2010 - Look's like we've got a date and a place! :)

*Message #6 Posted by **Namir** on 9 June 2010, 7:31 p.m.,*
in response to message #1 by Bill Zimmerly

Sad to day that I will not make it this year!

Just when I skip and HHC meeting, my luck will have HP bring back the HP41CX!!!

:-(

Namir

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OT: Jornada 680 communication problem

*Message #1 Posted by **Karl-Ludwig Butte** on 8 June 2010, 3:43 p.m.*

Dear all,

I need some help with my Jornada 680 exchanging data via Microsoft ActiveSync under Windows 2000. The situation is the same with both ActiveSync versions 3.6 and 3.8. When I connect the 680 via the RS232-Interface, ActiveSync recognizes the 680 and pops up the partnership/guest-dialogue. After selecting the guest-option I can select the backup-function, which works fine. But when I select the explore-function, a Windows-Explorer window "Mobile Device" opens but stays empty and showing the full hourglass. One can wait for hours but the directory of the 680 never shows up. In Task-Manager, the application is shown with status "not responding".

So in principle, the communication channel works - otherwise ActiveSync wouldn't recognize the 680 and wouldn't backup the memory contents. On the other hand I don't have any explanation why the explore-function doesn't work.

Does anyone of you has an idea what's wrong and/or what can I do to get the explore-function to work ?

Any hint will be very much appreciated. Thank you very much in advance.

Kind regards

Karl

Re: OT: Jornada 680 communication problem

*Message #2 Posted by **Karl-Ludwig Butte** on 14 June 2010, 3:32 p.m.,*
in response to message #1 by Karl-Ludwig Butte

Dear All,

for all who may run into the same problem, I found out what caused this strange behaviour: In the combination of Windows 2000, McAffee Firewall and ActiveSync 3.8 the Firewall blocked especially the explore-process of ActiveSnc. Add an allowance for this process (or replace this firewall with a better one) and everything works fine.

Regards

Karl

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HP Calc Repurposing

*Message #1 Posted by **Gene Dorr** on 7 June 2010, 3:03 p.m.*

The HP-20B and HP-12C repurposing projects sounded pretty interesting, but I haven't seen or heard of any activity in this area. The Repurposing Wiki hasn't been maintained in quite a while. Anybody aware of anything going on? Also, I'm wondering if the HP-30B has the same repurposing provisions as the 20B?

Re: HP Calc Repurposing

*Message #2 Posted by **Katie Wasserman** on 7 June 2010, 3:46 p.m.,*
in response to message #1 by Gene Dorr

Yes the 30b has the same re-purposing options as the 20b. The 12C+ is more restricted in that it lacks a JTAG connector and other internal parts. There are a few regular members of this forum working on their own projects with these machines but are not posting what they're doing on that wiki.

-Katie

Re: HP Calc Repurposing

*Message #3 Posted by **hugh steers** on 7 June 2010, 7:47 p.m.,*
in response to message #1 by Gene Dorr

Hi,

yes, there is some background activity. a while back, i got going with the 20b/30b coding. last thing i did was try to bring up a dev chain on gcc (as opposed to IAR). the gcc dev chain works, but i needed to hack some more low level stuff. IAR is good, but you are limited to 32k of code, which i know wont last long :-)

i've had a lot of other stuff on at the moment, but i was hoping to make a stab at the 12+ too. i have enough code hanging around to put together an open source scientific RPN calculator for the 12/20/30 - i just need to get around to doing it!

-- hugh.

Re: HP Calc Repurposing

*Message #4 Posted by **Paul Dale** on 8 June 2010, 5:35 a.m.,*
in response to message #1 by Gene Dorr

I've mostly done replacement firmware for the 20b/30b with a decent scientific load out.

I was laid off in February which really impacted progress -- I lost access to all the nice debug and development tools that my employer had. Not to mention getting more than a bit depressed for a while. I've got a new job but haven't had time to progress anything and seem unlikely to for the foreseeable future.

So if anyone is willing to take my firmware load out and finish the port to the 20b, I'd be very happy. What

remains is the actual hardware support and you can use HP's development base for the majority of this. PM me if interesting in finishing this project....

- Pauli

Re: HP Calc Repurposing

*Message #5 Posted by **Walter B** on 8 June 2010, 3:32 p.m.,*
in response to message #4 by Paul Dale

And there's quite some documentation available here, too. Includes an index of operations, addressing, catalogues, keyboard layout, fonts, messages, constants and conversions etc. FWIW ... d:-/

Re: HP Calc Repurposing

*Message #6 Posted by **Bruce Bergman** on 9 June 2010, 4:24 p.m.,*
in response to message #1 by Gene Dorr

Hi Gene --

I'm actually the owner of the wiki you mentioned. There definitely have been a few updates in the past couple of months. Any wiki like this one depends on user contributions in order to grow, so the more folks post things to the wiki, the better.

Also, the more word gets out there, that should improve things too. I know there is a fair amount of interest in the embedded world on how to repurpose these calculators. Especially in circles like the PIC and Arudino groups. It's just a matter of keeping up content and sharing the knowledge.

I have several things I need to post, and some updates to put there as well, but I've just been swamped. If anyone wants to help, just let me know -- I'd LOVE some help keeping things updated.

@Katie: I know you're one of the few consistent contributors to the wiki as well (thank you!!), but you mentioned other projects that weren't being followed on the wiki. If you can convince them to post and share information, or at least route stuff through me, I will try and get information up there.

Thanks!

Bruce

Re: HP Calc Repurposing

*Message #7 Posted by **Katie Wasserman** on 10 June 2010, 12:51 a.m.,*
in response to message #6 by Bruce Bergman

Bruce,

I think that you have their ear right here!

-Katie

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16C display problem

*Message #1 Posted by **John Robinson** on 7 June 2010, 7:45 a.m.*

Hi All, I have a 16C which had a leaky display, so I bought a 12c of the same vintage (1984) as a display donor. The 12c display was working perfectly, so I swapped out the 16c old display for the new 12c display, and after various attempts I have it working as best I can. However, one segment in one digit refuses to work.

I would have though these displays would be multiplexed, so if one segment doesn't work, then that same segment in all digits would not work. I have counted the number of contact pads for the siplay to be 57, which would not be enough to individually address all 7 segments and decimal point for 10 digits and annunciators etc, so I figure it must be multiplexed.

Can anyone help me to sort out this problem please ?

Thanks John

Re: 16C display problem: that´s new!

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 7 June 2010, 9:15 a.m.,*
in response to message #1 by John Robinson

Hi;

I have swapped some Voyager´s displays but never had such problem before.

In time: can you take a picture OR indicate which segment is the one refusing to 'lit'?

Sorry not helping the way I would like to...

Thanks and success!

Luiz (Brazil)

Re: 16C display problem: that´s new!

*Message #3 Posted by **John Robinson** on 7 June 2010, 7:12 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Hi Luiz,

I have it working now. I have been doing this with the display and metal surround as one unit. So coming in at an angle to install one edges four clips, then bring down the other edges clips. The results seem very much dependant on how well seated the display zebra strips are. I just kept on re-seating the display unil it worked. It's just a little tricky installing the display on one edge with the metal clips, then do the other edge, but by then then zebra strip on the first edge is not seated correctly.

I realise I could have removed the metal surround, and placed the display flat on the circuit board, then slid

the metal surround over and push the clips through the holes. Maybe that's the better way to do it to avoid problems like missing segments.

Cheers, john

Re: 16C display problem: that´s new!

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 7 June 2010, 10:26 p.m.,*
in response to message #3 by John Robinson

HI;

I use a long sewing needle to seat the zebra stripe correctly. The needle helps aligning it, either from the inside or the outside of the zebra stripe. If you look at the LCD assembly from the extreme edges, you´ll notice small cuts in both sides of the metal frame where the zebra stripes end. This is where I carefully insert the needle and align the zebra stripe accordingly.

I also came to the conclusion that placing the metal frame after the LCD + stripes works better. Unfortunately I had nothing but bad results with the early models with the flex circuit assembly...

Cheers.

Luiz (Brazil)

Edited: 8 June 2010, 8:03 a.m.

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HP-41 FOCAL to .ROM for Clonix/NoV's (or any other ROM-box)

*Message #1 Posted by **Diego Diaz** on 5 June 2010, 7:00 p.m.*

Hi all,

Since the Clonix module was released many users have tried to get their (or others') FOCAL programs converted into a .ROM image file. I still receive mail asking for such a solution.

Some detailed procedures have been described and eventually, with the appropriate hardware, several users have managed to have their own .ROM file gathering FOCAL programs of their own or available elsewhere.

Many FOCAL programs are available in .RAW format, but the process described below is usefull regardless the way you get the FOCAL program into MAIN memory.

Let's say that I'm not the one to credit about this all. I just find the pieces and put them together. Credits goes to Warren Furlow's for his V41 emulator and companion software.

The Pieces:

- V41 windows emulator. You'll find the link in this very site.

http://www.hpmuseum.org/simulate/simulate.htm

Go to "Free Simulations at other sites:", the fourth line leads you to the appropriate place.

- The .MOD file for the HEPAX module (included in V41 "MOD" directory)

- The ModFile.exe (or ModFileWin.exe) utility. Also available in V41's site.

- The .RAW files you want to include in your .ROM image. AND/OR patience enough to key in your own FOCAL program into V41... :-)

Procedure:

Dowload and install V41 (in case you haven't done yet)

Run V41 and go to edit configuration to include HEPAX.MOD.

Please note that V41 will start as 41CX. It is recommended to use 41CV instead to avoid HEPAX emulation failure. If you "really" need 41CX mode in V41 then you'll (also) "need" 82143A.MOD printer loaded, in order to push HEPAX to page #7.

If HEPAX is not loaded into an odd page it will run at first instance but will refuse to start-up after power cycling. This is not a malfunction of the V41 emulator, it's just that HEPAX has its own instructions and V41 emulates just the HP-41, not the module itself.

Once V41 is running with HEPAX:

- Load as many .RAW program files as you want/can (or type them) into main memory.

- Use HEPAX "HSAVEP" to compile the FOCAL program(s) and move it into HEPAX RAM. (See HEPAX manual for details on HSAVEP command.)

- Once you've saved a program into HEPAX RAM you can clear it from MAIN memory using CLP command.

- Repeat the steps above as needed to get your HEPAX RAM page(s) loaded with the program(s) you want. There are two RAM pages in HEPAX.MOD emulation. (8K in total)

- Once finished you may want to run HEXEDIT to modify H'8000 and/or H'9000, these are the XROM # of the .ROM(s), in order to avoid conflicts with other known XROM numbers.

- Turn OFF (close) V41.

- Execute MODfile.exe (or MODfileWin.exe) and extract .ROM files from HEPAX.MOD.

- You'll get 4 HEPAX??n.ROM files (we don't need these) and two HPX-STD-RAM1.ROM and HPX-STD-RAM2.ROM. Yes!, these are the files we've been doing it all for... ;-)) If your program(s) fits in 4K, only RAM1 file is needed.

- Rename these files at your convenience. If you're about to use them with Clonix/NoV's use 8.3 naming convention, and place them in the Clonix/Nov working directory.

That's all folks. All in a row, no extra hardware required, plain and clear.

Hope you find it useful.

Cheers from the Canary Islands

Diego.

Re: HP-41 FOCAL to .ROM for Clonix/NoV's (or any other ROM-box)

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 5 June 2010, 7:54 p.m.,*
in response to message #1 by Diego Diaz

Hi, Diego;

and thanks! This is enlightening in any way, even when the user has done this before. I have once done that a few years ago, when I had the hardware to do it, but the way you post about it eases the procedure.

Just a question/suggestion: isn't it worth an article? 8^)

Cheers and thanks again!

Re: HP-41 FOCAL to .ROM for Clonix/NoV's (or any other ROM-box)

*Message #3 Posted by **Diego Diaz** on 6 June 2010, 11:57 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Hi Luiz,

I was pretty sure that some other users must as well have gone this path, but haven't found it detailed, so I decided to post.

I'll gladly put it into the Articles forum if it deserves general interest. A better text formatting will be required though.

Thanks for your kind words and best wishes.

Diego.

Re: HP-41 FOCAL to .ROM for Clonix/NoV's (or any other ROM-box)

*Message #4 Posted by **PeterP** on 7 June 2010, 11:19 a.m.,*
in response to message #1 by Diego Diaz

Diego,

a little while ago I posted an article which allows the very same thing, using different means. It also helps in case users want to mix and match Focal and MCODE programs in the ROM.

You can find the article here

Cheers

Peter

Re: HP-41 FOCAL to .ROM for Clonix/NoV's (or any other ROM-box)

*Message #5 Posted by **Diego Diaz** on 7 June 2010, 12:30 p.m.,*
in response to message #4 by PeterP

Hi Peter,

Good to read from you... :-)

I do know your article. Just think this is intended for a different user target.

My notes are mostly aimed to de "average" user. No M-code, no MS-DOS PC to run EMU-41, or SDK-41... just wanting a few FOCAL programs into a .ROM file, the easiest possible way.

(Still don't know if I hit my target though...;-)

BTW, I'll mail you in short regarding those VASM listings.

Meanwhile, best of lucks from Spain.

Diego.

Re: HP-41 FOCAL to .ROM for Clonix/NoV's (or any other ROM-box)

*Message #6 Posted by **Ángel Martin** on 8 June 2010, 8:52 a.m.,*
in response to message #5 by Diego Diaz

If I may chime in here...

This is a slippery subject. Diego's procedure is easy enough to be successfully used by casual users without a deep understanding of the intricacies involved.

I currently use the MLDL2k to download the HEPAX ram ROM files (either from V41 or the real

mlife machine,, that's the beauty of it). To edit them (subtleties like converting XEQ to XROM, FAT changes, MCODE additions, etc) is possible using the disassembler (also part of MLDL2k software). But this is a tad too much for "casual users" - assuming they exist :)

Cheers, ÁM

Re: HP-41 FOCAL to .ROM for Clonix/NoV's (or any other ROM-box)

*Message #7 Posted by **Meindert Kuipers** on 8 June 2010, 1:44 p.m.,*
in response to message #6 by Ángel Martin

And for the i41CX users: my next version of M2kM supports extraction (and thus disassembly) of emailed .MOD files or HEPAX RAM files ...

Meindert

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The CMOS memory has died in my HP-25C

*Message #1 Posted by **Michael de Estrada** on 5 June 2010, 5:21 p.m.*

Yesterday I turned on my HP-25C and discovered that the contents of program memory and the storage registered had been lost. Thinking it was just a low battery, I replaced it with a fully charged NiCad battery pack, but still CMOS memory would not retain any entries. Even with the calculator powered on, I could not store data in any of the registers or a program. Also, statistical operations would not function properly, as they rely on the contents of the storage registers. This calculator has not been subjected to the killer AC adapter, since I charge the batteries externally, and only operate the calculator from batteries, so I don't think this failure is the result of any abuse or misuse. Has anyone else on this forum experienced this type of failure?

(edited) Re: The CMOS memory has died in my HP-25C

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 5 June 2010, 6:08 p.m.,*
in response to message #1 by Michael de Estrada

(added: I checked Eric´s HP Calculator Chips and I would like to call your attention to some data I posted. I seem to have seen some ACT chips elsewhere, but chances are that I mixed the pictures. Please, follow Eric´s link and confirm.)

Hi;

I bought an HP22 some weeks ago and it has the same problem. I could also buy two HP25 and three HP21 that are not working, and along with some previous pictures I kept from other HP25, HP22 and HP21 I was able to repair, I consolidated some information.

Both HP22 and HP25 use the same PCB layout and differ only in their ROM chips. I found that three of the five IC´s in these calculators have the same codes. The ACT varies from some models, and I collected these codes:

```
1820-1523
1820-1596 (both seen in the HP21, too)
1820-1741 (seems to be used by the HP29C, too)
```

Display driver appears in all three of them with the code:

```
1820-1382
```

ROM chip varies:

```
1818-0163 + 1818-0164 for the HP22 (found in two different units)
1818-0154 + 1818-0168 for the HP25 (I seem to read 1818-0158 in one of them...)
1818-0129 for the HP21
```

I found the same RAM chips in both the HP22 and the HP25 (the HP21 seems to use available ACT registers only)

```
1820-1564
```

I also happen to have seen an HP25C with two RAM chips but their codes were not visible. In another HP25C there is a RAM chip written:

HP5061-0469 2

That is all information I have so far. Please, if there is something else to be added, I'd appreciate. If there is more information about this somewhere else, please, point the addresses out!

AND if I messed some information up, PLEASE, point it out!

Cheers.

Luiz (Brazil)

Edited: 6 June 2010, 12:19 a.m.

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Knocking on HP-41s back door :-)

*Message #1 Posted by **Juergen Rodenkirchen** on 5 June 2010, 4:45 p.m.*

Hello all!

The display of my HP-41CX sometimes fades out (goes off) immediately after switching the machine on. Slightly tapping on the back (battery compartment door) usually brings it back to life. Any idea what the reason for this behavior could be?

Regards, Jürgen

Re: Knocking on HP-41s back door :-)

*Message #2 Posted by **Diego Diaz** on 5 June 2010, 5:22 p.m.,*
in response to message #1 by Juergen Rodenkirchen

Hi Juergen,

It seems a typical case of weak contacts.

There are several points inside HP-41 that may lead to such a behaviour.

- Battery <> I/O block, (both coconut and halfnut), often caused by battery leakage corrosion, or mechanical damage in the I/O block battery terminals/or battery compartment springs.

- I/O Block <> Keyboard (both coconut and halfnut), more likely caused by broken post in the upper screws, or battery leakage corrosion.

- CPU board <> Keyboard (only coconut -AKA fullnut-), caused by broken post in the lower screws, or damaged "zebra" strip (be it polymer or metallic)

- LCD <> LCD control board (coconut, very unlikely on halfnuts) again damaged "zebra" strips are the more common cause.

If your I/O block is clean and shows no traces of corrosion, my advice is to take your HP-41 apart and check for broken/cracked screw post(s).

Hope this helps.

Diego.

Re: Knocking on HP-41s back door :-)

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 5 June 2010, 5:27 p.m.,*
in response to message #1 by Juergen Rodenkirchen

Hi;

there is also a capacitor that might be responsible for a similar behavior. I had one HP41C with a similar problem and this is the thread after it. Hope this helps.

Luiz (Brazil)

Edited: 5 June 2010, 6:18 p.m.

Re: Knocking on HP-41s back door :-)

*Message #4 Posted by **Juergen Rodenkirchen** on 7 June 2010, 3:10 p.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

Hi Diego, Luiz,

thanks for your inputs. It helps a lot to localize the problem!

Best Wishes, Jürgen

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Any information about Canon f-788dx?

*Message #1 Posted by **Manolo Sobrino** on 5 June 2010, 12:13 p.m.*

Hi,

This is my first post after some time lurking in the forum. I don't know if the subject really belongs here, but this is the most learned calculator forum around and I'm really intrigued by this Canon calculator currently (and rarely) sold in Europe,

http://www.canon-europe.com/For_Home/Product_Finder/Calculators/Scientific/F_788dx/

Specs (got them somewhere),

10+2 digits Mantissa + Exponent, Double line LCD with 12-character dot matrix, Screen size: 63 x 22 mm, Memory: 1 = 20 store and recall memories, Battery: CR2032 x 1; General Calculations: 24 levels of parenthesis, Trigonometric Calculations, Coordinate Conversion, Factorial, Combination, Permutation, Fraction, Complex, 170 metric conversions, Statistics Calculations; 79 scientific constants, 9 engineering values, Last digit corrections, Last answer recall, Multiple replay; Total functions: 497 functions including calculus calculations and matrix vector calculation, Size: 155 x 80 x 14.5 mm (without cover), 158 x 84 x 18 mm (with cover), Colour: Dark gray, white; Protective hard cover, Auto-power Off: 7 min with memory protection while Power-Off

There is very little information on the web (besides some Romanian reviewer that claims it has some kind of CAS... Sounds strange for a calculator under 18£ (at Amazon UK)). I've been looking for the Kinpo model (I suppose it's a Kinpo, am I wrong?).

Any information would be appreciated (Maybe any owner out there?)

Regards

Re: Any information about Canon f-788dx?

*Message #2 Posted by **Lyuka** on 5 June 2010, 1:06 p.m.,*
in response to message #1 by Manolo Sobrino

Hi.

Though it is written in Japanese, at least you can get a manual of the F788DX from,
http://cweb.canon.jp/manual/calculators/f/f788dxs.pdf

Re: Any information about Canon f-788dx?

*Message #3 Posted by **Manolo Sobrino** on 5 June 2010, 2:00 p.m.,*
in response to message #2 by Lyuka

Thank you!

I get the picture... kind of casio fx 991ms with some more conversion options and more scientific constants

(codata 2002). The CAS appears to be just a very limited ability to evaluate polinomial integrands, it looks a bit odd too. Complex support is minimal, at least it can solve cubics. Basic matrix operations, scalar and vector products... I can't figure out anything about the precision. Metric conversions look nice.

Regards

Re: Any information about Canon f-788dx?

*Message #4 Posted by **Lyuka** on 5 June 2010, 3:08 p.m.,*
in response to message #3 by Manolo Sobrino

The internal digits are 16, and its precision is +/- 1 least significant digit per operation. (see p.10)

Re: Any information about Canon f-788dx?

*Message #5 Posted by **MK-52** on 6 June 2010, 11:50 a.m.,*
in response to message #1 by Manolo Sobrino

Hello,
I have a F-788dx. Actually, this calculator is the brother of Casio fx-991MS because F-788dx has the same bad RCL behavior or RCL bug like Casio S-VPAM models. I think F-788dx is a 2nd generation of Canon calculators. Canon fixed the RCL bug in 3rd generation.

1st generation of Canon calculators
F-502 F-720i
2nd generation
F-788dx
3rd generation
F-715S F-766S F-502G
4th generation
F-718S (Natural Display, 18 internal digits, no solver and numerical integration)

Edited: 6 June 2010, 12:00 p.m.

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HP-35 Case

*Message #1 Posted by **aj04062** on 5 June 2010, 7:36 a.m.*

Can anyone describe what the original soft case version(s) looked like for the HP-35?

Re: HP-35 Case

*Message #2 Posted by **Thomas Chrapkiewicz** on 5 June 2010, 12:02 p.m.,*
in response to message #1 by aj04062

Relatively thin black leather(like?) material with a flap over the top closed with velcro. With intgral belt loop. I can send pics if you like.

TomC

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HP12C programming primer?

*Message #1 Posted by **PatrickR** on 5 June 2010, 7:06 a.m.*

I am new to programming the HP12C and I was wondering if there are any "best practices" or primer/tips&tricks guides on the technique, especially loops and conditional logic (as these are very limited). Is it possible to say e.g. a FOR loop is always constructed with XXX commands, and a IF should always be translated to YYY, or is it best to just find a made-to-measure method every time?

I have succeeded in making some simple macro programs (e.g. quadratic root solver and similar keystroke automation) and I do understand the architecture of the bigger programs (moon lander, fast trigonometric), but I am sometimes surprised by clever tricks that I would never think of, and am unsure where to start.

Re: HP12C programming primer?

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 5 June 2010, 12:49 p.m.,*
in response to message #1 by PatrickR

Hi;

I think the 'HP12C Owner´s Handbook and Problem Solving Guide' is the best source of basic techniques, but you may also find these ones very useful:

HP12C Platinum Solutions Handbook (also for the basic HP12C)
Writing a small Program (HP12C)
Programming in Algebraic Vs. RPN
Introducion to the Learning Modules

Maybe (almost sure about it) some of the links point to some already known material, but it is worth having a look at them. I am also trying to find the HP12C Learning Modules in PDF version but I failed. If anyone else knows where to download them from I'd also be thanked.

Success!

Luiz Brazil)

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MoHPC *The Museum of HP Calculators*

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41C - Fun Stuff modules soon available

*Message #1 Posted by **Ángel Martin** on 5 June 2010, 5:22 a.m.*

Coming back to the games ROMs idea, here's the list of the top-three ROMS - soon available at TOS:-

1. Playground ROM, includes such classics like Valentin Albillo's Reversi, MiniChess, and Checkers plus a few others (Rollers, MasterMind, Morse Code and sound effects)

2. Rubiks ROM.- Includes Julian Perry's Rubiks Cube Solver - plus a couple of extras (Roman numbers, Hanoi Towers, 8-Queens solver).

3. CHESS ROM.- Finally the CH136 construct (by Claude Roeltgen) has been harnessed into a ROM. It took serious work to re-populate the missing labels but now it's all compatible with standard programming. I augmented it with a MCODE move input function for ease of use.

So far they are three individual 4k roms. Could be combined into a single 12k module if preferred, but that'll take some changes. Ideally suited for V41 execution in Turbo Mode... (where's NEWT??)

Have fun!

Edited: 5 June 2010, 10:50 a.m. after one or more responses were posted

Re: 41C - Fun Stuff modules soon available

*Message #2 Posted by **Massimo Gnerucci (Italy)** on 5 June 2010, 8:08 a.m.,*
in response to message #1 by Ángel Martin

Awesome work Ángel, as usual!
Eagerly awaiting for them... ;-)

Greetings,
Massimo

Re: 41C - Fun Stuff modules soon available

*Message #3 Posted by **Geir Isene** on 5 June 2010, 12:59 p.m.,*
in response to message #1 by Ángel Martin

Yatzee in the Playground ROM?

Also, I haven't forgotten the Ultimate Stat ROM that we were e-mailing about. I will get around to answer your latest mail.

Re: 41C - Fun Stuff modules soon available

*Message #4 Posted by **Ángel Martin** on 6 June 2010, 1:27 a.m.,*
in response to message #3 by Geir Isene

Sorry but I'm not familiar with Yatzee - but anything goes, assuming there's a RAW file for it (I've had my dose of keying code by hand, I assure you).

I can't wait to see the printouts of checkers, reversi and minichess on i41CX+, should be the absolute retro coming alive.

Edited: 6 June 2010, 1:29 a.m.

Re: 41C - Fun Stuff modules soon available

*Message #5 Posted by **Geir Isene** on 6 June 2010, 9:00 a.m.,*
in response to message #4 by Ángel Martin

Yatzee: http://www.rskey.org/gene/hpgene/yz.htm

Re: 41C - Fun Stuff modules soon available

*Message #6 Posted by **gene wright** on 6 June 2010, 11:25 p.m.,*
in response to message #5 by Geir Isene

Hey, I'm honored!

My favorite game and, along with SKUNK, the only big games I ever programmed!

Re: 41C - Fun Stuff modules soon available

*Message #7 Posted by **Paul Dale** on 8 June 2010, 5:36 a.m.,*
in response to message #1 by Ángel Martin

Another couple of things worth adding:

* A decent random number generator. HP's suggested a linear congruential for many years and this would be okay but something a bit more modern would be better.

* Based on the above some dice rolling routines -- d6 2d6 ndm+k

- Pauli

Re: 41C - Fun Stuff modules soon available

*Message #8 Posted by **Geir Isene** on 8 June 2010, 8:12 a.m.,*
in response to message #7 by Paul Dale

If I get around to it I have a short and sweet Mcode RNG routine based on the Time module/CX.

Re: 41C - Fun Stuff modules soon available

*Message #9 Posted by **Ángel Martin** on 8 June 2010, 8:39 a.m.,*
in response to message #8 by Geir Isene

Jean-Marc Baillard has written such a routine, you can find it at his hp41 program pages: (scroll down until you find it)

http://hp41programs.yolasite.com/m-code.php

Håkan Thorngren wrote another implementation using a seed stored in a buffer - this one is available

on the SandMath, functions SEEDT and RAND.

It's very easy to add them to the games module, but that only makes ense if they're used in the programs of course. Modyfying them will require some time though.

Edited: 8 June 2010, 8:45 a.m.

Re: 41C - Fun Stuff modules soon available

*Message #10 Posted by **Geir Isene** on 8 June 2010, 3:25 p.m.,*
in response to message #9 by Ángel Martin

My idea is to take the time register (current time) and reverse all the bits and save it to X as a fractional number. Simple.

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Windows7 calc

*Message #1 Posted by **Glenn Shields** on 4 June 2010, 9:36 p.m.*

Just got a new HP desktop with Windows7, and checked out the calculator in scientific mode. Even the "standard" mode has a new look to it, but the scientific is really new. It has many features that resemble a 35s or 50g in algebraic mode (no, no RPN to be found) but with special features which attach to the right side like spreadsheets or "inform" windows of the 50g. It also had digit grouping (commas) - they must have read previous posts on this forum. Even has a pseudo-stack (history) but it really isn't the same. Worth a look. Glenn in West-LA

Re: Windows7 calc

*Message #2 Posted by **Norman Dziedzic** on 4 June 2010, 10:08 p.m.,*
in response to message #1 by Glenn Shields

I was watching over a friends shoulder and did a double take at this calculator. I seem to remember it had some decent additions to the "programmer" functions as well as far as hex & binary modes but I don't remember for sure. Can you take a look at that aspect and report back?

Re: Windows7 calc

*Message #3 Posted by **Martin Pinckney** on 4 June 2010, 11:00 p.m.,*
in response to message #2 by Norman Dziedzic

Yes, I was impressed with it, myself. Even thought of posting on here about it, but figured all you geeks already knew.

Besides Basic and Scientific modes, it has Programmer and Statistics.

Then you can add Unit Conversions, Date Calculations, or Worksheets to the essential calculator function. The window expands to the right of the calculator and these appear.

Worksheets include Mortgage, Vehicle lease, and fuel economy (U.S. and S.I. units).

Re: Windows7 calc

*Message #4 Posted by **sjthomas** on 4 June 2010, 11:02 p.m.,*
in response to message #2 by Norman Dziedzic

Hex, dec, oct & binary modes. Qword, Dword, word & byte (displays?). Bit-shifting & logical operators. Full 64-bit binary display in addition to regular display. Memory register. Square root, percentage & reciprocal. Mod. Oh, and PARENTHESES!!!

Re: Windows7 calc

*Message #5 Posted by **Martin Pinckney** on 4 June 2010, 11:20 p.m.,*
in response to message #2 by Norman Dziedzic

The Unit Conversions really caught my eye.

Some categories are very well implemented, with such units as *chain*, *fathom*, *span* and *hand* in Length, and *long ton*, *short ton*, *tonne*, *carat*, and *stone* in Weight/mass, for example.

Pressure could have been done better.

I won't give up my 48sx, though.

Re: Windows7 calc

*Message #6 Posted by **Lyuka** on 5 June 2010, 1:41 p.m.,*
in response to message #5 by Martin Pinckney

Hi,

You can download ' Microsoft calculator plus ' from MS Download center.

It's look is really cute, but the unit conversions of the Power category should better include dBm.

Lyuka

Re: Windows7 calc

*Message #7 Posted by **Namir** on 5 June 2010, 4:00 a.m.,*
in response to message #1 by Glenn Shields

Looks like someone in Microsoft did a good job updating the clunky old calculator application and forgot to advertise the worthwhile upgrade. I really like the new calculator accessory. I also like that it also displays (at least in sci mode) the operations that lead to the current results. I thought using sind() and asind(), for example, indicated that you were using sine and arc-sine in degree mode, was clever. In case you changed angle mode and kept on calculating, you still know how you got the currently displayed value!

The next upgrade should include RPN.

Namir

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HP 9830A mentioned in recent book "The Quants"

*Message #1 Posted by **Scott Newell** on 4 June 2010, 9:31 p.m.*

There's passing reference to Ed Thorp using an HP 9830A in Scott Patterson's book "The Quants: How a New Breed of Math Whizzes Conquered Wall Street and Nearly Destroyed It". In the book it's described as a computer, not a calculator. Still, I was surprised that he actually listed the model number!

It's on pages 37 and 38 of the book. Google book search for "9830A he'd installed in his office in Newport Beach" should take you right to it.

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HP12c repurposing project

*Message #1 Posted by **TomL** on 4 June 2010, 8:29 p.m.*

Hi

I read about the repurposing project for the HP12c and was wondering if anyone has updates?

HP12C Wiki

The photographs show 2xCR2032 batteries and the serial connector yet I've seen that the new HP12Cs only use one CR2032. Does anyone know if this also has the serial connector?

And speaking of the serial connector, Ive read that it is available on HPs site but I haven't found it there or even seen a mention of it in the HP20B SDK?

All the best Tom

Re: HP12c repurposing project

*Message #2 Posted by **Don Shepherd** on 4 June 2010, 8:40 p.m.,*
in response to message #1 by TomL

The new 12c+ uses two CR2032's; you can tell by the extra-wide battery door, which is visible from the shrinkwrap. If you buy a 12c today and it has one CR2032, it is not the ARM-based unit.

Re: HP12c repurposing project

*Message #3 Posted by **Katie Wasserman** on 4 June 2010, 9:53 p.m.,*
in response to message #1 by TomL

> Quote:
>
> And speaking of the serial connector, Ive read that it is available on HPs site but I haven't found it there or even seen a mention of it in the HP20B SDK?

I haven't heard anything about this, do you have a pointer to where you read this?

Thanks, Katie

p.s. Richard Nelson's artcile tells you pretty much everything you need to know in order to make your own serial programming cable except how to make the fancy 6 pin plug (or better still, where to buy it).

Edited: 4 June 2010, 9:57 p.m.

Re: HP12c repurposing project

*Message #4 Posted by **TomL** on 4 June 2010, 10:09 p.m.,*

in response to message #3 by Katie Wasserman

Hi Katie

It says that its available from HP on the Wiki site (I linked to it on my first post)

I suppose it is easy enough to make that serial cable but itll be a pain to need to hold it in place while flashing. Suppose we need to contact Cyrille for this?

Tom

Re: HP12c repurposing project

*Message #5 Posted by **Katie Wasserman** on 4 June 2010, 10:16 p.m.,*
in response to message #4 by TomL

This is getting rather circular, I was the one that wrote that on the Wiki. Yes, as far as I know Cyrille or Tim from HP are the only people who can provide this cable.

-Katie

Edited: 4 June 2010, 10:18 p.m.

Re: HP12c repurposing project

*Message #6 Posted by **TomL** on 4 June 2010, 11:04 p.m.,*
in response to message #5 by Katie Wasserman

So, I received an email from Richard (very fast!) and it appears that Cyrille at HP is the only person with these cables so Ive contacted him

Has anyone tried the HP20B SDK with an HP12C? Any experiences?

Re: HP12c repurposing project

*Message #7 Posted by **Katie Wasserman** on 5 June 2010, 12:31 a.m.,*
in response to message #6 by TomL

The 20b SDK won't work on the 12C+, only the CPU is the same the peripherals are all different, but there is an SDK of sorts (sample program actually) for the 12C+. Ask Cyrille about this.

Re: HP12c repurposing project

*Message #8 Posted by **Scott Newell** on 4 June 2010, 10:31 p.m.,*
in response to message #3 by Katie Wasserman

> Quote:
>
> programming cable except how to make the fancy 6 pin plug (or better still, where to buy it).

I've been wondering if the Mill-Max strips (Mill-Max product page) would work. That wouldn't get you the nice snap in housing, through. Next time I place an order I'll see about getting one of those strips to test.

Re: HP12c repurposing project

*Message #9 Posted by **Katie Wasserman** on 5 June 2010, 12:38 a.m.,*
in response to message #8 by Scott Newell

Pogo pins are pretty easy to find maybe even in 2 x 3 arrangements. But unless you can create some sort of locking plug it's going to be hard to hold the connector in place while programming. Maybe you could come up with some sort of fixture that the calculator could rest in when programming. The pogo pins would point up and I think that the weight of the calculator would be enough to make contact with all 6 pins.

Re: HP12c repurposing project

*Message #10 Posted by **Scott Newell** on 5 June 2010, 1:40 a.m.,*
in response to message #9 by Katie Wasserman

I too had thoughts of a fixture. Now that I've moved to windows XP, SAM-BA programs pretty quickly. It wouldn't be the end of the world to have to hold the contacts in place while programming (but unworkable if you were using the serial port for debugging). The trick would be hitting the calc's on key while holding the connector in place, holding down the erase button, and starting up SAM-BA.

If I was to build a fixture or cable from scratch, I'd seriously consider using the PC's serial port handshake lines to control the erase and reset pins, and maybe included a 3.3V regulator to power the calc from the PC as well. If only you could hit the on key through the cable, the whole programming process could be automated.

Now I did modify my programming cable so that I can power the calc off a 6218A power supply instead of using the coin cells. It also makes it easier to measure the current drain without having clip leads dangling everywhere.

Re: HP12c repurposing project

*Message #11 Posted by **Katie Wasserman** on 5 June 2010, 10:44 a.m.,*
in response to message #10 by Scott Newell

> Quote:
>
> Now I did modify my programming cable so that I can power the calc off a 6218A power supply

That's an excellent idea and a cute little power supply too. (Yes, describing a power supply as 'cute' is more than a little weird but this family of of HP (pre-Agilent) power supplies really are.)

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DIY Calc Hardware Platform

*Message #1 Posted by **Donald Williams** on 4 June 2010, 2:28 p.m.*

Lots of past discussions about DIY calcs, so I thought some people might find this device interesting. The NanoNote might not make an ideal calculator platform, since there would be a problem with dedicated keys, but everything is documented and keycaps are replaceable.

Link to NanoNote

$99.00 USD (I think?)

Edited: 4 June 2010, 2:30 p.m.

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Why hyperbolic functions are critical !

*Message #1 Posted by **gene wright** on 4 June 2010, 12:26 p.m.*

TI had them. HP's did not.

In this case, TI was correct. Hyperbolic functions were critical to avoiding doom!

I saw this while watching the classic 1951 movie "The day the earth stood still" recently, which if you haven't seen, you should.

Professor Barnhardt's blackboard has equations written all over it that are critical for humanity to solve to get into space. Klaatu gives him a helping hand.

The equations definitely show hyperbolic trig functions. I had never noticed them until this time. Below is a picture of the blackboard, but it is too blurry to show the equations well...but they are there!

Anyone find a better picture or have the DVD to capture a frame to show?

:-) Who knew?

Re: Why hyperbolic functions are critical !

*Message #2 Posted by **Namir** on 4 June 2010, 12:56 p.m.,*
in response to message #1 by gene wright

And if we can calculate hyperbolic functions (and inverses) using an HP12C, then all is good in the land!

:->

Namir

Re: Why hyperbolic functions are critical !

*Message #3 Posted by **Ken Shaw** on 4 June 2010, 1:11 p.m.,*
in response to message #1 by gene wright

I vaguely recollect that the top left part of the blackboard has some equations that you would expect to find in an introductory calculus course, not on a scientist's blackboard! (OTOH, they are at least valid equations, IIRC.)

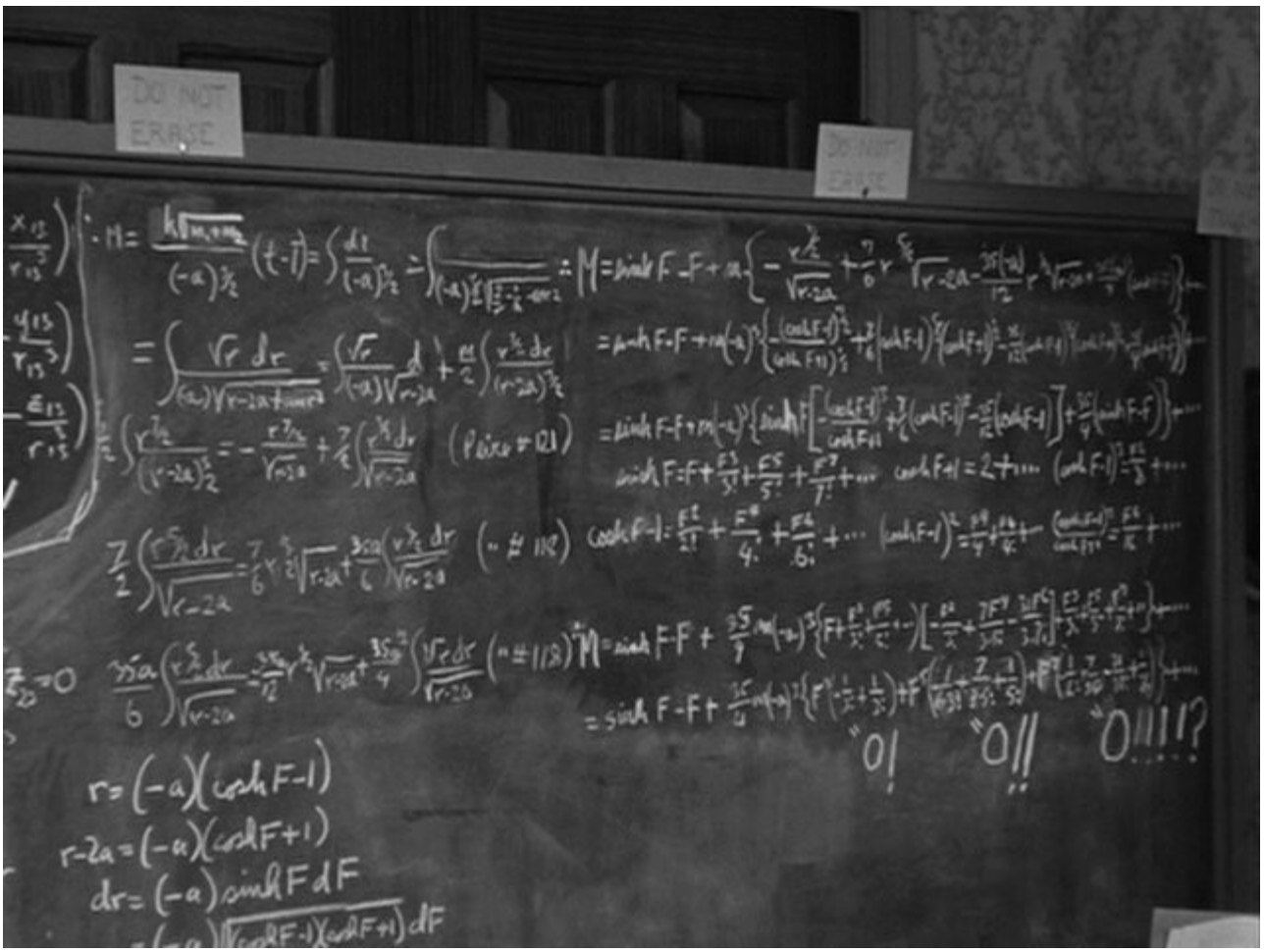
But I have the DVD. I'll see if I can grab a useful frame for you.

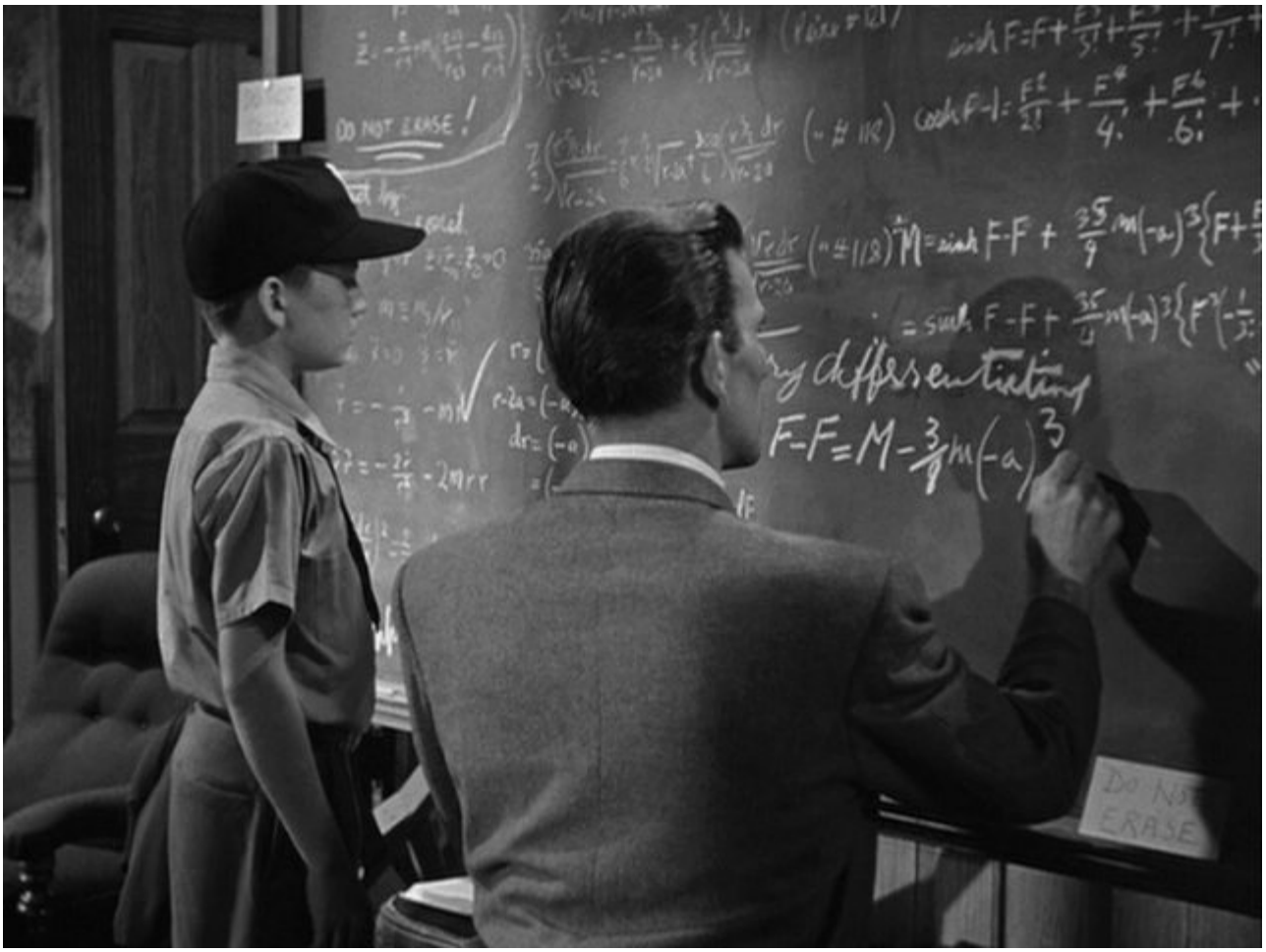
Re: Why hyperbolic functions are critical !

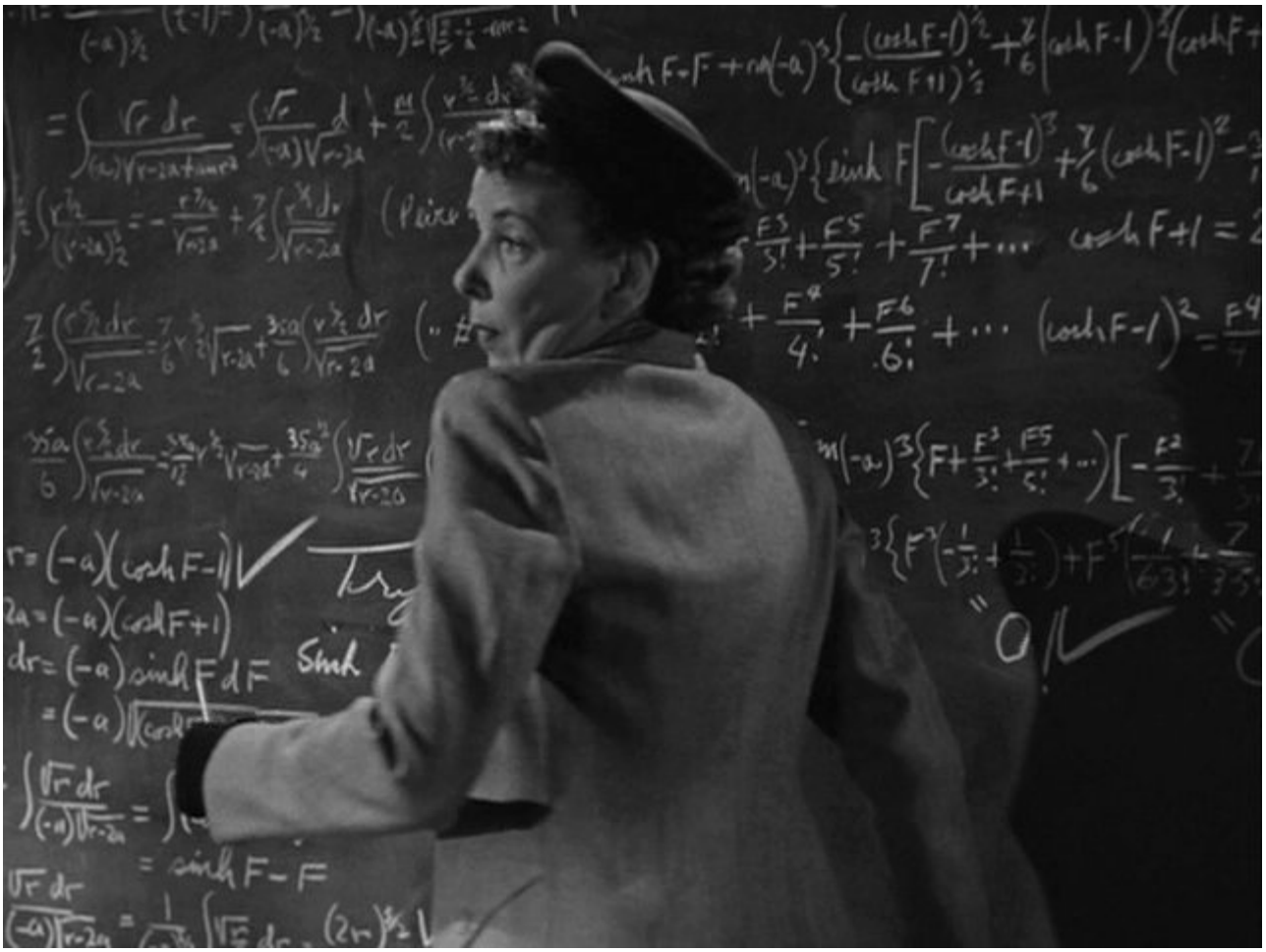
*Message #4 Posted by **Gene Wright** on 7 June 2010, 11:18 a.m.,*
in response to message #3 by Ken Shaw

Here are the screen shots from the DVD courtesy of Ken. Thank you!

As I said, hyperbolic functions were critical to avoiding destruction of the human race in 1951. TI may have simply been trying to make sure we continued to survive! Why wasn't HP interested? lol. :-)




DO NOT ERASE !
differentiating
F-F=M-3/9 m(-a)3
DO NOT ERASE



Re: Why hyperbolic functions are critical !

*Message #5 Posted by **Don Shepherd** on 7 June 2010, 11:29 a.m.,*
in response to message #4 by Gene Wright

Gene, I think the key to the survival of the earth is found in the first picture of your post. Bottom right corner: 0! and 0!! and 0!!!!?

If we can find a way of logically explaining to students why 0! = 1, then we will have the capacity to figure out how to survive as a species. And if can explain double-factorial and quadruple-factorial, we will indeed be the supreme species!

Re: Why hyperbolic functions are critical !

*Message #6 Posted by **Gene Wright** on 7 June 2010, 12:05 p.m.,*
in response to message #5 by Don Shepherd

Lol

I'm not sure that's intended to be 0 factorial, etc, but surprise that the term turns out to BE zero.

Love this movie.

Re: Why hyperbolic functions are critical !

*Message #7 Posted by **Norman Dziedzic** on 7 June 2010, 1:53 p.m.,*
in response to message #5 by Don Shepherd

You missed the " before each term so we actually need to figure out the double derivative of the quad-factorial of 0. <hmmm>

Re: Why hyperbolic functions are critical !

*Message #8 Posted by **Walter B** on 7 June 2010, 2:48 p.m.,*
in response to message #7 by Norman Dziedzic

Look like equal signs to me, pointing to northwest or southeast :->

Re: Why hyperbolic functions are critical !

*Message #9 Posted by **Gene Wright** on 7 June 2010, 2:52 p.m.,*
in response to message #8 by Walter B

lol.

I think it is an equals sign for the terms above it. The !!! are the surprise of Dr. Barnhardt that the terms were equal to 0.

Re: Why hyperbolic functions are critical !

*Message #10 Posted by **Gerson W. Barbosa** on 7 June 2010, 5:41 p.m.,*
in response to message #9 by Gene Wright

Yes, one of the terms appears to be

```
 5   /   1        7          1     \
F * | - ---- + ------  + -----    | ,
    \  6*3!     3*5!        5!    /
```

which is indeed equal to 0.

Re: Why hyperbolic functions are critical !

*Message #11 Posted by **Martin Pinckney** on 7 June 2010, 9:25 p.m.,*
in response to message #10 by Gerson W. Barbosa

What is "F" in the relations?

Re: Why hyperbolic functions are critical !

*Message #12 Posted by **Gerson W. Barbosa** on 8 June 2010, 7:29 p.m.,*
in response to message #11 by Martin Pinckney

I don't have the foggiest notion ... By the way, does anyone know if those equations have a meaning at all?

Re: Why hyperbolic functions are critical !

*Message #13 Posted by **Ken Shaw** on 9 June 2010, 12:46 p.m.,*
in response to message #12 by Gerson W. Barbosa

In an interview, Robert Wise (the film director) said they hired an academic

to write a problem in orbital mechanics on the board (or words to that effect).

There's something like it here (link).

Re: Why hyperbolic functions are critical !

*Message #14 Posted by **Martin Pinckney** on 9 June 2010, 1:39 p.m.,*
in response to message #11 by Martin Pinckney

Turns out "F" is the "hyperbolic eccentric anomaly". This is clearly explained in *Spacecraft Systems Engineering* By Peter W. Fortescue, John Stark, and Graham Swinerd.

Re: Why hyperbolic functions are critical !

*Message #15 Posted by **Eric Smith** on 8 June 2010, 3:19 a.m.,*
in response to message #5 by Don Shepherd

> Quote:
>
> If we can find a way of logically explaining to students why 0! = 1

Trivially.

```
(n+1)! = n! * (n+1),  by the definition of factorial
n! = (n+1)! / (n+1)
2! = 3! / 3,   and since 3! = 6, 2! = 2
1! = 2! / 2,   and since 2! = 2, 1! = 1
0! = 1! / 1,   and since 1! = 1, 0! = 1
```

One more step shows why (-1)! is undefined, and by extension, the factorial of any negative integers.

> Quote:
>
> then we will have the capacity to figure out how to survive as a species.

If only it were that easy!

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Carly runs for the Senate

*Message #1 Posted by **Palmer O. Hanson, Jr.** on 3 June 2010, 10:36 p.m.*

Pages 34 through 39 of the June 7 issue of *The New Yorker* covers the Republican primary race for the U. S. Senate seat from California which is currently held by Barbara Boxer. Interesting reading, if only to see once again how Carly sees her stint at HP.

Re: Carly runs for the Senate

*Message #2 Posted by **Garth Wilson** on 4 June 2010, 12:40 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

I have mixed feelings; but almost anyone would be better than the incumbent!

Re: Carly runs for the Senate

*Message #3 Posted by **Namir** on 4 June 2010, 2:12 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

She could be facing a challenge from someone who used to run TI??? I mean this HP/TI rivalry, where does it end???!!!

:-)

namir

Re: Carly runs for the Senate

*Message #4 Posted by **John B. Smitherman** on 4 June 2010, 11:26 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

Well, the important question that the voters want answered is what is their stand on algebraic vs rpn vs rpl? ;-)

My guess is that Boxer is a 12c user while Fiorina hires people to do her calculations. ;-)

John

Re: Carly runs for the Senate

*Message #5 Posted by **Martin Pinckney** on 4 June 2010, 3:27 p.m.,*
in response to message #4 by John B. Smitherman

> Quote:
>
> My guess is that Boxer is a 12c user...

TI-503

Carly wins primary!

*Message #6 Posted by **Martin Pinckney** on 9 June 2010, 8:13 p.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

Subject is self-explanatory.

Re: Carly wins primary!

*Message #7 Posted by **Andrés C. Rodríguez (Argentina)** on 10 June 2010, 8:00 a.m.,*
in response to message #6 by Martin Pinckney

She may have an HP-67, and think the "P<>S" key means "Primary<>Senate"

Re: Carly wins primary!

*Message #8 Posted by **Martin Pinckney** on 10 June 2010, 10:00 a.m.,*
in response to message #7 by Andrés C. Rodríguez (Argentina)

> Quote:
>
> She may have an HP-67,

Probably not. It was during her tenure at HP that the 48gx and the last of the Pioneers were discontinued, and production was outsourced to China.

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7470A Plotter Programming Examples

*Message #1 Posted by **DavidShenk** on 3 June 2010, 5:32 p.m.*

Is it just me, or is there not a lot of information about programming the 7470A plotter with a 41CX if you don't have the plotter module? I have a 7470A with HP-IB and an HP-IL/HP-IB interface. In looking thorough the Museum CDs I can find a few programming examples, but there really isn't a single webpage devoted to this (is there?).

My interest is to use the plotter not for charts and graphs, but for fun stuff. I'd like to see if I can get the plotter to draw fractals, random walks, etc. I am starting to learn the individual HP-GL commands, but thought it would be nice if there were some examples somewhere.

Dave

Re: 7470A Plotter Programming Examples

*Message #2 Posted by **Thomas Chrapkiewicz** on 4 June 2010, 9:11 a.m.,*
in response to message #1 by DavidShenk

Hi Dave:

True, there are few (if any) general hpgl plottter examples.

The best (although minimal) resource I've found are the users manuals and programming manuals for the plotter (I've used the 7475, 7550, 7586, 7596). My experience is with RS232 plotters driven by a PC or HP48. I am not familiar with the manuals for the 7470. I believe it is similar to the 7475 but limited to 'A' size paper.

Of course, the auction site has manuals available, and also at hpmuseum.net.

Email me if you would like more details.

TomC

Re: 7470A Plotter Programming Examples

*Message #3 Posted by **DavidShenk** on 4 June 2010, 11:10 a.m.,*
in response to message #2 by Thomas Chrapkiewicz

Thanks Tom,

I have not looked at the other plotter manuals, so that may help. I am figuring it out, I just wanted to make sure I wasn't missing an obvious resource. I just found this pdf that explains things well, but I am sure the 7470A does not have all of those commands.

Dave

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hp-80 behaving badly

*Message #1 Posted by **kubla** on 3 June 2010, 4:02 p.m.*

I have an HP-80 that's working perfectly except for one strange behaviour: any attempt to calculate using the top 5 keys (e.g., present value) causes the display to go blank until the calculator is turned off and then on. The calculator accepts inputs for each key, it just won't calculate the answer when the key for the dependent variable is pressed.

My other HP-80 works just fine using the same inputs. Any idea what's happening?

Edited: 3 June 2010, 4:02 p.m.

Re: hp-80 behaving badly

*Message #2 Posted by **Namir** on 4 June 2010, 2:10 a.m.,*
in response to message #1 by kubla

The HP-80 with the strange behavior is seeking more of your attention???? You know, like kids who misbehave??

:-)

Namir

Re: hp-80 behaving badly

*Message #3 Posted by **kubla** on 4 June 2010, 10:01 a.m.,*
in response to message #2 by Namir

Maybe it's jealous of the other HP calculators; however, I expect one of the ROMs has gone south. Playing with it more, I find that all the financial algorithms don't work; the normal math functions work fine.

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hp 50g

*Message #1 Posted by **Sok-khieng Chum Hun** on 3 June 2010, 6:39 a.m.*

Hi,

I bought an hp 50g graphing calculator yesterday, and when using it it's interface is very similar to an hp 48gx with metakernel :S, is this normal?

Tank you :)

Re: hp 50g

*Message #2 Posted by **Sok-khieng Chum Hun** on 3 June 2010, 6:44 a.m.,*
in response to message #1 by Sok-khieng Chum Hun

and also with erable and alg48

Re: hp 50g

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 3 June 2010, 8:40 a.m.,*
in response to message #1 by Sok-khieng Chum Hun

Hi;

please, when you compare both MMI, what similarities do you refer to? The HP48G/GX/G+ inheritance is actually a fact, because the HP50G is based on them although having a different hardware (processor, OS, I/O ports) and keyboard layout. Both series show information through the LCD that shares:

```
- menus with softkeys;
- header with same annunciators;
- stack levels (the HP48GII, HP49G+ and HP50G add the history for algebraic mode)
- equation writer
- matrix writer
```

and many other features. If this is what you are referring to, I consider it normal. But the HP50G has many new stuff not available with the 48G series, and the three of them that called my attention are:

```
- upgradeable OS (since the HP49G)
- expandable memory through SD card (since the HP49G+)
- USB port (also since the HP49G+)
```

People should be careful about the HP48GII that has a serial, RS232 compatible I/O port instead of a USB, because it uses a connector commonly known as 'mini-USB'.

Cheers.

Luiz (Brazil)

Edited: 4 June 2010, 10:00 a.m.

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36-year-old calculator ad

*Message #1 Posted by **Don Shepherd** on 2 June 2010, 11:55 p.m.*

I was thumbing through my old Time magazines from 1974 and I came across this ad comparing Bowmar and TI calculators. Interesting what they considered important in 1974. Bowmar claims their offerings are superior to those of TI. Perhaps, but 36 years later TI is still going strong and Bowmar is just a faint memory.

funny enough

*Message #2 Posted by **Frank Boehm (Germany)** on 3 June 2010, 3:53 a.m.,*
in response to message #1 by Don Shepherd

the MX-25 uses a Texas Instruments TMS0803NC as a brain (which was then used a bit later by TI for the 2500-II)

Re: funny enough

*Message #3 Posted by **geoff quickfall** on 3 June 2010, 11:06 a.m.,*
in response to message #2 by Frank Boehm (Germany)

not to mention most Bowmars were TIs Klixon key pads. They did make their own LEDs and these were in some cases, bigger then the TIs.

actually

*Message #4 Posted by **Frank Boehm (Germany)** on 3 June 2010, 11:30 a.m.,*
in response to message #3 by geoff quickfall

Bowmar only went into calculator business to sell their displays, this is why they started with OEM business only.
Bootnote of history: At times, Bowmar used TI displays, as well as TI used Bowmar displays - they were obviously interchangeable.

Re: actually

*Message #5 Posted by **Joerg Woerner** on 4 June 2010, 10:24 a.m.,*
in response to message #4 by Frank Boehm (Germany)

At these times Bowmar couldn't pay cash for the (overpriced) TI calculator ships ;-))

Regards, Joerg

Re: actually

*Message #6 Posted by **Don Shepherd** on 4 June 2010, 11:54 a.m.,*
in response to message #5 by Joerg Woerner

"Ships" as in boats? Please explain.

Re: actually

*Message #7 Posted by **Joerg Woerner** on 4 June 2010, 2:05 p.m.,*
in response to message #6 by Don Shepherd

ships as in computer chips ;-))

Regards, Joerg

Re: 36-year-old calculator ad

*Message #8 Posted by **megarat** on 4 June 2010, 5:45 p.m.,*
in response to message #1 by Don Shepherd

> Quote:
>
> Interesting what they considered important in 1974. Bowmar claims their offerings are superior to those of TI. Perhaps, but 36 years later TI is still going strong and Bowmar is just a faint memory.

What a lame comparison table. This looks more like an exercise to come up with any traits whatsoever that the Bowmar calculator has vs the TI. Ooh, a percent key! (At the sacrifice of the "CE" key, mind you.) And love that slimmer styling! And wow, the batteries are included, that's like so totally awesome!

They might as well have said:

```
-- Mostly beige
-- Vertical on-off switch
-- Smaller corporate logo
-- Easy to dust
-- Incorporates the word "brain" to sound really smart
```

Edited: 4 June 2010, 5:45 p.m.

Re: 36-year-old calculator ad

*Message #9 Posted by **Don Shepherd** on 4 June 2010, 6:27 p.m.,*
in response to message #8 by megarat

Those are good observations. In 1974, electronic calculators were so new that Bowmar could get away with meaningless comparison criteria; or, maybe they couldn't, because TI survived and they did not.

Which brings us to today, and if I were to make a list of criteria that a calculator had to include, to get me to buy it, it might look like this:

1. conveniently fits in my shirt pocket
2. solar powered so never needs batteries
3. a large, clear display that I can read without a flashlight (TI NSpire, are you listening?)
4. the keys always register the first time and are of sufficient size that I don't miskey entries
5. you can figure out how it works without looking at the manual
6. but, yes, there needs to be a printed manual with large type and no grammatical errors
7. the calculator should look "professional", and I'll be the judge of that
8. it must, of course, have the four basic arithmetic functions, plus typical math functions like square root, Log, etc.
9. must support large integers; 20! should show me all the significant digits, not just 10 or 12

10. programmable with sufficient memory and a way to backup/restore programs from a PC without a Master's degree in IT
11. it must be a dedicated piece of hardware, not something that runs on devices that are also phones/cameras/gps recievers/voice recorders/Internet trash

I don't think my ideal calculator exists today. Hugh's Reckon probably comes closest.

Re: 36-year-old calculator ad

*Message #10 Posted by **Martin Pinckney** on 4 June 2010, 7:46 p.m.,*
in response to message #9 by Don Shepherd

> Quote:
>
> I don't think my ideal calculator exists today.

Oh, they exist, all right. Just not on the store shelves.

[O.K., maybe not *ideal*, but close to it]

Re: 36-year-old calculator ad

*Message #11 Posted by **megarat** on 5 June 2010, 2:53 a.m.,*
in response to message #9 by Don Shepherd

Not to ruin the "if wishes were fishes" theme, but requirements (2) and (10) don't seem mutually inclusive to me. You will need a battery of some sort for memory persistence.

One could argue that flash memory might be a solution, but I suspect that reading/writing to flash memory would take more power than a calculator-sized photovoltaic can muster.

Re: 36-year-old calculator ad

*Message #12 Posted by **Bart (UK)** on 5 June 2010, 6:05 a.m.,*
in response to message #11 by megarat

This NVSRAM might be an option. I was thinking of using this to make my own 48SX/GX RAM card.

Re: 36-year-old calculator ad

*Message #13 Posted by **Don Shepherd** on 5 June 2010, 7:28 a.m.,*
in response to message #11 by megarat

> Quote:
>
> requirements (2) and (10) don't seem mutually inclusive

I know nothing about power supplies, you may be right. But if we could put a man on the moon 41 years ago .....

:)

Re: 36-year-old calculator ad

*Message #14 Posted by **Pierre Brial** on 23 June 2010, 7:44 a.m.,*
in response to message #1 by Don Shepherd

What are automatic vs manual constants ?

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Why HP Really bought Palm

*Message #1 Posted by **Norman Dziedzic** on 2 June 2010, 9:10 p.m.*

http://tech.fortune.cnn.com/2010/06/02/bombshell-hp-bought-palm-to-compete-with-chromeos/?source=yahoo_quote

Re: Why HP Really bought Palm

*Message #2 Posted by **Bruce Bergman** on 2 June 2010, 10:50 p.m.,*
in response to message #1 by Norman Dziedzic

Actually, anyone who owns a WebOS device could tell you THAT in a heartbeat! :-)

WebOS is amazing. It really beats the pants off the iPhone and iPad. For example, on WebOS, I can listen to Pandora streaming music (or my own MP3's) through a bluetooth stereo connection to my headphones, all the while browsing the web and sending/receiving text messages, and at the same time, picking up my email and navigating a GPS route with voice guidance. You simply can't do that with an iPhone or iPad. Not even close.

And lately, there have been some really awesome games for WebOS -- better looking and better functioning than those on the iPad/iPhone. I just wish there were more of them at this point. There's no question that Apple wins on the number of apps available. Even Android has more apps than WebOS, unfortunately. But the developers are trying (and the development stack is much friendlier on WebOS).

WebOS a brilliant piece of software. The Palm Pre (and Pre Plus) are "just okay" devices, but they have reliability problems and glitch up from time to time. The battery life sucks too. That's not the fault of WebOS, but of Palm, for putting out piece-o-crap phone hardware. I keep waiting for the next WebOS hardware to come out...

As soon as I had heard that HP bought Palm, I knew what they were after. They wanted WebOS. Put it on something like the HP Slate and you're going to, IMHO, have the strongest and only "real" competitor to the iPad that will come out for the next few years. The Android tablets are going to be a good third place, but when you see WebOS running on that kind of form factor, and understand what it can do, you would agree, I think.

The sad part is that just last week, HP said that they wouldn't have WebOS on the Slate because it's just not ready (the hardware, not WebOS). I was planning on waiting for the Slate, but until they put WebOS on it, I'm not interested.

Thanks,

Bruce

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Loop of + benchmark now in Articles section

*Message #1 Posted by **gene wright** on 2 June 2010, 2:59 p.m.*

New Benchmark

Enjoy! Gene

Re: Loop of + benchmark now in Articles section

*Message #2 Posted by **Glenn Shields** on 2 June 2010, 4:01 p.m.,*
in response to message #1 by gene wright

It's interesting that the 35s is faster doing register arithmetic (STO + Z) than simply +ing on the stack. Is that because dropping the stack each time uses more steps? regards, Glenn

Re: Loop of + benchmark now in Articles section

*Message #3 Posted by **gene wright** on 2 June 2010, 4:25 p.m.,*
in response to message #2 by Glenn Shields

Maybe it is due to the different types that might be on the stack. Is it a real? Is it a complex number? Each + might require that to be checked, whereas a STO+ operation might not. Guessing.

Re: Loop of + benchmark now in Articles section

*Message #4 Posted by **Gerson W. Barbosa** on 3 June 2010, 9:01 a.m.,*
in response to message #1 by gene wright

No 49G?

```
HP 49G
Count: 12,351
Code:  1. << DO 1. + UNTIL 0. END >>


HP 49G
Count: 11,041
Code: << WHILE 1. REPEAT 1. + END >>
```

Gerson.

Re: Loop of + benchmark now in Articles section

*Message #5 Posted by **Tim Wessman** on 3 June 2010, 11:08 a.m.,*
in response to message #4 by Gerson W. Barbosa

I think everyone tries to forget that unit for a variety of reasons. . . :-D

TW

Re: Loop of + benchmark now in Articles section

*Message #6 Posted by **Paul Dale** on 4 June 2010, 2:59 a.m.,*
in response to message #4 by Gerson W. Barbosa

What about in integers?

```
#1 << DO #1 + UNTIL 0. END >>
```

My 49 died a while back :-(So did my 48sx :-(And no batteries for my 28s and a broken battery door to boot :-(

- Pauli

Re: Loop of + benchmark now in Articles section

*Message #7 Posted by **John Keith** on 4 June 2010, 9:51 a.m.,*
in response to message #6 by Paul Dale

For my 50g, I get 19692 (average of 3 runs).

John

Re: Loop of + benchmark now in Articles section

*Message #8 Posted by **Gerson W. Barbosa** on 4 June 2010, 2:06 p.m.,*
in response to message #6 by Paul Dale

> Quote:
>
> What about in integers?
>
> ```
> #1 << DO #1 + UNTIL 0. END >>
> ```

```
#7164d (WS = 16)

#7130d (WS = 64)
```

Gerson.

Re: Loop of + benchmark now in Articles section

*Message #9 Posted by **Mark Storkamp** on 4 June 2010, 9:39 p.m.,*
in response to message #1 by gene wright

16C using increment

```
HP-16C
Count: 340
With 0 in I
Code: Lbl A, Isz, Gto A
```

Re: Loop of + benchmark now in Articles section

*Message #10 Posted by **Gjermund Skailand** on 6 June 2010, 5:54 p.m.,*

in response to message #9 by Mark Storkamp

Hp 50G 12,000,000
User-rplfunction 'SUM(I=1, 12000000,1)' interpreted by custom library in HPGCC. The library evaluates functions, sums and numerical integrals from the Equation Writer in double precision for most real functions.

Re: Loop of + benchmark now in Articles section

*Message #11 Posted by **Frido Bohn** on 8 June 2010, 5:40 a.m.,*
in response to message #1 by gene wright

Hello Gene,

congrats, a real great compilation of that simple benchmark across several generations of calculators!

However, for the great HP41C/CV/CX one benchmark is missing: MCODE
In the book "HP41 MCODE for Beginners" of Ken Emery, published 1985, a 20-step machine code for this 1+ addition algorithm is presented (pages 50-52) which I wont list here.
To make things short:
Count: ~130 000
This is about 100-fold of FOCAL or Synthetic programs!

The 41 was, is and remains amazing

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HP 30B not in blister pack

*Message #1 Posted by **hpnut** on 2 June 2010, 10:37 a.m.*

Hi everyone,

today I bought the HP 30B calculator. The dealer sold me the unit and it did not come in the usual hard-to-open blister pack. Instead, it came in a fancy folding box with velcro to keep the two box sides together.

http://i167.photobucket.com/albums/u151/topoguy/hp30bpackage.jpg

secondly, there is no serial number at all in the back. no stick-on label nor engraved serial number.

anyone bought their hp 30b in a similar package?

hpnut in Malaysia

Re: HP 30B not in blister pack

*Message #2 Posted by **hugh steers** on 2 June 2010, 10:55 a.m.,*
in response to message #1 by hpnut

i've seen that package. isn't it some sort of display version? also did you get a printed manual?

Re: HP 30B not in blister pack

*Message #3 Posted by **hpnut** on 2 June 2010, 11:15 a.m.,*
in response to message #2 by hugh steers

yes. a Quick Start Guide came inside the box

Re: HP 30B not in blister pack

*Message #4 Posted by **Bruce Bergman** on 2 June 2010, 11:03 a.m.,*
in response to message #1 by hpnut

Interesting! I have not seen that version yet. This might explain the sudden absence of the the 30b in the HP store. Maybe they've been rebranding it with more "professional" packaging.

I'd be really interested in hearing if this improves sales.

thanks!

bruce

Re: HP 30B not in blister pack

*Message #5 Posted by **Katie Wasserman** on 2 June 2010, 11:42 a.m.,*

in response to message #1 by hpnut

Thanks for the picture of this, very interesting. What's the date on the firmware?

To check that:

```
1) Turn off
2) Press and hold PMT
3) Press ON
4) Press DOWN 4 times
```

Thanks, Katie

Re: HP 30B not in blister pack

*Message #6 Posted by **hpnut** on 2 June 2010, 12:50 p.m.,*
in response to message #5 by Katie Wasserman

It's SW Version 11 19 2009 4

copyright 2,048.00

Re: HP 30B not in blister pack

*Message #7 Posted by **Tim Wessman** on 2 June 2010, 1:00 p.m.,*
in response to message #1 by hpnut

That is one of the introduction packages sent out to the dealers when units are being introduced. They are usually sent out 2-3 months before release and have included marketing info and so on in a USB drive. They also don't have final firmware as they are just packaged with the latest version we have that seems to be working ok. They are packaged in a special box.

You probably didn't also have an overlay to put on it either since those weren't ready then.

TW

Edited: 2 June 2010, 1:02 p.m.

Re: HP 30B not in blister pack

*Message #8 Posted by **Jon S Canale** on 2 June 2010, 1:37 p.m.,*
in response to message #7 by Tim Wessman

Tim,

"...the latest version we have that seems to be working ok" is just not the right way to phrase this!

Re: HP 30B not in blister pack

*Message #9 Posted by **Tim Wessman** on 2 June 2010, 1:47 p.m.,*
in response to message #8 by Jon S Canale

Why?

It hasn't necessarily gone through a complete testing cycle, isn't for production use, and is just to allow the unit to turn on and perform basic calculations so the vendor can see it powered on. It isn't supposed to go to a customer either. It is a protoype.

TW

Re: HP 30B not in blister pack

*Message #10 Posted by **hpnut** on 2 June 2010, 6:08 p.m.,*
in response to message #9 by Tim Wessman

heheh...I got an eB** gem here ;-)

Edited: 2 June 2010, 6:09 p.m.

Re: HP 30B not in blister pack

*Message #11 Posted by **hpnut** on 2 June 2010, 6:06 p.m.,*
in response to message #7 by Tim Wessman

Quote:

That is one of the introduction packages sent out to the dealers when units are being introduced. They are usually sent out 2-3 months before release and have included marketing info and so on in a USB drive. They also don't have final firmware as they are just packaged with the latest version we have that seems to be working ok. They are packaged in a special box.

You probably didn't also have an overlay to put on it either since those weren't ready then.

TW

Dear Tim,

whoa! thanks for the info. I am missing (1) an USB stick drive and (2) an overlay. OK, I am being greedy here ;-) may be not the USB which contains HP marketing info but surely I am entitled to the overlay for my (not yet written) custom made programs :-)

Pls tell me what are in the standard blister pack?

Do you know the keyboard steps to check the HP 30b's serial number?

Best regards, hpnut in Malaysia

Re: HP 30B not in blister pack

*Message #12 Posted by **Pal G.** on 2 June 2010, 1:52 p.m.,*
in response to message #1 by hpnut

Does anyone agree HP might sell more of these Financial Tools and scientific calculators to professionals without that ghoulish, immature marketing?

I know skulls and stylish morbidity are in right now - observe kids clothing at any department store - but does the financial and scientific community appreciate HP's latest marketing look and feel?

Re: HP 30B not in blister pack

*Message #13 Posted by **Martin Pinckney** on 2 June 2010, 2:30 p.m.,*
in response to message #12 by Pal G.

By "goulish" are you referring to the sort of gothic style of the packaging?

By "immature" are you referring to putting a product in dealer hands with unfinished firmware?

Please clarify!

Re: HP 30B not in blister pack

*Message #14 Posted by **Martin Pinckney** on 2 June 2010, 2:51 p.m.,*
in response to message #1 by hpnut

> Quote:
>
> It ... is just to allow the unit to turn on and perform basic calculations so the vendor can see it powered on. It isn't supposed to go to a customer either. It is a protoype.

So maybe you should take it back to the dealer and get one that will let you do more than "see it turned on".

Then again, perhaps you should put it on eB** as "rare prototype".

[:-)

Edited: 2 June 2010, 3:11 p.m.

Re: HP 30B not in blister pack : Serial no

*Message #15 Posted by **hpnut** on 5 June 2010, 11:02 p.m.,*
in response to message #14 by Martin Pinckney

I did a check on the serial # as follows:

OFF

PMT and ON simultaneously

<UP ARROW>

I get this display:

Serial 0.000

http://i167.photobucket.com/albums/u151/topoguy/HP30bserial.jpg

so this is an unnumbered prototype?

Re: HP 30B not in blister pack : Serial no

*Message #16 Posted by **Katie Wasserman** on 5 June 2010, 11:13 p.m.,*
in response to message #15 by hpnut

I believe that this shows the status of the serial connection used during testing -- not the serial number. I doubt that there is a serial number encoded into these calculators.

-Katie

Re: HP 30B not in blister pack : Serial no

*Message #17 Posted by **hpnut** on 6 June 2010, 12:44 a.m.,*
in response to message #16 by Katie Wasserman

Katie, thanks for the info.

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"OFF g ENTER ON" on 12c platinums

*Message #1 Posted by **tony(nz)** on 2 June 2010, 7:02 a.m.*

In April last year Katie posted how the g ENTER in the 12c+ brings up the threefold menu "1.L 2.C 3.H". It also does basically the same thing on the original 12c platinum (AND on its clone called VICTOR) and on the newer platinum where we get a fourfold menu!! Something we missed all those years ago when the platinum first came out (2003?).

Re: "OFF g ENTER ON" on 12c platinums

*Message #2 Posted by **Lyuka** on 2 June 2010, 9:17 a.m.,*
in response to message #1 by tony(nz)

Hi.

The 12C platinum 25th anniversary edition (CNA64311xxx) shows fourfold menu as follows.

Re: "OFF g ENTER ON" on 12c platinums

*Message #3 Posted by **Martin Pinckney** on 2 June 2010, 10:49 a.m.,*
in response to message #2 by Lyuka

So what does it do? (the menu).

Re: "OFF g ENTER ON" on 12c platinums

*Message #4 Posted by **Katie Wasserman** on 2 June 2010, 11:52 a.m.,*
in response to message #3 by Martin Pinckney

Pressing (1) does an LCD test. It lights up all segments then allows you to press Rv to light up half of the segments, then Rv again to see the other half.

Pressing (2) computes a ROM the checksum, then press ENTER to see the version number, then ENTER again to see the copyright message.

Pressing (3) starts a keyborad test. You then need to press every key at least once in any order to complete the test. Each key press will turn off 1 to 4 (I think) segments on the display.

Pressing (4) seems to do a CPU check of some sort. (The 12C+ doesn't have this test.)

-Katie

Re: "OFF g ENTER ON" on 12c platinums

*Message #5 Posted by **Martin Pinckney** on 2 June 2010, 1:41 p.m.,*

in response to message #4 by Katie Wasserman

Thanks.

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I knew TI were evil but I never saw it actually advertised

*Message #1 Posted by **Norman Dziedzic** on 1 June 2010, 7:24 p.m.*

Check out the title on this one...

http://chicago.craigslist.org/nch/sys/1769469421.html

graft [graft, grahft] –noun 1. the acquisition of money, gain, or advantage by dishonest, unfair, or illegal means, esp. through the abuse of one's position or influence in politics, business, etc.

ooops ;-0

*Message #2 Posted by **geoff quickfall** on 1 June 2010, 10:52 p.m.,*
in response to message #1 by Norman Dziedzic

nt

Grafting is Good!

*Message #3 Posted by **Namir** on 2 June 2010, 2:20 a.m.,*
in response to message #1 by Norman Dziedzic

Also has meaning in biology. Grafting branches by taking a small branch or bud from one plant and placing it in another similar plat. I think the term grafting also applies to genetic engineering.

So grafting is not ALL that BAD!! It is also life giving@

Namir

Edited: 2 June 2010, 2:21 a.m.

Re: Grafting is Good!

*Message #4 Posted by **geoff quickfall** on 3 June 2010, 11:08 a.m.,*
in response to message #3 by Namir

That would only apply to the scientific calculator Namir. The business calc would take on the other definition for grafting!

;-)

Makes sense if...

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 3 June 2010, 3:37 p.m.,*
in response to message #1 by Norman Dziedzic

... TI sold it for big bux and it is worthless...

I knew TI were evil but I never saw it actually advertised

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HP 50g PARTFRAC, INTVX Error/Problem

*Message #1 Posted by **Sean Kane** on 1 June 2010, 3:26 a.m.*

Hi,

I've had my HP50g for about 2 years now, but today was the first time I've ever had to use the PARTFRAC function.

I was trying to do the PARTFRAC example in the user guide to do with integration (p. 13-20), and my calculator will not give the answer that the user manual says it should give. It asks for a mode switch to approx. mode, and if this is denied it only partially resolves the equation. If accepted it leads to a mish-mash of weird complex numbers. I've also tried the INTVX example on the same page, which has the same problem.

Is there any flag or mode that I need to set to stop this happening? If not, what's going on?

I'd appreciate any help you can give.

Re: HP 50g PARTFRAC, INTVX Error/Problem

*Message #2 Posted by **Bart (UK)** on 1 June 2010, 4:27 a.m.,*
in response to message #1 by Sean Kane

Hi Sean,

First, in the manual the equation is not the same as used in the screen shots, the last term in the denominator is X^2. Mine works as shown in the screen shots.

Make sure you do not have a variable X defined in the VAR menu (or whatever variable you are integrating with respect to otherwise the symbolic integrator will attemp to use it).

Try resetting the CAS to the defaults:

```
To return the CAS to its default state, press "right shift" followed
by SYMB (CAT), ALPHA F3(C), DOWN cursor. With CASCFG selected, press ENTER.


OR by typing CASCFG (double press "ALPHA" to lock ALPHA mode) on the
command line followed by ENTER.
```

See also the HP help forum for Calculators:
HP Calculator help forum

HTH
Bart

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New addition speed test (updated with results as of 20100602 1pm CDT) ...add machines / methods --- new champion Casio FX-9860g Slim

*Message #1 Posted by **gene wright** on 31 May 2010, 9:26 a.m.*

Presently in order from fastest to slowest.

I'd like to get a list of speeds for a much simpler program, that ONLY goes after one thing: loops of addition.

LBL 01 + GTO 01

where the stack contains 0 1 1 1 on 4 level machines. In other words, start with 0 and do repeated additions of 1 for 60 seconds. What is the result? I know Xerxes' test checks many other things, but how do they stack up with this?

Please post:

The machine used Your count after 60 seconds Your program code.

==========

```
Casio fx-9860g Slim Compiled C program SDK V 1.0
Count: 349,700,000
Code:
int AddIn_main(int isAppli, unsigned short OptionNum)
{
unsigned int key;
unsigned long int counter = 0;
Bdisp_AllClr_DDVRAM();
do {
counter++;
} while (counter < 349700000);
locate(1,5);
Print((unsigned char*)" end");
while(1){
GetKey(&key);
}


return 1;
}


HP-12C+, Scott's custom integer firmware, overclocked to 48.75 MHz
Count: 261,602,459
Code: Unspecified


HP 50g 2.15, HPGCC, 75MHz
Count: 161,722,281
Code:
#include <hpgcc49.h>
int main(void)
{
unsigned int c=0;
unsigned int volatile * GPFDAT = (int*) 0x7A00054;


sys_slowOff();     //press ON to stop
while(!(*GPFDAT&1))
      c++;
```

```
sat_push_zint_llong(c);
     return 0;
}


HP-12C+, Scott's custom firmware
Count: 10,794,647
Code:
Do { ++x; } while ((((*(unsigned long int*)PIOC_PDSR) & c_mask)==c_mask));


HP-71B USA:2504A00223 HP71:1BBBB FTH:1A, year of production 1984?
Count: 1,069,543
Code: Forth + Assembler: ADD1 D.


Press any key (except ON) to stop counting.
Count => double length value on the stack.


First assemble ADD1 into the Forth dictionary:


File: ADD1
FORTH
WORD 'ADD1'
** overflows in about 470 secs .... P= xx where xx>6 gives more time
P= 6
C=0 A
A=0 WP
LOOP A=A+1 WP
C=IN         // Keyboard touched (except ON key !)
?C=0 A
GOYES LOOP
D1=D1- 5
DAT1=A A
ASR W
ASR W
ASR W
ASR W
ASR W
D1=D1- 5
DAT1=A A
RTNCC
END


BR


HP 30b with TSTSYS ON
Count: 531,131
Code: LBL 00 ISG 0 Stop GOTO 00, with 0 pre-stored in 0. Result indicates count of loops in
one minute. Each loop adds 1 to value in memory 0.
(as first program in memory)


FX-9860G SD  Fast Mode
Count: 370,230
Code: Lbl 0 : Isz A : Goto 0


FX-9860G SD Fast Mode
Count: 237,780
Code: Lbl 0 : Ans+1 : Goto 0


HP 30b with TSTSYS ON
Count: 222,578
Code: LBL 00 + GOTO 00
(as first program in memory)


HP 30b with TSTSYS ON
Count: 209,038
Code: LBL 00 STO+0 GOTO 00 with 0 pre-stored in 0 and 1's filling the stack
(as first program in memory)


FX-9860G SD  Fast Mode
```

```
Count: 206,250
Code: 0->A : Lbl 0 : A+1->A : Goto 0


FX-9860G SD
Count: 177,230
Code: Lbl 0 : Isz A : Goto 0


HP 50g (SysRPL bint)
Count: 124,445
Code: !NO CODE !RPL :: ZERO BEGIN #1+ GETTOUCH UNTIL DROP ; @


FX-9860G SD
Count: 110,140
Code: Lbl 0 : Ans+1 : Goto 0


FX-9860G SD
Count: 97,950
Code: 0->A : Lbl 0 : A+1->A : Goto 0


HP 12c+
Count: 78,640
Code: + GTO 01


HP 30b
Count: 72,517
Code: LBL 00 + GOTO 00
(as first program in memory)


HP 9825 B
Count: 59,568
Code: 0->A; "start"; A+1->A; gto "start"; end


HP 50g (SysRPL floating point)
Count: 56,994
Code: !NO CODE !RPL :: BEGIN %1+ GETTOUCH UNTIL DROP ; @


Casio fx-9860G Slim
Count: 55,924
Code: 0->A Lbl 0 A+1->A Goto 0


HP-9100A SERIAL NUMBER 816-01071 (1971?)
Count: 49,391
Code: +, GO TO 00


HP 9815S
Count: 47,592
Code: 000 +  001 GOTO 000


HP-9100B
Count: 47,394
Code: +, GO TO, 0, 0


HP-71B Forth Xerxes:
COUNT: 46,575
Code:
Forth
: XERXES 1 SWAP 0 DO 1+ LOOP ;
46575 XERXES DROP
BYE


HP 50g
Count: 31,849
Code:  1. << DO 1. + UNTIL 0. END >>
```

```
HP 9815A/S
Count: 31,156
Code; LBL, A, 1, +, GTO A


HP 48gII Exact mode (old version)
Count: 28,160
Code: 1. << DO 1. + UNTIL 0. END >> EVAL


HP 48gII
Count: 26,439 // Approx Mode
Code: << WHILE 1 REPEAT 1. + END >>


TI-83+ SE
Count: 24,840
Code: Lbl 0 : Ans+1 : Goto 0


HP 85
Count: 23,605
Code: 10 Let A=0; 20 Let A=A+1; 30 goto 20; 40 END


HP-75C (1982)
Count: 21,717
Code:&#8232;10 A=0&#8232;20 A=A+1 @ GOTO 20&#8232;30 END


TI-81
Count: 20,191
Code: Lbl A : Ans + 1 : Goto A : End


HP 9810A
Count: 15,355
Code LBL, 1, +, GTO, 1


TI-81
Count: 15,116
Code: Lbl A : B + 1 > B : Goto A : End


TI-84 Silver Edition
Count: 13,838
Code: Lbl 1:A+1->A: Goto 1


TI-83
Count: 12,986
Code: Lbl B: ans +1: goto B


HP 48GX
Count: 11,636
Code: << WHILE 1 REPEAT 1 + END >>


TI-85
Count 11,100
Code: Lbl A : Ans + 1 : Goto A : End


Psion Organiser II CM (1997)
Count: 10,949
Code:&#8232; LOCAL a&#8232;a=1&#8232;DO&#8232;a=a+1&#8232;UNTIL KEY$="S"&#8232;PRINT a&#8232;GET


HP-48G
Count: 10,726
Code: << WHILE 1 REPEAT 1 + END >>


TI-83+
Count 10,385
Code: Lbl A : Ans + 1 : Goto A : End
```

```
HP 33s
Count: 10,097
Code: LBL A + GTO A


TI CC-40
Count: 9,339
Code: 10 A = A+ 1 : 20 GOTO 10


TI-89 Titanium
Count: 9,339
Program: aa():Prgm:Lbl b:a+1->a:Goto 1: EndPrgm


TI-83
Count: 8,106
Code: LBL B, A+1>>A, goto B


Casio fx-7000GB
Result: 7,437
Code: LbL 1; A+1->A; Goto A


HP-48SX
Count: 7,352
Code: Unknown


FX-603P
Count: 7,240
Code: AC 1 + + LBL 0 = GOTO 0


HP-42s FAST MODE S/N 2849A with goose disabled
Count: 6,485
Code: CLLCD LBL 01 + GTO 01


HP-32s
Count: 5,973
Code: LBL A + GTO A


TI-92
Count: 5,686
Code: 0->a  Lbl aa  a+1->a  Goto aa


HP-28S
Count: 5,677
Code: HOME 1 << WHILE 1 REPEAT 1 + END >> EVAL


HP 50G (normal speed)
Count: 5,510
Code: << 1 + A >> stored in A, start with 1 on stack line 1:


HP 35s
Count: 5,504
Code: B001 LBL B B002 STO+ Z B003 GTO B002, with Z initialized to 0


TI-86
Count 5,347
Code: Lbl A : Ans + 1 : Goto A : End


FX-5800P
Count: 5,340
Code: Lbl 0 : Ans+1 : Goto 0


PC-1247
Count: 5,180
Code: 1:A=A+1:GOTO1
```

```
HP 20S
Count: 4,837
Code: LBL A, +, GTO A


HP-32sii
Count: 4,715
Code: LBL A, +, GTO A


HP-42s FAST MODE S/N 2849A
Count: 4,419
Code: LBL 01 + GTO 01


HP-71B
Count: 4,320
Code:


10 DESTROY A @ A=0
20 ON TIMER #1,60 GOTO 40
30 A=A+1 @ GOTO 30
40 DISP A


HP 48gII (Original 3 batteries, NO USB)
Count: 4,296
Code: << TICKS 8192 60 * + << -> t << DO 1. + UNTIL TICKS t >= END >> >> EVAL >>


HP-20S
Count: 4,170
Code: Unknown


HP 35s
Count: 3,652
Code: LBL B, +, GTO B001


TI-86
Count: 3,612
Code: Lbl B:1+A->A:Goto B


HP 39gs
Count: 3,607
Code: 1->A:  DO  A+1->A  UNTIL A<=0  END:


Aurora HP 12c clone
Count: 3,554
Code:  +, GTO 01


TI-95
Count: 3,350 counts
Code: 1 + GTO 0000


Radio Shack PC-2
Count: 3,317
Code: 1: A=A+1 2: GOTO 1 ; start with 0 stored in A.


Casio fx602p
Count: 3,111
Code: AC 1++ LBL1 = GOTO1


HP 48gII (Original 3 batteries, NO USB)
Count: 3,088
Code: << WHILE 1 REPEAT 1. + END >>


HP-42S with "goose" disabled. Non-fast mode.
Count: 3,067
```

```
Code: CLLCD, LBL 00 + GTO 00


HP 48gii Exact mode (Original 3 batteries, NO USB)
Count: 3,036
Code: << WHILE 1 REPEAT 1 + END >>


TI-80
Count 2,279
Code: Lbl A : Ans + 1 : Goto A : End


HP-42S
Count: 2,115
Code: LBL 00 + GTO 00


HP-41CY Turbo
Count: 1,982
Code: LBL 00, +, GTO 00


HP 9G
Count: 1,470
Code: A=0; Lbl 0=; A=A+1; GOTO 0; END


HP 12c plat 25th anniv.
Count:  1,435
Code:  +, Goto 001


HP 12c platinum
Count: 1,386
Code: + GTO 001


HP41CX Synthetic:
Count: 1,298
Code:
 01 LBL "X”
 02 1
 03 "SeeRemark"


!!! Synthetic string 9 long Decimal 249 96 7 117 131 131 131 64 178 176
this places 96 7 in N to be transferred in reg b, resulting in
program counter in reg M, byte 6. In reg M synthetic code results
in: RDN ENTER ENTER ENTER + GTO 01. The GTO 01 is a COMPILED GTO
jumping to the + before it! You can SST this code but the GTO 01
takes a long time to reposition! Yes, this can be optimized still a
bit, but the loop is using 3 bytes!


 04 0
 05 X<> N
 06 BEEP
 07 STOP
 08 STO b
 09 END


INSTRUCTION: READ THIS
XEQ "X"
wait until beep, 000000,06 is displayed
press [R/S] to start counting
press [R/S] after 60 seconds, write down the count
perform a GTO .. !!! because the program pointer is in reg M, switching to program mode and
TOUCHING A KEY results in MEMORY LOST!


CASIO PB-700
Count: 1,282
Code: 1: A=A+1 2: GOTO 1 ; start with 0 stored in A.


Sharp PC-1251
Count: 1,277
```

```
Code: 1: A=A+1 2: GOTO 1 ; start with 0 stored in A.


HP41CX:
Count 1,075
Code: LBL 01 + GTO 01


HP 41c
Count: 1,063
Code: LBL 01 + GTO 01


HP-65
Count:  578
Code:  Lbl 1, +, Goto 1


HP-10C
Count: 514
Code: LBL 0 + GTO 0


HP-25
Count: 512
Code: 01 + 02 GTO 01


HP 12c original (mfg. 1985)
Count: 500
Code: +; GTO 01


TI-57
Count: 498
Code: + 1 RST


HP 25
Count: 483
Code: + GTO 01


TI SR-56
Count: 461
Code: + 1 = RST


TI SR-52
Count: 425
Code: + 1 = RST


HP-38C
Count: 387
Code:  + GTO 01


TI 58C
Count: 387
Code: + 1 = RST


HP-29C
Count: 361
Code: LBL 0; +; GOTO 0


SHARP PC-1211
Count: 358
Code 1:Z=Z+1:GOTO 1 (starting with Z=0)


HP 11c
Count: 353
Code: Lbl 1, +, Goto 1


HP-33c (mfg. 1982)
```

```
Count: 319
Code: 01 + 02 GTO 01


HP 67
Count: 349
Code: 1 CHS STO I + GOTO (i)


HP 55
Count: 312
Code: + GTO 01


HP-19c
Count: 301
Code: LBL 1 + GTO 1


HP 15c (mfg. 1983)
Count: 297
Code: LBL A; +; GTO A


HP 16c: 293 (float 4)
Count: 293
Code: LBL A + GTO A


HP 34c: (I program) with -1 stored in I
Count: 277
Code: LBL A + GTO f I


HP 34c (mfg. 1981)
Count: 269
Code: LBL A; +; GTO A


TI-55
Count: 267
Code: + 1 RST


HP 34c:
Count: 259
Code: LBL A + GTO A


HP 16c
Count:  245
Code:  Lbl 1, +, Goto 1


HP 16c: 230 (decimal, wsize 16, 2-complement)
Count: 230
Code: LBL A + GTO A


HP 67
Count: 226
Code: LBL 1 + GTO 1


HP-97
Count: 223
Code: LBL1; +; GOTO 1


Texas Instrument TI-57LCD
Count: 216
Code: LBL_01 1 + GTO_01


TI-66
Count: 210
Code: + 1 = RST
```

```
TI-65
Count: 205
Code: 1 + RST


Texas Instrument TI-57LCD
Count: 195
Code: 1 + RST


TI-55
Count: 189
Code: + 1 = RST


TI BA 55
Count: 139
Code: + 1 = RST


Human hand Tapping + key
Count: 133


Elektronika MK-61
Count: 106
Code: + GSB 00


TI-62
Count: 100
Code: 1 + RST


Commodore P50
Count: 97
Code: + 1 = SKZ GOTO 00 R/S ( Start with -97 )


TI-59 with RPN Module:
Count: 74
HP-67 code: LBL 1 + 1 GOTO 1
The RPN Module translated that to:
LBL LNX PGM 51 A 1 PGM 12 A GTO LNX
```

Edited: 2 June 2010, 2:06 p.m. after one or more responses were posted

Re: New addition speed test (updated with results as of 8am CDT 20100531) ...add machines / methods

*Message #2 Posted by **Don Shepherd** on 31 May 2010, 10:38 a.m.,*
in response to message #1 by gene wright

Gene, very interesting. Who would have thought that the lowly 12c would be number one in any speed contest?

I agree with you regarding emulator results, keep 'em outta here.

Re: New addition speed test (updated with results as of 8am CDT 20100531) ...add machines / methods

*Message #3 Posted by **Tim Wessman** on 31 May 2010, 11:42 a.m.,*
in response to message #2 by Don Shepherd

I don't think an overclocked ARM chip doing nothing but looping and adding counts as a 12c anymore. . .

TW

Re: New addition speed test (updated with results as of 8am CDT 20100531) ...add machines / methods

*Message #4 Posted by **Martin Pinckney** on 31 May 2010, 11:49 a.m.,*
in response to message #3 by Tim Wessman

Good point. It says "custom firmware". Is this anything remotely similar to a 12c *calculator*?

Re: New addition speed test (updated with results as of 8am CDT 20100531) ...add machines / methods

*Message #5 Posted by **Israel Otero** on 31 May 2010, 1:33 p.m.,*
in response to message #3 by Tim Wessman

Hi (from Puerto Rico)

> Quote:
>
> I don't think an overclocked ARM chip doing nothing but looping and adding counts as a 12c anymore. . .

A custom firmware design or overclocked calculator is not a product than anyone here could get and have a use as intended.

Is my opinion to consider for testing those machines that in one time or the other were sold or there is usually a market for them.

Re: New addition speed test (updated with results as of 8am CDT 20100531) ...add machines / methods

*Message #6 Posted by **Tim Wessman** on 31 May 2010, 4:10 p.m.,*
in response to message #5 by Israel Otero

Well, the custom firmware of which he is referring is either that function stuck in as a part of a larger software program which does allow calculations and so on, or else it just boots, begins to run, and then waits for the button press to stop it.

Running full out at 36MHz, the battery will be completely drained in about 6 hours. That is why you probably don't want to run your 12c+ or 20/30b in test system mode. Unless you've got a lot of spare coin cells that is. . . :-)

TW

Re: New addition speed test (updated with results as of 8am CDT 20100531) ...add machines / methods

*Message #7 Posted by **Katie Wasserman** on 31 May 2010, 8:34 p.m.,*
in response to message #6 by Tim Wessman

Tim,

How does one put a 12C+ into test mode anyway? I think it was at one point ON+[g] but that's not true any longer.

-Katie

Re: New addition speed test (updated with results as of 8am CDT 20100531) ...add machines / methods

*Message #8 Posted by **Israel Otero** on 1 June 2010, 12:45 a.m.,*
in response to message #6 by Tim Wessman

Thank you Tim for explaining that to me. ;-)

Re: New addition speed test (updated with results as of 8am CDT 20100531) ...add machines / methods

*Message #9 Posted by **Han** on 2 June 2010, 9:27 a.m.,*
in response to message #3 by Tim Wessman

I'm pretty sure that if you wrote a native ARM loop on the 50G, you would obtain a result that is even faster than that of the 12C. HPGCC is still slow with its overhead.

Also, the HP50G is faster when calling UsrRPL commands that operate on reals as opposed to integers.

Re: New addition speed test (updated with results as of 8am CDT 20100531) ...add machines / methods

*Message #10 Posted by **Donald Williams** on 1 June 2010, 2:28 p.m.,*
in response to message #2 by Don Shepherd

While on the topic of irrelevant speed tests, I did another pass on the Casio fx-9860g Slim. Using the Casio SDK I compiled a simple DO LOOP with an iteration count in the statement of the loop. By trial and error I hard coded the loop count and tested for the loop exit. The counter value had to be set for an iteration of 350,000,000 for the loop to last for 60 seconds. Of course the results of this type of test are, once again trivial, since the tools are not available to the casual user, but the fx-9860 is one really fast calculator.

Edited: 2 June 2010, 11:00 a.m.

Re: New addition speed test (updated with results as of 8am CDT 20100531) ...add machines / methods

*Message #11 Posted by **Bart (UK)** on 31 May 2010, 6:54 p.m.,*
in response to message #1 by gene wright

And another:

Machine: Casio fx-7000GB
Result: 7,437
Code: LbL 1; A+1->A; Goto A (start with 0 in A)

Machine: Texet GR4F-x3 (Casio fx-7000 clone)
Result: 1,744
Code: LbL 1; A+1->A; Goto A (start with 0 in A)

Edited: 1 June 2010, 4:31 a.m.

Re: Faster results for TI graphic machines

*Message #12 Posted by **Palmer O. Hanson, Jr.** on 31 May 2010, 10:55 p.m.,*
in response to message #1 by gene wright

Gene:

TI CC-40 Count 9,339 Program: 10 A = A+ 1 : 20 GOTO 10

If the program it placed at higher line numbers the execution slows down.

The entries already submitted for the TI graphic machines have typically used a program such as

Lbl A : B + 1 > B : Goto A : End

which works but which is slowed considerably by the storing and recalliing of the contents of B. A faster program will be

Lbl A : Ans + 1 : Goto A : End

where the result is recovered by pressing 2nd ANS ENTER . This method avoids using a memory register which is similar in a way to the RPN solutions which use only the stack. For the TI-81 the entries for your table would be

TI-81 Count 20,191 Code: Lbl A : Ans + 1 : Goto A : End

TI-81 Count 15,116 Code: Lbl A : B + 1 > B : Goto A : End

Results using the Ans method for other TI graphic machines are

TI-80 Count 1,809 Code: Lbl A : Ans + 1 : Goto A : End

TI-83+ Count 6,860 Code: Lbl A : Ans + 1 : Goto A : End

TI-85 Count 11,100 Code: Lbl A : Ans + 1 : Goto A : End

TI-86 Count 5,347 Code: Lbl A : Ans + 1 : Goto A : End

where I don't know why the TI-81 is so much faster. It seems to me that we addressed that in this forum before but I can't find it.

Re: Faster results for TI graphic machines

*Message #13 Posted by **PatrickR** on 1 June 2010, 3:14 a.m.,*
in response to message #12 by Palmer O. Hanson, Jr.

Your TI83+ is a lot slower than my TI83. They both have the same chip. Mine: 8106 Code: LBL B, A+1->A, goto B Could it be that the use of ANS instead of the variable is making a speed difference? I will check on mine later.

edit: I tested following: Lbl B: ans +1: goto b This gave 12986! This is a significantly faster method than assigning to variables. This leaves me even more puzzled why your 83+ is doing nearly half of that.

Edited: 1 June 2010, 6:58 a.m. after one or more responses were posted

Re: Faster results for TI graphic machines

*Message #14 Posted by **Johnny Bjoern Rasmussen** on 1 June 2010, 4:23 a.m.,*
in response to message #13 by PatrickR

Very very impressive. I will report back with a couple of calcs / computers not yet listed here.

BTW: Have anyone taken the challenge with an abacus or even with pen and paper? ;-)

Regards!
Johnny

Re: Faster results for TI graphic machines

*Message #15 Posted by **Palmer O. Hanson, Jr.** on 1 June 2010, 9:01 p.m.,*
in response to message #13 by PatrickR

> Quote:
>
> Your TI83+ is a lot slower than my TI83. They both have the same chip. Mine: 8106 Code: LBL B, A+1->A, goto B Could it be that the use of ANS instead of the variable is making a speed difference? I will check on mine later.
>
> edit: I tested following: Lbl B: ans +1: goto b This gave 12986! This is a significantly faster method than assigning to variables. This leaves me even more puzzled why your 83+ is doing nearly half of that.

The TI-83+ number I used was for the LBL B : A + 1 : goto B method. I apologize for that.

The correct TI-83+ number for the LBL B : Ans + 1 : goto B was 10,385. I don't know why it's slower than your TI-83.

I also transmitted an incorrect number for the TI-80 with the Ans method. It should have been 2,279.

I will edit the original transmission.

Palmer

Re: Faster results for TI graphic machines

*Message #16 Posted by **gene wright** on 1 June 2010, 9:43 p.m.,*
in response to message #15 by Palmer O. Hanson, Jr.

I think I've updated all the responses.

I think what I will do is start a thread tomorrow and ask for any corrections from the original posters.

Then I will put it in the articles section.

Thanks to all.

Note to Palmer: I'm sure some of those early TI machines will be faster if I redo the + 1 = RST to be + 1 RST instead. Will try to redo them.

Re: Faster results for TI graphic machines

*Message #17 Posted by **Thomas Chrapkiewicz** on 2 June 2010, 8:56 a.m.,*
in response to message #16 by gene wright

It would be nice to have the data in a Spreadsheet (or at least a comma separated variable) file for analysis.

TomC

Re: Faster results for TI graphic machines

*Message #18 Posted by **Xerxes** on 1 June 2010, 12:55 p.m.,*
in response to message #12 by Palmer O. Hanson, Jr.

Some additional results using the "Ans+1" method:

```
Code: Lbl 0 : Ans+1 : Goto 0

FX-5800P -> 5,340

TI-83+ SE -> 24,840

FX-9860G SD -> 110,140

FX-9860G SD Fast Mode -> 237,780
```

Re: New addition speed test (updated with results as of 20100601) ...add machines / methods

*Message #19 Posted by **Ken Shaw** on 1 June 2010, 11:55 a.m.,*
in response to message #1 by gene wright

```
Human hand tapping + key
on a 17BII (which is otherwise excluded from this test)
Count: 458
```

This beats the previous poster's human hand result, but I must disclose that the displayed count continued to climb about half a dozen or more after I stopped tapping, so there is a non-trivial keyboard buffer on this machine, which I wasn't really aware of.

Edited: 1 June 2010, 11:56 a.m.

Re: New addition speed test (updated with results as of 20100601) ...add machines / methods

*Message #20 Posted by **Bart (UK)** on 1 June 2010, 12:14 p.m.,*
in response to message #19 by Ken Shaw

I tried to explain in a previous post that it was using the Elektronika MK-61, it just did not accept inputs any faster. I was sure others could do faster on another calculator - as you have proven.

Edit: I was actually merely trying to see if I could beat the running of a program on the MK-61, and indeed I could :).

Edited: 1 June 2010, 12:20 p.m.

Re: New addition speed test (updated with results as of 20100601) ...add machines / methods

*Message #21 Posted by **Ken Shaw** on 1 June 2010, 2:24 p.m.,*
in response to message #20 by Bart (UK)

And I was able to beat my 15c, but (sadly) unable to beat my 12c

:-(

Re: New addition speed test (updated with results as of 20100601 noon CDT) ...add machines / methods

*Message #22 Posted by **Xerxes** on 1 June 2010, 2:12 p.m.,*
in response to message #1 by gene wright

```
FX-9860G SD
Count: 177,230
Code: Lbl 0 : Isz A : Goto 0


FX-9860G SD  Fast Mode
Count: 370,230
Code: Lbl 0 : Isz A : Goto 0
```

Re: New addition speed test (updated with results as of 20100601 noon CDT) ...add machines / methods

*Message #23 Posted by **gene wright** on 1 June 2010, 2:52 p.m.,*
in response to message #22 by Xerxes

Xerxes, STOP turning in such fast times! :-)

Seriously, the 9860 SD in fast mode is impressive. How does one put it into fast mode? Might just have to pick up one of those machines.

Re: New addition speed test (updated with results as of 20100601 noon CDT) ...add machines / methods

*Message #24 Posted by **Xerxes** on 1 June 2010, 4:13 p.m.,*
in response to message #23 by gene wright

You need the "cpu speed changer" add-in: http://www.casiocalc.org/to/fsdisplay.php?cat2disp=FS.FX-9860G.casm

Re: New addition speed test OT - I think she should get honorable mention

*Message #25 Posted by **Norman Dziedzic** on 1 June 2010, 3:19 p.m.,*
in response to message #1 by gene wright

http://www.uniquedaily.com/worlds-fastest-calculator-operator/

Titan hits back !! Re: New addition speed test (updated with results as of 20100601 noon CDT) ...

*Message #26 Posted by **Raymund Heuvel** on 1 June 2010, 3:22 p.m.,*
in response to message #1 by gene wright

```
Going for the first place with available approach ....


HP-71B USA:2504A00223 HP71:1BBBB FTH:1A, year of production 1984?
Count: 1,069,543
Code: Forth + Assembler: ADD1 D.


Press any key (except ON) to stop counting. Count => double length value on the stack.


First assemble ADD1 into the Forth dictionary:


File: ADD1
  FORTH
  WORD 'ADD1'
** overflows in about 470 secs .... P= xx where xx>6 gives more time
  P= 6
  C=0 A
  A=0 WP
LOOP A=A+1 WP
  C=IN          // Keyboard touched (except ON key !)
  ?C=0 A
  GOYES LOOP
  D1=D1- 5
  DAT1=A A
  ASR W
  ASR W
  ASR W
  ASR W
  ASR W
  D1=D1- 5
  DAT1=A A
  RTNCC
  END


BR


Ray
```

Re: Titan hits back !! Re: New addition speed test (updated with results as of 20100601 noon CDT) ...

*Message #27 Posted by **Egan Ford** on 1 June 2010, 4:16 p.m.,*
in response to message #26 by Raymund Heuvel

> Quote:
>
> Going for the first place with available approach ....

HP 50g 2.15, HPGCC, 75MHz: 24,041,072

```
#include <hpgcc49.h>

int main(void)
{
    unsigned int c=0;

    sys_slowOff();
    while(!keyb_isAnyKeyPressed())
        c++;
    sat_push_zint_llong(c);
    return 0;
}
```

Notes:

1. keyb_isAnyKeyPressed() may be slowing me down. May look for alternative.

2. Someone else can do the ARM ASM version.

Edited: 1 June 2010, 4:21 p.m.

Re: Titan hits back !! Re: New addition speed test (updated with results as of 20100601 noon CDT) ...

*Message #28 Posted by **Egan Ford** on 1 June 2010, 4:36 p.m.,*
in response to message #27 by Egan Ford

> Quote:
>
> keyb_isAnyKeyPressed() may be slowing me down. May look for alternative.

Faster version:

HP 50g 2.15, HPGCC, 75MHz: 161,722,281

```
#include <hpgcc49.h>

int main(void)
{
    unsigned int c=0;
    unsigned int volatile * GPFDAT = (int*) 0x7A00054;

    sys_slowOff();
    //press ON to stop
    while(!(*GPFDAT&1))
        c++;
    sat_push_zint_llong(c);
    return 0;
}
```

I guess the next step would be to run at 192MHz, but then I'd have to flash my 50g with a special 2.09 firmware. Too lazy. ARM ASM should still be better.

Edited: 1 June 2010, 4:37 p.m.

Re: Titan hits back !! Re: New addition speed test (updated with results as of 20100601 noon CDT) ...

*Message #29 Posted by **Raymund Heuvel** on 1 June 2010, 6:15 p.m.,*
in response to message #28 by Egan Ford

```
Considerations:
register unsigned int c=0;
register unsigned char volatile * GPFDAT = (char*) 0x7A00054


could speed up, depending on compiler and processor.


I have no ARM neither 50G knowledge.


The Titan counting with C=C+1 A versus C=C+1 W results in +30% using only the A
field. (Therefore the WP construction).


BR.


Ray
```

Re: Titan hits back !! Re: New addition speed test (updated with results as of 20100601 noon CDT) ...

*Message #30 Posted by **Egan Ford** on 1 June 2010, 7:11 p.m.,*
in response to message #29 by Raymund Heuvel

After I posted I did try 'register c' and also used a compiler #define for GPFDAT. No increase. Modern compilers are pretty smart.

Code:

```
#include <hpgcc49.h>

#define GPFDAT (int*)0x7A00054

int main(void)
{
    register unsigned int c=0;

    sys_slowOff();
    while(!(*GPFDAT&1))
        c++;
    sat_push_zint_llong(c);
    return 0;
}
```

Re: Titan hits back !! Re: New addition speed test (updated with results as of 20100601 noon CDT) ...

*Message #31 Posted by **Scott Newell** on 1 June 2010, 10:13 p.m.,*
in response to message #30 by Egan Ford

> Quote:
>
> After I posted I did try 'register c' and also used a compiler #define for GPFDAT. No increase. Modern compilers are pretty smart.

Optimizer on? Interrupts off? Cache on? At 75MHz, I would expect the ARM9 to whip a ~50MHz ARM7 running from flash with wait states.

Re: Titan hits back !! Re: New addition speed test (updated with results as of 20100601 noon CDT) ...

*Message #32 Posted by **Egan Ford** on 2 June 2010, 8:22 p.m.,*
in response to message #31 by Scott Newell

> Quote:
>
> Optimizer on? Interrupts off? Cache on? At 75MHz, I would expect the ARM9 to whip a ~50MHz ARM7 running from flash with wait states.

Yes. No. Yes.

I am a bit stumped as well, but to be honest I didn't really try. If I have time this weekend I'll take a look at the compiler options more closely or try my hand at ARM ASM.

Re: Titan hits back !! Re: New addition speed test (updated with results as of 20100601 noon CDT) ...

*Message #33 Posted by **Egan Ford** on 1 June 2010, 5:01 p.m.,*
in response to message #26 by Raymund Heuvel

The 71B is still one of the most awesome things ever made.

HP bring back the 71B! :-)

Re: Titan hits back !! Re: New addition speed test (updated with results as of 20100601 noon CDT) ...

*Message #34 Posted by **Garth Wilson** on 1 June 2010, 8:55 p.m.,*
in response to message #33 by Egan Ford

> Quote:
>
> The 71B is still one of the most awesome things ever made.
>
> HP bring back the 71B! :-)

Yes, it's an absolute travesty, a disgrace, how HP management misunderstood, mistreated, and killed it. So idiotic.

Edited: 1 June 2010, 8:56 p.m.

Re: New addition speed test (updated with results as of 20100601 noon CDT) ...add machines / methods

*Message #35 Posted by **Egan Ford** on 1 June 2010, 4:58 p.m.,*
in response to message #1 by gene wright

> Quote:
>
> ```
> approach available to everyone
> ```

I think this statement is ambiguous. I would argue that any benchmark method is available to anyone.

If you are looking for a way to distinguish relatively easy vs. hard. Then I would suggest 'on-board' vs. external development. I think that is what you were aiming for. That would put my HPGCC results up there with Scott's.

Re: New addition speed test (updated with results as of 20100601 noon CDT) ...add machines / methods

*Message #36 Posted by **gene wright** on 1 June 2010, 5:01 p.m.,*
in response to message #35 by Egan Ford

I agree it is ambiguous.

I mean...

Should it be limited to "using the machine as-is out of the box without being hooked up to any external

devices?"

Should it be "using code that can be typed in / edited on the machine even if using an external tool previously loaded into the machine?"

etc. :-)

Re: New addition speed test (updated with results as of 20100601 noon CDT) ...add machines / methods

*Message #37 Posted by **Egan Ford** on 1 June 2010, 5:37 p.m.,*
in response to message #36 by gene wright

The later. Regardless on how the code got into the machine any should be able to reproduce the results with only the machine.

For Scott and myself it is clear. For HP41 M-code, its clearly easier to do this externally, however it is possible to do M-code on-board (e.g. HEPAX). Why suffer if you do not have to?

Perhaps internal vs. external too limiting. Perhaps stock vs. modified? e.g. HPGCC code runs on unmodified 50gs. Scott's 12C+ is only a 12C+ shell; its soul was ripped out and is now possessed by something more powerful. Of course, what does modified mean? Is using a FORTH or HEPAX module a modification?

Unsure if this really matters.

Re: New addition speed test (updated with results as of 20100601 noon CDT) ...add machines / methods

*Message #38 Posted by **gene wright** on 1 June 2010, 5:48 p.m.,*
in response to message #37 by Egan Ford

True, and I won't worry about it. With each entry showing the code/method used, it should be ok.

For being about to get fast results VERY easy, the following three machines really stand out (to me):

HP 30b

FX-9860G SD

HP 12c+

I give them an extra round of applause.

So far, the solution that had me laughing and applauding for its audacity is certainly Raymund's synthetic HP 41CX solution. :-)

I'm also quite sad that my FAST MODE HP-42s that I've cherished all this time is no longer looking quite so fast. :-(

Re: New addition speed test (updated with results as of 20100601 noon CDT) ...add machines / methods

*Message #39 Posted by **Egan Ford** on 1 June 2010, 7:23 p.m.,*

in response to message #38 by gene wright

> Quote:
>
> So far, the solution that had me laughing and applauding for its audacity is certainly Raymund's synthetic HP 41CX solution. :-)

Personally I admire Raymund's 71B FORTH/ASM solution the most. I'll double my admiration if Raymund developed, tested, and debugged his program on the 71B. I've never written a 71B program on the 71B. I always use EMU71 and then HP-IL it to my 71B.

Re: New addition speed test (updated with results as of 20100601 noon CDT) ...add machines / methods

*Message #40 Posted by **Raymund Heuvel** on 1 June 2010, 5:40 p.m.,*
in response to message #35 by Egan Ford

I agree it is ambiguous. I just copied it from the (previous) list of Xerxes. Nice marketing teaser! (You couldn't see the smile on my face ...)

Maybe we should introduce A and B grades, The A for the technical/performance part and B for the way it is implemented.

Then I would strongly promote my 'STO b' solution on the 41CX (again a smile ..).

Although your C Solution copes with the level "Real programmers don't use Pascal", resulting in a best note for this!

Re: New addition speed test (updated with results as of 20100601 noon CDT) ...add machines / methods

*Message #41 Posted by **Marc van Lemmen** on 1 June 2010, 5:15 p.m.,*
in response to message #1 by gene wright

Hello Gene,

Casio fx602p
Count: 3,111
Code: AC 1++ LBL1 = GOTO1

TI-57
Count: 498
Code: + 1 RST

Commodore P50
Count 97
Code: + 1 = SKZ GOTO 00 R/S (Start with -97)

TI-59 with RPN Module:
Count 74
HP-67 code: LBL 1 + 1 GOTO 1
The RPN Module translated that to : LBL LNX PGM 51 A 1 PGM 12 A GTO LNX
(HP-67 Count: 178)

Marc.

Re: New addition speed test (updated with results as of 20100601 8pm CDT) ...add machines / methods

*Message #42 Posted by **marcelo vanti(brasil)** on 1 June 2010, 10:34 p.m.,*
in response to message #1 by gene wright

Hello,
HP 67
Code:
1
CHS
STO I
+
GOTO (i)
Count: 349

Re: New addition speed test (updated with results as of 20100601 8pm CDT) ...add machines / methods

*Message #43 Posted by **John Keith** on 2 June 2010, 10:52 a.m.,*
in response to message #1 by gene wright

It seems that the UserRPL results for the 50g have gone missing from this version. My result (average of 3 tries) is 31849 for the following code:

```
1. << DO 1. + UNTIL 0. END >>
```

John

Re: New addition speed test (updated with results as of 20100601 8pm CDT) ...add machines / methods

*Message #44 Posted by **Donald Williams** on 2 June 2010, 1:33 p.m.,*
in response to message #1 by gene wright

Casio fx-9860g Slim Compiled C program SDK V 1.0

Count 349,700,000

Code

```
int AddIn_main(int isAppli, unsigned short OptionNum)
{
unsigned int key;
unsigned long int counter = 0;
Bdisp_AllClr_DDVRAM();
do {
counter++;
} while (counter < 349700000);
locate(1,5);
Print((unsigned char*)" end");
while(1){
```

```
GetKey(&key);
}

return 1;
}
```

Re: New addition speed test

*Message #45 Posted by **Alex L** on 3 June 2010, 2:18 p.m.,*
in response to message #1 by gene wright

A few more models...

```
Sharp EL-9900
23483
Sharp EL-9650
3093
avg, 2 runs. 0=>A, <ON> to break.
Program:
Label X
A+1=>A
Goto X



Casio FX-7500G
15364
av, 2 runs. 0->A, <AC> to break.
Program:
Lbl 1
Isz A
Goto 1



Casio FX-7500G
10692
av, 2 runs. 0., <AC> to break. Ans holds value.
Program:
Lbl 1
Ans+1
Goto 1



Casio FX-7500G
8878
av, 2 runs. 0->A, <AC> to break.
Program:
Lbl 1
A+1->A
Goto 1



Casio FX-7500G
8105
av, 2 runs. <AC> to break.
Program:
0->A
Lbl 1
A+1->A
Goto 1



Sharp EL-5500II
1510
Sharp EL-5500III
2056
av, 2 runs. A=0, <BRK> to break.
Program:
1 A=A+1: GOTO 1
```

Re: New addition speed test

*Message #46 Posted by **Alex L** on 8 June 2010, 11:02 a.m.,*
in response to message #45 by Alex L

Another pair of Sharps....

```
Sharp PC-E500
Count: 16656
Code: 1 A=A+1:GOTO 1


Sharp Wizard OZ-8200 with IQ-707 Scientific Computer card
Count: 21914
Code: 1 A=A+1:GOTO 1
Not bad for an organizer!
```

Re: New addition speed test

*Message #47 Posted by **Katie Wasserman** on 8 June 2010, 3:12 p.m.,*
in response to message #46 by Alex L

> Quote:
>
> IQ-707 Scientific Computer card

This was the best reason to buy a Wizard. It was a really fast BASIC for a small device with 20 digit BCD math (using double precession), a full DOS-like OS and even (undocumented) calls to machine code along with PEEK and POKE. I used this a lot until I got my HP100LX and later HP200LX.

-Katie

Re: New addition speed test (updated with results as of 20100602 1pm CDT) ...add machines / methods --- new champion Casio FX-9860g Slim

*Message #48 Posted by **Paul Dale** on 13 June 2010, 11:50 p.m.,*
in response to message #1 by gene wright

I fiddled around with my 16c a bit more and came up with a slightly better result:

```
LBL A
ISZ
GTO A
```

In float mode this gave 325 after a minute. In unsigned integer mode 378 (size of the integer didn't seem to make a difference).

Of course, I started with 0 in I.

- Pauli

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sum of the first n integers

*Message #1 Posted by **Gerson W. Barbosa** on 30 May 2010, 5:28 p.m.*

Most everybody here knows **the story** of young Gauss being asked by his teacher to add together the first 100 natural numbers and how he did it quickly in a very genial way. Lacking his genius, I will do it the old-fashioned way, summing the numbers one by one, not only the first 100 of them, but as much as I can do in 60 seconds using some different programmable calculators:

```
HP-12C                  HP-33s                  HP-34c


01 1                    G0001 LBL G             001 LBL A
02 ENTER                G0002 1                 002 1
03 ENTER                G0003 ENTER             003 ENTER
04 1                    H0001 LBL H             004 LBL 1
05 +                    H0002 1                 005 1
06 +                    H0003 +                 006 +
07 STO 0                H0004 +                 007 +
08 LST x                H0005 STO A             008 STO 0
09 GTO 04               H0006 LAST x            009 LST x
                        H0007 GTO H             010 GTO 1
```

Execute the program and start your chronometer. When exactly one minute has elapsed, press the R/S key, recall the sum S from the memory register and compute n = (sqrt(8*S + 1) - 1)/2 or INT(e^((ln(S) + ln(8))/2 - ln(2))), in case 8*S might exceed the number of digits in the display.

The following results were obtained:

```
calculator         S              n

HP-12c+       58 001 835        10 770

HP-33s         7 610 851         3 901

HP-12c            14 365           169

HP-34c             6 441           113
```

These can be used to be benchmark the performance of the calculators. For instance, I gather from the table my HP-12c+ is 63.7 times faster then the ordinary 12c (10770/169) and my 33s is 34.5 times faster than my 34c. The latter agrees with other benchmarks:

Tony Thimet's Benchmark

```
HP-33s: 44.0
HP-34c:  1.3


     -> 33.85x
```

Xerxes's Benchmark

```
HP-34c: 4390 s
```

```
HP-33s:  131 s     (my units)

     -> 33.51x
```

Gene Wright's Benchmark

```
HP-33s: 9900
HP-34c:  269      (my units)

     -> 36.8x
```

Apart from the benchmarking feature, I am interested in how many counts you can get, either from trying the program in faster calculator or improving the method. For instance, on the HP-41 **1 STO** and then **RCL 1** inside the loop is faster than the **1** in the beginning of the loop (thanks PeterP!).

Gerson.

Re: sum of the first n integers - HP 30b

*Message #2 Posted by **gene wright** on 30 May 2010, 5:53 p.m.,*
in response to message #1 by Gerson W. Barbosa

Ok, two timings on the HP 30b.

With TSYS OFF

S: 254,826,600 N: 22,575

With TSYS ON

S: 2,378,051,130 N: 68,964

Amazing little machine. :-)

Re: Buying an HP 30b

*Message #3 Posted by **Namir** on 30 May 2010, 6:11 p.m.,*
in response to message #2 by gene wright

Gene,

Finally I was able to order the HP30b online (from southern France among all places). I got two machines. Will be glad to play with the new beast!

Namir

Edited: 31 May 2010, 3:07 a.m.

Re: sum of the first n integers - HP 30b

*Message #4 Posted by **Gerson W. Barbosa** on 30 May 2010, 6:19 p.m.,*
in response to message #2 by gene wright

> Quote:
>
> S: 2,378,051,130 N: 68,964

That's almost 700 times more numbers than in the original problem! Well, considering the story is true which after reading the American Scientist article I am not sure about anymore. Anyway, as the Italian say, *se non è vera, è ben trovata*.

> Quote:
>
> Amazing little machine. :-)

Agreed! It's a shame a scientific version is still not available.

Re: sum of the first n integers - HP 30b

*Message #5 Posted by **gene wright** on 30 May 2010, 6:28 p.m.,*
in response to message #4 by Gerson W. Barbosa

Well, Gerson... given its speed AND the scientific functions built-into it as well as being RPN and having a (relatively) low cost, it can certainly substitute for many scientific wishes!

I do hope a good number here will get one as they can. And, no, I get no commission. :-)

Re: sum of the first n integers - HP 30b

*Message #6 Posted by **Gerson W. Barbosa** on 30 May 2010, 7:41 p.m.,*
in response to message #5 by gene wright

I read your review of the HP 30b in Datafile V28 N6 and found it impressive. I would get myself one, but I haven't seen it around yet. Sure I don't like inverse trigs accessible through menu, as I didn't like it on the 28S, but at least they are there.

Re: sum of the first n integers - HP 30b

*Message #7 Posted by **gene wright** on 31 May 2010, 12:17 a.m.,*
in response to message #6 by Gerson W. Barbosa

Yes, the inverse trig are there and can be assigned to the keyboard at the cost of about 24 of the 290 bytes and 3 of the 10 program locations. Really not too bad to make "run" mode much more useful. Make sure to get a copy of the HP Solve newsletter now being edited by Richard Nelson. Has had a couple of articles about the 30b with perhaps more to come.

Re: sum of the first n integers

*Message #8 Posted by **Scott Newell** on 30 May 2010, 6:58 p.m.,*
in response to message #1 by Gerson W. Barbosa

12C+, custom integer firmware, overclocked to 48 MHz. N=152,361,930 and S=11,607,078,932,843,415. (Had to use 64 bits for the accumulator on the 12C+, and I had to check my results with bc to handle the range.)

```
unsigned long long acc=0;
do
{
   ++x;
   acc+=x;
} while ((((*(unsigned long int*)PIOC_PDSR) & c_mask)==c_mask));
```

Re: sum of the first n integers

*Message #9 Posted by **Gerson W. Barbosa** on 30 May 2010, 8:09 p.m.,*
in response to message #8 by Scott Newell

> Quote:
>
> N=152,361,930 and S=11,607,078,932,843,415.

That's really amazing, a hard-to-break record on the 12C+! My hopes now lie on the 50g overclocked to maximum speed. Anyone? :-)

I checked your value for N on the 50g in exact mode. It worked but the calculator froze afterwards, probably because the Ni-MH had gotten low. As it would not turn off I removed one of the batteries for a moment and it restarted with the memory intact.

Re: sum of the first n integers

*Message #10 Posted by **Scott Newell** on 30 May 2010, 8:31 p.m.,*
in response to message #9 by Gerson W. Barbosa

> Quote:
>
> That's really amazing, a hard-to-break record on the 12C+! My hopes now lie on the 50g overclocked to maximum speed. Anyone? :-)

I suspect a C or assembly coded routine on either the 50G or the Casio would easily beat it. I can't seem to get the 12C+ to run reliably at 50MHz, and those calcs should do what, 200?

Re: sum of the first n integers

*Message #11 Posted by **Tim Wessman** on 30 May 2010, 10:14 p.m.,*
in response to message #10 by Scott Newell

50? We keep it under 36 always as there is a risk of burning it out. . . sheesh!

TW

Re: sum of the first n integers

*Message #12 Posted by **Eric Smith** on 1 June 2010, 7:16 p.m.,*
in response to message #10 by Scott Newell

200 MHz? Where did you get that? The part has a rated maximum of 36 MHz. If you exceed that by much, reads of the flash memory will become unreliable.

Re: sum of the first n integers

*Message #13 Posted by **Gerson W. Barbosa** on 1 June 2010, 7:28 p.m.,*
in response to message #12 by Eric Smith

I think he's referring to the 50g's processor, which is underclocked at 75MHz but can run at higher speeds, up to 192MHz according to Xerxes's Benchmark article.

Edited: 1 June 2010, 7:32 p.m.

Re: sum of the first n integers

*Message #14 Posted by **Scott Newell** on 1 June 2010, 10:10 p.m.,*
in response to message #12 by Eric Smith

> Quote:
>
> 200 MHz? Where did you get that? The part has a rated maximum of 36 MHz. If you exceed that by much, reads of the flash memory will become unreliable.

I looked up the 50G and the Casio on Wikipedia, and they claimed much faster CPUs (50G: 203 MHz?, Casio: 133 MHz?), with cache.

I have not bothered to run code from sram, but that might make it to 50MHz or so. I have also not tried to increase the number of flash wait states.

I did look through the AT91SAM7L128 datasheet (mine may not be the latest version) abs max ratings, but couldn't find a hard limit of 36 MHz. The PLL shows a max of 47 MHz, master clock max of 39.7 MHz, and max flash operating frequency of 39.7 MHz. Considering how sloppy the PLL reference is (20-44 kHz!), I just assumed I could overclock it a bit, just for fun.

Re: sum of the first n integers in HP 35s

*Message #15 Posted by **Pablo P (Spain)** on 31 May 2010, 4:41 a.m.,*
in response to message #1 by Gerson W. Barbosa

```
HP 35s
----------
S: 480 690
N: 980
----------
A001 LBL A
A002 1
A003 ENTER
A004 ENTER
A005 1
A006 +
A007 +
A008 STO A
A009 LASTx
A010 GTO A005
```

It is very slow compared to HP 33s.

Edited: 31 May 2010, 4:45 a.m.

Re: sum of the first n integers in HP 35s

*Message #16 Posted by **Gerson W. Barbosa** on 31 May 2010, 6:11 p.m.,*
in response to message #15 by Pablo P (Spain)

```
HP-33s


G0001 LBL G
G0002 1
G0003 ENTER
G0004 STO B
H0001 LBL H
H0002 RCL+ B
H0003 +
H0004 STO A
H0005 LAST x
H0006 GTO H
```

```
S: 11 122 686
n:      4 716
```

Is the extra ENTER really necessary on the 35s? On the 33s, it is not.

One less instruction inside the loop causes the count to increase about 20% (6/5), but the gain should be even greater on the 35s (Courtesy of Katie Wasserman :-)

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv017.cgi?read=119195

Re: sum of the first n integers in HP 35s

*Message #17 Posted by **Pablo P (Spain)** on 31 May 2010, 7:16 p.m.,*
in response to message #16 by Gerson W. Barbosa

Hi Gerson, the second ENTER was unnecessary. Thanks

The improved program without the constant in the loop:

```
HP 35s
----------
S: 1 813 560
N:     1 904
----------
A001 LBL A
A002 1
A003 STO B
A004 ENTER
A005 RCL+ B
A006 +
A007 STO A
A008 LASTx
A009 GTO A005
```

Edited: 31 May 2010, 7:16 p.m.

A faster program for the HP33s

*Message #18 Posted by **Palmer O. Hanson, Jr.** on 31 May 2010, 11:23 p.m.,*
in response to message #1 by Gerson W. Barbosa

Gerson:

Try this on the HP-33s starting with LASTx cleared by entering 0 X:

LBL A

LASTx

1

+

+

GTO A

Read the sum from the display, rolling down if necessary. Read n by pressing LASTx, or as one less than the number in the display if the content of LASTx is 1.

To cross check calculate n(n+1)/2.

Two one minute tries with this method yielded

Sum = 9,114,315 with n + 4,269

Sum + 9,097,245 with n + 4,265

Palmer

Re: A faster program for the HP33s

*Message #19 Posted by **Gerson W. Barbosa** on 1 June 2010, 7:19 p.m.,*
in response to message #18 by Palmer O. Hanson, Jr.

Hello Palmer,

> Quote:
>
> Try this on the HP-33s starting with LASTx cleared by entering 0 X:
>
> ...
>
> Read the sum from the display, rolling down if necessary. Read n by pressing LASTx, or as one less than the number in the display if the content of LASTx is 1.
>
> To cross check calculate n(n+1)/2.

You're right, I should have sticked to the old K.I.S.S. rule :-)

Your HP-33s is a bit faster than mine. I obtained 4245 and 4254.

The slightly modified version below is even faster, provided 1 is previously stored in register B:

```
A0001 LBL A
A0002 LASTx
A0003 RCL+ B
A0004 +
A0005 GTO A
```

time (s)	n	S
59 + 99/100	5 255	13 810 140
59 + 97/100	5 252	13 794 378

Thanks for your suggestion,

Gerson.

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I must be misssing something

*Message #1 Posted by **Namir** on 30 May 2010, 11:44 a.m.*

There is an auction on TAS that is selling an four-function TI-150 for $1650!!! I am sorry, but no four-function calculator is worth that much to me!!! Joerg's datamath website mentions that it is very rare. Ok. I get that! But still ... 1650???? Common folks!!!

Namir

Re: I must be misssing something

*Message #2 Posted by **Martin Pinckney** on 30 May 2010, 12:22 p.m.,*
in response to message #1 by Namir

Agreed. He says "only" 4000 were made. That's still a lot of only in my book.

Re: I must be misssing something

*Message #3 Posted by **Namir** on 30 May 2010, 12:29 p.m.,*
in response to message #2 by Martin Pinckney

And seems to emphasize that the box was in good shape!!!

I know that value of vintage electronics is in the eye of the beholder, but there is a line between the reasonable and the absurd.

Namir

Re: I must be misssing something

*Message #4 Posted by **Joerg Woerner** on 31 May 2010, 12:14 a.m.,*
in response to message #1 by Namir

I know the serial number - it went just a few weeks ago for about $300 to Hollywood ;-)) Regards, Joerg

Re: I must be misssing something

*Message #5 Posted by **Namir** on 31 May 2010, 1:22 a.m.,*
in response to message #4 by Joerg Woerner

I see ... Do you feel that E$1650 is high?

Re: I must be misssing something

*Message #6 Posted by **Joerg Woerner** on 31 May 2010, 7:59 p.m.,*
in response to message #5 by Namir

Namir,

I would sell you mine for $825 and still feel bad ;-))

A TI-150 is $150. Period.

Regards, Joerg

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Publisher of HP-related books

*Message #1 Posted by **JJB299** on 30 May 2010, 11:10 a.m.*

Does anyone know of a publisher that has produced books in the past that are about HP calculators? Or non-HP calcs? If not calculators, then other handhelds/laptops from HP?

Thanks. Cheers(just trying it on).

-Justin

Re: Publisher of HP-related books

*Message #2 Posted by **Namir** on 30 May 2010, 11:34 a.m.,*
in response to message #1 by JJB299

Amazon carries books related to the TI-83 and the new TI Nspire. I'd search there first.

As for books for HP calculators, well they are only old books you may find on eBay and also Amazon. What is available is based on what sellers happen to have for sale.

Namir

Re: Publisher of HP-related books

*Message #3 Posted by **db (martinez, ca.)** on 30 May 2010, 12:03 p.m.,*
in response to message #1 by JJB299

Grapevine published a series of books on the 41, 12, 48 and more.
TK enterprises published a book on RPN.
Wilson Barnet (Guy Ball's father in law) published the Collector's Guide to Pocket Calculators.
Dr. Mier-Jedrzejowicz self published his great collection of (mostly) other peoples' essays about HP & RPN.
Synthetix of Berkeley California published the books on the 41 by Kieth Jarret and others
D'Zign (Ted & Phylis Kerber) published many books of surveying and geometry programs for the 67,41,42,& 48 series. Most could come with mag cards or discs.

There's more that i'm not remembering.

Re: Publisher of HP-related books

*Message #4 Posted by **Martin Pinckney** on 30 May 2010, 12:17 p.m.,*
in response to message #3 by db (martinez, ca.)

> Quote:
>
> There's more that i'm not remembering.

Another is Colin Croft who published a couple of books on the 38/39g series.

Re: Publisher of HP-related books

*Message #5 Posted by **gene wright** on 30 May 2010, 1:17 p.m.,*
in response to message #4 by Martin Pinckney

Well, I will toot my own horn a bit and say that my business math book using the HP 10bII, the HP 12c and TI BAII Plus is still available on Amazon.

Tony Hutchins has a very detailed book on the TVM using calculators but I believe it is out of print. I am fortunate enough to have one.

Re: Publisher of HP-related books

*Message #6 Posted by **db (martinez, ca.)** on 30 May 2010, 5:25 p.m.,*
in response to message #5 by gene wright

Sorry Gene. I sit next to a man for two days at an HHC conference and forget he wrote a book.

MEMORY LOST!

Re: Publisher of HP-related books

*Message #7 Posted by **gene wright** on 30 May 2010, 5:34 p.m.,*
in response to message #6 by db (martinez, ca.)

Lol. Hey no worries. Maybe we'll be sitting and talking this year too?

Re: Publisher of HP-related books

*Message #8 Posted by **Bart (UK)** on 31 May 2010, 6:07 a.m.,*
in response to message #5 by gene wright

Hi Gene,
I have been looking at that, but UK Amazon wants £83 for your book. That's around 5x the US Amazon price. Unfortunately I cannot justify that.

Re: Publisher of HP-related books

*Message #9 Posted by **Eric Rechlin** on 6 June 2010, 11:27 p.m.,*
in response to message #8 by Bart (UK)

Order it through my site and it's $64 shipped by Priority Mail. Might be able to do it for $50 by Airmail, though (let me know if you're interested). Unfortunately shipping across the pond adds a lot to the price.

Re: Publisher of HP-related books

*Message #10 Posted by **Martin Pinckney** on 30 May 2010, 10:24 p.m.,*
in response to message #3 by db (martinez, ca.)

There was *HP 48 Insights* and *HP 41/48 Transitions* published by Larken Publications.

HP 48 Handbook and *The HP 48 Programmer's ToolKit* published by Armstrong Publishing Company.

Re: Publisher of HP-related books

*Message #11 Posted by **Bob Patton** on 30 May 2010, 5:53 p.m.,*
in response to message #1 by JJB299

A classic is Algorithms for RPN Calculators by Jon A Ball from 1978. I believe it was published by Wiley.

Re: Publisher of HP-related books

*Message #12 Posted by **Dave Shaffer (Arizona)** on 30 May 2010, 6:56 p.m.,*
in response to message #11 by Bob Patton

> Quote:
>
> Jon A Ball

If you try to look this one up, use John (with an "h") Ball (radio astronomer friend of mine at Haystack Observatory).

Re: Publisher of HP-related books

*Message #13 Posted by **Jeff Kearns** on 30 May 2010, 9:02 p.m.,*
in response to message #12 by Dave Shaffer (Arizona)

I bought that book just last month from AbeBooks. It came from Don's Book Store in Albequerque, NM. Got it for ~$40CDN incl S&H.

Great book!

Jeff Kearns

Re: Publisher of HP-related books

*Message #14 Posted by **Gordon Strickland** on 30 May 2010, 9:31 p.m.,*
in response to message #1 by JJB299

"Computational Analysis with the HP 25 Pocket Calculator" by Peter Henrici, published in 1977 by John Wiley & Sons.

This book contains 35 programs dealing with various intermediate- and advanced-level mathematical topics, such as continued fraction representation of real numbers, Aitken-Steffensen iteration, exponentiation of power series, complete elliptic integrals, Bessel functions, and so on.

Amazon is currently listing four used copies, starting (unfortunately) at $59.97.

Re: Publisher of HP-related books (edited)

*Message #15 Posted by **Vieira, Luiz C. (Brazil)** on 30 May 2010, 10:31 p.m.,*
in response to message #1 by JJB299

Hi;

I have "The HP48 Calculus Companion", by Mathews J, Eldswick J., Harper Collins College Publications.

Also, you could try GU (Great Unpublished - link seems not to work, though) They published many of Urroz's

books about the HP48G series.

(added) I found this reference and after that I found this one which points to this one... which points to nowhere. I think I found nothing, though.

As a humble reference of mine, Brazilian Erica publisher printed 'Da HP41 para a HP48' ('From the HP41 to the HP48'), written by me in the mid 90's (Portuguese only... so far). There are some other books printed in Brazil about calculators, and I happen to have a printed copy of 'Usando a HP41CV na Engenharia' (Using the HP41CV in Engineering), by Mirshawka, V. printed by Brazilian Nobel publisher.

Cheers.

Luiz (Brazil)

Edited: 30 May 2010, 11:45 p.m.

Let's Make This List Complete and Put It In the Articles Section

*Message #16 Posted by **db (martinez, ca.)** on 31 May 2010, 1:08 a.m.,*
in response to message #1 by JJB299

That was a great question. I've compiled the answers so far. Could anyone with something to add or organize: copy and paste to this till we have a fairly complete bibliography to store in the Archives? Maybe the final version should be sorted alphabetically or by calculator, although i think that sorting by language is important to those of us not from Europe or Brazil.

IN ENGLISH
-Grapevine Published:
An Easy Course In Programming The HP-41 by Chris Coffin & Robert Bloch
(they also published books on the 12c & 48)
-Everything you've always wanted to know about RPN but were afraid to peruse: published by TK enterprises
-The Collector's Guide to Pocket Calculators by Guy Ball & Bruce Flamm.Published by Wilson Barnet
-RCL 20; Dr. Mier-Jedrzejowicz's self published collection of (mostly) other peoples' essays about HP & RPN.
-Synthetix of Berkeley California published:
HP-41 Synthetic Programming Made Easy by Kieth Jarett
HP-41 Extended Functions Made Easy by Kieth Jarett
HP-41 Advanced Programming Tips by Alan McCornack & Kieth Jarett
Inside the HP-41 by Jean-Daniel Dodin
Extend Your HP-41: Dr. W. Mier-Jedrzejowicz
-D'Zign (Ted & Phylis Kerber) published books of surveying and geometry programs for the 41,42,& 48 series. Most could come with mag cards or discs.
-Colin Croft who published a couple of books on the 38/39g series.
-Quantitative Analysis For Business: The Time Value of Money and Basic Business Statistics Using a Business Calculator by Gene Wright
-The Time Value of Money: Business Math Using a Business Calculator by Gene Wright
-?????? TVM ??????? by Tony Hutchins -HP 48 Insights and HP 41/48 Transitions published by Larken Publications.
-HP 48 Handbook and The HP 48 Programmer's Tool Kit from Armstrong Publishing Company
-Algorithms for RPN Calculators by John A. Ball, 1978.
-Computational Analysis with the HP 25 Pocket Calculator by Peter Henrici, published in 1977 by John Wiley & Sons.
-The HP48 Calculus Companion by Mathews J, Eldswick J., Harper Collins College Publications
-Practical Navigation by Calculator by Gerry Keys, 1982, pub. by Stanford Maritime, London
-PPC ROM Users Manual 1982. Written and published by PPC, Santa Anna California

IN PORTUGUESE
-Da HP41 para a HP48' ('From the HP41 to the HP48') , by Luiz C. Vieira
-Usando a HP41CV na Engenharia' (Using the HP41CV in Engineering), by Mirshawka, V. printed by Brazilian Nobel publisher.

IN GERMAN
-

IN FRENCH
-

Edited: 31 May 2010, 1:30 a.m.

Re: Let's Make This List Complete and Put It In the Articles Section

*Message #17 Posted by **Felix Gross** on 31 May 2010, 2:10 a.m.,*
in response to message #16 by db (martinez, ca.)

Please check out the Calculator literature list on the HP Museum DVD2. It comprises almost 800 book references sorted by subject, with ISBN number, page number etc (if available). A discussion of this list can be found in Datafile V29N1P7.

The English books mentioned in this thread should be in the list. I will include Luiz Viera's books and would be grateful to receive more information about those books. In fact I would be grateful for all information about books not yet included in the list. The current version has more than 1000 references and is still growing.

Cheers,

Felix

Re: Let's Make This List Complete and Put It In the Articles Section

*Message #18 Posted by **Vieira, Luiz C. (Brazil)** on 31 May 2010, 1:37 p.m.,*
in response to message #16 by db (martinez, ca.)

Hi db, guys;

I'll compile all information I have about these books. I also have four Urroz's publications, originally from GU, all of them about the HP48G series. As the HP48 has already been discontinued, I believe it is already a museum electable item, right?

I´ll post about these later.

In time: will the HP12C literature be considered here? I guess we´ll never know how many books about it has been written so far...

Cheers.

Luiz (Brazil)

Edited: 31 May 2010, 1:40 p.m.

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New addition speed test (updated with results as of 5pm CDT 20100530) ...add machines / methods not yet included..includes 42s FAST mode

*Message #1 Posted by **Gene Wright** on 28 May 2010, 3:24 p.m.*

Presently in order from fastest to slowest.

I'd like to get a list of speeds for a much simpler program, that ONLY goes after one thing: a loop of additions.

```
LBL 01
+
GTO 01
```

where the stack contains 0 1 1 1 on 4 level machines. In other words, start with 0 and do repeated additions of 1 for 60 seconds. What is the result? I know Xerxes' test checks many other things, but how do they stack up with this?

```
Please post:


The machine used
Your count after 60 seconds
Your program code.


==========================================
HP-12C+, Scott's custom integer firmware, overclocked to 48.75 MHz
Count: 261,602,459
Code: Unspecified


HP-12C+, Scott's custom firmware
Count: 10,794,647
Code:
Do { ++x; } while ((((*(unsigned long int*)PIOC_PDSR) & c_mask)==c_mask));


HP 30b with TSTSYS ON
Count: 222,578
Code: LBL 00 + GOTO 00
(as first program in memory)


FX-9860G SD  Fast Mode
Count: 206,250
Code: 0->A : Lbl 0 : A+1->A : Goto 0


HP 50g (SysRPL bint)
Count: 124,445
Code: !NO CODE !RPL :: ZERO BEGIN #1+ GETTOUCH UNTIL DROP ; @


FX-9860G SD
Count: 97,950
Code: 0->A : Lbl 0 : A+1->A : Goto 0


HP 12c+
Count: 78,640
Code: + GTO 01


HP 30b
```

```
Count: 72,517
Code: LBL 00 + GOTO 00
(as first program in memory)


HP 9825 B
Count: 59,568
Code: 0->A; "start"; A+1->A; gto "start"; end


Casio fx-9860G Slim
Count: 55,924
Code: 0->A Lbl 0 A+1->A Goto 0


HP 50g (SysRPL floating point)
Count: 56,994
Code: !NO CODE !RPL :: BEGIN %1+ GETTOUCH UNTIL DROP ; @


HP-9100A SERIAL NUMBER 816-01071 (1971?)
Count: 49,391
Code: +, GO TO 00


HP 9815S
Count: 47,592
Code: 000 +  001 GOTO 000


HP-9100B
Count: 47,394
Code: +, GO TO, 0, 0


HP-71B Forth Xerxes:
COUNT: 46,575
Code:
Forth
: XERXES 1 SWAP 0 DO 1+ LOOP ;
46575 XERXES DROP
BYE


HP 9815A/S
Count: 31,156
Code; LBL, A, 1, +, GTO A


HP 48Gii Exact mode (old version)
Count: 28,160
Code: 1. << DO 1. + UNTIL 0. END >> EVAL


HP 48gII
Count: 26,439 // Approx Mode
Code: << WHILE 1 REPEAT 1. + END >>


HP 85
Count: 23,605
Code: 10 Let A=0; 20 Let A=A+1; 30 goto 20; 40 END


HP-75C (1982)
Count: 21,717
Code:&#8232;10 A=0&#8232;20 A=A+1 @ GOTO 20&#8232;30 END


HP 9810A
Count: 15,355
Code LBL, 1, +, GTO, 1


TI-84 Silver Edition
Count: 13,838
Program: Lbl 1:A+1->A: Goto 1
```

```
HP 48GX
Count: 11,636
Code: << WHILE 1 REPEAT 1 + END >>


Psion Organiser II CM (1997)
Count: 10,949
Code:&#8232;LOCAL a&#8232;a=1&#8232;DO&#8232;a=a+1&#8232;UNTIL KEY$="S"&#8232;PRINT a&#8232;GET


HP-48G
Count: 10,726
Code: << WHILE 1 REPEAT 1 + END >>


HP 33s
Count: 10,097
Code: LBL A + GTO A


TI-89 Titanium
Count: 9,339
Program: aa():Prgm:Lbl b:a+1->a:Goto 1: EndPrgm


TI-83
Count: 8,106
Code: LBL B, A+1>>A, goto B


HP-48SX
Count: 7,352
Code: Unknown


FX-603P
Count: 7,240
Code: AC 1 + + LBL 0 = GOTO 0


HP-42s FAST MODE S/N 2849A with goose disabled
Count: 6,485
Code: CLLCD LBL 01 + GTO 01


HP-32s
Count: 5,973
Code: LBL A + GTO A


TI-92
Count: 5,686
Code: 0->a  Lbl aa  a+1->a  Goto aa


HP-28S
Count: 5,677
Code: HOME 1 << WHILE 1 REPEAT 1 + END >> EVAL


HP 50G (normal speed)
Count: 5,510
Code: << 1 + A >> stored in A, start with 1 on stack line 1:


HP 35s
Count: 5,504
Code: B001 LBL B B002 STO+ Z B003 GTO B002, with Z initialized to 0


PC-1247
Count: 5180
Code: 1:A=A+1:GOTO1


HP 20S
Count: 4,837
Code: LBL A, +, GTO A
```

```
HP-32sii
Count: 4,715
Code: LBL A, +, GTO A


HP-42s FAST MODE S/N 2849A
Count: 4,419
Code: LBL 01 + GTO 01


HP-71B
Count: 4,320
Code:


10 DESTROY A @ A=0
20 ON TIMER #1,60 GOTO 40
30 A=A+1 @ GOTO 30
40 DISP A


HP 48gii (Original 3 batteries, NO USB)
Count: 4,296
Code: << TICKS 8192 60 * + << -> t << DO 1. + UNTIL TICKS t >= END >> >> EVAL >>


HP-20S
Count: 4,170
Code: Unknown


HP 35s
Count: 3,652
Code: LBL B, +, GTO B001


TI-86
Count: 3612
Code: Lbl B:1+A->A:Goto B


HP 39gs
Count: 3607
Code: 1->A:  DO  A+1->A  UNTIL A<=0  END:


Aurora 12c clone
Count: 3,554
Code:  +, GTO 01


TI-95
Count: 3,350 counts
Code: 1 + GTO 0000


Radio Shack PC-2
Count: 3,317
Code: 1: A=A+1 2: GOTO 1 ; start with 0 stored in A.


HP 48gii (Original 3 batteries, NO USB)
Count: 3,088
Code: << WHILE 1 REPEAT 1. + END >>


HP-42S with "goose" disabled
Count: 3,067
Code: CLLCD, LBL 00 + GTO 00


HP 48gii Exact mode (Original 3 batteries, NO USB)
Count: 3,036
Code: << WHILE 1 REPEAT 1 + END >>


HP-42S
Count: 2,115
```

```
Code: LBL 00 + GTO 00


HP-41CY Turbo
Count: 1,982
Code: LBL 00, +, GTO 00


HP 9G
Count: 1,470
Code: A=0; Lbl 0=; A=A+1; GOTO 0; END


HP 12c plat 25th anniv.
Count:  1,435
Code:  +, Goto 001


HP 12c platinum
Count: 1,386
Code: + GTO 001


HP41CX Synthetic:
Count: 1,298    (Same HP41CX: Count 1075, code:  LBL 01 + GTO 01, so +20%)
Code:
 01 LBL "X"             Just the label
 02 1
 03 "SeeRemark"         !!! Synthetic string 9 long Decimal 249 96 7 117 131 131 131 64 178
176
                        this places 96 7 in N to be transferred in reg b, resulting in program
counter in reg M, byte 6
                        In reg M synthetic code results in:
                        RDN ENTER ENTER ENTER + GTO 01
                        The GTO 01 is a COMPILED GTO jumping to the + before it!
                        You can SST this code but the GTO 01 takes a long time to reposition!
                        Yes, this can be optimized still a bit, but the loop is using 3 bytes!
 04 0
 05 X<> N
 06 BEEP
 07 STOP
 08 STO b
 09 END
INSTRUCTION: READ THIS
XEQ "X"
wait until beep, 000000,06 is displayed
press [R/S] to start counting
press [R/S] after 60 seconds, write down the count
perform a GTO .. !!! because the program pointer is in reg M, switching to program mode and
TOUCHING A KEY results in MEMORY LOST!


CASIO PB-700
Count: 1282
Code: 1: A=A+1 2: GOTO 1 ; start with 0 stored in A.


Sharp PC-1251
Count: 1,277
Code: 1: A=A+1 2: GOTO 1 ; start with 0 stored in A.


HP 41c
Count: 1,063
Code: LBL 01 + GTO 01


HP-65
Count:  578
Code:  Lbl 1, +, Goto 1


HP-10C
Count: 514
Code: LBL 0 + GTO 0


HP-25
Count: 512
Code: 01 + 02 GTO 01
```

```
HP 12c original (mfg. 1985)
Count: 500
Code: +; GTO 01


HP 25
Count: 483
Code: + GTO 01


TI SR-56
Count: 461
Code: + 1 = RST


TI SR-52
Count: 425
Code: + 1 = RST


HP-38C
Count: 387
Code:  + GTO 01


TI 58C
Count: 387
Code: + 1 = RST


HP-29C
Count: 361
Code: LBL 0; +; GOTO 0


SHARP PC-1211
Count: 358
Code 1:Z=Z+1:GOTO 1 (starting with Z=0)


HP 11c
Count: 353
Code: Lbl 1, +, Goto 1


HP-33c (mfg. 1982)
Count: 319
Code: 01 + 02 GTO 01


HP 55
Count: 312
Code: + GTO 01


HP-19c
Count: 301
Code: LBL 1 + GTO 1


HP 15c (mfg. 1983)
Count: 297
Code: LBL A; +; GTO A


HP 16c: 293 (float 4)
Count: 293
Code: LBL A + GTO A


HP 34c: (I program) with -1 stored in I
Count: 277
Code: LBL A + GTO f I


HP 34c (mfg. 1981)
Count: 269
```

```
Code: LBL A; +; GTO A


TI-55
Count: 267
Code: + 1 RST


HP 34c:
Count: 259
Code: LBL A + GTO A


HP 16c
Count:  245
Code:  Lbl 1, +, Goto 1


HP 16c: 230 (decimal, wsize 16, 2-complement)
Count: 230
Code: LBL A + GTO A


HP 67
Count: 226
Code: LBL 1 + GTO 1


HP-97
Count: 223
Code: LBL1; +; GOTO 1


Texas Instrument TI-57LCD
Count: 216
Code: LBL_01 1 + GTO_01


TI-66
Count: 210
Code: + 1 = RST


TI-65
Count: 205
Code: 1 + RST


Texas Instrument TI-57LCD
Count: 195
Code: 1 + RST


TI-55
Count: 189
Code: + 1 = RST


TI BA 55
Count: 139
Code: + 1 = RST


Human hand Tapping + key
Count: 133


Elektronika MK-61
Count: 106
Code: + GSB 00


TI-62
Count: 100
Code: 1 + RST
```

Edited: 30 May 2010, 6:27 p.m. after one or more responses were posted

Re: New addition speed test (updated with results so far) ...add machines / methods not yet included

*Message #2 Posted by **John Pierce** on 28 May 2010, 4:20 p.m.,*
in response to message #1 by Gene Wright

Free-42 on IPOD Touch, 7,682,792

LBL 00 + GOTO 00

Re: New addition speed test (updated with results so far) ...add machines / methods not yet included

*Message #3 Posted by **Gene Wright** on 28 May 2010, 4:26 p.m.,*
in response to message #2 by John Pierce

Ok, :-)

While emulators running on iphones, ipod touch, etc. are interesting, I'm personally only interested in real units with buttons that (mostly) click.

I won't be including any FREE42, etc, results in the table.

Not that they aren't interesting... :-)

Re: New addition speed test (updated with results so far) ...add machines / methods not yet included

*Message #4 Posted by **Bart (UK)** on 28 May 2010, 5:54 p.m.,*
in response to message #1 by Gene Wright

Hi Gene,

Nice list of results, I assume you will put it into an article once the entries dry up.

Just a note on the "Human hand tapping + key", that was performed on the MK-61, many can probably do it faster, but the MK-61 just doesn't seem to accept inputs any faster - I was just trying to see if I could beat the program.

Machine: HP 20S
Count: 4,837
Code: LBL A, +, 1, GTO A

Bart

Edited: 29 May 2010, 6:42 p.m.

Re: New addition speed test (updated with results so far) ...add machines / methods not yet included

*Message #5 Posted by **Kiyoshi Akima** on 28 May 2010, 6:20 p.m.,*

in response to message #1 by Gene Wright

```
Machine: TI-89 Titanium
Count: 9339
Program: aa():Prgm:Lbl b:a+1->a:Goto 1: EndPrgm


Machine: TI-84 Silver Edition
Count: 13838
Program: Lbl 1:A+1->A: Goto 1


HP 50g
Count: 30198
Program: << WHILE 1 REPEAT 1 + END >>
```

Re: New addition speed test (updated with results so far) ...add machines / methods not yet included

*Message #6 Posted by **Raymund Heuvel** on 28 May 2010, 6:46 p.m.,*
in response to message #1 by Gene Wright

HP-71B Forth Xerxes:
COUNT= 46575 TIME USED=: 60.01 Seconds
Code: 46575 0 DO 1+ LOOP

Since this is not valid in run-time use:
Forth
: XERXES 1 SWAP 0 DO 1+ LOOP ;
46575 XERXES DROP
BYE

Very brute force program (Forth, Math Pac) to calculate count in 60 Seconds:

```
10 FORTHX ": XERXES 1 SWAP 0 DO 1+ LOOP ;"
20 DEF FNX(C) ! C=COUNT
30 C=INT(C) @ DIM T,F$ @ F$=STR$(C)&" XERXES DROP" @ T=TIME @ FORTHX F$ @
FNX=TIME-T-60
40 END DEF
50 R=FNROOT(20,50,FNX(FVAR))
60 DISP "HP-71B Forth Xerxes:" @ DISP "COUNT=";INT(R);" ";
70 DISP "TIME USED=:";FNX(INT(R))+60;" Seconds"
80 FORTHX "FORGET XERXES"
```

Of course with the use of HP-IL and 82164A RS-232 to get this listing ....

BR

Ray

Re: New addition speed test (updated with results so far) ...add machines / methods not yet included

*Message #7 Posted by **Xerxes** on 29 May 2010, 1:10 p.m.,*
in response to message #6 by Raymund Heuvel

:-)

Does anybody know, if there is a speed difference between the two 71B-Forth versions?

Re: New addition speed test (updated with results so far) ...add machines / methods not yet included

*Message #8 Posted by **Chuck** on 28 May 2010, 7:55 p.m.,*
in response to message #1 by Gene Wright

```
Machine:  HP 200 LX 2mb RAM:
Count: 230
Method:  Holding down the [+]  key  in HP Calc.


CHUCK
```

Edited: 28 May 2010, 8:01 p.m.

Re: New addition speed test (updated with results so far) ...add machines / methods not yet included

*Message #9 Posted by **Raymund Heuvel** on 28 May 2010, 9:05 p.m.,*
in response to message #1 by Gene Wright

```
HP41CX Synthetic:
Count: 1298    (Same HP41CX: Count 1075, code:  LBL 01 + GTO 01, so +20%)
Code:


 01 LBL "X"             Just the label
 02 1
 03 "SeeRemark"         !!! Synthetic string 9 long Decimal 249 96 7 117 131 131 131 64
178 176
                        this places 96 7 in N to be transferred in reg b, resulting in
program counter in reg M, byte 6
                        In reg M synthetic code results in:
                        RDN ENTER ENTER ENTER + GTO 01
                        The GTO 01 is a COMPILED GTO jumping to the + before it!
                        You can SST this code but the GTO 01 takes a long time to
reposition!
                        Yes, this can be optimized still a bit, but the loop is using 3
bytes!
 04 0
 05 X<> N
 06 BEEP
 07 STOP
 08 STO b
 09 END


INSTRUCTION: READ THIS
XEQ "X"
wait until beep, 000000,06 is displayed
press [R/S] to start counting
press [R/S] after 60 seconds, write down the count
perform a GTO .. !!! because the program pointer is in reg M, switching to program mode
and TOUCHING A KEY results in MEMORY LOST!


BR


Ray
```

Re: New addition speed test (updated with results so far) ...add machines / methods not yet included

*Message #10 Posted by **Paul Dale** on 28 May 2010, 9:40 p.m.,*
in response to message #1 by Gene Wright

Some more:

```
HP-32s    5973
HP-32sii  4715
HP-19c     301
```

- Pauli

Re: New addition speed test (updated with results so far) ...add machines / methods not yet included

*Message #11 Posted by **Fred Lusk** on 28 May 2010, 10:11 p.m.,*
in response to message #1 by Gene Wright

Machine: iPhone 3G running Byron Foster's HP42S emulator
Count: 2,700,667
Code: LBL AA + GTO AA

Re: New addition speed test (updated with results so far) ...add machines / methods not yet included

*Message #12 Posted by **PatrickR** on 29 May 2010, 8:35 a.m.,*
in response to message #1 by Gene Wright

```
TI83: (LBL B: A+1>>A : goto B)
3 times:
8106
8068
8052
(battery almost finished?)
Also did a FOR loop: 6606
and a WHILE loop: 4830


With ANS instead of dedicated variables:
Lbl B: ans +1: goto b
This gave 12986!


------------
HP12C from Brazil: 502 (same value after 3 tests)
HP12C from USA: 511 (idem). Perhaps voltage difference?
HP12C platinum from China (full silver version, no parenthesis): 3185


I also have the TI BA II plus pro, but it doesn't seem able to hold programs, any ideas to
automate the addition?


REPLACE THIS TEXT WITH YOUR LISTING
```

Edited: 1 June 2010, 6:59 a.m.

Re: New addition speed test (updated with results so far) ...add machines / methods not yet included

*Message #13 Posted by **Gerson W. Barbosa** on 29 May 2010, 10:15 a.m.,*
in response to message #1 by Gene Wright

```
HP 34c (mfg. 1981)
Count: 269
Code: LBL A; +; GTO A


HP-33c (mfg. 1982)
```

```
Count: 319
Code: 01 + 02 GTO 01


CASIO PB-700
Count: 1282
Code: 1: A=A+1 2: GOTO 1 ; start with 0 stored in A.
```

Edited: 29 May 2010, 10:16 a.m.

Re: New addition speed test (updated with results so far) ...add machines / methods not yet included

*Message #14 Posted by **Donald Williams** on 29 May 2010, 12:22 p.m.,*
in response to message #1 by Gene Wright

HP 9G

Count 1470

Code A=0; Lbl 0=; A=A+1; GOTO 0; END

Edited: 29 May 2010, 12:24 p.m.

Re: New addition speed test (updated with results so far) ...add machines / methods not yet included

*Message #15 Posted by **C.Ret** on 29 May 2010, 1:32 p.m.,*
in response to message #14 by Donald Williams

HP-28S Count: 5677 Code: HOME 1 << WHILE 1 REPEAT 1 + END >> EVAL

SHARP PC-1211 Count: 358 Code 1:Z=Z+1:GOTO 1 (starting with Z=0)

Texas Instrument TI-57LCD Count: 216 Code: LBL_01 1 + GTO_01

```
--      St
23.01   00   LBL 01
01      01   1
85      02   +
22.01   03   GTO 01
```

Texas Instrument TI-57LCD Count: 195 Code: 1 + RST

```
--      St
01      01   1
85      02   +
21      03   RST
```

Edited: 29 May 2010, 1:41 p.m.

Re: New addition speed test (updated with results as of Noon CDT 20100529) ...add machines / methods not yet included

*Message #16 Posted by **Palmer O. Hanson, Jr.** on 29 May 2010, 2:00 p.m.,*
in response to message #1 by Gene Wright

Gene:

Way back when, in the dark ages, and working on the dark side, we found that the count that we could get

depended on the method of mechanizing the loop. Not really surprising, of course. Thus, with my TI-59 if I mechanize the loop as

1 + RST I get a one minute count of 635

1 + GTO 000 I get a count of 337

LBL A 1 + GTO A I get a count of 396

We decided that we really only wanted to compare add times. If I do the RST loop with different number of additions per loop I get

635 with 1 + RST

707 with 1 + 1 + RST

735 with 1 + 1 + 1 + RST

771 with ten additions per loop

779 with twenty additions per loop, and

787 with one hundred additions per loop.

We also found that we could get a comparable result to the 100 additions per loop measurement by doing a little algebra on the cases with one and two additiions per loop.

Palmer

Re: New addition speed test (updated with results as of Noon CDT 20100529) ...add machines / methods not yet included

*Message #17 Posted by **Gene Wright** on 29 May 2010, 2:14 p.m.,*
in response to message #16 by Palmer O. Hanson, Jr.

Hi Palmer!

I still owe you an email. :-)

I know that higher counts would occur if memory were filled with + instructions and not just a single + in a loop.

So, this test is addition and loop, I guess.

I'm sure the counts would be much higher for many machines like the TI 59, etc, if most of memory were + 1 + 1... and the HP machines might have an intense advantage since program memory would just be + and the numbers would be on the stack - no digit entry delay in a program.

But, yes, I know you're correct. :-)

Re: New addition speed test (updated with results as of Noon CDT 20100529) ...add machines / methods not yet included

*Message #18 Posted by **Xerxes** on 29 May 2010, 2:38 p.m.,*
in response to message #17 by Gene Wright

```
TI-95: 3350 counts
1 + GTO 0000
```

RST is missing on the TI-95.

Re: New addition speed test (updated with results as of 1pm CDT 20100529) ...add machines / methods not yet included..includes 42s FAST mode

*Message #19 Posted by **Donald Williams** on 29 May 2010, 2:19 p.m.,*
in response to message #1 by Gene Wright

9825 B

Count 59,568

Code 0->A; "start"; A+1->A; gto "start"; end

Re: New addition speed test (updated with results as of 1pm CDT 20100529) ...add machines / methods not yet included..includes 42s FAST mode

*Message #20 Posted by **Donald Williams** on 29 May 2010, 3:11 p.m.,*
in response to message #1 by Gene Wright

HP 85

Count 23,605

Code 10 Let A=0; 20 Let A=A+1; 30 goto 20; 40 END

Re: New addition speed test (updated with results as of 1pm CDT 20100529) ...add machines / methods not yet included..includes 42s FAST mode

*Message #21 Posted by **Garth Wilson** on 29 May 2010, 3:31 p.m.,*
in response to message #1 by Gene Wright

How would the 41 do in Mcode?

Re: New addition speed test (updated with results as of 1pm CDT 20100529) ...add machines / methods not yet included..includes 42s FAST mode

*Message #22 Posted by **Joel Setton (France)** on 29 May 2010, 3:54 p.m.,*
in response to message #1 by Gene Wright

HP 9815S

Count: 47,592

Code: 000 +

001 GOTO 000

Joel Setton

Re: New addition speed test (updated with results as of 1pm CDT 20100529) ...add

machines / methods not yet included..includes 42s FAST mode

*Message #23 Posted by **Kiyoshi Akima** on 29 May 2010, 6:21 p.m.,*
in response to message #1 by Gene Wright

```
Machine: HP 50g (SysRPL bint)
Count: 124445
Code:
!NO CODE !RPL
:: ZERO BEGIN #1+ GETTOUCH UNTIL DROP ;
@


Machine: HP 50g (SysRPL floating point)
Count: 56994
Code:
!NO CODE !RPL
:: BEGIN %1+ GETTOUCH UNTIL DROP ;
@


Machine: TI-86
Count: 3612
Code: Lbl B:1+A->A:Goto B
```

Re: New addition speed test (updated with results as of 6pm CDT 20100529) ...add machines / methods not yet included..includes 42s FAST mode

*Message #24 Posted by **Bart (UK)** on 29 May 2010, 6:43 p.m.,*
in response to message #1 by Gene Wright

Machine: Radio Shack PC-2
Count: 3,317
Code: 1: A=A+1 2: GOTO 1 ; start with 0 stored in A.

Re: New addition speed test (updated with results as of 6pm CDT 20100529) ...add machines / methods not yet included..includes 42s FAST mode

*Message #25 Posted by **Paul Dale** on 29 May 2010, 7:03 p.m.,*
in response to message #1 by Gene Wright

> Quote:
>
> ```
> HP 16c: 293 (float 4) Count: 293 Code: LBL A + GTO A
>
> HP 16c Count: 245 Code: Lbl 1, +, Goto 1
> ```

The difference between these two is surprising. My HP-16c (the top one) hasn't been overclocked or anything yet it runs 20% faster.

Could there have been some extra code floating around in the second case? The GTO has to search to find the LBL and an extra step would slow things down.

It is probably worthwhile making sure that all LBL addressed calculators have had their program memory cleared before doing the test.

- Pauli

Re: New addition speed test (updated with results as of 6pm CDT 20100529) ...add

machines / methods not yet included..includes 42s FAST mode

*Message #26 Posted by **BobVA** on 29 May 2010, 10:50 p.m.,*
in response to message #1 by Gene Wright

HP-29C Count: 361 Code: LBL 0; +; GOTO 0

HP-97 Count: 223 Code: LBL1; +; GOTO 1

HP-55 Count: 316 Code: +; GTO01

CURTA ONE :-) Count: 222 Code: N/A

I was sort of surprised at the low number for the 97.

Edited: 29 May 2010, 10:54 p.m.

Re: New addition speed test (updated with results as of 6pm CDT 20100529) ...add machines / methods not yet included..includes 42s FAST mode

*Message #27 Posted by **Thomas Okken** on 29 May 2010, 11:30 p.m.,*
in response to message #26 by BobVA

> Quote:
>
> I was sort of surprised at the low number for the 97.

The HP-97 performs GTO by searching up to the entire program memory, from the GTO forward, wrapping around at line 224 if necessary. This is very inefficient when running tight loops where you're jumping backwards a lot. Think about it: "GTO 0... OK, I'm at line 003, where's LBL 0? Is it at line 004? No. Is it at line 005? No. Is it at line 006? No..." and so on.
HP tried to ameliorate this with the "rapid reverse branching" feature (GTO (i) where I < 0, which jumps -I lines backward, so you can jump to a specific line without the label search) but that is so awkward that hardly anyone ever uses it. The TI-58 and its relatives do this better because they support both "goto label" and "goto line number", but the HP-41C and HP-42S do this better still by using memoization, where you get the best of both worlds, i.e. freedom from having to keep track of line numbers, *and* the efficiency of a direct jump: they perform the same kind of label search as the HP-67/97/etc, but once they find the label, they store its location, and the next time that GTO or XEQ is executed, they can then jump straight to that LBL without having to search for it.
The HP-25 outperforms the HP-67 and HP-97 by a wide margin on this test, even though it uses pretty much the same hardware... just because its simplistic "goto line number" is much more efficient than the 67/97 "goto label".

Edited: 29 May 2010, 11:40 p.m.

Re: New addition speed test (updated with results as of 6pm CDT 20100529) ...add machines / methods not yet included..includes 42s FAST mode

*Message #28 Posted by **BobVA** on 30 May 2010, 6:44 p.m.,*
in response to message #27 by Thomas Okken

Thank you! Very interesting.

Re: New addition speed test (updated with results as of 6pm CDT 20100529) ...add

machines / methods not yet included..includes 42s FAST mode
*Message #29 Posted by **Donald Williams** on 30 May 2010, 10:36 a.m.,*
in response to message #1 by Gene Wright

Casio fx-9860G Slim OS2

Count 55,924

Code 0->A Lbl 0 A+1->A Goto 0

Edited: 30 May 2010, 1:18 p.m. after one or more responses were posted

Re: New addition speed test (updated with results as of 6pm CDT 20100529) ...add machines / methods not yet included..includes 42s FAST mode
*Message #30 Posted by **Xerxes** on 30 May 2010, 1:04 p.m.,*
in response to message #29 by Donald Williams

```
FX-9860G SD
Count: 97,950
Code: 0->A : Lbl 0 : A+1->A : Goto 0


FX-9860G SD  Fast Mode
Count: 206,250
Code: 0->A : Lbl 0 : A+1->A : Goto 0
```

An update to OS2 slows down the calculator significantly.

Re: New addition speed test (updated with results as of 6pm CDT 20100529) ...add machines / methods not yet included..includes 42s FAST mode
*Message #31 Posted by **Donald Williams** on 30 May 2010, 1:17 p.m.,*
in response to message #30 by Xerxes

Thanks for making that point. My results on the 9860G Slim were on a machine updated to OS2. I will edit that post to reflect that information.

Re: New addition speed test (updated with results as of 6pm CDT 20100529) ...add machines / methods not yet included..includes 42s FAST mode
*Message #32 Posted by **Palmer O. Hanson, Jr.** on 30 May 2010, 12:48 p.m.,*
in response to message #1 by Gene Wright

Gene:

Your table shows that the TI-55 yields 189 counts using + 1 = RST

I get 267 counts using 1 + RST

Palmer

Re: New addition speed test (updated with results as of Noon CDT 20100530) ...add machines / methods not yet included..includes 42s FAST mode
*Message #33 Posted by **Xerxes** on 30 May 2010, 2:23 p.m.,*

in response to message #1 by Gene Wright

```
PC-1247
Count: 5180
Code: 1:A=A+1:GOTO1


TI-65
Count: 205
Code: 1 + RST


and a calculator that sets a new record:


TI-62
Count: 100
Code: 1 + RST
```

Re: New addition speed test (updated with results as of 1pm CDT 20100530) ...add machines / methods not yet included..includes 42s FAST mode

*Message #34 Posted by **Donald Williams** on 30 May 2010, 3:21 p.m.,*
in response to message #1 by Gene Wright

TI-92

Count 5,686

```
Code  0->a  Lbl aa  a+1->a  Goto aa
```

Re: New addition speed test (updated with results as of 6pm CDT 20100529) ...add machines / methods not yet included..includes 42s FAST mode

*Message #35 Posted by **Steven Ellis** on 30 May 2010, 10:17 a.m.,*
in response to message #1 by Gene Wright

Elektronika MK-61 Count: 243 Code: All program memory filled with +'s.

Admittedly, this is probably considered cheating since it avoids the GOTO that everybody else uses. But it finally means that there's a Soviet calculator that's faster than an HP, even if the HP happens to be more than 5 years older. ;)

Re: New addition speed test (updated with results as of 1pm CDT 20100530) ...add machines / methods not yet included..includes 42s FAST mode

*Message #36 Posted by **Donald Williams** on 30 May 2010, 4:31 p.m.,*
in response to message #1 by Gene Wright

HP 39gs

Count 3607

```
Code  1->A:  DO  A+1->A  UNTIL A<=0  END:
```

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New addition speed test (updated with results as of 5pm CDT 20100530) ...add machines / methods not yet included..includes 42s FAST mode

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HP Forum Archive 19

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HP 49g+ USB question

*Message #1 Posted by **Guido** on 28 May 2010, 12:12 p.m.*

Hi everybody,

I have an HP 49g+ and I don't have the USB cable. Is it a regular standard USB cable?

I mean, is a regular MiniUSB >> USB cable?? (like the photo cameras) Or is a "special" USB cable?

Thanks!

Re: HP 49g+ USB question

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 28 May 2010, 1:23 p.m.,*
in response to message #1 by Guido

Hi;

I have already used regular USB cables with the HP49G+ that came with other USB-based devices (photo cameras, spare cables, etc), shorter that the one that comes with the calculator, and I also have used the original cable that came with the HP49G+ with other USB devices. Had no troubles with that.

Cheers.

Luiz (Brazil)

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GTO Go back to the main exhibit hall

Brute force addition speed test - various models - results?

*Message #1 Posted by **Gene Wright** on 28 May 2010, 10:26 a.m.*

Xerxes has done a great job with the complex speed test N-queens problem for various calculators as detailed in his Benchmark article (and Hi Xerxes...I've found your posts on a Casio board as well).

I'd like to get a list of speeds for a much simpler program, that ONLY goes after one thing: addition.

```
LBL 01
+
GTO 01
```

where the stack contains 0 1 1 1 on 4 level machines. In other words, start with 0 and do repeated additions of 1 for 60 seconds. What is the result?

I know Xerxes' test checks many other things, but how do they stack up with this?

Please post:

```
The machine used
Your count after 60 seconds
Your program code.


I'll start:


Machine: HP 12c+
Count: 78640
Code: + GTO 01


Machine: HP 12c platinum
Count: 1386
Code: + GTO 001


Machine: HP 30b
Count: 72517
Code: LBL 00 + GOTO 00
(as first program in memory)


Machine: HP 67
Count: 226
Code: LBL 1 + GTO 1


Machine: HP 41c
Count: 1063
Code: LBL 01 + GTO 01
```

Edited: 28 May 2010, 10:26 a.m.

Re: Brute force addition speed test - various models - results?

*Message #2 Posted by **Norman Dziedzic** on 28 May 2010, 10:41 a.m.,*

in response to message #1 by Gene Wright

```
Machine: HP 35s
  Count: 3652
   Code: LBL B, +, GTO B001


  Count: 5504
  Stack: 1, 1, 1, 1
      Z: 0
   Code: B001 LBL B
         B002 STO+ Z
         B003 GTO B002
         B004 RTN
```

Edited: 28 May 2010, 2:23 p.m.

Re: Brute force addition speed test - various models - results?

*Message #3 Posted by **Bart (UK)** on 28 May 2010, 10:54 a.m.,*
in response to message #1 by Gene Wright

Machine: HP 33s
Count: 10097
Code: LBL A + GTO A

Machine: HP 50G (normal speed)
Count: 5510
Code: << 1 + A >> stored in A, start with 1 on stack line 1:

Are we doing non-HP / non-RPN too?
Machine: Sharp PC-1251
Count: 1277
Code: 1: A=A+1 2: GOTO 1 ; start with 0 stored in A.

Machine: Elektronika MK-61
Count: 106
Code: + GSB 00
(Tapping + key by hand: 133)

Edited: 28 May 2010, 1:43 p.m.

Re: Brute force addition speed test - various models - results?

*Message #4 Posted by **Tim Wessman** on 28 May 2010, 2:53 p.m.,*
in response to message #3 by Bart (UK)

Anyone testing on a 48gII/49g+/50g, remember to be in approximate mode. Otherwise you may be doing exact symbolic adding.

50g: 30025
<< WHILE 1. REPEAT 1. + END >>

sysrpl: 64023
:: BEGIN ?ATTNQUIT %1+ AGAIN ;

TW

Edited: 28 May 2010, 2:56 p.m.

Re: Brute force addition speed test - various models - results?

*Message #5 Posted by **Bart (UK)** on 28 May 2010, 5:59 p.m.,*
in response to message #4 by Tim Wessman

I used the <<1 + A>> stored in A method to as closely as possible emulate Gene's RPN routine. It did not seem to make much difference in Exact or Approximate. I also stick to User RPL without speed enhancement as I think that's what most users use.

Edit: of course in hindsight the <<1 + A>> is not fair as it exits and re-enters the program continously, so a loop is indeed better.

Edited: 28 May 2010, 6:04 p.m.

Re: Brute force addition speed test - various models - results?

*Message #6 Posted by **Tim Wessman** on 28 May 2010, 7:34 p.m.,*
in response to message #5 by Bart (UK)

Yeah, that global variable evaluation will slow things down quite a bit.

TW

Re: Brute force addition speed test - various models - results?

*Message #7 Posted by **Ken Shaw** on 28 May 2010, 11:23 a.m.,*
in response to message #1 by Gene Wright

```
Machine: original 12c (mfg. 1985)
Count: 500
Code: +; GTO 01
```

Re: Brute force addition speed test - various models - results?

*Message #8 Posted by **Ken Shaw** on 28 May 2010, 11:30 a.m.,*
in response to message #1 by Gene Wright

```
Machine: 15c (mfg. 1983)
Count: 297
Code: LBL A; +; GTO A
```

Re: Brute force addition speed test - various models - results?

*Message #9 Posted by **Don Shepherd** on 28 May 2010, 11:51 a.m.,*
in response to message #1 by Gene Wright

All right, I'm game. How about the granddaddy of them all:

```
Machine:  HP-65
Count:  578
Code:  Lbl 1, +, Goto 1
```

Re: Brute force addition speed test - various models - results?

*Message #10 Posted by **Thomas Okken** on 28 May 2010, 12:09 p.m.,*
in response to message #1 by Gene Wright

HP-25: 512

```
01 +
02 GTO 01
```

HP-42S: 2,115
Free42 on ThinkPad T61: 88,939,215 :-)

```
01 LBL 00
02 +
03 GTO 00
```

HP-48G: 10,726

```
<< WHILE 1 REPEAT 1 + END >>
```

Re: Brute force addition speed test - various models - results?

*Message #11 Posted by **Thomas Okken** on 28 May 2010, 10:45 p.m.,*
in response to message #10 by Thomas Okken

HP-42S with "goose" disabled: 3067

```
01 CLLCD
02 LBL 00
03 +
04 GTO 00
```

Gene, have you tried this on the 41C? The cost of moving the goose is probably less on the 41C than on the 42S, but it might still be significant...

Re: Brute force addition speed test - various models - results?

*Message #12 Posted by **Don Shepherd** on 28 May 2010, 12:10 p.m.,*
in response to message #1 by Gene Wright

```
Machine: 16c
Count:  245
Code:  Lbl 1, +, Goto 1


Machine:  11c
Count:  353
Code:  Lbl 1, +, Goto 1


Machine:  12c plat 25th anniv.
Count:  1435
Code:  +, Goto 001
```

Re: Brute force addition speed test - various models - results?

*Message #13 Posted by **Norman Dziedzic** on 28 May 2010, 1:07 p.m.,*
in response to message #1 by Gene Wright

```
Machine: HP 48gii (Original 3 batteries, NO USB)
  Count: 3036
   Code: << WHILE 1 REPEAT 1 + END >>


  Count: 3088   // Exact Mode
  Count: 26,439 // Approx Mode
   Code: << WHILE 1 REPEAT 1. + END >>


  Count: 4296
   Code: << TICKS 8192 60 * +
            << -> t
               << DO 1. + UNTIL TICKS t >= END >>
```

```
           >> EVAL
         >>
--------------------------------
Machine: 48GX
  Count: 11636
   Code: << WHILE 1 REPEAT 1 + END >>
```

Edited: 28 May 2010, 3:17 p.m. after one or more responses were posted

Re: Brute force addition speed test - various models - results?

*Message #14 Posted by **Tim Wessman** on 28 May 2010, 2:55 p.m.,*
in response to message #13 by Norman Dziedzic

Those have to be in exact mode. . .

TW

Re: Brute force addition speed test - various models - results?

*Message #15 Posted by **Norman Dziedzic** on 28 May 2010, 3:18 p.m.,*
in response to message #14 by Tim Wessman

Guilty as charged. Interesting that there was a little difference between adding 1 and 1. but both were still in exact mode (or just could have been my variation in pressing the cancel key...

Edited above for Approx Mode.

Re: Brute force addition speed test - various models - results?

*Message #16 Posted by **Raymund Heuvel** on 28 May 2010, 1:38 p.m.,*
in response to message #1 by Gene Wright

HP-71B

10 DESTROY A @ A=0
20 ON TIMER #1,60 GOTO 40
30 A=A+1 @ GOTO 30
40 DISP A

Result: 4320

BR Ray

Re: Brute force addition speed test - various models - results?

*Message #17 Posted by **Israel Otero** on 28 May 2010, 2:22 p.m.,*
in response to message #16 by Raymund Heuvel

Machine: HP-38C Financial 1982 Singapore Soldered construction

Code:
01 +
02 GTO 01
1 ENTER^ ENTER^ ENTER^ g GTO 00 R/S

Count: 387

Edited: 29 May 2010, 12:03 a.m.

Re: Brute force addition speed test - various models - results?

*Message #18 Posted by **Don Shepherd** on 28 May 2010, 2:47 p.m.,*
in response to message #16 by Raymund Heuvel

Raymund, I imagine there is some overhead in setting (and especially checking) a timer. It would be interesting to not do the timer and just manually interrupt it at 60 seconds and see what the count is.

Re: Brute force addition speed test - various models - results?

*Message #19 Posted by **Raymund Heuvel** on 28 May 2010, 7:08 p.m.,*
in response to message #18 by Don Shepherd

Hi Don,

about 10 times hand stopped: Average := 4295
about 10 times hand stopped: Average := 4303 (2 minutes / 2)
Program:
10 A=A+1 @ GOTO 10
A=0 [RUN]

Variant (all statements in direct mode):
about 10 times hand stopped: Average := 3136
about 10 times hand stopped: Average := 3131 (2 minutes / 2)
Immediate code:
A=0
FOR T=1 TO 999999 @ A=A+1 @ NEXT T

I think the timer is more accurate. According to the IDS, it generates an interrupt.
It is not a polling timer!

BR
Ray
PS, See also this approach to determine the best guess.
Could be changed for the basic variant of course ....

Re: Brute force addition speed test - various models - results?

*Message #20 Posted by **Juergen Keller** on 28 May 2010, 2:49 p.m.,*
in response to message #1 by Gene Wright

```
Machine: HP-41CY Turbo
Count: 1982
Code: LBL 00, +, GTO 00

Machine: HP-9100B
Count: 47394
Code: +, GO TO, 0, 0
```

Re: Brute force addition speed test - various models - results?

*Message #21 Posted by **Israel Otero** on 28 May 2010, 3:37 p.m.,*
in response to message #20 by Juergen Keller

Hi: The oldest computer I have and my inspiration for my love for HP Calcs

The machine that started it all:

HP 9100A SERIAL NUMBER 816-01071 (1971?)

Count: 49391

Code:
+
GO TO 00

After given to me by an HP Service Engineer in 1982 it still works ok

Edited: 29 May 2010, 12:10 a.m.

Re: Brute force addition speed test - various models - results?

*Message #22 Posted by **David Hayden** on 28 May 2010, 3:22 p.m.,*
in response to message #1 by Gene Wright

```
Machine: HP 48Gii (old version)
Count: 28160
Code: 1. << DO 1. + UNTIL 0. END >> EVAL
```

Edited: 28 May 2010, 3:24 p.m.

Re: Brute force addition speed test - various models - results?

*Message #23 Posted by **Thomas Falk** on 28 May 2010, 4:26 p.m.,*
in response to message #1 by Gene Wright

Machine: HP 9810A
Count: 15335

Code:

```
0000--LBL---51
0001-- 1 ---01
0002-- + ---33
0003--GTO---44
0004-- 1 ---01
0005--END---46
```

Greetings,

Thomas

Edited: 28 May 2010, 4:27 p.m.

Re: Brute force addition speed test - various models - results?

*Message #24 Posted by **Katie Wasserman** on 28 May 2010, 8:39 p.m.,*
in response to message #23 by Thomas Falk

Machine: 9815A/S

Count: 31,156

```
0000 LBL
---- A
0002 1
```

```
0003 +
0004 GTO    A
```

-Katie

Edited: 28 May 2010, 8:39 p.m.

Re: Brute force addition speed test - various models - results?

*Message #25 Posted by **Paul Dale** on 28 May 2010, 6:19 p.m.,*
in response to message #1 by Gene Wright

First some results:

```
HP 16c: 293 (float 4)
HP 16c: 230 (decimal, wsize 16, 2-complement)
HP 34c: 259 (standard program)
HP 34c: 277 (I program)
```

The first three used this program:

```
LBL A
+
GTO A
```

For the fourth, the 34c used:

```
LBL A
+
GTO f I
```

With -1 stored in I.

- Pauli

Re: Brute force addition speed test - various models - results?

*Message #26 Posted by **Paul Dale** on 29 May 2010, 7:00 p.m.,*
in response to message #25 by Paul Dale

> Quote:
>
> ```
> HP 16c: 293 (float 4)
> HP 16c: 230 (decimal, wsize 16, 2-complement)
> ```

The thing I find interesting here is that the integer version of the code is substantially slower than the floating point equivalent. That really doesn't make a lot of sense but it does indicate how much effort was likely put into the floating point implementation.

- Pauli

Re: Brute force addition speed test - various models - results?

*Message #27 Posted by **Scott Newell** on 28 May 2010, 10:22 p.m.,*
in response to message #1 by Gene Wright

```
10C: 514
30B: 75487
30B: 222578
48SX: 7352
35S: 3631
```

```
12C+: oops, my current firmware isn't programmable
20S: 4170
```

Edited: 28 May 2010, 10:22 p.m.

Re: Brute force addition speed test - various models - results?

*Message #28 Posted by **Gene Wright** on 29 May 2010, 8:28 a.m.,*
in response to message #27 by Scott Newell

Hey scott.

Tell me the program code you used. I'm not posting a 222,578 result for the 30b unless you tell me how. :-)

Re: Brute force addition speed test - various models - results?

*Message #29 Posted by **Scott Newell** on 29 May 2010, 10:32 a.m.,*
in response to message #28 by Gene Wright

Same code, TSYS on.

Re: Brute force addition speed test - various models - results?

*Message #30 Posted by **Paul Dale** on 29 May 2010, 6:50 p.m.,*
in response to message #29 by Scott Newell

What is TSYS?

- Pauli

Re: Brute force addition speed test - various models - results?

*Message #31 Posted by **Gene Wright** on 29 May 2010, 6:59 p.m.,*
in response to message #30 by Paul Dale

Test SYstem.

I believe it runs the 30b full blast. Eats batteries VERY quickly, but as Scott has shown, it really is fast! Wow.

Re: Brute force addition speed test - various models - results?

*Message #32 Posted by **Israel Otero** on 28 May 2010, 11:56 p.m.,*
in response to message #1 by Gene Wright

Hi (from Puerto Rico)

Machine: HP-75C (1982)

Count: 21717

Code:
10 A=0
20 A=A+1 @ GOTO 20
30 END

I will love to know how an HP9825 will score, that machine was really fast.

Machine: Psion Organiser II CM (1997)

Count: 10949

Code:
LOCAL a
a=1
DO
a=a+1
UNTIL KEY$="S"
PRINT a
GET

Greetings to all out there!

Edited: 29 May 2010, 12:34 a.m.

Re: Brute force addition speed test - various models - results?

*Message #33 Posted by **Xerxes** on 29 May 2010, 1:03 p.m.,*
in response to message #1 by Gene Wright

Thank you Gene, your test is surely better suited for a quick speed check than mine. ;-)

My first result:

```
Machine: FX-603P
Count: 7240
Code: AC 1 + + LBL 0 = GOTO 0
```

Re: Brute force addition speed test - various models - results?

*Message #34 Posted by **Gene Wright** on 29 May 2010, 1:09 p.m.,*
in response to message #33 by Xerxes

No problem.

And, I certainly agree that YOUR test is much more suited for an all-around speed impression. This test really does nothing other than add and loop!

Re: Brute force addition speed test - various models - results?

*Message #35 Posted by **Steve Simpkin** on 29 May 2010, 1:37 p.m.,*
in response to message #1 by Gene Wright

Machine: 48GX (m48+ emulator running on iPod Touch-2nd Gen, Authentic Speed Off)
Count: 54990
Code: << WHILE 1 REPEAT 1 + END >>

Re: Brute force addition speed test - various models - results?

*Message #36 Posted by **Scott Newell** on 29 May 2010, 3:26 p.m.,*
in response to message #1 by Gene Wright

```
12C+, custom firmware: 10,794,647
   do
   {
```

```
      ++x;
   } while ((((*(unsigned long int*)PIOC_PDSR) & c_mask)==c_mask));
```

I don't remember what I had the clock rate set to...might be able to improve this a bit.

Re: Brute force addition speed test - various models - results?

*Message #37 Posted by **Scott Newell** on 29 May 2010, 4:42 p.m.,*
in response to message #36 by Scott Newell

```
12C+, custom (integer) firmware running from flash, overclocked to 48.75 MHz :
261,602,459
```

Re: Brute force addition speed test - various models - results?

*Message #38 Posted by **Israel Otero** on 31 May 2010, 11:47 a.m.,*
in response to message #1 by Gene Wright

Greetings from Puerto Rico

Gene

Is amazing that the two machines that were my inspiration for loving computational instruments from Hewlett-Packard are still shining regardless of their age.

Those are the HP-9100 and the HP-9825.

Thank you very much for doing this.

Re: Brute force addition speed test - various models - results?

*Message #39 Posted by **Marcus von Cube, Germany** on 3 June 2010, 8:11 a.m.,*
in response to message #1 by Gene Wright

```
iPod touch 32G (recent model) with Free42
count: 7,321,760


LBL 00
+
GTO 00


Stack: 0 1 1 1
```

Re: Brute force addition speed test - various models - results?

*Message #40 Posted by **Maarten Ambaum (Reading, UK)** on 3 June 2010, 9:15 a.m.,*
in response to message #1 by Gene Wright

35s on low batteries: 1733 Does the machine automatically reduce clock count (apparently by a factor 2) to save on power? That would be quite neat.

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pleas help me to send "txt" file to 48sx by usb irda from the computer

*Message #1 Posted by **samiroch** on 28 May 2010, 8:42 a.m.*

hello i'm a new member in this frum and i want a help i have usb irda and a hp48sx calculator and i want to send txt file from the computer to hp48sx hwo can i do it pleas help me.

Re: pleas help me to send "txt" file to 48sx by usb irda from the computer

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 28 May 2010, 10:24 a.m.,*
in response to message #1 by samiroch

Hi;

just to make sure: based on your post, your computer does not have a serial, RS232 compatible port, is that correct? If not, you will need a USB/RS232 converter/translator because the HP48SX offers only a RS232 compatible I/O port. Also the HP48SX IR protocol is different of the IRDA (the HP50G is IRDA compatible, IIRC). I am not sure if your IRDA computer port can be configured to communicate with the HP48SX.

Success! And sorry not helping the way you need, though.

Luiz (Brazil)

Re: pleas help me to send "txt" file to 48sx by usb irda from the computer

*Message #3 Posted by **samiroch** on 28 May 2010, 10:42 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

if you can help me just to write a text with the calculatrice keyboard and save it in the calculatrice

Re: pleas help me to send "txt" file to 48sx by usb irda from the computer

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 28 May 2010, 11:36 a.m.,*
in response to message #3 by samiroch

Hi;

Let me know how can I help and I'd certainly do that. Please, what exactly do you want to key in and save in the calculator memory? A program? If so, where is it listed?

If you need extensive help, chances are that by e-mail messages it will be better, though.

Count on me (us)!

Cheers.

Luiz (Brazil)

Re: pleas help me to send "txt" file to 48sx by usb irda from the computer

*Message #5 Posted by **samiroch** on 28 May 2010, 11:55 a.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

> Quote:
>
> Hi;
>
> Let me know how can I help and I'd certainly do that. Please, what exactly do you want to key in and save in the calculator memory? A program? If so, where is it listed?
>
> If you need extensive help, chances are that by e-mail messages it will be better, though.
>
> Count on me (us)!
>
> Cheers.
>
> Luiz (Brazil)

helllo i'm samiroch i want to write a text (txt file) just writing and save it to the calculator and i can edit it and read it thats all if you can help me add me b9w@hotmail.fr and tnkx u

Edited: 28 May 2010, 11:56 a.m.

Re: pleas help me to send "txt" file to 48sx by usb irda from the computer

*Message #6 Posted by **Christoph Giesselink** on 28 May 2010, 12:12 p.m.,*
in response to message #1 by samiroch

There'a a document at http://www.hpcalc.org/details.php?id=4856 about the chances getting this working.

No further comments.

Christoph

Re: pleas help me to send "txt" file to 48sx by usb irda from the computer

*Message #7 Posted by **samiroch** on 28 May 2010, 12:48 p.m.,*
in response to message #6 by Christoph Giesselink

no result if just you can help me to type a text with calculator keyboard and save at in the calculator

Re: pleas help me to send "txt" file to 48sx by usb irda from the computer

*Message #8 Posted by **samiroch** on 28 May 2010, 3:30 p.m.,*
in response to message #7 by samiroch

any help pleaS

Re: pleas help me to send "txt" file to 48sx by usb irda from the computer

*Message #9 Posted by **Martin Pinckney** on 28 May 2010, 4:23 p.m.,*
in response to message #8 by samiroch

samiroch, I don't think the 48sx has a built-in text editor. Perhaps you can download one here.

You have mail (right now)!

*Message #10 Posted by **Vieira, Luiz C. (Brazil)** on 28 May 2010, 7:55 p.m.,*
in response to message #8 by samiroch

Cheers.

Edited: 28 May 2010, 11:58 p.m.

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Was there a 62059D charger?

*Message #1 Posted by **John AS (UK)** on 27 May 2010, 8:25 p.m.*

I see one listed on ebay (item 270493323774) but I think it the seller is mistaken and it should read 82059D, can someone confirm please.

Regards, John

Re: Was there a 62059D charger?

*Message #2 Posted by **Eric Smith** on 28 May 2010, 1:07 a.m.,*
in response to message #1 by John AS (UK)

If there was such a thing as a 62059D, it wouldn't be for calculators. The 62000 range of product numbers belonged to a different division of HP.

Re: Was there a 62059D charger?

*Message #3 Posted by **Etienne Victoria** on 28 May 2010, 4:07 p.m.,*
in response to message #1 by John AS (UK)

Yep,

An 8V 3VA laptop AC adapter.

Best

Etienne

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I know it doesn't make sense but ...

*Message #1 Posted by **Alberto Fenini** on 27 May 2010, 4:38 p.m.*

ciao a tutti,

I know, it's a non sense, but it's happening.
I have just received this HP65 (S/N 1511A01736), and when I mean just received, I mean I have opened now the postal box.
Battery is dead, so I have put under charge one of my spare battery packs with an external charger.
Few minutes of charge, and then I couldn't resist.
Since the unit was sold "as is", I was expecting the worst.
Anyway, the unit lights up, and does work (basic calculations)
I was ready to open for a card reader inspection,
battery had been removed for a minute or two, while I wanted to test the programming mode (I usually wirte few lines to compute the area of a circle).
When I switched in programming mode and ... some lines of code where already there.
Turn the machine on and off several time, again take the batteries out and ... the lines don't go away.
Then I take out of the shelfs my other two HP65 units (S/N 1604S01890 and S/N 1503S09967) and ...they do the same.
The listing that it's already in the machine is the same, if of interest I can copy it down.

Now, to the questions :
was the HP65 capable of retaining a program when switched off ?
Which program is ?
I mean, even if the answer to the question before was yes, and
let't say that after restoring on both my other units the card reader I have loaded by accident the same program, it's certainly cannot be true for this third machine ...

What do you think ?

Re: I know it doesn't make sense but ...

*Message #2 Posted by **Don Shepherd** on 27 May 2010, 4:44 p.m.,*
in response to message #1 by Alberto Fenini

Yes, when you turn on the HP-65 it has the program lines that support the default functions associated with the A, B, C, D, and E keys: 1/x, sqrt(x), y^x, roll down, and x<->y. That's normal.

Re: I know it doesn't make sense but ...

*Message #3 Posted by **Alberto Fenini** on 27 May 2010, 4:47 p.m.,*
in response to message #2 by Don Shepherd

Thank you very much,
I hoped I had discovered a rarity, but looks more like I have discovered the hot water
anyway,the older units have a bigger keyboard lettering

the newer have smaller characters, how many different versions are known ?
take care and thx again, Alberto

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10bII, 12c, 12cp, 17b2+ ... these are the ones I see...Poll...how about you?

*Message #1 Posted by **Gene Wright** on 27 May 2010, 2:14 p.m.*

Hewlett Packard's financial calculator for sale web page

Poll:

Click on the above which takes you to HP's own financial calculator webpage, and see which models you see shown for sale.

I see only 4 models.

What do the rest of you see?

Gene

Re: 10bII, 12c, 12cp, 17b2+ ... these are the ones I see...Poll...how about you?

*Message #2 Posted by **DavidShenk** on 27 May 2010, 2:39 p.m.,*
in response to message #1 by Gene Wright

I see the above plus the 20b and 30b.

Dave

Odd, but HP 30b now for sale at HP's web page

*Message #3 Posted by **Gene Wright** on 27 May 2010, 2:43 p.m.,*
in response to message #2 by DavidShenk

Ok, strange. I don't see the 20b/30b at all.

However, it doesn't matter. The 30b is now available for sale at HP's website.

HP 30b sale page

Re: Odd, but HP 30b now for sale at HP's web page

*Message #4 Posted by **Don Shepherd** on 27 May 2010, 3:23 p.m.,*
in response to message #3 by Gene Wright

The 30b seems to come and go. I wish HP would give an explanation for this.

Re: Odd, but HP 30b now for sale at HP's web page

*Message #5 Posted by **Juergen Keller** on 27 May 2010, 3:27 p.m.,*
in response to message #3 by Gene Wright

It seems that in Switzerland it will be available in July. Pricing is CHF 119.- which is $100. Twice as expensive! :-(

Re: 10bII, 12c, 12cp, 17b2+ ... these are the ones I see...Poll...how about you?
*Message #6 Posted by **Dave Shaffer (Arizona)** on 27 May 2010, 5:02 p.m.,*
in response to message #2 by DavidShenk

I see the same as DavidShenk.

What browser are you using? I'm using Firefox 3.5.2

Re: 10bII, 12c, 12cp, 17b2+ ... these are the ones I see...Poll...how about you?
*Message #7 Posted by **Etienne Victoria** on 27 May 2010, 4:37 p.m.,*
in response to message #1 by Gene Wright

Hi Gene,

From France, I see all 6 of them.

However, I don't see the Hp-80 or anything close...so won't buy.

Best

Etienne

Re: 10bII, 12c, 12cp, 17b2+ ... these are the ones I see...Poll...how about you?
*Message #8 Posted by **DaveJ** on 27 May 2010, 5:41 p.m.,*
in response to message #1 by Gene Wright

I see 6 models 30b and 20b

I'm from Australia if it's somehow detecting a location.

Dave.

Re: 10bII, 12c, 12cp, 17b2+ ... these are the ones I see...Poll...how about you?
*Message #9 Posted by **Katie Wasserman** on 27 May 2010, 7:16 p.m.,*
in response to message #8 by DaveJ

"I see 4 lights"

-JLP

Re: 10bII, 12c, 12cp, 17b2+ ... these are the ones I see...Poll...how about you?
*Message #10 Posted by **db (martinez, ca.)** on 27 May 2010, 7:41 p.m.,*
in response to message #9 by Katie Wasserman

katie; for a second there, i thought i saw five.

Re: 10bII, 12c, 12cp, 17b2+ ... these are the ones I see...Poll...how about you?

*Message #11 Posted by **bill platt** on 28 May 2010, 9:48 a.m.,*
in response to message #9 by Katie Wasserman

I see 6 models and I am down the street. Why the variation?

Re: 10bII, 12c, 12cp, 17b2+ ... these are the ones I see...Poll...how about you?

*Message #12 Posted by **Peter A. Gebhardt** on 27 May 2010, 7:50 p.m.,*
in response to message #1 by Gene Wright

On h10010.www1.hp.com/wwpc/us/en/sm/WF04a/215348-215348-64232-20036-215349.html

I see all 6 of them.

Opera 10.53 Build 3374, JS on, Redirection on, Author Mode on (HP's stylesheet)

German provider 1&1, OpenDNS

BUT: No calculators on the Germany HP page - what the hell ?!?

Private User: http://h41257.www4.hp.com/cda/hho/display/main/hho_home.jsp?zn=hho&cp=1247_4033_5

SMB User: http://h41320.www4.hp.com/cda/hpsmb/display/main/smb_home.jsp?zn=hpsmb&cp=1_4000_5

Still(?) one exception:

ONLY Enterprise User: http://www.hp.com/sbso/busproducts_handhelds.html?topiccode=NO_FLASH

Edited: 27 May 2010, 8:00 p.m.

Re: 10bII, 12c, 12cp, 17b2+ ... these are the ones I see...Poll...how about you?

*Message #13 Posted by **Ignazio Cara (Italy)** on 28 May 2010, 2:11 a.m.,*
in response to message #1 by Gene Wright

Hi Gene,

From Italy, I see all 6 of them.

Best regards

Ignazio

Re: 10bII, 12c, 12cp, 17b2+ ... these are the ones I see...Poll...how about you?

*Message #14 Posted by **Thomas Okken** on 28 May 2010, 8:28 a.m.,*
in response to message #1 by Gene Wright

I see 10bII, 20b, 30b, 12C, 12C Platinum, 17bII+
For what it's worth, I'm located in New Jersey and viewing the page with Firefox.

Re: 10bII, 12c, 12cp, 17b2+ ... these are the ones I see...Poll...how about you?

*Message #15 Posted by **Sancerre (Phoenix)** on 28 May 2010, 8:35 a.m.,*
in response to message #1 by Gene Wright

I can see all six (in the US, using Firefox); however, I still cannot click on the 'Purchase' button and get a shopping cart session. Instead, I get a web page saying the item can't be found. I would have purchased it too...

--Sancerre

Re: 10bII, 12c, 12cp, 17b2+ ... these are the ones I see...Poll...how about you?

*Message #16 Posted by **Gene Wright** on 28 May 2010, 8:41 a.m.,*
in response to message #15 by Sancerre (Phoenix)

Sancerre, try clicking on the 2nd Purchase button below the description, not the one at the top.

Thanks all. Today, I see all 6 while I didn't yesterday.

Re: 10bII, 12c, 12cp, 17b2+ ... these are the ones I see...Poll...how about you?

*Message #17 Posted by **Vieira, Luiz C. (Brazil)** on 28 May 2010, 8:55 a.m.,*
in response to message #1 by Gene Wright

Hi.

All six from here.

Luiz (Brazil)

P.S. - I'm curious: who wrote the only one existing HP30B review? Someone from here?

Re: 10bII, 12c, 12cp, 17b2+ ... these are the ones I see...Poll...how about you?

*Message #18 Posted by **Gene Wright** on 28 May 2010, 9:08 a.m.,*
in response to message #17 by Vieira, Luiz C. (Brazil)

Who do you think it was? me? ;-)

Re: 10bII, 12c, 12cp, 17b2+ ... these are the ones I see...Poll...how about you?

*Message #19 Posted by **Vieira, Luiz C. (Brazil)** on 28 May 2010, 10:28 a.m.,*
in response to message #18 by Gene Wright

Busted! 8^D

Re: 10bII, 12c, 12cp, 17b2 - HP30B Oddity

*Message #20 Posted by **John Stark** on 28 May 2010, 10:45 a.m.,*
in response to message #1 by Gene Wright

To all:

Logging-in from USA, get "purchase/checkout" page for 30 series financial, then "Available for pre-order" box in corner.

Delivery time and availability unknown.

Maybe they are going to drop the 30-series and try to combine 35S and 12C in an "Hp-80 Plus" or "Hp-27 Plus" (remember the HP-27 scientific/financial ??).

Anyway, today's HP calc division never ceases to amaze and puzzle.

John

PS: Fully stocked up on several vintage HP.45's and 80's converted to AAA lithium power, along with a spare-parts supply -- Me no worry :)

Re: 10bII, 12c, 12cp, 17b2+ ... these are the ones I see...Poll...how about you?

*Message #21 Posted by **Manatee** on 29 May 2010, 9:46 p.m.,*
in response to message #1 by Gene Wright

I see all six in Safari on my iPad. Guess I'll finally get the 30b.

What functions make the 17bII+ cost twice as much? I have one (ok, two), and I can't think of what it is. Well, nothing I consider useful, anyway.

Re: 10bII, 12c, 12cp, 17b2+ ... these are the ones I see...Poll...how about you?

*Message #22 Posted by **Don Shepherd** on 30 May 2010, 12:03 a.m.,*
in response to message #21 by Manatee

> Quote:
>
> What functions make the 17bII+ cost twice as much?

That's a good question. I wouldn't expect the 17bii+ to remain at that price necessarily. The solver on the 17bii+ is somewhat easier to use than on the 30b, and has more features; the 30b requires you to write a small program to use the solve function.

Re: 10bII, 12c, 12cp, 17b2+ ... these are the ones I see...Poll...how about you?

*Message #23 Posted by **Katie Wasserman** on 30 May 2010, 3:04 a.m.,*
in response to message #22 by Don Shepherd

Don,

I think that the solver on the 17bii+ is vastly better than the one on the 30b. The 17bii+ also has multiple user-defined cash-flow and stat lists and with the much larger memory can hold many times the number of entries than the 30b lists. The 17bii+ also has a RTC with alarms. I think that the soft-key menus on the 17bii+ make it a lot faster and easier to use as well. It also has "real" RPN as far as stack lift is concerned.

OTOH, The 30b offers some scientific functions, programming, more financial calculations, much greater speed and hack-ability.

Overall, I think a substantially higher price on the 17bii+ is justified.

A related question might be why the 12C is more expensive than the 30b. The 30b does everything the 12C does and a much more. [The only thing I can think of that the 12C does that the 30b does not do is handle odd period TVM calculations in one shot. On the 30b, and all other financial calculators that I can think of, you need to break off the odd period into a separate calculation.]

-Katie

Re: 10bII, 12c, 12cp, 17b2+ ... these are the ones I see...Poll...how about you?

*Message #24 Posted by **Don Shepherd** on 30 May 2010, 9:14 a.m.,*
in response to message #23 by Katie Wasserman

> Quote:
>
> I think that the solver on the 17bii+ is vastly better than the one on the 30b. The 17bii+ also has multiple user-defined cash-flow and stat lists and with the much larger memory can hold many times the number of entries than the 30b lists. The 17bii+ also has a RTC with alarms. I think that the soft-key menus on the 17bii+ make it a lot faster and easier to use as well. It also has "real" RPN as far as stack lift is concerned.

Agreed.

One thing I've noticed on the 17bii+ solver, in regards to its vastly superior (compared to the 30b) memory capacity, is that the memory is shared between your solver formulae (and stat data, I presume) and the "compiled" version of the solver formula you are currently executing. When you press the CALC key, I hesitate to use the word "compile" in the traditional sense, but it "scans and prepares" your formula for evaluation. And this takes memory; the larger the formula, the more space this step requires. What this really means is that, if you fill up most of your available memory with all of your favorite solver equations, you may not be able to run any of them because when you press CALC it may not have enough free memory to store the result of the CALC. I've run into that a few times when I had lots of solver equations stored. Practically, what this means is that you need to leave enough memory free to enable the solver to evaluate and solve your largest equation.

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Voyager display swapping - any advice ?

*Message #1 Posted by **John Robinson** on 27 May 2010, 7:59 a.m.*

Hi All,

I'm about to replace a a 16c display with a 12c display. I have a 12c of the correct vintage, opened both cases and verified they are compatible. Both calcs are 1984 vintage, USA made. They don't have the separate display and flex circuit board, these are the next generation with display mounted directly on the circuit board. I believe they may be referred to as "fine pitch" from reading other forum postings. I have removed all heat stakes from both calcs and taken both circuit boards out.

I am after advice about removing and installing the actual display. There are 8 metal "tags" holding the display to the circuit board, which are part of the display bezel. Should I bend these tages up completely ? (I fear that may snap off), or just move them enough to get them back through the holes in the circuit board without actually bending them ? And how to I get them all through the eight holes again ??

All advice welcome :-)

Thanks John

Re: Voyager display swapping - any advice ?

*Message #2 Posted by **Bart (UK)** on 27 May 2010, 8:45 a.m.,*
in response to message #1 by John Robinson

I don't have a 16C, but my first question would be: are the status indicators the same?

Re: Voyager display swapping - any advice ?

*Message #3 Posted by **John Robinson** on 27 May 2010, 9:08 p.m.,*
in response to message #2 by Bart (UK)

Hi Bart, yes the displays are the same across the Voyager series, but the connections to the display did vary through time.

If someone has done the swap, I'd like to know the procedure and precautions.

Cheers, John

Re: Voyager display swapping - any advice ?

*Message #4 Posted by **Bart (UK)** on 28 May 2010, 4:14 a.m.,*
in response to message #3 by John Robinson

Sorry I can't help you, but now I'll keep a mental note of the Voyager displays and if I ever want to swap one, I'll know who to seek advice from ;)

Re: Voyager display swapping - any advice ?

*Message #5 Posted by **John Robinson** on 28 May 2010, 9:05 a.m.,*
in response to message #4 by Bart (UK)

Any time Bart :-)

Cheers, John

Re: Voyager display swapping - any advice ?

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 28 May 2010, 11:04 a.m.,*
in response to message #2 by Bart (UK)

Hi;

AFAIK, all 1.5V, LR44-like, 3-cell Voyager **EXCEPT some new HP12C´s** use the same LCD and they all share the same status indicators (only the HP12C Platinum has fewer indicators). Should check if the HP12C you are using as a donor has one of the two possible, compatible inside layout. If you open the two calculators and they either have a small flex-circuit assembly with the LCD and all electronics OR a one-piece MB with two IC´s, the LCD´s are interchangeable. If the HP12C has a PCB with provision for one single IC, I cannot tell the same.

Can you post a picture of the two calculators so we can evaluate it better?

Cheers.

Luiz (Brazil)

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Leather case recommendations for HP 48?

*Message #1 Posted by **megarat** on 27 May 2010, 1:20 a.m.*

Hey all,

I remember some years ago, Calcpro sold a "leather desk" product for the HP48 calculator that was (I believe) a leather secretary-style chequebook/wallet repurposed as an HP48 case. There was an interior pocket the size of business cheques that the calc fit in, an interior slip-pocket held the quick-reference manual, and the credit card slots worked great for software cards. Other appointments, like the pen loop, came in handy for what they were.

I had one at the time, which I liked, but while in a fugue state I unloaded it with the rest of my HP48 kit. Since I've started to get back into the HP48, I've regretted that sale. While Calcpro still sells a "leather desk", but it's of a different design. There isn't an interior pocket and I don't really see how it could be used with the HP48 without scuffing it up.

So I'm back in the market of looking for a new leather case for my HP48, in the general style of a secretary chequebook/wallet: with interior pockets for the calculator, software cards, etc. Does anyone have anything they can recommend? (Ideally something that can still be purchased.)

Edited: 27 May 2010, 1:21 a.m.

Re: Leather case recommendations for HP 48?

*Message #2 Posted by **Johnny Bjoern Rasmussen** on 28 May 2010, 6:17 a.m.,*
in response to message #1 by megarat

Hi. An old HP-41 'leather' case. Not genuine leather, not a very fancy color (brown) but it works allright.

Regards!
Johnny

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1LG9 ROM chip tech info?

*Message #1 Posted by **Eric Smith** on 26 May 2010, 6:06 p.m.*

I could have sworn that at one time PPC or CHHU published a spec or at least a technical description of the 1LG9 ROM, but I can't seem to find it now. Does anyone else know where it was found? Or am I just hallucinating?

The 1LG9 120Kbit ROM (3 pages of 4Kx10) was used for the 41CX mainframe ROMs, the 41C and 41CV halfnut mainframe ROM, the 82242A "Blinky" IR printer module, the Advantage ROM, and any other 12K application ROM modules. It was HP's first (and probably only) chip to support ROM bank-switching on the 41.

The 1LG9 could be configured to be hard-addressed or port-addressed, with selectable bank switching (not used for the base mainframe ROM).

Re: 1LG9 ROM chip tech info?

*Message #2 Posted by **J-F Garnier** on 27 May 2010, 3:41 p.m.,*
in response to message #1 by Eric Smith

Details on the 1LG9 configurations can be found in the SDSII documentation. The document is on the MoHPC DVD.

I don't remember any other document on it.

J-F

Re: 1LG9 ROM chip tech info?

*Message #3 Posted by **Eric Smith** on 28 May 2010, 1:12 a.m.,*
in response to message #2 by J-F Garnier

Thanks! That's not the document I remembered, and didn't have the level of detail I was looking for, but it was interesting nonetheless.

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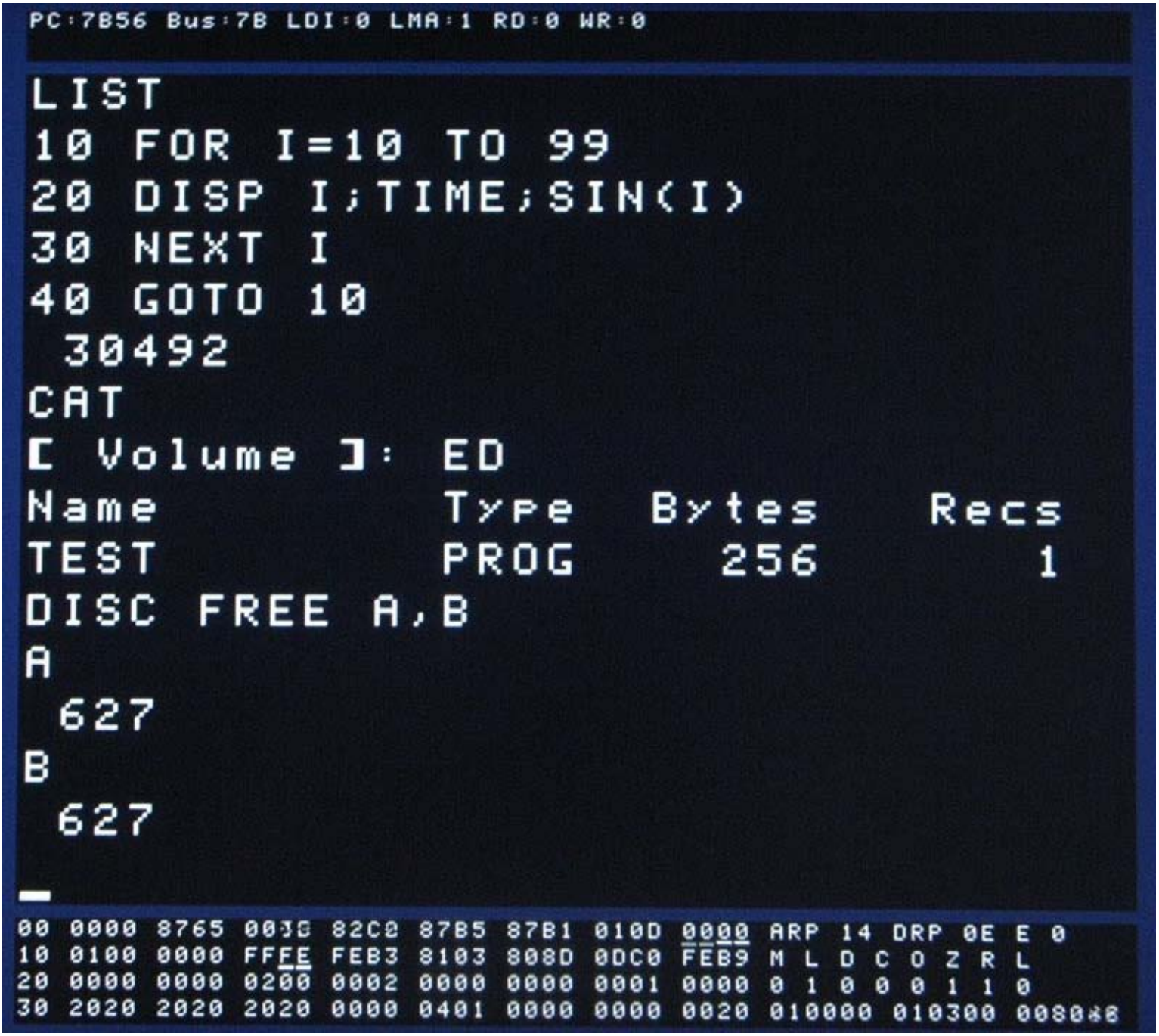
Some news (HP85 now A and B)

*Message #1 Posted by **Olivier De Smet** on 26 May 2010, 2:24 p.m.*

Hi, some recent news about my FPGA emulation.

The CPU is ok, the timers too, the keyboard also. Now the extended controller is ok. So it can emulate an HP85B with MASS ROM and ELECTRONIC DISK



More infos : http://sites.google.com/site/olivier2smet2/hpseries80/fpga-hp85b

I will start IO processor and HPIB emulation for SD flash based disk.
Olivier

Edited: 26 May 2010, 2:25 p.m.

Re: Some news (HP85 now A and B)

*Message #2 Posted by **hugh steers** on 26 May 2010, 10:03 p.m.,*
in response to message #1 by Olivier De Smet

impressive! and most interesting.

i had a read of your emulator code and, presumably, you've implemented the 80 series cpu instructions in vhdl? so how fast is it running. im thinking it ought to be amazingly quick, any benchmarks?

does this open the feasibility of re-implementing the hardware of other processors like that of the 41 or the saturn - but at modern cpu clocks !!

Re: Some news (HP85 now A and B)

*Message #3 Posted by **Olivier De Smet** on 27 May 2010, 1:06 a.m.,*
in response to message #2 by hugh steers

For the CPU it's not done from the software emulator code. It's based on the hardware description of the system in an HP patent. The described microcoded machine is coded in verilog.
Actually it's running at real speed (625 kHz) for debugging reasons but the actual code should run at x4 speed and perhaps at x10 which is the maximum this board could achieve (50 MHz base clock with 110 ns RAM). As the cpu can access to memeory every cycle, the limit is the RAM speed (plus some timing delays).
In fact a pure software emulator could be faster but not as energy efficient :) (2 GHz system to have x50 speed)
The IO system is more based on the behavior from the software emulator which is enough to have a running system.
For other architecture, I don't know if the hardware description is detailled enough to permit this kind of emulation.
Olivier

Edited: 27 May 2010, 1:09 a.m.

Re: Some news (HP85 now A and B)

*Message #4 Posted by **Johnny Bjoern Rasmussen** on 28 May 2010, 6:39 a.m.,*
in response to message #3 by Olivier De Smet

Very very amazing. Even the error of my HP-85 are ported (self test). Looks very nice.
Johnny

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Battery problems with an aging 12c

*Message #1 Posted by **Peter Schweitzer** on 26 May 2010, 1:50 p.m.*

I have a 15 year old 12C made in Singapore. After 14 years of faultless service it began using up batteries rapidly in the last year. They used to last years and now I am down to a few weeks. Is this typical? I thought it may be that they place where I was getting the batteries was supplying me with old ones so 2 weeks ago I purchased a set from Radio Shack. They worked fine until yesterday when the screen went dim but the battery warning indicator did not flash. I called HP and was told to take the batteries out for more than 24 hours and see if that helps. In the mean time I tried the batteries from someone else's unit and mine seemed fine. Is it just time to get a new 12c????

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Hp48G top plastic cover bent?

*Message #1 Posted by **Luis Moreno** on 26 May 2010, 4:41 a.m.*

Hi everyone,

I've just bought an HP48G and, after a detailed exam, I've found that the upper pastic cover seem apparently to be slightly bent in the top part:

http://img266.imageshack.us/img266/3025/topwlz.jpg

It forms a slight "U" shape.

Is it normal? Or maybe is it due to a misplacement of the top latches and/ or rivets?

Thank you very much, any help will be appreciated.

Re: Hp48G top plastic cover bent?

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 26 May 2010, 6:47 a.m.,*
in response to message #1 by Luis Moreno

Hola, Luis; ¿como estás?

I have some units with this case (HP48S/SX/G/G+/GX) and some of them have their edges 'lifted up' a little bit, as yours in the picture. I cannot tell for sure, but it seems to be normal.

Cheers!

Luiz (Brazil)

Re: Hp48G top plastic cover bent?

*Message #3 Posted by **Luis Moreno** on 26 May 2010, 12:08 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Obrigado Luiz, thank you for your response. I didn't know wether it was a common effect in the 48 series or a particularity of this machine.

Re: Hp48G top plastic cover bent?

*Message #4 Posted by **Bart (UK)** on 26 May 2010, 4:42 p.m.,*
in response to message #3 by Luis Moreno

I just looked at my GX and it looks similar.

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US$30k? Well, it does have Nixies ...

*Message #1 Posted by **megarat** on 26 May 2010, 12:30 a.m.*

In case any of you have US$30k lying around: Behold, the Sony Sobax ICC-600W:

http://cgi.ebay.com/SONY-SOBAX-ICC-600W-1ST-GEN-SONY-DESKTOP-CALCULATOR-/180510432740?cmd=ViewItem&pt=Vintage_Electronics_R2&hash=item2a07429de4

You might even be able to talk him down to US$25k!

Re: US$30k? Well, it does have Nixies ...

*Message #2 Posted by **Bart (UK)** on 26 May 2010, 4:52 a.m.,*
in response to message #1 by megarat

> Quote:
>
> ...RETAILED FOR $1275.00!!

So he'd try for 23x the price? That's 4x infaltion? (U.S. Bureau of Labor Statistics calculates 1969 USD1275 as ~USD7500 in 2010)

There's been a "Vintage retro rare 1967 programmable Casio calculator", item no. 200468390154 listed for about a year now (I think ?) with no buyers @ GBP5000.00 (~USD7200.00), what makes this person think there'll be a buyer for this at that price when it's not even as interesting (e.g. not programmable)?

Re: US$30k? Well, it does have Nixies ...

*Message #3 Posted by **Martin Pinckney** on 26 May 2010, 10:53 a.m.,*
in response to message #2 by Bart (UK)

Some sellers will try anything.

What I don't understand is when you see the same item relisted over and over again - with no bidders - at the same price! What part of "it's not worth that much" do they not understand?

Re: US$30k? Well, it does have Nixies ...

*Message #4 Posted by **Stefan Vorkoetter** on 26 May 2010, 1:00 p.m.,*
in response to message #3 by Martin Pinckney

> Quote:
>
> What part of "it's not worth that much" do they not understand?

The "there's a sucker born every minute" part. They're just waiting for the right minute to come along.

Re: US$30k? Well, it does have Nixies ...

*Message #5 Posted by **Martin Pinckney** on 26 May 2010, 3:45 p.m.,*
in response to message #4 by Stefan Vorkoetter

Sometimes it seems to me like the seller is the sucker, though, since he keeps paying eB** listing fees, with no sale.

Re: US$30k? Well, it does have Nixies ...

*Message #6 Posted by **megarat** on 26 May 2010, 9:22 p.m.,*
in response to message #5 by Martin Pinckney

That's my feeling too. Not to mention the time one needs to maintain persistent auctions.

If you honestly think someone is going to chuck out $30k for this, then that's one thing, but I see some of the same calculators listed persistently with a price that is only high enough to be undesirable (rather than empirically unreasonable, say an HP 48sx for US$200), and I can't imagine that persisting with such an auction would be worth their time and money.

The only motive I can see for this would be a matter of pride: "I know this calculator is worth this much, and darnit, someone will pay for it sooner or later." (Or maybe if you personally don't want to part with it for less than that amount, but even so, why post it persistently.)

If you a different perspective on this, please enlighten me.

Re: US$30k? Well, it does have Nixies ...

*Message #7 Posted by **db (martinez, ca.)** on 27 May 2010, 1:18 a.m.,*
in response to message #6 by megarat

One thing that feeds the *leave it on the market at a crazy price* mentality is that if you have an average ebaby store, you pay 5 cents for a 30 day "buy it now" auction. One insane buyer for the 50 or 3000 items you have up for sale and you've made your month. You and me can laugh at it but it's probably a good business model.
In a related auction this dildo thinks if he just claims that an item is RPN; he can raise it's worth by two orders of magnitude. But it's not RPN, not unusual, possibly rare only because the majority have been thrown away. Who knows what VTG means.

Re: US$30k? Well, it does have Nixies ...

*Message #8 Posted by **Martin Pinckney** on 27 May 2010, 8:39 a.m.,*
in response to message #7 by db (martinez, ca.)

> Quote:
>
> One thing that feeds the *leave it on the market at a crazy price* mentality is that if you have an average ebaby store, you pay 5 cents for a 30 day "buy it now" auction. One insane buyer for the 50 or 3000 items you have up for sale and you've made your month. You and me can laugh at it but it's probably a good business model.

This makes sense. However, I have seen *regular 7-day auctions* repeated like this. You know they have to pay non-trivial fees in that case.

Re: US$30k? Well, it does have Nixies ...

*Message #9 Posted by **Dave Shaffer (Arizona)** on 27 May 2010, 2:57 p.m.,*
in response to message #8 by Martin Pinckney

I think (it hasn't been relevant to me in awhile) that you can relist for no additional cost if your item doesn't sell. I just looked - seems you can do it only once.

Re: US$30k? Well, it does have Nixies ...

*Message #10 Posted by **Joerg Woerner** on 28 May 2010, 11:06 a.m.,*
in response to message #7 by db (martinez, ca.)

Dennis,

I just "tested" this 30 days approach with an overpriced SR-51 (Auction # 18050469240)and can tell you: Offers in the $100 ... $180 range for my Buy-It-Now $250 sticker.

So with a $30,000 sticker price ;-))

Have a great memorial day weekend.

Regards, Joerg

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HP 15C+ - when?

*Message #1 Posted by **Jose Gonzalez Divasson** on 25 May 2010, 5:45 p.m.*

Of all my collection of HPs, the 15c is the one that gets more use, and is always in my jacket pocket. (Try that with a 41c or similar)

I am an engineer that betrayed the trade and I'm into finance - I have programmed all the HP12c main features in the 15C (IRR, NPV, TVM, weighted avg, DDAYS, etc) and still got registers enough for a 4-square matrix inversion or a 3x3 equation system.

As HP has figured out how to put the 15C in a iPhone, and the 12C in an ARM-powered machine, I guess is just a question of willingness to do the same thing with the 15c - hence the 15c+. Imagine the IRRs 60 times faster. Imagine twice the programming space.

Even the 42 does not match the form factor or the ease of use of the 15c. The 42 will not come back - there is no compatible hardware there now (maybe the new HP17bii+ silver?)

I do not mind having the bezel in gold - whatever. Please... I promise to buy 2.

Re: HP 15C+ - when?

*Message #2 Posted by **Gene Wright** on 25 May 2010, 6:02 p.m.,*
in response to message #1 by Jose Gonzalez Divasson

More importantly...

If you have put all that into a 15c, then PLEASE take the time to write-up your programs and post them here or in the articles section.

Don't keep all these goodies to yourself.

Personally, I'm waiting on HP to introduce the HP 65+.

Re: HP 15C+ - when?

*Message #3 Posted by **Jose Gonzalez Divasson** on 31 May 2010, 4:52 p.m.,*
in response to message #2 by Gene Wright

Gene,

For TVM, I use the program provided in the Advanced Programming manual - as good as it gets, and makes use of all the A-E user keys.

The weighted average uses the statistic registers and leaves avg(y) weighted by x in y, and avg(x) weighted by y in x:

Lbl 0 -so that it coincides in the same key as avg(x) rcl 7 rcl / 3 rcl 7 rcl / 5 rtn

Excuse the poor programming technique.

The Net Present Value and IRR are a little longer. Requires 11 registers and is valid for up to 10 periods. Data is not destroyed and can be used with other interest rates. I take care of not using labels us

Re: HP 15C+ - when?

*Message #4 Posted by **Jose Gonzalez Divasson** on 31 May 2010, 5:57 p.m.,*
in response to message #2 by Gene Wright

```
Gene,


For TVM, I use the program provided in the Advanced Programming manual - as good as it
gets, and makes use of all the A-E user keys.


The weighted average uses the statistic registers and leaves avg(y) weighted by x in y,
and avg(x) weighted by y in x:


Lbl 0 -so that it coincides in the same key as avg(x)
rcl 7
rcl / 3
rcl 7
rcl / 5
rtn


Excuse the poor programming technique.


The Net Present Value and IRR are a little longer. Requires 11 registers and is valid
for up to 10 periods. Data is not destroyed and can be used with other interest rates.
I take care of not using labels used by TVM!


Net Present Value: It takes the following arguments:


Number of periods: register .1
Initial cashflow: register 0
cashflows for periods 1 to 9: registers 1 to 9 (how clever ;-))
discount rate in %: register x
NPV result: register x


LBL 1
EEX
2 - from % to decimal
/
1
+
1/x - calculate 1/(1+i)
ENTER
ENTER
ENTER  - to load the stack with 1/(1+i)
RCL .1 - number of periods (so that is is kept for further trials with other interest
rates)
STO I
CLX
LBL .2 - loop for periods
RCL + (I)
X      - calculates f(n) = (f(n-1)+ I(n))/(1+i)
DSE I
GTO .2  - Return if not 0
RCL + 0 - Add start cashflow
RTN



IRR - this is the elegance of the HP-15 - just load your guesses in x and I and use
SOLVE ( f SOLVE 1)
```

```
Another day I will put the adaption of DDAYS to HP15c (European format DD,MMYYYY) but
it is trivial from other adaptions (65, 41, 42s)
```

Re: HP 15C+ - when?

*Message #5 Posted by **Jose Gonzalez Divasson** on 31 May 2010, 6:00 p.m.,*
in response to message #4 by Jose Gonzalez Divasson

meant "load your guesses in x and y"...

Re: HP 15C+ - when?

*Message #6 Posted by **DaveJ** on 25 May 2010, 9:42 p.m.,*
in response to message #1 by Jose Gonzalez Divasson

> Quote:
>
> in an ARM-powered machine, I guess is just a question of willingness to do the same thing with the 15c - hence the 15c+. Imagine the IRRs 60 times faster. Imagine twice the programming space.

A prototype has apparently been shown.
Yes, it's just a matter of willingness. The design is fairly trivial and essentially already exists.

Who knows when or if, I lost my bet some time ago.

60 times faster, yes, and 1/60th the battery life to go with it!

Dave.

Re: HP 15C+ - when?

*Message #7 Posted by **Mike Morrow** on 26 May 2010, 12:26 a.m.,*
in response to message #1 by Jose Gonzalez Divasson

> Quote:
>
> Even the 42 does not match the form factor or the ease of use of the 15c.

Apparently there is no experience base using the HP42S, for that statement is total nonsense.

I have decades of experience with both the HP-15C and the HP42S. Th HP42S is a stunning advance over the HP-15C...there's absolutely no contest between them at all. It is far faster, more capable, has much greater precision, is much easier to use (especially with its alphanumeric support), and has about 15 times as much memory. It has IR printer output and sound capability. It is not pointlessly compromised by that cute but moronic landscape design that makes the HP-15C handheld very awkward to actually use as a handheld (so ironic, but at least HP never repeated that mistake except with all those HP-12 zombies that it has re-issued over and over).

The HP-15C, as good as it was (and it is mostly better than the unfortunate HP32SII, HP33S, and HP35S), is garbage compared to the HP42S. The worst business decision that HP could make would be a resurrection of some anachronistic HP-15C zombie. It would appeal only to those who have an irrational regard for a 28-year-old device that lags far far behind the 22-year-old HP42S.

If HP lacks the competency to produce something that is at least the equal of the HP42S, outside of their excellent HP50G, that's fine. It should drop that small calculator market entirely rather than dig up some tired old inadequate corpse modeled on the ancient and awkward HP-15C. That marketing effort would doubtless be a total failure. I've used HP calcs for 36 years, but I'll only buy some "new" HP-15C after it gets marked down to $4.99 during the inevitable clearance of unsellable mechandise. Walmart, which recently dropped the price of the TI-89 to $40.50 locally to clear it off the shelf, certainly won't be tempted to waste store space on such a bauble.

If Valentin red that...

*Message #8 Posted by **Vieira, Luiz C. (Brazil)** on 26 May 2010, 1:03 a.m.,*
in response to message #7 by Mike Morrow

Hi;

allow me to support every single word about the HP42S, but I cannot agree with the destruction of the HP15C... Sorry but calling it garbage when comparing to the HP42S is far beyond unfair.

Every time the subject is 'ancient technology', people usually mention 'slow device', 'lack of resource' and related 'handicaps'. In most cases, that was the best technology possible at their times, when it was neither slow nor 'resourceless'. This applies to the HP15C as well as to any 80286, 80386, 68000 (and others) architectures in their time. They were amazing, and it does not make them trash today even if we compare them to quad-core architectures or new calculators. They are still the same machines, just 'living' in another time.

When the HP15C was introduced it was the most resourceful stand alone calculator HP could offer with its architecture. This fact hasn't changed. Form factor may also be a matter of taste, but I still love the landscape design. And it seems TI has found its way to bring it back...

Cheers.

Luiz (Brazil)

Edited: 26 May 2010, 6:39 a.m.

Re: HP 15C+ - when?

*Message #9 Posted by **Reth** on 26 May 2010, 6:02 a.m.,*
in response to message #7 by Mike Morrow

I second Mike's opinion. HP15C+ would sell 3000 units max.

Re: HP 15C+ - when?

*Message #10 Posted by **DaveJ** on 26 May 2010, 8:15 a.m.,*
in response to message #9 by Reth

> Quote:
>
> I second Mike's opinion. HP15C+ would sell 3000 units max.

If we are throwing around numbers willy-nilly then you are an order of magnitude under the mark, at least.

Dave.

Re: HP 15C+ - when?

*Message #11 Posted by **db (martinez, ca.)** on 27 May 2010, 1:30 a.m.,*
in response to message #10 by DaveJ

I believe you are right Dave. At least 3000 innumerate real estate agents would buy it thinking it was a **12**c.

Re: HP 15C+ - when?

*Message #12 Posted by **DaveJ** on 26 May 2010, 8:22 a.m.,*
in response to message #7 by Mike Morrow

Quote:

> The HP-15C, as good as it was (and it is mostly better than the unfortunate HP32SII, HP33S, and HP35S), is garbage compared to the HP42S. The worst business decision that HP could make would be a resurrection of some anachronistic HP-15C zombie. It would appeal only to those who have an irrational regard for a 28-year-old device that lags far far behind the 22-year-old HP42S.

Have you stopped to consider that in today's market such retro appeal may actually trump a more powerful yet almost as old machine in a market that essentially no longer exists for either of those machines?

Throw in the fact that the 42S is odds on to simply never happen, it's a moot point. HP don't have the resources or existing development base to bring out such a machine for any reasonable cost. The 15C on the other hand is just a matter of pushing the button.

Dave.

Re: HP 15C+ - when?

*Message #13 Posted by **Maarten Ambaum (Reading, UK)** on 26 May 2010, 8:54 a.m.,*
in response to message #12 by DaveJ

... and to add to DaveJ's point: the 12C is still going strong. Surely that is the best indication there is still a viable market for this type of product, whatever the appeal may be: retro or simply because the 12C/15C were and still are great calculators. Note that the financial people also have computers, so their arguments against using calculators would be the same as those made by the technical people. Apparently there is still demand for a calculator a la 12C/15C.

If it is so easy to make an updated 15C it would be truly baffling that HP hasn't done so yet, after so many years of people asking for a new 15C. I suspect there must be a more fundamental problem in putting out a new 15C - but I don't know what it is.

Re: HP 15C+ - when?

*Message #14 Posted by **Katie Wasserman** on 26 May 2010, 9:25 a.m.,*
in response to message #13 by Maarten Ambaum (Reading, UK)

Quote:

> If it is so easy to make an updated 15C it would be truly baffling that HP hasn't done so yet, after so many years of people asking for a new 15C. I suspect there must be a

> more fundamental problem in putting out a new 15C - but I don't know what it is.

While it has been years of people asking to bring back the 15c, it's been a relatively short time since the release of the 12C+. This is the hardware/software platform that allows HP to easily release a 15C+. I think it's just a matter of time and management willingness before we see it.

-Katie

Re: HP 15C+ - when?

*Message #15 Posted by **Don Shepherd** on 26 May 2010, 9:56 a.m.,*
in response to message #13 by Maarten Ambaum (Reading, UK)

The 12c became the "gold standard" among financial types, I imagine, because it is absolutely trustworthy and, frankly, has classic good looks. I'm sure the financial guys are not huge RPN fans, but they put up with that aspect because the 12c works so well and they can rely on it. If it ever stops working well, that may change, of course. The release of the 12c+ brought with it some bugs. If HP doesn't step up and fix these (and get the fixed versions in the ROMs on the units in the stores where the financial guys are buying the 12c+), it's reputation may start to suffer, and that would be tragic. I would bet that 95% of HP calc sales comes from the 12c.

I don't know what the market would be for a reissue of the 15c; no one does. But I wouldn't expect it to become the "gold standard" of engineers, as the 12c has become for financiers. I'm not an engineer, but I gather most current engineers rely on the PC for a lot of their computing and calculating needs.

Re: HP 15C+ - when?

*Message #16 Posted by **Gene Wright** on 26 May 2010, 10:49 a.m.,*
in response to message #15 by Don Shepherd

Hey Don.

A couple of things have been found that did not work quite as expected with the 12c+, but those are not things that would dramatically impact many 12c users at all.

To my knowledge, the ONLY bugs are:

1) "When the SST-button is held down the program line should be shown, and on release of the button this line should be executed. But when I press down the button the line is not shown and the instruction is executed even before releasing the button."

2) This simple program will blank the screen and lock up 12C+ in a such way that you need to turn off the calculator to recover from:

01 1 02 AMORT 03 GTO 01

3) The keyboard self-test times out in about 2 seconds giving an error message. The original 12C does this too, but it takes several minutes so it's gone unnoticed.

If there are any more, please let me know.

The ONLY one of any real consequence would be #2 and that requires a program that on an original 12c runs in an infinite loop. Stopping the program will mean you are some distance into

the amortization of the loan, but how far? Depends on how long you let it run. While there might be a use for that program, I would bet that bug affects such a small amount of 12c users as to be insignificant to the 12c+ reputation.

Now... don't get me wrong. Bugs should be fixed POST HASTE!

But, will these cause a loss of confidence in the 12c+? I don't think so. Not at all.

An incredibly small...I mean REALLY REALLY small percentage of users program.

Anyone who does not program and who does not ever run the self test will NEVER run into these three problems. I have used a 12c for over 25 years and was never aware of the SST feature. Perhaps I was the only one? :-)

Anyway, I really don't think the 12c+ is in any imminent danger.

Re: HP 15C+ - when?

*Message #17 Posted by **Katie Wasserman** on 26 May 2010, 11:49 a.m.,*
in response to message #16 by Gene Wright

The earliest version of the firmware also did not have the standard 12C self tests. In particular [ON] + [/] did not work at all but the manual still documented it. This was probably the biggest issue.

Hopefully the new firmware version is on the store shelves now. It fixes all the issues except (3). (2) was actually a worse issue requiring a remove batteries reset, but it's just an ON button press now.. (3) is a bigger deal since users may think that their calculator is broken if they don't press the keys fast enough during the test. I think a note in the manual will take care of that problem.

Also, the latest firmware is 2.5x faster. So it's a knock-your-socks-off 150x faster than the original 12C!

I love my 12C+

-Katie

Edited: 26 May 2010, 11:50 a.m.

Re: HP 15C+ - when?

*Message #18 Posted by **Don Shepherd** on 26 May 2010, 2:23 p.m.,*
in response to message #16 by Gene Wright

Gene, I think Katie mentioned above the major bug that some 12c users will find: that the self-test, as documented in the manual, does not work. I agree with you, that a very small percentage of 12c users will write/run programs. Katie and I discussed this one time, since she works with these users on a regular basis. She said almost none of them write programs, and a very small percentage run programs written by others (including her). So they won't see the debug step-by-step bug at all. But users who are used to running the self-test will see that problem.

Who is to know if the fixes are on the machines in stores now. I get the impression that the ARM-based 12c+ is still not widely available; I haven't seen any in Louisville stores.

Edited: 26 May 2010, 2:24 p.m.

Re: HP 15C+ - when?

*Message #19 Posted by **db (martinez, ca.)** on 27 May 2010, 1:51 a.m.,*
in response to message #15 by Don Shepherd

> Quote:
>
> I'm sure the financial guys are not huge RPN fans

Maybe not so much any more but when the 80, 70, 22, 37, 38 & 12c were introduced, the majority of financial calculator users had learned their trade on adding machines. Both RPN and the plethora of "adding machine logic" offerings acted just like what they were used to in addition and subtraction. RPN had the added advantage of being consistently postfix in multiplication, division, trig, and logs.

TI and National Semiconductor made forgettable calculators that did pre-programmed TVM calculations and used adding machine logic (not AOS). That the HPs were so bombproof they became heirlooms is just gravy.

Re: HP 15C+ - when?

*Message #20 Posted by **DaveJ** on 27 May 2010, 5:46 p.m.,*
in response to message #15 by Don Shepherd

> Quote:
>
> I don't know what the market would be for a reissue of the 15c; no one does. But I wouldn't expect it to become the "gold standard" of engineers, as the 12c has become for financiers. I'm not an engineer, but I gather most current engineers rely on the PC for a lot of their computing and calculating needs.

I don't know a single (not software) engineer who does not have a pocket calculator on their desk.

Correct, the HP15C would not become the gold standard, that's impossible. It would be a purely retro appeal/enthusiast thing.

Dave.

Re: HP 15C+ - when?

*Message #21 Posted by **Jose Gonzalez Divasson** on 26 May 2010, 1:57 p.m.,*
in response to message #7 by Mike Morrow

For the sake of illustrating my point of view, I own 2 42s - one of them with 32 kbytes... and I stand by my opinion above.

I have entered the same programs on both of them as well.

By ease of use I mean not having to navigate the menus.

Re: HP 15C+ - when?

*Message #22 Posted by **Bart (UK)** on 26 May 2010, 4:51 p.m.,*
in response to message #21 by Jose Gonzalez Divasson

> Quote:
>
> By ease of use I mean not having to navigate the menus.

I must say I am a menu man. I get dizzy trying to find functions on the 33S or 35s (even 20S). The 28C was my first HP, and I loved the menus and have preferred them ever since.

I think we all have our own preferences and should express them without trashing other's favourites. Both the 15C and 42S have a strong contingent of followers, and the online auction prices of both reflect this.

Re: HP 15C+ - when?

*Message #23 Posted by **Martin Pinckney** on 26 May 2010, 5:23 p.m.,*
in response to message #22 by Bart (UK)

> Quote:
>
> I think we all have our own preferences and should express them without trashing other's favourites. Both the 15C and 42S have a strong contingent of followers, and the online auction prices of both reflect this.

Bart, well said!!

Re: HP 15C+ - when?

*Message #24 Posted by **Andrew H.** on 26 May 2010, 11:33 p.m.,*
in response to message #7 by Mike Morrow

I agree that the 42S has far greater functionality than the 15C. For instance, it can easily calculate the determinant of a matrix with complex elements. (See my post of a few days ago about doing this on a 15C.)

However, the Pioneers, including the 42S, are butt ugly compared with the Voyagers with their comforting gold and aqua labels. (The 14B is brown with yellow labels!) In particular, they don't have the bevelled keys of previous HP calculators. (Fortunately, HP has brought bevelled kays back in recent models.)

I'd prefer to see the 11C, which was one of the two original Voyagers (along with the 12C), and the 42S (in the same format as the 30b) make a comeback.

Re: HP 15C+ - when?

*Message #25 Posted by **bill platt** on 26 May 2010, 10:15 a.m.,*
in response to message #1 by Jose Gonzalez Divasson

Hi Jose,

Let me interpret your passion for the 15c through my own interest in these HP machines. I think the bulk of your belief in the greatness of the 15c comes from a combination of nostalgia and a hard-won appreciation of the machine's capabilities.

Going forward, building technical products, nostalgia will only buy you a very small niche market. That is my opinion. If it is the styling, that is a different case--it can have mass appeal. But the performance needs to be modern to be widely appreciated. For example, look at the plethora of "retro" car models on the market. Starting approximately with the new beetle, we then have the Ford thunderbird, then the mini cooper, and more recently the dodge charger, and the chevy something--is it a new "retro" camaro? Note that all these cars attempt to "hark back" to the originals--but from a technical standpoint, they are completely new. Would anyone buy a brand-new car with a 4 barrel carburetor, drum brakes, and bias-ply tyres?

Would you really want to buy a new *programmable* calculator with keycodes?

Think about that....

Of course, I would buy a re-issue of the 15c. Because I do have nostalgia and the hard-won appreciation. To me, it would be great!

Best regards,

Bill

Edited: 26 May 2010, 10:26 a.m.

Re: HP 15C+ - when?

*Message #26 Posted by **Martin Pinckney** on 26 May 2010, 11:00 a.m.,*
in response to message #25 by bill platt

Here we go again. I guess these endless 15c+ discussions will never... well, end.

Unless HP actually does come out with it.

Re: HP 15C+ - when?

*Message #27 Posted by **bill platt** on 26 May 2010, 11:09 a.m.,*
in response to message #26 by Martin Pinckney

Yep...

Re: HP 15C+ - when?

*Message #28 Posted by **Didier Lachieze** on 26 May 2010, 11:37 a.m.,*
in response to message #26 by Martin Pinckney

Well, HP already re-introduced the HP-15C ... as an iPhone app (Calculator Software). What I don't quite understand is why it's not also available for Windows as the other calculator software versions (hp-20b, 12c, 12c platinum & 35s)...

Re: HP 15C+ - when?

*Message #29 Posted by **Thomas Radtke** on 26 May 2010, 1:07 p.m.,*
in response to message #25 by bill platt

> Quote:
>
> Would you really want to buy a new *programmable* calculator with keycodes?

Because it works reliably. The other programmable scientific calculator HP offers doesn't. If you need one, HP is out of discussion.

I bet, most people buying the 35s aren't aware of its countless bugs. If they find out in a critical situation, HP in general will be out of discussion to them, if they aren't die hard HP fans. But then, they would have known better than to use that miscalculator for anything else than just toying around.

Re: HP 15C+ - when?

*Message #30 Posted by **Martin Pinckney** on 26 May 2010, 2:40 p.m.,*
in response to message #29 by Thomas Radtke

> Quote:
>
> I bet, most people buying the 35s aren't aware of its countless bugs.

Doubtless you are correct. This is probably why HP doesn't bother to correct them.

Also, perhaps HP never intended to keep the 35s in the lineup for the long term. After all, it is an evolutionary model based on the 32s/32sii/33s lineage. Perhaps they intend to start a new scientific line, like the 20b/30b series.

Re: HP 15C+ - when?

*Message #31 Posted by **Thomas Radtke** on 26 May 2010, 3:03 p.m.,*
in response to message #30 by Martin Pinckney

I think the 3x line is/was a big success because it is permitted in several exams. Messing it up means bye bye to the educational market, if no replacement can be made soon. I still have and like my 32SII, and I would have loved the 35s w/o bugs. But obviously, HP has no capacity to develop a good and advanced scientific programmable anymore, and that's where the 15C+ comes in. It should work, and if there's some cleverness left at HP, should be sold for a price low enough to compete with a good Casio programmable.

But then, I have no hope that it will become a reality, and if, HP will likely mess it up again by stupid problems.

Re: HP 15C+ - when?

*Message #32 Posted by **Martin Pinckney** on 26 May 2010, 3:10 p.m.,*
in response to message #31 by Thomas Radtke

> Quote:
>
> ... if there's some cleverness left at HP, should be sold for a price low enough to compete with a good Casio programmable.

If DaveJ is correct (and I think he is), it will be sold primarily for the retro/nostalgia market, not to compete with anything else. It will list for $ 99.99, with occasional sales lower..

My prediction.

Re: HP 15C+ - when?

*Message #33 Posted by **Thomas Radtke** on 26 May 2010, 3:59 p.m.,*
in response to message #32 by Martin Pinckney

You might be right, I fear.

Re: HP 15C+ - when?

*Message #34 Posted by **Norman Dziedzic** on 26 May 2010, 6:17 p.m.,*
in response to message #1 by Jose Gonzalez Divasson

It seems to me, with all the high power processing power available for cheap money these days, that the best approach would be to make an uber-C model where you just select which mode you want (10C, 11C, 12C, 15C, 16C or at least a 12/15/16) and use overlays like the 41.

From a manufacturing standpoint, there is a tremendous advantage to not having to support multiple versions of the same thing. Pop out the same thing all the time and you can use volume to your advantage in purchasing and tooling etc...

Re: HP 15C+ - when?

*Message #35 Posted by **Tim Wessman** on 27 May 2010, 10:24 a.m.,*
in response to message #34 by Norman Dziedzic

Ah, but then how can I sell you 5 different calculators? :-D

TW

Re: HP 15C+ - when?

*Message #36 Posted by **Bart (UK)** on 27 May 2010, 10:30 a.m.,*
in response to message #35 by Tim Wessman

Selling a 5-in-1, just think of what a good selling point that would would be!! Of course it would be even better to have 5-for-the-price-of-1 too.

Re: HP 15C+ - when?

*Message #37 Posted by **Norman Dziedzic** on 27 May 2010, 10:38 a.m.,*
in response to message #35 by Tim Wessman

If you really want to have 5 different things to sell then make the mode selection via an internal jumper in the battery compartment. You can even not document it if you like - except to let us know here :-) - but you still get to make just one thing (less the key and case graphics). You still get the benefit of higher volumes on the guts of the calc.

Its funny, in the machine tool industry they figured this out a long time ago. You could buy a basic machine and then when you wanted an option, you would have to pay the manufacturer for the upgrade. However, that upgrade consisted of a service man coming out and typing a code into your machine that unlocked the feature. It was always in there because it's easier to make one control with all the options there than manage 100's of different board designs. I suspect now they just give you the code and let you type it in. They probably charge the same and save the expense of the trip out to your facility.

Re: HP 15C+ - when?

*Message #38 Posted by **Martin Pinckney** on 27 May 2010, 11:07 a.m.,*
in response to message #37 by Norman Dziedzic

Well, of course the problem with the Voyagers is the different key/faceplate legends. And I just don't see HP making a Voyager system with overlays. Most non-geeks wouldn't want to mess with such a system.

Re: HP 15C+ - when?

*Message #39 Posted by **Katie Wasserman** on 27 May 2010, 11:24 a.m.,*
in response to message #38 by Martin Pinckney

> Quote:
>
> And I just don't see HP making a Voyager system with overlays. Most non-geeks wouldn't want to mess with such a system.

Maybe not, but the new 30b has an overlay to show all the programming functionality. The 20b and 30b have exactly the same keyboard and LCD. The only distinguishing features are the color the faceplate, the "Black S" label above the "Bond" key and the "keypad" label on the front of the swap key.

-Katie

Edited: 27 May 2010, 11:25 a.m.

Re: HP 15C+ - when?

*Message #40 Posted by **Katie Wasserman** on 27 May 2010, 11:15 a.m.,*
in response to message #37 by Norman Dziedzic

Some of the Compucorp 300 series machines had an easy "upgrade" path too. All you needed to do was to punch a hole in the faceplate and add a slider switch and you could save a couple of hundred (1973) dollars.

-Katie

Re: HP 15C+ - when?

*Message #41 Posted by **Thomas Radtke** on 27 May 2010, 11:23 a.m.,*
in response to message #35 by Tim Wessman

> Quote:
>
> Ah, but then how can I sell you 5 different calculators? :-D

You probably can't. You sell one calculator, and n emulators.

Edited: 27 May 2010, 11:24 a.m.

Re: HP 15C+ - when?

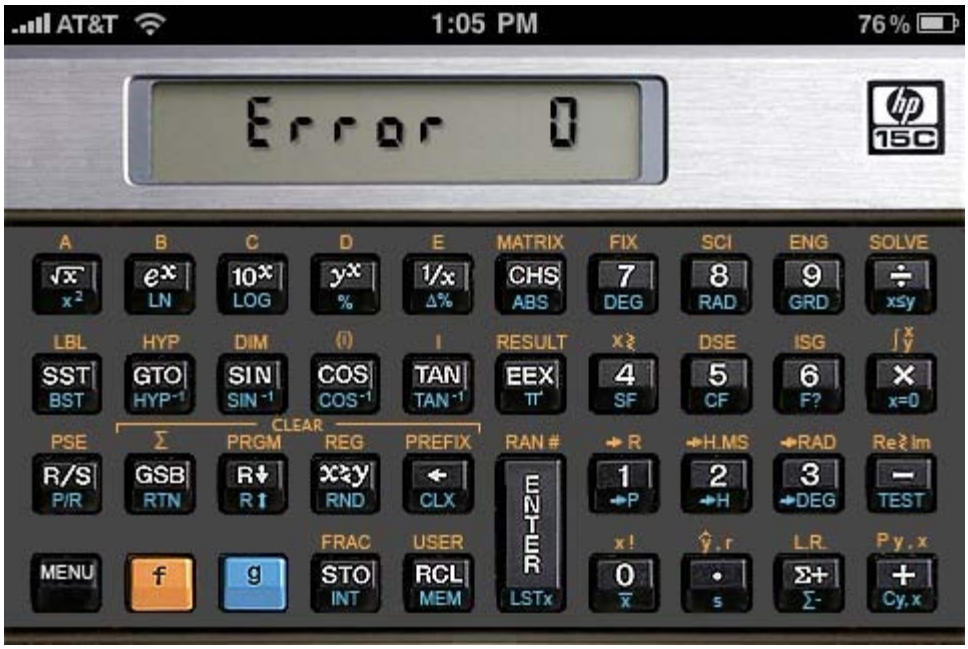
*Message #42 Posted by **Norman Dziedzic** on 27 May 2010, 2:13 p.m.,*
in response to message #35 by Tim Wessman

> Quote:
>
> Ah, but then how can I sell you 5 different calculators? :-D
>
> TW

Well, <sort of tongue in cheek but true>

Right now you are selling me 0 calculators...

what is the percentage increase from 0 to 1?



8^)

Re: HP 15C+ - when?

*Message #43 Posted by **BruceH** on 27 May 2010, 7:16 p.m.,*
in response to message #35 by Tim Wessman

> Quote:
>
> Ah, but then how can I sell you 5 different calculators? :-D

You can start by selling me just one - a 15C+...

;-)

Re: HP 15C+ - when?

*Message #44 Posted by **DaveJ** on 27 May 2010, 10:48 p.m.,*
in response to message #43 by BruceH

> Quote:
>
> You can start by selling me just one - a 15C+...

What a novel idea!

Dave.

Re: HP 15C+ - when?

*Message #45 Posted by **DaveJ** on 27 May 2010, 10:47 p.m.,*
in response to message #34 by Norman Dziedzic

What do you print on the primary keys?
To work, such a calculator would have to have blank keys on all but the standard 4 function keys. And then you can argue that they should be blank too to make it truly universal.

I don't know about anyone else, but I like having my functions printed on the actual key tops.

The devil is always in the detail.

Now if HP came out with a calc that had such a replaceable template *and* a bunch of interchangeable keys and a novel way to change them, it would be both retro *and* fun to play with and configure. And it would fit in well with the new HP open hardware strategy, so people could copy/flash whatever they wanted and HP would still be able to make money on selling different keytop sets and standardised overlays.

Oh, and it would allow them to build only one model, yet sell it either pre-configured (the 12C crowd who like their "standard"), or in bits'n'pieces to the nerdy retro/engineering/enthusiast crowd who want that versatility.

But that takes extra effort, so just bring out the 15C again, easy.

Dave.

Edited: 27 May 2010, 10:59 p.m.

Re: HP 15C+ - when?

*Message #46 Posted by **Katie Wasserman** on 28 May 2010, 2:23 a.m.,*
in response to message #45 by DaveJ

Dave,

You're on to something here. 28 of the 39 keys on the Voyagers (ignoring the 10C) have the same printing on the top of the keys, so HP could label those keys. The remaining ones (upper left 2 rows of 5 + the SST/GSB key) could be blank. A thin template would easily fit securely on top of the 12C+ faceplate and be below the raised edges on all 4 sides.

I think that there is enough ROM in the current ARM chip to store 4 voyager ROM images. So HP could come up with a retro 11/12/15/16 C+ calculator for little more than the cost to them of a 12C+. They would provide 4 printed templates and a couple of blank ones for re-purposing. This would be an uber-geek-retro calc and I think would sell well even if priced somewhat over $100. Of course they'd have to throw in a programming cable because there's no JTAG connection on this machine.

-Katie

Re: HP 15C+ - when?

*Message #47 Posted by **Håkan Thörngren** on 28 May 2010, 2:56 a.m.,*
in response to message #46 by Katie Wasserman

Good thinking, I like it!

I would like to see a display like the HP-41 so that we can have alpha characters as well. It can still be "crippled" and only use the standard 7 segments for traditional Voyagers, but it would be a great asset for repurposing.

If I could really dream, add a crystal to stabilize the time and possibly also a beeper.

Re: HP 15C+ - when?

*Message #48 Posted by **Bart (UK)** on 28 May 2010, 4:21 a.m.,*
in response to message #47 by Håkan Thörngren

I think that would be an idea for another model. I think the general idea of this thread is the standard Voyagers with just a faster processor.

Re: HP 15C+ - when?

*Message #49 Posted by **DaveJ** on 28 May 2010, 3:03 a.m.,*
in response to message #46 by Katie Wasserman

Groovy
Make it so!

Dave.

Re: HP 15C+ - when?

*Message #50 Posted by **Bart (UK)** on 28 May 2010, 5:12 a.m.,*
in response to message #46 by Katie Wasserman

Katie,

That's brilliant. Multiple old calculators in one package with repurposing capability. Now that's the future of retro calculators! (excuse the oxymoron :))

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Trying to revive an HP-25C

*Message #1 Posted by **Mark Henderson** on 24 May 2010, 4:38 p.m.*

I bought a non-working 25C from TAS and am trying to fix it. My first HP was a 25 and I've always wanted a 25C. I've got a good amount of experience now fixing Classics and recently my Spice (34C). The 25C is in good cosmetic condition, keyboard is great, display lens and digits clean. I've read Katie's article on repairing Woodstocks, and every other 25/25C article I can find. The symptoms I have are pretty heavily loaded toward a dead ACT and/or RAM in the traditional Woodstock manner, but not everything follows the patterns I've seen described. Here are my symptoms:

As received:

- Calc would not show/do anything on power up (good battery from 25) - Seeing some of the posts, I left the calc on for a few minutes, and sure enough, after off-on the display would show "0000000000000" - Calc non-responsive to keys or switches, once "0000.." showing it would stay on display

So I was pretty sure the ACT was dead. I opened the calc and everything inside looked good, except for some blue-ish corrosion on the battery contacts, the traces above the ACT and generally around that end of the battery bay. Couldn't see anything eaten away, though.

Based on Katie's article I put a resistor from ACT pin 11 to ground (12). Effect of this was that the calc stopped showing anything on the display, even after a "warm up" of several minutes. Removed the resistor and the original behavior returned. Hmmm.

Next I gave the main board a dilute warm water/vinegar bath and gently cleaned off the corrosion after soaking for a while. There is discoloration to many of the traces where the corrosion was worst, but no breaks visible.

Behavior after this operation is subtly different: no display when cold, after warm up there is a display after power on - but instead of solid "00000000.." I now get assortment of random and rapidly changing digits across entire display, which then disappear after <1 second. Sometimes a couple of DPs will be left on, otherwise blank. Katie's resistor is not in-circuit anymore.

Any thoughts? I'm keeping optimistic that the fault might be a broken trace or other corrosion damage, not a blown chip (yes, I know this might sound desperate) - and since the behavior changed quite noticeably just from a cleaning...

Next step will be to power up the scope and do some probing around. I can use my 25 as a reference, too. I'm pretty sure I'll need an ACT in the near future...?!

Cheers

Mark

Edited: 24 May 2010, 4:39 p.m.

Re: Trying to revive an HP-25C

*Message #2 Posted by **Mark Henderson** on 29 May 2010, 2:12 p.m.,*
in response to message #1 by Mark Henderson

Any ideas? I'm pulling out the 'scope today...

Re: Trying to revive an HP-25C

*Message #3 Posted by **Xavier A. (Brazil)** on 29 May 2010, 2:51 p.m.,*
in response to message #2 by Mark Henderson

Good luck! (not very helpful, but I'm not a specialist)

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Archaeology attack: Rubik's Cube on the 41

*Message #1 Posted by **Ángel Martin** on 24 May 2010, 1:34 p.m.*

Greetings fellow time travellers :)

Out of curiosity and with a tinge of amusement I dug out the Rubik's cube solver programs written by Julian Perry and published in PPC CJ V9N2 (Feb 1982)

I remember reading that one back then and wondering if it'll work on a ROM... almost 30 years later I know the answer.

I should be posting the module and RAW files at TOS soon - or maybe they're already available somewhere? At any rate, email me if you'd like them rushed to you before.

Cheers, 'AM

Re: Archaeology attack: Rubik's Cube on the 41

*Message #2 Posted by **Gene Wright** on 24 May 2010, 2:38 p.m.,*
in response to message #1 by Ángel Martin

Interesting!

Here's an idea. How about a new "games rom" that includes some of the favorites?

Such as Dungeon of Doom from Datafile? That thing is AWFUL to scan or type in.

Such as Craig Pearce's Pinball Wizard?

Such as The Caves?

Or some of the adventure games with text files that were in the PPC Journal?

:-)

You get the idea.

Re: Archaeology attack: Rubik's Cube on the 41

*Message #3 Posted by **Ángel Martin** on 24 May 2010, 4:15 p.m.,*
in response to message #2 by Gene Wright

Yes I get the idea - and it's a cool one :) I've been thinking of the same for a while now and have put together a few of my favorite ones (Morse, Roman numbers, Mastermind, and the all-MCODE ROLLERS as well - sorry but I'm partial to MCODE).

Not to forget the ever-elusive Chess CH-136, which cannot get compiled and thus remains impossible to

write to ROM!

A few considerations are probably in order:-

1. These things are huge.- The Rubik's solver alone takes up almost three quads of a 4k rom. Likely to end up with a 12k or even a 16k module before you notice.

2. These things are tough to come by: not likely to be RAW files available, or ASCII either. Barcodes help (converted via MLDL) but it's quite time consuming.

3. These things are subjective: which ones are the " best" games ever written for the 41? Here's the question, worth a poll amongst the forum dwellers for sure...

A proposal: if anybody cares enough about a certain game to produce the RAW file for it I'll be more than glad to add it on the POWER-GAMES module.

Here are a few more to the list: -Valentin's Reversi, Checkers and Mini Chess

Anybody wants to chime in? Send your proposals and your code!

Cheers, 'AM

Re: Archaeology attack: Rubik's Cube on the 41

*Message #4 Posted by **PeterP** on 25 May 2010, 12:05 a.m.,*
in response to message #3 by Ángel Martin

I'm actually working on a mode game rom that will be about 4k but cover only one game (maybe two). I love the idea of a games rom, especially in mode. Id be happy to participate in typing or scanning or something (within reason) but even more I'd be interested in writing a mode game. I thought about risk once but the problem is the map. But writing the computer ai as opponents would be much fun to do...

Cheers

Peter

Re: Archaeology attack: Rubik's Cube on the 41

*Message #5 Posted by **Håkan Thörngren** on 25 May 2010, 3:44 a.m.,*
in response to message #3 by Ángel Martin

Where can it be found? Is this the one that used precompiled GTOs without labels and were sold on magnetic cards back in the old days?

> Quote:
>
> Not to forget the ever-elusive Chess CH-136, which cannot get compiled and thus remains impossible to write to ROM!

Re: Archaeology attack: Rubik's Cube on the 41

*Message #6 Posted by **Håkan Thörngren** on 25 May 2010, 11:59 a.m.,*
in response to message #5 by Håkan Thörngren

I found the Chess game.

Re: Archaeology attack: Rubik's Cube on the 41

*Message #7 Posted by **Ángel Martin** on 25 May 2010, 1:39 p.m.,*
in response to message #6 by Håkan Thörngren

Hej Håkan,

Yes, it's available at TOS... can't specify link or the message will be "preempted"

Do you have any suggestions as to how to upload it on a ROM? The problem is of course the initial PACKing - which deletes all the pre-compiled jump distances.

Re: Archaeology attack: Rubik's Cube on the 41

*Message #8 Posted by **Håkan Thörngren** on 25 May 2010, 3:10 p.m.,*
in response to message #7 by Ángel Martin

Yes, I found it at TOS.

It should not be a big issue to upload it to a ROM, but it will take a while as I only put a couple of hours per week into this. I was already working a bit on RPN code handling for other reasons, so I went ahead and started making a RAW reader as well.

> Quote:
>
> Hej Håkan,
>
> Yes, it's available at TOS... can't specify link or the message will be "preempted"
>
> Do you have any suggestions as to how to upload it on a ROM? The problem is of course the initial PACKing - which deletes all the pre-compiled jump distances.

Re: Archaeology attack: Rubik's Cube on the 41

*Message #9 Posted by **hugh steers** on 25 May 2010, 9:02 a.m.,*
in response to message #3 by Ángel Martin

Hi,

Could we get Mcode a target backend of a C compiler (or has this already been done). i'm thinking LLVM?

that might be interesting.

Re: Archaeology attack: Rubik's Cube on the 41

*Message #10 Posted by **PeterP** on 25 May 2010, 11:03 a.m.,*
in response to message #9 by hugh steers

Hugh, do you mean to write a compiler from C to MCODE, preferably in MCODE?

Cheers

Peter

Re: Archaeology attack: Rubik's Cube on the 41

*Message #11 Posted by **hugh steers** on 25 May 2010, 12:01 p.m.,*
in response to message #10 by PeterP

it wouldnt need to be in mcode, only emit it. then you'd simply compile the compiler into mcode :-)

Re: Archaeology attack: Rubik's Cube on the 41

*Message #12 Posted by **PeterP** on 25 May 2010, 1:48 p.m.,*
in response to message #11 by hugh steers

I guess I'm confused. If it has to be for the 41 then we can only write it in focal or mcode (or, theoretically in forth...). So if the Compiler is supposed to take a c file as Input and produce mcode as output it could not compile itself. Or are you talking about an offline compiler that takes c code and converts it to mcode in which case the compiler would have to be written in c to be compilable to mcode to run on the 41. So what kind of compiler are u suggesting? Sorry to be slow...

Cheers

Peter

corrected spelling from iPhone in wrong language mode...

Edited: 25 May 2010, 2:35 p.m.

Re: Archaeology attack: Rubik's Cube on the 41

*Message #13 Posted by **hugh steers** on 25 May 2010, 3:33 p.m.,*
in response to message #12 by PeterP

i was thinking it would be interesting to have a way to generate mcode from C. if we had a compiler (eg on the PC) that took C and generated mcode then, if that compiler itself was written in C, it could compile itself into mcode. That would give a C->mcode compiler in mcode and therefore one that could (theoretically) run on the 41 itself.

I say theoretically, because in practice it would require significant processor power and memory to actually perform a compilation on the 41c. Nevertheless, it might work for expanded 41 emulators, modern systems based around the 41.

Personally, i'd be happy with a cross compiler running on the PC generating mcode. I wouldn't want to attempt to write a self-hostable C compiler. An interesting idea would be to write a mcode backend for the LLVM project, which is basically a compiler with interchangeable back end code generators and front end syntax. it would involve writing a translator for LLVM IR (intermediate representation) to mcode.

is there an mcode reference anywhere?

Re: Archaeology attack: Rubik's Cube on the 41

*Message #14 Posted by **PeterP** on 25 May 2010, 3:38 p.m.,*
in response to message #13 by hugh steers

gotcha, thanks for the explanation!

w/ reg to MCODE, best reference is Ken Emery's book 'An Introduction to MCODE' on the DVD's here and on TOS. A very succinct yet complete reference are the last pages of the HEPAX manual, VOl 2, also on the DVD or on TOS.

Will have to check out LLVM, never heard of it (also never written any C-code...)

Cheers

Peter

Re: Archaeology attack: Rubik's Cube on the 41

*Message #15 Posted by **Geir Isene** on 25 May 2010, 3:57 p.m.,*
in response to message #14 by PeterP

And then there is the SDK41 over at TOS - invaluable.

Re: Archaeology attack: Rubik's Cube on the 41

*Message #16 Posted by **hugh steers** on 25 May 2010, 5:38 p.m.,*
in response to message #15 by Geir Isene

thanks.

i've just read some of these. the problem is that mcode makes effective use of its weird addressing modes (ie referencing part of its own registers). none of the compiler kits or libraries are, in any way, able to cope with this idea. instead, they are geared up more for modern offerings with limited addressing modes but diverse instruction types.

it would be an interesting project to build a mode "helper" which was able to generate mcode routines for expressions and also a few flow control primitives. this would be a bit like a "mini language" on top of mcode that had a more structured feel and easier to write.

maybe it's already been done?

Re: Archaeology attack: Rubik's Cube on the 41

*Message #17 Posted by **Ángel Martin** on 26 May 2010, 2:02 a.m.,*
in response to message #16 by hugh steers

Interesting to see how a Rubik's cube thread can inspire such deep reflexions on C-compilers :)

I'm no expert but the intrinsic differences between C and a low-low-level language (such as 41C mcode) aren't easy to reconcile - perhaps not need for it either.

Cheers, 'AM

Re: Archaeology attack: Rubik's Cube on the 41

*Message #18 Posted by **Paul Dale** on 26 May 2010, 3:03 a.m.,*
in response to message #17 by Ángel Martin

Could the old gcc Saturn back end be modified to produce mcode??

- Pauli

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HP-21 Rides again

*Message #1 Posted by **Namir** on 24 May 2010, 11:46 a.m.*

I was having dinner with Pascal (a frequent contributor to this forum) in Interlaken, Switzerland last night (families included). When the time came to split the bill, we needed a calculator. His daughter was playing a game on my iPad. I borrowed it for a second, ran the HP-21 simulator, and gave it to Pascal. He smiled and did the calculations. Who said such machines are dead? Maybe just reincarnated!

Namir

Re: HP-21 Rides again

*Message #2 Posted by **Michael Meyer** on 24 May 2010, 12:14 p.m.,*
in response to message #1 by Namir

I used the one on my desk frequently, but, alas, it is now placed on the shelf. I recently upgraded to an HP-25.

Re: HP-21 Rides again

*Message #3 Posted by **Namir** on 24 May 2010, 3:44 p.m.,*
in response to message #2 by Michael Meyer

No luck running HP-21s and HP-25s using AA Alkaline batteries. They all end up frying some chip. So an HP-21 emulator for the iPad is splendid.

I also play with the Java-based HP-25 in this web site.

Namir

Re: HP-21 Rides again

*Message #4 Posted by **Michael Meyer** on 24 May 2010, 6:38 p.m.,*
in response to message #3 by Namir

Really- That's terrible. I've never had a problem with alkalines or lithium cells (though 2 of my 3 19C's wouldn't power on after sitting awhile with lithium cells).

Do you think the chips were already close to failure? What do they show now?

Re: HP-21 Rides again

*Message #5 Posted by **Namir** on 25 May 2010, 3:04 a.m.,*
in response to message #4 by Michael Meyer

Some HP-25 machines came showing signs of trouble and died. Some HP-25 came ok and then also died. The last HP-21 I got was working very well with alkaline batteries. I may have forgotten to turn it off one day and that's when trouble struck. I will not power up anymore.

I stopped buying HP-25s because of the trouble I had. I was more sure of the 21. Not anymore. Now I only have the iPad emulator.

Namir

Edited: 25 May 2010, 3:05 a.m.

Re: HP-21 Rides again

*Message #6 Posted by **Thomas Okken** on 26 May 2010, 5:55 a.m.,*
in response to message #5 by Namir

I use NiMH batteries in my HP-25 -- no trouble so far, although I should probably mention that I don't use it often, it spends most of its time in a drawer.
Still, I always wonder why people would put alkaline batteries in calculators that were designed for NiCd batteries that deliver a significantly lower voltage. Applying 3V to a device that was designed for 2.5V seems like asking for trouble.

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removing alluminium bezel (was restoring an HP11C)

*Message #1 Posted by **Alberto Fenini** on 24 May 2010, 6:54 a.m.*

ciao a tutti,
I had finally the chance to take few pics and upload them

The keyboard bezel has already been restored to my best effort,with a very thin brush and opaque black enamel
(I always forget to take picture before...)
The logo will be restored using the same technique, since I have tried with some silver markers but these are way too opaque, so I'll go for some chrmoe enamel.
However, I have tried to brush with some sandpaper the aluminuim bezel, with little improvement, which is why I'd like to remove it and brush it much better.
Has anyone done it ?
As always, thank you very much for help, take care and have a nice day,
Alberto

Re: removing alluminium bezel (was restoring an HP11C)

*Message #2 Posted by **Ron G.** on 24 May 2010, 1:37 p.m.,*
in response to message #1 by Alberto Fenini

I have removed a bezel using dental floss slipped under the edge, and worked carefully across the length of the bezel. You have to be careful with the grounding springs, but if you know where they are, you can avoid damaging them.

Re: removing alluminium bezel (was restoring an HP11C)

*Message #3 Posted by **Alberto Fenini** on 24 May 2010, 4:21 p.m.,*
in response to message #2 by Ron G.

Thank you very much for your message
You mean the two springs that can be removed unscrewing the backplate, right ?
I could remove them first, and then using the dental floss remove the bezel...
I'll give it a try, and let everybody know
thanks for help, Alberto

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Martin Gardner dies at age 95

*Message #1 Posted by **Don Shepherd** on 24 May 2010, 5:36 a.m.*

His obituary.

Another one of the great ones passes. He revealed the fascinating side of mathematics to generations of readers through his books, articles, and Scientific American columns. He will be missed. Who will take his place? The guy who writes the comic strip Foxtrot has a mathematical leaning, but I doubt that a worthy successor to Mr. Gardner is likely, unfortunately.

In honor of his passing, I propose an easy challenge for a programmable calculator. Identify the only number(s) such that the sum of the digits times the product of the digits equals the original number.

And, no, 95 is not one of them: (9+5) * (9*5) =/= 95.

Re: Martin Gardner dies at age 95

*Message #2 Posted by **Paul Dale** on 24 May 2010, 7:38 a.m.,*
in response to message #1 by Don Shepherd

0 and 1 both satisfy the conditions and I didn't even need a program.

Add the restriction that there be two or more digits in the number.

- Pauli

Edited: 24 May 2010, 7:48 a.m. after one or more responses were posted

Re: Martin Gardner dies at age 95

*Message #3 Posted by **Paul Dale** on 24 May 2010, 7:48 a.m.,*
in response to message #2 by Paul Dale

To avoid a gross answer, there should be an additional restriction of all the digits being different.

- Pauli

Re: Martin Gardner dies at age 95

*Message #4 Posted by **Don Shepherd** on 24 May 2010, 8:41 a.m.,*
in response to message #3 by Paul Dale

> Quote:
>
> To avoid a gross answer, there should be an additional restriction of all the digits being different.

:)

If you prefer, but eliminating gross answers may reduce the pool of correct answers by 50%!

Re: Martin Gardner dies at age 95

*Message #5 Posted by **Martin Pinckney** on 24 May 2010, 10:47 a.m.,*
in response to message #4 by Don Shepherd

Doesn't this restriction actually remove ALL correct answers but 2?

I can't write the program, but I do know the correct answers.

Does that count? [:-)

Edited: 24 May 2010, 10:57 a.m.

Re: Martin Gardner dies at age 95

*Message #6 Posted by **Don Shepherd** on 24 May 2010, 9:05 a.m.,*
in response to message #2 by Paul Dale

> Quote:
>
> Add the restriction that there be two or more digits in the number.

Agreed.

Re: Martin Gardner dies at age 95

*Message #7 Posted by **Don Shepherd** on 24 May 2010, 8:59 a.m.,*
in response to message #1 by Don Shepherd

Now, let me turn this into a REAL challenge. Implement this on the 17bii+ using the solver.

Re: Martin Gardner dies at age 95

*Message #8 Posted by **Martin Pinckney** on 24 May 2010, 7:37 p.m.,*
in response to message #1 by Don Shepherd

O.K., here's the numbers. Somebody write a program to find them.

1 digit: 0,1

2 digit: 22 [answer: 4]

3 digit: Any combination of 123, 321, etc. [answer: 6]

4 digit: Any combination of 4211 (must have two 1's) [answer: 8]

5 digit: Any combination of 52111 (must have three 1's) [answer: 10]

6 digit: Any combination of 621111 (must have four 1's) [answer: 12]

And so on.

Any other combinations work?

Re: Martin Gardner dies at age 95

*Message #9 Posted by **Don Shepherd** on 24 May 2010, 9:22 p.m.,*
in response to message #8 by Martin Pinckney

Martin, those numbers don't satisfy the criteria: sum of digits (n) * product of digits(n) = n. For example, sod(22) * pod(22) = 4 * 4 = 16, not 22.

The only numbers that work are 0 and 1 and 135 and 144. I've tried testing numbers up to several million and found no others.

Don

Re: Martin Gardner dies at age 95

*Message #10 Posted by **Martin Pinckney** on 25 May 2010, 2:28 p.m.,*
in response to message #9 by Don Shepherd

I guess I misunderstood the criteria. I understood sum of digits = product of digits.

Re: Martin Gardner dies at age 95

*Message #11 Posted by **Don Shepherd** on 25 May 2010, 5:35 p.m.,*
in response to message #10 by Martin Pinckney

Yes, I see. That's a different problem, of course.

I guess no one wants to try to do this on a 17bii using the solver. I was hoping to point out a way of exiting a loop early in the solver, which the manual says you cannot do.

But you can.

:)

Re: Martin Gardner dies at age 95

*Message #12 Posted by **Martin Pinckney** on 26 May 2010, 10:47 a.m.,*
in response to message #11 by Don Shepherd

Well, I don't have a 17bii or +, but I do have a 17b and a 27s, so I would like to know the trick you mentioned. Probably others would also, although I get the impression the most members here are more interested in traditional keystroke programming than the Solver.

Re: Martin Gardner dies at age 95

*Message #13 Posted by **Don Shepherd** on 26 May 2010, 1:07 p.m.,*
in response to message #12 by Martin Pinckney

Martin, I wrote this little article 3 years ago for HCC2007. It describes the trick.

Re: Martin Gardner dies at age 95

*Message #14 Posted by **Antonio Maschio (Italy)** on 26 May 2010, 4:38 a.m.,*
in response to message #1 by Don Shepherd

Well, it's a very sad day. Martin Gardner was very popular even here in Italy.

Ciao.

-- Antonio

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HP prototypes

*Message #1 Posted by **Keith Midson** on 23 May 2010, 11:12 p.m.*

Hi all, I have seen some "proto" units listed on that auction site recently. Two in particular have been stamped with "PROTO UNIT NOT FOR SALE" on the back.
Did HP ever do this? Is this someone having a bit of a joke, or did HP actually mark some of their prototype units with this type of identifying mark? I know the Xpanders had a sticker on the back "Non Commercial Prototype" (I have one). The etched "Proto Unit" markings look a little dodgy to me.
Cheers, Keith

Re: HP prototypes

*Message #2 Posted by **Paul Dale** on 24 May 2010, 2:48 a.m.,*
in response to message #1 by Keith Midson

I've got a box somewhere with some prototypes from a never realised ACO product. From memory, there isn't anything identifying on the devices. The box has HP as the sender I believe.

- Pauli

Re: HP prototypes

*Message #3 Posted by **Allen** on 24 May 2010, 6:29 p.m.,*
in response to message #1 by Keith Midson

Keith, I have seen a number of Pioneers Units directly from Corvallis Employees that were heat-marked "DONATION UNIT NOT FOR RESALE" but I do not recall ever seeing "PROTO" markings like you describe.

I have seen this

*Message #4 Posted by **Frank Boehm (Germany)** on 25 May 2010, 9:24 a.m.,*
in response to message #1 by Keith Midson

I think on a 95LX and a 48SX. This has been molten into the plastic.

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Help request for someone with a real HEPAX

*Message #1 Posted by **Eric Smith** on 23 May 2010, 10:13 p.m.*

I've recently been informed of a potential problem with HEPAX simulation, which occurs on simulators by multiple authors. Unfortunately I cannot find my HEPAX module at the moment to verify how it behaves. If anyone with a real HEPAX (not e.g. Diego's NoVRAM or NoV64) has a spare few minutes to try something for me, I'd be most appreciative. Just contact me by email.

Thanks! Eric

Re: Help request for someone with a real HEPAX

*Message #2 Posted by **JMBaillard** on 24 May 2010, 10:23 a.m.,*
in response to message #1 by Eric Smith

Hi Eric,

I do have an HEPAX module
so, if I can help...

Regards,
Jean-Marc.

Re: Help request for someone with a real HEPAX

*Message #3 Posted by **Eric Smith** on 25 May 2010, 2:50 a.m.,*
in response to message #2 by JMBaillard

Thanks Jean-Marc, but others here on the forum have now done the test I needed. The NoV-64 and HEPAX work as expected, but V41, Nonpareil, and i41cx+ have a bank-switching issue.

I've ordered a NoV-64, and once I get that I can collect logic analyzer traces for comparison to the simulators.

Re: Help request for someone with a real HEPAX

*Message #4 Posted by **Håkan Thörngren** on 25 May 2010, 3:47 a.m.,*
in response to message #3 by Eric Smith

I am curious on what the issue is?

Re: Help request for someone with a real HEPAX

*Message #5 Posted by **Meindert Kuipers** on 25 May 2010, 5:16 a.m.,*
in response to message #4 by Håkan Thörngren

I am interested as well to find out about this issue. I can do some tests with HEPAX in the

MLDL2000, and get accurate traces. This is not the real HEPAX however, but a copy in Flash ROM with its own bankswitching mecahnism.

Meindert

Re: Help request for someone with a real HEPAX

*Message #6 Posted by **Ángel Martin** on 25 May 2010, 8:37 a.m.,*
in response to message #5 by Meindert Kuipers

I'll leave Eric to elaborate as he sees appropriate but it's related to some instances where the operation fails to switch back to bank1.

I tested the real HEPAX, the NoVoRAM and the MLDL2k and all of them manage to work as expected.

I however remember being able to trip up the HEPAX itself but don't know the sequence anymore. - In fact, that's how I managed to look at bank3, taking advantage of a failed switch back. Surely involves calling XF or HEPAX...

Re: Help request for someone with a real HEPAX

*Message #7 Posted by **Diego Diaz** on 25 May 2010, 7:10 p.m.,*
in response to message #6 by Ángel Martin

Hi all,

There are a couple of things that makes bankswitching (BS) a not-so-easy feature to be implemented, neither physical nor emulated.

First is the fact that *every* BS module (or its emulated counterpart) *must* be able to interpret the ENBANK instructions, modify their internal memory addressing accordingly *and* keep track of it. This must be done independently inside every BS module.

Second, every non-BS module (including OS mainframe) *must* be accessible no matter which bank is active in the BS module where the "call" (JC/JNC) comes from.

The mess may come from any combination of these two sources:

Example 1: A BS module is running on bank n (n>1) then it jumps to an address in a non-BS page. If emulator does not have *all* non-BS pages visible from *all* banks you'll get a weird behaviour... (more likely a crash).

Example 2: Emulator includes ENBANK handling... (this is needed if it emulates CX) but just one bank pointer (instead of one for every BS module). Then it switches accordingly to the "last" ENBANK instruction, but it will switch "every" BS module... again a source for weird behaviour, since a BS module with 4 banks could be accidentally swiched back to bank n (say 2) when it is supposed to be in bank k (say 3).

To my mind the bug reported by Eric is about this second example. I faced this very same problem when developing the NoV-AdvH modules emulation, which handles two BS modules (HEPAX & Advantage) with the same code.

Software emulators will need one BANK pointer for OS (CX) + one for HEPAX + one for Advantage... IR... etc...

Don't know how MLDL handle BS but, since it's a physical device as NoV's, they don't need to care about the OS pointer (calculator itself handles it) that's why HEPAX works as expected on both. However, this is the reason why you cannot (yet) run Advantage into NoV-64: a second BS pointer is needed.

Rule of thumb:

BS modules: must have a dedicated BANK pointer for each BS page.

non-BS module: must be visible from every posible BANK (1-4)

I've also implemented a safety rule into NoV's: BANK is always set back to 1 just before STAND-BY.

Hope this helps.

Diego.

Edited: 25 May 2010, 7:39 p.m.

Re: Help request for someone with a real HEPAX

*Message #8 Posted by **Meindert Kuipers** on 26 May 2010, 1:46 p.m.,*
in response to message #7 by Diego Diaz

Thanks for this explanation Diego.

Most modules implement bankswitching in a pair of banks (one module port), and that is how the MLDL2000 does it, every pair of banks has its own register to remember the state. ANd I realize that this is a source of possible conflict, if 2 BS modules are used in the same (virtual) module slot.

The W&W RAMBOX (and also the 41CY) can switch pages in a different way, but I have forgotten how exactly.

It is important to return to bank 1 on STANDBY, I forgot this in the first MLDL implementations, and both HEPAX and Avantage ROMs will not work in that case.

Still it would be nice if Eric could explain the suspected bug in some detail ...

Meindert

Re: Help request for someone with a real HEPAX

*Message #9 Posted by **Diego Diaz** on 26 May 2010, 4:44 p.m.,*
in response to message #8 by Meindert Kuipers

Hi Meindert,

> Quote:
>
> The W&W RAMBOX (and also the 41CY) can switch pages in a different way, but I have forgotten how exactly.

For obvious reasons I have this information really "fresh" in my mind.

However, I don't think the term "Bankswitching" is fully appropriate. Although it also makes use of the same pseudo-instructions (H'100, H'140 & H'180) it's more a question of available OP codes than real Bankswitch. If I'm allowed to name it I'll choose "RAM swapping".

The process was first (and accurately) described by J-F Garnier in this thread.

Again, implementing this on emulated or physical devices is somehow cumbersome. IMHO this this one is a bit easier for the SW guys, than for the HW ones.

Best from Madrid.

Diego.

Re: Help request for someone with a real HEPAX

*Message #10 Posted by **Eric Smith** on 26 May 2010, 5:33 p.m.,*
in response to message #8 by Meindert Kuipers

Antonio Lagana tracked down the HEPAX issue to the Nonpareil code failing to select bank 1 when going into sleep states (either light or deep sleep). Neither he nor I ever noticed any issue with the Advantage ROM without that.

The specific symptom was that in PROGRAM mode, when entering the XP or HEPAX functions, bank 3 would remain selected. This results in the HEPAX functions not being available, and the bogus FAT of bank 3 showing in CATALOG 2.

I suspect, but have not verified, that doing this on an HP-41 with both a HEPAX and HP-IL Development module, and with flag 44 set (possibly by executing the "ON" function of the HP-IL Development module), would result in the same behavior.

Flag 44 prevents the 41 from going into deep sleep, but with the HP-IL Development module installed, it also will not go into light sleep.

Re: Help request for someone with a real HEPAX

*Message #11 Posted by **Håkan Thörngren** on 26 May 2010, 4:01 p.m.,*
in response to message #7 by Diego Diaz

Diego, thank you for the in depth explanation!

I had the bug in my not released emulator as well, I just corrected it.

It makes perfect sense, the ROM will just react to bank switch instructions when fetched from the same unit. Otherwise it would need to contain bus decode logic to spot bank switch instructions, which would complicate the design.

Re: Help request for someone with a real HEPAX

*Message #12 Posted by **Diego Diaz** on 26 May 2010, 4:50 p.m.,*
in response to message #11 by Håkan Thörngren

You're welcome Håkan.

I'm glad to know this info has been useful.

Look forward to seeing your emulation released.

Best.

Diego.

Re: Help request for someone with a real HEPAX

*Message #13 Posted by **Eric Smith** on 26 May 2010, 5:44 p.m.,*
in response to message #1 by Eric Smith

Much thanks to Ángel Martin, Diego Diaz, Peter Platzer, and Antonio Lagana for their assistance in tracking this down!

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Interesting analogue calculator on that other site

*Message #1 Posted by **Bart (UK)** on 23 May 2010, 4:45 p.m.*

Interesting analogue calculator

(deleted post)

*Message #2 Posted by **deleted** on 23 May 2010, 6:50 p.m.,*
in response to message #1 by Bart (UK)

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: Not any more! It's a-gone!.. [NT;will be removed]

*Message #3 Posted by **Bart (UK)** on 23 May 2010, 7:52 p.m.,*
in response to message #2 by deleted

Unfortunately I spotted it close to the end, but thought it would make an interesting "look at" before it's removed.

Re: Interesting analogue calculator on that other site

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 23 May 2010, 9:47 p.m.,*
in response to message #1 by Bart (UK)

HI;

The link still works, though!

I would like to see the electronic circuit. I thought about many current and voltage dividers, series and parallel arrangements and current and voltage sources, but I wonder how did the designers put these all together and made it work with the few components seen in the last picture. One question: could not identify what are those components in the bottom of the equipment (left side of the last picture): valve tubes? Electrolytic capacitors? Anything else?

"Fascinating!" (no quoting this time...)

Cheers.

Luiz (Brazil)

Re: Interesting analogue calculator on that other site

*Message #5 Posted by **Martin Pinckney** on 23 May 2010, 10:43 p.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

Seems to me (with very little electronics knowledge) that addition/subtraction are achieved by simply adding and subtracting resistances. Not sure how multiplication/division work, but something similar.

This simple construct would cause negative results to peg the needle to the left; hence the negative number switch, which would switch polarities.

The scale factor switch likewise has an obvious function, but the implied range of results is so limited, that one wonders why so much trouble for math problems that can be worked out on paper or mentally pretty easily.

Re: Interesting analogue calculator on that other site

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 23 May 2010, 10:58 p.m.,*
in response to message #5 by Martin Pinckney

Indeed!

But I took it into a different perspective.

Human neural network deals with numbers in such a relatively easy way. At least for most of us - humans in general- this is true. Building machines that implement such capability is another story. Since Babbage proposed the differential machine and others came with electromechanical and electronic implementations, we now deal computers in such a relatively easy way as well.

But only a few of humans actually know how to implement such capabilities in these machines.

I myself can follow some internal electronic structures from digital arithmetic IC´s, but I cannot build a complete electronic adding machine in my brain... not yet, at least. I know much of the pieces, I know how to connect some of them, but I need to go further prior to 'see' it all working as a whole. I am an Electrical Engineer, electronic knowledge has been a personal achievement.

I think that knowing how these small analogue calculators work may give some perspective...

Cheers.

Luiz (Brazil)

Edited: 23 May 2010, 11:01 p.m.

Re: Interesting analogue calculator on that other site

*Message #7 Posted by **Dave Shaffer (Arizona)** on 23 May 2010, 11:06 p.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

Look like the batteries (or maybe electrolytic caps)

Re: Interesting analogue calculator on that other site

*Message #8 Posted by **BobVA** on 23 May 2010, 11:06 p.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

> Quote:
>
> ...One question: could not identify what are those components in the bottom of the equipment (left side of the last picture): valve tubes? Electrolytic capacitors? Anything else?...

I'd vote for capacitors. They are wired in series with a red wire coming off the top and a green wire on the bottom. I was going to say some kind of odd-ball battery, but then I noticed the four 9v batteries directly to their right, so I wouldn't think there would be two kinds of batteries in it.

I'm guessing it was a student project of some kind (science fair, electronics class, etc.) based on the hand-made dial scale and some of the, err, "expedient" construction (e.g. soldering directly to the 9v batteries).

I remember using old analog computers in school to perform simulations that needed multiplication, division, integration and differentiation. Not sure why they were still in use; perhaps they were supposed to give us a better feel for the problems we were simulating on them (usually mechanical problems like the famous "damped mass on a spring" headache) than the digital simulations.

Cheers, Bob

Re: Interesting analogue calculator on that other site

*Message #9 Posted by **Vieira, Luiz C. (Brazil)** on 23 May 2010, 11:53 p.m.,*
in response to message #8 by BobVA

Hi;

I captured the picture with [PrintScreen] and turned it 'upside up' so I could see the actual boxes of the 9V batteries (shame on me... the top connectors looked like valve tubes' 'heads' to me...) and the other blue boxes with two connectors in their top. Somehow (the picture does not help that much...) they seem to be a 'complementary' set of four batteries, as if the power supply is +/- 36Vcc with a common (neutral) terminal. One of the poles would come from the set of small 9Vcc batteries while the other pole is provided by the four blue batteries. Chances are that the active circuitry (voltage/current sources?) are fed through the blue set.

I really would like to see the schematics...

Cheers.

Luiz (Brazil)

I wish I had one of those

*Message #10 Posted by **Frank Boehm (Germany)** on 25 May 2010, 10:42 a.m.,*
in response to message #1 by Bart (UK)

I have been fascinated by those "analogue computers" for so long. But didn't dare to buy one due to the "another item piling up"-fear.
I think I spotted at least three TO-cans (transistors). So by the components I would place it around mid to late 60s, when transistors became affordable. Earlier DIY-experiments would have used way cheaper valves.

Re: I wish I had one of those

*Message #11 Posted by **Vieira, Luiz C. (Brazil)** on 25 May 2010, 12:39 p.m.,*
in response to message #10 by Frank Boehm (Germany)

Hi, Frank;

have you also noticed the PCB´s layout? It´s been used a 'proto' type PCB, with pre-drilled holes in parallel cooper tracks, so I considered it could be an earlier experiment. Also, along with the TO-type transistors, it seems that some SOT-type units have been used (or else they are just small elect-caps). I also

noticed some CR25 resistors in some of the rotating switches.

There we go, acting as A. C. Doyle´s restless character...

Cheers.

Luiz (Brazil)

Re: Interesting analogue calculator on that other site

*Message #12 Posted by **Maximilian Hohmann** on 25 May 2010, 6:14 p.m.,*
in response to message #1 by Bart (UK)

Hello!

This must have been a project of an electronics magazine of the early seventies (maybe ETI (Electronics Today International), Elektuur/Elektor or Funkschau which were popular in Europe then?). I remember it from a classmate, whose father was a physicist by profession who loved to tinker with electronics in his free time. One day my classmate brought this "computer" to school, much to the amazement of our teacher! (By coincidence we will have our 30-year class reunion next weekend, but this "boy" is not on the list of attendees, so I can't ask...)

I think it uses opamps (you can see them in metal casings on the small curcuit boards) for multiplication and division, at least one set of batteries are needed for their symmetrical supply voltage of +/-15V.

Regards, Max

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Complex Matrix Determinant on the 15C

*Message #1 Posted by **Andrew H.** on 22 May 2010, 11:19 p.m.*

Comrades,

Does anyone know of a program for the 15C that calculates the determinant of a 3 × 3 matrix with complex elements?

Andrew

Re: Complex Matrix Determinant on the 15C

*Message #2 Posted by **Karl Schneider** on 23 May 2010, 1:36 a.m.,*
in response to message #1 by Andrew H.

> Quote:
>
> Comrades,
>
> Does anyone know of a program for the 15C that calculates the determinant of a 3 × 3 matrix with complex elements?
>
> Andrew

That's a good question. I'm sure you're aware that the HP-15C can calculate the inverse of a 3 x 3 complex-valued matrix *in place* using built-in utilities that transform such a matrix into a real-valued 6 x 6 matrix, along with the LU decomposition. It can also calculate the determinant of real-valued matrices up to 8 x 8, using the LU decomposition. However, the determinant of a complex-valued matrix is something different.

I've thought about it before. Although I have no such program, I believe that it might be feasible within the resource limitations of the HP-15C:

1. Store the complex matrix as a 3 x 6 real matrix in the standard "Complex" form, with alternating real and imaginary values.
2. Compute the complex-valued determinant of a 2 x 2 complex submatrix in rows 2 and 3, recalling each element using indices on the stack with the "RCL g" function (or conventionally), then assembling and multiplying the complex-valued elements when ready.
3. Multiply this determinant by its corresponding complex-valued element in row 1, and store to two registers.
4. Do the same for the other two submatrices (except the last sub-result need not be stored).
5. Combine the three sub-results.

You'll need 18 registers for the complex matrix, 5 registers for Complex mode, at least 4 registers to store two or more complex-valued sub-results, plus space for the program. The "Simpler" method may require 22-23 registers in total, as "RCL A (user mode)" is a two-byte instruction.

Example (if I've got it right) for steps 2 and 3:

```
METHODICAL:                    SIMPLER:
instruct.  req'd stk depth     instruct.  req'd stk depth
2                1             2                1
ENTER            2             STO 0            1
3                2             3                1
RCL g A          1             STO 1            1
2                2             RCL A (u)        1
ENTER            3             RCL A (u)        2
4                3             f I              1
RCL g A          2             3                2
f I              1             STO 0            2
3                2             R_down           1
ENTER            3             RCL A (u)        2
5                3             RCL A (u)        3
RCL g A          2             f I              2
3                3             *                1
ENTER            4             2                2
6                4             STO 0            2
RCL g A          3             CLx              2
f I              2             5                2
*                1             STO 1            2
STO 2            1             R_down           1
Re<>Im           1             RCL A (u)        2
STO 3            0             RCL A (u)        3
2                1             f I              2
ENTER            2             3                3
5                2             STO 1            3
RCL g A          1             R_down           2
2                2             RCL A (u)        3
ENTER            3             RCL A (u)        4
6                3             f I              3
RCL g A          2             *                2
f I              1             -                1
3                2             f MATRIX 1       1
ENTER            3             RCL A (u)        2
3                3             RCL A (u)        3
RCL g A          2             f I              2
3                3             *                1
ENTER            4             STO 2            1
4                4             Re<>Im           1
RCL g A          3             STO 3            0
f I              2
*                1
RCL 2            2
RCL 3            3
f I              2
x<>y             2
-                1
1                2
ENTER            3
RCL g A          2
1                3
ENTER            4
2                4
RCL g A          3
f I              2
*                1
STO 4            1
Re<>Im           1
STO 5            0
```

The HP-42S has full built-in functionality for complex matrices...

-- KS

Edited: 24 May 2010, 2:46 a.m. after one or more responses were posted

Re: Complex Matrix Determinant on the 15C

*Message #3 Posted by **Andrew H.** on 23 May 2010, 2:51 a.m.,*
in response to message #2 by Karl Schneider

Karl,

Ausgezeichnet! Thank you.

I thought that it might be possible to do this using the 15C's in-built matrix functions (other than matrix addition, subtraction, and multiplication) in just a few steps, but it seems that this isn't feasible.

Andrew

Edited: 23 May 2010, 2:55 a.m.

Re: Complex Matrix Determinant on the 15C

*Message #4 Posted by **Karl Schneider** on 23 May 2010, 5:47 p.m.,*
in response to message #3 by Andrew H.

Andrew --

This enticed me to investigate in more detail a few things I've wondered about.

As I had suspected, if a complex-valued matrix is singular (determinant of 0 + i0), the HP-15C will also compute a value of virtually zero for the real-valued transformation matrix ('Py,x' followed by MATRIX 2). As an example, for the following singular matrix

```
[ 1+i3  2+i4 ]
[ 2+i6  4+i8 ]
```

the HP-15C calculates -2.053600001E-18 as the determinant (more about this later), while the HP-42S computes exactly 0 + i0.

Thus, if you are simply wondering if a complex-valued matrix is invertible, the HP-15C can tell you that.

For the nonsingular matrix

```
[ 1+i5  2+i4 ]
[ 2+i6  4+i8 ]
```

the HP-42S calculates -16 + i8 (exactly) as the determinant, while the HP-15C calculates 319.9999999 as the determinant of the transformation matrix. Note that 320 is the *squared magnitude* of the complex-valued determinant. I doubt that this is coincidental.

It seems that the HP-15C can give you the magnitude of a complex-valued determinant. I'm open to suggestions how that piece of information, along with the computed inverse matrix, could be employed using linear algebra to obtain the actual determinant.

Now, why does the HP-15C seem unable to compute exact integer values for the determinants of integer-valued matrices?

ANSWER: The HP-15C does not calculate determinants directly. Instead, it first computes a 'unitized' LU decomposition of the matrix that can be stored in the same space. The determinant of that is simply the product of the main-diagonal elements of the U matrix (those of the L matrix are all unity), with a

sign change for an odd number of necessary row transpositions.

The LU decomposition is part of the process for matrix inversion (allows in-place inversion), and speeds up solution of linear equations.

So, why is LU decomposition performed unnecessarily for determinants, when direct computation is faster and more accurate? Couldn't LU be computed when inversion or linear solutions are subsequently requested?

ANSWER: This was probably a consequence of limited ROM space for the functionality to be implemented. Additional machine code -- similar to what I devised above, but more extensive -- would have been needed for direct computation of determinants. Instead, the existing LU-decomposition code was utilized. Having LU already computed also provides a 'head start' on subsequent inversion or linear-solution calculations.

However, the unintuitive LU decomposition as part of the HP-15C's determinant calculation is indeed a potential "gotcha" to the user. The user may be chagrined to see his calculation of a determinant -- merely a scalar-valued output -- overwrite a needed matrix with an LU matrix. Or, if insufficient free memory exists to store the LU decomposition to the RESULT matrix, the operation will fail with a cryptic message "Error 10". No additional space is needed if the identifier of the RESULT matrix is designated as that of the original matrix, which can be approximately recovered by twice inverting the LU matrix.

-- KS

Edited: 28 May 2010, 1:49 a.m. after one or more responses were posted

Re: Complex Matrix Determinant on the 15C

*Message #5 Posted by **Andrew H.** on 25 May 2010, 7:32 p.m.,*
in response to message #4 by Karl Schneider

Karl,

A bit of research has uncovered a formula that might be useful:

det(A) = [tr^3(A) – 3tr(A)tr(A^2) + 2tr(A^3)]/6

which is derived from Newton's identities (http://en.wikipedia.org/wiki/Determinant).

The real part of the trace of a 6 × 6 partitioned matrix is just a(1,1) + a(1,2) + a(1,3) and the imaginary part is just a(4,1) + a(4,2) + a(4,3).

I agree with your observation that the product of the diagonal elements of the LU decomposition is the square of the absolute value of the determinant. This suggests that it might be possible to calculate the determinant from the diagonal elements of the LU decomposition using Newton's identities. However, this is probably not viable on the 15C as there might be row permutations during the calculation of the LU decomposition.

Andrew

Re: Complex Matrix Determinant on the 15C

*Message #6 Posted by **Karl Schneider** on 26 May 2010, 1:24 a.m.,*
in response to message #5 by Andrew H.

Quote:

A bit of research has uncovered a formula that might be useful:

det(A) = [tr^3(A) – 3tr(A)tr(A^2) + 2tr(A^3)]/6

Andrew --

A novel approach, but there's not enough space on the HP-15C for it, using built-in functionality. A 3 x 3 complex-valued matrix **A** has 9 complex-valued elements to represent as 18 real-valued elements -- each requiring a free register, of which no more than 64 are available. To calculate **A^2**, the first **A** is doubled to 36 elements by MATRIX 2, while the second **A** still has 18. The product **A^2** must be stored separately, requiring 18 more. That's 72 registers, and we still need to store a program to extract the traces, perform the multiplications, and combine the results.

-- KS

Edited: 26 May 2010, 1:27 a.m.

Re: Complex Matrix Determinant on the 15C

*Message #7 Posted by **Andrew H.** on 26 May 2010, 11:35 p.m.,*
in response to message #6 by Karl Schneider

Karl,

The harsh impact of reality!

Andrew

Re: Complex Matrix Determinant on the 15C

*Message #8 Posted by **Palmer O. Hanson, Jr.** on 23 May 2010, 9:30 p.m.,*
in response to message #1 by Andrew H.

I have never had a 15C so I don't know its capabilities relative to the 33s and 35s so I don't know if this will help or not. I did write Third Order Complex Liinear Equation Solvers for those two machines which use Cramer's Rule so there are determinant solutions buried in both. You can find them as Articles 722 and 887.

Re: Complex Matrix Determinant on the 15C

*Message #9 Posted by **Andrew H.** on 25 May 2010, 7:35 p.m.,*
in response to message #8 by Palmer O. Hanson, Jr.

Palmer,

Thanks for sharing this.

Andrew

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More advertising for HP products

*Message #1 Posted by **Palmer O. Hanson, Jr.** on 21 May 2010, 9:12 p.m.*

In an earlier thread I reported that Page 34 of the May 17 issue of The New Yorker combines an advertisement for HP's "second-edition electronic clutch" with an advertisement for a coming Sex and the City movie. The advertisement is repeated on page 21 of the May 24 issue of The New Yorker. The advertisements mention the "... powerful HP Envy 15 and the touch-enabled HP TouchSmart tm2 ..." and direct readers to go to hp.com/hpcollection.

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Commodore PR 100

*Message #1 Posted by **Nigel Bamber** on 21 May 2010, 4:48 p.m.*

The references in another topic mentioning the Commodore SR7919 and Commodore PR100 - which were my first two calculators and it got my memory banks working.

I knew the PR100 inside out, one undocumented feature relates to the 9M function which would apply the same arithmetic function to each of it's ten memories - yes ten not nine memories, eg 15 M+ 9M would add 15 to each of the ten memories.

The PR100 also had an X <> M function. This would exchange the number on the screen or the X register with one of the ten memories chosen by the user.

The undocumented feature was that if you combined X <> M with the 9M function it would move the number on the screen (X register) into the contents of memory 0 , memory 0 into memory 1 , memory 1 into memory 2 etc until memory 8 moved into memory 9 and memory 9's contents were displayed onto the Screen.

Oh the memories .....

Nigel

Re: Commodore PR 100

*Message #2 Posted by **Thomas Radtke** on 22 May 2010, 4:21 p.m.,*
in response to message #1 by Nigel Bamber

Commodore had a range of amazing calculators, especially the button monsters or the x190 series, which offered a broad range of interesting functions. My 4190 is never out of reach at home, and I also like the PR100 very much. Still waiting for a good offer on a 9190 :-).

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9815A manual

*Message #1 Posted by **Joel Setton (France)** on 21 May 2010, 4:25 p.m.*

Folks,

I'm trying to reprint a 9815 Operating/programming manual that looks as good as possible. Unfortunately, the Museum scanned files are missing the covers, would anyone have scans of the front and back covers which would print nicely in color?

Thanks to all!

Joel Setton

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Go to Google

*Message #1 Posted by **BruceH** on 21 May 2010, 2:30 p.m.*

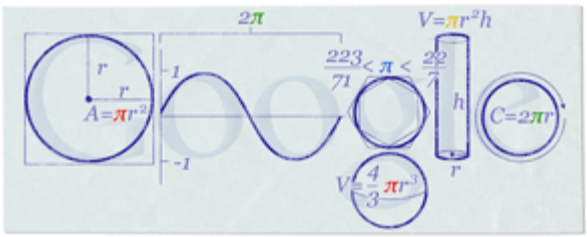
Their homepage that is.

Re: Go to Google

*Message #2 Posted by **Gerson W. Barbosa** on 21 May 2010, 5:01 p.m.,*
in response to message #1 by BruceH

Yes, I'd seen it this morning and played with it twice ('low' score: ~6000 :-)

I missed this (less funny and not playable) google doodle last 03/14:



Re: Go to Google

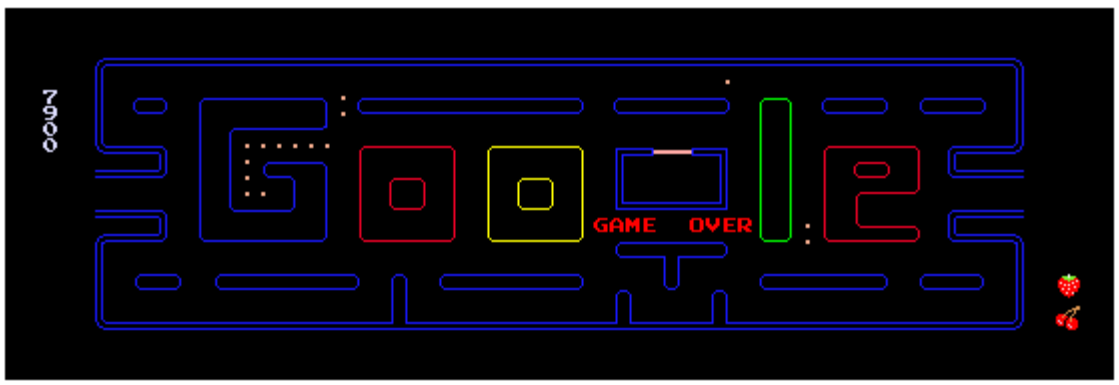
*Message #3 Posted by **bill platt** on 21 May 2010, 5:17 p.m.,*
in response to message #2 by Gerson W. Barbosa

I must be really out of practice. 1910.

Re: Go to Google

*Message #4 Posted by **Gerson W. Barbosa** on 21 May 2010, 8:35 p.m.,*
in response to message #3 by bill platt

So must I. No better than this after six or seven more game rounds:



Re: Go to Google

*Message #5 Posted by **Bart (UK)** on 22 May 2010, 7:05 a.m.,*
in response to message #1 by BruceH

Wow, talk about memories. That takes me back. Spent too much time & money on those machines in my youth :). 6000+ on the first go, 16820 on the second. After a few rounds:

Going to stop now, otherwise the day will be gone ...

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HP-41 2*X-MEM emulation for NoV-64 & Clonix-D

*Message #1 Posted by **Diego Diaz** on 21 May 2010, 6:09 a.m.*

Hi all,

Another emulation for the NoV-64 users. This one can also be of interest to the Clonix-D users.

The title says it all, this new code turns your NoV-64 or Clonix-D into a Double Extended Memory module.

Needless to say that non-volatile RAM contents inside the NoV-64 is preserved and the user will get every page back, as they were before programming the 2*X-MEM emulation, as soon as the NoV-64-H (HEPAX) emulation is reprogrammed.

As with the latest files I've build, this is also experimental. Since I'm away from home, and have only got one 41CX with me; I cannot guarantee that this emulation will work in the whole range of HP-41 speeds or hardware. It won't run on 2x speeded up 41's.

The XM-NoV64.HEX file can be dowloaded as usual from here.

Comments and questions are welcome.

Enjoy your toys! :-))

Diego.

Edited: 21 May 2010, 6:11 a.m.

Re: HP-41 2*X-MEM emulation for NoV-64 & Clonix-D

*Message #2 Posted by **PeterP** on 21 May 2010, 11:39 a.m.,*
in response to message #1 by Diego Diaz

Wow, now this is cool!

So, we can have a 41cx with hepax, say sandmath, sandbox and a page for mcoding, plus 2x xm in one NoV64? Does this emulation allow the full range of synthetic manipulation of the program counter to eg run programs in xm, direct memory access to change file types, names, etc?

That would be awesome!

Cheers

Peter

Re: HP-41 2*X-MEM emulation for NoV-64 & Clonix-D

*Message #3 Posted by **Diego Diaz** on 21 May 2010, 3:02 p.m.,*
in response to message #2 by PeterP

Hi Peter...

I hate to cool your mood down... :-(but... this is "just" a 2*X-MEM emulation. You can have all what you mention and even HP-41CY emulation... but (sorry) not simultaneously.

So, when programmed with the referred XM-NoV64.HEX file, your NoV-64 or Clonix-D will become a double Extended Memory module and therefore it won't keep HEPAX emulation. I'll will keep HEPAX RAM contents as stated above.

In fact, both fuctions are incompatible within NoV-64 (or any other microcontroller based arquitecture...) at current clock rates (12 MIPS)

The requirements for the module to handle the 5 intructions set that X-MEM modules respond to (just the same as any other 41 D/S RAM chip) are certainly very tight; at a given point, the "gap" for HP-41 clock sinchronization is <200nS (in theory)... ;-)

To this extent, I've not tested it using Synthetics but assuming that the M-code instructions issued by Synthetics commands must be the same; the emulation should work as expected.

I've just tested it with some elemental file creation and data recovery. CAT 4 shows 600 registers when plugged (X-MEM empty), and a modified version of "AM" & "MA" M-code routines from "Emery's" book.

The module also implements the "gaps" into X-MEM (thus the 600 reg total). I may try to "close these gaps" and see if the X-FUNCS recognize the 34 "extra" registers... I think M-code will be able to gain access to them, but maybe not if they're filtered within the 41's OS Mainframe. Will let you know in the next few days.

Nontheless, and as in the case of the 41CY (W&W RAMbox 64 II) emulation posted a few days ago, this is sort of a "toy" more than a tool. I have plenty of spare time here, and the "minimal resources" to mess around with my little projects; so the .HEX emulation files I'm publishing these days are the combined result of all these... and the "resident question": What if...?

Best from the Caribbean Sea.

Diego.

Edited: 21 May 2010, 3:03 p.m.

Re: HP-41 2*X-MEM emulation for NoV-64 & Clonix-D

*Message #4 Posted by **PeterP** on 21 May 2010, 3:31 p.m.,*
in response to message #3 by Diego Diaz

Diego,

Thanks for the clarification. 200ns, wow, that's tight indeed! You're amazing...

I would suggest not to 'plug' the gap as the OS from the CX uses functions like 'NXTB' (or something like it) to get to the next byte or next register in the X/M files and for that it checks where you are currently and then calculates the next absolute address incl of all gaps etc. So while it might be interesting to have these gaps plugged one literally would have to write seperate routines to access them as none of the normal X/F routines could access them. So I'm not sure it makes much sense.

As you are in toy&tinker mode: Given the immense power and utility of the NoV64 it is a bit of pearls

in front of swines to use it as an XM (despite the engineering feat of making it possible), especially as one can get 2 XM for quite reasonable sums and then double them up into one module to occupy still only one slot. Unless of course there is a way to have a cheap NoV-XM version built for a similar price as 2 X/M but with say 4 x 2x XM contents that can be switched/selected by use off a code word. That would be of interest to some users (especially as there are a couple of 'save HP-41 State to X/M' programs out there. So one could save a whole set of programs and data to X/M, switch to a new set in the NoV-XM and voila, has a new fresh set of XM available. Now that would offer some playground...

Cheers

Peter

Cheers

Peter

Re: HP-41 2*X-MEM emulation for NoV-64 & Clonix-D

*Message #5 Posted by **Diego Diaz** on 21 May 2010, 4:34 p.m.,*
in response to message #4 by PeterP

Hi,

Though "wasting" a full NoV-64 potential to have "just" 2*X-MEM is undoubtly like "killing flies with a gun"... some users may still not have X-MEM module(s), or haven't dare to take them apart to build a double module. This file offers the possiblity to fiddle with X-MEM at zero cost (assumming the user already have a NoV-64 or Clonix-D)

And a Clonix-D is about the same price as 2 X-MEM and offers quite a wider range of possibilities... without the risk of damaging them in the "doubling" process... :-)

Regarding the gaps, you're absolutely right. I was testing this a minute ago, and found that this addresses are in use by some display routines. If the gaps are allowed in X-MEM you get weird display (missing or changed characters)

On the Nx 2*X-MEM modules propossal, I'm affraid that no such thing is feasible with current hardware. Note that X-MEM is build-up using internal microcontroller RAM since non volatile RAM is serially accessed thru I2C interface at 1MHz clock rate. Scrunching a few numbers soon reveals that building a 7 bytes registers structure is not possible with such speed constrains.

Does a 'Save/Get HP-41 staus to/from HEPAX RAM' exists/be possible? I think of this as a more interesting one... :-)

Cheers from the "now heavily rainy" Dominican Republic.

Diego.

Re: HP-41 2*X-MEM emulation for NoV-64 & Clonix-D

*Message #6 Posted by **PeterP** on 21 May 2010, 4:55 p.m.,*
in response to message #5 by Diego Diaz

yes, save/get hp-41 status to QRAM (such as HEPAX-RAM) exists. I think for example the Profiset-OS has such a function.

Cheers

Peter

Re: HP-41 2*X-MEM emulation for NoV-64 & Clonix-D

*Message #7 Posted by **Geir Isene** on 21 May 2010, 6:07 p.m.,*
in response to message #6 by PeterP

HSAVEA/HGETA

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HP-34C Excitement

*Message #1 Posted by **Mark Henderson** on 20 May 2010, 8:03 p.m.*

I recently picked up an HP-34C from TAS, believed unworking. I wanted at least one Spice in my HP collection (I like the Classics the most, any LED HP next, then the HP-41C, and recently enjoying a bargain HP-50G). When I received the 34C it was in overall good condition, but with a lot of tape residue on back. Battery contacts and bay in very good condition. Keyboard EXCELLENT - I had read the 34C keyboards could be really good, this one is like the best Classics, no rattle. Some white wear marks (?) around power switch, but otherwise clean. I was VERY doubtful that it would work, but I popped in a couple of alkalines and a paper clip to connect the cells, and I nearly fell off my seat when it powered up and worked PERFECTLY!! I am overjoyed! Everything seems to work wonderfully, and I'm really liking this little machine - based on combination of features (LEDS!, Continuous Memory, lots of keyboard functions, compact) I think it might become one of my favorites! Who knew??!! I'm going to give it a good cleaning, a battery pack and put it to daily use!

Congrats! (was: HP-34C Excitement)

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 20 May 2010, 10:26 p.m.,*
in response to message #1 by Mark Henderson

Hi, Mark;

I got my HP34C some years ago, and I use it whenever I have the chance to. Today I bought a 'spare box', an HP34C that seems to be a good spare parts supplier. It cost me R$88 (about US$45,00 I guess) and it is not in good shape. Now I think I can keep the first one, in very good condition, for as long as I can.

Good machines, these HP34C´s.

Congratulations!

Luiz (Brazil)

Re: Congrats! (was: HP-34C Excitement)

*Message #3 Posted by **Bruce Bergman** on 20 May 2010, 11:12 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Yup, the 34c was one of the better models made. Always worked great for me, even up to today.

It is/was one of my favorite machines in that generation.

(I started with 25->25c->34c->19c...)

thanks,

bruce

Re: HP-34C Excitement

*Message #4 Posted by **Jeff Kearns** on 21 May 2010, 12:44 p.m.,*
in response to message #1 by Mark Henderson

Will you enjoy yours as much as Norm did his? KeR blIPPTY blippITY BLIP BLIP. I am envious!

Of my two Spices, the 32E and 33E, the 32E is my favourite and is a much more practical scientific/statistical analysis tool. The lack of continuous memory in the 33E makes it my least preferred calculator.

Norm's Memories of Cheerleaders

Jeff Kearns

Re: HP-34C Excitement

*Message #5 Posted by **Michael Meyer** on 21 May 2010, 1:52 p.m.,*
in response to message #4 by Jeff Kearns

As a scientist, I'm not convinced that using an HP-34C is better than sex, at least generally. But it is my opinion, with a reasonable degree of medical certainty (important legal phrasing), that people who experience the joy of using a 34C also experience greater pleasure in many other activities as well. This, of course, would be best confirmed with industry sponsored, prospective, randomized trials. Perhaps a grant proposal to HP might be in order, but now that the 34C is no longer marketed, they probably wouldn't be interested. Too bad... it would be a great advertising campaign.

"New study proves that using an HP-34C improves your sex life..."

Norm is a poet

*Message #6 Posted by **db (martinez, ca.)** on 21 May 2010, 10:59 p.m.,*
in response to message #5 by Michael Meyer

Mike;

Freud might have believed Norm was saying that a 34c is better than the expandable version of the HP-48. If so; what would he have believed he has just learned about you? Never mind. Freud would have used AOS. Now Jung; he would have been an RPL man.

Me; i like my 34c, it's red LEDs, and solve function - but it has no interface port. -db

Tunnel Effect

*Message #7 Posted by **Michael Meyer** on 22 May 2010, 12:29 a.m.,*
in response to message #6 by db (martinez, ca.)

Don't CMOS circuits operate gates using a "Tunnel Effect"? Freud would like that!

Re: HP-34C Excitement

*Message #8 Posted by **Mark Henderson** on 21 May 2010, 2:38 p.m.,*
in response to message #4 by Jeff Kearns

Ha! I'm not sure I'll enjoy it THAT much, but it's close! I've had a whole day with it now, and I do like it a lot. Wrote some simple programs, love the "A" and "B" keys!

Two questions for the experts:

1. The wear around the ON/OFF key shows WHITE, which is unlike any other HP calc I've cleaned up? Doesn't look like it will clean off, more like this is exposing light color underneath? Any ideas if this is fixable? It's the only wear showing, happily.

2. Once in a while (like 1/20) I get an "Error 9" when I do a STO-ENTER self test (the rest of the time I get all the -888888s). This will persist until I turn the calc off, when turn on it will pass self test again. Program and register contents don't seem to be affected? Any ideas?

Cheers, 34C lovers!

Re: HP-34C Excitement

*Message #9 Posted by **Michael Meyer** on 21 May 2010, 4:24 p.m.,*
in response to message #8 by Mark Henderson

I know that with the Woodstocks, trying to clean the plastic with alcohol can cause whitish areas. I've had great luck with "Armor-All" vinyl conditioner. Rub a cloth lightly saturated with the stuff on the whitish areas. It might take a bit of time, but it should fix it. Then use a dry cloth to remove most of the Armor-All and buff it up. You can apply this lightly to clean the entire calculator. It's been discussed here previously. I've never seen it do any harm, even years after the application. I use it to polish up every calculator I restore.

Re: HP-34C Excitement

*Message #10 Posted by **Vieira, Luiz C. (Brazil)** on 21 May 2010, 4:33 p.m.,*
in response to message #8 by Mark Henderson

Hi, Mark;

about the first question, I have an HP33E 'carcass' that has the white 'back' around the ON/OFF switch as well. I believe the keyboard faceplate is of some sort of white plastic (acetate?), it is not made of aluminum, as we see in other calculators.

The 'Error 9' tells me that your unit is one of the 'solderless' type, i.e., the IC´s are not soldered in a 'regular' PCB, instead they are 'sandwiched' pressed over a flexible PCB. Hence, some (or one) of the chips may be with a bad contact. Chances are that you may have a soldered unit with cold (broken) soldering, but I´d bet the first possibility.

I´m not an expert, and I actually love the HP calculators, but I still prefer a good female company, and, if all´s well, good s*x... 8^D

Cheers.

Luiz (Brazil)

Edited: 22 May 2010, 6:02 p.m.

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Where to find a printed copy of HP 48G AUR

*Message #1 Posted by **ferroburak** on 20 May 2010, 4:02 p.m.*

Hi, Is it possible to find a printed copy of HP 48G AUR? Thanks.

Re: Where to find a printed copy of HP 48G AUR

*Message #2 Posted by **Dave Britten** on 20 May 2010, 10:39 p.m.,*
in response to message #1 by ferroburak

I see them on ebay now and then, and they usually aren't very expensive. That's how I got mine.

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O.T. look into your computer

*Message #1 Posted by **designnut** on 20 May 2010, 2:38 p.m.*

I have a trial edition of EVEREST ultimate edition, it lets you look deep into your computer activity. If you click the left - sign next to minimize it allows you to put little thumbnails on your start bar. When they show up click them and select what you want shown. I see my CPU temp and my RAM usage, 26%of 2GB, you can really get some RAM use with a number of google earth views loaded. Sam

Re: O.T. look into your computer

*Message #2 Posted by **bill platt** on 20 May 2010, 2:52 p.m.,*
in response to message #1 by designnut

???

Re: O.T. look into your computer

*Message #3 Posted by **John B. Smitherman** on 20 May 2010, 3:14 p.m.,*
in response to message #1 by designnut

Does it use RPN or RPL? ;-)

Regards,

John

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HHC2010?

*Message #1 Posted by **Bill Zimmerly** on 20 May 2010, 1:32 p.m.*

I notice from this page (http://holyjoe.net/hhc2009/changes.htm) that last year's conference page went "live" on April 21st. Does anyone have news on this year's?

Sign me - anxious and excited. ;)

- Bill

Re: HHC2010?

*Message #2 Posted by **BobVA** on 20 May 2010, 5:54 p.m.,*
in response to message #1 by Bill Zimmerly

See Gene Wright's note in this thread:

HHC 2009: Guessing

Re: HHC2010?

*Message #3 Posted by **Gene Wright** on 20 May 2010, 6:00 p.m.,*
in response to message #2 by BobVA

Sorry, an infinite loop was set up.

Answers:

1) No confirmed location. Las Vegas is turning out to be more expensive that going to Fort Collins AND renting a car. Hotel rates AND conference room rental fees would mean more $$ spent compared to last year even if most everyone rents a car. Has the committee quite perplexed.

2) No agenda yet either.

Re: HHC2010?

*Message #4 Posted by **Bill Zimmerly** on 20 May 2010, 6:07 p.m.,*
in response to message #3 by Gene Wright

Thanks for the reply. If we can't get Vegas ... perhaps Chicago? :)

Re: HHC2010?

*Message #5 Posted by **Bill Zimmerly** on 20 May 2010, 6:08 p.m.,*
in response to message #4 by Bill Zimmerly

Of course, Fort Collins again would be great too.

Re: HHC2010?

*Message #6 Posted by **Katie Wasserman** on 20 May 2010, 11:55 p.m.,*
in response to message #4 by Bill Zimmerly

How about somewhere on the east coast for a change, maybe near Philadelphia, I think there are a number of HP fans in the area. It would make it easier for Europeans to get to as well.

-Katie

Re: HHC2010?

*Message #7 Posted by **Gene Wright** on 21 May 2010, 8:49 a.m.,*
in response to message #6 by Katie Wasserman

East coast would be nice.

However, a conference really takes someone local who can give a LOT of their time to pull it off. If we said "Atlanta!" we really can't do it unless someone IN Atlanta is willing to do legwork for months and give up a lot of the week of the conference to get it going.

Takes a lot more work than most people think.

AND, it takes more work if the conference is being held at a hotel. HP facilities remove a lot of headaches in addition to costs.

One of the largest attended conferences recently was held in San Jose. Why? Perhaps just the make up of the local population - high techies everywhere.

Might not be so here in Country Music TN. :-)

Re: HHC2010?

*Message #8 Posted by **Bill Zimmerly** on 21 May 2010, 12:47 p.m.,*
in response to message #7 by Gene Wright

Gene, I've never attempted to organize a conference before, but what other kind of "legwork for months" is required?

I called a few local Hotels (Festus, Missouri) and gave them the basic parameters: 20 to 50 people, mid-to-late October, 3 days, 2 nights, conference room to support from 20 to 50 people - and the prices ranged from $52.99 to $72.99 per room.

Beyond that, what other things is the local coordinator responsible for?

Re: HHC2010?

*Message #9 Posted by **Bruce Bergman** on 21 May 2010, 10:25 p.m.,*
in response to message #7 by Gene Wright

Gene, I think one of the other draws for San Jose is that it reasonably convenient for a LOT of people, the prices are low (it's not San Francisco), including flights and there is some "history" in that region. All of those help to make that a popular destination.

I would, by the way, easily welcome another San Jose meeting.

thanks,

Bruce

Re: HHC2010?

*Message #10 Posted by **BobVA** on 23 May 2010, 9:59 a.m.,*
in response to message #9 by Bruce Bergman

The Computer History Museum in SJ if fabulous. I see they got the loan extended on the Babbage Difference Engine, which is well worth a detour if anybody is in the area.

Re: HHC2010?

*Message #11 Posted by **PeterP** on 21 May 2010, 11:36 a.m.,*
in response to message #6 by Katie Wasserman

East coast would be nice, but it's hard to be cheap here... Still, would be nice...

Re: HHC2010?

*Message #12 Posted by **Martin Pinckney** on 21 May 2010, 10:33 p.m.,*
in response to message #11 by PeterP

> Quote:
>
> East coast would be nice, but it's hard to be cheap here... Still, would be nice...

Are you kidding? LOTS of cheap places... just not in the big metropolitan areas.

Re: HHC2010?

*Message #13 Posted by **Bruce Bergman** on 20 May 2010, 11:13 p.m.,*
in response to message #3 by Gene Wright

San Diego.

I personally guarantee it's cheaper. ;-)

Re: HHC2010?

*Message #14 Posted by **Richard J. Nelson** on 21 May 2010, 2:21 p.m.,*
in response to message #13 by Bruce Bergman

Conference Considerations 1. Hotel close to Airport - no rental car. 2. Meeting Room close to (in) hotel - saves time 3. Room nights at hotel (guaranteed)can save Meeting room costs 4. Meeting room (good size) Saturday 7:30am-10:00pm,Sunday 8:30 am - 6:00 pm. 5. Meals reasonable and very close (saves time) 3 & 5 may work together to make a package deal towards Meeting room costs. 6. We have HP's limited support and using their facilities saves about the $1,500 -$2,000 Meeting room cost. Anyone who wants to get quotes at a hotel near an International airport could help. I hope to check out Vegas next week for first hand details, but that is a two+ day trip which must be done M-F.

We hope to have a decision ASAP.

X < > Y, Richard

Re: HHC2010?

*Message #15 Posted by **Bill Zimmerly** on 21 May 2010, 4:43 p.m.,*
in response to message #14 by Richard J. Nelson

Thanks Richard - that helps to explain what goes into it.

Re: HHC2010?

*Message #16 Posted by **Jake Schwartz** on 21 May 2010, 8:02 p.m.,*
in response to message #15 by Bill Zimmerly

> Quote:
>
> Thanks Richard - that helps to explain what goes into it.

How about the nitty gritty details for the meeting room, like seating arrangements so everyone has table space, adequate electricity to plug things in, computer projector and screen, blackboards/whiteboards or easels with markers, tables, tables and more tables, possibly making and putting up signs, making sure the group has the rooms at least until midnight each day, getting security to guarantee that nothing "walks away" while the group leaves for the night in between the two conference days, having some sort of public-address system, podium, etc. If there isn't adequate restaurant facilities nearby, you might have to figure out how to get people to places to eat lunch. If something had to be printed at the last minute, you might need to locate a printing facility nearby. If somebody needed a last-minute piece of equipment (cable, USB stick, whatever), you might want to know the location the nearest Best Buy, Staples or Fry's or whatever. It is amazing what can come up when you least expect it.

Jake

Re: HHC2010?

*Message #17 Posted by **Allen** on 21 May 2010, 8:18 p.m.,*
in response to message #16 by Jake Schwartz

> Quote:
>
> ...you might want to know the location the nearest Best Buy, Staples or Fry's or whatever....

right :) where you can buy anything on the market EXCEPT an HP calculator.

Re: HHC2010?

*Message #18 Posted by **Bruce Bergman** on 21 May 2010, 10:16 p.m.,*
in response to message #16 by Jake Schwartz

All great info. I will check around at a couple of places here in San Diego that I've worked with before. I'll see what I can come up with and get back to you guys.

thanks!

bruce

Re: HHC2010?

*Message #19 Posted by **Bill Zimmerly** on 22 May 2010, 4:18 a.m.,*
in response to message #16 by Jake Schwartz

Thanks Jake! - By the way, I *love* the DVDs! ;)

Re: HHC2010?

*Message #20 Posted by **Namir** on 22 May 2010, 9:51 a.m.,*
in response to message #14 by Richard J. Nelson

Hmmmm.... maybe I will look into doing HHC2011 in Richmond, Virginia. I'll check hotels near the airport. There is a new shopping center with many eateries and many other chain stores that opened last year near the airport.

Namir

Re: HHC2010?

*Message #21 Posted by **BobVA** on 23 May 2010, 9:52 a.m.,*
in response to message #1 by Bill Zimmerly

In case it's of any use, some Vegas observations from my experience...

- Broad selection of hotel/conference facilities within walking distance of each other. That would allow people to select hotel rates according to their taste, assuming the conference facilities weren't bundled with a minimum room commitment.

- Lots of other things to do without needing a car, so a less-HP-interested SO might come along.

- Cost of the airfare could amortized (ok, rationalized!) over both HHC and a small vacation.

- No shortage of airline connections (including some direct flights from Asia and England)

- Equally inconvenient for almost everybody :-)

Bob

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changing the language in an HP18C

*Message #1 Posted by **Alberto Fenini** on 20 May 2010, 12:58 p.m.*

Dear All,
to my surprise (it's the first I ever have) I have discovered that
not only the documentation could be localized
but the calculator itself ...
In other words, I have received today an HP18C from a German guy,
the manual is in german (that I knew) but also the menus on the calc are in german ...
Is there any way to have them in english ????

thx for help, Alberto

Re: changing the language in an HP18C

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 20 May 2010, 1:39 p.m.,*
in response to message #1 by Alberto Fenini

Hi;

the HP19B (and the 17BII+ and newer HP17BII units) allows changing the language through the [MODES] menu, [INTL] softmenu. I am not sure about the HP18C, but it´s worth trying...

Hope this helps.

Cheers.

Re: changing the language in an HP18C

*Message #3 Posted by **Alberto Fenini** on 20 May 2010, 2:03 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

ciao Luiz,
thank you very much for your reply, how do I access the "mode " menu ? I only see keys for the financial, caluclator, sum, time, solve and math menu ...

I can't believe the language setting is hardcoded in the machine .....

take care Alberto

Re: changing the language in an HP18C

*Message #4 Posted by **Etienne Victoria** on 20 May 2010, 2:20 p.m.,*
in response to message #3 by Alberto Fenini

Hello Alberto,

The language is hardcoded in the HP-18C.

Sorry.

Etienne

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HP related with still a bit on-topic

*Message #1 Posted by **Frank Boehm (Germany)** on 20 May 2010, 11:14 a.m.*

http://edition.cnn.com/2010/TECH/05/19/plastic.military.watch.hp/index.html
I certainly want one. (minus the military stuff)

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restoring an HP11C

*Message #1 Posted by **Alberto Fenini** on 20 May 2010, 6:20 a.m.*

ciao a tutti,

I'm in the process of restoring an HP11C just received.
The general conditions are fair, I'll post some pics later today.

However, the keyboard layout need some work, as some of the black background between the keys is ruined.

I was thinking to remove the keyboard faceplate, rather then opening the unit.

I have inserted a thin knife and it looks to me that is not much different from removing a classic back label.

Now to the most experts people the question is : Has everyone ever done it before ?
Do you have any idea of which kind of glue is keeping the faceplate attached to the unit ?

Thanks for help, and take care, Alberto

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HP 41 Family Service Manuals

*Message #1 Posted by **Gerry Schultz** on 19 May 2010, 3:49 p.m.*

I was just on that unmentionable website reviewing HP Calculator items and I ran into someone in Germany selling CD disks with scans of an HP-41 Service Manual, HP82161A Cassette Drive Service Manual and an HP82162A Printer Service Manual. I reviewed my copy of the HP Museum DVDs, version 7, and could not find them on my disks.

Am I missing something or are these documents missing from the DVDs? I'm thinking that these documents are important to this site and if they're not available any other way, should I purchase and donate the scans to be included in the next issue of the HP Museum's DVDs?

Gerry

Correction: I did find the 41C CV CX Service Manual and the 41C Service Manual on the DVDs (I must be blind!) but not the cassette deck or printer service manuals.

Edited: 19 May 2010, 5:46 p.m.

Re: HP 41 Family Service Manuals

*Message #2 Posted by **DavidShenk** on 20 May 2010, 1:09 a.m.,*
in response to message #1 by Gerry Schultz

The Cassette Drive service manual can be found here.

Dave

I'm not the seller

*Message #3 Posted by **Frank Boehm (Germany)** on 20 May 2010, 9:33 a.m.,*
in response to message #1 by Gerry Schultz

so I couldn't care less - but donating the scans might be a legal grey area. I'm pretty certain that the seller has no rights whatsoever on the HP manuals, so he is very likely breaking copyright laws when commercially offering the scans. This doesn't make the copy of the copy legal... Best way would be to find an original manual and donate the scan (to my knowlegde, HP tolerates the scans on the museum DVDs). Just my 2 cents.

Re: HP 41 Family Service Manuals

*Message #4 Posted by **PeterP** on 20 May 2010, 9:57 a.m.,*
in response to message #1 by Gerry Schultz

don't. I got them and we can figure it out with Dave.

Re: HP 41 Family Service Manuals

*Message #5 Posted by **Gerry Schultz** on 20 May 2010, 2:10 p.m.,*
in response to message #4 by PeterP

Great. Thanks for all the responses.

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HHC 2009: Guessing

*Message #1 Posted by **Etienne Victoria** on 19 May 2010, 3:48 p.m.*

Hi all,

Browsing the HHC 2009 attendees list, I was looking at the presentation topics.

Wild guess just for fun: Cyrille would present a woodwork model of the next Hp RPL calculator as shown by the title "Return to RPL".

Just a wild guess of course, I have no information from or link to HP.

Let us know your thoughts :-)

Etienne

Re: HHC 2009: Guessing

*Message #2 Posted by **Tim Wessman** on 19 May 2010, 10:16 p.m.,*
in response to message #1 by Etienne Victoria

Basically, they asked me what cyrille was talking about, and he didn't quite know for certain, so I just said "woodworking 101" so there would be something. . .

Sorry to disappoint. ;-)

TW

Re: HHC 2009: Guessing

*Message #3 Posted by **Etienne Victoria** on 20 May 2010, 2:49 a.m.,*
in response to message #2 by Tim Wessman

Thanks Tim,

But how about 142164808C ??

To me, this is a clear return to RPL :-)

Best

Etienne

Re: HHC 2009: Guessing

*Message #4 Posted by **PeterP** on 20 May 2010, 2:10 p.m.,*
in response to message #1 by Etienne Victoria

Do we have a confirmed locatn and Agenda already? Where does one sign up?

Cheers

Peter

Re: HHC 2010: Guessing

*Message #5 Posted by **Gene Wright** on 20 May 2010, 4:04 p.m.,*
in response to message #4 by PeterP

See my answer here:

Link

Edited: 20 May 2010, 5:58 p.m.

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Early calculators that could do x! for x > 69 ?

*Message #1 Posted by **Gene Wright** on 19 May 2010, 1:51 p.m.*

Always remembered 69 as the highest integer for which one could compute x! on machines with a two digit exponent.

However, I recently came across a calculator from 1976 that would compute the value for x > 69 up to a higher value.

Before I reveal that particular machine :-) does anyone else know the "first" machine that could do this?

What early (meaning red LED displays) could give a usable / correct result for 70 ! ?

Re: Early calculators that could do x! for x > 69 ?

*Message #2 Posted by **Thomas Radtke** on 19 May 2010, 1:59 p.m.,*
in response to message #1 by Gene Wright

The C= PR100 can (sort of) do that. It shows 1.2 * 10^00 and an overflow indicator.

Re: Early calculators that could do x! for x > 69 ?

*Message #3 Posted by **Gene Wright** on 19 May 2010, 2:08 p.m.,*
in response to message #2 by Thomas Radtke

So if you put in 90 and then computed the factorial, what would you see?

Could you get the actual result with a "mental" adjustment?

Re: Early calculators that could do x! for x > 69 ?

*Message #4 Posted by **Thomas Radtke** on 19 May 2010, 2:17 p.m.,*
in response to message #3 by Gene Wright

It shows 1.49 * 10^38.

Well, I certainly cannot adjust that mentally. Others likely can ;-).

Re: Early calculators that could do x! for x > 69 ?

*Message #5 Posted by **Gene Wright** on 19 May 2010, 2:32 p.m.,*
in response to message #4 by Thomas Radtke

Ah, ok, that's what I was hoping to find.

Some early machines did the calculation but since they could not show 3 digits of an exponent, they showed the mantissa and the last 2 digits of the exponent.

The Corvus 500 can do up to 120 ! and shows the result in a flashing display to indicate you have to add a 1 to the displayed exponent.

Seems like this one did it too.

So, which model was first to do this feat?

Re: Early calculators that could do x! for x > 69 ?

*Message #6 Posted by **Gerson W. Barbosa** on 19 May 2010, 4:06 p.m.,*
in response to message #5 by Gene Wright

Privileg SR54NC (1975)?

Well, according to this ad, the answer should be Corvus 500. Quoting from the ad:

"**FOR THE FIRST TIME** you can raise the number 10 to 199th power or calculate Factorial (x!) of up to 120. Unbelievable!"

Edited: 19 May 2010, 4:42 p.m.

Re: Early calculators that could do x! for x > 69 ?

*Message #7 Posted by **Michael de Estrada** on 19 May 2010, 5:24 p.m.,*
in response to message #6 by Gerson W. Barbosa

I just checked this on my Corvus 500, and indeed it works. I read through the manual, and while it makes no mention of the range for x!, it does state that the exponent range is +199 through -200. Once you get the flashing display, you must press CLx before proceeding with further operations, and remember the implicit "1" in front of the 2-digit exponent. Since this is not stored internally, many operations will yield incorrect answers. For example 120! = 6.69^198 will yield 6.69^98, and taking the SQRT will then yield 2.59^49, which is incorrect.

Re: Early calculators that could do x! for x > 69 ?

*Message #8 Posted by **Katie Wasserman** on 19 May 2010, 11:53 p.m.,*
in response to message #5 by Gene Wright

The Omron 12SR and the APF Mark 90 do this too.

The Bowmar MX-140 doesn't have factorial but it does allow exponential overflow.

-Katie

Re: Early calculators that could do x! for x > 69 ?

*Message #9 Posted by **Andrés C. Rodríguez (Argentina)** on 20 May 2010, 7:21 a.m.,*
in response to message #8 by Katie Wasserman

The Texas Instruments SR-10 and SR-11 managed exponential overflow . The SR-11 had a "K" switch, for constant multiply and division. It was possible to use it as an event counter: Set 10 as the constant, hit the " X " key for constant multiply, and then press the "Equal" key once for each event to be counted; the exponent field will show the count and will work well after 99 (of course, it's up to you to tell, say, 129 from 229).

I remember myself using it for events in the range of 160 per minute without any problem. That was before I got my HP-25...

The SR-10 and SR-11 only had square root, inverse (1/x) and EE (enter exponent) as "slide rule" functions, they were not really scientific models as the HP-35/45 or the TI SR-50 of the time.

Re: Early calculators that could do x! for x > 69 ?

*Message #10 Posted by **Michael de Estrada** on 20 May 2010, 9:52 a.m.,*
in response to message #8 by Katie Wasserman

Katie,

Did you mean the APF Mark 55? It uses the same Mostek ROM as the Omron 12SR and Corvus 500. I suspect that the Privileg SR54, Sanyo CZ2901 and GE CE93 will do x! for x>69 as well.

Michael

Re: Early calculators that could do x! for x > 69 ?

*Message #11 Posted by **Katie Wasserman** on 20 May 2010, 11:16 a.m.,*
in response to message #10 by Michael de Estrada

> Quote:
>
> Did you mean the APF Mark 55?

No, the Mark 90. It's nearly identical to the Commodore PR100.

Re: Early calculators that could do x! for x > 69 ?

*Message #12 Posted by **Bart (UK)** on 20 May 2010, 4:58 p.m.,*
in response to message #8 by Katie Wasserman

Commodore SR7919 also does not have factorial, but allows overflow of exponent too.

Re: Early calculators that could do x! for x > 69 ?

*Message #13 Posted by **Bart (UK)** on 26 May 2010, 5:34 p.m.,*
in response to message #12 by Bart (UK)

OK, so this got me thinking, how to do a factorial using this "feature" on the SR7919. Just doing simple 1*2*3... doesn't help much of course and only gets to 70 and is error-prone (I think human error increases as the tediousness of repetition increases).

So, in my search, Wikipedea was my friend and on their factorial page I found the following approximation by Srinivasa Ramanujan:

LN(n!) = n*LN(n) - n + (LN(n(1+4n(1+2n))))/6 + (LN(pi))/2

So all I have to do is calculate the right hand side (let's call it RHS) , and do e^x, except that the SR7919 doesn't do exponent overflow for the e^x function. The most complex function it does so for is x^2. Now I can see those cogs in your minds already at work

and before you have finished reading this sentence, worked out that SQR(n!)=e^(RHS/2)
then do x^2 and -voila!- I have n! up to n=120. Some results:

n	SR7919	HP-20S
70	1.1978 E00	1.1978572 E100
99	9.3327 E55	9.3326215 E155
120	6.6894 E98	6.6895029 E198

These are just a few sample points and accuracy may differ more at other points.

My next "challenge" - to find the least number of keystrokes to do this :).

(And why a 20S for comparing? It happened to be laying on the table and is capable of E499)

Edit: I used the 20S built-in n! function, whose accuracy I don't know either. It only accepts integers, so is not a Gamma aprroximation though.

Edited: 26 May 2010, 5:57 p.m.

Re: Early calculators that could do x! for x > 69 ?

*Message #14 Posted by **BruceH** on 19 May 2010, 9:28 p.m.,*
in response to message #1 by Gene Wright

Ah, that brings back memories. When I first got my HP-28C, I showed it to a work colleague and the first thing he did was type in 69! and time it against his Casio. It was satisfyingly faster and he was duly impressed.

Then I showed him the symbolic arithmetic. :-)

Re: Early calculators that could do x! for x > 69 ?

*Message #15 Posted by **Dimitri Simitas** on 19 May 2010, 10:36 p.m.,*
in response to message #1 by Gene Wright

Well, the HP-35S can do 253, no more.

Not sure how to get the HP-41 to do it if it can.

Dimitri

Re: Early calculators that could do x! for x > 69 ?

*Message #16 Posted by **Martin Pinckney** on 20 May 2010, 9:43 a.m.,*
in response to message #15 by Dimitri Simitas

> Quote:
>
> Well, the HP-35S can do 253, no more.

Same for 27s, 32sii. Interestingly, the 27s gives the answer almost instantly, the 32sii shows a 'calculating' message for about 2 seconds. Probably due to RAM differences?

Re: Early calculators that could do x! for x > 69 ?

*Message #17 Posted by **Bart (UK)** on 20 May 2010, 4:59 p.m.,*
in response to message #16 by Martin Pinckney

And 20S with about 2s "running" message.

Re: Early calculators that could do x! for x > 69 ?

*Message #18 Posted by **Gerson W. Barbosa** on 20 May 2010, 5:15 p.m.,*
in response to message #16 by Martin Pinckney

> Quote:
>
> Probably due to RAM differences?

Most likely the 27S uses the function approximation even for integers, instead of doing hundreds of multiplications. Try both 253! and 253.000000001! on the 32SII and see which is faster.

Re: Early calculators that could do x! for x > 69 ?

*Message #19 Posted by **Martin Pinckney** on 20 May 2010, 6:25 p.m.,*
in response to message #18 by Gerson W. Barbosa

> Quote:
>
> Try both 253! and 253.000000001! on the 32SII and see which is faster.

The latter is much faster on the 32sii. Almost instantaneous.

The 27s gives "non integer" error, which, I dare say, is the correct answer.

[edited to correct spelling]

Edited: 20 May 2010, 8:08 p.m. after one or more responses were posted

Re: Early calculators that could do x! for x > 69 ?

*Message #20 Posted by **Gerson W. Barbosa** on 20 May 2010, 6:40 p.m.,*
in response to message #19 by Martin Pinckney

> Quote:
>
> The 27s gives "non integer" error, which, I dare say, is the correct answer.

This means the 27s has no gamma function. Therefore my guess about its factorial function being faster was wrong. Perhaps someone else can give us a valid explanation.

Re: Early calculators that could do x! for x > 69 ?

*Message #21 Posted by **Gene Wright** on 20 May 2010, 5:59 p.m.,*
in response to message #15 by Dimitri Simitas

Ah, but the 35s, 20s, etc are not "early" calculators with red LED displays.

:-)

Re: Early calculators that could do x! for x > 69 ?

*Message #22 Posted by **Dimitri Simitas** on 20 May 2010, 6:23 p.m.,*
in response to message #21 by Gene Wright

I know but I never used a "!" function on a calculator before so I turned to my HP41 and 35S to see if they had it. So thought I'd post it.

Dimitri

Re: Early calculators that could do x! for x > 69 ?

*Message #23 Posted by **Raymund Heuvel** on 21 May 2010, 2:19 p.m.,*
in response to message #15 by Dimitri Simitas

HP71B in about 0.0377 seconds.

BR
Ray

Re: Early calculators that could do x! for x > 69 ?

*Message #24 Posted by **Frido Bohn** on 20 May 2010, 3:10 a.m.,*
in response to message #1 by Gene Wright

Well, I would say every calculator can do as long as it has the ability to handle logarithms.

Instead of multiplying the integer, do a sum over the logarithms of the integers - et voilá, you should be able to generate a (logarithmic) result of say 9.999999999^99. Raise this to the power of 10, so you get the integer 10^(9.999999999^99) as the result.
Now the question: the result of which factorial is that?
And which - of course handheld - calculator is able to give the output?

And don't tell me that's cheating. That's applied mathematics ;-)
Cheers

P.S.: To see what I suggest, try this little FOCAL app:
Simply put the number to be factorized in the x-register and start the program.
As an example, for 100 the output will be a count-down first and 9.3326E157 which corresponds to 9.3326 10^157.

```
01 LBL "LOGFACT"
02 0
03 X<>Y
04 LBL 01
05 LOG
06 ST+ Y
07 RDN
08 LASTX
09 VIEW X
10 DSE X
11 GTO 01
12 RDN
13 INT
14 LASTX
15 FRC
16 10^X
17 CLA
18 ARCL X
```

```
19 >"E"
20 FIX 00
21 CF 29
22 ARCL Y
23 AVIEW
24 SF 29
25 FIX 04
26 END
```

Note: at Line 19 >"E" shall denote the alpha-append sign (ASN in ALPHA-mode) followed by E (without quotation marks).

Edited: 20 May 2010, 9:47 a.m.

Re: Early calculators that could do x! for x > 69 ?

*Message #25 Posted by **Gerson W. Barbosa** on 20 May 2010, 5:02 p.m.,*
in response to message #24 by Frido Bohn

> Quote:
>
> As an example, for 100 the output will be a count-down first and 9.3326E157 which corresponds to 9.3326 10^157.

Which is correct, of course!

If we are curious about all other digits and want the HP-41 to compute them, we can use R. Farrando's program and get

```
                    FACTORIAL OF 100


                      0093326215
                      4439441526
                      8169923885
                      6266700490
                      7159682643
                      8162146859
                      2963895217
                      5999932299
                      1560894146
                      3976156518
                      2862536979
                      2082722375
                      8251185210
                      9168640000
                      0000000000
                      0000000000
```

This should take several minutes on the HP-41 (It took about 7 minutes on the HP-42S). See last message in the thread below.

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=108035

Regards,

Gerson.

Edited: 20 May 2010, 5:22 p.m.

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Early calculators that could do x! for x > 69 ?

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Thanks, again!

*Message #1 Posted by **J Grim** on 18 May 2010, 8:28 p.m.*

I just wanted to post a public thank you to Michael Meyer for reviving my 25C. This is the second one he has fixed for me. The first was a 25 (no C). Both units were non-functional when I bought them and so far Michael is 2 for 2 in breathing new life into them. Both of them were apparently suffering from corrosion to one degree or another. The 25 was in better shape than the 25C. He and I have emailed each other back and forth throughout the process and I will post his comments on the 25C here if he gives me permission. Thanks again, Michael.

J Grim

Re: Thanks, again!

*Message #2 Posted by **Michael Meyer** on 19 May 2010, 12:23 a.m.,*
in response to message #1 by J Grim

Sure...it's O.K. to post. Many people in this community have helped me over the last ten years, and I'm just paying it forward.

Happy Programming, Michael

Re: Thanks, again!

*Message #3 Posted by **J Grim** on 19 May 2010, 12:46 a.m.,*
in response to message #2 by Michael Meyer

Here is the part of the email Michael sent to me telling me the good news that my 25C lived:

"Well, I have an interesting story for you. There was a good deal of corrosion on the 25C's circuit board, even some on the keyboard traces. I removed some from the board with the dremel brush and put De-oxy solution on it. I reassembled it, resigned to it being non-programmable. The memory chip didn't look to have anything physically wrong with it. I modified and cleaned the battery pack. Then I sat down to write you an e-mail.

While playing with the calculator, trying to program it... suddenly it started showing random keystrokes in program memory. O.K.... that was weird. Then, I could clear out memory and it seemed to take a few keystrokes! O.K.... then, it started working! I didn't want to push my luck with the board as the 25C's are so sensitive, so I didn't want to disassemble it again. But, then it started to malfunction again. So, I decided to take the chance and took it apart and re-soldered the memory chip and the ROM chip.

OMG... you have a fully programmable, fully functional 25C. Here's my conjecture: The Deoxy solution had some time to improve conduction somewhere just enough to make it work intermittently enough to alert me to it's possible survival.

I plan to play with it a little more while I clean the front with the usual Armor-all scrub. Looks as if I'm 2 for 2 for bringing these to life. Good feeling for a doctor."

Thanks, again!

> A good story. Hopefully, it helps other people to fix those dead calculators that are out there on the "parts piles"

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HP 50g newbie question

*Message #1 Posted by **Bob Patton** on 18 May 2010, 8:10 p.m.*

How can I force a computed integer added to a string to not have a decimal point after the integer in the resulting string? This was never a problem for me with the 48G.

Re: HP 50g newbie question

*Message #2 Posted by **Gerson W. Barbosa** on 18 May 2010, 8:37 p.m.,*
in response to message #1 by Bob Patton

Clear flag -105:

```
-105 CF
```

(Exact mode on)

Alternetively press [MODE] [FLAGS] and [UP ARROW] until '105 Approx. mode on' is highlighted then uncheck it.

Edited: 18 May 2010, 8:41 p.m.

Re: HP 50g newbie question

*Message #3 Posted by **Bob Patton** on 19 May 2010, 9:02 a.m.,*
in response to message #2 by Gerson W. Barbosa

Thanks for the quick reply, but flag 105 is off (Exact mode on). The problem seems to be that the whole number value I have is still a real number, type 0, and not a real integer, type 28. Is there a way to convert type 0 to type 28? I do have the AUR if anyone can refer me to any clue in that.

Re: HP 50g newbie question

*Message #4 Posted by **Tim Wessman** on 19 May 2010, 9:51 a.m.,*
in response to message #3 by Bob Patton

R->I (real to integer, -> is the arrow character on RS-0)

Type it, find it in the CAT, or go into COVERT (LS-6) then REWRITE.

TW

Edited: 19 May 2010, 9:52 a.m.

Re: HP 50g newbie question

*Message #5 Posted by **Bob Patton** on 19 May 2010, 10:42 a.m.,*
in response to message #4 by Tim Wessman

Thanks, Tim.

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Need advice on HP-41C Accessory

*Message #1 Posted by **Jeff Kearns** on 18 May 2010, 7:08 p.m.*

This may be an inappropriate question and/or the timing may be such that the advice I get will be too late. If inappropriate, as it concerns the unmentionable auction site, I apologize in advance. Nonetheless, I need some quick advice concerning an item - a HP-41 Card Reader - for which I have just been outbid and the aution ends in a little over an hour (May 18, 201020:30:18 EDT).

I own a HP-41C with a number of Pacs, including Advantage, Math/Stat, Machine Design. I also have the Quad memory module. Nothing else... I would love to get external programs into the unit and therefore need either a wand or a card reader. I have no cards to be read mind you... These are presumably the HP-67 cards, and I don't even know how to acquire a good quality set.

Should I let this item go (current bid is around $80) and just concentrate on getting a wand, or should I bid some more - and how much?

Jeff Kearns

Re: Need advice on HP-41C Accessory

*Message #2 Posted by **Allen** on 18 May 2010, 7:26 p.m.,*
in response to message #1 by Jeff Kearns

The card reader is my least preferred method of getting programs to the HP41. Best/easiest options are: (not factoring cost, rarity, or others opinions)

```
1) Pil-BOX with HP-ILper connection and HP-IL module
2) The ISA HP-IL interface board with HP-IL module (via EMU-41)
3) Clonix/NovRAM/Nov32
4) Zengrange ZEPROMS
5) Wand
6) Hardware Mass Storage Device (Tape or Disk)
7) Card Reader
```

The card reader is cheapest, and requires the least hardware, but is the most maintenance. IMHO Full market value for a tested, working card reader has been in the $150 range for some time. Non-working or gummy-wheel needed still run from $50 to $100 depending on severity of repairs needed. I have no specific comments about any particular active auction, and I am not the seller of the card reader in question.

ebayID: hudendai

Re: Need advice on HP-41C Accessory

*Message #3 Posted by **Gerson W. Barbosa** on 18 May 2010, 8:22 p.m.,*
in response to message #1 by Jeff Kearns

> Quote:
>
> These are presumably the HP-67 cards, and I don't even know how to acquire a good quality set.

These are easy to find, they usually sell in sets of 20 units. Just search for "blank cards 41c". Better if the card holder and the red cleaning card are included.

> Quote:
>
> Should I let this item go (current bid is around $80) and just concentrate on getting a wand, or should I bid some more - and how much?

Be sure it's been repaired recently. Mine cost $150 or so about three years go. I'm very pleased with it, even though I rarely use the card reader. I think the card reader is more useful for your purpose than the wand.

Gerson.

Edited: 18 May 2010, 8:24 p.m.

Re: Need advice on HP-41C Accessory

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 18 May 2010, 9:11 p.m.,*
in response to message #1 by Jeff Kearns

Hi;

I second Gerson´s words, I own two card readers myself and also two MLDL2000, one NoVRAM, one NoV32 and a 9114B disk drive. IN terms of storage, I prefer the MLDL2000 with the PC connection so I can emulate HEPAX RAM pages and save them with all of its contents (REG files, ALPHA files, programs, ROM images and so)in the PC. The disk drive comes right after and, based on these options, the card reader comes in third place. I remember, back in the 80's, when I could not even dream of having access to such devices and I was able to buy two card readers, one NIB and a used unit. They were the only means I had to store any retrievable data and I was completely satisfied with the fact I could have them. Have them both till today, both running with O-rings instead of the original silicon tracking wheel.

Cheers.

Luiz (Brazil)

Re: Need advice on HP-41C Accessory

*Message #5 Posted by **geoff quickfall** on 18 May 2010, 10:21 p.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

For me, when the 41CX is in my flight bag my card reader always accompanies it due to its size.

I have a 21 card WALL set which will reboot the calc if required and a set of synthetic Extended memory files for transferring the data files into the extended mem section.

I have at home a wand, combined with an HP dot matrix printer for bar codes, the 9114B disc drive and the cassette mass storage. My preference for reloading at home is the cassette drive then the disc drive followed by the card reader and lastly the wand.

In the calc is a Clonix with PPC Rom, CCD, Navigation with a blinky for the infrared printer and for some regression techniques a stat module and a double x mem module. And of course of suite of self written programs that are aviation specific such as altitude temperature corrections, breaks schedules, Great circle data and great circle coord programs as well as others.

I actually have 5 of the card readers working with new silicon tubing pinch rollers and restored dampening couples.

I concur with Allen in that the fixed working examples go for about 150. Again, for sheer portability the card reader beats them all.

Cheers, Geoff

Edited: 18 May 2010, 10:22 p.m.

Re: Need advice on HP-41C Accessory

*Message #6 Posted by **DavidShenk** on 18 May 2010, 10:45 p.m.,*
in response to message #1 by Jeff Kearns

Hi Jeff,

Well, you've got a lot of opinions. If you decide to get a card reader and are moderately handy taking things apart, you might want to find one listed as not working and fix it yourself. You'll save some money and gain some knowledge about your equipment. I have one that worked when I got it, but just recently fixed the reader on an HP 67. For me it still has a lot of "WOW!" factor and I enjoy using it as much for the novelty.

The PIL-Box mentioned above, if you don't know, allows you to connect your 41 to your PC via USB. They are not made by HP but a private party. I just ordered one, so I can't wait until it comes. There are hundreds of programs that can be downloaded from the internet and directly transferred into the 41 using it. You also need the HP-IL module, so this route costs $175-200 USD all together, but really opens up a huge library of software. And I think USB will be around for a while still.

Dave

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O.T. RAM uce in XP OS

*Message #1 Posted by **designnut** on 18 May 2010, 1:14 p.m.*

I have installed 2GB of RAM in XP and tried every tweak I could find but it won't use more than about 500 MB of RAM. I even read once that XP can't use more than 500MB. Can anyone steer me to information to improve the situation? Sam

Re: O.T. RAM uce in XP OS

*Message #2 Posted by **Alejandro Paz (germany)** on 18 May 2010, 2:01 p.m.,*
in response to message #1 by designnut

It will use as much as it is available for the different applications... the rest is used as disk cache. The problem would be if it reports that only 512 MB are visible... but if it says 2GB then it is all ok.

Re: O.T. RAM uce in XP OS

*Message #3 Posted by **Quan** on 18 May 2010, 3:16 p.m.,*
in response to message #1 by designnut

If XP only sees 500MB, then there maybe a compatibility problem.

You can use crucial.com to check how much RAM your PC can handle, if you know the make/model or motherboard.

Just a thought.

Re: O.T. RAM uce in XP OS

*Message #4 Posted by **John Cadick** on 18 May 2010, 7:12 p.m.,*
in response to message #3 by Quan

XP is capable of handling up to 3GB of ram.

John

Re: O.T. RAM uce in XP OS

*Message #5 Posted by **J Grim** on 18 May 2010, 11:56 p.m.,*
in response to message #1 by designnut

The 32-bit version caps out at 3 GB. The 64-bit version theoretically 128 GB, if I remember correctly. Have you looked at the system setup (BIOS settings) and saved them? Or it could be that you are using incompatible memory. Another poster suggested checking compatibility at crucial.com. I have done this many times and it works very well. I have only had one system that wasn't in their database. They also have a system scan tool available. I have never tried it though. I have made numerous purchases there and have not had any trouble.

I would try the BIOS settings first. For me it's usually something simple like that. Good luck!

J Grim

Re: O.T. RAM uce in XP OS

*Message #6 Posted by **Norris** on 20 May 2010, 1:15 p.m.,*
in response to message #5 by J Grim

HP offers a discussion of memory usage by Windows XP. Note that the vast majority of XP users have the 32-bit version (not the 64-bit version). Basically:

- In theory, 32-bit WinXP supports up to 4 GB of RAM
- In practice, the amount of available RAM is always less than 4 GB
- Typically, available RAM is between 3.0 and 3.4 GB, so it can in fact exceed 3 GB
- Your graphics card can have a particular impact on available RAM
- As an example, I have a 32-bit WinXP system with 4 GB installed, of which 3.25 GB are available

Edited: 20 May 2010, 1:16 p.m.

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Stephen Hawking's voice. Would he want it back?

*Message #1 Posted by **Michael Meyer** on 18 May 2010, 12:10 p.m.*

I bought a Panasonic Compuvoice talking calculator from TOS for 5 USD. The seller had posted a You Tube video of it, and it sounded just like Stephen Hawking's voice, which I found somewhat amusing. I've been showing it off as, "Stephen Hawking's calculator". Then, I happened to watch the middle of an interview on You Tube where he was asked about his voice. He said that it was an older speech synthesizer from 1986 (the calculator is 1981-1984) and that he has come to identify with it as his own voice, so he's never changed it. He says the hardware is old, fragile, and not easily replaceable. I wonder if he'd have any use for the circuits in the calculator?

Re: Stephen Hawking's voice. Would he want it back?

*Message #2 Posted by **Katie Wasserman** on 18 May 2010, 12:59 p.m.,*
in response to message #1 by Michael Meyer

I'll bet that he's glad that his voice isn't the same as that used in the TSI Speech+ calculator from 1976. This came with an audio tape of a person reading the manual interspersed with examples of the calculator talking. If you're really bored put this on your ipod for a fun listen: TSI Speech+ Tape.

-Katie

Re: Stephen Hawking's voice. Would he want it back?

*Message #3 Posted by **Michael Meyer** on 18 May 2010, 1:32 p.m.,*
in response to message #2 by Katie Wasserman

Oh, that sounds terrible. Daleks have more personality.

Re: Stephen Hawking's voice. Would he want it back?

*Message #4 Posted by **J Grim** on 18 May 2010, 11:59 p.m.,*
in response to message #3 by Michael Meyer

Exterminate...exterminate...

Re: Stephen Hawking's voice. Would he want it back?

*Message #5 Posted by **J Grim** on 19 May 2010, 12:02 a.m.,*
in response to message #1 by Michael Meyer

Are there any recordings of Hawking prior to the voice synthesizer? I am fairly certain I have never heard anything but his synthesized voice.

Re: Stephen Hawking's voice. Would he want it back?

*Message #6 Posted by **Jake Schwartz** on 20 May 2010, 7:27 p.m.,*
in response to message #5 by J Grim

> Quote:
>
> Are there any recordings of Hawking prior to the voice synthesizer?

Hawking briefly appeared in one of the episodes of Carl Sagan's Cosmos (1980) and already he was losing the ability to speak. He basically "mumbled" quietly to an assistant, who repeated what he said to a classroom of people.

I wonder if he possibly is the only person in recorded history to survive ALS for this many decades....

Jake

Re: Stephen Hawking's voice. Would he want it back?

*Message #7 Posted by **Thomas Okken** on 19 May 2010, 5:38 a.m.,*
in response to message #1 by Michael Meyer

I always thought that Hawking's speech synthesizer sounds just like the original MacinTalk, but according to Wikipedia, he used to use a DECTalk DTC01 and has recently switched to NeoSpeech VoiceText. Wiki also mentions that Hawking's appearances on *Family Guy* were voiced by MacinTalk, I presume the current OS X incarnation, not the classic 1984 version. (I read somewhere else that Hawking's appearances on *The Simpsons* were voiced by Mr. Hawking himself.

Re: Stephen Hawking's voice. Would he want it back?

*Message #8 Posted by **Dimitri Simitas** on 21 May 2010, 12:19 p.m.,*
in response to message #7 by Thomas Okken

> Quote:
>
> (I read somewhere else that Hawking's appearances on *The Simpsons* were voiced by Mr. Hawking himself.

He appeared in 4 episodes if memory serves. As himself, being recorded in the studio.

Dimitri

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GRADs in use?

*Message #1 Posted by **Tim Wessman** on 17 May 2010, 9:07 p.m.*

I remember in a discussion a while back someone asked why it seemed why many newer HP calcs didn't include grads as an option in the calculators. I kept meaning to ask (mainly because it is something I've been wondering now since I twas but a wee lad) in what fields/applications are grads still commonly used? I personally never encountered them anywhere other than as a setting on a 48g series calc.

I've always been wondering. . .

TW

Edited: 17 May 2010, 9:07 p.m.

Re: GRADs in use?

*Message #2 Posted by **Martin Pinckney** on 17 May 2010, 9:51 p.m.,*
in response to message #1 by Tim Wessman

Tim,

Not just the 48 series. The 20s, 32sii, and 42s all have this setting, and I am sure there are a lot more.

I don't for sure know the answer to your question, but I believe grads were used by the U.S. military at one time; don't know if still. My father was Army artillery in WWII, and he told me they used grads for aiming instead of degrees.

Perhaps today it's all automated...

Re: GRADs in use?

*Message #3 Posted by **Martin Pinckney** on 17 May 2010, 10:27 p.m.,*
in response to message #2 by Martin Pinckney

Also 10c,11c,15c,22s,25,25c,29c,31e,32e,32s,33c,34c,41c,45,55,65,67.

Re: GRADs in use?

*Message #4 Posted by **Katie Wasserman** on 18 May 2010, 12:02 a.m.,*
in response to message #3 by Martin Pinckney

I can think of many more HP calculators that you left out.

Goodbye to GRAD, you'll be missed.....

Re: GRADs in use?

*Message #5 Posted by **Dimitri Simitas** on 17 May 2010, 10:35 p.m.,*
in response to message #2 by Martin Pinckney

> Quote:
>
> I don't for sure know the answer to your question, but I believe grads were used by the U.S. military at one time; don't know if still. My father was Army artillery in WWII, and he told me they used grads for aiming instead of degrees.

I know US military maps like most maps in this world today use Mils. Which are in turn used for artillery strikes today.

However if you want confusion about the matter. One circle has 6,283 mils. The US use 6,400 divisions instead. The Russians use 6,000 mil divisions. The French use 6,280 mils, the Swiss use 6,300 mils.

Dimitri

Re: GRADs in use?

*Message #6 Posted by **Tim Wessman** on 18 May 2010, 12:02 a.m.,*
in response to message #5 by Dimitri Simitas

Surprising the variation. I'd expect the US to be the only one that picked a stupid, non-standard value. Fits the way we do the rest of things regarding units.

TW

Re: GRADs in use?

*Message #7 Posted by **Bart (UK)** on 18 May 2010, 4:33 a.m.,*
in response to message #6 by Tim Wessman

They wouldn't want potential enemies using their own maps against them, now would they?

Note: this is mere conjecture on my part :)

Re: GRADs in use?

*Message #8 Posted by **Martin Pinckney** on 18 May 2010, 7:48 a.m.,*
in response to message #6 by Tim Wessman

> Quote:
>
> I'd expect the US to be the only one that picked a stupid, non-standard value. Fits the way we do the rest of things regarding units.

Actually, the U.S. did not "pick" the units system we have, we inherited it from the British. Although our units are not all identical to their Imperial counterparts, they have their origins there. In fact, these *were* the worldwide standard for a long time, since the British Empire was worldwide.

The metric system was developed by the French under Louis XVI, but not formally adopted until after the French Revolution. Just as the English and French have competed in many things for centuries, the two systems were in competition for years. It was another 100 years before the Metre Convention tried to standardize the metric system. The Système International was not established

until 1960. The U.S. adopted SI in 1988 as the "preferred" system for commerce, but conversion is strictly voluntary from a Federal standpoint. Some states have attempted mandatory conversion for highway construction, with mixed success. Of course, metric units have been used in science and the military in the U.S. for over a century.

Sorry, I could not resist.

Re: GRADs in use?

*Message #9 Posted by **bill platt** on 18 May 2010, 1:35 p.m.,*
in response to message #6 by Tim Wessman

Hey! I like my 3 teaspoons per tablespoon! ;-)

Re: GRADs in use?

*Message #10 Posted by **Dimitri Simitas** on 25 May 2010, 5:15 p.m.,*
in response to message #6 by Tim Wessman

> Quote:
>
> Surprising the variation. I'd expect the US to be the only one that picked a stupid, non-standard value. Fits the way we do the rest of things regarding units.

It is not a bad method, consider that most of Europe today uses 6,400 Mils per revolution due to NATO.

A target ranged using 6,400 mils is only off by 2%. At 500 yards a 2 yard target is measured as 509 yards with American mils verses the proper 500 yards with the "natural". But if that target was a mere 2inches taller then it was assumed to be, then your target is really at 514 yards, measured with the American mils as being 523 yards away.

A slight variation of the target changes the measurement more then the relative error in range finding. Assuming good well known measurement values at the range, its under 2% the error caused by American mils.

Dimitri

Re: GRADs in use?

*Message #11 Posted by **Thomas Klemm** on 18 May 2010, 2:34 p.m.,*
in response to message #5 by Dimitri Simitas

> Quote:
>
> the Swiss use 6,300 mils

Did you mean Sweden?

Re: GRADs in use?

*Message #12 Posted by **Dimitri Simitas** on 25 May 2010, 5:06 p.m.,*
in response to message #11 by Thomas Klemm

> Quote:
>
> Did you mean Sweden?

Perhaps you are right, my mistake. The memory ain't what it used to be.

Dimitri

Re: GRADs in use?

*Message #13 Posted by **Tim Wessman** on 18 May 2010, 12:00 a.m.,*
in response to message #2 by Martin Pinckney

Well I know it was on other machines, I was just stating my personal exposure. :-)

I know it was/is? used for artillery, but I've not yet encountered any surveyor in europe who has reported using it. I've talked or corresponded with more than a few.

Other than "historical" things, are they any current uses?

TW

Edited: 18 May 2010, 12:00 a.m.

Re: GRADs in use?

*Message #14 Posted by **Jeff Kearns** on 17 May 2010, 10:09 p.m.,*
in response to message #1 by Tim Wessman

Wikipedia Article on History of GRADS

I first encountered this angular measurement unit in the 70's on my TI-30. What a crappy machine but I loved it... Looks like GRADS are an invention of the French Revolution and are used in some European countries for Surveying. Some militaries use it for Artillery calculations.

Ironically, I have a book called "Surveying: Theory and Practice" that makes no mention of it. Probably because it's a Yankee book. The HP-45, and 55 have it. So does the HP-32E but not my HP-21. It seems to be on every scientific calculator produced by HP post-Spice (unless I am gravely mistaken).

Jeff

Edited: 17 May 2010, 10:17 p.m.

Re: GRADs in use?

*Message #15 Posted by **bill platt** on 17 May 2010, 11:36 p.m.,*
in response to message #14 by Jeff Kearns

Not on the HP 27S

Re: GRADs in use?

*Message #16 Posted by **Frido Bohn** on 18 May 2010, 4:01 a.m.,*
in response to message #14 by Jeff Kearns

> Quote:

> I first encountered this angular measurement unit in the 70's on my TI-30. What a crappy machine but I loved it...

I just bought an TI SR-56 from a second-hand dealer (forgive me ;-). This machine even has a separate switch beside the ON/OFF switch to change from GRAD to DEG! Whereas radians is accessible over the keyboard with a shifted key. For whatever reason, TI must have conceded a high priority to this unit in the mid 70s.

Cheers Frido

Re: GRADs in use?

*Message #17 Posted by **Pierre Brial** on 18 May 2010, 12:28 a.m.,*
in response to message #1 by Tim Wessman

Grads are commonly used in France for surveying and mapping. As Grad is related to metric and decimal systems, it is a very practical unit :

Right angle = 100 grads

1 grad of latitude = 100 km

You don't have to bother with minutes and seconds, it's all decimal :

decigrad = 0.1 grad, centigrad = 0.01 grad, etc...

Grad is also named Gon in some countries.

Edited: 18 May 2010, 12:29 a.m.

Re: GRADs in use?

*Message #18 Posted by **db (martinez, ca.)** on 18 May 2010, 1:07 a.m.,*
in response to message #1 by Tim Wessman

when i was traveling i talked with surveyors from all over latin america, from europe and north africa, who had worked in saudi and antarctica. i had the same question and no one used grads.

i read once that the 360 deg circle / 90 deg quadrants are standard because of both nautical tradition, and that they can be divided up into so many kinds of even fractions before one needs to resort to minutes and seconds.

along with that; i can see why the compass rose is first divided into quadrants: toward and away from magnetic north, and toward sunrise or sunset. then you have half, third, ninth quadrants and half, quarter, eighth, third, sixth, twelfth, twenty-fourth, thirty-sixth, and even smaller fractions of the circle.

all those would have been useful until Precision Survey Solutions and hp50G came along.

Re: GRADs in use?

*Message #19 Posted by **geoff quickfall** on 18 May 2010, 2:08 a.m.,*
in response to message #18 by db (martinez, ca.)

We used grads for navigation up north in areas of magnetic anomalies.

Had to convert the headings back and forth based on the map and the use of a system called Omega nav.

Also shot the stars out the window of the 737 when flying in true.

Cheers, Geoff

So Geoff:

*Message #20 Posted by **db (martinez, ca.)** on 25 May 2010, 8:32 p.m.,*
in response to message #19 by geoff quickfall

Speaking of goofy measurements; what are those 1:506880 scale maps of Canada all about, When you tell me that i'll have a clue how the 1:253440 scale from other places got chosen.

BTW: How's the book coming along?

Re: So Geoff:

*Message #21 Posted by **Norris** on 26 May 2010, 6:16 p.m.,*
in response to message #20 by db (martinez, ca.)

1:506880 represents a map scale where 1 inch = 8 miles
8 mi x 5280 ft/mile x 12 in/ft = 506,880 inches

1:253440 represents a map scale where 1 inch = 4 miles
4 mi x 5280 ft/mile x 12 in/ft = 253,440 inches

In either case, the scale makes it easy to read distances off the map in miles, by using a conventional ruler marked with 1/2, 1/4, 1/8, and 1/16 inch gradations

Edited: 26 May 2010, 6:18 p.m.

Re: So Geoff:

*Message #22 Posted by **db (martinez, ca.)** on 27 May 2010, 2:10 a.m.,*
in response to message #21 by Norris

Thanks Norris. I'd rhetorically ask why i didn't notice that but someone might answer me.

That's a great idea for a country that has a lot of inch rulers floating around. We can easily do the same sort of thing here if an architect draws in 1/4, 1/2, 1/8 etc scale. So of course they use 3/8, 3/16 & 3/4 scale just to mess with us.

Re: So Geoff:

*Message #23 Posted by **Norris** on 28 May 2010, 1:15 p.m.,*
in response to message #22 by db (martinez, ca.)

The traditional use of 1:24000 scale in 7.5-minute US topographic quadrangles also assumes the use of traditional inch rulers. With this scale, 1 inch = 2000 feet, and you can readily measure distances in feet using the traditional 1/2 inch, 1/4 inch, etc. gradations.

The 15-minute quads were traditionally mapped at 1:62500, which is very close to 1:63360, or 1 inch = 1 mile. For practical purposes, you could measure distances in miles on a 1:62500 map with a traditional inch ruler. The exact 1:63360 scale has been widely used for topographic mapping in Alaska.

Edited: 28 May 2010, 1:16 p.m.

Re: So Geoff:

*Message #24 Posted by **db (martinez, ca.)** on 28 May 2010, 7:56 p.m.,*
in response to message #23 by Norris

You know; i've used 15 minute maps a lot and must have known that, but i've always thought of it as one mile = the last joint of my index finger.

Re: So Geoff:

*Message #25 Posted by **geoff quickfall** on 1 June 2010, 10:57 p.m.,*
in response to message #20 by db (martinez, ca.)

Hello DB

just saw your posting today! I am on course for a new aircraft and it is taking my time plus I had to write a 13 page article for the next HP Solve magazine at Richards Nelsons request.

That plus my car restoration and book have meant an absence from the forum.

I used many maps, we called them sectional 8 to 1 and 4 to 1 (eight and four mile to one inch). Lots of detail on the 4 to 1 and Norris has hit the nail on the proverbial imperial head!

The book is comming along, infact almost done, although everyone here keeps posting new stuff which may or may not get included. Oh well gives me something to add to a next printing.

Got to get back to the books!

Cheers, Geoff

Edited: 1 June 2010, 10:58 p.m.

Re: GRADs in use?

*Message #26 Posted by **Reth** on 18 May 2010, 4:23 a.m.,*
in response to message #1 by Tim Wessman

Grads or Gon are used across whole Europe except from the former USSR and England. I for one would never buy a HP calculator not having grads back then when HP calcs were main calc tool. Grads, being decimal are a lot easier to use thus logical and modern units. Same applies to metric - imperial units comparison. Strangely enough in Australia we use DMS for angles and metres for lengths. As they do in Russia. Long story short: today HP mighth abandon grads, no one will notice as no one uses calculators for real work in surveying. If you wanna find out if grads are dead or not, go check ALL modern surveying instruments made all over the world and if you find even one, let me know. I've noticed that "the world" for many is the USA. Well it's not.

> Quote:
>
> I personally never encountered them anywhere other than as a setting on a 48g series calc

??? what about HP41, 42, 28, 49/50?

Edited: 18 May 2010, 5:40 a.m.

Re: GRADs in use?

*Message #27 Posted by **Bart (UK)** on 18 May 2010, 4:43 a.m.,*
in response to message #1 by Tim Wessman

> Quote:
>
> I personally never encountered them anywhere other than as a setting on a 48g series calc.

Pretty much my experience too. The "G" setting was always something I had to skip past when changing angle mode or converting angles on my scientifics.

Then again I have never done artillery work or surveying. I've played a bit with navigation, but that was in degrees, and in electronic engineering work it is almost always in radians.

-B

Re: GRADs in use?

*Message #28 Posted by **John Mosand** on 18 May 2010, 6:04 a.m.,*
in response to message #27 by Bart (UK)

Grads are very much in use. They have been standard in surveying in most of Europe for about 100 years, in France for more than 200 years! Degrees mostly in astronomy and navigation.

Re: GRADs in use?

*Message #29 Posted by **Stuart Sprott** on 18 May 2010, 7:19 a.m.,*
in response to message #28 by John Mosand

I am a bit surprised with some of the responses to GRADS.

From a practical point of view the GRAD system is far superior to any other syetem. 100 degrees to a right angle, then decimal degrees. A complete decimal system, very simple to use.

When you write a surveying program using the degree syetem, the most common bug is to forget either to decimalize the degrees or do the reverse process.

Years ago I taught surveying to builders. They had access to simple scientific calculators. One of the hardest parts of the course was to teach them conversion of degrees minutes and seconds into decimal degrees and the reverse. This is when I realised how backward our system was.

I come from a generation who were taught the imperial system at school and were used to strange units. The modern generation brought up on the decimal system find it difficult when using say miles, chains, feet and inches.

In Australia we had the option of changing to GRADS when we changed to the metric system, unfortunately the old surveyors who made the decision at the time could see no good reson for doing so. There are a heep of builders out there who could tell them that they made the wrong decision.

Re: GRADs in use?

*Message #30 Posted by **Gerson W. Barbosa** on 18 May 2010, 8:38 a.m.,*
in response to message #29 by Stuart Sprott

> Quote:
>
> When you write a surveying program using the degree syetem, the most common bug is to forget either to decimalize the degrees or do the reverse process.

The problem is not forgeting to do this, but having to do it, which would take up precious memory space in low-memory calculators (not a concern anymore). The first version of this program was written for a land surveyor friend on his 4KB RAM CASIO PB-700 (which was later upgraded to amazing 16KB!). A GRAD mode was available (ANGLE 2), but I think no one uses GRADS here.

Re: GRADs in use?

*Message #31 Posted by **Bart (UK)** on 18 May 2010, 9:41 a.m.,*
in response to message #28 by John Mosand

Sorry, I was just stating my personal experience. In no way did I mean to imply that GRADS was not in use.

Perhaps I should add a disclaimer to my messages.

-Bart
Disclaimer: the statements in this message are solely those of this opinionated author only and are based on his own experience.

Re: GRADs in use? - A non trig-related example

*Message #32 Posted by **Andrés C. Rodríguez (Argentina)** on 18 May 2010, 10:33 a.m.,*
in response to message #1 by Tim Wessman

If you need to model a bouncing ball (or body), moving in a (0,0 - 100,100) box, and bouncing at the edges, the sequence

```
GRAD
COS
ACOS
SIN
ASIN
```

is very handy to manage boundaries and so obtain the proper coordinates for the next position.

Best regards,

Re: GRADs in use?

*Message #33 Posted by **Martin Pinckney** on 18 May 2010, 2:24 p.m.,*
in response to message #1 by Tim Wessman

Well, there's your answer, Tim. If HP wants to serve the French market, keep Grads in, but call them Gons.

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GRADs in use?

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HP35s Stopping a program, help!

*Message #1 Posted by **Pablo P (Spain)** on 17 May 2010, 9:40 a.m.*

I was developing a program to calculate preferred values of resistors. After typing the program I executed it as normal. The problem is that it has entered in a loop and I cannot stop it even pressing R/S.

I have a lot of programs in this calculator and I do not want to lose them doing a reset. ¿Any suggestions?

Re: HP35s Stopping a program, help!

*Message #2 Posted by **Bart (UK)** on 17 May 2010, 10:16 a.m.,*
in response to message #1 by Pablo P (Spain)

Unfortunately you may have to do a reset or pull the battries. In any event it is very likely to lead to "MEMORY CLEAR".

See the HP-35S bug list, number 16.

I have had this happen to me and now make sure I have typed copies of all my programs. It will still take many hours to re-enter them though.

Edited: 17 May 2010, 10:33 a.m.

Re: HP35s Stopping a program, help!

*Message #3 Posted by **Gerson W. Barbosa** on 17 May 2010, 10:23 a.m.,*
in response to message #1 by Pablo P (Spain)

I'm not sure the following will help. Anyway, here's the link:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv017.cgi?read=126772

Re: HP35s Stopping a program, help!

*Message #4 Posted by **Bart (UK)** on 17 May 2010, 10:33 a.m.,*
in response to message #3 by Gerson W. Barbosa

> Quote:
>
> I'm not sure the following will help. Anyway, here's the link:
>
> http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv017.cgi?read=126772

From the thread quoted by Gerson:

> Quote:
>
> The danger posed by the above, which is what happened to me, is that, if this aberrant behaviour occurs whilst test-running a program for debugging, and an error in the program code causes the processor to enter an endless loop, then you are completely stuffed. Nothing but nothing will interrupt it, short of paper-clip-resetting in the hole at the back, and this wipes all of the work, in all programs. Memory cleared.

This has been my experience. Sorry for the bad news.

Re: HP35s Stopping a program, help!

*Message #5 Posted by **Maarten Ambaum (Reading, UK)** on 17 May 2010, 12:05 p.m.,*
in response to message #4 by Bart (UK)

Same here; thankfully this happened before I had too many programs in memory. I did lose a substantial equation list which was more annoying to me.

Surely this must be one of the most serious 35s bugs....

Re: HP35s Stopping a program, help!

*Message #6 Posted by **Pablo P (Spain)** on 17 May 2010, 8:03 p.m.,*
in response to message #1 by Pablo P (Spain)

"Bug number 16: Some programs cannot be interrupted."

Oh! Surprise! Now, I know this horrible bug. I had to reset the calculator and consequently I lost all my programs. I have a hard copy of them (except last programs) but due to the lack of I/O I have to type them again and so I will lose a lot of time.

The next time I will check all my programs before executing them but anyway I think that this bug makes this calculator very untrustworthy. This is unacceptable in a modern calculator. Do you agree?

If anyone is interested my hp35s is a recent model with CNA 850.....

———

Pablo P. (electronic engineering student)

Edited: 17 May 2010, 8:05 p.m.

Re: HP35s Stopping a program, help!

*Message #7 Posted by **bill platt** on 17 May 2010, 9:27 p.m.,*
in response to message #6 by Pablo P (Spain)

Back to the HP 50G?

Re: HP35s Stopping a program, help!

*Message #8 Posted by **Pablo P (Spain)** on 18 May 2010, 10:26 a.m.,*
in response to message #7 by bill platt

> Quote:
>
> Back to the HP 50G?

Hi Bill, I know you warned me about the issues with this calculator but anyway I cannot use an HP 50G in tests. So, for now and despite problems, I will go on using this calculator. Probably in a future...

Re: HP35s Stopping a program, help!

*Message #9 Posted by **bill platt** on 18 May 2010, 11:24 a.m.,*
in response to message #8 by Pablo P (Spain)

Hi Pablo,

Ugh, that's right--tests!

Not really any alternates then.

Re: HP35s Stopping a program, help!

*Message #10 Posted by **Martin Pinckney** on 17 May 2010, 9:39 p.m.,*
in response to message #6 by Pablo P (Spain)

> Quote:
>
> This is unacceptable in a modern calculator. Do you agree?

I think nearly all will agree.

Re: HP35s Stopping a program, help!

*Message #11 Posted by **Bart (UK)** on 18 May 2010, 4:27 a.m.,*
in response to message #10 by Martin Pinckney

> Quote:
>
> I think nearly all will agree.

Nearly all?? Oh ,yes, except HP of course ;)

Re: HP35s Stopping a program, help!

*Message #12 Posted by **Martin Pinckney** on 18 May 2010, 10:49 a.m.,*
in response to message #11 by Bart (UK)

Well, usually when there is a thread where folks are very vocal about how HP *really shouldn't* have released such and such model with such and such defects, or without such and such features, the discussion eventually degenerates into heated debates over development costs, production costs, testing methods, business practices, marketing strategies, etc., etc. So I did not want to speak for everyone.

Edited: 18 May 2010, 11:21 a.m.

Re: HP35s Stopping a program, help!

*Message #13 Posted by **Bart (UK)** on 18 May 2010, 4:55 a.m.,*
in response to message #6 by Pablo P (Spain)

> Quote:
>
> but due to the lack of I/O I have to type them again and so I will lose a lot of time.

Lack of I/O is another gripe for many users, but HP probably did this to make it acceptable for use in certain exams.

I spent several days re-typing in my programs (total ~15k).

> Quote:
>
> This is unacceptable in a modern calculator.

Yes, this bug list has been out for almost 3 years now, although some issues were added more recently. However, if HP had bothered to implement a fix say a year ago (when most issues including this one were known), it probably would be in the current units on sale. Even if they did not offer an update/exchange, I think that many would be willing to purchase a fixed unit.

-B

Re: HP35s Stopping a program, help!

*Message #14 Posted by **bill platt** on 18 May 2010, 11:26 a.m.,*
in response to message #1 by Pablo P (Spain)

I just thought of something stupid.

Better to have two 35s machines. You would test and debug programs on one machine--and then you can save that program on the other machine.

Or you just buy another machine every time you come up with another big program that might crash...seems to get expensive.....

Re: HP35s Stopping a program, help!

*Message #15 Posted by **Pablo P (Spain)** on 18 May 2010, 11:58 a.m.,*
in response to message #14 by bill platt

If I were a rich man, Ya ha deedle deedle, bubba bubba deedle deedle dum.

Hehe, it is not a bad idea but it is cheaper to carefully review you program before running it...

Re: HP35s Stopping a program, help!

*Message #16 Posted by **bill platt** on 18 May 2010, 12:18 p.m.,*
in response to message #15 by Pablo P (Spain)

Hi Pablo,

You are probably a much better programmer than I ever was. When it comes to debugging, whether it is on an RPN classic, or Pascal, back in university, I always find out that I missed something...until I actually run it, I don't know for sure...this always seems to get me when there is logical branching. (The "do while true" versus "repeat..until" comes to mind...)

Re: HP35s Stopping a program, help!

*Message #17 Posted by **Howard Owen** on 18 May 2010, 12:39 p.m.,*
in response to message #15 by Pablo P (Spain)

> Quote:
>
> Hehe, it is not a bad idea but it is cheaper to carefully review you program before running it...

Assuming you are aware of the problem.

Re: HP35s Stopping a program, help!

*Message #18 Posted by **Howard Owen** on 18 May 2010, 12:56 p.m.,*
in response to message #14 by bill platt

> Quote:
>
> Better to have two 35s machines. You would test and debug programs on

How about zero 35s machines? There are other calculator vendors out there.

I never thought I'd see the day when I would recommend TI to anyone, but here it is. This bug is appalling. The worst thing an information device can do is lose data. In a machine that can't be backed up, the fault is unforgivable.

I don't blame the developer for the bug - bugs happen. I do question the QA that allowed this bug to slip through, but again, that's not unexpected. I blame HP for allowing that flaw to remain in current production models. I realize that HP's budget for the calculator business is thin. It must also be the case that this bug bites infrequently, or they never would have neglected it this long. But allowing such a fatal flaw to stay on a production machine over multiple years is a travesty. It shows the futility of trying to produce a quality calculator at HP, as Sam Kim tried to do. It saddens me because the 35s seemed to incorporate a lot of the values this community championed for years. But this bug gives the lie to all that. Data integrity is the first hurdle a machine must surmount in the race to quality. Unfortunately, HP stumbled out of the gate on that one.

Regards,
Howard

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Needed - a little help with my HP-19BII

*Message #1 Posted by **Palmer O. Hanson, Jr.** on 15 May 2010, 9:40 p.m.*

Earlier this year I purchased a 19BII which came with a manual and I decided to try to use it in algebraic mode. Of course, what I soon found is that the algebraic mode isn't algebraic at all but operates in what I have always called adding machine arithmetic; i.e, without the old "my dear aunt Sally" precedence. I knew that machines developed for the business community have often been mechanized that way for some reason. Page 120 of the Fifth Edition of Wlodek's book explains that by saying that the HP business models "... all work without precedence, assuming that business users do not bother with fancy ideas like this.", i.e., with precedence. Most of the TI business models also operate without algebraic precedence where the exception that I am most familiar with is the old MBA.

But then I discovered that the sequence

5 + 3 y^x 2 =

yielded 64, not the value of 14 that I expected. That occurs because the y^x function causes the 5 + 3 to be executed. So I ask, "Why do they do it that way?"

Re: Needed - a little help with my HP-19BII

*Message #2 Posted by **Martin Pinckney** on 15 May 2010, 9:53 p.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

> Quote:
>
> Wlodek's book explains that by saying that the HP business models "... all work without precedence, assuming that business users do not bother with fancy ideas like this.", i.e., with precedence...
>
> So I ask, "Why do they do it that way?"

We've had some discussions about this in the past. I maintain that the idea expressed above, that algebraic precedence is somehow a "fancy idea", is nonsense. Do business users not go to high school? This is just basic math! In other words, the calculator models that work like this are just giving incorrect results, IMO.

I agree!!!! (N.T.)

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 15 May 2010, 9:54 p.m.,*
in response to message #2 by Martin Pinckney

Edited: 15 May 2010, 10:48 p.m.

Re: Needed - a little help with my HP-19BII

*Message #4 Posted by **Palmer O. Hanson, Jr.** on 16 May 2010, 12:07 p.m.,*
in response to message #2 by Martin Pinckney

> Quote:
>
> ... the calculator models that work like this are just giving incorrect results, IMO.

That is not at all true! All the user has to do is to understand how his machine works, whichis also true of RPN and Algebraic.

But I admit that I may not have framed my question appropriately. It is generally understood that many of the machines targetted for business users are mechanized without precedence since that is how the old mechanical desktops worked and many business users are comfortable with that. What surprised me was that the y^x function operates at the same level as the four arithmetic operators and I wondered why.

Re: Needed - a little help with my HP-19BII

*Message #5 Posted by **Martin Pinckney** on 16 May 2010, 9:49 p.m.,*
in response to message #4 by Palmer O. Hanson, Jr.

> Quote:
>
> All the user has to do is to understand how his machine works, which is also true of RPN and Algebraic.

Of course I understand this. I did not mean to say the machine is malfunctioning, but I still say it is giving wrong answers! Luiz stated what I believe about this very well, with his test example. I still maintain that algebraic precedence is a universal standard that applies to business math the same as other disciplines.

Re: Needed - a little help with my HP-19BII

*Message #6 Posted by **Palmer O. Hanson, Jr.** on 16 May 2010, 10:02 p.m.,*
in response to message #5 by Martin Pinckney

> Quote:
>
> I still maintain that algebraic precedence is a universal standard that applies to business math the same as other disciplines.

Algebraic precedence does apply to to business math the same as other disciplines when it comes to writing equations on paper. But it doesn't apply to the way many business people expect calculators to work. The proof of my statement is the "algebraic" methodology -- really adding machine arithmetic -- which is used whereever "algebraic" is offered as an option in business calculators manufactured by HP.

Re: Needed - a little help with my HP-19BII

*Message #7 Posted by **Martin Pinckney** on 16 May 2010, 10:37 p.m.,*
in response to message #6 by Palmer O. Hanson, Jr.

I guess we will just not agree on this. I do understand your point:

> Quote:
>
> Algebraic precedence does apply to to business math the same as other disciplines

> when it comes to writing equations on paper. But it doesn't apply to the way many business people expect calculators to work.

To this I respond with a paraphrase of your own question: So I ask, "Why do businessmen expect it that way?" Your answer seems to be that it's because adding machines used to work that way. So we are going to perpetuate incorrect math operations forever, just because early machines were too simple mechanically to do it correctly?

Re: Needed - a little help with my HP-19BII

*Message #8 Posted by **bill platt** on 17 May 2010, 2:42 a.m.,*
in response to message #7 by Martin Pinckney

Yep. Another example: the cheap "4 function" calculators all have a weird chain arithmetic system built-in. And they too have no parenthesis. Try essentially any of them, and they have the weird chain arithmetic. So it isn't merely business ones that are screwy.

I'm sure we can find other examples of unneeded "backwards compatibility" in other (perhaps non-computing) products...I just can't think of any...

Re: Needed - a little help with my HP-19BII

*Message #9 Posted by **Palmer O. Hanson, Jr.** on 17 May 2010, 4:12 a.m.,*
in response to message #7 by Martin Pinckney

> Quote:
>
> So we are going to perpetuate incorrect math operations forever, just because early machines were too simple mechanically to do it correctly?

Yes. We will continue to see "algebraic" without precedence in business machines as long as the gods at HP and TI and whereever else continue to believe, whether it's actually true or not, that business users aren't comfortable with precedence. That's business.

Re: Needed - a little help with my HP-19BII

*Message #10 Posted by **David Hayden** on 16 May 2010, 8:16 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

It sounds to me like they're just being consistent. If the calculator doesn't honor precedence rules then it should do so consistently. I assume that if you enter 5+3*2 you get 16.

It's probably a hold over from the old (REALLY old) mechanical adding machines where there was no precedence. Business people got used to it and stuck. One could also argue that it's an easier to remember rule, I suppose.

Re: Needed - a little help with my HP-19BII

*Message #11 Posted by **Bart (UK)** on 16 May 2010, 12:16 p.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

Nowadays HP call it "chain calculation" mode I think. I actually have a business friend that WANTS it to work that way. His words "If I want to sell a pack of 10 units and a pack of 5 units at £5 per unit, I want to do 10+5*5= and get 75, not 35". This may be more linked to habit as until recently he had a '70s Sanyo without

"operator precedence".

Moral of the story: use RPN - no such confusion :)

Edited: 16 May 2010, 12:18 p.m.

Re: Needed - a little help with my HP-19BII

*Message #12 Posted by **Thomas Radtke** on 17 May 2010, 11:59 a.m.,*
in response to message #11 by Bart (UK)

> Quote:
>
> Moral of the story: use RPN - no such confusion :)

Try "1 Enter 2 Enter +" on a 32S and on a 20b in RPN mode. Confused? ;-).

Not to mention that you have read the manual to learn about the stack size.

Re: Needed - a little help with my HP-19BII

*Message #13 Posted by **Martin Pinckney** on 17 May 2010, 12:32 p.m.,*
in response to message #12 by Thomas Radtke

> Quote:
>
> Try "1 Enter 2 Enter +" on a 32S and on a 20b in RPN mode. Confused? ;-).

Yes, I am. Can someone explain why they work this way? "1 Enter 2 +" gives the expected answer, but "1 Enter 2 Enter +" does not. At least I would expect the operator to act on the last two stack entries, but instead it acts on the last stack entry twice!

Re: Needed - a little help with my HP-19BII

*Message #14 Posted by **Don Shepherd** on 17 May 2010, 1:25 p.m.,*
in response to message #13 by Martin Pinckney

Yes, the 20b (and 30b, BTW) work this way. The 20b/30b are hybrid RPL/RPN, and this behavior is RPL-ish, I am told. If you ever plan to write programs for the 30b (assuming you can actually buy the 30b one day; it was released in January but has not been available for purchase for months now), you need to be aware of this non-RPN behavior.

Re: Needed - a little help with my HP-19BII

*Message #15 Posted by **Thomas Radtke** on 17 May 2010, 1:42 p.m.,*
in response to message #13 by Martin Pinckney

Very simple: As Don said, the 20b acts partially like a RPL calculator which has an extra register for entering numbers where earlier RPN calculators don't, so you had to enter numbers directly into the x register.

I bet, if memory wouldn't have been an issue in terms of cost in the early 70th, the 35 would have become an algebraic or RPL calculator.

Edited: 17 May 2010, 1:44 p.m.

Re: Needed - a little help with my HP-19BII

*Message #16 Posted by **Martin Pinckney** on 17 May 2010, 3:50 p.m.,*
in response to message #15 by Thomas Radtke

No, you've got it backwards. (Unless I am missing something). My 32sii gives 4 as a result to this simple problem; my 48sx give 3, the expected answer.

RPN or RPL ?

*Message #17 Posted by **Gene Wright** on 17 May 2010, 4:33 p.m.,*
in response to message #16 by Martin Pinckney

The question hinges on whether you think in RPL or RPN.

RPL requires an ENTER to terminate a command line input.

So, 1 ENTER 2 ENTER + gives 3 since the ENTER only terminates the command line and does not specifically DUP the stack. Note: the RPL machines do an implied ENTER before an arithmetic operator so that if you actually type 1 ENTER 2 + you still get 3.

On **pure** RPN machines, ENTER terminates DIGIT entry AND pushes the stack.

So 1 ENTER 2 ENTER + gives 4 on those machines.

Issue with the 20b / 30b is that they are a hybrid.

A command line approach has been placed upon the old 4-level RPN stack.

ENTER after a number entry does NOT push the number into stack level 2 aka Y.

So, you now have 3 options.

Original RPN

Original RPL

The RPN / RPL hybrid.

Re: RPN or RPL ?

*Message #18 Posted by **Martin Pinckney** on 17 May 2010, 4:48 p.m.,*
in response to message #17 by Gene Wright

Gene, thanks for the explanation. I think I actually understand it, mostly.

Only one piece of information I lack: the result from 20b/30b. Knowing this should help me understand the difference in how the hybrids function.

Re: RPN or RPL ?

*Message #19 Posted by **Gene Wright** on 17 May 2010, 5:52 p.m.,*
in response to message #18 by Martin Pinckney

The 20b / 30b works more like the RPL.

1 ENTER 2 ENTER + returns 3, not 4 as on "pure" RPN machines.

1 ENTER 2 + returns 3.

Re: RPN or RPL ?

*Message #20 Posted by **Martin Pinckney** on 17 May 2010, 6:45 p.m.,*
in response to message #19 by Gene Wright

Well, then, as an RPN "outsider" (or better to say an ALG user), I have to conclude that I like the RPL and hybrid designs better than RPN. Just makes more sense to me.

BTW, I think what you call "pure" RPN isn't pure at all, at least not pure postfix. STO, RCL, and XEQ come to mind. Just as traditional ALG isn't pure infix. RPL, on the other hand, is pure postfix (48 series), or pure infix (38G), at least as far as I can tell.

Re: RPN or RPL ?

*Message #21 Posted by **Bart (UK)** on 17 May 2010, 7:01 p.m.,*
in response to message #20 by Martin Pinckney

> Quote:
>
> Well, then, as an RPN "outsider" (or better to say an ALG user), I have to conclude that I like the RPL and hybrid designs better than RPN. Just makes more sense to me.

I started using HPs with the 28S, which is RPL. It also has the advantage of an "unlimited" stack (as memory allows), thus no "dropping off the top" of arguments.

Re: Needed - a little help with my HP-19BII

*Message #22 Posted by **Thomas Radtke** on 17 May 2010, 4:40 p.m.,*
in response to message #16 by Martin Pinckney

What you expect is a result of what you know ;-). If you know RPN, you expect 4. 1 ist entered to x, "Enter" shifts it up to y (and y to z and so on), but keeping x (it's not a rotation). "2" is entered, overwriting 1. Same procedure after the second Enter, so in the end, both x and y registers contain 2, z contains 1. That's how RPN always worked and a result of x being used as entry register. On RPL machines, entries are written to a temporary register unless Enter is pressed. Now, if you press e.g. a binary operator before finishing an entry, the content of this temp register is copied to whatever the stack pointer points at. In contrast to RPN, RPL uses a clutch to show some convenience. It absolutely needs an Enter after each entry, and does it itself when the user refuses to do so.

RPN is very straightforward.

Re: Needed - a little help with my HP-19BII

*Message #23 Posted by **Martin Pinckney** on 17 May 2010, 5:01 p.m.,*

in response to message #22 by Thomas Radtke

> Quote:
>
> What you expect is a result of what you know ;-). If you know RPN, you expect 4...
>
> RPN is very straightforward.

Can't argue with the first statement above. I did not "cut my teeth" on RPN, as most of you have, nor do I use it very often.

Regarding the second statement, though, my thinking is evolving. When I first started using my 48sx, I found it very confusing to use. The more I use it, the more consistent I find its construct to be, albeit in some respects not particularly intuitive.

Re: Needed - a little help with my HP-19BII

*Message #24 Posted by **Bart (UK)** on 17 May 2010, 6:58 p.m.,*
in response to message #12 by Thomas Radtke

Ah, yes, I forgot about the RPN/RPL difference. Interesting that the 20b has RPL behaviour. I started my "HP life" with the 28S, thus RPL. I had to get used to "stack lift" when I purchased the 35s :)

Soooo....

*Message #25 Posted by **Vieira, Luiz C. (Brazil)** on 16 May 2010, 1:30 p.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

.... based in all that´s been written, if I am taking an examination and I have to calculate

5 + 3 y^x 2

I must ask the teacher what kind of result he wants or should I write:

"If I am a businessman or if I am using a financial calculator, 5 + 3 y^x 2 yields 64, but if I am a professional from any other scientific area or if I am using a 'regular' (?) calculator, 5 + 3 y^x 2 yields 14."

I'm confused... isn't math an exact science?

Cheers.

Luiz (Brazil)

Re: Soooo....

*Message #26 Posted by **Dave Shaffer (Arizona)** on 16 May 2010, 5:34 p.m.,*
in response to message #25 by Vieira, Luiz C. (Brazil)

> Quote:
>
> I'm confused... isn't math an exact science?

Math may be an exact science (in which case I think ALL of us here, and in every math class on earth,

would give the answer 14 to Palmer's expression), but making calculators is clearly not!

Re: Soooo....

*Message #27 Posted by **Palmer O. Hanson, Jr.** on 16 May 2010, 9:53 p.m.,*
in response to message #26 by Dave Shaffer (Arizona)

> Quote:
>
> Math may be an exact science (in which case I think ALL of us here, and in every math class on earth, would give the answer 14 to Palmer's expression), but making calculators is clearly not!

Here is a quotation from TI's old *The Great International Math On Keys Book* published back in 1976:

> Quote:
>
> Mathematics is a science which is persnickety about some things. One of them is it never permits two different answers to the same series of computations. Because of this requirement -- one solution for any computation -- mathematicians have established a set of accepted (and universal) rules when mixed operations are in one calculation. For example, the problem
>
> 3 + 10 - 2 x 14 / 7 = ?
>
> has only one answer! (Know what it is? It's 9.)
>
> ... Not all calculators will do this. ...

We all know the HP position on the use of RPN, namely that it's use avoids confusion.

If HP and TI and Casio as well take such strong positions on the right way to do things then the obvious question is "Why are they making calculators which use adding machine arithmetic?"

The answer is simple. Mathematics may be an exact science, but making and selling calculators is a BUSINESS.

While I am on the subject a recent thread told me that the latest version of the HP-12C (the C++ is it?) has an algebraic option. Can anyone tell me if the algebraic option uses algebraic precedence or does it use adding machine arithmetic.

Palmer

Re: Soooo....

*Message #28 Posted by **bill platt** on 16 May 2010, 10:14 p.m.,*
in response to message #27 by Palmer O. Hanson, Jr.

Take a look at Craig Finseth's HPdatabase:

http://www.finseth.com/hpdata/hp12cpt.php

Re: Soooo....

*Message #29 Posted by **Martin Pinckney** on 16 May 2010, 10:17 p.m.,*
in response to message #27 by Palmer O. Hanson, Jr.

> Quote:
>
> While I am on the subject a recent thread told me that the latest version of the HP-12C (the C++ is it?) has an algebraic option. Can anyone tell me if the algebraic option uses algebraic precedence or does it use adding machine arithmetic.

Palmer, I don't think it's the 12c+, but the 12c Platinum, and 12c Platinum 25th Anniversary Edition, that have the algebraic mode. That said, although I did own one for a short time, I cannot remember how the ALG mode worked.

Seeing Bill Platt's post, I went to Finseth's site. He states:

> Quote:
>
> Algebraic mode has no precedence. It also has no parentheses.

While the original Platinum (all silver) did not have parentheses, the latest version (Silver and black) and the 25th Anniversary Edition, do have them.

Edited: 16 May 2010, 10:25 p.m.

Allow me (again), please?

*Message #30 Posted by **Vieira, Luiz C. (Brazil)** on 17 May 2010, 12:02 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

Hi, all.

Back in the 80´s, when I started dealing with computers, it took me a willing to know about the history of these tricky machines. I was just an electrical engineer student, and at that time, under military government (final years), Brazilian educational system was 'shacked' by new paradigms and engineers were not exactly encouraged to go beyond their own Cartesian thoughts. I failed to do so and went ahead studying whatever I could.

I clearly remember searching for computers' design timeline and reading about Blaise Pascal and his contributions in the field. Something in particular called my attention and I quote Wikipedia by helping me with the historical fact:

> Quote:
>
> In 1642, in an effort to ease his father's endless, exhausting calculations, and recalculations, of taxes owed and paid, Pascal, not yet nineteen, constructed a mechanical calculator capable of addition and subtraction, called Pascal's calculator or the Pascaline.

In an effort of helping his father with taxes figures and calculations, Pascal constructed a mechanical addition/subtraction calculator. If I remember it well, I red that the Pascaline was the first desktop calculator ever, and it was designed and built for... financial calculations!

Cannot say anything about Pascaline precedence because it provided only addition and subtraction, but if the above mentioned facts are correct, businessmen may actually care less for precedence for their first calculator did not provide it.

What do we know...

Luiz (Brazil... and still without answers)

Edited: 17 May 2010, 10:57 a.m.

Re: Needed - a little help with my HP-19BII

*Message #31 Posted by **Steve Perkins** on 18 May 2010, 12:36 p.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

Historically, a reason that traditional RPN worked as stated was apparently to allow simple squaring or doubling of a value in the X register.

```
3 ENTER *
   or
3 ENTER +  (less keystrokes than 3 ENTER 2 *)
```

The HP-35 and HP-80 didn't even provide an X^2 key!

The paradigm survived in subsequent RPN machines. Pressing ENTER pushed the stack, but left a temporary copy of the X register still in X for convenience (and because something had to be there).

If the user started entering digits, the temporary value was overwritten. If they executed an operation it was utilized.

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Where can I find vintage Sharp and Casio calcs in Tokyo?

*Message #1 Posted by **Egan Ford** on 15 May 2010, 9:33 p.m.*

Any hints? Any electronic swap meets or flea markets? Akihabara is already on the agenda, but my past experience with Akihabara is that it is a mega Fry's. I.e. new stuff, no vintage. Perhaps I was looking in the wrong places.

Thanks.

P.S. looking specifically for Z1GR, AI1000, and PC-G850V. Cheap of course. I wouldn't mind spotting any HP's as well or an MK-90.

Re: Where can I find vintage Sharp and Casio calcs in Tokyo?

*Message #2 Posted by **Namir** on 15 May 2010, 10:48 p.m.,*
in response to message #1 by Egan Ford

I think the Tokyo Vintage Calculator Collectors is now located in the British Museum in London!

Namir

Re: Where can I find vintage Sharp and Casio calcs in Tokyo?

*Message #3 Posted by **hugh steers** on 16 May 2010, 9:00 a.m.,*
in response to message #2 by Namir

really! i'll check this out.

the british museum is worth a visit (also free). give the pots from mesopotamia a miss though :-)

Re: Where can I find vintage Sharp and Casio calcs in Tokyo?

*Message #4 Posted by **Namir** on 16 May 2010, 10:56 a.m.,*
in response to message #3 by hugh steers

Plan to visit the British Museum in late June when I will be in London.

Hmm .. Mesopotamia ... my heritage ... might find some vintage Mesopotamian RPN calculators (The Hammurabi Processor 41C ... also known then as the HP-41C) that I can claim as family heritage.

Namir

Edited: 16 May 2010, 10:59 a.m.

Re: Where can I find vintage Sharp and Casio calcs in Tokyo?

*Message #5 Posted by **hugh steers** on 16 May 2010, 7:07 p.m.,*
in response to message #4 by Namir

Good plan. if you want to meet up, let me know. if you like ales, there are some good ones in that area. opposite the museum is the "museum tavern". they often have old peculiar on draft - which can be really good. sometimes tho' it can be a bit sour depending on the batch. i usually taste it first.

offer goes for anyone else in london too :-)

Re: Where can I find vintage Sharp and Casio calcs in Tokyo?

*Message #6 Posted by **Xerxes** on 16 May 2010, 9:42 a.m.,*
in response to message #1 by Egan Ford

Try to get a Z-1GRA or FX-890P, because these pockets have a much better LCD contrast compared to the Z-1 or Z-1GR.

Probably you can find a PC-G850VS at Akihabara. It's the successor of the PC-G850V with flash ROM instead of mask ROM.

If you cannot find an AI-1000, there is an excellent emulator available here: AI-1000/PB-2000C Emulator

Re: Where can I find vintage Sharp and Casio calcs in Tokyo?

*Message #7 Posted by **Namir** on 16 May 2010, 10:55 a.m.,*
in response to message #6 by Xerxes

Cool emulator!! Many thanks!!!

Namir

Casio Fx-602P Emulator

*Message #8 Posted by **Namir** on 16 May 2010, 3:33 p.m.,*
in response to message #6 by Xerxes

I found a site that sells a full emulator for the Casio Fx-602P. The package offers Java-based versions for Windows and Linux and also versions for some phones. Here is the link. That page also has a link to the emulator for the Casio fx-601p calculator.

Namir

PS: CORRECTION .... The software is a Casio fx-602p **SIMULATOR** and not an emulator. Sorry for error.

Edited: 17 May 2010, 9:54 a.m. after one or more responses were posted

Re: Casio Fx-602P Emulator

*Message #9 Posted by **marais** on 16 May 2010, 5:29 p.m.,*
in response to message #8 by Namir

Say, is the FX-603P still available in Japan? I saw one in Poland in 2004.

Re: Casio Fx-602P Emulator

*Message #10 Posted by **Michael Plant** on 17 May 2010, 9:36 a.m.,*
in response to message #9 by marais

> Quote:
>
> Say, is the FX-603P still available in Japan? I saw one in Poland in 2004.

They're only available used, and are generally fantastically expensive (typically anywhere from $150 to $600 and beyond). I spent over a year trying to find one (after passing on a NIB example located in the States and offered on eBay for a BuyItNow price of $199) and it was tough going. I located MIB examples from India for $1300 and good examples with the FA-6 interface for $60 (but could never get the seller to correspond with me). Finally bought one from France for $275 (shipping included).

Before I found my examle, I'd steeled myself to go through a broker and buy via Yahoo! Japan Auctions. Purchase price would have been cheaper, I proabably could have gotten a more "mint" example, but after adding all the fees, I think it would have been about the same price or more and would have taken a very long time as well, as the supply seemed to dry up around the New Year. Last fall there were three or four a week on offer. I've seen perhaps three in the past five months.

Here's a link to a few NIB examples based in the US: http://www.a2zitems.com/ The seller also sells on eBay (though nothing at the moment). Last one he sold went for $336. Last one was offered at a reserve of $199/BuyItNow price of $350, but it didn't sell: http://cgi.ebay.com/Vintage-Calculator-Casio-FX-603P-Box-RARE-/140406312631?cmd=ViewItem&pt=Calculators&hash=item20b0de4eb7

Re: Casio Fx-602P Emulator

*Message #11 Posted by **Xerxes** on 16 May 2010, 9:02 p.m.,*
in response to message #8 by Namir

Unfortunately not an emulator, but a nice simulator. I don't think that synthetic programming is possible with it.

Re: Casio Fx-602P Emulator

*Message #12 Posted by **Namir** on 17 May 2010, 9:53 a.m.,*
in response to message #11 by Xerxes

I stand corrected. It is a simulator. I got a copy and will play with it on a trip later this week.

Namir

Re: Where can I find vintage Sharp and Casio calcs in Tokyo?

*Message #13 Posted by **MK-52** on 16 May 2010, 11:24 a.m.,*
in response to message #1 by Egan Ford

Hello, PC-G850VS is a current product, however, Sharp sells PC-G850VS to only educational institutions. I think using Yahoo! Auction (Japanese) is one way of getting Japanese pocket (handheld) computers or old Japanese calculators, but unfortunately many sellers will not ship outside of Japan.

P.S.
It seems to me that it is difficult to find treasures in Akihabara. Too much time has passed...

Edited: 16 May 2010, 11:49 a.m.

Re: Where can I find vintage Sharp and Casio calcs in Tokyo?

*Message #14 Posted by **Philippe Lasnier** on 17 May 2010, 8:55 a.m.,*
in response to message #1 by Egan Ford

Hi Egan,

I think Akihabara is still to place to go, but I would head for the back streets where myriads of small shops deal in the second-hand market. Sofmap is a company that aggregated a lot of the independant shops that used to be there, so don't be surprised if you find a Sofmap shop next to...another, different, Sofmap shop.

I was there in January, getting Sharp Zaurus PDAs.

One major problem though is finding what you're looking for. I've heard that each small shop specialises somewhat, so finding the one e.g. that has pre-1990 Casios, might be difficult, especially if your Japanese is not fluent. Maybe web searches next to your favourite translator (if my case, my wife) would help.

Happy hunting!

Philippe

Re: Where can I find vintage Sharp and Casio calcs in Tokyo?

*Message #15 Posted by **Lyuka** on 17 May 2010, 4:31 p.m.,*
in response to message #1 by Egan Ford

PC-G850V is made and sold for educational institution, therefore it's not possible to buy it in the shop in Akihabara.
You might be able to find PC-G850V/VS at Takezen K.K. in Ryogoku Tokyo. (Ryogoku is the second station in Soubu Line from Akihabara)

Address: Takezen Bldg. 1F. 1-4-6 Ryogoku Sumida-Ku, Tokyo 130-0026 JAPAN
Phone: +81 3-3631-1054
Email: takezen (at) mud (dot) biglobe (dot) ne (do) jp

Good luck!

Edited: 17 May 2010, 4:33 p.m.

Re: Where can I find vintage Sharp and Casio calcs in Tokyo?

*Message #16 Posted by **Egan Ford** on 28 May 2010, 2:48 a.m.,*
in response to message #1 by Egan Ford

Thanks for all your suggestions. I just returned from Tokyo, empty-handed--from a calc point of view. But it was still fun looking.

Notes:

Akihabara really has not changed since the last time I was there 6 years ago (the Halal carts were new, but no match for NYC's 53rd and 6th Halal Cart :-). It does not matter what you are looking for, but you will tire from looking at the same old things that others also sell. Finding the 'right stuff' is a test of endurance or connections, e.g. in 2004 I was looking for a good price on a C-860 (Zaurus) and only got a good price because a local friend and colleague helped me out. BTW, I still have all my Zaurus calc emulator ports available here: http://sense.net/zc/.

That all said, I didn't leave Akihabara (Akiba) totally empty-handed. Vintage computer and video games are still a hobby too and I did find a great vintage video game shop not far from the train station. The prices were equal to or less than eBay.

Lyuka, thanks for the tip, but I only made it to Ryogoku for Sumo. This two week trip was my kids high school graduation present. Her agenda was packed and we didn't have time to go back to Ryogoku.

Lastly, I've come to the reoccurring realization that I have too many interests. I think for the short and long term that I'll just stick to HP calcs, the Apple II, and vintage coin-ops (video games). After family and work of course.

Thanks again.

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NIST Digital Library of Mathematical Functions

*Message #1 Posted by **Eric Smith** on 15 May 2010, 5:23 p.m.*

Perhaps this has already been discussed here, but someone just sent me a link to the NIST Digital Library of Mathematical Functions. Together with the print version (*NIST Handbook of Mathematical Functions*), this is intended to replace the classic *Handbook of Mathematical Functions* by Milton Abramowitz published by the NBS in 1964.

Re: NIST Digital Library of Mathematical Functions

*Message #2 Posted by **Paul Dale** on 15 May 2010, 6:51 p.m.,*
in response to message #1 by Eric Smith

The new version (HTML) looks awesome. My old paper A&S can finally retire -- well when I get a paper copy of the new it can.

- Pauli

Re: NIST Digital Library of Mathematical Functions

*Message #3 Posted by **Bill Zimmerly** on 16 May 2010, 3:33 a.m.,*
in response to message #1 by Eric Smith

Fantastic! Thanks for posting this, Eric!

Re: NIST Digital Library of Mathematical Functions

*Message #4 Posted by **hugh steers** on 16 May 2010, 8:54 a.m.,*
in response to message #1 by Eric Smith

i saw this too and have pre-ordered it. the web version is usable, but the paper copy would be nice.

out of interest, i started coding a couple of special functions based on the computational suggestions, however i cant find any tables listed online (presumably there are some in the book?) anyhow, i had to use the old Abramowitz version to verify results.

Re: NIST Digital Library of Mathematical Functions

*Message #5 Posted by **Dimitri Simitas** on 16 May 2010, 2:26 p.m.,*
in response to message #4 by hugh steers

A&S Handbook

That should work for you.

Dimitri

Re: NIST Digital Library of Mathematical Functions

*Message #6 Posted by **Bill Zimmerly** on 17 May 2010, 11:48 a.m.,*
in response to message #5 by Dimitri Simitas

Thank you for posting that too, Dimitri! :)

Re: NIST Digital Library of Mathematical Functions

*Message #7 Posted by **Steve S** on 16 May 2010, 12:35 p.m.,*
in response to message #1 by Eric Smith

Did you know that A&S has also been scanned and is available in electronic format for free? I downloaded a copy years ago. I don't recall the source, but I believe that you can find it with a simple Goggle search...

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HP 97 card reader clutch shaft repair

*Message #1 Posted by **Ed Sowell** on 15 May 2010, 5:09 p.m.*

The first time I reassembled my clutch (using the silicone sealant repair method) I seated the worm shaft firmly against the end of the motor shaft. When I mounted it in the frame I noticed the tip of the worm clutch only barely engages its pivot hole in the frame. I have dissambled it, planning on pushing the work shaft not quite as far onto the motor shaft, making it engage the pivot hole by perhaps 0.025" more.

However, I'm now thinking maybe this is not necessary. I've noticed that there is about 0.010-0.015" endplay in the motor shaft, and since the motor turns counter-clockwise and the worm has a Right Hand thread the shaft assembly will be driven forward, pushing the tip deeper into the pivot hole.

Any thoughts on this?

Ed

Re: HP 97 card reader clutch shaft repair

*Message #2 Posted by **geoff quickfall** on 15 May 2010, 5:36 p.m.,*
in response to message #1 by Ed Sowell

I have never done the repair this way as I favour the insulation method.

Remember that there is a ball bearing at the tip end of the worm gear. This will cause end shake if it is missing, it is tiny!

Some questions:

How do you centre the shaft with the silicon method. The wobble of an off centred system would cause a lot of vibration. After all this is a dampening couple and not a clutch.

I take it you have not swapped parts from another calculator system as for example, the HP 42 card reader assembly (looks identical) is not the same length as the HP 65 system:

```
HP-65           drive roller axle:      8.32mm
HP-41C          drive roller axle:      8.23mm
HP-65           worm gear length:       14.43mm
HP-41C          worm gear length:       14.36mm
```

As far as end shake goes, all my systems have been very close to a tight fit and the bearing acts as it should. That is there has been no endshake. Having said that, other then vibration I don't see a problem with some other than noise.

Cheers, Geoff

Re: HP 97 card reader clutch shaft repair

*Message #3 Posted by **Ed Sowell** on 15 May 2010, 7:07 p.m.,*
in response to message #2 by geoff quickfall

Quote:

> I have never done the repair this way as I favour the insulation method.

I pursued the insulation method for a while but abandoned it because I couldn't find a suitable piece of insulation. It seems to me that a size that gives a good fit on the motor will be too tight on the worm shaft. Also, I wanted to fit the aluminum sleeve over it, but that would leave a very thin wall over the worm shaft.

> Quote:
>
> Remember that there is a ball bearing at the tip end of the worm gear. This will cause end shake if it is missing, it is tiny!

I've noticed that. On mine it seems to be peened in on the opposite side of the frame so did not fall out.

> Quote:
>
> How do you centre the shaft with the silicon method. The wobble of an off centred system would cause a lot of vibration. After all this is a dampening couple and not a clutch.

When I did it the first time I followed advice given in previous posts by others: let it harded a few minutes then push it around a bit till it looks OK. All this is done with the motor vertical with the shaft up.

This time I am going to try to put the motor/worm shaft assembly into the frame after the silicone has hardened a bit. I think this will allow better centering, at least for the worm shaft, since it will be in its pivot hole at one end and on the motor shaft at the other. The only thing that can be off center is the sleeve, and that can be minimized by pushing it around a bit with a small screwdriver to get the gap between the sleeve in the frame hole even all around. Also, I will be able to get a better axial fit.

At this point I am very encouraged by the silicone method. It is really not very difficult. My desktop bench vice makes it a lot easier. For example, the frame can be held in any position you want while fiddling with the motor and worm gear. Also, I squeeze the silicone directly into the sleeve using the smallest possible cut on the silicone nozzle. Not messy at all that way.

> Quote:
>
> I take it you have not swapped parts from another calculator system as for example, the HP 42 card reader assembly (looks identical) is not the same length as the HP 65 system:

Nope. So far, I've found everything I've lost. Even that tiny nylon washer! (BTW, what's it for?)

> Quote:
>
> As far as end shake goes, all my systems have been very close to a tight fit and the bearing acts as it should. That is there has been no endshake. Having said that, other then vibration I don't see a problem with some other than noise.

So maybe the bearings in my motor are worn out?

Thanks for your help. I'm in no hurry with this project so it may be a while, but I'll report back with lots of photos when I'm finished.

Ed

Edited: 15 May 2010, 7:13 p.m.

Re: HP 97 card reader clutch shaft repair

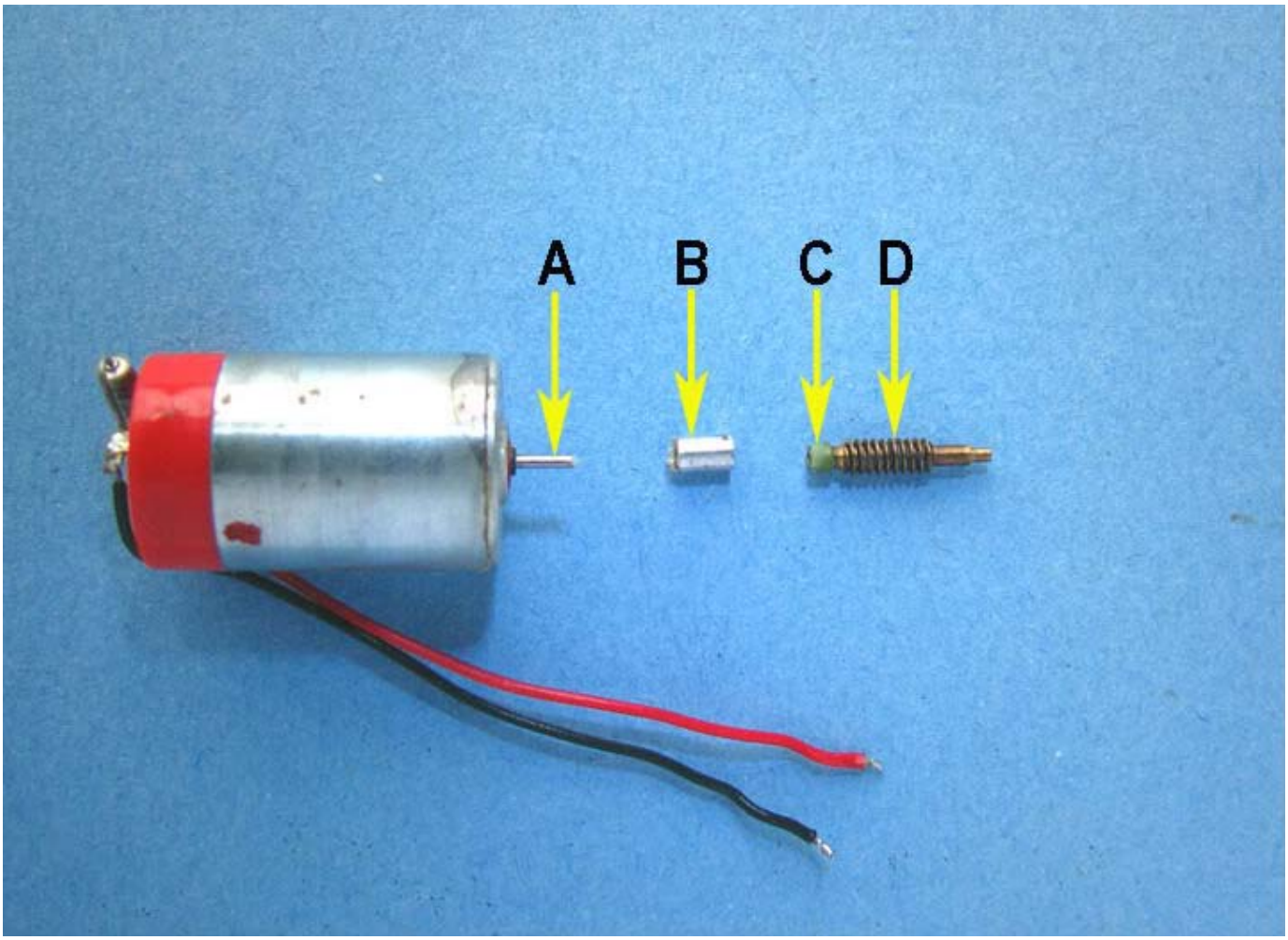
*Message #4 Posted by **geoff quickfall** on 16 May 2010, 3:49 a.m.,*
in response to message #3 by Ed Sowell

Hello Ed

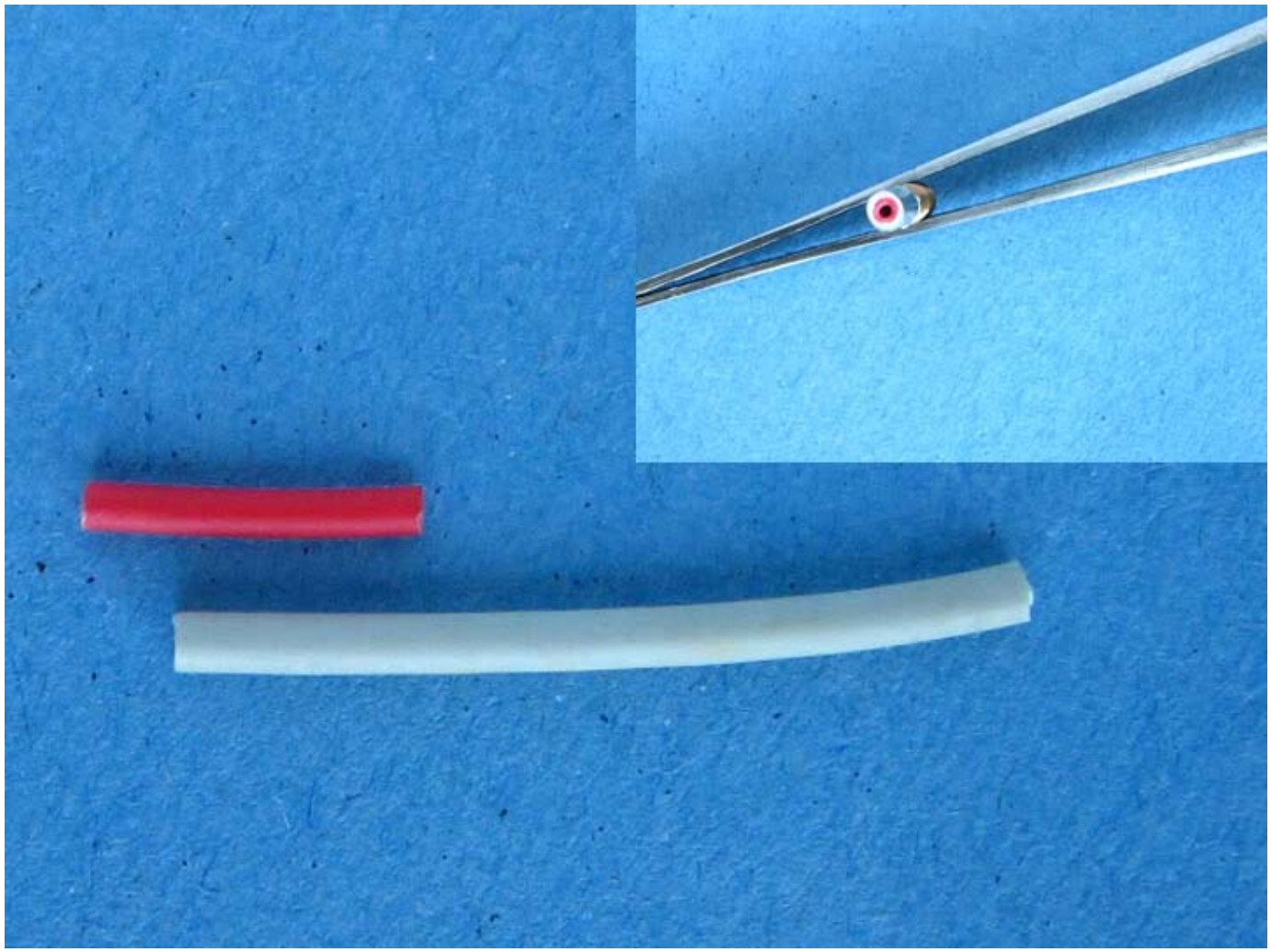
> Quote:
>
> I pursued the insulation method for a while but abandoned it because I couldn't find a suitable piece of insulation. It seems to me that a size that gives a good fit on the motor will be too tight on the worm shaft. Also, I wanted to fit the aluminum sleeve over it, but that would leave a very thin wall over the worm shaft.

Thats why I use the double insulation method:

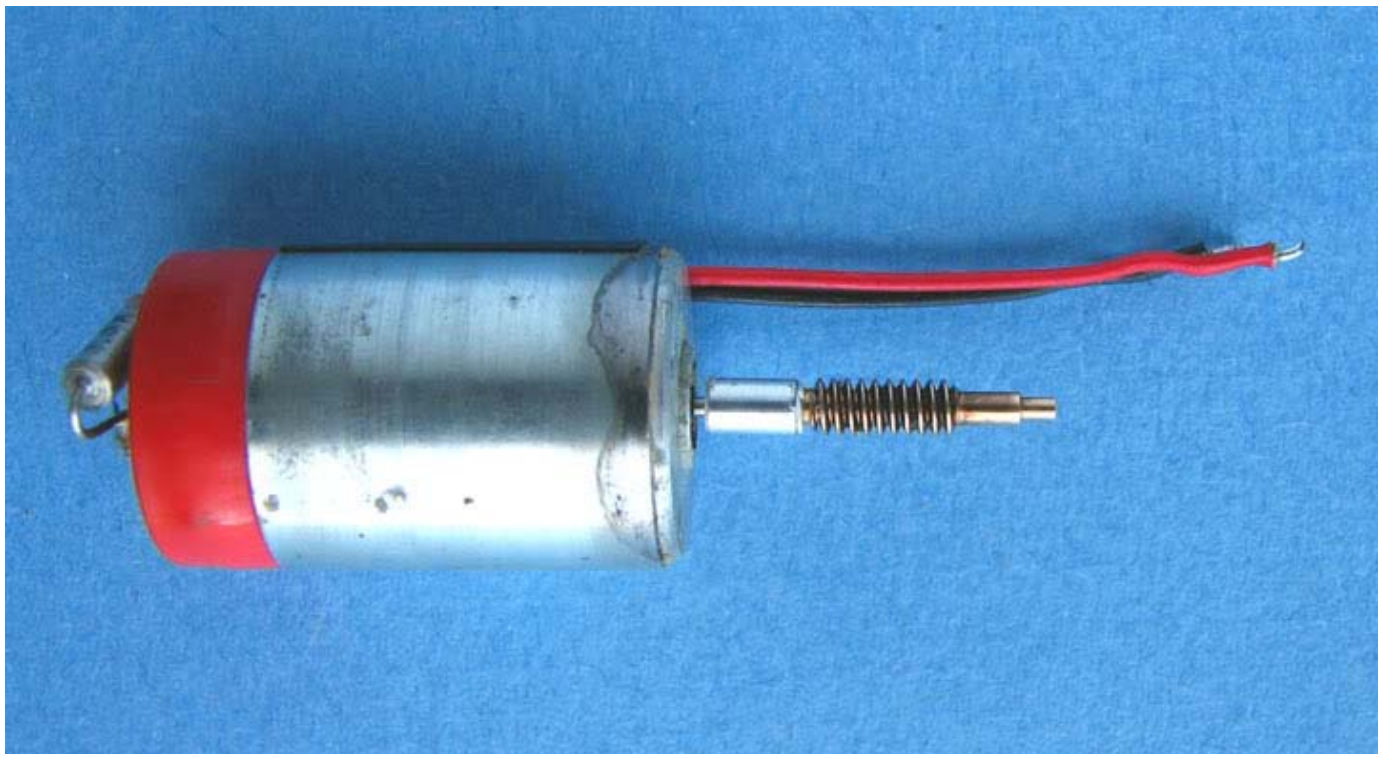
Diassemble:



Fabricate new couple with two insulations; narrow and wider inner diameters:



Reassemble:



Quote:

> I've noticed that. On mine it seems to be peened in on the opposite side of the frame so did not fall out.

Some are and some are not, probably due to some plastic frame deterioration. I have had them fall out and resorted to epoxing them back.

> Quote:
>
> So maybe the bearings in my motor are worn out?

Could be, how much end shake when you pull and push on the axle. They can be pushed to hard in their internal mounts, for example, when trying to fit a to tight new couple and sleeve into place.

Cheers, Geoff

Edited: 16 May 2010, 3:50 a.m.

Re: HP 97 card reader clutch shaft repair

*Message #5 Posted by **Ed Sowell** on 17 May 2010, 5:58 p.m.,*
in response to message #4 by geoff quickfall

> Quote:
>
> Could be, how much end shake when you pull and push on the axle. They can be pushed to hard in their internal mounts, for example, when trying to fit a to tight new couple and sleeve into place.

When I gently pull the shaft out as far as it will go and holding feeler gauges up next to it I judge it to be 0.010" endplay.

I'm going to try to make the worm shaft extend far enough so as to give about 0.030" pivot engagement when the motor shaft endplay is taken out towards the motor. Thus when the motor is on it will engage 0.040".

Edited: 17 May 2010, 5:58 p.m.

Re: HP 97 card reader clutch shaft repair

*Message #6 Posted by **Ed Sowell** on 18 May 2010, 1:03 p.m.,*
in response to message #4 by geoff quickfall

I believe I've seen your photos before. My problem was I couldn't find a wire with insulation like your white piece. It seems that its ID would have to be nice tight fit over the worm shaft, while at the same time it would have to be not so small that it wouldn't slip over the red one. In addition, the OD would have to slip into teh aluminum sleeve. I spent a lot of time looking over the wire selection at a local, well stocked electronics store with no luck. That's when I began looking at the silicone approach, although your insulation method looks easier.

Ed

Edited: 18 May 2010, 1:05 p.m.

Re: HP 97 card reader clutch shaft repair

*Message #7 Posted by **geoff quickfall** on 18 May 2010, 8:02 p.m.,*

in response to message #6 by Ed Sowell

Dead IPod head set insulation ;-) The thick part before it splits.

Cheers, Geoff

Recycle, recycle, recycle

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Electronic design - 1978 - calculators article

*Message #1 Posted by **Didier Lachieze** on 15 May 2010, 10:09 a.m.*

Hello, I'm looking for an article about programmable scientific calculators including HP 67/87 as well as TI 58/59 and others, published in 1978 in Electronic design, Volume 26, Issues 1-7. I'm sorry I don't have much details about it. If someone can found this article and scan it for me that would be great!

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on the trail of the 12c+

*Message #1 Posted by **hugh steers** on 15 May 2010, 7:47 a.m.*

Hi,

I want one of the new ARM based 12c+ models. Amazon have a reasonable price. does anyone know if they're shipping the new one by now (in UK).

thanks, -- hugh.

Re: on the trail of the 12c+

*Message #2 Posted by **Gerardo Rincon** on 15 May 2010, 6:22 p.m.,*
in response to message #1 by hugh steers

How can one knows it is an HP 12C+? vs. just a 12C?

Are they being labeled as 12c+?

Re: on the trail of the 12c+

*Message #3 Posted by **Don Shepherd** on 15 May 2010, 7:05 p.m.,*
in response to message #2 by Gerardo Rincon

> Quote:
>
> Are they being labeled as 12c+?

No, the package looks the same. You can tell from the width of the battery door (visible from the shrinkwrap). The old 12c has a small battery door (about one inch) and the new 12c+ has a much wider door (about 2.5 inches).

Re: on the trail of the 12c+

*Message #4 Posted by **Joe Burwell** on 16 May 2010, 8:14 a.m.,*
in response to message #3 by Don Shepherd

Yes they have started to use new packaging. The mostly black package that you see on other new HP models instead of the mostly white package. I have found them in both packages at Office Max stores.

Based on the serial number, models made this year are in the new package. The models they were making in 2008 (and 2009 I would guess) are in the old package.

Joe

Re: on the trail of the 12c+

*Message #5 Posted by **tony (nz)** on 17 May 2010, 8:20 p.m.,*
in response to message #4 by Joe Burwell

That's very interesting! I wonder if the 2010 12c+ has the new firmware to make the keycodes stay visible when single-stepping a program? That's all I really miss, the speed of the new one is amazing - going back to the slow one I notice the pauses.

Re: on the trail of the 12c+

*Message #6 Posted by **Don Shepherd** on 17 May 2010, 8:41 p.m.,*
in response to message #5 by tony (nz)

I suspect it would be hard to tell if a given unit has this fix. I would think that Cyrille would send the .bin file to anyone who had a unit without the fix. Of course, that person would need the special cable too.

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42s upgrade

*Message #1 Posted by **Paul Dale** on 15 May 2010, 2:46 a.m.*

Just did a RAM upgrade on my 42s and a clock speed double. Now it doesn't work :-(

It worked for a time but the '5' key produced '5' CHS and the '6' key produced '6' EEX. The multiplication key did a CLx. A bit more fiddling and now nothing works :-(

I don't know if I cooked the RAM or not. I've check continuity everywhere and nothing seems out of place. Will see if I know anyone who'll replace the RAM properly.

Pauli

Re: 42s upgrade

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 15 May 2010, 5:23 a.m.,*
in response to message #1 by Paul Dale

Hi, Paul;

have you checked the RAM chip for, say, compatibility and power consumption? I remember finding specs about some C-MOS 32K-RAM IC's that were not exactly low-power. All I remember (after upgrading some HP42S, cannot recall the actual figures) is that any 32K-RAM from HP48S/48G would work fine.

Success!

Luiz (Brazil)

Re: 42s upgrade

*Message #3 Posted by **Paul Dale** on 15 May 2010, 6:02 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

I ordered the part number from digikey mentioned on this site a while back so I sure hope it is correct.

I think I've either shorted from tracks or burnt out the RAM chip. I'm not great at soldering and don't have access to magnification any more :-(

My plan now it to remove the RAM and replace it with a spare chip and try to get someone who knows how to solder surface mount parts to do it.

- Pauli

Edited: 15 May 2010, 6:02 a.m.

Re: 42s upgrade

*Message #4 Posted by **Randy** on 15 May 2010, 7:57 a.m.,*
in response to message #3 by Paul Dale

> Quote:
>
> I think I've either shorted from tracks or burnt out the RAM chip

You guessed it the first time, you've shorted some traces. The four keys you mention share data and address lines, when there is leakage between then, you get the behavior you saw.

If the board does not have the green solder mask, that is it is all gold plate showing, look not just in the ram area for shorts as it is very easy to have a small bit of solder anywhere shorting something!

Re: 42s upgrade

*Message #5 Posted by **Paul Dale** on 15 May 2010, 8:25 a.m.,*
in response to message #4 by Randy

Thanks for the info. It has the gold tracks.

I figured I'd either shorted something or not got a good solder connection somewhere. My subsequent attempts to fix the problem have only made things worse -- now nothing works :-(

Will do a thorough check over tomorrow in good light.

- Pauli

Re: 42s upgrade

*Message #6 Posted by **DavidShenk** on 15 May 2010, 11:30 a.m.,*
in response to message #5 by Paul Dale

Pauli,

I would also make sure you have a fresh set of batteries. When you increase the speed, the battery voltage can't drop down as low as a normal speed calcs before it won't work. I believe that will occur before the batt warning would normally come on.

If you've completely given up, I would be willing to work on it no charge. I have upgraded 12-15 of these without problem. Just contact me off list.

Dave

Re: 42s upgrade

*Message #7 Posted by **geoff quickfall** on 15 May 2010, 5:28 p.m.,*
in response to message #6 by DavidShenk

Having sucessfully done 7 of these I have experienced similar start up glitches. These were all fixed with a return to the chip and a thorough inspection.

Do you have a continuity tester. Try testing each contact point and the respective leg of the chip for continuity. This can be due to a bad solder joint.

I have corrected the problems in all cases by applying solder flux to each leg and re-heating

the connection just confirm good contact. Then cleaning the residue with contact cleaner.

Also, to clear any previous problem that carries over in continuous memory, short out the battery +ve and -ve contacts and hold the on button down (without the batteries) after your fix and before turning the machine on.

Cheers, Geoff

Re: 42s upgrade

*Message #8 Posted by **Paul Dale** on 15 May 2010, 6:51 p.m.,*
in response to message #7 by geoff quickfall

That for the suggestions.

I have continuity tested all pins to their test points and no adjacent pins are shorted.

I haven't tried new batteries but will.

- Pauli

Re: 42s upgrade

*Message #9 Posted by **Vieira, Luiz C. (Brazil)** on 15 May 2010, 7:12 p.m.,*
in response to message #8 by Paul Dale

Hi, Paul;

before going ahead with soldering, consider doing that WITHOUT batteries in place AND providing the batteries contacts are shorted with each other. I am sure this should be well known, but if batteries are in place no soldering should be performed because the chance of shorting active lines in the circuit (RAM chips must be powered if its contents are supposed to be retained, right?) and causing damage are big enough not doing so. Also, if the batteries terminals are shorted, remaining capacitor charge should be neglected and ESD would be avoided as well.

And before using a fresh new set of batteries, remember that their current capacity is the highest expected, so if you still believe that you may have shorted terminals, try with regularly discharged batteries first so they will not drive much current if a short circuit still exists. The worst scenario of using partially discharged batteries would be dimmed LCD characters and low battery indication, meaning that the calculator is probably working fine. If so, then go with the fresh batteries.

Last but not least, if nothing goes right, repeat the mantra: 'FIXTHATCALC'... 'FIXTHATCALC'... These HP42 beasts are stronger than they seem to be.

Success!

Luiz (Brazil)

Edited: 15 May 2010, 7:17 p.m.

Re: 42s upgrade

*Message #10 Posted by **Paul Dale** on 15 May 2010, 9:38 p.m.,*
in response to message #9 by Vieira, Luiz C. (Brazil)

I've done almost everything with the batteries out -- I did a few continuity tests with them in by accident which produced weird results.

I didn't know to short the battery contacts while soldering but will in the future.

The batterys are a bit flat -- dropping back to the slower crystal and the low battery indicator comes on.

- Pauli

Re: 42s upgrade

*Message #11 Posted by **Vieira, Luiz C. (Brazil)** on 15 May 2010, 10:02 p.m.,*
in response to message #10 by Paul Dale

> Quote:
>
> I did a few continuity tests with them in by accident which produced weird results.

Actually, any continuity tester yields a small current in the circuit to be tested, so in terms of the calculator circuits, the test leads act as an extra current source. This would disrupt calculator operation, at least.

In terms of the tester circuit itself, continuity test applies to circuits without any signal, voltage or current source. So, the calculator batteries probably added a small amount of current that led to the abnormal, weird results you mentioned.

Still hoping for the successful recover of you HP42S!

Cheers.

Luiz (Brazil)

Edited: 15 May 2010, 10:46 p.m.

Re: 42s upgrade

*Message #12 Posted by **Hugh Evans** on 25 May 2010, 12:02 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Wait... I can use the 32k memory chip from my inoperable 48sx to upgrade my 42s??? This would be fantastic news!

Re: 42s upgrade

*Message #13 Posted by **Vieira, Luiz C. (Brazil)** on 25 May 2010, 9:07 a.m.,*
in response to message #12 by Hugh Evans

Been there, done that...

With the HP48G RAM chip it works fine, though! The IC identifier in one HP48G I have in hands right now is

```
SONY
CXK58257AM-70L (70L - 70nS -speed-, L - low power C-MOS)
352G14VS       (series manufacturing data, perhaps?)
```

If your HP48SX is inoperative, should consider the chance that the RAM CHIP itself is not good, though.

Believe you me, I have also used three RAM chips I found in a multimedia sound board for PC, all of them with the 70L (maybe 60L) suffix. At least one of the two HP42S I still have with me uses one of these RAM chips. If you need I can find their identifiers.

Success!

Luiz (Brazil)

Edited: 25 May 2010, 9:14 a.m.

Re: 42s upgrade

*Message #14 Posted by **Paul Dale** on 15 May 2010, 9:34 p.m.,*
in response to message #1 by Paul Dale

Another session triple checking both sides of the PCB, looking for solder bridges and resoldering pins. I also dropped back to a 32.768kHz crystal. Different symptoms this time but seemingly positive.

Pressing ON shows nothing in the display, but then pressing shift lights that annunciator. I can navigate the menus (the up/down arrows appear) and I can execute BEEPs and TONEs from the programming menu. The busy annunicator lights while beep is sounding.

So, it seems I've got some annunicators but no dot matrix display. Anyone have any ideas here?

- Pauli

Re: 42s upgrade

*Message #15 Posted by **Paul Dale** on 15 May 2010, 11:07 p.m.,*
in response to message #14 by Paul Dale

More information. During the display self test the line patterns appear very very faintly. I cannot see anything during normal keyboard entry.

- Pauli

Re: 42s upgrade

*Message #16 Posted by **Diego Diaz** on 16 May 2010, 2:17 a.m.,*
in response to message #15 by Paul Dale

Hi Paul,

> Quote:
>
> Another session triple checking *both* sides of the PCB...

According to this message, you've taken apart the display. Which in the end, may lead to all and every sympthom you've previously described.

Realigning the LCD with the PCB is somehow tricky as the stainless steel frame has gaps wide enough around LCD bezel for the screen to loose its alignment with the PCB's contact area.

Placing some isolating spacers (1mm wide aprox.) at every LCD side may help centering it. Tha bad news is that you 'll have to remove the frame once again (be gentle with the steel "twisted anchors" they're prone to break).

Hope this helps.

Cheers.

Re: 42s upgrade

*Message #17 Posted by **Paul Dale** on 16 May 2010, 3:16 a.m.,*
in response to message #16 by Diego Diaz

Yeah, I too the PCB off the keyboard/display unit. Thought I'd been careful but obviously not careful enough. Will disassemble again and see what I can do... :-(

- Pauli

Re: 42s upgrade

*Message #18 Posted by **Paul Dale** on 16 May 2010, 3:39 a.m.,*
in response to message #16 by Diego Diaz

That's it!!!! I've now got a working 32kb 42-s :-) Still only normal speed but I can live with that.

The screen is very dim but that is most likely the batteries. Being Sunday meant I didn't get out to replace them -- tomorrow I should be able to.

I couldn't noticeably move either the stainless steel surround or the LCD inside this using reasonable force, however I was able to very very slightly reposition the PCB in the slots.

Thanks to everyone for their very generous and very rapid assistance.

- Pauli

Re: 42s upgrade

*Message #19 Posted by **Diego Diaz** on 16 May 2010, 5:53 a.m.,*
in response to message #18 by Paul Dale

Hi,

Good to know of yet another RPN wonder back in working order ;-))

Cheers.

Re: 42s upgrade

*Message #20 Posted by **Vieira, Luiz C. (Brazil)** on 16 May 2010, 9:16 a.m.,*
in response to message #18 by Paul Dale

Hi, Paul;

congratulations! I'm happy for you.

And welcome (if you're not yet) to the 32K-42S Owner´s Club. These little beasts seem to feel a lot happier with this additional 24K RAM.

Cheers.

Luiz (Brazil)

Re: 42s upgrade

*Message #21 Posted by **Mike Morrow** on 16 May 2010, 12:15 p.m.,*
in response to message #20 by Vieira, Luiz C. (Brazil)

> Quote:
>
> These little beasts seem to feel a lot happier with this additional 24K RAM.

In what way? I have used my several HP42S units for almost 17 years. It is my favorite small HP calculator by far.

But I've never once been close to using more than about one-third of the 8K RAM. My fourth-order Runge-Kutta numerical solver (written for my HP-41C 30 years ago) for systems of simultaneous first-order differential equations barely uses up 1K of program space.

The 8K RAM of the HP42S is a tremendous advance over the 0.5K RAM of the predecessor HP-15C, but what is the practical value of an additional 24K in the HP42S, coupled with the degraded structural integrity of the result? The HP42S doesn't have the speed and I/O capability to make anything other than novelty use of increased memory, as far as my limited HP42S experience indicates.

If one is "upgrading" for the technical challenge or as a hobby project, rather than for any practical outcome, that's a totally different matter. But...I wonder how many perfectly good HP42S units have NOT survived this non-trivial operation.

Re: 42s upgrade

*Message #22 Posted by **Vieira, Luiz C. (Brazil)** on 16 May 2010, 1:40 p.m.,*
in response to message #21 by Mike Morrow

Hi, Mike;

I can tell by my own experience when I was testing statistics samples from many different areas and I offered to help colleagues to compute their own when I was in my master degree´s studies (about six years ago). I had my HP42S and for each sample I created a separated matrix so I ended up storing more than 20 samples with many elements each. I remember the calculator was filled with a lot of programs and we used it for a whole weekend. When I realized, we had already used more than 14KBytes amongst matrices and programs. It is less than half of the available 32K, but I'd need at least two HP42S to accomplish the task for me and the guys at the same time.

I was only worried about two things: could not save the job elsewhere outside the calculator and could not risk replacing the batteries as well... Scary, at least.

For the sake of the successful 'transplantation', I remember successfully upgrading at least 6 HP42S, not a single 'burn-out'.

Cheers.

Luiz (Brazil)

Edited: 16 May 2010, 1:43 p.m.

Re: 42s upgrade

*Message #23 Posted by **geoff quickfall** on 16 May 2010, 2:38 p.m.,*
in response to message #22 by Vieira, Luiz C. (Brazil)

I had a suite of programs developed for my university days. At the time the newest pc on the market and in our lab was an IBM 8086 with 2 stacked 5MB hardrives, amber Amdek screen, two floppies and 1 mb of ram, 640 for the progams.

Needless to say my HP 41C with quad memory, extended memory, printer, plotter, and stat module was my preferred machine. It was full even using synthetics.

Now I use the 42S in the cockpit with dedicated programs aircraft specific. I regressed the charts to quadratics and created software to print the answers with my infrared printer (saves time). I also have a suite of navigation, temperature as well as a large CONVERT program with 20 common conversion routines used in aviation for various countries including a meter to feet conversion routine based on ICAO (aviation) conversion. They round but the Chinese and the Russians round to meters differently! I quickly consumed the 8K.

I have configured the 42S as a PDA also with phone numbers and text search (labels) as well as door codes. These alpha progams use up memory also.

At the moment with a 32K memory chip I am running at 19K available. Sure wish it could communicate with the home computer.

So I guess it is a hobby but put to good use and a needed change. Now I wonder why HP allowed the architecture for 32K but only included 7K. I was told that it would be too expensive at 32K back in the 80's.

Cheers, Geoff

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1972 HP-35 With Bug

*Message #1 Posted by **aj04062** on 14 May 2010, 10:40 p.m.*

I just got one of these of eBay. The battery was dead and the owner did not claim that it worked. I immediately tried a rebuilt battery I have and it did not work. However, when plugged in with the wall charger, it does.

I presume the two outside contacts on the charger plug socket must make contact when running on batteries. This contact is a little corroded. Is it safe to jump these to determine for sure that this bad connection isnt the fault?

I do not think I want to break into this calculator to look at the contacts beneath the battery tray as the label is in pretty good shape.

Thoughts on easy fixes?

Re: 1972 HP-35 With Bug

*Message #2 Posted by **Ignazio Cara (Italy)** on 15 May 2010, 2:57 a.m.,*
in response to message #1 by aj04062

Hello, congrats for your new calculator, and yes, is safe to connect the two extreme pin to verify if the calculator works with the battery pack inserted. But if you want replace or clean the original jump, you must open the body removing, even partially, the rear label. HTH

Regards

Ignazio

Re: 1972 HP-35 With Bug

*Message #3 Posted by **aj04062** on 15 May 2010, 9:27 a.m.,*
in response to message #2 by Ignazio Cara (Italy)

It is alive. Good deal.

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OT: Continuously Variable Gear Transmission

*Message #1 Posted by **Norman Dziedzic** on 14 May 2010, 1:30 p.m.*

Thought some of you here might enjoy this story.

http://www.gizmag.com/steve-durnin-d...-geared/15088/

I think it's genius.

Re: OT: Continuously Variable Gear Transmission

*Message #2 Posted by **Dimitri Simitas** on 14 May 2010, 2:22 p.m.,*
in response to message #1 by Norman Dziedzic

Looks neat.

http://www.gizmag.com/steve-durnin-ddrive-d-drive-infinitely-variable-transmission-geared/15088/

Dimitri

Re: OT: Continuously Variable Gear Transmission

*Message #3 Posted by **Garth Wilson** on 14 May 2010, 3:13 p.m.,*
in response to message #1 by Norman Dziedzic

It sounds like it's not really a valid CVT if you have to have a motor of variable speed and torque on the second input shaft.

I read an article from decades ago (1950's, IIRC) on what people expected for the future of bicycles. One of the things was that they would have CVTs. What the writers did not anticipate was that we would get close to that with much lower weight, better efficiency, better durability, etc. by having so many gears so closely spaced. (They're out to 11 cogs in the back, and you can see how close the spacing is if the number of teeth goes 12-13-14-15-16-17-18-19-20-21-23. There are two to three chainrings in the front to select the range. Shifting is practically instantaneous too, unlike 30 years ago and back.

Edited: 14 May 2010, 3:16 p.m.

Re: OT: Continuously Variable Gear Transmission

*Message #4 Posted by **bill platt** on 14 May 2010, 3:36 p.m.,*
in response to message #3 by Garth Wilson

Actually we had closer ranges in the 60s than today. (Nobody shifts front and rear simultaneously for a specific fine tuning of ratio, except in very rare circumstances--too complicated and slow). This is because the old freewheels had a smallest cog of 14t and now we have 11 tooth cogs. The change in ratio from a 44-11 to a 44-12 is much bigger than the change from a 56-14 to a 56-15.

But the amazing thing is that some people can actually use a 53-11. Nobody road raced with a 67-14!

Edited: 14 May 2010, 3:37 p.m.

Re: OT: Continuously Variable Gear Transmission

*Message #5 Posted by **Garth Wilson** on 14 May 2010, 4:21 p.m.,*
in response to message #4 by bill platt

You're referring to half-stepping (optionally plus granny), which I did use for years. The most even spacing comes from a 42-47 front and 13-16-20-25-31 rear, with each step being almost 12% above the last. I ran calculator programs on gobs of combinations looking for the perfect distribution of gears in those years. Actually the calculator programs came after having done the same thing with a slide rule and plotting the results on logarithmic number lines (which are easily made by putting the slide rule's slide down on the paper if you didn't have log paper). All of the step sizes in the 12-23 11-speed cassette are smaller though, and without shifting chainrings. In the 70's, we could choose exact numbers of teeth. Today, shifting, especially of chainrings, has been made quicker and more foolproof by, among other things, the addition of ramps and pins on the larger ring(s) which not only catch the chain to help it up, but are also located such that when the chain comes up, the rollers are already positioned perfectly to go between the teeth instead of onto the points (or other in-between orientations). However this requires that the rings be paired for each other, something you can't do if someone can order any random combination of sizes. I partly lament the fact that the old way is mostly gone; but in most ways the new does prove to be better.

Edited: 14 May 2010, 4:23 p.m.

Re: OT: Continuously Variable Gear Transmission

*Message #6 Posted by **bill platt** on 14 May 2010, 7:28 p.m.,*
in response to message #5 by Garth Wilson

Wow, I haven't talked about this in years! Half-step versus "alpine" and some other gearing ideas. I also made extensive calculations as a kid--by hand (except for my trusty hp) with "sawtooth" diagrams to show the shift sequence.

But in racing, all those ideas went out the window by the time I was racing in the 80s--and it was simply "straight block" . There was one race, in Hagerstown, in the rain, as a junior, when I rand a 15-17-19-21-24 but every other race I have ever done has been in a straight block at least for the 4 smallest cogs.

It is interesting to see old racing bikes from the 60s with close spaced front chainrings--49/52 even! And in the back, a 14-16-18-21-24.

By the way, I have a Huret jubilee, two Suntour Superbe pro, a SunTour Cyclone, and both a Nuovo and a Super Record rear derailleurs. The newest campagnolo carbon units are still heavier than the old cyclone and jubilee--though they sure do shift better.

Edited: 14 May 2010, 7:32 p.m.

Re: OT: Continuously Variable Gear Transmission

*Message #7 Posted by **Garth Wilson** on 14 May 2010, 9:11 p.m.,*
in response to message #6 by bill platt

I still have a Regina 14-15-16-17-18 freewheel in a box. Your 15-17-19-21-24 is part of an

almost modern 12-27: 12-13-14-15-17-19-21-24-27. The 10-speed version adds the 16.

I still have all my old papers from having calculated lots of setups by hand.

Re: OT: Continuously Variable Gear Transmission

*Message #8 Posted by **Randy** on 14 May 2010, 10:32 p.m.,*
in response to message #6 by bill platt

> Quote:
>
> The newest campagnolo carbon units are still heavier than the old cyclone and jubilee--though they sure do shift better.

Speaking of better shifting, the latest SRAM 10 speed cassettes have both asymmetrical and missing teeth in specific locations to aid in moving the chain off the gear faster. As first glance, they look like they've seen 20K miles and should be in the scrap bin, not on the wheel.

Re: OT: Continuously Variable Gear Transmission

*Message #9 Posted by **Raymund Heuvel** on 14 May 2010, 6:08 p.m.,*
in response to message #3 by Garth Wilson

I think the CVT story started in the Netherlands by DAF cars.
The variomatic transmission in these cars had a gear for every speed.

See also: Link to DAF Museum early CVT construction.

The mechanism was based on a 'belt-pull' torque powertrain.
Evolving development resulted in a 'steel-belt-push' torque powertrain called CVT.
DAF cars reduced its portfolio to trucks but the transmission technology survived in VDT, later integrated in Bosch.
See Bosch CVT for the details

Maybe we should support Steve Durnin with some perfect HPxx programs for simulation and calculation .....

Edited: 14 May 2010, 6:10 p.m.

Re: OT: Continuously Variable Gear Transmission

*Message #10 Posted by **Bill (Smithville, NJ)** on 14 May 2010, 7:10 p.m.,*
in response to message #9 by Raymund Heuvel

I can speak from experience - having had a 1999 Honda Civic with their version of the CVT. It's a little bit of a strange experience since you don't get the sensation of the gear changes as you accelerate. I think Honda used a steel belt CVT. I put over 230,000 miles on it and only got rid of it when the air conditioning failed & I didn't feel like spending a lot of money to fix it.

A lot of people had problems with the early demise of the Honda CVT transmission. Mine went at 98,500 miles but I had an extended warranty that put a new one in for only $25 out of pocket.

Turns out that you needed to use only Honda CVT transmission fluid and - this is the key item - change the fluid often. After the first transmission, I started changing the transmission fuild with every other oil change - and no more problems.

It was a great car and got 35-60 MPG in combination city/open road.

Just to make this HP related, thank goodness I used the HP calculsator to calculate the extended warranty plan.

Bill

Re: OT: Continuously Variable Gear Transmission

*Message #11 Posted by **Paul Dale** on 14 May 2010, 7:37 p.m.,*
in response to message #9 by Raymund Heuvel

I think CVT predate this by quite a bit. The earliest version I know about was by George Constantinescu who was quite an amazing inventor. See here for a discussion and description of his torque converter.

Mechanical CVT are available commercially e.g. zero-max.

- Pauli

Re: OT: Continuously Variable Gear Transmission

*Message #12 Posted by **Klaus** on 17 May 2010, 5:15 a.m.,*
in response to message #3 by Garth Wilson

Actually, there do exist CVT-like things for bikes: hettlage. I haven't seen a single one on the street, but you can buy them.

Re: OT: Continuously Variable Gear Transmission

*Message #13 Posted by **Garth Wilson** on 17 May 2010, 1:52 p.m.,*
in response to message #12 by Klaus

Interesting. I hadn't seen that one before. It looks like it's not continuously variable though. The positions are indexed, apparently so the teeth don't hit on the wrong parts of the belt. As for their comment on the belt lasting five times as long as a chain, I use an unconventional dry lube method with paraffin and graphite that makes the chain last at least 20,000 miles of hard use (a lot of climbing).

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Sex and the City Laptops

*Message #1 Posted by **Palmer O. Hanson, Jr.** on 13 May 2010, 10:24 p.m.*

Page 34 of the May 17 issue of *The New Yorker* combines an advertisement for HP's "second-edition electronic clutch" with an advertisement for a coming Sex and the City movie. The advertisement directs us to go to hp.com/hpcollection. It looks like the HP ad writers aren't in any danger of becoming zombies.

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HP 12c as a basic scientific calc for the RPN newbie?

*Message #1 Posted by **nick lidakis** on 13 May 2010, 4:14 p.m.*

Currently, I can't find anything that is RPN and fits in a shirt pocket. I can't afford anything that's up on eBay in terms of an 11c or 15c. My 48G is sometimes too big to carry along for the basic chemistry calculations that I do. The HP 35s is a tad large as well, especially when stored in its bulky case.

As a new RPN user, I was wondering why I should not consider using a HP 12c as a basic, pocket, RPN calculator. Looking at a photo (http://www.sistemaeducacionalmoderno.com.br/Imagens/gif%20projeto/Hp12c.jpg) I do see that there are no trig functions, but there are log, ln, and square root functions.

So, any real reason *not* to pick one up used for basic scientific use? Are there any gotchas, considering it's setup as a financial calc.

P.S. In my cursory search on the internet, I read that in 2009 a prototype 15c+ was demoed at some conference. That would be really nice.

Edited: 13 May 2010, 4:16 p.m.

Re: HP 12c as a basic scientific calc for the RPN newbie?

*Message #2 Posted by **Gene Wright** on 13 May 2010, 4:38 p.m.,*
in response to message #1 by nick lidakis

If you want a scientific RPN calculator that fits into your pocket, I would suggest considering the new HP 30b model. It may fit what you are looking for.

Why?

Trig functions and inverses Hyperbolic trig and inverses 5 probability distributions Programmable with 10 separate program "files" Ability to customize the keyboard with functions or programs

Good reasons to consider the 30b as a scientific RPN over the 12c.

Edited: 13 May 2010, 4:40 p.m.

Re: HP 12c as a basic scientific calc for the RPN newbie?

*Message #3 Posted by **nick lidakis** on 13 May 2010, 6:22 p.m.,*
in response to message #2 by Gene Wright

> Quote:
>
> If you want a scientific RPN calculator that fits into your pocket, I would suggest considering the new HP 30b model. It may fit what you are looking for.
>
> Why?

> Trig functions and inverses Hyperbolic trig and inverses 5 probability distributions Programmable with 10 separate program "files" Ability to customize the keyboard with functions or programs
>
> Good reasons to consider the 30b as a scientific RPN over the 12c.

The model you quoted can't be found on HP's (home or small business) website. Amazon doesn't have it either, though they do list the similar(?) 20b. No matter, because...

...I should have mentioned that I *really* do like the landscape (wide screen?)form factor of the 12c.

Thanks for the info.

Re: HP 12c as a basic scientific calc for the RPN newbie?

*Message #4 Posted by **Mike Morrow** on 13 May 2010, 7:35 p.m.,*
in response to message #3 by nick lidakis

> Quote:
>
> ---
>
> ...I should have mentioned that I *really* do like the landscape (wide screen?)form factor of the 12c.
>
> ---

One wonders why.

I've used Voyager-series calculators for more than 25 years. They are more than a little awkward to actually use as a "handheld" calculator, which is an unfortunate characteristic for a handheld calculator to have. It's a layout that has no advantage over the traditional layout, and some disadvantages, as evidenced by the fact that HP hasn't repeated the mistake in any other calculator that they've introduced since the Voyagers.

I suspect the only real appeal is that the layout is "different" and "cute".

Re: HP 12c as a basic scientific calc for the RPN newbie?

*Message #5 Posted by **nick lidakis** on 13 May 2010, 10:41 p.m.,*
in response to message #4 by Mike Morrow

> Quote:
>
> ---
>
> One wonders why.
>
> I've used Voyager-series calculators for more than 25 years. They are more than a little awkward to actually use as a "handheld" calculator, which is an unfortunate characteristic for a handheld calculator to have. It's a layout that has no advantage over the traditional layout, and some disadvantages, as evidenced by the fact that HP hasn't repeated the mistake in any other calculator that they've introduced since the Voyagers.
>
> I suspect the only real appeal is that the layout is "different" and "cute".
>
> ---

I had a chance to tinker with a 12c today at the local Staples. I remembered --after reading your post-- that my natural instinct was to _not_ hold the calc in one hand while typing with the other.

Rather, I placed the 12c flat on a desk and slightly closer to my right hand. Now that I think about it, I can't recall of anyone at school actually holding a calc in one hand while using; 'tis always flat on some work surface.

Also, in comparison to my vertically longish 48G, I found that it was quite a bit easier (for the calculations I am doing now, i.e., non-graphing) for my fingers to travel across the 12c in its smallish horizontal landscape than it was to "climb" the the longer and larger 48G. I also preferred the position of the large enter key.

Again, I'm a total RPN newbie, so...

Edited: 13 May 2010, 10:42 p.m.

Re: HP 12c as a basic scientific calc for the RPN newbie?

*Message #6 Posted by **Garth Wilson** on 14 May 2010, 12:03 a.m.,*
in response to message #5 by nick lidakis

> Quote:
>
> I had a chance to tinker with a 12c today at the local Staples. I remembered --after reading your post-- that my natural instinct was to _not_ hold the calc in one hand while typing with the other. Rather, I placed the 12c flat on a desk and slightly closer to my right hand. Now that I think about it, I can't recall of anyone at school actually holding a calc in one hand while using; 'tis always flat on some work surface.

I frequently hold my 41cx in my left hand and press the keys with my left thumb, freeing up my right hand to keep a place in a book or on a drawing, etc.. It may sound precarious but I've never come close to dropping it doing this. Maybe I could always set the calc on something (desk, workbench, etc.) if I kept things neater and had room.

Edited: 14 May 2010, 12:04 a.m.

Re: HP 12c as a basic scientific calc for the RPN newbie?

*Message #7 Posted by **db (martinez, ca.)** on 14 May 2010, 12:47 a.m.,*
in response to message #6 by Garth Wilson

Garth; I do the same thing: pencil in right hand, stroke buttons with left. Drooling and saying d'oh! somewhere above and between.

Re: HP 12c as a basic scientific calc for the RPN newbie?

*Message #8 Posted by **megarat** on 15 May 2010, 4:32 p.m.,*
in response to message #4 by Mike Morrow

> Quote:
>
> One wonders why.
>
> I've used Voyager-series calculators for more than 25 years. They are more than a little awkward to actually use as a "handheld" calculator, which is an unfortunate characteristic for a handheld calculator to have. It's a layout that has no advantage over

> the traditional layout, and some disadvantages, as evidenced by the fact that HP hasn't repeated the mistake in any other calculator that they've introduced since the Voyagers.
>
> I suspect the only real appeal is that the layout is "different" and "cute".

A "mistake"? I strongly, strongly disagree. To me, the Voyagers are not awkward but divine. I hold the calculator in both hands and press buttons with my thumbs. It feels perfectly natural, and I have the keystrokes so ingrained into my muscle memory that I can perform most operations perfectly with my eyes closed.

If the layout was really so empirically awkward (and a "mistake"), I don't think this calculator (especially the 12c) would have earned its critical success and its enduring reputation of being one of HP's most successful products.

Re: HP 12c as a basic scientific calc for the RPN newbie?

*Message #9 Posted by **Martin Pinckney** on 15 May 2010, 9:41 p.m.,*
in response to message #8 by megarat

> Quote:
>
> A "mistake"? I strongly, strongly disagree. To me, the Voyagers are not awkward but divine...
>
> If the layout was really so empirically awkward (and a "mistake"), I don't think this calculator (especially the 12c) would have earned its critical success and its enduring reputation of being one of HP's most successful products.

You are right. I think Mike is confusing personal preference with evidence for bad design. One wonders why he used a "mistake" for 25 years ...

[:-)

Re: HP 12c as a basic scientific calc for the RPN newbie?

*Message #10 Posted by **Martin Pinckney** on 13 May 2010, 5:04 p.m.,*
in response to message #1 by nick lidakis

> Quote:
>
> P.S. In my cursory search on the internet, I read that in 2009 a prototype 15c+ was demoed at some conference. That would be really nice.

This subject has been beat practically to death on here. Some say it's a "no-brainer", HP will announce it any old time, others say it will never happen. We'll just have to wait and see, 'cause HP ain't talkin'.

Re: HP 12c as a basic scientific calc for the RPN newbie?

*Message #11 Posted by **Tim Wessman** on 13 May 2010, 5:22 p.m.,*
in response to message #10 by Martin Pinckney

We talk plenty. We just don't say anything. :-)

TW

Edited: 13 May 2010, 5:23 p.m.

Re: HP 12c as a basic scientific calc for the RPN newbie?

*Message #12 Posted by **nick lidakis** on 13 May 2010, 6:17 p.m.,*
in response to message #10 by Martin Pinckney

> Quote:
>
> This subject has been beat practically to death on here. Some say it's a "no-brainer", HP will announce it any old time, others say it will never happen. We'll just have to wait and see, 'cause HP ain't talkin'.

Understood. I'll check the archives.

Re: HP 12c as a basic scientific calc for the RPN newbie?

*Message #13 Posted by **PatrickR** on 18 May 2010, 12:22 p.m.,*
in response to message #10 by Martin Pinckney

Wasn't there someone here a couple of times with designs for a pocket calc? I believe it was called µCalc or uCalc. What is the status of that project?

Re: HP 12c as a basic scientific calc for the RPN newbie?

*Message #14 Posted by **Jeff O.** on 18 May 2010, 1:53 p.m.,*
in response to message #13 by PatrickR

Search for posts by DaveJ.

I believe he built a prototype, but got bitten by some bug or other on the chip he used and has not had time to do further work.

...

Re: HP 12c as a basic scientific calc for the RPN newbie?

*Message #15 Posted by **J Grim** on 13 May 2010, 9:21 p.m.,*
in response to message #1 by nick lidakis

I think a 12c would work fine, however there are a couple of points to consider. My line of work is mechanical design. I bounce back and forth between various RPN calcs (50g, 11c, etc.). I purchased a 12c and took it for a spin at work for awhile. Here are the points I think should be considered aside from the ones you mentioned:

1) Compared to say, an 11c, I found running a program that is not the first stored program to be a bit cumbersome. For example, if said program begins on line 7, you must issue a GTO command in order to queue it up before running it. On an 11c, you can bind the program to a user defined hotkey.

2) The 11c and I presume the 15c are able to lock into USER mode which eliminates the need to press the f shift key prior to running a "hotkey" program or variable. I find this handy in most of the calculations I do at work. Unfortunately, the 12c does not have this capability. Of course, a workaround using the STO and RCL functions might overcome this issue. I personally like locking into USER mode for "one stop shopping".

All that said, I have found it to be more than adequate for simple calculations and a small "cheat sheet" taped to the front bezel for the GTO inputs for my programs doesn't hurt either. ;-)

J Grim

Re: HP 12c as a basic scientific calc for the RPN newbie?

*Message #16 Posted by **nick lidakis** on 13 May 2010, 10:51 p.m.,*
in response to message #15 by J Grim

J,

Thank you much for that info.

Re: HP 12c as a basic scientific calc for the RPN newbie?

*Message #17 Posted by **marais** on 14 May 2010, 2:59 p.m.,*
in response to message #16 by nick lidakis

I disagree. I got a 12C (several, in fact), and find them excellent for the application domain they were conceived for, but for the engineering stuff, it's just not the right machine. The trigonometry has been mentioned, but there's more. I need the complex arithmetic, unit conversions are convenient, I like to have base-n calculations - and for convenience, the ability to access programs directly.

If you need a scientific calculator, get the 35S (a very capable machine in my opinion, with the looks of the classic calcs), or save for an 11C or 15C. Or better yet, get the 12C now, and the 11C later.

Re: HP 12c as a basic scientific calc for the RPN newbie?

*Message #18 Posted by **Martin Pinckney** on 14 May 2010, 4:43 p.m.,*
in response to message #17 by marais

Agree with your assertions about scientific functions lacking in a 12c. Also with Gene's suggestion of a 30b. But Nick has already stated: 1) he prefers the landscape format, and 2) the 35s is too big.

So Nick, I say look for a bargain on an 11c, or start emailing HP to bring out the 15c+.

Re: HP 12c as a basic scientific calc for the RPN newbie?

*Message #19 Posted by **marais** on 14 May 2010, 6:38 p.m.,*
in response to message #18 by Martin Pinckney

I couldn't agree more. And if you start mailing HP for re-releasing the 15C, count me in for support.

Andreas

Re: HP 12c as a basic scientific calc for the RPN newbie?

*Message #20 Posted by **nick lidakis** on 15 May 2010, 10:22 p.m.,*
in response to message #18 by Martin Pinckney

> Quote:
>
> So Nick, I say look for a bargain on an 11c, or start emailing HP to bring out the 15c+.

Is there a specific email address?

Re: HP 12c as a basic scientific calc for the RPN newbie?

*Message #21 Posted by **Martin Pinckney** on 15 May 2010, 11:32 p.m.,*
in response to message #20 by nick lidakis

Try this.

I have used it a couple years ago, and I did get a reply from a real human, albeit not Mark Hurd.

Re: HP 12c as a basic scientific calc for the RPN newbie?

*Message #22 Posted by **Tim Wessman** on 16 May 2010, 2:02 a.m.,*
in response to message #21 by Martin Pinckney

And in a week or two it will be routed into my mailbox with a FYI on it. . .

TW

Re: HP 12c as a basic scientific calc for the RPN newbie?

*Message #23 Posted by **Martin Pinckney** on 16 May 2010, 9:30 a.m.,*
in response to message #22 by Tim Wessman

So save yourself and us the trouble and just tell us when the 15c+ is coming out! [:-)

Re: HP 12c as a basic scientific calc for the RPN newbie?

*Message #24 Posted by **Steve Simpkin** on 16 May 2010, 12:42 p.m.,*
in response to message #23 by Martin Pinckney

> Quote:
>
> So save yourself and us the trouble and just tell us when the 15c+ is coming out! [:-)

Well where would be the fun in that ;-P

Re: HP 12c as a basic scientific calc for the RPN newbie?

*Message #25 Posted by **Gerson W. Barbosa** on 16 May 2010, 3:56 p.m.,*
in response to message #23 by Martin Pinckney

Looks like some research has already begun. I wonder if development also has ;-)

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv019.cgi?read=153755

Re: HP 12c as a basic scientific calc for the RPN newbie?

*Message #26 Posted by **nick lidakis** on 18 May 2010, 10:40 p.m.,*

in response to message #21 by Martin Pinckney

> Quote:
>
> Try this.
>
> I have used it a couple years ago, and I did get a reply from a real human, albeit not Mark Hurd.

Thanks. I shot off a brief but detailed email concerning my needs.

Is the Mr. Wessman that replied to the thread someone who works for HP's calculator division?

Edited: 18 May 2010, 10:41 p.m.

Re: HP 12c as a basic scientific calc for the RPN newbie?

*Message #27 Posted by **Don Shepherd** on 19 May 2010, 8:40 a.m.,*
in response to message #26 by nick lidakis

> Quote:
>
> Is the Mr. Wessman that replied to the thread someone who works for HP's calculator division?

Yes. He's one of two HP staff who frequent this forum.

Re: HP 12c as a basic scientific calc for the RPN newbie?

*Message #28 Posted by **Maarten Ambaum (Reading, UK)** on 19 May 2010, 9:09 a.m.,*
in response to message #26 by nick lidakis

Perhaps Tim or Cyrille should take a leaf out of Steve Job's book and give short and to the point answers with all the info in it that we need. Macrumors.com has some great examples.

So, guys, any chance of a new RPN scientific?

Re: HP 12c as a basic scientific calc for the RPN newbie?

*Message #29 Posted by **Martin Pinckney** on 19 May 2010, 9:51 a.m.,*
in response to message #28 by Maarten Ambaum (Reading, UK)

> Quote:
>
> Perhaps Tim or Cyrille should take a leaf out of Steve Job's book and give short and to the point answers with all the info in it that we need...
>
> So, guys, any chance of a new RPN scientific?

Refer back to Message #11 in this thread.

Re: HP 12c as a basic scientific calc for the RPN newbie?

*Message #30 Posted by **J Grim** on 14 May 2010, 9:31 p.m.,*
in response to message #17 by marais

I agree with your points. However, the the original posting stated that the 35S was too big and the 11C or 15C are too expensive. I think that the 12C would be a fine solution in the short term. That being said, I think saving for a 11 or 15 is the best idea long term. Unless of course, HP re-releases the 11 or 15. Let's keep our collective fingers crossed. :-)

J Grim

Re: HP 12c as a basic scientific calc for the RPN newbie?

*Message #31 Posted by **Gerson W. Barbosa** on 13 May 2010, 10:07 p.m.,*
in response to message #1 by nick lidakis

> Quote:
>
> Looking at a photo (http://www.sistemaeducacionalmoderno.com.br/Imagens/gif%20projeto/Hp12c.jpg) I do see that there are no trig functions, but there are log, ln, and square root functions.

It's not like having them built in, but you can key in a trig functions program on the regular 12C or the 12C+, like Valentin Abillo's HP-12C Tried & Tricky Trigonometrics.
http://membres.multimania.fr/albillo/calc/pdf/DatafileVA003.pdf

This might be an option for the 12C Platinum.

Re: HP 12c as a basic scientific calc for the RPN newbie?

*Message #32 Posted by **nick lidakis** on 13 May 2010, 10:54 p.m.,*
in response to message #31 by Gerson W. Barbosa

Thanks for the link. I came across it today when researching the 12c.

Why did you mention the Platinum specifically?

Re: HP 12c as a basic scientific calc for the RPN newbie?

*Message #33 Posted by **Bart (UK)** on 14 May 2010, 6:56 a.m.,*
in response to message #32 by nick lidakis

Hi,

The reason is that the normal 12C has 99 lines of programming available and the 12C platinum has 399. So the second link just fits into the 12C platinum.

Considering the small price difference I see on the internet for the 12C and 12C plat (in the UK anyway) it may be wise to invest in a platinum if going for the 12C.

Bart

Re: HP 12c as a basic scientific calc for the RPN newbie?

*Message #34 Posted by **Gerson W. Barbosa** on 14 May 2010, 12:28 p.m.,*
in response to message #33 by Bart (UK)

Hello Bart,

> Quote:
>
> ...the 12C platinum has 399. So the second link just fits into the 12C platinum.

Actually, the program requires "only" 276 steps. Lines 277 through 376 are optional and lines 377 through 399 were used to illustrate a point (rounding results according to HP classic rounding method so that the "Calculator Forensic" result matched the scientific Voyagers).

There is another option for the 12C Platinum: Tony Hutchins has published "Circular Functions on the HP-12C and 12cp" (DATAFILE V25N5P20 September/October 2006). It's about 220 steps long and relies on Taylor's Series and range reduction. (I haven't seen the listing as I don't have that issue).

http://www.hpcc.org/datafile/datafilev25.html#V25N6

Regards,

Gerson.

Re: HP 12c as a basic scientific calc for the RPN newbie?

*Message #35 Posted by **kubla** on 13 May 2010, 11:48 p.m.,*
in response to message #1 by nick lidakis

Get yourself an iPod and the following two apps:

hp12c http://www.rlmtools.com/ Displays in horizontal or vertical format.

hp41cx http://alsoftiphone.com/

I have both so I can access my favourite calculators wherever I go.

Edited: 13 May 2010, 11:51 p.m.

Re: HP 12c as a basic scientific calc for the RPN newbie?

*Message #36 Posted by **nick lidakis** on 14 May 2010, 12:13 a.m.,*
in response to message #35 by kubla

Did you know that you have to register/create an account with Apple to use an iPod Touch even if you plan on installing nothing but free applications? Neither did I, which is why I returned it after the first day.

The household here is Linux only. My Linux/GPL philosophy doesn't mesh well with Mr. Job's proprietary Apple philosophy.

I did find something called Free 42c for my Nokia N800. Not the same as a true pocket calc with months/years of battery life and real plastic keys. I think it will come in handy for sometime, so it will stay installed.

No iPhones allowed in my class for exams either. Thank you for the suggestion, though.

Edited: 14 May 2010, 12:15 a.m.

Re: HP 12c as a basic scientific calc for the RPN newbie?

*Message #37 Posted by **Israel Otero** on 14 May 2010, 3:16 a.m.,*
in response to message #36 by nick lidakis

Hello from Puerto Rico

I like the form factor of the HP-12C and I use it regularly because of it's long battery life and lightness. These two things outweight it's ackward design. Also it's display is well formed and easy to see.

Regarding the iTunes I agree with you on the Apple Store as a matter of fact they force you to use a credit Visa when with my debit one I never had any problems anywhere.

I use Linux too because I find comfortable working with a command line interface when I worked as a computer operator for a HP3000 mini during the mid-80s. It is not as easy to use as was MPE (HP3000 operating system) but for me it is OK.

Edited: 14 May 2010, 3:16 a.m.

Just wondering (a bit O.T....)

*Message #38 Posted by **Vieira, Luiz C. (Brazil)** on 14 May 2010, 6:00 a.m.,*
in response to message #1 by nick lidakis

Hi, Nick;

I see that you used a particular link to show a picture of the HP12C that actually points to a Brazilian kinda 'e-learning' system I was not aware of myself. Just for curiosity: was it a random choice or you actually have some interest on foreign courses?

About trigonometric with the HP12C: this is also an option. Although having some natural limitations related to the method, it fits well in the HP12C. And the suggestion of using an HP12C Platinum (avoid the first series...) relates to its 4-times larger programming memory, the ability of handling up to 80 cash-flow entries against the 21 available with the basic HP12C, and the Algebraic-RPN choice.

Cheers.

Luiz (Brazil... coincidence, ahn?)

Edited: 14 May 2010, 6:01 a.m.

Re: Just wondering (a bit O.T....)

*Message #39 Posted by **nick lidakis** on 15 May 2010, 10:26 p.m.,*
in response to message #38 by Vieira, Luiz C. (Brazil)

It was a random picture. I'm in New York City. I have recently made several trips to Manhattan's thrift stores in search of RPN treasure. One young lady told me that when old calculators do come in they usually toss them in the trash instead of putting them up for sale. :/

Regarding the trig functions, thank you much.

You all have been very kind and helpful. I'll keep you all updated.

Re: Just wondering (a bit O.T....)

*Message #40 Posted by **nick lidakis** on 20 May 2010, 12:57 p.m.,*
in response to message #39 by nick lidakis

I'm in the club!

I bypassed eBay and used a website that lets you search Craigslist on a national scale. I found a seller in Houston, TX that was offering a moderately used 15c (could not find a cheaper 11c) for $100 for calc and case only. A new 12c would have cost ~90 USD at the Staples.

It arrived today, and it looks better than I thought. Passes keyboard and display tests. Keys have such a nice feel to them. Labels on keys are a very bright white, and keys faceplate is perfect. There is a slight bulge/dent on the metal to the left of the display. Serial no. is 2533a31668. No major scratches, nor any engravings.

Congratulations!

*Message #41 Posted by **Vieira, Luiz C. (Brazil)** on 20 May 2010, 1:52 p.m.,*
in response to message #40 by nick lidakis

And welcome, of course!

The HP15C is a remarkable calculator. Now that you have yours, I'd strongly suggest entirely reading the HP15C Owner´s Manual AND, right after it, the HP15C Advanced Functions Handbook. Needless to say, the Advanced Functions Handbook is a 'must read' once you have red the Owner´s Manual.

A little tip: Part II of the HP11C Owner´s Manual and Problem Solving Guide also has many interesting material related to programming that are not covered in the HP15C Owner´s Manual, even though completely applicable to both calculators.

Success!

Luiz (Brazil)

Edited: 20 May 2010, 4:37 p.m.

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HP Forum Archive 19

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HP-41CY emulation for NoV-64.

*Message #1 Posted by **Diego Diaz** on 13 May 2010, 9:37 a.m.*

Hi all...

First, beg your pardon because the title is not accurate enough.

There are some differences between both devices which are detailed below. But for many of you who (like me) have never had the opportunity to "play" with the real thing... and hardly will according to its price and rarity. :-(

What CY does and NoV-64 does not:

- Run in turbo mode.

[- Disable the RAM page when a ROM module is plugged on its same address. System modules are allowed of course (PRINTER, IR-PTR, HP-IL, TIMER, EXT-MEM)] This has been solved thanks to the hints by J-F and Winfried. The dowload link is updated.

What a NoV-64 does and CY does not:

- Preserves its OS, no matter how hard the crash, since it's stored in ROM.

- Preserves ist RAM contents without aditional power.

Of course, it handles the well known commands: PG<>, PG01 & PG10; as well as the intitialization/test via [MEMORY LOST].

In short, this is more a toy than a tool.. but I've found it funny to build and hope you also enjoy playing with it.

The download link is here.

As usual, comments and suggestions are welcome... A copy of the original English manual will be *really* welcome. :-) and... decription of the process to detect which ROM's are plugged in will be enormously welcome!! ;-))

So far I've only got some clues (and could be completely wrong) about how 41CY gets acquainted of the ROM's. Seems like if it intercepts mainframe's "ROMCHECK" process, performing its own... then returning the control to 41 OS. At this point it behaves like a "peripheral" (H'010) and handles a couple of registers and NUT processor flags 10 & 12 (status register)... long way ahead.

Best wishes.

Diego.

Edited: 13 May 2010, 5:30 p.m. after one or more responses were posted

Re: HP-41CY emulation for NoV-64.

*Message #2 Posted by **Angel Martin** on 13 May 2010, 11:37 a.m.,*
in response to message #1 by Diego Diaz

Hola Diego,

I see you're deepening and widening the knowledge on almost everything related to the Coconut world ;)

Well, I'm of course not an expert on the 41CY - don't have one, nor do I think I want it either (I'm saving for my NoVo-64 :), besides, give me a HEPAX anytime...) but - I happen to have an english manual for the RAMBOX - will that help? It does not have any techy stuff, just the basic functioning of the system, but maybe ...

Let me know.

Re: HP-41CY emulation for NoV-64.

*Message #3 Posted by **J-F Garnier** on 13 May 2010, 12:07 p.m.,*
in response to message #1 by Diego Diaz

Hi Diego,

I'm not be 100% sure, but I don't think the RAMBox OS does something special about pages already taken by ROM modules. I think the RAMBox just drives the ISA line in a weak way, so an external ROM can overdrive it.

The RAMBox OS uses the special ENROM1/ENROM2/ENROM3 opcodes to manage the page selection PG01, PG10 and PG<>. AFAIK, no other special opcodes and peripheral commands are used. I successfully emulated the RAMBox in Emu41 in this way.

It's great to have a hardware replacement for the RAMBox!

J-F

Edited: 13 May 2010, 12:17 p.m.

Re: HP-41CY emulation for NoV-64.

*Message #4 Posted by **Winfried Maschke** on 13 May 2010, 2:07 p.m.,*
in response to message #3 by J-F Garnier

> Quote:
>
> I'm not be 100% sure, but I don't think the RAMBox OS does something special about pages already taken by ROM modules. I think the RAMBox just drives the ISA line in a weak way, so an external ROM can overdrive it.

I don't know if this is correct, but it ist just the way I did it with the MBK-ProfiSet. There was a resistor in line with the ISA line and a switch (named "Priority Switch") paralell to the resistor. By this way you get a signal which ist weaker or stronger than the signal from the ROM module and you can switch between RAM and module.

The ProfiSET-OS simply reads the last word from each 4K page (the checksum), inverts the bits, writes this value and reads again. If the result changes it is a RAM page, if not it is a ROM page or a ROM page with a weaker RAM behind. It doesn't matter if the checksum is overwritten in RAM as it will not be valid most of the time and it can be calculated new if needed. The check was done with all pages each time the

OS tried to access a page. By this way it was possible to give each RAM page a sequential number called "block".

Someone who has got a RAMBox should verify it. Put a ROM module in one port which has also RAM addressed to it and overwrite one word with a mcode WROM (do not use the RAMBox OS for this). After this remove the module and read the word. If it has changed like it was written, the RAMBox uses just the weak ISA signal.

Re: HP-41CY emulation for NoV-64... (shadow RAM fixed)

*Message #5 Posted by **Diego Diaz** on 13 May 2010, 4:59 p.m.,*
in response to message #4 by Winfried Maschke

Hi Ángel, J-F, Winfried,

Thanks a lot for your responses, I've gone a SW "variation" (I cannot modify existing NoV-64 HW adding a serial resistor) of the propossed weak-ISA way, and it seems to work... ;-) (please consider this "extremely experimental" if your're about to test).

The new code is here for download. (Updated)

I'm certainly neither a CY expert... nor a fan of it. Fully agree with you about HEPAX, Ángel.

HEPAX puts 16K of "efficiency" into 4K of unused space, while CY "wastes" 8K of its own RAM space (it should more properly be called 56K RAM-Box) to allocate a "duplicated" block of a "memory pull-pusher" overvalued OS. No direct RAM access/editor, no dissasembler... in short, not enough revenue for the money.

However, its ability to put its RAM in the shadow if another module is plugged-in is of my main interest. Thats why I've come to that point in the end, not because a particular interest in the CY itself: I need/want "just" this feature for a future project... and was decided to "stole" it... :-)

Ángel, I've found both, 32K RAM-Box manual, as well as the German manual for the "41CY/64K RAM Box II" in TOS. If you have the English version of the later, I'd certainly appreciate your contribution.

J-F, the "weak ISA" is a feasible method, I find it "extremely" tricky though... Those guys at W&W were very serious and well founded in the 41 OS... However, as I've read not long ago in this very forum: "If you eliminate the impossible, whatever remains must be the truth"... (think I must trim the tip of my ears again).

Nonetheless, tricky use of pure HW interface (ISO level #1) is not uncommon. The "RS-232" PIC programmer is a very good example of it and as stated above, it solved the issue so far.

In the meantime, may some of you offer an (M-code) expert point of view on what CY does when it comes to I/O interrupt (polling point H'8FF8) pure couriousity by my side I must admit.

This is the code:

```
8FF8 330  GO 8FDE (-1A)
.
.
8FDE 130  LDI
8FDF 010  010
8FE0 270  SEL RAM    (DESELECTS RAM 010)
8FE1 3F0  SEL PERF   (SELECTS PERIPH 010)
8FE2 046  C=0 S&X
8FE3 3E8  WRIT 15(e) (There must be a REG(15), to be cleared(inside CY?)
8FE4 3F0  SEL PERF   (DESELECTS PERIPH 000)
```

```
8FE5 270  SEL RAM    (SELECTS RAM 000)
8FE6 0CC  ?FS 10
8FE7 05B  GONC FFF2  (EXITS POLLING THRU 27F3)
8FE8 34C  ?FS 12
8FE9 04B  GONC FFF2  (EXITS POLLING THRU 27F3)
8FEA 10E  A=C        (BOTH FLAGS 10 & 12 ARE SET, saves c in a)
8FEB 338  READ 12(}) (There must be a REG(12), to be READ)
8FEC 1BC  RCR 11     (Places c[3] at c[6])
8FED 0AE  A<>C       (SWPAS A AND C)
8FEE 15C  R=6        (POINTER = 6)
8FEF 362  ?A#C @R    (COMPARES C[6] WITH C[3])
8FF0 017  GOC FFF2   (EXITS POLLING THRU 27F3 IF THEY'RE EQUAL)
8FF1 348  SSF 12     (OR SETS FLAG 12 AND THEN...)
8FF2 3CD  GO 27F3    (...EXITS)
8FF3 09E
```

Best wishes.

Diego.

Edited: 13 May 2010, 8:13 p.m.

Re: HP-41CY emulation for NoV-64... (shadow RAM fixed)

*Message #6 Posted by **Håkan Thörngren** on 18 May 2010, 5:16 a.m.,*
in response to message #5 by Diego Diaz

Since no one answers I take a confused bite on this...

Peripheral 010 is the halfnut LCD extension peripheral. I have not much information of what it does, and I do not know what WRIT 15 means to it. Then it deselects peripherals and selects low ram.

The flags relelated to RPN program is checked to see if the RPN program pointer is in rom (flag 10), then the private flag (12). If both are set it tests if the RPN program pointer is in the same 4K module as the poll code. If it is, then it sets the private flag, which it already tested that it was set?? Makes not sense to me, I probably misunderstand something.

> Quote:
>
> In the meantime, may some of you offer an (M-code) expert point of view on what CY does when it comes to I/O interrupt (polling point H'8FF8) pure couriousity by my side I must admit.
>
> This is the code:
>
> ```
> 8FF8 330  GO 8FDE (-1A)
> .
> .
> 8FDE 130  LDI
> 8FDF 010  010
> 8FE0 270  SEL RAM    (DESELECTS RAM 010)
> 8FE1 3F0  SEL PERF   (SELECTS PERIPH 010)
> 8FE2 046  C=0 S&X
> 8FE3 3E8  WRIT 15(e) (There must be a REG(15), to be cleared(inside CY?
> )
> 8FE4 3F0  SEL PERF   (DESELECTS PERIPH 000)
> 8FE5 270  SEL RAM    (SELECTS RAM 000)
> 8FE6 0CC  ?FS 10
> 8FE7 05B  GONC FFF2  (EXITS POLLING THRU 27F3)
> 8FE8 34C  ?FS 12
> 8FE9 04B  GONC FFF2  (EXITS POLLING THRU 27F3)
> 8FEA 10E  A=C        (BOTH FLAGS 10 & 12 ARE SET, saves c in a)
> 8FEB 338  READ 12(}) (There must be a REG(12), to be READ)
> 8FEC 1BC  RCR 11     (Places c[3] at c[6])
> 8FED 0AE  A<>C       (SWPAS A AND C)
> ```

```
8FEE 15C  R=6        (POINTER = 6)
8FEF 362  ?A#C @R    (COMPARES C[6] WITH C[3])
8FF0 017  GOC FFF2   (EXITS POLLING THRU 27F3 IF THEY'RE EQUAL)
8FF1 348  SSF 12     (OR SETS FLAG 12 AND THEN...)
8FF2 3CD  GO 27F3    (...EXITS)
8FF3 09E
```

Best wishes.

Diego.

Re: HP-41CY emulation for NoV-64... (shadow RAM fixed)

*Message #7 Posted by **Diego Diaz** on 18 May 2010, 9:36 a.m.,*
in response to message #6 by Håkan Thörngren

Hi Håkan,

And thanks for taking the "chalenge"... Same conclusion than mine then: I found not much sense on this either.

But you've pointed out one thing that I didn't know: "Peripheral 010 is the Halfnut LCD extension".

BTW, are there listings of "Peripheral addresses" and "Peripheral Interrupt flags"?

Seems that they're the most poorly documented and "obscure" aspects of the 41 system.

Best wishes.

Diego.

Re: HP-41CY emulation for NoV-64... (shadow RAM fixed)

*Message #8 Posted by **Ángel Martin** on 18 May 2010, 9:54 a.m.,*
in response to message #7 by Diego Diaz

"WRIT 15(e)" is the disassembler's (vain) attempt to decode the display writing instruction "SLSABC" - as per Ken Emery's book, see pages 109 and following.

In case it helps - probably not.

Cheers, Ángel

Re: HP-41CY emulation for NoV-64... (shadow RAM fixed)

*Message #9 Posted by **Diego Diaz** on 18 May 2010, 5:41 p.m.,*
in response to message #8 by Ángel Martin

Hi Ángel,

Thanks for the tip, I've re-read "M-Code for Beginners", however, I think that the SLSABC... (and the rest of WRIT's and READ's for the display) are referred to the "standard display" peripheral H'0FD.

Peripheral H'010 (sort of halfnut extended display functions), acording to Emery's

(p.116), allows six (WRIT's/READ's) instructions, two of'em for the contrast adjustment, the only mention to any of the remaining four is just for "WRIT (e)"

Quote:

"... will crash the display, simultaneously lighting all the segments... The only way to recover from this particular crash is to remove the batteries..."

Still can't understand the basics of M-code... but this routine really sounds strange to my ears... regardles the "language"... ;-)

Cheers.

Diego.

Re: Halfnut display instruction??

*Message #10 Posted by **Meindert Kuipers** on 18 May 2010, 12:05 p.m.,*
in response to message #7 by Diego Diaz

I have looked into this a bit. I have checked the HEPAX code for changing the contrast of the display, and indeed it used peripheral 010 (works only for the halfnut display), see below (HEPAX bank 3):

```
            A105 043 054 052  .FNAME      "CTRAST"                    ; 043
054 052 041 053 0D4
CTRAST      A106 130 002      LDI         002
            A108 106          A=C         S&X
            A109 0F8          READ        ( 3)X
            A10A 306          ?A<C        S&X
            A10B 033          JNC  +06    LB_A111       A111
LB_A10C     A10C 3B5 08C 3B7  GOSUB       LB_AFB7       AFB7          ; ?NC
XQ 23ED, address in 4th Quad
            A10F 02D 028      ?NC XQ      0A0B
LB_A111     A111 10E          A=C         ALL
            A112 3B5 08C 397  GOSUB       LB_AF97       AF97          ; ?NC
XQ 23ED, address in 4th Quad
            A115 33C          RCR         1
            A116 2E6          ?C#0        S&X
            A117 3AF          JC   -0B    LB_A10C       A10C
            A118 130 010      LDI         010
            A11A 270          RAMSLCT
            A11B 3F0          PRPHSLCT
            A11C 2FC          RCR         13
            A11D 168          WRIT        ( 5)M
            A11E 3B5 08C 3B7  GOSUB       LB_AFB7       AFB7          ; ?NC
XQ 23ED, address in 4th Quad
```

The I/O service routine is supposedly called when the HP41 enters standby mode, so it may be part of a key-entry routine. The READ 12 is a eal read from status register b, and it tests for the nybble of the RPN PC indicating the position within a register, when in ROM it is the current ROM number. What I find a bit strange is that the routine tries to do something when a private RPN program executes from this ROM, but the RAMBOX ROM has no user code programs in its catalog.

My biggest question is now whan the instruction to the NUT special display does here ....

Meindert

Re: HP-41CY emulation for NoV-64... (shadow RAM fixed)

*Message #11 Posted by **J-F Garnier** on 18 May 2010, 2:12 p.m.,*
in response to message #7 by Diego Diaz

WRIT 15 writes to the control nibble of the internal timer in the halfnut display chip.

Except for the Hepax contrast function, I didn't know any ROM using this peripheral code 10! I was unable to find any use of this select code 10 in the CX ROM, not even in the CX service ROM (I set a breakpoint in Emu41 on read/write when SEL PERF = 10, and got nothing).

The registers related to the halfnut display PERIPH 10 are described in the CHHU V2N4 issue (July 85) p.10.

J-F

Re: HP-41CY emulation for NoV-64... (shadow RAM fixed)

*Message #12 Posted by **Diego Diaz** on 18 May 2010, 6:39 p.m.,*
in response to message #11 by J-F Garnier

Hi all,

And thanks again for your time. To keep on feeding my curiousity I'll go for the CHHU issue.

However, the point here is that I was wrong when assuming that the "I/O interrupt" call in RAMBOX 64 was related to the fact that 41CY's can sense physical modules... Which saved me a lot of time diving in the wrong direction.

Thanks a lot for that... :-))

Best wishes.

Diego.

Re: HP-41CY emulation for NoV-64... (shadow RAM fixed)

*Message #13 Posted by **Håkan Thörngren** on 19 May 2010, 2:48 a.m.,*
in response to message #7 by Diego Diaz

I am not aware of any complete in-depth compilation of all peripheral addresses and flag use. They are not too hard to find by looking at listings and fragments of information you can find in various places.

For the timer and HP-IL there are in depth documentation available. I have an old article about the card reader, but nothing that I can recall about the Wand and virtually nothing about the 010 halfnut lcd. The situation gets a little bit worse when it comes to how devices implement read and write instructions. That is at least the "mainstream" devices. Then there may be some non-HPIL special devices like the CMT multimeter, I do not know anything about these.

Then there are lots of other things to "worry" about, like XROM numbers, buffer numbers, file types (extended memory, mass storage, card reader, wand)...

But overall, we are actually very blessed with the wealth of information available.

Re: HP-41CY emulation for NoV-64.

*Message #14 Posted by **Eric Smith** on 15 May 2010, 5:15 p.m.,*
in response to message #4 by Winfried Maschke

I would have expect that to work on earlier HPs, but I'm surprised that it works on the 41.

In all of the HPs, the CPU drives the bus lines (ISA and DATA, or equivalent) low during one of the clock phases, which is called precharge. In most of the HPs, the driver in the ROMs and peripherals can only drive the bus lines high, not low. This is known as an "open source driver". [1]

With that arrangement, if you had a ROM that was trying to output a zero (by doing nothing), and a secondary device with a deliberately weak driver trying to output a one, you would see the one. The ROM would not override the weak driver.

On the other hand, the high-side driver in the ROM is very weak already, so if you didn't want the secondary device driving a weak zero to override the ROM driving a one, the secondary device's low-side driver would have to be *extremely* weak. Probably best to omit it entirely, and have the secondary device use an open source driver also.

While the Nut processor still did bus precharge, based on what you're saying apparently the ROMs, RAMs, and peripheral chips used with it no longer used an open source driver.

Eric

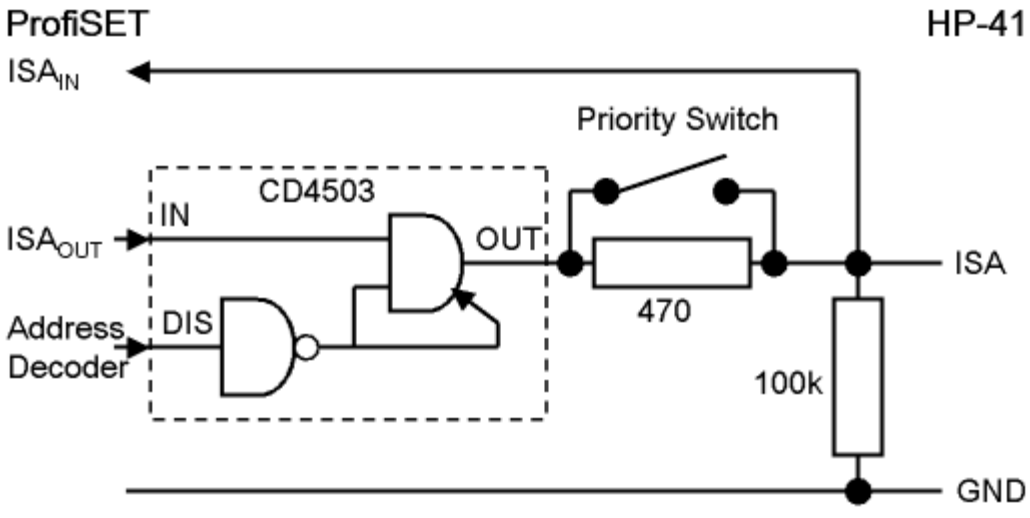
[1] similar to the better known "open drain driver", with "source" referring to the source terminal of a FET, and having nothing to do with "open source software".

Re: HP-41CY emulation for NoV-64.

*Message #15 Posted by **Winfried Maschke** on 15 May 2010, 8:18 p.m.,*
in response to message #14 by Eric Smith

Yes, the HP-41 ROMs have open source drivers.

This is the part of the circuit from the ProfiSET for driving the ISA line:



The CD4503 is a (hex) non-inverting 3-STATE buffer with high output current sink and source capability. It has 3-STATE outputs and a disable input.

In line with the output of the 4503 I used a 470 ohm resistor. Between ISA and GND there is a 100k resistor used as pull down inside the connector to the HP-41 port.

With the "Priority-Switch" turned on the signal is stronger than the signal from modules and it is weaker with the switch turned off and the 470 ohm resistor in line with ISA.

This works with ROM modules from HP, but will not work with all third party peripherals.

The MBK EPROM boxes had no switch and always the weak signal on ISA. I used a CD4066 instead of the CD4503. It worked with several hundreds of devices.

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Dead Calculator

*Message #1 Posted by **Peter Geiser** on 13 May 2010, 5:49 a.m.*

Hi all

While preparing a few calculators from my collection to sell at auctions, I had a strange phenomenon this morning:

When I turned on an old HP 38C it first worked as usual, displaying all the numbers. Suddenly, the display started flickering and died. Upon removing the batteries I found they had started a very slight leaking, which I could clean immediately without any problem and no remaining stains.
I then placed new batteries in the calculator, but so far it did not work again. I know that the batteries work, since I tried them on another HP 38C which works perfectly.

Any ideas what exactly happens when batteries go dead? Is there an excess current that kills the electronics? Or is it just a matter of broken contacts?

My goal is of course to get the calculator to work again.

Thank you for any suggestions.
Best regards
Peter

Re: Dead Calculator

*Message #2 Posted by **Katie Wasserman** on 13 May 2010, 9:48 a.m.,*
in response to message #1 by Peter Geiser

The calculator will only draw so much current regardless of the state of the batteries. Excess voltage could kill it but that doens't happen when batteries leak. Almost certainly the issue is that you have corroded contacts that were just barely hanging together. The act of removing the batteries caused enough force to break the contact.

-Katie

Re: Dead Calculator

*Message #3 Posted by **Peter Geiser** on 14 May 2010, 2:56 p.m.,*
in response to message #2 by Katie Wasserman

Hi Katie

Thank you for your answer.

I tried to polish the contacts, but to no avail. I guess the calculators are really dead, so I'll sell them as defective.

So I probably just need to be more careful with the rest of my calculators.

Best regards
Peter

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HP 20B Prediction weirdness?

*Message #1 Posted by **Joao S Veiga (Brazil)** on 12 May 2010, 9:02 p.m.*

Hello,

Can owners of the HP20b confirm this, or at least explain to me where I am wrong - I know I am, because I know HP is not!

1 - Turn off HP20b

2 - Press&Hold [N]+[Amort], press [ON/CE] (this will reset the calc to defaults, not necessary, but to make sure we are starting from scratch)

3 - [fn],[Mode], set to RPN

4 - [ON/CE]

5 - [fn],[Data]

6 - enter the following data:

X(1) = 0

Y(1) = 1

X(2) = 1

Y(2) = 2

X(3) = 2

Y(3) = 4

X(4) = 3

Y(4) = 8

(in other words, Y = 2^X)

7 - [fn],[Stats]

8 - on "2 Vars", scroll down to "Predictions"

9 - [INPUT]

10 - [INPUT] until b*a^X

11 - scroll to check that a = 2 and b = 1 (correct)

12 - scroll to "Pred X", enter "3", [INPUT]

13 - scroll to "Pred Y", [=] (returns 8, good)

14 - now scroll back to "Pred X", [=] (returns 2.81, what the heck?)

2.81 is the predicted X for Y=7. If you go back and forth predicting X and Y, Y goes down in steps of "1"

Same happens with the b*e^(aX).

Linear data (resulting from a a*X+b) works fine (you can go back and forth from predicting X and Y, and the values stay put).

After testing with data that correlates to each of the prediction functions, it looks to me that:

b*a^X : weird

b*e^(aX) : weird

a*X+b : ok

a/X+b : weird

b*X^a : weird

a*ln(X)+b : ok

Where am I messing up? I hope I am, because I have no JTAG cable to update the calc firmware...

Best regards,

Joao S Veiga

Re: HP 20B Prediction weirdness?

*Message #2 Posted by **Katie Wasserman** on 13 May 2010, 12:07 p.m.,*
in response to message #1 by Joao S Veiga (Brazil)

This seems to work ok in the very latest version of the firmware, dated 4/5/2010. I'm not sure when the fix was implemented.

-Katie

Re: HP 20B Prediction weirdness?

*Message #3 Posted by **Joao S Veiga (Brazil)** on 13 May 2010, 12:56 p.m.,*
in response to message #2 by Katie Wasserman

Ouch.

How do I know the version of the firmware in my 20b? I purchased it just last week from Amazon (but 4/5/2010 is pretty recent, can't blame Amazon...).

Also, is there a release notes for firmware (so I at least know what else is wrong in mine?)

Thanks!

Joao

Re: HP 20B Prediction weirdness?

*Message #4 Posted by **Katie Wasserman** on 13 May 2010, 1:07 p.m.,*
in response to message #3 by Joao S Veiga (Brazil)

> Quote:
>
> How do I know the version of the firmware in my 20b?

Press ON+PMT, then down arrow until you see "SW Version" scrolling on the display.

> Quote:
>
> I purchased it just last week from Amazon (but 4/5/2010 is pretty recent, can't blame Amazon...).

I have no idea of what firmware versions are out there. The HP people here, Cyrille and Tim should know.

> Quote:
>
> Also, is there a release notes for firmware (so I at least know what else is wrong in mine?)

As far as I know, this is not available from HP. However I really think that it should be posted on their website. Not necessarily a list of all firmware changes but at least a list of known, important bugs and how to get a replacement calculator if these bugs affect you. This will go a long way towards inspiring confidence in their new calculators and maybe get HP past having to produce the 12C forever.

-Katie

Re: HP 20B Prediction weirdness?

*Message #5 Posted by **Martin Pinckney** on 13 May 2010, 1:21 p.m.,*
in response to message #4 by Katie Wasserman

> Quote:
>
> This will ... maybe get HP past having to produce the 12C forever.

Katie, that got a laugh out of me!

Re: HP 20B Prediction weirdness?

*Message #6 Posted by **Gene Wright** on 13 May 2010, 2:06 p.m.,*
in response to message #4 by Katie Wasserman

Get your cold clammy hands off my 12c+.

:-)

Actually... they are now on the HP 30b more often than not! Gene

Re: HP 20B Prediction weirdness?

*Message #7 Posted by **Joao S Veiga (Brazil)** on 13 May 2010, 6:27 p.m.,*
in response to message #4 by Katie Wasserman

Thank you Katie!

Mine is 8/01/2008 :-(

Agree with you, without at least a list of corrected bugs, how can I trust that this is the ONLY bug on my firmware version?

I bought it out of stubbornness, as I was forbidden to use my 49g in a course, but refused to surrender to the 30-year old 12c recommendation.

Got it last week on a trip to the USA (30b is nowhere to be found), and I guess I'm stuck with it, as it is not sold in Brazil, so the local HP shop will probably not replace it nor update it for me.

Cyrille's documentation in the Development kit sounds like I can flash the firmware with a RS232 cable (a JTAG cable costs 3x the price of the calculator). Even then, the "HP20b original ROM.bin" which comes with the Development kit is dated 10/19/2009, so it may still have the bug.

A 28s went to college with me in the late 80's, a 49g is my working companion since the 90's. I could never expect a MUCH simpler HP calculator could get into stores with such an obvious problem. I mean, I found it after sporadically tinkering with it for just a couple of days! It shouldn't have taken one man-hour to test ALL of the 20b features (same cannot be said for the 28s or 49g). Heck, I'd gladly do it for free for HP; just send me calculators, one of each, DDP.

So much for being stubborn. Maybe I can slap the 20b front face on my 49g and get away with it in the course.

Any suggestions are welcome...

Thanks,

Joao

Re: HP 20B Prediction weirdness?

*Message #8 Posted by **Gene Wright** on 13 May 2010, 8:10 p.m.,*
in response to message #7 by Joao S Veiga (Brazil)

Joao wrote: "It shouldn't have taken one man-hour to test ALL of the 20b features"

Gene: Actually, testing something is much more complicated than most people realize. One man-hour MIGHT be long enough to make sure the SIN function works properly for all arguments between 0 and 0.000001 radians. Well, perhaps not *all* arguments.

Well, you say, if SIN works for 0 and 0.1, it should work for 0.05. I seem to recall a problem with 2.02 on a previous calculator.

It is difficult. Each potential line of code can affect some other line of code.

Re: HP 20B Prediction weirdness?

*Message #9 Posted by **Palmer O. Hanson, Jr.** on 14 May 2010, 3:32 a.m.,*
in response to message #8 by Gene Wright

> Quote:
>
> Well, you say, if SIN works for 0 and 0.1, it should work for 0.05. I seem to recall a problem with 2.02 on a previous calculator.

Wlodek's book says that the 2.02 problem was with the e^x function on the early HP-35's where it could be seen by entering in order 2.02 ln e^x and seeing 2 not 2.02 .

I agree with you on the difficulty of finding all the bugs. In my olden days working in inertial navigation we had a rule which said that in any software of any substantial complexity there is always one more bug to be found.

Re: HP 20B Prediction weirdness?

*Message #10 Posted by **Bart (UK)** on 14 May 2010, 8:50 a.m.,*
in response to message #8 by Gene Wright

I agree with you in some way Gene in that it is impossible to test all combinations due to the complexities of the software.

However, HP IS letting us down:
1) By not publishing errata sheets - for instance why is it that a Museum member has to keep a comprehensive list of 35s problems? This is a major problem - users rely on these calculators for important calculations daily and they should know what the problems are.
2) I do question how serious HP management take testing and funding for it. Again using the 35s as example, there are some glaring bugs that should have been tested - for instance the program length and checksum, this never works but is a feature that should have been tested as a standard part of a test plan. Do test palns actually exist in HP?

And by the way, those simpler tests as per your example should be easily tested in this current age by automated means.

Anyway, just my 2p worth. And despite my moanings I still love my HPs.

Re: HP 20B Prediction weirdness?

*Message #11 Posted by **Tim Wessman** on 14 May 2010, 9:27 a.m.,*
in response to message #10 by Bart (UK)

Now please don't anyone take this out of context. I am just going to put on my "if I were a businessman hat" and ask a few questions that I would imagine someone in charge of setting a policy might ask.

This has nothing to do with HP policy, nor any internal discussions I've ever heard. I suspect this type of issue has come up with many varieties of products before though, both inside and out of HP. If it was just software you could send out a fix. Since there is hardware involved, everything is more difficult.

1. Does publishing a list of defects gain me more ($) than not doing so? (<-- that is the golden business question, when in doubt - follow the money!)

2. If I publish known defects, does that simply increase the number of people aware of problems that would have otherwise not known there were problems? I have deemed this to be a very minor issue that affects only a tiny percentage of users.

3. If I publish known issues, does that make me legally liable if I choose not to fix it due to time or cost?

4. If I publish known issues, does it cause the general customer who is not affected by the problem call my support center and ask for a replacement even though they aren't affected at all, simply because they now have the perception of a "bad product"?

There are probably more quesitons, but those were the ones that popped into my head while writing them down.

Of course, everything changes with a product if a failure means someone could die or is seriously injuered. Then from a business standpoint, you want to do everything possible. **NOT** from the "it is the right thing to do" standpoint, but rather the "Oh crap! We will lose so much money if we are sued over this". Again, follow the money.

Now think of this imaginary scenario. Let's say that HP suddenly became aware of 10 serious issues in the 12c. These issues were there from the beginning, and are definitely giving "bad" results. However, they are very obscure and nobody has found these issues since the very beginning and reported them. Are these serious issues that should be published? Would it be better to publish this info and possibly risk a core, longstanding product regarded so highly in the industry? It has been highly regarded for over 25 years. Should a business risk changing that, even thought nothing about the product has changed?

My personal view has, and always will be that transparency is best. However, I do recognize that there are some valid concerns those in charge of this type of thing have to weigh and evaluate.

TW

Edited: 14 May 2010, 9:30 a.m.

Re: HP 20B Prediction weirdness?

*Message #12 Posted by **Don Shepherd** on 14 May 2010, 11:04 a.m.,*
in response to message #11 by Tim Wessman

> Quote:
>
> Of course, everything changes with a product if a failure means someone could die or is seriously injuered. Then from a business standpoint, you want to do everything possible. **NOT** from the "it is the right thing to do" standpoint, but rather the "Oh crap! We will lose so much money if we are sued over this". Again, follow the money.

I don't think companies become great by following the "follow the money" philosophy. "It is the right thing to do" is timeless.

Re: HP 20B Prediction weirdness?

*Message #13 Posted by **Gerson W. Barbosa** on 14 May 2010, 2:11 p.m.,*

in response to message #12 by Don Shepherd

> Quote:
>
> I don't think companies become great by following the "follow the money" philosophy. "It is the right thing to do" is timeless.

http://www.hpmuseum.org/hp35.htm

There was a time to tell or not to tell was not a question. Scroll down until **Hewlett-Packard Integrity and "The Bug"** appears.

Re: HP 20B Prediction weirdness?

*Message #14 Posted by **Don Shepherd** on 14 May 2010, 2:38 p.m.,*
in response to message #13 by Gerson W. Barbosa

Yeah, I remember that. Speaks for itself.

So who's going to send Tim a broken pencil?

:)

Re: HP 20B Prediction weirdness?

*Message #15 Posted by **Katie Wasserman** on 14 May 2010, 11:32 a.m.,*
in response to message #11 by Tim Wessman

Tim,

When I read your 4 point checklist I couldn't help thinking that the executives at Toyota went through the same thought process and decided to keep quiet. There might be a lesson for HP and many other big companies with previously sterling reputations in this.

The old HP did the "right thing" with the optional HP-35 recall and that helped make them the greatest calculator producer ever. It could happen again!

-Katie

Re: HP 20B Prediction weirdness?

*Message #16 Posted by **Pal G.** on 14 May 2010, 6:20 p.m.,*
in response to message #11 by Tim Wessman

> Quote:
>
> If it was just software you could send out a fix. Since there is hardware involved, everything is more difficult.

Since this is a hardware (and software) issue, and we all know we can't flash our buggy HP 35s, and since there IS a published list of known issues, is HP going to fix the software/hardware issues and produce more HP 35s? Or is that product dead?

I read the "bugs" article Gene referred to, and I know HP will not replace our HP35s,

but I would be glad to buy another one if they fix all/most of the bugs on the hpmuseum bug list.

Re: HP 20B Prediction weirdness?

*Message #17 Posted by **Bart (UK)** on 17 May 2010, 11:26 a.m.,*
in response to message #11 by Tim Wessman

Hi Tim,

Apart from the ""broken pencil" trust in HP" references, in response to your points:

> Quote:
>
> 1. Does publishing a list of defects gain me more ($) than not doing so? (<-- that is the golden business question, when in doubt - follow the money!)

It is the difference between an honest and dishonest company - or at least the perception. Particularly important if the products are being sold at higher prices because of "their legendary quality". Part of a good quality policy is the publishing of known non-conformances to the specifications. I work in aerospace, I support the use of ICs from a particular manufacturer because they publish errata sheets. Then we know how to deal with or avoid the bugs!

> Quote:
>
> 2. If I publish known defects, does that simply increase the number of people aware of problems that would have otherwise not known there were problems? I have deemed this to be a very minor issue that affects only a tiny percentage of users.

The Pentium FDIV bug comes to mind.

> Quote:
>
> 3. If I publish known issues, does that make me legally liable if I choose not to fix it due to time or cost?

It does not change the fact that you are liable, but it can change the judgement made against you (both the company and individual*) if you are found to be deliberately concealing a known major issue by not publishing anything.
*Note: in some countries only companies and not it's individuals can be held liable - just hope you're in the right one.

> Quote:
>
> 4. If I publish known issues, does it cause the general customer who is not affected by the problem call my support center and ask for a replacement even though they aren't affected at all, simply because they

> now have the perception of a "bad product"?

Of course, but your conscience would be clear.

> Quote:
>
> Of course, everything changes with a product if a failure means someone could die or is seriously injuered.

Major economical damage counts too, as you say throughout your response "it's about the money".

> Quote:
>
> Then from a business standpoint, you want to do everything possible. **NOT** from the "it is the right thing to do" standpoint, but rather the "Oh crap! We will lose so much money if we are sued over this". Again, follow the money.

Businesses have closed down because of this. It is better to loose some money by being honest than loose everything by being caught out.

This is why a good test regime is important (coming back to original concerns of this tread), to minimise this business impact of flaws by catching the worst ones before the product goes out.

All of my responses are things that people instinctively know to be right, but have buried deep in their minds for the sake of money.

Regards,
-B

edit:

> Quote:
>
> I am just going to put on my "if I were a businessman hat"...

That's what Morton Thiokol engineers did.

Of course you are just putting out calculating devices and sitting behind disclaimers "we are not liable for consequential damage", or it's use for safety critical applications etc.
However, I need SOMETHING to do my calculations with when evaluating risk etc. I currently use at least 2 calculators from different manufacturers and a PC to cross check. If I loose confidence in one manufacturer, I'll not hesitate to move to another.

Edited: 17 May 2010, 12:06 p.m.

Re: HP 20B Prediction weirdness?

*Message #18 Posted by **Joao S Veiga (Brazil)** on 14 May 2010, 9:17 a.m.,*
in response to message #8 by Gene Wright

Gene: Actually, testing something is much more complicated than most people realize.

Joao: Yeah, so let's drop even the simple tests, since doing it all is more complicated than most people realize.

Testing ALL possible arguments and sequences for ALL features of a calculator is such a ludicrous idea that I do not consider it possible - not even with automated testing.

Take for example all possible argument values, quantities and permutations for the Cash Flow functionality. Even automated testing would take forever (in the actual meaning of forever).

However, testing if the Cash Flow works at all takes less than a minute.

The problem I found is not a case of specific arguments to a function not working, but a big part of a feature not working correctly, for ANY argument.

So, to be pedantic, I rephrase "test ALL of the 20b features" to "test ALL of the 20b features with one set of arguments to rule out obvious bugs, as some people might not realize that testing everything with all possible combinations/permutations of arguments is not feasible in the real world". Is that Ok now?

Thanks,

Joao

Re: HP 20B Prediction weirdness?

*Message #19 Posted by **Bruce Bergman** on 14 May 2010, 1:20 a.m.,*
in response to message #7 by Joao S Veiga (Brazil)

Just wondering...Not really suggesting anything yet, but thought I'd poll the audience...

Would you (or others) find it a worthwhile service if you could send someone your 20b or 30b and for a fee, that someone would reflash it with the most recent version (or a specific version, if requested) and mail it back to you? Figure the price would be about $10, inclusive of the return shipping.

What do you think?

I know that I wish I could always have the most recent ROM version from my HP calcs, but given the equipment and know-how needed, that's not always an option. But if I could send it somewhere and get it back, all pretty and up to date, I think I'd be willing to fork out a few bucks for that. Anyone else?

thanks,

Bruce

Re: HP 20B Prediction weirdness?

*Message #20 Posted by **Joao S Veiga (Brazil)** on 14 May 2010, 9:25 a.m.,*
in response to message #19 by Bruce Bergman

In the 20b Dev Kit documentation, Cyrille sounds like it is possible to reprogram the calc with a serial cable (without the expensive JTAG cable).

I emailed him for details (as instructed in the documentation), and also asked if it would be possible to get the latest binary ROM image, as the one in the Dev Kit is dated 2009, thus older than Katie's.

I'll post any progress here.

The HP service centers should do this (reflash, or even replace, buggy firmware calcs), but I don't think the Brazilian centers would do anything about this, as this model is not sold here.

If I manage to do this, I'll gladly do it for free for fellow 20b owners, but they would have to live in Brazil, as exporting/importing them would cost more than a new one :-/

Best regards,

Joao

Re: HP 20B Prediction weirdness?

*Message #21 Posted by **Vieira, Luiz C. (Brazil)** on 14 May 2010, 12:12 p.m.,*
in response to message #20 by Joao S Veiga (Brazil)

Hi, João;

good to 'see' someone else from our tropical country out here!

I am in the verge of buying an HP20B from local 'representatives', if you know what I mean, but I was even more interested on the HP30B. But this little beast always seems to be hidden somewhere else...

Instead of contacting Cyrille and ask him for documentation (I am sure he´d not complain, though), would it be OK for you to send me what you get? I´m an electrical engineer myself and I like to handle test leads, soldering irons, PC-aided measuring devices and related software, so I´d not bother you with the completion of the task. In any way we could always trade information, as it happens here very often, then we share with the guys, as you mentioned. If you agree with, please:

linux_lcv (at) yahoo [ponto] com -dot- br

If you like electronic devices' pictures, please:

Pictures of the assembling of my MLDL2000 I really like the HP41 series...

Looking forward for your contact.

Cheers and thank you.

Luiz (Brasil, né?)

Edited: 14 May 2010, 12:20 p.m.

Re: HP 20B Prediction weirdness?

*Message #22 Posted by **Joao S Veiga (Brazil)** on 14 May 2010, 7:05 p.m.,*
in response to message #21 by Vieira, Luiz C. (Brazil)

Hi Luiz,

Sure thing; if I get additional information from Cyrille or Tim, and they say it is ok to pass it along, I will send it to you (I'm not sure if they actually want to send the information on a per request basis, otherwise it would all be in the dev kit documentation already).

Um abraço, Joao

Re: HP 20B Prediction weirdness?

*Message #23 Posted by **Vieira, Luiz C. (Brazil)** on 14 May 2010, 9:30 p.m.,*
in response to message #22 by Joao S Veiga (Brazil)

Of course, you are right, I stand corrected. I did not consider it this way. I have already downloaded the dev kit, and your comments are perfectly correct.

Thanks!

Luiz

(P.S. - BTW, where in Brazil are you? I´m in Minas Gerais... uai!)

Edited: 14 May 2010, 9:31 p.m.

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are we becoming zombie-people?

*Message #1 Posted by **Don Shepherd** on 12 May 2010, 7:16 p.m.*

This article is food for thought.

I think the Apple][and the original Mac were revolutionary. But I also think i-whatever's have resulted in very little real "thinking" going on. It was IBM's motto, for a very good reason.

Re: are we becoming zombie-people?

*Message #2 Posted by **Peter Geiser** on 13 May 2010, 6:00 a.m.,*
in response to message #1 by Don Shepherd

Hi Don

Thank you for pointing out this article! Really food for thought. And of course an opportunity for those who manage to retain thinking and concentration enough to do their work thoroughly.

So let's keep our wonderful HP calculators that help us solve problems rather then distract us from the real issues.

Regards
Peter

Re: are we becoming zombie-people?

*Message #3 Posted by **Martin Pinckney** on 13 May 2010, 9:58 a.m.,*
in response to message #1 by Don Shepherd

One of the few times I agree with Obama.

Re: are we becoming zombie-people?

*Message #4 Posted by **Manatee** on 13 May 2010, 2:37 p.m.,*
in response to message #1 by Don Shepherd

People use the devices/tools in different ways. We (US/UK/Europe/etc) are a capitalist society, and consumerism is nothing new. I don't see our governments outlawing "smart phones" and other connected devices.

Personally, I enjoy these things. Technically, they hold the same excitement for me that my HP-25C had when I was in school. I like the easy access to information and email. Yes, I see the potential to get lost in it, but that's up to the individual.

What I see going on, more than technology -- but certainly related to it, is the crumbling of the integrity of our news outlets. They're all adopting what used to be tabloid tactics. Teasers, voyeurism, sensationalism, minimal focus on local news... They don't ask themselves, "Is this what people need to know?" And of course there's

way to much time devoted to so-called "news programming", because the production costs are so low.

At least on my iPad I can easily access BBC news and other outlets that I prefer for certain types of news. Anyone can put anything out there now. Each of us gets to select what we want to consume. Maybe the vetting of information sources should be taught in school.

Re: are we becoming zombie-people?

*Message #5 Posted by **Don Shepherd** on 13 May 2010, 3:55 p.m.,*
in response to message #4 by Manatee

You make some very good points.

I know that every generation tends to complain about the next generation. The old "I walked five miles to school every day, why can't you?" syndrome. But then the next generation seems to do OK too.

But this massive use of and dependence upon personal electronic devices does tend to make us focus more on ourselves, at the expense of interacting with other human beings. I do worry about what effect that will have in the long run.

Regarding news sources, I tend to agree with you; it has become cutesy and seeks out our lowest common denominator, which in math is good but in humans is generally not so good. When I grew up, watching the evening news with Walter Cronkite (you just knew you could trust him) and reading the daily newspapers were just an accepted way of life; that is what educated people did. I don't think the new generation does that, and I'm sure there are reasons for it.

I personally think that we need a renewed emphasis on "thinking" in our world. We HP calculator programming fanatics tend to do that anyhow, seeking out new and better algorithms. I'd like to see a lust for "thinking" among the next generation instead of a preoccupation with and reliance upon all things i-whatever.

But I know that's not likely to happen.

OT: are we becoming zombie-people?

*Message #6 Posted by **Martin Pinckney** on 13 May 2010, 4:26 p.m.,*
in response to message #5 by Don Shepherd

> Quote:
>
> When I grew up, watching the evening news with Walter Cronkite (you just knew you could trust him) and reading the daily newspapers were just an accepted way of life; that is what educated people did. I don't think the new generation does that, and I'm sure there are reasons for it.

After Walter retired, he wrote and spoke out, and we all learned soon enough that he had very strong political views. But very much to his credit, he did not let those views color his reporting the news all those years. At least it didn't seem so. Couldn't say the same for David and Chet. After Dan Rather took over... well, we know what happened there.

But if it took discernment to filter the reporting back then, wow, with all the wacko blogs and such that so many young people get their information from now... makes me shudder.

My opinions, of course.

Re: OT: are we becoming zombie-people?

*Message #7 Posted by **Keith Midson** on 15 May 2010, 1:55 a.m.,*
in response to message #6 by Martin Pinckney

This is all so true and one of the reasons I left Facebook a while ago. It's just ironic that I had to read the article on my iPod .....

Re: OT: are we becoming zombie-people?

*Message #8 Posted by **Israel Otero** on 15 May 2010, 4:26 a.m.,*
in response to message #7 by Keith Midson

Hi from Puerto Rico

One of the things internet has is that is more easy than ever to get news or information more fitted to a certain world view than ever before and this tend to isolate people more. This could be a strength or a handicap.

It is complicated by the fact that people read less and less and is more less educated specially when their world is based on having things to bring them a status to impress their peers.

But with technology something is gained and something is lost and one must compensate to used it properly. I participate in places like Facebook that allows me to met people from anywhere in the world and get my message through. At least I can have the possibility of bringing out a better view by sharing my thoughts.

I used Facebook daily as a conglomerate of tools that give me news (I post any diary or publication of my liking so I can read it there) cultural, social interests and able to share my opinion on any relevant issues.

Sometimes I know things the traditional media lacks or do not report. As a matter of fact some of my interests are omitted or not known because some information sells better than others or simply those reporters are not as educated enough to be helpful. Or someone is interested only to fill what is missing with worthless material.

I learn a lot by reading a blog thread on any issue or problem the world is having.

One must be ahead to be present in the position to allows us to have a voice in a world that is fast changing. Politicians have failed us so we must be in charge of things once in a while.

Is my opinion though

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ARM Assembler Help Requested...

*Message #1 Posted by **Bill Zimmerly** on 12 May 2010, 4:31 p.m.*

I copied the listing from this post...

Re: confused about ARM

...and made the modification to Claudio Lapilli's code suggested by Cyrille de Brébisson.

The problem is, every time I put it on the stack and execute the ASM command, it aborts with "asm Error: Invalid File".

(Note: it ends with <CR><CR>@ as it should AND it fails like this whether I use either of the ASM or asm commands.)

Does anyone see anything wrong with the listing?

Re: ARM Assembler Help Requested...

*Message #2 Posted by **BruceH** on 13 May 2010, 7:06 a.m.,*
in response to message #1 by Bill Zimmerly

I think it should end <nl>@ not <cr>

Re: ARM Assembler Help Requested...

*Message #3 Posted by **Bill Zimmerly** on 14 May 2010, 2:18 a.m.,*
in response to message #2 by BruceH

> Quote:
>
> I think it should end <nl>@ not <cr>

Hi Bruce!

Either way, the code I meant was produced on the HP-50G with the Right-Shift-Period key combination. ;)

Re: ARM Assembler Help Requested...

*Message #4 Posted by **cyrille de Brébisson** on 13 May 2010, 8:17 a.m.,*
in response to message #1 by Bill Zimmerly

hello,

can you post the exact string that you are trying to compile?

cyrille

Re: ARM Assembler Help Requested...

*Message #5 Posted by **Bill Zimmerly** on 13 May 2010, 2:20 p.m.,*
in response to message #4 by cyrille de Brébisson

Hi Cyrille!

Here is the exact string:

```
"CODE


% SMALL ARM LAUNCHER
SAVE


GOSUB SKIPCODE
% INSERT ARM CODE HERE
!ARM
% TEST CODE - RETURN ONLY
MOV PC,LR
!ASM
*SKIPCODE
A=PC
A=A-4.A
C=RSTK
ACEX.A
D0=C % END OF BLOCK
C=C-A.A % NIBBLES TO COPY
D1=(2) 0 % ALIGN
MOVEUP
CD1EX
ARMSAT
LOADRPL
ENDCODE


@"
```

(Everything between the double-quote marks.)

Also, Cyrille, do you know of any ARM code more advanced than the simple examples presented in the AUR Manual? I would really like to know how to do I/O with the keyboard, display, and serial port with ARM code - but haven't been able to find anything at all on this.

- Bill

Re: ARM Assembler Help Requested...

*Message #6 Posted by **Han** on 13 May 2010, 10:12 p.m.,*
in response to message #5 by Bill Zimmerly

CODE ... ENDCODE is a SysRPL object. Perhaps you need to incude:

```
!NO CODE
!RPL
```

Either include that at the top of your source code, or make sure to have flag -92 set (so that MASD assumes SysRPL mode). The other possibility is to remove 'CODE' and 'ENDCODE'

Han

Edited: 13 May 2010, 10:12 p.m.

Re: ARM Assembler Help Requested...

*Message #7 Posted by **Bill Zimmerly** on 14 May 2010, 2:16 a.m.,*
in response to message #6 by Han

> Quote:
>
> CODE ... ENDCODE is a SysRPL object. Perhaps you need to incude:
>
> ```
> !NO CODE
> !RPL
> ```
>
> Either include that at the top of your source code, or make sure to have flag -92 set (so that MASD assumes SysRPL mode). The other possibility is to remove 'CODE' and 'ENDCODE'
>
> Han

Hi Han!

Per your instructions, I did each of those steps and still got the same error each time. :(It's very puzzling...

Re: ARM Assembler Help Requested...

*Message #8 Posted by **BruceH** on 14 May 2010, 8:31 a.m.,*
in response to message #5 by Bill Zimmerly

Hi Bill,

This code that you have posted works just fine for me provided flag -92 is set. If not then it gives the invalid file error that you have been seeing.

In case there is something else, my flags are: { # 205010FF0h # 0h # 801000000A000000h # 0h }

Version HP50-C Revision #2,08

Re: ARM Assembler Help Requested...

*Message #9 Posted by **Bill Zimmerly** on 14 May 2010, 2:04 p.m.,*
in response to message #8 by BruceH

BruceH and Han,

It works now when I set flag -92. Thanks for your help!

(Han - I don't know why it didn't work before when I was doing what you said to do, but I re-entered the program, set flag -92 and it assembled to a "Code" object. Possibly a character I didn't see?)

Anyway - it works and I'm grateful for everyone's help. :)

Sincerely, - Bill

> Quote:

> Bill,
>
> Rather than coding in ARM assembly, consider coding in C with HPGCC instead. This will compile into native ARM code and it's really fast. Libraries let you access the keyboard and display, though I'm not sure about the serial port.

Hi David!

Since my goal is to port my ARM zForth system to the HP50G, I prefer to stick to ARM assembler exclusively. But I do agree with what you wrote about HPGCC - it's fast and quite useful! ;)

- Bill

Re: ARM Assembler Help Requested...

*Message #10 Posted by **David Hayden** on 14 May 2010, 9:35 a.m.,*
in response to message #5 by Bill Zimmerly

Bill,

Rather than coding in ARM assembly, consider coding in C with HPGCC instead. This will compile into native ARM code and it's really fast. Libraries let you access the keyboard and display, though I'm not sure about the serial port.

Re: ARM Assembler Help Requested...

*Message #11 Posted by **Bill Zimmerly** on 14 May 2010, 5:18 p.m.,*
in response to message #5 by Bill Zimmerly

> Quote:
>
> Also, Cyrille, do you know of any ARM code more advanced than the simple examples presented in the AUR Manual? I would really like to know how to do I/O with the keyboard, display, and serial port with ARM code - but haven't been able to find anything at all on this.

I don't know why I missed this before, but the HPGCC source modules have a lot of good stuff to study in there. Cool!

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Jazz 50G

*Message #1 Posted by **Han** on 12 May 2010, 12:07 p.m.*

For those who prefer HP mnemonics and miss having Jazz, I have ported most of Jazz's functionality over to the ARM machines. The initial release can be downloaded at this link:

Jazz 50g v1.0

Have fun coding!

Re: Jazz 50G

*Message #2 Posted by **Martin Pinckney** on 12 May 2010, 11:32 p.m.,*
in response to message #1 by Han

Han, I was not familiar with Jazz, so my curiosity was piqued. I gather that it is a 48 program that compiles System RPL into ML, right? So my question to you or anyone else, does the version on hpcalc.org run on a 48sx? Does it work with User RPL (which is supposed to be a subset of System RPL)?

Re: Jazz 50G

*Message #3 Posted by **Han** on 13 May 2010, 1:22 a.m.,*
in response to message #2 by Martin Pinckney

> Quote:
>
> Han, I was not familiar with Jazz, so my curiosity was piqued. I gather that it is a 48 program that compiles System RPL into ML, right? So my question to you or anyone else, does the version on hpcalc.org run on a 48sx? Does it work with User RPL (which is supposed to be a subset of System RPL)?

It compiles System RPL source code (written in the form of a "string") as well as machine code (using HP mnemonics). Personally, I have always preferred HP mnemonics (more readable, easier to add comments) so I never got into MASD (the built-in compiler for the HP50G). Hence the port.

Jazz is also capable of editing User RPL programs, but you should probably use TED to do your editing (as opposed to ED, both of which are part of Jazz). Other features include disassembler, System RPL debugger, and machine code debugger.

The one on hpcalc.org (under the HP48 section) does indeed run on the HP48SX (as well as the HP48GX). It also runs on the HP48G+ or any HP48 with upgraded RAM.

Re: Jazz 50G

*Message #4 Posted by **Martin Pinckney** on 13 May 2010, 9:51 a.m.,*
in response to message #3 by Han

Thanks, Han.

> Quote:
>
> I have always preferred HP mnemonics ...

Don't know what this is, but I think I know what programming in User RPL is, though I have not attempted it.

Edited: 13 May 2010, 10:14 a.m.

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Sir Clive Sinclair - OT

*Message #1 Posted by **Nigel Bamber** on 12 May 2010, 2:58 a.m.*

Taken from a recent article from the Telegraph in the UK , following Sir Clive's recent marriage in Vegas to his second wife, who herself has an intetesting background!

You will see he doesnt have a mobile phone and carries a slide rule with him.

" And the young, Surrey-born Sir Clive put his mind to an awful lot of different things. At 14, he designed a one-man submarine; by the age of 17, he was editing Practical Wireless magazine and selling earpieces to shops. Was he a nerd? “I’m not sure the word existed then, but I suppose I was: I got bullied a lot at school.” In 1961, after designing a pocket transistor radio, he set up Sinclair Radionics. The slimline pocket calculator followed in 1972, then the Spectrum computers. By the time he sold those off to Amstrad in 1986, Sir Clive was a millionaire.

Though not obsessed by technology (he doesn’t use a mobile phone, BlackBerry, computer or a car and has, since 1972, carried a slide rule in his pocket which he ironically deems “a lot handier than a calculator”), Sir Clive brightens at the mention of his current projects. In the corner of the room a stack of his new folding A-bikes are leaning against the sofa (“They’re half the weight of any other folding pedal bike in the world,” he says). And in his laboratory in east London, the Summer C5 (“the same concept as the old C5 with a completely new, improved design”) is being constructed. His great dream is to invent a “vertical take-off personal flying machine” to enable people to travel by air from one part of a city to another – and he claims to know how this can be done (“It will be entirely by GPS so you would just dial in where you want to go and take off”)."

Nigel

Re: Sir Clive Sinclair - OT

*Message #2 Posted by **hugh steers** on 12 May 2010, 8:40 a.m.,*
in response to message #1 by Nigel Bamber

I actually think a personal VTOL vehicle is very possible; however, im not saying I think Sir Clive will be necessarily the one to deliver it.

As I see it, it would be an autogyro, but with the blades underneath, surrounded by a skirt that prevents it hitting anything. As you know, autogyro flight works like a moving airplane wing and *not* like a helicopter (which simply forces air downwards). Thus the air flows upwards under the vehicle and out through vents on the sides. This means it does not cause massive air disruption below it and furthermore, no tail rotor is needed to correct rotational torque.

Experimental such vehicles go back to WWII. I understand the main problems were stability and control. Presumably today this could be solved by a calculator program :-)

The market for such a machine would be the elite rich – there are plenty of people who could afford one for the purposes of getting to destinations in crowded cities (like London).

I have concluded the main obstacle with this project is actually not the technology, but regulations. Presumably to fly it, you would need a pilots’ license (maybe a chopper license). There would have to instead

be a special "low altitude" consumer flight license governing a new layer of airspace below all current flight paths, but high enough above buildings. Although, I cant see this happening in the near future.

Re: Sir Clive Sinclair - OT

*Message #3 Posted by **Bart (UK)** on 12 May 2010, 9:55 a.m.,*
in response to message #2 by hugh steers

> Quote:
>
> The market for such a machine would be the elite rich.

I think this is the usual trend until mass production sets in.

> Quote:
>
> I have concluded the main obstacle with this project is actually not the technology, but regulations. Presumably to fly it, you would need a pilots' license (maybe a chopper license). There would have to instead be a special "low altitude" consumer flight license governing a new layer of airspace below all current flight paths, but high enough above buildings. Although, I cant see this happening in the near future.

Who knows what the technology will have advanced to by the time the regulators have got themselves organised. This will give the technology time to mature with improvements from in-use experience.

Re: Sir Clive Sinclair - OT

*Message #4 Posted by **Norman Dziedzic** on 12 May 2010, 11:02 a.m.,*
in response to message #3 by Bart (UK)

> Quote:
>
> ... by the time the regulators have got themselves organized.

I don't think there will be an end to this wait :-)

I think people have a hard enough time not running into each other in the essentially 2 dimensional space of roadways. I can't imagine ever trusting my life to other people in a 3 dimensional travel space; whether they are flying around me or designing the software to "automatically" guide me to my destination...

I suppose horse riders said something to this effect about automobiles at the beginning of the last century so perhaps I'm a Luddite but it's how I feel right now.

Re: Sir Clive Sinclair - OT

*Message #5 Posted by **Martin Pinckney** on 12 May 2010, 10:51 a.m.,*
in response to message #2 by hugh steers

> Quote:
>
> ... helicopter (which simply forces air downwards).

To be picky, I do not think this is completely correct. I believe the rotor blades are airfoils, so lift is achieved partly through pressure differential (like an airplane wing), and partly through forcing the air downward (like a fan).

Re: Sir Clive Sinclair - OT

*Message #6 Posted by **Martin Pinckney** on 12 May 2010, 10:58 a.m.,*
in response to message #2 by hugh steers

> Quote:
>
> I have concluded the main obstacle with this project is actually not the technology, but regulations. Presumably to fly it, you would need a pilots' license (maybe a chopper license). There would have to instead be a special "low altitude" consumer flight license governing a new layer of airspace below all current flight paths, but high enough above buildings. Although, I cant see this happening in the near future.

In the U.S., "ultralight" airplanes are practically unregulated, and presumably this concept might apply to the personal VTOL devices as well.

Until they become numerous, then watch the regulations start. Eventually the ultralights will become regulated.

Re: Sir Clive Sinclair - OT

*Message #7 Posted by **hpnut** on 12 May 2010, 12:38 p.m.,*
in response to message #1 by Nigel Bamber

IIRC, sir Clive's calculators (or some of them) were RPN machines.

Re: Sir Clive Sinclair - OT

*Message #8 Posted by **Namir** on 12 May 2010, 4:07 p.m.,*
in response to message #7 by hpnut

He had one 3-stack calculator that was very basic. I don't think Dave Hewlett or Bill Packard ever lost sleep over Sinclair's RPN calculator.

Re: Sir Clive Sinclair - OT

*Message #9 Posted by **Steve Simpkin** on 12 May 2010, 4:26 p.m.,*
in response to message #8 by Namir

Don't forget the Sinclair Scientific Wrist Calculator! Although not RPN it could have given the HP-01 a run for its money...
OK, reality check. No it could not have.
I built one of these miserable little things (which was not easy!) and although it did work, it was not practical. The six mercury cells that powered it did not last long and cost a fortune (for me at the time) to replace. It also did not have a watch function, only a calculator.
An interesting product for the time but it did not lead to the discontinuation of the HP-01.
http://www.vintagecalculators.com/html/wrist_calculator.html

Re: Sir Clive Sinclair - OT

*Message #10 Posted by **Martin Pinckney** on 12 May 2010, 8:46 p.m.,*
in response to message #9 by Steve Simpkin

In a way it reminds me of DaveJ's Uwatch.

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HP-49G as PIM

*Message #1 Posted by **Johnny Bjoern Rasmussen** on 12 May 2010, 1:01 a.m.*

Hi
I'm looking for any suggestions to some PIM software for the HP-49G.

Thanks
Johnny

Re: HP-49G as PIM

*Message #2 Posted by **Bill Zimmerly** on 12 May 2010, 1:14 a.m.,*
in response to message #1 by Johnny Bjoern Rasmussen

Hi Johnny!

> Quote:
>
> Hi
> I'm looking for any suggestions to some PIM software for the HP-49G.
>
> Thanks
> Johnny

Organizer 1.1 (Org11) and Scribe make a great combination for turning your calculator into a decent PDA.

(Org11 needs Scribe for some PIM functionality.)

Re: HP-49G as PIM

*Message #3 Posted by **Johnny Bjoern Rasmussen** on 17 May 2010, 6:58 a.m.,*
in response to message #2 by Bill Zimmerly

Thanks Bill. It was just what I was looking for.
I wonder if there still is any developement going on...

Re: HP-49G as PIM

*Message #4 Posted by **P.Hart** on 21 May 2010, 4:38 p.m.,*
in response to message #2 by Bill Zimmerly

Thanks also from me. I have been considering alternatives to HP LX machines. Scribe and Org11 will be very useful. Both applications have been installed and are functioning well in my 49g (n.b. not the earlier 49G) and my 50g. BTW, I tried to communicate with the two developers when initially I had difficulty (my fault entirely) setting up in the 50g but sadly no answer, so if there is development going on it seems to be inaccessible. P.Hart

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OT:RadioShack

*Message #1 Posted by **Egan Ford** on 11 May 2010, 3:03 p.m.*

The Lost Tribes of RadioShack: Tinkerers Search for New Spiritual Home

Re: OT:RadioShack

*Message #2 Posted by **Garth Wilson** on 11 May 2010, 3:47 p.m.,*
in response to message #1 by Egan Ford

I wish I had kept copies of the Radio Shack catalogs from my growing-up years; maybe not all of them, but at least every third year. Same goes for Lafayette, Burstein-Applebee, and maybe others. At least I kept a few Heathkit catalogs. When we moved to this city 35 years ago, there were a dozen electronics stores within ten miles, and most were not chain stores. In fact, several were surplus electronics stores. It was wonderful to me, a kid whose hobby was electronics and who was always making things. I was into amateur radio too. Today, almost no one remembers what a "radio shack" (with lower-case "r" and "s") is.

Edited: 11 May 2010, 3:47 p.m.

Re: OT:RadioShack

*Message #3 Posted by **Michael Meyer** on 11 May 2010, 7:44 p.m.,*
in response to message #2 by Garth Wilson

My first computer was a Heathkit 386. I think the boards were already made, but you had to put together all of the case parts, switches, bays, etc. Then it became Heath-Zenith, if I remember correctly.

Re: OT:RadioShack

*Message #4 Posted by **Steve Simpkin** on 11 May 2010, 7:55 p.m.,*
in response to message #2 by Garth Wilson

Oh Man! The memories.... My Radio Shack catalog collection went back to 1974. Most of them were thrown out over the years but fortunately with the Internet, we don't have to miss them. The following site has almost every page of every Radio Shack catalog from 1939 to 2005!
http://www.radioshackcatalogs.com/
I also must have built almost every P-Box electronics kit they ever made. Here is a list of all of them as well
http://my.core.com/~sparktron/pbox.html

Growing up sucks.....

Re: OT:RadioShack

*Message #5 Posted by **Garth Wilson** on 11 May 2010, 11:32 p.m.,*
in response to message #4 by Steve Simpkin

> Quote:
>
> http://www.radioshackcatalogs.com/ I also must have built almost every P-Box electronics kit they ever made. Here is a list of all of them as well
> http://my.core.com/~sparktron/pbox.html

Oh the memories! You brought back smiles!

Re: OT:RadioShack

*Message #6 Posted by **DaveJ** on 11 May 2010, 9:45 p.m.,*
in response to message #2 by Garth Wilson

> Quote:
>
> I wish I had kept copies of the Radio Shack catalogs from my growing-up years; maybe not all of them, but at least every third year.

I kept catalogs religiously when growing up!
I had every Tandy (Radio Shack in Australia) yearly catalog, special catalogs (like computers), and every monthly flyer.

In an act of madness I finally ditched them all about 7 years ago in a big cleanup :-(

Dave.

Re: OT:RadioShack

*Message #7 Posted by **tim m.** on 11 May 2010, 10:06 p.m.,*
in response to message #2 by Garth Wilson

Ah yes, the catalogs. My formative years were spent collecting them along with the battery-of-the-month club cards. Today's Radio Shack is a faint shadow of what it once was, with all their electronic components relegated to four sets of drawers in the back of the store.

-Tim

Re: OT:RadioShack

*Message #8 Posted by **dbatiz** on 13 May 2010, 7:45 a.m.,*
in response to message #1 by Egan Ford

http://www.elenco.com/

Fellow tinkerers,

I ran across this when looking for accessories for a device called Snap Circuits. This company makes many of the kits that I remember looking at in Radio Shack when I was a kid. "Thumbing" through the PDFs brought back many memories, and claimed more than a dollar or two...

Very Respectfully,

David

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NoV-64 (ver. 08r) update re-updated.

*Message #1 Posted by **Diego Diaz** on 11 May 2010, 2:41 p.m.*

Hi all,

A few days ago I posted an update for NoV-64. Soon afterwards a bug was detected and yet another new feature (ROM erasing) was considered a nice addition.

This new update covers both issues, fixing the bug and adding the erasing feature.

The files for this update, along with the manual can be downloaded from here.

Again your comments are more than welcome.

Diego.

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OT: Casio fx-603P

*Message #1 Posted by **Jean-Michel** on 11 May 2010, 1:42 p.m.*

Hi all,

yes, I know, it's not exactly the right place to say it, but since they were very powerfull high-end calculators back in the 80's-90's, I thought some of you would perhaps be interested in knowing that there are two (2) CASIO fx-603p (yes, 603, not 602) on sale on eB**. Unfortunately, prices are as crazy as these calculators are rare... As an happy owner of a venerable and still functionning fx-602p, I would have been very pleased to discover how improved it may have been with its successor, but I will keep on satisfying myself by watching photos and reading datasheets of it...

Kind regards.

Re: OT: Casio fx-603P

*Message #2 Posted by **Johnny Bjoern Rasmussen** on 11 May 2010, 2:27 p.m.,*
in response to message #1 by Jean-Michel

I formerly owned a FX-602P. It was a great little wonder no doubt about that.

Johnny

Re: OT: Casio fx-603P

*Message #3 Posted by **marais** on 11 May 2010, 6:03 p.m.,*
in response to message #2 by Johnny Bjoern Rasmussen

I got myself an FX602P in 1981 and still keep it as one of my favourite calculators (got myself a spare, to be honest). I did not know about the 603 until a few years ago, I saw one in Prague in a supermarket and was stupid enough not to buy one. I immediately recognized the 602 heritage, and I thought, wow, they are releasing a new model, let's buy one for $3 less once they show up in France. Bummer! From what I read, the 603 was not a huge success. It was sold in Japan for a while, and part of the stock went to eastern europe. I wish I bought the model I saw in Prague, but for new, the 602 (and my HP calcs) must do the job.

Re: OT: Casio fx-603P

*Message #4 Posted by **hugh steers** on 11 May 2010, 7:09 p.m.,*
in response to message #3 by marais

i saw some of these some time ago on ebay (somewhat cheaper too), but i dont really want one. it looks, to me, a lot later built. Japan market only? Also, plastic case etc.

The 602p and 502p are cracking machines tho'

Re: OT: Casio fx-603P

*Message #5 Posted by **Michael Plant** on 11 May 2010, 8:12 p.m.,*
in response to message #4 by hugh steers

The 603p is actually metal, not plastic. I like it a lot. I also have two 602p's. Hard to say which I prefer, but from a strict "in the hand, user experience" perspective I'd have to say the advantage goes to the 602p. It's considerably smaller and lighter. However, the 2 line display of the 603 and the additional functionality is nice... I definitely prefer its looks, overall.

Re: OT: Casio fx-603P

*Message #6 Posted by **hugh steers** on 12 May 2010, 8:17 a.m.,*
in response to message #5 by Michael Plant

wow. maybe i should have got one when they were cheaper. i was judging by the pictures.

Re: OT: Casio fx-603P

*Message #7 Posted by **Paul Dale** on 12 May 2010, 3:31 a.m.,*
in response to message #1 by Jean-Michel

When my first HP (a 34c) died I replaced it with a 602p. Had a lot of fun programming that one (and cramming lots into its miserly 512 bytes). It served me well for close to a decade before it went bad too. Finally replaced by a HP-28s which was also a lot of fun.

I wouldn't mind getting a 603p...

- Pauli

Re: OT: Casio fx-603P

*Message #8 Posted by **Howard Lazerson** on 12 May 2010, 11:17 p.m.,*
in response to message #7 by Paul Dale

I have 2 working fx-602p's plus peripherals and manuals if anybody is interested

Re: OT: Casio fx-603P

*Message #9 Posted by **Paul Dale** on 13 May 2010, 4:02 a.m.,*
in response to message #8 by Howard Lazerson

I'm more than a bit interested.

Which peripherals? I used to have the cassette/music interface and the thermal printer.

- Pauli

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A brief history of programming languages

*Message #1 Posted by **db (martinez, ca.)** on 10 May 2010, 10:29 p.m.*

May be found here. He doesn't seem aware of RPN. The kids these days...

Re: A brief history of programming languages

*Message #2 Posted by **Thomas Chrapkiewicz** on 11 May 2010, 1:11 a.m.,*
in response to message #1 by db (martinez, ca.)

Obviously a joke, although the dates are somewhat accurate

Re: A brief history of programming languages

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 11 May 2010, 5:42 a.m.,*
in response to message #1 by db (martinez, ca.)

Thanks, db;

I cannot recall the last time I laughed that much... Matches 'The Bing Bang Theory' in being so prolific.

Cheers.

Luiz (Brazil)

Edited: 11 May 2010, 6:17 a.m.

Re: A brief history of programming languages

*Message #4 Posted by **Namir** on 11 May 2010, 9:32 a.m.,*
in response to message #1 by db (martinez, ca.)

In the mod 80s I was able to GOTO the office of Kemeny & Kurtz in Lebanon, NH. They had launched True BASIC which was a modern version of their old BASIC-- supported structured programming and the use of library modules. I met with professor Kurtz several times, but only once with the late professor Kemeny. I remember asking him "I read in your company's bio that you worked for Einstein, How was he?" Kemeny replied that Einstein was incredible even in his seventies. Kemeny was working for Einstein to solve partial differential equations. After a year of trying hard, Kemeny went back to Einstein and told him the task was too difficult. Of course, Kemeny went on to be the Dean of Dartmouth College--no small task!

Namir

Re: A brief history of programming languages

*Message #5 Posted by **Don Shepherd** on 11 May 2010, 12:45 p.m.,*
in response to message #4 by Namir

That's great that you actually met them, Namir. These two gentlemen were indeed pioneers of computer programming. They were among the first to really make programming accessible to the average person, in their case, non-engineering college students. All of us today are indebted to them for what they achieved.

Re: A brief history of programming languages

*Message #6 Posted by **Bill (Smithville, NJ)** on 11 May 2010, 2:41 p.m.,*
in response to message #4 by Namir

I remember John Kemeny more for being the chairman of the Presidential Commission on the Three Mile Island nuclear accident. If I remember correctly, he said his home Apple II computer had many times the computing power as did the computers used to control Three Mile Island Nuclear Power Station. Someone had given me a copy of the draft report before it came out. He did a fantastic job chairing the commission.

Bill

Re: A brief history of programming languages

*Message #7 Posted by **Ed Sowell** on 12 May 2010, 11:44 a.m.,*
in response to message #1 by db (martinez, ca.)

Well, RPN is not a programming language. I do recall a programming language that uses RPN, Iverson's APL, but that is strangely omitted.

Re: A brief history of programming languages

*Message #8 Posted by **Dimitri Simitas** on 12 May 2010, 7:42 p.m.,*
in response to message #1 by db (martinez, ca.)

1957 - John Backus and IBM create FORTRAN. There's nothing funny about IBM or FORTRAN. It is a syntax error to write FORTRAN while not wearing a blue tie.

Now that is funny!

Dimitri

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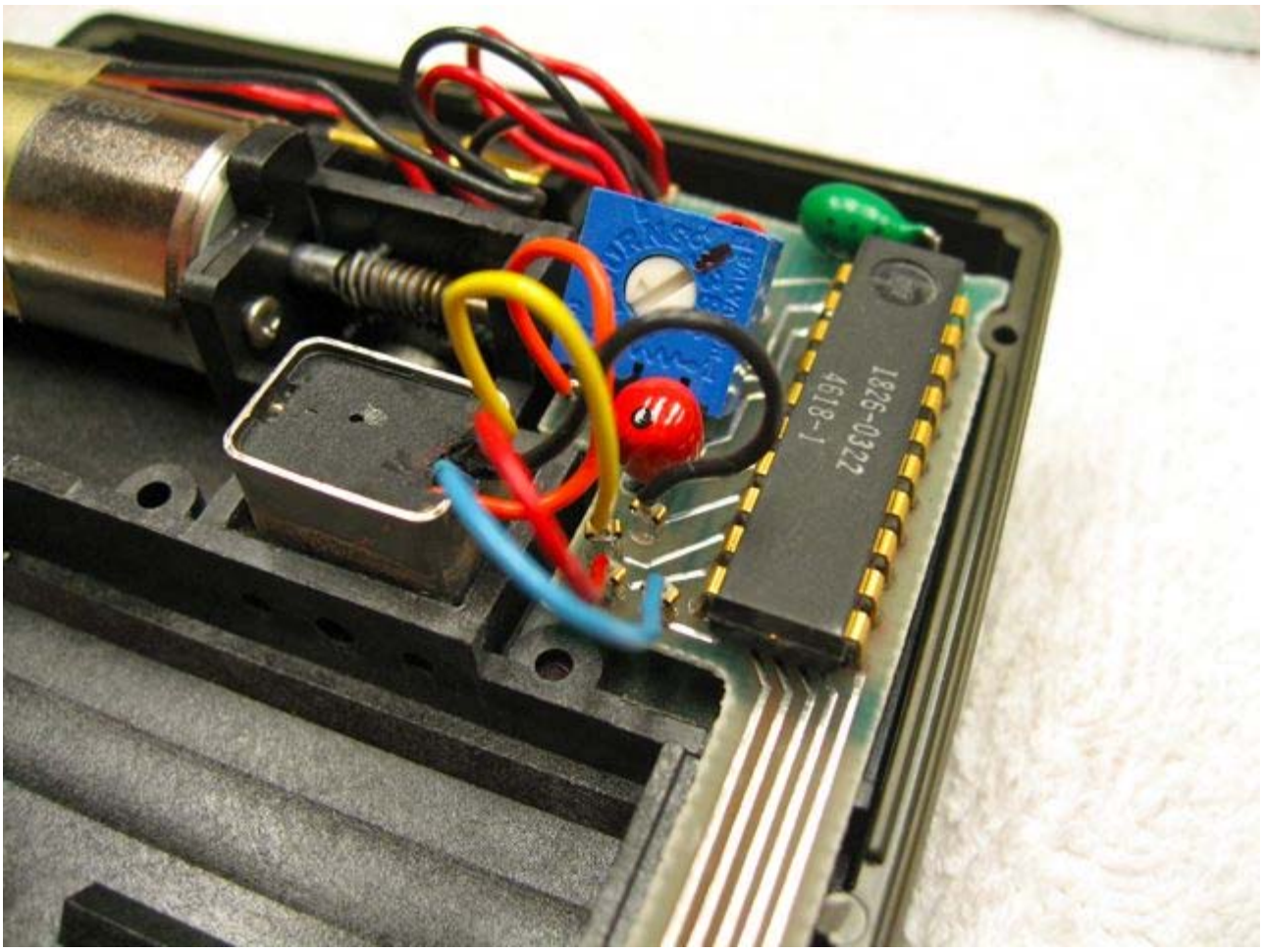
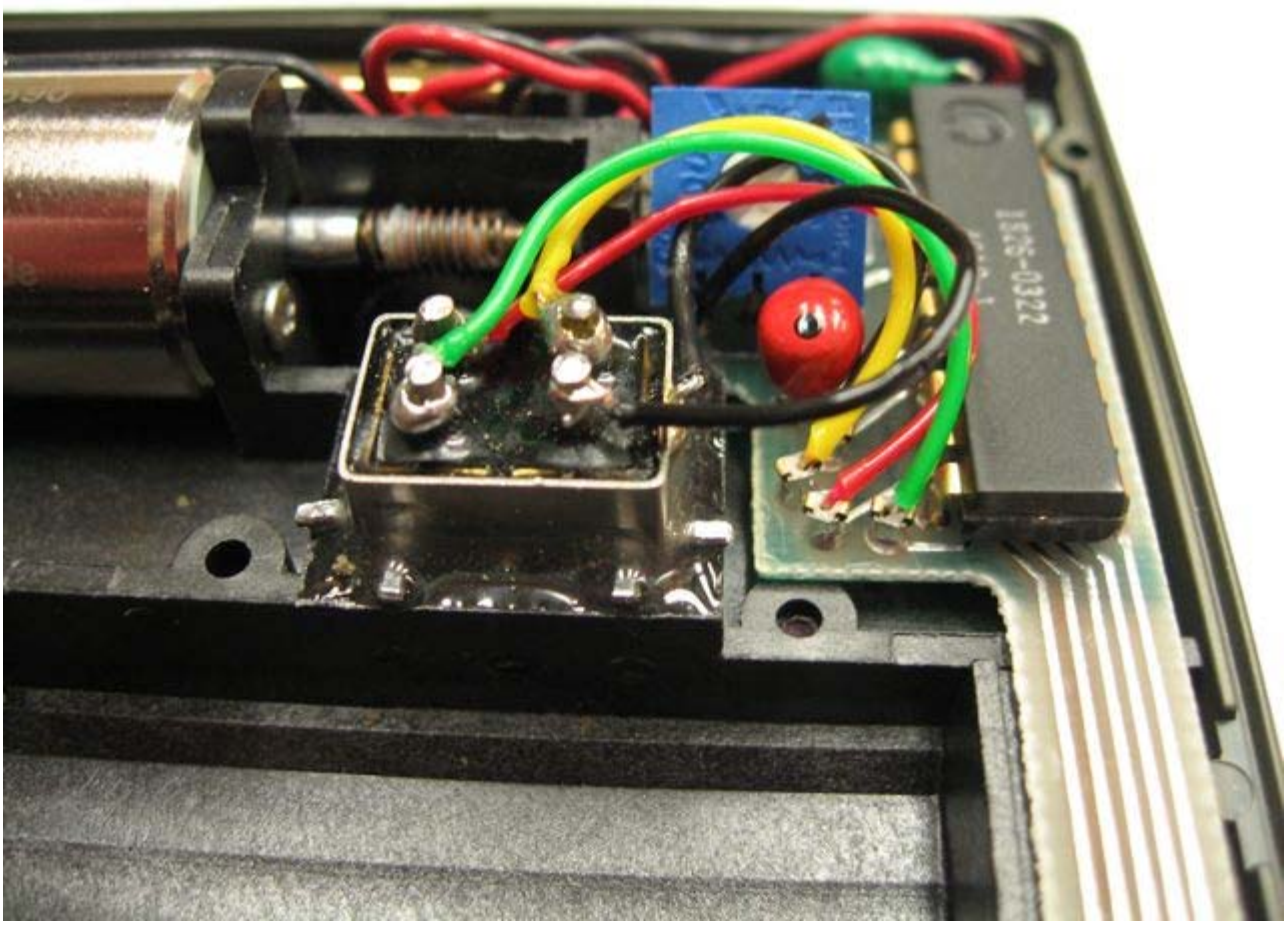
Replace HP-67 head

*Message #1 Posted by **kubla** on 10 May 2010, 2:11 p.m.*

I purchased an HP-67 off ebay. When I received it, the card reader wasn't working. After repairing the drive wheel, it worked mechanically, but generated an error message when reading or writing cards. I replaced the capacitors that are known to cause reader problems. It still gave error messages. I measured the head continuity; one side read open, so the head was bad. I removed the head and sent it to JRF Magnetic Sciences. John didn't have an exact match, so he sent me the best match he had. I installed the head and the calculator is now working perfectly. I have attached before and after pictures. I apologize for the poor workmanship, but I had to use leftovers from my parts bins, so I didn't even have the correct wiring: wrong colours and low-temp insulation. I may order the correct wiring and redo everything to clean up the workmanship, but I'm so happy to have it working, I may put that off for a while.

Before 

After 

Edited: 10 May 2010, 2:13 p.m.

Re: Replace HP-67 head

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 10 May 2010, 2:38 p.m.,*
in response to message #1 by kubla

Hi;

Congratulations! Great job, indeed. Matching wires and soldering after-work is easier than what you've done already.

The worst of all should be the gap alignment, but it seems you've done it well. Based on the 'after' picture you ´d have no chance to correct it if misaligned, so I'd like to ask if you used any optical device other than magnifiers to check the gap alignment.

Cheers.

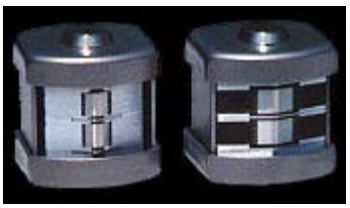
Luiz (Brazil)

Re: Replace HP-67 head

*Message #3 Posted by **kubla** on 10 May 2010, 3:11 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

I assumed the head gap was perpendicular to the long axis of the head face and eyeballed with a straight edge to put the head face in line with the grooves in the mounting plate. The OEM head looks a little like

the one on the left in the following pic; the new head looks a little like the one on the right, so long-axis alignment was easier on the new head.



Of course, if the gap and head face weren't right, I would have been hooped. If I had to do it again, I'd use a jeweler's loupe to eyeball the gap and head face.

I shimmed the head into place using small pieces of aluminum MIG wire, flattened to the correct thickness for a light interference fit. Using a small machinist square, I aligned the head face with the top of the groves in the mounting plate. That provides enough clearance so the card just clears the head. Two of the little white balls then squish the card against the head as the card is pulled through. I tacked the head with dabs of epoxy applied to the original mounting holes in the plate. I then epoxied the rear of the head to hold the shims and head in place. If I did it over, I'd probably just tack the head so I could adjust it if I had to. Once tacked, I'd also snip off the tops of the shims so they don't interfere with the rear case.

Edited: 12 May 2010, 10:16 a.m. after one or more responses were posted

Re: Replace HP-67 head

*Message #4 Posted by **Joel Setton (France)** on 10 May 2010, 3:26 p.m.,*
in response to message #3 by kubla

Looks like you did a super job with the new head, I'm impressed!

Of course the real alignment test would be to try exchanging magnetic cards with another HP-65. Interchange compatibility is the "acid test" for both head-gap alignment and card speed.

Joel Setton

Re: Replace HP-67 head

*Message #5 Posted by **kubla** on 10 May 2010, 3:29 p.m.,*
in response to message #4 by Joel Setton (France)

I did that with my other HP-67 and HP-41. The fixed 67 can read cards written by the other 67, the other 67 can read cards written by the fixed 67, and the HP-41 can read cards written by either 67. I wish I had some preprogrammed cards to see how it works with them.

Edited: 10 May 2010, 3:30 p.m.

Re: Replace HP-67 head

*Message #6 Posted by **Joel Setton (France)** on 10 May 2010, 3:37 p.m.,*
in response to message #5 by kubla

Great! The project does qualify as a complete success. Once again, congratulations!!!

Re: Replace HP-67 head

*Message #7 Posted by **Katie Wasserman** on 10 May 2010, 4:40 p.m.,*

in response to message #5 by kubla

I don't recall reading about any other head replacements on the HP-67/97 before, that's great to know that compatible parts exist! Was the problem an open coil? I had that problem on an HP-9810 calculator but a fellow collector had a spare so I was able to successfully replace that with an original (used) part.

Thanks for posting your repair story and congratulations.

-Katie

Re: Replace HP-67 head

*Message #8 Posted by **kubla** on 10 May 2010, 5:43 p.m.,*
in response to message #7 by Katie Wasserman

Yes, it was an open coil.

Re: Replace HP-67 head

*Message #9 Posted by **Joel Setton (France)** on 12 May 2010, 2:46 p.m.,*
in response to message #8 by kubla

It's nice to know that a spare part is available! It might be a good idea to post the exact part-number of this replacement head, for future reference.

Joel Setton

Re: Replace HP-67 head

*Message #10 Posted by **kubla** on 12 May 2010, 4:10 p.m.,*
in response to message #9 by Joel Setton (France)

Part number is D188380 from JRF Magnetic Sciences.

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'New' RPN Windows Calculator

*Message #1 Posted by **Martin Pinckney** on 10 May 2010, 2:01 p.m.*

Well, at least it's new to me. Got a paper catalog for AutoCAD- and surveying-related software in the mail today, and one item caught my eye.

Those of you with an interest in surveying might want to check out their RPN Windows-based calculator. It can be downloaded free here.

The website says:

> Quote:
>
> Looks just like a real calculator! ProCalc looks so real that we've actually had customers place orders for it thinking that it was a replacement for their HP-48.

A 48 it's not, but interesting anyway.

Edited: 10 May 2010, 2:05 p.m.

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HP10 problem when printing

*Message #1 Posted by **Ignacio Sánchez** on 10 May 2010, 12:43 p.m.*

Dear all,

sorry in advance if you think HP10 is not suitable for this Forum ;-D The thing is that I have a Hp10, ant it works fine except for two aspects, when printing: 1-the paper moves out but it is not "fixed". It can be moved slightly with the hand. 2- Last, and most important: when printing "0", it is shown very big, so, i.e. when 0.00 is printed it covers nearly totally the paper width. This do not happens with the rest of figures (1,2,3, etc.), only when a "0" appears.

I would appreciate your help in order to solve the problem,

Regards

Re: HP10 problem when printing

*Message #2 Posted by **Katie Wasserman** on 10 May 2010, 4:35 p.m.,*
in response to message #1 by Ignacio Sánchez

Ignacio,

You found the right place to ask your question!

The HP-19c and the HP-10 have the same printer mechanism. One of our HP repair experts, a regular contributor to this forum, has a very nice writeup on repairing this printer. This should be very helpful in fixing your paper feed problem.

You should also make sure that you have a good quality battery pack installed, that's it's fully charged and making good contact with the circuit board contacts. All these factors can cause the print to stretch out as you describe.

-Katie

Re: HP10 problem when printing

*Message #3 Posted by **Ignacio Sánchez** on 11 May 2010, 5:18 a.m.,*
in response to message #2 by Katie Wasserman

thank you vfery much! I shall read it carefully

Ignacio

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HP10 problem when printing

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NUT processor NOP's (beginner's question)

*Message #1 Posted by **Diego Diaz** on 9 May 2010, 1:42 p.m.*

Hi all,

There are some words (mainly in the class 0) that NUT processor considers as NOP's.

Some of them have been used for different purposes, the most well known being ENBANK (H'100, H'140, H'180, H'1C0) and WROM (H'040).

Another two are used by HEPAX module: ROMBLK (H'030) and WPTOG (H'1F0).

Willian Doug Wilder's M-code table shows WREG0 to WREG7 (H'200, H'240, H'280, H'2C0, H'300, H'340, H'380 & H'3C0). Although I have been unable to find further references to their usage.

Still three words remain apparently unused: H'080, H'0C0 & H'2B0.

So my question is: Are they *really* unused? and, therefore, can any of them be used to extend the functionality of a new born module?

Your comments will be much appreciated.

Best wishes.

Diego.

Re: NUT processor NOP's (beginner's question)

*Message #2 Posted by **Meindert Kuipers** on 9 May 2010, 2:57 p.m.,*
in response to message #1 by Diego Diaz

Hi Diego,

Funny coincidence, I just returned from a short vacation to the Canaries (Lanzarote)!

I actually compiled a complete table of NUT instructions recently after I discovered some issues in my M2kM disassembler. Your observations are fully correct, I recall that there is some explanation in the HEPAX manual about WREG0 to WREG7. Also CLASS 0, command D (13) seems to be unused, these include instructions $034 to $3F4 if I am correct.

Meindert

Re: NUT processor NOP's (beginner's question)

*Message #3 Posted by **Diego Diaz** on 9 May 2010, 3:31 p.m.,*
in response to message #2 by Meindert Kuipers

Hi Meindert,

Good to read from you... and hope you've enjoyed your Canarian vacations; Lanzarote is certainly one of my favourite islands, unique landscapes and awsome volcanic forms there. Not to mention the beaches (Puerto del Carmen and Papagayo to say some)

Back to the NUT question, I know that there are some other NOP's in the NUT instructions "map". These in the class 0 (H'xx0) are of my interest because they're easy to decode.

Thanks for the hint regarding the HEPAX manual. I've checked it but I probably passed over the WREG info. Will read it again more carefully... :-)

Best wishes from Quisqueya (AKA Dominican Republic)

Diego

Re: NUT processor NOP's (beginner's question)

*Message #4 Posted by **Angel Martin** on 9 May 2010, 4:33 p.m.,*
in response to message #3 by Diego Diaz

Hi Guys, I'm definitely a software person but here's some comment.

Not sure if they're different but I'm thinking of the instructions in the i41CX MATH module - all of them ignored by the NUT CPU and thus used as triggers for the native iPOD code.

I could dig them out if you need to know - or you probably already have?

Cheers, AM

Re: NUT processor NOP's (beginner's question)

*Message #5 Posted by **Diego Diaz** on 9 May 2010, 5:56 p.m.,*
in response to message #4 by Angel Martin

Hi Ángel,

Hope you're doing well.

I'm not aware of the i41CX intrincacies... just asking for the "real thing" behaviour as I want to build some extra features intended to avoid conflicts between physical ROM packs and the RAM pages. Quite in the way the W&W RAMbox64 (inside 41CY) does.

I assume that the CY uses some sort of internal mapping to detect whether or not a physical module is using any page in the range of its RAM (#8 to #F); and disabling such RAM page to avoid conflicts.

Regrettably I'm not one of the fortunate CY owners... :-(but the process itself might not be that difficult if I'm allowed to use a pseudo-NOP for mapping purposes on start-up.

However, if someone knows the details about W&W internal process it will also help a lot!

Best wishes.

Diego.

Edited: 9 May 2010, 5:58 p.m.

Re: NUT processor NOP's (beginner's question)

*Message #6 Posted by **Meindert Kuipers** on 10 May 2010, 12:41 p.m.,*
in response to message #4 by Angel Martin

I had already checked this out. i41CX+ uses the §3F4 instruction for all its functions to trigger the advanced math. The ROM images for I41CX support just contain the function names with the $3F4 instruction followed by a RTN. The rest of the ROM is just NOP's.

In the new MLDL2000 version I use memory mapped I/O, special functions are triggered by a read or write of a reserved location (I use x800 to x80F) in a special type of ROM image. This is pretty generic and can be used for both reads and writes.

I tried to search for info on the 41CY instructions (for speed change), but could not find any yet, maybe Christoph Klug can help us out here, he is specialized in the CX!

Meindert

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HP9820A

*Message #1 Posted by **Dave Rand** on 9 May 2010, 10:07 a.m.*

Well, count me as another idiot.

My friend and I were just handed a HP 9820A, unknown condition.

As usual, the card reader is unhappy, printer unknown, and no display. We took it to bits, and washed everything down. Came out looking great (Magic Eraser worked wonders on the external case).

Power supplies, as usual, are rock-solid and happy.

We _briefly_ got a valid display (0: END |-), after one power one, but never again.

Clocks are fine, cleaned up some corrosion in a couple of edge connectors. It obviously _wants_ to live.

So, we will be working on this over the next few months. Thank you to all of you on this forum that have shared your experiences bringing up your gear - it will help. I'll share what we find along the way.

Re: HP9820A

*Message #2 Posted by **Thomas Falk** on 9 May 2010, 12:47 p.m.,*
in response to message #1 by Dave Rand

I wish you success! If you had it working once, it should be not to hard, but it may be ;-)

I have finished repairing a HP 9810A just two weeks ago. The 9810 uses the same mico processor. Feel free to ask if you think it may help.

Best regards,

Thomas

Re: HP9820A

*Message #3 Posted by **Alejandro Paz (Germany)** on 9 May 2010, 3:31 p.m.,*
in response to message #1 by Dave Rand

I have a 9820 here. I could do some measurements if you want. There is also a simulator at sourceforge, with it you may trace where the program is halting.

Anybody wnat a 9820 ? I'll have to trow it away at the end of the month :(

Re: HP9820A

*Message #4 Posted by **tim m.** on 10 May 2010, 1:07 a.m.,*
in response to message #3 by Alejandro Paz (Germany)

I'd be interested in saving your 9820 from the bin if there are no other takers!

I'm in the US, though.

-Tim

Re: HP9820A

*Message #5 Posted by **Joel Setton (France)** on 10 May 2010, 4:58 a.m.,*
in response to message #3 by Alejandro Paz (Germany)

I'll be most happy to give your 9820 a warm home, and all the loving care it needs! I'll pay shipping to France.

Joel Setton

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HP-50G - Documentation for the Filer Application?

*Message #1 Posted by **Bill Zimmerly** on 8 May 2010, 2:07 p.m.*

I've been looking in every HP-50G manual I have, searching for information on the Filer Application, but alas I just can't find what I'm looking for. :(

Here are the Filer's menu items that I haven't been able to find anything about:

EDITB HEADE

What are these for?

Does anyone know where they are documented?

Re: HP-50G - Documentation for the Filer Application?

*Message #2 Posted by **BruceH** on 8 May 2010, 2:43 p.m.,*
in response to message #1 by Bill Zimmerly

From the AUR:

EDITB: Edit Best Command: Opens the specified object in the most suitable editor. For example, if you use a matrix as the specified object, the command opens it in Matrix Writer.

HEADER-> Header size: Returns the current size of the header in lines.

Edited: 8 May 2010, 2:47 p.m.

Re: HP-50G - Documentation for the Filer Application?

*Message #3 Posted by **Bill Zimmerly** on 8 May 2010, 7:11 p.m.,*
in response to message #2 by BruceH

Thanks Bruce! :)

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Surveying Pacs for HP-48

*Message #1 Posted by **Jeff Kearns** on 8 May 2010, 11:03 a.m.*

Can anyone tell me the basic differences (mainly overall capability, quality, etc) between the TDS-COGO48 Surveying Plug-in card and the D'ZIGN Surveying Pac Card (Version 2.0) for HP 48GX?

They sell these cards for such high prices on TAS. I have an opportunity to get a COGO card + overlay/manual with a Mint 48GX thrown in for good measure for a mere song.

Jeff Kearns

Re: Surveying Pacs for HP-48

*Message #2 Posted by **Martin Pinckney** on 8 May 2010, 11:41 a.m.,*
in response to message #1 by Jeff Kearns

No, I can't. But you might try googling for articles in the surveying trade magazines, such as "Professional Surveyor", "P.O.B.", etc.

Here's a link to an article on the TDS card.

My impression is that TDS and SMI had the majority of the market in those days. I have TDS, but no others.

Re: Surveying Pacs for HP-48

*Message #3 Posted by **db (martinez, ca.)** on 8 May 2010, 2:00 p.m.,*
in response to message #1 by Jeff Kearns

One thing to think about is: do you get to decide which to use or will you have to use what present and future employers will want. It seems that areas have a defacto standard. TDS is the standard here but i prefer the D'zign.

The D'zign will hold more points per given ram card size and it uses, not wastes, the resident memory. It's slope staking routine is the best on the market for the 48 series. I don't know if the Card version of D'zign you are talking about will hook up to the instrument you will be using or not. This is also something to think about with any iteration of TDS. They could not look into the future and anticipate newer guns.

Another thing to think about is support. Nowadays, the new TDS just can't be bothered talking to people who have already bought their product. With D'zign; you can call up and Phylis will talk you through any problem. On an SX, anything below ver 3.2 of TDS will have bugs and on a GX, get ver 4.12 or above.

As Forest Gump said: "that's all i know about that".

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HP-71B FRAM Extension

*Message #1 Posted by **Hans Brueggemann** on 8 May 2010, 2:43 a.m.*

all,
"inspired" by raymund's current thread on the HP-71B bus simulation, i thought it might be in order to leak some information on my two current HP71-B ram extension projects. (obviously, i am not the only one in this forum living curiosity with a logic analyzer..)
1) so far, i managed to successfully link a cypress 256 kByte SRAM to the bus, giving a total of 128 kByte usable RAM (because in the current development stage, only 1 nibble per byte is used). the whole thing easily fits into a front port module.
2) next step is to use a 512kByte FRAM instead of the SRAM and pack it into a card reader housing. the completed memory module will feature 16 user-configurable ID-registers, each defining a 32kByte block of the FRAM as either RAM or write-protected RAM(ROM). i am currently working on the logics for a nybble-to-byte merger (and byte-to-nibble splitter) in order to make the complete 256kB (512kB) available.
the hardware is realized with an actel igloo FPGA and is still in a very early stage, but the design looks promising and might be useful to link any 8-bit parallel device to the 4-bit HP-bus. -->feature requests are welcome!

best regards,
hans

Re: HP-71B FRAM Extension

*Message #2 Posted by **Paul Dale** on 8 May 2010, 3:03 a.m.,*
in response to message #1 by Hans Brueggemann

Awesome! When can we buy them :-)

Pauli

Re: HP-71B FRAM Extension

*Message #3 Posted by **Klaus** on 10 May 2010, 2:42 a.m.,*
in response to message #2 by Paul Dale

Very nice. I am definitely interested!

Re: HP-71B FRAM Extension

*Message #4 Posted by **Alejandro Paz (Germany)** on 8 May 2010, 5:46 a.m.,*
in response to message #1 by Hans Brueggemann

One of the important points to have in mind is power consumption. I haven't worked with the Igloo series but with the Spartan from Xilinx. They are many things... except low power. In my design I used a LM1117-3.3 without realizing the huge quiescent current it has... there are better alternatives :). I decided on a uC-powered design... let's see how it works.

Re: HP-71B FRAM Extension

*Message #5 Posted by **Chris Foley** on 8 May 2010, 5:48 a.m.,*
in response to message #1 by Hans Brueggemann

Very good news Hans.

Looking forward to hearing more news from this work.

Congrats!

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How did this happen?

*Message #1 Posted by **Wilhelm Taylor** on 7 May 2010, 7:47 p.m.*

http://cgi.ebay.com/Hewlett-Packard-HP-41CX-Calculator-w-Math-Stat-Pac-/180503877058?cmd=ViewItem&pt=Calculators&hash=item2a06de95c2

$0.99 and no takers? 5 day auction.

Strange

Re: How did this happen?

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 7 May 2010, 8:13 p.m.,*
in response to message #1 by Wilhelm Taylor

Strange? STRANGE? I´m strange, this is outrageous!

I´m so chocked I can´t tell a thing...

Re: How did this happen?

*Message #3 Posted by **Manatee** on 7 May 2010, 8:36 p.m.,*
in response to message #1 by Wilhelm Taylor

Interesting. I'd been looking for one, and I don't recall seeing that one.

Re: How did this happen?

*Message #4 Posted by **Haskell** on 7 May 2010, 8:38 p.m.,*
in response to message #1 by Wilhelm Taylor

Maybe because the guy has zero feedback... but even then for $14.50 shipping + $0.99 bid, it would have been worth the risk.

Re: How did this happen?

*Message #5 Posted by **Paul Dale** on 7 May 2010, 9:11 p.m.,*
in response to message #4 by Haskell

Also only ships to the US so most of the world wouldn't have seen it.

- Pauli

Re: How did this happen?

*Message #6 Posted by **gene wright** on 7 May 2010, 10:06 p.m.,*
in response to message #5 by Paul Dale

It might have been ended shortly after being listed by the seller.

That way no one would have seen it.

Does anyone see a start time? I see when it ended, but where is the start time?

Re: How did this happen?

*Message #7 Posted by **Michael Meyer** on 7 May 2010, 10:57 p.m.,*
in response to message #6 by gene wright

I seem to recall that there was a reserve price on the calculator. Maybe no one wanted to see how high the reserve was....

Re: How did this happen?

*Message #8 Posted by **Michael de Estrada** on 8 May 2010, 12:08 a.m.,*
in response to message #7 by Michael Meyer

I refuse to bid on reserve auctions.

Re: How did this happen?

*Message #9 Posted by **Martin Pinckney** on 8 May 2010, 10:53 a.m.,*
in response to message #8 by Michael de Estrada

Curious as to why. If you set up a snipe bid with the max bid you want to pay, it doesn't matter whether there's a reserve or not.

Reserve auctions can be very useful to the seller, when combined with a BIN price. If you do not have a reserve, then someone can place a bid right after you list the auction, thereby eliminating the BIN option. So using a reserve keeps your auction visible to the greatest number of potential buyers for a longer period of time.

Knowing how it aids me as a seller, I am not put off as a buyer.

Re: How did this happen?

*Message #10 Posted by **Massimo Gnerucci (Italy)** on 8 May 2010, 11:58 a.m.,*
in response to message #9 by Martin Pinckney

And why don't you simply start your auction at your reserve price?

Greetings,
Massimo

Re: How did this happen?

*Message #11 Posted by **Juergen Keller** on 8 May 2010, 1:08 p.m.,*
in response to message #10 by Massimo Gnerucci (Italy)

It's more expensive ...

Re: How did this happen?

*Message #12 Posted by **Martin Pinckney** on 8 May 2010, 2:08 p.m.,*
in response to message #11 by Juergen Keller

Yes, it is. But there is another reason. Having studied eB** auctions a long time, I have concluded that there is are certain strange psychological forces at work. Whereas Michael refuses to bid on a reserve price auctions, I have concluded that many potential bidders will avoid an auction that starts with a "high" opening bid, *even if that opening bid is somewhat less than the item is probably worth.*

There are a few more such strange psychologies surrounding eB**.

Re: How did this happen?

*Message #13 Posted by **Massimo Gnerucci (Italy)** on 8 May 2010, 2:50 p.m.,*
in response to message #12 by Martin Pinckney

Ok, it's more expensive, but only if it goes unsold. Or am I totally wrong?
What is the object of the game? You want to sell it, right?
You start at the usual .99$ and let us bid up until we reach the magical plateau... When we find it you have to pay the same eBay fees. Right?
If you won't let it go under a certain amount why not only put a BIN price and wait for your customer?

I, for one, avoid bidding on reserve auctions (unless the item is a really peculiar one) since they could also be used to poll the interest about the item for sale and forge a following auction based on the result collected before.

Not that this could impact my chances since I always snipe...

I understand that hoping for a battle among newcomers to ride up the bids, being sure to not let the item go unless a reserve is reached and also putting in a BIN if someone wants it at once is covering all bases but...

However I concur that strange psychologies are at work when we visit TAS ;)

Greetings,
Massimo

Re: How did this happen?

*Message #14 Posted by **Juergen Keller** on 9 May 2010, 3:43 a.m.,*
in response to message #13 by Massimo Gnerucci (Italy)

> Quote:
>
> If you won't let it go under a certain amount why not only put a BIN price and wait for your customer?

As Martin already explained: the BIN offer disappears as soon there is the first bid. With a reserve price the BIN offer is available as long as the reserve price is not reached.

Re: How did this happen?

*Message #15 Posted by **Massimo Gnerucci (Italy)** on 9 May 2010,*

4:08 a.m.,
in response to message #14 by Juergen Keller

BIN as per not an auction: this is the price I want for my item...

Re: How did this happen?

*Message #16 Posted by **Juergen Keller** on 9 May 2010, 11:56 a.m.,*
in response to message #15 by Massimo Gnerucci (Italy)

It is perfectly legal to say: this is my BIN price, go for it if you want this item badly, for all the others this is my reserve price, I won't let it go for less. And there is a span in between for those who just want to try their luck. I don't see any problem with this. eBay is NOT just an auction platform, there are many many shops on eBay which sell their stuff at fixed prices. If you want a cheap HP calculator go to your local flea market; perhaps you are lucky. Otherwise you have to arrange with the normal economic system. Remember that you do not have to buy on eBay if you don't want to, and you do not have to bid on reserve price auctions. eBay is a company that has to make profit and make their share holders happy. So they have to provide different selling strategies for their members. I don't like every eBay feature, too, but there is no perfect company or service, probably because the LCD between all human beings is so small ;-)

Re: How did this happen?

*Message #17 Posted by **Massimo Gnerucci (Italy)** on 9 May 2010, 12:41 p.m.,*
in response to message #16 by Juergen Keller

This went far away the original scope of the post.
I don't have anything against eBay rules and go with them when I have the mood to. This was about reserve auctions, not eBay economics and shareholders.
I have nothing more to add about auctions preferences and liking; I only hope I made my point of view clear.

Greetings,
Massimo

Re: How did this happen?

*Message #18 Posted by **Juergen Keller** on 8 May 2010, 4:08 a.m.,*
in response to message #5 by Paul Dale

Probably someone has made a good BIN offer and he stopped the auction ...

Re: How did this happen?

*Message #19 Posted by **jotne** on 10 May 2010, 3:42 a.m.,*
in response to message #1 by Wilhelm Taylor

Shipping to US only do limit the auction

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HP-41 Programs

*Message #1 Posted by **JMBaillard** on 7 May 2010, 5:11 p.m.*

Hi All,

If you want to take a look at
http://hp41programs.yolasite.com you'll see the programs that I wrote for the HP-41

Though the display is not fantastic,
the listings may be useful - at least I hope so...

Best Regards,
Jean-Marc.

Re: HP-41 Programs

*Message #2 Posted by **Geir Isene** on 7 May 2010, 5:19 p.m.,*
in response to message #1 by JMBaillard

Wow. What a resource. I'll be up all night :-)

Re: HP-41 Programs

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 7 May 2010, 6:30 p.m.,*
in response to message #1 by JMBaillard

Merci, JM! C'ést magnifique!

I second Geir´s 'Wow!' as well... 8^D

Cheers.

Luiz (Brésil)

Re: HP-41 Programs

*Message #4 Posted by **JMBaillard** on 7 May 2010, 7:04 p.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

Hi,

Thank you for your appreciations!
But I still have to enhance all these pages.
The htmls are changed into .php files
so if you want to save some of them on your PC
add .html to their names.

All the Best
Jean-Marc.

Re: HP-41 Programs

*Message #5 Posted by **Angel Martin** on 9 May 2010, 3:52 a.m.,*
in response to message #4 by JMBaillard

The breadth and the depth of this collection is nothing short from awesome. I'm glad that finally you put them in a dedicated place and that the updated pages are available to the world - they're worth it!

Best, 'AM

Re: HP-41 Programs

*Message #6 Posted by **DavidShenk** on 7 May 2010, 8:37 p.m.,*
in response to message #1 by JMBaillard

WOW!

Re: HP-41 Programs

*Message #7 Posted by **Namir** on 7 May 2010, 8:40 p.m.,*
in response to message #1 by JMBaillard

Very nice! I have posted a few HP41 and HP67 programs on my web site, but they are a few. My reason is that I doubted many will actually use them!

Namir

Re: HP-41 Programs

*Message #8 Posted by **Vieira, Luiz C. (Brazil)** on 7 May 2010, 9:26 p.m.,*
in response to message #7 by Namir

Hi, Namir;

I have seen your web site sometime ago (do not recall the e-address; could you point me there again, please?), and it has only interesting material. Congrats!

I also have some programs written for the HP41 that have never seen the sunlight, and I've always wondered if it is worth sharing. You know what? This is actually a way to show what can be done with it and what have we done with it. Some people may use the programs just for the fun, but hey! Once they were written for a purpose, this is what lasts.

Believe me, I'm typing and testing each one of the programs I wrote, and I'll post them as soon as I have the chance to build the pages. When I see that you guys are sharing your own gems, I feel even more confident showing the codes I wrote.

Let´s keep the HP41 spirit alive!

Cheers.

Luiz (Brazil)

Re: HP-41 Programs

*Message #9 Posted by **angel martin** on 9 May 2010, 3:49 a.m.,*
in response to message #8 by Vieira, Luiz C. (Brazil)

By all means Luiz, go ahead and share those programs with the rest of 41-die-harder community :)

What's about this machine that refuses to die despite all logic and common sense??

Re: HP-41 Programs

*Message #10 Posted by **Vieira, Luiz C. (Brazil)** on 11 May 2010, 6:13 a.m.,*
in response to message #9 by angel martin

Hi, Ángel;

I´ll do that, for sure. There are a few programs of mine that have no equivalent amongst the programs shared here and in other places I've checked so far, and I think they may become part of the HP41´s legacy.

About the HP41 refusal to die, I would like to quote a very well known Vulcan saying:

> Quote:
>
> If you eliminate the impossible, whatever remains must be the truth!

Thus, logic and common sense must be wrong in this case...

Live long and prosper!

Luiz (Brazil)

Re: HP-41 Programs

*Message #11 Posted by **Bart (UK)** on 11 May 2010, 6:56 a.m.,*
in response to message #10 by Vieira, Luiz C. (Brazil)

> Quote:
>
> About the HP41 refusal to die, I would like to quote a very well known Vulcan saying:
>
> > Quote:
> >
> > If you eliminate the impossible, whatever remains must be the truth!

What do you know, Vulcans are well read on Sherlock Holmes :)

Re: HP-41 Programs

*Message #12 Posted by **Vieira, Luiz C. (Brazil)** on 11 May 2010, 7:39 a.m.,*
in response to message #11 by Bart (UK)

I thought quoting Sherlock Holmes would be outdated... 8^)

Cheers.

Luiz (Brazil)

Re: HP-41 Programs

*Message #13 Posted by **Bart (UK)** on 11 May 2010, 8:14 a.m.,*
in response to message #12 by Vieira, Luiz C. (Brazil)

Of course, you are right, the HP-41 desesrves to be associated with futuristic entities rather than old-fashioned ones.

Good wishes
-Bart

Re: HP-41 Programs

*Message #14 Posted by **Meindert Kuipers** on 11 May 2010, 11:56 a.m.,*
in response to message #13 by Bart (UK)

> Quote:
>
> Of course, you are right, the HP-41 desesrves to be associated with futuristic entities rather than old-fashioned ones.

The HP41 is timeless!

Re: HP-41 Programs

*Message #15 Posted by **Paul Dale** on 7 May 2010, 9:54 p.m.,*
in response to message #1 by JMBaillard

What an interesting and eclectic selection of programs. Well done.

I love collections like this. I had a big thick book of programs for the hp-34c which I threw out a few years after my calculator died in the 1980's. I've regretted it often since :-(

- Pauli

Re: HP-41 Programs

*Message #16 Posted by **PeterP** on 7 May 2010, 10:23 p.m.,*
in response to message #1 by JMBaillard

Wow, this is amazing, absolutely awesome!

Re: HP-41 Programs

*Message #17 Posted by **Bill Zimmerly** on 8 May 2010, 7:25 a.m.,*
in response to message #1 by JMBaillard

I will add my voice to the chorus and also say, "WOW!"

Re: HP-41 Programs

*Message #18 Posted by **Gerson W. Barbosa** on 8 May 2010, 11:27 a.m.,*
in response to message #1 by JMBaillard

A real treasure trove!

I had seen some of your programs before at MoHPC HP-41C Software Library and enjoyed them. Since you have suggested Warren Furlow's V41, I guess you have some RAW files for use with the emulator. It would be nice if they were also available.

Best regards,

Gerson.

Re: HP-41 Programs

*Message #19 Posted by **Martin Pinckney** on 8 May 2010, 11:34 a.m.,*
in response to message #1 by JMBaillard

Ditto!

Now a question for you. Have you started a list of which ones will port to the 42s? (Or at least which ones will not).

Thanks.

.RAW Files for these HP41 Programs??

*Message #20 Posted by **Namir** on 8 May 2010, 11:48 a.m.,*
in response to message #1 by JMBaillard

Jean-Marc,

Can you post .raw files for these programs. Will help loading them on 41 and 42 emulators.

Thanks!

Namir

Edited: 8 May 2010, 11:48 a.m.

Re: .RAW Files for these HP41 Programs??

*Message #21 Posted by **Angel Martin** on 9 May 2010, 3:56 a.m.,*
in response to message #20 by Namir

Typing the code into V41 is time consuming and prone to errors - so I'm not assuming JM will do that across the board - it's thousands of code lines!

Perhaps we should all do our favorites and send them to him in RAW format - that'll share the load.

Best, AM

Re: .RAW Files for these HP41 Programs??

*Message #22 Posted by **Massimo Gnerucci (Italy)** on 9 May 2010, 4:24 a.m.,*

in response to message #21 by Angel Martin

Why not using HP41UC.EXE/WIN41UC.EXE on the listings?

Greetings,
Massimo

Re: .RAW Files for these HP41 Programs??

*Message #23 Posted by **Namir** on 9 May 2010, 7:39 a.m.,*
in response to message #22 by Massimo Gnerucci (Italy)

That's an idea that slipped my mind!

Thanks,

Namir

Re: .RAW Files for these HP41 Programs??

*Message #24 Posted by **Ángel Martin** on 10 May 2010, 6:53 a.m.,*
in response to message #22 by Massimo Gnerucci (Italy)

Hi Massimo,

I must be doing something wrong but I can't figure out how to convert ascii text files into RAW using win41uc.exe.

Any advise will be appreciated.

Cheers, ÁM

Re: .RAW Files for these HP41 Programs??

*Message #25 Posted by **Massimo Gnerucci (Italy)** on 10 May 2010, 8:27 a.m.,*
in response to message #24 by Ángel Martin

WIN41UC wants basic runtime libraries and HP41UC available.

I had HP41UC complain about being used in a (Win7) 64bit environment, suggesting to try in 32bit.*

I was able to succesfully convert the continued fractions program inside a WinXP 32 bit virtual machine by this command line: HP41UC.EXE /t=infile.txt /r=outfile.raw /n

Greetings,
Massimo

* 64-bit Windows does not support running 16-bit Windows-based applications.

edited to add comments

Edited: 10 May 2010, 9:14 a.m. after one or more responses were posted

Re: .RAW Files for these HP41 Programs??

*Message #26 Posted by **JMBaillard** on 10 May 2010, 9:01 a.m.,*
in response to message #25 by Massimo Gnerucci (Italy)

```
Thank you all !


It's a pleasure for me to share my creations with you.
Unfortunately, I don't have the corresponding .RAW files,
but there is also a JMB MATH Module that you could find interesting:
It was recently added in the archive site.


I wrote the programs and the manual
but Angel Martin built all the .MOD & .ROM files
and I'm greatly indebt to Angel for his huge work.


Best wishes,
Jean-Marc.
```

Re: HP-41 Programs

*Message #27 Posted by **Bill Zimmerly** on 10 May 2010, 9:14 a.m.,*
in response to message #1 by JMBaillard

Just a reminder to all HP-50G owners...

Egan Ford's Article on 41C to 50G Migration

A great place to store and play with these programs!

Re: HP-41 Programs

*Message #28 Posted by **HrastProgrammer** on 11 May 2010, 1:11 p.m.,*
in response to message #27 by Bill Zimmerly

> Quote:
>
> Egan Ford's Article on 41C to 50G Migration

Wow, it must be a looooooong time since the last time I have been here, because I didn't know about this article until today. And even much longer time since I finished my work on HP-41E ...

Anyway, with a 2-year delay, congratulations to Egan for making such a comprehensive and useful article!

Just one small correction ... If you store some of those code objects (containing various HP-41E variants) to a variable in the main RAM, you won't get MEMORY LOST after you exit the emulator with ON&F and run it again, no matter if RAM saving has been enabled or not. This is because the whole RAM has been preserved inside the emulator body. You can even copy such code objects from one calculator to another and emulator RAM will be preserved.

Of course, if you store it to a SD card on HP-50G, then you'll get MEMORY LOST each time, because the emulator has to be temporarily copied from SD to main RAM for execution. So, in this case, RAM saving has to be enabled, otherwise you will loose all your work, as stated in the article.

Best regards.
HrastProgrammer

Re: HP-41 Programs

*Message #29 Posted by **Bill Zimmerly** on 11 May 2010, 10:18 p.m.,*
in response to message #28 by HrastProgrammer

Thanks for the tip *AND* especially the emulator, HrastProgrammer! :)

(Thanks to you, my old HP-41 code lives on inside my HP-50G.)

- Bill

Edited: 11 May 2010, 10:19 p.m.

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HP app. for Android Phones

*Message #1 Posted by **Sören Nilsson** on 7 May 2010, 4:57 p.m.*

Hi,

Is there someone out there who knows where I can find a good HP 41 or HP 42 app for my Android Phone (Sony Ericsson Xperia X10)?

If not, is there someone working on doing that kind of app?

Best regards, /Sören

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For the HP-41 M-coders out there: NoV-64 update... (you'll love it!) ;-)

*Message #1 Posted by **Diego Diaz** on 7 May 2010, 12:52 p.m.*

Hi all,

I've been taking a long rest by Caribbean Sea shore. Sun, beaches, palms, good rum, better company... ok, ok, I'll stop.

Back to the point, relaxing is great for the brain, so I've taken a nice portion of time to build a new code for the NoV-64.

Geir Isene has offered an unvaluable help suffering a big bunch of crashes while beta-testing. Want to make public my gratitude for his efforts.

This update includes several new fuctionalities which I hope may be appreciated not only for the M-coders, but for the average user as well.

In abstract (but please, please, please... read the manual!):

- Handles 32K RAM in-a-row, allowing page copy between different RAM blocks.

- Allows RAM to ROM page copying.

- The ROM page copied from RAM is now fully operative.

- Allows the ROM page copied from RAM to be extracted to a .ROM file in you PC.

- Keeps RAM page protection status regardles the page your RAM is allocated.

You can download it from here.

Please note that it will still must be considered "preliminary", therefore, it is advisable to save your current "NoV-64-H.asm" file in a safe place. The rest of the files in the update are new so no conflict with any other.

Please feel free to mail me back with your comments, questions, suggestions, etc.

Best from Dom. Republic.

Diego.

Edited: 7 May 2010, 3:51 p.m.

Re: For the HP-41 M-coders out there: NoV-64 update... (you'll love it!) ;-)

*Message #2 Posted by **Geir Isene** on 7 May 2010, 4:30 p.m.,*
in response to message #1 by Diego Diaz

I'll return the compliment by saying this is an excellent upgrade to the NoV-64. It's a very complete product.

An invaluable add-on for the modern HP-41 user.

Thanks Diego.

Re: For the HP-41 M-coders out there: NoV-64 update... (you'll love it!) ;-)

*Message #3 Posted by **Diego Diaz** on 9 May 2010, 3:43 p.m.,*
in response to message #2 by Geir Isene

It's ok, I look forward to taking those beers with you... ;-))

In the meantime, I've been considering the possibility of adding yet another feature to NoV-64.

I think that once the RAM image has been saved into a PC file, the requirement of re-programming the whole module to recover page #F is a waste of time. Users more likely have their favourite ROM images loaded into NoV-64 ROM, so there's no need to go through the configuration process again wasting about 2minutes.

So I'm now preparing a small code that will allow page #F (last page on ROM Block 2) to be erasable directly from the control word. Namely, by writting H'3FF in it.

The erasing process will take about 0.16seconds so it won't cause noticeable overhead, and page #F will again be available for RAM dumping.

I hope I'll have the final release by the next week.

Best wishes.

Diego.

Re: For the HP-41 M-coders out there: NoV-64 update... (you'll love it!) ;-)

*Message #4 Posted by **Geir Isene** on 9 May 2010, 3:51 p.m.,*
in response to message #3 by Diego Diaz

Nice addition - as I usually have pages #E and #F free for physical plug-in modules.

Re: For the HP-41 M-coders out there: NoV-64 update... (you'll love it!) ;-)

*Message #5 Posted by **Diego Diaz** on 10 May 2010, 11:01 a.m.,*
in response to message #1 by Diego Diaz

Hi all,

A report regarding a NoV-64 (ver. 08r) issue was received yesterday. Thanks a lot to Frido for pointing this out.

In short CX + NoV-64(08r) + HP-IL cannot operate unless HP-IL PRINTER switch is set to DISABLE.

As I'm preparing the mods to allow page #F erasing on-the-fly; I'll include the required code to fix the bug reported by Frido in the next (definitive? :-) release.

Best regards.

Diego.

For the HP-41 M-coders out there: NoV-64 update... (you'll love it!) ;-)

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New issue of HP Solve Newsletter posted...with some changes ... new editor is Richard Nelson

*Message #1 Posted by **Gene Wright** on 7 May 2010, 12:49 p.m.*

HP Solve Issue 18

Go and see for yourself. PDF download available at link above.

Edited: 7 May 2010, 4:13 p.m.

Re: New issue of HP Solve Newsletter posted...with some changes ... new editor is Richard Nelson

*Message #2 Posted by **Bill Zimmerly** on 9 May 2010, 3:36 a.m.,*
in response to message #1 by Gene Wright

Thanks Gene! I'm sure Richard will do a *great* job. ;)

Re: New issue of HP Solve Newsletter posted...with some changes ... new editor is Richard Nelson

*Message #3 Posted by **Frido Bohn** on 10 May 2010, 4:20 a.m.,*
in response to message #1 by Gene Wright

Finally, the grandmaster of editors endeavours a new episode of HP-calculator related writing!
In his late phase, he appears to follow in the steps of Henry Horn, who took care of the HP Key Notes in the late 70s and early 80s.

I hope he will be able to accomplish his philosophy of user-involving publishing he ever wanted to. In contrast to the 80s where internet was a highly sophisticated project for a very minority, nowadays Richard will have a lot more opportunities to spread his ideas. Indeed, these are very welcome in an era where we have the technology to share information in a pace never seen before. However, likewise as with the internet in the 80s, there is a lot of work to do in terms of the quality of contents.

Hopefully, Richard will find the adequate balance between user-proximity and commerce in the HP-environment. He has a lot to contribute, and I am very curious about his role as the **Editor** in this newsletter.
I wish him the best of luck in his new position!

Frido Bohn

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New issue of HP Solve Newsletter posted...with some changes ... new editor is Richard Nelson

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Mini HP meeting

*Message #1 Posted by **Art Litka** on 7 May 2010, 12:09 p.m.*

Since I will be in the Bay area (from Fla), db has suggested a mini HP calc enthusiasts meeting in Martinez, CA during the the weekend of May 15-16, 2010. Please see his reply to my original post farther down in the Forum. Anyone out there interested in an informal calc and wine get together that weekend?

Re: Mini HP meeting

*Message #2 Posted by **db (martinez, ca.)** on 7 May 2010, 12:28 p.m.,*
in response to message #1 by Art Litka

Hey Art; If it works for you and anyone else who might want to show, let's aim for Saturday the 15th if possible. I can make it the 16th if need be though, and if you're still interested in doing the flea market in Oakland on Sunday morning, i'm all over that. As the guest; you get to buy any HPs we find, unless it's a 95c. All bets are off in that case.

Re: Mini HP meeting

*Message #3 Posted by **Art Litka** on 9 May 2010, 10:48 a.m.,*
in response to message #2 by db (martinez, ca.)

Saturday it is! You'll get two Arts for the price of one since my wife's brother in law will drive us out there and later to Bethel Island. He is a building dept. official and former contractor who is into rehabbing houses, CAD and wine! It should be fun even if he does not (yet) have the old HP calc bug. Hopefully you can round up a few others out there as well. We'll coordinate further via phone soon.

Re: Mini HP meeting

*Message #4 Posted by **Johnny Bjoern Rasmussen** on 10 May 2010, 6:56 a.m.,*
in response to message #1 by Art Litka

Hi Art
I can only recomend a meeting now and then. I held one last saturday and it was a great success.
If you want to you can view some photos at my blog.

Good luck

Best regards
Johnny, Denmark

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I'm thinking to sell my Red-DOT!!

*Message #1 Posted by **Ignazio Cara (Italy)** on 7 May 2010, 5:01 a.m.*

Hi dear friends, can you see any reasons to justify this ? Thanks for your opinion.

Ignazio

Re: I'm thinking to sell my Red-DOT!!

*Message #2 Posted by **aj04062** on 7 May 2010, 6:31 a.m.,*
in response to message #1 by Ignazio Cara (Italy)

Nope, that's insane.

Is the "red dot" the raised bump on the 5?

Re: I'm thinking to sell my Red-DOT!!

*Message #3 Posted by **bill platt** on 7 May 2010, 7:58 a.m.,*
in response to message #2 by aj04062

No, the red dot is a little indicator to the right of the on off slider. This particular 35s at auction is not a red dot.

Re: I'm thinking to sell my Red-DOT!!

*Message #4 Posted by **Manatee** on 7 May 2010, 8:31 a.m.,*
in response to message #1 by Ignazio Cara (Italy)

Well, a painting that Pablo Picasso did in one day just sold for $106 million. Do you have any of those lying around?

I recently got a 35 for about 1/10 of the one in the link, but it's not nearly as pretty. It works, though.

Re: I'm thinking to sell my Red-DOT!!

*Message #5 Posted by **Michael de Estrada** on 7 May 2010, 9:11 a.m.,*
in response to message #1 by Ignazio Cara (Italy)

Hi Ignazio,

If you sell yours then I'll just have to sell mine for even more! lol

Although I agree that the price in this case is rather high, perhaps it's not totally ridiculous, since it happens to be a late version 2 that still has "the bug", and these are becoming fairly difficult to find. Also, I'm not sure but the auction is on the Italian TAS and caters to a market that may be more tolerant of high prices. About a month ago an HP-70 on the US TAS sold for nearly $1000 USD, and it was not even perfect. That was a

worldwide auction, and the winning bidder was probably european. A short time later a nearly identical HP-70 sold to a US bidder for about half as much. Anyway, this is not the first time that TAS auctions have gone crazy, nor will it be the last. At least we're not trying collect rare art.

Michael

Re: I'm thinking to sell my Red-DOT!!

*Message #6 Posted by **Alberto Fenini** on 7 May 2010, 11:21 a.m.,*
in response to message #5 by Michael de Estrada

well, at least that's a calculator, take a look at :
item 370376717551
item 370376716875
and tell me what do you think ...
if these would sell for those prices, we are all going to be very rich ...cheers, Alberto

Re: I'm thinking to sell my Red-DOT!!

*Message #7 Posted by **Martin Pinckney** on 7 May 2010, 12:00 p.m.,*
in response to message #6 by Alberto Fenini

> Quote:
>
> ...if these would sell for those prices, we are all going to be very rich ...

Not in the U.S. I recently had two Spice power transformers, and could only get 20-something U$D for them.

Re: I'm thinking to sell my Red-DOT!!

*Message #8 Posted by **Juergen Keller** on 7 May 2010, 1:25 p.m.,*
in response to message #6 by Alberto Fenini

I'm rich I have two boxes full of them! :-)

Re: I'm thinking to sell my Red-DOT!!

*Message #9 Posted by **Ignazio Cara (Italy)** on 7 May 2010, 12:21 p.m.,*
in response to message #5 by Michael de Estrada

Hi Michael, when I wrote my post the seller had not inserted yet the note about the bug. But it's my opinion that the price is too high, I have purchased my Red-Dot for less money. BYW, the auction is on TAS USA! (# 120564849077)

Regards

Ignazio

Re: I'm thinking to sell my Red-DOT!!

*Message #10 Posted by **Michael de Estrada** on 7 May 2010, 3:01 p.m.,*
in response to message #9 by Ignazio Cara (Italy)

Hi Ignazio,

Yes, I see now that it is indeed TAS USA and the item location is also in the USA. It would be interesting to know if the high bidder is also in the USA. The bid history suggests that it is a US bidder (all items in English). I agree that the price is high, already over $600 USD and of course that is really the second highest bid minus $10, so the actual max bid is higher. The auction is almost over, so maybe this will end up being the winning price.

Edit: Bidding has ended and winning price remained at $605.

Regards,

Michael

Edited: 7 May 2010, 3:48 p.m.

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HP-25 update and thank you

*Message #1 Posted by **J Grim** on 6 May 2010, 8:01 p.m.*

I received my previously non-functional HP-25 back in the mail today and am happy to report that it lives!

Thank you very much to everyone who responded with advice. But, especially thank you to Michael Meyer who not only offered to look at it, but also revived it.

J Grim

Re: HP-25 update and thank you

*Message #2 Posted by **Mike Morrow** on 6 May 2010, 10:20 p.m.,*
in response to message #1 by J Grim

So...what was the solution to the problem?

Edited: 6 May 2010, 10:21 p.m.

Re: HP-25 update and thank you

*Message #3 Posted by **Martin Pinckney** on 7 May 2010, 12:04 a.m.,*
in response to message #2 by Mike Morrow

Mike, the thread about this calc is here.

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15C short battery life

*Message #1 Posted by **paul spiro** on 6 May 2010, 4:34 p.m.*

I recently replaced the batteries in my trusty 15C for maybe only the 3rd or 4th time since new. When I picked it up a couple days later it was dead. Another new set of LR44's went dead after about 3 hours of occasional use. I never noticed it getting hot or any other abnormality.

I've searched here and elsewhere but this doesn't seem to be a common problem. Any comments, suggestions?

I love my long-term companion and see it's irreplaceable except on the collector's market. And my 41CV just recently took a dive too...

Re: 15C short battery life

*Message #2 Posted by **Steve Simpkin** on 8 May 2010, 2:15 p.m.,*
in response to message #1 by paul spiro

No one has responded so far so I will give it a shot. My first suggestion is to buy a new set of batteries from a different source, just in case of a bad batch. I this doesn't help, I would perform a full memory clear using the ON and - keys as described on page 64 of the Owner's Manual. You could also run the self test routines (page 263) to see if they turn up anything. If nothing else helps, you might have a leaky tantalum memory capacitor. This is the large blue capacitor (near the battery supply wires) shown on the left side of the following picture. http://www.hpmuseum.org/10cmbb.jpg Obviously replacing this is a last resort. Good luck.

Re: 15C short battery life

*Message #3 Posted by **paul spiro** on 10 May 2010, 8:42 p.m.,*
in response to message #2 by Steve Simpkin

thanks for the response, Steve. The 2 sets of batteries were different brands from different stores and tested fine before installation. The cont memory was already cleared from sitting w/o batteries for a few days but I threw batteries back in and ran the ON/- and ON/x tests anyway.

however... the ON/x test showed that the bottom 2 vertical elements of the penultimate right-hand digit were missing. A little experimentation revealed that unless those final 2 digits were displayed all seems fine. As soon as I display the last digit or two the display noticably dims. I'm thinking my problem is not the power capacitor but an internal short in the LCD display.

I'm going to try running the calc w/o those last 2 digits and see if that solves my battery drain. I don't suppose parts are still available? (I was hoping it was just the cap...)

Edited: 10 May 2010, 8:42 p.m.

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CST, SEL, MAR operations (OT ?, maybe)

*Message #1 Posted by **Alberto Fenini** on 6 May 2010, 1:39 p.m.*

Dear all, am I wrong or there are no early models from HP that offer these three funtions directly off the keyboard ? Thank you very much for help, alberto

Re: CST, SEL, MAR operations (OT ?, maybe)

*Message #2 Posted by **Gene Wright** on 6 May 2010, 2:18 p.m.,*
in response to message #1 by Alberto Fenini

No, you are correct.

The earliest models containing these functions were the HP 10B, HP 17B, and HP 14B ... or the HP 18c, which ever of these came first.

Probably because the relationship between these functions is essentially a fairly easy division of (X - Y) / (T - Z) or such.

:-)

Re: CST, SEL, MAR operations (OT ?, maybe)

*Message #3 Posted by **Alberto Fenini** on 6 May 2010, 3:19 p.m.,*
in response to message #2 by Gene Wright

Too bad ... you mean a loyal HP collector has to go for a TI Business Analyst to get those functions ? :))

Re: CST, SEL, MAR operations (OT ?, maybe)

*Message #4 Posted by **Gene Wright** on 6 May 2010, 3:38 p.m.,*
in response to message #3 by Alberto Fenini

I think they were considered too "elementary" to put on the business models at the time.

More important to have bond or amortization or linear regression than computing margin from:

(Sales Price - Cost) / Sales Price

which is awfully elementary. :-)

Edited: 6 May 2010, 5:09 p.m.

Re: CST, SEL, MAR operations (OT ?, maybe)

*Message #5 Posted by **Jake Schwartz** on 6 May 2010, 3:45 p.m.,*
in response to message #3 by Alberto Fenini

When you say "early" models, did you mean models introduced early in the HP-calculator history? I believe that is how Gene interpreted and answered it....naming units which have long been discontinued. By "early", did you actually mean current "low-end"?

Jake

Re: CST, SEL, MAR operations (OT ?, maybe)

*Message #6 Posted by **Alberto Fenini** on 6 May 2010, 5:57 p.m.,*
in response to message #5 by Jake Schwartz

Well, by early I meant the classic family, the woodstock or the spice, or even the voyagers.
I'd like to use one of these for my everyday work, and since I started collecting then, I haven't been able to find those functionalities.
The TL function on the HP80 is good, but I also would like to have those.
I know, I can also write few lines of code and workaround the problem, but I would have preferred something more direct
I was just wondering if I had missing something on these lovely toys.
take care and thx for the replies.

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Suggestion for the Next HP-50G ROM...

*Message #1 Posted by **Bill Zimmerly** on 6 May 2010, 6:35 a.m.*

Since the HP technicians (Tim, Cyrille, et al.) follow this forum, I thought I would take advantage of it and make a simple suggested modification to the AMORT menu that would hopefully be incorporated into a future ROM version:

The AMORT menu currently consists of:

F1 - EDIT

F5 - B->PV

F6 - AMOR

I suggest adding two new functions that would *greatly* improve the functionality of AMORT:

F3 - PREV

F4 - NEXT

Whereas "F3" would decrement the "Payments" value, and then recalc and relist the form.

"F4" would increment the "Payments" value, and then recalc and relist the form.

Thus, someone wanting to "watch" the changes in an easy "one-click" month* by month way can do so without having to click the "up" key, entering the new "Payment" number, and then clicking AMOR for every new iteration.

--- (* - I assume that "Month" is the normal default payment period for mortgages for the purpose of this posting.)

Re: Suggestion for the Next HP-50G ROM...

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 6 May 2010, 12:56 p.m.,*
in response to message #1 by Bill Zimmerly

Hi, Bill;

never thought of it this way. In fact, the HP12C has the [n] key always present, so it is easy to do what you want.

If I may, I´d try

```
[  N+  ] [  N-  ]
   F3       F4
```

instead. I think these would be more suggestive.

In any way, what about a custom AMORT menu?

Cheers.

Luiz (Brazil)

Re: Suggestion for the Next HP-50G ROM...

*Message #3 Posted by **Bill Zimmerly** on 6 May 2010, 4:38 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Thanks Luiz! Another useful button (F2) might be to dump a year or so of AMORT data to a matrix that can be loaded into the matrix editor so the perspective home buyer can see it in a "spreadsheet" format on the HP-50G as well.

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HP71B - Bus

*Message #1 Posted by **Raymund Heuvel** on 5 May 2010, 8:03 a.m.*

Is there any experience with HP-71B Bus measurement with a Logic Analyzer? Screen dumps?

Thx

Raymund

Re: HP71B - Bus

*Message #2 Posted by **Alejandro Paz (Germany)** on 7 May 2010, 3:19 a.m.,*
in response to message #1 by Raymund Heuvel

I know it is not what you asked for, but what do you want them for ? I made some measurements with a LA of the HP-71B bus for a RAM expansion board I made last year, but it seems, now that I look for them, that the files are gone :(. The BUS is described in the hardware manual for the HP-71B (it is in the museum's CD collection). I can make the measurements again, it is not a problem. If you plan on some hardware I'd recommend you use level shifters (like the 1T45 from TI) because the voltage swings from 0 to 6V outside the commonly-used-today CMOS chips. (Unless you use the 4xxx series, of course).

Re: HP71B - Bus

*Message #3 Posted by **Raymund Heuvel** on 7 May 2010, 9:56 a.m.,*
in response to message #2 by Alejandro Paz (Germany)

Hi Alejandro

I have created a "Software" HP-71 Bus and as a feature I think about a "Logic Analyzer" function presenting the HP-71 Bus signals.

So no Hardware.

Does the Bus description in the IDS match the reality?

Thanx and BR

Raymund

Re: HP71B - Bus

*Message #4 Posted by **Alejandro Paz (Germany)** on 7 May 2010, 10:22 a.m.,*
in response to message #3 by Raymund Heuvel

Yes it does. I can post a trace image if you (still) want it. What is your program for ? Are you writing an emulator ? (No problem if you do not want (yet) to tell).

Re: HP71B - Bus

*Message #5 Posted by **Hans Brueggemann** on 7 May 2010, 2:19 p.m.,*
in response to message #3 by Raymund Heuvel

hi raymund,
i am currently working on a RAM extension, too. i did some investigations on the HP-bus and it works very well according to the hardware IDS, chapter 2.1., 2.2, 2.3. i did not test 2.4. yet.
chapter 2.3.data transfer implies that single nibble transfers are possible, but i was never able to catch one in real life. maybe, someone (you?) can shed some light on as to whether there *are* single nibble data transfers, or always bytewise data transfers on the bus.
best regards,
hans

Edited: 8 May 2010, 2:26 a.m.

Re: HP71B - Bus

*Message #6 Posted by **Christoph Giesselink** on 9 May 2010, 4:34 p.m.,*
in response to message #5 by Hans Brueggemann

> Quote:
>
> chapter 2.3.data transfer implies that single nibble transfers are possible, but i was never able to catch one in real life. maybe, someone (you?) can shed some light on as to whether there *are* single nibble data transfers, or always bytewise data transfers on the bus.

Hello Hans,

some PC addresses of ROM 2CDCC where the OS doing single nibble transfers. Behind the opcode I added the content of the data register at this time. All captures are made during the BASIC command line waiting.

```
0070A   C=DAT0  1       D0=#2F6E3
0EF86   C=DAT0  P       D0=#2E1FD
0EF90   C=DAT0  P       D0=#2E1FD
014CF   DAT0=C  1       D0=#2F81F
0150D   C=DAT0  S       D0=#2F81F
01B71   DAT0=C  1       D0=#2E3FF
```

Cheers

Christoph

Re: HP71B - Bus

*Message #7 Posted by **Hans Brueggemann** on 10 May 2010, 1:20 p.m.,*
in response to message #6 by Christoph Giesselink

christoph,
the reason why i was asking is as follows: *if* it would have been a simple bytewise "affair" it would have been easy to collect two nibbles from the bus in a single 8 bit latch and then write the data in one step into a bytewide RAM. however, if there is a nibble-wide piece of data to be stored in RAM, then one has to a) read 1 byte from RAM into latch, b)modify contents of latch with previously read nibble, c)write back byte in latch into RAM.
thus, the "1 nibble scenario" requires more process-cycles than the "always 1 byte scenario".

schade eigentlich. aber danke fuer die info!
best regards,

hans

Re: HP71B - Bus

*Message #8 Posted by **Christoph Giesselink** on 10 May 2010, 2:47 p.m.,*
in response to message #7 by Hans Brueggemann

Hans,

there's a more worse scenario: writing a byte to an odd Saturn address!

When you have a look onto the Yorke chip signals inside the HP48GX you always see two read cycles when you write a byte to an odd address in RAM.

Life is hard. ;-)

Cheers

Christoph

Re: HP71B - Bus

*Message #9 Posted by **Didier Lachieze** on 7 May 2010, 10:49 a.m.,*
in response to message #2 by Alejandro Paz (Germany)

> Quote:
>
> I made some measurements with a LA of the HP-71B bus for a RAM expansion board I made last year, but it seems, now that I look for them, that the files are gone :(.

Would you mind sharing your experiment results on this RAM expansion board for the HP-71b? Any picture or design details would be greatly appreciated !

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Finally

*Message #1 Posted by **Paul Dale** on 5 May 2010, 12:37 a.m.*

Finally, got my first 41cx :-) Over a week in the post with the batteries not installed and no memory lost at this end. I find that quite impressive.

Does anyone (Geoff?) have suggestions on how to fix my 41cv with a fairly spongy PRGM/Alpha key?

- Pauli

Re: Finally

*Message #2 Posted by **John Robinson** on 6 May 2010, 7:58 a.m.,*
in response to message #1 by Paul Dale

Hi Pauli,

The only way I have found to fix a spongy key is to disassemble the keyboard and replace the round spring metal switch with one from a donor calc. It's not a trivial task I'm afraid, but it is possible.

Cheers, John

Re: Finally

*Message #3 Posted by **Paul Dale** on 6 May 2010, 5:22 p.m.,*
in response to message #2 by John Robinson

Thanks for that. Since I don't have a donor unit I can't follow this route.

- Pauli

Re: Finally

*Message #4 Posted by **John Robinson** on 6 May 2010, 8:02 p.m.,*
in response to message #3 by Paul Dale

Hi Pauli,

I can send you one if you like, contact me off forum.

Cheers, John

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Finally

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Replacing HP35s batteries

*Message #1 Posted by **Dave Shaffer (Arizona)** on 4 May 2010, 1:45 p.m.*

My '35s batteries are low (low battery indicator on, but it will turn on and do a calculation or two and then turn off).

I scrounged around and found only 1 fresh CR2032 in the house.

Does it make sense to put in just one new battery until I can get another, or will I just kill it prematurely? i.e. is it charging up the old, worn out one? Or, should I take out the old one?

I tried taking out the old battery, and the calculator seems to run OK with just a single battery installed, at least for simple arithmetic, and I don't use it that much.

I know we have discussed the battery arrangement in the 35S before, and have bemoaned the fact that they are not all that well isolated from each other.

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Ex HP Calculator PR Guy on Corporate Leaks and Apple

*Message #1 Posted by **Howard Owen** on 4 May 2010, 11:30 a.m.*

Article Here

Re: Ex HP Calculator PR Guy on Corporate Leaks and Apple

*Message #2 Posted by **John Pierce** on 4 May 2010, 12:30 p.m.,*
in response to message #1 by Howard Owen

Very interesting; thanks for posting the link.

Re: Ex HP Calculator PR Guy on Corporate Leaks and Apple

*Message #3 Posted by **Dimitri Simitas** on 5 May 2010, 4:27 p.m.,*
in response to message #1 by Howard Owen

So Apple the "cool" computer company is violating the First Amendment rights of a tech blogger using its own State endorsed police force. And the funny thing? The left wing nutcases with their hemp bags, Mac laptops, and Star Bucks coffee will say its justified cause their "freedoms" were not bothered.

Yah sorry to upset anyone but I had to say it.

Dimitri

Re: Ex HP Calculator PR Guy on Corporate Leaks and Apple

*Message #4 Posted by **bill platt** on 5 May 2010, 4:38 p.m.,*
in response to message #3 by Dimitri Simitas

...but the item was *sold* without proper title and that makes it a bit different...under California law...

Re: Ex HP Calculator PR Guy on Corporate Leaks and Apple

*Message #5 Posted by **Dimitri Simitas** on 5 May 2010, 5:39 p.m.,*
in response to message #4 by bill platt

> Quote:
>
> ...but the item was *sold* without proper title and that makes it a bit different...under California law...

It was lost into public domain, Apple was called about it and claimed it was not theirs. Therefor it became property of the founder, and the founder did his legal requirement of reporting it found with AppleCare. Corporate Apple asked for it back, they were told they can have it back. Then and only then was the guy arrested. Gizmo is going after this in court now as it is well documented on their side

that they did not break any laws.

Dimitri

Re: Ex HP Calculator PR Guy on Corporate Leaks and Apple

*Message #6 Posted by **bill platt** on 5 May 2010, 6:48 p.m.,*
in response to message #5 by Dimitri Simitas

Well, that is interesting. In that case, Poison Apple it is!

Re: Ex HP Calculator PR Guy on Corporate Leaks and Apple

*Message #7 Posted by **Martin Pinckney** on 5 May 2010, 7:02 p.m.,*
in response to message #5 by Dimitri Simitas

Read this for a different take.

Re: Ex HP Calculator PR Guy on Corporate Leaks and Apple

*Message #8 Posted by **Dimitri Simitas** on 5 May 2010, 7:45 p.m.,*
in response to message #7 by Martin Pinckney

And the response.

> Quote:
>
> Bruce, thanks. Here's Jason Chen, who has the iPhone. And here's his address. You two should coordinate a time.
>
> [Blah Blah Blah Address]
>
> Happy to have you pick this thing up. Was burning a hole in our pockets. Just so you know, we didn't know this was stolen [as they might have claimed. meaning, real and truly from Apple. It was found, and to be of unproven origin] when we bought it. Now that we definitely know it's not some knockoff, and it really is Apple's, I'm happy to see it returned to its rightful owner.
>
> P.S. I hope you take it easy on the kid who lost it. I don't think he loves anything more than Apple.

And yet police were still called in by Apple.

Whether or not its defined as a stolen good after the people at AppleCare said its not a iPhone to the person who found it counts as reporting it is a court issue but it seems to me he did try to get it back to its owner. Better then giving it to the bartender or bar maid that is for sure.

But I am pretty sure it will go to Gizmo being in the right as they already showed before the raid they do not intend to keep the lost property.

Dimitri

Re: Ex HP Calculator PR Guy on Corporate Leaks and Apple

*Message #9 Posted by **Martin Pinckney** on 5 May 2010, 8:54 p.m.,*
in response to message #8 by Dimitri Simitas

> Quote:
>
> And yet police were still called in by Apple.

I don't think the police raid was about a stolen phone, whether returned or not. After all, the REACT team participated in the raid. It was about suspected computer crime.

Re: Ex HP Calculator PR Guy on Corporate Leaks and Apple

*Message #10 Posted by **Dimitri Simitas** on 6 May 2010, 9:46 a.m.,*
in response to message #9 by Martin Pinckney

> Quote:
>
> I don't think the police raid was about a stolen phone, whether returned or not. After all, the REACT team participated in the raid. It was about suspected computer crime.

Suspected computer crimes? The REACT team raided his home for the stolen phone as the official reason. Apple is on the teams steering committee. This is not the first time the REACT team was used to the benefit of its steering industrial committee. Unless of course the REACT team suddenly becomes responsible for finding every stolen sell phone in California. Perhaps then Apple really didn't have anything to do with it. But REACT's track record shows otherwise.

I just think this is over the top. Apple got its phone back after a employee lost it in a bar without Gizmo asking for a reward and police were still called in. If you or I lost our HP-41 and someone had purchased it and then when we said it was ours gave us it back. Do you think the Police would have done anything?

Dimitri

Re: Ex HP Calculator PR Guy on Corporate Leaks and Apple

*Message #11 Posted by **Manatee** on 5 May 2010, 7:50 p.m.,*
in response to message #1 by Howard Owen

I've been an Apple fan since the dawn of OS X. I like the products, and I used to like the aura. Over the course of my fandom, though, I've seen the rebel outsider turn into the establishment. Not that the products aren't great, but their carefully-crafted marketing image doesn't work on me anymore.

In the case of this nabbed prototype, I'm not sure where the pieces fall legally, but I applaud the finder (who knew what he'd found) and Gawker Media (despite knowingly paying for properly they knew had a very interested owner somewhere) for making the device public. It's become a big game to "out" Apple's tightly-held secrets, and this time the outsiders (the *real* outsiders) prevailed. When Steve shows the new device, with the usual Keynote presentation, everyone will know the story and the details, and there will be a little uneasiness in the room.

Oh, and this all comes on top of Apple's "iAd" product, where advertisers pay them big money to embed ads inside their applications. That's the end of any semblance of Apple's radical, crunchy affectation. Now they're

just like all the other big players.

But anyway, I'm looking forward to the arrival of my HP-16C tomorrow. I'll have to put the iPad aside for a while.

Edited: 5 May 2010, 7:52 p.m.

Re: Ex HP Calculator PR Guy on Corporate Leaks and Apple

*Message #12 Posted by **Israel Otero** on 5 May 2010, 9:15 p.m.,*
in response to message #11 by Manatee

Hello from Puerto Rico That is why I embrace technologies that allow people to have the best tools to their needs and not to be controlled by any business PR leader. As a fan of HP calculator myself, I use my HP-50g nearly daily, because as I have an engineer oriented mind that made love the freedom and power that comes from that platform. I admired HP during the 80s to be a company that put quality and seriousness of purpose above monetary gain. I have an iPhone and a Mac OS X computer. I have each of those because each one have it's merits. But mainly as something to be experienced and comprehended to be aware on the hardware industry is going but too restrictive to be of my liking. Those worked admirably and are masterpieces of design by a mentality that puts money to their pockets first and customer's second. Last year I got on the Ubuntu Linux bandwagon because it brings that freedom, stability and power that I love from my HP-50g with minimal investment on my behalf. The reason is that Ubuntu is becoming fairy easy to install and is based on the best known legacy operating system like UNIX that brought all of these like the Internet, Networking, Apple and Open Source.

Edited: 5 May 2010, 9:24 p.m.

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IBM 5100 book

*Message #1 Posted by **Don Shepherd** on 3 May 2010, 7:21 p.m.*

The recent forum discussion of the IBM 5100 made me look in the book that, I believe, was the "bible" for the 5100: "The IBM 5100 Portable Computer" by Harry Katzan, Jr. I found something interesting on page 71 of this book:

> Quote:
>
> Nothing that is done from the keyboard can physically damage the 5100 Portable Computer. The worst thing that can happen from "indiscriminate button pushing" is that the user may alter a program or data in main storage.

Now, main storage went away when the power was turned off, so it appears that "button pushing" could only affect main storage, not any hardware or program libraries (which, I believe, resided on mag tapes), or the storage containing the operating system and BASIC and APL languages.

Interesting concept in 1977.

Re: IBM 5100 book

*Message #2 Posted by **Steve Leibson** on 3 May 2010, 7:59 p.m.,*
in response to message #1 by Don Shepherd

The 5100 stored the OS and language in ROM, as did all HP desktop calculators from HP's Calculator Products Division in Loveland, Colorado starting with the HP 9810A, which was introduced in 1971. (The HP 9100 also used a ROM for code, but the ROM was a 16-layer pc board.) The reason for this "innovation" in code storage was cost. Masked ROM was much, much cheaper than RAM in the 1970s. Even today, DRAM is 4x more expensive per bit than Flash EPROM. The downside back in "the olden days" is that the released code had better be bug free, because you couldn't download new ROM contents. First, the Masked ROM wasn't changeable. Bits were permanently set at manufacturing time. Second, the whole idea of "download" at the then-current maximum speed of 300 bits/sec (as in 0.3 kbits/sec or 0.0003 Mbits/sec) over an acoustic coupler was laughable. Not only was it slow, but the code required to support the download would have occupied too much ROM.

Edited: 3 May 2010, 8:00 p.m.

Re: IBM 5100 book

*Message #3 Posted by **Don Shepherd** on 3 May 2010, 8:18 p.m.,*
in response to message #2 by Steve Leibson

Steve, that raises an interesting question. My Apple][+ had a ROM that, I believe, contained the OS and Integer BASIC and Applesoft BASIC. I think my Mac 128k was built the same way, OS in ROM.

What's the current standard for PC's? I gather that most, if not all, of Windows is on disk and loaded as

needed into RAM. Is there any ROM on modern PC's?

Re: IBM 5100 book

*Message #4 Posted by **Mark Storkamp** on 3 May 2010, 11:28 p.m.,*
in response to message #3 by Don Shepherd

There are typically 3 programs in ROM on a PC. The BIOS (Basic Input Output System) consisting of POST (Power On Self Test) that finishes by reading the first sector of the drive selected in Setup into a fixed location in memory and transferring execution into that routine, as well as routines for accessing the keyboard, HDD, floppy, serial port, clock &c. Secondly there's the Video BIOS for doing basic character and low resolution graphics to the terminal. Finally there is Setup, which is used to configure the hardware. There may, on some systems, be a bit more, but the OS is always (on modern PCs, of course someone will post the exception) loaded either from storage or through a network connection.

Re: IBM 5100 book

*Message #5 Posted by **Don Shepherd** on 3 May 2010, 11:36 p.m.,*
in response to message #4 by Mark Storkamp

Thanks Mark. That's good to know.

Don

Little correction

*Message #6 Posted by **Frank Boehm (Germany)** on 4 May 2010, 4:16 a.m.,*
in response to message #4 by Mark Storkamp

First: more and more manufacturers tend to put a trimmed-down LINUX into the BIOS, so the PC can be used as an "instant-on" multimedia player.
Second: the ROM usually contains a flashing utility nowadays; some "heavy irons" even come with built-in diagnosis tools (that's software way beyond POST and boostrap)
Third: as pointed out, software in ROM better had to be bug free - which rarely happens. While the BIOS resides in an updatable FLASH chip, the CPU itself carries a lot of code in ROM as well - which cannot be altered. So they opted for a clever solution: the CPU itself has a boot code which looks for microcode updates, these are put into the BIOS or OS.

Re: IBM 5100 book

*Message #7 Posted by **Egan Ford** on 4 May 2010, 9:39 a.m.,*
in response to message #3 by Don Shepherd

Both my Apple][+ and Mac 512K required a boot diskette (DOS 3.3 or System x.y) and that was the 'OS'. OS in both cases being the code that allowed a user to interface with the computer to create and manage content. I'd wager that 90+% of the code in the 'OS' called ROM routines.

Re: IBM 5100 book

*Message #8 Posted by **Don Shepherd** on 4 May 2010, 12:25 p.m.,*
in response to message #7 by Egan Ford

Ah, but when I got my Apple][+ it was sans disk drive. I saved my programs to cassette. It was months later that I could afford the 5 1/4 inch floppy disk drives. So the original][+ didn't need disk drives to operate.

Re: IBM 5100 book

*Message #9 Posted by **Egan Ford** on 4 May 2010, 12:37 p.m.,*
in response to message #8 by Don Shepherd

That sounds brutal. I had dual floppies. I just booted up a virtual Apple][+ and after pressing RESET I was dropped into FP basic. I completely forgot that was an option.

Re: IBM 5100 book

*Message #10 Posted by **Massimo Gnerucci (Italy)** on 4 May 2010, 12:48 p.m.,*
in response to message #9 by Egan Ford

...not to mention Integer Basic! Oh, those where the days... :)

Greetings,
Massimo

Re: IBM 5100 book

*Message #11 Posted by **Don Shepherd** on 4 May 2010, 1:36 p.m.,*
in response to message #9 by Egan Ford

Saving and load programs to/from cassette tapes was brutal in retrospect, but at the time I was thrilled to have a computer I could write programs on at all, at home! I loved that Apple. And it would boot in, I don't know, maybe 5 seconds from power on to prompt. Compare that with my current Windows XP which lately I just turn it on and go away for awhile while it does all of its startup things, and I come back in 10 minutes when I can get some real work done without waiting. Now THAT's brutal!

Re: IBM 5100 book

*Message #12 Posted by **Martin Pinckney** on 4 May 2010, 11:26 p.m.,*
in response to message #11 by Don Shepherd

Every new Windows version that Microsoft introduces, they claim it boots faster than previous versions. Mostly, that's a lie. But in the case of Windows 7, it really *does* boot a lot faster than XP, at least on my HP tablet PC.

Re: IBM 5100 book

*Message #13 Posted by **Howard Owen** on 4 May 2010, 8:51 p.m.,*
in response to message #9 by Egan Ford

3D0G

Re: IBM 5100 book

*Message #14 Posted by **Don Shepherd** on 4 May 2010, 9:21 p.m.,*
in response to message #13 by Howard Owen

Howard, that rings a bell, but I can't quite remember which one.

How about Call -141?

Don

Re: IBM 5100 book

*Message #15 Posted by **Massimo Gnerucci (Italy)** on 5 May 2010, 2:28 a.m.,*
in response to message #14 by Don Shepherd

Wasn't it **]CALL-151** ? ;)

Greetings,
Massimo

Re: IBM 5100 book

*Message #16 Posted by **Don Shepherd** on 5 May 2010, 7:55 a.m.,*
in response to message #15 by Massimo Gnerucci (Italy)

You're right. Call -151 put you in the "monitor", and 3D0G took you back to BASIC.

I really miss the simplicity of the Apple][. You knew what every file was for. My biggest disappointment when I got a PC was all the thousands of files (now millions, probably) that comprise the "operating system" that you have no idea what they do, and you don't know which ones you really need anymore.

Edited: 5 May 2010, 7:56 a.m.

Re: IBM 5100 book

*Message #17 Posted by **Martin Pinckney** on 5 May 2010, 9:05 a.m.,*
in response to message #16 by Don Shepherd

> Quote:
>
> My biggest disappointment when I got a PC was all the thousands of files (now millions, probably) that comprise the "operating system" that you have no idea what they do, and you don't know which ones you really need anymore.

Well, Don, a slight exaggeration. My Windows 7 shows about 46,000 files in the Windows directory (I still haven't gotten used to 'folder'). This includes a lot of unused stuff and files added by the programs I have installed. The original PC-DOS had only a few required files.

Anyway, your point is well taken about the complexity and opaqueness to even the technophiles. At this point I stop, before lapsing into yet another exposition on How Much Technology Do We Really Need?

Re: IBM 5100 book

*Message #18 Posted by **Don Shepherd** on 5 May 2010, 11:49 a.m.,*
in response to message #17 by Martin Pinckney

Yeah, my Windows directory contains just over 36,000 files. My PC is about 7 years old, running XP. It would be interesting to see a graph of

the number of files in the Windows directory by age of computer. Or maybe size of registry vs. age of computer.

Re: IBM 5100 book

*Message #19 Posted by **Garth Wilson** on 5 May 2010, 12:49 p.m.,*
in response to message #17 by Martin Pinckney

> Quote:
>
> The original PC-DOS had only a few required files.

My first major use of DOS was 3.3, and it fit on a single 5.25" low-density (360K?) floppy disc, and booted faster than modern computers with huge OSes on hard disc.

Re: IBM 5100 book

*Message #20 Posted by **Etienne Victoria** on 5 May 2010, 6:10 p.m.,*
in response to message #16 by Don Shepherd

Ok,

Thought it was Ctrl-C to exit Monitor to Basic ?

Ah, those glorious days...I still treasure my Apple // user and reference manuals :-)

Etienne

Re: IBM 5100 book

*Message #21 Posted by **David Hayden** on 4 May 2010, 5:38 p.m.,*
in response to message #3 by Don Shepherd

> Quote:
>
> Steve, that raises an interesting question. My Apple][+ had a ROM that, I believe, contained the OS and Integer BASIC and Applesoft BASIC. I think my Mac 128k was built the same way, OS in ROM.
>
> What's the current standard for PC's? I gather that most, if not all, of Windows is on disk and loaded as needed into RAM. Is there any ROM on modern PC's?

It's an under-appreciated fact that the ROMs have a lot to do with why the IBM PC was cloned and the Mac was not. As a result, IBM quickly lost all control of the machine that they created and Apple did (and does) keep an tight grip of their hardware.

After the PC came out, several companies reverse-engineered the ROMs in a clean-room environment. This is perfectly legal. And since IBM allowed Microsoft to sell the OS to other manufacturers, it quickly became possible to create an IBM clone.

In contrast, the Mac ROMs were much larger (4MB around 1990 as I recall), so a good chunk of the OS ran from ROM. It wasn't practical to reverse engineer that much code so no one did, at least not

successfully.

Dave

Re: IBM 5100 book

*Message #22 Posted by **Howard Owen** on 4 May 2010, 9:17 p.m.,*
in response to message #3 by Don Shepherd

> Quote:
>
> My Apple][+ had a ROM that, I believe, contained the OS and Integer BASIC and Applesoft BASIC.

The][+ came with Applesoft BASIC in ROM. But you could load a copy of Integer BASIC into RAM and have both resident at the same time. (You could do that with the original Apple][as well, but there it was Applesoft in RAM.) The new ROMS were missing some features that the old Integer BASIC ROMS provided. But I know I used the mini-assembler on my Apple //e, so there was some way to get the feature back. I don't recall if it was included in the Integer BASIC disk image or not.

Regards,
Howard

Re: IBM 5100 book

*Message #23 Posted by **Kiyoshi Akima** on 4 May 2010, 4:25 p.m.,*
in response to message #1 by Don Shepherd

> Quote:
>
> Nothing that is done from the keyboard can physically damage the 5100 Portable Computer. The worst thing that can happen from "indiscriminate button pushing" is that the user may alter a program or data in main storage.

I suppose technically it's not the keyboard, but I do know of a case where a 5100 was physically damaged by using a switch on the outside of the box.

I belonged to an Explorer Post which did the scorekeeping for the local Klondike Derby. That's where groups of Boy Scouts pull sledges through the snow and do Scout-types of things. Being sponsored by IBM, we had a couple of 5100s. We also had a stone-and-log cabin with fireplaces blazing at both ends, instead of tents like everyone else. We endured quite a bit of ribbing for being softies.

One morning, to demonstate our operation to the bigwigs, we fired up one of the 5100s before the cabin had warmed up. Sizzle! Pop! Sparks flying!

After destroying $14000 worth of computer gear, we didn't hear any more complaints about our being coddled in our cabin.

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Reverse engineering the 12C+

*Message #1 Posted by **Scott Newell** on 3 May 2010, 2:13 a.m.*

I mapped out the display and keypad today, which was enough to get the 20B hex 4 banger project ported and running. No power management at all, yet.

I'm still fiddling with the LCD settings, but so far, so good.

My biggest failure was the debug UART--I simply couldn't get it to transmit. Ended up turning the CPU clock rate way up and bit-banging a 9600 baud output, which allowed me to decipher the display and keypad. (Probably something dumb that I forgot to configure, but it doesn't really matter now.)

Now for the tough parts...

Re: Reverse engineering the 12C+

*Message #2 Posted by **BruceH** on 3 May 2010, 9:01 a.m.,*
in response to message #1 by Scott Newell

According to the wiki there is an SDK that contains a simple 4-banger as an example. Does this not already have the keyboard mapped out?

Re: Reverse engineering the 12C+

*Message #3 Posted by **Scott Newell** on 3 May 2010, 10:02 a.m.,*
in response to message #2 by BruceH

I don't have a 12C+ SDK, and it looks like I (probably?) won't need one. I enjoy figuring out the hardware.

Re: Reverse engineering the 12C+

*Message #4 Posted by **cyrille de Brébisson** on 3 May 2010, 10:56 a.m.,*
in response to message #1 by Scott Newell

hello,

do you want a SDK for the 12c+? it might make it easier...

Cyrille

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What is wrong with this HP-19C

*Message #1 Posted by **Michael de Estrada** on 2 May 2010, 11:04 p.m.*

I spied this HP-19C on TAS. It's obviously got a problem, but I wonder what. Bad ACT? Anyway, here it is:

HP-19C on TAS

Re: What is wrong with this HP-19C

*Message #2 Posted by **Michael Meyer** on 2 May 2010, 11:32 p.m.,*
in response to message #1 by Michael de Estrada

Probably. The 19C is essentially a Woodstock. Powering it up without a good battery could result in burning out the ACT and other components, such as the continuous memory chips and even the ROM chips. This would result in the flashing display.

Re: What is wrong with this HP-19C

*Message #3 Posted by **Michael de Estrada** on 2 May 2010, 11:44 p.m.,*
in response to message #2 by Michael Meyer

Yeah, so sad. These are so rare anyway, and then to see that most of them are fried is truly a shame. Fortunately, I have one that works perfectly, but am always worried about charging the batteries inside the calculator.

Re: What is wrong with this HP-19C

*Message #4 Posted by **Michael Meyer** on 3 May 2010, 1:41 p.m.,*
in response to message #3 by Michael de Estrada

BTW, occasionally these will power up O.K. when a regular battery is put in place if it hasn't been burned out yet. That's why I'll bid some for it, but I won't go too high... it's not worth it if it's only going to be a parts machine. But, I had to mention... there's a chance it COULD still work.

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MBK-04 EPROM Box

*Message #1 Posted by **Juergen Keller** on 2 May 2010, 5:06 p.m.*

A while ago I've got an MBK-04 EPROM Box for the HP-41. The name implies that it can provide 4K ROM (1 page). As the box is nearly as large as the HP-41 this seems not be not very much. Does anybody have documentation about this EPROM box?

There are 3 EPROMs installed, from two different manufacturer, one is a TMS2764JL45. I guess such EPROMs can still be bought somewhere. Does anybody know a good source?

To burn my own ROMs I would need a suitable EPROM programmer. Hmm, don't know much about such devices. Can anybody advise me?

Any help highly appreciated!

Thank you, Juergen

About EPROM programmer

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 2 May 2010, 7:06 p.m.,*
in response to message #1 by Juergen Keller

Halo, Juergen;

I bought a very good programmer some months ago and I am completely satisfied. I was searching for some schematics or related information so I could build my own, but I found all I need and a bunch more with Elnec´s BeeProg+. If you want to go ahead programming other devices, I think this has one of the best cost/benefit ratio.

About the MBK-04 EPROM box: I do not know it, have never see. Any chance that you could post some pictures? Are you aware of any e-place I could find pictures as well?

Thanks and success!

Luiz (Brazil)

Re: About EPROM programmer

*Message #3 Posted by **PeterP** on 2 May 2010, 7:11 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

I don't know for sure - maybe Diego can pitch in - but I think the programmer we use for his PICs could also be used for EPROMS and is significantly cheaper. I once searched for EMPROmmers as well and I think I found one that has the EPROMS the HP-41 boxes use listed as 'can be programmed' and was btw 50-100 usd. Maybe a google with the EPROM type and EPROM programmer can lead you to similar results... Sorry, I don't have the exact info handy right now, I'm on the road...

Cheers

Peter PS: I do have the MBK box alas without any memory, but when I get home I will check on how many pages it covers.

Re: About EPROM programmer

*Message #4 Posted by **Diego Diaz** on 5 May 2010, 8:59 p.m.,*
in response to message #3 by PeterP

Hi all,

Peter, the bad news are that USB PIC programmer used for Clonix and NoV's is just for PIC microcontrollers which programming procedure is way different from EPROM's.

There are plenty of EPROM (and many other devices) programmers available, and even the cheapest will make a good job for a hobbist purposes.

Googling (or "eBuy-ing") for "EPROM programmer" will show a nice bunch of'em.

My advice: get one with USB interface. :-)

Oh, please don't forget you'll also need an UV eraser if you're about to play with EPROM's.

Cheers from the Caribbean.

Diego.

Re: MBK-04 EPROM Box

*Message #5 Posted by **Winfried Maschke** on 2 May 2010, 7:12 p.m.,*
in response to message #1 by Juergen Keller

I should be the best source for information about it as you will still find my name on the PCB ;)

It is labled MBK 04 because it was the 4th PCB layout made by me for MBK. It can be used with EPROM-Sets from 4K to 32K. There are some informations about the setup and the EPROM-Sets on my website http://maschke.de/hp41/ under MBK-32 EPROM-Box, which was the real name of the box.

The EPROM-Sets are split into 2 upper and 8 lower bits like it was standard at that time.

More questions?

Re: MBK-04 EPROM Box

*Message #6 Posted by **Juergen Keller** on 3 May 2010, 2:27 a.m.,*
in response to message #5 by Winfried Maschke

Thank you all for your fast response, and special thanks to Winfried Maschke! I didn't know about this 'secret' link on your web site. Very interesting! I will read it, and if there are still some open questions, I will come back to you ...

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Small Sunday Afternoon Mini-Challenge

*Message #1 Posted by **Gerson W. Barbosa** on 2 May 2010, 4:22 p.m.*

Let's define a factorial-like function, and for lack of a better name let's denote it x?:

```
x? = 1 * 1.5 * 2 * 2.5 * 3 * 3.5 * ... * (n - 0.5) * n
```

Thus,

```
  2? = 1 * 1.5 * 2 = 3

3.5? = 1 * 1.5 * 2 * 2.5 * 3 * 3.5 = 78.75
```

Write a small program to compute this function on your HP calculator of choice. Smallest programs win (least size in bytes or number of steps) for each calculator. RPN programs should not destroy register X. So far I have a 9-step program for the 12C and most scientific RPN calculators (LBL and RTN and final GTO 00 don't count) and a 16.5-byte program for the 32SII, but I hope you can improve this. Searching through the internet for reference is allowed and encouraged.

The function can be generalized for real arguments other than those ending in 0.5. So,

```
3.333333? = 51.0575911879

(2 * pi)? = 668840.999380    (bold digits not correct)
```

(the HP-12C program will not handle these).

Gerson.

Re: Small Sunday Afternoon Mini-Challenge

*Message #2 Posted by **Patrice** on 2 May 2010, 7:20 p.m.,*
in response to message #1 by Gerson W. Barbosa

Hi all,

Here is my quick and dirty answer.

My little analyse gives:

```
x? = 1 * 1.5 * 2 * 2.5 * 3 * 3.5 * ... * (x - 0.5) * x
```

transforms to

```
x? = 1 * 2/2 * 3/2 * 4/2 * 5/2 * 6/2 * 7/2 * ... * (2x - 1)/2 * 2x/2
x? = 2 * 2x! / 2^2x
```

and the program on my 41C gives:

```
01 LBL A
```

```
02 2
03 *
04 FACT
05 2
06 LASTX
07 Y^X
08 /
09 2
10 *
11 RTN
```

Without the GAMMA function, generalizing the program is not very easy.

Patrice

Re: Small Sunday Afternoon Mini-Challenge

*Message #3 Posted by **hugh steers** on 2 May 2010, 7:35 p.m.,*
in response to message #2 by Patrice

Patrice, sorry im not copying you. i got the same answer :-)

Re: Small Sunday Afternoon Mini-Challenge

*Message #4 Posted by **PeterP** on 2 May 2010, 7:48 p.m.,*
in response to message #2 by Patrice

I think you can actually save 2 steps hence beating Gerson's 9 step program. However I was not sure what he meant by 'the x register should stay undisturbed' (which this version does not do and I was not able to find an elegant way of preserving the stack without burning up 2 or more steps which would then be the same 9 steps or worse that Gerson had already...)

```
00 LBL A
01  St+ X
02  FACT
03  2
04  LASTX
05  Y^X
06  /
07  St+ X
08 END
```

Re: Small Sunday Afternoon Mini-Challenge

*Message #5 Posted by **Gerson W. Barbosa** on 2 May 2010, 10:41 p.m.,*
in response to message #4 by PeterP

> Quote:
>
> However I was not sure what he meant by 'the x register should stay undisturbed'

I just wanted to preserve at least the X register so that chained calculations could be done more easily, for instance, in order to obtain

```
2.2? * 3.3? = 198.171558303
```

I do on my 33s

```
2.2 XEQ Y 3.3 XEQ Y *
```

I am glad you and others were able to find a solution so soon. I didn't think of using the HP-41. I think an even smaller program is possible on it, but I'll leave that for you.

Interestingly on the 33s my 9-step solution is 69 bytes long while the 51-byte one is 11 steps long, but that has to do with the number of bytes required by numeric constants.

Regards,

Gerson.

Edited to correct a typo

Edited: 2 May 2010, 10:46 p.m.

Re: Small Sunday Afternoon Mini-Challenge

*Message #6 Posted by **Paul Dale** on 2 May 2010, 11:37 p.m.,*
in response to message #4 by PeterP

The 20b scintific load out can do this in one step less and one stack level less:

```
001: LBL B
002:  STO+ X
003:  x!
004:  LASTx
005:  2^x
006:  /
007:  STO+ X
008: RTN
```

Unfortunately, I don't see how to do any better.

- Pauli

Re: Small Sunday Afternoon Mini-Challenge

*Message #7 Posted by **Gerson W. Barbosa** on 2 May 2010, 11:18 p.m.,*
in response to message #2 by Patrice

Hello Patrice and all,

Congratulations to all of you. Now let's wait and see if one step or two can be saved (keep the X register).

Quote:

> Quote:
>
> Without the GAMMA function, generalizing the program is not very easy.

You're right. The HP-42s has GAMMA and other scientific HP calculators have Gamma(x+1), that is, x! or PI(x), which I prefer. On the 15C just replace FACT with x! and you're done (see Hugh's program). By the way, those who like pi might like the following triple pi expression:-)

```
18*PI(PI(pi)) = 132850.000038
```

Regards,

Gerson

Re: Small Sunday Afternoon Mini-Challenge

*Message #8 Posted by **Angel Martin** on 3 May 2010, 12:45 a.m.,*
in response to message #7 by Gerson W. Barbosa

There's a Gamma function available on the SandMath-5 Module for the 41 platform.

Cheers, AM.

Re: Small Sunday Afternoon Mini-Challenge

*Message #9 Posted by **Gerson W. Barbosa** on 3 May 2010, 7:14 p.m.,*
in response to message #8 by Angel Martin

¡Hola Ángel!

Then this should work like it does on the 42s:

```
01 LBL "?"
02 STO+ ST X
03 1
04 +
05 GAMMA
06 2
07 STO- ST L
08 LASTX
09 Y^X
10 /
11 RTN
```

Regards,

Gerson.

Edited to save one step: STO+ ST X instead of 2 * :-)

Edited: 3 May 2010, 7:23 p.m.

Re: Small Sunday Afternoon Mini-Challenge

*Message #10 Posted by **Ángel Martin** on 5 May 2010, 10:59 a.m.,*
in response to message #9 by Gerson W. Barbosa

It works like a charm :)

Best, ÁM

Re: Small Sunday Afternoon Mini-Challenge

*Message #11 Posted by **hugh steers** on 2 May 2010, 7:32 p.m.,*
in response to message #1 by Gerson W. Barbosa

ok. 15C

```
LBL A
2
*
STO 0
x!
2
RCL 0
1
-
Y^X
/
RTN
```

that's 10 without the bumpers.

also, using this (might help others)

```
function moo(n)
   return math.factorial(2*n)/math.pow(2,2*n-1)
end
```

i get

```
> =moo(3.333333)
51.05759118800984966953616
> =moo(2*math.pi)
668840.9993288121626620536
```

Re: Small Sunday Afternoon Mini-Challenge

*Message #12 Posted by **Gerson W. Barbosa** on 2 May 2010, 11:48 p.m.,*
in response to message #1 by Gerson W. Barbosa

Here are mine:

```
0001 LBL A
0002 2
0003 *
0004 x!
0005 2
0006 LASTx
0007 y^y
0008 2
0009 /
0010 /
0011 RTN


[pre]
0001 LBL Z
0002 x!
0003 LASTx
0004 0.5
0005 -
0006 LASTx
0007 x!
0008 1/x
0009 x<>y
0010 x!
0011 *
0012 *
0013 RTN


33s length & checksum table:

        LN   CK

    Y   69  9F3C

    Z   51  70C0
```

Gerson.

Re: Small Sunday Afternoon Mini-Challenge

*Message #13 Posted by **Namir** on 3 May 2010, 10:33 a.m.,*
in response to message #1 by Gerson W. Barbosa

Gerson,

Does the function you are proposing in the challenge have any interesting properties? Does it solve any particular kind of equations?

Maybe we can call it the Shift Factorial function, defined as:

SFact(X, s) = 1 * (1 + s) * (1 + 2d) * (1 + 3d) * ... * (1 + n*s) * X

Where s is the shift factor and x > (1 + n*s) for some integer value of n.

In the case the shift factor s = 0.5, we have the function you defined.

SFact(X,0.5) = 1 * 1.5 * 2 * 2.5 * 3 * 3.5 * ... * X

In the case s = 0.25

SFact(X,0.25) = 1 * 1.25 * 1.50 * 1.75 * 2 * 2.25 * 2.5 * ... * X

The smaller s the larger SFact is for the same value X.

Of course if s > 1, say 2 we have:

SFact(X,2) = 1 * 3 * 5 * 7 * ... * X

And when s = 1, the SFact function is equivalent to the factorial function.

Namir

Edited: 3 May 2010, 11:00 a.m.

Re: Small Sunday Afternoon Mini-Challenge

*Message #14 Posted by **Gerson W. Barbosa** on 3 May 2010, 6:39 p.m.,*
in response to message #13 by Namir

> Quote:
>
> Does the function you are proposing in the challenge have any interesting properties?

I think its properties are similar to those of x!. For instance,

```
(1/2)! = 1/2*sqrt(pi)              (1/4)? = sqrt(pi/2)

                                   (3/4)? = 3/4*sqrt(pi/2)

(3/2)! = 3/4*sqrt(pi)              (5/4)? = 15/16*sqrt(pi/2)

                                   (7/4)? = 105/64*sqrt(pi/2)

(5/2)! = 15/8*sqrt(pi)             (9/4)? = 945/256*sqrt(pi/2)

                                  (11/4)? = 10395/1024*sqrt(pi/2)

(7/2)! = 105/16*sqrt(pi)
```

```
 and so on ...

1, 3, 15, 105, 945, ... are double factorial numbers (OEIS A001147)
```

> Quote:
>
> Does it solve any particular kind of equations?

None that I am aware of.

Regards,

Gerson.

Re: Small Sunday Afternoon Mini-Challenge

*Message #15 Posted by **Gerson W. Barbosa** on 5 May 2010, 10:42 p.m.,*
in response to message #14 by Gerson W. Barbosa

```
   (5/8)¡ = 5/4*sqrt(pi/4)
   (7/8)¡ = 35/32*sqrt(pi/4)
   (9/8)¡ = 315/256*sqrt(pi/4)
  (11/8)¡ = 3465/2048*sqrt(pi/4)
  (13/8)¡ = 45045/16384*sqrt(pi/4)


a)   (15/8)¡ = ?
b)  How is ¡ defined?
```

Anyone?

Edited: 6 May 2010, 11:38 a.m.

Re: Small Sunday Afternoon Mini-Challenge

*Message #16 Posted by **Paul Dale** on 6 May 2010, 9:45 p.m.,*
in response to message #15 by Gerson W. Barbosa

Since nobody has commented yet, I'll do part a:

```
  (15/8)¡ = 675675/131072*sqrt(pi/4)
```

Assuming I am correct, the fraction portion on the right is multiplied by the fraction on the left we're going to.

i.e. (n/8)¡ = n/8 . ((n-2)/8)¡

Unfortunately, part b is eluding me. I'm not in a very thinking mood at the moment but I should have been able to make more progress than I have :-(I suspect the double factorial function x!! is involved but haven't figured out how yet.

- Pauli

Re: Small Sunday Afternoon Mini-Challenge

*Message #17 Posted by **Gerson W. Barbosa** on 8 May 2010, 11:02 a.m.,*
in response to message #16 by Paul Dale

Hi Paul,

You have noticed

```
16384 * 13/8 * 3465/2048 = 45045

131072 * 15/8 * 45045/16384 = 675675

So the next term will be

1048576 * 17/8 * 675675/131072 = 11486475
```

which of course is correct. Hadn't seen it.

I've found a way to express this sequence in terms of the Gamma Function:

```
a(n)=(2^(2+n)*Gamma(n+5/2))/(3*sqrt(pi))
```

Thus

```
a(6)=(2^(2+6)*Gamma(6+5/2))/(3*sqrt(pi)) = 675675

a(7)=(2^(2+7)*Gamma(7+5/2))/(3*sqrt(pi)) = 11486475
```

However, your insight is right: this can be expressed in terms of the double factorial function and the equivalent expression is more elegant and simple.

Part b is more a guessing game rather than a thinking game. If

1 * 2 * 3 * 4 * 5 * 6 ... * n produces special values at 1.5, 2.5, 3.5, 4.5 ... all involving sqrt(pi)

and

1 * 1.5 * 2 * 2.5 * 3 * 3.5 * ... * n produces special values at 1.25, 1.75, 2.25, 3.75, ... all of them involving sqrt(pi/2)

then you can guess what function will produce special values involving sqrt(pi/4) at 1.125, 1,375, 1,625, 1,875, 2,125 ...

Gerson.

Re: Small Sunday Afternoon Mini-Challenge

*Message #18 Posted by **David Hayden** on 3 May 2010, 4:17 p.m.,*
in response to message #1 by Gerson W. Barbosa

I believe that the solutions presented will all overflow on some inputs, even when the final result can be represented within the precision of the calculator. This is because the solutions compute a large numerator and then divide by a large denominator.

Can you come up with a solution that will always give an answer if the actual answer can be represented within the precision of the calculator? How accurate is your answer? How much time does it take to compute?

Dave

Re: Small Sunday Afternoon Mini-Challenge

*Message #19 Posted by **Namir** on 3 May 2010, 4:59 p.m.,*
in response to message #18 by David Hayden

Maybe we should switch to the logarithm form of the function, thus end up adding logarithms instead of multiplying numbers. This way the sum does not overflow as quickly as the product of numbers.

Re: Small Sunday Afternoon Mini-Challenge

*Message #20 Posted by **Paul Dale** on 3 May 2010, 5:05 p.m.,*
in response to message #18 by David Hayden

For the 20b scientific firmware:

```
001: LBL B
002:  STO+ X
003:  1
004:  x<>y
005:  +
006:  LNGAMMA
007:  LASTx
008:  2
009:  -
010:  2
011:  LN
012:  *
013:  -
014:  e^x
015: RTN
```

Not as short or neat but handles a larger range of positive inputs.

- Pauli

Re: Small Sunday Afternoon Mini-Challenge

*Message #21 Posted by **C.Ret** on 5 May 2010, 5:00 p.m.,*
in response to message #18 by David Hayden

> Quote:
>
> Can you come up with a solution that will always give an answer if the actual answer can be represented within the precision of the calculator?

By definition x? = 1 × 1.5 × … (x-1) × (x-.5) × x

Patrice shows that x? = 2 × (2x)! / 2^{2x}

But this formula is, as you just state it, a ration of two large values and may not produce a correct answer even if actual result is within the precision of the calculator.

But Patrice give the correct recurrent formula : x? = 1 × 2 / 2 × 3 / 2 × 4 / 2 × 5 / 2 × 6 / 2 × 7 / 2 × ... × (2x - 1) / 2 * (2x) / 2

The trick is to divide by 2 after each multiplication from 2x down to 1.

This is my attempt for a RPN code (for HP97)

```
000
001     21 11   *LBL A
002        02     2
003       -35     ×
```

```
004     35 46    STO I
005  16 25 46  f DSZ I
006     21 09   *LBL 9
007        02     2
008       -24     /
009     36 46    RCl I
010       -35     ×
011  16 25 46  f DSZ I
012     22 09    GTO 9
013        51    RTN
```

I was able to obtained result up to 41? Without any overflow error. This is not so bad, when considering that 70! Is already out of scope (> 9.999999E+99).

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Unit conversion Module Reloaded

*Message #1 Posted by **Angel Martin** on 2 May 2010, 11:39 a.m.*

Just a quick update on the Unit Conversion Module.

An updated (and final) version with a short write-up are posted at TOS, feel free to send your comments or enhancements :)

http://hp41.claughan.com/file/Extending%20UMS.pdf

Best wishes, 'AM

Re: Unit conversion Module Reloaded

*Message #2 Posted by **Geir Isene** on 3 May 2010, 7:07 a.m.,*
in response to message #1 by Angel Martin

Amazing.

Re: Unit conversion Module Reloaded

*Message #3 Posted by **Paul Dale** on 3 May 2010, 7:13 a.m.,*
in response to message #2 by Geir Isene

I second that. Very nice.

- Pauli

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OT - PC's: a tool in search of a need

*Message #1 Posted by **David Hayden** on 2 May 2010, 8:02 a.m.*

Reading the thread about the IBM 5100 made me recall the early days of the PC. The commercial showed a real estate agent and a farmer doing calculations - in BASIC. These were the days before spread-sheets had been invented.

Basically, these machines where tools in search of a use as I recall. Am I right, or just imagining things?

To me, the biggest example is the home PC. From the beginning, it seemed that the PC makers were trying to get computers into the home, but they just couldn't seem to sell them. Those pesky users kept putting them on their desks at work instead.

As I recall, it was the CD-ROM and "multimedia PCs" that finally cracked the home - mostly because parents bought them for their children. Having a word processor and computerized encyclopedia gave the kids an advantage at school.

Circling back to calculators, someone pointed out recently that their old HP calculator (it may have been a 67) was as useful today as it was when he bought it. I think that's quite true. An HP 41 from 1980 is a lot more useful today than a dual-floppy IBM PC with PC-DOS 1.0.

Dave

Re: OT - PC's: a tool in search of a need

*Message #2 Posted by **Paul Dale** on 2 May 2010, 8:09 a.m.,*
in response to message #1 by David Hayden

I think games played a big role in this too. In fact they still are, computers have been adequate for most tasks they've been called on to do for quite a few years now & games are the big technology driver.

- Pauli

Re: OT - PC's: a tool in search of a need

*Message #3 Posted by **Don Shepherd** on 2 May 2010, 9:27 a.m.,*
in response to message #2 by Paul Dale

One of the early proposed "uses" of PC's in the home was "you can store your menus on them." Remember that? Lame.

Games were certainly one of the reasons that computers in the home became more prevalent; Internet was another huge reason. But games seem to haved jumped to dedicated gaming platforms these days. Remember all the Egghead software stores of the 80's and 90's? I haven't seen one in years, but I used to buy interesting computer-based games there. I think Flight Simulator 2004 was the last game I bought for my PC, and I still enjoy it.

Steve Jobs was in the news last week for criticizing Adobe and its Flash, saying it was made for the PC era, and with the advent of the iPhone, iPod, and now iPad, apps like Flash need to be updated to support touch screen and mobile computing.

Is he right? Have we passed into a new era of computing, defined by wireless touchscreen technology and apps you must download from hosts like iTunes instead of writing your own applications on your device? I was interested in the iPad until I learned that you really can't "roll your own" software, like you can on the PC.

Will the PC, as we know it, become a relic like the HP-65? I think the answer is yes, but I think the business need for the PC will be around for years to come. I can't see businesses doing their payroll on an iPad.

Re: OT - PC's: a tool in search of a need

*Message #4 Posted by **Garth Wilson** on 2 May 2010, 11:07 a.m.,*
in response to message #3 by Don Shepherd

> Quote:
>
> One of the early proposed "uses" of PC's in the home was "you can store your menus on them." Remember that? Lame.

The one I remember most in the advertising was that you could use the PC to balance your checkbook. Talk about lame!

> Quote:
>
> Steve Jobs was in the news last week for criticizing Adobe and its Flash, saying it was made for the PC era, and with the advent of the iPhone, iPod, and now iPad, apps like Flash need to be updated to support touch screen and mobile computing.
>
> Is he right?

I hate touch screens!

> Quote:
>
> I was interested in the iPad until I learned that you really can't "roll your own" software, like you can on the PC.

A co-worker (another engineer) was extremely interested in the iPad for the same reason: he though you'd be able to "roll your own" software, but his interest in it evaporated when he found out you can't.

Edited: 2 May 2010, 11:08 a.m.

Re: OT - PC's: a tool in search of a need

*Message #5 Posted by **Don Shepherd** on 2 May 2010, 12:29 p.m.,*
in response to message #4 by Garth Wilson

> Quote:

> I hate touch screens!

I haven't used them enough to have an opinion, for or against. On a calculator like the TI-NSpire, I think a touch screen would be preferable to the current navigation buttons. But to do the type of detailed things you would want to do on the NSpire, I think a stylus would be necessary.

I spent this past week training to be a census enumerator, and during the next few weeks we will visit homes that did not return their mailed census questionnaire. The Census Bureau originally planned to use handheld computers, manufactured by HTC and marketed by Harris in the US, for this operation. But, because they couldn't get the software ready and tested in time, we will be using paper forms, like all previous census's (we did use the handheld computers a year ago to record the location of every housing unit in the country, to create the mailing files, and they worked pretty well for that operation). Anyhow, the gal I sat next to during training had an iPhone. She showed me how you use its touchscreen to do things like run apps or zoom in/out or expand/contract the screen. I noticed the calculator app and opened it. It was a basic 4 function calc, but it seemed to have a lot of significant digits. If you tilt the device sideways, it turns into a scientific calculator. The touchscreen worked OK for that app.

It was interesting to use the iPhone for a few minutes, but I'm not going to run out and buy one. I'm sure she pays a lot more per month for phone and wireless Internet than I do for my basic cell phone (about $30), and I just don't need Internet access except on my desktop computer at home. But the younger generation is obviously enamored with these devices and is willing to pay the monthly fees associated with them.

Re: OT - PC's: a tool in search of a need

*Message #6 Posted by **Egan Ford** on 2 May 2010, 1:19 p.m.,*
in response to message #4 by Garth Wilson

> Quote:
>
> A co-worker (another engineer) was extremely interested in the iPad for the same reason: he though you'd be able to "roll your own" software, but his interest in it evaporated when he found out you can't.

Your co-worker needs to do a bit of research. Where do you think all the iPhone/iPad apps come from? Apple? No.

If you want to RYO iPad apps you just need to download the free SDK, you must have a Mac to use the SDK, and if you want to publish the app for yourself or others then you need to pay $99/year.

So you *can* RYO software, but at a cost.

That all said, you can write very interesting HTML5/JavaScript apps for the built-in browser at no cost (except your time and possibly sanity). Gmail is a great example of this. It is actually better than the on-board email app.

Re: OT - PC's: a tool in search of a need

*Message #7 Posted by **Don Shepherd** on 2 May 2010, 1:58 p.m.,*
in response to message #6 by Egan Ford

Egan, I'd say the co-worker did the research (as did I) and he probably wasn't interested in

paying for a separate Mac computer to develop on or paying $99 per year to be able to run his own apps!

To develop and run your own apps on the PC, you have to do neither of these two costly things.

Re: OT - PC's: a tool in search of a need

*Message #8 Posted by **Egan Ford** on 2 May 2010, 2:03 p.m.,*
in response to message #7 by Don Shepherd

I understand that, but that is not what was stated. It was simply "can't".

BTW, the $99/year is only to publish. In principle, if you make no changes to your app, then you do not need to pay again. In practice, the OS changes so frequently, that you may need to recompile or change your app.

If you jailbreak your device you can develop at no cost and there is no restrictions. There is an alternative tool-chain. I do not have the exact details, but its only a Google search away.

BTW, by year-end there will be alternatives. The appeal with Apple products is the size of the audience. If you want to make a buck writing apps you are going to have to pay the Apple tax.

Edited: 2 May 2010, 2:09 p.m.

Re: OT - PC's: a tool in search of a need

*Message #9 Posted by **Garth Wilson** on 2 May 2010, 5:35 p.m.,*
in response to message #8 by Egan Ford

> Quote:
>
> Egan, I'd say the co-worker did the research (as did I) and he probably wasn't interested in paying for a separate Mac computer to develop on or paying $99 per year to be able to run his own apps!
>
> To develop and run your own apps on the PC, you have to do neither of these two costly things.

Right.

> Quote:
>
> I understand that, but that is not what was stated. It was simply "can't".

Apparently you can't do it on itself like you can a 41 or a PC. You have to have another computer, one he doesn't have and doesn't want to buy.

Re: OT - PC's: a tool in search of a need

*Message #10 Posted by **Don Shepherd** on 2 May 2010, 6:55 p.m.,*
in response to message #8 by Egan Ford

> Quote:

> The appeal with Apple products is the size of the audience. If you want to make a buck writing apps you are going to have to pay the Apple tax.

No, not for me. I couldn't care less how many iPads Apple sells. My interest is developing something for myself to use and play with on this new and appealing platform, not something I want to sell to the world. I've done this on virtually every small computer I have ever used, from the Apple][to the Mac 128k to the Mac SE to the Mac PowerBook, and finally to the PC.

Apple obviously is not addressing this particular type of user, probably because there aren't that many of us and they can make millions with their iTunes app store. More power to them, but I choose not to be a participant.

Re: OT - PC's: a tool in search of a need

*Message #11 Posted by **Egan Ford** on 2 May 2010, 8:51 p.m.,*
in response to message #10 by Don Shepherd

> Quote:
>
> > Apple obviously is not addressing this particular type of user, probably because there aren't that many of us and they can make millions with their iTunes app store. More power to them, but I choose not to be a participant.

What Apple is doing is not unique. I can think of very few embedded devices that were designed to be programmed on-board. I cannot think of a single hand-held device, sans a calculator, that was designed to be programmed and not just used. I cannot think of a single mass market mobile phone, gaming device, MP3 player, wristwatch, or PDA that has the ability to be programmed on-board. I know some exist, but they never really penetrated the mass market (e.g. Linux-based Zaurus).

As for cross-development, I think Apple is taking a cue from Nintendo, Sony, and other mobile platforms where you pay to develop and publish and it is controlled. If you think Apple is bad, read up on the Gameboy and PSP. Apple's model has made them a lot of coin that others (MS and Palm) envy. Others will follow.

That all said, you are 100% correct. Apple is not interested in the hobbyist market. There will be a number of Andriod-based tablets soon. I think you'll find them to your liking. To each their own.

BTW, I am not defending Apple, just stating the facts. I have an iPad, and have no interested in creating apps for it. I purchased it as a replacement for paper media. The form-factor and battery life make it the perfect travel companion for me to catch up on my reading and Tivo'd videos. I spend ~80 hours a month in public transportation (writing this from the airport) and a notebook is just too cumbersome for digesting media. The lack of a stylus is my only beef. I cannot create content in an appealing way without a stylus. I'll be dumping the iPad for the first decent tablet with both touch and stylus input.

Re: OT - PC's: a tool in search of a need

*Message #12 Posted by **Don Shepherd** on 2 May 2010, 9:52 p.m.,*

in response to message #11 by Egan Ford

Thanks, Egan. It will be interesting to see what the HP Slate has to offer in this regard.

Don

Re: OT - PC's: a tool in search of a need

*Message #13 Posted by **Egan Ford** on 3 May 2010, 1:56 a.m.,*
in response to message #12 by Don Shepherd

Rumor is, HP killed it. The Slate was/is Windows-based. Given the recent Palm purchase perhaps Palm has a better tablet.

Re: OT - PC's: a tool in search of a need

*Message #14 Posted by **Bill Zimmerly** on 9 May 2010, 3:42 a.m.,*
in response to message #4 by Garth Wilson

> Quote:
>
> The one I remember most in the advertising was that you could use the PC to balance your checkbook. Talk about lame!

That promise actually did appeal to me in those days. After all, personal computers back then really didn't do much - OTHER than fire up the imagination of those who had a clear vision of the future. Here's a great flashback on it thanks to Mr. Horn:

THE PROGRAMMABLE POCKET CALCULATOR OWNER: WHO DOES HE THINK HE IS? by Craig Pearce (311), Berwyn, Illinois

I'm sure many will enjoy this trip down memory lane. ;)

Re: OT - PC's: a tool in search of a need

*Message #15 Posted by **Egan Ford** on 2 May 2010, 4:06 p.m.,*
in response to message #3 by Don Shepherd

> Quote:
>
> Have we passed into a new era of computing, defined by wireless touchscreen technology and apps you must download from hosts like iTunes instead of writing your own applications on your device?

IMHO, current touch-based devices are most useful for communications and consuming content (web, games, video, music, apps, etc...), i.e. limited purpose. General purpose systems (for now) will still rein for creating content, especially for limited purpose devices. I would not consider the iPad suitable for writing a novel, a web page, or for writing a program.

IMHO, computers (i.e. anything with an OS) have moved beyond their primary purpose of increasing productivity to consuming content (reduction in productivity :-). As I look around my home at everything with an OS (embedded systems too), I'd have to say the majority are used for communications or to consume some type of content.

Today there are more and more consumers of information and computers to facility that consumption, so your speculation that this may define *computing* in the future may be correct. But, I think it will more accurately define communications and media.

Re: OT - PC's: a tool in search of a need

*Message #16 Posted by **Martin Pinckney** on 2 May 2010, 8:23 p.m.,*
in response to message #15 by Egan Ford

> Quote:
>
> IMHO, current touch-based devices are most useful for communications and consuming content (web, games, video, music, apps, etc...), i.e. limited purpose. General purpose systems (for now) will still rein for creating content, especially for limited purpose devices. I would not consider the iPad suitable for writing a novel, a web page, or for writing a program.
>
> IMHO, computers (i.e. anything with an OS) have moved beyond their primary purpose of increasing productivity to consuming content (reduction in productivity :-). As I look around my home at everything with an OS (embedded systems too), I'd have to say the majority are used for communications or to consume some type of content.
>
> Today there are more and more consumers of information and computers to facility that consumption, so your speculation that this may define *computing* in the future may be correct. But, I think it will more accurately define communications and media.

Egan, this is very well put. In my business, engineering design, we still use computers for creating (productivity), instead of consumption (as you said, the opposite of productivity). It almost seems that the off-the-shelf computers more and more come with features that interfere with productivity rather than enhance it.

Re: OT - PC's: a tool in search of a need

*Message #17 Posted by **Dimitri Simitas** on 4 May 2010, 3:59 p.m.,*
in response to message #3 by Don Shepherd

> Quote:
>
> Is he right? Have we passed into a new era of computing, defined by wireless touchscreen technology and apps you must download from hosts like iTunes instead of writing your own applications on your device?

Only if your a follower of "The hippy nation" ie Apple. Otherwise for 550$ you can get a Archos 9 with Windows 7, enjoy Flash, multitasking, USB and other useful features that the iPad lacks.

Currently typing this on the Archos 9, had one for a few months now. I am waiting for other devices that are similar to come out. There should be a flood of them in the next year.

Dimitri

Re: OT - PC's: a tool in search of a need

*Message #18 Posted by **Egan Ford** on 2 May 2010, 1:49 p.m.,*

in response to message #1 by David Hayden

> Quote:
>
> To me, the biggest example is the home PC. From the beginning, it seemed that the PC makers were trying to get computers into the home, but they just couldn't seem to sell them. Those pesky users kept putting them on their desks at work instead.

My first computer was an Apple][+ that I obtained in 1985 at age 17. I had a *need*. I wanted to program, and access to my school's computer labs was limited. Many starting with the Altair had the same *need*.

However, I'll agree that programming was not the targeted need by late 70's and early 80's commercials (or today's commercials). My parents and many of my friends parents had computers primarily for personal finance and word processing. Or at least that was the *need*. I think my father logged more time playing flight simulations. My mother did use the computer for word processing (work (legal) related) as did I for papers. That was another *need*--a powerful typewriter replacement.

IMHO, many just wanted to explore the possibilities of having a computer, as you put it, "a tool in search of a need".

Apple sold about 5-6 million Apple IIs. Commodore sold about 30 millions C64s. The only thing I'd ever seen a C64 user do is play games. IMHO, it was games that was the ultimate *need*. The use of PC's for gaming contributed to the *Video Game Crash of 1983*. There is no doubt that it was games that got more computers into people homes. It's applications that sell computers, not the HW. The platforms with fewer games failed.

Re: OT - PC's: a tool in search of a need

*Message #19 Posted by **Thomas Okken** on 2 May 2010, 1:59 p.m.,*
in response to message #1 by David Hayden

PCs were never tools in search of a need. By the time IBM introduced the first PCs, people had been using Intel 8080-based machines running CP/M, and of course Apple IIs, for years, and there was a lot of productivity software for them -- the big names I remember were WordStar, dBASE, and VisiCalc (word processor, flat-file database, and spreadsheet, respectively). The Apple II was also fast becoming a popular gaming platform, in addition to having some decent productivity software available for it -- VisiCalc was originally written for the Apple II.

The problem with the pre-PC machines was that they all used 8-bit CPUs with 64 kilobytes of address space, and by the late '70s, that was becoming a problem as software became more and more sophisticated, and people needed to be able to work with documents that didn't fit in RAM all at once. Some machines used bank switching to get past the 64 kilobyte limit, but that makes life pretty miserable for software developers. A larger address space was what was really needed.

The IBM PC was eagerly anticipated; the market was ready for a mainstream 16-bit machine. Many considered the PC a disappointment when it arrived, because other, superior CPU architectures existed, but the 8086 architecture had the advantage of assembly language source code compatibility with the 8080, so software vendors could port their CP/M products over to DOS relatively easily. This was a big, probably decisive factor in the rapid market acceptance of the PC.

For hobbyists the early PCs weren't much fun, because they lacked sound, color, graphics, and were much more expensive than the 8-bit machines... But in offices, they started popping up like mushrooms. IIRC, in Europe, the PC overtook the very popular Commodore machines (the 3000, 4000, and 8000 series) in terms of market share in about a year.

Re: OT - PC's: a tool in search of a need

*Message #20 Posted by **bill platt** on 2 May 2010, 9:25 p.m.,*
in response to message #19 by Thomas Okken

Hi Thomas,

That recollection with respect to the "mushrooming" of 8086 machines matches my memories. Up to around 83 or 84, the Commodore 64, the "trash-80" and the Apple II were the ones to have. By 86 or so as I remember, the 16-bit machines were proliferating. The first Macintosh was cute, but it wasn't the workhorse until a bit later. By 1990, my university had upgraded to a 286 lab that was far and away larger than the Mac lab that had been put in in '88. The Macs had some good features, but the GUI aspect just wasn't a *productivity* enhancer yet...

I will say that one of my college hall-mates got one of the big (and I mean big!) new macs in 1990. He had "MooseProofs" or something that would talk, and he had a flight sim on it. I think that was the beginning of a very strong rally for Mac, which it ultimately lost when Windows was perfected. By 1995, the engineering and science users of the Mac were finding themselves out of luck and had to switch to PCs either because their employers (hospitals, universities) were no longer supporting MAcs, or because they needed software that wouldn't run on MAcs...

Looking back, I guess we should see the changes in the past 10 years as poitively glacial. I can happily work with year 2000 software for almost everything--even engineering software. Some of the 3D tools have gotten much better, but the 2D tools haven't really improved since 97 or 98. Word processors are worse now. And heck, you can load programs from 1995 with no trouble! Compare that to the changes from 1983 to 1988 and it is bewildering...

Of course my memories as to dates might be fuzzy here and there...

Edited: 2 May 2010, 9:29 p.m.

Re: OT - PC's: a tool in search of a need

*Message #21 Posted by **David Hayden** on 3 May 2010, 4:42 p.m.,*
in response to message #20 by bill platt

> Quote:
>
> That recollection with respect to the "mushrooming" of 8086 machines matches my memories. Up to around 83 or 84, the Commodore 64, the "trash-80" and the Apple II were the ones to have. By 86 or so as I remember, the 16-bit machines were proliferating. The first Macintosh was cute, but it wasn't the workhorse until a bit later. By 1990, my university had upgraded to a 286 lab that was far and away larger than the Mac lab that had been put in in '88. The Macs had some good features, but the GUI aspect just wasn't a *productivity* enhancer yet...

My recollection/belief is that after the IBM PC came out, the biggest market share was non-technical corporate (i.e., not home) users. And the whole mentality of "no one every got fired for buying IBM" was still in full force. The Mac, for all it's superiority, was seen as a cute toy for geeks. Few business people wanted one.

> Quote:
>
> Looking back, I guess we should see the changes in the past 10 years as poitively glacial. I can happily work with year 2000 software for almost everything--even engineering

> software. Some of the 3D tools have gotten much better, but the 2D tools haven't really improved since 97 or 98. Word processors are worse now. And heck, you can load programs from 1995 with no trouble! Compare that to the changes from 1983 to 1988 and it is bewildering...

Processor speeds haven't improved much in 10 years, but disk capacities have continued to grow. The trend now is towards putting more CPUs (cores) in the box, and it will be exciting to see the raw horsepower start to increase again. I've heard that Intel is already testing a 48 core CPU.

Not all applications can benefit from more cores, but many others can. My point is that interesting times lie ahead.

Another big improvement over the past 10 years has been graphical power. Considering that pretty much every desktop has a high powered 3D engine on the graphics card, it's a wonder why we the desktop is still such a static 2D beast.

> Quote:
>
> Of course my memories as to dates might be fuzzy here and there...

I know what you mean. Now before I go, can someone remind me what my wife's name is :)

Dave

Re: OT - PC's: a tool in search of a need

*Message #22 Posted by **Martin Pinckney** on 3 May 2010, 5:14 p.m.,*
in response to message #21 by David Hayden

> Quote:
>
> Considering that pretty much every desktop has a high powered 3D engine on the graphics card, it's a wonder why we the desktop is still such a static 2D beast.

What, you think we will soon be wearing red/blue glasses in front of the computer screen?

Re: OT - PC's: a tool in search of a need

*Message #23 Posted by **Thomas Okken** on 3 May 2010, 6:34 p.m.,*
in response to message #21 by David Hayden

> Quote:
>
> My recollection/belief is that after the IBM PC came out, the biggest market share was non-technical corporate (i.e., not home) users.

Non-technical/corporate users are exactly the market that the IBM PC was designed for. Hobbyists and home users didn't start to warm up to the PC until a few years later, when clone makers started driving prices down.
The Mac didn't gain traction early on because (1) it didn't run the productivity applications that were driving IBM PC sales, and (2) because the lack of clone makers kept Mac prices high while PC clones got cheaper and cheaper.

> Quote:
>
> And the whole mentality of "no one every got fired for buying IBM" was still in full force.

In the small- to medium-size business segment, buying IBM computers in the pre-PC days *would* have gotten you fired, for the same reason that it's a bad idea to buy an 18-wheeler for pizza delivery. Even if that 18-wheeler is a Peterbilt.

Edited: 3 May 2010, 6:43 p.m.

Re: OT - PC's: a tool in search of a need

*Message #24 Posted by **Dimitri Simitas** on 4 May 2010, 4:28 p.m.,*
in response to message #23 by Thomas Okken

> Quote:
>
> (2) because the lack of clone makers kept Mac prices high while PC clones got cheaper and cheaper.

One very forgotten thing about IBM's PC is that IBM gave the technical specifications manual out for a fee, which allowed clone makers easy reverse engineering of the system as it was well documented. I know I maybe wrong, but I think IBM at its core never wanted the PC market.

Although IBM sued people who outright copied their BIOS. They had the data, from schematics to the actual BIOS code out there. Only reason I could see them doing this is to standardize the computer market and eliminate the multiple standards. Which would make their lives easier to support their corporate customers and interfacing instead of dozens of half documented standards, only worry about the one they created.

In the next few days I'll post on my website the documents as I have them on PDF.

Dimitri

Re: OT - PC's: a tool in search of a need

*Message #25 Posted by **Thomas Okken** on 4 May 2010, 8:13 p.m.,*
in response to message #24 by Dimitri Simitas

> Quote:
>
> One very forgotten thing about IBM's PC is that IBM gave the technical specifications manual out for a fee, which allowed clone makers easy reverse engineering of the system as it was well documented. I know I maybe wrong, but I think IBM at its core never wanted the PC market.

I think the idea behind documenting the hardware was primarily to help third parties create add-in hardware, and profit a bit from selling the specs... The idea was probably inspired by the success of the Apple II, which owed a lot to third-party plug-in cards. (*) Unfortunately for IBM, a lot of plug-in board makers decided not to bother with paying the fee and reverse-engineered the ISA bus instead, and IBM ended up losing control of ISA. When IBM released the PS/2, they tried to regain control by making the MicroChannel

specification depend on a patented chip set that you had to buy from them, but by then it was too late; the industry standardized on EISA and PCI instead and IBM was officially demoted from leader to just another player.
The PC market was certainly a bit of a culture shock for IBM -- officially endorsing third-party hardware instead of trying to keep everything closed and proprietary was new territory for them!

> Quote:
>
> In the next few days I'll post on my website the documents as I have them on PDF.

Cool! Looking forward to it. :-)

- Thomas

(*) Apple, of course, managed to shut clone makers out of the Apple II market because it was impossible to create a 100% compatible clone without the Apple II ROMs. Perhaps IBM envisioned keeping the PC market to themselves in a similar manner, but because the PC's BIOS ROM was much simpler and had cleaner APIs, it was possible to simply re-create from scratch, duplicating its functionality while sidestepping IBM's copyright.

Edited: 4 May 2010, 8:19 p.m.

Re: OT - PC's: a tool in search of a need

*Message #26 Posted by **Martin Pinckney** on 4 May 2010, 11:40 p.m.,*
in response to message #25 by Thomas Okken

> Quote:
>
> Perhaps IBM envisioned keeping the PC market to themselves in a similar manner...

I don't think so. I remember reading back in the 80's that it was deliberate corporate policy to make the PC "open" architecture. I think what happened to IBM was they never anticipated two things: how low competition would drive the price, and how the IBM "name" would lose it's draw in the face of so many seemingly excellent alternatives in the marketplace.

I say "seemingly", because my experience has been that "IBM quality" was real; you could fire up most any XT or AT today if the magnetic media hadn't failed. Problem was, of course, that the technology changed so fast the longevity of IBM components became moot.

Edited: 4 May 2010, 11:42 p.m.

IBM PC Technical Manual.

*Message #27 Posted by **Dimitri Simitas** on 5 May 2010, 4:28 p.m.,*
in response to message #25 by Thomas Okken

> Quote:

> Perhaps IBM envisioned keeping the PC market to themselves in a similar manner, but because the PC's BIOS ROM was much simpler and had cleaner APIs, it was possible to simply re-create from scratch, duplicating its functionality while sidestepping IBM's copyright.

http://www.northerndtool.com

Check out the computer section. Once you see the PDF's you'll see what I mean about IBM not caring and probably wanting clone makers.

IBM gave the BIOS code in those documents, no need to recreate it, hence the lawsuits and Compact doing their 2 stage development of their own patent infringement free BIOS.

Dimitri

Edited: 5 May 2010, 4:34 p.m.

Re: IBM PC Technical Manual.

*Message #28 Posted by **Martin Pinckney** on 5 May 2010, 6:28 p.m.,*
in response to message #27 by Dimitri Simitas

> Quote:
>
> IBM gave the BIOS code in those documents, no need to recreate it...

Exactly the same point I was making, Dimitri, though not as as clearly. I do remember those Technical Reference manuals, which basically told third party developers or competitors all thy needed to know to design "PC Compatible". I had a TRM for the PCjr.

Re: IBM PC Technical Manual.

*Message #29 Posted by **Thomas Okken** on 6 May 2010, 2:36 a.m.,*
in response to message #27 by Dimitri Simitas

> Quote:
>
> IBM gave the BIOS code in those documents, no need to recreate it, hence the lawsuits and Compact doing their 2 stage development of their own patent infringement free BIOS.

I haven't read those documents yet, but I'm having a hard time parsing the sentence above.

"IBM gave the BIOS code in those documents, no need to recreate it" -- so are you saying that clone makers could just use IBM's BIOS code? But then you say "hence the lawsuits and Compact [sic -- did you mean Compaq?] doing their 2 stage development of their own patent infringement free BIOS" -- so clone makers apparently *did* need to re-engineer the BIOS? I can't figure out what point you're trying to make here.

Re: IBM PC Technical Manual.

*Message #30 Posted by **Les Bell** on 6 May 2010, 8:45 a.m.,*
in response to message #29 by Thomas Okken

> Quote:
>
> "IBM gave the BIOS code in those documents, no need to recreate it" -- so are you saying that clone makers could just use IBM's BIOS code?

I still have the blue cloth-bound 3-ring "IBM Personal Computer Hardware Reference Library - Technical Reference" in its slipcase on my bookshelf. Complete circuit diagrams for the PC, MDA and CGA cards, etc. - even the Epson MX-80 printer they rebadged - and yes, it has the BIOS source in it. The essential point is that, having published the source code in paper form, legally there was no doubt that it was copyright - something that was contentious with regard to program code at that time (I remember being an expert witness in a software copyright case a year or two later, and it was hell trying to explain this stuff to the barristers involved).

So, companies wishing to create a BIOS had to have two teams of coders. One would use the IBM BIOS to write a specification for an abstract BIOS: must have a routine at address such-and-such which takes these parameters in these registers and returns a result in this register, etc. . .

The second team had to have **no** IBM or IBM-compatible PC experience at all and be able to stand up in court and swear to such - they were called "virgins". They were passed the spec through a "Chinese wall" and set to work coding, whereupon the first team tested the results and refined their spec, then sent code back for rework. The result was a BIOS that was IBM-compatible but written by programmers who had never seen the IBM BIOS, and hence could not be a breach of copyright.

Best,

--- Les
[http://www.lesbell.com.au]

Edited: 6 May 2010, 8:46 a.m.

Re: IBM PC Technical Manual.

*Message #31 Posted by **Thomas Okken** on 7 May 2010, 5:57 a.m.,*
in response to message #30 by Les Bell

Hmmm... So IBM published the BIOS source code, but not the BIOS API specification? I never understood what the deal was with this "clean room development", but if you're forced to read the code in order to re-implement the API, I can see that you might have to work that way.
It makes me wonder, though. Has anyone ever actually been convicted of software copyright infringement based on the fact that they were familiar with the original work, but *without* any evidence of plagiarism (i.e. no suspicious similarities at the source code level)?
The question is not entirely academic; I'm wondering about things like Free42

which re-creates something that I *am* familiar with, so I'm definitely not a "virgin" in the sense of your post. I could argue that I have never studied the HP-42S ROM, although I obviously did look at it long enough to extract the two screen fonts from it (*) -- but my gut feeling is that it the onus should be on the prosecution to prove that I copied their work, not on me to prove that I didn't, much less that I *couldn't* have. (Clearly, I am not a lawyer, I have never even set foot inside a courtroom.)

(*) It is my understanding that low-resolution bitmapped fonts are not protected by copyright, but that's another one of those things that's probably not as clear as it should be, and dependent on which jurisdiction you're in, etc.

Re: IBM PC Technical Manual.

*Message #32 Posted by **Dimitri Simitas** on 8 May 2010, 12:45 p.m.,*
in response to message #31 by Thomas Okken

> Quote:
>
> It makes me wonder, though. Has anyone ever actually been convicted of software copyright infringement based on the fact that they were familiar with the original work, but *without* any evidence of plagiarism (i.e. no suspicious similarities at the source code level)?

Biggest problem with the PC BIOS as I understand it is that there are only so many ways to do the same functions in assembly, and that even people without any knowledge of the original code, but as good programmers will end up with similar code.

If any lines or block of lines are the same which would make sense, seeing as there are only so many ways to cut a sandwich. And US copyright "May not be reproduced in whole or in part" could still land them in legal trouble with IBM.

So by distancing the formation of the code like they did was a attempt to protect themselves as they did their due diligence to create legal code.

Dimitri

Re: IBM PC Technical Manual.

*Message #33 Posted by **Martin Pinckney** on 6 May 2010, 9:48 a.m.,*
in response to message #29 by Thomas Okken

Thomas, The point I am getting, particularly after reading Les' post, is that the publishing of the BIOS code did two things: it invited third party software and peripheral makers to jump in to the PC marketplace, and it meant that clone makers HAD to be extremely diligent in documenting their reverse-engineering work, or face lawsuits.

Re: IBM PC Technical Manual.

*Message #34 Posted by **Dimitri Simitas** on 6 May 2010, 10:09 a.m.,*
in response to message #29 by Thomas Okken

> Quote:
>
> I can't figure out what point you're trying to make here.

Les covered it well. The reason the IBM BIOS was easy to reproduce is because the BIOS code was written on paper.

Many of the first clone makers simply copied the BIOS code and found themselves in hot water from IBM's legal team.

Compaq, and others at the same time developed clean room BIOS software where they have one team document every command entered and outputted in the IBM BIOS but without copying any of the code. And a second team develops the code to give the right input and output commands.

Today however companies specialize in BIOS writing. Phoenix is probably by far the oldest of such companies that also used a clean room method to develop a IBM BIOS. Which they turned around in 1984 and sold to any clone maker that wanted it.

PS Compaq, not Compact, sorry I spell words phonetically at times.

Dimitri

Edited: 6 May 2010, 10:16 a.m.

Re: IBM PC Technical Manual.

*Message #35 Posted by **Steve Leibson** on 7 May 2010, 10:02 a.m.,*
in response to message #34 by Dimitri Simitas

Dimitri's recollection of the early PC BIOS situation most closely matches my own. IBM's PC team surprisingly published the technical details of the PC's hardware design and BIOS firmware in the technical manual. (That's the only cloth, slipcased manual I've kept from those early days.) Early PC copiers simply replicated the BIOS byte by byte and ended up in lawsuits with IBM as a result, prompting other copiers to develop the cleanroom approach. It's easy to prove copying in court when the BIOS ROMs match byte by byte. I do not recall the cleanroom approach to software/firmware replication ever being done before; There was no high-volume ROM product worth copying before the PC BIOS. However, most PC development history tends to repeat minicomputer development history, which also tends to repeat mainframe development history. Something about IBM, Amdahl, and Fujitsu sticks in my head but I really didn't follow the big-iron stuff as closely as PC stuff.

At first, the PC cloners did their own cleanroom development and there were elaborate descriptions of the lengths the cloners went to when trying to produce "clean" BIOS code, but there was an immediate and obvious product niche quickly filled by startup companies such as Phoenix (as Dimitri writes) and Award. Once the productized PC BIOSes were on the market for purchase by PC makers, the cloners bought these BIOS ROMs to get lower-

cost access to both the code and the liability protection.

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NEWT?

*Message #1 Posted by **Paul Dale** on 2 May 2010, 3:47 a.m.*

No not the character from Aliens, rather the FPGA re-implementation of the NUT CPU. Has anyone heard of any recent progress on this interesting project?

- Pauli

Re: NEWT?

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 2 May 2010, 8:57 a.m.,*
in response to message #1 by Paul Dale

Hi, Paul;

do you have systemyde´s homepage address? I remember asking about it sometime ago and Monte (edited) posted it. I checked, it is active.

And man... you pushed me back to the 80's! Poor little girl! When we all thought she´d be OK, then it came Alien 3...

Cheers.

Luiz (Brazil)

Edited: 2 May 2010, 12:26 p.m. after one or more responses were posted

Re: NEWT?

*Message #3 Posted by **Angel Martin** on 2 May 2010, 9:50 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

I'm certain Monte's got a good handle on the project but I can imagine this type of enterprises are far from simple to execute and come to full blown term...

In the mean time I too dream of a 100x NUT CPU... and keep using V41 instead.

Re: NEWT?

*Message #4 Posted by **Monte Dalrymple** on 2 May 2010, 10:36 a.m.,*
in response to message #3 by Angel Martin

A prescient question... This is the week I plan to program the FPGA and CPLD, connect the first prototype to a donor calc and apply power. I have had the boards since before the first of the year, but have been otherwise occupied.

The Flash memory is programmed with the OS and new code to manage the expanded memory. I went through the OS and tagged the sections that need to always run at 1x, so that's ready to go (but the max speed is 50x, not 100x).

The "expanded functions", written in mcode, allow users to "virtually" plug and unplug ROM images from the ports exactly like it would be done physically, which was always my goal.

I hope to have a finished calc in time for HHC, even though I may or may not be able to actually attend.

Thanks for asking. I wasn't sure that anyone was still interested in the project. Had I been working on this full-time it would ahve been done five years ago. Oh well.

Monte Dalrymple

Re: NEWT?

*Message #5 Posted by **Massimo Gnerucci (Italy)** on 2 May 2010, 11:20 a.m.,*
in response to message #4 by Monte Dalrymple

> Quote:
>
> Thanks for asking. I wasn't sure that anyone was still interested in the project.

Hi Monte, we are all lurking in the dark... ;)
Please keep up the good work!

Greetings,
Massimo

Re: NEWT?

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 2 May 2010, 12:27 p.m.,*
in response to message #4 by Monte Dalrymple

Hi, Monte;

I second Massimo´s words.

Cheers!

Luiz (Brazil)

Edited: 3 May 2010, 4:51 p.m.

Re: NEWT?

*Message #7 Posted by **Paul Dale** on 2 May 2010, 7:43 p.m.,*
in response to message #4 by Monte Dalrymple

> Quote:

> I wasn't sure that anyone was still interested in the project.

Of course we're still interested :-) I want one...

Pauli

Re: NEWT?

*Message #8 Posted by **Jake Schwartz** on 3 May 2010, 3:51 p.m.,*
in response to message #7 by Paul Dale

I seriously think that if the project had moved forward right after its announcement at the HHC2004 conference in San Jose, Monte might have been able to work with HP and we might have an "HP41+" now instead of the meager HP35S. Just my fantasy on what might have been.

Jake

Re: NEWT?

*Message #9 Posted by **Geir Isene** on 4 May 2010, 7:48 a.m.,*
in response to message #4 by Monte Dalrymple

> Quote:
>
> I wasn't sure that anyone was still interested in the project.

Still interested?? I'm dying to get my hands on one.

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MoHPC *The Museum of HP Calculators*

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ILPer/Emu41/Transferring Files

*Message #1 Posted by **Jeff Davis** on 1 May 2010, 6:45 p.m.*

Can anyone step me through this process. I am trying to load the HP-67 Coil Calculations ported to the HP-41 by Tony Duell. Any help would be appreciated.// Jeff

Re: ILPer/Emu41/Transferring Files

*Message #2 Posted by **Allen** on 1 May 2010, 9:20 p.m.,*
in response to message #1 by Jeff Davis

jeff, Greetings! Quick question, are you:

```
1) trying to get files from your HP41 onto EMU41 on a computer?
2) looking to type something up on the computer (EMU-41) and send it to the HP41?
```

If so, can you provide an example of the code you would like to transfer and/or a listing of hardware you have available to accomplish this?

IMHO, even with a full set of hardware including the zengrange, No VRAM, HHP eprom, CMT eprom, EMU41/ILPER/Serial Converter/Pil-BOX and such. The fastest/easiest way to transfer moderately short programs from computer to 41c calculator is the User-Code barcode generator by Leo Duran

It only requires a computer, printer, and wand.

There are many other methods, of course.

Re: ILPer/Emu41/Transferring Files

*Message #3 Posted by **Jeff Davis** on 2 May 2010, 9:17 a.m.,*
in response to message #2 by Allen

These files are in either .raw or .dat format. I have the HP-41CX hooked up to the PILBox/ILPer what I need to do is to transfer the program from the computer to Hdrive1 than I can send it to the calculator. What is the method using EMU41 to save the file to the hdrive1? Or can this even be done?

Re: ILPer/Emu41/Transferring Files

*Message #4 Posted by **J-F Garnier** on 2 May 2010, 12:25 p.m.,*
in response to message #3 by Jeff Davis

Hi,

For the .raw format, I propose this procedure using the HP41UC utility of Leo Duran and the PIL-Box. Assume the program prm41.raw has to be loaded into the HP41:

```
- Install HP41UC and ILPer in the same folder than Emu41,
- convert the raw file to the emu41in.dat file using the HP41 "INP/OUTP" format:
  hp41uc /r=prm41.raw  /d=emu41in.dat
```

```
- in Emu41:
  GTO ..
  "DOSLINK"
  FINDID   ; this returns 3 in the default emu41.ini config
  SELECT
  CLRDEV
  INP
now, save the program to HDRIVE1 disc image file
  "PRM41"
  WRTP
- on the HP41 linked to the PIL-Box, with ILPer running and targetting the same
hdrive1.dat disc image file:
  GTO ..
  "PRM41"
  READP
```

J-F

Re: ILPer/Emu41/Transferring Files

*Message #5 Posted by **Jeff Davis** on 3 May 2010, 5:57 p.m.,*
in response to message #4 by J-F Garnier

Thanks to all who responded. I have succesfully completed the transfer. Thanks JF for describing the sequence. Worked as you had written it.

Edited: 3 May 2010, 5:57 p.m.

Re: ILPer/Emu41/Transferring Files

*Message #6 Posted by **Egan Ford** on 2 May 2010, 1:10 p.m.,*
in response to message #3 by Jeff Davis

Another way to do this without EMU41 would be to use HP41UC to convert the .RAW and .DAT to .LIF. You can only do one program at a time, i.e. 3 programs, 3 .LIF, e.g.:

```
RAW:

hp41uc /r=blah.raw /l=blah.lif blah


DAT:

hp41uc /d=blah.dat /l=blah.lif blah
```

The 1st argument is the input file (/r= or /d=), the 2nd is the output file, the 3rd (optional) is the name of the program in the LIF directory, if not specified it will equal the name of the input file sans the extension. I like to play it safe and specify the LIF directory name.

Next start-up ILPer, and point to the first .LIF as the HD image.

Connect the 41, execute "DIR" and you should see your program. Put that program name in the ALPHA register and then execute "READP". Change ILPer HD image to the second .LIF file and repeat.

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The least rare vintage HP

*Message #1 Posted by **Michael de Estrada** on 1 May 2010, 10:08 a.m.*

OK. So we're always talking about the rarest vintage HP's. You know, those that sell for astronomical prices or don't even ever appear on TAS. But what about the ones that are so common that you might even expect to find them on the shelves at Walmart. The ones that keep appearing by the dozens on TAS and keep selling for lower prices. The ones that you collect, not by one or two or three, but by the dozen. Anyways, what prompted me to write this is that I just bought my tenth HP-45 for the lowest price ever, and ironically I wasn't even interested in the calculator itself. Nope, I mainly wanted the hard case, because it had a good latch and I can use it with an HP-55 or HP-65. Hard cases in good condition are, pardon the pun, "hard" to find. They are usually grouped with a much more costly HP-55 or HP-65, and often have broken latches. Anyway, I really didn't care about the condition of the calculator, but as it turned out, it was in perfect working condition with no corrosion in the battery compartment and just some slight missing silver trim above the keyboard. It also came with a clean ownner's manual and leather soft case. I paid $51 for all this, whereas in the past I'd paid more for the calculator alone. So, is the HP-45 the most ubiquitous of vintage HP calculators, or do any of you have another model HP that is more so? Which model is the most common in your collection? The most I have of any other model is three.

Michael

Re: The least rare vintage HP

*Message #2 Posted by **Kees van der Sanden** on 1 May 2010, 11:16 a.m.,*
in response to message #1 by Michael de Estrada

The most common model in my collection is the HP 32SII. I have 8 of them. This calculator was the first HP calculator I owned. I liked it so much, I collected some spare ones. Still my favorite.

Kees

Edited: 1 May 2010, 11:21 a.m.

45

*Message #3 Posted by **Maximilian Hohmann** on 1 May 2010, 11:24 a.m.,*
in response to message #1 by Michael de Estrada

Hello!

Same here: The HP-45. Like you, I bought the last one for the hard case alone, but it is in decent shape and fully working and came complete with manual and charger. All together for 15 Euros, if I remember correctly.

But I made a mistake when cleaning the hard case, which was covered in thick, greasy dust: I completely immersed it in hot soap water for some time. Now, several months later, there is still water sloshing around inside, because the breathing holes are in a position that will not allow for the water inside to drain completely...

Regrards, Max

Re: The least rare vintage HP

*Message #4 Posted by **Juergen Keller** on 1 May 2010, 3:56 p.m.,*
in response to message #1 by Michael de Estrada

From my experience, 45s are really quite common, but I had also many HP-25 (not the C model) and HP-21. On the Swiss auction sites (small market, not very representative) I most often see 48(G/GX), 32S(II), HP-41CV, 11C, and 20S (yuk, non-RPN). I do not mention the 12C because it is still in production. Are there any statistics (by model) how many calculators are ever produced?

Edited: 1 May 2010, 3:57 p.m.

Re: The least rare vintage HP

*Message #5 Posted by **Michael de Estrada** on 1 May 2010, 6:24 p.m.,*
in response to message #4 by Juergen Keller

Now when you say HP-25 and HP-21, what percentage of those are in working condition? With the HP-45s, for me it's been 100%. At most, I've had to open mine up to clean the keyboard and slider switch contacts. I've never had one with fried electronics. OTOH, my experience with Woodstocks is that less than 50% are operational, and many are way beyond my ability to repair them. You mentioned Voyagers, but except for the HP-12c, all of the ones I've seen here in the USA sell for way over $200. I think the HP-45 was a real workhorse calculator that many companies and government agencies bought in bulk for their employees, and many were repeatedly refurbished, since the basic calculator was so durable.

Re: The least rare vintage HP

*Message #6 Posted by **Juergen Keller** on 1 May 2010, 6:39 p.m.,*
in response to message #5 by Michael de Estrada

Regarding the HP-21/25: my estimation is that around 1/3 was none working or had severe damage (broken keys, etc.); many of them had slightly corroded battery contacts. Regarding the HP-45: most of them worked fine but some had none working keys. Regarding the (scientific) Voyagers: you are right, although there are many around they get high prices; is it the form factor, or the long battery life, or because they look so nice?

Anyway, the HP-45 is indeed a reliable calculator, it has no obvious weakness as some other Series have. The only problem is that the Classic AC adaptors get a bit rare ...

Re: The least rare vintage HP

*Message #7 Posted by **Keith Midson** on 2 May 2010, 1:53 a.m.,*
in response to message #1 by Michael de Estrada

For me I have 7 x HP28S, along with 2 x 28C (as well as the financial 18C, 19B, & 19Bii equivalents). As with some of the others, the main reason is that this was my first HP.
I also have 5 x 12C's, all different variants ...
I also seem to keep ending up with more of the original 35. I have 4 of these (people seem to like donating these to me!).
I think the most common HP available has to be the 12C simply because it's been around for so long - also has to be one of the cheapest.
Cheers, Keith

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HP 30b - Thanks Gene and Katie

*Message #1 Posted by **Joe Burwell** on 1 May 2010, 8:59 a.m.*

Thank you both. I used your information on how to program the HP 30b to do a % change calculation and it is great. Now I am starting to like my 30b as much as my 12c. Also, I realized that I could use the switch key to redo some of my other programs to reduce the number of key strokes. Much of the material on this site is way above me so it was nice you both took the time to write out the program instead of just saying you can write a program to do this. After all that is how I learned about the switch key, something I did not know.

Re: HP 30b - Thanks Gene and Katie

*Message #2 Posted by **Gerardo Rincon** on 1 May 2010, 11:17 a.m.,*
in response to message #1 by Joe Burwell

I agree - Gene and Katie - Thank you for taking the time to post this program. I do think not having a 1 button option for % change in the HP 30B was a miss. In my opinion, the one thing the HP 12C still has over the 30B (same as the 15C has over the 35S) is the size.

Edited: 1 May 2010, 11:22 a.m.

Re: HP 30b - Thanks Gene and Katie

*Message #3 Posted by **Allen** on 1 May 2010, 5:27 p.m.,*
in response to message #1 by Joe Burwell

I agree thanks to gene and Katie- they're both world-class experts on the Hp 30b!

But Re the programming advantage I must suggest there IS a 1-button "% change" key on all RPN models: it's the divide key.

Re: HP 30b - Thanks Gene and Katie

*Message #4 Posted by **Joe Burwell** on 1 May 2010, 5:35 p.m.,*
in response to message #3 by Allen

Good Point about the RPN and the divide key.

Re: HP 30b - Thanks Gene and Katie

*Message #5 Posted by **Joe Burwell** on 1 May 2010, 5:39 p.m.,*
in response to message #3 by Allen

Well really, I guess you could do that on any calculator, RPN or not.

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HP 12C+

*Message #1 Posted by **Joe Burwell** on 1 May 2010, 8:48 a.m.*

I have notice that the new 12c+ is out in the new HP packaging. The black rather than white package. I have found these calculators at Office Max stores. Also, it might be easier to find them in college towns as I would expect those store locations to have a higher turnover of financial calculators.

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HP41C nuts - how tight ?

*Message #1 Posted by **John Robinson** on 1 May 2010, 12:29 a.m.*

Hi all, just wanting to know how tight to tighten the two nuts in an early 41c, i.e. number of turns. I don't want to over tighten and strip the thread on the screw posts.

Thanks John

Re: HP41C nuts - how tight ?

*Message #2 Posted by **db (martinez, ca.)** on 1 May 2010, 1:18 a.m.,*
in response to message #1 by John Robinson

someone must know a best way but here's what i know:
the threads are fairly steep so when the case pulls together, that's about it.
start by spinning the screw backwards and when it falls/drops at the end of the threads; start spinning it the right way; that'll start it in the old threads
if the threads are in good shape and you haven't crossed them; it will screw easily till you get all the way in and then get tight all of a sudden.
you can use a screw driver with a small handle or grip the shaft only, so you don't easily over-torque it
if you find a funky screw; do the other three first to practice getting the range.
one should be able to screw those things in and out a hundred times carefully, or not quite once if you reef on it so it's good you are thinking ahead.
i've never seen one stripped but i've seen several split - you probably knew that.
i've never broke one, so neither will you.
and last but not least: lefty loosey, rightsy tightsy. but you knew that one too.

Re: HP41C nuts - how tight ?

*Message #3 Posted by **John Robinson** on 3 May 2010, 7:18 a.m.,*
in response to message #2 by db (martinez, ca.)

Hi DB,

Thanks for the response. I'm actually not concerned about the four case screws, but the two nuts (approx 1/4" thread) inside the early 41c units that is used to hold the CPU board to the keyboard, hence applying pressure to the connectors between the two boards.

Any suggestions in these ?

Thanks John

Re: HP41C nuts - how tight ?

*Message #4 Posted by **geoff quickfall** on 3 May 2010, 11:14 a.m.,*
in response to message #3 by John Robinson

Very difficult to get this right.

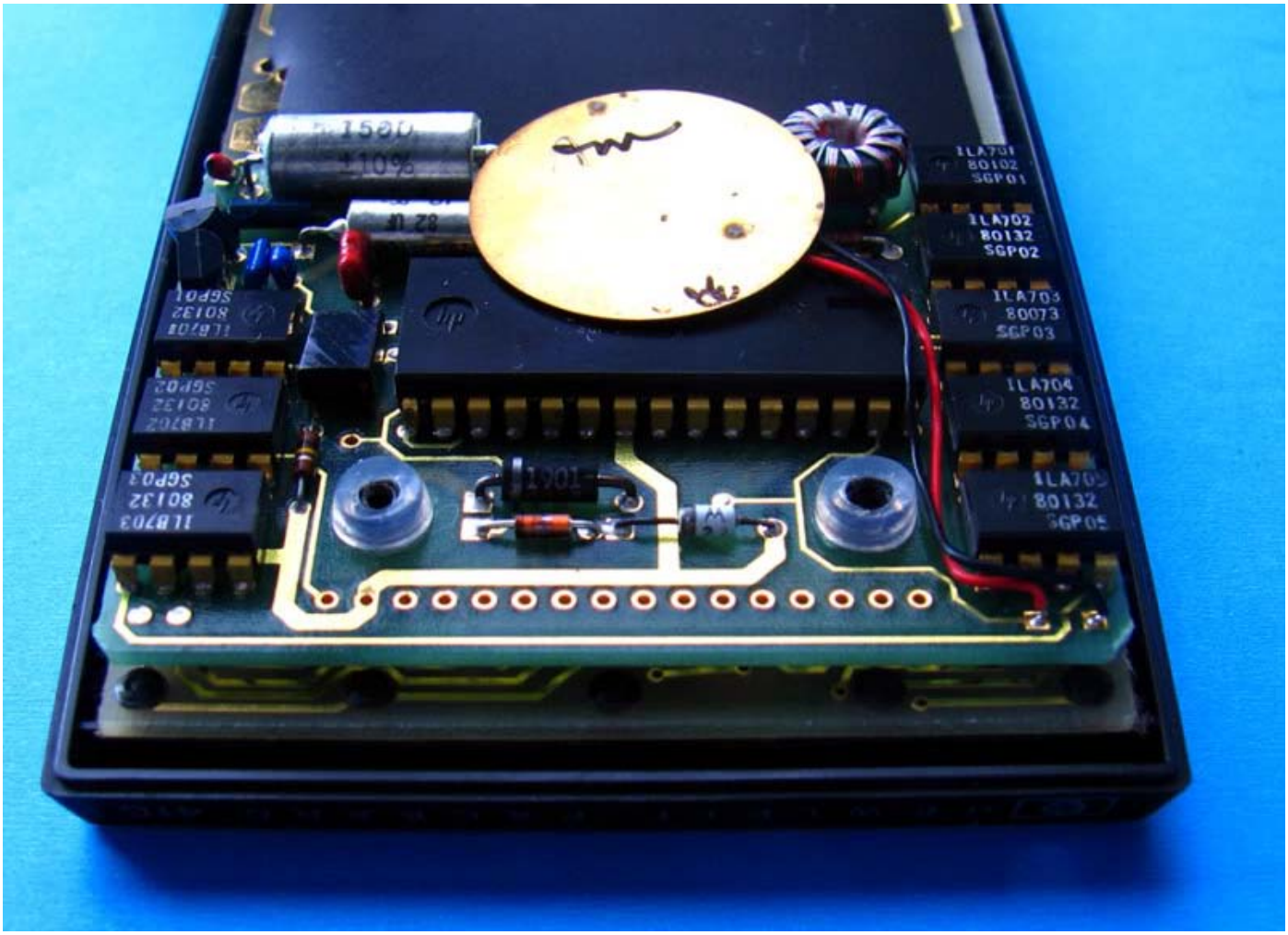
The pca posts were not tapped in the first place. The nut was simply added and it self tapped! If it doesn't line up then you will cross thread and poof, no more lock down.

The best you can do is try but only until just tight. Close it up and test the unit. Tighten some more if it did not power up due to a bad connection. Repeat.

If, according to the manual, the nuts do not tighten then switch to a smaller diameter nut. Not a very helpful suggestion. If smaller nuts are not available then take some vinyl tubing of the same type everyone uses for the pinch roller in the card readers. Cut a section slightly shorter then the amount of post that sticks out the PCA when it is in place (with the nuts removed). Place the tube over the post when the PCA is in place. Replace the back and screw together the case. This may take a few attempts to get the tube length correct. So cut it long, then shave off some. You are trying to make a pressure fit that relies on the bottom case posts without over stressing the case posts themselves.

What you have created is a pressure fit that relys on the bottom case screws to press against the vinyl tubes which then press down on the PCA (what the nuts used to do) and complete the connection.

It should look similar to this:



Hope this helps.

Geoff

p.s. In repair attempts on two of these types I have resorted to the above repair. I am either clumsy or this really was a bad design not conducive to more then one or two removals. Thus necessitating the newer design about one year later.

Edited: 3 May 2010, 11:15 a.m.

Re: HP41C nuts - how tight ?

*Message #5 Posted by **John Robinson** on 4 May 2010, 3:51 a.m.,*
in response to message #4 by geoff quickfall

Thanks Geoff for the suggestion. I presume I can try a CV case back as well to apply the pressure, to at least test that everything else is ok. The only caveat is thickness of the logic boards.

I am aware that the thickness of the 41 logic boards varied over the production run, do you have guidance on when the

thickness changed. My understanding is, later fullnuts CXs (and maybe CVs) had thinner logic boards, hence the use of the thin nylon washers in some models.

Thanks John

Re: HP41C nuts - how tight ?

*Message #6 Posted by **geoff quickfall** on 4 May 2010, 10:56 a.m.,*
in response to message #5 by John Robinson

Hi John,

Don't have the specs on the thickness but I will measure some up as I have 6 different boards.

The advantage of the tubing is that it keeps the original halves together, will never strip again and retains the original serial number.

I have to check, but if memory serves, it was that the later boards with out the hex nuts did not fit the HP 41C case back. I may be mistaken though.

Cheers, Geoff

Re: HP41C nuts - how tight ?

*Message #7 Posted by **John Robinson** on 5 May 2010, 7:27 p.m.,*
in response to message #6 by geoff quickfall

Thanks Geoff

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HP-19C issue

*Message #1 Posted by **Giovanni Jimenez** on 30 Apr 2010, 11:03 p.m.*

What could e the reason for this behavior on a HP-19C ?

"...When it is plugged in and turned on, the numbers continue to flash/scroll as if it is calculating a formula. All of the characters light up..."

thanks !

Re: HP-19C issue

*Message #2 Posted by **Michael Meyer** on 1 May 2010, 8:29 p.m.,*
in response to message #1 by Giovanni Jimenez

Hard to say for sure, but my bet is that there's a "fried" ACT chip. Or soon to be fried, if you plug it in without a good working battery. The 19C is essentially a Woodstock and prone to the same damage if plugged in without a good battery with good contact. Try powering it with battery or a power supply connected the to battery contacts only.

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cleaning the dust from an HP12C display

*Message #1 Posted by **Alberto Fenini** on 30 Apr 2010, 1:22 p.m.*

Dear all,
I have received an HP12C which is in good working conditions,
but has some dust under the display.
What the best way to clean it without disassembling the unit completely ?

Thank in advance for the hints,
take care and have a good weekend,
Alberto

Re: cleaning the dust from an HP12C display

*Message #2 Posted by **Kees van der Sanden** on 30 Apr 2010, 1:50 p.m.,*
in response to message #1 by Alberto Fenini

Hi Alberto,

There was a nice thread about this subject some time ago. You will find it here

Regards,

Kees

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OT: A Turing machine in the classical style

*Message #1 Posted by **Juergen Keller** on 30 Apr 2010, 6:31 a.m.*

Here you can see an incarnation of Turing's thought experiment:
Turing machine

Quite amazing, isnt't it?

Edited: 30 Apr 2010, 6:31 a.m.

Re: OT: A Turing machine in the classical style

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 30 Apr 2010, 7:19 a.m.,*
in response to message #1 by Juergen Keller

Hi, Jurgen;

I aways wanted to see something like this, i.e., something that would actually embody Turing´s machine.

Awesome!

Thanks!

Luiz (Brazil)

Re: OT: A Turing machine in the classical style

*Message #3 Posted by **Massimo Gnerucci (Italy)** on 30 Apr 2010, 9:56 a.m.,*
in response to message #1 by Juergen Keller

Yes Juergen, I already watched the demo. Quite amazing!
If you are interested here you can find the *junior* version...

Greetings,
Massimo

Re: OT: A Turing machine in the classical style

*Message #4 Posted by **Juergen Keller** on 1 May 2010, 2:16 a.m.,*
in response to message #3 by Massimo Gnerucci (Italy)

I missed that, thank you, Massimo! When I was young the LEGO bricks were not so sophisticated otherwise I'm sure I would have built such an machine ;-)

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Repair of Woodstock keyboard register problems

*Message #1 Posted by **Kees van der Sanden** on 30 Apr 2010, 3:41 a.m.*

I had two Woodstock models with keyboard register problems.

An HP21 that would not register the 4 and registed the 5 as a 7. This calculator showed some traces of battery leakage. The PCB through holes of the 4 and 5 key are just above the battery contacts, so residues of the battery leakage inside the key domes could be the root cause.

With a needle I dripped some vinegar into the holes of the 4 and 5 keys. Pressed the keys a few times and suck away the viginer with the same needle. I repeated this a few times. I continued this process with some water, to wash away the vinegar and ended with IPA. Let it dry for a day and the keyboard registers fine now.

An HP22 with a bad 4 key, that could not even be pressed, has been fixed in the same way.

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Is this from someone here?

*Message #1 Posted by **Vieira, Luiz C. (Brazil)** on 28 Apr 2010, 11:59 p.m.*

Hi, all;

I was searching for digital wristwatches and found this interesting set of pictures and wondered about who is 'hp calculators' and if he/she is one of us or just a page created by the meeting organizational staff.

By the way, I was searching for any information about this particular wristwatch.

Anyone?

Cheers.

Luiz (Brazil)

Re: Is this from someone here?

*Message #2 Posted by **db (martinez, ca.)** on 29 Apr 2010, 12:24 a.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

hi luiz; i have no idea who it is but did you notice that his cake is in RPN mode. Sweet. -db

Re: Is this from someone here?

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 29 Apr 2010, 2:06 a.m.,*
in response to message #2 by db (martinez, ca.)

Definitely...

Cheers!

You might want to check this site

*Message #4 Posted by **Frank Boehm (Germany)** on 29 Apr 2010, 4:12 a.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

Tokyo Flash
I'm almost certain you will find this kind of watch there 8)

Re: You might want to check this site

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 29 Apr 2010, 5:46 a.m.,*
in response to message #4 by Frank Boehm (Germany)

Halo, Frank; und danke schöen!

I got almost that close, because I have seen some of the watches shown in the page you pointed me to. Matter of fact, the collection shown there has more choices than I found in other pages, thanks!

Despite of the actual segmentation it uses, it seems to me that this one has the closest functionality to the one I posted about.

You know, my first motivation to find more info about this watch was the picture of a conceptual watch I saw in one old issue of the Elektor magazine. The watch could be seen in a tech exposition held in German. It uses no numbers, just bars, and the system demands a bit of 'on-time' computing prior to conclude what time is the watch showing.

This one, in the picture I posted, needs no computing, just direct reading, but surely the ones coming from Korea, China and Japan are twisting the concept of checking the time in a wristwatch.

And did you see? They already have a two-page museum! Wow! The no-longer-being-built watches are as futuristic as the ones still being sold.

Cheers.

Luiz (Brazil)

Edited: 29 Apr 2010, 5:55 a.m.

Re: You might want to check this site

*Message #6 Posted by **Martin Pinckney** on 29 Apr 2010, 12:17 p.m.,*
in response to message #5 by Vieira, Luiz C. (Brazil)

My uncle used to call these "Wonder Watches."

You look at them and wonder what time it is...

LOL!!! <8^D (N.T.)

*Message #7 Posted by **Vieira, Luiz C. (Brazil)** on 29 Apr 2010, 12:34 p.m.,*
in response to message #6 by Martin Pinckney

...

Edited: 29 Apr 2010, 12:36 p.m.

Re: You might want to check this site

*Message #8 Posted by **Gordon Strickland** on 29 Apr 2010, 2:03 p.m.,*
in response to message #6 by Martin Pinckney

If only we had either bigger forearms or higher resolution eyes!

I am reminded of a New Yorker cartoon from many years ago, in which a person is glaring up at modernistic wall clock, with no numbers and hands nearly the same size. He turns to a colleague and snarls, "What the heck time is it?"

Wondering the HP way

*Message #9 Posted by **Frank Boehm (Germany)** on 30 Apr 2010, 4:09 a.m.,*
in response to message #6 by Martin Pinckney

Back in those days, I was the only kid with a HP28C in school. My chemistry teacher wanted to loan it for some calculations and returned it - completely frustrated - because he failed to do even a basic 1+1. He called the calculators "MÃ¤usekino" (which probably translates to Mickey Mouse display), due to the amazing display, which was way ahead of his own LED calculator :)

Re: Is this from someone here?

*Message #10 Posted by **BruceH** on 29 Apr 2010, 2:46 p.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

GIven that the very first picture in the photstream is in the cockpit of an airliner, I think that rather puts Geoff Quickfall in the frame.

Re: Is this from someone here?

*Message #11 Posted by **Vieira, Luiz C. (Brazil)** on 29 Apr 2010, 3:24 p.m.,*
in response to message #10 by BruceH

My thoughts, too...

Re: Is this from someone here?

*Message #12 Posted by **Tim Wessman** on 29 Apr 2010, 3:49 p.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

Actually, looking at what else is in there I suspect it is something someone in marketing created two years ago or so and has since been abandoned. I will look into it. . .

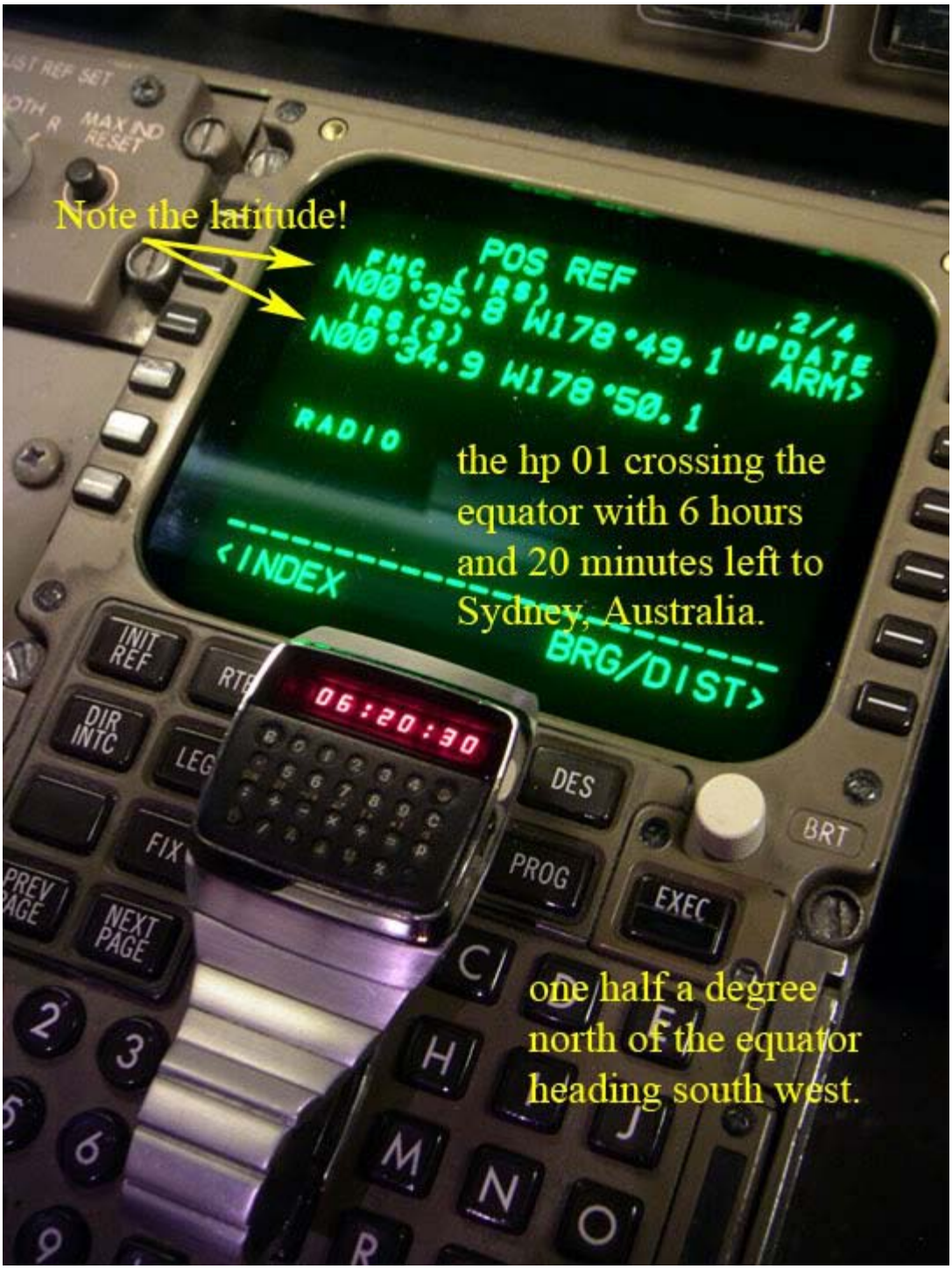
TW

Re: Is this from someone here?

*Message #13 Posted by **geoff quickfall** on 30 Apr 2010, 7:09 p.m.,*
in response to message #12 by Tim Wessman

Wasn't me but thanks,but fun to know that someone else has an HP-01 in the cockpit.

heres my airline shot



Cheers, Geoff

P.S. I have been busy of late but have to get back to the book and an article on HP calculators! This has been my project for the last 9 weeks and for a few more (strickly off topic(my forum nom de plume is "Quicky" and check out my avatar!)):

My 74 RA21 ground up restoration

Edited: 30 Apr 2010, 7:37 p.m.

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HP purchases Palm, Inc.

*Message #1 Posted by **Seth Morabito** on 28 Apr 2010, 4:52 p.m.*

Word has just come out that HP has purchased Palm, Inc. for $1.2 Billion.

PC Magazine announcement of the purchase is here.

Of course I have no idea how (or even if) this will impact calculator development, but I thought it worthy of a little note here. I think that Palm's WebOS is an interesting platform in its own right.

Re: HP purchases Palm, Inc.

*Message #2 Posted by **BobVA** on 28 Apr 2010, 5:02 p.m.,*
in response to message #1 by Seth Morabito

Conversely perhaps we'll see the HP-15C emulator ported to WebOS (puh-leeze!)

Bob

Re: HP purchases Palm, Inc.

*Message #3 Posted by **hugh steers** on 28 Apr 2010, 5:29 p.m.,*
in response to message #2 by BobVA

WebOS was all java iirc, that's when i knew it wasn't really going to work. not that im against java, it's just that it closes out everything else. for example your C/C++ calculator codebase.

it's a shame, because some of palm's old products were really very innovative for their time.

Re: HP purchases Palm, Inc.

*Message #4 Posted by **Pal G.** on 28 Apr 2010, 7:00 p.m.,*
in response to message #3 by hugh steers

Hugh,

Android applications are written in the Java programming language. And I have an HP48GX emulator running on my Droid.

http://developer.android.com/guide/topics/fundamentals.html

http://www.androidzoom.com/android_applications/productivity/droid48_wex.html

This doesn't mean I understand why HP would buy Palm.

Re: HP purchases Palm, Inc.

*Message #5 Posted by **hugh steers** on 28 Apr 2010, 7:18 p.m.,*
in response to message #4 by Pal G.

not all of them. you can write native code apps now in android. what you need is this choice. for example, you might want to use a native code library that you've already developed and build a java front end. if _everything_ has to be in java, you cant do that.

google have made their java fast through their own dalvik virtual machine. they needed to change the way some of the java compiled code works. for example, making method dispatch more efficient. so dalvik java binaries are not the same as regular .class files. also it's a register based architecture not stack based.

so what im saying is that google have spent effort to make java good enough for their mobile system, but webOS didnt have this and it didnt have a native code option either.

is droid48, in fact, a native app? it's based on the X48 source code which is in C.

??

Edited: 28 Apr 2010, 7:37 p.m.

Re: HP purchases Palm, Inc.

*Message #6 Posted by **Jonathan Eisch** on 28 Apr 2010, 7:31 p.m.,*
in response to message #3 by hugh steers

> Quote:
>
> it's a shame, because some of palm's old products were really very innovative for their time.

Same with BeOS, which HP now presumably owns. But that's kinda 10 years too late.

Re: HP purchases Palm, Inc.

*Message #7 Posted by **Jonathan Purvis (New Zealand)** on 28 Apr 2010, 7:40 p.m.,*
in response to message #3 by hugh steers

> Quote:
>
> WebOS was all java iirc

WebOS is actually all JavaScript/HTML. Unlike the iPhone, you can access all the hardware (eg GPS) from JavaScript and can have installable JavaScript applications.

There is also a native SDK, but i'm not sure if it has been publicly released yet.

Re: HP purchases Palm, Inc.

*Message #8 Posted by **Bruce Bergman** on 28 Apr 2010, 10:05 p.m.,*
in response to message #7 by Jonathan Purvis (New Zealand)

HTML, Javascript and CSS actually. That's the base platform tools for the WebOS development system.

That being said, there is a native option (can't remember the code name right now) that many of the game developers are using (GameLoft, for example). These games are on par, or better than, those that are out for the iPhone.

BTW, lest you be smitten otherwise, Objective-C is a PIA to deal with. ;-)

Thanks,

Bruce

Re: HP purchases Palm, Inc.

*Message #9 Posted by **Egan Ford** on 29 Apr 2010, 12:40 a.m.,*
in response to message #7 by Jonathan Purvis (New Zealand)

> Quote:
>
> Unlike the iPhone, you can access all the hardware (eg GPS) from JavaScript and can have installable JavaScript applications.

iPhone OS 3.0 allows the browser to access HW, e.g.:
http://www.thecssninja.com/javascript/geolocation-iphone.

And you can install browser-based apps. E.g. Gmail.

Re: HP purchases Palm, Inc.

*Message #10 Posted by **Bruce Bergman** on 29 Apr 2010, 1:26 a.m.,*
in response to message #9 by Egan Ford

WebOS does Flash.

'nuff said. :-)

Re: HP purchases Palm, Inc.

*Message #11 Posted by **John Stark** on 29 Apr 2010, 9:29 a.m.,*
in response to message #1 by Seth Morabito

Gentlemen:

They want to be in the phone business.

Next thing you know, HP will buy up a cable-TV outfit. :)

My $0.02.

John Stark

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old computer comercial

*Message #1 Posted by **db (martinez, ca.)** on 28 Apr 2010, 12:30 p.m.*

http://www.youtube.com/watch?v=6gaNyXWBcsU&feature=player_embedded

nothing a 67 couldn't have done, or a 41 couldn't have done better.

Re: old computer comercial

*Message #2 Posted by **hugh steers** on 28 Apr 2010, 5:24 p.m.,*
in response to message #1 by db (martinez, ca.)

awesome!

can we have an enormous red, front mounted, power toggle switch just like that on the next hp calculator please!

Re: old computer comercial

*Message #3 Posted by **Dimitri Simitas** on 29 Apr 2010, 2:15 p.m.,*
in response to message #2 by hugh steers

> Quote:
>
> can we have an enormous red, front mounted, power toggle switch just like that on the next hp calculator please!

It is interesting. Not sure I want to see the case size just to fit that.

Dimitri

Re: old computer comercial

*Message #4 Posted by **Les Bell** on 29 Apr 2010, 3:21 a.m.,*
in response to message #1 by db (martinez, ca.)

> Quote:
>
> nothing a 67 couldn't have done, or a 41 couldn't have done better.

Well, sorta. I remember seeing one of those in Paris in 1976; it particularly stuck in my memory because it was running BASIC, but all the BASIC keywords were in French (IMPRIMÉ instead of PRINT, for example). I couldn't do much with it. ;)

But optionally, it could run APL programs and could have up to 64KB of RAM (with the APL interpreter entirely in ROM), making it pretty good for scientific work, as long as you don't mind reading code from right

to left. ;)

A bit more capable than the 67, or even the 41 of a few years later.

--- Les
[http://www.lesbell.com.au]

Re: old computer comercial

*Message #5 Posted by **db (martinez, ca.)** on 30 Apr 2010, 12:38 a.m.,*
in response to message #4 by Les Bell

Hi Les; Question: How many times more effective, or frugal with program memory is RPN compared with that implementation of BASIC - in your opinion? Combined with that, would a 41cx with a couple of good ROMs, 2.2 in main and 6k in extended come close to equaling a 64k IBM? Does the ease of programming on the fly add enough to that to bring it up to that? If not then how about a 41 on a 32k RAMBOX, which was available back then?

I know how much you prefer RPN, so i'm just trying to give you a way to get on the side of the Angels here ;-) -db

Re: old computer comercial

*Message #6 Posted by **Marcus von Cube, Germany** on 30 Apr 2010, 2:37 a.m.,*
in response to message #5 by db (martinez, ca.)

The IBM had a full size keyboard and a reasonable screen. Add the sturdy tape drive and you get a professional machine. Compared to that, a 41C is a geek machine.

You are kidding?

*Message #7 Posted by **db (martinez, ca.)** on 30 Apr 2010, 11:31 p.m.,*
in response to message #6 by Marcus von Cube, Germany

Right?

Re: You are kidding?

*Message #8 Posted by **Marcus von Cube, Germany** on 1 May 2010, 3:51 a.m.,*
in response to message #7 by db (martinez, ca.)

No, I'm not. As a lab controller, a 41C might do a good job but as a commercial computing device it's a toy.

Re: You are kidding?

*Message #9 Posted by **db (martinez, ca.)** on 2 May 2010, 1:53 a.m.,*
in response to message #8 by Marcus von Cube, Germany

While the IBM 5100 wasn't used for docking maneuvers on the Apollo-Soyuz mission like the 67's less capable predecessor the hp65, i'm sure it was a fine machine. Those "geeky" space shuttle astronauts just bought 41s with their own money and got hp to teach them how to program so they could play *Moon Rocket Lander* during their orbital off hours too. The programs for ground antenna acquisition, emergency re-entry, landing calculations and the like were just a cover-up. I'm sure the 5100 series could have done all that anyway. That ad

should have mentioned it's more impressive abilities, instead of concentrating on helping a clueless real estate agent decide when to do landscaping and telling a farmer what to feed to cows. Forget about all those "toy"-like uses for the 41 like NATO artillery targeting, nuclear & Cardiac/Pulmonary medicine, Optometry, the Math/Stat pac, the high level math and engineering solutions books, the blue water navigation pac, the USAF rom for loading cargo planes. I mean, really; the IBM 5100 was used by Insurance Companies! Wowie!

I found this on a 5100 site:
Time Travelers Need IBM 5100 Computers! From 2000-2001, John Titor claimed to be a time traveler sent form 2036 to 1975 to fetch an IBM 5100 in order to solve problems with legacy software in 2036 (before Unix systems fail in 2038). He stopped in 2000 to warn us of a civil war that would start in the US in 2005 and culminate in World War III in 2015. He claimed that there was some special hidden feature in the 5100. **No toy here.**

While wandering around the upper Amazon in the late '90s with my cx and transit doing boundary surveys, i often wished for the "full size keyboard and a reasonable screen" of a "professional machine" like an IBM 5100 series, a generator to power it, a tent to put them in, along with 6 porters to carry it all.

Touché!

*Message #10 Posted by **Vieira, Luiz C. (Brazil)** on 2 May 2010, 2:28 a.m.,*
in response to message #9 by db (martinez, ca.)

Each tool, each job, each need...

Comparing computers to calculators is like comparing water.

Edited: 2 May 2010, 2:31 a.m.

Re: old computer comercial

*Message #11 Posted by **Les Bell** on 30 Apr 2010, 9:08 p.m.,*
in response to message #5 by db (martinez, ca.)

> Quote:
>
> How many times more effective, or frugal with program memory is RPN compared with that implementation of BASIC - in your opinion?

I don't know the details of their BASIC implementation, db, so I can't comment confidently. However, it was fairly common for BASIC interpreters to tokenize all the keywords of a program, so that they might take only one or two bytes. As a result, the difference might not be all that great.

And of course, APL is an extremely terse language in which arrays and matrices are first-class types (take a look at http://en.wikipedia.org/wiki/APL_%28programming_language%29 for some examples).

> Quote:
>
> I know how much you prefer RPN, so i'm just trying to give you a way to get on the side of the Angels here ;-)

Oh, yeah - you'd have to pry my 41's from my cold dead hands. Having said all the above, I wouldn't trade a 41 for a 5100, especially these days - the 41's have undoubtedly aged a lot better!

(But if I had the time, it would be fun to do some tinkering with a modern APL implementation).

Best,

--- Les
[http://www.lesbell.com.au]

Re: old computer comercial

*Message #12 Posted by **db (martinez, ca.)** on 1 May 2010, 12:10 a.m.,*
in response to message #11 by Les Bell

Les; The BASIC i learned in '81 at Western Nevada Community College's school of Casino and Cat-House Management may have been a math deprived one. I know there are more complete implementations of it, but i always think of the little BASIC i know and compare (un)accordingly. I remember having to teach the computer how to convert minutes and seconds to decimal degrees, step by step - and thinking that my new 11c was twice the computer.
APL is a language that goes way beyond what i have ever needed to do. And being both high level and math oriented, it looks more compact than even RPN. Going to anything else after that must have felt like swimming in concrete.

Re: old computer comercial

*Message #13 Posted by **Howard Owen** on 1 May 2010, 9:55 a.m.,*
in response to message #11 by Les Bell

> Quote:
>
> Oh, yeah - you'd have to pry my 41's from my cold dead hands. Having said all the above, I wouldn't trade a 41 for a 5100, especially these days - the 41's have undoubtedly aged a lot better!

I have several 41s, and except for my favorite, I would gladly trade one of them for a 5110. Not only would it advance an ambition to own one of every machine I ever worked on personally*, if I became strapped for cash to feed my calculator habit, I could sell the 5110 and buy something in the neighborhood of 81 complete 41C systems. (Going by Mike Morrow's estimate below, and figuring around $1000.00 per 41C[V|x] + nice peripherals.)

Regards,
Howard

* The major barrier to achieving my ambition is that darned Star array processor attached to a VAX 11/780 at the UCSB Physics department.

Re: old computer comercial

*Message #14 Posted by **Les Bell** on 1 May 2010, 8:04 p.m.,*
in response to message #13 by Howard Owen

> Quote:
>
> I have several 41s, and except for my favorite, I would gladly trade one of them for a 5110.

Ah, see, I only have two 41's left - I'm a user, not a collector, so I wouldn't surrender a large chunk of my tools for a machine I wouldn't have that much use for.

And if I'd kept every machine I'd owned - let alone every one I've worked on, going back to the Elliot/ICL 1901 - I'd have a museum.

Best,

--- Les
[http://www.lesbell.com.au]

Re: old computer comercial

*Message #15 Posted by **Howard Owen** on 1 May 2010, 8:19 p.m.,*
in response to message #14 by Les Bell

> Quote:
>
> And if I'd kept every machine I'd owned - let alone every one I've worked on, going back to the Elliot/ICL 1901 - I'd have a museum.

That's sort of the idea, but not really. That is, I can entertain the thought but not bring about the reality. :)

Regards,
Howard

Re: old computer comercial

*Message #16 Posted by **Howard Owen** on 29 Apr 2010, 9:28 a.m.,*
in response to message #1 by db (martinez, ca.)

I worked on an IBM 5150 in my first computer job in 1983. It was a relic by then. I believe it was a model that had been delivered with APL as the user programming language, because the keyboard had the APL special symbols on shifted keys. But the machine had been converted to use an extremely primitive form of BASIC. The machine was as small as pictured in the referenced ad, but sat on top an enormous dual 8 inch floppy drive unit that was large enough to raise the machine to a comfortable height for typing. The small computer consulting firm I was working at had several customers that used the 5150 with a custom payroll application developed by the company. Later, I graduated to using the Convergent Technologies machines. These had a very early form of networking, and ran Microsoft BASIC. I sure appreciated the advance control structures, like WHILE/WEND, in that dialect. :)

Re: old computer comercial

*Message #17 Posted by **Andrés C. Rodríguez (Argentina)** on 29 Apr 2010, 11:43 p.m.,*
in response to message #16 by Howard Owen

The 5150 was the first IBM PC, the 5160 was the IBM PC XT with more slots and a hard disk. I think you are talking about the 5110.

Re: old computer comercial

*Message #18 Posted by **Howard Owen** on 30 Apr 2010, 12:10 a.m.,*
in response to message #17 by Andrés C. Rodríguez (Argentina)

That's right. Thanks for the correction. this link shows the system I worked on, a 5110. I believe we must have had the Model 2 because there was no cartridge tape. I used every piece of equipment shown in that picture except for the outboard cartridge tape drive.

Also note the reference to hand held calculators given at the end of the page.

Re: old computer comercial

*Message #19 Posted by **Mike Morrow** on 29 Apr 2010, 10:01 p.m.,*
in response to message #1 by db (martinez, ca.)

> Quote:
>
> nothing a 67 couldn't have done, or a 41 couldn't have done better.

One should check out some details of the IBM 5100 before making that type of inaccurate off-the-cuff statement. See this IBM 5100 article .

I own the HP-67 and HP-41, and they weren't even in the same ballpark in terms of capability. But the cost, back in late 1975, was 24 kg in mass and up to $20,000 ($81,000 in 2010).

Re: old computer comercial

*Message #20 Posted by **Garth Wilson** on 29 Apr 2010, 11:04 p.m.,*
in response to message #19 by Mike Morrow

Unless it was better than the 5150 which came later, the 41 was much, much more efficient at quickly getting programs going to control lab equipment at take data, using the HPIL & Ext I/O modules and the 82169A HPIL-to-HPIB interface converter. I found that out when I worked at a microwave semiconductor manufacturer.

Edited: 29 Apr 2010, 11:09 p.m.

Re: old computer comercial

*Message #21 Posted by **Don Shepherd** on 30 Apr 2010, 12:01 a.m.,*
in response to message #19 by Mike Morrow

I agree, Mike, you really can't compare a programmable calculator like the 41 or 67 with, essentially, a minicomputer like the 5100. The 5100 was revolutionary; it really was the first "personal" computer in a day where computer = IBM 360. I've still got the brochure IBM sent me when the 5100 came out; it was like they shrunk the 360 to fit on your desk.

Mini HP Calc (and wine?) meet

*Message #22 Posted by **Art Litka** on 4 May 2010, 10:53 p.m.,*
in response to message #1 by db (martinez, ca.)

Since I will be visiting theBay area for about 10 days from Fla, db has suggested that we have a mini HP fest in or near Martinez CA on the weekend of May 15-16. It might be a good chance for some of us rpn geeks to meet, share stories and "wine" about HP's current state of calculator affairs. Anyone interested?

Edited: 4 May 2010, 10:55 p.m.

Re: Mini HP Calc (and wine?) meet

*Message #23 Posted by **db (martinez, ca.)** on 5 May 2010, 12:12 a.m.,*
in response to message #22 by Art Litka

Obviously; i'm interested since art and me will be meeting up here in river city. I'll have the "alternate universe RPN museum" unpacked, for anyone that wants to fondle a Russian, Argentine, German, Japanese, or whatever calculator with a sensible operating system. (Art: there's a couple of new ones you haven't seen yet). Art and me will be "wine tasting" like the other times. You might try to get him to talk astronomy while he's on vacation, good luck there. Other possible diversions can be:
The John Muir Home is here and worth a pilgrimage if you climb or study nature.
The Viano Winery is a mile from here for yet more wine tasting. As Clem said: "It's the Grapes".
If the Sons of Italy are finished restoring it: Joe DiMaggio's Chriscraft speedboat may be back on display. It's a siren call to fans of both baseball and places that Marlyn Monroe placed her lovely fundament.
I plan on checking out Art's 48-with-a-41-card, and i might try a glass of wine.

Transport from and to BART is already in the cards. All we need to know is which day: 15th or 16th. I don't know who all here is close anymore- Ted moved south, lost track of the folks in Davis. Eric, Howard, show up if you want.

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HP 30b numeric integration program

*Message #1 Posted by **Gene Wright** on 28 Apr 2010, 11:04 a.m.*

Here is a numeric integration program for the HP 30b. This is a translation of the HP-25 Program Library entry # L19 from 65 Notes V4N2P32 originally by Bandes, Davidson, and Derrick.

Usage:

At LBL 99, key in the function to be integrated. When LBL 99 is executed, the value of the X to be evaluated is in the X register (display) at entry to LBL 99. If you need it again to evaluate the function, it is stored in memory 3. Memories 6 and up are available as well.

At the PRGM location in which this program is stored (at the proper entry in the HP 30b program catalog), Key lower limit, press =, key upper limit, press =. Then press = again to start the program.

This program uses Simpson's rule with a default value of 200 for the number of increments.

The program is VERY fast. To solve the integral of e^x from 0 to 1 using 200 as the number of increments takes less than 2 seconds if this program is program 0 in the HP 30b.

The integral of e^x from 0 to 1 is solved to be 1.71828182849. Value of e minus 1 is 1.71828182846, an error of 3 in the last position.

The integral of SIN(PI*X) from 0 to 1 is solved in about 5-6 seconds with 500 as the number of increments with a solved value of 0.636619772363.

Register usage:

```
Memory 0 = number of increments, default is 200. Must be an even value.
Memory 1 = lower limit of integration
Memory 2 = upper limit of integration
Memory 3 = value of x being evaluated
Memory 4 = a positive or negative 1, depending on the loop.
Memory 5 = value of integrated function (sum)
```

Version shown here uses 92 bytes with a checksum of 016.

Improvements can be made to this code. The labels chosen correspond to the line numbers of the GTO statements in the original HP 25 program. Suggestions for improvements:

1) I used LBL 99 for the function to make the function occur at the end of the listing. This could be put into the code right after LBL 06, saving bytes and speeding up execution.

2) Lines 33-35 are to make the stack mimic what was in the HP 25 program. I have not found an easier way to do this, but it is clumsy as is.

3) Lines 36-40 and 48-51 are there to accomplish the following: memory 4 is initialized to zero. The first time through the loop, this should have negative 1 placed into it. Thereafter, the sign of the contents of memory 4 should be switched from negative to positive to negative, etc., each time through the loop. I freely admit this is again clumsy, but it does work.

4) Use something other than Simpsons, especially since it will fail if an endpoint is undefined. Integrating LN(X) from 0 to 1 fails, of course. :-)

Listing:

```
STO 2
SWAP
STO 1
200
STO 0
0
STO 4
STO 5        ...... LINE 10
RCL 1
STO 3
LBL 06
CALL 99
RCL 2
RCL 1
-
RCL 0
/
STO+ 3       ...... LINE 20
3
/
*
STO+ 5
ANS
RCL 2
RCL 3
-
+
0                  ...... LINE 30
?<
GT 49
ROLL DOWN
ROLL DOWN
=
RCL 4
GF 48
RCL 4
LBL 47
+/-               ...... LINE 40
STO 4
2
+
*
STO+ 5
RCL 3
GTO 06
LBL 48
RCL 4
1              ...... LINE 50
GTO 47
LBL 49
RCL 5
STOP
LBL 99
E^X
RTN
```

Enjoy and improve.

Edited: 28 Apr 2010, 3:06 p.m.

Re: HP 30b numeric integration program

*Message #2 Posted by **Gene Wright** on 30 Apr 2010, 3:51 p.m.,*
in response to message #1 by Gene Wright

While the overly sensitive might take a lack of replies to a post like this personally, I'm not (overly) sensitive. :-)

I did some additional comparisons of this integration program with the examples given in John Kennedy's HP 34C review from the PPC Journal V6N5P19-20. He gives 6 examples as shown below:

INTEGRAL	34C INTEGRATE FUNCTION VALUES DISPLAY AND TIMING INFORMATION			EXACT 10-DIGIT VALUE	16-POINT GAUSSIAN QUADRATURE
$\int_0^{10} 5x^2 \cdot dx$	DSP 2 1,666.666428 40 seconds f(x) used 31 times	DSP 4 1,666.666667 42 seconds f(x) used 31 times	DSP 9 1,666.666667 79 seconds f(x) used 63 times	1,666.666667	1,666.666667 28 seconds f(x) used 16 times
$\int_1^9 \sqrt{2x + 7} \cdot dx$	DSP 2 32.66690936 13 seconds f(x) used 7 times	DSP 4 32.66667861 25 seconds f(x) used 15 times	DSP 9 32.66666667 91 seconds f(x) used 63 times	32.66666667	32.66666667 31 seconds f(x) used 16 times
$\int_0^{\pi} \cos(x) \cdot dx$	DSP^2 -2.571285543 15 seconds^{E-10} f(x) used 7 times	DSP 4 -2.571285543 15 seconds^{E-10} f(x) used 7 times	DSP 9 -2.571285543 15 seconds^{E-10} f(x) used 7 times	0.000000000	-6.425214698 E-10 38 seconds f(x) used 16 times
$\int_0^1 \frac{4}{1 + x^2} dx$	DSP 2 3.14105343 13 seconds f(x) used 7 times	DSP 4 3.141592712 49 seconds f(x) used 31 times	DSP 9 3.141592654 185 seconds f(x) used 127 times	3.141592654	3.141592654 33 seconds f(x) used 16 times
$\int_0^5 x^3 \cdot e^{-x} \cdot dx$	DSP 2 4.409433596 33 seconds f(x) used 15 times	DSP 4 4.409845363 65 seconds f(x) used 31 times	DSP 9 4.409844509 249 seconds f(x) used 127 times	4.409844509 ?	4.409844510 41 seconds f(x) used 16 times
$\int_0^{\pi/2} \sin^4(x) \cdot \cos^2(x) dx$	DSP 2 0.09817646211 54 seconds f(x) used 15 times	DSP 4 0.09817646211 54 seconds f(x) used 15 times	DSP 9 0.09817477042 432 seconds f(x) used 127 times	0.09817477043 ?	0.09817477044 64 seconds f(x) used 16 times

Using the above program with 500 intervals, the following results are obtained.

Note that if the number of intervals are reduced to 50, the results still appear to be accurate to about 8-10 decimal places and the run times are 1-2 seconds!

1. Result of 1666.6666666633 in about 4 seconds.

2. Result of 32.6666666659 in about 5 seconds

3. Result of -5.4365x10^(-10) in about 4 seconds

4. Result of 3.14159265355 in about 5 seconds

5. Result of 4.40984450786 in about 5 seconds

6. Result of 0.0981747704617 in about 6 seconds.

Perhaps when more of you have an HP 30b, this will generate a bit more excitement? :-)

Re: HP 30b numeric integration program

*Message #3 Posted by **Sancerre (Phoenix)** on 30 Apr 2010, 4:25 p.m.,*
in response to message #2 by Gene Wright

Gene,

I am not nearly smart enough to make even a stupid remark about this post.

--Sancerre

Re: HP 30b numeric integration program

*Message #4 Posted by **Martin Pinckney** on 30 Apr 2010, 4:31 p.m.,*
in response to message #3 by Sancerre (Phoenix)

> Quote:
>
> Gene: ...a lack of replies to a post like this ...
>
> Sancerre: I am not nearly smart enough to make even a stupid remark about this post.

Me: Ditto.

#2 HP 30b numeric integration program

*Message #5 Posted by **Gene Wright** on 30 Apr 2010, 4:38 p.m.,*
in response to message #2 by Gene Wright

This is another numeric integration program for the HP 30b. It is a translation of the HP 41 program found in V7N8P10-11 of the PPC Journal. It uses an iterative 3-point Gaussian Quadrature.

And, as you will notice, I am not smart enough to write my own ORIGINAL integration program. I'm having to translate the work of others. :-)

As typed below with LBL 98 containing the SIN function, it is 86 bytes with a checksum of 221. As written, it is very fast. It solves the example problems from the PPC ROM routine IG with varying levels of accuracy, generally 4-8 decimal places - no doubt due to the 3 point nature of this approach compared to a 16-point approach. :-) But, compared to the simpson's approach, it will evaluate integrals where the endpoints are undefined.

Key in your function to integrate at LBL 98. The value of X is in the X register. If you need it more than once, save it into memories 0, 1, or 2. Register usage is 6 - lower limit, 7 - upper limit, 8 - number of iterations, 9 - sums (scratch), 5 - offset (scratch), 4 - midpoints (scratch), 3- dx (scratch)

** Why do these things? Well, here is a BUSINESS calculator with RPN that can be programmed to do all sorts of non-business things...and it is fast. **

Program listing:

```
STO 7
SWAP
STO 6
STO 4
-
9
9
STO 8
/
STO 3             ... LINE 10
2
```

```
/
STO+ 4
0
.
6
SQRT
*
STO 5
0
STO 9             ... LINE 20
LBL 11
RCL 4
RCL 5
-
CALL 98
5
*
STO+ 9
RCL 4
CALL 98             ... LINE 30
8
*
STO+9
RCL 4
RCL 5
+
CALL 98
5
*
STO+ 9             ... LINE 40
RCL 3
STO+ 4
DSE 8
GT 11
RCL 9
1
8
/
STOP             ... LINE 50
LBL 98
SIN
RTN
```

Edited: 30 Apr 2010, 4:55 p.m.

Re: HP 30b numeric integration program

*Message #6 Posted by **Gerson W. Barbosa** on 30 Apr 2010, 9:48 p.m.,*
in response to message #2 by Gene Wright

Thanks for posting the programs. Would you please time the one below? The exact twelve-digit result is 0.03648997398, or 2 + Psi(1/2). (On the 50g Psi is accessible through white left shift MTH NXT SPECI).

```
/1
⌠
⌡ (sqrt(x)/(x-1) - 1/ln(x))dx
/0
```

> Quote:
>
> Perhaps when more of you have an HP 30b, this will generate a bit more excitement? :-)

Perhaps I should get myself one.

Re: HP 30b numeric integration program

*Message #7 Posted by **Gene Wright** on 30 Apr 2010, 10:10 p.m.,*
in response to message #6 by Gerson W. Barbosa

The simpson's version won't run, of course, since it tries to evaluate LN(0).

The 3-point iterative quadrature program with 50 iterations returns 0.0364973556 in about 1-2 seconds. It's very fast.

Increasing the iterations to 500 takes about 12 seconds, returning 0.0364906580, which is surprisingly good (IMO).

Hey, it IS only a 3-point method. :-)

The code I used for LBL 98 was stack-oriented saving a register. These were my steps:

```
LBL 98
LN
ANS
SWAP
1/X
SWAP
SQRT
ANS
1
-
/
SWAP
-
RTN
```

Re: HP 30b numeric integration program

*Message #8 Posted by **Gerson W. Barbosa** on 1 May 2010, 9:23 a.m.,*
in response to message #7 by Gene Wright

> Quote:
>
> The simpson's version won't run, of course, since it tries to evaluate LN(0).

Changing the integration bounds to 1e-38 and 0.9999999 shouldn't affect the 12-digit result, but even Simpson 3/8 with 19500 intervals performs badly on this one:

```
Program Simpson_3_8;
var a, b, h, s1, s2, x: real;
                     n: integer;

function f(x: real): real;
begin
  f:=Sqrt(x)/(x-1)-1/Ln(x)
end;

begin
  ClrScr;
  Write('A, B, N: ');
  ReadLn(a, b, n);
  n:=3*n;
  h:=(b-a)/n;
  s1:=0;
  s2:=0;
  x:=a+h;
  repeat
    s1:=s1+f(x+2*h);
    s2:=s2+f(x)+f(x+h);
    x:=x+3*h
  until x>a+(n-3)*h;
  s2:=s2+f(x)+f(x+h);
  WriteLn(3*h/8*(f(a)+f(b)+2*s1+3*s2))
end.

------------------------------

A, B, N: 1e-38 0.9999999 6500
  3.6498295709E-02
```

Anyway, this is a tough integral for numerical methods:

http://www.cs.berkeley.edu/~wkahan/Math128/INTGTkey.pdf

Integration speeds: JK's HP 34C review

*Message #9 Posted by **Karl Schneider** on 4 May 2010, 1:50 a.m.,*
in response to message #2 by Gene Wright

> Quote:
>
> *(Gene Wright)* did some additional comparisons of this integration program with the examples given in *(an)* HP-34C review from the PPC Journal V6N5P19-20.

Gene --

Thanks for presenting the table. The author's review of the HP-34C was favorable, yet he chose six integrals that, in a sense, made the HP-34C's INTEG capability 'look bad' by comparison to 16-point Gaussian quadrature. The GQ results, the author points out, were at least as accurate and were obtained in less time. Furthermore, they were produced by an RPN routine programmed on the HP-34C -- not a built-in microcoded function. He speculates that the GQ approach "may not have been used by HP because of internal storage requirements."

Maybe so, but I notice that all the examples utilized very well-behaved integrands over narrow intervals, for which even simple methods will tend to produce good results. HP's objective in this inaugural effort was robustness and practicality -- to provide sufficiently-accurate real-world results in science and engineering without the user's having to specify the number of evaluations, or avoid endpoints for which the function was undefined, or risk wrong answers due to an inadequate sampling rate for a periodic function.

I do note that the GQ program uses all 21 storage registers and consumes 40 lines of programming. The user's program defining the integrand must not employ any register, because no unused ones are available. It also cannot exceed 30 lines, lest register R19 ('.9') be *automatically* deallocated, rendering the GQ program inoperative. (Score a point for the successor HP-15C and its *manual* memory allocation.)

The exact value for the fifth integral is 6 - 236*e^(-5) = 4.40984450821.

The exact value for the sixth integral is 3*pi/96 = 0.0981747704247.

The HP-34C GQ result and timing for the "Kahan integral" in the paper linked by Gerson:

```
f(x) = sqrt(x)/(x-1) - 1/ln(x)
0 <= x <= 1
```

At each endpoint, f(x) is undefined but does approach zero, as shown by limit analysis. From x = 0.000, f(x) rises quickly to a 'smooth' local maximum of 0.117680329841 at x = 0.00473796324935, then gradually and monotonically declines to a local minimum of ...
-0.117680329841 at x = 211.061155894 (which is 1 / 0.00473796324935), as this function has the property f(1/x) = -f(x) for all x (where defined).

The derivative:

$$df/dx = \frac{1}{x(\ln x)^2} - \frac{(x+1)}{2\sqrt{x}(x-1)^2}$$

The exact value of the integral is (2 - ln 4 - gamma), where gamma is the Euler-Mascheroni Constant of 0.577215664901532...

```
FIX 5            FIX 6           'Exact'        Gaussian


0.03661813695  0.03649023200  0.036489973980   0.0364900935
19 seconds      268 seconds                      45 seconds
```

The 16-point GQ outperforms the built-in Romberg method in this instance, too. Over this short interval of [0, 1], the 16 points seem to provide adequate coverage for high accuracy, and it does not evaluate at endpoints -- a definite 'plus' in this instance.

The highly-accurate GQ result might have been 'dumb luck', as no evaluation point (node) fell between zero and 0.004738.

I do wonder about its performance over large intervals with erratic integrands, but the Gauss - Kronrod method (used by the TI-82 and likely its successors) handles that situation by comparing the difference between estimations and taking more evaluations as necessary, much as HP's modified Romberg method does.

I may add a section to my HP Articles Archive contribution (#556), with a deeper analysis of this integral and computational methods.

Gerson said above:

> Quote:
>
> ... but even Simpson 3/8 with 19500 intervals performs badly on this one:
>
> 3.6498295709E-02
>
> Anyway, this is a tough integral for numerical methods:

In reasonable amounts of time with endpoints of 1E-8 and 1 - 1E-8, the Casio fx-115MS obtains 0.0365 using Simpson's Rule at 512 points, but the successor fx-115ES obtains 0.03648997346 using Gauss-Kronrod (and, I might add, a perfect answer of 0.03648997398 using 1E-10 and 1 - 1E-10 as the endpoints). Then, after a period of inactivity, they shut themselves off and forgot the integrals I'd entered...

Gene said below:

> Quote:
>
> Karl, what I'd rather do is make sure you get an HP 30b soon to try your hand at programming it for things like this.

Nah, I'd rather not program things that should be built into a calculator, even though the HP-30b is a business model. Besides, the HP-34C LED 'light show' should be played from time to time...

-- KS

Edited: 11 May 2010, 11:48 a.m. after one or more responses were posted

Re: Integration speeds: JK's HP 34C review

*Message #10 Posted by **Gene Wright** on 4 May 2010, 10:11 a.m.,*
in response to message #9 by Karl Schneider

Karl, what I'd rather do is make sure you get an HP 30b soon to try your hand at programming it for things like this.

In the meantime, I'd be glad to try the routines I've translated for some integrals if you care to suggest some examples.

Or... if you know of an RPN program to do integration that doesn't do lots of X<> IND Z or DSE Y type of stuff, I could try translating that. The 30b stack behavior is slightly different than the HP 41 style "RPN" since it has some RPL tendencies, so sometimes complicated stack-using programs are a pain to translate.

Re: Integration speeds: JK's HP 34C review

*Message #11 Posted by **Gerson W. Barbosa** on 10 May 2010, 4:54 p.m.,*
in response to message #9 by Karl Schneider

Hello Karl,

Thanks for taking the time to do all these analyses and comparisons among different integrating methods.

> Quote:
>
> The 16-point GQ outperforms the built-in Romberg method in this instance, too. Over this short interval of [0, 1], the 16 points seem to provide adequate coverage for high accuracy, and it does not evaluate at endpoints -- a definite 'plus' in this instance.

I had seen JK's program before but I never bothered keying it into the 34C. I will try it later on my double-speed 15C.

Regards,

Gerson.

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OT: Ed Roberts obituary

*Message #1 Posted by **Ken Shaw** on 28 Apr 2010, 10:28 a.m.*

The originator of the Altair-8800 minicomputer has died. May be of some interest to those here.

Obit here:

http://www.guardian.co.uk/technology/2010/apr/26/ed-roberts-obituary

Re: OT: Ed Roberts obituary

*Message #2 Posted by **Thomas Chrapkiewicz** on 29 Apr 2010, 12:26 a.m.,*
in response to message #1 by Ken Shaw

Good to see someone else noticed; I posted this:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv019.cgi?read=165317#165317

3 weeks ago and didn't see much interest!!!

TomC

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12c firmware

*Message #1 Posted by **Paul Dale** on 28 Apr 2010, 8:47 a.m.*

Has anyone with the new 12c attempted to download firmware from the 10c, 11c or 16c onto it?

I.e. find where the original 12c ROM lives in the image and replace that with a ROM image for one of the others.

The 15c is less likely to work since the ROM is twice the size.

- Pauli

Re: 12c firmware

*Message #2 Posted by **Scott Newell** on 28 Apr 2010, 9:04 a.m.,*
in response to message #1 by Paul Dale

Interesting...how would you do it?

As I understand the 12C+ (not having found one yet), there is no JTAG port, so no way to pull the existing firmware out as we did with the 20B. Booting into the AT91SAM7L128 serial bootloader will erase the firmware from the calc.

Once you have the firmware, you'd still need to find the 10C, 11C, or 16C image. Last time I checked, they'd been removed from the nonpareil distribution. (Which leads me to think that it might still be a fun project, yet not something that could be publicly distributed without upsetting someone...)

Re: 12c firmware

*Message #3 Posted by **Katie Wasserman** on 28 Apr 2010, 9:25 a.m.,*
in response to message #2 by Scott Newell

> Quote:
>
> As I understand the 12C+ (not having found one yet), there is no JTAG port, so no way to pull the existing firmware out as we did with the 20B. Booting into the AT91SAM7L128 serial bootloader will erase the firmware from the calc.

That's all correct.

It's also possible that there are some patches to the original 12c firmware to handle certain timing issues -- I'm just speculating on this based on some comments Cyrille made here in the past.

However it's still a neat calculator to re-purpose even if you have to start nearly from scratch. It's in the perfect format with a highly readable display and great keys not to mention a very fast processor.

-Katie

(deleted post)

*Message #4 Posted by **deleted** on 28 Apr 2010, 11:05 a.m.,*
in response to message #3 by Katie Wasserman

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: 12c firmware

*Message #5 Posted by **Gene Wright** on 28 Apr 2010, 11:21 a.m.,*
in response to message #4 by deleted

I think we should work to get Scott Newell an HP 12c+.

That will go a LONG way to getting us a scientific in a voyager case.

Re: 12c firmware

*Message #6 Posted by **Scott Newell** on 28 Apr 2010, 11:23 a.m.,*
in response to message #5 by Gene Wright

> Quote:
>
> I think we should work to get Scott Newell an HP 12c+.
>
> That will go a LONG way to getting us a scientific in a voyager case.

Don't be too sure. I've got a bad habit of starting projects and losing interest or never finishing them. After all, it's been what, 2+ years since I did any 20B hacking?

I think I've got a line on a 12C+. Should know by the weekend.

Re: 12c firmware

*Message #7 Posted by **Katie Wasserman** on 28 Apr 2010, 11:43 a.m.,*
in response to message #6 by Scott Newell

Scott,

Let me know if you want a beta tester, or even an alpha tester.

-Katie

Re: 12c firmware

*Message #8 Posted by **Scott Newell** on 1 May 2010, 4:10 p.m.,*
in response to message #6 by Scott Newell

> Quote:
>
> I think I've got a line on a 12C+. Should know by the weekend.

I now have a 12C+! I may play with it a day or so in stock form before hacking it, since there's no way (yet?) to restore it to a 12C.

Re: 12c firmware

*Message #9 Posted by **Scott Newell** on 28 Apr 2010, 11:21 a.m.,*
in response to message #3 by Katie Wasserman

> Quote:
>
> It's also possible that there are some patches to the original 12c firmware to handle certain timing issues -- I'm just speculating on this based on some comments Cyrille made here in the past.

Same thoughts here. I've also wondered if maybe the emulator got tweaked a bit to save power when the calc wasn't busy.

Re: 12c firmware

*Message #10 Posted by **bill platt** on 28 Apr 2010, 11:01 a.m.,*
in response to message #1 by Paul Dale

I thought the rom of the 12c was really big--to handle all the financials. You say the 15c rom was bigger? Is this a fact, or speculation?

Re: 12c firmware

*Message #11 Posted by **Katie Wasserman** on 28 Apr 2010, 11:20 a.m.,*
in response to message #10 by bill platt

The 11c, 12c and 16c all have the same ROM size (about 55,000 bytes) while the 15C's ROM is twice as big. ROM in the ARM chip that HP is currently using (AT91SAM7L128) is 128K and given that you'd need the emulator in there too it would be hard to fit without some sort of compression. There's a similar 256K chip (AT91SAM7S256) but it has a higher current draw and would have to run a a lower speed and have a shorter battery life in the off state.

-Katie

Edited: 28 Apr 2010, 11:41 a.m. after one or more responses were posted

Thanks Katie (NT)

*Message #12 Posted by **bill platt** on 28 Apr 2010, 11:38 a.m.,*
in response to message #11 by Katie Wasserman

.

Re: 12c firmware

*Message #13 Posted by **Scott Newell** on 28 Apr 2010, 11:55 a.m.,*
in response to message #11 by Katie Wasserman

> Quote:
>
> The 11c, 12c and 16c all have the same ROM size (about 55,000 bytes) while the 15C's

> ROM is twice as big. ROM in the ARM chip that HP is

From what I remember of the ROM files in the old nonpareil distribution, that's not correct. I think they are much smaller.

Maybe Eric Smith will chime in.

Re: 12c firmware

*Message #14 Posted by **Monte Dalrymple** on 28 Apr 2010, 1:15 p.m.,*
in response to message #13 by Scott Newell

The 10c, 11c, 12c and 16c used 6144 (0x1800) 10-bit words of ROM.

The 15c used 12288 (0x3000) 10-bit words of ROM.

RISC might be fast but it sucks big-time for code density.

Edited: 28 Apr 2010, 1:17 p.m.

Re: 12c firmware

*Message #15 Posted by **Paul Dale** on 28 Apr 2010, 6:19 p.m.,*
in response to message #11 by Katie Wasserman

> Quote:
>
> The 11c, 12c and 16c all have the same ROM size (about 55,000 bytes) while the 15C's ROM is twice as big.

The nonpareil ROM images are 55k but are text in a not even remotely compacted format: 4 digits of address, a colon, three digits of code and a new line. i.e. 9 characters per ten bits. Looks like about 6150 lines of real code there.

Anyway, the reason I thought the 15c firmware would be harder isn't due to it fitting or not, there should be plenty of flash space free. Rather, it would be due to there not being space to just dump it into the firmware in place.

We need to get a flash dump somehow to experiment :-)

- Pauli

Re: 12c firmware

*Message #16 Posted by **Katie Wasserman** on 28 Apr 2010, 9:18 p.m.,*
in response to message #15 by Paul Dale

> Quote:
>
> The nonpareil ROM images are 55k but are text in a not even remotely compacted format: 4 digits of address, a colon, three digits of code and a new line. i.e. 9 characters per ten bits. Looks like about 6150 lines of real code there.

Yes indeed, I stand corrected.

I count 14,336 10-bit words in the 15C emulator image, but some of this might be more than in the original ROM.

-Katie

Re: 12c firmware

*Message #17 Posted by **Eric Smith** on 29 Apr 2010, 6:20 p.m.,*
in response to message #11 by Katie Wasserman

The 10C, 11C, 12C, and 16C ROM is 61440 *bits*, which is under 8K bytes.

The 15C has two ROMs of that size.

Re: 12c firmware

*Message #18 Posted by **hugh steers** on 28 Apr 2010, 5:35 p.m.,*
in response to message #1 by Paul Dale

Are HP prepared to give out the current 12C+ rom image. this would be so as to flash the new 12c+ back to being a calculator after hacking?

would like to try some hacks.

Re: 12c firmware

*Message #19 Posted by **Eric Smith** on 29 Apr 2010, 6:21 p.m.,*
in response to message #18 by hugh steers

I rather doubt it, but I'm not in any better position to know than you are.

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HP Forum Archive 19

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HP Calculator Colors

*Message #1 Posted by **aj04062** on 27 Apr 2010, 8:34 p.m.*

Has anyone ever seen the Pantone or RGB colors of the various HP calculators?

Re: HP Calculator Colors

*Message #2 Posted by **Tim Wessman** on 27 Apr 2010, 11:20 p.m.,*
in response to message #1 by aj04062

Yes. :-)

TW

(only for some modern units through, either there never were specified pantones, or they have been lost over time)

Re: HP Calculator Colors

*Message #3 Posted by **aj04062** on 28 Apr 2010, 8:59 p.m.,*
in response to message #2 by Tim Wessman

do you know the number for a HP-55?

Re: HP Calculator Colors

*Message #4 Posted by **Gene Wright** on 29 Apr 2010, 10:10 a.m.,*
in response to message #3 by aj04062

Since Tim said "only for the modern ones", do you really expect he would have the HP-55 from 1974/1975?

I imagine that "modern ones" might be from 2000->

So, the answer I predict is "Of course not".

Re: HP Calculator Colors

*Message #5 Posted by **Etienne Victoria** on 29 Apr 2010, 11:53 a.m.,*
in response to message #4 by Gene Wright

I agree,

However, your mileage may vary :-)

To me, "modern" means post Hp-65.

Best

Etienne

Re: HP Calculator Colors

*Message #6 Posted by **Tim Wessman** on 29 Apr 2010, 12:16 p.m.,*
in response to message #5 by Etienne Victoria

Some of us weren't even born until 10 years later. . . :-)

TW

Re: HP Calculator Colors

*Message #7 Posted by **bill platt** on 29 Apr 2010, 12:28 p.m.,*
in response to message #6 by Tim Wessman

Actually that makes me think of something. I was around ten when the HP 67 came out. Boy was that thing a marvel. Not that I had a lot of chances to use one, but I did get the chance to play moon lander on it--and that experience was never forgotten. It was cool high technology the latest and greatest.

Fast forward to today. My own kids think these old calculators are sort of neat, but they are totally enamored (well, I wouldn't say unthinkingly so) of the ipod and smart cell phones.

When they are 40, are they going to look back at the iphone the way I look back to the HP 67?

Re: HP Calculator Colors

*Message #8 Posted by **Dimitri Simitas** on 29 Apr 2010, 2:32 p.m.,*
in response to message #7 by bill platt

> Quote:
>
> When they are 40, are they going to look back at the iphone the way I look back to the HP 67?

No because they will remember them as junk. The HP67 had a use, was relatively new technology, and still works making the dream to own one again possible for you. Most people I know who bought iPods when they first came out already have replacements because they broke down.

Dimitri

Re: HP Calculator Colors

*Message #9 Posted by **Vieira, Luiz C. (Brazil)** on 2 May 2010, 7:32 p.m.,*
in response to message #8 by Dimitri Simitas

I second Dimitri´s thoughts.

Some years ago I wondered about the same subject, including whatever we have today. I am not a collector in the sense I would not have an item just to complete a

collection. I just try to keep working units with features I need or want.

I also have some cassette decks and recorders, most of them are Philips from the 70´s up to mid 80´s. Those were built to last, and almost all of them are serviceable with components available nowadays. I also happen to have some equipments from other origins, mostly Japanese, but they are not serviceable as well because some components are no longer available. In fact, with a few exceptions, most of the European sound equipment form that time are still serviceable and most of their electronics can be found today. And for me they are kind of working technology register, far better then reading about them in books or wondering about them in service manuals.

What can we tell about the new equipments? They are built to trash, not to last. Once their lifetime expires, kiss them good bye. We all know the HP41 and its internal user (RAM) memory. The HP41CV offers 2240 bytes (2237 if we consider the permanent .END. cannot be used) for program and register storage, and so too many things were created with that we can´t tell. Today many users happen to stuff 64 GByte pendrives with MP3- and JPG- and MPG- files, leaving no space for serious business. This kind of data is also volatile, meaning that in a couple of years -if that further- these MP3, MPG and JPG files will no longer be of interest. And the device itself will be too 'small' to store the silliness these users will want to store in then.

The iPods surely became small, 'resourceless' and 'old', and I'd not count on people telling 'how good they were back then'.

Cheers.

Luiz (Brazil)

Edited: 2 May 2010, 7:34 p.m.

Re: HP Calculator Colors

*Message #10 Posted by **Manatee** on 29 Apr 2010, 2:43 p.m.,*
in response to message #7 by bill platt

I doubt it will be the same for the iPhone. The whole concept of having a powerful hand-held device just isn't new any more. Sure, the iPhone has some great capabilities, but it doesn't feel as "new and special" as the early calcs.

I do wonder, though, what device _will_ have that cachet to today's teens in the future, the way calculators appeal to me. Maybe hand-held game machines.

Btw, crazy as it may sound, I've hung on to each version of the iPhone as I buy the new ones. I have no love for them, though, because all the delight comes from the software. I'd get a greater rush holding a dead HP-67 in my hand and tapping on the clicky buttons.

Re: HP Calculator Colors

*Message #11 Posted by **Gene Wright** on 29 Apr 2010, 3:13 p.m.,*
in response to message #10 by Manatee

I'm not so sure the same thing won't repeat itself.

My son, who is just 20, already wishes he had held onto his first iPod. Will probably buy one for him so he always has it.

Sure...when he is 60, the idea of 20GB of storage on an iPod will seem ridiculously small, but I think there will be many who remember their youth this way.

Re: HP Calculator Colors

*Message #12 Posted by **Manatee** on 29 Apr 2010, 4:01 p.m.,*
in response to message #11 by Gene Wright

The original iPod is certainly iconic. I've kept my original 5GB (mechanical click wheel, Fire-wire only) from 2001, along with all the packaging. I've kept several others, too.

Maybe it's because of the hard lesson learned from letting go of my dead HP-25C, about 30 years ago. I still haven't managed to replace it. Shouldn't be hard, though... A dead what would be as good as what I had.

Re: HP Calculator Colors

*Message #13 Posted by **David Hayden** on 29 Apr 2010, 4:16 p.m.,*
in response to message #7 by bill platt

I'm not sure that the iPhone will have the same nostalgia value as the HP 67 because it isn't such a huge leap in technology. I think the relatively big advances that occurred over the past 10 years that kids will be nostalgic about are:

- the iPod
- the cell phone
- the Nintendo Wii

I look forward to one day telling my grandchildren about the bizzare old days when telephones were permanently plugged into the wall and had to use a thing called a typewriter to write papers.

"But grandpa, how did people call you when you went to work?"
"There was a separate phone at work. But get this: it had a different number. So you had to tell people both numbers and they'd call whichever one they thought you might be at"
"Well that's just DUMB grandpa!"

Re: HP Calculator Colors

*Message #14 Posted by **Marcus von Cube, Germany** on 29 Apr 2010, 6:04 p.m.,*
in response to message #13 by David Hayden

There will be some problems with the iPhoe in the (not so distant) future:

The battery is toast and irreplaceable.

iTunes will have ceased to exist, no way to put anything on the device.

The cellular networks will have emerged in a way that the iPhone will be useless, even if it would still be in good shape.

A classic HP calculator will still be useful.

Re: HP Calculator Colors

*Message #15 Posted by **bill platt** on 29 Apr 2010, 8:07 p.m.,*
in response to message #14 by Marcus von Cube, Germany

Good summation.

Re: HP Calculator Colors

*Message #16 Posted by **sylvandb** on 30 Apr 2010, 1:30 a.m.,*
in response to message #14 by Marcus von Cube, Germany

> Quote:
>
> There will be some problems with the iPhoe in the (not so distant) future:
>
> The battery is toast and irreplaceable. ... A classic HP calculator will still be useful.

The battery in an iPhone is replaceable just like rechargeable battery packs for classic HP calculators. It's a module, maybe with wires soldered (in the 1st generation) to the motherboard. Whoopee.

There are kits and 3rd party service providers today if you need a battery replacement.

As for the rest... Well, the iPod Touch is an iPhone without cell service and people find it useful. Furthermore people have "jail broke" them both to put non-Apple software on them without using iTunes and for their own purposes.

I'm not saying that an iPhone/iPod will have the market in 30-40 years that old HP calcs had at that age, but it seems disingenuous to claim that an old iPhone will be significantly more useless than an old HP calculator. Maybe you could run free42 on your old iPhone...

I was given a mint HP 67 with several software packs, manuals, etc. that the owner considered useless. I purchased a 41cx in very good condition that the owner considered useless. Both had been sitting unused for years.

I'm sure many people will feel the same as those owners did when thinking about a 30 year old iPhone, and I am equally sure that some people will find that phone desirable and maybe even useful.

Re: HP Calculator Colors

*Message #17 Posted by **Thomas Okken** on 30 Apr 2010, 12:24 a.m.,*
in response to message #7 by bill platt

> Quote:
>
> My own kids think these old calculators are sort of neat, but they are totally

> enamored (well, I wouldn't say unthinkingly so) of the ipod and smart cell phones.
> When they are 40, are they going to look back at the iphone the way I look back to the HP 67?

I was fortunate enough to get a Sinclair Scientific when I was 11 years old, and an HP-25 about two years later. I wrote my first computer programs (in BASIC) on a friend's dad's Commodore PET, and, with a little help from my dad, on the local university's mainframe (in ALGOL-60, good times!). By the time I got to college, I was programming the Commodore 64 and the first generation Macintosh.

From that first scientific calculator to the Commodore 64 was all just one cool adventure. Don't get me wrong, it's not like I didn't have a life outside of this -- I loved spending time with friends, being outdoors, etc., just as much then as I do now. But that newfangled digital technology was just, well, really really *new*.

By the time I started programming on the Macintosh in the mid- to late '80s, the novelty was starting to wear off. I was learning GUI APIs, learning how to write "real" applications, i.e. the kind of stuff that people want to use because it helps them with their jobs, as opposed to the stuff that people run just because it's cool.

I have no regrets about making that transition; the "boring", "just useful" stuff, it pays my bills with plenty left to spare...
But the fun and excitement of those early years, that's gone. I haven't felt excited about digital technology since more than 20 years ago. Sure, stuff like the iPhone is neat, but in the end, it's just more of the same. Things keep getting smaller and faster and just generally better and easier to use... but the sense of something truly *new*... That's gone.

It seems to me that the young 'uns (as in, anyone born in the late '70s or later) never had the chance of experiencing that sense of excitement to begin with... and so they'll never have the kind of nostalgia that I sense on this forum and other places that celebrate the technology from the early days.

Re: HP Calculator Colors

*Message #18 Posted by **aj04062** on 30 Apr 2010, 8:49 p.m.,*
in response to message #17 by Thomas Okken

well this thread wander way the hell from the original question :<

Re: HP Calculator Colors

*Message #19 Posted by **Thomas Okken** on 30 Apr 2010, 11:13 p.m.,*
in response to message #18 by aj04062

> Quote:
>
> well this thread wander way the hell from the original question :<

I guess it did... but what does :< mean? "I have a mustache like Jamie Hyneman"? :-D

Re: HP Calculator Colors

*Message #20 Posted by **Brian Walsh** on 2 May 2010, 1:01 a.m.,*
in response to message #1 by aj04062

No, but I have a blue 41 case John Dearing had. It's an attention grabber.

One of these days I should transfer the CX guts into it. Perhaps a project when Geoff's book comes out.

Re: HP Calculator Colors

*Message #21 Posted by **Paul Dale** on 2 May 2010, 3:45 a.m.,*
in response to message #1 by aj04062

My previous work has a magic colour measuring device that returns the top couple of pantone matches for what you're scanning. I might be able to get access to it if enough people are interested. Of course, my collection isn't varied.

On a positive note, I'm employed again as of the 10th... Beware autonomous psychotic tractors :-)

- Pauli

Re: HP Calculator Colors

*Message #22 Posted by **aj04062** on 2 May 2010, 10:23 a.m.,*
in response to message #21 by Paul Dale

I'd like to know what color the green is on the classic series...

Re: HP Calculator Colors

*Message #23 Posted by **Walter B** on 2 May 2010, 5:45 p.m.,*
in response to message #22 by aj04062

> Quote:
>
> I'd like to know what color the green is on the classic series...

:-? Never seen anything like *green* on a Classic. Grey, blue, gold, black, white, ... but no green. Please specify.

Re: HP Calculator Colors

*Message #24 Posted by **Martin Pinckney** on 2 May 2010, 8:00 p.m.,*
in response to message #23 by Walter B

From the HP 70 page on this site:

> Quote:
>
> What some people remember most about this model was its color scheme. Its pale green/beige body with keys in black, gray, white and bold orange was quite distinctive.

Re: HP Calculator Colors

*Message #25 Posted by **Walter B** on 3 May 2010, 1:39 a.m.,*
in response to message #24 by Martin Pinckney

Thanks Martin, I stand corrected. I was taking the keys only. I admit I don't own an HP-70, however, and won't strive for one since it's a) financial and b) ugly in my eyes.

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HP Forum Archive 19

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Repairing a HP41 Printer?

*Message #1 Posted by **Dimitri Simitas** on 27 Apr 2010, 2:41 p.m.*

I finally am running my printer, but the paper doesn't advance enough and it prints ontop of the old. If I click Paper Advance 3 times it will print underneath, clicking 4 times gives alittle more space. Using original HP paper that came in the package with the printer still in its original 6 roll HP box.

Does not matter if I am plugged in or just running on batteries, as it does the same thing.

Any ideas?

Thank you.

Dimitri

Re: Repairing a HP41 Printer?

*Message #2 Posted by **Michael de Estrada** on 27 Apr 2010, 2:50 p.m.,*
in response to message #1 by Dimitri Simitas

Paper advance rollers are probably flat spotted. Sometimes you can work them back into round, but usually they have to rebuilt.

Re: Repairing a HP41 Printer?

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 27 Apr 2010, 2:57 p.m.,*
in response to message #1 by Dimitri Simitas

Hi;

there are two small springs, in both left and right tips of the cog that pulls the paper, that control the pressure made over the printed paper. Are they in place? Also the rubber-like (kind of a polymer) rings in the same cog may be either contaminated (dirty) or wear. Should check it.

I also have a printer that does not pull the paper because the rubber belt that connects the motor pulley to the cog mentioned above is loose and it slips.

Cheers.

Luiz (Brazil)

Re: Repairing a HP41 Printer?

*Message #4 Posted by **David Hayden** on 27 Apr 2010, 10:21 p.m.,*
in response to message #1 by Dimitri Simitas

I think Geoff Quickfall's calculator repair book will cover this. I have a busted printer for the 41 also, as well

as a card reader with gummy rollers. I'm planning to get Geoff's book when he's done and trying to repair them myself.

Re: Repairing a HP41 Printer?

*Message #5 Posted by **Dimitri Simitas** on 30 Apr 2010, 7:45 p.m.,*
in response to message #1 by Dimitri Simitas

Thank you guys. I was wondering if you had any dis assembly tips.

Dimitri

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HP 25 Woodstock

*Message #1 Posted by **timw** on 27 Apr 2010, 9:48 a.m.*

Hi, I am wondering what the general consensus is regarding the fragility of the HP 25. Does the HP 25 survive an over voltage condition as seen when the charger is used without a battery pack ?

I believe the HP 25 uses PMOS technology which is less sensitive to overvoltage than CMOS or NMOS - is this true ?

I have looked through the archives and found plenty of cases where a HP 29C (and to a lesser extent the HP 25C) is destroyed by the charger over voltage when the battery is not making good contact or is not fitted. Most authors point to the CMOS ROMS as being destroyed, rendering the calculator useless.

I do not recall seeing any examples of a HP 25 or 21 being destroyed in this manner.

What is your experience with the 25/25C/29C ?

Regards, tjw.

Re: HP 25 Woodstock

*Message #2 Posted by **Jim Horn** on 27 Apr 2010, 11:45 a.m.,*
in response to message #1 by timw

My HP-25 (non-C) is dead, perhaps for that reason. The charger has been lost for many years but replacing the NiCd batteries with regular AA (alkaline) cells doesn't turn it on. Right now it's in storage so I can't debug it.

My first calculator - wish it still works!

Re: HP 25 Woodstock

*Message #3 Posted by **Kees van der Sanden** on 27 Apr 2010, 1:16 p.m.,*
in response to message #1 by timw

From a technical point of view I don't see a reason why PMOS is less sensitive to overvoltage than CMOS or NMOS. The main reason for damage due to overvoltage is gate oxide breakdown. This breakdown depends on the oxide thickness and the quality of this oxide. The thinkness of this gate oxide is decreasing by each technology generation. This is a reason why the supply voltage of modern chips is also decreasing. It could be that the CMOS chips used in the C models were made in a new and less mature CMOS process compared to the standard PMOS technology in that time.

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Some progress (HP 85B)
*Message #1 Posted by **Olivier De Smet** on 27 Apr 2010, 6:30 a.m.*

Hi, just some pictures for my last project.

http://sites.google.com/site/olivier2smet2/hpseries80/fpga-hp85b

Bye

Re: Some progress (HP 85B)
*Message #2 Posted by **J-F Garnier** on 1 May 2010, 5:11 a.m.,*
in response to message #1 by Olivier De Smet

Great project, congratulation!

I see that the CPU is ok now. Let us know the next progress...

J-F

Edited: 1 May 2010, 5:25 a.m.

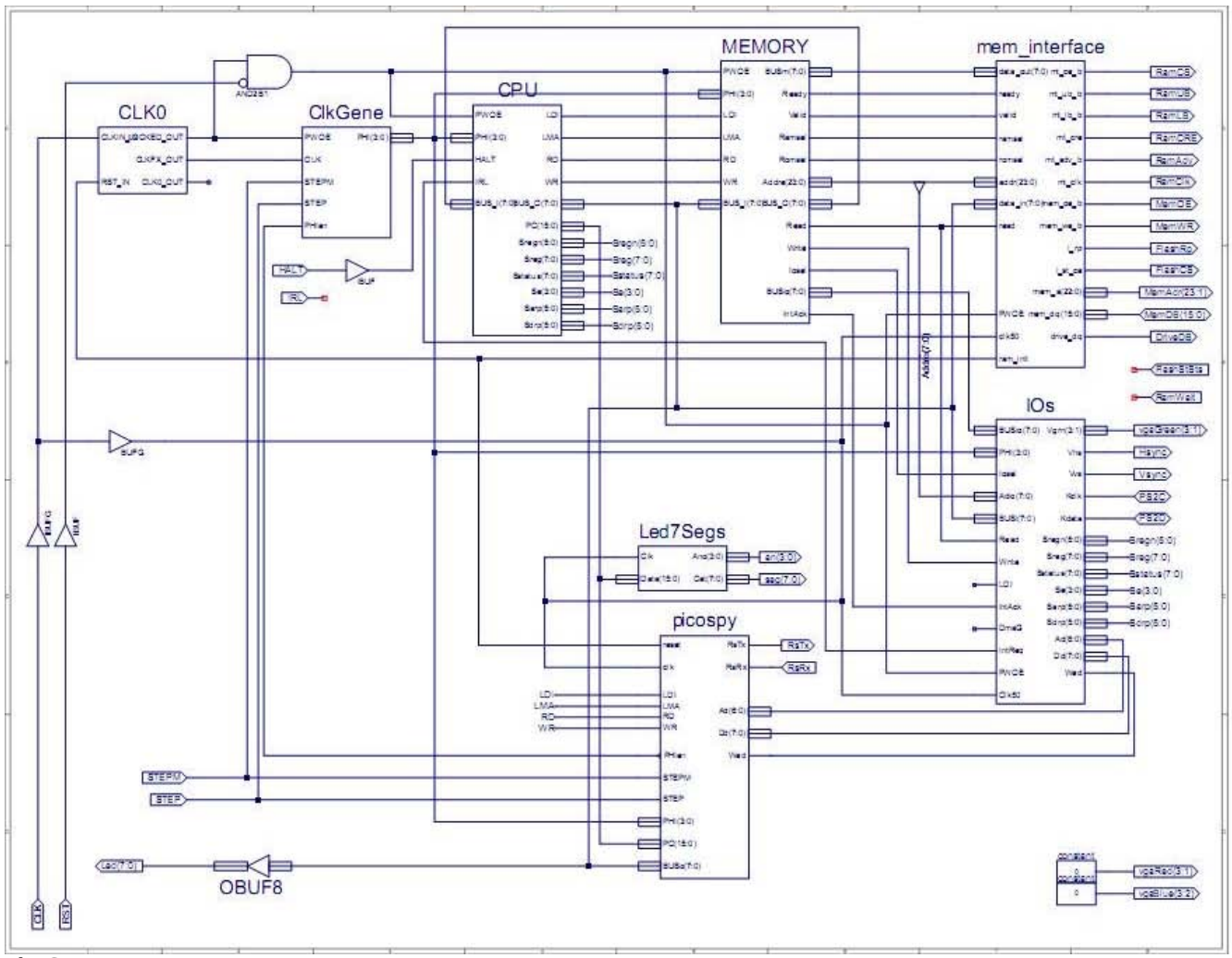
Re: Some progress (HP 85B)
*Message #3 Posted by **Juergen Keller** on 1 May 2010, 4:11 p.m.,*
in response to message #1 by Olivier De Smet

Are there any technical background information?

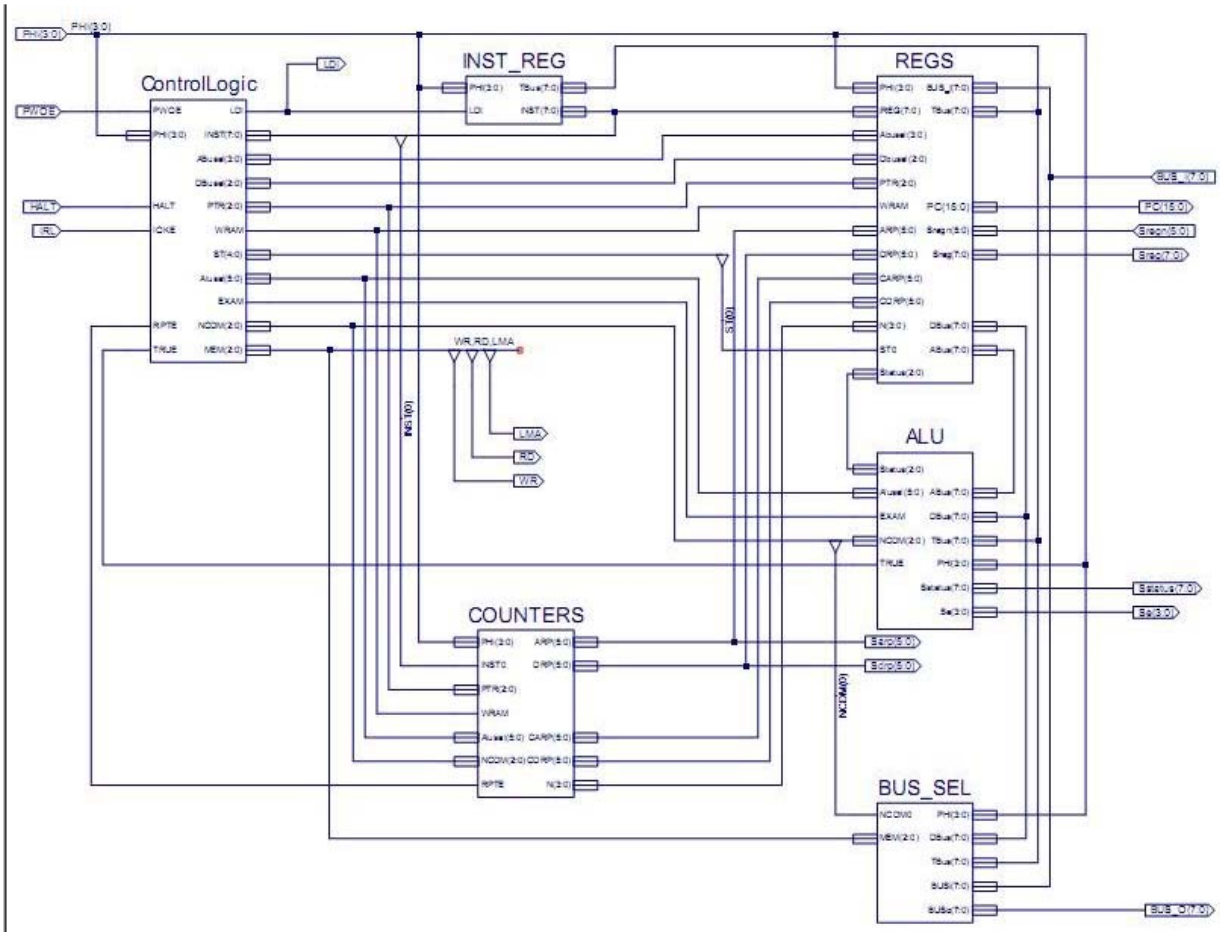
Re: Some progress (HP 85B)
*Message #4 Posted by **Olivier De Smet** on 2 May 2010, 3:01 a.m.,*
in response to message #3 by Juergen Keller

My main source is the patent # 4424563 for the description of the CPU. For the system I used the Assembler manual and other HP publications.

The global structure


MEMORY
mem_interface
CPU
CLK0
ClkGene
IOs
Led7Segs
picospy
OBUF8
BUFG
HALT
IRL
STEPM
STEP
CLK
RST

The CPU



I used fig. 1 of the patent to structure the fpga project :

- schematics to structure the system
- some verilog for ALU and Control Logic

For the global system I added a picoblaze controler to 'hypervise' the system with the serial link of the board:

- step CPU
- trace until PC
- ...

But now I think I have some timing problem with the Strataflash on the Nexys2 board. Sometimes the CPU can't 'read' the rom ...

Edited: 2 May 2010, 3:05 a.m.

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25 and/or 25c Repair

*Message #1 Posted by **J Grim** on 26 Apr 2010, 11:22 p.m.*

I recently acquired a couple of 25's (actually, a 25 and a 25c). Both had what appeared to be replacement batteries and the the battery pack holder modified to accommodate the new batteries. A wall charger was included with these. Neither unit would power on, so I assume the batteries are shot. I did not plug them in for fear of frying them. In the 25, I tried a fully charged, fairly new set of NiMH batteries and still no power.

At this point, I suspect the previous owner may have tried plugging them in via the wall charger and perhaps they are already fried. Does anyone have experience diagnosing these or any suggestions as far as who I could send them to for repair/diagnosis? It would be sweet if these were more than just "display" models (attractive as they may be). :-)

Thanks,

J Grim

Re: 25 and/or 25c Repair

*Message #2 Posted by **Michael de Estrada** on 27 Apr 2010, 12:14 a.m.,*
in response to message #1 by J Grim

I would suggest contacting fixthatcalc

Unfortunately, if those calculators, codenamed Woodstock, are connected to the AC adapter w/o a good NiCad battery pack installed, serious damage usually occurs to the electronic components.

Re: 25 and/or 25c Repair

*Message #3 Posted by **JGrim** on 27 Apr 2010, 9:02 a.m.,*
in response to message #2 by Michael de Estrada

Thank you. I had read that that might be the case. I don't know if the previous owner did plug them in or not, but I am afraid that he did. Oh well, if they are not repairable, at least they are nice to look at and I did not spend that much to get them.

Thanks again,

J Grim

Re: 25 and/or 25c Repair

*Message #4 Posted by **Michael Meyer** on 27 Apr 2010, 12:11 p.m.,*
in response to message #3 by JGrim

Hi J!

Don't give up yet. You've got nothing to lose by opening them up and seeing if corrosion is the problem. Have you tried connecting an external power supply to the battery contacts?? (Not a supplied charger, but 3V directly?) Usually, when these are powered incorrectly and the ACT chip goes, there should still be some kind of display... random or flashing LED's. If there's nothing in the display, other (maybe fixable) problems could exist.

If you're not familiar with fixing these, have someone else take a look. I don't have the experience that Randy and Tony and others have, but I'm not too shabby, and I'd be happy to take a look at them for free. Don't know how close we are... you list Iowa, and I'm in Omaha. All I can promise is that they won't be returned working less well than they are now <grin>.

The HP-25 was truly my first love; I get great satisfaction in making them intact again.

Re: 25 and/or 25c Repair

*Message #5 Posted by **J Grim** on 27 Apr 2010, 1:32 p.m.,*
in response to message #4 by Michael Meyer

Hey, thanks for the offer. It would be great to find out just what the problem is. I am not experienced/familiar with the testing or repair of these things. I did take it apart and there appears to be no PCB corrosion. However, there looks to be some minor (I hope) battery terminal corrosion. One of the old batteries that was in it had a very slight leak. I have not supplied any power to it except for putting in fairly new, charged batteries.

Please send me an email to my forum address with your mailing address and I will send you one of the units to examine. Unfortunately, Omaha is a longer drive than I want to make for this.

Thanks again,

J Grim

Re: 25 and/or 25c Repair

*Message #6 Posted by **Michael Meyer** on 28 Apr 2010, 12:34 a.m.,*
in response to message #5 by J Grim

You've got mail.

Re: 25 and/or 25c Repair

*Message #7 Posted by **J Grim** on 28 Apr 2010, 10:03 p.m.,*
in response to message #6 by Michael Meyer

Thanks, Michael. I plan to send one of these to you soon. I will email you when I do. Thanks again, Michael.

J Grim

Re: 25 and/or 25c Repair

*Message #8 Posted by **Michael Meyer** on 29 Apr 2010, 1:42 p.m.,*
in response to message #7 by J Grim

The HP-25 is generally much easier to fix than the 25C, BTW.

Michael

Re: 25 and/or 25c Repair

*Message #9 Posted by **J Grim** on 29 Apr 2010, 11:01 p.m.,*
in response to message #8 by Michael Meyer

Michael, I sent you an email, but just in case you don't check it, I am sending my 25 to you at your office on Friday via USPS. You should have it early next week.

Thank you,

J Grim

Ah... Great News!!!

*Message #10 Posted by **Michael Meyer** on 3 May 2010, 9:30 p.m.,*
in response to message #9 by J Grim

The HP-25 you sent is, indeed, a pretty specimen. There was corrosion on both contacts, but the circuit board is remarkably and unusually clean. The keyboard is perfect. The display is the older type with squarer numbers and a "regular" decimal point, which I prefer.

Some cleaning with a dremel brush and re-soldering of the contacts, and your machine is alive-- running well and programming. (Sometimes the RAM is shot and they won't program). I polished it up and removed some tape residue, and it looks great.

I've put lithium cells in, and I, personally, would recommend never using the wall charger.

Another beautiful HP-25 is alive. I will contact you by e-mail. Now... let's see if we can get that 25C to work!

Re: Ah... Great News!!!

*Message #11 Posted by **J Grim** on 4 May 2010, 12:14 a.m.,*
in response to message #10 by Michael Meyer

That's great! Thank you so much! I can't wait to get it back and put it to use.

Thanks again,

J Grim

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Spare Part Needs - Spice Series Battery Cover - More

*Message #1 Posted by **aj04062** on 26 Apr 2010, 7:59 p.m.*

I am going to create a battery cover for a Spice series calculator using the same rapid prototyping method used to make these Classic Series latches:

Is anyone else interestd in the same replacement?

Any other reproduction/scarce items needed? Goal is to be able to make comparable parts for much less than buying a donor unit (if found!)

Adam

Re: Spare Part Needs - Spice Series Battery Cover - More

*Message #2 Posted by **Paul Dale** on 26 Apr 2010, 8:05 p.m.,*
in response to message #1 by aj04062

The one that came to mind immediately is a wood stock battery holder.

Pauli

Re: Spare Part Needs - Spice Series Battery Cover - More

*Message #3 Posted by **Jeff Kearns** on 26 Apr 2010, 8:28 p.m.,*
in response to message #2 by Paul Dale

That one came to mind for me too! My HP21 has a 'roughed-up' cover.

Re: Spare Part Needs - Spice Series Battery Cover - More

*Message #4 Posted by **aj04062** on 26 Apr 2010, 8:35 p.m.,*
in response to message #3 by Jeff Kearns

I currently do not own a Woodstock series. Anyone have a battery holder in rough shape? Can be broken in two or missing pieces, as long as I can tell what was there I can reproduce it.

Edited: 26 Apr 2010, 8:36 p.m.

Re: Spare Part Needs - Spice Series Battery Cover - More

*Message #5 Posted by **db (martinez, ca.)** on 27 Apr 2010, 2:17 a.m.,*
in response to message #4 by aj04062

adam;
the woodie series battery box is kind of complicated and will need to be done in at least two parts. i have one you can scan. contact me through the forum system and i can send it to you.

a note on the spice series door: make sure the one you pattern yours after is a good fit for several units. some are tweaked and sit funny; latching, but just barely and having one edge or another standing proud of the bottom face of the calculator.

Classic series charging plug. :)

*Message #6 Posted by **tim m.** on 26 Apr 2010, 8:45 p.m.,*
in response to message #1 by aj04062

:)

Re: Classic series charging plug. :)

*Message #7 Posted by **aj04062** on 26 Apr 2010, 8:55 p.m.,*
in response to message #6 by tim m.

I hear ya Tim! I started this, but the little contact I got from Amphenol would need to get bent over or trimmed off if we wanted the calculator to still sit flush.

I stopped to see if I could find another type. I just got some samples of push contacts for an application at work (gold plated too). They are for only a .062 diameter, but if they had a bigger vs it should fit great.

I'll update you soon.

Hard to spend too much time on this as spring has sprung here in Maine and you need to take advantage while the weather is good. Winters are too long!

Re: Classic series charging plug. :)

*Message #8 Posted by **tim m.** on 26 Apr 2010, 10:03 p.m.,*

in response to message #7 by aj04062

Thanks for this update.

Ah yes, as a native New Englander I remember the nice weather. Being in northeastern Ohio, one doesn't see much of the sun. Vitamin D deficiency is actually chronic up here (no joke).

-Tim

Re: Spare Part Needs - Spice Series Battery Cover - More

*Message #9 Posted by **Gerardo Rincon** on 26 Apr 2010, 10:34 p.m.,*
in response to message #1 by aj04062

Absolutely,

I have been looking for a couple of battery covers for a Spice calculator for a long time...

Re: Spare Part Needs - Spice Series Battery Cover - More

*Message #10 Posted by **Alberto Fenini** on 27 Apr 2010, 6:45 a.m.,*
in response to message #1 by aj04062

Please, add me to the list, will it be in Blank or in Black ? Cheers Alberto

Re: Spare Part Needs - Spice Series Battery Cover - More

*Message #11 Posted by **Albert Tocar Loseggs** on 27 Apr 2010, 6:27 p.m.,*
in response to message #1 by aj04062

Hi, add me to your list. I have an HP-67 with both latches broken. A dark color should be better. Thanks! Albert.

Re: Spare Part Needs - Spice Series Battery Cover - More

*Message #12 Posted by **aj04062** on 27 Apr 2010, 7:31 p.m.,*
in response to message #11 by Albert Tocar Loseggs

right now, the least expensive method only gives me white.

are you willing to pay more for Black? I will try another vendor for black , but I think it will cost a lot more.

Cheers

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HP-12C+ source in the US?

*Message #1 Posted by **Scott Newell** on 26 Apr 2010, 7:55 p.m.*

I've been on another round of the local office supply stores, and I've yet to find a 12C+. (The ones I saw this weekend were in the white packaging, and I couldn't seem to get a good viewing angle and spy the battery door.) Is there a known online source in the US for the 12C+?

I've upgraded to a new computer, and I'm starting to feel the need for some more calculator firmware hacking...

Thanks!

Re: HP-12C+ source in the US?

*Message #2 Posted by **bill platt** on 26 Apr 2010, 9:11 p.m.,*
in response to message #1 by Scott Newell

Staples? I thought for sure I was them there.

Re: HP-12C+ source in the US?

*Message #3 Posted by **Scott Newell** on 26 Apr 2010, 9:15 p.m.,*
in response to message #2 by bill platt

I checked Staples and Office Depot Saturday. No 20B, 30B, 35S, or 50G, and the 12C units brought out from the stockroom were not obviously the new ones.

Re: HP-12C+ source in the US?

*Message #4 Posted by **Katie Wasserman** on 26 Apr 2010, 9:57 p.m.,*
in response to message #3 by Scott Newell

Is there a Fry's near you? If not, you might call one of their stores and ask, they're pretty savvy about these things. My 12C+ came from there via a very generous person who frequents this forum.

-Katie

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Question about HP-50Gs and Battery Life...

*Message #1 Posted by **Bill Zimmerly** on 26 Apr 2010, 3:10 p.m.*

I've owned my HP-50G since 2006 and use it almost every day. I believe I've had to change batteries in it three or four times over those years and I think that this means that the device is outstanding in power management.

Yet, I've read (mostly in the Amazon reviews of the device) that for some owners, the calculator eats batteries very quickly.

Curiosity drives my question - was there an HP-acknowledged problem with some of the HP-50Gs?

Re: Question about HP-50Gs and Battery Life...

*Message #2 Posted by **Bart (UK)** on 27 Apr 2010, 4:43 a.m.,*
in response to message #1 by Bill Zimmerly

I find that the batteries drain quickly when doing a lot of graphing (particularly if high pixel density is chosen) or long integrations etc.

I think that the "problem" is that the ARM processor clock is increased when the calculator executes routines and reduced when not doing much. The processor uses a lot of current at high clock frequencies. This is more "the nature of the beast" than a problem.

Re: Question about HP-50Gs and Battery Life...

*Message #3 Posted by **Bill Zimmerly** on 27 Apr 2010, 3:23 p.m.,*
in response to message #2 by Bart (UK)

Thanks Bart!

Re: Question about HP-50Gs and Battery Life...

*Message #4 Posted by **Bart (UK)** on 28 Apr 2010, 6:56 a.m.,*
in response to message #3 by Bill Zimmerly

For some discussions, see these threads on comp.sys.hp48:

HP graphing calculator power consumption

Some numbers on Battery Life

There seems to have been a problem in a few cases, see here:

New HP 50G owner, experiencing problems

Re: Question about HP-50Gs and Battery Life...

*Message #5 Posted by **Crawl** on 28 Apr 2010, 8:12 a.m.,*
in response to message #1 by Bill Zimmerly

I'm sure another issue is that the calculator is easy to accidentally turn on even when it's in its case (say, while in a book bag).

If it only ever sat on a desk, presumably that would be much less of a problem.

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TI-83 Plus IS> and DS< program commands

*Message #1 Posted by **Don Shepherd** on 25 Apr 2010, 10:49 p.m.*

I've never used these two commands since the FOR command sort of makes them unnecessary. They seem to operate exactly like HP RPN ISG and DSE, but the manual states that "they are not looping instructions." Why would it say that? Why else would you use these? Why are they even included in a non-RPN calculator?

Re: TI-83 Plus IS> and DS< program commands

*Message #2 Posted by **Ivan Nejgebauer** on 26 Apr 2010, 4:02 a.m.,*
in response to message #1 by Don Shepherd

> Quote:
>
> They seem to operate exactly like HP RPN ISG and DSE, but the manual states that "they are not looping instructions." Why would it say that?

Because they aren't? (And I'm not trying to be snarky.) In the strictest technical sense, ISG and DSE are conditional skip instructions, which are great for implementing loops, and indeed that is their primary purpose -- but the skipped instruction doesn't have to be a GTO.

> Quote:
>
> Why else would you use these? Why are they even included in a non-RPN calculator?

I vaguely remember using ISG/DSE for purposes other than looping in some programs I wrote a very long time ago. I'll try to dig up an example, but don't hold your breath. (It's all written down on paper... somewhere.)

Re: TI-83 Plus IS> and DS< program commands

*Message #3 Posted by **Don Shepherd** on 26 Apr 2010, 6:56 a.m.,*
in response to message #2 by Ivan Nejgebauer

> Quote:
>
> using ISG/DSE for purposes other than looping

Yes, they are sometimes used in RPN just to increment or decrement a variable without looping, to save a byte or two, or avoid using the X register, but this seems rather dumb in a non-RPN calculator.

Non-typical usage of ISG

*Message #4 Posted by **Andrés C. Rodríguez (Argentina)** on 26 Apr 2010, 8:17 a.m.,*
in response to message #2 by Ivan Nejgebauer

In the discussion about this program, http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv018.cgi?read=128554 , the usage of ISG as a mere "increment register" instruction is mentioned. While I used this technique, further analysis by Jeff O. showed it was not the best choice.

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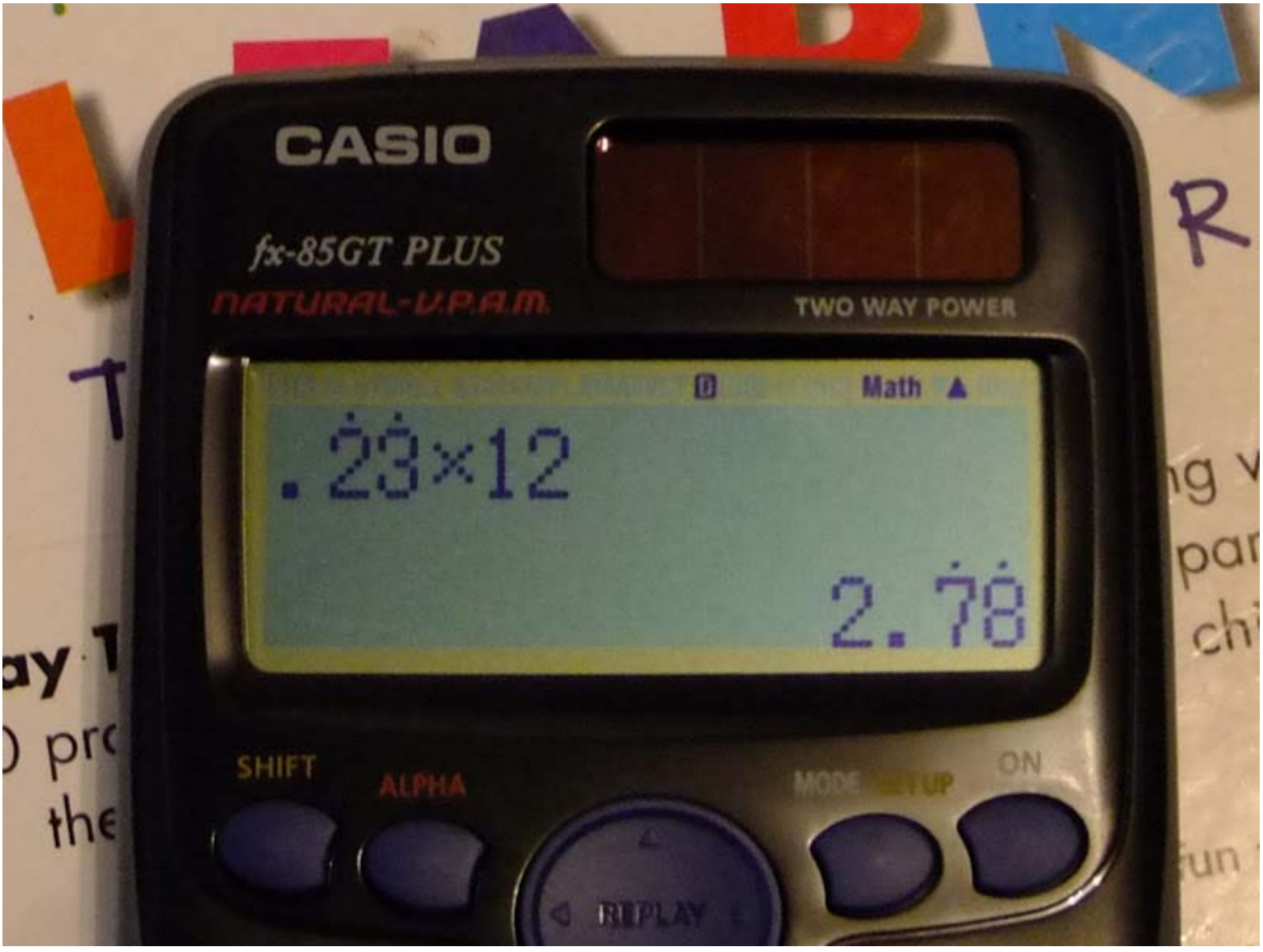
OT: recurring decimals!

*Message #1 Posted by **Nigel J Dowrick** on 25 Apr 2010, 4:51 p.m.*

Casio have recently updated some of their basic scientific calculators: the FX-83 ES and FX-85 ES have become the FX-83/5 GT Plus. Amongst other features, the new models allow the entry of recurring decimals, and will display results in this format as well!



I'm not sure if this is really of any practical use, but it is fun to play with! Does anyone know if this has been done before on a calculator?

Nigel

Re: OT: recurring decimals!

*Message #2 Posted by **Javier Goizueta** on 27 Apr 2010, 11:19 a.m.,*
in response to message #1 by Nigel J Dowrick

I don't think this has ever been used in a calculator, but I wrote a library (for the Ruby programming language) that handles recurring decimals:

- Source code: http://github.com/jgoizueta/nio
- Documentation: http://nio.rubyforge.org/

(look for "Repeating Numerals" in the documentation)

Re: OT: recurring decimals!

*Message #3 Posted by **Paul Dale** on 27 Apr 2010, 6:21 p.m.,*
in response to message #1 by Nigel J Dowrick

Although exact rational arithmetic could be useful, I can't think of much use for these.

Still, it demonstrates that there is still innovation in the calculator industry.

- Pauli

Re: OT: recurring decimals!

*Message #4 Posted by **Thomas Okken** on 28 Apr 2010, 9:09 p.m.,*
in response to message #1 by Nigel J Dowrick

I doubt that it's of much practical use, but it is fun to think about.
Repeating fractions are like

$a . b_1...b_n \underline{c_1...c_m}$

in other words

$a + (b + c / (10^m - 1)) / 10^n$

(e.g., 1 / 12 = 0.08$\underline{3}$, so a = 0, b = 8, c = 3, n = 2, and m = 1)

which is clearly a rational number.
It's not a very efficient way to represent rational numbers; the repeating-fraction representation of a rational number p / q can have up to q - 1 repeating digits.

What I find interesting here is that this means that for any integer q, there must be a number $10^r - 1$, where $r < q$, that is divisible by q.
I think I'm starting to understand why some people find number theory interesting. :-)

Edited: 28 Apr 2010, 9:26 p.m.

Re: OT: recurring decimals! -- > Programming Challenge?

*Message #5 Posted by **Katie Wasserman** on 28 Apr 2010, 10:20 p.m.,*
in response to message #4 by Thomas Okken

> Quote:
>
> It's not a very efficient way to represent rational numbers; the repeating-fraction representation of a rational number p / q can have up to q - 1 repeating digits.

From some work I did on this in college....

All 'q' that have q-1 repeating digits (i.e., the maximum number of digits in the repetitions) are prime numbers -- call these maximal primes. (Of course, not all prime numbers have the maximal number of digits.)

Here's the interesting thing I found and I'm sure is well know somewhere out there.... but it wasn't to me in 1974 when I figured this out for a math class project and later proved it.

If you look at the digits in one repetition of a maximal prime you'll find that it's a perfectly flat distribution. For example: 1/181 is a repeating with 180 digits in the repetition. Each digit 0 though 9 occurs exactly 18 times in this sequence. Furthermore each double digit 00 to 99 occurs exactly 1 or 2 times. This is true for all number bases, naturally. In other words, the frequency of each number within one repetition is as close to the average as possible.

After I conjectured this I wrote one of my first computer programs to prove this to be the case for numbers up to 1 million. Then I came up with a simple proof. I researched it some and couldn't find any prior reference to it, but never tried to published this. (I was just a freshman in college who would have listened.)

Anyway, it made for a fun computer program to write if nothing else. This is easily doable on almost any HP calculator with indirect storage registers, BTW. This might make a good little programming challenge!

-Katie

Re: OT: recurring decimals! -- > Programming Challenge?

*Message #6 Posted by **Thomas Okken** on 30 Apr 2010, 9:20 p.m.,*
in response to message #5 by Katie Wasserman

If q is a maximal prime, all the possible remainders 1...q-1 will occur during the long division, each exactly once per cycle, and so the digits generated for base b are floor(b/q), floor(2*b/q), ..., floor((q-1)*b/q), which trivially leads to a perfectly flat distribution of the digits 0...b-1.

The double-digit phenomenon seems a little trickier to explain. Maybe analyze the problem in terms of base b^2 instead of base b? Hmmm...

UPDATE: Generalized from base 10 to base b.

Edited: 1 May 2010, 12:50 a.m.

Re: OT: recurring decimals! -- > Programming Challenge?

*Message #7 Posted by **Thomas Okken** on 1 May 2010, 12:22 a.m.,*
in response to message #5 by Katie Wasserman

What makes a prime number q a maximal prime?
One way q can fail to be a maximal prime is when it divides the base. For example, 5 is a maximal prime in base 2, because $1/5 = 0.\underline{0011}_2$, but in base 10, 1/5 isn't even a repeating fraction.

What about 11 in base 10? $1/11 = 0.\underline{09}$, only 2 repeating digits... why not 10?

Any prime q that does not divide the base b is guaranteed to divide some number b^n-1, where n <= q. This must be true because long division is basically a state machine whose only state is the most recent remainder, which must be less than q (because p mod q < q, always) and greater than 0 (because otherwise the fraction wouldn't repeat), so the repeating part of the fraction is at most q-1 digits long. Discarding any non-repeating part, any fraction with r repeating digits can be represented as a rational number whose denominator is b^r-1, so q must divide b^r-1.

My conjecture: a prime number q is a maximal prime in base b if and only if it does not divide b, and does not divide any b^n-1, where n < q.
In base 10, the number 11 fails this test because it divides the number 99, which is b^2-1, and 2 < 11.

Re: OT: recurring decimals! -- > Programming Challenge?

*Message #8 Posted by **Thomas Okken** on 1 May 2010, 2:34 a.m.,*
in response to message #7 by Thomas Okken

It seems that for bases b, where b is a square, there are no maximal primes.
Try this program:

```
#include <stdio.h>


int main(int argc, char *argv[]) {
    int a, b, bsq, base, d, r;
    if (argc < 2 || sscanf(argv[1], "%d", &base) != 1) {
        fprintf(stderr, "Usage: %s base\n", argv[0]);
        return 1;
    }
    a = 1;
    while (1) {
        next_a:
        a += 2;
        b = 1;
        bsq = 1;
        while (1) {
            b += 2;
            bsq += (b - 1) << 2;
            if (a < bsq)
                break;
            if (a % b == 0)
                goto next_a;
        }
        r = 1;
        d = 0;
        while (1) {
            d++;
            r = r * base % a;
            if (r == 0)
                goto next_a;
            if (r == 1) {
                if (d == a - 1)
                    printf("%d\n", a);
                goto next_a;
            }
        }
    }
    return 0;
}
```

Save it as maxprimes.c, compile it, and run it like

```
./maxprimes <base>
```

Re: OT: recurring decimals! -- > Programming Challenge?

*Message #9 Posted by **Katie Wasserman** on 1 May 2010, 10:14 a.m.,*
in response to message #8 by Thomas Okken

I haven't run your code yet, but that's an interesting find. I don't have an intuitive enough sense of number theory to see why that should be.

As to the matter of number distribution in the repeating series of a maximal price. It's not just single and double digit numbers that have a flat distribution it's all numbers. So if you had a repeating decimal with a period of 10,000 digits all 1 digit numbers would occur 1000 times, all 2 digit numbers would occur 100 times, all 3 digit numbers would occur 10 times. and 4 digit numbers would occur once. I agree that the proof isn't interesting, but this characteristic is, I think.

-Katie

Re: OT: recurring decimals! -- > Programming Challenge?

*Message #10 Posted by **Thomas Okken** on 1 May 2010, 4:13 p.m.,*
in response to message #9 by Katie Wasserman

Regarding the nonexistence of maximal primes in square bases, I think I found a proof.
Say q is a maximal prime in base c^2. The base-c^2 representation of 1/q has q-1 repeating digits, by definition of what it means to be a maximal prime. The equivalent representation in base c would appear to have 2q-2 repeating digits, which would be impossible. However, we need to rule out the possibility that the base-c representation actually has fewer than 2q-2 repeating digits; for example, $1/5 = 0.\underline{1463}_8 = 0.\underline{0011}_2$; if a number can be a maximal prime in base c^3 *and* c, why would the same thing not also be possible in base c^2 *and* c?
Let's say you have a repeating fraction with r repeating digits in base c. If you convert this to base c^n, the repeating part in the new base can be at most n times shorter, if n divides r. If you call that the best case, the worst case is that gcd(r,n)=1, in which case the base-c^n representation has exactly as many repeating digits as the base-c representation. The base-c^n representation will never have *more* repeating digits than the base-c representation, because n repetitions of the base-c repeating section (with length r) will always fit exactly in r base-c^n digits.
Returning to the base-c^2 vs. base-c case, what this means is that for any repeating fraction that has r repeating digits in base c^2, the base-c representation must have a repeating section that is either 2r or r digits long. For 1/q, with q being a maximal prime in base c^2, the length in base c^2 of the repeating section is q-1; in base c, the length of the repeating section would then have to be either 2q-2 or q-1. The former is impossible because 1/q can never have more than q-1 repeating digits in *any* base, and the latter is also impossible, because q-1 is even, so the repeating section in base c^2 would be (q-1)/2 digits long, contradicting the claim that q is a maximal prime in base c^2.
Hence, no number q can be a maximal prime in base c^2, Q.E.D.

Note that I'm making the important assumption that primes are always odd. Of course the number 2 is the one exception to that rule, and 2 is, in fact, a maximal prime in *any* odd base, including square bases. :-)

Proving the flat distribution of groups of 2 or more digits is a harder nut to crack. I think one should start by looking at the remainders that generate one specific next digit, e.g. 1...(q-1)/b will generate 0, and then look at the distribution of the subsequent remainders 1%q...(q-1)/b%q. I think the idea is pretty straightforward but the devil is going to be in the details.

Edited: 1 May 2010, 4:21 p.m.

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OT:iDisk For the Apple II

*Message #1 Posted by **Gerry Schultz** on 25 Apr 2010, 3:57 p.m.*

For those who follow other old computer hardware, here is a link to the iDisk for the Apple II. It's a card you plug into an old Apple II and load it with multiple disk images to run on the hardware. These images are stored on USB Thumbdrives and you can even add Bluetooth if you wish. It's still a work in progress and I found out about it from the latest Juiced.GS journal. Lots of fun and it's good to see products still being developed for the Apple II...

http://sites.google.com/site/idiskapple2/

Enjoy,

Gerry

Re: OT:iDisk For the Apple II

*Message #2 Posted by **Egan Ford** on 26 Apr 2010, 1:46 p.m.,*
in response to message #1 by Gerry Schultz

This and other HW/SW development for the Apple II* is frequently discussed on comp.sys.apple2 (did you know that there is an FPGA implementation of the original Apple?).

I am a huge fan of the Apple II series (sans the GS). The Apple II+ was my first computer. I have a //c at home. For the most part I've gone virtual, Virtual][to be specific. It is hands down the best][+, IIe emulator. Unfortunately, its only for OS/X. It emulates a number of HW options (clock, z80, sound, I/O, etc... cards, a printer, HDs, etc...). I only use my //c about once or twice a year to test my programs on the real thing, mostly for fun. I used ADTPro (freeware) to get all my orginal diskettes (including my very first) imaged so that I can run under emulation (to do this you need a real II* and a serial cable, and it goes both ways).

You just reminded me that I need to published my 41CX vs Apple II Pi shootout that Ron Knapp started 30 years ago (Ron threw the first stone :-).

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Is there something going on out there? (or Getting Back to My Roots...)

*Message #1 Posted by **Vieira, Luiz C. (Brazil)** on 25 Apr 2010, 2:56 p.m.*

Hi, all;

After having my newest HP50g being ‘eaten’ to its guts by one leaking battery from the four standard ones that came with the calculator while resting for about a month, I decided to buy a new one and actually grabbed it a few hours ago. Strangely the calculator’s blister was a bit thinner than the other ones and, after a first look, I noticed that the printed manual was replaced by a printed, 54-page 'Quick Start Guide', a black-and-white cover brochure (Mine is Edition 2, part # F2229-90201, no month-year stamp). What actually called my attention was a (very good) surprising change: when applicable, all examples from page #5 and ahead are illustrated with the calculator in RPN mode. Page #5 particularly has the following words under ‘Using RPN’:

> Quote:
>
> The HP50g comes from a history of calculators designed specifically for engineers an mathematicians. (...) Because the HP50g comes from a line of calculators that used RPN exclusively, the calculator is easier to use and functions most effectively in RPN mode.

Maybe some of you have not noticed that, but I could not help mentioning it here. Any chance that someone at HP H.Q. wants to get the company back to its roots? I mean, to give credit to whatever deserves? RPN was first use in calculators by HP, and it has been neglected since the new manuals for the new calculators with both systems (HP17BII/BII+, HP49G/50G, etc) only mentions RPN as 'the other operating mode', and almost all of the examples (if not all of them) in these manuals are performed by using the calculator in algebraic mode. And without no intention of turn the flames on again (even knowing it may happen...), I still believe that RPN as a calculating mode helps reasoning on and understanding the solution instead of trying to rely on the number in the display after pressing the [=] key...

Cheers.

Luiz (Brazil)

Re: Is there something going on out there? (or Getting Back to My Roots...)

*Message #2 Posted by **bill platt** on 25 Apr 2010, 6:10 p.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

I think I read here that TW had something to do with that :-)

Re: Is there something going on out there? (or Getting Back to My Roots...)

*Message #3 Posted by **David Hayden** on 25 Apr 2010, 10:34 p.m.,*
in response to message #2 by bill platt

Yes a 54 page "Quick Start Guide" sounds suspiciously like Tim's document.

Great job Tim!

Re: Is there something going on out there? (or Getting Back to My Roots...)

*Message #4 Posted by **Tim Wessman** on 27 Apr 2010, 12:27 a.m.,*
in response to message #3 by David Hayden

Yup. I wrote it. After it was done and ready to go, I was informed we could add a few more pages. You can probably easily spot where it switches from me to a technical writer filling in a bit more info.

Everyone agrees that using the 50g in alg mode is kind of clunky, so I wanted to try and get people at least exposed. I don't care if they want to use algebraic, but hopefully they will see they can use algebraic in RPN and not lose the benefits. Also, I knew right away there was no possible way both modes could be covered, and since using algebraics in RPN is easy on an RPL machine, I figured I could stick it in that way. I think I even devoted a section to "Using Alegebraics in RPN" or something like that.

It was approached from the "there is far too much to teach here, so let's try to expose as many simple, cool things that make people appreciate the new calculator, and hopefully get over that initial hurdle in using it." By the end, I hope people can at least use it for basic calculations and equation solving without feeling too lost.

Some places are exteeeeeemly dense in information. I remember writing a few sentences in a row that introduce 2 or 3 things in each sentence. I hope people will actually sit down and go through it once or twice. I still discover things about the 50 I wish I'd know a few years ago every now and again. :-)

TW

PS - as I hope I will be able to write more of these in the future, feel free to send any comments (positive/negative) so I can hopefully continue to improve.

Edited: 27 Apr 2010, 1:08 a.m.

Re: Is there something going on out there? (or Getting Back to My Roots...)

*Message #5 Posted by **Katie Wasserman** on 27 Apr 2010, 2:25 a.m.,*
in response to message #4 by Tim Wessman

> Quote:
>
> I still discover things about the 50 I wish I'd know a few years ago every now and again. :-)

Tim,

Speaking of which, did you see the bug I found where FACTORS thinks that 9999999967^2 is prime? (In version 2.09 of the firmware.) I did a bit more checking and it seems that squares of primes that are 10 digits in length or larger are not factored correctly. (2^31 - 1)^2 is another example. However, in all cases ISPRIME? works correctly.

-Katie

Re: Is there something going on out there? (or Getting Back to My Roots...)

*Message #6 Posted by **Norman Dziedzic** on 27 Apr 2010, 11:43 a.m.,*

in response to message #4 by Tim Wessman

Any chance this quick start guide is available as a pdf online?

Thanks

Re: Is there something going on out there? (or Getting Back to My Roots...)
*Message #7 Posted by **Walter B** on 27 Apr 2010, 3:57 p.m.,*
in response to message #6 by Norman Dziedzic

As an owner of an HP50g standing in front of that hurdle I'd like to queue for such an pdf as well. TIA

Re: Is there something going on out there? (or Getting Back to My Roots...)
*Message #8 Posted by **Tim Wessman** on 27 Apr 2010, 6:43 p.m.,*
in response to message #7 by Walter B

ftp://hp50gqsg:Crooned2@ftp.usa.hp.com/

Here is a temporary FTP. Just click the link and almost all browsers will open for you to download. It will be active for about 30 days or so. I am not sure if the QSG documents will ever be online for individual download. . .

TW

Edited: 27 Apr 2010, 6:45 p.m.

Re: Is there something going on out there? (or Getting Back to My Roots...)
*Message #9 Posted by **Bill Zimmerly** on 27 Apr 2010, 9:19 p.m.,*
in response to message #8 by Tim Wessman

Thanks Tim! :)

Re: Is there something going on out there? (or Getting Back to My Roots...)
*Message #10 Posted by **Walter B** on 28 Apr 2010, 1:36 a.m.,*
in response to message #8 by Tim Wessman

Thank you Tim d:-)

Re: Is there something going on out there? (or Getting Back to My Roots...)
*Message #11 Posted by **Bart (UK)** on 28 Apr 2010, 4:24 a.m.,*
in response to message #8 by Tim Wessman

Hi Tim,

Would it be possible to put it on hpcalc.org?

Re: Is there something going on out there? (or Getting Back to My Roots...)

*Message #12 Posted by **Ronald Williams** on 28 Apr 2010, 6:41 a.m.,*
in response to message #8 by Tim Wessman

Tim, great work! Thank you for sharing it with us.

Re: Is there something going on out there? (or Getting Back to My Roots...)

*Message #13 Posted by **Vieira, Luiz C. (Brazil)** on 28 Apr 2010, 9:57 a.m.,*
in response to message #8 by Tim Wessman

Hi, Tim;

thank you, too! After seeing the PDF I noticed that the time stamp exist at page iv, under printing history.

Great job!

Cheers.

Luiz (Brazil)

Edited: 28 Apr 2010, 9:57 a.m.

Re: Is there something going on out there? (or Getting Back to My Roots...)

*Message #14 Posted by **Norman Dziedzic** on 28 Apr 2010, 2:48 p.m.,*
in response to message #8 by Tim Wessman

Tim. Thank a bunch. I'm not half way through and I already know much more about my calculator than I did yesterday. :-)

Re: Is there something going on out there? (or Getting Back to My Roots...)

*Message #15 Posted by **Andrés C. Rodríguez (Argentina)** on 26 Apr 2010, 8:01 a.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

Hi, Luiz!!

This may be obvious for many of you, but it's news for me: Does the 50G has a RPN-mode (with a four-level stack, copy of "T" on drop, etc.), or it's just RPL like the 48G and siblings? A RPN (I mean, with a final "N") mode would be a very nice thing! On the other hand, for my old brain, RPL and algebraic are both an effort to work with.

Edited: 26 Apr 2010, 8:02 a.m.

Re: Is there something going on out there? (or Getting Back to My Roots...)

*Message #16 Posted by **Katie Wasserman** on 26 Apr 2010, 8:38 a.m.,*
in response to message #15 by Andrés C. Rodríguez (Argentina)

I think that the old RPN is dead at HP. The 20b and 30b are advertised as 'RPN' calculators and indeed have a 4-level stack with t copied to z on drop, but they don't push x into y until you perform another entry. This means that you can't do something like "5 ENTER *" as a way to get 5 squared. This is how RPL works but is really the only change from the traditional RPN.

-Katie

Re: Is there something going on out there? (or Getting Back to My Roots...)

*Message #17 Posted by **Angel Martin** on 27 Apr 2010, 12:50 p.m.,*
in response to message #16 by Katie Wasserman

I re-learned (or remembered perhaps?) a few things about RPN while writing the 41Z module - all relative to that automated stack lift and no need for argument re-entry. It´s funny how we take all that for granted until you need to replicate the way it works on a complex memory buffer...

Edited: 27 Apr 2010, 12:52 p.m.

Re: Is there something going on out there? (or Getting Back to My Roots...)

*Message #18 Posted by **Vieira, Luiz C. (Brazil)** on 26 Apr 2010, 8:39 a.m.,*
in response to message #15 by Andrés C. Rodríguez (Argentina)

Ola, Andrés; ¿como estás?

You are correct: the HP50G is actually an RPL-based calculator. And it has no RPN-like functionality, as it happens with the actual RPN-based models (HP35, HP41, HP42, HP19BII, etc.). Fact is that the HP50G 'Quick Reference Manual' mentions RPN as the main operating mode while previous literature mentions RPN as 'the other operating mode'. That is what called my attention.

I actually did not notice the RPN<->RPL 'reversal' reference, if I can say so...

Cheers! (long time no... read, Andrés!)

Luiz (Brazil)

Re: Is there something going on out there? (or Getting Back to My Roots...)

*Message #19 Posted by **Martin Pinckney** on 26 Apr 2010, 11:41 a.m.,*
in response to message #18 by Vieira, Luiz C. (Brazil)

> Quote:
>
> You are correct: the HP50G is actually an RPL-based calculator. And it has no RPN-like functionality, ...

I think this distinction, apparently so obvious to most members here, might be lost on the general universe of calculator users, including myself.

In other words, the math logic used for entering problem is definitely RPN-like to me, at least as compared to algebraic logic ...

Re: Is there something going on out there? (or Getting Back to My Roots...)

*Message #20 Posted by **Vieira, Luiz C. (Brazil)** on 26 Apr 2010, 5:35 p.m.,*

in response to message #19 by Martin Pinckney

Hi,Martin;

as a matter of fact, I remember that some discussion arose when the meaning of RPL became the subject here, some long time ago. I must confess I am not aware of what does actually RPL stand for. At wikipedia we find:

> Quote:
>
> The RPL programming language (RPL meaning ROM-based procedural language following Hewlett-Packard or, alternatively, Reverse Polish LISP) is a handheld calculator system and application programming language used on Hewlett-Packard's engineering graphing RPN calculators of the HP-28, HP-48, HP-49 and HP-50 series, but it is also usable on non-RPN calculators, such as the HP-39 series.

Cheers.

Luiz

Re: Is there something going on out there? (or Getting Back to My Roots...)

*Message #21 Posted by **Martin Pinckney** on 26 Apr 2010, 6:01 p.m.,*
in response to message #20 by Vieira, Luiz C. (Brazil)

Luiz, as I see it, if the hallmark of RPN is postfix notation, then the RPL machines are the *most* RPN-like of all, since in them *everything* is postfix, even operations like setting the number of decimal spaces in FIX mode.

However, I take it that the definition of RPN being used by the RPN aficionados here is the type of operation used by the certain traditional HP machines, which is really a combination of prefix and postfix.

Re: Is there something going on out there? (or Getting Back to My Roots...)

*Message #22 Posted by **bill platt** on 26 Apr 2010, 9:17 p.m.,*
in response to message #21 by Martin Pinckney

Hi Martin.

I think you are correct.

But the infix part is very few commands, most notably STO - [reg], RCL + [reg], FIX [value], SF [n] and their relatives.

As I see it, there isn't any mathematical operation in "traditional" RPN other than the storage arithmetic.

Re: Is there something going on out there? (or Getting Back to My Roots...)

*Message #23 Posted by **Vieira, Luiz C. (Brazil)** on 26 Apr 2010, 9:51 p.m.,*
in response to message #21 by Martin Pinckney

Hi, Martin;

> Quote:
>
> *(about RPN)* the type of operation used by the certain traditional HP machines, which is really a combination of prefix and postfix.

I always applied the 'postfix notation' reference to the calculator core, I mean, math and arithmetic operations. If we consider algebraic notation, RPN is homogeneous in terms of math and arithmetic operations. In calculators operating with algebraic notation we have either postfixed (e.g.: 45 COS for COS(45), no need for [=] key) or infixed operation (e.g. 4 + 5 [=]) or, in some newer machines, prefixed operations (e.g.: [COS] 45 [=]; in these machines, COS(appears in the display when [COS] is pressed). Because algebric notation allows such distinctive keystroke sequences without loosing algebraic correspondence, chances are that RPN-based calculators have easier, simpler rules to be remembered.

All of the rest, namely structural operations like FIX, STO & RCL, program-addressed operations like LBL, GTO and GSB and others, are essentially prefixed in the early RPN models. With the HP67/97 the indexed -or indirect- addressing allowed prefixed operations to behave like postfixed operations.

But I guess all of this is mainly known, it is just a matter of putting things together. When the HP28C was introduced, two particular chapters in its Owner´s Manual deal with that: Notes for Algebraic Calculator Users and its counterpart for RPN, too. The softbound, thick HP48 Owner´s manual also brings a dedicated appendix: Comparing the HP 48 and HP 41. The PDF file in the link was created over scanned images of the original HP48 manual. Page #3 in this PDF (page #F6 in the original manual) has a very concise explanation about these differences.

Also, we must notice that Willian C. Wickes 'Insights' books are 'THE' source of information for these matters, if I may.

Well, I see I wrote too much, sorry! Chances are that users with the need of extra clarification may find in these texts some guidance. And I hope my writings will not get readers into confusion...

Cheers.

Luiz (Brazil)

Edited: 26 Apr 2010, 10:00 p.m.

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HP 9810A: It's alive

*Message #1 Posted by **Thomas Falk** on 25 Apr 2010, 9:30 a.m.*

Hello everybody,

I just want to share my joy over the successful reviving of a HP 9810A.

This device was in my cellar for several years and didn't work since I got it from its former owner. Some time ago I did a first try to repair. At this time I got some useful information from this forum. Unfortunately I had no success then.

At the begin of this year I found some time again. I set the goal to present this calculator on the European Vintage Computer Festival (VCFE), which will start at the first of May.

It took about two months of hard work. I found three defects in the machine: one dead ttl logic gate (74H30) and one dead transistor in the address drivers of the DRAM circuits. The third defect was hard to find: The calculator worked, but the display was wrong. After comparing the memory accesses with these listed by the HP9800 series emulator, I located the fault in one of the microcode ROMs. At least two addresses give the wrong data. One of them caused a wrong sequence in the microcode. It should be mentioned, that this circuit is an Intel 3301A, which is a mask programmable ROM. I never assumed that these could get defective, they should live almost forever.

I "repaired" this by decoding these addresses and correcting the output of the ROM by some external circuit. The solution does not really look pretty:

but it works! After the VCFE I will do some cleanup.

I would like to say Big Thanks to Tony Duell who gave me the first hints and especially to Dr. Andreas Bürger, who wrote the great emulator for the HP9800 series.

I found the most information in the patent US-3,859635, which can be found here. It contains the schematics of the circuits, the dumps of the microcode roms, some listing of the application code and lots of explanations to data stuctures and sequences. The HP 9810 is obviously one of the best documented calculators.

There is an repair manual from HP, which can be found on the museums DVDs. This manual is next to useless now, because it requires a complete set of circuit boards to find the defective one by swapping one by one.

The next step will be the connection of the plotter HP 9862A which I have too. For this I will have to rebuild the missing connection module.

Best regards,

Thomas Falk

Re: HP 9810A: It's alive

*Message #2 Posted by **Joel Setton (France)** on 25 Apr 2010, 9:57 a.m.,*
in response to message #1 by Thomas Falk

Thomas, congratulations for your success! After having done a similar "revival" project on a very sick 9815A, I can understand the pride and joy which comes when bringing an HP calculator back to life. And when it finally works, you have to tell the world about it. It's part of the experience!

Joel Setton

Re: HP 9810A: It's alive

*Message #3 Posted by **Pierre Brial** on 25 Apr 2010, 10:48 a.m.,*
in response to message #1 by Thomas Falk

Impressive work Thomas. Congratulations. Hope to see some pictures of the beast in working order.

Re: HP 9810A: It's alive

*Message #4 Posted by **Thomas Falk** on 25 Apr 2010, 11:43 a.m.,*
in response to message #3 by Pierre Brial

Hi,

thanks for the gratulations.

Here are two pictures. The first shows the display after repairing the memory system. The numbers shown where displayed after pressing the Clear key and didn't change much after pressing other keys. Only the program display was right. On top you see the connections for the logic analyser at the microprocessor board and the memory block. The red/black wires are connections into the memory block to be able to measure on the working calculator.

The second picture shows the calculator after fixing the error in the ROM during the last checks before closing the cover. At the left is a logic analyser and the oscilloscope. Both are useful for different kinds of faults.

If you want to see the calculator live, you should come to Munich at the next weekend to the VCFE

Greetings,

Thomas

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HP20b's 1-variable weighted function

*Message #1 Posted by **Ric Lombardo** on 25 Apr 2010, 6:34 a.m.*

Has anyone had a go at trying to implement the 1-variable weighted function that is part of the Statistical Suite available on the HP20b. Apart from a brief cursory mention in HP's official manual for this calculator there is no example or explanation of what this function does or how to implement it. I presume it helps one to determine the expected value of a random variable by inputting random variable outcomes into the X: register and their associated probabilities in the Y: register but I cannot seem to get any results. If anyone knows how this function operates I would appreciate some assistance or guidance.

Cheers and have a nice day,

Ric

Re: HP20b's 1-variable weighted function

*Message #2 Posted by **Walter B** on 25 Apr 2010, 6:47 a.m.,*
in response to message #1 by Ric Lombardo

AFAIK the 20b calculates a *weighted mean*. It does it the conventional way with the weights in y. I don't remember any "weighted function" but I don't have my calc at hand.

Re: HP20b's 1-variable weighted function

*Message #3 Posted by **Gene Wright** on 25 Apr 2010, 7:56 a.m.,*
in response to message #2 by Walter B

This is for the 30b, but take a look here:

30b frequency and weights

Re: HP20b's 1-variable weighted function

*Message #4 Posted by **Ric Lombardo** on 26 Apr 2010, 7:19 a.m.,*
in response to message #3 by Gene Wright

Thanks guys for your help. I see now that the trick is that the Y-values are entered as frequencies {F} and NOT as relative frequencies {Fi/Sum(Fi)} (or probabilities) which is what I thought I had to do. In essence then this is not very much different from the approach used with the HP 10B and HP10BII. By the way Gene I think that little Guide entitled: "The HP 20b Business Consultant" was really great and that in your next update you might want to slip in a line or two on the matter discussed here.

Thanks again for you time and assistance,

Ric

Re: HP20b's 1-variable weighted function

*Message #5 Posted by **Gene Wright** on 26 Apr 2010, 8:07 a.m.,*
in response to message #4 by Ric Lombardo

Oh, I did not write that. Tough to cover everything that is important in a small guide, however. :-)

Re: HP20b's 1-variable weighted function

*Message #6 Posted by **Ric Lombardo** on 30 Apr 2010, 10:50 a.m.,*
in response to message #5 by Gene Wright

Interestingly, even though the HP20b was designed to replace the simpler but very popular HP-10B and HP-10B2, the latter two calculators can provide a weighted mean irrespective of whether the weights are entered as frequencies or relative frequencies. Its a pity the HP-20B dispenses with this flexibility as it means one cannot compute the expected value E(X) of a random variable X in the conventional fashion.

Re: HP20b's 1-variable weighted function

*Message #7 Posted by **Gene Wright** on 30 Apr 2010, 11:09 a.m.,*
in response to message #6 by Ric Lombardo

True, but the frequency statistics have a much greater breadth to them than the basic "weighted average".

To get a weighted average is actually pretty easy and requires rethinking the input only slightly.

If you have a random variable with a 40% chance of 10 and a 60% chance of 5, you can of course input the weights as 40 and 60 in 1 Freq mode or even as 4 and 6 in 1 Freq mode and the Descriptive submenu reports the correct mean.

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x49gp updated

*Message #1 Posted by **Egan Ford** on 24 Apr 2010, 7:54 p.m.*

The biggest change was an updated QEMU for x49gp that I finally got around to checking in. This also fixes a few problems building on 64-bit OSes.

There is a bug somewhere that I have yet to track down--on some systems the labels to not appear on the keys. The hack around this was to provide a hp50g.png file with the keys already printed. If any of you find the bug please let me know and I'll check it in.

Tested configs: Ubuntu 9.04/9.10 32/64 bits, CentOS 5.4 64-bit, Fedora 12 64-bit, OS/X 10.6.3 64-bit. OS/X 10.5.x should still work.

I'll try to get a Windows build done this summer. I may create an OS/X version using a native GTK so that macports is not required.

What is x49gp? x49gp is a 50g emulator that also emulates the ARM processor. It is the only emulator that can run HPGCC 2 and 3 binaries.

More info:

http://x49gp.svn.sourceforge.net/viewvc/x49gp/README.QUICKSTART

Numerous errors with announcement.

Edited: 25 Apr 2010, 12:04 p.m. after one or more responses were posted

Re: x49gp updated

*Message #2 Posted by **ZOleg** on 24 Apr 2010, 8:22 p.m.,*
in response to message #1 by Egan Ford

Where download HPGCC 3?

Re: x49gp updated

*Message #3 Posted by **Egan Ford** on 24 Apr 2010, 9:26 p.m.,*
in response to message #2 by ZOleg

http://sense.net/~egan/hpgcc3/qsosx.html

IANS, you will have to email the authors. However, they have not been responding lately.

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x49gp updated

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WAS: HP vs. TI on eBay auctions

*Message #1 Posted by **Joerg Woerner** on 24 Apr 2010, 2:08 p.m.*

Hi Michael, Maximilian et.al,

I guess the keyword "RPN" in the auction header was the trigger word. I just placed anouther bunch of calculators on TAS an played for the statistics with the auction header:

1) RPN CALCULATOR WEEK #9: Novus Mathematician aka 4515

2) CALCULATOR HISTORY: National Semiconductor 4650 - US

Both calculators are listed in the Vintage Calculators category and should get a similiar number of hits.

As additional proof of the "RPN" idea I use a third calculator:

3) ONE TIME WONDER: Ultra rare IJI MINI calculator - 1972

This one should draw MORE ATTENTION than all others ;-))

My HIT counters are public and I will report you the "WATCHED #" from eBay.

Have a great weekend and enjoy calculator hunting.

Cheers,

Joerg

Re: WAS: HP vs. TI on eBay auctions

*Message #2 Posted by **Paul Dale** on 24 Apr 2010, 6:27 p.m.,*
in response to message #1 by Joerg Woerner

By posting this before the auctions are over, you've biased the results.

- Pauli

Poll: HP-Forum and TAS

*Message #3 Posted by **Joerg Woerner** on 24 Apr 2010, 6:53 p.m.,*
in response to message #2 by Paul Dale

This would imply that most of the eBay bidders read this forum frequently.

Time for another poll:

How often do you (# per week)

(1) Read this HP FORUM?

(2) Search eBay.com for (RPN) calculators?

First entry:

Joerg Woerner:

(1) 2..3 times per week

(2) 3..4 times per week

Regards, Joerg

Re: Poll: HP-Forum and TAS

*Message #4 Posted by **Paul Dale** on 24 Apr 2010, 7:04 p.m.,*
in response to message #3 by Joerg Woerner

1/ lots 2/ never

But I did look at some of your auctions after you mentioned them.

- Pauli

Re: Poll: HP-Forum and TAS

*Message #5 Posted by **Egan Ford** on 24 Apr 2010, 7:59 p.m.,*
in response to message #4 by Paul Dale

1. Daily unless on vacation (no net access) or swamped with work.
2. I have eBay search for me, I then read the emails I get from eBay about once or twice a week. Next, I put into Auction Sniper anything that I'd be interested in and then forget about it. I usually lose (too cheap), but win about once every 3 months.

Re: Poll: HP-Forum and TAS

*Message #6 Posted by **Keith Midson** on 24 Apr 2010, 8:36 p.m.,*
in response to message #5 by Egan Ford

For me:
1. Every day.
2. Never. I only really search for "HP Calculator", or "Hewlett Calculator". I still suspect that it is HP, not just RPN that is the key (and the majority of HP's are RPN).
Keith

Re: Poll: HP-Forum and TAS

*Message #7 Posted by **Bruce Bergman** on 24 Apr 2010, 10:08 p.m.,*
in response to message #3 by Joerg Woerner

1 = Daily, or thereabouts 2 = Weekly, or thereabouts

Re: Poll: HP-Forum and TAS

*Message #8 Posted by **Etienne Victoria** on 24 Apr 2010, 10:11 p.m.,*
in response to message #3 by Joerg Woerner

Read this HP FORUM?

3# per week:

- more when topics are on calculator repairs,

- less when topics focus on the next Hp calculator release,

- near epsilon when discussion is on how many $$$$ were spent on auction xxx :-)

Search eBay.com for (RPN) calculators?

Permanently on Hp-80*, Hp-81 & Hp-970* (Okay, latter is not really a calculator...just the display)

Etienne

Edited: 24 Apr 2010, 10:13 p.m.

Re: Poll: HP-Forum and TAS

*Message #9 Posted by **Gerson W. Barbosa** on 24 Apr 2010, 10:36 p.m.,*
in response to message #3 by Joerg Woerner

(1) Twice a week, mostly on weekends lately.

(2) Never.

Re: Poll: HP-Forum and TAS

*Message #10 Posted by **Dave Shaffer (Arizona)** on 25 Apr 2010, 1:49 a.m.,*
in response to message #3 by Joerg Woerner

1) every day

2) hardly ever

Re: Poll: HP-Forum and TAS

*Message #11 Posted by **Alberto Fenini** on 25 Apr 2010, 3:46 a.m.,*
in response to message #10 by Dave Shaffer (Arizona)

1) every day, several times per day 2) every day

Re: Poll: HP-Forum and TAS

*Message #12 Posted by **Alberto Fenini** on 25 Apr 2010, 3:49 a.m.,*
in response to message #11 by Alberto Fenini

sorry guys, I had misread the questions :

1) every day, several times per day
2) rarely, preferred search is "HP Calculator" or "Hewlett Packard Calculator", strange but true,

the two queries return different items (sometimes).

have a good weekend Alberto

Re: Poll: HP-Forum and TAS

*Message #13 Posted by **Joel Setton (France)** on 25 Apr 2010, 10:03 a.m.,*
in response to message #12 by Alberto Fenini

1) Read the forum: Every day, at least once.

2) I have an automatic search on TAS for HP calculators. 80% of calculators in my collection were purchased on auctions!

Joel Setton

Re: Poll: HP-Forum and TAS

*Message #14 Posted by **Maximilian Hohmann** on 25 Apr 2010, 12:39 p.m.,*
in response to message #3 by Joerg Woerner

Hello!

1.) HP-Forum: Daily (apart from the days that my job keeps me away from the internet)

2.) eBay.com: Rarely (intercontinental shipping fees often exceed the amount that I'm willing to pay for the calculator alone), however eBay.de almost daily. I'm not looking specifically for RPN calculators, but for calculators with luminous displays.

Regards, Max

Re: WAS: HP vs. TI on eBay auctions

*Message #15 Posted by **Namir** on 25 Apr 2010, 10:59 a.m.,*
in response to message #1 by Joerg Woerner

Hi Joerg,

I hope TI does not limit your privileges with them when they see you involved with HP calculators!

:-)

Namir

Re: WAS: HP vs. TI on eBay auctions

*Message #16 Posted by **Joerg Woerner** on 25 Apr 2010, 1:32 p.m.,*
in response to message #15 by Namir

For sure not ;-))

Regards, Joerg

Re: WAS: HP vs. TI on eBay auctions

*Message #17 Posted by **db (martinez, ca.)** on 25 Apr 2010, 2:09 p.m.,*

in response to message #1 by Joerg Woerner

1) +/- daily
2) +/- daily
3) now i'll have to add Datamath's ebay page

Re: WAS: HP vs. TI on eBay auctions

*Message #18 Posted by **Joerg Woerner** on 28 Apr 2010, 2:26 p.m.,*
in response to message #1 by Joerg Woerner

Here wer are:

1) RPN CALCULATOR WEEK #9: Novus Mathematician aka 4515

116 hits, 14 watchers

2) CALCULATOR HISTORY: National Semiconductor 4650 - US

92 hits, 11 watchers

Both calculators are listed in the Vintage Calculators category and should get a similiar number of hits.

As additional proof of the "RPN" idea I use a third calculator:

3) ONE TIME WONDER: Ultra rare IJI MINI calculator - 1972

128 hits, 16 watchers

Conclusion: "RPN buys not too much on eBay..."

What do you think?

Regards, Joerg

Re: WAS: HP vs. TI on eBay auctions

*Message #19 Posted by **Walter B** on 28 Apr 2010, 6:04 p.m.,*
in response to message #18 by Joerg Woerner

Hallo JÃ¶rg,

don't get me wrong but the ads section is somewhere else, isn't it?

Re: WAS: HP vs. TI on eBay auctions

*Message #20 Posted by **db (martinez, ca.)** on 29 Apr 2010, 11:34 p.m.,*
in response to message #18 by Joerg Woerner

Joerg; I looked at a couple of your finished auctions for non-hp RPN calcs. There's no way i can know how many total watchers there were at the end but i noticed that the algebraic programmable Novus financier went for only 36 gollies, while the RPN programmable Novus scientist netted you a big 66. They are the same make, age and condition with comparable capabilities and built inside the same body. The RPN sold for almost twice the price. Now i'm not saying that a thing's dollar value equals it's real value but you *were* saying that RPN doesn't command a premium price. All i can say in response is neener neener neener! PTPTPTPTPTPTPTPTPTPTPTPTPTPTPT!!!

Note to everyone else: Joerg and me have been having this argument for about 7 years. I concede that TI sells more calcers. He buys RPNs to play with but not use. We both like beer. Agreement may never get any deeper.

Re: WAS: HP vs. TI on eBay auctions

*Message #21 Posted by **Joerg Woerner** on 30 Apr 2010, 2:53 p.m.,*
in response to message #20 by db (martinez, ca.)

Dennis,

Thanks for your nice comment - hope to see you at the next HP Conference ;-))

Prost,

Joerg

Re: WAS: HP vs. TI on eBay auctions

*Message #22 Posted by **db (martinez, ca.)** on 2 May 2010, 2:23 a.m.,*
in response to message #21 by Joerg Woerner

Joerg;
I may see you there again, if we ever learn where there is. Since you didn't ask for a translation of the "cheer"; i figure that you are learning Bronx-ese.
here's mud in your eye - db

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HP 82240B. Infra red printer for HP 42---HP 50g

*Message #1 Posted by **Stuart Sprott** on 24 Apr 2010, 7:31 a.m.*

I am just curious as to how many people still use the HP printer that works off the HP 42, HP 48, and HP 50g. I got my printer back in 1991 and it is still going strong.

I was told the other day that HP no longer make this printer.

Re: HP 82240B. Infra red printer for HP 42---HP 50g

*Message #2 Posted by **Etienne Victoria** on 24 Apr 2010, 9:06 a.m.,*
in response to message #1 by Stuart Sprott

Hello,

I still use this printer with my Hp-41Cx and 17BII+.

It is the most high tech gear I own.

At work, I prefer the Hp-81 (No thermal paper needed :-)

Etienne

Re: HP 82240B. Infra red printer for HP 42---HP 50g

*Message #3 Posted by **Katie Wasserman** on 24 Apr 2010, 10:27 a.m.,*
in response to message #1 by Stuart Sprott

Use mine with the 17bii, especially at tax time.

Re: HP 82240B. Infra red printer for HP 42---HP 50g

*Message #4 Posted by **geoff quickfall** on 24 Apr 2010, 11:45 a.m.,*
in response to message #1 by Stuart Sprott

I have 3,

Two because I needed a back up and the third cause it was free.

Use it in cockpit with my 42S or 41CX depending on which one I take with me.

Cheers, Geoff

Re: HP 82240B. Infra red printer for HP 42---HP 50g

*Message #5 Posted by **marais** on 25 Apr 2010, 6:55 a.m.,*
in response to message #1 by Stuart Sprott

Use mine with 28S. Got myself a backup, just in case.

Andreas

Re: HP 82240B. Infra red printer for HP 42---HP 50g

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 25 Apr 2010, 3:07 p.m.,*
in response to message #1 by Stuart Sprott

Hi;

I use both A and B models when in a hurry (and they are working fine, too), but I actually prefer capturing the IR output from the calculators with an HP48G. Then I upload the corresponding ASCII-related file to the PC and edit the final text as needed, with the aid of adding any extra text and using columns to add comments.

As long as I have the time to, of course...

Cheers.

Luiz (Brazil)

Re: HP 82240B. Infra red printer for HP 42---HP 50g

*Message #7 Posted by **Christoph Giesselink** on 25 Apr 2010, 5:52 p.m.,*
in response to message #1 by Stuart Sprott

I own several of them but I never used them. I also have some printer wreck in the cellar, most of them with a defective printer head.

One reason for this maybe also, that I use a real HP48SX and real HP32S only under some rare circumstances. Most times I have a HP calculator emulator somewhere around.

Since end of 80ies, beginning with the HP28S, I used different PC adapters to capture the IR output directly on the PC.

Nowadays I use this adapter only to capture ROM images. The last time in October last year to capture the AA ROM image of an international 17BII.

Cheers

Christoph

Re: HP 82240B. Infra red printer for HP 42---HP 50g

*Message #8 Posted by **Stuart Sprott** on 26 Apr 2010, 8:11 a.m.,*
in response to message #7 by Christoph Giesselink

Hi Christoph

I noticeed that you stated "I used different PC adapters to capture the IR output directly on the PC."

Can you give me a lead as to where you can find the PC adapters.

Regards

Stuart

Re: HP 82240B. Infra red printer for HP 42---HP 50g

*Message #9 Posted by **Christoph Giesselink** on 26 Apr 2010, 2:33 p.m.,*
in response to message #8 by Stuart Sprott

> Quote:
>
> Can you give me a lead as to where you can find the PC adapters.

The first one in 1990/1991 was a commercial DOS program from a German company called "PrintHP". Later I rebuild the hardware interface and then the signal decoder under DOS. "PrintHP" quit working with the early 486 processors (they were too fast). Last successful try of my own DOS development was on a Pentium III/850MHz under pure DOS.

For the last 10 or more years I use a selfmade Redeye->Serial converter with a microcontroller. I wrote the controller firmware, but the copyrights don't belong to me.

I don't know any commercial product (except the HP48) that can capture the data on a non printer device.

Cheers

Christoph

Re: HP 82240B. Infra red printer for HP 42---HP 50g

*Message #10 Posted by **Egan Ford** on 26 Apr 2010, 3:30 p.m.,*
in response to message #9 by Christoph Giesselink

> Quote:
>
> I wrote the controller firmware, but the copyrights don't belong to me.

Can that be changed? Can you ask for permission to release it?

Re: HP 82240B. Infra red printer for HP 42---HP 50g

*Message #11 Posted by **Kees van der Sanden** on 27 Apr 2010, 2:32 p.m.,*
in response to message #10 by Egan Ford

I am also interested. A month ago i started a more or less equal project. I build a red-eye receiver with a micro controller and it displays the received code on 24 small 5x7 dot matrix displays. It emulates the original ROMAN8 character set. It looks promissing but the software is not stable yet.

Re: HP 82240B. Infra red printer for HP 42---HP 50g

*Message #12 Posted by **Egan Ford** on 27 Apr 2010, 4:59 p.m.,*
in response to message #11 by Kees van der Sanden

Excellent. If you need a tester, then please let me know.

Re: HP 82240B. Infra red printer for HP 42---HP 50g

*Message #13 Posted by **Christoph Giesselink** on 27 Apr 2010, 6:57 p.m.,*
in response to message #11 by Kees van der Sanden

Yes, I know this. The interrupt service routine capturing the data is quite tricky. The DOS and the microcontroller solution are written in pure assembler, so the code is quite unreadable. Both codes were made in the early 90ies and were massivly tested with corrupted codes made by a special transmitter.

I'm thinking about publishing a C source code under the GPL made for Emu42. In 2002 I tried to emulate the printer device, but because of limitations (timer2 inaccuracy) and speed problems (emulator has to slow down to get proper timing values) the code wasn't stable enough to publish. Nevertheless the code contain all design elements and error correction of the assembler code.

Christoph

Re: HP 82240B. Infra red printer for HP 42---HP 50g

*Message #14 Posted by **Christoph Giesselink** on 28 Apr 2010, 3:35 p.m.,*
in response to message #13 by Christoph Giesselink

Here's the C source code of the redeye decoder. It's published under the GPL.

http://hp.giesselink.com/Emu42/DEV/REDEYE.ZIP

Cheers

Christoph

Re: HP 82240B. Infra red printer for HP 42---HP 50g

*Message #15 Posted by **Vieira, Luiz C. (Brazil)** on 29 Apr 2010, 12:28 a.m.,*
in response to message #14 by Christoph Giesselink

Hi, Christoph;

just to 'say' THANKS A MIL!

Now let´s just read the code and allow it to run in our brains to depict it...

Oops! Thinking out loud...

Cheers.

Luiz (Brazil)

Edited: 29 Apr 2010, 12:29 a.m.

Re: HP 82240B. Infra red printer for HP 42---HP 50g

*Message #16 Posted by **Christoph Giesselink** on 27 Apr 2010, 4:50 p.m.,*
in response to message #10 by Egan Ford

Sorry, I can't the code is still in use.

Christoph

Re: HP 82240B. Infra red printer for HP 42---HP 50g

*Message #17 Posted by **Martin Pinckney** on 26 Apr 2010, 10:58 a.m.,*
in response to message #1 by Stuart Sprott

I use mine with 48sx and 27s.

Re: HP 82240B. Infra red printer for HP 42---HP 50g

*Message #18 Posted by **Valentino Ducati** on 28 Apr 2010, 9:54 a.m.,*
in response to message #1 by Stuart Sprott

I'm using mine on a regular time frame a few time every month with the 17BII, 27S, 41CX and sometimes 49G+

I really missed the IR print connection on my favorite daily calculator (32SII). Does anyone now why the scientific Pioneers didn't got the same IR output like the business calculators?

Re: HP 82240B. Infra red printer for HP 42---HP 50g

*Message #19 Posted by **Mike Morrow** on 28 Apr 2010, 10:32 p.m.,*
in response to message #18 by Valentino Ducati

> Quote:
>
> Does anyone now why the scientific Pioneers didn't got the same IR output like the business calculators?

The best RPN scientific calculator ever made is a Pioneer with IR output to the HP82240. That 22-year-old machine is called the HP42S. It can generate audible tones also. Useful.

Re: HP 82240B. Infra red printer for HP 42---HP 50g

*Message #20 Posted by **Kees van der Sanden** on 29 Apr 2010, 1:00 p.m.,*
in response to message #19 by Mike Morrow

Also the HP 27S has an infrared printer interface. Although it is not RPN it is a scientific calculator. All Pioneers with the Lewis processor (HP-17B, HP-17BII, HP-27S and the HP-42S) have this interface.

Re: HP 82240B. Infra red printer for HP 42---HP 50g

*Message #21 Posted by **Vieira, Luiz C. (Brazil)** on 29 Apr 2010, 1:52 p.m.,*
in response to message #19 by Mike Morrow

Hi;

the HP10B and HP14B did not offer IR output as well, and they are financial calculators.

Cheers.

Luiz (Brazil)

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HP97 batteries?

*Message #1 Posted by **Keith Midson** on 24 Apr 2010, 3:20 a.m.*

Hi HP world, is there anyone out there making battery packs for the 97?
Or is there anyone who can recell them? They are big!
cheers, Keith

Edited: 24 Apr 2010, 3:21 a.m.

Re: HP97 batteries?

*Message #2 Posted by **Ignazio Cara (Italy)** on 24 Apr 2010, 5:39 a.m.,*
in response to message #1 by Keith Midson

Hello Keith, I will be very happy to help you with a recell service for your HP-97 battery pack. I live in Italy so you must evaluate the postal fees. I'm also selling rebuilded old HP-82033a battery pack with good 2200 mA NiCd akku. Let me know if you are interested.

Regards

Ignazio

Re: HP97 batteries?

*Message #3 Posted by **Karl-Ludwig Butte** on 25 Apr 2010, 6:23 a.m.,*
in response to message #2 by Ignazio Cara (Italy)

Hello Ignazio, I'm very happy to hear that you recell HP-97 battery packs. So maybe you can tell me how to open the plasticcase around the batteries without destroying the plastic case. I tried with a scalpelknife and a tiny rotating metal disc. The first method takes way too long and the second method results in clouds of molten and again solidificated plastic along the cut.

Every hint is very much appreciated - thank you very much in advance.

Regards

Karl

Re: HP97 batteries?

*Message #4 Posted by **Katie Wasserman** on 25 Apr 2010, 11:22 a.m.,*
in response to message #3 by Karl-Ludwig Butte

I've opened dozens of these battery packs as follows:

All you need is a heavy duty X-acto knife handle (#5) with a #19 blade.

Lightly cut through any labels that might be spanning the case halves.

Force the blade into all 4 corners between the case halves as far as you can. You need to use a lot of force so put the pack on a table and be careful to keep your hands clear of the blade in case the blade slips (or breaks, but this has never happened to me).

Find the corner that you were able to insert the blade the deepest into and re-insert the blade. Then twist the blade and the pack should split apart.

This procedure will slightly damage the corners of the pack but it will be hardly noticeable. About 20% of the packs won't open this way, in those cases you need to score into the ends of the packs as well. This is much harder to do, but always works if you spend enough time at it.

-Katie

Edited: 25 Apr 2010, 2:00 p.m.

Re: HP97 batteries?

*Message #5 Posted by **Ignazio Cara (Italy)** on 25 Apr 2010, 11:47 a.m.,*
in response to message #3 by Karl-Ludwig Butte

Hello Karl, the description presented by Katie is absolutelly perfect, I would not be able to explain it better. Thanks Katie.

Regards

Ignazio

Edited: 25 Apr 2010, 11:47 a.m.

Re: HP97 batteries?

*Message #6 Posted by **Karl-Ludwig Butte** on 26 Apr 2010, 4:22 a.m.,*
in response to message #5 by Ignazio Cara (Italy)

Hello Katie & Ignazio,

thanks a lot for your answers. I'll try my luck.

Regards

Karl

Re: HP97 batteries?

*Message #7 Posted by **Joel Setton (France)** on 24 Apr 2010, 3:44 p.m.,*
in response to message #1 by Keith Midson

Hi Keith,

The cells in the HP-97 pack are a fairly standard size known in the industry as "Sub-C" (22 x 42mm), which you can get from many sources. You can also look them up on TAS!

Joel Setton

Re: HP97 batteries?

*Message #8 Posted by **Keith Midson** on 24 Apr 2010, 5:24 p.m.,*
in response to message #7 by Joel Setton (France)

Thanks Ignazio and Joel, I just bought a new pack from that auction site. I did look there before I posted the message and couldn't find them, but they are there. The batteries of my newly acquired 97 actually hold a some charge for a little while - not bad for batteries that are more than 30 years old! Cheers, Keith

Re: HP97 batteries?

*Message #9 Posted by **Michael de Estrada** on 24 Apr 2010, 5:34 p.m.,*
in response to message #8 by Keith Midson

I believe you bought them from Waterhosko (Mark Hoskins), who also makes replacement battery packs for HP Classic and Spice series calculators. He also sells O-rings for card reader drive wheel repair.

Re: HP97 batteries?

*Message #10 Posted by **Keith Midson** on 24 Apr 2010, 8:32 p.m.,*
in response to message #9 by Michael de Estrada

Yes that's right Michael. Have bought many batteries from him, but couldn't find 97 ones until this morning for some reason. The card reader also needs repair, along with the printer. This can be the next project. Funny I didn't actively seek this machine out, but now I have it I love it! Keen to restore it to its former glory. Cheers, Keith

---

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Faint HP-11 LCD

*Message #1 Posted by **aj04062** on 23 Apr 2010, 12:13 p.m.*

Any solutions for a faint LCD on these calculators?

Edited: 24 Apr 2010, 2:53 p.m. after one or more responses were posted

Re: Faint HP-11 LCD

*Message #2 Posted by **Ignazio Cara (Italy)** on 23 Apr 2010, 2:32 p.m.,*
in response to message #1 by aj04062

We can't see the picture!

Ignazio

Re: Faint HP-11 LCD

*Message #3 Posted by **Martin Pinckney** on 23 Apr 2010, 2:56 p.m.,*
in response to message #2 by Ignazio Cara (Italy)

Ignazio, try right-clicking on the icon, and select 'view image'. Works for me.

Re: Faint HP-11 LCD

*Message #4 Posted by **aj04062** on 23 Apr 2010, 7:19 p.m.,*
in response to message #3 by Martin Pinckney

I've tried to post pictures from my picasa site and they don't come through. Any suggestions?

Edited: 23 Apr 2010, 7:20 p.m.

Re: Faint HP-11 LCD

*Message #5 Posted by **cm41u** on 23 Apr 2010, 8:55 p.m.,*
in response to message #4 by aj04062

It looks like you're posting a link to a web page, not an image. You need the link to the actual image which is:
http://lh3.ggpht.com/_32YBZSrfeUs/S9HHuUqIMaI/AAAAAAAAAi0/vv7eRZy37Gk/Cal.jpg
which you can then imbed with the image command like this:

Re: Faint HP-11 LCD

*Message #6 Posted by **Gerson W. Barbosa** on 24 Apr 2010, 10:20 p.m.,*
in response to message #1 by aj04062

Same problem here, but in a lesser degree:

Lyuka has suggested in a former thread LCD contrast problems might be due to a faulty tantalum capacitor, among other things, but I haven't checked this out as I got used to the slightly low contrast on this one.

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv019.cgi?read=160283

Re: Faint HP-11 LCD

*Message #7 Posted by **Lyuka** on 25 Apr 2010, 11:16 a.m.,*
in response to message #6 by Gerson W. Barbosa

Hi, Gerson

The cause of the low contrast LCD of the 42s was found to be broken switching transistor for LCD bias generator in the chip.

for more information : A work-around for sticking-to-low-contrast LCD problem of the HP-42S

However this won't apply to the HP-11C's case.

Regards,
Lyuka

Re: Faint HP-11 LCD

*Message #8 Posted by **Gerson W. Barbosa** on 25 Apr 2010, 12:35 p.m.,*
in response to message #7 by Lyuka

Hello Lyuka,

That particular HP-15C (SN 2905B29505) was bought brand new in 1989 by a collector in São Paulo and kept unused for more thant fifteen years before he eventually sold it to me. About one year earlier, another collector in São Paulo was lucky enough to find a new-in-box HP-15C in a small store, forgotten in a upper shelf where it had been kept since 1989. He sent me some pictures of it, but I cannot find them anymore. Incidentally, his only complain was about the dim display. From these two samples I cannot infer whether this was due to the long time the calculators had been kept unusued or to a problem on those final run units. Do you have any idea?

Regards,

Gerson.

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Faint HP-11 LCD

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TI NSPIRE vs HP50

*Message #1 Posted by **fabrice** on 23 Apr 2010, 4:49 a.m.*

I have seen that Texas instrument sold a NEW ti nspire, actually i own an HP50 but i don't like it, the HP50 is built with bad 'plastic' and i hate the screen and the keyboard but i like the RPL. Th HP50 quality is less than HP48. The new n spire is built in very good quality, bigger screen with grayscale, arm processor . i HATE to say it but NOW i begin to prefer TI calculator. doas anyone know if HP is going to 'respond' to TI with a better calculator ? if no i stop to programm on HP and jump to TI.

since a long time i developp on HP calculator and i love it but the last good calculator is the HP48 after this model all are bad. hp49, hp49g+, hp50 i woul like to continue with HP but is they don't correct the quality i prefer to stop.

fabrice

Re: TI NSPIRE vs HP50

*Message #2 Posted by **Don Shepherd** on 23 Apr 2010, 6:02 a.m.,*
in response to message #1 by fabrice

Fabrice, if the main thing you like about the HP50 is programming in RPL, you will not be happy with the NSpire. It's programming language is BASIC, and it offers none of the advanced programming constructs of RPL. Indeed, before the latest OS release there was no way to input a value during program execution. It is not a "programmer's" calculator.

While the NSpire does have a large screen, it is very difficult to read it in normal room lighting situations; I keep a flashlight next to mine.

Most HP50 users seem to be very satisfied with the build quality, so I'm surprized that you find it lacking in that department.

Is it likely that HP will issue a calculator like the NSpire? No. The NSpire is really meant for students, and HP has no real presence in that market.

Re: TI NSPIRE vs HP50

*Message #3 Posted by **Michael Plant** on 23 Apr 2010, 9:48 a.m.,*
in response to message #2 by Don Shepherd

> Quote:
>
> While the NSpire does have a large screen, it is very difficult to read it in normal room lighting situations; I keep a flashlight next to mine.

I just picked up a Brand-new in packaging Ti-Nspire CAS (non-touchpad) at a local drugstore for $30 (They had a whole table full of them, with the non-CAS version going for $50. I wish I had bought one of those as well - they were gone the next day). I got it home and immediately updated to OS 2.0. Now, I

would say that the screen is, if anything, worse than people have reported on the internet. It's dire. Even having read the reports about its illegibility, I though initially that I had a bum unit! Contrast controls have no appreciable effect. It's still useable, but the screen takes some getting used to.

I also own an HP 50g and wouldn't call it inferior in any way to the Ti-Nspire. The Ti-Nspire's "advantage" is mind-numbing ease of use, which would make it useful in an education setting, I suppose.

Don't get me wrong - I like the Nspire (I collect calculators, of cousre I like it!) - but using the two side by side, they feel like very different animals to me and the HP yields nothing in terms of build quality.

Caveat: the foregoing is based on minimal real-world use of either calculator...

Edited: 23 Apr 2010, 9:48 a.m.

Re: TI NSPIRE vs HP50

*Message #4 Posted by **David Hayden** on 23 Apr 2010, 11:59 a.m.,*
in response to message #2 by Don Shepherd

> Quote:
>
> Is it likely that HP will issue a calculator like the NSpire? No. The NSpire is really meant for students, and HP has no real presence in that market.

This isn't for lack of a product. I think the HP 39gs and 40gs are wonderful student calculators. Unfortunately, they seem to have very little market share.

Re: TI NSPIRE vs HP50

*Message #5 Posted by **Hal Bitton in Boise** on 23 Apr 2010, 10:09 a.m.,*
in response to message #1 by fabrice

> Quote:
>
> the HP50 is built with bad 'plastic' and i hate the screen and the keyboard

Hmmm...how exactly is the the plastic "bad", and what do you hate about the screen and keyboard? Best regards, Hal

Re: TI NSPIRE vs HP50

*Message #6 Posted by **Ron Ross** on 23 Apr 2010, 10:23 a.m.,*
in response to message #1 by fabrice

http://www.rskey.org/buyguide.pdf

My own review, not thorough or comprehensive, but an overall review of the graphing calculator market available as of two weeks ago.

As noted in an earlier post, two different applications. I do feel Ti has improved the TNspire with this new keypad, but the fundamental product is still aimed at the classroom, not the working environment.

Re: TI NSPIRE vs HP50

*Message #7 Posted by **David Hayden** on 23 Apr 2010, 4:28 p.m.,*
in response to message #6 by Ron Ross

Thanks for putting this review together Ron. I enjoyed it very much.

Re: TI NSPIRE vs HP50

*Message #8 Posted by **Mike Morrow** on 23 Apr 2010, 11:00 p.m.,*
in response to message #6 by Ron Ross

Not to be too critical, but...

I would be led to think after reading it that the writer of this review works in TI marketing and sales.

I've owned a TI-89 HW1 for ten years, and recently purchased a TI-89 Titanium HW4 when Wal-Mart cleared these non-sellers for $72. There's still at least one left unsold at my local store after several weeks on clearance.

I'd long since ditched my first TI-89 dog, so I'd forgotten what a nasty oversized abomination the TI-89 series is. I believe that even $72 is overpriced for its limited and inconvenient capabilities.

It amazes me that any comparison with the HP50G can fail to acknowledge the great advantage of the HP50G SD card, the speed of the HP50G ARM, the superior legibility of the HP50G LCD, the HP50G's superior RT clock, the HP50G's superior keyboard, the TI-89's lack of sound capability, lack of printer capability, lack of external power connection, the TI-89's higher price (unless one can find a clearance), the TI-89's awkward clamshell design, etc., etc., etc.

In the review almost every machine that is NOT TI-made is essentially dismissed, and summary statements repeatedly suggest that a TI model is the only model that most are likely to find useful.

Me, I feel like my new TI-89 Titanium is a just a $72 paperweight, regardless of how baselessly glowing and effusive the review is.

Re: TI NSPIRE vs HP50

*Message #9 Posted by **bill platt** on 23 Apr 2010, 11:51 p.m.,*
in response to message #8 by Mike Morrow

One has to wonder about your judgment, Mike...like, you should have known better than to buy that thing...

Re: TI NSPIRE vs HP50

*Message #10 Posted by **John McCormick** on 24 Apr 2010, 1:55 a.m.,*
in response to message #8 by Mike Morrow

Stop by your local school or college of engineering. Find the freshmen. It's nearly guaranteed one of them will be toting around an HP 48...(or maybe better!) given to them by an uncle as they whine "I don't know how to use this thing. I wish I had a TI like everyone else." That's how I got mine.

Re: TI NSPIRE vs HP50

*Message #11 Posted by **Ron Ross** on 24 Apr 2010, 10:44 a.m.,*
in response to message #8 by Mike Morrow

Well, Mike, your criticism is duly noted and I most assuredly do not work for Ti. I cannot refute a single statement you have made. However, I can assure you that my review is sound and fair. If the Hp50G were to gain more market inertia where there were several knowledgeable users available to demonstrate how much better the Hp 50G is in comparison to the Ti-89, I would gladly recommend the Hp 50G over the Ti-89. Notice I did not state the Ti-89 is the superior calculator, I stated it is the calculator you should choose for the normal high end user that can't transition over to RPN (and most common calculator users can't or won't, same difference). I have tried to use many of the Hp 50G functions in algebraic mode and the calculator is simply not equal to the Ti-89 in algebraic mode.

If you can't read the screen of the Ti-89, Ti has the V-200 option available. EE and ME pro are kinda nice perks that Ti has made available for free on the Ti-89 family and aren't officially available to the normal Hp50G user either.

I could not in all honesty elaborate on those advantages to the normal user. That would mislead the normal (and not all that technically savvy) user to believe that the Hp 50G will solve his problems by the simple purchase of the calculator.

Let me address each of your superior features of the Hp 50G from a typical user's perspective:

Hp50G SD card, this is a great plus if you are aware of hpcalc.org, however, many typical users never download anything onto their calculators unless it is games or the teacher distributes something in class. If the Teacher does distribute something in class, IT WILL be for a Ti.

75 (or 200) MHz processor, My Ti-89 has never really been slow, especially in comparison to an Hp 48G. So Hp corrected their problem, but the Ti-89 never had complaints among the typical user for lack of speed.

Hp 50G LCD Another good point, but the standard user of the Ti-89 is probably 20 years younger than me, anyway and if not, can most likely afford to upgrade to the V200.

The Hp 50G clock, is a step backwards in comparison to the older clock in the Hp48G series and the newer Ti-89 now has a clock. The verdict is still not in on the Hp50G keyboard quality, although I am inclined to believe it is a great keyboard and its layout is far superior to the Ti-89.

I make two or three references to this shortcoming. However the quality of the Ti keyboard line is superb. Their line of keyboards do last. Hp's record over the last ten years doesn't compare.

Lack of sound, lack of printer, lack of power connections, none of these features are really important to the typical calculator user.

The slide on cover for the Ti-89 is probably the smarter choice of protection for Ti's intended market. The Hp48Gii uses the same type of slide on cover. Students do not take care of their equipment nearly as well as older professionals as a general rule.

I suggest you re-read some of my review. 9 out of 10 students should buy the Ti-89 for their studies, plain and simple. I have seen too many reviews where the typical student who buys the Hp 50G ends up abandoning it and buying a Ti. My review is meant to help that student avoid that mistake. As stated earlier, the inertia of the market ie limited number of Hp50G users available to consult is very limited and therefore if you buy an Hp50G, you cannot get personal help from any professor or fellow students (unless your professor is Harold Climber!!)

Re: TI NSPIRE vs HP50

*Message #12 Posted by **Howard Owen** on 24 Apr 2010, 12:18 p.m.,*
in response to message #11 by Ron Ross

> Quote:
>
> Notice I did not state the Ti-89 is the superior calculator,

Your (valid) point about market inertia aside, while you may have stated the 50g is superior in some ways, you damned it with faint praise, in my opinion.

> Quote:
>
> I stated it is the calculator you should choose for the normal high end user that can't transition over to RPN (and most common calculator users can't or won't, same difference).

Doesn't this assume that high school and college students are lunkheads incapable of learning anything? (Oh.. wait..)

Seriously, motivation aside, younger folks are far more capable of absorbing new techniques and knowledge. If you use mobile text, how well do you do at it? (I get by, but with a good mobile keyboard.) If you use Facebook, how well did you make the transition to Twitter? Did you find the transition from Myspace to Facebook easy or hard? Most young folks made both of those transitions, and will undoubtedly move on to whatever comes next. What's more, *they still have and occasionally use the older accounts.* Old farts like me tend to stick with Facebook.

Apart from the relative merits of RPN vs Algebraic, I think the difficulty of learning both is exaggerated for most young folks of reasonable intelligence.

> Quote:
>
> If you can't read the screen of the Ti-89, Ti has the V-200 option available.

Granted, young eyes are going to have less difficulty with illegible displays than my older ones.

> Quote:
>
> EE and ME pro are kinda nice perks that Ti has made available for free on the Ti-89 family and aren't officially available to the normal Hp50G user either.

TI can certainly afford to throw in more extras, given the volumes at which they sell their machines. Of course, to some extent, they need to do that because the underlying implementations lack features.

> Quote:
>
> I could not in all honesty elaborate on those advantages to the normal user. That would mislead the normal (and not all that technically savvy) user to believe that the Hp 50G will solve his problems by the simple purchase of the calculator.

I take your point that TI's domination of the educational calculator market is a powerful argument for using their machines in high school, and to a lesser extent in college. But I think this statement ignores an important fact. People under 30 years of age use the Internet in ways many of us older folks simply don't get. I was talking to a lady friend in Facebook chat last night. We were both

listening to the same shoutcast stream - offshore radio - playing "old fart" music from the 50s, 60s and 70s. I was identifying tunes and artists from memory and doing pretty well at it. But she was cleaning my plow by using google on the lyrics. She was back to me with the identities of obscure songs in seconds. (I mean less than five, typically.) The point is not that googling such things is hard, it's that this was her first thought when confronted with a game like this. She's 30, and says her 10 year old daughter puts her to shame.

So I think your dismissal of hpcalc.org isn't warranted. Any young person with a tiny bit of interest in an HP calculator will have instant access to that site, and the rich resources available for the 50g. Of course, "tiny bit of interest" is a key phrase here.

> Quote:
>
> Hp50G SD card, this is a great plus if you are aware of hpcalc.org, however, many typical users never download anything onto their calculators unless it is games or the teacher distributes something in class. If the Teacher does distribute something in class, IT WILL be for a Ti.

See above as to hpcalc.org. You restate your main point that TI's market domination makes their machines a good choice for high school students. But I think your denigration of Internet resources here is just plain wrong.

> Quote:
>
> 75 (or 200) MHz processor, My Ti-89 has never really been slow, especially in comparison to an Hp 48G. So Hp corrected their problem, but the Ti-89 never had complaints among the typical user for lack of speed.

Straw man. You lead with a comparison between the 75Mhz processor of the 50g and that of the TI-89, then dismiss it on the basis of a comparison with the HP48. Then you basically say the TI-89 speed is good enough. Maybe, but you are jumping through hoops to avoid acknowledging a clear advantage for HP.

> Quote:
>
> Hp 50G LCD Another good point, but the standard user of the Ti-89 is probably 20 years younger than me, anyway and if not, can most likely afford to upgrade to the V200.

Check. As above, young eyes do better with crappy displays. And since today's kids will be unlikely to continue squinting at any calculator after they leave school, the concern about eye damage is probably misplaced. :)

> Quote:
>
> The Hp 50G clock, is a step backwards in comparison to the older clock in the Hp48G series and the newer Ti-89 now has a clock. The verdict is still not in on the Hp50G keyboard quality, although I am inclined to believe it is a great keyboard and its layout is far superior to the Ti-89.

It has also been shown to be more durable than the 49g+ abomination. Point taken under

advisement, but I think it's just here for rhetorical purposes. The 50g's keyboard *may* not last for 10 years, so we should make buying decisions on the assumption it *won't*. This denigrates the improved quality of HP's top of the line keyboards far more than is warranted, in my opinion.

> Quote:
>
> Lack of sound, lack of printer, lack of power connections, none of these features are really important to the typical calculator user.
>
> The slide on cover for the Ti-89 is probably the smarter choice of protection for Ti's intended market. The Hp48Gii uses the same type of slide on cover. Students do not take care of their equipment nearly as well as older professionals as a general rule.

Check, and check.

> Quote:
>
> I suggest you re-read some of my review. 9 out of 10 students should buy the Ti-89 for their studies, plain and simple. I have seen too many reviews where the typical student who buys the Hp 50G ends up abandoning it and buying a Ti. My review is meant to help that student avoid that mistake. As stated earlier, the inertia of the market ie limited number of Hp50G users available to consult is very limited and therefore if you buy an Hp50G, you cannot get personal help from any professor or fellow students (unless your professor is Harold Climber!!)

OK, once again, your main point is valid. It's a hard pill for me to swallow that the far more powerful and elegant 50g or even the 39/40gs, are not appropriate choices for most high school students, but I think it's true. However dismissing resources for support that students will most definitely find, if they have an interest, is wrong.

Regards,
Howard

Re: TI NSPIRE vs HP50

*Message #13 Posted by **Crawl** on 24 Apr 2010, 12:37 p.m.,*
in response to message #12 by Howard Owen

But the HP50g isn't just DIFFERENT (like Facebook / Twitter), it actually is HARDER.

Adjusting to RPN for most things (eg, arithmetic) is probably not that difficult, I agree.

But there are still some things I don't know how to do off the top of my head, and I've used this calculator just about daily for years. For instance, if I wanted to enter a definite integral, I'd have to do it in the equation editor, because I can't remember the order of the arguments otherwise.

If you forget the order of arguments on the TI89, the catalog list shows them.

If the HP50's help library was more complete it could close this gap, but it's not.

The HP50 also has esoteric names for commands. Eg., DROITE for the equation of a line. Even if the help library was more complete, you might not know to look that up to begin with.

Also, some programming tasks (mainly, loop breaking) are easier with TI basic than RPL (though RPL is more powerful).

Honestly, I don't know if I could say which calculator is "better". If I had to recommend one to a generic "average" user, I guess I probably would recommend the TI89, due to ease of use. If someone was more of a calculator "nerd", I'd probably recommend they get both (which is what I did).

Re: TI NSPIRE vs HP50

*Message #14 Posted by **David Hayden** on 25 Apr 2010, 12:27 p.m.,*
in response to message #12 by Howard Owen

> Quote:
>
> > Quote:
> >
> > 75 (or 200) MHz processor, My Ti-89 has never really been slow, especially in comparison to an Hp 48G. So Hp corrected their problem, but the Ti-89 never had complaints among the typical user for lack of speed.
>
> Straw man. You lead with a comparison between the 75Mhz processor of the 50g and that of the TI-89, then dismiss it on the basis of a comparison with the HP48. Then you basically say the TI-89 speed is good enough. Maybe, but you are jumping through hoops to avoid acknowledging a clear advantage for HP.

The HP ARM is emulating a Saturn Processor while the TI is, I believe, running native code. If for no other reason than this, a comparison of clock speeds isn't very meaningful. The only real way to compare the performance is to run some benchmarks on both machines.

That said, I think it **is** true that the HP is capable of much faster calculations, but you have to code in C or ARM assembly. A good example is my Sudoku Solver on hpcalc.org. It can solve any Sudoku puzzle with a single solution in about 0.1 seconds.

Re: TI NSPIRE vs HP50

*Message #15 Posted by **Howard Owen** on 25 Apr 2010, 1:26 p.m.,*
in response to message #14 by David Hayden

Point taken on clock speeds. That certainly accounts for perceptions that the calculators have comparable performance. But I still think comparing the TI-89 to the HP-48 isn't fair.

As to native code, I'm out of touch. How many apps out there actually use the capability?

Regards, Howard

Re: TI NSPIRE vs HP50

*Message #16 Posted by **Marcelo Vanti (Brasil)** on 26 Apr 2010, 2:02 p.m.,*
in response to message #11 by Ron Ross

> Quote:

> If the Teacher does distribute something in class, IT WILL be for a Ti

This does not apply to Brazil. All my students have HP 49g or HP 50g, and I distribute programs for these calculators. On the other side, I rarely see a TI 89 in class.:)

Re: TI NSPIRE vs HP50

*Message #17 Posted by **Crawl** on 24 Apr 2010, 12:13 p.m.,*
in response to message #8 by Mike Morrow

No, the TI89 really is a great calculator. I was very surprised since I don't like other TI calculators. But they did a good job with that one, making it both durable (I've dropped it several times with no ill effects) and giving it powerful software.

> Quote:
>
> I'd forgotten what a nasty oversized abomination the TI-89 series is.

It's about the same size as the HP50. With the case, the HP50 is much bigger. It is possible to put a TI89 in jeans pockets (if you don't mind the bulge), but an HP50 in case will not fit in pants pockets. I've had winter coats whose pockets the HP50 won't fit into.

> Quote:
>
> the HP50G's superior keyboard

I don't think that's true. I've never had a problem with the TI89 keyboard. By the way, even when the HP50 is in its case, it is prone to accidentally having its power button turned on. This can cause it to go through batteries like crazy. The TI89's hard case prevents this, and it also has a little ridge by the on button to make it less likely to be accidentally pressed.

(I got a third party calculator case, probably intended for TI calculators (though it fits the HP perfectly), for my HP50, to deal with the power button issue)

> Quote:
>
> the speed of the HP50G ARM

Maybe you're talking about writing C or assembly for the calculator. When it comes to using the calculators' own math software, I haven't found either calculator to consistently be faster than the other, for all operations.

> Quote:
>
> the superior legibility of the HP50G LCD

I think the differences here are insignificant.

> Quote:

> the TI-89's lack of sound capability

I think this is trivial for most people. I've heard it's possible to devise some sort of headphone connection to the calculator through one of the ports if you really need it, though.

> Quote:
>
> the HP50G's superior RT clock

Really? Right now my HP's clock is off by ten minutes. I can't say for a fact that that's because it lost time, or because I set it wrong to begin with.

> Quote:
>
> the TI-89's awkward clamshell design

Well, it does do a good job of protecting the calculator, and, as I said, it prevents the calculator from being turned on accidentally.

> Quote:
>
> the great advantage of the HP50G SD card

This is a true advantage of the HP. The HP does have some real advantages over the TI (and vice versa).

But even this isn't as huge an advantage as it could be. If a program needs to be installed as a library, it still needs to be copied to the calculator's own (much more limited) memory.

On the other hand, I will say that I still think the TI89 is probably the only TI calculator worth buying. Graphing calculators without a CAS (like the TI83 or 84) are pointless.

Re: TI NSPIRE vs HP50

*Message #18 Posted by **Don Shepherd** on 25 Apr 2010, 5:47 a.m.,*
in response to message #17 by Crawl

> Quote:
>
> Graphing calculators without a CAS (like the TI83 or 84) are pointless.

I would disagree. The TI-83 and 84 are wonderful calculators for graphing and studying equations or inequalities. As a math teacher, I use the 83's to help my students explore all kinds of things related to equations, like slope, y-intercept, parallel and perpendicular lines, intersection points, and so on. Recently I had my students determine the equation of a line using two points, then graph the equation and look at the table of x/y pairs to see that the original two points are in the table. That was useful.

Of all the graphing calculators I have used over the years, the 83 and 84 are easiest to use and have the features that are most useful. They don't need a CAS at all, although CAS is available on them through third parties.

Re: TI NSPIRE vs HP50

*Message #19 Posted by **Bart (UK)** on 26 Apr 2010, 4:39 a.m.,*
in response to message #18 by Don Shepherd

So what happened to the good old paper & pencil method?

How times change :)

Re: TI NSPIRE vs HP50

*Message #20 Posted by **Don Shepherd** on 26 Apr 2010, 6:58 a.m.,*
in response to message #19 by Bart (UK)

> Quote:
>
> So what happened to the good old paper & pencil method?

Oh, we do that too.

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Pre-built Windows version of NutStudio tools for HP-41 available

*Message #1 Posted by **Håkan Thörngren** on 22 Apr 2010, 3:00 p.m.*

A pre-built Windows version of my MCODE tools for HP-41 is now available at
http://code.google.com/p/nutstudio/downloads/list

The package contains an assembler and a linker that will allow you to create MCODE modules for the HP-41.

As before, documentation and pre-built versions for Mac OS X and Linux are also available.

Re: Pre-built Windows version of NutStudio tools for HP-41 available

*Message #2 Posted by **Egan Ford** on 22 Apr 2010, 4:54 p.m.,*
in response to message #1 by Håkan Thörngren

> Quote:
>
> documentation and pre-built versions for Mac OS X and Linux are also available.

Thanks. Makes me want to learn MCODE just to use it. Perhaps in a doc update you could have a 'hello world' example from editor, to compile, to link, to running in an emulator.

Re: Pre-built Windows version of NutStudio tools for HP-41 available

*Message #3 Posted by **Håkan Thörngren** on 23 Apr 2010, 2:30 a.m.,*
in response to message #2 by Egan Ford

> Quote:
>
> Perhaps in a doc update you could have a 'hello world' example from editor, to compile, to link, to running in an emulator.

Sounds like a good idea, I will consider it for a future version.

Re: Pre-built Windows version of NutStudio tools for HP-41 available

*Message #4 Posted by **PeterP** on 23 Apr 2010, 10:43 a.m.,*
in response to message #3 by Håkan Thörngren

Hakan, great job! Now we just need a single-step-em emulator like SDK41 has it :-)

As you have named the Card Reader functions I was wondering if you happen to know what they actually do...

Cheers

Peter

Re: Pre-built Windows version of NutStudio tools for HP-41 available

*Message #5 Posted by **Egan Ford** on 23 Apr 2010, 1:04 p.m.,*
in response to message #4 by PeterP

EMU41 is open source now (as is SDK41), perhaps someone can take that on.

Re: Pre-built Windows version of NutStudio tools for HP-41 available

*Message #6 Posted by **PeterP** on 23 Apr 2010, 2:30 p.m.,*
in response to message #5 by Egan Ford

you forgot to add a <wink>, <wink>...

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Wolfram Alpha for iPhone rebate available.

*Message #1 Posted by **Pal G.** on 22 Apr 2010, 12:48 a.m.*

This is a friendly heads up that if you purchased Wolfram Alpha for iPhone/touch for $50USD or $20USD, they are offering a rebate (most of your money back I believe) until May 3.

https://products.wolframalpha.com/iphone/rebate/signin.html

HTH

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Is the HP 30B for sell or not?

*Message #1 Posted by **Gerardo Rincon** on 21 Apr 2010, 9:07 p.m.*

I can't find anyone who carries the HP 30B, including the HP store itself.

Re: Is the HP 30B for sell or not?

*Message #2 Posted by **Walter B** on 22 Apr 2010, 12:41 a.m.,*
in response to message #1 by Gerardo Rincon

YMMV depending on your home country. But even in the US of A that model isn't found on the sales list but only here. I think there must be some errors in HP's website since the documentation under "Customer Care" is pretty extensive.

Edited: 22 Apr 2010, 12:46 a.m.

Re: Is the HP 30B for sell or not?

*Message #3 Posted by **hpnut** on 22 Apr 2010, 1:01 a.m.,*
in response to message #2 by Walter B

HP website is weird and downright confusing. I can't find any online manual for the HP30b although there are many how to resources.

hpnut in Malaysia

-still waiting for the HP30b to arrive by the slow boat from China :-)

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Yahoo! Finally got me a HP-70

*Message #1 Posted by **Michael de Estrada** on 21 Apr 2010, 2:31 p.m.*

Well, after wondering if I'd find a nice HP-70 to fill in the biggest hole in my collection, I finally found one in perfect working condition with only missing silver trim at the top of the keyboard to make it less than perfect cosmetically. I had recently passed on an auction that ended up selling for nearly a grand, and another one which had a missing battery cover (unique color to the HP-70) and had a reserve (I hate reserve auctions and don't bid on them). There was another auction in which the calculator had been butchered by soldering wires to the battery contacts, and I didn't even bother with that one.

So now, I feel that my collection is complete to the extent that it meets my desire to have all the HP LED models from the classics onwards. Well, not truly complete in that I lack an HP-81, although I do have an HP-46, and then there's the unreleased HP-95C....

Edited: 21 Apr 2010, 3:27 p.m. after one or more responses were posted

Re: Yahoo! Finally got me a HP-70

*Message #2 Posted by **Michael Meyer** on 21 Apr 2010, 3:09 p.m.,*
in response to message #1 by Michael de Estrada

Congratulations!!! I had mixed feelings about bidding for one. It's a key item missing in my collection, now that I have a working HP-10 and working (finally) HP-29C, but so expensive. And, it gives me something to strive for to actually complete the collection. I mean, now that you've got one, you need to start over and make sure you have a "spare"....!! You don't want to be "done" collecting, now, do you?

I did get a broken Panasonic 850 in the mail today. Battery pack worked, fuse was good, but no continuity in the switch. Easy fix. The vacuum tubes even have an 8th segment to complete the tail of the crossed "4". What a cool machine! Manual courtesy of Katie (Thanks!)

Congratulations on your 70!!

Things that are missing...

*Message #3 Posted by **Gene Wright** on 21 Apr 2010, 3:48 p.m.,*
in response to message #2 by Michael Meyer

So, what are the holes in your collections?

The holes in my collection are:

```
HP-10A
HP-35A red dot
HP-95c (ha!)
```

I have had an HP-10A and an HP-35A red dot, but I feel guilty not converting them to cash when I see the eyes of my family showing hunger. (kidding about the hunger, but not the guilt).

Otherwise, all the models are represented. I don't have all color combinations, for example, only the yellow/blue HP-32SII rather than the ugly teal/purple. I'm not THAT much of a collector nut. ;-)

And, yes, I know that the HP-70, HP-92 and HP-01 I have are worth a good penny...I just haven't felt quite that guilty yet.

Re: Things that are missing...

*Message #4 Posted by **Michael de Estrada** on 21 Apr 2010, 5:05 p.m.,*
in response to message #3 by Gene Wright

I guess that I should have clarified that I'm only interested in RPN calculators, so I also lack the HP-10 and HP-01, but have no intent on acquiring them. I do have an HP-35 Red Dot, which is a complete set with all original accessories as well as a complete HP-92. I know that there are a few MoHPC forumites who have the HP-81 and HP-95C, so I'll probably have to ingratiate myself with one of them if I ever hope to acquire those models.

Re: Things that are missing...

*Message #5 Posted by **Katie Wasserman** on 21 Apr 2010, 6:28 p.m.,*
in response to message #3 by Gene Wright

Gene,

Does that include the 94 d/e/f? Do you collect the larger machines like the 46, 81, 9805 and the really big stuff?

I'd rally like to find a 9805 and an affordable 01, but otherwise I think I'm fully collected as far as my HP calculators go.

-Katie

Re: Things that are missing...

*Message #6 Posted by **Gene Wright** on 21 Apr 2010, 9:44 p.m.,*
in response to message #5 by Katie Wasserman

Ah, no 94 models and not the 46/81 (although I have had one of both of those before).

Of the really big guys, I have a 9820 given to me when I helped someone sell an HP 9100.

Really, though, it needs to be a handheld to be on my list. . . and the 94's don't count to me. ;-)

So, the 3 listed are the only ones on my list I don't have. Not really looking hard. :-)

Re: Things that are missing...

*Message #7 Posted by **db (martinez, ca.)** on 22 Apr 2010, 12:29 a.m.,*
in response to message #5 by Katie Wasserman

Katie; Last time you mentioned it i think you only had one. Do *you* now have a pair royal of 94s? -db

And BTW: if anyone has a spare 70, 86 or 9100, wants a 94, and is going to the HHC-- lets talk.

Re: Things that are missing...

*Message #8 Posted by **Katie Wasserman** on 22 Apr 2010, 2:28 a.m.,*
in response to message #7 by db (martinez, ca.)

db-

> Quote:
>
> Do you now have a pair royal of 94s

Three-of a kind, the d, e and f.

I wrote a really, really bad sort-of-HP-35 simulator for them in BASIC just so that I could call them calculators and stick them in my collection.

Dave's footnote:

> Quote:
>
> (4) If you really want to impress your collecting friends, collect one each of the HP-94D, HP-94E, and HP-94F.

However, I think that this isn't so since most collectors don't consider these HP collectibles, much less calculators. They're just a weird artifact from the mid 1980's that got lumped with calculators because of their model number.

-Katie

Edited: 22 Apr 2010, 10:17 a.m.

Re: Yahoo! Finally got me a HP-70

*Message #9 Posted by **Matthias Wehrli** on 22 Apr 2010, 12:35 a.m.,*
in response to message #1 by Michael de Estrada

WHat? You don't have a HP-95C? I got mine 2 month ago ;)

Re: Yahoo! Finally got me a HP-70

*Message #10 Posted by **Michael de Estrada** on 22 Apr 2010, 9:27 a.m.,*
in response to message #9 by Matthias Wehrli

Congratulations! Of all the models that I lack, that is the one I would most like to have. How did you find it, auction, private sale, another collector? Is it in good working order, or at least repairable? Although I am willing to collect calculators that are not perfect cosmetically, I want them all to be fully functional.

Re: Yahoo! Finally got me a HP-70

*Message #11 Posted by **Juergen Keller** on 22 Apr 2010, 1:03 p.m.,*
in response to message #9 by Matthias Wehrli

Wow, this is the really rare stuff! Glad to hear that there is one near me, so at least there is a chance that I can get a glimpse of it :-)

Re: Yahoo! Finally got me a HP-70

*Message #12 Posted by **Keith Midson** on 22 Apr 2010, 10:15 p.m.,*
in response to message #1 by Michael de Estrada

My HP70 arrived today! It's in excellent condition and didn't come from that auction site. I am very excited - only a few holes left in my collection now.
Also just picked up an early serial number 35 (1143) and an old HP97, complete with a whole bunch of stuff.
I am a very happy collector right now! Cheers, Keith

Re: Yahoo! Finally got me a HP-70

*Message #13 Posted by **Michael de Estrada** on 23 Apr 2010, 12:43 a.m.,*
in response to message #12 by Keith Midson

Fantastic! Sounds like you hit the jackpot. Does the HP-35 have the buggy ROM? How did you find your calculators?

Regards, Michael

Re: Yahoo! Finally got me a HP-70

*Message #14 Posted by **Keith Midson** on 23 Apr 2010, 2:44 a.m.,*
in response to message #13 by Michael de Estrada

Thanks Michael,
I only quickly checked the LN2 EXP one (2.00/2.02), and it has that bug - haven't checked the others yet. Word has spread around my local University and some old HP stuff is coming out of deep storage!! My 70 came from the other side of the planet thanks to this forum though.
Cheers, Keith

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I'm excited

*Message #1 Posted by **Dimitri Simitas** on 20 Apr 2010, 7:17 p.m.*

NiCad Lady contacted me about my battery and its going to be in the mail today.

I'll finally be able to try the printer for my HP-41

Dimitri

Re: I'm excited

*Message #2 Posted by **Egan Ford** on 20 Apr 2010, 8:37 p.m.,*
in response to message #1 by Dimitri Simitas

Congrats. I just got my 41CX rebuild from them. Now I can finally build that 41CX HTTP server.

Re: I'm excited

*Message #3 Posted by **Dimitri Simitas** on 21 Apr 2010, 4:48 p.m.,*
in response to message #2 by Egan Ford

That sounds like a interesting project, keep us posted.

I am wondering what heads will turn if I use the printer at my college come September. Would be interesting as a social experiment.

Dimitri

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Multiple business model RPN calculators and not many scientific ones?

*Message #1 Posted by **ravwalia** on 20 Apr 2010, 6:42 p.m.*

Hello All,

As the subject line, my impression is that there are quite a few new business rpn calculators you can buy, but the same is not true for engineering/scientific calculators.

Is there any particular reason for this?

Have we got to the point where there wont be any new scientific rpn calculators made and we'll either have to pick between the HP35s or the HP50g?

I know there was some speculation a while back that at somepoint the HP15c would be reissued but that seems like it was just wishful thinking or am I wrong?

Come on HP give us some new scientific non graphing calculators please.

Re: Multiple business model RPN calculators and not many scientific ones?

*Message #2 Posted by **DaveJ** on 20 Apr 2010, 8:43 p.m.,*
in response to message #1 by ravwalia

> Quote:
>
> As the subject line, my impression is that there are quite a few new business rpn calculators you can buy, but the same is not true for engineering/scientific calculators.
>
> Is there any particular reason for this?

Yes, marketing.
There must be a bigger market for financial calculators than scientific calculator, simple as that.

The only other reason would be if someone high up at HP had a financial calculator fetish.

> Quote:
>
> Have we got to the point where there wont be any new scientific rpn calculators made and we'll either have to pick between the HP35s or the HP50g?

It's a possibility.

The 35S and 50G were made to meet two very specific market segments.
It can be argued that no such (reasonable size) market exists for general use scientific calculators any more.

> Quote:

> I know there was some speculation a while back that at somepoint the HP15c would be reissued but that seems like it was just wishful thinking or am I wrong?

It's not wishful thinking.
If HP were to release a new scientific calculator, it makes extraordinary sense for it to be a re-issue of the 15C.

I've explained the reasons before. But basically because there is clearly very little market for such a thing, you have to come out with something novel. The 15C would be retro-novel, have much lower development risk and cost, and would have the best shot at getting decent sales. It also fits in with the HP retro paradigm.

Dave.

Re: Multiple business model RPN calculators and not many scientific ones?

*Message #3 Posted by **Pal G.** on 21 Apr 2010, 12:08 a.m.,*
in response to message #2 by DaveJ

> Quote:
>
> It's not wishful thinking. If HP were to release a new scientific calculator, it makes extraordinary sense for it to be a re-issue of the 15C.

Perhaps we should have people following Cyrille and Tim, in case one of them accidentally drops a 15c prototype at the bar..

Re: Multiple business model RPN calculators and not many scientific ones?

*Message #4 Posted by **Walter B** on 21 Apr 2010, 12:52 a.m.,*
in response to message #1 by ravwalia

> Quote:
>
> As the subject line, my impression is that there are quite a few new business rpn calculators you can buy, but the same is not true for engineering/scientific calculators. Is there any particular reason for this?

It was a global financial/business crisis, not an engineering/scientific one. So that sector may need proper tools more desperately. Just guessing ... d;-)

Re: Multiple business model RPN calculators and not many scientific ones?

*Message #5 Posted by **Martin Pinckney** on 21 Apr 2010, 10:14 a.m.,*
in response to message #1 by ravwalia

I find myself puzzled over the HP calculator division's direction. Then sometimes I wonder if they just stick a finger in the air to see which way the wind is blowing.

When I look at the 48/49/50 and 38/39/40 series, it looks like they decided to speed up and modernize the 48G and 38G models, so since TI has been so successful, they made the new HP's look like TI's. That didn't go over so well, so we got the 50g, which looks more like an HP, and seems to be doing well. So expect HP to leave well enough alone in that area.

Then the 33s got a "modern" look, which also got mixed reviews. I think the 35s had two reasons for it's development: 1) As a special commemorative model with a retro look to generate short-term sales, and 2) as test model to gauge the market for a more traditional HP-looking scientific. What did HP learn?

The rubber-key financials (10bii and 17bii+) didn't sell so well (witness Walmart dumping 10bii's at $2 each), so we got the new 10bii and silver 17bii+.

Now to the 20b and 30b. Not sure why HP brought these out, given the continued success of the 12c, and the acceptance of the newer 10bii and silver 17bii+. However, the fact that HP did bring them to market, IMO is the best news in a while, because they are completely new calcs, and because the architecture lends itself to the development of a whole line similar to the Pioneer concept.

We'll just have to wait and see.

Re: Multiple business model RPN calculators and not many scientific ones?

*Message #6 Posted by **Bart (UK)** on 21 Apr 2010, 11:11 a.m.,*
in response to message #1 by ravwalia

Well, there's the 33s and 48Gii, but they are both quite closely related to their bigger siblings.

This possibly leaves space for a more basic (perhaps non-programmable) RPN and something in-between like the 41C*/42S.

There's always the danger of over-diversifying and ending up with too many models giving a higher production cost but not the required increase in sales.

Would a 15C be viable? On the one hand a risk that it will only sell to the nostalgics but offset by the possibility that much of the 12C hardware can be used. It should even be possible to keep the hardware exactly the same as the new 12C (apart from screen and key labels), even down to the ARM processor and run the original 15C code encapsulated in an emulation within the ARM like the new 12C. But does HP still have the source code of the 15C?, I heard rumor that a lot was lost with the closure of the old calculator dept.

Re: Multiple business model RPN calculators and not many scientific ones?

*Message #7 Posted by **Martin Pinckney** on 21 Apr 2010, 11:38 a.m.,*
in response to message #6 by Bart (UK)

> Quote:
>
> But does HP still have the source code of the 15C?, I heard rumor that a lot was lost with the closure of the old calculator dept.

Not a rumor, I think Tim actually stated this. But aren't there other ways to retrieve the code?

Re: Multiple business model RPN calculators and not many scientific ones?

*Message #8 Posted by **DaveJ** on 21 Apr 2010, 5:55 p.m.,*
in response to message #6 by Bart (UK)

> Quote:
>
> Would a 15C be viable? On the one hand a risk that it will only sell to the nostalgics but offset by the possibility that much of the 12C hardware can be used. It should even be possible to keep the hardware exactly the same as the new 12C (apart from screen and key labels), even down to the ARM processor and run the original 15C code encapsulated in an emulation within the ARM like the new 12C. But does HP still have the source code of the 15C?, I heard rumor that a lot was lost with the closure of the old calculator dept.

Surely HP would not need the original source, just the binary ROM dump? I heard that a new 15C prototype was displayed at one of the events?

Would a 15C be viable? Well IMO is would be by far the most viable option of any general market scientific calc. Why? it's simple, it's all about marketing leverage. A new standard scientific calc stands almost zero percent chance of getting any coverage what so ever, and Hp wouldn't dare spend a red cent marketing it. But a 15C would surely get tons of geek blog space because it's retro and it's cool. "Hey look, HP bought back the exact same model from the 80's - cool!". It would be like Nintendo bringing back the Game'n'Watch. All that potential free publicity for very little in terms production time and risk. Like I've been saying from day one, it's complete no-brainer.

Dave.

Edited: 21 Apr 2010, 5:56 p.m.

Re: Multiple business model RPN calculators and not many scientific ones?

*Message #9 Posted by **Don Shepherd** on 21 Apr 2010, 12:55 p.m.,*
in response to message #1 by ravwalia

> Quote:
>
> There are quite a few new business rpn calculators you can buy, but the same is not true for engineering/scientific calculators.
>
> Is there any particular reason for this?

Yes. In the pre-PC world, engineers used scientific calculators because, after the slide rules died, that was the best option. The PC changed all that. And today, with iphones and their apps carried by every human under 30, there is no market for a scientific calculator. Even look on this forum at the discussions, by old geezers like us, of iphone calculator emulators. Anyone who thinks new engineers are going to buy engineering calculators is living in a dream world.

I recently visited my old university bookstore to see what calculator offerings it had. Only one brand, TI, was represented. TI-84's for the math people and whatever TI's current financial offering is, for the MBAs and business types. Not a HP in sight.

Yes, the 12c+ and the 15c share the same hardware platform, but does anyone really think HP will put resources into developing a new 15c if only 27 people will buy it? That's a no-brainer.

Re: Multiple business model RPN calculators and not many scientific ones?

*Message #10 Posted by **Michael Plant** on 21 Apr 2010, 1:36 p.m.,*
in response to message #9 by Don Shepherd

WRT every human under 30 carrying an iPhone or the like, true enough. BUT, I can't see schools/universities/examinations boards allowing test writers to pull out their (current generation) 3G/4G phones to use the calculator app...

Re: Multiple business model RPN calculators and not many scientific ones?

*Message #11 Posted by **Don Shepherd** on 21 Apr 2010, 2:56 p.m.,*
in response to message #10 by Michael Plant

That's an interesting point, Michael, about the use of calculators on professional exams. ETS and others have always made huge amounts of money on professional paper-based exams. I wonder if, in the future,

we will see universitites switch to computer-based exams, where an on-screen calculator will be part of the test environment for certain tests, and scoring will be immediate instead of waiting 6 weeks for ETS to score the exams (and you have to pay $25 if you want to know your result before it is mailed to you).

I wouldn't be surprized to see something like this happen in the near future. I'll bet ETS is already figuring out how they can capitalize on it.

Re: Multiple business model RPN calculators and not many scientific ones?

*Message #12 Posted by **Michael Plant** on 21 Apr 2010, 4:37 p.m.,*
in response to message #11 by Don Shepherd

Dang! Hadn't thought of that! College Board exams are already available as computer based and as internet based tests, so it wouldn't be a big leap for them to supply the virtual calculator as well.

Re: Multiple business model RPN calculators and not many scientific ones?

*Message #13 Posted by **Bart (UK)** on 21 Apr 2010, 9:01 p.m.,*
in response to message #11 by Don Shepherd

> Quote:
>
> we will see universitites switch to computer-based exams, where an on-screen calculator will be part of the test environment for certain tests

I've already known that to happen, see my posts in this thread (about 2/3 down, msg 12, 14 & 15).

Re: Multiple business model RPN calculators and not many scientific ones?

*Message #14 Posted by **Don Shepherd** on 21 Apr 2010, 10:00 p.m.,*
in response to message #13 by Bart (UK)

Yeah, I remember reading that now. Thanks Bart. It was six years ago that I took some paper tests from ETS in order to become a teacher. I wondered at the time why we didn't use the college's computers to do those tests, because we would have known the results immediately. If they haven't switched to this method yet, I expect they will eventually.

Which leads, again, to the question of the future of scientific calculators. Assuming that a large number of current scientific calculators are sold to support the test-taking activity, what happens when they are no longer required?

Re: Multiple business model RPN calculators and not many scientific ones?

*Message #15 Posted by **Norris** on 22 Apr 2010, 9:03 p.m.,*
in response to message #14 by Don Shepherd

In the US, the largest single market for the HP-35S is probably among engineers and surveyors taking NCEES professional licensing exams. Only a few calculator models are approved for these exams, and the 35S is the most powerful. If you look up the 35S at amazon.com, you will see that the associated "Customers Who Bought This Item Also Bought" list is full of FE and PE exam study materials.

Anyway, NCEES is looking very seriously at Computer-Based Testing. There is a good chance that they will switch from the old pencil-and-paper model in the next 2-3 years. However, the

current plan is that examinees will bring in their own NCEES-approved calculators, so 35S sales would not be affected.

Details on pp. 6-7 at

http://www.ncees.org/Documents/Public/Licensure%20Exchange/Licensure_Exchange_04_10.pdf

Re: Multiple business model RPN calculators and not many scientific ones?

*Message #16 Posted by **Martin Pinckney** on 22 Apr 2010, 9:51 p.m.,*
in response to message #15 by Norris

> Quote:
>
> In the US, the largest single market for the HP-35S is probably among engineers and surveyors taking NCEES professional licensing exams.

Did you ever hit the nail on the head! Looking over the NCEES annual report, available here, about 25,000 engineers take the PE exam every year. Not to mention the 40,000 taking the FE exam, or the additional thousands taking surveyors exams. That's a lot of calculators each year, even if they are divided between HP, TI, and Casio.

Re: Multiple business model RPN calculators and not many scientific ones?

*Message #17 Posted by **Walter B** on 23 Apr 2010, 1:10 a.m.,*
in response to message #16 by Martin Pinckney

> Quote:
>
> > Quote:
> >
> > **In the US**, the largest single market for the HP-35S is probably among engineers and surveyors taking NCEES professional licensing exams.
>
> Did you ever hit the nail on the head! Looking over the NCEES annual report, available here, about 25,000 engineers take the PE exam every year. Not to mention the 40,000 taking the FE exam, or the additional thousands taking surveyors exams.

Did you ever think about the simple fact that 95% of mankind lives outside of the USA?

<rant> Thus you may expect coarsely the same fraction of students (both kinds of ;)) and engineers in both parts of the world. So the market is in that large area you call "foreign countries" or "rest of the world" (while the rest of the world may well call the missing 5% "rest of the world"). <end of rant>

So, metaphorically, you hit the nail on the head but the wrong nail IMHO.

Re: Multiple business model RPN calculators and not many scientific ones?

*Message #18 Posted by **Martin Pinckney** on 23 Apr 2010, 10:18 a.m.,*
in response to message #17 by Walter B

Wow, Walter, we seem to have hit a raw nerve rather than a nail!

Norris qualified his statement "In the U.S.", and I was responding to his comment. Speaking for myself, I was simply making the point that there is a huge market just from U.S. exam takers, let alone any other market. It was never my intention to slight the "rest of the world".

And DaveJ, who hails from "the rest of the world", seems to think that "the 35S was designed specifically to meet that market requirement".

We'll probably never know, but I would bet that 95% of 35s sales are to U.S. buyers. No?

Re: Multiple business model RPN calculators and not many scientific ones?

*Message #19 Posted by **Walter B** on 23 Apr 2010, 4:03 p.m.,*
in response to message #18 by Martin Pinckney

Martin, maybe Dave and me are pointing to the same. HP may have designed the 35S for those 50,000 missing the fact their target market could have been 1,000,000 people in the world. So why focus on those 50,000 and HP's presumably good share there as long as HP has a very poor share of the 1,000,000 possible customers elsewhere having been within reach with another design? Simply look where the volume is. I may be wrong by a factor of 2 or 3.1415/2 but this does not kill the argument.

Re: Multiple business model RPN calculators and not many scientific ones?

*Message #20 Posted by **DaveJ** on 23 Apr 2010, 6:50 p.m.,*
in response to message #19 by Walter B

> Quote:
>
> Martin, maybe Dave and me are pointing to the same. HP may have designed the 35S for those 50,000 missing the fact their target market could have been 1,000,000 people in the world. So why focus on those 50,000 and HP's presumably good share there as long as HP has a very poor share of the 1,000,000 possible customers elsewhere having been within reach with another design? Simply look where the volume is. I may be wrong by a factor of 2 or 3.1415/2 but this does not kill the argument.

If HP knew the market for a scientific calc outside of that US exam market was an order of magnitude bigger then you can bet your bottom dollar we'd have either two scientific calcs, or a 35S which *wasn't* crippled to meet those exam requirements.

After all HP already had a good selling exam calc in the 33S, so it speaks volumes that their next (and only) general scientific calc was crippled to meet that exam market (i.e. no I/O etc).

So either HP are incredibly naive about the "rest of the world" market, or they they know something about the general market we don't. Or possibly they just wanted to shoot for a lower risk "sure thing"?

Dave.

Re: Multiple business model RPN calculators and not many scientific ones?

*Message #21 Posted by **bill platt** on 23 Apr 2010, 8:10 p.m.,*
in response to message #20 by DaveJ

What about cost and market saturation? That, to me, is the obvious reason HP didn't look to the "1. 06" outside. Look at the supersaturation of Casio FX 115 and 300 etc. And they cost $10/$15/$20 apiece.

So I am sure HP looked at the world market. What would give them the warm fuzzies about a large market for a calculator that costs 3 times what the most expensive Casio full-featured sciuentific costs?

Re: Multiple business model RPN calculators and not many scientific ones?

*Message #22 Posted by **DaveJ** on 24 Apr 2010, 2:58 a.m.,*
in response to message #21 by bill platt

> Quote:
>
> What about cost and market saturation? That, to me, is the obvious reason HP didn't look to the "1. 06" outside. Look at the supersaturation of Casio FX 115 and 300 etc. And they cost $10/$15/$20 apiece.
>
> So I am sure HP looked at the world market. What would give them the warm fuzzies about a large market for a calculator that costs 3 times what the most expensive Casio full-featured sciuentific costs?

Exactly. There is very little incentive to try IMO, and they already have a mass market scientifics in the SmartCalc 300 and 10S. Trying to do the same for just an RPN machine would likely be marketing suicide. That's why you need an angle or a gimmick. The retro 15C would be such a gimmick, and probably the only ace they have left up their marketing sleeve.

Dave.

Re: Multiple business model RPN calculators and not many scientific ones?

*Message #23 Posted by **Walter B** on 24 Apr 2010, 4:26 p.m.,*
in response to message #21 by bill platt

> Quote:

> What would give them the warm fuzzies about a large market for a calculator that costs 3 times what the most expensive Casio full-featured sciuentific costs?

With a rebranded "smart calc 300" or alike HP just sells a "me too" product not making a difference. But how about quality? And smart design? I admit these are old-fashioned criteria and features, so they will make a difference (and fit to the retro wave).

Ceterum censeo: HP, launch a 43S.

Re: Multiple business model RPN calculators and not many scientific ones?

*Message #24 Posted by **DaveJ** on 22 Apr 2010, 10:14 p.m.,*
in response to message #15 by Norris

> Quote:
>
> In the US, the largest single market for the HP-35S is probably among engineers and surveyors taking NCEES professional licensing exams. Only a few calculator models are approved for these exams, and the 35S is the most powerful.

That's not surprising considering that the 35S was designed specifically to meet that market requirement. It is highly likely that no other market segment was given anything but cursory consideration during the design of the 35S. And they made it retro because they wanted to do something for the anniversary, so it tied in nicely.

Dave.

Re: Multiple business model RPN calculators and not many scientific ones?

*Message #25 Posted by **Martin Pinckney** on 21 Apr 2010, 2:09 p.m.,*
in response to message #9 by Don Shepherd

> Quote:
>
> ...there is no market for a scientific calculator.

Does anyone here have an idea of the 35s sales figures?

> Quote:
>
> ...does anyone really think HP will put resources into developing a new 15c if only 27 people will buy it? That's a no-brainer.

No, but perhaps they will if 27K will buy it.

Re: Multiple business model RPN calculators and not many scientific ones?

*Message #26 Posted by **Don Shepherd** on 21 Apr 2010, 3:02 p.m.,*
in response to message #25 by Martin Pinckney

Martin, I've never seen HP publish it's calculator sales figures; it would be interesting to know how many 35s's have been sold.

As I recall, when HP built the original 35 they estimated only a few hundred would be sold, and the huge actual demand surprized them. But that was the first of a new breed. A re-issued 15c would probably only appeal to members of this forum, for example, a very limited segment.

Re: Multiple business model RPN calculators and not many scientific ones?

*Message #27 Posted by **Martin Pinckney** on 21 Apr 2010, 4:03 p.m.,*
in response to message #26 by Don Shepherd

> Quote:
>
> Martin, I've never seen HP publish it's calculator sales figures; it would be interesting to know how many 35s's have been sold.

No, I didn't think so. But perhaps someone here has some inside information they could hint at.

Re: Multiple business model RPN calculators and not many scientific ones?

*Message #28 Posted by **DaveJ** on 21 Apr 2010, 5:59 p.m.,*
in response to message #9 by Don Shepherd

> Quote:
>
> Yes, the 12c+ and the 15c share the same hardware platform, but does anyone really think HP will put resources into developing a new 15c if only 27 people will buy it? That's a no-brainer.

Of course not.

As of last count, if you believe the website, over 50000 units would go like hot cakes.

I'd be willing to bet they'd sell a few hundred thousand.

Dave.

Re: Multiple business model RPN calculators and not many scientific ones?

*Message #29 Posted by **Don Shepherd** on 21 Apr 2010, 8:43 p.m.,*
in response to message #28 by DaveJ

And you believe that website, do you. I've got a bridge in Brooklyn I'd like to sell you.

What you or I think matters not. If HP thinks there is money to be made, then we'll see it one day. Until then, it's just speculation.

Re: Multiple business model RPN calculators and not many scientific ones?

*Message #30 Posted by **DaveJ** on 21 Apr 2010, 9:26 p.m.,*
in response to message #29 by Don Shepherd

> Quote:
>
> And you believe that website, do you. I've got a bridge in Brooklyn I'd like to sell you.

It's much closer to the mark than your joke figure of 27 units.

Yes, they would sell 50K easily, bet the farm on it. That's with no advertising. Get the unit blogged to death on the geek sites and have a good price point and that number could easily go into 6 figures.

If you don't think those numbers are realistic then you haven't really thought about it.
Take Walmart for example, they sell HP calculators. They have almost 8000 stores. For HP to get 15C stock into all those stores they'd have to make at least 50,000 of them. Would they sell'em all?, sure they would eventually.
Not to mention all the other stores and online shops around the world that sell calculators to the nerdly masses.

A figure of 50,000 is nothing in this business!

> Quote:
>
> What you or I think matters not. If HP thinks there is money to be made, then we'll see it one day. Until then, it's just speculation.

Yep, and I recon my speculation is much closer to the mark than yours :-P

Dave.

Re: Multiple business model RPN calculators and not many scientific ones?

*Message #31 Posted by **Mike Morrow** on 22 Apr 2010, 1:24 a.m.,*
in response to message #30 by DaveJ

> Quote:
>
> Take Walmart for example, they sell HP calculators. They have almost 8000 stores. For HP to get 15C stock into all those stores they'd have to make at least 50,000 of them. Would they sell'em all?, sure they would eventually.

Just how many HP35S units have you ever seen in Wal-Mart? Try zero! Do you really think that Wal-Mart would carry a "new" HP-15C? Just WHAT HP scientific calculator have you EVER seen in Wal-Mart except for the HP33S units that they could only sell though clearance a couple of years ago. The local Wal-Marts carry no HP calcs of any sort since clearing out the HP10BII for $5 a few months ago. Their experience with the HP33S and HP10BII can not have been very gratifying.

If they were foolish enough to carry some sort of HP-15C reincarnation, those that finally left the store would be just like the TI-89 (recently cleared at the local Wal-Mart for $72) and the Casio fx-9750GII (recently cleared at the local Wal-Mart for $23). There's no significant market for such an obsolete 29-year-old contraption, regardless of how much a very few have apparently deluded themselves thinking that there is.

The HP-15C is dead. RIP.

Re: Multiple business model RPN calculators and not many scientific ones?

*Message #32 Posted by **dbatiz** on 22 Apr 2010, 4:52 a.m.,*
in response to message #31 by Mike Morrow

I'm not quite ready to eulogize the HP-15C. The hardware may be a thing of the past, but when HP made virtual calculators available from the Apple Store I think they acknowledged the value

and utility of the “obsolete 29 year old contraption.” This comes from a man who has a Soroban, Slide Rule, HP-35s, HP-50g, and of course a PC sitting on his desk. I don’t care how old something is, if it works and makes my life easier, I’ll keep it running as long as I can. Very respectfully, David

Re: Multiple business model RPN calculators and not many scientific ones?

*Message #33 Posted by **Dimitri Simitas** on 22 Apr 2010, 7:35 a.m.,*
in response to message #9 by Don Shepherd

> Quote:
>
> Anyone who thinks new engineers are going to buy engineering calculators is living in a dream world.

Put a modern version of a HP-41C infront of me with USB, SD card, and a multi-line display, I'll buy it in a heart beat. Does not even need to be able to program on the device if the programs are stored as text files named with the program name.

Since my own calculator project (ND&T-41) warped into a desktop unit (ND&T-91), after I'm done with it I will transfer what I like best of the bigger version to the small one. I hope to be able to get the desktop version work if not complete by September.

Biggest problem for HP today, atleast here in Canada you can get a graphing model from them for nearly the same retail price as the HP-35S. It in itself kills the market for scientific.

Dimitri

Edited: 22 Apr 2010, 7:39 a.m.

Re: Multiple business model RPN calculators and not many scientific ones?

*Message #34 Posted by **Manatee** on 22 Apr 2010, 1:43 p.m.,*
in response to message #33 by Dimitri Simitas

> Quote:
>
> Put a modern version of a HP-41C infront of me with USB, SD card, and a multi-line display, I'll buy it in a heart beat. Does not even need to be able to program on the device if the programs are stored as text files named with the program name.

Sounds like a 50g. Do you mean you'd want it key-compatible with the 41C?

Re: Multiple business model RPN calculators and not many scientific ones?

*Message #35 Posted by **ravwalia** on 22 Apr 2010, 1:35 p.m.,*
in response to message #1 by ravwalia

Thanks for the replies everyone.

I've read through them twice and there's some very thoughtful and insightful responses.

I would say on the 15C, my feeling is that we wont see it being reissued. I would love to be wrong, but I don't think so. With more and more alternatives coming out for the calculator users, such as apps for phones, ipad, Pc's, etc, HP may feel that there isn't the return on investment that a 15C reissue would provide. I would dearly like to be wrong on this and if they did issue I would probably have my name down for 3 and then buy additional ones

for presents. So I think that the reissue is going to be unlikely but I'll have my fingers and toes crossed.

I suppose in a way the scientific/engineering market is covered by the 35s and the 50g with only a completely non programmable rpn required to complete the line. Thing is though, I'm not sure if the people in the market for a basic calculator would justify bringing out another rpn calculator.

So my theory is that unless there is a HUGE grass roots campaign to get another scientific calculator we are going to be stuck with 35s and the 50g and maybe some slight tweaks to those.

Thoughts?

Edited: 22 Apr 2010, 1:36 p.m.

Re: Multiple business model RPN calculators and not many scientific ones?

*Message #36 Posted by **Martin Pinckney** on 22 Apr 2010, 3:05 p.m.,*
in response to message #35 by ravwalia

My bet is that the 15c will be released as a limited edition (limited time) "retro-novel" (DaveJ) device, not really intended as a serious competitor. AND an all-new scientific based on the 30b platform will eventually replace the 35s, which will take its place a special short-term commemorative model.

Re: Multiple business model RPN calculators and not many scientific ones?

*Message #37 Posted by **DaveJ** on 22 Apr 2010, 9:44 p.m.,*
in response to message #35 by ravwalia

> Quote:
>
> I suppose in a way the scientific/engineering market is covered by the 35s and the 50g with only a completely non programmable rpn required to complete the line. Thing is though, I'm not sure if the people in the market for a basic calculator would justify bringing out another rpn calculator.

That's right, HP would have a hard time justifying just another general purpose basic RPN scientific calculator. So it would not surprise anyone (including me) if HP never do it. But if they *DO* do it the 15C is the only one that makes sense from a risk/marketing (and probably internal political) point of view.

In recent years HP have clearly aimed all of their calculators at very specific markets, and that's of course what you'd expect. The reason no general purpose RPN has been released is because there is no perceived market for it. And I'm sure most sensible people would agree that's most probable, considering the other big brands and the one-hung-low brands have that market sown up. And quite frankly the RPN factor does not sell.

HP's direction has been fairly clear on two fronts:
1) Niche market spaces and 2) retro looks

The 15C hits both areas, so it's probably easy to sell internally and the risk is fairly minimal.

A scientific version of one of the new business platforms OTOH would require more development with clearly little or no retro appeal. So it's a bit of a lame duck idea, and I doubt you'll ever see one.

But hey, internal politics and marketing often change on a dime, so anything's possible.

Dave.

Re: Multiple business model RPN calculators and not many scientific ones?

*Message #38 Posted by **Martin Pinckney** on 22 Apr 2010, 10:29 p.m.,*
in response to message #37 by DaveJ

> Quote:
>
> A scientific version of one of the new business platforms OTOH would require more development with clearly little or no retro appeal. So it's a bit of a lame duck idea, and I doubt you'll ever see one.

Three reasons why you may be wrong. First, the very existence of the 20b and 30b says to me that HP wants to keep in the calculator game. After all, why not just keep selling 12c's and 17bii+'s instead of developing a completely new series?

Second, "little or no retro appeal" is the point! These calculators (20b & 30b) have been deliberately styled more like other 21st century electronic devices. They remind me somewhat of the styling of HP notebook computers. The 35s was specifically styled to have retro appeal, otherwise has capabilities very similar to the 33s. So why not a new scientific series with an updated look but without the "over the top" look of the 33s?

Third, does it not strike anyone that the deliberate "re-purposing" capabilities designed into these new calcs might serve HP as well?

Re: Multiple business model RPN calculators and not many scientific ones?

*Message #39 Posted by **DaveJ** on 23 Apr 2010, 2:10 a.m.,*
in response to message #38 by Martin Pinckney

> Quote:
>
> Three reasons why you may be wrong.

I do hope I'm wrong!

> Quote:
>
> First, the very existence of the 20b and 30b says to me that HP wants to keep in the calculator game. After all, why not just keep selling 12c's and 17bii+'s instead of developing a completely new series?

Maybe it's just the way big companies work. They may in fact be just keeping the calculator division as a throwback to the old days. Who really knows? They certainly are not "serious" about calculators given the number we've heard of people working in the department.
For HP as a global entity, the calculator division rates literally a few words in the annual report as one part of a subdivision of a division, that's how insignificant it is to them in terms of sales.
And as with any product department it's standard practice to keep at least some form of token development team (current a team of two?), and of course products will eventually pop out the other end of that.

> Quote:
>
> Second, "little or no retro appeal" is the point! These calculators (20b & 30b) have been deliberately styled more like other 21st century electronic devices. They remind me somewhat of the styling of HP notebook computers. The 35s was specifically styled to have retro appeal, otherwise has capabilities very similar to the 33s. So why not a new

> scientific series with an updated look but without the "over the top" look of the 33s?

Because an ordinary scientific calc won't sell very well, the market is too flooded. The 33S was only released to meet the exam market. For a more general market modern styling is not a big enough differentiator, and as I said the market doesn't really care about RPN. Retro on the other hand could be a significant differentiator if they want to re-enter the general purpose scientific calc market.

> Quote:
>
> Third, does it not strike anyone that the deliberate "re-purposing" capabilities designed into these new calcs might serve HP as well?

It certainly will, it's a positive differentiator. But unfortunately one that is limited to a very small and niche market.

Dave.

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35s Modification

*Message #1 Posted by **Hugh Evans** on 20 Apr 2010, 2:32 p.m.*

I recall some discussion in the past regarding modification of the 35s. Given the relative ease of disassembly, good keys, and an attractive form factor is anyone up for using the case and keys to make a new machine?

All I'm proposing here is a new LCD and PCB with perhaps a more capable processor, more memory and USB/some form of IO.

I think this should be kept as simple as possible and would estimate a very nice mod kit to accomplish this could easily run $50.

Anyone interested?

Re: 35s Modification

*Message #2 Posted by **PeterP** on 20 Apr 2010, 3:37 p.m.,*
in response to message #1 by Hugh Evans

I'd buy a mod kit for 50 bucks to add I/O

Re: 35s Modification

*Message #3 Posted by **Gene Wright** on 20 Apr 2010, 4:03 p.m.,*
in response to message #2 by PeterP

I'm in for $50.

Re: 35s Modification

*Message #4 Posted by **Egan Ford** on 20 Apr 2010, 4:36 p.m.,*
in response to message #3 by Gene Wright

Me too. If I like the mod I'll probably get another.

Re: 35s Modification

*Message #5 Posted by **Valentino Ducati** on 4 May 2010, 3:54 a.m.,*
in response to message #4 by Egan Ford

I'm in, also for more then US$ 50,00. Depending on the updates I'm getting.

Is there any chance to get also a "hp standard" IrDA connector, mainly for print output to the beloved 82240 printer?

Thank you anyway for the efforts.

Valentino

Re: 35s Modification

*Message #6 Posted by **Walter B** on 20 Apr 2010, 5:12 p.m.,*
in response to message #1 by Hugh Evans

How about putting the same into a 30b? It's smaller and has a full row of keys below of the display, so soft keys are easily done with a reasonable LCD.

Just my 0.02 Euros.

Re: 35s Modification

*Message #7 Posted by **DaveJ** on 20 Apr 2010, 5:41 p.m.,*
in response to message #1 by Hugh Evans

It was Jeff.O who did some early work on this "Phoenix 35sx" project back in 2007 and posted photos, got sample LCDs, and even did a DXF of the required board size and holes etc

IIRC it wasn't trivial to disassemble and required drilling out a bunch of heat stakes. If so, that means reassembly of a new PCB would not be trivial either. So it looked pretty messy from a physical hardware point of view.

Dave.

Edited: 21 Apr 2010, 5:44 p.m. after one or more responses were posted

Re: 35s Modification

*Message #8 Posted by **Bart (UK)** on 21 Apr 2010, 4:51 a.m.,*
in response to message #7 by DaveJ

> Quote:
>
> IIRC it wasn't trivial to disassemble and required drilling out a bunch of heat stakes. If so, that means reassembly of a new PCB would not be trivial either.

Looking at Jeff O.'s post linked by Reth, the assembly looks similar to the HP-50g which I have taken apart and the small screws are easily put back into the shaved-off stakes and hold very well.

Re: 35s Modification

*Message #9 Posted by **Hugh Evans** on 21 Apr 2010, 12:58 p.m.,*
in response to message #7 by DaveJ

From the pictures the process doesn't look that bad, certainly much easier than a pioneer for example. I'll pick up another 35s and a 30b to document the dissection and put together some CAD drawings. My suspicion is that replacement of the PCB and LCD will be reasonable enough to be worthwhile.

This obviously doesn't need to be too high-end. I think most people would be happy with something powerful enough to emulate saturn. Even 1MB of memory would be extreme in this application.... And a nice high contrast reflective LCD should complete the picture.

I'll post progress as soon as I can.

Re: 35s Modification

*Message #10 Posted by **Jeff O.** on 21 Apr 2010, 4:05 p.m.,*
in response to message #9 by Hugh Evans

Hugh,
I prepared some CAD drawings that I can send to you if they would be helpful. Front and back of the PCB, in dxf format.
Jeff

Re: 35s Modification

*Message #11 Posted by **Hugh Evans** on 22 Apr 2010, 10:27 p.m.,*
in response to message #10 by Jeff O.

Jeff, that would be fantastic. At the very least we can define design constraints from your work. From your experience with assembly/disassembly of the units does my drop-in replacement sound feasible with at least moderate skill?

Re: 35s Modification

*Message #12 Posted by **Jeff O.** on 23 Apr 2010, 8:24 a.m.,*
in response to message #11 by Hugh Evans

Hugh,
I think I have an e-mail address for you, I will look around and send you the files. If I can't find an e-address I will let you know.

It was not difficult to disassemble the 35s as documented in my post of a couple years ago. So I would say yes, your drop-in replacement certainly sounds feasible.

Good luck.

Jeff

...

Re: 35s Modification

*Message #13 Posted by **Reth** on 20 Apr 2010, 9:03 p.m.,*
in response to message #1 by Hugh Evans

I'm in too. Here is the link Dave is talking about

Edited: 20 Apr 2010, 9:09 p.m.

Re: 35s Modification

*Message #14 Posted by **Jeff O.** on 21 Apr 2010, 4:09 p.m.,*
in response to message #13 by Reth

I'm in. (Obviously?)

Re: 35s Modification

*Message #15 Posted by **Thomas Chrapkiewicz** on 21 Apr 2010, 9:01 a.m.,*
in response to message #1 by Hugh Evans

On a related note, has anyone developed a schematic of the HP35s?

There appear two be two major integrated circuits under the epoxy 'blobs'. I assume these are the processor and a memory chip.

Please let me know if there are any details out there.

Regards, TomC

Re: 35s Modification

*Message #16 Posted by **Eric Smith** on 23 Apr 2010, 2:04 a.m.,*
in response to message #15 by Thomas Chrapkiewicz

I don't have a schematic, but what's under there is a GeneralPlus microcontroller (based on a 6502 core) with masked ROM, and a 32KB SRAM. Except as a one-off hack, it's not practical to try to reuse the PCB for anything, as it is much less expensive to make a replacement PCB.

Re: 35s Modification

*Message #17 Posted by **Matthias Wehrli** on 21 Apr 2010, 11:28 a.m.,*
in response to message #1 by Hugh Evans

Would be interested to but need some pictures first. Matthias

Re: 35s Modification

*Message #18 Posted by **Walter B** on 21 Apr 2010, 5:44 p.m.,*
in response to message #17 by Matthias Wehrli

Grüezi Matthias,

got your site purged?

Re: 35s Modification

*Message #19 Posted by **Matthias Wehrli** on 22 Apr 2010, 4:53 p.m.,*
in response to message #18 by Walter B

Grüzi as well. Yes, I cleanded it up two days ago. Sorry for teh delay. I got a happy daughter six weeks ago and still have other things to do than collecting things.

Re: 35s Modification

*Message #20 Posted by **Walter B** on 22 Apr 2010, 5:33 p.m.,*
in response to message #19 by Matthias Wehrli

Congratulations!

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Problem with HP 110+ / Portable Plus battery charging (+workaround)

*Message #1 Posted by **John AS (UK)** on 20 Apr 2010, 8:07 a.m.*

Hi,

I have a Portable Plus and have noticed the following problem with the way it charges the lead acid battery. Not sure if this is the same on other machines or just a fault with mine.

Problem occurred when the computer was left in a cupboard for several weeks and the battery voltage dropped very low, it would not then re-charge with the HP power unit, and the computer would not turn on.

Here's what I did to investigate & fix. I disconnected the battery from the computer, and it measured something like 2V (should be 6V or more). I then plugged the 8V AC power supply into the computer. The voltage across the computer leads for the battery measured 7.2V, and the computer would turn on. With the meter still connected to the computer I disconnected the power supply lead, the meter reading fell gradually to 0V. If the voltage fell below 10mV and I then connected the power supply, it would rise back to 7.2V again. If however I disconnected the supply, then when the voltage dropped to say 2V then reconnected the power supply, it would only go 2.3V and stay there. Obviously the computer would not turn on in this state.

So with a half-dead battery connected to the computer again, plugging in the power supply led to a charging voltage of only 2.3V so the computer would not turn on, and the battery did not get charged up.

I disconnected the battery and connected it to an external charger (I bought a trickle charger off eBay for 6V and 12V use, it was designed for motorbike batteries and cost about £8). Luckily the battery recovered and charged back up to 6V. I then reconnected the battery to the computer and it turned on, and when I connected the power supply the charge voltage is back to 7.2V.

The computer works fine and will work on battery power (I haven't tested it for many hours though!). The battery keeps enough charge to allow the computer to be turned off and put away for a day or so, but for long term storage I will remove the battery and recharge it from time to time.

HTH,
Regards,
John

Re: Problem with HP 110+ / Portable Plus battery charging (+workaround)

*Message #2 Posted by **J-F Garnier** on 20 Apr 2010, 4:56 p.m.,*
in response to message #1 by John AS (UK)

I made the same observation on my Portable+ and used the same workaround in case of deeply discharged battery, i.e. charging using an external power supply not the HP charger.

For long storage period, there is a jumper to disconnect the battery, no need to physically remove it.

J-F

Re: Problem with HP 110+ / Portable Plus battery charging (+workaround)

*Message #3 Posted by **John AS (UK)** on 21 Apr 2010, 1:32 p.m.,*
in response to message #2 by J-F Garnier

> Quote:
>
> For long storage period, there is a jumper to disconnect the battery, no need to physically remove it.

Yes you are right there is a jumper to disconnect the battery. In my case I want to keep the battery charged up and be able to check its voltage, as I have an external charger it is easier for me to remove it rather than rely on the computer + HP power supply.
Regards,
John

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Anyone seen the 10Bii graphing calculator?

*Message #1 Posted by **Keith Midson** on 20 Apr 2010, 7:31 a.m.*

Anyone seen this amazing graphing version of the 10Bii? That auction site, item 260588025934
Have to laugh ... Cheers, Keith

Re: Anyone seen the 10Bii graphing calculator?

*Message #2 Posted by **Namir** on 20 Apr 2010, 9:43 a.m.,*
in response to message #1 by Keith Midson

OMG ... he is selling a TI graphing calculator with an HP calculator manual!!!!! That is funny!

Namir

Edited: 20 Apr 2010, 9:44 a.m.

Re: Anyone seen the 10Bii graphing calculator?

*Message #3 Posted by **Juergen Keller** on 20 Apr 2010, 1:08 p.m.,*
in response to message #1 by Keith Midson

Check his eBay nick name then you know why: dazzleme79

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total solar eclipse Corvallis 2017 !

*Message #1 Posted by **hugh steers** on 19 Apr 2010, 7:03 p.m.*

ok, whilst messing with my astro code, i discovered there's a total solar eclipse that goes through Corvallis in 2017! specifically, 2017 August 21 about 10:10 local time.

as you know, total eclipses have a "central line" that moves across the globe. If you're on the line at the right time = total darkness! i had my program emit a google earth KML file. check this:
http://www.voidware.com/tmp/eclipse10-25.kml

just open google earth and load this KML file. what you will see a number of yellow lines across the globe. each one is a central line. if you zoom in, each line has little pushpins. click on these and it will tell you the date and time for the location.

some notes:

all the times are in GMT (ie no summer time correction too), for example the 2017 line hits Oregon at around 17:10 GMT (so -8 + 1 = 10:10 local time).

the line thickness is not to scale. when im feeling really keen i might add this to my program. depending on your zoom, you could be off the line and still see totality. in fact that's quite likely unless your zoom is way out!

where's the conference that year :-)

Re: total solar eclipse Corvallis 2017 !

*Message #2 Posted by **DavidShenk** on 19 Apr 2010, 7:58 p.m.,*
in response to message #1 by hugh steers

For those of you that may have a total solar eclipse on your "bucket list", you really should plan ahead to catch one. I am in the Southern California area and have found that this eclipse in 2017 is the closest one will come to me in my lifetime. Another one in 2020's in Texas and that is it, without extensive traveling.

I'll be taking the kids on a road trip in 2017 and we'll see the event of a lifetime. (I think my wife is less enthusiastic)

Dave

Re: total solar eclipse Corvallis 2017 !

*Message #3 Posted by **BruceH** on 19 Apr 2010, 9:26 p.m.,*
in response to message #2 by DavidShenk

I was lucky enough to be able to be in Balatonbognár in Hungary for a total eclipse in 1999. It was truly remarkable - and I fully understand why eclipse chasers rush around the globe seeking them out.

If at all possible you really should go. I suggest you try and avoid crowds - I was lucky to have total

silence - but the TV news coverage later that evening of the crowds at the popular venues showed a lot of shouting and whooping which would have spoilt it for me.

Re: total solar eclipse Corvallis 2017 !

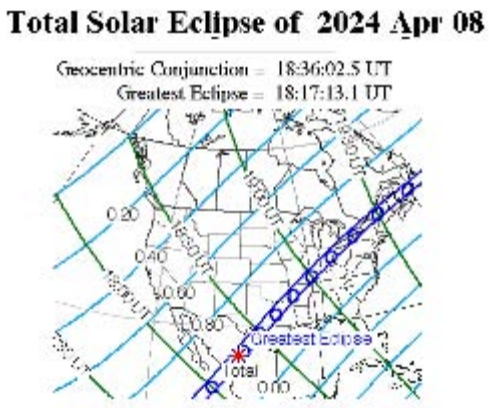
*Message #4 Posted by **hugh steers** on 20 Apr 2010, 4:05 a.m.,*
in response to message #2 by DavidShenk

i think the 2020's is the one in 2024, which also goes across the US.

Re: total solar eclipse Corvallis 2017 !

*Message #5 Posted by **Jeff O.** on 20 Apr 2010, 9:24 a.m.,*
in response to message #4 by hugh steers

April 8, 2024:



I'm sure it will be cloudy that day where I am if I am in the path of totality.....

Re: total solar eclipse Corvallis 2017 !

*Message #6 Posted by **megarat** on 20 Apr 2010, 1:16 p.m.,*
in response to message #2 by DavidShenk

I completely agree with this. Additionally, as part of planning ahead, it is equally important to consider local weather conditions. You don't want clouds/rain to ruin your otherwise perfect plans, so your viewing should be someplace where they are minimized, if possible.

I've had the remarkable fortune of being able to see two solar eclipses w/o doing any deliberate travel to view them. In February 1979 (growing up in eastern Washington state) and on the summer solstice, 2001, in Lusaka, Zambia (being there for work at the time). One of my fondest memories ever is of that afternoon in Lusaka, especially the moment of totality, standing in the dusky darkness with a low, rusty African sunset 360 degrees around me. Absolutely beautiful.

I will certainly be in Oregon for 2017. It's too close for me to ignore it.

Re: total solar eclipse Corvallis 2017 !

*Message #7 Posted by **cyrille de Brébisson** on 20 Apr 2010, 8:36 a.m.,*
in response to message #1 by hugh steers

hello,

Anyone up to setup the HHC conference in Corvalis in 2017? how about late august?

Cyrille

Re: total solar eclipse Corvallis 2017 !

*Message #8 Posted by **Martin Pinckney** on 20 Apr 2010, 3:24 p.m.,*
in response to message #1 by hugh steers

The path (through the U.S., at least) can also be seen on Wikipedia. I noted it goes through Charleston, SC. Since I always go to Beaufort once during the summer, perhaps I will plan my trip for mid-August instead of the usual mid-July.

I saw a total solar twice before, but don't remember what years.

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unable to plot UTPN

*Message #1 Posted by **stroran** on 19 Apr 2010, 11:57 a.m.*

Hi,

Plotting the function

<< -> X << 0 1 X LN UTPN >> >>

leads to an error message: "UTPN Error: Bad Argument Type". Any suggestions as to why this is happening?

When I store the function above in a variable V and enter it in the command line, it evaluates to a number just fine, e.g., V(1) EVAL leads to 0.5 as expected. But when I use V(X) as the function to be plotted it complains as described above.

This issue is related to having the function LN(X) as the argument to UTPN. Do I need an extra step to make sure LN(X) evaluates to whatever datatype UTPN takes?

Thank you very much for your time.

Re: unable to plot UTPN

*Message #2 Posted by **Tim Wessman** on 19 Apr 2010, 6:48 p.m.,*
in response to message #1 by stroran

If you are in approximate mode, then you should be fine. If not, add in a ->NUM right before the UTPN.

TW

Re: unable to plot UTPN

*Message #3 Posted by **stroran** on 20 Apr 2010, 5:00 a.m.,*
in response to message #2 by Tim Wessman

Thanks Tim.

Unfortunately, I can't still get it to plot even with ->NUM. The funny thing is that

<< -> X << 0 1 X COS ->NUM UTPN >> >> or << -> X << 0 1 X EXP ->NUM UTPN >> >>

plot as expected. However,

<< -> X << 0 1 X LN ->NUM UTPN >> >> or << -> X << 0 1 X LOG ->NUM UTPN >> >>

refuse to plot giving "UTPN Error: Bad Argument Type". Do log functions need to be treated differently? I have an HP50g.

Re: unable to plot UTPN

*Message #4 Posted by **Kiyoshi Akima** on 21 Apr 2010, 12:10 p.m.,*
in response to message #1 by stroran

What's your plot range? Can x be negative? Then ln(x) is complex, and UTPN doesn't like complex numbers.

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HP-48SX Repair - Diode

*Message #1 Posted by **aj04062** on 19 Apr 2010, 9:32 a.m.*

I think I just did a stupid thing.

late last night I was trying to resurrect a 48SX that had/has a battery acid damaged keyboard.

I have a 3 cell batter holder to test the unit before putting the back on. I think I reversed the polarity of it and momentarily smelled overheating electronics before I pulled it. Prior to this, I did resuscitate the unit, but the LCD screen had lines (I hadn't tightened the clips).

Is it permanently dead? I've read doing this will fry the zener diode. Where is it? Can I replace it?

Re: HP-48SX Repair - Diode

*Message #2 Posted by **Han** on 21 Apr 2010, 2:03 p.m.,*
in response to message #1 by aj04062

The zener diode is right at the positive battery terminal (looks like a Y-shaped SMD).

As for the lines on the display, if it's missing lines then you simply did not tighten the twist-tabs tight enough. If on the other hand you see garbled pixels then it's because your screen is no longer in alignment with the LCD connectors on the PCB. Just realign the screen until it is as close to center as possible.

Re: HP-48SX Repair - Diode

*Message #3 Posted by **aj04062** on 21 Apr 2010, 5:23 p.m.,*
in response to message #2 by Han

Can you suggest a way to test the board/display funtioality seperately from the keyboard? The previous owner let the batteries leak onto the keyboard. I think this is the source of the problem, but I'd like to isolate it.

If it is the problem , then I need to try and fix the keys. Looks like a pain to pull that apart.

Re: HP-48SX Repair - Diode

*Message #4 Posted by **aj04062** on 21 Apr 2010, 5:26 p.m.,*
in response to message #2 by Han

Sorry Han, 1 more question, Can I bypass the zener to tell if I cooked it?

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HP 97 clutch repair methods compared

*Message #1 Posted by **Ed Sowell** on 18 Apr 2010, 3:23 p.m.*

I'm reading up on the clutch problem since my card reader was a bit noisy after replacing the drive wheel rubber.

Although a fair tug was needed to pull the clutch off the motor shaft when I first did it to check the condition of the clutch, I now find it comes off quite easily. So, the question is what to do about it.

There seem to be 4 methods in earlier posts, listed below. Clearly, for either of the first 2 to be considered the original clutch material must be in good condition and just slipping a bit, like mine.

1. Superglue between the motor shaft and the original clutch material. (various people have suggested this)

2. A small bit of cling-wrap between the motor shaft and the original clutch material. (Rafa, Spain)

3. Replacing the original clutch, aluminum sleeve and all, with a piece of insulation pulled off of a solid conductor electrical wire. (Bernd Schmeling)

4. Removing the original clutch material from the worm gear shaft and the aluminum sleeve and replacing it with ordinary household silicone adhesive. (described in detail by Johnny Nestor)

Method one is clearly the easiest, but it has been criticized for fears of serious damage under some circumstances if no slippage at all is allowed. Method 2 seems tedious and perhaps not durable. I worry about method 3 because the aluminum sleeve is omitted; if it's not needed I wonder why HP put it there. I like method 4 because I believe that's pretty much what HP did in the first place, i.e., molded the two shafts together with a rubbery material inside a metal sleeve to provide lateral rigidity. However, it sounds very messy and I wonder how hard it is to get perfect centering (or good enough).

So, with that background here's my question: If the clutch material should not be bonded to the motor shaft in method 1, why is it OK to do so in method 4? In both cases the bulk of the clutch material will provide the wanted vibration isolation.

Comments?

Re: HP 97 clutch repair methods compared

*Message #2 Posted by **Michael de Estrada** on 18 Apr 2010, 3:54 p.m.,*
in response to message #1 by Ed Sowell

First off, something I found out in the past is that it is not a "clutch", which implies that it should slip if there is a card jam (it should not), but that it is an elastomeric coupling that provides a certain degree of vibration dampening. As such, it should idealy be bonded permanently to both the worm gear and the motor shaft.

The method that I use is to use wire insulation that has on OD that permits the metal sleeve to fit over it to retain its shape and ensure a tight fit on the motor shaft. For good measure, I also place a tiny drop of Superglue on the motor shaft before sliding the coupling over it. Since I use only one piece of insulation, its ID is a tight fit on the motor shaft, and I bore it out on the worm gear end to permit it to fit.

Edited: 18 Apr 2010, 3:56 p.m.

Re: HP 97 clutch repair methods compared

*Message #3 Posted by **Ed Sowell** on 19 Apr 2010, 11:42 a.m.,*
in response to message #2 by Michael de Estrada

> Quote:
>
> First off, something I found out in the past is that it is not a "clutch", which implies that it should slip if there is a card jam (it should not), but that it is an elastomeric coupling that provides a certain degree of vibration dampening. As such, it should idealy be bonded permanently to both the worm gear and the motor shaft.

That's what I think too.

> Quote:
>
> The method that I use is to use wire insulation that has on OD that permits the metal sleeve to fit over it to retain its shape and ensure a tight fit on the motor shaft. For good measure, I also place a tiny drop of Superglue on the motor shaft before sliding the coupling over it.

If the original clutch material looks to be in pretty good condition, i.e., not at all gooey, wouldn't it do to simply put Superglue on the motor shaft?

Thanks.

Ed

Re: HP 97 clutch repair methods compared

*Message #4 Posted by **Michael de Estrada** on 19 Apr 2010, 12:29 p.m.,*
in response to message #3 by Ed Sowell

> Quote:
>
> If the original clutch material looks to be in pretty good condition, i.e., not at all gooey, wouldn't it do to simply put Superglue on the motor shaft?

That material may seem to be in good condition, but it will have deteriorated badly over time and should not be reused. In my experience, it does not become gooey, but rather it becomes dry and loses its elasticity, and it will just shear and crumble. I strongly advise against trying to reuse it.

Re: HP 97 clutch repair methods compared

*Message #5 Posted by **Ed Sowell** on 19 Apr 2010, 10:46 p.m.,*
in response to message #2 by Michael de Estrada

Michael, My measurements show that the motor shaft is 0.037". Solid wire gauge #19 is 0.036. From posts to the forum I've read that the ID of the sleeve is 3/32 = 0.094". I went to a major electronics store today hoping to find #19 with OD of something close to 0.094" and found nothing. Do you remember what you used?

I did find that SmallParts.com lists a Tygon micro bore PVC tubing with ID 0.030" OD 0.090" Have you tried that?

Ed

Re: HP 97 clutch repair methods compared

*Message #6 Posted by **Michael de Estrada** on 19 Apr 2010, 11:21 p.m.,*
in response to message #5 by Ed Sowell

Ed,

The wire insulation that I used is unmarked, but it has an OD of approximately 2.4mm (0.0945") and the ID of the stranded wire bundle is approximately 1.0mm (0.0394"). I used this particular wire simply because it was lying around and was the only wire I could find that would work. The Tygon tubing might be too tight a fit on the motor shaft; PVC is not very stretchy, but you might be able to hot bore it with a heated nail, which is the way I enlarge the bore on the worm gear side.

Michael

Edited: 19 Apr 2010, 11:21 p.m.

Re: HP 97 clutch repair methods compared

*Message #7 Posted by **Ed Sowell** on 20 Apr 2010, 6:31 p.m.,*
in response to message #6 by Michael de Estrada

Opps... you're right, the PVC is the hard stuff. Too stiff, I would think, even if I could make it fit.

Ed

Re: HP 97 clutch repair methods compared

*Message #8 Posted by **Dan W** on 20 Apr 2010, 11:25 p.m.,*
in response to message #1 by Ed Sowell

I have used #4, Johnny Nestor's method quite a few times with excellent success. It sounds messy and difficult, but it is very easy.

Re: HP 97 clutch repair methods compared

*Message #9 Posted by **Ed Sowell** on 21 Apr 2010, 11:17 a.m.,*
in response to message #8 by Dan W

That's encouraging, Dan. I might as well give it a try since I can always clean it up and try something else if it doesn't work for me. How do you keep the silicone from getting all over the motor?

Ed

Re: HP 97 clutch repair methods compared

*Message #10 Posted by **Dan W** on 21 Apr 2010, 10:54 p.m.,*
in response to message #9 by Ed Sowell

After you fill in the little cylinder, wipe off the sides and the ends (and your fingers) of any excess. Set the worm gear in the cylinder then slide onto the motor and make sure the axle engages with the gear.

Some silicone will be pushed out of both ends but not as much as you'd think. I use a toothpick and a cotton swab to clean off any excess. If you push down on it and it seems too much is coming out the bottom, just raise it up a bit and wipe it off, then press down again. Center the cylinder. Then set it upright overnight.

It helps a lot to have a strong magnifier or loupe on your head, and lots of light. ;)

Re: HP 97 clutch repair methods compared

*Message #11 Posted by **Ed Sowell** on 3 May 2010, 12:28 p.m.,*
in response to message #10 by Dan W

After reparing the clutch using the silicone sealant fill method I find that the shaft is not quite long enough to fully engage in its hole in the frame. See: Shaft fit.

When I did the repair I made sure the motor shaft bottomed out on in the hole in the worm shaft, as suggested in Nestor's write-up. See:

Repaired clutch.

What am I missing?

Ed

Edited: 3 May 2010, 12:41 p.m.

Re: HP 97 clutch repair methods compared

*Message #12 Posted by **Dan W** on 6 May 2010, 10:31 p.m.,*
in response to message #11 by Ed Sowell

I dug through my notes and photos. I have never seen a case where it didn't engage the frame enough, though there is quite a bit of variability in just how far it goes into the hole.

When I press the worm gear on to the motor shaft there is always some air in the hole in the axle so that it rebounds some. I never try to work it down any further.

-- Dan

Re: HP 97 clutch repair methods compared

*Message #13 Posted by **Ed Sowell** on 6 May 2010, 10:45 p.m.,*
in response to message #12 by Dan W

Thanks, Dan. I am away from home right now, but later I will try pulling it apart, digging all the silecone out and starting over. While apart, I will experiment with it a bit before putting the new silicone in.

Ed

Re: HP 97 clutch repair methods compared

*Message #14 Posted by **Marcus von Cube, Germany** on 26 Apr 2010, 7:39 a.m.,*
in response to message #1 by Ed Sowell

You missed one version: The coupler can be replaced by appropriate shrinking tube, as well.

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Rebuilding an HP 41 battery pack

*Message #1 Posted by **DavidShenk** on 18 Apr 2010, 11:39 a.m.*

I am in the process of rebuilding a 82120A battery pack for my 41CX with new NiCd cells. The problem I'm having is that the old cells leaked and damaged the metal contacts that mate with the calculator. They are both broken and I don't think they can be used again.

Does anyone have an ideas for a substitute for those metal contacts? My guess is they have to have some spring or flex in them so the battery pack can be removed, but maintain contact otherwise.

Dave

Re: Rebuilding an HP 41 battery pack

*Message #2 Posted by **aj04062** on 19 Apr 2010, 8:49 a.m.,*
in response to message #1 by DavidShenk

what about trying foam with a plate, like in all the 48 series?

Re: Rebuilding an HP 41 battery pack

*Message #3 Posted by **DavidShenk** on 19 Apr 2010, 11:15 a.m.,*
in response to message #2 by aj04062

That would work. I also thought of just using a small spring. I've been busy and haven't had a chance to try anything yet.

Dave

Re: Rebuilding an HP 41 battery pack

*Message #4 Posted by **Andreas Grund** on 20 Apr 2010, 2:56 a.m.,*
in response to message #3 by DavidShenk

David,

The battery pack is kept in place by the force of the 4 spiral springs inside the battery pack. For my better understanding, which contacts are coroded? The thin copper layer in the battery compartment? Or the springs in the battery holder?

In case you want to rebuild a battery case from scratch, this is very simple, based on 4 commercially available N size cell holders.

Andreas

Re: Rebuilding an HP 41 battery pack

*Message #5 Posted by **DavidShenk** on 20 Apr 2010, 11:55 p.m.,*
in response to message #4 by Andreas Grund

Hi Andreas,

The rechargeable battery pack that I'm trying to rebuild isn't constructed the same as the N cell pack. Part of the rechargeable pack is taken up by the charging circuit. The rest of the pack contains 4 small NiCd cells tab-welded together, then each side of the pack has a piece of spring steel that makes contact between the batteries and the copper in the calculator. It is this flex that replicates the springs in the normal N cell holder.

Of course, it is probably easier just to use N cells in the normal holder, but that's not the point!

Dave

Re: Rebuilding an HP 41 battery pack

*Message #6 Posted by **John Robinson** on 20 Apr 2010, 6:42 p.m.,*
in response to message #1 by DavidShenk

Hi David, I am in the same situation, and I thought about springs, but ruled them out, as I doubt they would stay in place. I am going to try some thin "spring steel" shaped pretty much to the same shape as the originals. I'll let you know how I go, if it works, I can send you some of the same steel - I have enough to build 100s of 82120 :-)

Cheers, John

Re: Rebuilding an HP 41 battery pack

*Message #7 Posted by **DavidShenk** on 20 Apr 2010, 11:46 p.m.,*
in response to message #6 by John Robinson

Thanks for the offer John. My thinking with the springs would be to solder them (if possible) right onto the ends of the batteries. I think that, you're right, they would move and cause problems otherwise.

Fabricating a duplicate part would be ideal. Let me know how it goes.

Dave

Re: Rebuilding an HP 41 battery pack

*Message #8 Posted by **John Robinson** on 22 Apr 2010, 5:45 a.m.,*
in response to message #7 by DavidShenk

Hi David,

Prototyping the replacement is quite sucessful, using 1/100" thick stainless steel, a little stiffer, but I think they will work fine. I take it Etienne sent some originals to you anyway, but if you want me to make you a couple contact me off forum.

Cheers, John

Re: Rebuilding an HP 41 battery pack

*Message #9 Posted by **Etienne Victoria** on 21 Apr 2010, 4:37 a.m.,*
in response to message #1 by DavidShenk

Hi David,

You have mail.

Cheers

Etienne

Re: Rebuilding an HP 41 battery pack

*Message #10 Posted by **DavidShenk** on 21 Apr 2010, 1:28 p.m.,*
in response to message #9 by Etienne Victoria

Thank you Etienne for donating and sending the parts needed to complete this project. Everyone here is more than generous with their time and willingness to help others.

Dave

Re: Rebuilding an HP 41 battery pack

*Message #11 Posted by **Alberto Fenini** on 22 Apr 2010, 12:15 p.m.,*
in response to message #10 by DavidShenk

ciao a tutti,
I haven't tried out personally, but while I was at the shop the other day
buying spare cells, I met a guy and almost for fun we started to talk about berillium copper
which has the right flexibility for rebuilding batteries contacts
Guess what ? he told me the easiest way to get berillium copper pieces is to take apart the following ...

The inside contacts are made out of berillium copper strips
I think it's worth a try, what do you think ?
Hope is fo help to someone, take care Alberto

Re: Rebuilding an HP 41 battery pack

*Message #12 Posted by **Dave Shaffer (Arizona)** on 22 Apr 2010, 2:29 p.m.,*
in response to message #11 by Alberto Fenini

Beryllium is highly toxic - especially the dust, which might well be generated if you try to cut and file this to shape. Be careful!

Re: Rebuilding an HP 41 battery pack

*Message #13 Posted by **Alberto Fenini** on 22 Apr 2010, 3:17 p.m.,*
in response to message #12 by Dave Shaffer (Arizona)

Thank you very much for the advice !
There is always the springs option

This worked out for me, the springs are from one of my child broken toys (I swear I didn't break it just to recover the springs....)

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HP vs. TI on eBay auctions

*Message #1 Posted by **Joerg Woerner** on 18 Apr 2010, 10:37 a.m.*

Hi There,

After selling more than 1,000 Texas Instruments calculators on that auction site, I put four days ago some HP calcs for sale.

Guess what? For most of my TI's I could predict the number of watchers, with my HP's it is completely different!

Examples:

Texas Instruments ABLE (the rarest TI I ever auctioned): 54 watchers

Texas Instruments SR-60: 52 watcher

Texas Instruments SR-51 Mint-in-Box: 50 watcher

Most TI's have 3..20 watchers after 4 days on the site.

And now the HP's:

Hewlett Packard HP 55: 58 watchers after 4 days!!!

Hewlett Packard HP 35: 36 watchers...

Wow - I have to collect HP, too.

Have a great Sunday, Joerg

Re: HP vs. TI on eBay auctions

*Message #2 Posted by **db (martinez, ca.)** on 18 Apr 2010, 11:15 a.m.,*
in response to message #1 by Joerg Woerner

Joerg: You *did* collect HP calcs, but you're selling them off. What interests me are the prices the apf and national semiconductor have been bid up to so far. That is yet another proof of the superiority of RPN - it has no equal.

So it's not too late. You can still cancel your auctions and even buy the Corvus that someone is selling. Come to the Dark Side Joerg. It's postfixerific!

Re: HP vs. TI on eBay auctions

*Message #3 Posted by **Michael de Estrada** on 18 Apr 2010, 2:04 p.m.,*
in response to message #2 by db (martinez, ca.)

Dennis, you hit the nail on the head. The value of these calculators is not so much their branding as HP .vs. TI, but the fact that they are RPN. I bought a NIB complete NS 4615 similar to the one Joerg is selling for $13.45 + shipping. With about a day left in Joerg's auction, the price has already been bid up to $41, and the final winning bid will not doubt be higher. The notable difference between the auction I won and Joerg's is that my auction made no mention of RPN, whereas Joerg's has RPN featured prominently in the heading and throughout the description. Remember when Joerg sold the RPN module for a TI calculator; it sold for a freekin' fortune.

Re: HP vs. TI on eBay auctions

*Message #4 Posted by **Maximilian Hohmann** on 19 Apr 2010, 6:01 a.m.,*
in response to message #3 by Michael de Estrada

Good morning!

> Quote:
>
> ... but the fact that they are RPN.

Which makes me curious, if there is any statistics/estimate regarding the percentage (or rather parts per million...) of RPN calculators within the total calculator "population". Theoretically, RPN calculators should be more valuable than non-RPN calculators by that factor, if value is based on rarity as with other collectibles. That would immediately place a six to seven figure price tag on any RPN calculator, no matter who the manufacturer is :-)

Regards, max

Re: HP vs. TI on eBay auctions

*Message #5 Posted by **Michael de Estrada** on 19 Apr 2010, 11:31 a.m.,*
in response to message #4 by Maximilian Hohmann

Statistical analysis is only useful if it places proper boundary conditions on the model. Regardless of rarity, if the population of buyers that are willing or able to spend 6 to 7 figures on a collectable item is zero, then that particular item can never attain that price. Rather, I see the RPN attribute as an added factor to the relative value of the calculator, rather than an absolute determinant. Also, I see the population of calculator collectors for whom the RPN attribute is important to be very small relative to the total population of collectors. Some, such as Joerg, may even see it as a negative.

Update. The auction is over and the National Semiconductor 4615 that was advertised as "RPN" sold for $86, whereas I paid only $13.45 for mine, which was not described as "RPN". However, I am not suggesting that it is the only reason for the differing prices, since other factors such as a worldwide .vs. domestic sale and the fact that this seller (datamath-computer-museum) gets tremendous exposure when compared to the typical calculator seller. Still, I do contend that there are sufficient data points for other similar sales to conclude that there is a positive correlation between RPN and desirability/price. The same, of course, can also be said for Hewlett-Packard .vs. all others, and a non-HP brand RPN will probably never achieve some of the prices paid for the rarer HPs. Still, some vintage HPs such as the HP-45 are pretty much common as dirt, and can easily be found in good condition for under $100. The APF Mark 55, BTW, went for $128.50.

Edited: 19 Apr 2010, 5:55 p.m.

Re: HP vs. TI on eBay auctions

*Message #6 Posted by **Joerg Woerner** on 20 Apr 2010, 8:44 p.m.,*
in response to message #5 by Michael de Estrada

Thanks for the kudos...

FYI: I have for sure a nice stat about my auctions. 62% (!) of my calculators sold this year outside of the US. These nine RPN auctions ended up in: Germany (4), Switzerland (1), France (1), Italy (1), Israel (1) and United States (1).

"Domestic only" would kill half of the bids immediately.

I moved in 2006 from Germany to the US and still remember how disappointing every single "domestic only" auction was.

Regards, Joerg

Re: HP vs. TI on eBay auctions

*Message #7 Posted by **Michael de Estrada** on 23 Apr 2010, 2:40 p.m.,*
in response to message #5 by Michael de Estrada

Not to beat a dead horse, but just another example of the "HP" and "RPN" value factor. Today I received a totally mint Novus Mathematician PR 4515 in the mail, including the soft case and charger, all for $26 plus $5 shipping priority mail. It works perfectly, and the internal NiCad batteries still hold a charge. Again, this was a worldwide TAS auction which made no mention of RPN in the heading, although it was mentioned in the listing. It got only a total of 67 visits, many of them mine, and none of the other bidders appear to be international (non-US). Anyway, I now have 10 National Semiconductor/Novus RPN calculators in my collection, all in good working order, and most of the non-HP RPN chipsets are now represented in my collection.

Re: HP vs. TI on eBay auctions

*Message #8 Posted by **Michael Meyer** on 23 Apr 2010, 5:33 p.m.,*
in response to message #7 by Michael de Estrada

Sorry I drove the bid up. I seem to end up second in most of the auctions I bid on! I guess I'm good for sellers <grin>. Enjoy, my friend!! Michael

Re: HP vs. TI on eBay auctions

*Message #9 Posted by **Michael de Estrada** on 23 Apr 2010, 9:36 p.m.,*
in response to message #8 by Michael Meyer

So you collect non-HP RPN calculators also? Cool. Well, look at it this way, next time that model shows up on TAS, you won't have to worry about me bidding against you. ;>)

Anyway, this was peanuts when compared to the king's ransom I had to pay for the HP-70.

Re: HP vs. TI on eBay auctions

*Message #10 Posted by **Michael Meyer** on 24 Apr 2010, 12:06 a.m.,*
in response to message #9 by Michael de Estrada

I'm so "bitten" that I collect most any unique calculator.... some junk, but I've also

found that the very early calculators had a lot of thought put into them, especially if they were one of few models produced by a company. The Panasonic 850 I just bought is a great example. What interesting engineering! Modular, gold-plated contacts, magnetic reed switches, removable power pack, etc. One weakness... a flimsy switch contact. Allowed me to buy it cheap and fix it easy!

Re: HP vs. TI on eBay auctions

*Message #11 Posted by **Joerg Woerner** on 18 Apr 2010, 4:36 p.m.,*
in response to message #2 by db (martinez, ca.)

Dennis,

I didn't "collect" HP calculators, I came across them ;-))

Regards, Joerg

Re: HP vs. TI on eBay auctions

*Message #12 Posted by **db (martinez, ca.)** on 18 Apr 2010, 9:11 p.m.,*
in response to message #11 by Joerg Woerner

> Quote:
>
> I didn't "collect" HP calculators, I came across them ;-))

That's a good sign. To misquote Hunter S. Thompson:
"You don't look for RPN. RPN finds you when it thinks you're ready."

Re: HP vs. TI on eBay auctions

*Message #13 Posted by **Namir** on 18 Apr 2010, 12:43 p.m.,*
in response to message #1 by Joerg Woerner

Joerg,

I can tell you from experience that vintage HP calculators have more followers, than vintage TI calculators, who are willing to pay more. I was selling the TI-66, TI-65, TI-95 and TI-74, which I considered to be good machines, at prices that were so so. If these machines were HP branded, the sale price would be at least double.

Namir

Re: HP vs. TI on eBay auctions

*Message #14 Posted by **Joerg Woerner** on 18 Apr 2010, 4:41 p.m.,*
in response to message #13 by Namir

Namir,

Yesterday a NEW-IN-BOX TI-95 (Auction 270561922264 on eBay.de) ended on eBay.de above US$ 300 ;-))

The same day a used but good looking one (230459621554 on eBay.de) ended for less than US$ 25 :-((

Regards, Joerg

Re: HP vs. TI on eBay auctions

*Message #15 Posted by **bill platt** on 19 Apr 2010, 11:03 a.m.,*
in response to message #14 by Joerg Woerner

Yes, that is a telling comparison. For instance, no good working HP 71B would go for less than 100 as far as I can tell.

Re: HP vs. TI on eBay auctions

*Message #16 Posted by **Juergen Keller** on 18 Apr 2010, 3:46 p.m.,*
in response to message #1 by Joerg Woerner

> Quote:
>
> Wow - I have to collect HP, too.

May the Force be with you!

Re: HP vs. TI on eBay auctions

*Message #17 Posted by **Joerg Woerner** on 18 Apr 2010, 4:37 p.m.,*
in response to message #16 by Juergen Keller

Juergen,

I'm not sure if my contacts at TI would appreciate it ;-))

Regards, Joerg

Re: HP vs. TI on eBay auctions

*Message #18 Posted by **Walter B** on 20 Apr 2010, 12:29 a.m.,*
in response to message #17 by Joerg Woerner

Hallo Jörg,

> Quote:
>
> I'm not sure if my contacts at TI would appreciate it

Maybe that's the root cause. Thus let's quote Queen: "It's time to break free!" - remember you're a free man having the right to pursuit happiness d;-)

Beste Grüße, Walter

P.S.: I can understand the attractivity of some algebraic calcs - HP-27 above all, but also some of TI's - their logic, however, is just so inconsistent and confusing ...

Edited: 20 Apr 2010, 12:38 a.m.

Re: HP vs. TI on eBay auctions

*Message #19 Posted by **Joerg Woerner** on 20 Apr 2010, 8:46 p.m.,*
in response to message #18 by Walter B

Walter,

I have one HP 38E left and just started to play around with it. A lovelly machine - I really like it. Feels much better than even the SR-51, one of my favorites.

Cheers, Joreg

Re: HP vs. TI on eBay auctions

*Message #20 Posted by **Keith Midson** on 19 Apr 2010, 11:23 a.m.,*
in response to message #1 by Joerg Woerner

Similar thing happened to me, but from the HP side ... a colleague donates a mint 1975 TI-SR-51-ii to me, knowing that I collect HP's. Not sure if this was a statement, or him not fully understanding what I collect!
It's complete in the box, looks kinda nice, works well, has those red LED's that I love on my HP's ... but Joerg tells me that it's worth only about US$30 or so! Much less than an 'equivalent' HP.
HP's just have no equal ;)
Cheers, Keith

Re: HP vs. TI on eBay auctions

*Message #21 Posted by **Michael Meyer** on 19 Apr 2010, 12:12 p.m.,*
in response to message #20 by Keith Midson

Keith, the problem I've had with this "hobby" is that I can only afford to collect a limited number of HP's, even with the many duplicates I have.

At least with other brands, I can see them, feel them, use them, appreciate their diversity, all for mostly the cost of postage. I've bought many calculators from 1 cent to 5 dollars. Not great if all you collect is HP's, but enjoyable for me to expand the collection to "calculators" in general.

I've bought some industry-specific calculators that I've found interesting: Horse racing calculator, paper industry calculator, time clock calculator, etc., all for just a few dollars.

Still, there's my HP's, then there's all the rest.... but at least I can get, "all the rest" for the cost of one or two HP's....

Re: HP vs. TI on eBay auctions

*Message #22 Posted by **megarat** on 19 Apr 2010, 3:18 p.m.,*
in response to message #20 by Keith Midson

A similar thing happened to me as well. A friend found a pristine (albeit with corroded battery terminals) TI-59 at a yard sale, complete with several software libraries, and gave it to me as a gift.

I just haven't had the enthusiasm to fix it up, and the prices for these things on eBay haven't helped any. It has been sitting forlornly in a bottom desk drawer since.

Re: HP vs. TI on eBay auctions

*Message #23 Posted by **Michael Meyer** on 19 Apr 2010, 6:53 p.m.,*
in response to message #22 by megarat

Well, now, it's time to get the enthusiasm to fix it up!! The 59 was an incredible machine, and though others had a lot of bad luck with the keyboards, my 59 lasted through most of my senior year in high school and all four years of college. It still works perfectly today... somehow the card reader didn't even go bad! It had an alphanumeric printer, making it my "computer" until the HP-71 came out. I re-wrote every computer assignment, every physics and statistics equation... well, most everything. It printed calendars, banners; did everything but play music. (My 71B does that.)

Most every one of them does need the card reader fixed, but it still can be powered up and experienced without a working card reader. Go experience!

Re: HP vs. TI on eBay auctions

*Message #24 Posted by **Michael Plant** on 19 Apr 2010, 7:24 p.m.,*
in response to message #23 by Michael Meyer

> Quote:
>
> Most every one of them does need the card reader fixed, but it still can be powered up and experienced without a working card reader. Go experience!

I got one on eBay a few months ago (my first) for $9. It was ugly BUT after a good cleaning it looks unused. Inspired by your story, I was emboldened to try the card reader (it came with the diagnostics card) and it worked!

I also got a TI-58c for $2 at a local thrift store, with a leather pouch and in beautiful shape. I rebuilt battery packs for it and the TI-59 and they are both now among my favourite calculators.

Re: HP vs. TI on eBay auctions

*Message #25 Posted by **Michael Meyer** on 19 Apr 2010, 8:52 p.m.,*
in response to message #24 by Michael Plant

Nice. I can't imagine investing the "brain power" to really learn to use the machine again, with all the op codes and such, especially for me, having "returned" to RPN. But when I did "stray", it was only for the 59. So it will always hold a special place in my heart. The only times I came close to filling up the machine's memory was with programs heavy on alphanumerics, which took up a lot of steps. BTW, if you can pick up a PC-100A or C printer, they make the greatest noise when they print, and they print quite fast, considering...

Re: HP vs. TI on eBay auctions

*Message #26 Posted by **Namir** on 20 Apr 2010, 9:41 a.m.,*
in response to message #1 by Joerg Woerner

Looks like your HP calculator auctions did well!!

Namir

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Somewhere in the PPC Journal...Richard Nelson said...

*Message #1 Posted by **Gene Wright** on 17 Apr 2010, 2:48 p.m.*

Ok, this has been driving me batty (or battier if you like) for a while.

I remember changing the way I type based upon a statement that Richard Nelson made in the PPC Journal.

He said that you should learn to type only ONE space after a period at the end of a sentence for several reasons: saving space, better flow of the text across the page, better results from a typographical perspective, etc. He asked the obvious question: How can I unlearn the double-space after a period? His answer: practice!

My problem is I cannot find where he said this. Unfortunately, I cannot remember if it was an editorial, an "ed. note" in response to a user letter in the feedback area of the journal...I can't even remember what YEAR it was in.

So, is there anyone out there having a sleepless night who enjoys reading through their back issues of the beloved PPC Journal who can help me find this?

Richard himself does not remember it. :-)

Help!

Re: Somewhere in the PPC Journal...Richard Nelson said...

*Message #2 Posted by **Don Shepherd** on 17 Apr 2010, 4:31 p.m.,*
in response to message #1 by Gene Wright

Gene, this could start world war 3.

I learned

1. 2 spaces after a period at the end of a sentence
2. 2 spaces after a colon
3. 1 space after a comma
4. 1 space after a semi-colon

I think the forum software reduces two spaces to one so, regarding typing posts here, it's a moot point. But I always use punctuation based upon what I learned in high school.

Re: Somewhere in the PPC Journal...Richard Nelson said...

*Message #3 Posted by **Gene Wright** on 17 Apr 2010, 4:50 p.m.,*
in response to message #2 by Don Shepherd

Oh, I learned it that way as well. I **changed** how I typed after reading Richard's statements in the PPC Journal. It appears many places suggest a single space after a period, such as:

http://webword.com/reports/period.html

"The only reason that two spaces were used after a period during the 'typewriter' age was because original typewriters had monospaced fonts -- the extra space was needed for the eye to pick up on the beginning of a new sentence. That need is negated w/proportional space type, hence [it is] the typographic standard."

But, I'm not interested in debating the standard.

I just want to find where Richard said it! :-)

Re: Somewhere in the PPC Journal...Richard Nelson said...

*Message #4 Posted by **Garth Wilson** on 17 Apr 2010, 7:11 p.m.,*
in response to message #3 by Gene Wright

> Quote:
>
> http://webword.com/reports/period.html
>
> "The only reason that two spaces were used after a period during the 'typewriter' age was because original typewriters had monospaced fonts -- the extra space was needed for the eye to pick up on the beginning of a new sentence. That need is negated w/proportional space type, hence [it is] the typographic standard."

I'll bite. I do not agree at all. The original monospaced typewriters made it *easier* to see the end of a sentence because the periods were so big. I sometimes have to re-read things now because they didn't make sense, and it turns out that I ran things together because the second space was missing. There were typewriters that did do proportional spacing long before we had computers-- they were just more expensive. My mom used one when she was a secretary in the early 1970's. A lower-case "i" took two units of space as I recall, whereas a capital "M" took five units. If you backspaced to type over something with the white-out tape, you had to know how many units to go back. Still, two spaces between sentences was correct. I think what has happened now is that we have people writing software who are too young to have taken the standard two years of typing in high school.

Another one I've been seeing recently is only half a blank line between paragraphs in block style, intead of a whole blank line. Someone probably thought that typewriters had to do either single or double spacing, which is not true. We could go one and a half, but it makes it confusing to look at, especially if one paragraph ends near the right margin. Use an entire blank line.

I will also put in a pitch for a comma before the "and" in a sequence. For example, "we went out to eat with the Smiths, Mark and Kathy" has a different meaning from "We went out to eat with the Smiths, Mark, and Kathy." The first one incorrectly implies that the Smiths' names are Mark and Kathy, whereas the second one says we went out with Bob and Ann Smith, and also with Mark and Kathy whose last names were different and they were engaged to be married. The lack of the comma changes the meaning and makes the statement incorrecct.

There also needs to be a second period after an abreviation at the end of a sentence, so you have one for the abreviation and one to end the sentence. A single period is extra bad if there's only one space after the sentence and the next sentence starts with an acronym or with a proper noun (like someone's name) which would be capitalized regardless and you lose the separation between sentences.

Edited: 17 Apr 2010, 7:14 p.m.

Re: Somewhere in the PPC Journal...Richard Nelson said...

*Message #5 Posted by **Dave Shaffer (Arizona)** on 17 Apr 2010, 7:27 p.m.,*

in response to message #4 by Garth Wilson

I agree with Don and Garth - two spaces after the period at the end of the sentence.

I also agree 100% with Garth on putting the comma before the "and" in a list of three or more names or items.

Re: Somewhere in the PPC Journal...Richard Nelson said...

*Message #6 Posted by **Thomas Okken** on 17 Apr 2010, 8:48 p.m.,*
in response to message #4 by Garth Wilson

Totally agreed about the comma before the "and" -- the comma indicates a pause that is, in fact, there when people say things like "one, two, and three" out loud.

But this two spaces after a period thing makes me feel like I just wandered into a typographic Twilight Zone. I have seen old college textbooks -- the kind that was written by a professor using a typewriter strictly for circulation within the school -- and some followed this two-spaces convention. I found it visually jarring and almost as annoying as people who insist on some non-standard spelling.

I can't find a single book that has more space between sentences than between words, and that includes books that were typeset before the digital age. Why would you want that extra space anyway? Between the extra space that's already caused by the period, and the emphasis from the following capital letter, sentence boundaries stand out just fine already. Well, except in Windows browsers where the standard font has a one-pixel period that is almost invisible on today's high-resolution laptop screens, but that's another matter...

Re: Somewhere in the PPC Journal...Richard Nelson said...

*Message #7 Posted by **Don Shepherd** on 17 Apr 2010, 9:38 p.m.,*
in response to message #6 by Thomas Okken

> Quote:
>
> I can't find a single book that has more space between sentences than between words, and that includes books that were typeset before the digital age.

That's because most books use flush left AND RIGHT margins, at least in my bookcase. And the typesetting software obviously tries to put an equal amount of white space between all sentence elements.

> Quote:
>
> Why would you want that extra space anyway?

I want that extra space so that I don't have to guess where the sentence (and thought) ends. A sentence is a thought, or statement, and we should have a little extra space between sentences for the same reason we should have a blank line between paragraphs. It makes the text more understandable and readable. I'd say that was the original reason for two spaces after a sentence; I doubt it had anything to do with typewriters.

> Quote:

> Between the extra space that's already caused by the period, and the emphasis from the following capital letter, sentence boundaries stand out just fine already.

I don't agree. And a period takes up very little space, almost inconsequential. Especially in an early HP-33s calculator! :)

Leave it to Gene to start world war 3. And, in the end, people who want one space will do it that way, same with people who want two spaces, and we'll all manage to get by.

Re: Somewhere in the PPC Journal...Richard Nelson said...

*Message #8 Posted by **Thomas Okken** on 17 Apr 2010, 10:51 p.m.,*
in response to message #7 by Don Shepherd

Meh, one vs. two spaces isn't enough to start World War III. Just a few border incidents at worst. Windows vs. Mac, RPN vs. AOS, vi vs. EMACS, universal health insurance vs. not, those have way more potential. :-)

Re: Somewhere in the PPC Journal...Richard Nelson said...

*Message #9 Posted by **Paul Dale** on 17 Apr 2010, 5:37 p.m.,*
in response to message #2 by Don Shepherd

It possibly isn't so much the forum software at HTML which reduces multiple whitespace characters into a single space.

- Pauli

Re: Somewhere in the PPC Journal...Richard Nelson said...

*Message #10 Posted by **Thomas Okken** on 17 Apr 2010, 9:28 p.m.,*
in response to message #9 by Paul Dale

That is correct; the forum does actually preserve whitespace, but web browsers treat all runs of whitespace as equivalent to a single space; this behavior is actually required by the HTML specification.

```
If you really must use double spaces, your only option is to use
the [pre] and [/pre] tags, but that has the drawback of not allowing
the browser to flow the text so as to fill the available width.
Also, it's ugly. :-)
```

Re: Somewhere in the PPC Journal...Richard Nelson said...

*Message #11 Posted by **geoff quickfall** on 18 Apr 2010, 1:12 a.m.,*
in response to message #1 by Gene Wright

Can't help but looking, call Richard!!

Geoff

Re: Somewhere in the PPC Journal...Richard Nelson said...

*Message #12 Posted by **Gene Wright** on 18 Apr 2010, 7:42 a.m.,*
in response to message #11 by geoff quickfall

No, you don't understand.

I already **have** spoken to Richard, but he doesn't remember now. However, I am 100% certain it is in the PPC Journal.

Perhaps I should offer a reward to anyone here who finds the reference? :-)

Re: Somewhere in the PPC Journal...Richard Nelson said...

*Message #13 Posted by **Brian Walsh** on 21 Apr 2010, 12:20 a.m.,*
in response to message #12 by Gene Wright

Gene, have you tried searching the journals on CD that Jake offers? Just a wild guess.

Brian

Re: Somewhere in the PPC Journal...Richard Nelson said...

*Message #14 Posted by **Jake Schwartz** on 21 Apr 2010, 4:18 p.m.,*
in response to message #13 by Brian Walsh

> Quote:
>
> Gene, have you tried searching the journals on CD that Jake offers? Just a wild guess.

Since there is no way to search through the issues on the CD, it would only be a manual process. However, it still might be quicker than physically thumbing through the paper issues...

Jake

Re: Somewhere in the PPC Journal...Richard Nelson said...

*Message #15 Posted by **Gene Wright** on 21 Apr 2010, 4:31 p.m.,*
in response to message #14 by Jake Schwartz

Yes, I have now gone through the PDF set for the years Richard was editor TWICE.

I was hoping either someone might remember (ha) or someone might go through a year looking for such a thing. You know, another set of eyes. :-)

Re: Somewhere in the PPC Journal...Richard Nelson said...

*Message #16 Posted by **Katie Wasserman** on 21 Apr 2010, 9:23 p.m.,*
in response to message #15 by Gene Wright

Gene,

If you have some OCR software (Adobe Acrobat works well) you can take the PDF's, OCR them and then do a search on the revised document. I've been OCRing many of the manuals on my website and I know that Dave did this for the many of the manuals on the latest HP Museum DVD.

-Katie

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Emu71 updated for the PIL-Box

*Message #1 Posted by **J-F Garnier** on 17 Apr 2010, 5:05 a.m.*

Hi, an update of my Emu71 emulator with support of the PIL-Box is now available on my site .

It was already possible to exchange program and data between Emu71 and a HP-71B by using the ILPer software and this is still the recommended method, but now Emu71 is also able to directly drive external HP-IL devices such as a HP3468 multimeter or a HP9114 drive.

J-F

Re: Emu71 updated for the PIL-Box

*Message #2 Posted by **ZOleg** on 18 Apr 2010, 7:52 p.m.,*
in response to message #1 by J-F Garnier

Thanks for new version!

Re: Emu71 updated for the PIL-Box

*Message #3 Posted by **Mike (Stgt)** on 19 Apr 2010, 4:03 a.m.,*
in response to message #1 by J-F Garnier

Merci beaucoup!

Mais... is it possible to link now your emu41 and emu71 to a "virtual" HP-IL? Or is it only possible using your PIL-Box? Which _is_ a must-have anyway I was told this WE.

Ciao.....Mike

Re: Emu71 updated for the PIL-Box

*Message #4 Posted by **Egan Ford** on 19 Apr 2010, 1:19 p.m.,*
in response to message #1 by J-F Garnier

Thanks!

Comments/question:

1. No problem working with OS/X, DOSBox, PILBox, 9114B. I just backed up my memory to physical disk.
2. 9600 BPS. Slow. But it works.
3. Does this indicate that there is no longer a commercial EMU71?

Thanks again for all your hard work.

Re: Emu71 updated for the PIL-Box

*Message #5 Posted by **J-F Garnier** on 19 Apr 2010, 2:56 p.m.,*
in response to message #4 by Egan Ford

Indeed there is no more a registered version. A side effect of providing PIL-Box support is that the ISA board is also supported in the free version.

To Mike: data can be easily be shared between Emu41 and Emu71 by using the same hdrive1 file, for instance.

J-F

Dumb question #1

*Message #6 Posted by **Gene Wright** on 19 Apr 2010, 3:46 p.m.,*
in response to message #5 by J-F Garnier

Ok, downloaded and launched the emu71.

Get messages that the rom files that I put in the .ini file are not found as it starts up.

The rom images are in the same folder as the emu71 file that I am running in a command prompt window in XP.

The emu71.ini file contains:

```
; emu71.ini        Emu71 initialisation file
;
[MODULES]
; 10 softwired modules max., plus 1 hardwired module
; main RAM in port 0 only
; port(1-5) type(ROM,RAM,HRD) size(Ko) file
0 RAM 32 ram00.bin
1 ROM 16 hpilrom.bin
2 ROM 32 JPCF.BIN
3 ROM 32 symb.bin
4 ROM 32 math.bin
5 RAM 32 iram50.bin
;
[DEVICES]
DISPLAY
HDRIVE1
HDRIVE2
DOSLINK
LPRTER1
```

So...dumb question...what mistake have I made? I renamed the ROMs to the shorter names and even tried caps vs. no caps.

Re: Dumb question #1

*Message #7 Posted by **Etienne Victoria** on 19 Apr 2010, 4:12 p.m.,*
in response to message #6 by Gene Wright

Gene,

IIRC, the math Rom is MATHROM.BIN and not math.bin.

Did you rename it "math.bin" on purpose ?

And in your config, depending on your JPC Rom version, you may want to check the filename too: for example JPCROMF.BIN for the F revision.

Best

Etienne

Edited: 19 Apr 2010, 4:14 p.m.

Re: Dumb question #1

*Message #8 Posted by **Etienne Victoria** on 19 Apr 2010, 4:21 p.m.,*
in response to message #6 by Gene Wright

Gene,

Sorry for not reading your post thoroughly enough.

You state quite clearly that you did rename your Rom filenames.

So I cannot help further.

The only thing I can say:

This new version works for me with the original filenames as found on the Roms repository hosted by Jean-François.

Hope you can fix your issue.

Etienne

Re: Dumb question #1

*Message #9 Posted by **J-F Garnier** on 19 Apr 2010, 4:21 p.m.,*
in response to message #6 by Gene Wright

Did you have the problem with the default ini file and ROM names?

Can you check that the "8.3" filenames are correct with a DIR /X at the command prompt?

I think someone already reported this, it was caused by a particular un-zip utility. Can you try to unzip with an other tool?

J-F

Re: Dumb question #1

*Message #10 Posted by **Gene Wright** on 19 Apr 2010, 4:31 p.m.,*
in response to message #9 by J-F Garnier

Aha. The DIR /X suggestion pointed out the problem. Been a long time for me away from DOS.

Issue was that in windows the file extension was not showing...so stupid OSX Mac guy that I was... I added .bin to the filename. So, the filename to DOS was Math.bin.bin.

Ha.

Loaded now. Thank you.

Re: Emu71 updated for the PIL-Box

*Message #11 Posted by **Mike (Stgt)** on 20 Apr 2010, 7:44 a.m.,*
in response to message #5 by J-F Garnier

Dacord, I did read your description. But I wanted to go a step further, for example put your emu41 with the 'Devil-ROM' in a IL to monitor the IL-commands. BTW, this is the only condition when the HP-41 is not the controler of the IL.

To be more precise: may I use the ILPer without PIBox (which I do not have yet), together with emu41 *and* one or more emu71? Or without emu41 and just one (or more) instances of emu71?

Ciao.....Mike

Re: Emu71 updated for the PIL-Box

*Message #12 Posted by **J-F Garnier** on 20 Apr 2010, 4:51 p.m.,*
in response to message #11 by Mike (Stgt)

ILPer is to be used only with the PIL-Box. An external HP-IL controller (41, 71, 75) can communicate with several instances of Emu41 and Emu71 by using a commun disc image file but no way to build a virtual HP-IL connection between Emu41 and Emu71.

J-F

Re: Emu71 updated for the PIL-Box

*Message #13 Posted by **Mike (Stgt)** on 21 Apr 2010, 5:43 a.m.,*
in response to message #12 by J-F Garnier

Merci!

My idea just was to have everything virtual.

Re: Emu71 updated for the PIL-Box

*Message #14 Posted by **Marcus von Cube, Germany** on 26 Apr 2010, 6:54 a.m.,*
in response to message #13 by Mike (Stgt)

There might be a way with software like com0com which provides virtual com ports that are linked together. If they are seen by Emu71 and/or Emu41 and can be used as a PILbox substitute, it might work.

Re: Emu71 updated for the PIL-Box

*Message #15 Posted by **Egan Ford** on 26 Apr 2010, 1:00 p.m.,*
in response to message #14 by Marcus von Cube, Germany

That may actually work. Unless, EMU41/EMU71 for the PIL-Box sends something to the PIL-Box that is unique to the PIL-Box (e.g. some type of reset) that must be acknowledged. I've use com0com to have different EMU48 sessions communicate. I also used it for this project: http://sense.net/~egan/virtual82240b/. Good stuff.

Re: Emu71 updated for the PIL-Box

*Message #16 Posted by **Mike (Stgt)** on 27 Apr 2010, 5:57 a.m.,*
in response to message #14 by Marcus von Cube, Germany

I thoght about this too but did not test it yet. IIRC Christoph Giesselink once mentioned it to link an emulated calculator running under Emu48 to the host. That I tried and failed as 'my' WinXP did not like com0com too much it seemed to me. I will give it an other try on Win7 Starter ...fun ...joke ...

Ciao.....Mike

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15C Spotted on National Geographic Program

*Message #1 Posted by **Jeff O.** on 16 Apr 2010, 1:27 p.m.*

I'm surprised no one else has mentioned this yet, but since they haven't, I will.

On the National Geographic Channel program called "Known Universe" shown on April 15, they were explaining how the Kepler mission will allow the number of earth-sized plants in the Milky Way Galaxy to be determined. An amiable astronomer or other type of scientist (whose name I did not note) explained that the total number of such planets in the galaxy will be determined by considering the Kepler results to be a sample of the entire galaxy. He then compared this process to figuring out the number of blades of grass on the soccer field on which he was standing by counting the blades in a small square. He laid on the ground and counted the blades in a 2" x 2" square, then proceeded to use an HP-15C to calculate the total number on the field based on his sample area count. The calculator was shown only fleetingly for two short intervals, the badge was missing, and his hand blocked much of the keyboard, but I am pretty sure that that I saw "RESULT" above the EEX key.

I hope this scientist does not lose his 15C, or we might never know how many other earths are out there. Unless HP did something "out of this world" (get it?!) like re-release the 15C!

...

Edited: 16 Apr 2010, 1:31 p.m.

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RPNCalc Pro for Android

*Message #1 Posted by **palmheads** on 15 Apr 2010, 10:13 p.m.*

Looks like RPNCalc Pro for android has added more functionality to its HP-12c compatible Financial calc function. Programming has been added. Seems to be pretty good! I tried that lambert w program mentioned recently - worked well!

RPNCalc Pro

cheers Daryn

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challenge

*Message #1 Posted by **Don Shepherd** on 15 Apr 2010, 7:05 p.m.*

OK, here is the challenge. 1741^9 is equal to the sum of 9 consecutive prime numbers. What are they?

Without using a computer or CAS calculator, please.

Re: challenge

*Message #2 Posted by **Paul Dale** on 15 Apr 2010, 7:18 p.m.,*
in response to message #1 by Don Shepherd

Youch they are big.

```
1741^9 = 146,956,547,386,947,872,723,891,185,261
```

So the numbers will be around:

```
16,328,505,265,216,430,302,654,576,140
```

There must be a short cut...

- Pauli

Re: challenge

*Message #3 Posted by **Don Shepherd** on 15 Apr 2010, 7:35 p.m.,*
in response to message #2 by Paul Dale

I'm hoping someone can dazzle us.

Re: challenge

*Message #4 Posted by **Paul Dale** on 15 Apr 2010, 7:38 p.m.,*
in response to message #3 by Don Shepherd

I've got them but I resorted to Wolfram Alpha's *first prime larger than* joy. Interestingly, it doesn't understand *first prime smaller than*.

Now to figure out how on a calculator...

- Pauli

Re: challenge

*Message #5 Posted by **Han** on 15 Apr 2010, 10:19 p.m.,*
in response to message #2 by Paul Dale

Quote:

Youch they are big.

```
1741^9 = 146,956,547,386,947,872,723,891,185,261
```

So the numbers will be around:

```
16,328,505,265,216,430,302,654,576,140
```

There must be a short cut...

- Pauli

Not quite; this assumes that the primes are approximately the same order of magnitude and evenly distributed. The nth prime is approximately n*log(n).

Re: challenge

*Message #6 Posted by **Paul Dale** on 15 Apr 2010, 10:48 p.m.,*
in response to message #5 by Han

Actually they are around that number, the primes are *consecutive* which means they must lie around about the target number over nine.

- Pauli

Re: challenge

*Message #7 Posted by **Egan Ford** on 15 Apr 2010, 11:58 p.m.,*
in response to message #6 by Paul Dale

Not to give too much away. But 5 are below and 4 above.

Re: challenge

*Message #8 Posted by **hugh steers** on 16 Apr 2010, 9:23 a.m.,*
in response to message #7 by Egan Ford

ok, let N = 1741^9. mod(N, 9) = 1, so write N = 9k + 1 with k = floor(N/9). and k is paul's number earlier. k is not prime.

now make a table P-k, where P prime greater than k and smaller than k, say 7 each way. i get:

```
P-k, P > k
151, 191, 193, 229, 343, 349, 391
P-k, P < k
-17, -49, -131, -253, -313
```

need to find a combination of the above that sum to 1, so that sum (P-k_i) = 9k + 1.

a quick scan shows first 4 of from the first list and first 5 of the second list do this. ie 151+191+193+229-17-49-131-313-253 = 1

so the desired numbers are k with each of these added.

163285052652164303026545762 91 163285052652164303026545763 31

163285052652164303026545763331632850526521643030265457636916328505265216430302654576123 163285052652164303026545760911632850526521643030265457600916328505265216430302654575887 163285052652164303026545758271

it was a bit lucky that the ones immediately up and down were the answers.

Edited: 16 Apr 2010, 9:25 a.m.

Re: challenge

*Message #9 Posted by **Egan Ford** on 16 Apr 2010, 11:48 a.m.,*
in response to message #8 by hugh steers

Now that the answer is exposed here is my WolframAlpha input:

```
Sum[NextPrime[1741^9/9,i],{i,1,4}]+Sum[NextPrime[1741^9/9,i],{i,-5,-1}]
```

Re: challenge

*Message #10 Posted by **hugh steers** on 16 Apr 2010, 12:51 p.m.,*
in response to message #9 by Egan Ford

presumably, there's no way to perform the search for the actual values in the summation. if they weren't so lucky to be centred around the mean, it would have been much harder to find them.

Although i used my calculator to perform the prime tests, i wonder if there's a short cut. for example, we have to find primes (1741^9)/9 + a, for relatively small `a'. it seems that all composite such numbers for small a have small divisors (note 1741 is prime). is this significant?

Re: challenge

*Message #11 Posted by **Katie Wasserman** on 16 Apr 2010, 4:06 p.m.,*
in response to message #10 by hugh steers

> Quote:
>
> Although i used my calculator to perform the prime tests

Which one, a 50g?

Don stated the challenge so as to not use a CAS calculator. This would require writing some 30-digit math routines and programing a probabilistic primality test routine using them. That is, unless there's some really clever short cut.

-Katie

Re: challenge

*Message #12 Posted by **Bart (UK)** on 16 Apr 2010, 6:21 p.m.,*
in response to message #11 by Katie Wasserman

Displaying long numbers is one of Hugh's specialities. He has several bits of

software that do that, e.g. Scicalc, Exact and Reckon. Reckon on the fx-9860G/Gii (listed as non-CAS) displays the full 30 digits (Reckon on my 9860GII was the first thing I reached for when I read the challenge). It also has a factoring function and a prime number checking function, that can take these many digit numbers as arguments.

Re: challenge

*Message #13 Posted by **hugh steers** on 16 Apr 2010, 10:01 p.m.,*
in response to message #12 by Bart (UK)

I used my own of course :-)

I'm using Reckon on the 9860g. I haven't developed a CAS for it yet (although i do have some work in this direction). However, it does support big ints and has some factoring code.

you are correct, that the "prime" test method uses a probabilistic algorithm. to reject composites i use a strong pseudoprime test up to the Riemann limit = min(floor(2ln(n)^2), n-1) or 50 trials whichever is the smallest. 50 is an arbitrary number for confidence. hand waving theory says this gets 2^-50:1 of being wrong. i'd like to do more trials, but calculators are slow.

however, you can just punt the number to the "fac" method, which attempts factorisation (it's also short to type than "prime"). the fac method uses a series of approaches including prime testing. firstly, "fac" attempts trial division. for this i use my "division without division" method to find any factors up to 2^20. here's an article on this method i wrote a while back

http://www.voidware.com/hpcc/smallfactor.pdf. Actually this approach is suitable for factoring any number up to 12 digits in length in under 10 seconds, but not for larger numbers.

if the above fails to find a factor, the strong pseudo prime test is applied, either up to the Riemann limit or 50. if it thinks the number is prime, then the process stops. most often the method finds a "witness" for a composite, in which case prime testing quits and we move on.

if we get past the trial division and prime test, then we have a composite with a factor > 2^20. now we're in trouble! my old code used to use a bunch of methods including pollard rho, Fermat and shanks' square free method. since then ive implemented Lenstra's elliptic curve method (ECM) and, without a doubt, this method dominates all others. the other attempts are no longer attempted and "fac" moves right away to the ECM.

the ECM is the third best known factoring method. unfortunately the other two, the quadratic sieve, and (general) number field sieve cannot be implemented on calculators because they require a large amount of memory. the ECM requires hardly any and is a very beautiful method which has running time proportional to the smallest factor - a highly desirable property!

the theory and efficient implementation are covered in Crandall & Pomerance, "prime numbers", chapter 7, 2nd edition. the authors develop a number of important optimisations to the method. i have followed these in my implementation but i have not gone as far as the Montgomery arithmetic

(it's totally weird!)

if you want to try this out,

checkout http://www.voidware.com/reckon/ for the casio

or for the PC exe get, http://www.voidware.com/reckon/reckon.exe

try these

```
a=1741^9-1
a=a/9+151
prime(a)
or fac(a)


also try,
a=2^73-1
a=a/439
fac(a)


or even
fac(2^103-1)
```

Bart, thanks for the comments. FTI, i just uploaded a new reckon casio binary 1.15 no actual change except that i just noticed it was suddently taking a _lot_ longer to factor numbers. turned out it was the escape key test i put in recently (you can press "EXIT" whilst factoring to abort). this _really_ slowed it down, so i moved this test out of an inner loop and its fine now.

Re: challenge

*Message #14 Posted by **Katie Wasserman** on 17 Apr 2010, 1:22 a.m.,*
in response to message #13 by hugh steers

Hugh,

I just downloaded your new code, very nice and fast!

But I tired:

```
x=9999999967^2
fac(x)
```

and while prime(x) returned 0, fac(x) returned 99999999340000001089. I was expecting 9999999967. Is that wrong?

-Katie

Re: challenge

*Message #15 Posted by **hugh steers** on 17 Apr 2010, 8:44 a.m.,*
in response to message #14 by Katie Wasserman

Hi Katie,

You're not wrong. looks like it failed to factor this one. the number returned was the original number. However, i wondered why it failed on this, because this value is within its range. turns out that Lenstra's ECM doesnt work for exact powers! That will teach me to read the

small print :-)

so, i've added an extra test for the number being p^n. For example i tried x=1048583^3. This didn't factor before either (v1.15), but now it does.

I've uploaded v1.16 with these fixes both for the casio and reckon.exe (same links as before).

thanks - another bug squashed!

Re: challenge -- 50g bug (?)

*Message #16 Posted by **Katie Wasserman** on 17 Apr 2010, 12:22 p.m.,*
in response to message #15 by hugh steers

What a speedy bug fix!

Funny thing is, the 50G (ver 2.09) has a similar bug, I think. The 'factors' function thinks 9999999967^2 is prime and it takes its time to reach this conclusion.

I found a CAS for the ipod touch that's got most of the functionality of the CAS in the 50G and is really fast, PocketCAS pro ($5), it gets this problem right! Wolfram Alpha is now cheap, but you need to have wifi access for that.

-Katie

Re: challenge -- 50g bug (?)

*Message #17 Posted by **Glenn Shields** on 19 Apr 2010, 9:40 p.m.,*
in response to message #16 by Katie Wasserman

Thanks for that bug, it's interesting that ISITPRIME says 0. and PREVPRIME and NEXTPRIME give numbers 2 below and 24 above the number in question. After the 35s bug exposition and continued finding of new bugs, it's fun to poke at the "revered" 50g. :-)

Re: challenge

*Message #18 Posted by **Don Shepherd** on 17 Apr 2010, 2:10 a.m.,*
in response to message #13 by hugh steers

Thanks Hugh. You have much fascinating material here, it will take some time to review it all, but I'm going to work on it.

Don

Re: challenge

*Message #19 Posted by **Don Shepherd** on 17 Apr 2010, 10:28 a.m.,*

in response to message #13 by hugh steers

Hugh, I just downloaded your latest Reckon to my slim. Great product! How did you find the primes > 1741^9/9? When I do this I get this:

```
x=1741^9/9
  1632.....140+1/9 response
np(x)
  1632.....140+1/9  same response??
I expected 1632....576291
```

Re: challenge

*Message #20 Posted by **hugh steers** on 17 Apr 2010, 11:41 a.m.,*
in response to message #19 by Don Shepherd

it wont touch the number if its not an integer.

try,

```
1741^9-1
ans/9
```

then

```
np(ans)
```

keep doing this for a list of the primes, then repeat with pp(n) for the previous primes.

Re: challenge

*Message #21 Posted by **Don Shepherd** on 17 Apr 2010, 4:33 p.m.,*
in response to message #20 by hugh steers

Thanks, Hugh, I'll try that.

Don

Re: challenge

*Message #22 Posted by **Paul Dale** on 16 Apr 2010, 5:51 p.m.,*
in response to message #10 by hugh steers

> Quote:
>
> presumably, there's no way to perform the search for the actual values in the summation. if they weren't so lucky to be centred around the mean, it would have been much harder to find them.

They **must** lie around 1741^9/9. Nine numbers less than 1741^9/9 cannot sum to 1741^9. Likewise for over.

This leaves the either possibilities of 8 below & 1 over through to 1 below and 8 over. I.e. 16 primes in total. Moreover, the search can be trimmed once you start finding primes and discover they are near to 1741^9/9 both above and below.

- Pauli

Re: challenge

*Message #23 Posted by **C.Ret** on 16 Apr 2010, 4:28 p.m.,*
in response to message #1 by Don Shepherd

> Quote:
>
> Without using a computer or CAS calculator, please.

OK.

1741^9 is about 1.4696E29 on my HP28S. The nine consecutive primes numbers are around 1.6329E28.

I win the cahllenge ?

That's all the 12 digits precision of my advance scientifc calculator (not a CAS computer !) can tell to me.

OK. No I am not the winner !

Knowing that my HP28S needs nearly 21 min to test primality of 9999999967, I expected about 7 days to test a prim number around 1.6329E28. So seeking for these nine consecutive prim numbers will be about 3 months !

OK.

What's the trick to solve this challenge on any classic HP in a week-end ?

Re: challenge

*Message #24 Posted by **Don Shepherd** on 16 Apr 2010, 5:03 p.m.,*
in response to message #23 by C.Ret

> Quote:
>
> What's the trick to solve this challenge on any classic HP in a week-end ?

I don't know if it actually can be solved on a non-CAS calculator, but I know there is a lot of brain power among people who participate in this forum, so I'm hoping some genius among us will hit upon a way of approaching this particular problem that nobody has thought of before. Hey, if the NSpire CAS or the 50g can test primality for a big number in a few seconds then, theoretically, why can't the 30b? Maybe (probably) it will take re-purposing it, or the 12c for that matter. But can it be done? If it can, and somebody figures out how to do it, I think that will be noteworthy.

Hugh, didn't you repurpose the Casio 9860 to do some factoring with large integers? Can it do this problem?

As they said in "A Beautiful Mind," who among you will be the next Einstein?

Re: challenge

*Message #25 Posted by **hugh steers** on 17 Apr 2010, 8:57 a.m.,*
in response to message #24 by Don Shepherd

Hi Don,

yes, i did repurpose the casio and that's the machine i used to help me solve this problem. actually i had to manually search the neighbourhood for primes using the prime test.

Absolutely, the 30b could solve this problem with some repurposing. it's actually faster than the casio. a while back i tried to implement a couple of factoring programs on the hp30b in the user mode programming language. however, the problem is that, working with 12 digits you can only perform arithmetic on a 6 figure integer before it overflows the mantissa and you get the wrong answer. this is fine for trial division because you know there's a factor in 6 figures or it must be prime. However, i tried getting pollard rho working, but this requires arithmetic mod N and then you get overflow.

in the end i did write a home-brew multiprecison workaround, but it wasn't really going to solve the show. we just have to persuade HP to put some factoring code in the roms :-)

or implement our own (scientific) calculator on the hp30b - which im thinking of doing for fun :-)

Re: challenge

*Message #26 Posted by **Thomas Klemm** on 16 Apr 2010, 6:57 p.m.,*
in response to message #23 by C.Ret

The ALG48.LIB is about 50K. I'm afraid it won't fit into your HP-28s. However you need only a small set of functions out of it. So it might be possible to make them fit.

I doubt that a probabilistic primality test (e.g. Miller-Rabin) will take 21 minutes for 9999999967 even on a 28s.

Cheers
Thomas

Re: challenge

*Message #27 Posted by **Thomas Klemm** on 16 Apr 2010, 6:30 p.m.,*
in response to message #1 by Don Shepherd

Here's a program for an HP-48gx with the ALG-library installed:

```
\<< \-> n
  \<< n 9 ADIV @ a good starting point
    { }
    1 9
    START @ build a list of nine consecutive primes
      SWAP PRIM+
      DUP ROT
      +
    NEXT
    SWAP DROP
    DO @ try previous prime
      DUP TAIL
      SWAP DUP
      SIZE GET PRIM-
      + DUP
      \<< AADD \>> STREAM
    UNTIL
      n SWAP / B\->R
    END
    REVLIST
    1 \<< Z<->S \>>
    DOLIST
  \>>
\>>
```

Enter #1741d 9 APOW and run the program.

It takes some time (4'52") so you might want to test it with a smaller example 81^9 where a solution exists as well.

Is the HP-48gx considered a CAS calculator? However I'm just using some functions from a library. Would it be fun to write these for an HP-35s? I guess it would be rather slow.

Thanks for posting the challenge.

Best regards
Thomas

Edited: 16 Apr 2010, 7:19 p.m. after one or more responses were posted

Re: challenge

*Message #28 Posted by **Don Shepherd** on 16 Apr 2010, 7:16 p.m.,*
in response to message #27 by Thomas Klemm

Thomas, thanks for the post.

> Quote:
>
> Is the HP-48gx considered a CAS calculator?

I don't know, I'm not familiar with the 48gx's capabilities. Was it advertised as CAS? Did the term "CAS" even exist back in those days? I don't know. I think that the 50g is considered CAS, and isn't it a successor to the 48 series?

Nevertheless, please show the outputs of your program to identify the 9 prime numbers that sum to 1741^9. I think we all will be interested.

Re: challenge

*Message #29 Posted by **Thomas Klemm** on 16 Apr 2010, 7:25 p.m.,*
in response to message #28 by Don Shepherd

The solution is the same as Hugh Steers already posted:

```
{
"16328505265216430302654575827"
"16328505265216430302654575887"
"16328505265216430302654576009"
"16328505265216430302654576091"
"16328505265216430302654576123"
"16328505265216430302654576291"
"16328505265216430302654576331"
"16328505265216430302654576333"
"16328505265216430302654576369"
}
```

Re: challenge

*Message #30 Posted by **Csaba Tizedes (Hungary)** on 16 Apr 2010, 6:49 p.m.,*
in response to message #1 by Don Shepherd

Google said the sum of first n prime is approx: s(n)~=1/2*n^2*ln(n)

We need the n from this equation: s(n+9)-s(n)=1741^9

It seems to me like an approximation of derivative of s(n):

ds/dn = (s(n+9)-s(n))/9 == 1741^9/9, so let's make derivative of s: ds/dn = n*ln(n)+n/2 == 1741^9/9, this is equal: (2*ln(n)+1)*n = 2*1741^9/9, solve this equation we get the n~=2.662E27

I have no idea about the number of known primes today, but I think this n is too large to determine the exact n for summing that nine primes...

(SRY 4 MY BAD ENGLISH)

Re: challenge

*Message #31 Posted by **David Hayden** on 16 Apr 2010, 9:11 p.m.,*
in response to message #1 by Don Shepherd

Here's a generalized solution for the 50g. It uses integer arithmetic and NEXTPRIME/PREVPRIME, so I'm cheating as far as the original challenge is concerned. Finds K consecutive primes that sum to N. No error checking on N and K.

On my 50g this found the answer in 6 minutes 53 seconds.

```
@ Program to figure if a given integer N is
@ the sum of K consecutive primes
@ Input:
@ Level 2: N
@ Level 1: K


@ Output:
@ Level 1: { list of primes }  OR "NO ANSWER"


@ This works efficiently by realizing that the
@ K primes can't all be less than N/K, nor can
@ they all be greater.


« DUP2 IQUOT  N K pivot «
  @ Get K primes that are less than pivot
  {} pivot
  1 K START
    PREVPRIME
    DUP ROT + SWAP
  NEXT
  DROP


  @ You have a list of K primes on at level 1 now
  @ add them up and while the sum is less than N,
  @ remove the head (smallest) and add the next prime.
  WHILE
    DUP …LIST N <
  REPEAT
    DUP K GET @ Get last element
    NEXTPRIME
    SWAP TAIL SWAP +
  END


  @ Level 1 is now the answer or a list that's too large.
  IF DUP …LIST N ‹ THEN
    DROP "NO ANSWER"
  END
  »
»
```

Re: challenge

*Message #32 Posted by **Don Shepherd** on 17 Apr 2010, 2:01 a.m.,*

in response to message #31 by David Hayden

Thanks David.

I was going to ask Thomas Klemm if the 50g included the ALG library from the 48, but then your code shows that it is not necessary, I'm supposing here.

I appreciate this solution, and Thomas', for showing how this problem can be implemented using a very few lines of code. I've always appreciated that about RPL, but I've never actually taken the time to learn it myself. I love the simplicity of RPN, and the speed of RPN on the 30b.

I had hoped (and still hope, really) that the 30b and RPN might be able to solve this problem, but I imagine it will take repurposing, as Hugh has done with the Casio.

But maybe someone will surprize me!

Don

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HP-620LX

*Message #1 Posted by **Jeff Davis** on 15 Apr 2010, 6:48 p.m.*

I recently found one of these and was wondering if there are apps that can be loaded like HP-41CX calculator app? Anyone know where to find them? Please let me know

Re: HP-620LX

*Message #2 Posted by **Raymond Del Tondo** on 15 Apr 2010, 7:41 p.m.,*
in response to message #1 by Jeff Davis

The 620LX is a Windows CE 2.0 machine, so you may find
suitable software on WinCE related sites, if they still exist.

If you're really interested in those WinCE machines,
I'd suggest getting a Jornada 690 or 720, both of which are
much better than the 620LX.

HTH

Raymond

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Best HP-15C emulator for the iPod/iPad

*Message #1 Posted by **Namir** on 14 Apr 2010, 9:16 p.m.*

Hi All,

What is the best HP-15C emulator for the iPod? I saw HP selling one for $29.95. That's a bit steep compared to the other 15C emulators in the Apple Store. What would you recommend?

Namir

PS: I bought the 41CX, 42S (two versions) and the HP-21 emulators.

Edited: 14 Apr 2010, 9:16 p.m.

Re: Best HP-15C emulator for the iPod/iPad

*Message #2 Posted by **Egan Ford** on 14 Apr 2010, 11:09 p.m.,*
in response to message #1 by Namir

SCI-15C and RPN-15C I think are the best. RPN-15C has a lot of features (X,Y,Z,T display, macros, variable key size, portrait mode, etc...) and is only $7. That said SCI-15C is snapper and still my default 15C. SCI-15C has better key stoke accuracy.

Edited: 14 Apr 2010, 11:13 p.m.

Re: Best HP-15C emulator for the iPod/iPad

*Message #3 Posted by **Namir** on 15 Apr 2010, 12:59 a.m.,*
in response to message #2 by Egan Ford

Thanks Egan!

Re: Best HP-15C emulator for the iPod/iPad

*Message #4 Posted by **bill platt** on 15 Apr 2010, 2:42 a.m.,*
in response to message #2 by Egan Ford

> Quote:
>
> SCI-15C has better key stoke accuracy.

Better even than a keyboard? ;-P

Re: Best HP-15C emulator for the iPod/iPad

*Message #5 Posted by **Egan Ford** on 15 Apr 2010, 9:31 a.m.,*
in response to message #4 by bill platt

No. Just better than RPN-15C.

"The keyboard is still king", Egan types on his keyboardless iPad. :-)

Re: Best HP-15C emulator for the iPod/iPad

*Message #6 Posted by **PeterP** on 15 Apr 2010, 10:21 a.m.,*
in response to message #5 by Egan Ford

you had to say this, didn't you? You had to! Knowing we are all geek, lusting after every new gadget. iPad. Now - how is it?

Cheers

Peter

Re: Best HP-15C emulator for the iPod/iPad

*Message #7 Posted by **bill platt** on 15 Apr 2010, 11:07 a.m.,*
in response to message #6 by PeterP

I mostly make fun of Apple. But the Ipad I have deep envy.

Waaay back in the dark ages of 80s, I dreamed of having a display that was touch-sensitive, that I could draw on--that instead of a digitizer or a mouse, I could "trace" on it--and now it looks like that technology is emerging.

Maybe it took more work than I ever imagined it would...

Re: Best HP-15C emulator for the iPod/iPad

*Message #8 Posted by **Egan Ford** on 15 Apr 2010, 1:06 p.m.,*
in response to message #7 by bill platt

> Quote:
>
> Waaay back in the dark ages of 80s, I dreamed of having a display that was touch-sensitive, that I could draw on--that instead of a digitizer or a mouse, I could "trace" on it--and now it looks like that technology is emerging.

Wacom makes such a device (http://www.wacom.com/cintiq/cintiq-21ux.php). However it is only for drawing.

I wish the iPad had a stylus in addition to touch. A stylus would allow for content creation. The best iPad art software still takes a professional 2x longer than pen and paper.

I carry a Moleskin notebook in my bag for taking notes. Nothing bests a pen for quick notes, drawings, etc...

I'll be looking at other tablets. Since my original need was content consumption the iPad fit perfectly. But now I want more. I want to create in a natural way. I think I'll have to wait less than 12 months for someone to create the perfect tablet.

OT: iPad (Was: Best HP-15C emulator for the iPod/iPad)

*Message #9 Posted by **Egan Ford** on 15 Apr 2010, 12:33 p.m.,*
in response to message #6 by PeterP

> Quote:

> iPad. Now - how is it?

It's a big iPod touch primarily suited for the consumption of visual media as apposed to audio media.

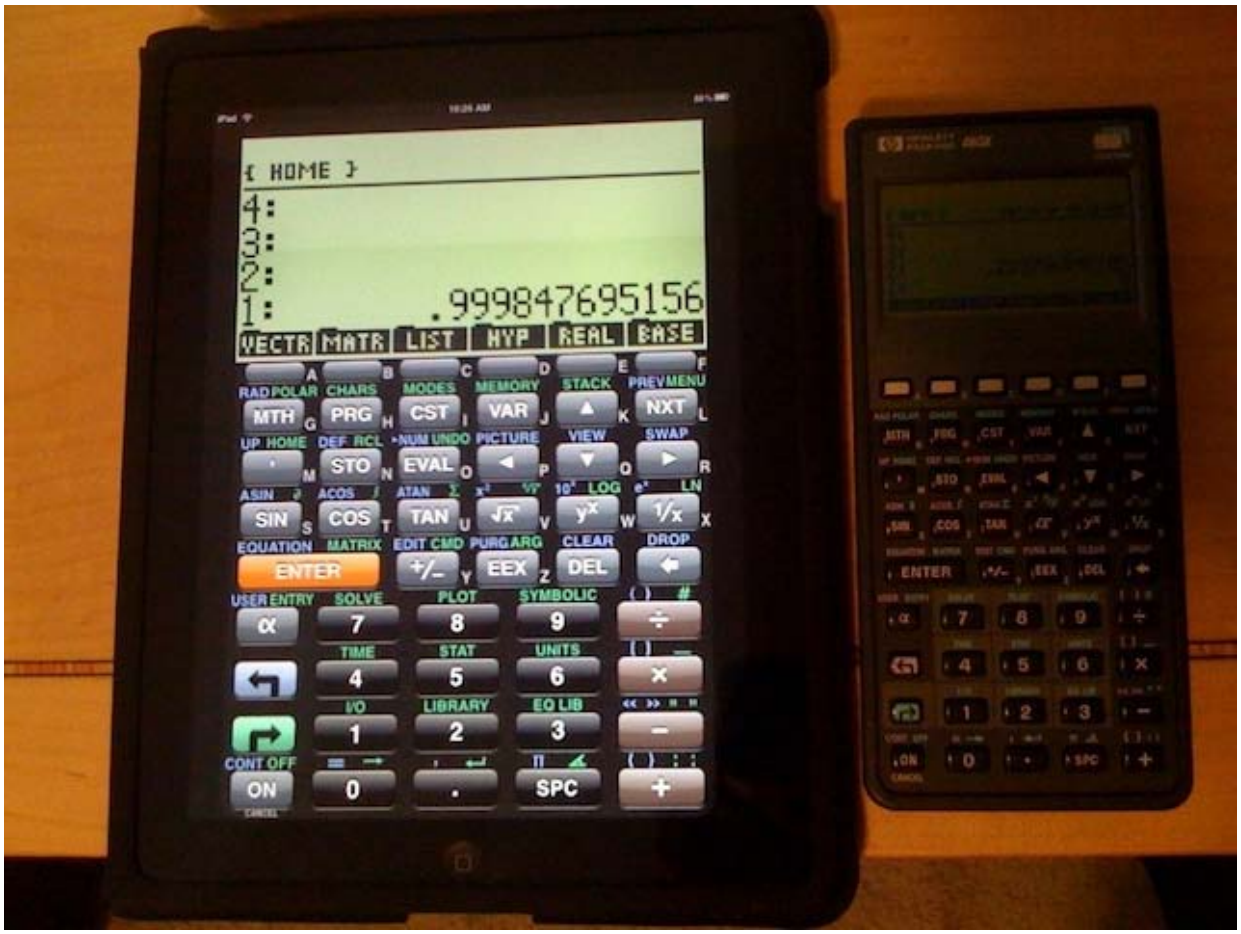
I spend about 80 hours a month in public transportation (mostly planes followed by taxis, trains, subways, and buses). Hauling around a lot of paper to read was getting me down. Last November I actually read a book on my iPhone mostly on NY subways and taxis. So, I proved to myself that I should probably invest in an eReader. Fortunately, the B&N Nook was late or hard to get, then Apple announced, and I waited, and I am very glad I did.

The battery life is incredible, the form-factor is great, the WiFi sucks (SW fix being worked on), the screen is beautiful. Touch typing is actually doable.

All of my publications except two are available in PDF, so I switched over MAA, ACM, and SciAM. Wired will be digital soon leaving only one journal that is paper. But its small and only quarterly.

I no longer use my iPhone for portable video. It was always too small and a drain on the battery.

As for calculator emulators. All the iPhone emulators work, but blown up. Its actually easier to just keep using the iPhone as my calculator. The only emulator I think that will make the most sense would be a 71B. I have the iPad beta of m48+. I need to create an iPad skin for it (no time). Tying up the entire screen just for a calculator seems a bit ridiculous. Hopefully in the future the iPhone OS will have some type of widget support--mini apps that run on top of other apps, but I doubt it.



So far I am happy with it and very happy to dump paper newpapers, magazines, and books.

typos

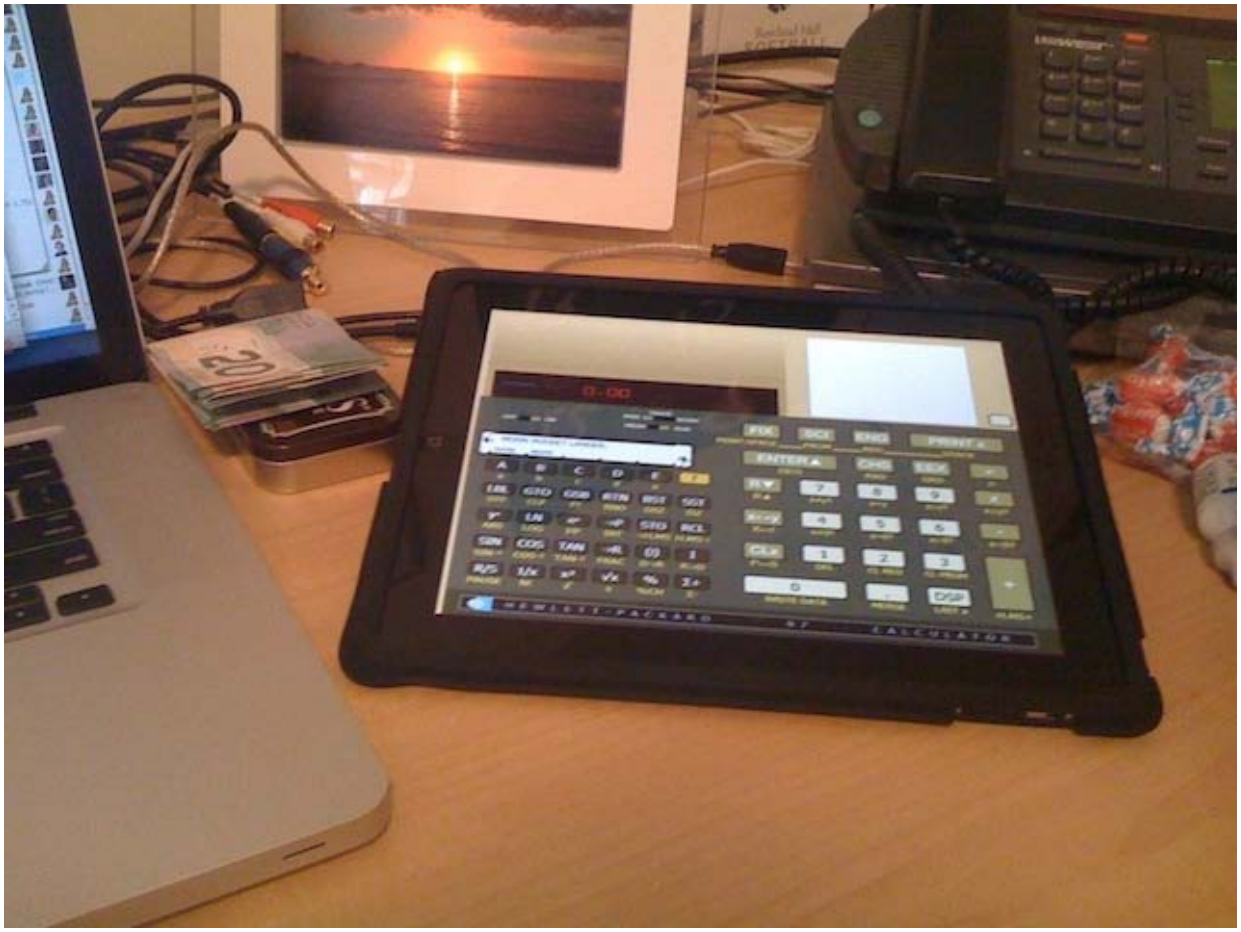
Edited: 15 Apr 2010, 1:09 p.m. after one or more responses were posted

Re: OT: iPad (Was: Best HP-15C emulator for the iPod/iPad)

*Message #10 Posted by **Egan Ford** on 15 Apr 2010, 12:58 p.m.,*
in response to message #9 by Egan Ford

> Quote:
>
> The only emulator I think that will make the most sense would be a 71B.

Allow me to correct myself. I wouldn't object to having this:



Re: OT: iPad (Was: Best HP-15C emulator for the iPod/iPad)

*Message #11 Posted by **PeterP** on 15 Apr 2010, 2:49 p.m.,*
in response to message #10 by Egan Ford

cool!

Re: OT: iPad (Was: Best HP-15C emulator for the iPod/iPad)

*Message #12 Posted by **PeterP** on 15 Apr 2010, 2:49 p.m.,*
in response to message #9 by Egan Ford

sorry to hog this for one more iPad related question:

I do a lot of searching for academic papers and reading them or least skimming. However if it is

interesting I would want to save it. Is that possible? All the info I found so far online would indicate no.

Also, it would be awesome to be able to email or otherwise get to the iPad papers I have. Say I found a couple of interesting papers at work, email/copy/whatever to the iPad, leave the office and read on the road. How easily is that done? From info online it would appear to be possible but it is not clear to me, how easy this would be.

I think what will be the killer thing for the iPad (or any such device) to have text-books on it, especially science text books. Imagine that you could have your physics text-books on the iPad - instead of describing a pendulum, you can show a video etc. You could include multiple choice tests right into the text book etc. That would be cool!

Cheers

Peter

Re: OT: iPad (Was: Best HP-15C emulator for the iPod/iPad)

*Message #13 Posted by **Egan Ford** on 15 Apr 2010, 3:15 p.m.,*
in response to message #12 by PeterP

> Quote:
>
> I do a lot of searching for academic papers and reading them or least skimming. However if it is interesting I would want to save it. Is that possible? All the info I found so far online would indicate no.

How do you read the papers? E.g. JSTOR will allow you to download any paper as PDF. There are multiple PDF readers for the iPad. I use Goodreader ($0.99US). I just drop all the PDFs I need into Dropbox.com, then Goodreader can pull from that.

If its Web based, then get iSaveWeb. I use that to get Web pages for reading offline. Its also an iPad app.

> Quote:
>
> Also, it would be awesome to be able to email or otherwise get to the iPad papers I have. Say I found a couple of interesting papers at work, email/copy/whatever to the iPad, leave the office and read on the road. How easily is that done? From info online it would appear to be possible but it is not clear to me, how easy this would be.

Easy. However, if you email them to yourself you must get your email while you still have WiFi. Unless you get the 3G + WiFi model (to be released).

Goodreader can read a lot of formats and has a built-in web server, you can always upload your stuff to yourself, or use dropbox like I do.

> Quote:
>
> I think what will be the killer thing for the iPad (or any such device) to have text-books on it, especially science text books. Imagine that you could have your physics text-books on the iPad - instead of describing a pendulum, you can show a video etc. You could include multiple choice tests right into the text book etc. That would be cool!

Some schools are considering the iPad for textbooks.

Re: OT: iPad (Was: Best HP-15C emulator for the iPod/iPad)

*Message #14 Posted by **Pal G.** on 16 Apr 2010, 12:49 a.m.,*
in response to message #9 by Egan Ford

Quote:

.. I actually read a book on my iPhone mostly on NY subways and taxis ..

A couple of years ago I read all the original James Bond books written by Flemming on my Palm TX. After the initial "getting used to" I was reading every chance I got during the day.. especially during travel, as you've described.

Interestingly, I do not read for long periods of time on my laptop. Never have. Is the iPad somehow different? I do not believe many people read novels on laptops or LCD monitors. Perhaps it's the ergonomics or form factor that is important, not the display itself.

Re: OT: iPad (Was: Best HP-15C emulator for the iPod/iPad)

*Message #15 Posted by **Egan Ford** on 16 Apr 2010, 10:22 a.m.,*
in response to message #14 by Pal G.

Quote:

Interestingly, I do not read for long periods of time on my laptop. Never have. Is the iPad somehow different? I do not believe many people read novels on laptops or LCD monitors. Perhaps it's the ergonomics or form factor that is important, not the display itself.

I think its more form-factor than screen. Most people I know sit in front of an LCD all day without complaint. And when they go home they sit in front of another LCD. :-)

I am not entirely sure what the difference is between emitted (LCD) and reflected (paper) light. IMHO, real books are still more pleasurable to look at than eBooks. Perhaps its the randomness of the reflected light, the texture of the paper, the crispness of the fonts.

As a frequent traveler it comes down to weight/benefit.

Re: OT: iPad (Was: Best HP-15C emulator for the iPod/iPad)

*Message #16 Posted by **Thomas Okken** on 17 Apr 2010, 9:42 p.m.,*
in response to message #15 by Egan Ford

If I may offer another random data point: I don't use e-readers and don't own an iPad, but the other day I started reading the Unix Haters Handbook, which I downloaded from somewhere in PDF format.

This is a 360-page book. I read the first 240 pages on my laptop, and the next day I read the rest on my iPod touch. I found the experience pretty decent on both machines, the main irritation being that you can't jump to a specific page on the iPod, and having to scroll all that way manually was annoying and took forever. There may be third-party PDF readers with a better user interface, but I haven't looked.

I can't see myself reading novels this way, though.

Re: OT: iPad (Was: Best HP-15C emulator for the iPod/iPad)

*Message #17 Posted by **Egan Ford** on 18 Apr 2010, 12:07 a.m.,*
in response to message #16 by Thomas Okken

> Quote:
>
> I found the experience pretty decent on both machines, the main irritation being that you can't jump to a specific page on the iPod, and having to scroll all that way manually was annoying and took forever. There may be third-party PDF readers with a better user interface, but I haven't looked.

Goodreader. $0.99.

Re: OT: iPad (Was: Best HP-15C emulator for the iPod/iPad)

*Message #18 Posted by **Thomas Okken** on 18 Apr 2010, 10:59 a.m.,*
in response to message #17 by Egan Ford

> Quote:
>
> Goodreader. $0.99.

I see they also have a free "lite" version, with the same functionality, just a limit on the number of documents it can handle. I'll give that a try. Thanks for the tip!

Re: Best HP-15C emulator for the iPod/iPad

*Message #19 Posted by **Namir** on 15 Apr 2010, 11:45 a.m.,*
in response to message #2 by Egan Ford

Egan,

I will be using an iPad so the keys are big (especially if I use 2x scale to create a gigantic interface). I guess in this case either emulator you recommend is ok.

Namir

Re: Best HP-15C emulator for the iPod/iPad

*Message #20 Posted by **Egan Ford** on 15 Apr 2010, 12:41 p.m.,*
in response to message #19 by Namir

I just tested SCI-15C and RPN-15C on my iPad. On the iPhone 3G RPN-15C is a bit sluggish and not as snappy as SCI-15C with the keystroke processing. I suspect that RPN-15C was tested on the iPhone 3GS or other faster iPods. On the iPad they perform the same.

Re: Best HP-15C emulator for the iPod/iPad

*Message #21 Posted by **Meindert Kuipers** on 16 Apr 2010, 7:56 a.m.,*
in response to message #1 by Namir

I have ClassicRPN on my iPOD, it has the 11C, 12C, 15C and 16C (the last is my favourite of these)

Meindert

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Calculator like HP10BII but scientific and RPN

*Message #1 Posted by **Gerardo Rincon** on 14 Apr 2010, 6:23 p.m.*

I really like the simplicity of the HP 10BII - it is great for work. I wish there was the option to use it in RPN mode (it already has an Input Key that maybe could have worked as an Enter Key as well). The keyboard feel of the 10BII is very nice as well.

It would also be great if there was a Scientific Calculator simple like the 10BII with some stats and RPN.

Re: Calculator like HP10BII but scientific and RPN

*Message #2 Posted by **Dave Johnson** on 14 Apr 2010, 6:59 p.m.,*
in response to message #1 by Gerardo Rincon

Hey..Please don't give HP ideas like this.....The HP10BII will not function for more than a few months (display stops functioning, keys get mushy and not responsive) I have experienced this with several... Try to 35S....

Re: Calculator like HP10BII but scientific and RPN

*Message #3 Posted by **Gene Wright** on 14 Apr 2010, 10:48 p.m.,*
in response to message #2 by Dave Johnson

Hey Dave.

Which version of the 10b2 are you referring to? The one done out of Australia or the new industrial design launched about a year and a half ago?

The earlier one really is / was a mess. The new industrial design has been rock solid for me. I've banged on it over and over again and never had any problems at all.

By contrast, the ACO version of the 10b2 was junk a week after I got one.

So... which have you had a problem with? If the new ID, then that's news to me! :-)

Re: Calculator like HP10BII but scientific and RPN

*Message #4 Posted by **DaveJ** on 15 Apr 2010, 2:03 a.m.,*
in response to message #3 by Gene Wright

> Quote:
>
> Which version of the 10b2 are you referring to? The one done out of Australia or the new industrial design launched about a year and a half ago?

Ok, my ears just pricked up. Some aspect of the 10BII design came out of Australia??

Dave.

Re: Calculator like HP10BII but scientific and RPN

*Message #5 Posted by **Paul Dale** on 15 Apr 2010, 2:22 a.m.,*
in response to message #4 by DaveJ

HP's calculator group was based in Melbourne for a few years. They closed down about 8 years ago from memory.

I was contracted to do a network bootloader for them for a never realised device running uClinux. I think I've still got the box of prototypes and development boards something.

- Pauli

Re: Calculator like HP10BII but scientific and RPN

*Message #6 Posted by **DaveJ** on 15 Apr 2010, 2:35 a.m.,*
in response to message #5 by Paul Dale

> Quote:
>
> HP's calculator group was based in Melbourne for a few years. They closed down about 8 years ago from memory.

Yes, I know that much, I actually applied for an advertised calculator design job there at one stage! They closed shop about 6 months later IIRC.

The 10BII is that old? (I'm not into financial calcs so haven't a clue)

Dave.

Re: Calculator like HP10BII but scientific and RPN

*Message #7 Posted by **Bart (UK)** on 15 Apr 2010, 4:15 a.m.,*
in response to message #3 by Gene Wright

I have a new version 10Bii and it feels quite solid.

Re: Calculator like HP10BII but scientific and RPN

*Message #8 Posted by **Dave Johnson** on 15 Apr 2010, 7:37 a.m.,*
in response to message #3 by Gene Wright

The 10BII I had issues with was a few years ago and not the most recent one so I hope they have improved it but once I've been burned I don't recommend items!

Re: Calculator like HP10BII but scientific and RPN

*Message #9 Posted by **Gene Wright** on 15 Apr 2010, 7:47 a.m.,*
in response to message #8 by Dave Johnson

Ah, then you should try again.

The ACO version of the HP 10BII was a truly awful design. Think 49g with its rubber keys vs. what the 50g is today.... the 50g is MUCH much better and nothing like the rubber key monster.

You can find a current industrial design HP 10BII on ebay for $15 or less.

Re: Calculator like HP10BII but scientific and RPN

*Message #10 Posted by **Bart (UK)** on 15 Apr 2010, 8:07 a.m.,*
in response to message #9 by Gene Wright

> Quote:
>
> You can find a current industrial design HP 10BII on ebay for $15 or less.

Yep, I got mine for £5. Only has very minor scratch on the metal above the screen.

Re: Calculator like HP10BII but scientific and RPN

*Message #11 Posted by **Katie Wasserman** on 14 Apr 2010, 7:22 p.m.,*
in response to message #1 by Gerardo Rincon

The new 30b has nice "clicky" keys, great stats and RPN (and programmablility and trig functions). You can customize the keyboard to a limited extent and it's just slightly larger than the 10bii.

Most of the functions that you don't want are hidden in menus so if you ignore them you'll have a simple calculator.

-Katie

Re: Calculator like HP10BII but scientific and RPN

*Message #12 Posted by **Gerardo Rincon** on 14 Apr 2010, 7:43 p.m.,*
in response to message #11 by Katie Wasserman

On simple thing I don't like about the 30B or 20B is that the % change is not available in a top key. It is buried in menus and take and bunch of key strokes just to do a % change. In general I really like the 30B. I hate the keyboard of the 20B. I like the "look" of the 20B

Edited: 14 Apr 2010, 7:45 p.m.

Re: Calculator like HP10BII but scientific and RPN

*Message #13 Posted by **Bruce Bergman** on 14 Apr 2010, 7:51 p.m.,*
in response to message #12 by Gerardo Rincon

You can reassign the "%" to any key you like. Easy peasy.

Get the 30b -- it's amazing.

Thanks, bruce

Re: Calculator like HP10BII but scientific and RPN

*Message #14 Posted by **Gerardo Rincon** on 14 Apr 2010, 8:03 p.m.,*
in response to message #13 by Bruce Bergman

can I assign the % change? how you do that? I am not a programer.. How would I enter both values to get the % change?

Re: Calculator like HP10BII but scientific and RPN

*Message #15 Posted by **Howard Lazerson** on 14 Apr 2010, 9:38 p.m.,*
in response to message #14 by Gerardo Rincon

Where to buy ??? amazon and hp store dont have the 30b, thanks, Howard

Re: Calculator like HP10BII but scientific and RPN

*Message #16 Posted by **Katie Wasserman** on 14 Apr 2010, 10:53 p.m.,*
in response to message #14 by Gerardo Rincon

%-change is really an interactive menu on the 30b. If you want the good old RPN way of doing it you need to write a little program and assign that program to the '%' key.

I do this (assuming you're in RPN mode)

Enter program mode by pressing SHIFT Keypad. Choose a program slot (0 is the default) and press INPUT. Then enter the following steps. (You'll need to press the up arrow to get to line 0.)

```
0  %       ; line zero is the (optional) key assignment location
1  ) Swap  ; this is just swap but shows the ')' too
2  -
3  ANS      ; same as LASTx in RPN mode
4  /
5  1
6  0
7  0
8  x
9  Stop     ; (This is SHIFT-HOLD RCL)
```

Press SHIFT Keypad again and you'll see: 10.126 (10 bytes used, checksum = 126)

Use the above program like you would %-change on most HP RPN calculators:

4 INPUT 5 %

and you'll see: 25

-Katie

Edited: 14 Apr 2010, 11:00 p.m.

Re: Calculator like HP10BII but scientific and RPN

*Message #17 Posted by **Gene Wright** on 14 Apr 2010, 10:58 p.m.,*
in response to message #14 by Gerardo Rincon

In RPN mode, you would enter both numbers and then execute the program that is assigned to the key you want to execute the % change function.

Suppose you want it to be shift-hold 1 --- you don't plan to use RAND very much. If you want to replace NPV, then press NPV when step 0 is showing and you would then start the program when you press the NPV key.

Program:

```
001 ) SWAP
002 -
003 shift ANS
```

```
004 /
005 1
006 0
007 0
008 x
009 STOP
```

now press down down up so that step 001 is showing.

press shift and hold it and press 1. SH1 shows up on line 0 of the program.

The program takes 10 bytes.

In run mode, key 30 = 25 = then shift hold 1. The answer of -16.67 is shown in the display. % change is 16.67% down.

Re: Calculator like HP10BII but scientific and RPN

*Message #18 Posted by **Gene Wright** on 14 Apr 2010, 10:58 p.m.,*
in response to message #17 by Gene Wright

Heheh. Katie beat me to it. Good to see our programs are the same. ;-)

Re: Calculator like HP10BII but scientific and RPN

*Message #19 Posted by **Katie Wasserman** on 14 Apr 2010, 11:01 p.m.,*
in response to message #18 by Gene Wright

That's the problem with this forum, everyone is so damn responsive we duplicate each others work.

-Katie

Re: Calculator like HP10BII but scientific and RPN

*Message #20 Posted by **Gene Wright** on 14 Apr 2010, 11:05 p.m.,*
in response to message #19 by Katie Wasserman

That's the problem with this forum, everyone is so damn responsive we duplicate each others work.

-Gene

Re: Calculator like HP10BII but scientific and RPN

*Message #21 Posted by **Tim Wessman** on 14 Apr 2010, 11:14 p.m.,*
in response to message #20 by Gene Wright

Whoa, Magic!

TW

Re: Calculator like HP10BII but scientific and RPN

*Message #22 Posted by **Gerardo Rincon** on 15 Apr 2010, 6:48 p.m.,*
in response to message #19 by Katie Wasserman

Katie and Gene,

I just have to say again: thank you for the program you wrote for me - It's awesome! I use it all the time.

mac

Re: Calculator like HP10BII but scientific and RPN

*Message #23 Posted by **Gerardo Rincon** on 15 Apr 2010, 8:14 a.m.,*
in response to message #17 by Gene Wright

Katie and Gene,

Thank you so much fo the explanation! It works!

One more question: will this program ever be earse (by itself) I know I can use the reset button and erase Program 0. If I have to replace the batteries, would it erase?

Edited: 15 Apr 2010, 8:18 a.m.

Re: Calculator like HP10BII but scientific and RPN

*Message #24 Posted by **Gene Wright** on 15 Apr 2010, 8:27 a.m.,*
in response to message #23 by Gerardo Rincon

Katie will probably have answered this before I click "I agree. Post Now" but here goes.

It should not erase if you replace the batteries one at a time. If you remove BOTH batteries before replacing either, then all bets are off.

You can learn a great deal about programming the HP 30b by going here:

HP 30b learning module material

The last 6 on the list include programming related material.

Re: Calculator like HP10BII but scientific and RPN

*Message #25 Posted by **Gerardo Rincon** on 15 Apr 2010, 1:24 p.m.,*
in response to message #24 by Gene Wright

Great information!

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MoHPC *The Museum of HP Calculators*

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5.25 --> 3.5 Floppy Disk migration

*Message #1 Posted by **Giovanni Jimenez** on 14 Apr 2010, 4:42 p.m.*

I recently picked up some nice programs for the HP-85, but they are on 5 1/4" Floppy Diskettes.

Would someone in this forum, who owns the appropriate Disk Drives, be so kind to migrate these programs from the 5 1/4" to 3 1/2" floppies for me? Of course I would supply the 3 1/2" disks and shipping both ways.

thank you !

Re: 5.25 --> 3.5 Floppy Disk migration

*Message #2 Posted by **bill platt** on 14 Apr 2010, 8:30 p.m.,*
in response to message #1 by Giovanni Jimenez

I never had any 8088 programs last more than a year on 5-1/4" disks. They were always corrupt and unreadable.

Are these programs readable?

Re: 5.25 --> 3.5 Floppy Disk migration

*Message #3 Posted by **Dave Shaffer (Arizona)** on 14 Apr 2010, 11:38 p.m.,*
in response to message #2 by bill platt

Hi Bill and Giovanni,

I just resurrected my 20 (!) year old Pentium Pro (with overdrive, so it is running at 400 MHz!) and I can read 20 year old 5.25 floppies. It even runs Windows98.

I have invited Giovanni to send me his disks.

Re: 5.25 --> 3.5 Floppy Disk migration

*Message #4 Posted by **bill platt** on 15 Apr 2010, 12:10 a.m.,*
in response to message #3 by Dave Shaffer (Arizona)

Holy Cow!

I got rid of my P50 486 a few years back. I suppose I should have kept it. Not for the 5-1/4s though--for the still-working 100 MB hard drive and the Windows 3.1 for giggles!

Re: 5.25 --> 3.5 Floppy Disk migration

*Message #5 Posted by **Andrés C. Rodríguez (Argentina)** on 15 Apr 2010, 9:08 a.m.,*
in response to message #3 by Dave Shaffer (Arizona)

The formatting and filesystem are critical to read those floppies. For instance, I have one 5.25" hard-sectored, and I don't think I will ever be able to read the files it contains. Perhaps with a huge time budget it can be done, but such budget doesn't exist.

It the files were created on a PC or similar equipment (MS-DOS, FAT), you will be able to recover, but if they were created on a CP/M system (i.e.: Z-80 machines as just one example), things will be harder. Were your disks created on an HP-85 with an external floppy drive, perhaps connected to HP-IB (just guessing)?

Re: 5.25 --> 3.5 Floppy Disk migration

*Message #6 Posted by **Giovanni Jimenez** on 15 Apr 2010, 11:42 a.m.,*
in response to message #3 by Dave Shaffer (Arizona)

Thank you Dave!! I will send the floppies this w/end (after tax season:)

I don't know much about those programs, but I believe they are either original from HP or copied directly from original diskettes via HP-IB.

Thank you all,

Giovanni

Re: 5.25 --> 3.5 Floppy Disk migration

*Message #7 Posted by **Eric Rechlin** on 16 Apr 2010, 1:31 a.m.,*
in response to message #3 by Dave Shaffer (Arizona)

The Pentium Pro didn't come out until less than 15 years ago, in late 1995...

Re: 5.25 --> 3.5 Floppy Disk migration

*Message #8 Posted by **Dave Shaffer (Arizona)** on 16 Apr 2010, 12:46 p.m.,*
in response to message #7 by Eric Rechlin

OK - at any rate, it has been sitting around for a while.

Next challenge: to take the ORIGINAL IBM PC/AT (Circa 1982) out of its box and see if it still runs. I remember when I put in a speed-up option (from 6 to 8 MHz, IIRC) and upgraded the hard drive from 20 to 30 MB - what a feeling of power I had!! I still use the PC/AT keyboard everyday for whatever is my current PC.

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A new 19BII variant...

*Message #1 Posted by **Massimo Gnerucci (Italy)** on 14 Apr 2010, 4:03 p.m.*

intel inside!

Greetings,
Massimo

Re: A new 19BII variant...

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 14 Apr 2010, 4:13 p.m.,*
in response to message #1 by Massimo Gnerucci (Italy)

Ciao, Massimo;

I have not seen the cooler, so it is probably running "underclocked"... Maybe you have actually found the reason for the new HP17BII+ to wobble: a series of MMX slightly thicker than usual. What the h**k do we know!

Cheers.

Luiz (Brazil)

Edited: 14 Apr 2010, 4:17 p.m.

Re: A new 19BII variant...

*Message #3 Posted by **Rainer Wiedemann (Germany)** on 15 Apr 2010, 8:37 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Perhaps he's cooling the machine via the infrared interface. There's also "no rust in the battery compartment". Did HP build the pentium powered 19BII from steel? Maybe I should bid then ...

Re: A new 19BII variant...

*Message #4 Posted by **Sancerre (Phoenix)** on 14 Apr 2010, 4:46 p.m.,*
in response to message #1 by Massimo Gnerucci (Italy)

lol, maybe they have an interface to their refrigerator for the coolant system.

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17BII+ wobble

*Message #1 Posted by **Ryan** on 14 Apr 2010, 9:27 a.m.*

I recently took delivery of a new version 17BII+ (double-wide input key) and found that it wobbles slightly on my desk.

Is this a well-known defect or did I just get a dud? I bought it direct from HP and am wondering if others have had any experience of exchanging this calculator or others for the same reason.

It's frustrating that I have an el cheapo Casio desk calculator that sits perfectly flat on my desk and this HP that costs four times as much can't get it right!

Thanks in advance for your responses.

Re: 17BII+ wobble

*Message #2 Posted by **Katie Wasserman** on 14 Apr 2010, 10:40 a.m.,*
in response to message #1 by Ryan

I don't have a 17bii+ but I find that the 20b (and now 30b) rock back and forth too. This is a design defect where pressing keys on the outer column put force beyond the support feet.

-Katie

Re: 17BII+ wobble

*Message #3 Posted by **Frido Bohn** on 14 Apr 2010, 11:19 a.m.,*
in response to message #1 by Ryan

Hello Ryan,

perhaps your desk has a slight bumpiness to which the Casio perfectly fits by pure coincidence ;-)

My 41CV has suffered the same flaw since I bought it 1984. I solved the problem with adhesive tape. Another solution would be to try to pull outwards the disturbing rubber foot a little bit (I don't know whether the 17BII+ has) in order to restore the balance. This works with the HP48, but you must be careful not to lose the foot.

Best regards
Frido

Re: 17BII+ wobble

*Message #4 Posted by **nacho** on 14 Apr 2010, 11:40 a.m.,*
in response to message #3 by Frido Bohn

Hi,

Have 2 17BII+ and no problem at all.

Regards,

Nacho

Re: 17BII+ wobble

*Message #5 Posted by **ron g.** on 16 Apr 2010, 1:19 a.m.,*
in response to message #3 by Frido Bohn

My 41CV of 26 years also has this very annoying problem.

Re: 17BII+ wobble

*Message #6 Posted by **Ryan** on 14 Apr 2010, 11:45 a.m.,*
in response to message #1 by Ryan

Thank you, all.

It seems the rubber feet are perfectly molded into depressions in the bottom, so pulling it one direction or the other isn't possible. The outer column of keys also appear to be well within the supported area so the wobble seems to be from imbalanced rubber feet or a twisted case.

That said, my 12cp has the same problem and I ended up putting some tape on the bottom to keep it from rocking. The downside is that it lost its grip in that corner so now it tends to slide a bit!

I must be overthinking this. HP is sending crap out the door.

Re: 17BII+ wobble

*Message #7 Posted by **Egan Ford** on 14 Apr 2010, 1:58 p.m.,*
in response to message #6 by Ryan

> Quote:
>
> That said, my 12cp has the same problem and I ended up putting some tape on the bottom to keep it from rocking. The downside is that it lost its grip in that corner so now it tends to slide a bit!

I had the same problem. To fix I just twisted the body to fit. Perfect now. Just give it a gentle twist.

Re: 17BII+ wobble

*Message #8 Posted by **Ryan** on 14 Apr 2010, 3:30 p.m.,*
in response to message #7 by Egan Ford

Who would've thunk!

I did as you advised. I gave the calc a slight twist and problem solved (for now).

I'm hoping this is a permanent solution--what with the bumps and scrapes in my bag I put my calcs through...

Thanks!

Edited: 14 Apr 2010, 3:45 p.m.

Re: 17BII+ wobble

*Message #9 Posted by **Sancerre (Phoenix)** on 14 Apr 2010, 1:37 p.m.,*
in response to message #1 by Ryan

I have the same (annoying) issue with a couple of my calcs (all Pioneer series). --Sancerre

Re: 17BII+ wobble

*Message #10 Posted by **Marcus von Cube, Germany** on 14 Apr 2010, 4:36 p.m.,*
in response to message #9 by Sancerre (Phoenix)

My 17bii+ wobbles very slightly. Twisting didn't cure it, I'll probably have to do it again.

Re: 17BII+ wobble

*Message #11 Posted by **Ryan** on 15 Apr 2010, 9:53 a.m.,*
in response to message #10 by Marcus von Cube, Germany

The wobble was back this morning. Argh!

I had to twist it again to correct the issue. It's clearly a temporary solution. Why, why does HP do this? !

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HP-41 Flat top N cells

*Message #1 Posted by **Xavier A. (Brazil)** on 14 Apr 2010, 6:41 a.m.*

Hello HP fans,

I just bought a N (LR1) *flat top* cells set. Someone told me it would be possible to make contact in the HP-41, but he didn't explain how. Did anyone already try to use this cells? Thank you!

Edited: 14 Apr 2010, 6:42 a.m.

You have mail! Also...

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 14 Apr 2010, 9:55 a.m.,*
in response to message #1 by Xavier A. (Brazil)

Hi, Xavier;

I sent you an e-mail with specific contents. It also points to the link below: (sorry for misspelling batteries; I saw it a little bit later... The link works with 'bateries', I just created the page with the wrong word)

http://s839.photobucket.com/albums/zz311/hewpack_lcv/HP41%20bateries/

I believe it will give you the necessary information.

Sorry taking too long...

Cheers.

Luiz (Brazil)

Edited: 14 Apr 2010, 10:00 a.m.

Re: You have mail! Also...

*Message #3 Posted by **Xavier A. (Brazil)** on 14 Apr 2010, 4:35 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Ola Luiz, tudo bem?

Obrigado pela resposta! Of course I have now to ask you about how to 'fill in' those cells, but it will be another story ;)

Thank you very much!

Best regards.

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Pure Horror

*Message #1 Posted by **Patrick Rendulic** on 13 Apr 2010, 1:45 p.m.*

This afternoon we had a meeting at our business. A colleague saw my HP41 in my shirt pocket and asked me whether mine still worked. I said yes. He then told me that his one no longer worked and that he threw it away 2 weeks ago ...

... together with some installed modules (time, x-functions, ...), card reader, ...

... ...

Re: Pure Horror

*Message #2 Posted by **Michael Meyer** on 13 Apr 2010, 1:51 p.m.,*
in response to message #1 by Patrick Rendulic

I know it can be called a compulsion... my desire to continue to collect and restore. I just restored a lowly SR-11. I prefer to call it, "saving it from the trashbin of history." I will continue to strive to save HP's and others from the "trashbin of history..."

Re: Pure Horror

*Message #3 Posted by **bill platt** on 13 Apr 2010, 2:58 p.m.,*
in response to message #1 by Patrick Rendulic

What's interesting is what you might call the "delta" of valuation. The inefficient market. Or whatever. The idea that two people who are quite closely associated end up with completely different gut senses about value. This happens all the time not just in calculators. It is the whole world of antiques that is like that at emergence.

I was originally more like your colleague: I figured I'd pick up an old one on ebay for cheap....boy was that an education!

Re: Pure Horror

*Message #4 Posted by **PeterP** on 13 Apr 2010, 3:09 p.m.,*
in response to message #3 by bill platt

Bill,

That's exactly how it started for me a few years back! I needed a simple desk calculator and remembered how much I had fawned over the 41C. I figured that it would be cheap and kinda cool to pick up that old calculator to have on my desk, in case I can find one that still works.

Today, irrecoverably infected with the HP virus, I know that this was by far my most expensive 'pick up something cheap' idea I ever had...

Cheers

Peter

Re: Pure Horror

*Message #5 Posted by **Juergen Keller** on 13 Apr 2010, 3:30 p.m.,*
in response to message #4 by PeterP

> Quote:
>
> I know that this was by far my most expensive 'pick up something cheap' idea I ever had ...

... but it was worth every penny, it was (and still is) a lot of fun, and there are many other fools like me ;-)

Re: Pure Horror

*Message #6 Posted by **David Hayden** on 13 Apr 2010, 4:03 p.m.,*
in response to message #1 by Patrick Rendulic

I was almost like that. A few years ago I decided for fun to check the value of my HP 41CV and accessories on ebay. I was shocked. Today a bunch of accessories are in a drawer in the basement with a little note that says "these are actually valuable" in case I get hit by a bus.

The virus is spreading within me. I'm actively programming my 50g, 48gii's, and 39gs. At a flea market this weekend, I found myself looking for calculators. I found a TI 81 and took a long hard look at it before moving on.

flea market

*Message #7 Posted by **Frank Boehm (Germany)** on 14 Apr 2010, 8:02 a.m.,*
in response to message #6 by David Hayden

Good thing I started almost 20 years ago looking for calculators - it's pointless to visit a flea market now, too often not even a single one is to be found. 10 years back, I often returned home with several bags full of calculators - talk about dead technology 8)
(But then there are rare times, when some really cool stuff shows up. E.g. one guy had a prototype PCB for a calculator developed by VALVO, as well as box full of NORBITs, even prototypes. NORBIT Info)

Re: Pure Horror

*Message #8 Posted by **Garth Wilson** on 13 Apr 2010, 4:46 p.m.,*
in response to message #1 by Patrick Rendulic

My dad's first car (in the 50's) was a Model A Ford convertible. He was glad to get rid of it because the cloth top leaked and there was something loose in a headlight that made it go off and on. What he wouldn't give for that car today! Having said that though, I must add that my 41cx's value to me is still in its usefulness, not its important place in computing history.

Re: Pure Horror

*Message #9 Posted by **Diego Diaz** on 13 Apr 2010, 5:09 p.m.,*
in response to message #8 by Garth Wilson

Pls add me for one in the 41 freakies list... ;-)

Re: Pure Horror

*Message #10 Posted by **Vieira, Luiz C. (Brazil)** on 13 Apr 2010, 5:14 p.m.,*
in response to message #1 by Patrick Rendulic

Why did you tell us that?

Why?

WHY?????? (sob)

Some people do not care for other people´s feelings...

;)

Luiz

Edited: 14 Apr 2010, 12:50 p.m. after one or more responses were posted

Re: Pure Horror

*Message #11 Posted by **bill platt** on 13 Apr 2010, 6:44 p.m.,*
in response to message #10 by Vieira, Luiz C. (Brazil)

:-) :-)

Re: Pure Horror

*Message #12 Posted by **David Hayden** on 13 Apr 2010, 10:05 p.m.,*
in response to message #10 by Vieira, Luiz C. (Brazil)

sigh....

Now you've got me thinking about how I loaned by 29C to a girlfriend in 1986. I never saw it again.

Re: Pure Horror

*Message #13 Posted by **geoff quickfall** on 13 Apr 2010, 10:53 p.m.,*
in response to message #1 by Patrick Rendulic

You will never guess what happened yesterday.

I was at the dump and found an HP 41C with a time module and ....

Okay, just kidding.

But I did find an HP 25 sitting in a trash can at the operations office for the airline I worked for 15 years ago. I was picking up a flight plan for a trip from Winnipeg to Chicago when I threw out a piece of paper I needed. When I went to retrieve the paper from the waste paper basket there was a non functional HP 25 staring at me.

It was the first HP I ever restored, bad battery connector terminal due to corrosion. The calculator works perfectly still.

My gain, someones loss.

Cheers, Geoff

Re: Pure Horror

*Message #14 Posted by **Walter B** on 14 Apr 2010, 2:01 a.m.,*
in response to message #13 by geoff quickfall

Lucky you! Another example of an event with *very* low probability though ... sigh ...

Re: Pure Horror

*Message #15 Posted by **Namir** on 14 Apr 2010, 10:41 a.m.,*
in response to message #1 by Patrick Rendulic

The same thing happened to my HP41CX in 1999. I used to take it to work. One day I spilled coffee on it and it stopped working, It had several modules. I tossed the whole thing in the trash can, not knowing about eBay and vintage calculator sales and repaitr on the Internet!

Namir

Edited: 14 Apr 2010, 10:42 a.m.

Re: Pure Horror

*Message #16 Posted by **geoff quickfall** on 14 Apr 2010, 11:10 a.m.,*
in response to message #15 by Namir

I will NEVER be able to look at you in the same way again Namir!!!!

Just kidding ;-)

Geoff

Re: Pure Horror

*Message #17 Posted by **Namir** on 14 Apr 2010, 11:29 a.m.,*
in response to message #16 by geoff quickfall

Jeff,

This happened a year before I signed up with eBay and discovered that the vintage HP machine market is alive and well!! I do believe that my HP41-CX calculator could have been repaired and the plug-in modules to be working.

I kick myself whenever I think about that incident.

BTW .. I met with Dave Shaffer here in Flagstaff (where I am spending some time with my son). We met at the Lowell Observatory where he was working on a telescope setup. We had the chance to hear from another staff member about SOFI -- the special telescope project that is flown in a custom Boeing 747. The telescope is flown high enough to avoid atmospheric interference. We told the staff member that we belong to a calculator online community, which also includes an Air Canada pilot who is very much into using and restoring vintage HP calculators. I thought you might be a good candidate to fly the SOFI telescope.

:-)

Namir

Edited: 14 Apr 2010, 11:36 a.m.

Re: Pure Horror

*Message #18 Posted by **geoff quickfall** on 14 Apr 2010, 12:46 p.m.,*
in response to message #17 by Namir

Now that would be fun, Science and flying, don't get that around here!

You sure are a world traveller, will you make HCC2010?

Of course it is 25 years for the HP 71B, don't know what the theme is but it would be a good follow up from the 41C in 2009.

Cheers, Geoff

Re: Pure Horror

*Message #19 Posted by **Dave Shaffer (Arizona)** on 14 Apr 2010, 1:29 p.m.,*
in response to message #17 by Namir

Namir is close: the mission he is referring to is SOFIA (stands for Stratospheric Observatory for Infrared Astronomy). See here for details.

Geoff may appreciate what else we learned: the telescope in SOFIA (which I think is around 2 meters in size) weighs so much, and is aft of the center of gravity, that they have to put ballast in the FRONT (nose) of the 747SP to keep it balanced. (Weight and balance are critical elements of flight planning!)

Re: Pure Horror

*Message #20 Posted by **Namir** on 14 Apr 2010, 4:52 p.m.,*
in response to message #19 by Dave Shaffer (Arizona)

Dave,

SOFIA it is .. I stand corrected. I should have remembered correctly, since it was my grandmother's name.

Nmair

Re: Pure Horror

*Message #21 Posted by **Marcus von Cube, Germany** on 15 Apr 2010, 4:27 a.m.,*
in response to message #20 by Namir

The 1999 solar eclipse was nicknamed "Sofi" here in Germany, short for "Sonnenfinsternis". At least this is slightly more connected to astronomy than Namir's grandma. ;)

Re: Pure Horror

*Message #22 Posted by **bill platt** on 14 Apr 2010, 8:47 p.m.,*
in response to message #19 by Dave Shaffer (Arizona)

My dog is named Sophie.

Re: Pure Horror

*Message #23 Posted by **Dave Shaffer (Arizona)** on 14 Apr 2010, 9:26 p.m.,*
in response to message #22 by bill platt

Maybe you can make her the mission mascot!! (Post us a picture - we are going dog "shopping" this weekend at the local shelter for companion animal #2 and lifetime #6 overall.)

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Note for NoV-64 users.

*Message #1 Posted by **Diego Diaz** on 13 Apr 2010, 10:31 a.m.*

Hi,

In the docs it's fairly clear that NoVRAM and NoV-32 can be configured in a Clonix-41 fashion. However, this seems not to be clear at all for the NoV-64. Of course they also can.

I should have properly pointed it out in the docs (my fault).

For those of you that may find this feature useful, just select "Clonix-D" in the configuration window and make sure you include the same ROM images in *both* "Flash ROM blocks" fields; plug your NoV-64 in the programmer and procced as usual.

Hope this helps.

Diego.

Re: Note for NoV-64 users.

*Message #2 Posted by **Frido Bohn** on 14 Apr 2010, 11:02 a.m.,*
in response to message #1 by Diego Diaz

Dear Diego,

does this mean that you can use the NoV-64 module as a Clonix-D by simply overwriting the pages occupied by HEPAX?

Best regards
Frido

Re: Note for NoV-64 users.

*Message #3 Posted by **Diego Diaz** on 14 Apr 2010, 6:14 p.m.,*
in response to message #2 by Frido Bohn

Well Frido, not "exactly". NoV-64 does not have the possibility of swapping its internal ROM banks as the Clonix-D does. So you can only have 6 pages (as in a standard Clonix). Thus the need to replicate the ROM images selection in *both* Flash ROM blocks.

Hope this helps.

Cheers.

Re: Note for NoV-64 users.

*Message #4 Posted by **Eric Smith** on 15 Apr 2010, 9:19 p.m.,*

in response to message #1 by Diego Diaz

I guess I'm not the only one that is somewhat confused about the differences between the Clonix, Novram, Nov-32, and Nov-64. It might be helpful to have a table comparing them.

Re: Note for NoV-64 users.

*Message #5 Posted by **Diego Diaz** on 16 Apr 2010, 2:34 a.m.,*
in response to message #4 by Eric Smith

Hi Eric,

You're more than probably right... as the "family" is growing up, its different members' features may lead to confusion.

Here you are an abstract:

Clonix-41: It's basically a ROM-box which can hold up to 6 pages (4K each) Intended to "clone" any ROM PAC module(s).

Clonix-D: Same features that Clonix-41 but double ROM size. Its ROM is divided in two blocks of 6 pages each. These blocks can be swapped by plugging the module into an even or odd port.

NoVRAM: A RAM-Box, mainly intended to clone "Adv HEPAX". It has 16K RAM and ROM to hold the four pages of the HEPAX module plus two extra ROM pages.

NoV-32: Same as NoVRAM but double RAM size. Its 32K RAM are organized in two blocks of 4 pages each which can be swapped by writting h'000 or h'001 into a control word placed at address H'4100.

NoV-64: Again HEPAX emulation with 4 blocks of 16K ram (thus the "64") and another two blocks of 16K ROM. Switching between the blocks can also be achieved by writing said control word.

Alternatively a new ROM (ICEBOX1H) written by Geir Isene, includes several commands in order to handle the ROM and RAM blocks of a NoV-64, allowing the user to switch between them from a FOCAL program.

NoV-32 is backward compatible with NoVRAM and Clonix-41, as NoVRAM is backwards compatible with Clonix-41.

NoV-64 is compatible with Clonix-D in terms of internal functionality, but it lacks the possibility of swapping its ROM blocks by changing the port. That's why it only shows 6 pages and they must be programmed in both banks.

Hope this clarifies a bit the differences.

Cheers.

Diego.

Edited: 16 Apr 2010, 2:40 a.m.

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Note for NoV-64 users.

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Pocket Professional Math-Pro

*Message #1 Posted by **Norman Dziedzic** on 12 Apr 2010, 1:35 p.m.*

I just acquired a 48GX with a card called the Pocket Professional Math-Pro. I don't know that much about anything 48 series.

Were they very popular? There was also a card in the box that mentioned a software called CalcWare PC Link for upload/download with the calculator. Is that still around?

Thanks,

Norm

Re: Pocket Professional Math-Pro

*Message #2 Posted by **Han** on 12 Apr 2010, 5:03 p.m.,*
in response to message #1 by Norman Dziedzic

The Math-Pro card probably is not as popular as many of the other software cards such as surveying cards or engineering cards. One of the reasons is that there were many really powerful math programs written for the 48 series that were free. Two that I personally still use are ALG48 and ERABLE. There is a bit of overlap between these two packages, but they are very nice.

The Calcware PC Link is no longer in production. I believe this was produced by Sparcom (who published the Pocket Professional series). It was basically the PC link with their own upload/download software.

Edited: 12 Apr 2010, 5:11 p.m.

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Determining HP 48sx ROM version by SN?

*Message #1 Posted by **megarat** on 12 Apr 2010, 1:18 p.m.*

Hey all,

I've decided to get back into the RPL game by hunting down a 48sx. Ideally I would get one with firmware/ROM version J. (Unless you can recommend an earlier version instead, for a reason that isn't obvious to me.)

So: is there a way to determine the ROM version by the serial number? Most eBay sellers seem to balk at going through the steps of determining their ROM version, but don't have much issue with providing an SN.

(I suspect there is probably a very clear relationship between SN and ROM version, so I guess the second-order question is: has this relationship been properly mapped out? A survey of HP48 owners would be the obvious way to do this. (Although such a mapping would exclude units that have been factory-upgraded by HP, of course.))

Re: Determining HP 48sx ROM version by SN?

*Message #2 Posted by **Dave Britten** on 12 Apr 2010, 3:46 p.m.,*
in response to message #1 by megarat

I can't say how strong the correlation is, but here's my J ROM unit as a data point:

3310S04480

I've got another SX at home that's *not* rev. J that I can check later this evening.

The steps for checking the ROM revision in an SX are so simple that I'd be surprised if any decent seller wouldn't take the necessary 30 seconds for a potential buyer. All you do is press On+D, Backspace, Eval, which prints the ROM details plain as day. Then press ON+C to resume normal operation.

Re: Determining HP 48sx ROM version by SN?

*Message #3 Posted by **Allen** on 12 Apr 2010, 6:01 p.m.,*
in response to message #2 by Dave Britten

I have a 48s ROM Version J (not SX) SN 3311S00452, If you're interested, send me your address.

Edited: 12 Apr 2010, 6:02 p.m.

Re: Determining HP 48sx ROM version by SN?

*Message #4 Posted by **Allen** on 12 Apr 2010, 6:27 p.m.,*
in response to message #2 by Dave Britten

Here are other data points for 48s/sx Versions:

```
48sx ROM: C     3017A01085
48sx ROM: D     3021A00931
```

```
48sx ROM: D     3027A01190
48sx ROM: D     3028A00869
48SX ROM: D     3028A02420
48sx ROM: D     3030A02142
48sx ROM: E     3107A01152
48sx ROM: E     3111A00584
48sx ROM: E     3112A00435
48sx ROM: E     3115A00495
48sx ROM: E     3116S01777
48sx ROM: E     3117S00252
48sx ROM: E     3132S00211
48sx ROM: E     3137S03581
48sx Rom: E     3208S02217
48sx ROM: E     3217S00646
48sx ROM: E     3217S00674
48s  ROM: E     3240S00388
48s  ROM: E     3242S02348
48s  ROM: J     3246S07047
48s  ROM: J     3311S00452
48sx ROM: J     3320S00496
```

Edited: 12 Apr 2010, 6:42 p.m. after one or more responses were posted

Re: Determining HP 48sx ROM version by SN?

*Message #5 Posted by **megarat** on 12 Apr 2010, 6:42 p.m.,*
in response to message #4 by Allen

Very cool, thanks.

There seems to be a clear relationship between SN and ROM version. It would be terrific to nail them down a bit more (e.g., are the version boundaries between US and Singapore models the same?).

Re: Determining HP 48sx ROM version by SN?

*Message #6 Posted by **Marcus von Cube, Germany** on 14 Apr 2010, 4:13 p.m.,*
in response to message #4 by Allen

Here is one more:

HP-48S ROM: E SN: 3214S00428

Re: Determining HP 48sx ROM version by SN?

*Message #7 Posted by **megarat** on 12 Apr 2010, 6:39 p.m.,*
in response to message #2 by Dave Britten

> Quote:
>
> The steps for checking the ROM revision in an SX are so simple that I'd be surprised if any decent seller wouldn't take the necessary 30 seconds for a potential buyer.

I'm with you on that ... I ask politely, ask early in the auction cycle, and even include the instructions, but so far, every single time I've asked, I've either received (a) no response (four out of six times), or (b) an unhelpful waffling akin to "all I can say is that it's made in [country] and passes the self-tests" (twice).

I generally take this as an indicator of someone I wouldn't want to do business with and keep looking.

Survey: what is the serial number and ROM version of your HP 48?

*Message #8 Posted by **megarat** on 12 Apr 2010, 6:48 p.m.,*

in response to message #2 by Dave Britten

I'll maintain a list of all responses here. If you (generically addressing the reader) can provide your SN, specific model, and ROM version, I'll keep adding to the list, at least for the near future.

(Last updated: 13 Apr 2010)

```
48sx ROM: A     2952A00211
48sx ROM: B     3013A01447
48sx ROM: C     3017A01085
48sx ROM: D     3021A00931
48sx ROM: D     3027A01190
48sx ROM: D     3028A00869
48sx ROM: D     3028A02420
48sx ROM: D     3030A02142
48sx ROM: E     3038A03578
48SX ROM: E     3052A01149
48sx ROM: E     3107A01152
48sx ROM: E     3111A00584
48sx ROM: E     3112A00435
48sx ROM: E     3115A00495
48sx ROM: E     3116S01777
48sx ROM: E     3117S00252
48sx ROM: E     3132S00211
48sx ROM: E     3137S03581
48sx Rom: E     3208S02217
48sx ROM: E     3217S00646
48sx ROM: E     3217S00674
48s  ROM: E     3240S00388
48s  ROM: E     3242S02348
48s  ROM: J     3246S07047
48sx ROM: J     3247S01125
48sx ROM: J     3310S04480
48s  ROM: J     3311S00452
48sx ROM: J     3320S00496
```

Edited: 13 Apr 2010, 12:12 p.m. after one or more responses were posted

Re: Survey: what is the serial number and ROM version of your HP 48?

*Message #9 Posted by **Marc Ferrer (France)** on 13 Apr 2010, 4:20 a.m.,*
in response to message #8 by megarat

Hello,

HP-48SX s/n 3013A01447, version B.

Regards, Marc

Edited: 13 Apr 2010, 4:25 a.m.

Re: Survey: what is the serial number and ROM version of your HP 48?

*Message #10 Posted by **Paul Dale** on 13 Apr 2010, 5:16 a.m.,*
in response to message #9 by Marc Ferrer (France)

48sx 3038A03578 version E

The earliest rev E so far :-)

- Pauli

Edited: 13 Apr 2010, 8:02 a.m.

Re: Survey: what is the serial number and ROM version of your HP 48?

*Message #11 Posted by **Thomas Klemm** on 13 Apr 2010, 8:51 a.m.,*
in response to message #8 by megarat

> Quote:
>
> I'll keep adding to the list, at least for the near future.

I suggest to create an article. As soon as this thread is archived you won't be able to modify it.

Best regards
Thomas

Re: Survey: what is the serial number and ROM version of your HP 48?

*Message #12 Posted by **megarat** on 13 Apr 2010, 12:11 p.m.,*
in response to message #11 by Thomas Klemm

Thanks for the suggestion, I didn't know the difference. I'll do that.

EDIT: I've done so, the article is here: http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=991.

Edited: 13 Apr 2010, 12:24 p.m.

Re: Survey: what is the serial number and ROM version of your HP 48?

*Message #13 Posted by **megarat** on 15 Apr 2010, 1:08 p.m.,*
in response to message #8 by megarat

Thanks everyone for your posts thus far. I've been updating the article here.

I'm not trying to be exclusive of the 48s series ... if you want to submit your G/GX/G+ information as well, feel free.

Regardless, I'm particularly interested in cases that help define the boundary conditions (e.g., where the versions change).

Re: Survey: what is the serial number and ROM version of your HP 48?

*Message #14 Posted by **Thomas Okken** on 15 Apr 2010, 5:19 p.m.,*
in response to message #13 by megarat

Happy to oblige. HP-48G, version M, 3344S06734

Re: Survey: what is the serial number and ROM version of your HP 48?

*Message #15 Posted by **Bart (UK)** on 15 Apr 2010, 6:14 p.m.,*
in response to message #13 by megarat

Here goes:

48G Ver.R S/N 3422S07894
48GX Ver.R S/N 3616S02571
48GX Ver.R S/N 3627S01702

Re: Determining HP 48sx ROM version by SN?

*Message #16 Posted by **Mike Morrow** on 16 Apr 2010, 9:53 p.m.,*
in response to message #2 by Dave Britten

My units:

HP48SX ROM Version E 1989 3117A00013
HP48GX ROM Version R 1993 3629S01544
HP48GX ROM Version R 1993 SG72400781

It's interesting that there are 3116S and 3117S listings here, even though my SX is definitely a 3117A. I guess there was some overlap of the American and the Singapore manufacturing process for the SX.

Edited: 16 Apr 2010, 10:05 p.m.

Re: Determining HP 48sx ROM version by SN?

*Message #17 Posted by **megarat** on 19 Apr 2010, 12:54 p.m.,*
in response to message #16 by Mike Morrow

I agree, that's an interesting overlap.

Re: Determining HP 48sx ROM version by SN?

*Message #18 Posted by **Han** on 12 Apr 2010, 9:30 p.m.,*
in response to message #1 by megarat

48SX ROM E: 3052A01149 I also have one with serial number 3006A00426 (48SX) but its screen is broken. I'll add its ROM version once I get a screen for it.

Edited: 12 Apr 2010, 9:32 p.m.

Re: Determining HP 48sx ROM version by SN?

*Message #19 Posted by **Nacho** on 13 Apr 2010, 7:28 a.m.,*
in response to message #18 by Han

Older I have

48SX ROM A: Serial N: 2952A00211 (USA)

Newer

48SX ROM J: Serial N: 3247S01125 ç(Singapore)

Regards,

Nacho

Edited: 13 Apr 2010, 7:30 a.m.

Re: Determining HP 48sx ROM version by SN?

*Message #20 Posted by **megarat** on 13 Apr 2010, 12:45 p.m.,*
in response to message #19 by Nacho

> Quote:
>
> 48SX ROM A: Serial N: 2952A00211 (USA)

According to the MoHPC's table of "Earliest Serial Numbers (so far)", this takes the prime spot.

Is that page/table updated frequently?

Re: Determining HP 48sx ROM version by SN?

*Message #21 Posted by **nacho** on 14 Apr 2010, 11:44 a.m.,*
in response to message #20 by megarat

> Quote:
>
> According to the MoHPC's table of "Earliest Serial Numbers (so far)", this takes the prime spot.
>
> Is that page/table updated frequently?

I told the mr. Hicks about that but no answer received.

I think it's just curious.

regards,

Nacho

Re: Determining HP 48sx ROM version by SN?

*Message #22 Posted by **Ken Shaw** on 13 Apr 2010, 1:55 p.m.,*
in response to message #1 by megarat

48SX s/n 3017A00080 Rev. C

48SX s/n 3103A02201 Rev. E

(edit to correct huge error!)

Edited: 13 Apr 2010, 1:56 p.m.

Re: Determining HP 48sx ROM version by SN?

*Message #23 Posted by **Bart (UK)** on 13 Apr 2010, 3:34 p.m.,*
in response to message #1 by megarat

48SX rom E S/N 3204S03206

Re: Determining HP 48sx ROM version by SN?

*Message #24 Posted by **Martin Pinckney** on 14 Apr 2010, 11:01 a.m.,*
in response to message #1 by megarat

E 3104A02185 USA
D 3029A02006 USA

Re: Determining HP 48sx ROM version by SN?

*Message #25 Posted by **megarat** on 14 Apr 2010, 1:06 p.m.,*
in response to message #24 by Martin Pinckney

> Quote:
>
> E 3104A02185 USA
> D 3029A02006 USA

Martin, which models are these? S or SX?

Re: Determining HP 48sx ROM version by SN?

*Message #26 Posted by **Martin Pinckney** on 14 Apr 2010, 10:09 p.m.,*
in response to message #25 by megarat

Sorry, I didn't think to state since the OP was about SX. They are both SX.

Re: Determining HP 48sx ROM version by SN?

*Message #27 Posted by **Steve Perkins** on 14 Apr 2010, 3:13 p.m.,*
in response to message #1 by megarat

48S rom E S/N 3225S04049

Re: Determining HP 48sx ROM version by SN?

*Message #28 Posted by **Ignazio Cara (Italy)** on 15 Apr 2010, 4:09 a.m.,*
in response to message #1 by megarat

HP-48SX S/N 3208 S 05906 ->> Version HP-48 E - 1989

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Low-bat indication continuously on

*Message #1 Posted by **Johannes Trepte** on 12 Apr 2010, 11:38 a.m.*

Hi, I have an HP-21 calculator which I had in use until a few years ago. There were never any defects, except for several replaced battery packs. Because it "ate" Ni-Cads, I used it with the mains adapter most of the time, which in turn damaged the batteries quickly.

My question: Even with new cells, the "low battery" indication (inverted decimal points) is always on. I would like to fix this, because I really like the part. Still perfect for every day work, no key bouncing at all ...

Has anyone experienced the same effect? Are there any schematics of the vintage HP calculators available, which could help to find the problem?

Re: Low-bat indication continuously on

*Message #2 Posted by **John Stark** on 12 Apr 2010, 2:44 p.m.,*
in response to message #1 by Johannes Trepte

Johannes:

For what its worth, had a similar experience with vintage HP.45.

Issue was solved by dissassembly of calculator and thorough cleaning of contacts on power switch.

Works like a champ now.

John Stark

PS: BE CAREFUL disasembling a Woodstock-class unit. You may want to review others' experience before proceeding.

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Message output capability of HP35s?

*Message #1 Posted by **John H (UK)** on 12 Apr 2010, 9:54 a.m.*

Hi

I am looking at buying an HP35s to use for medical dose calculations. For this I need it to be able to output a 'message' as a text data label at the same time as a numerical output.

For instance:

'Dose per hour (mg) = 35' ....etc...

I will also need to do some pretty serious branching in respose to user choices (input as numbers; again displayed against various options) for instance:

'Choose MCG (1), MG (3) or ML (4) ?'

I know that the 50g can do this but it is quite bulky (we are not allowed white coats to keep out stuff in here in the UK).

Can the HP35s do this?

Thanks in advance.

Cheers

J

Re: Message output capability of HP35s?

*Message #2 Posted by **bill platt** on 12 Apr 2010, 10:26 a.m.,*
in response to message #1 by John H (UK)

The parsing of numerical values into a string will be the impossible part. But you should be able to do branching and messages.

'Dose per hour (mg) = 35'

would have to be something like:

```
Dose per hour (mg)= (press R/S)
35
```

But really, why not use something like the Iphone, or perhaps a 48G or 50G emulation on a handheld device?

If you wrote an Iphone app, you might get a big market for it. And it is small, and sexy, and all of that. And physicians love Macs and Iphones, so they already have one!

Edited: 12 Apr 2010, 11:02 a.m.

Re: Message output capability of HP35s?

*Message #3 Posted by **John H (UK)** on 12 Apr 2010, 12:24 p.m.,*
in response to message #2 by bill platt

Hi,

An interesting suggestion; I have an android (mainly for its full large pdf display apps; iphone couldnt do that at the time) with an HP48 emulator on it. But button pushing is tricky as it is sooo small.

How hard is it to write an native app for these smartphones? I had not really considered it. Is it much more fiddly than writing calc prog; it would seem so at first thought?

Any guidance?

Cheers

John

Re: Message output capability of HP35s?

*Message #4 Posted by **bill platt** on 12 Apr 2010, 2:14 p.m.,*
in response to message #3 by John H (UK)

I don't know anything about the mechanics of writing apps for Iphone. But I do know that they are proliferating like wild-fire!

Thomas Okken, who posts here, wrote the veritable free42 for the Iphone...

Re: Message output capability of HP35s?

*Message #5 Posted by **Thomas Okken** on 12 Apr 2010, 10:22 p.m.,*
in response to message #4 by bill platt

I find writing native code for the iPhone to be pretty painful, I guess mainly because the APIs are so different from the Windows and Unix ones I'm used to. People familiar with Mac OS X have much less of a learning curve to deal with.
Writing native GUI apps is a lot of work on any platform I know, but it sounds like what John wants to do could also be done using HTML and JavaScript, and *that* wouldn't be much more involved than writing a calculator program.

Re: Message output capability of HP35s?

*Message #6 Posted by **bill platt** on 12 Apr 2010, 11:22 p.m.,*
in response to message #5 by Thomas Okken

Now that is an interesting idea! (Java Script or HTML on Iphone)

Thanks for weighing in.

Re: Message output capability of HP35s?

*Message #7 Posted by **John H (UK)** on 12 Apr 2010, 12:27 p.m.,*
in response to message #2 by bill platt

Hi Again,

Actually the HP35s example that you use is actually quite acceptable; especially if the message and the input are on-screen at the same time, albeit on different lines of the display?

Hmm now thinking about a smartphone app though.

Cheers

John

Re: Message output capability of HP35s?

*Message #8 Posted by **bill platt** on 12 Apr 2010, 1:44 p.m.,*
in response to message #7 by John H (UK)

My physical 35S is lost at my son's school, so I cannot check the ability to keep the prompt in the Y register while the answer is in X. It should be possible, as long as you handle the stack appropriately. It might require "echo" of the prompt and recalling the answer to the stack from a register, rather than simply dumping the results of a calculation to the X register. All calculations use stack manipulation (except equations) and so that is that.

Also, read chapter 14 of the manual. You'll want to see how deep you have to nest. 20 is the limit for subroutines.

Edited: 12 Apr 2010, 1:56 p.m.

Re: Message output capability of HP35s?

*Message #9 Posted by **Dave Britten** on 12 Apr 2010, 4:01 p.m.,*
in response to message #7 by John H (UK)

The 35s is very limited in terms of what you can do with message output. You won't be able to generate a message that includes calculated data - static text only - and you can only display a single message at a time, so no two-line tricks. Plus there are many documented bugs in this model that can lead to incorrect figures or memory loss under certain circumstances. Not sure I would personally trust it with anything as mission-critical as dosage calculations!

The 42s, however, features quite capable string manipulation, but is rather costly. The alternative is to get an iPhone/iPod Touch, and buy 42s for it (about $10 US, I believe). It's got nice big buttons, runs many times faster than the real thing, and gives you about 90MB instead of 7KB.

Or you could go really old-school and get a cheap secondhand Psion Organiser II. :)

Re: Message output capability of HP35s?

*Message #10 Posted by **John H (UK)** on 12 Apr 2010, 4:50 p.m.,*
in response to message #9 by Dave Britten

Ah Ok.

The reason for going for a simple robust machine (like a 35s) is for that feeling of simplicity and reliability.

Most of the calcs that I am thinking about you sort of do in your head automatically but at times you might just need a reliable little electronic friend to tell you that you are right.

However if it is buggy then it defeats the object. Such a shame as I have a tendency for old-school things (like the idea of the robust feel of the 35s) and liked the idea of starting with a machine that feels solid but is actually in current production!

I have written a portion of the code for the old casio FX-7000GB (!) and it works well but it is already an old machine(and a bit big for the shirt pocket). I really don't like the plastic model-kit feel of current casios....

I have had a look at android app programming and it all looks a bit fancy. Not sure that I have the time to spend with all of the frilly stuff. I guess the iphone is somewhat similar.

Maybe a 42 emul is the way to go...?

I now wish I had an iphone.. hmm

I cannot thank you enough for the heads up regarding the HP35s bugs.

Cheers

J

Re: Message output capability of HP35s?

*Message #11 Posted by **bill platt** on 12 Apr 2010, 7:24 p.m.,*
in response to message #10 by John H (UK)

BTW the apps such as free42 run on hte Ipod Touch as well as on the Iphone.

Re: Message output capability of HP35s?

*Message #12 Posted by **Dave Britten** on 12 Apr 2010, 8:01 p.m.,*
in response to message #11 by bill platt

> Quote:
>
> BTW the apps such as free42 run on hte Ipod Touch as well as on the Iphone.

Yup, that's how I run 'em. I used 42s to find the best price per pound for cat litter earlier today. I'm posting from my iPod right now, in fact! They'll probably run fine on the iPad too, if you want a gargantuan 42s.

Another thought: How complex are the formulae you're working with? The 17bii can be had relatively inexpensively, if its (admittedly fairly sophisticated) algebraic solver can cut it.

Re: Message output capability of HP35s?

*Message #13 Posted by **Pal G.** on 12 Apr 2010, 11:12 p.m.,*
in response to message #10 by John H (UK)

I searched for "medical" at Androidzoom.com and hundreds of programs came up..

Or, if you'd like to do the programming yourself and you don't care about a gui, have a look at "android scripting environment". Write programs on your machine or android device. Supports scripting languages such as Lua, Perl, Python, JRuby, etc..

Re: Message output capability of HP35s?

*Message #14 Posted by **Nigel J Dowrick** on 13 Apr 2010, 6:34 a.m.,*
in response to message #10 by John H (UK)

> Quote:
>
> I have written a portion of the code for the old casio FX-7000GB (!) and it works well but it is already an old machine(and a bit big for the shirt pocket). I really don't like the plastic model-kit feel of current casios....

You shouldn't overlook the Casio FX-9860G Slim: programmable, with a C/C++ SDK available if Casio Basic is too basic, foldable (so it should fit in your pocket), and (in my opinion) well-made and not at all plasticky. At least, **I** like it!

Nigel

Psion Organizer II for WBC differentiation

*Message #15 Posted by **Nenad (Croatia)** on 13 Apr 2010, 2:52 a.m.,*
in response to message #9 by Dave Britten

> Quote:
>
> Or you could go really old-school and get a cheap secondhand Psion Organiser II. :)

Several years ago I wrote this program for Psion Organizer II for the blood testing laboratory in my wife's pediatric office. The program supports counting types of leucocytes if you want to count them by type directly under microscope manually.

We simply had the Psion Organizer II available, with practically no use for it when I wrote this program.

Now, if there is a doubt wrt results of "differential white cell count" (I am not sure about the correct medical expression, but you will certainly understand) obtained by the "blood counting machine", you can check WBC differential count manually by Psion. When the operator recognizes the leucocyte in a certain field she presses the appropriate button for this type. Psion beeps when you reach 100, but you can continue counting if you want.

Just to shed some light to an easy implementation of this obsolete but robust gadget. There is nothing smart in this program, but its use is practical.

```
List of program


statements: PROG:EDIT A:DKS


DKS:
  LOCAL SG%,LY%, MO%
  LOCAL EO%, BA%, NS%
  LOCAL AT%, TOT%, K%
  LOCAL EOSI, BASO
  LOCAL NSEG, ATYP
  LOCAL SEGM, LYMP
  LOCAL MONO, TOT
  PRINT "DKS: COUNT START"
  KSTAT 1
  SG%=0 :LY%=0 :MO%=0 :EO%=0 :BA%=0 :NS%=0 :AT%=0
```

```
  TOT%=0
  DO
    K%=GET
    IF K%=65 :SG%=SG%+1 :TOT%=TOT%+1 :ENDIF
    IF K%=66 :LY%=LY%+1 :TOT%=TOT%+1 :ENDIF
    IF K%=67 :MO%=MO%+1 :TOT%=TOT%+1 :ENDIF
    IF K%=68 :EO%=EO%+1 :TOT%=TOT%+1 :ENDIF
    IF K%=69 :BA%=BA%+1 :TOT%=TOT%+1 :ENDIF
    IF K%=70 :NS%=NS%+1 :TOT%=TOT%+1 :ENDIF
    IF K%=71 :AT%=AT%+1 :TOT%=TOT%+1 :ENDIF
    IF K%<>76 PRINT TOT%,
      IF TOT%=100 :BEEP 800,1500 :ENDIF
    ENDIF
  UNTIL K%=76
  PRINT
  PRINT "DKS: RESULTS"
  PRINT "Tot.cells=";TOT%
  GET
  TOT=FLT(TOT%)/1000
  EOSI=INTF(EO%/TOT)*10
  BASO=INTF(BA%/TOT)*10
  NSEG=INTF(NS%/TOT)*10
  SEGM=INTF(SG%/TOT)*10
  LYMP=INTF(LY%/TOT)*10
  MONO=INTF(MO%/TOT)*10
  ATYP=INTF(AT%/TOT)*10
  PRINT "EOSI=";EOSI;"%"
  PRINT "BASO=";BASO;"%"
  GET
  PRINT "NSEG=";NSEG;"%"
  PRINT "SEGM=";SEGM;"%"
  GET
  PRINT "LYMP=";LYMP;"%"
  PRINT "MONO=";MONO;"%"
  GET
  PRINT "ATYP=";ATYP;"%"
  PRINT
  GET
  STOP


Variables               integer         real
eosinophiles              EO%           EOSI
basophiles                BA%           BASO
nonsegmented              NS%           NSEG
segmented                 SG%           SEGM
lymphocytes               LY%           LYMP
monocytes                 MO%           MONO
atypical                  AT%           ATYP
total number              TOT%          TOT
```

Edited: 13 Apr 2010, 3:01 a.m.

Re: Message output capability of HP35s?

*Message #16 Posted by **tim m.** on 12 Apr 2010, 11:11 p.m.,*
in response to message #1 by John H (UK)

The Epocrates suite has built-in dose calculators.

-Tim

Re: Message output capability of HP35s?

*Message #17 Posted by **John H (UK)** on 13 Apr 2010, 6:35 a.m.,*
in response to message #16 by tim m.

Thanks Guys..

It is a shame that I recently gave all my Psion stuff to my brother...Doh!

Have had a look at the Epocrates thing; looks interesting.

Not had look at the calcs section yet.

In many ways I wanted to do something myslef so I can have 100% confidence in it (and my understanding of it actually).

A scripting language may be the way to go. Should not be too tricky either. In that way it should be nicely cross platform...

Cheers again.

(and saves me 60USD on the price of a 35s!)

J

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HP Forum Archive 19

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hp20b hacking: SW reset problem

*Message #1 Posted by **hugh steers** on 12 Apr 2010, 9:50 a.m.*

Hi,

so i finally got around to repurposing a 20b to play chess.

everything was going swimmingly, until i get about 3 moves in and then the unit software resets!

im using the hp20sdk (latest i think). at the start of main, it figures out the startup state and displays it (if you enable the lcd) and i get "SW Reset" when i press ON again.

so i get rid of everything i can find that does this. im disabling the watchdog (damn good idea!) and also various logic to deliberately perform "cpureset".

when i do this, instead of software reset, i get a power reset. when i press on i get "Power Up" and not "Normal Wakeup". this says to me that there is power down. could it be that my batteries are low and cant sustain the output. i notice ServiceBOD handles this, but it performs an Off which should correspond to normal wakeup (or does it?). Getting rid of ServiceBOD does not change anything either.

so im wondering if maybe the unit cant handle it. im running flat out at 36Mhz for say 5 seconds. unfortunately, i haven't got a new set of batteries to test.

are there any other sneaky timers, i might have missed that might do this? disabling the RTC 5 minute timer makes no difference either.

any ideas?

Re: hp20b hacking: SW reset problem

*Message #2 Posted by **Katie Wasserman** on 12 Apr 2010, 2:36 p.m.,*
in response to message #1 by hugh steers

I've seen similar problems with all the HP ARM-based calculators, the CR2032 cells can't deliver the needed current at high clock speeds for prolonged time. The BOD level doens't seem to matter much either. Always using new batteries and/or lowering the clock speed is really the only solution. The cells are in parallel with no blocking diodes which helps handle the peak current draw but stinks as far as battery life goes.

-Katie

Re: hp20b hacking: SW reset problem

*Message #3 Posted by **hugh steers** on 12 Apr 2010, 3:35 p.m.,*
in response to message #2 by Katie Wasserman

thanks. im going to try decreasing the cpu speed slightly.

WIP here, http://www.wiki4hp.com/doku.php?id=20b:hpvchess

i'll post an update, if i upload a binary that works :-)

Re: hp20b hacking: SW reset problem

*Message #4 Posted by **hugh steers** on 12 Apr 2010, 5:01 p.m.,*
in response to message #2 by Katie Wasserman

I have discovered that my batteries are knackered! i think it must be that i've drained them too much with this experiment.

reducing the CPU speed to 24MHz made no real difference in this case, and the original problem of power dropout happens now right away.

i found just one good battery in the back of a drawer and it seems to work, ie i dont get the drop outs, but one battery isnt going to work very well.

so what i dont know is how long before new batteries suffer this problem. it looks like the ServiceBOD code tries to handle power drop, but isnt doing a great job.

anyway, i compiled a new version and uploaded it on the wiki. this one identifies itself as version "1.0".

happy hacking!

Re: hp20b hacking: SW reset problem

*Message #5 Posted by **Tim Wessman** on 12 Apr 2010, 10:49 p.m.,*
in response to message #4 by hugh steers

If you are running at full speed, you can drain the batteries really quickly. I'd do development with power going in on your cable and that should solve a lot of the problem.

TW

Re: hp20b hacking: SW reset problem

*Message #6 Posted by **Walter B** on 13 Apr 2010, 1:19 a.m.,*
in response to message #5 by Tim Wessman

> Quote:
>
> If you are running at full speed, you can drain the batteries really quickly.

Please, does this mean days, hours or minutes?? Remember being an engineer ... d;-)

Re: hp20b hacking: SW reset problem

*Message #7 Posted by **hugh steers** on 13 Apr 2010, 4:51 a.m.,*
in response to message #6 by Walter B

i would be interested to know the curve of cpu speed vs power drain and whether it is linear.

for example, the points 18, 24, 30, 36 (Mhz). I guess i could test this myself if not known.

If the curve is linear, then clearly the same amount of energy is used for a given calculation. however, if the higher speeds are progressively more power hungry, then there is a win to using a slower speed (unless too slow to be useful).

Re: hp20b hacking: SW reset problem

*Message #8 Posted by **Paul Dale** on 13 Apr 2010, 5:09 a.m.,*
in response to message #7 by hugh steers

The CPU specifications from ATMEL has plenty of power details in section 35.3.2. The consumption looks worse than linear but only a little.

e.g. From table 35.10 at VDD=3V, 25 degrees:

```
 8MHz    5.37
16MHz   10.37
20MHz   12.13
24MHz   14.24
30MHz   19.55
36MHz   22.63
```

Not sure of the units in the second column but I'm sure it is explained in the PDF.

- Pauli

Edited: 13 Apr 2010, 5:13 a.m.

Re: hp20b hacking: SW reset problem

*Message #9 Posted by **hugh steers** on 13 Apr 2010, 6:57 a.m.,*
in response to message #8 by Paul Dale

Intersting. from this table, the best speed to power ratio is at 24Mhz.

This would be the speed to run at (from a consumption view), unless full-out performance is needed. Also, it would be sensible to back off as battery output drops.

Re: hp20b hacking: SW reset problem

*Message #10 Posted by **Paul Dale** on 13 Apr 2010, 7:05 a.m.,*
in response to message #9 by hugh steers

The units are mA.

Check out the document for lots more details. Google doc6257.pdf to find it.

There are lots of options for bits that can be powered down.

- Pauli

Re: hp20b hacking: SW reset problem

*Message #11 Posted by **Katie Wasserman** on 13 Apr 2010, 8:36 a.m.,*
in response to message #10 by Paul Dale

While the speed vs power consumption for the this chip might be close to linear the current draw vs cell capacity is very far from linear. They don't even spec these cells beyond 2ma current draw and even at that level the capacity is half of

nominal. At 20ma draw (10 ma per cell) you can probably expect on the order of a couple of hours (maybe less) of useful life from these cells.

CR2032 spec sheet

These ARM-based calculators really need to be powered from AAA cells or a rechargeable prismatic lithium cell. When running long programs on these calculators you really need to have a large supply of CR2032's handy. Fortunately you can buy the best quality ones in quantity for about $0.25 each.

-Katie

Edited: 13 Apr 2010, 8:39 a.m.

Re: hp20b hacking: SW reset problem

*Message #12 Posted by **DaveJ** on 15 Apr 2010, 2:50 a.m.,*
in response to message #11 by Katie Wasserman

Or you just run the calculator at a sensibly slower speed and live with the extra processing time.

I mean really, how many people run long programs on such a calc that warrants 30MHz processing speed?

Dave.

Re: hp20b hacking: SW reset problem

*Message #13 Posted by **Katie Wasserman** on 15 Apr 2010, 12:49 p.m.,*
in response to message #12 by DaveJ

> Quote:
>
> I mean really, how many people run long programs on such a calc that warrants 30MHz processing speed?

Just some of us here, playing with silly ways to factor 10 digit numbers.

I agree, lowering the clock speed is the way to go with this platform.

-Katie

Re: hp20b hacking: SW reset problem

*Message #14 Posted by **DaveJ** on 13 Apr 2010, 8:21 a.m.,*
in response to message #7 by hugh steers

> Quote:
>
> i would be interested to know the curve of cpu speed vs power drain and whether it is linear.
>
> for example, the points 18, 24, 30, 36 (Mhz). I guess i could test this myself if not known.

> If the curve is linear, then clearly the same amount of energy is used for a given calculation. however, if the higher speeds are progressively more power hungry, then there is a win to using a slower speed (unless too slow to be useful).

Correct, running at lower speed is better for consumption.

I've discussed this at length here before, and I've done a blog episode on the exact issue:

http://www.eevblog.com/2009/04/16/eevblog-4-low-power-calculator-design-and-fpgas/

The processor consumption is essentially linear with speed, as it is with most CMOS processors. But in the case of this design it is the battery series resistance that causes a non-linear issue that gets worse as the battery life drops. So it is IMO a poor design choice to operate the calc at 30MHz off CR2032 batteries. Cyrille eventually admitted this and said he would be more cautious of using that high a speed in subsequent designs. I don't believe he has, the newer calcs do the same thing I believe.

Dave.

Re: hp20b hacking: SW reset problem

*Message #15 Posted by **cyrille de Brébisson** on 14 Apr 2010, 8:43 a.m.,*
in response to message #14 by DaveJ

Hello,

> Quote:
>
> Cyrille eventually admitted this and said he would be more cautious of using that high a speed in subsequent designs. I don't believe he has, the newer calcs do the same thing I believe.

The latest version of the SW only uses high speed when needed, and only for a short period, after that, it drops back to more manageable levels for the battery. since most calculation that will finish in any resonable time will finish before the speed drops, it seems to work well.

regards, cyrille

Re: hp20b hacking: SW reset problem

*Message #16 Posted by **DaveJ** on 13 Apr 2010, 8:14 a.m.,*
in response to message #6 by Walter B

> Quote:
>
> Please, does this mean days, hours or minutes?? Remember being an engineer ... d;-)

IIRC the processor is speced at nominally 0.5mA/MHz So for two paralleled CR2032 batteries at 240mAH @ 30MHz, ignoring losses like the series resistance and the low batt cutoff point. The best case battery life at full speed would be 480mA/15mA = 32hours. So realistically you'd be lucky to get say 24 hours.

Dave.

Re: hp20b hacking: SW reset problem

*Message #17 Posted by **Bart (UK)** on 13 Apr 2010, 11:00 a.m.,*
in response to message #16 by DaveJ

> Quote:
>
> So realistically you'd be lucky to get say 24 hours.

At 7.5mA per cell *continuous* you'd be lucky to get 15 hours.

> Quote:
>
> ignoring losses like the series resistance and the low batt cutoff point

That's exactly where the problem lies at high drain. The internal resistance causes loss of output voltage and very high drains could cause it to drop below the equipment drop-out voltage almost immediately.

Of course this does not mean that you've used up all the energy of the cell, you can still "use it up" by using the cells in low drain devices.

Edited: 13 Apr 2010, 11:07 a.m.

Re: hp20b hacking: SW reset problem

*Message #18 Posted by **Bill (Smithville, NJ)** on 13 Apr 2010, 1:14 p.m.,*
in response to message #17 by Bart (UK)

> Quote:
>
> That's exactly where the problem lies at high drain. The internal resistance causes loss of output voltage and very high drains could cause it to drop below the equipment drop-out voltage almost immediately.

I used to see that exact thing happen on a HP-200LX with Duracell AA's when using an IBM 10 Volt PCMCIA flash memory card. With Duracell's, you would see the battery low message instantly whenever you turned on the 200LX. With Everyready batteries, that didn't occur. I remember someone telling me that was because of the initial high current drain the card caused and that Duracell's had a higher internal resistance than the Everyready's.

Bill

Re: hp20b hacking: SW reset problem

*Message #19 Posted by **cyrille de Brébisson** on 13 Apr 2010, 8:31 a.m.,*
in response to message #4 by hugh steers

Hello,

Did you try putting breakpoints on the abort and other FIQ handler in order to see if that was not what was causing your reset? you might be filling your stack for example. This would cause a reset...

You can run the CPU at 36MHZ on battery power for as long as the battery will last with no reset. When you put a normal 20b in Test System Mode, it does run at 36Mhz continuously.

At that speed, you get less than 24h of battery life however. This is why I always run the calculator on AA battery for testing...

The cpu speed vs power consumption is fairly linear in the 0.6mA/Mhz range. of course, the battery life is not linear as the internal battery resistance play a more and more preeminent role as the power drain increases.

Also, the actual mips is not linear as you have to put 1 wait state once you get over 15Mhz.... This can cause a slow down of the actual CPU instruction throughput. Depending on your program.

Cyrille

Re: hp20b hacking: SW reset problem

*Message #20 Posted by **hugh steers** on 13 Apr 2010, 11:08 a.m.,*
in response to message #19 by cyrille de Brébisson

I'll try those breakpoints later and report. At first, i suspected the stack, the usual suspect of random crashes :-) but i think that's ok. i've actually increased the default stack size to be sure.

since powering off a brand new cell, it is working fine (until i drain it that is!). so im still suspecting the power problem.

im wondering whether to get the ServiceBOD code to reduce the fast speed that is used when processing an operation (a move in this case!). it might be a good way to prevent power outage.

also, do you know what happens to the battery backed RAM when power drops below operation - does this get kept or is there no guarantee.

thanks,

Re: hp20b hacking: SW reset problem

*Message #21 Posted by **David Hayden** on 13 Apr 2010, 10:31 p.m.,*
in response to message #1 by hugh steers

I'm not familiar with the 20b, but when doing low-level programming, one cause of crashes can be writing to the wrong side of the stack pointer. Since an interrupt service routine can change the contents of the free memory that the stack grows into, you have to always allocate space on the stack before using it.

Basically, you have to pretend that memory on the "wrong side" of the stack pointer contains random bits that constantly change.

Dave

Re: hp20b hacking: SW reset problem

*Message #22 Posted by **hugh steers** on 14 Apr 2010, 8:08 a.m.,*
in response to message #21 by David Hayden

Hello,

I have found out the source of all my problems!

confession: my game variables were not located in battery backed ram.

turns out that many of them don't need to be because they are initialised each time, but a few are important. Like, er, the board state. However, it looks like you get away with this quite a lot. maybe the non-backed ram works for a while but is unreliable. this is likely between different units.

i have uploaded a new binary (V1.1) that has a, very small, opening book.
http://www.wiki4hp.com/doku.php?id=20b:hpvchess

It was the opening book that revealed the problem. i couldnt understand why the program worked fine on everything except the actual calculator (annoying huh). It would play the book and then make an illegal move. what was happening is that the `inBook' state was not being properly reset. This variable and others are now in the 2K backed ram, which handily gives me more space for other stuff :-)

The original power problem still persists. basically if your batteries cant cut it, you get a power outage and it powers down, losing all state.

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HP-67 keyboard restoration

*Message #1 Posted by **Pierre Brial** on 12 Apr 2010, 6:27 a.m.*

Hello, A friend of mine, retired university teacher, make me a great gift : an HP-67 in very nice condition, with manual, pouch, some cards ... ! The calc in in working order, but the keyboard is unreliable : keys sometimes don't register despite the 'click', and sometimes they register twice. A bit disappointing given hp keyboards reputation (I have got an older HP-35 which doesn't have such flaw).

Did you already experienced this problem ? The procedure described in http://www.hpmuseum.org/howtohp/howtohp.htm recommend the use of sandpaper to clean the gold plating. But may be there is a softer way to do ?

Re: HP-67 keyboard restoration

*Message #2 Posted by **Jose Poyan** on 12 Apr 2010, 1:25 p.m.,*
in response to message #1 by Pierre Brial

Hi, I have exactly the same problem with the "0" key on my hp-67, samtimes it doesnt work, sometimes it marks twice. Besides the keys seem to be lower than they should, they are loose and rattle a lot, do you have this problem too? I wonder if it has something to do with the loose of contact. I didnt open mine yet, but it'll be interested to see what you find.

regards, jose

Re: HP-67 keyboard restoration

*Message #3 Posted by **Pierre Brial** on 12 Apr 2010, 11:03 p.m.,*
in response to message #2 by Jose Poyan

Hi Jose,

I don't have this rattling problem on the HP-67, but I did have it on an HP-45. There are metal strips under the plastic keys, which give to hp calcs keyboards their distinctive click. Theses strips were cracked, and even cut on some keys. So keys losed their firmness, and the electrical connection was lost on cutted ones. Il repaired the connections by soldering tin on the cracks, but I lose the elasticity of the keys.

Regards

Pierre

Re: HP-67 keyboard restoration

*Message #4 Posted by **Jose Poyan** on 14 Apr 2010, 4:13 p.m.,*
in response to message #3 by Pierre Brial

I see... Which strips were broken on your hp45? The bent strips or the contact strips on the pcb?

As I said I dind't open my hp67, but I can tell you about a repair I did on my HP34c last week.

I bought from ebay silver contact paint that comes in small 3 grams glass tubes, for £4. I used this paint to cover the metalic strips on the pcb. I used it too to paint the contact strip on the membrane that was broken for the key "1" (my version of hp34c uses a plastic membrane for the keyboard, with bubbles on the keys and metalic strips for contacts) This failed becouse the bubbles deform when pressed and the paint is not elastic.

Then I bought cupper tape, that are used in plants to avoid insect, and you can get from ebay for £3, and it's the same as the aluminium tape but cupper one. I cut a very small square. The glued side is not conductive, so I turned it over almost from the middle to make a doble conductive tape and I left a thin strip with glue. I put it under the membrane, and it worked. Most notable I didnt loose the elasticity of key "1", it feels exactly the same. Yes, I scratched a little with my screw driver on the pcb, but it didnt mind since I completed the scuffs with Silver paint which proved to be very conductive.

I suggest you to use Silver paint for the contacts. Please let me know if you find the bent strips bronken when you open your hp67.

regards, jose

Re: HP-67 keyboard restoration

*Message #5 Posted by **Pierre Brial** on 15 Apr 2010, 11:08 p.m.,*
in response to message #4 by Jose Poyan

Yes it was the bent strip that were broken. Good idea the cupper tapes.

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PICS OF A HP-41C HALFNUT

*Message #1 Posted by **Philippe Pizzaferri** on 11 Apr 2010, 4:45 p.m.*

Hi,

I just want to share with you some pics of one HP-41C halfnut I just bought recently for 27 dollars. This unit is from the estate of an engineer in Oregon involved according to the seller in the early development of such devices.

It works perfectly after some repairs (Beeper and bottom shell were missing)

I have also pluged a quad module which has been recognized....

You know what, sometimes, I feel Lucky :)

[url: http://img697.imageshack.us/img697/5755/img3052g.jpg]

[url: http://img691.imageshack.us/img691/4608/img3047y.jpg]

[url: http://img690.imageshack.us/img690/95/sanstitrebk.png]

[url: http://img709.imageshack.us/img709/8256/img3075g.jpg]

Re: PICS OF A HP-41C HALFNUT

*Message #2 Posted by **Allen** on 11 Apr 2010, 7:03 p.m.,*
in response to message #1 by Philippe Pizzaferri

The pictures don't load.

Re: PICS OF A HP-41C HALFNUT (edited)

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 11 Apr 2010, 8:03 p.m.,*
in response to message #1 by Philippe Pizzaferri

Halo, Philippe;

I believe the best way to point to pictures that big would be by using **link:** instead of **url:** as you did. I did that in order to find a better way to download the pictures (at least two of them are huge, about 3.3MB):

img3052g.jpg

img3047y.jpg

sanstitrebk.png

img3075g.jpg

Even thought, they refuse to download...

Edited: 11 Apr 2010, 8:15 p.m.

Re: PICS OF A HP-41C HALFNUT (edited)

*Message #4 Posted by **db (martinez, ca.)** on 12 Apr 2010, 12:48 a.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

I just want to say that for the first time in my life, something loaded just perfect on my computer but not everyone elses. Pardon me while i go out to buy a lottery ticket.

Re: PICS OF A HP-41C HALFNUT (edited)

*Message #5 Posted by **Massimo Gnerucci (Italy)** on 12 Apr 2010, 6:15 a.m.,*
in response to message #4 by db (martinez, ca.)

A lottery ticket for me too... ;-)

Greetings,
Massimo

Re: PICS OF A HP-41C HALFNUT (edited)

*Message #6 Posted by **Walter B** on 12 Apr 2010, 1:22 a.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

Download with (slowly) flying colors here as well d:-) db, you're not alone ;)

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9114B Battery Replacement?

*Message #1 Posted by **Ángel Martin** on 11 Apr 2010, 6:11 a.m.*

I'm sure this has been asked before but I guess this is my time to ask:- Any ideas on how/where to replace the 9114B battery??

THanks, ÁM

Re: 9114B Battery Replacement?

*Message #2 Posted by **Egan Ford** on 11 Apr 2010, 12:17 p.m.,*
in response to message #1 by Ángel Martin

PS-628:

http://www.batterystore.com/Powersonic/PS628.html

Edited: 11 Apr 2010, 12:18 p.m.

Re: 9114B Battery Replacement?

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 11 Apr 2010, 5:59 p.m.,*
in response to message #1 by Ángel Martin

Ola, Ángel; ¿como estás?

I once had to replace the battery that came with the HP9114B I have. At the time I tried finding a replacement, I found only a 1.3Ah battery against the 2.4Ah that came with the unit. Here you can see the pictures I took when testing the batteries (pictures were edited: cut and resized)

Considering that the smaller unit would provide shorter working periods, I tested it and it worked well. I actually avoided using it without the charger, as stated in the 9114B manual, so I thought that the worst case scenario would be the battery not providing enough peak current, like when the main driver motor started spinning the disk. I had no problems working with the 9114B with it for a while, and after the new replacement was delivered I replaced it. Have been using so far, for about two years.

Hope this helps a bit.

Luiz (Brazil)

Edited: 11 Apr 2010, 6:03 p.m.

Re: 9114B Battery Replacement?

*Message #4 Posted by **PeterP** on 11 Apr 2010, 8:42 p.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

Angel, I once collected articles on repair of the 9114 and it is published in the article section as the 9114

repairs manual. It has a good long section onthe battery repair/replacement.

Cheers

Peter

Re: 9114B Battery Replacement?

*Message #5 Posted by **Ángel Martin** on 12 Apr 2010, 3:31 p.m.,*
in response to message #4 by PeterP

THANKS GUYS, i'LL LET YOU KNOW HOW IT GOES...

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OK - Who just paid $987 for an HP-70?

*Message #1 Posted by **Michael de Estrada** on 10 Apr 2010, 5:34 p.m.*

OK - Fess up. Did someone here just pay a record $987 for an HP-70? It's in very nice condition, for sure, but far from perfect. Silver trim completely worn on top, rear label clealy disturbed on one corner. No manual, no box, no ac adapter.

HP-70

This whole collectability thing confounds me.

Re: OK - Who just paid $987 for an HP-70?

*Message #2 Posted by **DavidShenk** on 10 Apr 2010, 5:44 p.m.,*
in response to message #1 by Michael de Estrada

I admit I had it in my watch list, but that was it. I was just watching.

Dave

Re: OK - Who just paid $987 for an HP-70?

*Message #3 Posted by **geoff quickfall** on 10 Apr 2010, 5:59 p.m.,*
in response to message #2 by DavidShenk

Gulp, er, NOT ME.

I still don't have one but yikes. I hope it was still shrink wrapped!

Re: OK - Who just paid $987 for an HP-70?

*Message #4 Posted by **Reth** on 10 Apr 2010, 6:07 p.m.,*
in response to message #1 by Michael de Estrada

> Quote:
>
> Who just paid $987 for an HP-70?

Someone who wanted it badly and had the money. As simple as that.
I for one can't stop wandering how people are wandering about that
Cheers

Re: OK - Who just paid $987 for an HP-70?

*Message #5 Posted by **Mark Henderson** on 10 Apr 2010, 6:12 p.m.,*
in response to message #4 by Reth

Awfully tempting to put my better condition HP-70 up for sale! Nah, I'm keeping it!

Re: OK - Who just paid $987 for an HP-70?

*Message #6 Posted by **Reth** on 10 Apr 2010, 9:05 p.m.,*
in response to message #5 by Mark Henderson

See? That's exactly what I'm talking about ;)
Then really, what's $1000 these days? Not much. I remember when I bought my first HP-41CV + X-Functions + X-Memory + Surveying modules, it was a fortune I spent. I'd gladly pay 5 times that today (brand new in boxes with that specific smell I'll never forget) if it was available. Cheers,

Re: OK - Who just paid $987 for an HP-70?

*Message #7 Posted by **tim m.** on 10 Apr 2010, 10:23 p.m.,*
in response to message #6 by Reth

A thousand dollars is still a large amount of money to me!

Re: OK - Who just paid $987 for an HP-70?

*Message #8 Posted by **Michael de Estrada** on 10 Apr 2010, 11:53 p.m.,*
in response to message #6 by Reth

Reth, I understand what you are saying. I paid $395 in 1972 for my HP-35 V2, which would be about $2000 today. That was 2 weeks takehome pay for me back then. You can easily find a very clean complete set today for under $500. Even the HP-70 which sold for $275 in 1975 would be nearly $1100 today. But all consumer electronics have come down dramatically in price since those days, so the sale price of these antiques is totally unrelated to their inflated original prices. I see the value of these calculators in terms of their uniqueness and the milestones that they represent and not in terms of their simple rarity. Other than the unique color scheme, there is nothing special to me in the HP-70. It was not the first to introduce some new technology; its only real claim to fame is that the run was short, so the supply is scarce. I am not one of those collectors who just must have a "complete" collection at any cost. You might have noticed that another HP-70 has shown up on TAS, and perhaps the floodgates will open as other people decide that now is the time to cash in their gold while the price is high.

Re: OK - Who just paid $987 for an HP-70?

*Message #9 Posted by **Reth** on 11 Apr 2010, 1:12 a.m.,*
in response to message #8 by Michael de Estrada

Michael, I get your point too. I wouldn't pay even a dollar for the HP-70, it does nothing for me. Apparently though it does for the guy who paid $987 and there is where difference lays. As time goes by people can afford more and pay big money for things based on sentimental value rather than anything else. Someone actually made this point here some time back - possible scenario - it was the first calc in the beginning of someone's successful career or something he/she couldn't afford back then...
Cheers

Re: OK - Who just paid $987 for an HP-70?

*Message #10 Posted by **Keith Midson** on 11 Apr 2010, 1:37 a.m.,*
in response to message #9 by Reth

I bid 4 times on this item, and was the runner up with $977. Guess I didn't quite want it as bad as the other person! Cheers, Keith

Re: OK - Who just paid $987 for an HP-70?

*Message #11 Posted by **Keith Midson** on 11 Apr 2010, 1:42 a.m.,*
in response to message #10 by Keith Midson

I probably should follow up on reasons (for me, not the winning bidder), which seems to have people a little intrigued ... for me it's about completing a collection - the 70 is one of the few that I don't have, so prepared to pay a little more than earlier in my collecting, when stuff is easy to get hold of. Cheers, Keith

Edited: 11 Apr 2010, 1:46 a.m.

Re: OK - Who just paid $987 for an HP-70?

*Message #12 Posted by **Reth** on 11 Apr 2010, 5:41 a.m.,*
in response to message #11 by Keith Midson

Thanks a lot, Keith, it's a small world after all :)
Cheers

Re: OK - Who just paid $987 for an HP-70?

*Message #13 Posted by **geoff quickfall** on 11 Apr 2010, 11:07 a.m.,*
in response to message #12 by Reth

Keith is correct,

completion of a collection is a powerful urge. I know I want one but at the moment 1000 can be useful somewhere else.

I don't think it is "wondering why" as much as "wow, some one wants one for so much".

Cheers, Geoff

Re: OK - Who just paid $987 for an HP-70?

*Message #14 Posted by **Maximilian Hohmann** on 11 Apr 2010, 12:18 p.m.,*
in response to message #13 by geoff quickfall

Hello!

> Quote:
>
> completion of a collection is a powerful urge.

Certainly. But then, a "complete collection" is an impossible thing to achieve. No matter what one collects. And once one accepts that as a fact, the urge or pressure to "complete" the collection is greatly relieved. To me, it does not matter much if I am one piece or two pieces or ten pieces short of the ideal "complete collection". Therefore, the value of an individual item does not change depending on the rest of my collection. Makes life easier (and

cheaper!) if you can see it that way :-)

Regards, max

Edited: 11 Apr 2010, 12:49 p.m. after one or more responses were posted

Re: OK - Who just paid $987 for an HP-70?

*Message #15 Posted by **Keith Midson** on 12 Apr 2010, 5:53 a.m.,*
in response to message #14 by Maximilian Hohmann

> Quote:
>
> Certainly. But then, a "complete collection" is an impossible thing to achieve. No matter what one collects. And once one accepts that as a fact, the urge or pressure to "complete" the collection is greatly relieved.

True, a collection should never be considered "complete", but half the fun is growing and changing a collection as you go. I have more than 120 HP's (and about 50 Sharp pocket computers - sorry!), and I get a kick out of buying and selling stuff as my collection matures.
when I say "complete" a part of the collection, I mean that the HP-70 completes the 'Classic' series of my collection, where I have 3xHP35's, 2xHP45's, 1xHP55, 2xHP65's, 2xHP67's (including a prototype - ignoring the fact that the 67 isn't technically a Classic), and 1xHP80. Part of completing the collection is getting the boxes, manuals, cards, etc.
I'm sure I will keep going, but hey it's a lot of fun!
Cheers, Keith

Re: OK - Who just paid $987 for an HP-70?

*Message #16 Posted by **Maximilian Hohmann** on 12 Apr 2010, 8:31 a.m.,*
in response to message #15 by Keith Midson

Hello!

> Quote:
>
> ... but hey it's a lot of fun!

It certainly is. But for me, part of the fun comes from "finding" my calculators at bargain prices. I don't think that I paid $987 for all my 75 (+/- 1 or 2) Hp calculators together. And for me too, the HP-70 is the only classic still missing (and the 27 the only second-generation one). But paying as much for one calculator than for all the others together? Certainly not.

Regards, max

NB: I just received a Novus Mathematician PR in the mail, a very rare RPN programmable calculator (here in Europe at least, actually

the first one I ever saw advertised). The Batteries still hold their charge. With pouch and reference cards only 24 Euros. Much more fun than buying an HP-70 for 1000 Euros!

Re: OK - Who just paid $987 for an HP-70?

*Message #17 Posted by **Juergen Keller** on 12 Apr 2010, 1:36 p.m.,*
in response to message #16 by Maximilian Hohmann

That's a typical German attitude: It must be a bargain otherwise I'm not happy. That's why they got all these discounters like Aldi, Lidl, ... ;-)

Sorry, Maximillian, I couldn't resist, don't take me to seriously! I also got an NIB unused 11C for $40, and I still tell the story how I got it. On the other hand, I once bought an expensive calculator because I knew that such an opportunity would never return. I'm excited about both, the cheap and the expensive one.

- Juergen

Re: OK - Who just paid $987 for an HP-70?

*Message #18 Posted by **Keith Midson** on 12 Apr 2010, 3:35 p.m.,*
in response to message #17 by Juergen Keller

I'm with Juergen, I love getting a bargain as well as paying top dollar. Some of my bargains include a 45 for $5 (last week!), mint boxed 28S for $10 (not on TAS), and a dusty box of about 7 HP's for $50 that included a mint 11C, fair condition 28S, very good condition 19Bii, a good condition 20S, and a few others. I also picked up a 42S for $85 last year.
The most i've ever paid is US$900 for an HP.
I also enjoy selling stuff as well - cleaning up bargain finds, and selling off for others to enjoy.
Cheers, Keith

15C for $44

*Message #19 Posted by **Michael Meyer** on 12 Apr 2010, 5:23 p.m.,*
in response to message #18 by Keith Midson

I bought an HP-15C on the auction site for $44. Came last Friday. Scratched up bezel, and obliterated back label and no feet. But it works perfectly. I printed a replacement back on my laser printer (on plastic paper) from a MoHPC image (Thanks Dave!), glued it on, replaced the feet... and I have a pretty decent looking, "Kick Around" 15C. The one I have on display is much too clean to be throwing it in a briefcase, etc. Nice price for a very useable machine!!

Re: OK - Who just paid $987 for an HP-70?

*Message #20 Posted by **Maximilian Hohmann** on 12 Apr 2010, 5:13 p.m.,*
in response to message #17 by Juergen Keller

Hello!

> Quote:
>
> That's a typical German attitude: It must be a bargain otherwise I'm not happy.

Not attitude, but necessity, now that the Swiss have sold our bank account information to the tax office ;-)

But to rehabilitate my fellow countrymen: I must confess that I too have once paid a four-figure amount for a watch manufactured by HP (however immediately compensated by buying a very smart Omega watch on the bazar in Istanbul).

Greetings, Max

Re: OK - Who just paid $987 for an HP-70?

*Message #21 Posted by **Juergen Keller** on 13 Apr 2010, 2:39 a.m.,*
in response to message #20 by Maximilian Hohmann

> Quote:
>
> Not attitude, but necessity, now that the Swiss have sold our bank account information to the tax office ;-)

LOL! That's a good cause, now I understand ...

Re: OK - Who just paid $987 for an HP-70?

*Message #22 Posted by **Juergen Keller** on 11 Apr 2010, 4:34 p.m.,*
in response to message #9 by Reth

Reth, I second you. That's about what I mentioned in a previous thread. Why worry about prices other people pay (for whatever items, not only calcs) at all? The only reason I can figure out is that this lowers the chance that I can get one at a reasonable price. That's why I haven't got a Van Gogh: there are many other people willing to pay MUCH more than I. I have to accept this fact, period.

Re: OK - Who just paid $987 for an HP-70?

*Message #23 Posted by **Dave Shaffer (Arizona)** on 11 Apr 2010, 5:32 p.m.,*
in response to message #22 by Juergen Keller

> Quote:
>
> That's why I haven't got a Van Gogh: there are many other people willing to

> pay MUCH more than I
>
> ---

Not just willing, but ABLE!! I might be willing to pay $5e6 for a Van Gogh but I can't unless I have 6 or 8 megabucks lying around - which I don't!

Re: OK - Who just paid $987 for an HP-70?

*Message #24 Posted by **Keith Midson** on 12 Apr 2010, 5:37 a.m.,*
in response to message #23 by Dave Shaffer (Arizona)

Given all this discussion on who can afford what, and how much some people are prepared to pay for HP stuff, I'm interested to know what the highest known price is for an HP calculator (not counting the HP01 watch)? Is this humble HP70 in the running, or has there been anything higher?
Cheers, Keith

Re: OK - Who just paid $987 for an HP-70?

*Message #25 Posted by **bill platt** on 12 Apr 2010, 10:32 a.m.,*
in response to message #24 by Keith Midson

There were NIB 41CX coming from somewhere in England I think, about 4 years ago that fetched huge prices. I think they may have topped it, but not by much.

15C will go for $500 from time to time.

Re: OK - Who just paid $987 for an HP-70?

*Message #26 Posted by **Michael de Estrada** on 12 Apr 2010, 11:43 a.m.,*
in response to message #24 by Keith Midson

I seem to recall that several years back on TAS a Japanese buyer paid $995 for an HP-65 that was a complete working set in excellent condition. Although I have never paid close to that for my 4 HP-65's (I have since sold one), I find that somewhat justifiable in that the HP-65 represents a milestone in calculator history, being the first pocket calculator of any brand with a card reader. Also, many US auctions are not open to foreign bidders. The most I ever paid for an HP calculator was for my HP-35 Red Dot, and it was considerably less than $987. I must say, though, that I might be willing to pay that much for something truly rare and exceptional, such as an HP-95C, provided it was complete. But, like most of the rest of you, I will spend my life just watching HP-70's sell for high prices to people willing and able to pay. Oh, and going to museums to see Van Gogh's.

Edited: 12 Apr 2010, 7:24 p.m.

Re: OK - Who just paid $987 for an HP-70?

*Message #27 Posted by **Ron G.** on 12 Apr 2010, 1:15 p.m.,*
in response to message #24 by Keith Midson

Anyone else here remember joe_oil? This particular link is a discussion over a $1500 67. Search archive 9 (give or take) for others.

Edited: 12 Apr 2010, 1:16 p.m.

Re: OK - Who just paid $987 for an HP-70?

*Message #28 Posted by **Juergen Keller** on 12 Apr 2010, 1:25 p.m.,*
in response to message #24 by Keith Midson

I saw an HP-41CY (a 41CX with internal 64K RAMBOX) for about $2000. NIB 15Cs also go for high prices ...

Re: OK - Who just paid $987 for an HP-70?

*Message #29 Posted by **David Ramsey** on 11 Apr 2010, 8:01 p.m.,*
in response to message #1 by Michael de Estrada

Hm. Maybe I shouldn't have given my HP-70 away as a raffle prize at the San Jose meeting in 2006...

I have a winner (or a dummy buyer?)!! - edited

*Message #30 Posted by **Vieira, Luiz C. (Brazil)** on 13 Apr 2010, 1:44 a.m.,*
in response to message #1 by Michael de Estrada

Hi, all;

you should see this. Yeah, I know... A brain f..t, I´d guess. Mistyped bid, mostly. But anyway, R$8,350.00 for an HP12C (about US$4,000.00) is beyond anything else...

Cheers.

(added the next day) As expected, the auction will be suspended till the buyer has her R$8,350.00 bid removed in order to allow the auction to conclude accordingly.

Luiz (Brazil)

Edited: 13 Apr 2010, 9:50 a.m.

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MLDL2000 V2 update

*Message #1 Posted by **Meindert Kuipers** on 10 Apr 2010, 12:57 p.m.*

I finally found some time during the Easter weekend to work on my breadboard version of the MLDL2000V2, and I now have the last bits of design figured out. I have worked out most of the schematics and have started working on the layout. I hope to be in a position to request quotes for the PCB and assembly within a few weeks, and may need to do some changes based on the input of the assembler. Anyone who is interested in obtaining the MLDL2000 should contact me, so I can have an idea of quantities, as that is important for the quote. Technical details will follow when I have the feedback from the assembler (this may influence the choice of some of the components).

Meindert

Re: MLDL2000 V2 update

*Message #2 Posted by **Iñigo Rodriguez** on 12 Apr 2010, 5:34 a.m.,*
in response to message #1 by Meindert Kuipers

Hello Meindert,

I´m very interested. I´ll buy one, at least. Very nice Job!! Iñigo

Re: MLDL2000 V2 update

*Message #3 Posted by **Philippe Lasnier** on 12 Apr 2010, 9:00 a.m.,*
in response to message #1 by Meindert Kuipers

Hi Meindert,

I would be interested too, although this depends to a certain extent on the actual cost; are we talking roughly the same price as the previous one, 260€? What about an enclosure for it? You said this won't fit any more in a card read's enclosure. Will there be something else to fulfil to same function?

On an other note, and if you don't mind my mentioning it, your site gives out text for links using a dark blue colour. On your starry black background this is simply unreadable (I have to select the text so that the colours get inverted to be able to read them). Any chance you could change that?

Best,

Philippe

Re: MLDL2000 V2 update

*Message #4 Posted by **ZOleg** on 12 Apr 2010, 7:09 p.m.,*
in response to message #1 by Meindert Kuipers

Hi Meindert,

I buy one. Oleg

Re: MLDL2000 V2 update

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 13 Apr 2010, 1:46 a.m.,*
in response to message #1 by Meindert Kuipers

Hi, Meindert;

although having two MLDL2000 working units, a new one, with new design and functionality, is aways welcome. I´m interested, and want to buy one.

Cheers.

Luiz (Brazil)

Re: MLDL2000 V2 update

*Message #6 Posted by **Meindert Kuipers** on 13 Apr 2010, 12:59 p.m.,*
in response to message #1 by Meindert Kuipers

Just a few additional remarks: - price is unkown, this depends on quantity and the quote I get from the assembler and PCB supplier - there will be only one PCB, in a box. The exact size to be determined - the new unit will be in an external housing (fully assembled as an option) buyers will have to supply a module housing for the cable - memory capacity will probably be increased (depending on component cost an availability) - HP41 Analyzer will be fully integrated - SD card controller (fro micros SD card) is optional, this is an additional PCB, which is commercially available - power consumption will be much better (except when using the SD card controller) - integrated LED's, programmable with mcode

Meindert

Re: MLDL2000 V2 update

*Message #7 Posted by **Ángel Martin** on 13 Apr 2010, 2:02 p.m.,*
in response to message #6 by Meindert Kuipers

Hi Meindert,

I too would get one, sounds too good to pass on...

BTW I never thanked you for the updated Mk2 manager SW - it works like a champ for me. I've been using it lately to port old user code programs into roms - and the one-line-per-word option is just a godsend.

Keep up the good stuff!

Re: MLDL2000 V2 update

*Message #8 Posted by **Jeff Davis** on 15 Apr 2010, 6:35 a.m.,*
in response to message #1 by Meindert Kuipers

Meindert, I am also interested. Thanks

Re: MLDL2000 V2 update

*Message #9 Posted by **Rainer Wiedemann (Germany)** on 15 Apr 2010, 9:20 a.m.,*

in response to message #1 by Meindert Kuipers

I'm interested in buying one.

Re: MLDL2000 V2 update

*Message #10 Posted by **Gerry Schultz** on 15 Apr 2010, 3:32 p.m.,*
in response to message #1 by Meindert Kuipers

Hi Meindert,

I too am very interested in buying one. It looks really great.

Gerry

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HP 48gII displays division as a fraction

*Message #1 Posted by **Peter Klein** on 9 Apr 2010, 5:19 p.m.*

A colleague has a problem: His HP 48gII is displaying the results of division as a fraction. If we key in

2 Enter 5 /

The display reads

```
2
-
5
```

I'm an RPN guy, not RPL, and neither of us can figure out how to change this back so division displays as a real number with decimals. The calculator is in Fix 3 mode. Addition, multiplication and subtraction seem to work as expected.

Thanks

Edited: 9 Apr 2010, 5:49 p.m.

Re: HP 48gII displays division as a fraction

*Message #2 Posted by **Allen** on 9 Apr 2010, 6:01 p.m.,*
in response to message #1 by Peter Klein

he should read his manual.
http://h20000.www2.hp.com/bc/docs/support/SupportManual/c00043591/c00043591.pdf

Re: HP 48gII displays division as a fraction

*Message #3 Posted by **bill platt** on 9 Apr 2010, 6:03 p.m.,*
in response to message #1 by Peter Klein

Read the manual, look at the system flag settings, under MODE. Look at the CAS settings there. Sounds like it has to do with not being in approximate mode or something like that.

Re: HP 48gII displays division as a fraction

*Message #4 Posted by **David Hayden** on 10 Apr 2010, 9:39 a.m.,*
in response to message #1 by Peter Klein

He's in exact mode. If he wants it behave more "normally" he can switch to "approximate" mode by holding down the right shift key and pressing ENTER. Note that the small "=" indicator at the top will change to a squiggly equal sign to indicate approximate mode.

If he wants to stay in exact mode and just convert the value to a number, press right-shift then ENTER to execute the ->NUM function.

Tim wrote a very good new users guide to the 50g that should apply to the 48 gii also. I urge your friend to work through it.

Re: HP 48gII displays division as a fraction

*Message #5 Posted by **Tim Wessman** on 10 Apr 2010, 10:14 a.m.,*
in response to message #4 by David Hayden

It isn't perfect, but it was written from the approach of "lets teach you about the most common stumbling blocks, while introducing some of the really neat things this calculator does. By the time you go through it, you should be able to use it for day to day calculations without problems and at least have an idea where to go if things go wrong."

http://forums13.itrc.hp.com/service/forums/bizsupport/questionanswer.do?threadId=1414559

Click on the paperclip on the second post there. It was the first placeI could findit.

I'd download it and tell your friend to go through it. If I recall, it talks about real/approximate atleast 3 places. Don't you lovecomputers with broken keyboards. . . (using the wife'smachine that is full of food under the keys :-D)

TW

Re: HP 48gII displays division as a fraction

*Message #6 Posted by **Peter Klein** on 10 Apr 2010, 5:32 p.m.,*
in response to message #5 by Tim Wessman

Thanks, everyone. It was indeed exact vs. approximate mode. My friend is like many people who own a graphing calculator. He knows well the features he uses every day, but has forgotten the ones he doesn't.

The 48-50 series is complex enough that one errant keystroke can sometimes send you to the Land of Oz. I have a 48S, but only occasionally use it, mostly for unit conversions. Most of the time, I reach for my 32S or 32Sii.

--Peter

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Virus on HP-collection.org ????

*Message #1 Posted by **Philippe Pizzaferri** on 9 Apr 2010, 12:23 p.m.*

Hello I try to go on HP-collection.org

Google prevent me that this site has been infected by a virus

Someone could inform Matthias as it is the first time I have this problem

hereunder the transcription fromm Google (Sorry, it is in french)

Sur les 34 pages testées sur ce site au cours des 90 derniers jours, 5 page(s) a (ont) généré le téléchargement et l'installation de programmes malveillants sans l'autorisation de l'internaute. Google a visité ce site pour la dernière fois le 2010-04-05 et un contenu suspect a été détecté sur ce site pour la dernière fois le 2010-04-02.

Malicious software includes 6 exploit(s), 4 trojan(s). Successful infection resulted in an average of 7 new process(es) on the target machine.

Le programme malveillant est hébergé sur 5 domaine(s), dont sadahesz.com/, hhsdgbes.com/, v00d00.org/.

This site was hosted on 1 network(s) including AS31424 (NEXELLENT).

Re: Virus on HP-collection.org ????

*Message #2 Posted by **Namir** on 9 Apr 2010, 6:34 p.m.,*
in response to message #1 by Philippe Pizzaferri

I tried to access the web site and got the warning you mentioned!! I hope Matthias can ask his web provider to fix it!

Namir

Re: Virus on HP-collection.org ????

*Message #3 Posted by **J-F Garnier** on 10 Apr 2010, 2:40 a.m.,*
in response to message #1 by Philippe Pizzaferri

I warned Matthias some times ago but didn't get any feedback.

J-F

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Virus on HP-collection.org ????

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HP97 box restore project (you may remember)

*Message #1 Posted by **Alberto Fenini** on 9 Apr 2010, 2:22 p.m.*

Hi everybody
someone of you may remember I was working on a restoration
project of an HP97 box, received in bad conditions.
After I while, since the restoration was too hard for the results
I was getting, I have purchased a flat bad scanner,
and scanning the good parts, I have rebuilt the box.

What you see (look at it compared to a mobile phone size)

is a *mock-up* one third of the original size
The idea is then print this out in original size (I have worked on the original size with the scanner) on a self adhesive film, and then put it on the original box.
Actually I have scanned several rare boxes, mostly for HP accessories, should anybody be interested in these, I'll be more than happy to share those **heavy** files with everyone.
As always, feedbacks are welcome !
Enjoy your weekend, Alberto

Re: HP97 box restore project (you may remember)

*Message #2 Posted by **Juergen Keller** on 9 Apr 2010, 3:24 p.m.,*
in response to message #1 by Alberto Fenini

Ciao Alberto,

you are a real enthusiast! The box looks quite nice. Such small mock-ups might also be interesting to show the box besides the calculator in a showcase.

Next, buy a 3D scanner, scan the cases of some HP calcs and create transparent replica cases so you can see the innards ;-)

Take care, Juergen

Re: HP97 box restore project (you may remember)

*Message #3 Posted by **Alberto Fenini** on 9 Apr 2010, 3:37 p.m.,*
in response to message #2 by Juergen Keller

ciao Jurgen,
well, actually I'm talking to some people in order to understand
I much would it cost a molded replica of a case ....
I'll keep you posted if I make any progress
I may have the printing on film done within the next two weeks,
is failry cheap, I have been talking to a company and the price
is about 35€ per each square meter of printing.
Since it is regardless of the number of objects you put on the surface, you can have ten or more mixed sizes boxes.
Then I'll post some photos of the results
Also, you can morph a 32E box into a more rare 34C box ...
take care my friend, Alberto

Re: HP97 box restore project (you may remember)

*Message #4 Posted by **Juergen Keller** on 9 Apr 2010, 3:44 p.m.,*
in response to message #3 by Alberto Fenini

I'm curious about the results, keep on your interesting work!

Re: HP97 box restore project (you may remember)

*Message #5 Posted by **Massimo Gnerucci (Italy)** on 9 Apr 2010, 3:33 p.m.,*
in response to message #1 by Alberto Fenini

Nice job Alberto!
I would be interested in your kind offer and, since we are both based in Milano (if I am not wrong) we could even meet in person to share our enthusiasm, and a beer too... ;-)

Greetings,
Massimo

Re: HP97 box restore project (you may remember)

*Message #6 Posted by **Alberto Fenini** on 9 Apr 2010, 3:38 p.m.,*
in response to message #5 by Massimo Gnerucci (Italy)

Hi Massimo,

that will be my pleasure, send me an email at alberto dot fenini at consys dot it, take care Alberto

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OT: Zero feedbackers

*Message #1 Posted by **DaveJ** on 9 Apr 2010, 3:07 a.m.*

I've got a HP calc for sale on you-know-where. Haven't sold one in a long time.

I've had two zero feedback bidders so far, both of which I have canceled because I think they are just scammers trying to up the market price. I know it's to my advantage as a seller, but I don't like it as it ruins it for everyone. And if they are the only bidder they almost certainly won't go through and buy it.

I sell lots of other stuff and never get zero bidders. So is this common when selling HP calcs?

Dave.

Re: OT: Zero feedbackers

*Message #2 Posted by **Johnny Bjoern Rasmussen** on 9 Apr 2010, 3:16 a.m.,*
in response to message #1 by DaveJ

Hi Dave
Why not try the classified here?
Cheers!
Johnny

Re: OT: Zero feedbackers

*Message #3 Posted by **Bart (UK)** on 9 Apr 2010, 4:07 a.m.,*
in response to message #1 by DaveJ

Hi Dave,

Two possibilities I can think of:
1) Some people (like myself) are put off by shipping costs from far away continents (although I seem to be in the minority if I go by what I read on the museum forum).
2) Sometimes several potential bidders wait to snipe in the last few seconds.(I was watching a Nixie tube calculator the other day and it went from 99p to £32 in the last 5 seconds).

It can be very unpredictable. As a previous reply said, put a link to it in the museum classifieds section.

OTOH we all had to start as zero feedbackers I suppose, and calculator collecting, particularly HP, seems to be a growing fad. You are right though that we do live in a world with scammers and caution should be applied.

Re: OT: Zero feedbackers

*Message #4 Posted by **DaveJ** on 9 Apr 2010, 5:20 a.m.,*
in response to message #3 by Bart (UK)

> Quote:
>
> Hi Dave,
>
> Two possibilities I can think of:
> 1) Some people (like myself) are put off by shipping costs from far away continents (although I seem to be in the minority if I go by what I read on the museum forum).
> 2) Sometimes several potential bidders wait to snipe in the last few seconds.(I was watching a Nixie tube calculator the other day and it went from 99p to £32 in the last 5 seconds).
>
> It can be very unpredictable. As a previous reply said, put a link to it in the museum classifieds section.
>
> OTOH we all had to start as zero feedbackers I suppose, and calculator collecting, particularly HP, seems to be a growing fad. You are right though that we do live in a world with scammers and caution should be applied.

I have no concerns about the number of bidders, I know the calculator will sell, I know all about sniping and how the system works. It's just that I found it interesting that I've had two zero feedback bidders on a HP calculator, and never on anything else (and I've sold hundreds of items). Something is definitely suss. But not terribly surprising I guess given all the things I hear about various HP dealers on the auction site.

Dave.

Edited: 9 Apr 2010, 5:23 a.m.

Re: OT: Zero feedbackers

*Message #5 Posted by **Juergen Keller** on 9 Apr 2010, 3:38 p.m.,*
in response to message #4 by DaveJ

> Quote:
>
> But not terribly surprising I guess given all the things I hear about various HP dealers on the auction site.

Do you suppose that other HP calc sellers try to keep the prices high with a second (dummy) eBay account?

I think there are some categories of items (e.g., vintage calcs & computers, ...) for which eBay is the easiest way to get one. Perhaps this might be a reason why there are more zero-feedbackers on such items.

Re: OT: Zero feedbackers

*Message #6 Posted by **james summers** on 9 Apr 2010, 4:09 p.m.,*
in response to message #5 by Juergen Keller

> Quote:
>
> I think there are some categories of items (e.g., vintage calcs & computers, ...) for which eBay is the easiest way to get one. Perhaps this might be a reason why there are more zero-feedbackers on such items.

Yup, that was how I discovered eBay - decided I 'needed' a hp-41 to replace a Casio and remembering the mystique that surrounded hps (very expensive and RPN) when I was a kid at school in the 70s I made my first of many hp calculator purchases (35, 45, 67, 21, 25C, 34C, 41C, CV and CX, 10C, 12C, 15C, 16C, 48S and 48G and 71B). Thinking about it, I would have been quite a bit richer if my original zero-feedback bid had been cancelled!!

Have since found eBay to also be a good source of Innocenti Mini Cooper (Italian built version of the sixties British Mini Cooper) spares.

Re: OT: Zero feedbackers

*Message #7 Posted by **DaveJ** on 9 Apr 2010, 6:06 p.m.,*
in response to message #5 by Juergen Keller

> Quote:
>
> Do you suppose that other HP calc sellers try to keep the prices high with a second (dummy) eBay account?

That is exactly what I suppose.

> Quote:
>
> I think there are some categories of items (e.g., vintage calcs & computers, ...) for which eBay is the easiest way to get one. Perhaps this might be a reason why there are more zero-feedbackers on such items.

Perhaps. But I have contacted these people and they do not reply. Hence they are almost certainly fake accounts.

Dave.

Re: OT: Zero feedbackers

*Message #8 Posted by **Raymond Del Tondo** on 9 Apr 2010, 7:10 p.m.,*
in response to message #7 by DaveJ

Hi,

over the last year or so, I also had some bidders with zero to below-ten feedback points.
I also had slight doubts whether they were serious buyers and would actually pay.

However each of them was a serious buyer so far.

A few years ago, there were some unreliable bidders who did cost me time and nerves.
Then I decided to activate some restrictions for bidders, and actually no fake bidder showed up ever since:-)

Raymond

Re: OT: Zero feedbackers

*Message #9 Posted by **Juergen Keller** on 10 Apr 2010, 2:20 p.m.,*
in response to message #8 by Raymond Del Tondo

I had similar experiences/doubts. But when looking back I conclude that shipping is the biggest problem (especially when you ship worldwide). I had much more shipping related problems than problems with non-paying customers.

People on eBay are just a mirror image of the society; there are good guys and bad guys, but the bad guys are only a minor fraction, as in real life.

But back to DaveJ's suspicion: is it really that easy to have a normal account for selling and a second account to play whatever games you want to play?

Re: OT: Zero feedbackers

*Message #10 Posted by **Bill (Smithville, NJ)** on 12 Apr 2010, 6:48 a.m.,*
in response to message #1 by DaveJ

Hi Dave,

Ummmmm, Zero Feedback Bidders.

I seem to remember that I was once a Zero Feed Back Bidder as we all were at one time.

Question: How does a person get feedback if they are never allowed to bid? Chicken and the Egg.

I would suggest you contact them, see if they will give you references, such as web sites they mey have posted at, or even a phone number. When I sell on the HPMuseum web site, I always check the person out who is wanting to purchase what I have offered. I also check their shipping address to see if it matches their name (not always possible I know).

Of couse, the auction site is a different animal. I'd be wary if you only receive Zero Feedback bidders - any HP calculator should also receive some valid bidders with feedback. I miss the days where the bidders weren't hidden and I could check to see what else they had bid on.

Bill

Re: OT: Zero feedbackers

*Message #11 Posted by **DaveJ** on 12 Apr 2010, 8:30 a.m.,*
in response to message #10 by Bill (Smithville, NJ)

I did contact the bidders, they did not reply, therefore they are almost certainly fake accounts.

Dave.

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HP-67 Battery Pack

*Message #1 Posted by **Robert Hollyer** on 9 Apr 2010, 12:55 a.m.*

Recently I decided to replace my Classic series NiCd battery packs with non-rechargeable batteries. Since I wanted to easily swap out the disposable batteries, I purchased AAA battery holders that use 3 cells. These battery holders are somewhat smaller than the classic series battery cavity opening, so I padded the extra space with closed cell foam. I then attached copper tape to the underside of the battery packs, and soldered the connections. The new holders work fine.

My question for the forum members is regarding the voltage tolerance of the Classic series. I chose to install Lithium batteries for the usual reasons, energy density, shelf life, etc, but I didn't give much advance thought to the overall battery pack voltage. However, as I was verifying the battery pack polarity, I noticed that the cumulative voltage displayed on my DMM was about 5.3V. This elevated voltage should have been an obvious consideration prior to building the battery packs. Now I am wondering if I should replace the 3 cell holders with 2 cell holders to drop the voltage down to the range of the original 3 cell NiCd packs, 3.6V.

I haven't looked at a Classic power supply circuit for awhile, so I can't recall if HP used a Zener reference to set the internal voltage levels. I am curious if the internal power supplies are regulated and if the over voltage due to the Lithium batteries is a concern? I should mention that my first test unit is an HP-67, with a rebuilt card reader.

Re: HP-67 Battery Pack

*Message #2 Posted by **John Robinson** on 9 Apr 2010, 10:41 p.m.,*
in response to message #1 by Robert Hollyer

Hi Robert,

I regularly run classic series from 3 x Alkaline AA batteries with no adverse affects. With all "classics", (and even though the 67 is not really a classic, I think it's still the same), the battery voltage goes only to a DC-DC converted inside the calc which generates the three separate voltages the calc needs. And yes, the internal DC-DC converter output voltages are voltage limited by a zener diode.

For more information, take a look at Jacques LaPorte page on DC-DC converters in HP classics

HTH

Cheers, John

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HP-19C Paper

*Message #1 Posted by **Wingman54** on 8 Apr 2010, 4:17 p.m.*

Hi, still have an HP-19C thermal prinitng calculator that I STILL use on a daily basis at my current job. Trying to find a supply of the thermal paper and the Internet sites I've tried talk to me like I'm nuts. Maybe I am. Help..... anybody have any suggestions? Appreciate any/all help.

Re: HP-19C Paper

*Message #2 Posted by **DavidShenk** on 8 Apr 2010, 4:53 p.m.,*
in response to message #1 by Wingman54

If it takes the same size paper as the 82143A, I found it at Staples, but they probably have it at any office supply store. They actually have packages of thermal calculator paper.

Edit: I can't find a reference to paper width in the 19c manual, but length is only 22'. The shortest rolls they have at the office store are 85', so as long as the width is the same, you could "roll your own".

Dave

Edited: 8 Apr 2010, 5:00 p.m.

Re: HP-19C Paper

*Message #3 Posted by **Thomas Okken** on 8 Apr 2010, 5:50 p.m.,*
in response to message #1 by Wingman54

The HP-19C (and the HP-10) does **not** use the same size paper as the HP-82143A; it uses narrower paper and the paper holder also requires a smaller roll diameter.

The topic comes up every once in a while around here. There is some information in the forum archives, for example this thread looks like it might be helpful (the 19C is mentioned at the end), and so does this one. Google is your friend.

Edited: 8 Apr 2010, 6:36 p.m.

Re: HP-19C Paper

*Message #4 Posted by **DavidShenk** on 8 Apr 2010, 7:19 p.m.,*
in response to message #1 by Wingman54

It looks like this place has a size that would fit:

http://www.paperrollsplus.com/thermal%20paper.htm

Dave

Re: HP-19C Paper

*Message #5 Posted by **Michael de Estrada** on 9 Apr 2010, 8:21 p.m.,*
in response to message #4 by DavidShenk

Well, I know the width is 1-1/2" and the only roll diameter listed is 2-1/2" which is way too big (should be about 1-1/2"), so you would have to discard much of the roll. I wish I could remember where I found mine, I think Katie gave me a source.

Re: HP-19C Paper

*Message #6 Posted by **DavidShenk** on 10 Apr 2010, 12:37 a.m.,*
in response to message #5 by Michael de Estrada

There is one on that page I believe would work without any modification:

15XS 1 7/16" x 1" 18 12 rolls/case $19.50

It's 1/16 smaller in width so I don't know if that would cause a problem, but it also has only 18' on the roll, so it looks like the diameter would be OK.

Dave

Re: HP-19C Paper

*Message #7 Posted by **Michael de Estrada** on 10 Apr 2010, 9:38 a.m.,*
in response to message #6 by DavidShenk

Actually, it won't work. I know, because I've tried it. It's the same stuff as Radio Shack Cat. No. 65-708, and that mere 1/16" difference in width is sufficient for it not to engage the feed rollers properly and not fill the guide slot. The paper feeds unevenly and gets crooked as it advances.

Re: HP-19C Paper

*Message #8 Posted by **Bruce Bergman** on 9 Apr 2010, 12:20 a.m.,*
in response to message #1 by Wingman54

Just buy the stuff from Staples. I do that for all of my printers, including the 19c and the 97. It's actually pretty cheap. Just make sure the width isn't too much and then you're set.

If you can't find the exact stuff, let me know and I'll go to my local Staples and track it down.

thanks,

Bruce

Re: HP-19C Paper

*Message #9 Posted by **Wingman54** on 12 Apr 2010, 11:49 a.m.,*
in response to message #1 by Wingman54

Thank you all for your great suggestions. I think I'm going to go with the 38mm variety that I found at Thermal Paper Warehouse. It's quite long and I'll just have to roll my own on the rolls that I kept.

Re: HP-19C Paper

*Message #10 Posted by **Wingman54** on 13 Apr 2010, 9:43 p.m.,*
in response to message #1 by Wingman54

And here's the link for the paper for anyone else's benefit:

http://www.transactsupplies.com/store/38mm-x-40ft-Thermal-Taxi-Cab-Meter-Rolls-p-18904.html

It's a 38MM X 40 FT Cab Meter Roll that SHOULD work just fine. I'll re-post if it doesn't work.

Re: HP-19C Paper

*Message #11 Posted by **Wingman54** on 19 Apr 2010, 7:05 a.m.,*
in response to message #10 by Wingman54

The 38mm paper roll discussed above WORKS LIKE A CHARM!!!!!!! Got a quan of 100 rolls for like $30 (enough for my lifetime!) Perfect width and it's darker than the royal blue of the original paper from H-P. You will have to strip off the first 3-4 feet though as the roll's a little too fat to fit down into the paper well and close the top door. Still gives you 36 feet which is better than the original 22 feet.

Edited: 19 Apr 2010, 7:07 a.m.

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More work in progress

*Message #1 Posted by **Eric Smith** on 8 Apr 2010, 4:23 p.m.*

Added three more photos.

Richard Ottosen replaced the keyboard and display kludge I hand-wired last month with a DIY-RPN 3 circuit board with only the keyboard, LCD, and LCD power supply stuffed, and wired to a header for a ribbon cable to the EFM32 development kit. There's a mostly 41-like laminated photo paper overlay attached by tape to the keys. This is a huge improvement for development use.

I've made some improvements to the software, mostly to the keyboard scan/debounce, LCD driver, and power management. The LCD contrast can now be adjusted. There's still a lot of work to be done on the software infrastructure, and I should be able to further reduce the power consumption in the light sleep and deep sleep states.

The calculator software has been coming along slowly, though I should be able to make fairly rapid progress now that the infrastructure code has reached the point of being fairly useful.

Edited: 8 Apr 2010, 4:25 p.m.

Re: More work in progress

*Message #2 Posted by **Brian Walsh** on 8 Apr 2010, 8:17 p.m.,*
in response to message #1 by Eric Smith

Great stuff, Eric! Keep it up!

Re: More work in progress

*Message #3 Posted by **hugh steers** on 8 Apr 2010, 8:43 p.m.,*
in response to message #2 by Brian Walsh

Looks cool.

so what's the EFM32 SDK like? is it stable or new with bits missing. have they supplied useful libraries or is it all writing to the metal :-)

also, which CPU variant are you using - or is this still an option?

good luck!

Re: More work in progress

*Message #4 Posted by **Eric Smith** on 9 Apr 2010, 12:27 a.m.,*
in response to message #3 by hugh steers

The supplied libraries are fairly minimal. I'm programming the bare metal, which is generally what I want. I'm currently using the IAR Kickstart package, which can be downloaded at no charge, but only

supports executables up to 32KB. IAR does provide a standard C library, but I'm not using much of it. I use printf() for debugging, but it's huge, so I won't use it in the real calculator. I'll most likely be switching the GCC anyhow.

The EVM without the segmented LCD driver uses the EFM32G290F128, which has 128KB of flash and 16KB of RAM. It's in a BGA package, which we don't want to deal with, so when we lay out a PCB it will be for the EFM32G280F128, which is in a 100 TQFP. It has the same memory as the 290 but slightly fewer GPIO pins.

It is expected that there will be new parts with larger memory announced later this year, some of which might be pin-compatible with some of the current parts, which would provide a convenient upgrade path.

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Wanted: Online database for displaying collection

*Message #1 Posted by **Johnny Bjoern Rasmussen** on 8 Apr 2010, 12:31 p.m.*

Hi there folks
Does anyone here know of a easy to use free online database that I can use for displaying my collection?
I do not have the time to start programming PHP and MySql right now...
Thanks!

Johnny

Re: Wanted: Online database for displaying collection

*Message #2 Posted by **bill platt** on 8 Apr 2010, 1:02 p.m.,*
in response to message #1 by Johnny Bjoern Rasmussen

You could try using a journal website, for instance Livejournal. Or you could use photo sharing sites...

Re: Wanted: Online database for displaying collection

*Message #3 Posted by **Andrés C. Rodríguez (Argentina)** on 8 Apr 2010, 2:10 p.m.,*
in response to message #2 by bill platt

Photosharing with Google's "Picasa" is free, friendly, and powerful enough. There are other options, for sure.

Re: Wanted: Online database for displaying collection

*Message #4 Posted by **Juergen Keller** on 8 Apr 2010, 1:49 p.m.,*
in response to message #1 by Johnny Bjoern Rasmussen

A while ago I played with Zoho Creator. I don't remember why I stopped using it, but this kind of free stuff often has some nasty limitations to make you update to the paid version. But probably, you are lucky and it fits your needs.

Cheers, Juergen

Re: Wanted: Online database for displaying collection

*Message #5 Posted by **Johnny Bjoern Rasmussen** on 8 Apr 2010, 3:58 p.m.,*
in response to message #4 by Juergen Keller

Thanks. The Soho looks interesting. Something like what I was looking for.

Re: Wanted: Online database for displaying collection

*Message #6 Posted by **PeterP** on 8 Apr 2010, 5:42 p.m.,*
in response to message #4 by Juergen Keller

Juergen, just in case you know - do they also allow pictures and pdf download links?

Cheers

Peter

Re: Wanted: Online database for displaying collection

*Message #7 Posted by **Juergen Keller** on 8 Apr 2010, 6:34 p.m.,*
in response to message #6 by PeterP

If I remember correctly, they allow images; but I'm not sure if they support attachments like PDF etc.

[NT] Thanks!

*Message #8 Posted by **PeterP** on 9 Apr 2010, 10:11 a.m.,*
in response to message #7 by Juergen Keller

Peter

Re: Wanted: Online database for displaying collection

*Message #9 Posted by **Ed Sowell** on 8 Apr 2010, 6:48 p.m.,*
in response to message #1 by Johnny Bjoern Rasmussen

Johnny, Don't know exactly what you are looking for, but perhaps a photo album would do. For eaample, see Jalbum It's free, allows some free online storage for your albums, and reallr easy to use. With eash photo you can show an extensive "comment." See how I have used it, click here and look at the rain meter repair.

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Ram card

*Message #1 Posted by **John Mosand** on 8 Apr 2010, 6:44 a.m.*

I have a 128K ram card (82215A). When inserting it in my 48SX, I get "Invalid Card Data". At the same time, the "Low Battery" indication comes on. I have put a new battery in the card. No difference. When I remove the card, everything seems normal. What can be the matter?

Re: Ram card

*Message #2 Posted by **Raymond Del Tondo** on 8 Apr 2010, 7:32 a.m.,*
in response to message #1 by John Mosand

On the SX, an easy way to "format" a RAM card is to temporarily merge it with main RAM, then unmerge (free) it again.

So if you have the card in port 1, first perform **1 MERGE** ,
and after a few seconds **{} 1 FREE** . The brackets to the left are an empty list.

HTH

Re: Ram card

*Message #3 Posted by **Ron G.** on 12 Apr 2010, 1:21 p.m.,*
in response to message #1 by John Mosand

"Invalid Card Data" is the expected response, until you have data on the card. It does not indicate a bad card or other problem.

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HP82165A and HP82169A

*Message #1 Posted by **Willy Janssens** on 8 Apr 2010, 5:36 a.m.*

Have this products available for sale. Someone interested?

Re: HP82165A and HP82169A

*Message #2 Posted by **Garth Wilson** on 8 Apr 2010, 1:49 p.m.,*
in response to message #1 by Willy Janssens

I'm interested in the 165 if I can afford it at the moment. I have the 169 and 164. You can Email me at wilsonmineszdslextremezcom (replace the z's with @ and .)

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Got that? [off topic]

*Message #1 Posted by **Paul Dale** on 8 Apr 2010, 2:09 a.m.*

Completely off topic but fun nonetheless...

(Be sure to read the explanation below before loading the video.)

Got That?

Several years ago, Rockwell International decided to get into the heavy duty transmission business. They were getting ready to tape a first introduction video, and, as a warm up, the professional narrator began what has become a legend within the trucking industry. This man should have won an Emmy for his stellar performance. Now remember this is strictly off the cuff, nothing is written down. It became the biggest talk in the industry, but had nothing to do with the new product which they were introducing.

http://home.comcast.net/~steveham21/turbo.mpg

Re: Got that? [off topic]

*Message #2 Posted by **Eric Smith** on 8 Apr 2010, 2:54 a.m.,*
in response to message #1 by Paul Dale

I don't believe it was off the cuff, given how much similarity there is to the better-known turboencabulator paper.

Re: Got that? [off topic]

*Message #3 Posted by **Howard Owen** on 8 Apr 2010, 5:07 a.m.,*
in response to message #1 by Paul Dale

There are tons of these on YouTube. This one features the same comic, with a longer script. It's not as tight as the one you posted, so I'm guessing it's an earlier offering. But it has some hilarious little throwaways that didn't make the cut, like the mention of the Peruvian Institute of Scatological Science.

This one is still under the Rockwell Logo, but features a different comic. To my taste, he's not as funny as the other guy. The script sounds very similar to the one you posted.

This video features the same actor, looking quite a bit older. He's joined by two other comics. This is hands down the funniest of the videos I watched, though it didn't seem promising up front. There is lots of new material.

Then, we have this video, that comes from Sun Microsystems. It has a new actor (a Sun manager no doubt) who really really sucks. The script has a few minor tweaks, but is essentially the same. The differences that stand out are that the product name has been changed to the "Heisenberg Compensator," and that the shtick is illustrated with Sun hardware video amd animations.

Hard to tell from the video, but this guy may be claiming he came up with the turboencabulator routine. Either

that, or the comment up front is part of the gag. Either way, this presentation at a GE retiree luncheon from 2008 is funny to me because it's geekier. It's also a good example of why most engineers shouldn't quit their day jobs for stand up :)

The ending is hilarious. I wonder who makes the light bulb?

(Response referred to below was mine. I rolled it into this posting.)

Edited: 8 Apr 2010, 11:23 a.m. after one or more responses were posted

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HP45 Original Price

*Message #1 Posted by **Bon** on 8 Apr 2010, 12:06 a.m.*

I purchased an HP45 just after they were released. I had to travel to an HP business office to do this. I picked up and paid for the calculator and wrote a check for something like $750.00!! Several weeks later, and out of the blue, I received a refund check from HP. They sent me the difference between what I paid and the $395 "final" retail price. I was quite surprised as I didn't have any idea that they were going to do this! I was a student of electrical engineering at the time. Money was precious but I absolutely needed the edge that the HP45 offered as I didn't know how to use a slide rule at all. Whew! That sure was a lot of money in the early 70's!

Re: HP45 Original Price

*Message #2 Posted by **Michael de Estrada** on 8 Apr 2010, 12:20 a.m.,*
in response to message #1 by Bon

Well, I had to pay $395 for my HP35 in 1972, before they dropped the price to $295 in 1973.

Re: HP45 Original Price

*Message #3 Posted by **Mike Morrow** on 8 Apr 2010, 12:31 a.m.,*
in response to message #1 by Bon

Funny.

I have never known of ANY engineering student before the mid-1970s who was NOT very comfortable with the slide rule. Anyone otherwise would have chosen the wrong profession.

I was an EE undergrad from 1970 to 1974. I was very interested in the HP product line beginning with the HP-35 in 1972, followed by the HP-45 in 1973. I never saw an HP-45 discounted, yet I never saw a price greater than $395 ($2000 in 2010!) for it. I never saw a price for any HP handheld (HP-35, 45, 80) that exceeded $395 until the HP-65 appeared at $800 in 1974.

My interest in HP at that time was academic...the HPs were an extraordinarily expensive way to do the calculations that could be performed by a $35 slide rule. That's all that any engineering student needed at that time, at least at Georgia Tech. Professors did NOT allow electronic calculators on tests, so slide rule expertise was mandatory, no matter how much money a very few students had to spend on unnecessary trinkets like an HP.

Edited: 8 Apr 2010, 12:33 a.m.

Re: HP45 Original Price

*Message #4 Posted by **bill platt** on 8 Apr 2010, 1:06 a.m.,*
in response to message #3 by Mike Morrow

That's an interesting anecdote. When did GT change policy and allow electronics?

Re: HP45 Original Price

*Message #5 Posted by **Mike Morrow** on 8 Apr 2010, 10:20 a.m.,*
in response to message #4 by bill platt

Kindly observe that my comment states that calculators (if that is what you mean by the ambiguous term "electronics") were NOT allowed on any *test* that I knew about at Georgia Tech, more than 35 years ago. Logically then, I can not answer your charcteristically dismissive question about when calculators became acceptable for tests at GT. I graduated before that era.

Are we clear?

Now, to other things. Here's some more price equivalents, then vs. now, with inflation data from US BLS Inflation Calculator:

As a student I could only afford, barely, a Bomar 901 four-function calculator ($130 in 1972, $675 in 2010). I bought the new TI scientific SR-50 ($150 in 1974, $660 in 2010) after I graduated and was working in the US Navy nuclear program.

I still have these units, working. Those were fun times, watching the competition between HP and TI. TI one-up'd the HP-35 in 1974 with the SR-50, the HP-45 in 1975 with the SR-51A, the HP-65 in 1975 with the SR-52, and the HP-55 in 1976 with the SR-56. The technology and capability of the HP-67 ($450 in 1977, $1610 in 2010) was very soundly trumped by the TI-59 ($300 in 1977, $1075 in 2010) in most respects except the extemely important one of reliability. For that reason alone, I ultimately selected the HP-67 and -97 for use in several military (submarine) applications, reserving the TI-59 for "hobby" use.

Re: HP45 Original Price

*Message #6 Posted by **bill platt** on 8 Apr 2010, 10:34 a.m.,*
in response to message #5 by Mike Morrow

> Quote:
>
> Are we clear?

whatEVER...

Re: HP45 Original Price

*Message #7 Posted by **Walter B** on 8 Apr 2010, 2:01 a.m.,*
in response to message #3 by Mike Morrow

> Quote:
>
> I never saw an HP-45 discounted, yet I never saw a price greater than $395 ($2000 in 2010!) for it. I never saw a price for any HP handheld (HP-35, 45, 80) that exceeded $395 until the HP-65 appeared at $800 in 1974.

So you never traveled at that time. I remember a price of 1200 DM (well, 1199 DM ;)) for an HP-45 in late 1973, when I first saw an ad sheet for it at my university. Looking at the prices of HP calcs today, that trade policy didn't change :(

Re: HP45 Original Price

*Message #8 Posted by **Bon** on 9 Apr 2010, 9:26 a.m.,*
in response to message #3 by Mike Morrow

I was not your traditional engineering student of the 70's. Sadly, I was clueless in high school and avoided any and all science and math. It was only later that I realized my calling. I entered the College of Engineering for a degree in electrical engineering without sufficient preparation and without ***any*** knowledge of the slide rule. I really, really had to scramble! I needed every advantage I could get and the HP45 was such an advantage!! I died when my batteries died. In large part I owe my success to my HP45 calculator - seriously! I still practice electrical engineering and have the title of Director of Research of which I'm very proud. I still use RPN HP calculators to this day. Regards!

Re: HP45 Original Price: a question for you all

*Message #9 Posted by **Andrés C. Rodríguez (Argentina)** on 8 Apr 2010, 9:48 a.m.,*
in response to message #1 by Bon

Some time ago I found references about a "sub-compact" car (new, not used) costing around U$S 2000 in the USA around 1970 (i.e.: Ford Pinto). I would like to hear from you if that was true and, if is so possible to say that, at the time of it's introduction, an HP-65 costed about a third of the price of such a car.

BTW: My USA electronics magazines from 1974-1975 costed in the range of 0.50 or 0.75 U$S per issue; today prices for current, similar items are 10x those prices... (regretably, in my own country, inflation has been about 1E10 between 1970 and 1990).

Re: HP45 Original Price: a question for you all

*Message #10 Posted by **Mike Morrow** on 8 Apr 2010, 10:36 a.m.,*
in response to message #9 by Andrés C. Rodríguez (Argentina)

> Quote:
>
> ... a "sub-compact" car (new, not used) costing around U$S 2000 in the USA around 1970...if is so possible to say that, at the time of it's introduction, an HP-65 costed about a third of the price of such a car.

Yes, this is quite accurate. I purchased a new California-emissions (higher cost) 1974 Opel Manta (Adam Opel AG) for $2800. Any way that one looks at it, HP calculators were very very expensive 35 years ago.

If one did not insist on a new car, it was possible to buy a reasonably servicable used car for the price of a new HP-45 (not 65) in 1973. I mentioned that possibility in a "Memories" post I made on this site in the late 1990s: HP-45 vs. Used Car.

Re: HP45 Original Price: a question for you all

*Message #11 Posted by **Bart (UK)** on 8 Apr 2010, 11:59 a.m.,*
in response to message #10 by Mike Morrow

Whilst we are making things clear, in your memory you say:

> Quote:
>
> I am most attached to the HP42S, the best **pre**-RPL calculator ever made.

Which should read **non**-RPL, as the HP28C preceded it by more than a year.

The 28C was my first calculator, which I purchased in my second year of university for around ZAR1000, and comparing that to the annual cost of studies of ZAR3500 IIRC, it was a lot of money. I was driving in a used car purchased for ZAR600.

Re: HP45 Original Price: a question for you all

*Message #12 Posted by **Martin Pinckney** on 8 Apr 2010, 12:03 p.m.,*
in response to message #9 by Andrés C. Rodríguez (Argentina)

In 1968-69 I remember seeing billboards advertising the VW Beetle sedan for $1995.

Re: HP45 Original Price

*Message #13 Posted by **Wingman54** on 8 Apr 2010, 4:14 p.m.,*
in response to message #1 by Bon

Yep, bought my HP-45 at Penn State in 1973 for the going price of $395. Still had it until about 10 years ago.

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Funny demotivational pic about HP calculator fans

*Message #1 Posted by **bhtooefr** on 7 Apr 2010, 10:16 p.m.*

Note: may be NSFW, depending on your work's standards. Nothing's actually shown, though:
http://verydemotivational.com/2010/03/16/demotivational-posters-geeks/

Clearly, the 50g > a woman.

Edited: 7 Apr 2010, 10:17 p.m.

Re: Funny demotivational pic about HP calculator fans

*Message #2 Posted by **db (martinez, ca.)** on 7 Apr 2010, 11:13 p.m.,*
in response to message #1 by bhtooefr

Clearly; they have vastly improved the tactile feedback on the 50G since i handled one.....

Re: Funny demotivational pic about HP calculator fans

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 8 Apr 2010, 8:30 a.m.,*
in response to message #1 by bhtooefr

HP50G? Where? Is there any calculator in the picture? B^)

Re: Funny demotivational pic about HP calculator fans

*Message #4 Posted by **Gene Wright** on 8 Apr 2010, 8:35 a.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

Don't worry...he's not a real HP user.

The 50g is in algebraic mode. That explains everything!

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TI Selling new TI NSpire Touchpad

*Message #1 Posted by **Namir** on 7 Apr 2010, 9:14 p.m.*

Hi All,

I just got an email from TI announcing that they are starting to take orders for the new TI Spire CAC/non-CAS Touchpad. I went a head and placed an order for the calculator and for the accompanying software.

Namir

Re: TI Selling new TI NSpire Touchpad

*Message #2 Posted by **Eddie W. Shore** on 8 Apr 2010, 12:39 a.m.,*
in response to message #1 by Namir

I just ordered the CAS unit, it should arrive at my house tomorrow.

Re: TI Selling new TI NSpire Touchpad

*Message #3 Posted by **Namir** on 8 Apr 2010, 9:39 a.m.,*
in response to message #2 by Eddie W. Shore

Oh Cool ... I am away from home, visiting with my son in Flagstaff, AZ.

Namir

Re: TI Selling new TI NSpire Touchpad

*Message #4 Posted by **Eddie W. Shore** on 10 Apr 2010, 2:47 a.m.,*
in response to message #3 by Namir

The touchpad arrived. I find it easier to type notes on the Touchpad version rather than the clickpad - despite the alpha keys are smaller on the Touchpad version.

In addition, any public library objects must be saved in the MyLib folder, Problem 1. Otherwise refreshing the libraries won't pick up the objects for the catalogue (I consider this a bug)

Re: TI Selling new TI NSpire Touchpad

*Message #5 Posted by **Don Shepherd** on 10 Apr 2010, 8:25 a.m.,*
in response to message #4 by Eddie W. Shore

Eddie, it's not a bug if they tell you about it.

Student Guidebook page 408.

Re: TI Selling new TI NSpire Touchpad

*Message #6 Posted by **Eddie W. Shore** on 10 Apr 2010, 11:11 a.m.,*
in response to message #5 by Don Shepherd

My bad. Thanks, Don.

Re: TI Selling new TI NSpire Touchpad

*Message #7 Posted by **Don Shepherd** on 10 Apr 2010, 11:44 a.m.,*
in response to message #6 by Eddie W. Shore

Maybe for the next version they will allow libraries in any problem within a file, not just the first. I agree with you, that would make sense.

Re: TI Selling new TI NSpire Touchpad

*Message #8 Posted by **hugh steers** on 8 Apr 2010, 7:30 a.m.,*
in response to message #1 by Namir

Hi,

do you know if there's an SDK for the new nspire? i had a quick look on the ti site and didnt find anything. i saw the 89/92 sdk, but nothing for the nspire?

thanks.

Re: TI Selling new TI NSpire Touchpad

*Message #9 Posted by **Don Shepherd** on 10 Apr 2010, 11:48 a.m.,*
in response to message #8 by hugh steers

Hugh, I don't know if that is possible on the NSpire. It doesn't support "apps" in the traditional TI-83/84 sense, only the applications it comes with (calculator, graphs, etc.). People have written custom .tns libraries (conics, linear algebra, and number theory), but those can be done on any NSpire. I read that someone developed something to let you run C code on the NSpire, but it seems to require a much earlier NSpire operating system, so I doubt that is very viable.

TI NSpire Touchpad now available in UK (was Re: TI Selling new TI NSpire Touchpad)

*Message #10 Posted by **Bart (UK)** on 20 Apr 2010, 6:20 p.m.,*
in response to message #1 by Namir

All this talk, the nice pics on this forum... "resistance is futile", my non-CAS Nspire Touchpad arrived today and I have spent most of my evening playing with it :).

I ordered it from a supplier with "educational supplies" in their title, so my wife (a teacher) who answered the door when it was delivered, was very curious and all around me until I opened it, and then replied somewhat in disgust "oh, another one of *those*". To quote a tagline I've seen on other collector forums "my biggest fear is that when I die, my wife will sell it all for what I told her it cost".

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HP 82104A card reader, fork-shaped brass tongues, REPAIR PROBLEM

*Message #1 Posted by **Markus Sanke** on 7 Apr 2010, 5:03 p.m.*

Hello HP-calc-communuity,

I hope the collected experience of this outstanding forum can give me some information to solve a serious problem:

I recently repaired the "gummi wheel issue" of my HP 82104A card reader, using the "O-ring method" described in several documents here. That worked very fine, the movement of the magnetic card through the slit is now smooth and regular.

BUT: While opening and disassembling the card reader's case the two fork-shaped brass tongues and their respective small(in fact very small!) plastic counterparts FELL OUT. I afterwards found out that the uppermost (i.e. far from display) tongue serves as a simple SWITCH to turn the motor on and off while inserting and propulsing the card through the reader. But what purpose is the second, lower (i.e. nearer to the display) tongue? What movement must this part perform while a card is read, and when? The small plastic counterpart of this tongue is different from the other one, it is even smaller, smoother and has no distinct "nose" or cam. I don't get this tongue to bend and move upward while a card is read in the reader, in no stage of the process... The other tongue bends up very well when a card is inserted and always closes the (funny construction...) electric traces on the printed circuit covering the whole installation, and it opens again when the work is done. BUT the other strip seems to have nearly no effect. It does NOT move up in any stage of the card movement process. This is why I always get a "MALFUNCTION"-message. I think the signal from the second circuit is responsible for this error.

I hope I could describe my problem precise enough for You to know what my issue is. So I can only beg You to PLEASE help me with any information You can give me! What can I do, what must I observe, what method of repairing and testing do You propose? If You need more information I could of course publish some photos with additional text showing the parts I mean.

Thank You very much in advance for any support and best wishes from Bamberg, Germany!

Markus Sanke

Re: HP 82104A card reader, fork-shaped brass tongues, REPAIR PROBLEM

*Message #2 Posted by **Ignazio Cara (Italy)** on 8 Apr 2010, 4:44 a.m.,*
in response to message #1 by Markus Sanke

Hello Markus, the second tongue enables the magnetic head to read/write the card. If this circuit is not closed by the contact of the tongue with the upper contact, you will always have an error message. It's somewhat strange and unusual that the two contacts and two cams have gone amiss. After this maybe you have made an error in reassembling the contact and one cam. If you can, post some image of the actual assembly so we could see if there is any error in the reassembly.

Regards

Ignazio

Re: HP 82104A card reader, fork-shaped brass tongues, REPAIR PROBLEM

*Message #3 Posted by **Markus Sanke** on 8 Apr 2010, 11:44 a.m.,*
in response to message #2 by Ignazio Cara (Italy)

Hello Ignazio,

thank You very much for Your quick answer! I already thought that the second, not working switch is for starting and stopping the reading process or something like that. I made some deatiled photos of the module as it is now, and I wrote some additional text into some of the pictures.

Here are the links, please take a moment and look:

The assembled Module The lowest picture shows the change when a card is gently put in the slit.

The assembled Module (w/text)

The opened Module

The opened Module (w/text)

The Printed Circuit, loose (w/text)

The ends of the fork shaped brass tongues

The ends of the fork shaped brass tongues (w/text)

The two cams that should move when the card is pulled through the reader, but only the upper one works (w/text)

Testing functionality

Testing functionality (w/text)

It would be of graet help for me if You could post me any idea. Maybe You see one part that is broken, not on the right place or otherwise misused. Thanks in advance for Your answer!

Best wishes and warmest greetings to Italy (a country I love so much since I am a professional archaeologist...)

Markus

Edited: 8 Apr 2010, 11:52 a.m.

Re: HP 82104A card reader, fork-shaped brass tongues, REPAIR PROBLEM

*Message #4 Posted by **Ed Sowell** on 8 Apr 2010, 12:33 p.m.,*
in response to message #3 by Markus Sanke

Having only seen the inside of the HP 97 reader I can't be sure, but it looks like you are missing the tiny nylon balls that are supposed to be in the cavities to the right.

Re: HP 82104A card reader, fork-shaped brass tongues, REPAIR PROBLEM

*Message #5 Posted by **Ignazio Cara (Italy)** on 9 Apr 2010, 2:25 a.m.,*
in response to message #4 by Ed Sowell

Hello Ed. The card reader of the 41C don't have the same system of 97 and 65/67. In place of the spheres there are two small cams, operated by the card when it's inserted.

Regards

Ignazio

Re: HP 82104A card reader, fork-shaped brass tongues, REPAIR PROBLEM

*Message #6 Posted by **Diego Diaz** on 8 Apr 2010, 11:57 p.m.,*
in response to message #3 by Markus Sanke

Hi Markus,

I've taken a look at your pictures and think I may shed some light with your Card Reader issue.

First, to answer your question regarding the glass tipped part in the circuit: it is a phototransistor, it's used by the Write Protect detection circuit. Therefore it has nothing to do with the reading trouble.

The shape of the actuators (the plastic balancing pieces) is indeed diferent as they should. The smaller one is for the head activation circuit. While the larger is for the motor driver circuit. They both look good in your pictures.

The contact blades ("tongues") don't look that good though... the faulty one shows a slight bending which, in my opinion, may prevent it to work properly. Both blades are identical, so you can swap them to test if the actuators are working.

Should this was the case, my advice at this point is that you try to gently unbend it in order to turn it back to the shape of the working one. You may be able to to this just with your finger tips.

Hope this helps.

Best wishes from the Caribbean Sea.

Diego.

Edited: 9 Apr 2010, 12:04 a.m.

Re: HP 82104A card reader, fork-shaped brass tongues, REPAIR PROBLEM

*Message #7 Posted by **Ignazio Cara (Italy)** on 9 Apr 2010, 2:19 a.m.,*
in response to message #3 by Markus Sanke

Hello Markus, Very good pictures, and the issue is clear now. The Diego's analysis it's everything you need. Regards and good luck.

Ignazio

Hi Diego, are you fine? Regards from Sardinia's island.

Re: HP 82104A card reader, fork-shaped brass tongues, REPAIR PROBLEM

*Message #8 Posted by **Markus Sanke** on 9 Apr 2010, 6:32 a.m.,*
in response to message #7 by Ignazio Cara (Italy)

Hello to You all (wow, around the whole globe, as I see...)!

Thank You Ignazio, Diego and Ed for Your answers; I'm happy to hear that my parts are at least not too damaged.

Two short informations would help me to finally solve my problem:

#1 While moving through the slit, what is the exact time-scheme the two contact blades should operate ("up" and "down" in relation to time or card-way). I description or diagram would help!

#2 Could You describe the correct form of the blades? Must they be absolutely flat except for the two side-parts bending upward? Or do they have a kind of "pre-bending"?

I will try the changing of the two blades again, but I probably already did it without any improvement. I have the impression that the small actuator for the defective blade is not moved/rotated enough by the card. Maybe this is also due to a wrong pressure or distance of the two module halves?

Thanks again! Maybe one of You finds time to answer again! (I am very impressed of the kind helpfulness in this forum!!!!)

Best wishes

Markus

Re: HP 82104A card reader, fork-shaped brass tongues, REPAIR PROBLEM

*Message #9 Posted by **Diego Diaz** on 9 Apr 2010, 10:53 a.m.,*
in response to message #8 by Markus Sanke

Hi Markus, Ignazio, all...

(Ignazio, thanks for asking, I'm fine and hope you're also doing well. Currently in the Dominican Republic taking some weeks of rest... well, more or less... ;-)

To your questions Markus:

The first actuator to operate is the (so called) motor driver. In fact this is properly a Card Insertion detect switch by means of which the internal circuit is waked up and, if necessary, the 41 CPU will also be waked up. It is the CPU that in the end instructs the Card Reader circuit to turn the motor on.

Once the card is running through its path, the head actuator should make contact at the point in which the card reaches the head tip.

Here is an image of how the contact blade should look like. Is it obviously not to scale, and drawn from my head so please take it with a grain of salt... :-)

The long blade should be *very slightly* (less than pictured) bent upwards. Just enough to settle in place with very little pressure on its ends. This bending should look convexe along the blade. In your pictures a small concave bending shows up just beneath the actuator hinge and I think this must be corrected.

Note that this is not the "factory" shape, but I found it easier to produce that small banding than get it back to full straight when a repair is needed.

The actuator could in fact has gone so badly worn out that it can no longer tilt enough to activate the switch. This looks quite improbable to me though. So let's try the easier and if it doesn't fix the trouble will look further.

Hope you can get your Card Reader back to work soon.

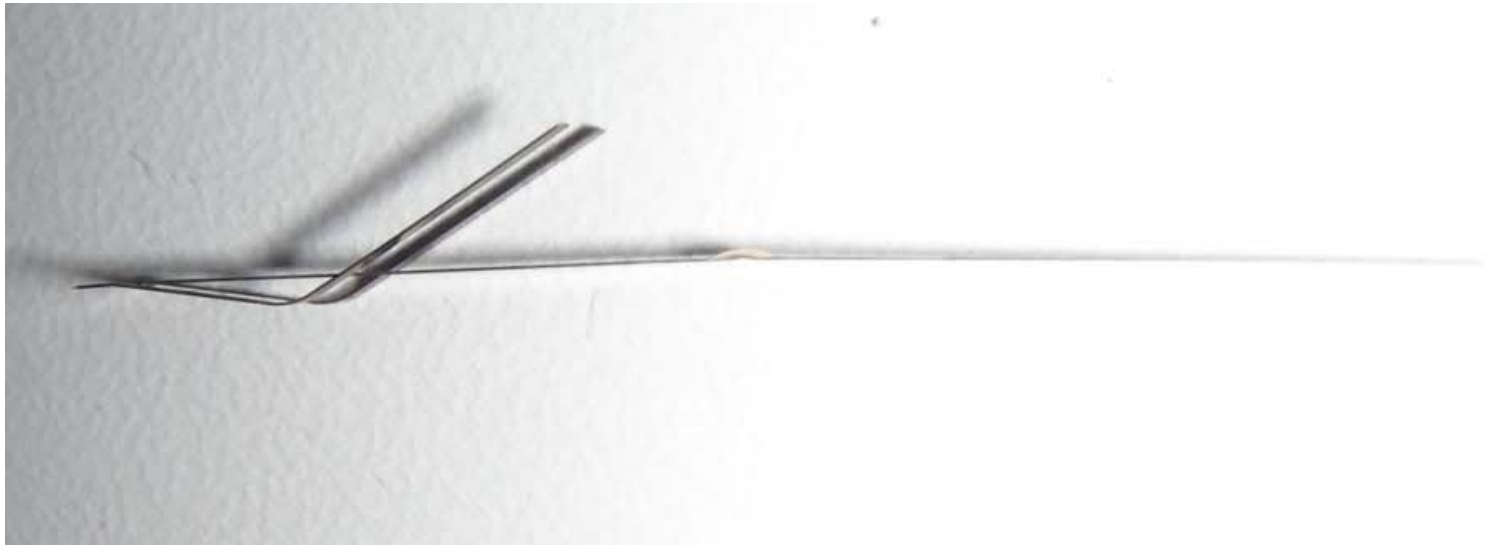
Cheers.

Edited: 9 Apr 2010, 11:18 a.m.

Re: HP 82104A card reader, fork-shaped brass tongues, REPAIR PROBLEM

*Message #10 Posted by **Ignazio Cara (Italy)** on 10 Apr 2010, 2:04 p.m.,*
in response to message #8 by Markus Sanke

Hi Markus, this is my best picture of a switch contact profile:



HTH

Ignazio

Re: HP 82104A card reader, fork-shaped brass tongues, REPAIR PROBLEM

*Message #11 Posted by **Diego Diaz** on 10 Apr 2010, 2:21 p.m.,*
in response to message #10 by Ignazio Cara (Italy)

Hi,

Again, a (good) picture is worth a thousand words... :-))

In this case, showing the slightly convexe bending I tried to draw and describe.

Thank you Ignazio!

Cheers.

Edited: 10 Apr 2010, 2:26 p.m.

Re: HP 82104A card reader, fork-shaped brass tongues, REPAIR PROBLEM

*Message #12 Posted by **Markus Sanke** on 11 Apr 2010, 8:25 a.m.,*
in response to message #10 by Ignazio Cara (Italy)

Thank You again Ignazio and Diego! I spent another two nights in attempting to repair my reader with Your friendly help. The effect was as follows:

I now got the two switch contacts into the shape of Diego's drawing and Ignazio's photo. They both had to be reshaped, using slight pressure of the fingers and finally with the help of tweezers.

Now the situation is this: When the upper board, bearing the brass contacts and their actuators, is isolated (i.e. NOT mounted onto the lower half of the slit assembly), BOTH contacts now move upward when touched by a slightly moving finger. Only the sligtest pressure is sufficient. The movement of the contact blades is satisfactory, the center part moves upward for more then 1 mm.

BUT if I re-assemble both halves of the mechanism, again only the first switch works. Te second one (that with the smaller actuator) is kind of blocked or disabled, no real movement occurs when a card moves along the actuator.

I experimented with different distances of the two halves, by screwing up and down the screws. Last night I got the card reader working for about one hour, demonstrating that principially everything is still all right (Writing and re-reading a program over two magnetic cards). But after a few tests the "Malfunction"-message appeared again, now mixed with "Card Error"- and "Checksum Error"-messages.

I think the problem now lyes more in the way of re-assembling the two halves. The distance of both parts seems to be a crucial issue. If too tight, the motor stops when a card is inserted. If too wide, no regular movement occurs and the above error messages appear.

May be one of You could again check my description and offer me some helpful ideas! If photos are neeed, I can again publish some!

Best wishes to all of You

Markus

Edited: 11 Apr 2010, 9:48 a.m.

Re: HP 82104A card reader, fork-shaped brass tongues, REPAIR PROBLEM

*Message #13 Posted by **Ignazio Cara (Italy)** on 12 Apr 2010, 2:26 p.m.,*
in response to message #12 by Markus Sanke

Hi Markus, Let us see other photo, thanks.

Ignazio

Re: HP 82104A card reader, fork-shaped brass tongues, REPAIR PROBLEM

*Message #14 Posted by **Diego Diaz** on 12 Apr 2010, 6:02 p.m.,*
in response to message #12 by Markus Sanke

I agree. At this point some pics, similar to the one posted by Ignazio, from your two contact blades will help a lot.

It is quite unlike that the spacing between the PCB and the reader's plastic block require any adjustment at all.

Cheers.

Re: HP 82104A card reader, fork-shaped brass tongues, REPAIR PROBLEM

*Message #15 Posted by **Markus Sanke** on 15 Apr 2010, 12:52 p.m.,*
in response to message #12 by Markus Sanke

Hello again,

I made a short video showing the upper half of the assembly with the two contact blades. When I slightly glide on the lower side with a finger(simulating a magnetic card), the first contact blade always moves up for a good amount. The second one often, but not always moves the same way. The axis-part of the second blade is very loose, sometimes allowing to "jump" up and down (see video, from 0:36 on).

Link to Video

If I reassemble the two halves, only the first contact works; the second one does not move up and close the switch.

I don't believe that the form of the two brass stripes is responsible for the error. If I change them, again contact #1 is good, #2 is bad. I show You the actual form of the two blades in detail in this photo; I treid to form them as near as possible to the photo You posted here a few days ago:

Link to Photo

I am short before giving up because I don't know what else can be done to repair the card reader... This is especially frustrating because I know that "principially" the machine works, which I could see a few days ago - but only for an hour or so.

Any hints and helping suggestions are VERY welcome!

Best wishes

Markus

Edited: 15 Apr 2010, 12:55 p.m.

Re: HP 82104A card reader, fork-shaped brass tongues, REPAIR PROBLEM

*Message #16 Posted by **Diego Diaz** on 16 Apr 2010, 2:58 a.m.,*
in response to message #15 by Markus Sanke

Hi again Markus,

I'm affraid I have to disagree, the shape of the blades IS the cause of the malfunction. This is clear after watching at your last picture.

Just in case you have not the tools or the experience to straighen them back to the suggested shape, and before you thru away a "basically" operative Card Reader. You may want to ask for service.

I would happily do it for you, but I'm currently far from home and will still be away for several weeks.

My advice is to give it another try and do your best in order to remove any irregularities in the blades, mainly these small concave bending curves that appear in your picture.

Best from the Carribean Sea and don't give up! :-)

Diego.

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HP 67/97 card reader: O-rings vs. vinyl tubing

*Message #1 Posted by **Ed Sowell** on 7 Apr 2010, 3:11 p.m.*

As I mentioned in an earlier post, O-rings work fine for me except for the noise. To hear it click here.. In trying to figure out what causes the buzzing I took it apart again. I notice that the tiny pinch roller works against the drive roller right in the middle, over the gap between the O-rings. To see this click here.. It's clear that there is no support in the middle and edges of the pinch roller are doing all the work. Moreover, the O-ring OD measures about 6.47 mm as opposed to the 6.15 mm that is mentioned by Bernd Schmeling. Perhaps the noise is due to flexing of the card under the stress?

I'm going to try the vinyl tubing approach and see how it works.

Comments appreciated

Edited: 7 Apr 2010, 3:17 p.m.

Re: HP 67/97 card reader: O-rings vs. vinyl tubing

*Message #2 Posted by **Michael de Estrada** on 7 Apr 2010, 4:16 p.m.,*
in response to message #1 by Ed Sowell

The O-rings that I use only measure about 6.05mm uninstalled. Although they will expand somewhat once installed on the wheel, I can't imagine them expanding to the extent that you mention. I have used O-rings on 6 different card readers of all types (65/67/97/82104A), and never experienced any noise problems. Also, that noise may not be related to the card feed, but to the motor/coupling/gears.

Re: HP 67/97 card reader: O-rings vs. vinyl tubing

*Message #3 Posted by **Ed Sowell** on 7 Apr 2010, 4:51 p.m.,*
in response to message #2 by Michael de Estrada

Thanks, Michael.

You must have different O-rings than I do. The ones I have measure 0.250" (6.35mm) unmounted. Also, you can see in the photo that when mounted they are larger than the diameter of the shoulder which measures 0.242" (6.15mm). Where did you get your O-rings?

I don't think it's the clutch. I pulled the worm gear and clutch off the motor shaft and looked it over. The rubber in the clutch did not appear to have deteriorated; it was plyable but tough and required some force to push it back on. And the card reads in smartly as oppposed to the jerky motion I've read happens when the cluth is failing. In any event, I don't see how it could make the "ZZZZZ" sound I'm hearing. Were you able to hear it?

Perhaps the noise could be from the meshing of the worm and spur gears. In fact, with the O-rings being oversized as mine appear to be they no doubt press the gears together tighter than they should be.

By the way, when you reinstall the eccentric shaft how do you know when it's properly in place? IOW, do

you just push really hard or do you look at the gap between the head and the reader frame?

thanks for your interest.

Ed

Ed

Edited: 7 Apr 2010, 4:55 p.m.

Re: HP 67/97 card reader: O-rings vs. vinyl tubing

*Message #4 Posted by **Michael de Estrada** on 7 Apr 2010, 7:23 p.m.,*
in response to message #3 by Ed Sowell

Hi Ed,

I got my last set of O-rings from Mark Hoskins (Waterhosko) on TAS. He's the guy who makes replacement battery packs for Classic and Spice series calculators.

O-rings

The installed O-rings per your photo look much larger than mine, which extend less beyond the shoulder. Also, on my HP97 card reader, my O-rings barely clear the card reader frame, and I'm pretty certain yours would not, so maybe yours are rubbing, but I don't know if that would create a buzzing noise.

Yes I heard the noise and if the pressure from the oversized O-rings was sufficient to cause some slippage of the motor shaft inside the coupling (clutch), the end of the motor shaft could be rubbing against the worm gear. Or, like you said, maybe gear noise.

When I install the eccentric shaft, I use a flat blade screwdriver in the slot, and push and turn until it stops. There will be a small gap of ~1mm remaining between the shaft shoulder and the reader frame.

Hope this helps.

Regards,

Michael

Re: HP 67/97 card reader: O-rings vs. vinyl tubing

*Message #5 Posted by **Ed Sowell** on 8 Apr 2010, 11:41 a.m.,*
in response to message #4 by Michael de Estrada

Thanks, Michael. that helps a lot.

Ed

Re: HP 67/97 card reader: O-rings vs. vinyl tubing

*Message #6 Posted by **Gerry Schultz** on 7 Apr 2010, 7:26 p.m.,*
in response to message #3 by Ed Sowell

Does the motor still make this noise when it's not connected to the drive roller? If you turn on the motor with no load, does it still make that ZZZZ sound? When I listened to the noisy motor sound you

posted, I immediately thought it sounded like a bearing. So, does the motor still make the same noise if the motor shaft is unloaded?

Re: HP 67/97 card reader: O-rings vs. vinyl tubing

*Message #7 Posted by **Katie Wasserman** on 7 Apr 2010, 9:30 p.m.,*
in response to message #6 by Gerry Schultz

See this post from quite a while ago. In it I mention tubing from Small Parts that works perfectly and has held up well for 10 years in many card readers that I've repaired.

-Katie

Re: HP 67/97 card reader: O-rings vs. vinyl tubing

*Message #8 Posted by **Michael de Estrada** on 8 Apr 2010, 12:36 a.m.,*
in response to message #7 by Katie Wasserman

I've thought about the tubing method, but so far O-rings have worked well for me. Of course, I've only been doing this for about 3 years, so I don't yet know how well they will stand up long term. Right now I'm just starting to try some serious repairs on printers.

Re: HP 67/97 card reader: O-rings vs. vinyl tubing

*Message #9 Posted by **Ed Sowell** on 8 Apr 2010, 11:50 a.m.,*
in response to message #8 by Michael de Estrada

Good luck with the printer, Michael. I've recently finished refurbishing mine, so if I can be of help let me know.

Ed

Re: HP 67/97 card reader: O-rings vs. vinyl tubing

*Message #10 Posted by **Ed Sowell** on 8 Apr 2010, 11:48 a.m.,*
in response to message #7 by Katie Wasserman

Thanks, Katie. So, what did you do with the remaining 9' 11 3/4" ?

Re: HP 67/97 card reader: O-rings vs. vinyl tubing

*Message #11 Posted by **Ed Sowell** on 8 Apr 2010, 11:43 a.m.,*
in response to message #6 by Gerry Schultz

No. I ran the motor off a 1.5V battery before inserting the drive gear/roller. Could hardly hear it.

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48SX Soft Menu Key Problem

*Message #1 Posted by **J Grim** on 6 Apr 2010, 9:36 a.m.*

Greetings all,

I have a 48SX that I received on trade from a colleague. It works fine except that the soft menu keys must be pushed very hard in order to register. I think there must be a problem such as gunk under the keys, etc. Does anyone have advice regarding maintenance of these keys or the keyboard in general? Of course, I am hesitant to disassemble it without consulting with someone who may have done this before.

Thank you,

J Grim

Re: 48SX Soft Menu Key Problem

*Message #2 Posted by **Han** on 6 Apr 2010, 11:46 a.m.,*
in response to message #1 by J Grim

If you press down on the bezel area between the bottom of the screen and the soft menu keys, does it make the menu keys register more easily?

If so, check out my repair guide from way back.

Re: 48SX Soft Menu Key Problem

*Message #3 Posted by **J Grim** on 6 Apr 2010, 12:49 p.m.,*
in response to message #2 by Han

Thank you for the response. My 48 does behave in the manner you describe. When I push down on the bezel, the keys respond much better. I will probably try the repair myself. Thank you again.

J Grim

Re: 48SX Soft Menu Key Problem

*Message #4 Posted by **Nacho** on 6 Apr 2010, 1:08 p.m.,*
in response to message #3 by J Grim

> Quote:
>
> Thank you for the response. My 48 does behave in the manner you describe. When I push down on the bezel, the keys respond much better. I will probably try the repair myself. Thank you again.
>
> J Grim

Common deffect in 48 series.

Han's document is perfect to know how.

just be careful.

Regards.

Nacho

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41C - Curve Fitting Revisited

*Message #1 Posted by **Ángel Martin** on 6 Apr 2010, 8:34 a.m.*

I'm compiling some curve fitting programs into a dedicated module, and was wondering if there's any RAW file (or other loadable format) for William Kolb's work.

I've finally succeeded porting the AECROM program & MCODE function -quite a fast implementation on the NUT world - so I thought it'd be nice to complement it with the other Classic reference work on the same subject...

Best Easter wishes, ÁM

Re: 41C - Curve Fitting Revisited

*Message #2 Posted by **Geir Isene** on 6 Apr 2010, 1:49 p.m.,*
in response to message #1 by Ángel Martin

This is of great interest to me.

I have pretty much given up on the AECrom due to strange conflicts with other roms I use (not label or XROM conflicts, but some weird buffer issues locking up the calc). So, I took Kolb's book and added some needed features like Momentums, Skewness, Kurtosis and basic statistics. I then produced the following FOCAL program:

STAT v. 0.2

Re: 41C - Curve Fitting Revisited

*Message #3 Posted by **Ángel Martin** on 7 Apr 2010, 2:39 a.m.,*
in response to message #2 by Geir Isene

Quite a long one! :) Thanks Geir, I'd say I should send you the transplanted CURVE and CRVF functions and you try them out.

The AECROM uses the "available" bits in the c(13) register and that conflicts with other custom ROMS, like the CCD - which uses it for the WSIZE among other things. This may explain your troubles...

So, you'll have mail...

Re: 41C - Curve Fitting Revisited

*Message #4 Posted by **Geir Isene** on 7 Apr 2010, 11:52 a.m.,*
in response to message #3 by Ángel Martin

Thanks for the explanation regarding the conflicting use of the c-register. It clears up this issue for me. I prefer the CCD over the AECrom - although I really needed the curve-fit program, hence the long FOCAL program. Having it as part of a non-conflicting MCODE module would be the best.

The FOCAL program covers several needs:

1. Curve fitting with a large range of curves 2. Basic statistics 3. Advanced statistics such as Momentums/Skewness/Kurtosis 4. The ability to use a data set from XM and analyze it through #1-#3 above (both single and paired data points).

If we could produce a new STAT module that covers the above needs and others (ANOVA etc.) - with saved data sets (XM, cards or mass storage) I would be in heaven.

Edited: 7 Apr 2010, 12:19 p.m.

Re: 41C - Curve Fitting Revisited

*Message #5 Posted by **Ángel Martin** on 7 Apr 2010, 1:40 p.m.,*
in response to message #4 by Geir Isene

That kind of statistical heaven you dream of :) sure will require a reliable method to transfer the program to the rom - typing it is out of the question!

The AECROM funcions work FAST (again, for Coconut standards) but don't offer the advanced stuff you added. I like the XM option, very neat!

cheers

Re: 41C - Curve Fitting Revisited

*Message #6 Posted by **PeterP** on 8 Apr 2010, 10:57 a.m.,*
in response to message #5 by Ángel Martin

Angel,

Assuming Geir has the Focal program installed on one of his 41s, maybe he could be enticed to export it to his NoVram via one of the available OS (I think Hepax would do that as well). One could then export the module from the NoVram to a PC at which point it would be available in electronic form.

There is a little article I wrote which shows how one can mix and match MCODE and Focal programs in a module. That way we could mesh his program with your AEC extraction (BTW - that's just awesome, Angel!)

Cheers

Peter

Re: 41C - Curve Fitting Revisited

*Message #7 Posted by **Paul Dale** on 7 Apr 2010, 5:18 p.m.,*
in response to message #2 by Geir Isene

Is there any documentation to go with this large FOCAL programme?

- Pauli

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HP-10 Adding Machine

*Message #1 Posted by **aj04062** on 5 Apr 2010, 9:40 p.m.*

Hi Forum,

I just picked up an hp-10 from my uncle who worked for HP. It is in need of some restoration as it is quite dirty, needs new batteries and doesn't seen to be working right.

My question is: I know some calcs are recommended to be run with batteries. Is this one of the designs? I plugged it in and the printer head initializes and the led's flicker back and forth.

Any thoughts?

Re: HP-10 Adding Machine

*Message #2 Posted by **Katie Wasserman** on 5 Apr 2010, 11:22 p.m.,*
in response to message #1 by aj04062

You must have batteries in this machine to run this calc. It's not hard to open the battery pack and replace the 4 nicad cells with new ones. You will see exactly the results that you are getting if you run this without good batteries in it.

-Katie

Re: HP-10 Adding Machine

*Message #3 Posted by **aj04062** on 5 Apr 2010, 11:41 p.m.,*
in response to message #2 by Katie Wasserman

yup, that's the ticket. New batteries and it is alive again. Thanks for the confirmation.

Now to cleaning.

I saw some insane prices quoted on this thing on this website. Is that still true? Is it that rare to warant > $500?

I can't sell it as my uncle gave it to me, but....

Re: HP-10 Adding Machine

*Message #4 Posted by **Katie Wasserman** on 5 Apr 2010, 11:55 p.m.,*
in response to message #3 by aj04062

It's pretty rare and might fetch around $400-$500 if it's in very good condition. OTOH, it's not RPN and some of the people on this forum wouldn't' even consider a non-RPN calculator even if HP made it when they were in their prime.

Take a really close look (using a magnifying glass) at the decimal points in the LED display on your HP-10. More likely then not you'll find a surprise.

-Katie

Re: HP-10 Adding Machine

*Message #5 Posted by **Alberto Fenini** on 6 Apr 2010, 6:10 p.m.,*
in response to message #4 by Katie Wasserman

Boys, that's intriguing ... what should exactly be revealed ? Cheers Alberto

Re: HP-10 Adding Machine

*Message #6 Posted by **Michael Meyer** on 6 Apr 2010, 7:19 p.m.,*
in response to message #5 by Alberto Fenini

Only one of the coolest features of any LED calculator in history. Though there are some displays in the HP-10's and 19C's without this, most have it. I have a couple of displays without it, but they're in my parts box. My working machines are spiritually correct. (Though I wonder, Katie: rarities are often worth more, but this is such an outstanding feature of the machine that I suspect the more common display is still the more important....)

Re: HP-10 Adding Machine

*Message #7 Posted by **Bruce Bergman** on 6 Apr 2010, 8:29 p.m.,*
in response to message #6 by Michael Meyer

I once postulated that it must be the most valuable dot in all of HP calculator history!

Re: HP-10 Adding Machine

*Message #8 Posted by **BruceH** on 6 Apr 2010, 7:55 p.m.,*
in response to message #4 by Katie Wasserman

> Quote:
>
> Take a really close look (using a magnifying glass) at the decimal points in the LED display on your HP-10. More likely then not you'll find a surprise.

Is it the microdot from Arnold Rimmer's swimming certificate?

http://en.wikipedia.org/wiki/Red_Dwarf

Edited: 6 Apr 2010, 7:56 p.m.

Re: HP-10 Adding Machine

*Message #9 Posted by **aj04062** on 6 Apr 2010, 9:36 p.m.,*
in response to message #8 by BruceH

Is it decimal point inside the digit?

I think the calculator is in pretty good shape. All LEDs work. I don't know if the printer works as I have no paper. It has the charger (with box) and an extra battery (with box). I also have a

photocopied manual. Were the originals black and white?

Pictures here: http://picasaweb.google.com/aj04062/HP10#

Adam

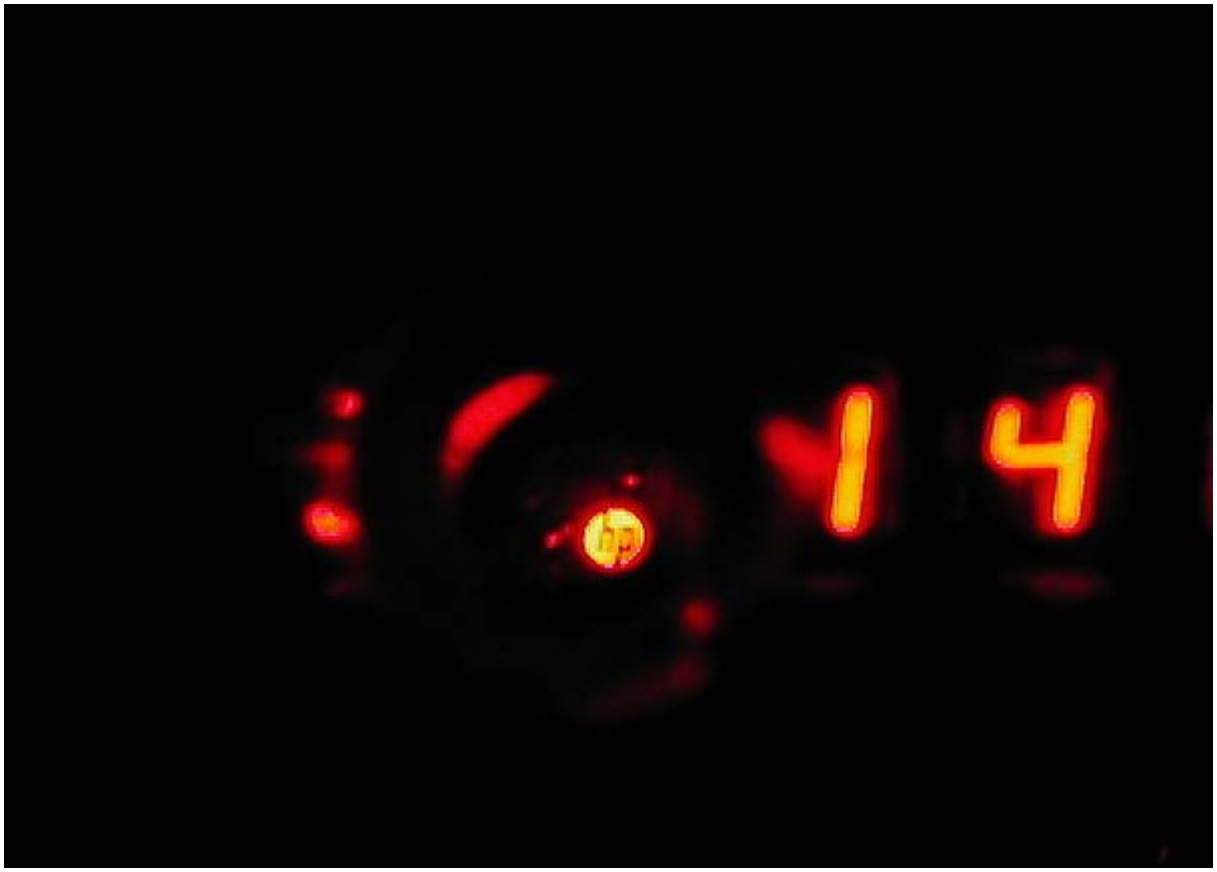
Re: HP-10 Adding Machine

*Message #10 Posted by **Keith Midson** on 6 Apr 2010, 9:17 p.m.,*
in response to message #4 by Katie Wasserman

For those of us who don't have one, what can you see? Can anyone post an image? Cheers, Keith

Re: HP-10 Adding Machine

*Message #11 Posted by **Katie Wasserman** on 6 Apr 2010, 9:22 p.m.,*
in response to message #10 by Keith Midson



This is one I took years ago, but there are much better photos out there.....

-Katie

Edited: 6 Apr 2010, 9:22 p.m.

Re: HP-10 Adding Machine

*Message #12 Posted by **aj04062** on 6 Apr 2010, 9:40 p.m.,*
in response to message #11 by Katie Wasserman

Huh, doesn't appear to have the HP on any of the decimal points.

Where does that place this one?

Adam

Re: HP-10 Adding Machine

*Message #13 Posted by **Katie Wasserman** on 7 Apr 2010, 1:28 a.m.,*
in response to message #12 by aj04062

Are you sure you don't have it? You really do need to have a pretty strong (10x or more magnifying glass to see the "hp" logo. If you have it it would be on all the decimal points.

I think we took an informal survey of sorts here and came to the conclusion that about 1/4 of all the hp-19c and hp-10 calculators have displays without the decimal points. I don't recall if there's a correlation to serial numbers.

-Katie

Re: HP-10 Adding Machine

*Message #14 Posted by **Alberto Fenini** on 7 Apr 2010, 4:59 a.m.,*
in response to message #13 by Katie Wasserman

I'll check mine tonight and will post the results .... take care everybody, Alberto

Re: HP-10 Adding Machine

*Message #15 Posted by **Alberto Fenini** on 8 Apr 2010, 4:55 p.m.,*
in response to message #14 by Alberto Fenini

Couldn't find a lens, so I've used the camera zoom function (optical 5X), and to me it's not there ...
Units tested are : HP10C S/N 1801S11736 and HP19C S/N 1801S11435 (it's funny how close these S/Ns are)
BTW, since the batteries were almost dead, I tried to charge them with an 82031A, but the HP10's display (didn't try it on the 19C), was badly flickering. Which charger can I safely use ? Topcat's, HP41's will do the job ? Take care everybody, Alberto

Re: HP-10 Adding Machine

*Message #16 Posted by **Ignazio Cara (Italy)** on 9 Apr 2010, 3:34 a.m.,*
in response to message #15 by Alberto Fenini

Hello Alberto, the charger HP-82031A can be used properly with your HP-10 (and 19C, 41C/CV/CX, 91, 92, 97, 97 and if you have it, 95C) like the HP-82066A/B. If the HP-10 is flickering, you must search for other issues. Take care

Ignazio

Re: HP-10 Adding Machine

*Message #17 Posted by **Mike Morrow** on 6 Apr 2010, 11:28 p.m.,*

in response to message #11 by Katie Wasserman

It's not on HP-19C serial 1801A011xx.

Re: HP-10 Adding Machine

*Message #18 Posted by **aj04062** on 7 Apr 2010, 5:04 a.m.,*
in response to message #17 by Mike Morrow

serial number is 1802s11681

Re: HP-10 Adding Machine

*Message #19 Posted by **Keith Midson** on 7 Apr 2010, 6:37 a.m.,*
in response to message #11 by Katie Wasserman

Wow, that's awesome - thanks Katie! Cheers, Keith

Re: HP-10 Adding Machine

*Message #20 Posted by **aj04062** on 7 Apr 2010, 8:04 p.m.,*
in response to message #19 by Keith Midson

Ok, so should I presume this later ('78) calculator doens't have the logo, but is just as rare/valuable as one with the logo?

Is it more valuable?

Re: HP-10 Adding Machine

*Message #21 Posted by **Keith Midson** on 7 Apr 2010, 10:03 p.m.,*
in response to message #20 by aj04062

That's a difficult one to answer - for me personally, I have no real interest in the HP-10, except now for the dot - but you can get the HP-dot in the 19C, so I would rather go for that one over the HP-10.
So It really depends on who is looking for an HP-10 at the time, and whether they are after a 'dot' or a 'no-dot' to complete their collection and how much they are prepared to spend. The HP-10 is a rare beast, so I would imagine that it would be valuable with or without the dot.
Cheers, Keith

Re: HP-10 Adding Machine

*Message #22 Posted by **aj04062** on 8 Apr 2010, 11:47 a.m.,*
in response to message #21 by Keith Midson

Agreed, as these things can always fluctuate wildly based on "who wants it"

I just sold one of 3 HP-55's I had for $170 to a guy in New Zealand. I had listed it with a reserve a few weeks before and didn't get $80 for it. Needless to say, I was happy to get almost $100 more by relisting it.

Me peronsally would rather have the logo. That seems unique.

I tried like hell with my 10X jewlers glass and couldn't see a thing. I've got to get

a higher magnifier to see if it is really there.

Adam

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Test card for HP 97

*Message #1 Posted by **Ed Sowell** on 5 Apr 2010, 3:09 p.m.*

I'm trying to get my card reader to work after installing the O-rings on the drive wheel. The card pulls all the way through so I think the switchs are making good contact with the PCB, but I keep getting Error.

I am testing it with the only card I have with something on it, but it's one that came with the machine and I really have no idea of what's actually on it. Is it possible that the card contents can cause Error even if it reads correctly?

I think what I need is a good test card. Where can I get one?

Thanks.

Re: Test card for HP 97 SUCCESS!

*Message #2 Posted by **Ed Sowell** on 5 Apr 2010, 4:51 p.m.,*
in response to message #1 by Ed Sowell

It finally dawned on me to enter a simple program from the User's Manual and record it. It works!

So my refurbished card reader now writes and reads. Much to my pleasant surprise, it is not at all sensitive to adjustment of the eccentric shaft. I've moved it in about 45 degree increments one way and the other and never get an Error. Only difference seems to be a minor difference in sound.

As suggested in Mike Davis' write-up I've had it it set up with the reader hanging off it's ribbon cable on the bottom side of the board throughout this testing. I'll now reassemble it properly and declare the project a success. I may put the photos I've been taking in an album and post it.

Re: Test card for HP 97 SUCCESS!

*Message #3 Posted by **Michael Meyer** on 5 Apr 2010, 6:29 p.m.,*
in response to message #2 by Ed Sowell

Careful, Ed. It can be addictive. Now you may want to repair a second machine, just to admire its incredible power and beauty. (Gold button contacts! Big LED's!) That can lead to another..... well, never mind. Congratulations!!!

Re: Test card for HP 97 SUCCESS!

*Message #4 Posted by **Ed Sowell** on 5 Apr 2010, 6:46 p.m.,*
in response to message #3 by Michael Meyer

A slippery slope indeed! I'll try to guard against those awful impulses. Already I'm trying to break the habit of searching eBay for HP calculators every morning.

Re: Test card for HP 97 SUCCESS!

*Message #5 Posted by **DavidShenk** on 5 Apr 2010, 6:47 p.m.,*
in response to message #4 by Ed Sowell

Just every morning....

Re: Test card for HP 97 SUCCESS!

*Message #6 Posted by **Ed Sowell** on 5 Apr 2010, 11:13 p.m.,*
in response to message #5 by DavidShenk

OK, OK, I was just trying hide my obsessive-compulsive disorder.

Re: Test card for HP 97 SUCCESS!

*Message #7 Posted by **Vieira, Luiz C. (Brazil)** on 5 Apr 2010, 11:19 p.m.,*
in response to message #6 by Ed Sowell

The few who tried have died. I´m alive, though...

Edited: 5 Apr 2010, 11:19 p.m.

Re: Test card for HP 97 Noise

*Message #8 Posted by **Ed Sowell** on 6 Apr 2010, 2:00 p.m.,*
in response to message #2 by Ed Sowell

Although the reader reads & writes fine I think it's a bit noisy. However,I don't know how noisy is too noisy, never having heard a 97 reading a card before.

Here's a movie with sound so you can hear it. It's about 1.7MB. Be sure your sound is on and truned up in Windows Media Player or whatever you use.

My card reader in action.

Comments appreciated.

If it's too noisy, how can I quiet it down?

Ed

Re: Test card for HP 97 Noise

*Message #9 Posted by **Katie Wasserman** on 6 Apr 2010, 2:36 p.m.,*
in response to message #8 by Ed Sowell

Sounds kind of noisy to me. Try putting a tiny bit of good quality grease on the worm gear, that should quiet it down. Small tubes of good quality grease can be found at most bicycle shops (although they've gotten pretty exotic and expensive these days). Lubriplate works well on this.

-Katie

Edited: 6 Apr 2010, 2:36 p.m.

Re: Test card for HP 97 Noise

*Message #10 Posted by **Ed Sowell** on 6 Apr 2010, 3:13 p.m.,*

in response to message #9 by Katie Wasserman

Thanks, Katie. I already put a couple drops of 3-in-one on the worm, but I'll try some grease. I happen to have a tube of Finish Line, which is a premium synthetic I got at a bicycle shop for another project.

Re: Test card for HP 97 Noise

*Message #11 Posted by **Mike T.** on 6 Apr 2010, 5:15 p.m.,*
in response to message #8 by Ed Sowell

That does sound a little loud.

I don't remeber the uneven edge to the tone (it was almost 20 years ago that I last used an HP97) but I'm sure it was more of a hummmm than a zZzZzZzZ...

(Really hope that makes sense!)

Mike T.

Re: Test card for HP 97 Noise

*Message #12 Posted by **Ed Sowell** on 6 Apr 2010, 6:21 p.m.,*
in response to message #11 by Mike T.

I agree it sounds kind of buzzy. Trying to imagine what would produce the sound. I'm a little worried that the O-rings may be a little large, although they were offered on eBay for this purpose. At one point I measured the motor current with a 1.5 volt battery source and could not get it down to the specified 180 +/- 20 mA.

Also, I'm pretty certain the tip of the eccentric shaft is properly seated since I first put it in with out the gear to see how it fit. I was very careful with the side guide springs too.

Ed

Re: Test card for HP 97 Noise

*Message #13 Posted by **Hans Brueggemann** on 7 Apr 2010, 5:26 p.m.,*
in response to message #8 by Ed Sowell

ed, your card reader is not only extremely noisy, but also makes a totally "wrong" noise. if everything is working o.k., the card reader is just purring (well, sort of..).
take it apart again and check for proper alignment of worm shaft and toothwheel.
best regards,
hans

Re: Test card for HP 97 Noise

*Message #14 Posted by **Gerry Schultz** on 7 Apr 2010, 7:51 p.m.,*
in response to message #13 by Hans Brueggemann

I just wanted to mention something about interchange. Since Ed doesn't have someone else to exchange cards with to test his card reader he can only use self-recorded cards.

But, if he (or anyone) does exchange cards with other users then checking for interchange is important. I would think that it's not just track alignment but also the card's speed through the reader

so the bpi (bits per inch) is similar to the specification. How tight is that?

It's just something I wondered about while reading this thread. I wonder if anyone still has any HP alignment cards (or if they are needed) to confirm interchange?

Gerry

Re: Test card for HP 97 Noise

*Message #15 Posted by **Ed Sowell** on 8 Apr 2010, 12:40 p.m.,*
in response to message #14 by Gerry Schultz

Interesting point. I would be willing to send a card that I have written to someone to test, and perhaps someone would do the same for me.

Re: Test card for HP 97 Noise

*Message #16 Posted by **Ed Sowell** on 8 Apr 2010, 12:45 p.m.,*
in response to message #13 by Hans Brueggemann

Thanks, Hans. The alignement looks OK to me, but then I don't know how it could not be. There doesn't seem to be any way to adjust anything in that regard. I mean, the motor seems to register into place, the opposite end of the worm gear registers into an indent in the frame, and the spur gear floats with very little extra side space. What am I missing?

Re: Test card for HP 97 Noise

*Message #17 Posted by **Ignazio Cara (Italy)** on 9 Apr 2010, 3:22 a.m.,*
in response to message #16 by Ed Sowell

Hello Ed, I've saw your short movie. It's my opinion that your reader is too much noisy, and that you must pull the card when it's out of the reader. You have used o-rings too much wide! BTW, have you checked the test-point on the card-reader PCA with a continuity tester? There are three test-point marked M (motor switch), F (Write protect swith) and H (head switch) on the upper left side of the PCA, that you must check with the ground signal (to the left of the three test-point) to test the switches are working properly. Let me know.

Re: Test card for HP 97 Noise

*Message #18 Posted by **Ed Sowell** on 10 Apr 2010, 11:26 a.m.,*
in response to message #17 by Ignazio Cara (Italy)

> Quote:
>
> It's my opinion that your reader is too much noisy, and that you must pull the card when it's out of the reader.

That is true. How did you know that?

> Quote:
>
> You have used o-rings too much wide!

Hadn't thought about the width, but do believe they are too large in diameter. How would

width cause the noise? There is clerance enough so it's not rubbing on the sides, at least before it is assembled. Does the pinch roller force the O-rings apart? I put a drop of super glue between them.

> Quote:
>
> BTW, have you checked the test-point on the card-reader PCA with a continuity tester? There are three test-point marked M (motor switch), F (Write protect swith) and H (head switch) on the upper left side of the PCA, that you must check with the ground signal (to the left of the three test-point) to test the switches are working properly.

Just when the card is all the way in. I guess I could insert the ccard a little at a time to better test the arms individuallt. BTW, have you nocied that one of the arms doesn't do anything at all, since its pad on the PCB is not connected to anything!

Ed

Re: Test card for HP 97 Noise

*Message #19 Posted by **Ignazio Cara (Italy)** on 10 Apr 2010, 12:46 p.m.,*
in response to message #18 by Ed Sowell

Ed,

> Quote:
>
> That is true. How did you know that?

I saw it from the last frames of your short-movie.

> Quote:
>
> Hadn't thought about the width, but do believe they are too large in diameter. How would width cause the noise? .....

My mistake, it's not the width of the o-ring but the diameter. I have always purchased the o-ring from 'waterhosko'. The better. For eliminate the noisy you should take apart the motor and apply lubricant to the tip and sides of the worm-gear. You must lubricate the thrust bearing hole too. Use moly-disulfide lubricant.

> Quote:
>
> Just when the card is all the way in. I guess I could insert the ccard a little at a time to better test the arms individuallt...

Yes, you must insert the card a little at a time to better test the arms: first the Motor switch, after the 'F' for the write protect switch and last for the 'H' magnetic head. If the switches are all ok and again you have an error message when you try to read a card, another thing you could to test are the resistance of the two head's circuits, that should be executed with an ohmeter connected first to the wires red and yellow, and last to the wires blue and orange. You should read about the same value, from 45 to 55 Ohms for

the two couples. If you read a value infinite for one of the two circuites, you have a problem on the magnetic head. Of course, you must detach the wires from the reader's PCB to properly execute this test. And yes, one of the arm of the switches assembly is not operative. I hope that my contribute might help you to make progress with your card-reader. Let me know if you make progress and I apologize for my very bad english. Take care

Ignazio

Re: Test card for HP 97 Noise

*Message #20 Posted by **Ed Sowell** on 11 Apr 2010, 7:19 p.m.,*
in response to message #19 by Ignazio Cara (Italy)

Thanks, Ignazio.

I got some model airplane fuel tubing today since it is available locally for about US$1.50 per foot. Right away I see the challenge with this approach is getting a very square cut, especially at the end that goes against the shoulder. If that end is the least bit off-square the tube will deform when it is pressed against the shoulder, setting the circumference of the roller askew and probably creating uneven pressure on the card.

Regarding the motor stopping before the card has ejected completely, is this a sign that one of the switch contacts is not working?

Ed

Re: Test card for HP 97 Noise

*Message #21 Posted by **Ed Sowell** on 12 Apr 2010, 2:00 p.m.,*
in response to message #19 by Ignazio Cara (Italy)

Ignazio,

> Quote:
>
> For eliminate the noisy you should take apart the motor and apply lubricant to the tip and sides of the worm-gear. You must lubricate the thrust bearing hole too. Use moly-disulfide lubricant.

I did a Google on moly-disulfide lubricant and find that it comes in oil, grease, or dry form. Which do you use?

Ed

Re: Test card for HP 97 Noise

*Message #22 Posted by **Ignazio Cara (Italy)** on 12 Apr 2010, 2:28 p.m.,*
in response to message #21 by Ed Sowell

Hi Ed, I use grease.

Ignazio

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New MCODE tools available for the HP-41

*Message #1 Posted by **Håkan Thörngren** on 5 Apr 2010, 2:35 a.m.*

I am happy to announce the release of NutStudio Tools for the HP-41. This first release consists of an assembler and a linker for easy creation of MCODE based modules.

Pre-built binaries are available for both Mac OS X i386, Mac OS X PowerPC and Linux i686. You can find them and documentation at http://code.google.com/p/nutstudio/downloads/list

Edited: 5 Apr 2010, 2:36 a.m.

Re: New MCODE tools available for the HP-41

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 5 Apr 2010, 5:10 a.m.,*
in response to message #1 by Håkan Thörngren

Thanks, Håkan!

Already downloading all files... although I'll use only the Linux i686 (at least for now).

Cheers!

Luiz (Brazil)

Re: New MCODE tools available for the HP-41

*Message #3 Posted by **ZOleg** on 5 Apr 2010, 8:06 p.m.,*
in response to message #1 by Håkan Thörngren

Why this strange Haskell?
Why not use normal C/C++?

Re: New MCODE tools available for the HP-41

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 5 Apr 2010, 11:17 p.m.,*
in response to message #3 by ZOleg

Hi, ZOleg;

I´m not the very person to explain Haskell, but I know that it was taught in many Telecommunications courses as a language suitable to high-level, object oriented coding. I also had the chance to look at the source of many applications, and after knowing what where those applications for, I wondered about where else to use it. Seems I have found...

Sorry, cannot go any further.

Cheers.

Luiz (Brazil)

Re: New MCODE tools available for the HP-41

*Message #5 Posted by **Thomas Klemm** on 6 Apr 2010, 1:41 a.m.,*
in response to message #3 by ZOleg

> Quote:
>
> Why this strange Haskell?

cf. Introduction of NUTSTUDIO TOOLS FOR THE HP-41

> Quote:
>
> Why not use normal C/C++?

Be careful what to consider normal these days.

Re: New MCODE tools available for the HP-41

*Message #6 Posted by **John Robinson** on 6 Apr 2010, 12:02 a.m.,*
in response to message #1 by Håkan Thörngren

Will there be a pre-built Windows version coming soon ?

Thanks John

Re: New MCODE tools available for the HP-41

*Message #7 Posted by **Håkan Thörngren** on 6 Apr 2010, 2:22 a.m.,*
in response to message #6 by John Robinson

> Quote:
>
> Will there be a pre-built Windows version coming soon ?
>
> Thanks John

Hopefully, yes. I plan to make an attempt at that in the not so distant future.

Re: New MCODE tools available for the HP-41

*Message #8 Posted by **Geir Isene** on 6 Apr 2010, 6:52 a.m.,*
in response to message #1 by Håkan Thörngren

I get this error (Linux):

error while loading shared libraries: libgmp.so.3: cannot open shared object file: No such file or directory

while libgmp.so.3 is located at:

/usr/lib/libgmp.so.3

Edited: 6 Apr 2010, 6:53 a.m.

Re: New MCODE tools available for the HP-41

*Message #9 Posted by **Håkan Thörngren** on 6 Apr 2010, 7:39 a.m.,*
in response to message #8 by Geir Isene

On my machine /usr/lib/libgmp.so.3 belongs to a package called libgmp3c2, do you have that installed? (It is actually a symbolic link, but the file pointed to is also part of libgmp3c2).

> Quote:
>
> I get this error (Linux):
>
> *error while loading shared libraries: libgmp.so.3: cannot open shared object file: No such file or directory*
>
> while libgmp.so.3 is located at:
>
> */usr/lib/libgmp.so.3*

Re: New MCODE tools available for the HP-41

*Message #10 Posted by **Geir Isene** on 7 Apr 2010, 3:17 a.m.,*
in response to message #9 by Håkan Thörngren

Yes, I have it installed, but still get the error. Is the code expecting it in a certain location?

Re: New MCODE tools available for the HP-41

*Message #11 Posted by **Håkan Thörngren** on 7 Apr 2010, 1:12 p.m.,*
in response to message #10 by Geir Isene

What Linux distribution and version are you using? I built it on Ubuntu 9.04, but I also have some added packages.

% ldd nutasm

will display load dependencies on shared libraries.

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Some people have lost the sense of reality...

*Message #1 Posted by **Vieira, Luiz C. (Brazil)** on 4 Apr 2010, 6:40 p.m.*

Hi, all;

I am so busy since the very beginning of the classes I can´t tell... Fortunately these days I am going to find a way to put my activities back on track... For those of you who are actually waiting for some kind of answer (and action) of mine, thanks for your patience.

Back to the subject: please, have a look **here** and use any currency conversion to see what I mean.

Yep! We have our Coburlins here, too... In time: I would like to share with you all my happiness when I had the chance to grab **this little baby**. I think some of you will find a known name when checking the Bid History ('Histórico de Ofertas', in the bottom of the page). Now I am searching for tapes...

Cheers.

Luiz (Brazil)

Check

Edited: 4 Apr 2010, 8:49 p.m.

Re: Some people have lost the sense of reality...

*Message #2 Posted by **Don Shepherd** on 4 Apr 2010, 10:06 p.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

Luiz, speaking of the 12c, examine a 12c+ repurposed to do hex arithmetic. No, that's not a Photoshopped 16c, it's a real 12c+ with ARM processor and here is the code (modified from code originally supplied by Cyrille and further modified by Katie) that did it.

OK, now you have my attention...

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 4 Apr 2010, 11:02 p.m.,*
in response to message #2 by Don Shepherd

Hi, Don;

thanks for this information! I was not aware of that... So, as it happens with the HP30B, the new HP12C+ is 'repurposable' thanks to the ARM structure... Should the HP30B procedures be followed the same way with HP12C+ as well or is there a particular set of instructions/procedures to repurpose an HP12C+? Any links? Forgive me if this is well known by all of you, guys... I was just 'not here' for these days. Sorry!

Wow! Hewlett-Packard is now doing some strange things...

Thanks again.

Luiz (Brazil)

Re: OK, now you have my attention...

*Message #4 Posted by **Tim Wessman** on 5 Apr 2010, 12:03 a.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

The same procedure is used to repurpose a 12c or a 20/30b. You just need to know the differences with regards to the screens, but they are treated very similar.

TW

Re: OK, now you have my attention...

*Message #5 Posted by **Don Shepherd** on 5 Apr 2010, 1:00 p.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

Luiz, anyone wanting to re-purpose a 12c+, 20b, or 30b is going to need several things in addition to the calculator itself:

1. A special cable with one end that plugs into the standard old serial port of your PC and the other end that plugs into the connector in the battery compartment of the 12c+ and 30b (not sure about 20b, I don't have one of those). This is used to download firmware to the calculator. Cyrille is the only source for this, AFAIK. Some have tried using this cable with a USB adapter instead of a standard serial port, with varying degrees of success. Fortunately my PC is old enough that it has a real serial port, and this cable has worked fine for me.
2. Samba software for performing the actual firmware download to the calc, available from Atmel.
3. A folder from Cyrille with support files for the specific calc.
4. An SDK for developing the C++ code on your PC. HP recommends the one from a company called IAR. I had nothing but trouble getting that to work and finally got so discouraged that I uninstalled the whole thing from my PC.
5. An unlimited amount of patience and perserverance!

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My Calculator Collection

*Message #1 Posted by **Gerardo Rincon** on 4 Apr 2010, 3:00 p.m.*

I just put this website to display my calculator collection..... Nothing fancy.

http://www.rinconcentral.com/

I'd appreciate some feedback...Gerardo's Calculator Collection

Re: My Calculator Collection

*Message #2 Posted by **Namir** on 4 Apr 2010, 4:57 p.m.,*
in response to message #1 by Gerardo Rincon

Nice collection!! Congratualtions!

Namir

Re: My Calculator Collection

*Message #3 Posted by **Pablo P (Spain)** on 4 Apr 2010, 6:02 p.m.,*
in response to message #1 by Gerardo Rincon

Very nice. I like you collection.

Pablo

Re: My Calculator Collection

*Message #4 Posted by **Martin Pinckney** on 4 Apr 2010, 6:03 p.m.,*
in response to message #1 by Gerardo Rincon

Nice website, too!

Re: My Calculator Collection

*Message #5 Posted by **Marcus von Cube, Germany** on 5 Apr 2010, 11:41 a.m.,*
in response to message #1 by Gerardo Rincon

A suggestion:

You use the full scale pictures for you index page and scale them down by width and height tags. This loads very slowly and the browser is not very good at down scaling to high quality. You should create separate thumbnail images and put a link behind them which either loads a full res picture or redirects to the appropriate page.

Edited: 5 Apr 2010, 11:42 a.m.

Re: My Calculator Collection

*Message #6 Posted by **Gerardo Rincon** on 5 Apr 2010, 6:49 p.m.,*
in response to message #5 by Marcus von Cube, Germany

Good suggetion - I'll give it a try....

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keyboard labels and colors

*Message #1 Posted by **Han** on 4 Apr 2010, 11:28 a.m.*

Hi everyone,

A long time ago, someone put together a presentation on good color choices for the keyboard labels, going into as much detail as "distance" between colors. Does anyone know where I could find that article/presentation again?

Han

Re: keyboard labels and colors

*Message #2 Posted by **Tim Wessman** on 4 Apr 2010, 11:30 a.m.,*
in response to message #1 by Han

It was gene wright. Send me an email and I will send it along.

TW

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Interesting Blog Post (Sci Am, Sept 77)

*Message #1 Posted by **Les Bell** on 3 Apr 2010, 10:13 p.m.*

I often check out the Modern Mechanix blog (http://blog.modernmechanix.com/) for its cool reprints of scientific/technical (and social) articles from the last century. A recent entry (http://blog.modernmechanix.com/2010/03/30/ti-micro-electronics/) concerned TI Microelectronics - basically an advertorial or advertising insert in the September 1977 issue of Scientific American. The content describes TI's 9900 series 16-bit microprocessors, and although the insert cover shows various related products, there's also a TI-59 on there - but I didn't think it was based on a 9900 processor; was it?

Anyway, there's several other articles from that particular issue on the same site: http://blog.modernmechanix.com/issue/?magname=ScientificAmerican&magdate=9-1977. The articles mostly related to various early hobby computers, including one on the HP-01. Enjoy!

Best,

--- Les
[http://www.lesbell.com.au]

Re: Interesting Blog Post (Sci Am, Sept 77)

*Message #2 Posted by **Eric Smith** on 4 Apr 2010, 12:19 a.m.,*
in response to message #1 by Les Bell

You are correct that the TMS9900 16-bit microprocessor was not used in the TI-59 calculator, nor in any other TI calculator. The TI-58, TI-58C, TI-59, and SR-60A all used the TMC0501E four-bit processor, specifically design for use in calculators. It is unclear as to what if any, functional differences this had from the TMC0501 processor used in the earlier SR-50, SR-51, SR-52, SR-56, and SR-60 calculators.

The TM 990/189 "University Module" (microprocessor evaluation board) used a TMS9900 microprocessor, and used a top case of a TI-59 as a display and keyboard, but it was definitely not a calculator.

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First impressions of new TI-NSpire CAS

*Message #1 Posted by **Don Shepherd** on 2 Apr 2010, 11:50 p.m.*

This isn't an in-depth review, just some first impressions after playing with it for a few days.

Calculator

keyboard

back of keyboard

The display is comparable to the original NSpire display. It is still hard to see without a strong bright external light source. A backlight, like on the Casio fx-9860g Slim, would be a most welcome addition.

The touchpad does make navigating easier, but it is tedious to move the cursor with the touchpad. A real touchscreen would be another welcome addition.

The home screen concept is better than the original NSpire. It encourages experimentation and makes documents easier to find.

The removeable keyboard (on the CAS model) is something new, although the TI-84 keyboard apparently will not work with the CAS model. That's unfortunate.

There are two new instructions in the BASIC-like programming language; Request to input a number and RequestStr to input a string. Both are very welcome. There is also a Text instruction to output a text box.

The NSpire is primarily a tool for students. It has many features that allow for experimentation; for example, to see how the formula of an equation changes in real-time as you change the shape of the curve. Some kids will learn from that.

It is not an engineers calculator. It is rather big and heavy and the trig functions are accessible via a menu rather than dedicated keys.

All in all, a worthy calculator for experimentation and number theory work.

Re: First impressions of new TI-NSpire CAS

*Message #2 Posted by **Namir** on 3 Apr 2010, 7:02 a.m.,*
in response to message #1 by Don Shepherd

Where can you purchase one? Did you get a pre-sale unit because you are on a special list with TI?

Also where did you get the info on the additional programming commands? I was looking at the programming commands of the older TI Nspire and it had no input commands that prompt the user to enter values--only input is the arguments that you give the program or function!!

Namir

Edited: 3 Apr 2010, 7:27 a.m.

Re: First impressions of new TI-NSpire CAS

*Message #3 Posted by **Don Shepherd** on 3 Apr 2010, 8:09 a.m.,*
in response to message #2 by Namir

Page 34 of the release notes talks about the new programming instructions.

I have seen the new units advertised in a couple of places online, I'd Google it. I was able to swap my old NSpire CAS for the new one because I'm a teacher, and they let teachers do that.

Re: First impressions of new TI-NSpire CAS

*Message #4 Posted by **Namir** on 3 Apr 2010, 8:59 a.m.,*
in response to message #3 by Don Shepherd

Thanks Don! I plan to buy one when TI starts selling it. I have the TI Nspire from 2008, but did not have time to tinker with it. I plan to do more with the new version.

Namir

Re: First impressions of new TI-NSpire CAS

*Message #5 Posted by **Don Shepherd** on 3 Apr 2010, 9:48 a.m.,*
in response to message #4 by Namir

I think the new NSpire is definitely an improvement over the old one, but not a revolutionary improvement. A revolutionary improvement would have been a display that you could actually read in low (or normal, really) light conditions, and a real touch-screen with stylus. Although the screen has a very good degree of resolution, you just can't read it easily most of the time, and that really takes away from the usability of the device, in my opinion. You can choose the font size among three settings, but even when you choose large font, it doesn't help much. And the new touchpad does make navigating between pages or items on a page easier, but a real touchscreen and stylus would be so much better.

From my perspective, the major improvements in the new version are a new keyboard layout with the alpha keys relocated (I was always hitting those green alpha keys when I didn't want to) and, of course, the programming instructions for getting user input during the execution of a program. When I saw that the original NSpire did not have any programming input commands, I wrote TI and told them that you might as well not even offer a programming language if you are going to have that restriction; looks like they finally listened.

By the way, the alpha keys on the new unit have a distinctive "click", a la HP, so you know when it registers. That's good.

Re: First impressions of new TI-NSpire CAS

*Message #6 Posted by **Namir** on 3 Apr 2010, 10:50 a.m.,*
in response to message #5 by Don Shepherd

The display problem you mentioned reminds me of the same problem with the Casio ClassPad. I ended up using the emulator for that calculator more than the calculator itself. The revised version of the ClassPad had a better LCD display.

I am glad that you wrote TI about the lack of program execution input commands.

I remember in July 2008 I was in a big grocery store in the south of France looking for a Casio Graphics calculator with an SD card port. My son Joey said "Dad! You'd better look at this!" as he pointed to the new TI Nspire CAS and non-CAS versions. I picked two CAS units and he demanded one (as he was an avid TI-89 user). I figured that would be OK as I will go back in \a few days to the same grocery store and buy a second Nspire CAS for me. I was very surprised to see the store remove the CAS version units!!! I ended up buying the second TI Nsire CAS from the US.

Namir

Re: First impressions of new TI-NSpire CAS

*Message #7 Posted by **Don Shepherd** on 3 Apr 2010, 11:03 a.m.,*
in response to message #6 by Namir

> Quote:
>
> I was very surprised to see the store remove the CAS version units!!!

Hey, maybe HP online sales hired the guy from that store!!

:)

Re: First impressions of new TI-NSpire CAS

*Message #8 Posted by **Namir** on 3 Apr 2010, 7:27 p.m.,*
in response to message #7 by Don Shepherd

I think they were removed because French schools (like most in the world) did not want students to have the CAS features that would make them bypass the need to learn more basic algebra and calculus.

Namir

Re: First impressions of new TI-NSpire CAS

*Message #9 Posted by **Jean-Michel** on 4 Apr 2010, 4:02 a.m.,*
in response to message #8 by Namir

Bonjour Namir,

in fact, I guess you are not correct assuming that the TI Nspire CAS was removed from stores shelves due to its CAS features. Things are nit ruled the same way in France than in the US on this topic. Evidence of this is that this calculator has always been, and still is, available. I think it is more a concern with this particular store you mentionned in your post rather than a complete removal of this calc from shelves. Another evidence of this is the CASIO Graph 100+ (at least named like this in France) which also has CAS features. I checked this morning, and found only the first version of Nspire on sale.

Bonnes fêtes de Paques !

JM.

Re: First impressions of new TI-NSpire CAS

*Message #10 Posted by **Namir** on 4 Apr 2010, 4:51 p.m.,*
in response to message #9 by Jean-Michel

In addition to the Carrefour grocery store, I did see only the non-CAS version at the nearby FNAC store, and I assumed it's the same reason. Sounds like it's the choice of these stores.

In any case, I stand corrected.

Have a Happy Easter!! You guys are also off tomorrow!!!

Namir

Re: First impressions of new TI-NSpire CAS

*Message #11 Posted by **Marcus von Cube, Germany** on 5 Apr 2010, 10:55 a.m.,*
in response to message #6 by Namir

You know that the new OS loads fine in an older unit? So you get the new commands without shelling out money.

Re: First impressions of new TI-NSpire CAS

*Message #12 Posted by **Han** on 3 Apr 2010, 3:56 p.m.,*
in response to message #5 by Don Shepherd

> Quote:
>
> From my perspective, the major improvements in the new version are a new keyboard layout with the alpha keys relocated (I was always hitting those green alpha keys when I didn't want to)

An improvement, but not by much. Those are some TINY buttons!!

Re: First impressions of new TI-NSpire CAS

*Message #13 Posted by **Don Shepherd** on 3 Apr 2010, 5:54 p.m.,*
in response to message #12 by Han

True, they are tiny, and I wouldn't want to use them to type a letter or write a report, but they do have a distinctive key-click, and my initial experience using them is that I don't press the wrong key when I use them, so they work for me.

What I'd really like is a more readable display.

Re: First impressions of new TI-NSpire CAS

*Message #14 Posted by **ClausB** on 4 Apr 2010, 7:31 a.m.,*
in response to message #13 by Don Shepherd

Nintendo sells millions of small LCD touch screens. Why doesn't TI adapt those to a calculator?

Maybe because someone else has:

http://www.engadget.com/2005/04/21/emulate-a-ti-85-on-your-nintendo-ds/

http://www.walkingrandomly.com/?p=682

Edited: 4 Apr 2010, 8:04 a.m.

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keys to Woodstock security cradle?

*Message #1 Posted by **megarat** on 2 Apr 2010, 11:17 p.m.*

Hey all,

I had a fortuitous find today at a university surplus sale: a box containing five HP-27 calculators, including many carrying cases, adapters, etc. Everything seems to be in great shape thus far, although I haven't yet gotten around to any practical testing.

One strange caveat is that the calculators are all locked in the (optional) (HP-manufactured) "security cradle". (See this archived brochure for more info.) Does anyone know the details of the lock for these things? I.e., are they all keyed the same? (And if so, is it possible to get the keys?)

I'm pretty handy with drilling locks, but I'd like to preserve these if possible, in case anyone out there might be interested in them.

Edited: 2 Apr 2010, 11:17 p.m.

Re: keys to Woodstock security cradle?

*Message #2 Posted by **megarat** on 3 Apr 2010, 1:33 a.m.,*
in response to message #1 by megarat

I found the answer to my own question. In the one-page installation manual for the cradle, it says, "The factory cannot supply additional keys. We recommend you have duplicates made."

Re: keys to Woodstock security cradle?

*Message #3 Posted by **Dave Britten** on 3 Apr 2010, 9:21 a.m.,*
in response to message #1 by megarat

Are they wafer tumbler locks? Those are usually relatively easy to pick with the right household tools (I've used straightened hair pins and very small knitting needles in a pinch).

Once you've opened them, you could potentially replace/rekey the locks, or impression some keys if you really know what you're doing. (I definitely don't!)

Re: keys to Woodstock security cradle?

*Message #4 Posted by **megarat** on 3 Apr 2010, 11:39 a.m.,*
in response to message #3 by Dave Britten

My knowledge of lock taxonomy is pretty limited, but I believe they are. It looks like a small cam lock, and resembles the lock for the "ignition key" on an SGI Onyx I picked up from Boeing Surplus a few years ago ... no key was included with that, but it matched the key for a friend's screen door perfectly. I'm under the impression that these types of locks don't have a large "key space", so I may just luck out by trying a few things.

If not, I'm going to solicit a friend with a lock-pick set before breaking out the drill. Also, as part of the kit, there is an open, empty cradle, so I can remove the lock and see how available they are. It would be nice if I can drill them open and replace the lock, and still have them be perfectly reusable.

Edited: 3 Apr 2010, 11:42 a.m.

Re: keys to Woodstock security cradle?

*Message #5 Posted by **Dave Shaffer (Arizona)** on 3 Apr 2010, 1:18 p.m.,*
in response to message #4 by megarat

You might just check with a locksmith!

Re: keys to Woodstock security cradle?

*Message #6 Posted by **megarat** on 3 Apr 2010, 4:23 p.m.,*
in response to message #5 by Dave Shaffer (Arizona)

Indeed, although that's probably my last option, given that I expect them to charge at least US$50 for the service.

Re: keys to Woodstock security cradle?

*Message #7 Posted by **db (martinez, ca.)** on 3 Apr 2010, 7:21 p.m.,*
in response to message #6 by megarat

i've had call to need a lock picked and re-keyed a couple of times by a locksmith here in river city. he charged me $15 to pick and re-key a lock i brought to him but he charges $70 to go and do the same song and dance with the sheriff on an eviction. moral: call ahead, describe the problem, tell him that there are a few of them, and that you will deliver and pick up. you might get a big discount because he doesn't have to charge for "windshield time" and that the second will be easier than the first & the third will.....

Re: keys to Woodstock security cradle?

*Message #8 Posted by **Martin Pinckney** on 3 Apr 2010, 7:39 p.m.,*
in response to message #7 by db (martinez, ca.)

This is good advice. If you do some checking, I'd bet you can find a locksmith that will be very reasonable. I believe locks of that type are easy to pick and re-key. Just don't assume the first quote you get is the best or that the others will be the same. That's been my experience at least.

Anyway, since you got these calculators at such a bargain (assumed), isn't it worth a little money to get them off the cradle without damage?

Re: keys to Woodstock security cradle?

*Message #9 Posted by **megarat** on 3 Apr 2010, 11:52 p.m.,*
in response to message #8 by Martin Pinckney

> Quote:
>
> Anyway, since you got these calculators at such a bargain (assumed), isn't it worth a little money to get them off the cradle without damage?

I don't know why, but it was such a good deal that I'm a little bit embarrassed to report on it. The box contained:

-- 5 HP-27 calculators, each with mains adapter and locked in security cradle; quick tests show three of them seeming to work fine, two seeming to be twitchy.

-- One extra empty/open cradle.

-- (Of the six cradles, only three have security cables.)

-- 8 apparently unused faux-leather cases.

-- One HP-27 User Manual, one manual addendum, two catalogues of calculator accessories, and two "manuals" (one-page pamphlet, really) for the security cradles.

The complete kit was US$5. (One dollar per calculator.) What made it especially tickling was that I went to the sale on a time-killing lark; I was not, in any way, on the lookout for anything exciting.

Re: the effort of preserving the cradles. This begs the question, will anybody be interested in these? I'm happy to preserve them if there is likely to be interest, but if these are off the radar for most people/collectors, it would be easier, faster and more economical for me to just drill them.

So let me know: is anyone here interested in these cradles? If so, I'd be happy to preserve them and send them to you for the price of shipping. Note that they're not pristine; they're in good condition, but they bear some institutional markings in indelible ink. (Among them, on two of the cradles, some cheeky scoundrel wrote "TI" on the top.) Oh, and as alluded to earlier, three of the six are missing cables.

Edited: 3 Apr 2010, 11:55 p.m.

Re: keys to Woodstock security cradle?

*Message #10 Posted by **db (martinez, ca.)** on 4 Apr 2010, 12:56 a.m.,*
in response to message #9 by megarat

two things:
1) i'd be interested in a cradle. email me whenever. i could fabricate a cable at the marine supply place here in martinez. if i can swedge together climbing equipment; i can do the same for a calc cradle.
2)forgive me for both telling you something that you may already know, and quoting myself, but i'm not sure how your 27s are set up and not sure how familiar you are with the woodstock class of HPs. that flicker scares me. here goes:
IMHO it is dangerous to charge the batteries INSIDE your model of hp calculator. A high percentage of them are dead because the batteries weren't making good contact, maybe because of slight corrosion or dust, and the irreplaceable ROMs got fried with too much DC. Let this be known as the too much cheesecake too soon syndrome. I avoid the problem by charging the batts outside of the calculator or running slightly used AA alkaline 1.5v cells in place of the 1.25v rechargeables.
sorry if this is old news or something taken care of by hp in your units but care is warranted in any old hp and especially one as rare as the 27.

Re: keys to Woodstock security cradle?

*Message #11 Posted by **megarat** on 4 Apr 2010, 3:15 a.m.,*
in response to message #10 by db (martinez, ca.)

> Quote:
>
> 2)forgive me for both telling you something that you may already know, and quoting myself, but i'm not sure how your 27s are set up and not sure how familiar you are with the woodstock class of HPs. that flicker scares me. here goes:
> IMHO it is dangerous to charge the batteries INSIDE your model of hp calculator. A high percentage of them are dead because the batteries weren't making good contact, maybe because of slight corrosion or dust, and the irreplaceable ROMs got fried with too much DC. Let this be known as the too much cheesecake too soon syndrome. I avoid the problem by charging the batts outside of the calculator or running slightly used AA alkaline 1.5v cells in place of the 1.25v rechargeables.
> sorry if this is old news or something taken care of by hp in your units but care is warranted in any old hp and especially one as rare as the 27.

Thanks for the information ... I hope I didn't do anything negligent, but fear that I might have. Being locked in the cradles, the calculators are currently unavailable to inspection. (For instance, I don't even know if, cosmetically, they have any institutional markings. All I can see is the keyboard and the LED, refracted through the plastic visor of the cradle.)

I had read that Woodstocks should be powered on only with batteries in place, and I felt confident that that was the case with all of them (being still in their cradles with adapters attached), but hadn't considered the possibility of connection problems.

I'll proceed much more cautiously from hereon out.

EDIT: Reading now from the MoHPC's batteries page, I can see, clearly, the warning, "Most models can be damaged if run from the charger without good batteries installed". I missed that the first time, having skipped straight down to the Woodstock section. Rats, I hope I didn't fry those two calculators, that would break my heart.

Edited: 4 Apr 2010, 3:44 a.m.

Re: keys to Woodstock security cradle?

*Message #12 Posted by **megarat** on 3 Apr 2010, 8:30 p.m.,*
in response to message #7 by db (martinez, ca.)

Thanks for the perspective, I'll definitely keep it in mind before doing anything drastic.

Re: keys to Woodstock security cradle?

*Message #13 Posted by **Alberto Fenini** on 4 Apr 2010, 5:07 a.m.,*
in response to message #12 by megarat

Hello everybody, Happy Easter to everyone !!!
That was my experience with a Woodstock cradle.
Mine was keyless and with the red panel broken.
Luckily the HP25 that came with was out of the cradle, but neverthless I wanted to restore the cradle too.
A quick research showed that in Italy, or in Milano where I live was impossible to find a replica for the key
The lock was then drilled

Since I was not into that job, I had it done from a small hardware shop.
At the poin the cradle could be opened and revealed the locking mechanism

The lock was replaced with a cheap and very common lock for condos mailboxes,

and the locking "arm" was installed on it. The guy at the shop told me that it required little work but nothing dramatic, work and new lock costed 20 €
Then I have found this company on internet Plexishop and found out that for 2€ eahc, they can cut custom size red plexiglas.

I also purchased some of their plexiglas polish and I can say the it was very useful for bringing back to good conditions some of my units displays.It only should be noted that the spare display was not polished on both sides, so I had to do it by myself, but was a easy task.
The glass was cutted (metric system) 3 mm thick, 63 mm length and 13 mm high. From thre inside is a little loose, but from the outside looks very nice.
I found it a good glue to be Item number: 120510277353, which I also have used to restore plastic cracks or to meld together restored battery packs shields
I hope these information can be of help to you or to anybody in this forum, I'm not affiliated with any of these vendors, I just wanted to give a practical hint.
Should you have some cradle for sale, please let me know, I'm interested in buying those, or event a non working HP27 unit
Again,Happy Easter Everybody

Re: keys to Woodstock security cradle?

*Message #14 Posted by **Sören Nilsson** on 4 Apr 2010, 12:39 p.m.,*
in response to message #13 by Alberto Fenini

Hi,

I don't understand how and why this lock is used. What is it locking? Can someone send pictures of the complete HP-27?

Re: keys to Woodstock security cradle?

*Message #15 Posted by **Martin Pinckney** on 4 Apr 2010, 5:57 p.m.,*
in response to message #14 by Sören Nilsson

Sören, if you follow the link in the original post on this thread, you will see the whole kit. The lock secures the calculator to the security cradle, which in turn can be secured to a desk by the steel cable you see coiled up in the photo of the whole kit. Much like the laptop computer cables that nobody uses.

keys to Woodstock security cradle?

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HP 65 Repair Effort

*Message #1 Posted by **ClausB** on 2 Apr 2010, 4:05 p.m.*

I recently got a broken 65 off eBay. On power up it displays all 1s for a second and then goes blank. It has been repaired before because the logic board ROMs have later dates (7437) than the serial label (1333A 08230) and the main IC has a sticker dated '78. Also the card reader is clean and its wheel has new o-rings. Would anyone here happen to know the history of this unit?

I printed the logic board layout from the May '74 HP Journal article and checked the power supply output with a DC voltmeter. I get these readings:

Nominal _ Actual
3.75 _____ 3.8 (batt)
6 _____ 6.2
7.5_____ 7.7
-12 _____ -12.2

These seem OK, no?

I also measured 2.9 DC volts at phi1 and 3.4 at phi2. Sound reasonable?

I guess the next step is to scope some signals. Any other ideas?

Edit: Can that serial number be right? I thought the 65 came out in '74.

Edited: 2 Apr 2010, 5:59 p.m.

Re: HP 65 Repair Effort

*Message #2 Posted by **Eric Smith** on 2 Apr 2010, 11:30 p.m.,*
in response to message #1 by ClausB

DC voltages OK. To really tell whether the clock is OK, you'd have to look at it on an oscilliscope. The main signals to look at are:

signal	test point	hybrid pin	ROM pin	
Phi1	6	38	12	
Phi2	5	39	10	
SYNC	1	32	7	sync, pulse active 10 of 56 cycles
IA	3	8	15	instruction address, CPU -> ROM
IS	2	33	6	instruction, ROM -> CPU
RCD	10	34	n/a	reset cathode driver, every 15 words
WS	9	30	14	word select, which digits are affected by instruction
DATA	8	35	n/a	56-bit data word

Pin information is from my own personal notes, but I think it matches Tony's schematics.

Re: HP 65 Repair Effort

*Message #3 Posted by **ClausB** on 2 Apr 2010, 11:34 p.m.,*
in response to message #2 by Eric Smith

That's very helpful. Thanks, I'll check those.

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Ed Roberts: 1941 - 2010

*Message #1 Posted by **Thomas Chrapkiewicz** on 2 Apr 2010, 9:06 a.m.*

Altair Maker:

http://en.wikipedia.org/wiki/Ed_Roberts_(computer_engineer)

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Math Software that supports BCD?

*Message #1 Posted by **Tim Wessman** on 1 Apr 2010, 3:42 p.m.*

Hello,

Is anyone aware of a mathematical suite that has an option to use BCD math instead of binary? (not something like the IBM BCD library, but more like matlab)

TW

Edited: 1 Apr 2010, 3:44 p.m.

Re: Math Software that supports BCD?

*Message #2 Posted by **Norman Dziedzic** on 1 Apr 2010, 6:01 p.m.,*
in response to message #1 by Tim Wessman

I don't know of any packages outside of the industrial software we use to program machine controllers but you have piqued my curiosity as to why you would want such a thing?

Re: Math Software that supports BCD?

*Message #3 Posted by **Tim Wessman** on 1 Apr 2010, 7:54 p.m.,*
in response to message #2 by Norman Dziedzic

Basically, for doing comparison against other sources when developing new math routines. For example, the FMRR calculation made for the 30b was very difficult to find things to compare against (granted, that is a specialized financial thing, but I've been hoping to find something for general usage for a while now). When you are implementing something new, and you have a slight difference in the last digit or two with what you are comparing against, is it difference in the algorithm? In the encoding? Do you have a bug? And so on. . .

Ideally, something that can be programmed/scripted allows good testing coverage.

TW

Edited: 1 Apr 2010, 8:23 p.m.

Re: Math Software that supports BCD?

*Message #4 Posted by **hugh steers** on 1 Apr 2010, 8:46 p.m.,*
in response to message #3 by Tim Wessman

what you should do is use a multiprecision library (not necessarily in BCD) and make it work to 50 digits or so. then have it convert to strings and use those to compare your results. ie validate the resultant decimalised strings.

Suppose you want to verify a 12 figure answer, from the high precision library result first add ANS*5e-13 for 12 figure rounding, then convert to a string, then just keep the first 12 figures and compare.

Re: Math Software that supports BCD?

*Message #5 Posted by **Tim Wessman** on 1 Apr 2010, 9:16 p.m.,*
in response to message #4 by hugh steers

Well, yes. There are definitely plenty of ways to do this. I was thinking it would be quite cool to be able to essentially "simulate" 12 digit, 15, 6 or whatever nicely. :-)

TW

Re: Math Software that supports BCD?

*Message #6 Posted by **Pal G.** on 2 Apr 2010, 12:45 a.m.,*
in response to message #5 by Tim Wessman

Tim, have you looked at:

bc:

http://en.wikipedia.org/wiki/Bc_programming_language

.. or,

dc:

http://en.wikipedia.org/wiki/Dc_(Unix)

Unix, Linux, or Mac (Darwin).

Re: Math Software that supports BCD?

*Message #7 Posted by **Bart (UK)** on 2 Apr 2010, 3:07 a.m.,*
in response to message #3 by Tim Wessman

> Quote:
>
> Ideally, something that can be programmed/scripted allows good testing coverage.

What you're actually looking at is "validation", a subset of a complete test plan/program.

Things to beware of:
-Using a single alternative comparison does not prove anything.
- If using more than one alternative source, how independent are they (be aware of: if they are using the same language, compiler, algorithms [e.g. both used snippets of the same publicly available -possibly erroneous- code], or similar coding logic, etc).

Re: Math Software that supports BCD?

*Message #8 Posted by **hugh steers** on 1 Apr 2010, 6:40 p.m.,*
in response to message #1 by Tim Wessman

source or exe?

here's my windows command line version of reckon. I use this for my own calculations.

www.voidware.com/reckon/reckon.exe

Re: Math Software that supports BCD?

*Message #9 Posted by **Alain Mellan** on 2 Apr 2010, 1:47 a.m.,*
in response to message #1 by Tim Wessman

Not really a math suite, but Python supports BCD computation with the decimal module.

```
$ python
>>> import decimal
>>> help(decimal)
```

Edited: 2 Apr 2010, 1:49 a.m.

Re: Math Software that supports BCD?

*Message #10 Posted by **Thomas Chrapkiewicz** on 2 Apr 2010, 9:07 a.m.,*
in response to message #1 by Tim Wessman

Not exactly Math Software, but PowerBasic has a BCD datatype.

TomC

Re: Math Software that supports BCD?

*Message #11 Posted by **Bill (Smithville, NJ)** on 5 Apr 2010, 7:16 a.m.,*
in response to message #10 by Thomas Chrapkiewicz

And if you really want to go old tech - definitely not Math Software - the old Turbo Pascal 3.0 had a BCD version that worked with Reals up to 18 Significant digits.

Bill

Re: Math Software that supports BCD?

*Message #12 Posted by **Namir** on 5 Apr 2010, 10:37 a.m.,*
in response to message #11 by Bill (Smithville, NJ)

Ah Bill ... Turbo Pascal ... those were the days!!!

Re: Math Software that supports BCD?

*Message #13 Posted by **Bill (Smithville, NJ)** on 5 Apr 2010, 11:03 a.m.,*
in response to message #12 by Namir

Hi Namir,

> Quote:
>
> Turbo Pascal ... those were the days!!!

What do you mean - I still use Turbo Pascal on a daily basis. Nothing works better for me for one-off utilities - data filter programs, etc. I do a lot of data collection, sometimes as often as every 6 seconds or so, and these generate very large files very quickly. So I use a Turbo Pascal Program to read the data and then output only the data I need at any particular time. Also useful for combining data into more usable subsets - such as hourly, daily or monthly.

Of course my new home computer is running 64 bit Windows 7 - which won't directly run my 16 bit programs. But Dosbox & virtual Machine work fine on it.

Bill

Re: Math Software that supports BCD?

*Message #14 Posted by **Herbert Crepaz (UK)** on 5 Apr 2010, 4:08 p.m.,*
in response to message #13 by Bill (Smithville, NJ)

Hi Bill,

> Quote:
>
> What do you mean - I still use Turbo Pascal on a daily basis. Nothing works better for me for one-off utilities - data filter programs, etc. I do a lot of data collection, sometimes as often as every 6 seconds or so, and these generate very large files very quickly. So I use a Turbo Pascal Program to read the data and then output only the data I need at any particular time. Also useful for combining data into more usable subsets - such as hourly, daily or monthly.
>
> Of course my new home computer is running 64 bit Windows 7 - which won't directly run my 16 bit programs. But Dosbox & virtual Machine work fine on it.

Then you might be interested in FreePascal. This is a modern Pascal compiler with excellent compatibility with TP 7.0. A native Win64 version can be found at: www.freepascal.org/

Herbert

Re: Math Software that supports BCD?

*Message #15 Posted by **Bill (Smithville, NJ)** on 6 Apr 2010, 7:06 a.m.,*
in response to message #14 by Herbert Crepaz (UK)

Herbert,

Thanks for the link to Free Pascal. I just downloaded it and the supporting documentation. I'll give it a try this weekend.

Thinking of Turbo Pascal 7.0, I remember when we upgraded to it at work, we paid "$45 Freight" instead of "shipping" charges due to the large amount of documentation that came with it. Man, those were the days - when computer programs came with full printed documentation.

Bill

Re: Math Software that supports BCD?

*Message #16 Posted by **David Hayden** on 6 Apr 2010, 10:17 p.m.,*
in response to message #15 by Bill (Smithville, NJ)

Bill,

You might also consider trying Delphi. It's a Pascal language with fabulous windows support.

Re: Math Software that supports BCD?

*Message #17 Posted by **Bill (Smithville, NJ)** on 7 Apr 2010, 6:53 a.m.,*
in response to message #16 by David Hayden

David,

Thanks for tip on Delphi. I don't really need or want "windows" support. A line oriented in/out batch file works great, and when assiged to the windows scheduler, can occur at a convient time each day. It's part of an automated data logging procedure. I usually create an excel spreadsheet that can directly load the resulting data files for any further viewing/manipulation.

I loaded Free Pascal last night and it's perfect for my application.

Bill

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OT: iPhone/iPod Touch WolframAlpha now $2

*Message #1 Posted by **Egan Ford** on 1 Apr 2010, 11:33 a.m.*

For those that have been waiting for the price to drop from $50.

I speculate that an iPad version is on the way and will be priced at much more than $2.

Re: OT: iPhone/iPod Touch WolframAlpha now $2

*Message #2 Posted by **Ángel Martin** on 1 Apr 2010, 2:01 p.m.,*
in response to message #1 by Egan Ford

Who knows... but I surely hope so. It's hard to come to terms to spending $50 on something that's free on the PC environment - I always regarded that as inconsistent to say the least...

Re: OT: iPhone/iPod Touch WolframAlpha now $2

*Message #3 Posted by **Pal G.** on 2 Apr 2010, 12:47 a.m.,*
in response to message #1 by Egan Ford

Thanks for the heads up, Egan!
I knew they would eventually come to their cents's..

Re: OT: iPhone/iPod Touch WolframAlpha now $2

*Message #4 Posted by **Egan Ford** on 2 Apr 2010, 8:52 a.m.,*
in response to message #1 by Egan Ford

iPad version is out. Just a larger version of the current app. Still $2.

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Did HP suspend selling the HP-30b?

*Message #1 Posted by **Namir** on 31 Mar 2010, 7:14 p.m.*

Hi All,

I was gone on vacation where I had very limited Internet access. I returned home last night. Today I visited the HP web site to buy the new HP-30B. I was surprised that the web site did not list that machine!! Did I do something wrong?

i appreciate any and all help.

Namir

Re: Did HP suspend selling the HP-30b?

*Message #2 Posted by **Don Shepherd** on 31 Mar 2010, 7:59 p.m.,*
in response to message #1 by Namir

I see it listed here.

Re: Did HP suspend selling the HP-30b?

*Message #3 Posted by **Namir** on 31 Mar 2010, 8:29 p.m.,*
in response to message #2 by Don Shepherd

Thanks Don! I see it too ... but when I click on buying online I get a page that says that the intended page is not available.

:-(

Namir

Re: Did HP suspend selling the HP-30b?

*Message #4 Posted by **Don Shepherd** on 31 Mar 2010, 10:11 p.m.,*
in response to message #3 by Namir

Yeah, this happened once before, as I recall. HP must get their web weenies from Jimmy-Bob's Web Service. I'd call the 800 number, I think you only get free shipping by dialing that number.

Re: Did HP suspend selling the HP-30b?

*Message #5 Posted by **Bruce Bergman** on 1 Apr 2010, 12:38 a.m.,*
in response to message #3 by Namir

VERY common. Their web site is a piece of junk on the store side. I've gotten that countless times. Just keep trying...

Re: Did HP suspend selling the HP-30b?

*Message #6 Posted by **Pal G.** on 1 Apr 2010, 1:37 a.m.,*
in response to message #3 by Namir

HP is such a ginormous company, I imagine their web megalopolis (can't really call it a 'site') is being organized and maintained by bots. Humans probably don't go near it! Since the bot algorithms are unsupervised and self-learning they often get it wrong, but sometimes get it right. If you swing by at just the right time, in between garbage collection and a new release of marketing bots from the nursery, you might actually find something you want..

..or not. I'd try Office Max.

Re: Did HP suspend selling the HP-30b?

*Message #7 Posted by **Marcus von Cube, Germany** on 1 Apr 2010, 4:57 a.m.,*
in response to message #6 by Pal G.

I've mail ordered mine here in Germany from Dynatech. Still waiting...

Re: Did HP suspend selling the HP-30b?

*Message #8 Posted by **David Hayden** on 1 Apr 2010, 6:33 a.m.,*
in response to message #3 by Namir

> Quote:
>
> Thanks Don! I see it too ... but when I click on buying online I get a page that says that the intended page is not available.

Tim, this is the sort of complaint that you can push up the management chain and really get results. If you tell management "someone is TRYING to give HP money and the website won't let them" then you'll get results. :)

Re: Did HP suspend selling the HP-30b?

*Message #9 Posted by **Etienne Victoria** on 1 Apr 2010, 9:00 a.m.,*
in response to message #1 by Namir

Nice April 1st joke, Namir :-))

Cheers

Etienne

Re: Did HP suspend selling the HP-30b?

*Message #10 Posted by **Namir** on 1 Apr 2010, 9:28 a.m.,*
in response to message #9 by Etienne Victoria

No April joke. I am dead serious.

I will call the toll free number and order 2 machines.

Thanks to all for responding.

namir

Re: Did HP suspend selling the HP-30b?

*Message #11 Posted by **Namir** on 1 Apr 2010, 9:40 a.m.,*
in response to message #9 by Etienne Victoria

I tried the toll free number and the telemarketer was able to find the calculator (after I found and gave him the part number) but was unable to sell it!! I told him I will call in a few weeks!

Namir

Re: Did HP suspend selling the HP-30b?

*Message #12 Posted by **Don Shepherd** on 1 Apr 2010, 12:11 p.m.,*
in response to message #11 by Namir

Unbelieveable.

Re: Did HP suspend selling the HP-30b?

*Message #13 Posted by **Namir** on 1 Apr 2010, 1:49 p.m.,*
in response to message #12 by Don Shepherd

It's a mess!!!!

Namir

Re: Did HP suspend selling the HP-30b?

*Message #14 Posted by **Don Shepherd** on 2 Apr 2010, 10:36 p.m.,*
in response to message #13 by Namir

Tim, what's going on with this? Announced in January, available in March, unavailable in April? Who's running the show there?

Re: Did HP suspend selling the HP-30b?

*Message #15 Posted by **sylvandb** on 4 Apr 2010, 1:50 a.m.,*
in response to message #14 by Don Shepherd

> Quote:
>
> Tim, what's going on with this? Announced in January, available in March, unavailable in April? Who's running the show there?

Well it isn't engineers.

Re: Did HP suspend selling the HP-30b?

*Message #16 Posted by **Marcus von Cube, Germany** on 5 Apr 2010, 10:35 a.m.,*
in response to message #15 by sylvandb

I just checked the Dynatech website: I'll have to wait until May.

Re: Did HP suspend selling the HP-30b?

*Message #17 Posted by **Eddie W. Shore** on 8 Apr 2010, 12:40 a.m.,*
in response to message #16 by Marcus von Cube, Germany

That is sad. HP is doing exactly the opposite of what they should be doing: selling the 30b on site and start touring the office stores with it.

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HP 65 Service Manual

*Message #1 Posted by **ClausB** on 31 Mar 2010, 1:57 p.m.*

Is a service manual available anywhere for the 65?

I read in one of the forum archives that someone made a schematic of the 65, but I can't find that post again. Can anyone help?

Thanks!

Re: HP 65 Service Manual

*Message #2 Posted by **John Robinson** on 31 Mar 2010, 11:04 p.m.,*
in response to message #1 by ClausB

Hi Claus,

Complete schematics as drawn by Tony Duell can be found on the PPC CD/DVDs - contact Jake Schwartz for those. See PPC DVD

Also, I have redrawn the DC-DC converted schematic using a CAD tool, and you can find that at : 65 DC DC converter

Cheers, John

Re: HP 65 Service Manual

*Message #3 Posted by **Eric Smith** on 1 Apr 2010, 2:12 a.m.,*
in response to message #2 by John Robinson

Are you sure they're on Jake's PPC disks? I thought Tony's schematics were only on the HPCC Schematics CD.

Re: HP 65 Service Manual

*Message #4 Posted by **ClausB** on 1 Apr 2010, 6:48 a.m.,*
in response to message #2 by John Robinson

I saw your schematics and posts on Jacque's site - very nice. I await your next "best practices" post.

I got the PPC DVD yesterday and could not find the schematic. Is it in the UK PPC section?

Re: HP 65 Service Manual

*Message #5 Posted by **John Robinson** on 1 Apr 2010, 7:39 a.m.,*
in response to message #4 by ClausB

I could be (probably are) wrong about which CDs. I'll have to dig them out over the weekend and let you know, unless someone else has a definative answer before I get back to you.

Cheers, John

Re: HP 65 Service Manual

*Message #6 Posted by **Etienne Victoria** on 1 Apr 2010, 1:01 p.m.,*
in response to message #2 by John Robinson

Hi Claus, John, all,

I have ordered Tony Duell's schematics CD from the HPCC user club:

HERE.

(Your contact is Dave Colver)

and wholeheartedly recommend this purchase.

Tony's extensive work has helped me in almost ever repair I have done those past years.

Thanks to the Hacker in Residence.

Etienne

Edited: 1 Apr 2010, 1:02 p.m.

Re: HP 65 Service Manual

*Message #7 Posted by **Jake Schwartz** on 1 Apr 2010, 4:04 p.m.,*
in response to message #6 by Etienne Victoria

Right you are....Tony's handiwork is not on my disk(s), just the one available from HPCC.

Jake

Re: HP 65 Service Manual

*Message #8 Posted by **ClausB** on 1 Apr 2010, 6:51 p.m.,*
in response to message #7 by Jake Schwartz

OK, so I've bought the PPC DVD and the Museum DVDs and I still don't have what I need. Was there ever an HP Service Manual? Has it ever been scanned and posted? Seems hard to believe if the answers are no.

Edit: Sorry for the tone. I just got frustrated. Thanks to you all for helping.

Edited: 1 Apr 2010, 7:53 p.m.

Re: HP 65 Service Manual

*Message #9 Posted by **Eric Smith** on 1 Apr 2010, 10:08 p.m.,*
in response to message #8 by ClausB

There almost certainly was an actual HP service manual for the HP-65, but service manuals for

APD and Corvallis Division products were never supposed to be available to customers. (There was a screwup somewhere that led to the HP-75 service manual being orderable.)

The other service manuals that are in the wild were leaked. It's possible that a few more might turn up in the future, but don't hold your breath. As far as I've been able to find out, talking to both current and former HP employees, it is very likely that HP themselves no longer have the service manuals nor any other technical documents relating to old calculators.

What exactly are you trying to find out, anyhow?

Edited: 1 Apr 2010, 10:09 p.m.

Re: HP 65 Service Manual

*Message #10 Posted by **ClausB** on 2 Apr 2010, 8:00 a.m.,*
in response to message #9 by Eric Smith

I'm surprised, given the devotion of HP owners, that one has not survived. Maybe service manuals were rare because the calculators never broke!

Well I have a broken one and I want to fix it. I found some good info from John and Jacques about the power supply and I suppose that's the best place to start. I just thought I would collect all the info available before starting the repair. Once I start, there will be many more questions posted, I expect.

Re: HP 65 Service Manual

*Message #11 Posted by **Eric Smith** on 2 Apr 2010, 12:02 p.m.,*
in response to message #10 by ClausB

They're rare because HP did a very good job of keeping them from getting into the hands of customers. Other than the HP-75, most of the service manuals that have been found and scanned were leaked many years after the discontinuance of the model. However, that became nearly impossible for the old models after calculator responsibility was transferred from Corvallis to Singapore, because everything that wasn't relevant to then-current models was destroyed.

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HP-85 cover all yellow

*Message #1 Posted by **Johnny Bjoern Rasmussen** on 31 Mar 2010, 6:18 a.m.*

Hi folks
My HP-85 has a very yellow cover.
Can I do anything to brighten it up a little (not by painting, thank you)
I'm shure that I have read about this earlier here...

Cheers!
Johnny

This has been discussed:

*Message #2 Posted by **Frank Boehm (Germany)** on 31 Mar 2010, 7:41 a.m.,*
in response to message #1 by Johnny Bjoern Rasmussen

Retr0bright

Re: This has been discussed:

*Message #3 Posted by **DavidShenk** on 31 Mar 2010, 11:34 a.m.,*
in response to message #2 by Frank Boehm (Germany)

Thank you for this link. I had no idea this could be done.

Dave

Re: This has been discussed:

*Message #4 Posted by **Lyuka** on 31 Mar 2010, 1:40 p.m.,*
in response to message #2 by Frank Boehm (Germany)

Very interesting. Thank you for the link.

Lyuka

Not good to show a perfectionist...

*Message #5 Posted by **Michael Meyer** on 31 Mar 2010, 2:48 p.m.,*
in response to message #4 by Lyuka

Great... now I have to take all my Woodstocks apart and re-do the cases if I want them perfect. Anyone know, if I soak a keyboard, will it remove any of the paint finish? Some of mine have slightly yellowed keys.

Re: This has been discussed:

*Message #6 Posted by **Johnny Bjoern Rasmussen** on 31 Mar 2010, 3:01 p.m.,*
in response to message #2 by Frank Boehm (Germany)

Thank you for the answer. I had no idea of that solution. Googled it and found this. Found out that the danish name for Hydrogen peroxide is 'Brintoverilte' and are used to teeth bleaching. I will buy some and make some experiments. Not on my teeth but on the battery lid of one of my HP-21's.

Edited: 31 Mar 2010, 3:48 p.m.

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A new wiki: HP in 10 words

*Message #1 Posted by **Allen** on 30 Mar 2010, 10:11 p.m.*

I recently ran across a new wiki- each article is limited to exactly 10-words long. There are some very clever (and funny) definitions!! I noticed one was missing.

http://www.tenwordwiki.com/Hewlett_Packard

Here's my entry for HP.. Any takers for other links?

http://www.tenwordwiki.com/calculator

http://www.tenwordwiki.com/71b

http://www.tenwordwiki.com/42s

http://www.tenwordwiki.com/41cx

http://www.tenwordwiki.com/15c

http://www.tenwordwiki.com/16c

http://www.tenwordwiki.com/34c

Re: A new wiki: HP in 10 words

*Message #2 Posted by **db (martinez, ca.)** on 30 Mar 2010, 11:47 p.m.,*
in response to message #1 by Allen

i added one to your hp wiki and made one for the 41

Re: A new wiki: HP-15C in 10 words

*Message #3 Posted by **Karl Schneider** on 31 Mar 2010, 2:20 a.m.,*
in response to message #1 by Allen

A serious one for the HP-15C:

Near-flawless scientific calculator; extended derivative of HP-11C and HP-34C.

And a contentious one:

Value and ease: Hall of Fame! Putting 41C to shame.

-- KS

Edited: 31 Mar 2010, 2:24 a.m.

Re: A new wiki: HP-15C in 10 words

*Message #4 Posted by **Eddie W. Shore** on 31 Mar 2010, 9:02 a.m.,*
in response to message #3 by Karl Schneider

HP 15C:

Great portrait-size scientific/programmable calculator, made in 1982.

OT: Re: A new wiki: HP in 10 words

*Message #5 Posted by **Howard Owen** on 31 Mar 2010, 2:03 p.m.,*
in response to message #1 by Allen

I like this one.

tenwordwiki:
a website where words are described with ten words, duh

Re: A new wiki: HP in 10 words

*Message #6 Posted by **Howard Owen** on 31 Mar 2010, 2:19 p.m.,*
in response to message #1 by Allen

Someone had already added a definition for "41cx"

> Quote:
>
> When the very best is only just barely good enough.

I couldn't let that stand, so I added this:

> Quote:
>
> Geeky cult classic calculator/computer. Built by engineers for engineers.

Re: A new wiki: HP in 10 words

*Message #7 Posted by **Allen** on 31 Mar 2010, 10:34 p.m.,*
in response to message #6 by Howard Owen

Nice, How about this one for the 42s :

> Quote:
>
> Penultimate Hewlett Packard calculator. Expensive on ebay- good birth control.

Edited: 31 Mar 2010, 10:35 p.m.

Re: A new wiki: HP in 10 words

*Message #8 Posted by **Don Shepherd** on 31 Mar 2010, 11:32 p.m.,*
in response to message #7 by Allen

Allen, what in the world does "good birth control" mean? Don

Re: A new wiki: HP in 10 words

*Message #9 Posted by **Martin Pinckney** on 1 Apr 2010, 11:03 a.m.,*
in response to message #8 by Don Shepherd

I think he means spending that much for a grown man's toy may bring the wife to anger...

Re: A new wiki: HP in 10 words

*Message #10 Posted by **Allen** on 1 Apr 2010, 9:23 p.m.,*
in response to message #8 by Don Shepherd

Hard to get pregnant when you're counting lines of code, or calculating how many numbers of the form x^6 have a 4 and 6 digit but no 5. :)

This is a variation on Pauli's exclusion principle where wife and calculator can not exist in the same hand due to different energy levels and spin.

Edited: 1 Apr 2010, 9:26 p.m.

Re: A new wiki: HP in 10 words

*Message #11 Posted by **Don Shepherd** on 1 Apr 2010, 10:24 p.m.,*
in response to message #10 by Allen

So, calculator as condom. Wouldn't that be an interesting research project!

Re: A new wiki: HP in 10 words

*Message #12 Posted by **Garth Wilson** on 2 Apr 2010, 12:51 a.m.,*
in response to message #11 by Don Shepherd

On another forum (not calculator-related either!) someone posted a picture of a man lying on their bed with his HP calculator and his half-naked wife (hopefully wife) there unable to get his attention. It was funny but I'll refrain from re-posting. You'll have to imagine.

Re: A new wiki: HP in 10 words

*Message #13 Posted by **Walter B** on 2 Apr 2010, 2:41 a.m.,*
in response to message #12 by Garth Wilson

> Quote:
>
> ... hopefully wife ...

No birth control without a wife. We don't want to leave the topic, do we? d;-)

Re: A new wiki: HP in 10 words

*Message #14 Posted by **db (martinez, ca.)** on 1 Apr 2010, 1:09 a.m.,*
in response to message #7 by Allen

you don't have to splain it to me lucy. i got that treatment when i paid about $280 for a cx and survey

module back in '83, and it was worth it. mmmmmm, that new hp smell.

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Battery Cover for HP-38C

*Message #1 Posted by **Gerardo Rincon** on 30 Mar 2010, 7:00 p.m.*

I have an HP-38C and an HP-33C. The HP-38C is missing the battery cover. Any thoughts about where to get one? I love these calculators. I've been watching ebay on & off for a long time but no luck

Edited: 30 Mar 2010, 7:01 p.m.

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What's the auction world coming to? A 32S sells for more than a 16C

*Message #1 Posted by **Bart (UK)** on 30 Mar 2010, 5:45 p.m.*

This HP 32S sold for more than this HP 16C. Someone was really deperate for a 32S?

Re: What's the auction world coming to? A 32S sells for more than a 16C

*Message #2 Posted by **BobVA** on 30 Mar 2010, 6:09 p.m.,*
in response to message #1 by Bart (UK)

That has "maybe I can replace it before he/she notices" written all over it :-)

Re: What's the auction world coming to? A 32S sells for more than a 16C

*Message #3 Posted by **Randy** on 30 Mar 2010, 6:37 p.m.,*
in response to message #1 by Bart (UK)

> Quote:
>
> Someone was really deperate for a 32S?

Don't think so. I suspect you don't collect Pioneers... as it is not your average 32S. Not just in condition but in form as well. I would guess-ta-mate it is one in a thousand.

Re: What's the auction world coming to? A 32S sells for more than a 16C

*Message #4 Posted by **DavidShenk** on 30 Mar 2010, 7:03 p.m.,*
in response to message #1 by Bart (UK)

It looks like it beats the lowest known serial number by quite a bit, maybe that is why it went for so much?

Dave

Re: What's the auction world coming to? A 32S sells for more than a 16C

*Message #5 Posted by **Randy** on 30 Mar 2010, 9:32 p.m.,*
in response to message #4 by DavidShenk

Earliest 32S = 2809

Unit in question: 3013S

How does that beat the lowest number?

Re: What's the auction world coming to? A 32S sells for more than a 16C

*Message #6 Posted by **ron g.** on 31 Mar 2010, 2:47 a.m.,*

in response to message #1 by Bart (UK)

Obviously:

1. It has new batteries.
2. It's from Belgium, so the buyer get some non-US stamps to add to his collection.
3. The seller used a large font.

Could it be any simpler?

Edited: 31 Mar 2010, 2:47 a.m.

Re: ... A 32S sells for more than a 16C

*Message #7 Posted by **Karl Schneider** on 1 Apr 2010, 3:09 a.m.,*
in response to message #1 by Bart (UK)

Randy hinted at the salient point:

> Quote:
>
> ... it is not your average 32S. Not just in condition but in form as well. I would guess-ta-mate it is one in a thousand.

This one is a 1990 model, likely the only year of the HP-32S with the improved Pioneer-series display -- recessed, with anti-glare face, taller characters, and dust seal. The HP-32S in 1988-89 had the original 'flush' display, and HP-32SII replaced it in 1991.

I also paid around $200 a few years ago when I found a 1990 HP-32S in very good condition at auction.

-- KS

Edited: 1 Apr 2010, 3:11 a.m.

Re: ... A 32S sells for more than a 16C

*Message #8 Posted by **Ron G.** on 1 Apr 2010, 10:15 a.m.,*
in response to message #7 by Karl Schneider

You mean it wasn't the font? 8-)

Thanks for the information, Karl. I was not aware of the different 32S versions.

Re: ... A 32S sells for more than a 16C

*Message #9 Posted by **Bart (UK)** on 1 Apr 2010, 6:06 p.m.,*
in response to message #7 by Karl Schneider

Randy is right that I am not a collector of calculators. I just like to get interesting models.

However, this is my 32S, serial no. 3038Sxxxxx. Thus it falls exactly in that era you mention, but I got it on eBay last year for for less than 1/4 of the price.

Anyway, if i'd have had the money to spare, i would rather have purchased this HP67 and taken my wife for dinner with the change (after which she'd forgive my calculator extravagance).

Re: ... A 32S sells for more than a 16C

*Message #10 Posted by **Michael Meyer** on 1 Apr 2010, 7:35 p.m.,*
in response to message #9 by Bart (UK)

So, at what point do you become a collector? I guess when you find all of the models interesting....

Re: ... A 32S sells for more than a 16C

*Message #11 Posted by **Bart (UK)** on 2 Apr 2010, 3:14 a.m.,*
in response to message #10 by Michael Meyer

I have about a dozen calculators, a small number compared to some of the numbers mentioned here. Or am I in denial....

Re: ... A 32S sells for more than a 16C

*Message #12 Posted by **Bart (UK)** on 2 Apr 2010, 3:30 a.m.,*
in response to message #11 by Bart (UK)

Umm, I just did a count, I'got just over a dozen HP's, about two dozen in total.

(deleted post)

*Message #13 Posted by **deleted** on 2 Apr 2010, 10:44 a.m.,*
in response to message #12 by Bart (UK)

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: ... A 32S sells for more than a 16C

*Message #14 Posted by **Michael Plant** on 2 Apr 2010, 12:19 p.m.,*
in response to message #13 by deleted

```
2 12c (1 USA, one China)
2 15c
1 32sii
1 33s
1 35s
1 41CV
2 42s
1 48gx
1 50g
```

and 63 non-HP models...

Edited: 2 Apr 2010, 12:23 p.m.

Re: ... A 32S sells for more than a 16C

*Message #15 Posted by **Palmer O. Hanson, Jr.** on 2 Apr 2010, 10:14 p.m.,*
in response to message #13 by deleted

5 10B

1 10S

3 11C

5 12C

1 16C

1 17B-II

1 19B-II

1 22

1 25

1 27

1 28S

1 32E

1 32S

2 33C

2 33S

2 35

2 38C

2 41C

1 41CV

1 41CX

2 45

1 48S

1 67

2 80

1 2240A

1 2240B

plus hundreds by other manufacturers

Re: ... A 32S sells for more than a 16C

*Message #16 Posted by **Nacho** on 2 Apr 2010, 4:10 p.m.,*
in response to message #10 by Michael Meyer

I don't find all the models interesting and don't feel being a collector...

but have

10 48GX 6 48G+ 2 48 G 3 48SX 1 48S

regards

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HP-01 stylus

*Message #1 Posted by **Alberto Fenini** on 30 Mar 2010, 5:23 p.m.*

Hope could be of help for someone, item 190385177515, (I'm not related in ANY way to seller) are advertised as Pulsar, but to me these are identical to the Garland stylus that came with the HP-01, available in both gold and steel, price seems good to me, if compared to average prices for this item.

Note for the forum moderator : if this message does not comply with the Terms of Use, please delete it immediately.

Re: HP-01 stylus

*Message #2 Posted by **geoff quickfall** on 31 Mar 2010, 2:53 p.m.,*
in response to message #1 by Alberto Fenini

Differences:

```
-Pulsar engraved on all Pulsar (Garland styluses).
-HP are not engraved.
-Pointer of a Pulsar Stylus differs from the HP-01 in that
  it is spring loaded and has a black soft tip.
```

You can always find a Garland Twin-o-matic at a tiny fraction of the cost in gold or silver. Then convert the correct end to a pointer by

```
-removing the ink cartridge
-removing the nib of the ball point ink cartridge
-cleaning the tube of the ink cartridge
-inserting a plastic rod into ink cartridge
-reinstalling the cartridge into the pen
```

I actually picked up 9 silver Garlands new old stock in their boxes for $20, no one bid on them! These are identical to the HP-01 stylus as they are not engraved. I have still have to convert them to the HP-01 stylus as described above.

Still it is a cheaper option then waiting for the HP-01 stylus to show up.

Cheers, Geoff

Edited: 31 Mar 2010, 2:55 p.m.

Re: HP-01 stylus

*Message #3 Posted by **Alberto Fenini** on 31 Mar 2010, 6:36 p.m.,*
in response to message #2 by geoff quickfall

oh boy ... I was so happy I had purchased a couple ... Any way I can dremel off the Pulsar engraving ?
Take care, Alberto

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Idea for high-end scientific (but not graphing) HP

*Message #1 Posted by **bhtooefr** on 30 Mar 2010, 3:27 p.m.*

This calculator would slot in above the 35s, and would target the "I want a 48gII or 50g because I want the stack of an RPL calculator, and some of the nice features, but I don't care about most of the other features" demographic.

Go for styling like the SmartCalc 300s. Solar might even be doable, but it'll add to the vertical height of the device.

It seems that on RPN calcs, HP is going back towards their heritage. No reason to fight that at all. Use a 48-like layout, although a row or two of keys could probably be removed, due to the removal of graphing features and probably CAS features. Either that, or use the modern layout, but you could probably remove a row of keys there, too - the 35s, actually, looks like a winner, layout-wise, just add a row on top for the function keys.

To prevent it from cannibalizing sales of the 48gII and 50g, no PC connectivity, no expansion, and only a 4-line LCD - think 28-like.

Give it an ARM7 instead of the ARM9 - longer battery life, cheaper, and slower (helps prevent cannibalization of sales.) Some ARM7 microcontrollers may even have enough RAM and flash to avoid having to have anything outside of the MCU.

Now, price it where the 35s is right now, and either drop the 35s to near where the 33s is now (probably either replacing the 33s, or dropping its price,) or just replace the 35s.

Emphasis how flexible it is at handling unit conversions, varying datatypes, and such.

I think it might just sell.

Thoughts? Sorry, no image, lack of photoshopping skills, but I think it might just be possible to make a $60 RPL calc.

(Yes, I'm someone that owns a 50g because I wanted an RPL calc, and heard bad things about the 48gII, but I often end up using as not much more than an RPL 4-banger. I wouldn't even use all of the features of a 33s.)

Re: Idea for high-end scientific (but not graphing) HP

*Message #2 Posted by **Chuck** on 30 Mar 2010, 4:04 p.m.,*
in response to message #1 by bhtooefr

Any calculator today should have the ability to externally store programs or data. PC connectivity or an SD card slot, for me, would be a huge selling point.

CHUCK

Re: Idea for high-end scientific (but not graphing) HP

*Message #3 Posted by **Bart (UK)** on 30 Mar 2010, 5:00 p.m.,*
in response to message #1 by bhtooefr

An RPL calculator without the graphics (which most people do on computers anyway) would definitely have my support. I would want PC connectivity though, but a USB port would be enough. I use the SD on the 50G merely for convienience to transfer programs but I also have the non-SD fx-9860GII and find transferring data is simple enough and apart from the 64K RAM, it has 1.5MB Flash storage memory which I find adequate (but it would be easy and cheap enough to put more on a non-graphics RPL).

Re: Idea for high-end scientific (but not graphing) HP

*Message #4 Posted by **Marcus von Cube, Germany** on 30 Mar 2010, 5:40 p.m.,*
in response to message #3 by Bart (UK)

You would still need a dot matrix display to handle different fonts and show complex data types like lists, or complex numbers. So some simple graphing capabilities (comparable to the 28S) would still be possible. It shouldn't be advertised as such but the feature wouldn't hurt.

Re: Idea for high-end scientific (but not graphing) HP

*Message #5 Posted by **bhtooefr** on 30 Mar 2010, 6:12 p.m.,*
in response to message #4 by Marcus von Cube, Germany

And it'd probably be more work to REMOVE the graphing capabilities, and it would cripple it, compatibility wise. And, USB probably isn't a bad idea, although serial and IR probably won't be needed.

Then again, giving it graphing would have the problem that it would cannibalize 48gII sales. Of course, that's what the ARM7 and 4-line display are for...

By 4-line, BTW, I mean a 32 pixel tall LCD, like the 4-line display used on the 28 series.

Re: Idea for high-end scientific (but not graphing) HP

*Message #6 Posted by **Bart (UK)** on 31 Mar 2010, 5:15 a.m.,*
in response to message #5 by bhtooefr

> Quote:
>
> And it'd probably be more work to REMOVE the graphing capabilities

You are probably right as HP is into emulating the existing software on new platforms and the calculator division is too small to have resources for significantly altering code.

You mentioned the 28s and 300s, I had been thinking exactly that HP could put a 28s functionality in the 300s body, with an extra shift button (instead of the extra fold-open keyboard) - the keyboard I/O gets processed in the encapsulating software anyway I think.

So, just putting the 28s software on a 300s platform would not cannibalize the 48/50 sales much as it:
-has no ALG or CAS input
-No equation writer
-No clock/date/alarms
-only 2D graphs
-No financial applications
to name a few

Of course with enough memory, some of these could be programmed in, but as such it does not have them "out the box".

So, they can re-use old software currently "gathering dust" and use a case that is already in production (300s).

Re: Idea for high-end scientific (but not graphing) HP

*Message #7 Posted by **bhtooefr** on 31 Mar 2010, 4:18 p.m.,*
in response to message #6 by Bart (UK)

I'd say that algebraic input is a must-have, if only to go after those that don't want RPN.

Keep in mind that, I'd think they'd want to stay as close to the codebase of their other calcs as possible, which means a cut-down version of the current firmware, MAYBE with some old 28S code mixed in.

Everything else, however, makes sense.

Re: Idea for high-end scientific (but not graphing) HP

*Message #8 Posted by **Haskell** on 30 Mar 2010, 11:06 p.m.,*
in response to message #1 by bhtooefr

Not bad... I hope HP keeps coming out with new models. However, for me, I would be greatly satisfied with a non-programmble, small, RPN calculator along the size of the HP 6S or Casio fx-260... and preferably with an excellent keyboard. I think 5 storage registers would be sufficient.

Re: Idea for high-end scientific (but not graphing) HP

*Message #9 Posted by **DaveJ** on 31 Mar 2010, 12:37 a.m.,*
in response to message #8 by Haskell

> Quote:
>
> Not bad... I hope HP keeps coming out with new models. However, for me, I would be greatly satisfied with a non-programmble, small, RPN calculator along the size of the HP 6S or Casio fx-260...

I hope they come out with one the size a credit card, just like this:

Dave.

Re: Idea for high-end scientific (but not graphing) HP

*Message #10 Posted by **bhtooefr** on 31 Mar 2010, 12:49 a.m.,*
in response to message #9 by DaveJ

OK, that thing looks awesome. More info?

Re: Idea for high-end scientific (but not graphing) HP

*Message #11 Posted by **DaveJ** on 31 Mar 2010, 1:19 a.m.,*

in response to message #10 by bhtooefr

It's my latest calc project called the uCalc, and has been much discussed many months back.

Credit card size, full graphic display, 3-axis tilt sensor, Micro SD card, 16 bit processor, touch panel keypad, standard CR coin batteries, and piezo buzzer.

That's the first prototype I built, but sadly I have not had time to work on it since then.

Dave.

Re: Idea for high-end scientific (but not graphing) HP

*Message #12 Posted by **bhtooefr** on 31 Mar 2010, 1:20 a.m.,*
in response to message #11 by DaveJ

Ah, I hadn't been on here for a while, so I missed it. Sounds awesome!

Re: Idea for high-end scientific (but not graphing) HP

*Message #13 Posted by **Paul Dale** on 31 Mar 2010, 1:37 a.m.,*
in response to message #11 by DaveJ

> Quote:
>
> That's the first prototype I built, but sadly I have not had time to work on it since then.

Sigh :-(I was about to ask how it was progressing too.

- Pauli

Re: Idea for high-end scientific (but not graphing) HP

*Message #14 Posted by **Bart (UK)** on 1 Apr 2010, 5:20 a.m.,*
in response to message #11 by DaveJ

> Quote:
>
> ...but sadly I have not had time to work on it since then.

Hopefully you'll get some time soon to finish it. Can't wait.

Re: Idea for high-end scientific (but not graphing) HP

*Message #15 Posted by **David Hayden** on 31 Mar 2010, 10:24 a.m.,*
in response to message #1 by bhtooefr

My hope is that their goal is to move to native ARM code. After converting the development tools and porting the RPL engine, they could look at past calculators that provided decent functionality and were written in mostly RPL. Use that as the basis for a new, very fast calculator. Then use sales from that to fund further development/porting of the rest of the calculator line.

I suspect that the 30bII is the first in just such a line of calculators.

By dropping the dot matrix display and going to a multi-line segmented display, I wonder if they could improve display contrast to be comparable to the 41C? I think that might be worthwhile.

I definitely agree with others that any calculator with more than 1K of memory should have an external PC connection of some sort these days. This lack of I/O is the major reason why I haven't bought a 35s.

Desktop RPL Bleat..

*Message #16 Posted by **John Stark** on 31 Mar 2010, 11:42 a.m.,*
in response to message #1 by bhtooefr

While on the subject of an intermediate step between 33/35 series and 50G series, how about an RPL "repackage" in a desktop size similar to OfficeCalc series.

Display could be dot-matrix or "41-style" segmented. A row or two of keys (unless clever use of "gold" or shift key) would have to be added to OfficeCalc form factor.

Still a nice unit for those of us who miss the 91/97 desktop series of yore.

My 0.02 anyway.

John Stark

Re: Desktop RPL Bleat..

*Message #17 Posted by **David Hayden** on 31 Mar 2010, 4:53 p.m.,*
in response to message #16 by John Stark

> Quote:
>
> While on the subject of an intermediate step between 33/35 series and 50G series, how about an RPL "repackage" in a desktop size similar to OfficeCalc series.

John,

I've always dismissed the desktop calculators as obsolete because we have PCs, but maybe I'm being too hasty. What advantage do you see to a desktop calculator over a PC or laptop?

Re: Desktop RPL Bleat..

*Message #18 Posted by **bhtooefr** on 31 Mar 2010, 5:47 p.m.,*
in response to message #17 by David Hayden

I've seen people use desktop calculators for totalling stuff, even with a computer in front of them.

Sometimes the whole screen is taken up with whatever task they're doing, and they don't want to resize things.

So, there is a market, but from what I've seen, it's pretty much mostly 4-bangers. Then again, an RPN financialish 4-banger probably WOULD do well as a desktop calculator.

Re: Desktop RPL Bleat..

*Message #19 Posted by **Bart (UK)** on 1 Apr 2010, 5:17 a.m.,*
in response to message #18 by bhtooefr

I must say that I often have a calculator next to me when working on a computer as I've always found it easier to quickly tap on a physical calculator than to bring up an on-screen one and clicking the "buttons" with a mouse (anything more than basic four function is not available on the keyboard/numeric keypad).

Re: Desktop RPL Bleat..you're getting Warm...

*Message #20 Posted by **John Stark** on 1 Apr 2010, 11:15 a.m.,*
in response to message #18 by bhtooefr

Now there's an idea. Something 30-ish in a desktop format.

I would find desktop format with larger keys and display convenient even when using a computer for side calculations. Currently use either 35S or 45 (!) in this role.

Desktop keyboard and display easier on the eyes and fingers , too.

Re: Desktop RPL Bleat..you're getting Warm...

*Message #21 Posted by **Michael Meyer** on 1 Apr 2010, 1:35 p.m.,*
in response to message #20 by John Stark

LOL-- I'll bet that if you ask most people, they wouldn't realize that you can use a computer as a calculator!

Re: Desktop RPL Bleat..

*Message #22 Posted by **Thomas Radtke** on 1 Apr 2010, 3:51 p.m.,*
in response to message #17 by David Hayden

> Quote:
>
> What advantage do you see to a desktop calculator over a PC or laptop?

Readiness. Even more ready than a handheld. The bigger, the better.

Seriously, my 32SII is always the same. Same interface, same functions. No need to reinstall anything. Since '91 I had a lot of different computers, each with new software. There's not much to get used to that lasts as long as a calculator.

If I had the space, I'd use my 59 much more because it rests on its printer and can't be removed easily.

Re: Desktop RPL Bleat..Printer, Too.

*Message #23 Posted by **John Stark** on 2 Apr 2010, 11:58 a.m.,*
in response to message #22 by Thomas Radtke

Another idea for the HP.30DT++. (30 DeskTop Plus Plus)

Printer version at $ 20.00 or so more.

Have a fine holiday (both Passover and Easter). Thanks for your feedback.

John Stark.

Re: Desktop RPL Bleat..Printer, Too.

*Message #24 Posted by **Mark Henderson** on 2 Apr 2010, 6:20 p.m.,*
in response to message #23 by John Stark

I always have a real calculator on my desktop because it's always there, faster to operate. I was imagining my dream non-graphing calc and looks like this:

- Must have dedicated function keys (one row, with shifts) that can be assigned to programs (without affecting functions of other keys) - Keystroke programmable for fast automation of simple tasks - RPL, with multi-level stack display (yes, RPL and key-stroke programming) - SD card - USB - Write programs on PC in key stroke, RPL or C - Compact and tilted for desk use (Classics are perfect...)

Dave's uCalc misses a couple of these points but is probably the closest thing to likely come along any time soon?... I know a 48/49/50 match pretty well, but I find myself reaching for a Classic over my 48 most of the time for daily use....

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Pi wrong?

*Message #1 Posted by **Bruce Bergman** on 30 Mar 2010, 1:31 p.m.*

So, I've been sitting here on hold with BofA for what must seem like hours, and I'm gazing at my HP calculator poster, looking at the various models. Very pretty. ;-)

As I glance at the HP-10bii model ("R2D2"), I see the value of Pi in the display. 3.1415926545.

Wait. 545? I always knew it as 3.1415926535.

My HP-97 says 3.141592654 (using DISP), so, okay, it rounded up.

My HP-30b says 3.14159265359 (gotta love the extra digit).

I don't have an HP-10bii handy, but that value in the display, on the poster, appears to be wrong. Was it just typed in or actually displayed wrong on that unit?

Inquiring (bored) minds want to know.

thanks, bruce

Re: Pi wrong?

*Message #2 Posted by **Katie Wasserman** on 30 Mar 2010, 1:40 p.m.,*
in response to message #1 by Bruce Bergman

The 10bii doens't have a pi key nor trig functions nor other obvious way to calculate pi so it almost certainly was typed in wrong.

-Katie

Re: Pi wrong?

*Message #3 Posted by **hpnut** on 30 Mar 2010, 3:04 p.m.,*
in response to message #2 by Katie Wasserman

IIRC pi=22/7

so any calculator ought to be able to display pi

(deleted post)

*Message #4 Posted by **deleted** on 30 Mar 2010, 3:08 p.m.,*
in response to message #3 by hpnut

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this

placeholder disappear.

Re: Pi wrong?

*Message #5 Posted by **Walter B** on 30 Mar 2010, 4:06 p.m.,*
in response to message #4 by deleted

Sufficient for most order-of-magnitude guessing - even 3.0 would do d;-)

Re: Pi wrong?

*Message #6 Posted by **Mike Morrow** on 31 Mar 2010, 8:03 a.m.,*
in response to message #4 by deleted

> Quote:
>
> Not true...Pi is an irrational number.

Not much of a sense for humor or sarcasm, eh?

Re: Pi wrong?

*Message #7 Posted by **Garth Wilson** on 30 Mar 2010, 5:49 p.m.,*
in response to message #3 by hpnut

```
22/7 is off by about +4.0E-4.
245/78 is off by about -1.8E-4 (not a whole lot better).
355/113 is off by about +8.5E-8.
65298/20785 is off by about -5.1E-8.
93343/29712 is off by about -9.9E-9.
```

For 16-bit scaled-integer work with 32-bit intermediate results, 355/113 is usually used as it is quite accurate and you have to go to much higher numbers, all the way to 62298/20785, to get any better, and even that doesn't bring much improvement.

Edited: 30 Mar 2010, 5:50 p.m.

Re: Pi wrong?

*Message #8 Posted by **Chuck** on 30 Mar 2010, 4:07 p.m.,*
in response to message #1 by Bruce Bergman

That's pi for the statisticians who only ever need to be 95% correct. ;)

Re: Pi wrong?

*Message #9 Posted by **Walter B** on 30 Mar 2010, 4:10 p.m.,*
in response to message #8 by Chuck

95% are 2 significant digits only ;) Please see my post above.

Re: Pi wrong?

*Message #10 Posted by **Didier Lachieze** on 30 Mar 2010, 6:06 p.m.,*
in response to message #1 by Bruce Bergman

My Sharp EL-5001 shows Pi as 3.141592653.

Here with a Sharp EL-515 showing Pi as 3.141592654:

Btw the EL-5001 is a pretty strange beast with mechanical/preprogrammed soft keys ~10 years before the HP-18C/28C.

Edited: 30 Mar 2010, 6:12 p.m.

Re: Pi wrong?

*Message #11 Posted by **Martin Pinckney** on 30 Mar 2010, 8:55 p.m.,*
in response to message #1 by Bruce Bergman

Did anyone stop to think how nutty it is for grown men (woman) to be bantering back and forth for hours on such a subject?

Pi are round. Cornbread are square.

Re: Pi wrong?

*Message #12 Posted by **bill platt** on 30 Mar 2010, 9:32 p.m.,*
in response to message #11 by Martin Pinckney

We might think of that, but put it out of our mind.

This is one of those special places where we get to eat our pi and our square roots too.

Re: Pi wrong?

*Message #13 Posted by **Chuck** on 30 Mar 2010, 11:53 p.m.,*
in response to message #12 by bill platt

This reminds me of Donald walking through the forest of square roots in Donald In Mathmagic Land. Priceless!!

Re: Pi wrong?

*Message #14 Posted by **db (martinez, ca.)** on 30 Mar 2010, 11:53 p.m.,*
in response to message #1 by Bruce Bergman

a real bad slice of pi=
http://www.msdsite.com/photopost/showphoto.php?photo=290&cat=534

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HP font used in collateral

*Message #1 Posted by **Alberto Fenini** on 29 Mar 2010, 11:20 a.m.*

Dear All,
attached is a scan from an HP box

does anyone know what font they were using at time ?
thanks for help,take care all of you, Alberto

Re: HP font used in collateral

*Message #2 Posted by **Tim Wessman** on 29 Mar 2010, 12:02 p.m.,*
in response to message #1 by Alberto Fenini

http://new.myfonts.com/WhatTheFont/

Stick in your image URL and I suspect you will have your exact answer.

TW

Re: HP font used in collateral

*Message #3 Posted by **Alberto Fenini** on 30 Mar 2010, 5:36 a.m.,*
in response to message #2 by Tim Wessman

Thank you very much ! That was really useful, the font looks like is ITC Garamond Book, which I have purchased, thank you very much again, Alberto

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HP 34C - which way round are the batterys fitted?

*Message #1 Posted by **Jon Duke** on 29 Mar 2010, 9:10 a.m.*

Hi, the message title says it all really. I'm seeing if I can get my father's old HP 34C working. The batteries were badly corroded and thinking that there would be marks telling me which way round to fit new ones, I pulled out the old ones, only to find that there are no marks that I can see on either the body of the calculator or the case.

I do also have the charger. Is there a max charge time and is it OK to run it while connected to the charger? Thanks for any help.

Re: HP 34C - which way round are the batterys fitted?

*Message #2 Posted by **Katie Wasserman** on 29 Mar 2010, 9:56 a.m.,*
in response to message #1 by Jon Duke

Look here

Charging time varies depending on which battery type you used as the replacement. Newer cells generally have higher capacity than older ones and require more charging time. It's always best to not overcharge as the heat from overcharging will reduce battery lifetime. Charging for 10-12 hours should be enough to fully charge most cells and not too long to damage them. It's ok to run the calculator while the batteries are charging but charging times will be longer.

Edited: 29 Mar 2010, 10:02 a.m.

Re: HP 34C - which way round are the batterys fitted?

*Message #3 Posted by **Jon Duke** on 29 Mar 2010, 10:39 a.m.,*
in response to message #2 by Katie Wasserman

Hi Katie. Thanks for your reply regarding charging the calculator. Would you know which way round the batteries go?

Re: HP 34C - which way round are the batterys fitted?

*Message #4 Posted by **Jon Duke** on 29 Mar 2010, 10:59 a.m.,*
in response to message #3 by Jon Duke

Sorry Katie!!!! I only just spotted the picture! 10**6 thanks

Re: HP 34C - which way round are the batterys fitted?

*Message #5 Posted by **db (martinez, ca.)** on 29 Mar 2010, 11:42 a.m.,*
in response to message #1 by Jon Duke

Jon;
Here i am in the unnatural position of wanting to add something to Katie's post, the weird thing being that she

taught me over half of the little i know about charging batteries.
Here goes: IMHO it is dangerous to charge the batteries INSIDE your model of hp calculator. A high percentage of them are dead because the batteries weren't making good contact, maybe because of slight corrosion or dust, and the irreplaceable ROMs got fried with too much DC. This also happens to the Woodstocks. Let this be known as the *too much cheesecake too soon* syndrome.
I avoid the problem by charging the batts outside of the calculator or running slightly used AA alkaline 1.5v cells in place of the 1.25v rechargeables. The last is an easy solution if your calc has broken spring contacts like a couple of mine do.

QUESTION: Has anyone tried to coat the batt contacts with something like that conductive anti-oxidizing goop which is used on aluminum high voltage wiring?
db

Re: HP 34C - which way round are the batterys fitted?

*Message #6 Posted by **Jon Duke** on 29 Mar 2010, 12:04 p.m.,*
in response to message #5 by db (martinez, ca.)

Hi DB, thanks for your words. What you say sounds like a good safe approach. It's something I hadn't considered. Re things to stop corrosion, I favour silicone grease, what plumbers use to ease plastic plumbing pipes over O rings in connectors. Over here the phone companies dip wires in it before clamping them in roadside distribution boxes, so it ought to be good. It is very inert indeed. The only thing to watch out for is that it does not go down well in places where paint is being applied, like car bodyshops: it causes wet paint to roll back from any trace. HTH.

Re: HP 34C - which way round are the batterys fitted?

*Message #7 Posted by **Michael de Estrada** on 30 Mar 2010, 11:39 a.m.,*
in response to message #1 by Jon Duke

Jon,

Let me add to what has already been said. You may have noticed that the original battery pack uses AA flat top cells, which do not have the extended tip at the positive terminal. This makes the battery shorter, such that it compresses the battery contacts less. Using regular high-top cells can result in eventual breaking of the battery contacts due to over-compression, which bends the contacts past their yield point. I've also seen them break off from their mounting rivets. To this end, I always use flat top NiCad AA cells in all of my HP Spices, which I purchase from Batteries Plus for $2.50 each. You should be able to find them at any store that reubuilds battery packs.

Michael

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Looking for details on 82033A battery pack

*Message #1 Posted by **Clark H Lewis** on 28 Mar 2010, 2:52 p.m.*

Looked for specific data on HP-41 Printer and HP-97 Calculator battery 82033A. Must be here somewhere, but I haven't found it. Help? Would like to know how to test dead batteries without a full charge, if possible. Thanks

Re: Looking for details on 82033A battery pack

*Message #2 Posted by **Wilhelm Taylor** on 28 Mar 2010, 5:52 p.m.,*
in response to message #1 by Clark H Lewis

Like these?

http://cgi.ebay.com/HP-97-and-41C-printer-Calculator-Battery-pack_W0QQitemZ220578379673QQcmdZViewItemQQptZCalculators?hash=item335b7ef799

Re: Looking for details on 82033A battery pack

*Message #3 Posted by **Ignazio Cara (Italy)** on 29 Mar 2010, 3:12 a.m.,*
in response to message #1 by Clark H Lewis

I don't know if it's possible check a battery pack without a preliminary complete charge in a reserve power pack, printer or calculator that is good. Maybe it's no possible. Afer a good charge for at least 8 hours or more, if the akku have a capacitance >= of the originals, you must remove the battery pack and connect a 5 ohm, 10%, 10W resistor across the battery contacts. After 45-60 minutes, remove the resostor and measure the DC voltage between the battery contacts. If the voltage is less than 4 Vdc, the battery pack is bad. If the voltage is at least 4 Vdc or more, the battery pack is good. Before to check the battery pack, is a good thing verify if the charger is functioning properly. You cam perform this procedure: measure the power outlet voltage (Vin) using an ac voltmeter. Plug the recharger into the outlet and measure the recharger ac output voltage (Vout) under no-load conditions using an ac voltmeter. Vout should be between 9.9 and 13.3 Vac at power voltage of 110 or 220 Vac. Vout should equal (Vin/110)x11.6 Vac +/- 1.7 V or (Vin/220)x11.6 Vac +/- 1.7 V. Vin is the AC voltage of the power outlet). If Vout is outside the allowable range, the recharger is bad. If Vout is inside the range, connect a 12-Ohm, 5%, 5W resistor across the recharger output contacts and measure the ac voltage across the load: if the voltage is between 5.3 and 7.3 Vac the recharger is good, otherwise it should be discarded.

Hope this my contribute could help you.

Take care

Ignazio

Edited: 31 Mar 2010, 1:41 p.m.

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Looking for details on 82033A battery pack

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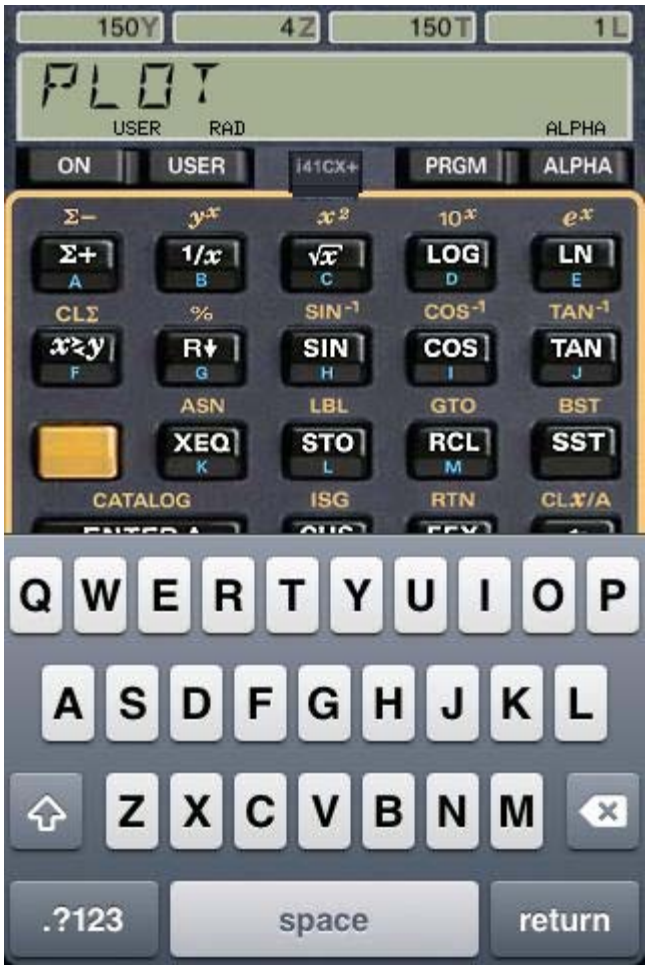
i41CX draws sine curve

*Message #1 Posted by **Egan Ford** on 28 Mar 2010, 2:32 p.m.*

Sorry no video, just screen shots of the next i41CX+ beta (thanks Antonio!):

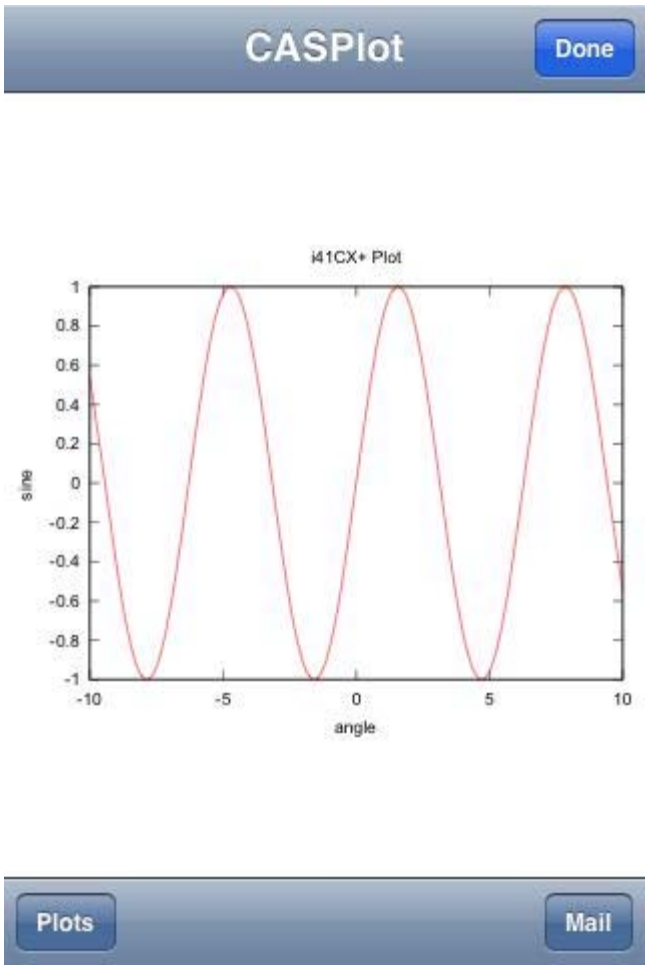
1. Create a text file:

```
ALPHA P L O T ALPHA
I41CXED
```

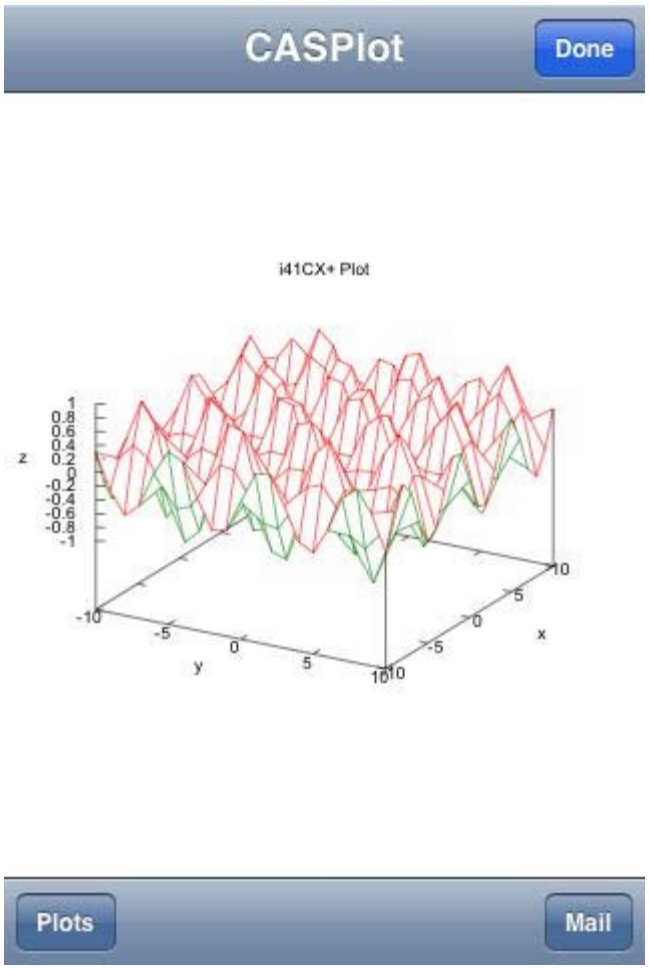


2. Define your plot:

3. Save, plot it (CAS), view it (I41CXED):



4. 3d? No problem:



Re: i41CX draws sine curve

*Message #2 Posted by **Juergen Keller** on 28 Mar 2010, 4:19 p.m.,*
in response to message #1 by Egan Ford

Very impressive, very nice, my iPhone is lusting after the new version!

Re: i41CX draws sine curve

*Message #3 Posted by **Garth Wilson** on 28 Mar 2010, 9:51 p.m.,*
in response to message #1 by Egan Ford

In my experience, the greater value of drawing the curves with the 41 as brought up in the original thread about using the pen plotter to draw the curve is in testing some kind of product, especially for the military when I worked in the engineering lab at a microwave power transistor manufacturer, and the paper goes into a report that is kept on file, immune to disc crashes and so on. (Of course today multiple back-ups on servers should remedy that problem.) I've seen it used for this kind of thing many times, never just to see what something would look like or get a cool graphic, but rather to keep a record of the test results of the product.

Re: i41CX draws sine curve

*Message #4 Posted by **Philip Green** on 13 Apr 2010, 6:19 a.m.,*
in response to message #3 by Garth Wilson

Hi, I have a problem using the plotting function (using CAS) on my iPhone 3GS 3.1.3 firmware. The plotting function doesn't work. This has been acknowledged by the application author and needs to be

corrected. Has anyone else found that it doesn't work? Regards Phil.

Re: i41CX draws sine curve

*Message #5 Posted by **Egan Ford** on 13 Apr 2010, 2:03 p.m.,*
in response to message #4 by Philip Green

> Quote:
>
> Hi, I have a problem using the plotting function (using CAS) on my iPhone 3GS 3.1.3 firmware. The plotting function doesn't work. This has been acknowledged by the application author and needs to be corrected. Has anyone else found that it doesn't work? Regards Phil.

Known issue and it is being worked on. I have the same problem.

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The Future of Graphing Calculators

*Message #1 Posted by **bill platt** on 28 Mar 2010, 10:30 a.m.*

Yesterday, after reconfiguring my widoze registry, I got my computer to communicate with my old HP 49G. Having crashed regularly while running ROM 1.18, I updated it to Rom 1.19-6 and it is more stable, and yet I still lost memory twice in one session!

I decided to go back to the "EQUATION WRITER" example in the HP 48G quick-start guide to see how much better the 49G (which is essentially MK + Erable +ALG48 or something). I intend to put MK back on one of my 48GX machines ,too, to see it, but haven't yet.

What I found, playing around with the native equation writer on the 48, as well as the 49G version, left me underwhelmed.

The 48G built-in equation writer is pretty much useless. While it is possible to type in the example, if you make one mistake, you are toast, there is no good way to edit it in the writer. And of course it is absurdly slow, if you "view" the equation. Maybe it was good in 1990, but today, with small laptops, why bother?

On the 49G, the speed is really impressive. And the editing paradigm (developed by the MetaKernel team) is hugely superior to the native 48G equation writer. So far so good.

But then we come to the actual use of such equations. If you have the 49G in its default settings, and you ask it to "EVAL" that nested set of square roots, you will crash the machine. If you ask to "NUM" it, it works fine. Change the CAS settings to approximate, and numeric, and you can EVAL without crashing. Of course EVAL always works just fine on the HP 48G natively, as there is no CAS.

This is a lot of words to set up for the real question:

Considering that the 50G is really just a 49G with new hardware, then even with the 50G, you are dealing with an old-fashioned little device.

With Wolfram Mathematica "home edition" (32bit) available at $295, what is the future of the graphing calculator?

irI am thinking of my own kids here: why waste their learning time and effort on stupid little toys, when they can spend that time on a tool worthy of the effort?

I don't know Mathematica--never used it. But I've looked over the website often enough and said again and again to myself, "that looks interesting--too bad it costs $2500." Now available for under $300, perhaps it is time to try it.

Any thoughts? any Mathematica users?

(Note that if I'd known this a few days ago, I wouldn't have advised the EE major from Spain to get a 50G in addition to his 35s!)

In my own work, the calculator has gone from the status of "indispensible programmalbe computing tool" to, "I'd rather use a spreadsheet for this."

Edited: 28 Mar 2010, 10:33 a.m.

Re: The Future of Graphing Calculators

*Message #2 Posted by **Egan Ford** on 28 Mar 2010, 11:16 a.m.,*
in response to message #1 by bill platt

> Quote:
>
> But then we come to the actual use of such equations. If you have the 49G in its default settings, and you ask it to "EVAL" that nested set of square roots, you will crash the machine. If you ask to "NUM" it, it works fine. Change the CAS settings to approximate, and numeric, and you can EVAL without crashing. Of course EVAL always works just fine on the HP 48G natively, as there is no CAS.

You may find this thread interesting or validating: http://groups.google.com/group/comp.sys.hp48/browse_frm/thread/a8ff441fed3d23ff#. IANS, the OP describes some of the pains of the CAS.

> Quote:
>
> With Wolfram Mathematica "home edition" (32bit) available at $295, what is the future of the graphing calculator?

IMHO, the graphing calculator's days are numbered. All it would take is for standardized tests to be computerized with all the necessary tools included as part of the testing system. By the time this happens every school will be a laptop school and they will train the students to use the tools necessary to pass the tests. I think TI sees this.

> Quote:
>
> irI am thinking of my own kids here: why waste their learning time and effort on stupid little toys, when they can spend that time on a tool worthy of the effort?

My kid graduated from high school in 2009. Owning and learning the TI 83+ was a requirement to pass tests. Some (internal) tests were written for the 83+ (AP Calc, AP Stats).

However, the 83+ does not do CAS. I tried to teach my kid to use Sage (open source Mathematica competitor). Sage is no harder or easier than Mathematica and both CASes produce the same results. Neither CAS was of much help since they produce answers and not the path taken to get there. They are great for checking work, but that's about it. Maple OTOH has a learning mode that will display how to solve problems step-by-step. IIRC, the 50g and TI-nspire have similar features.

IMHO, graphing calcs and Mathematica are both goal oriented tools to help the user be more productive solving some larger problem. I think they both fail as a tool for teaching, but they were never designed to replace teachers (or learning). I think they are both great tools for discovery (e.g. what if I change this to that, what happens?).

> Quote:
>
> I don't know Mathematica--never used it. But I've looked over the website often enough and said again and again to myself, "that looks interesting--too bad it costs $2500." Now available for under $300, perhaps it is time to try it.

> Any thoughts? any Mathematica users?

I'd exhaust all the open source alternatives first before spending $300 on a tool that will get rarely get used. Sage is great and easy to setup. If you have a home server you can put it there and just have your kids point a web browser at it. Or you can use a number of congested Sage servers on-line. If you want pretty print (and who doesn't :-), then make sure you install the proper browser fonts.

> Quote:
>
> In my own work, the calculator has gone from the status of "indispensible programmalbe computing tool" to, "I'd rather use a spreadsheet for this."

My 15C and 48GX were great must have tools for school, but outside of school I never needed them. I love gadgets and my calculators are more toys than tools now. Do I *need* a 30b? No, but I have one, just to play with it. However, I think I've had the most fun with the 41/71 (HPIL) and the 50g (HPGCC).

My thoughts of the future. Tablets. An ARM exec claimed that there would be 50 different tablets by year-end. Something as easy to use as a graphing calculator but with the power of Mathematica would be a suitable app for a tablet. But is that just wishful thinking?

Edited: 28 Mar 2010, 11:24 a.m.

Re: The Future of Graphing Calculators

*Message #3 Posted by **Chuck** on 28 Mar 2010, 12:47 p.m.,*
in response to message #2 by Egan Ford

Mathematica does not fail as a teaching tool. I use Mathematica every day in class for demos, lecture notes, on the fly investigations, things that a calculator can never do.

I no longer allow graphing calculators on in-class exams, only a scientific calculator that can do two-variable statistics (preferably solar) . Our school also just purchased a 3-year site license for Mathematica which allows every student to have a copy at home for free, for as long as they are a student.

The great thing about the recent versions Mathematica is a command called Manipulate. With one command you can change a static graph such as y=2x^2+3x-7 into an interactive quadratic y= ax^2+bx+c with sliders for a, b, and c to investigate what these parameters do. I believe the Nspire can do something like this, but what a cumbersome ugly beast.

I've also created simple manipulates which generate a desired number of practice problems for multiplying polynomials, factoring, finding equations of lines given two points, etc. It generates the practice problems using a random seed, and then checking a box displays the answers immediately; great for quick practice or review in the classroom, at home, or for online students.

Also, Mathematica can display a slide show just like Powerpoint, except that they are live. An example: I used it in 4th quarter calculus for notes, theorems, and demos etc. When investigating line integrals through vector fields in class using Mathematica, a students asked "What if we change....". Make the change, or turn the example into a manipulate and explore.

I've also begun using Mathematica as a word processor to write all my notes, handouts, exams. I also import my grades from Excel to generate more sophisticated graphs and analysis that Excel pales at. I also import data collected using the TI- calculators and CBL's (this is one good use for the graphing calculator.) Students can produce much better graphs, documents, and professional looking work.

The students are also taking to it quite well, but there is a learning curve. The best thing is that they now are better able to figure out when to use Mathematica as a tool, i.e, when the scientific calculator and straight forward algebra isn't enough. No longer are they reaching for the blasted graphing calculator to add fractions, solve a quadratic with pre-programmed programs, square an integer smaller than 10, graph a function like y=2x+3 etc.

Bottom line, graphing calculators do have an educational value, but not nearly as huge as TI and others make it seem. I would be perfectly happy if graphing calculators completely disappeared; students use them far too often as an "answer machine" rather than a tool.

My two (fifty-two) cents worth.

CHUCK

Re: The Future of Graphing Calculators

*Message #4 Posted by **Egan Ford** on 28 Mar 2010, 1:55 p.m.,*
in response to message #3 by Chuck

> Quote:
>
> Mathematica does not fail as a teaching tool.

Allow me to restate, "I think they both fail as a tool for *self*-teaching..."

I agree Mathematica and other similar tools are great for discovery and illustrating specific points.

Re: The Future of Graphing Calculators

*Message #5 Posted by **Eddie W. Shore** on 28 Mar 2010, 1:46 p.m.,*
in response to message #1 by bill platt

Mathematica is good tool to work with. I am using Mathematica's tools as part of my graduate thesis work.

Personally, I prefer a graphing calculator because of its portability. You can't exactly take a laptop in every possible location (maybe with the notebooks getting smaller, this is getting close to reality). The additional plus of the calculator is that if I press the ON button, it's ready to go... I don't have to wait for a computer to start up.

I don't believe graphing calculators are going away any time soon(which is good news for calculator freaks like me LOL). Given that TI, HP (to an extent), and Casio, especially TI, have invested so much into the graphing calculator market the last decade. The nSpire has a potential of being a portable Mathematica/Matlab - it is on its way there.

However, I think graphing calculators are going to split into two directions: small, portable, and (hopefully) solar powered that deals with functions, maybe polar, parametric, and sequential graphing - and a small to medium sized amount of programming; and the nSpire/Classpad/"HP 51g" types where the CAS gets more sophisticated as well as the function set, input devices, and communication with computers.

Re: The Future of Graphing Calculators

*Message #6 Posted by **David Hayden** on 28 Mar 2010, 4:55 p.m.,*
in response to message #1 by bill platt

I went through this exercise with a friend at work a few months ago. We basically concluded that a graphing

calculator has two uses: as a learning tool in school and as hand-held special-purpose computer. Both uses rely on its durability and "instant on" feature.

I think it will be interesting to see where the ipod, iPad, cell phones, netbooks and e-readers take us. Off hand, I'd guess that we're going to end up with something like an iphone in our pockets, and something like a kindle or netbook or iPad in our briefcases/pocketbooks.

Calculators seem to be used in surveying a lot, but I'm surprised that they aren't used for other fields as well. Industrial hand-held computers are very expensive compared to a calculator.

Finally, I have an interesting anecdote. I'm a computer programmer and for years I had no calculator at work. When I got back into HP calculators a couple of years ago, I bought a 48gII which I now keep at the office. I find myself using it a couple times a week now. It's usually faster to pull it out than it start Excel.

Re: The Future of Graphing Calculators

*Message #7 Posted by **Egan Ford** on 28 Mar 2010, 5:32 p.m.,*
in response to message #6 by David Hayden

> Quote:
>
> I think it will be interesting to see where the ipod, iPad, cell phones, netbooks and e-readers take us. Off hand, I'd guess that we're going to end up with something like an iphone in our pockets, and something like a kindle or netbook or iPad in our briefcases/pocketbooks.

100% with you there.

> Quote:
>
> Finally, I have an interesting anecdote. I'm a computer programmer and for years I had no calculator at work. When I got back into HP calculators a couple of years ago, I bought a 48gII which I now keep at the office. I find myself using it a couple times a week now. It's usually faster to pull it out than it start Excel.

I currently have 3 HPs on my desk in a stack (X:15C, Y:30b, Z:50g). I too find that I will at times reach for the top calc (15C) when I need to do a bit of fast arithmetic. The windows metaphor used on OS/X and other desktops is not well suited for running two apps at the same time. Yes it is possible, but first I have to launch the calculator, resize both windows for a side-by-side view, and then I have to cmd-tab to switch between applications. Sometimes just leaving the app open that needed the input without resizing and using a 2nd device is more convenient--too bad I cannot BT/WiFi send the calc result (there are iPhone apps for this, but none with RPN).

Now that all said I still use a CLI RPN calculator called 'calc' for most quick math, its just a habit, especially since I travel most of the time and do not have my stack of calcs. For longer calculations I usually use my iPhone in 42S or 41CX mode. But for the longest or if I just want to feel some buttons I reach for the top of the stack.

Re: The Future of Graphing Calculators

*Message #8 Posted by **Nigel J Dowrick** on 28 Mar 2010, 5:35 p.m.,*
in response to message #1 by bill platt

For me the advantage of a graphing calculator over an ordinary scientific is not graph plotting, but its bigger screen. It's nice to see lots of stack levels on an RPN machine, or several previous calculations and results on

an algebraic machine. Other applications (e.g., a numeric solver) also benefit from the bigger screen size.

With one exception, I rarely use these machines to draw graphs, and I would certainly never use the HP-50g to do algebra! I find its CAS too inconsistent to be easily remembered. I haven't used Mathematica since its early days; back then, I loved it. I'm sure it's still wonderful; it would certainly be nicer than the HP-50g, even for simple problems.

The one calculator I do use for graphs is my Casio FX-9860G Slim. I teach Physics to students aged 13-18: when I do an experiment, I like to type the results into its spreadsheet and then graph them. (My students are forced to plot graphs by hand, because that's what the exams require!) This calculator is so nice to use that unless I need a printed graph I don't bother with a "proper" computer. I think that machines smaller than laptops that can draw graphs still have a role to play.

Nigel

Re: The Future of Graphing Calculators

*Message #9 Posted by **Martin Pinckney** on 28 Mar 2010, 7:37 p.m.,*
in response to message #8 by Nigel J Dowrick

> Quote:
>
> For me the advantage of a graphing calculator over an ordinary scientific is not graph plotting, but its bigger screen. It's nice to see lots of stack levels on an RPN machine, or several previous calculations and results on an algebraic machine. Other applications (e.g., a numeric solver) also benefit from the bigger screen size.

Ditto for me, the bigger screen is what attracted me to the 48s in the first place, not graphs per se. However, it's the power of these machines that keeps me coming back, still struggling with the learning curve.

Re: The Future of Graphing Calculators

*Message #10 Posted by **Maarten Ambaum (Reading, UK)** on 29 Mar 2010, 5:50 a.m.,*
in response to message #8 by Nigel J Dowrick

I couldn't agree more: I bought a 50g because I wanted an infinite stack and access to a proper RPL language. In fact I came to this via postscript programming: there seem to be many similarities. I can recommend postscript programming to anyone interested in postfix/stack programming. It is very powerful, very easy to learn, and runs on your printer!

The graphing capabilities of the 50g are - let's be fair- really quite pathetic, when compared to a computer. I need access to high quality vector plots (postscript and pdf) so the graphing on the 50g is useless to me. If I want to explore a graph then I just use a plotting program on my laptop (mainly gnuplot - again a free package). Why bother with a slow, cumbersome, and low quality graphing environment?

It is a bit of an artificial market to rely on schools who demand graphing calculators for exams or their math classes. I would imagine that they also start to move to more user-friendly and realistic graphing environments on the computer.

So the graphing calculator market surely is a dead end. I'd rather have a nice, compact scientific (with an infinite stack preferably ...) That really offers something that computers, or even iPhones and the like, cannot replace.

I feel the same way. >>

*Message #11 Posted by **tim m.** on 28 Mar 2010, 5:49 p.m.,*
in response to message #1 by bill platt

I used my TI-86 often in high school, rarely in college, and not at all in grad school. I used Mathematica, MathCAD, and Maple in college, but in grad school virtually all of my number crunching was done with MATLAB.

-Tim

Re: The Future of Graphing Calculators

*Message #12 Posted by **Bart (UK)** on 29 Mar 2010, 5:36 a.m.,*
in response to message #1 by bill platt

In the education side, I have already seen computer based exams that do not allow any handheld device, but only the use of the software calculator on the computer. Depending on the sections of the exam it had a four-function or sceintific calculator. This precludes the need for examiners to check & approve calculators. They can provide exactly what they want you to use on the computer. I believe this is the future of calculators in the education sector.

In the private sector, I agree with what has been speculated elsewhere in this thread, iPhones or whatever with software calculators will be the handheld calculator of the future. Everything else we do on computers, with the ever advancing mathematical software packages becoming available within the price range of the average user. We'll even have them on our iPhones one day.

Just like books are going to be replaced with e-readers*, calculators will be replaced by software on computers & pocket devices. It may not happen as quickly as with other technologies (because so many of us are still used to whipping out a physical book or calculator), but I think that eventually it will.

* This electropnic book thing still irritates me at times, just this weekend I was looking at some functions on a graphics calc - with the PDF manual on a laptop. To the amusement of my family, as I'm always advocating the portability of calculators but have to carry around a device several times it's size to read the manual :(

Re: The Future of Graphing Calculators

*Message #13 Posted by **David Hayden** on 29 Mar 2010, 7:25 a.m.,*
in response to message #12 by Bart (UK)

> Quote:
>
> In the education side, I have already seen computer based exams that do not allow any handheld device, but only the use of the software calculator on the computer. Depending on the sections of the exam it had a four-function or sceintific calculator. This precludes the need for examiners to check & approve calculators. They can provide exactly what they want you to use on the computer. I believe this is the future of calculators in the education sector.

Bart, can you elaborate on this? To me, it wouldn't make sense to disallow a hand-held calculator while allowing a laptop or computer because a student could sneak all sorts of cheat programs on a laptop. I suspect I'm missing something about the situation.

Hmmm, several people have said that they like the large display of the graphing calculators. So to us, are they really "input form calculators?" Would we be happy with a calculator with a large display of alphanumeric characters only? Imagine a calculator that used a segmented display like the 41, but the

display was twice as wide and had 7 or 8 rows. If the contrast was a good as the 41, I might prefer that over the dot matrix display of the 50g.

Re: The Future of Graphing Calculators

*Message #14 Posted by **Bart (UK)** on 29 Mar 2010, 9:27 a.m.,*
in response to message #13 by David Hayden

Hi David,

> Quote:
>
> To me, it wouldn't make sense to disallow a hand-held calculator while allowing a laptop or computer because a student could sneak all sorts of cheat programs on a laptop. I suspect I'm missing something about the situation.

The computers were the learning centre's own desktops, i.e. they have total control on what's on them. The calculator was something like the windows standard calculator.

Re: The Future of Graphing Calculators

*Message #15 Posted by **Bart (UK)** on 29 Mar 2010, 10:57 a.m.,*
in response to message #14 by Bart (UK)

Hi,

Further to my post, here's an example:

numeracy test

If you select one of the *practice* tests, hit next until you're past the mental arithmetic questions (past the blue/grey to the green/gray screens), you'll see a "calculator" box, which brings up a 4-function calculator, which is all you're allowed to use. When you take the test you sit down in front of a computer that only allows the running of the test.

I think this is the way it will and should go as it is a reasonable way of controlling what calculator power is used and also to "level the playing field" where every exam taker has the same calculating power at hand.

Note: I am giving a bit of second hand info as I did not take these tests myself, my wife did as part of her converting her teaching qualification to QTS (UK Qualified Teacher Status) when we moved from SA to UK.

Re: The Future of Graphing Calculators

*Message #16 Posted by **Crawl** on 29 Mar 2010, 2:55 p.m.,*
in response to message #1 by bill platt

I guess I'll be the minority on this.

I think modern (ie., with CAS) graphing calculators are great. I use them just about every day. I only wish I had gotten them earlier.

An example:

Years ago when I took Jackson's Classical Electrodynamics, I did all the problems pretty much by hand. I had a scientific calculator, but what good did that do me? You had to derive equations, not just plug numbers into equations you already had.

I'd say it took me about 7 hours to do an average problem. I ended up using about 12 pages of paper (6 sheets front and back) for the algebraic manipulations, which were then reduced to about 4 for the polished version I turned in.

My weekends were dedicated to that class for about 9 months.

If I had a good graphing calculator then, I estimate I could have gotten my average time down to maybe 2 hours per problem. That's huge time savings. It by no means would have "done the work for me" -- you still have to figure out how to set up the problem and understand the physics. But all the tedious crap -- distribution when multiplying polynomials, finding determinants of 5x5 matrices (and symbolic matrices, so even an HP15c wouldn't help) -- is made much easier.

I think that's exactly what a calculator is for.

What about Mathematica or Maple?

I think the same arguments apply for using a graphing calculator vs those programs as apply for using a scientific calculator vs having to pull up your PC/laptop's built in calculator. More convenient. Easier to use (even an HP50g is MUCH more intuitive than Mathematica or Maple).

And those things reinforce each other. Since a calculator is portable, you will find yourself using it more often, in more situations. Since you use it more, you become more familiar with it and it becomes easier to use.

Re: The Future of Graphing Calculators

*Message #17 Posted by **Martin Pinckney** on 29 Mar 2010, 5:42 p.m.,*
in response to message #16 by Crawl

> Quote:
>
> And those things reinforce each other. Since a calculator is portable, you will find yourself using it more often, in more situations. Since you use it more, you become more familiar with it and it becomes easier to use.

With you there. I often find myself sitting at a table with drawings spread out that I am doing some design and marking up the sheets for the drafter. Much more convenient to have a calculator (or two different ones) right at hand than to go back and forth to the computer. Even a laptop.

Re: The Future of Graphing Calculators

*Message #18 Posted by **Crawl** on 13 Apr 2010, 9:41 a.m.,*
in response to message #16 by Crawl

I guess I have a couple of other things to add.

First, since the Equation Editor was the thing that kicked this off:

I do not think the equation editor is intended to be used as a general purpose entry method. 90% of the time, good ol' RPN is what I'll use. What I'll use the equation editor for is symbolic work that involves

cutting and pasting.

For example, consider the Fresnel Equations. The numerator and the denominator is identical except for one sign change. So the easiest way to enter them is to enter the numerator, select all and copy, hit divide, paste in the numerator as the denominator, and then use the cursor to change the one sign.

This is an example of what the Equation Editor is for, in my opinion. It is probably more efficient than another other method. (At least it is both efficient and easy to understand)

I also don't think Mathematica has anything like an equation editor, nor RPN.

Another thing is that I think people tend to underestimate how powerful CAS calculators are, and over estimate the advantages Mathematica has over them.

When someone says something like, "I don't need a CAS because I'm not in school", I imagine they think a CAS calculator can do something like the integral of sin(x) -- something you can easily do in your head.

Of course it can do that, but they can do quite a bit more. They can definitely do things that, yes, you know how to do from school but would be far too tedious for you to ever want to do by hand, if you could avoid it. That was the point of some of the examples I gave earlier.

Much like, yes, if you went to school you could do, by hand, long division of two 8 digit numbers, but it would be rather tedious and is something that's better suited for a calculator.

I think these calculators are actually *astoundingly* powerful, certainly for something that can fit in your hand. I showed that the HP50 can solve the general quartic equation, which I think is a pretty impressive feat.

What advantage does Mathematica have over a calculator? Well, yes, it has a more powerful CAS, but not by as much as you might guess. It can evaluate integrals that require things like hypergeometric series or other special functions. For functions that have elementary solutions, the difference between them isn't that large. And there are expressions that Mathematica still can't simplify.

The main advantage, of course, is that it runs faster and has more memory. So, an HP50 could get you maybe 50 coefficients from this series, but eventually it will run out of memory.

That could even be fixed. It could be possible for a calculator emulator to use more memory than the calculator itself. You could write a program on a calculator, bug check it, test it, and then load it onto a computer and push it to the limit.

Something like that in the future of graphing calculators would be exciting.

Re: The Future of Graphing Calculators

*Message #19 Posted by **bill platt** on 13 Apr 2010, 10:30 a.m.,*
in response to message #18 by Crawl

These are very interesting points.

Thanks.

Re: The Future of Graphing Calculators

*Message #20 Posted by **David Hayden** on 13 Apr 2010, 10:46 p.m.,*
in response to message #18 by Crawl

> Quote:
>
> I think these calculators are actually *astoundingly* powerful, certainly for something that can fit in your hand. I showed that the HP50 can solve the general quartic equation, which I think is a pretty impressive feat.

And keep in mind that between RPL overhead and the saturn emulator, your 50g is running 10x-100x slower than the hardware could let it.

It's too bad that HP doesn't have the resources to bring RPL into the modern world. The software is still designed around the assumption that memory is extremely expensive. I'd love to see an ARM-based 32-bit RPL model that would (mostly) maintain source-code compatibility with existing RPL programs. I'd like to see the memory model changed so that you didn't have to copy the return stack all the time, or move objects in tempob when you did garbage collection, or rewrite UserOB whenever you modified a variable, or completely rewrite a list any time you changed a value in it. Changes like this could make the calculator 50x faster and allow 100x more memory with basically no change in hardware cost. But it requires development time and that means money :(.

Re: The Future of Graphing Calculators

*Message #21 Posted by **Han** on 29 Mar 2010, 5:20 p.m.,*
in response to message #1 by bill platt

I don't think calculators will ever go away. They will certainly become faster, and maybe be equipped with ever more powerful CAS, but never will they be replaced by any general purpose hand-held device.

When I think about why I even own a calculator, I realize that it's because a calculator has a dedicated design. It is all about quick-access to commands. With a graphing calculator, I can access most of my often-used commands with a few button presses. With a computer algebra system, I would have to TYPE in the command. Most hand-held devices are extremely poorly designed for typing (even with a qwerty keyboard -- ever try to type with the TI nSPIRE 2.0?) And anything with a comfortable keyboard made for typing would not be as portable as a calculator.

While today's calculators are very capable of high-level algebra, there will always be enough instances of us needing only a few quick calculations for which a sophisticated device will often-times be too cumbersome to even bother.

Edited: 29 Mar 2010, 5:21 p.m.

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What Would a 30bII Look Like?

*Message #1 Posted by **Andrew H.** on 28 Mar 2010, 3:31 a.m.*

I've followed with interest the comments in this forum concerning the new 30b. (I don't yet have one.) The consensus appears to be that it is a very good calculator but with a few annoyances. For example:

1. Many functions are buried in menus rather than being visible on the keypad;
2. The STO key is not a primary key;
3. The shift key is not more centrally located (Gene Wright); and
4. 1/x and y^x are not primary keys (bink).

I envisage that a 30bII would address them all these. The question is how?

I'm interested to find out what others think a 30bII might look like. In contemplating this, consider it to be a refresh of the 30b rather than a complete redesign, so that its functionality remains essentially the same.

To get things started, I've taken a hypothetical keypad for the 20b from a previous post and adapted it for the 30b. I think I've addressed all the annoyances listed above by introducing a second shift key.

```
P/YR    |IRR|   |NPV|  |Bond| |Option| |CshFl|
  N      I/YR     PV      PMT     FV      UP
xP/YR  |IConv| |BrkEv| |Amort| |Depr|  |Mode|


                x^2     e^x    |%calc| |Data|
  f       g     1/x     y^x       %     DOWN
              sqrt      LN       LOG   |Memory|


    R/S         INS     Beg    |Math|  |Stats|
   INPUT         (       )      EEX     +/-
   PRGM         DEL     End    |Date|    ABS


   ISG      ?<       ?=       ?>        F
   STO       7        8        9        /
   DSE      ?>=      ?!=      ?<=     INV F


  SOLVE    GOTO     GOTOT    GOTOF    chi2
   RCL       4        5        6        *
   ANS       !       nCr      nPr    INV chi2


           CALL      LBL    RETURN      t
  <-         1        2        3        -
|Reset|    RND     RAND      pi      INV t


           MSG      STOP     DISP       n
 ON/CE      0         .        =        +
  OFF      IP       FP     (SHOW)    INV n
```

Notes

1. Menus are identified by vertical lines ||.
2. Option is just a different name for the Black S menu.

3. UP and DOWN represent the up and down arrows, which are now located at the top right of the keypad (cf. 35s and 50g).
4. INS and DEL and located next to INPUT because they are all used for entering data in lists.
5. STO and RCL are now located at the bottom left of the keypad (cf. TI BA II Plus).
6. !, nCr, and nPr are all based on factorials, so they are grouped together.
7. Back space and CE both delete, so they are grouped together at the bottom left of the keypad.
8. Pi is on the 3 key, where it belongs.
9. SHOW on the = key is not present on the 30b. It would reveal all the digits of the number in the X-register.
10. Almost all the keys of a standard 4-banger calculator (including STO and RCL but except for %) are found as primary keys in the bottom 5 rows. This could be common across all HP calculators.
11. The display of the 30b only has one secondary-function-active indicator, which would be displayed whenever either the gold (f) or the blue (g) keys was active.

Edited: 28 Mar 2010, 6:07 p.m. after one or more responses were posted

Re: What Would a 30bII Look Like?

*Message #2 Posted by **Eddie W. Shore** on 28 Mar 2010, 1:21 p.m.,*
in response to message #1 by Andrew H.

Very nice keyboard, Andrew.

I like the fact that (1) you made STO a primary key, (2) kept the groups together, (3) put the distributions and pi on the keyboard. (I take it the trigs are now in the Math menu)

Re: What Would a 30bII Look Like?

*Message #3 Posted by **Andrew H.** on 29 Mar 2010, 6:15 p.m.,*
in response to message #2 by Eddie W. Shore

Eddie,

Correct. The trigs would replace the tests on the 7-8-9 row for the 20b.

Andrew

Re: What Would a 30bII Look Like?

*Message #4 Posted by **Bruce Bergman** on 28 Mar 2010, 4:56 p.m.,*
in response to message #1 by Andrew H.

All quite doable! The 30b is very easy to repurpose. So, when will you have the new software available for download?! ;-)

Thanks,

Bruce

Re: What Would a 30bII Look Like?

*Message #5 Posted by **Andrew H.** on 28 Mar 2010, 6:06 p.m.,*
in response to message #4 by Bruce Bergman

Bruce,

As soon as the design spec is finalized.

The layout above is just my two bits' worth. I'm very interested to find out the views of others. Is there anything about the 30b that annoys you? If so, how would you fix it?

Andrew

Re: What Would a 30bII Look Like?

*Message #6 Posted by **Don Shepherd** on 28 Mar 2010, 6:30 p.m.,*
in response to message #5 by Andrew H.

From a programming perspective, having R/S as a shifted key is a large annoyance.

Re: What Would a 30bII Look Like?

*Message #7 Posted by **Andrew H.** on 29 Mar 2010, 6:14 p.m.,*
in response to message #6 by Don Shepherd

Don,

You could try something like this:

```
  INS       |Stats| |Date|  |Math|   PRGM
INPUT         (       )      +/-     R/S
 DEL          Beg     End     ABS     EEX
```

However, this raises two issues.

1. The primary keys on the 20b and the 30b are the same. If R/S were a primary key on the 30b, it would have to be something else on the 20b (presumably EEX, which is why I have placed in on the same key as R/S above).
2. As a general principal, I think that HP should aim to have a common layout for the primary keys of the bottom 5 rows of all its calculators, just like all cars have the clutch on the left, the brake in the middle, and the accelerator on the right. (An exception to this would be replacing = with i for scientific calculators.) The layout above would conflict with this principal.

A possible alternative would be to change the f and g keys to a gold up-arrow and a blue down-arrow respectively. Normally, these would act as shift keys, but they would act as scroll keys when in lists. This would free up the rightmost keys of the top 2 rows, one of which could be used for the R/S key.

Andrew

Re: What Would a 30bII Look Like?

*Message #8 Posted by **Andrew H.** on 30 Mar 2010, 8:49 p.m.,*
in response to message #7 by Andrew H.

Don,

I think this addresses your annoyance, and everything just hangs together. However, it depends on the up- and down-keys doing double duty as shift keys: I'm not certain that this wouldn't create a conflict. (Cyrille or Tim might be able to advise.)

```
          xP/YR    |IRR|    |NPV|   |Bond| |Option|
 UP [f]     N      I/YR      PV       PMT      FV
          P/YR    |IConv| |BrkEv| |Amort| |Depr|
```

```
          PRGM     e^x     x^2   |Math|  |Stats|
DOWN [g]   R/S     y^x     1/x      %   (DELTA%)
           LOG      LN    sqrt   |%calc| |Date|

    |Memory|     |CshFl| |Data|    Beg    Binom
      INPUT         (       )      EEX     +/-
     |Mode|         INS     DEL     End     ABS

     ISG       ?<       ?=       ?>        F
     STO        7        8        9        /
     DSE       ?>=      ?!=      ?<=     INV F

    SOLVE     GOTO     GOTOT    GOTOF    chi2
     RCL        4        5        6        *
     ANS        !       nCr      nPr    INV chi2

              CALL      LBL    RETURN      t
     <-         1        2        3       -
   |Reset|     RND     RAND      pi      INV t

              MSG      STOP     DISP      n
    ON/CE      0         .        =       +
     OFF      IP        FP     (SHOW)    INV n
```

Notes

1. When in a list, INS and DEL would be invoked by just pressing the (or) keys respectively. (Pressing the down-arrow first would just roll the list down.)
2. I have added the Binom function and a DELTA% function (cf. 12C), which would make a useful addition.
3. Sqrt would take the place of R/S as a primary key on a 20bII.

Andrew

Note: Edited to correct an error and to add point 1 above.

Edited: 30 Mar 2010, 10:52 p.m.

Re: What Would a 30bII Look Like?

*Message #9 Posted by **Walter B** on 31 Mar 2010, 2:19 a.m.,*
in response to message #8 by Andrew H.

Hi Andrew,

> Quote:
>
> it depends on the up- and down-keys doing double duty as shift keys: I'm not certain that this wouldn't create a conflict. (Cyrille or Tim might be able to advise.)

You can find out yourself: just explain the operation of your draft calc on some sheets of paper, and don't skip the tricky cases ;-)

Re: What Would a 30bII Look Like?

*Message #10 Posted by **BruceH** on 28 Mar 2010, 7:01 p.m.,*

in response to message #5 by Andrew H.

Please remember to leave one key label in an obviously wrong position. That way HP can 'fix' it and then their legal people won't have to get all worried about the copyright situation.

;-)

Re: What Would a 30bII Look Like?

*Message #11 Posted by **Gene Wright** on 28 Mar 2010, 9:52 p.m.,*
in response to message #1 by Andrew H.

Thanks for the name plug, but that shift key comment is just something I remember from the PPC Journal. Why have longer finger travel than you need to have?

Looks good. . . as LONG as the (and) keys double as X<>Y and roll down, which aren't otherwise on the keyboard (?).

:-)

Re: What Would a 30bII Look Like?

*Message #12 Posted by **Andrew H.** on 29 Mar 2010, 6:18 p.m.,*
in response to message #11 by Gene Wright

Gene,

I don't for a minute advocate omitting x<>y and roll-down: this would be tantamount to heresy.

Andrew

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New update for Clonix and NoV's users.

*Message #1 Posted by **Diego Diaz** on 27 Mar 2010, 9:34 p.m.*

Notes on the files for the Update270310 pack.

I've finally managed to achieve some of the pending tasks in order to build a few files that improve functionality for NoV's and fix a known bug of Clonix-D.

Here are some abstracts of the included files:

- CLR_RAM1.HEX & CLR_RAM2.HEX

These files improve the RAM erasing procedure on NoVRAM and NoV-32 modules respectively.

Burn the appropriate one into your module and plug it in your HP-41 (calculator must be OFF)

After some seconds (about 5sec. for NoVRAM and 10sec. for NoV-32) your calculator will power up automatically showing a message [CLR OK] indicating that the erasing process has been successfully completed; or [NO CLR] indicating that the process failed at some point.

Once your RAM is erased turn your HP-41 OFF, remove the module and reprogram it as usual.

In case you got the error message [NO CLR] turn your calc OFF remove and reinsert the module to repeat the process. Make sure that your calc is running on a fresh set of alkalines.

If the problem persist, please mail me in order to find what the cause could be.

Note that the contents of the Stack is preserved during this procedure.

- ADDRS08p.asm

This file will allow NoV-64 users to take full advantage of Geir Isene's ICEBOX1H.ROM by enabling on-the-fly RAM blocks switching. Please visit his page for details on this outstanding piece of M-code. Here.

- Clonix-D.asm

Fixes an issue reported by several users which found that the ROM blocks did not switch as they should after changing the module from an odd to an even port or vice-versa.

Install this Update by including these files (replacing old ones when necessary) into your working directory.

Hope this helps.

Best wishes from the Caribbean Sea.

Diego.

Re: New update for Clonix and NoV's users.

*Message #2 Posted by **Geir Isene** on 28 Mar 2010, 5:46 p.m.,*
in response to message #1 by Diego Diaz

Me = Happy :-)

What's the next on the roadmap?

I have my wish list:

1. Ability to see two blocks of RAM to copy RAM pages between blocks

2. RAM2ROM for NoV-64

3. RAM clear for the NoV-64

Re: New update for Clonix and NoV's users.

*Message #3 Posted by **Diego Diaz** on 29 Mar 2010, 1:39 p.m.,*
in response to message #2 by Geir Isene

Hi Geir,

Thanks for the feedback and support.

I must say that your wish #3 is already accomplished. Please check your working directory, you should find the file "CLR_RAM4.HEX" which will clear your NoV-64 RAM in about 22sec. showing [CLR OK] message afterwards. Let me know if you miss that file, and I'll mail it.

Regarding wishes #1 and #2, they're both in my to-do list. Along with the mods required for NoV-32 code to handle on-the-fly RAM chips swapping, as required for your ICEBOX1H.ROM (I didn't forget that one ;-))

Cheers from Dom. Republic.

Diego.

Re: New update for Clonix and NoV's users.

*Message #4 Posted by **Geir Isene** on 30 Mar 2010, 9:00 a.m.,*
in response to message #3 by Diego Diaz

> Quote:
>
> Hi Geir,
>
> Thanks for the feedback and support.
>
> I must say that your wish #3 is already accomplished. Please check your working directory, you should find the file "CLR_RAM4.HEX" which will clear your NoV-64 RAM in about 22sec. showing [CLR OK] message afterwards. Let me know if you miss that file, and I'll mail it.

Then all is fine on #3 :-)

Quote:

Regarding wishes #1 and #2, they're both in my to-do list. Along with the mods required for NoV-32 code to handle on-the-fly RAM chips swapping, as required for your ICEBOX1H.ROM (I didn't forget that one ;-))

Great. When I get #1, I will send you a gift.

Re: New update for Clonix and NoV's users.

*Message #5 Posted by **Diego Diaz** on 30 Mar 2010, 1:24 p.m.,*
in response to message #4 by Geir Isene

:-)

Generous indeed from your side... any extra motivation is certainly welcome!! (not "required" whatsoever, but wholeheartedly appreciated)

You've got mail.

Diego.

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Does HP Advertise Their Calculators?

*Message #1 Posted by **Jake Schwartz** on 27 Mar 2010, 9:17 p.m.*

Hi,

It was suggested that a new topic be started on HP marketing calculators (or lack thereof). Back in the day, HP would do direct mailings when a new calc was introduced, offering 15-day trials and all sorts of neat stuff. Of course, that was then, but what kind of marketing is HP actually doing (if any) right now? We have this neat new 30b and I haven't seen any HP emails announcing it, any magazine ads, nothing. What did I miss? Is it appearing in ads in financial publications? How is the word getting out? It might mysteriously appear on a "peg" at a store such as Target, but is that going to mean anything? If anybody starts at www.hp.com, is it mentioned that a new calculator has appeared and that they should click on a link to see it? What does an HP calculator marketing person actually do? I can't wait to find out that my cynicism is unfounded :-)

Jake

Re: Does HP Advertise Their Calculators?

*Message #2 Posted by **Don Shepherd** on 27 Mar 2010, 9:38 p.m.,*
in response to message #1 by Jake Schwartz

Jake, the same can be asked of the 20b. I've never seen any advertising for it. It appeared on Amazon.com a few months after it was introduced, as I recall, but I've never seen it on a peg in any store. The only HP calcs I've seen on pegs in the last few years are 12c and platinum, 10bii, and 17bii+. Never a 35s, and I don't expect to see the 30b on a peg either. Maybe the marketing world has changed, or there is something going on that we don't know about, but I don't know how HP expects to sell these things if nobody knows about them.

Re: Does HP Advertise Their Calculators?

*Message #3 Posted by **Gerardo Rincon** on 27 Mar 2010, 10:49 p.m.,*
in response to message #2 by Don Shepherd

I don't understand why it seems HP has abandoned middle/high school market. Once kids get attached to TI's it's very difficult to have them move to HP when they go on to college. I don't even see HP advertize in college. Also, when I go to every day brick & morter stores I don't see HPs calculators very often ...

Re: Does HP Advertise Their Calculators?

*Message #4 Posted by **Martin Pinckney** on 27 Mar 2010, 11:53 p.m.,*
in response to message #3 by Gerardo Rincon

> Quote:
>
> I don't understand why it seems HP has abandoned middle/high school market. Once kids get attached to TI's it's very difficult to have them move to HP when they go on to college.

It's because the *schools* are attached to TI...

(deleted post)

*Message #5 Posted by **deleted** on 28 Mar 2010, 6:21 a.m.,*
in response to message #4 by Martin Pinckney

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: Does HP Advertise Their Calculators?

*Message #6 Posted by **Martin Pinckney** on 28 Mar 2010, 9:11 a.m.,*
in response to message #5 by deleted

I am not a teacher, so I am genuinely asking: did not the textbooks begin to show solutions with TI calculators *after* the schools were using them for several years?

Re: Does HP Advertise Their Calculators?

*Message #7 Posted by **Bruce Bergman** on 28 Mar 2010, 12:10 p.m.,*
in response to message #5 by deleted

...because HP abandoned the education market some years ago (management decision, and a poor one at that). TI took the ball and ran with it, and now HP would be playing catchup for YEARS to get back to where they were.

Re: Does HP Advertise Their Calculators?

*Message #8 Posted by **Norman Dziedzic** on 28 Mar 2010, 8:28 a.m.,*
in response to message #2 by Don Shepherd

I actually bought my 35s off a peg at a Fry's Electronics store outside of Chicago. But, I think there are only a handful of Fry's around the country.

Re: Does HP Advertise Their Calculators?

*Message #9 Posted by **Brian Walsh** on 28 Mar 2010, 8:54 p.m.,*
in response to message #8 by Norman Dziedzic

Norman, Do you know about the CHIP group? It's one of the longest running HP users clubs, originally started in 1976 as the Chicago chapter of PPC by Craig "Pinball Wizard" Pearce.

We meet twice a month (first and third Wednesdays) at Ace Metal Crafts in Franklin Park. Some of the guys go for dinner locally, then the informal meeting (if you want to call it that) usually gets rolling around 8 o'clock. The next meeting is Wednesday, April 7th. Once in a while calculators come up in the conversations.

Call Ron Johnson, 312-630-0100 weekdays, for a bit of info if you'd like. It would be fun to meet another HP enthusiast in the area.

Brian

Re: Does HP Advertise Their Calculators?

*Message #10 Posted by **Norman Dziedzic** on 29 Mar 2010, 1:54 p.m.,*
in response to message #9 by Brian Walsh

I'll have to take a look into that. Not much spare time these days but would be fun once in a while...

Thanks for the info.

Re: Does HP Advertise Their Calculators?

*Message #11 Posted by **Brian Walsh** on 30 Mar 2010, 3:03 a.m.,*
in response to message #10 by Norman Dziedzic

A lot don't attend every meeting, but most show up every few meetings, especially when someone has something to talk about which interests them. Video and photography are of interest to some, and there's often something computer related some take an interest in. HP handhelds come up in conversation once in a while, not often enough from my perspective, but it's not what keeps the group together after 34 years. I'd say show up for a meeting or two and ask Ron to put you on the mailing list for meeting notices if you like. By all means you should meet Jack Stout, the guy who has been instrumental in arranging for the meeting location for so many years and is a best friend to everyone. Without Jack it wouldn't happen. I can't say enough good things about Jack. He is a Dutch uncle.

Edited: 30 Mar 2010, 3:04 a.m.

Re: Does HP Advertise Their Calculators?

*Message #12 Posted by **Scott Newell** on 28 Mar 2010, 1:31 p.m.,*
in response to message #2 by Don Shepherd

I've been checking the local Office Depot and Staples monthly since the 12C+ was released...still haven't seen one. They've got the 10B on the peg, but the 12C isn't on a peg, and there's no tag to pull, so it's a *huge* hassle to buy one, much less look at the battery door.

FWIW, I've never seen a 20B in either office supply store. And that one's been out how long?

Re: Does HP Advertise Their Calculators?

*Message #13 Posted by **Tim Wessman** on 27 Mar 2010, 11:45 p.m.,*
in response to message #1 by Jake Schwartz

I know there are advertisements in surveying professional magazines since I was asked about those ones, but other that that nobody has asked for my input on other marketing campaigns. Not that being in R&D I would expect to be asked. . .

TW

Re: Does HP Advertise Their Calculators?

*Message #14 Posted by **Allen** on 27 Mar 2010, 11:46 p.m.,*
in response to message #1 by Jake Schwartz

I approached the Calc Management Representative about exactly this issue at the HHC 2009 meeting. I wish I could say I heard anything at all back on the issue.

He offered (and failed) to set me up with their marketing folks so I could share some of my ideas... my guess is the marketing folks don't do much at all.

Re: Does HP Advertise Their Calculators?

*Message #15 Posted by **Martin Pinckney** on 27 Mar 2010, 11:57 p.m.,*
in response to message #1 by Jake Schwartz

Excellent topic, Jake.

The cynic in me says this lack of marketing effort speaks to the HP of today's investment in calculators.

Re: Does HP Advertise Their Calculators?

*Message #16 Posted by **DaveJ** on 28 Mar 2010, 1:06 a.m.,*
in response to message #1 by Jake Schwartz

I doubt there is such a thing as a "calculator marketing person" at HP.

I'm sure someone will correct me if I'm wrong, but the calculator division is part of the "Handheld Computing" group, which is a group within the much bigger "Personal Systems Group" division.

So it's highly unlikely they would have specific marketing people just for the tony calculator sub-group of the handheld computing group of the personal system group division! I wouldn't be surprised if there is only one marketing department for the whole overall division.

See the HP 2009 annual report for a breakdown of the groups and a good example of the almost irrelevance of the calculator division within HP as a whole.

It probably comes down to the usual manpower/budget thing, where the squeakiest wheel gets the oil.

Dave.

Re: Does HP Advertise Their Calculators?

*Message #17 Posted by **Reth** on 28 Mar 2010, 1:31 a.m.,*
in response to message #16 by DaveJ

> Quote:
>
> I doubt there is such a thing as a "calculator marketing person" at HP

I doubt there is such a thing as a "calculator" at HP that deserves to be advertised since the last HP48 left production line

Re: Does HP Advertise Their Calculators?

*Message #18 Posted by **Martin Pinckney** on 28 Mar 2010, 9:14 a.m.,*
in response to message #17 by Reth

Come now, the 50g, 30b, and to a lesser extent the 20b have all gotten pretty good reviews here.

Re: Does HP Advertise Their Calculators?

*Message #19 Posted by **Don Shepherd** on 28 Mar 2010, 4:30 a.m.,*

in response to message #1 by Jake Schwartz

The golden age of HP scientific calculators occurred in the 1970's and 1980's. I imagine that the HP-48, and its predecessors, were a success because they were built well and did things that could otherwise only be done on minicomputers costing tens or hundreds of thousands of dollars. That all changed when the PC came along; the PC made the scientific calculator obsolete in the same way the HP-35 made the slide rule obsolete.

I would imagine that the only calculator HP currently sells in numbers high enough to justify a "calculator" division at all is the 12c, and they don't have to advertise it because it is the "gold standard" among financial types. But they've got to be careful to not change it too much because that group might look elsewhere if they couldn't trust it.

The HP calculator division consists of Cyrille and Tim, and probably a few other support people. The 12c probably subsidizes every other HP calculator currently produced. If the 12c ever loses favor (and sales) in its market, HP calculator division will cease to exist.

Re: Does HP Advertise Their Calculators?

*Message #20 Posted by **Martin Pinckney** on 28 Mar 2010, 9:24 a.m.,*
in response to message #19 by Don Shepherd

> Quote:
>
> ... the PC made the scientific calculator obsolete in the same way the HP-35 made the slide rule obsolete.

Well, not quite. Many here have demonstrated why calculators are still important. And while production of new slide rules is almost nil, Casio, Sharp, TI, and HP still make and sell a lot of calculators.

> Quote:
>
> I would imagine that the only calculator HP currently sells in numbers high enough to justify a "calculator" division at all is the 12c, and they don't have to advertise it because it is the "gold standard" among financial types.

Chicken or egg. Would the other calculators sell better *if* they were advertized?

> Quote:
>
> If the 12c ever loses favor (and sales) in its market, HP calculator division will cease to exist.

Well, I certainly hope not. Anyway, are sales figures published anywhere?

Re: Does HP Advertise Their Calculators?

*Message #21 Posted by **Bart (UK)** on 29 Mar 2010, 5:57 a.m.,*
in response to message #19 by Don Shepherd

> Quote:
>
> I would imagine that the only calculator HP currently sells in numbers high enough to justify a "calculator" division at all is the 12c, and they don't have to advertise it because it is the "gold standard" among financial types.

I believe you always need to advertise, in this case to two audiences: those that haven't got it to tell them what they're missing; and to those that have got it to remind them that they made the right choice (and thus keep them recommending the product).

E.g. Dyson is considered a top brand of vacuum cleaner in the UK, but they still advertise. It only takes a competitor to closely match the virtues of a leading product and a good advertising campaign to sway the buyers if they are not constantly reminded of the superior virtues of the top brand. (As HP may loose it to BWK). Anybody that thinks they "have it made" and are "indespensible" enough to stop advertising may just find themselves loosing everything.

Re: Does HP Advertise Their Calculators?

*Message #22 Posted by **Karl-Ludwig Butte** on 28 Mar 2010, 7:06 a.m.,*
in response to message #1 by Jake Schwartz

Here's a feedback from Germany: I don't know of any advertisements for HP-calculators at all. Even worse, all marketing activities, like e.g. contests ("Design the next calculator" (or similar) I've heard of a couple of years back, were limited to the U.S. excluding the rest of the world. I heard of no special offers for teachers directly from HP (please someone proof me wrong) and some products, like e.g. the Streamsmart 400, isn't offered at all, even not by those onlineshops which usually have HP calulators. Brick & mortar stores may offer HP ink for the inkjet-printers but offer calculators only from TI, Casio, Sharp and nonames. Casio is doing a much better job in the respect of marketing: They are serving the schoolmarket with a website and offers special offers for teachers and have books, too.

I guess this threat won't come up with any good news, so I'd like to ask you all: Isn't there anything we could do to change this really bad situation ? I tried to start with an article about the calulation of RC-filters (it's for German speaking readers and please scroll down to the end of the article 'cause it's an addendum to an already existing article).

Best wishes

Karl

Re: Does HP Advertise Their Calculators?

*Message #23 Posted by **David Hayden** on 28 Mar 2010, 8:54 a.m.,*
in response to message #22 by Karl-Ludwig Butte

A few random comments....

The only advertising I see for *any* calculators is the store displays at office supply stores and the "on sale" items in their circulars around back-to-school time. These are usually for the TI-83.

Interesting point about the 12C. It would seem that both TI and HP are propelled by inertia in their respective markets. HP has the financial world locked up via word of mouth. TI has the education world locked up via the textbooks. It seems to me that only a serious marketing effort could unseat either one.

Middle school and high school (ages 12-18) are, by far, the biggest market for the scientific & graphing calculators. I suspect that very few people switch brands once they're used to what they have. So any marketing effort should be aimed at them.

What can we do? Maybe write companion material for some of the textbooks to explain how to use an HP calculator for each of the exercises that requires a calculator. Maybe one for the 39gs/40gs and one for the 48gII/50g.

Great topic.

Re: Does HP Advertise Their Calculators?

*Message #24 Posted by **Don Shepherd** on 28 Mar 2010, 10:05 a.m.,*
in response to message #23 by David Hayden

Good points, David.

TI's presence in the education market is huge. They have a nation-wide network of support people who work with the schools and teachers to show how TI calculators can benefit teachers and students. And I'm sure they offer "deals" to school systems who buy their products. Walk into most middle or high school classrooms and you will see pouches hanging from the wall that hold 30 TI calculators. In middle school it is usually the TI-73 (or similar), and in high school the TI-83 plus. Regarding requiring students to buy calculators for math class, my experience is in middle schools and no middle school in which I have taught requires a student to buy a calculator; it may be different at the high school level, especially in advanced math classes.

Three years ago, when the TI-NSpire came out, TI sponsored 3-day training sessions around the country for educators to get familiar with the NSpire. I attended one in Hendersonville, Tennessee. I think it cost like $225 (which most school systems paid, but not mine!) but each attendee received a new NSpire (non CAS, but you could swap for a CAS unit later, which I did) plus an electronic screen that you could use to show the NSpire display on an overhead projector. I have rarely used that, or the NSpire, in class, but I do have about 4 or 5 TI-83's and 84's that I have used over the years with my students. This past year Texas Roadhouse donated 8 TI-83's to the school at which I currently teach.

So TI has a very large presence nationwide. And the textbook publishers have followed suit as well. I doubt that any textbook publisher would be interested in including HP calculator specific information in their textbooks since there aren't--and aren't likely to be--any HP calculators in the classrooms.

I imagine that when kids that have bought scientific or graphing calculators leave school, they pretty much leave the calculators behind. Bulky TI-83's aren't really necessary around the house, and their pockets are filled with i-devices!

Re: Does HP Advertise Their Calculators?

*Message #25 Posted by **JJB299** on 28 Mar 2010, 10:21 a.m.,*
in response to message #1 by Jake Schwartz

Regarding current marketing I have seen:

Being a land surveyor, the ONLY advertising I have seen for HP calculators is in surveying publications and surveying equipment supply vendors.

I think this is 100% driven by the National Council of Examiners for Engineers and Surveyors (NCEES) exams. The HP 33s and the HP 35s are the only calculators from HP permitted for use in the exams.

On that topic, I write and sell program books for surveyors for both the 33s and 35s. During some of my limited market research, I was trying to find any major outlet stores that carry those HP calculators, without success.

I just don't get it: I see the HP laptops, the HP printers, the ink, the peripherals, etc.. But why not throw a couple calculators on the shelves while your at it?

Re: Does HP Advertise Their Calculators?

*Message #26 Posted by **Egan Ford** on 28 Mar 2010, 10:34 a.m.,*
in response to message #25 by JJB299

> Quote:
>
> But why not throw a couple calculators on the shelves while your at it?

Why? If HP is not pushing their own calculators, then you are asking a brick and mortar shop lose profits on inventory that may not move. It'd be great if Walmart carried every HP model. Then I'd just have to sit back and wait for Walmart to sell them for $10 (or $2 http://s946.photobucket.com/albums/ad309/martindupre/?action=view&current=DSC01972.jpg :-) as they try to recoup some loss on stock that never moved.

BTW, I do see HP calcs on selves at my local university book store. They sell just about every model. I imagine that university students represent the largest scientific calculator market for HP.

Re: Does HP Advertise Their Calculators?

*Message #27 Posted by **Martin Pinckney** on 28 Mar 2010, 2:58 p.m.,*
in response to message #26 by Egan Ford

> Quote:
>
> Why? If HP is not pushing their own calculators, then you are asking a brick and mortar shop lose profits on inventory that may not move.

I think that is the point of this thread - why isn't HP pushing their calculators like they push computers and printer?

> Quote:
>
> It'd be great if Walmart carried every HP model. Then I'd just have to sit back and wait for Walmart to sell them for $10 (or $2)...

I sold every one of those $2 calculators I bought at Walmart for $15 each on eB**. Does that mean online sells and brick and mortar doesn't? Still, why doesn't HP even highlight their calculators in their own emails?

Re: Does HP Advertise Their Calculators?

*Message #28 Posted by **Eddie W. Shore** on 28 Mar 2010, 1:37 p.m.,*
in response to message #1 by Jake Schwartz

Usually, in Los Angeles, the Fry's stores are the only stores that carry HP calculators beyond the 12c in Los Angeles, even though I got the 17bII+ Silver at an Office Depot this past January.

I agree that there is not enough advertising from the HP calculators department. There needs to be more of it: especially with the 50g and 30b/17bII+.

Re: Does HP Advertise Their Calculators?

*Message #29 Posted by **Palmer O. Hanson, Jr.** on 28 Mar 2010, 10:59 p.m.,*
in response to message #1 by Jake Schwartz

Anyone who watches "March Madness" knows that H-P advertises, but I suspect that there are very few individuals outside of this forum who notice or even care that calculators aren't mentioned in the advertisements.

I suspect that many in this forum underestimate the length and depth of the TI commitment to the educational market and the amount of coordination with other educational activities that was involved. TI started a newsletter "It's About T.I.M.E." in 1989 where T.I.M.E. stands for Technology in Math Education. The October 1990 issue included the statement

> Quote:
>
> "Teaching Mathematics with Calculators: A National Workshop" is a joint project of the Mathematical Association of America (MAA) and the National Council of Teachers of Mathematics (NCTM). The project is funded by a $1.2 mllion grant from the National Science Foundation (NSF) and a contribution of $330,000 from Texas Instrumens.

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Tastronics TAS012

*Message #1 Posted by **Rik Bos** on 27 Mar 2010, 4:03 p.m.*

I got a TAS012 but no documentation. Ik know it's a hp-il <> rs232 controller, but not much more. And like to know how to use it..uh play with it of couse.

-Rik

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The square root of ten revisited

*Message #1 Posted by **Palmer O. Hanson, Jr.** on 26 Mar 2010, 10:41 p.m.*

In response to Gene Wright's "Happy Square Root of 10 day!" (16 March) I wrote:

> Quote:
>
> I am fairly sure that some slide rules were made with the CF scales folded at the square root of ten rather than at pi.

Stan Keeley and Martin Pinckney reported that the Hemmi 250 has the CF and DF scales folded at the square root of ten. I have a Hemmi 250 in my collection.

Page 38 of *SLIDE RULES - A Journey Through Three Centuries* by Dieter von Jezierski as translated by Rodger Shepherd states in part

> Quote:
>
> . Folded scales ... ... were seldom incorporated in slide rules until 70 years later [about 1887] ... ... when Tscherepaschinski [a Russian] arranged a pair of scales folded at 3.16 along the lower slide-stator interface. Eventually, folded scales became common, especially in American duplex slide rules, which had four slide-stator interfaces. Some early German models had scales that were folded at the square root of 10, but most folded scales were folded at the value of pi. ... ... In the case of merchants' slide rules, the folded scales were folded at 3.6, thereby permitting direct multiplication or division by 360 days when carrying out calculations involving interest.

The CF and DF scales on my K&E 4094 Merchant's Mannheim, K&E 4095 Merchant's Duplex, and K&E GP12 Business-Science slide rules all have the CF and DF scales folded at pi. In my collection only my A.W.Faber-Castell 67/22R Business slide rule does have the CF and DF scales folded at 3.6 .

I can't recall needing the square root of ten in any of my calculations. Is there a technology where the square root of ten apprears frequently in calculations?

Re: The square root of ten revisited

*Message #2 Posted by **BobVA** on 28 Mar 2010, 2:47 p.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

I've got a guess. The wikipedia article below says there are two uses for the CF and DF scales. Besides convenience for calculations involving pi, it also recommends use in lieu of the C/D scales when it isn't obvious which index on the latter to use in order to keep the results on scale. I hadn't heard of this trick, but it makes sense.

So, if the folded scale was originally devised to solve the "index ambiguity" problem, it would have been logical to fold the scale in the middle (10^0.5). Then perhaps some other clever person came along and noted that you could do the same thing by folding the scale at the nearly equivalent value of pi, with the bonus of

adding the pi computation features.

Just speculation, of course.

Wikipedia Slide Rule Article - "other operations"

Edited: 28 Mar 2010, 3:09 p.m.

Re: The square root of ten revisited

*Message #3 Posted by **Martin Pinckney** on 28 Mar 2010, 3:27 p.m.,*
in response to message #2 by BobVA

> Quote:
>
> ... it would have been logical to fold the scale in the middle (10^0.5). Then perhaps some other clever person came along and noted that you could do the same thing by folding the scale at the nearly equivalent value of pi, with the bonus of adding the pi computation features.

I think you hit on it!

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Grey Carrying Case, Classic Calcs

*Message #1 Posted by **aj04062** on 26 Mar 2010, 8:26 p.m.*

Anyone seem a source for these other than trolling on eBay?

Re: Grey Carrying Case, Classic Calcs

*Message #2 Posted by **Ed Sowell** on 27 Mar 2010, 11:31 a.m.,*
in response to message #1 by aj04062

I don't know how often, if ever, they come up on eBay, but it's easy to set up a search that automatically sends you an email when one appears.

I'm now kicking myself for throwing mine out a few years back. I use my 45 so much I never used the hard case.

Ed

Re: Grey Carrying Case, Classic Calcs

*Message #3 Posted by **db (martinez, ca.)** on 27 Mar 2010, 7:50 p.m.,*
in response to message #1 by aj04062

Some big junque stores and seasonal rummage sales have a shelf or box of those plastic cases that cordless tools etc. come in. I was looking at used tools once and found an empty classic series plastic case for 50 cents. It's a great home for the 67 that John Lopez gave me after he retired. Because of the low probability of finding one; it's not worth a special trip but if you're there anyway...

On a similar note, is there a good way of reinforcing the plastic hinges? >>

*Message #4 Posted by **tim m.** on 28 Mar 2010, 1:45 p.m.,*
in response to message #1 by aj04062

The one for my '35 has some ominous cracks in it.

-Tim

Re: On a similar note, is there a good way of reinforcing the plastic hinges? >>

*Message #5 Posted by **Thomas Radtke** on 28 Mar 2010, 2:25 p.m.,*
in response to message #4 by tim m.

My Thread about this topic got no answers, so I'll carefully watch this space :-).

Re: On a similar note, is there a good way of reinforcing the plastic hinges? >>

*Message #6 Posted by **tim m.** on 28 Mar 2010, 3:02 p.m.,*

in response to message #5 by Thomas Radtke

:)

I imagine the solution would involve bonding a thin sheet to the inside of the hinge, but have little thought beyond that.

-Tim

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HP 32SII keyboard - dead column of keys fixed

*Message #1 Posted by **Jeff Johnson** on 26 Mar 2010, 12:38 p.m.*

Found archived forum message about fixing the HP 32SII keyboard where the right column of keys was flaky or dead. Of the two methods offered, I went the route of carefully cutting around the four posts in the battery compartment to separate posts from body with a very sharp, pointed Exacto knife blade. From there I departed from the method slightly. It is not necessary to loosen the four posts at the bottom. I just carefully kept the calc pried open from the top far enough to slide the jaws of a small set of needle-nose pliers in and twist the anchors to tighten them slightly. Problem solved. All keys work great now.

Re: HP 32SII keyboard - dead column of keys fixed

*Message #2 Posted by **DavidShenk** on 26 Mar 2010, 9:30 p.m.,*
in response to message #1 by Jeff Johnson

Good job! I have volunteered to fix a 17B with the same exact problem, so I'm hoping mine goes this easy too.

Dave

Re: HP 32SII keyboard - dead column of keys fixed

*Message #3 Posted by **geoff quickfall** on 27 Mar 2010, 2:34 a.m.,*
in response to message #2 by DavidShenk

problem is, it isn't the twist tabs that are responsible. It is the foam pad used to push the keyboard flex PCB against the logic PCA.

This foam deteriorates with time and loses its resiliency.

Although the fix works for now the foam will need to be replaced.

Cheers, Geoff

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HP-67/97 cards

*Message #1 Posted by **Ed Sowell** on 26 Mar 2010, 12:32 p.m.*

Where can I get blank magnetic cards? I've tried eBay and Google.

Thanks

Ed

Re: HP-67/97 cards

*Message #2 Posted by **Juergen Keller** on 26 Mar 2010, 2:38 p.m.,*
in response to message #1 by Ed Sowell

Magnetic cards are regularly offered on eBay, search for 'hp 00097'. Currently I found only one auction offering a pack of 120 cards, which might be enough for the next years or even decades ...

Re: HP-67/97 cards

*Message #3 Posted by **Marcus von Cube, Germany** on 26 Mar 2010, 5:15 p.m.,*
in response to message #2 by Juergen Keller

The HP-41 card reader and the older 67/97 use the same type of cards. That may help in the search.

Re: HP-67/97 cards

*Message #4 Posted by **Ed Sowell** on 26 Mar 2010, 10:59 p.m.,*
in response to message #3 by Marcus von Cube, Germany

That's good news! Thanks.

Ed

Re: HP-67/97 cards

*Message #5 Posted by **Ed Sowell** on 26 Mar 2010, 10:58 p.m.,*
in response to message #1 by Ed Sowell

Thanks. I bid on that, but missed out. I was cautious since I didn't really need that number.

Ed

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GTO

Mini Challenge from comp.sys.hp48

*Message #1 Posted by **Egan Ford** on 25 Mar 2010, 6:06 p.m.*

Just in case you missed it:

http://groups.google.com/group/comp.sys.hp48/browse_frm/thread/5e7ef329b61c0497/d08b731b023d922b#d08b731b023d922b

Joe Horn said,

> Quote:
>
> It would *seem* that all integers raised to the 4th power contain at least one digit less than 5. For example, 26 to the 4th power is 456976, which contains a 4. However, there does exist a positive integer X such that X^4 contains no digits less than 5.
>
> Mini-challenge: Write a User-RPL program that finds the only (?) positive integer X such that X^4 contains no digits less than 5.
>
> Winner: Fastest solver that doesn't cheat.
>
> -Joe-

Re: Mini Challenge from comp.sys.hp48

*Message #2 Posted by **J-F Garnier** on 26 Mar 2010, 1:42 p.m.,*
in response to message #1 by Egan Ford

Found it! Unique solution, at least up to 1E6.

Using Free42 (will not work on regular HP42):

```
00 { 60-Byte Prgm }
01>LBL "MC"
02 1
03 STO 00
04>LBL 01
05 RCL 00
06 ENTER
07 ×
08 ENTER
09 ×
10>LBL 02
11 RCL ST X
12 10
13 MOD
14 5
15 X>Y?
16 GTO 03
17 Rv
18 -
19 10
20 ÷
21 X#0?
22 GTO 02
23 "FOUND "
24 ARCL 00
25 AVIEW
26 STOP
27>LBL 03
```

```
28 RCL 00
29 1
30 +
31 STO 00
32 1E6
33 X>Y?
34 GTO 01
35 .END.
```

J-F

Re: Mini Challenge from comp.sys.hp48

*Message #3 Posted by **Gerson W. Barbosa** on 26 Mar 2010, 4:51 p.m.,*
in response to message #2 by J-F Garnier

Since n^4 ends in 1 for n ending in 1, 3, 7 and 9 and final 5 appear to always introduce either 0 or 2 in the answer, you can do it in half the time by replacing the '1' in lines 02 and 29 with '2'.

Gerson.

Re: Mini Challenge from comp.sys.hp48

*Message #4 Posted by **Gerson W. Barbosa** on 26 Mar 2010, 5:27 p.m.,*
in response to message #2 by J-F Garnier

Is ENTER * faster than X^2?

Even numbers ending in 0 can be handled by inserting X=0? and GTO 03 between lines 13 and 14, but the improvement (if any) is hard to notice on Free42.

Gerson.

Re: Mini Challenge from comp.sys.hp48

*Message #5 Posted by **J-F Garnier** on 26 Mar 2010, 5:38 p.m.,*
in response to message #4 by Gerson W. Barbosa

You're right X^2 is just simpler...

Free42 on PC, especially the binary version, is fast enough to find the solution in less than one second, but the decimal version is needed to check all numbers up to 1e6 thanks to the 25-digit accuracy.

This is what I mostly appreciate with Free42: fast speed and enhanced accuracy versus the HP42S, and I like to be able to choose between speed (binary version) or accuracy (decimal version) depending on the problem.

If only there was a Free71...

J-F

Re: Mini Challenge from comp.sys.hp48

*Message #6 Posted by **Reth** on 26 Mar 2010, 9:57 p.m.,*
in response to message #4 by Gerson W. Barbosa

Also, why not:

```
1
STO+ 00
RCL 00
```

42S on Iphone solves it almost instantly.
Today I noticed 42S showing:

00 { 31-Line Prgm } rather than bytes, I guess it makes no difference using different methods of calculating x ^ 4 would change program running time.

Re: Mini Challenge from comp.sys.hp48

*Message #7 Posted by **Glenn Shields** on 27 Mar 2010, 11:27 a.m.,*
in response to message #2 by J-F Garnier

May I offer a program for the 50g as a "newb", not a fast, efficient or clever one, but as a service to others like me just new to RPL. I'm using the fact as given in the original post that the number can't end in 1,3,7 or 9, and the hint that it can be proven that 5 is excluded too. If this program wouldn't have found a solution in a reasonable time (and the real answer did end in 5), it could have been easily re-done to search for multiples of 5 (and more quickly). So this program churns through the even numbers in just under 20 minutes. Just store 0 in variable 'N' and then the answer is left there at the end. Again, pretty much a brute force program just to demonstrate some functions for my fellows wondering how one might begin to solve this challenge!

<< DO 2 'N' STO+ 'N^4' EVAL ->STR DUP SIZE -> s << 1 CF 1 s FOR i DUP HEAD SWAP TAIL SWAP OBJ-> IF 4 <= THEN 1 SF END NEXT DROP >> UNTIL 1 FC? END >>

Happy programming! Regards, Glenn

Re: Mini Challenge from comp.sys.hp48

*Message #8 Posted by **Marcus von Cube, Germany** on 27 Mar 2010, 7:05 p.m.,*
in response to message #7 by Glenn Shields

You can of course exclude the even multiples of 5 but why the numbers simply ending in 5? I'd like to see a proof.

Re: Mini Challenge from comp.sys.hp48

*Message #9 Posted by **Glenn Shields** on 27 Mar 2010, 9:55 p.m.,*
in response to message #8 by Marcus von Cube, Germany

Looking at the beginnings of a proof for excluding 5, the "10a + b" term is suggested. If you multiply out (10a + b)^4 and simplify, and substitute b=5, you get the following arrangement: 10000a^4 + 10000a^3 + 25000a^2 + 5000a + 625. Notice if a = 1, you get 50625 (15^4). The "proof" comes in showing that the fourth- largest place is always 0. This is because the last two terms in the expansion have a 5 in the thousands place, and when a is even the two 5's become 0's in the sum, and the other terms all involve higher places. When a is odd, a^2 is also odd, and those two terms keep a 5 so then the two 5's add up to 0 again. Is this a formal proof? It seems to hold up. Anyway, a great challenge and it's what this forum is all about. Regards, Glenn

Re: Mini Challenge from comp.sys.hp48

*Message #10 Posted by **Glenn Shields** on 27 Mar 2010, 10:18 p.m.,*
in response to message #9 by Glenn Shields

Sorry, please see msg.#13 :-)

Re: Mini Challenge from comp.sys.hp48

*Message #11 Posted by **C.Ret** on 27 Mar 2010, 7:45 p.m.,*
in response to message #7 by Glenn Shields

Hello.

This challenge triggers my curiosity. I am searching for a clever mathematical way of this interesting problem, but still clue less.

Meanwhile, my attempt of a quite "brute force" search program lead me to the following RPL program that I run on my HP-28S (it is so simple that it will run on all RPL from 28C to 50g):

```
« DO                  @ Do main loop
     2 +              @ looking only for even numbers
     DUP 1 DISP       @ Optional display current number – slows research
     DUP SQ SQ        @ Compute x^4
     ->STR            @ Convert to string
     0 48 52
     FOR c            @ 48 to 52 are ASCII code for "0" to "52"
        OVER c CHR
        POS           @ test if digit less than 5 present in "x^4"
        +             @ equivalent to OR
      NEXT
      SWAP DROP       @ remove "x^4" after tests
   UNTIL
      NOT             @ sum of POS is 0 if none of the digits were found
   END
»
'PRO1' STO
```

Usage: Enter starting number 0, the program simply stop leaving the answer in stack. Continue searching by simply re-running it, the previous value is kept in the stack.

As every one may have notice, it is really close to the one Glenn Shields post previously.

But, as same one may have notice, it is unable to search for number greater than 1000 !

Because of the 12 digit precision of HP-28S, the x^4 value is rounded and digits can't be tested to the missing unit position !

1000^4 = 1000000000000 which is 1.E+12

So I suggest that HP49/50g users use full precision arithmetic capabilities, and HP28/48 users binary number which may be efficient up to 65536 since largest binary of 64 bits is 2^64 which quadric root is 2^16.

```
« 64 STWS DEC         @ switch to decimal binary word full length
  DO
     #2d +            @ looking only for even binary numbers
     DUP 1 DISP       @ Optional display current number – slows research
     DUP
     DUP * DUP *      @ Compute x^4: SQ not available with binary numbers
     ->STR
     0 48 52
     FOR c            @ Search for 0 to 4 digit in "x^4"
        OVER c CHR
        POS +
      NEXT
      SWAP DROP       @
   UNTIL
      NOT             @ sum is 0 for any solution
   END
»
```

My HP-28S found the solution in 7 min (~6min without DUP 1 DISP). No other solution was found before reaching 65536 after a 2h30 run.

Edited: 28 Mar 2010, 3:59 a.m. after one or more responses were posted

Re: Mini Challenge from comp.sys.hp48

*Message #12 Posted by **Glenn Shields** on 27 Mar 2010, 9:04 p.m.,*
in response to message #11 by C.Ret

Wow, C.Ret, I tried your program on the 50g (but without the second DUP in the third line) and got an amazing 1:59 time. Then I removed the DUP 1 DISP and got an even more amazing 1:48 (but it was more fun with the display). This is the cleverness I was looking for, great use of POS, CHR and NOT, these just blitz the other tests and string manipulations. This type of programming was given in examples in the user guides but it's great to see them applied in other ways. Great!!

Re: Mini Challenge from comp.sys.hp48

*Message #13 Posted by **Glenn Shields** on 27 Mar 2010, 10:12 p.m.,*
in response to message #12 by Glenn Shields

DUH!!!! Didn't that just prove that our number will always end in 0625? Now there are two nails for that coffin. Yup.

Re: Mini Challenge from comp.sys.hp48

*Message #14 Posted by **Marcus von Cube, Germany** on 28 Mar 2010, 9:33 a.m.,*
in response to message #13 by Glenn Shields

After a quick look at your formula I just decided to ignore the rest of your reasoning. Enough zeros in the factors to see the obvious. ;)

Re: Mini Challenge from comp.sys.hp48

*Message #15 Posted by **Chuck** on 28 Mar 2010, 1:16 p.m.,*
in response to message #1 by Egan Ford

Okay, I know this is an HP calculator challenge, but I had to give it a try with Mathematica. Here's the code:

i = 2; While[Min[IntegerDigits[i^4]] < 5, i = i + 2]

It found the solution in 0.009491 seconds. Darn quick. I also let it run until i was about 26,000,000; no more solutions found.

CHUCK

Edited: 28 Mar 2010, 1:20 p.m.

Re: Mini Challenge from comp.sys.hp48

*Message #16 Posted by **Gerson W. Barbosa** on 28 Mar 2010, 5:37 p.m.,*
in response to message #15 by Chuck

> Quote:
>
> I also let it run until i was about 26,000,000; no more solutions found.

Isn't this just a matter of probability? I think it is very unlikely new solutions are found as i increases although this is not impossible. For instance, let's investigate 5-digit fourth powers: We expect to find about eight of them, sqrt(sqrt(99999)) - sqrt(sqrt(10000)) = 7.78, of which only 40% will be candidates to a solution (the ones whose bases end in 2, 4, 6 and 8), that is, about three candidates (7.78 * 0.4 = 3.11). In fact, for this case, we have eight powers, 10^4 through 17^4, but only 12^4, 14^4 and 16^4 might be a solution. The probability of an individual digit is equal or greater than five is 0.5 and the probability a five-digit power is a solution is 0.5^5 = 1/32. So, the probability a solution is found among our three candidates is 3/32 or about one chance in eleven. Likewise, if we check all 14-digit fourth powers we'll find the chances are smaller: about one in seventeen. But we've been lucky this time, as we know.

```
((sqrt(sqrt(1e15)) - sqrt(sqrt(1e14)))*0.4)/(0.5^-14) = 16.64
```

Of course, if new properties concerning these powers are discovered, this result should be reconsidered and they might even lead to a different conclusion.

Gerson.

Re: Mini Challenge from comp.sys.hp48

*Message #17 Posted by **Chuck** on 28 Mar 2010, 6:56 p.m.,*

in response to message #16 by Gerson W. Barbosa

Definitely a probability problem. 26000000^4 has 30 digits in it. The probability that none are less than 5 is P(none are<5)=0.5^30 =9.3x10^-10, and it only gets worse from there. But again, it's not impossible, but highly unlikely. :)

Edited: 28 Mar 2010, 8:55 p.m. after one or more responses were posted

Re: Mini Challenge from comp.sys.hp48

*Message #18 Posted by **Gerson W. Barbosa** on 28 Mar 2010, 7:26 p.m.,*
in response to message #17 by Chuck

Considering there's a lot more squares of squares with 30 digits in them, the overall probability to find a solution in this group is 9.17e-3 or about 1/109 (if the distribution of the digits follows a random order, which is not exactly the case). But you're right, that's still a dim probability and it dwindles as we go further.

Edited: 28 Mar 2010, 7:28 p.m.

Re: Mini Challenge from comp.sys.hp48

*Message #19 Posted by **Han** on 29 Mar 2010, 11:16 p.m.,*
in response to message #17 by Chuck

> Quote:
>
> Definitely a probability problem. 26000000^4 has 30 digits in it. The probability that none are less than 5 is P(none are<5)=0.5^30 =9.3x10^-10, and it only gets worse from there. But again, it's not impossible, but highly unlikely. :)

That would only be true if the digits were completely random and independent of the number being raised to the fourth power. However, any number ending in an odd digit has a probability of 1 for having at least one small digit when raised to the power of four.

It is certainly true that a RANDOM 30 digit number among all possible 30 digit numbers is unlikely to have no small digit.

Re: Mini Challenge from comp.sys.hp48

*Message #20 Posted by **PeterP** on 28 Mar 2010, 5:41 p.m.,*
in response to message #1 by Egan Ford

Having a couple of hours free today I thought I give it a try with MCODE for the 41. Alas, we don't have enough digits precision (10) in the normal format and I'm too lazy right now to see if 13 digits would be enough (as noone has posted the actual solution number). The below MCODE program tests until X=316 before it crashes out without having found a solution. Is that correct? Maybe I get around to rewriting it for 13 digits but looking at the code, its not trivial and run time wise, this is going to be slow as well. But would be great to know how high the solution number is and if it can be found with 13 digit accuracy at all...

For those enjoying MCODE, here is the code: To speed up the expensive part - calculating x^4, I first calculate which power of 2 is smaller than x (and then smaller than x^2) as the NUT can do multiplication by 2 very quickly so that should speed up the power calculation. It also checks for the starting number not ending in 1,3,5,7,9,0. All of them seem obvious, although it took a little while for me to make sure 5 is correct as well.

Cheers,

Peter

```
;=============================================================================
; X4 - Find a number x who's 4th power has no digit less than 5
;
```

```
; Takes a starting number from x
; moves into a mantissa only format, right justified
; checks that does not end in 1,3,5,7,9,0
; calcs x^2
; calcs x^4
; Checks if any digits <5
; If no, putputs result to X-reg
; If yes, read x, increase by one, loop
;©pplatzer 2010
;=============================================================================================
                              .NAME   "X4"     ;Main Code
*0012 0B4                     #0B4             ; "4"
*0013 018                     #018             ; "X"
 0014 1A0       [X4]          A=B=C=0          ;tabula rasa
 0015 2A0                     SETDEC           ;all calcs in decmode
 0016 35C                     R=      12       ;spot of first digit in C[M]
 0017 0F8                     READ    3(x)     ;get start number
 0018 2FA                     ?C#0    M        ;check that not 0
 0019 06B                     JNC     [StartW1] +13 0026       ;no -> start with 1
 001A 2F6                     ?C#0    XS       ;check that no negative exponent
 001B 05F                     JC      [StartW1] +11 0026       ;no -> start with 1
 001C 31C                     R=      1
 001D 2E2                     ?C#0    @R       ;check that exp < 10
 001E 047                     JC      [StartW1] +8 0026        ;no -> start with 1
 001F 05E                     C=0     MS       ;just in case
 0020 39C                     R=      0
 0021 2A2                     C=-C-1  @R       ;complement exponent
 0022 262       [RJus]        C=C-1   @R       ;right justify number
 0023 02F                     JC      [RJusD] +5 0028 ;if underflow, we are done
 0024 3DA                     RSHFC   M
 0025 3EB                     JNC     [RJus] -3 0022
 0026 04E       [StartW1]     C=0     ALL      ;invalid start number
 0027 23A                     C=C+1   M        ;starting point = 1
 0028 046       [RJusD]       C=0     S&X      ;clean up from shifting loop
 0029 27A                     C=C-1   M        ;as [NxtTry] does a C=C+1 first
 002A 0E8                     WRIT    3(x)     ;write start to X
 002B 1A0       [NxtTry]      A=B=C=0          ;tabula rasa
 002C 270                     RAMSLCT          ;select first ram chip
 002D 0F8                     READ    3(x)     ;read last try #
 002E 23A                     C=C+1   M        ;next digit
 002F 289003                  ?CGO    [ERROF] 00A2
 0031 0E8                     WRIT    3(x)     ;
 0032 01C       [CheckDigs]   R=      3        ;check that last dig is not 1,3,5,7,9,0
 0033 10E                     A=C     ALL      ;save number into A
 0034 2E2                     ?C#0    @R       ;check for 0
 0035 3B3                     JNC     [NxtTry] -10 002B
 0036 222                     C=C+1   @R       ;check for 9
 0037 3A7                     JC      [NxtTry] -12 002B
 0038 222                     C=C+1   @R
 0039 222                     C=C+1   @R       ;check for 7
 003A 38F                     JC      [NxtTry] -15 002B
 003B 222                     C=C+1   @R
 003C 222                     C=C+1   @R       ;check for 5
 003D 377                     JC      [NxtTry] -18 002B
 003E 222                     C=C+1   @R
 003F 222                     C=C+1   @R       ;check for 3
 0040 35F                     JC      [NxtTry] -21 002B
 0041 222                     C=C+1   @R
 0042 222                     C=C+1   @R       ;check for 1
 0043 347                     JC      [NxtTry] -24 002B
 0044 04E       [StartX2]     C=0     ALL      ;good start number in A
 0045 09A                     B=A     M        ;save number into B
 0046 23A                     C=C+1   M        ;C:= 1
 0047 1A6                     A=A-1   S&X
 0048 070       [Get2Pwr]     N=C              ;save this power to N
 0049 166                     A=A+1   S&X      ;find which power of 2 < #
 004A 1FA                     C=C+C   M        ;2, 4, 8, 16, ...
 004B 31A                     ?A<C    M        ;still # smaller than 2^n
 004C 3E3                     JNC     [Get2Pwr] -4 0048        ;yes, keep looping
 004D 1A6                     A=A-1   S&X      ;so that we can jump on 0 underflow
 004E 2EF                     JC      [NxtTry] -35 002B        ;if underflow, we need to try next
number
 004F 0B0                     C=N              ;get back last power of 2 that was smaller thanb #
 0050 1DA                     A=A-C   M        ;those are the multiplication left after the 2^n
 0051 0DA                     C=B     M        ;get back #
 0052 1FA       [DoPwr2]      C=C+C   M        ;start multi
 0053 289003                  ?CGO    [ERROF] 00A2     ;if overflow -> out of range
 0055 1A6                     A=A-1   S&X      ;count down n from 2^n
 0056 3E3                     JNC     [DoPwr2] -4 0052
 0057 07A       [DoRestM]     A<>B    M        ;get #  back
 0058 21A                     C=A+C   M        ;do rest multi
 0059 289003                  ?CGO    [ERROF] 00A2
 005B 07A                     A<>B    M
 005C 1BA                     A=A-1   M
 005D 3D3                     JNC     [DoRestM] -6 0057
 005E 07A                     A<>B    M        ;correct one to many additions
 005F 0BA                     C<>A    M
```

```
 0060 25A                       C=A-C   M       ;correct result for x^2
;---------------------------------- Stepping Stone -----------------------------
 0061 013                       JNC     [StartX4] +2 0063
 0062 24B       [NxtTryJP]      JNC     [NxtTry] -55 002B
;---------------------------------- Stepping Stone -----------------------------
 0063 046       [StartX4]       C=0     S&X     ;clean up
 0064 10E                       A=C     ALL
 0065 08E                       B=A     ALL
 0066 04E                       C=0     ALL     ;find power of 2
 0067 23A                       C=C+1   M
 0068 1A6                       A=A-1   S&X
 0069 070       [4Get2Pwr]      N=C             ;save this power to N
 006A 166                       A=A+1   S&X     ;find which power of 2 < #
 006B 1FA                       C=C+C   M       ;2, 4, 8, 16, ...
 006C 31A                       ?A<C    M       ;still # smaller than 2^n
 006D 3E3                       JNC     [4Get2Pwr] -4 0069      ;yes, keep looping
 006E 1A6                       A=A-1   S&X     ;so that we can jump on 0 underflow
 006F 39F                       JC      [NxtTryJP] -13 0062     ;if underflow, we need to try next
number
 0070 0B0                       C=N             ;get back last power of 2 that was smaller thanb #
 0071 1DA                       A=A-C   M       ;those are the multiplication left after the 2^n
 0072 0DA                       C=B     M       ;get back #
 0073 1FA       [4DoPwr2]       C=C+C   M       ;start multi
 0074 289003                    ?CGO    [ERROF] 00A2    ;if overflow -> out of range
 0076 1A6                       A=A-1   S&X     ;count down n from 2^n
 0077 3E3                       JNC     [4DoPwr2] -4 0073
 0078 07A       [4DoRestM]      A<>B    M       ;get #  back
 0079 21A                       C=A+C   M       ;do rest multi
 007A 289003                    ?CGO    [ERROF] 00A2
 007C 07A                       A<>B    M
 007D 1BA                       A=A-1   M
 007E 3D3                       JNC     [4DoRestM] -6 0078
 007F 07A                       A<>B    M       ;correct one to many additions
 0080 0BA                       C<>A    M
 0081 25A                       C=A-C   M       ;correct result for x^4
 0082 00E       [CheckR]        A=0     ALL     ;now check if good result
 0083 0AE                       A<>C    ALL     ;# into A
 0084 130105                    LDIS&X  105     ;check for 5
 0086 33C                       RCR     1       ;5 into C[MS]
 0087 056                       C=0     XS      ; 008 into C[S&X]
 0088 3EE       [ShftNr]        LSHFA   ALL     ;move # into A[MS]
 0089 266                       C=C-1   S&X
 008A 35E                       ?A#0    MS      ;are we there yet?
 008B 3EB                       JNC     [ShftNr] -3 0088
 008C 31E       [TstDig]        ?A<C    MS      ;is digit < 5
 008D 2AF                       JC      [NxtTryJP] -43 0062     ;if yes, try next number
 008E 3EE                       LSHFA   ALL     ;shift in next digit
 008F 266                       C=C-1   S&X     ;count down number of digits
 0090 3E3                       JNC     [TstDig] -4 008C        ;loop to test next digit
 0091 1A0       [FoundIt]       A=B=C=0         ;if getting here, we found the number
 0092 0F8                       READ    3(x)    ;now move to correct number formnat
 0093 35C                       R=      12
 0094 2E2       [FrmtNr]        ?C#0    @R
 0095 027                       JC      [X4Done] +4 0099
 0096 2FC                       RCR     13      ; =-1
 0097 166                       A=A+1   S&X
 0098 3E3                       JNC     [FrmtNr] -4 0094
 0099 0A6       [X4Done]        A<>C    S&X
 009A 39C                       R=      0       ;only exp up to 9 possible anyway
 009B 2A2                       C=-C-1  @R
 009C 0E8                       WRIT    3(x)
 009D 3E0                       RTN
```

Re: Mini Challenge - 45s MCODE

*Message #21 Posted by **PeterP** on 30 Mar 2010, 12:42 p.m.,*
in response to message #20 by PeterP

okay,I'm such a sucker for these things, it is pathetic. But so much fun...

Anyway, I could not rest but wanted to see if we can entice the 41 to also spit out an answer in non-geological times. The code below uses all 14 internal digits we have to represent numbers, better multiplication logic and takes advantage of the fact that we can exclude from the interim result x^2 all numbers that start with 1, 4, 5, 6 as they will yield a first number <5. On V41 and normal speed setting (which feels close to a 41cx or maybe a bit faster) it gives us the answer in about 45 seconds. If we remove the tests for X^2 it takes about 1minute. Not bad for the little guy...

Cheers

Peter

```
;=============================================================================================
; X43 - Find a number x who's 4th power has no digit less than 5
;
; Takes a starting number from x
; uses right justified format in C[S&X & M]
; only uses odd numbers (ending in ) 2,4,6,8 (as 0,1,3,5,7,9 are out).
; calcs x^2
; Exclude x^2 that start in 1,4,5,6
; calcs x^4
; Checks if any digits <5
; If no, outputs result to X-reg
; If yes, read x, increase by two, loop
;©pplatzer 2010
;=============================================================================================
                              .NAME   "X43"    ;Main Code
*0103 0B3                     #0B3             ; "3"
*0104 034                     #034             ; "4"
*0105 018                     #018             ; "X"
 0106 1A0       [X43]         A=B=C=0          ;tabula rasa
 0107 2A0                     SETDEC           ;all calcs in decmode
 0108 35C                     R=      12       ;spot of first digit in C[M]
 0109 0F8                     READ    3(x)     ;get start number
 010A 2FA                     ?C#0    M        ;check that not 0
 010B 06B                     JNC     [StartW23] +13 0118      ;no -> start with 2
 010C 2F6                     ?C#0    XS       ;check that no negative exponent
 010D 05F                     JC      [StartW23] +11 0118      ;no -> start with 2
 010E 31C                     R=      1
 010F 2E2                     ?C#0    @R       ;check that exp < 10
 0110 047                     JC      [StartW23] +8 0118       ;no -> start with 2
 0111 05E                     C=0     MS       ;just in case
 0112 39C                     R=      0
 0113 2A2                     C=-C-1  @R       ;complement exponent
 0114 262       [RJus3]       C=C-1   @R       ;right justify number
 0115 037                     JC      [RJusD3] +6 011B         ;if underflow, we are done
 0116 3DA                     RSHFC   M
 0117 3EB                     JNC     [RJus3] -3 0114
 0118 04E       [StartW23]    C=0     ALL      ;invalid start number
 0119 23A                     C=C+1   M        ;starting point = 2
 011A 23A                     C=C+1   M        ;starting point = 2
 011B 046       [RJusD3]      C=0     S&X      ;clean up from shifting loop
 011C 03C                     RCR     3        ;now check that even number
 011D 3D8                     C<>ST            ;shift C[01] into flags
 011E 38C                     ?FSET   0        ;odd number?
 011F 027                     JC      [OddNr3] +4 0123
 0120 3D8                     C<>ST            ;bring back the number
 0121 26E                     C=C-1   ALL      ;as [NxtTry] does 2x C=C+1 first
 0122 013                     JNC     (conEv3) +2 0124
 0123 3D8       [OddNr3]      C<>ST            ;bring back the number
 0124 26E       (conEv3)      C=C-1   ALL      ;as [NxtTry] does 2x C=C+1 first
 0125 0E8                     WRIT    3(x)     ;write start to X
 0126 1A0       [NxtTry3]     A=B=C=0          ;tabula rasa
 0127 270                     RAMSLCT          ;select first ram chip
 0128 0F8                     READ    3(x)     ;read last try #
 0129 22E                     C=C+1   ALL      ;next even number
 012A 22E                     C=C+1   ALL
 012B 0E8                     WRIT    3(x)     ;
 012C 39C       [Check03]     R=      0        ;check if it ends in 0
 012D 2E2                     ?C#0    @R       ;is last digit <> 0
 012E 3C3                     JNC     [NxtTry3] -8 0126        ;no -> get next number
 012F 00E       [StartX23]    A=0     ALL      ;Clean A (accumulator for multi)
 0130 0EE0CE                  B=C     ALL      ;put number into B as well
 0132 2DC                     R=      13       ;C[MS]
 0133 3D4       [MLoop3]      R=R-1            ;move pointer
 0134 2D4                     ?R=     13       ;are we done?
 0135 037                     JC      [DoneX23] +6 013B        ;Yes, we have done all digits
 0136 3EE                     LSHFA   ALL      ;=x10
 0137 262       [MCnt3]       C=C-1   @R       ;count down digits of number in C
 0138 3DF                     JC      [MLoop3] -5 0133         ;if 0, no multiplication
 0139 12E                     A=A+B   ALL      ;if <>0, do multiplication
 013A 3EB                     JNC     [MCnt3] -3 0137
 013B 08E       [DoneX23]     B=A     ALL      ;result into B
 013C 0CE                     C=B     ALL      ;result into C
 013D 00E                     A=0     ALL      ;clear A
 013E 2DC                     R=      13       ;check if we have a start in 1,4,5,6
 013F 3D4       [Fnd1stX2]    R=R-1            ;find first dig
 0140 2E2                     ?C#0    @R       ;is this the first dig?
 0141 3F3                     JNC     [Fnd1stX2] -2 013F       ;no, keep looking
 0142 262                     C=C-1   @R       ;Check for 1
 0143 2E2                     ?C#0    @R       ;
 0144 313                     JNC     [NxtTry3] -30 0126
 0145 262                     C=C-1   @R
 0146 262                     C=C-1   @R
 0147 262                     C=C-1   @R       ;Check for 4
 0148 2E2                     ?C#0    @R       ;
 0149 2EB                     JNC     [NxtTry3] -35 0126
 014A 262                     C=C-1   @R       ;Check for 5
 014B 2E2                     ?C#0    @R       ;
```

```
014C 2D3                        JNC     [NxtTry3] -38 0126
014D 262                        C=C-1   @R      ;Check for 6
014E 2E2                        ?C#0    @R      ;
014F 2BB                        JNC     [NxtTry3] -41 0126
0150 0CE                        C=B     ALL     ;all good, do X^4
0151 2DC                        R=      13      ;prep for next multi
0152 3D4        [MLoop23]       R=R-1           ;move pointer
0153 2D4                        ?R=     13      ;are we done?
0154 037                        JC      [DoneX43] +6 015A       ;yes, we have done all digits
0155 3EE                        LSHFA   ALL
0156 262        [MCnt23]        C=C-1   @R
0157 3DF                        JC      [MLoop23] -5 0152
0158 12E                        A=A+B   ALL
0159 3EB                        JNC     [MCnt23] -3 0156
015A 00B        [DoneX43]       JNC     [CheckR3] +1 015B       ;result in A:= x^4
015B 04E        [CheckR3]       C=0     ALL     ;now check if good result
015C 130135                     LDIS&X  135     ;check for 5 & counter for 13 digits
015E 33C                        RCR     1       ;5 into C[MS]
015F 01B                        JNC     [Chk1st3] +3 0162
0160 3EE        [ShftNr3]       LSHFA   ALL     ;move # into A[MS]
0161 266                        C=C-1   S&X
0162 35E        [Chk1st3]       ?A#0    MS      ;are we there yet?
0163 3EB                        JNC     [ShftNr3] -3 0160
0164 31E        [TstDig3]       ?A<C    MS      ;is digit < 5
0165 20F                        JC      [NxtTry3] -63 0126      ;if yes, try next number
0166 3EE                        LSHFA   ALL     ;shift in next digit
0167 266                        C=C-1   S&X     ;count down number of digits
0168 3E3                        JNC     [TstDig3] -4 0164       ;loop to test next digit
0169 1A0        [FoundIt3]      A=B=C=0         ;if getting here, we found the number
016A 0F8                        READ    3(x)    ;now move to correct number formnat
016B 1BC                        RCR     11      ;move it into C[M]
016C 35C                        R=      12
016D 2E2        [FrmtNr3]       ?C#0    @R
016E 027                        JC      [X4Done3] +4 0172
016F 2FC                        RCR     13      ; =-1
0170 166                        A=A+1   S&X
0171 3E3                        JNC     [FrmtNr3] -4 016D
0172 0A6        [X4Done3]       A<>C    S&X
0173 39C                        R=      0       ;only exp up to 9 possible anyway
0174 2A2                        C=-C-1  @R
0175 0E8                        WRIT    3(x)
0176 3E0                        RTN
```

Re: Mini Challenge - 45s MCODE

*Message #22 Posted by **Egan Ford** on 30 Mar 2010, 4:47 p.m.,*
in response to message #21 by PeterP

Nice! I've been so swamped I have been unable to work out any solution except for a small python script because I wanted to see the answer:

```
import re;

i=0;
while(1):
  i+=2;
  if not i % 10:
    next;
  if not re.search("[0-4]",str(i**4)):
    print i, i**4;
    break;
```

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MCODE - Unit Conversion

*Message #1 Posted by **Ángel Martin** on 25 Mar 2010, 4:35 p.m.*

Good news for those interested in archeological achievements :)

I finally cracked the unit conversion functions implemented in the Thermal-1A module - a very nice implementation that I always regarded as a great example of the 41 system capabilities.

I've added the electrical units to the built-in ones, more for the sake of completion than for actual practical purposes - given that SI units are the only practical ones used in electricity.

I love its homogeneity checks, like Horse Power -> Ohm x Amp^2

Will post it at TOS shortly, but I just thought someone out there will be interested in a heads-up.

Best, ÁM

Re: MCODE - Unit Conversion

*Message #2 Posted by **Geir Isene** on 25 Mar 2010, 6:17 p.m.,*
in response to message #1 by Ángel Martin

Yeay!! Kudos.

Eagerly awaiting TOS upload.

Re: MCODE - Unit Conversion

*Message #3 Posted by **PeterP** on 26 Mar 2010, 12:14 a.m.,*
in response to message #1 by Ángel Martin

Awesome! Will you post it with comments? (pretty please, pretty please...)

Cheers

Peter

Re: MCODE - Unit Conversion

*Message #4 Posted by **Ángel Martin** on 26 Mar 2010, 2:36 a.m.,*
in response to message #1 by Ángel Martin

Here are the new units added:

A - AMP
CB - COULOMB
FAD - FARAD

GSS - GAUSS
HY - HENRY
MAX - MAXWELL
OED - OERSTED
O - OHM
V - VOLT
TS - TESLA
WB - WEBER

There's still room for some more - any wishes??

Re: MCODE - Unit Conversion

*Message #5 Posted by **PeterP** on 26 Mar 2010, 9:17 a.m.,*
in response to message #4 by Ángel Martin

AU, Lightyear, lightminute

does it have gauss/tesla ?

Re: MCODE - Unit Conversion

*Message #6 Posted by **Geir Isene** on 26 Mar 2010, 11:19 a.m.,*
in response to message #5 by PeterP

Parsec

Re: MCODE - Unit Conversion

*Message #7 Posted by **Håkan Thörngren** on 26 Mar 2010, 7:58 a.m.,*
in response to message #1 by Ángel Martin

Cool! I have never tried the unit conversion feature before, though I know it exists in various modules.

This sparks my interest to take a look at it.

Re: MCODE - Unit Conversion

*Message #8 Posted by **Ángel Martin** on 26 Mar 2010, 3:21 p.m.,*
in response to message #7 by Håkan Thörngren

guys, there's enough units to fill a 32k rom with them :)

I meant to ask about "electrical" units - call it my tribute to my EE years, I still remember longing gor them when I was in college, so this is payback time in some regard.

But not to worry, you can add your own after you see how it works - just give me a couple of days to finish the "blueprints".

Here's the alphabetical list of new units I've added:

```
AMP
COULOMB
FARAD
FARADAY
GAUSS
HENRY
KiloOHM
```

```
MAXWELL
MiliHENRY
OERSTED
OHM
PicoFARAD
VOLT
TESLA
WEBER
```

next on my list is a catalog function that shows the unit names in sequence... anybody wants to help?

Best, AM

Edited: 26 Mar 2010, 3:22 p.m.

Re: MCODE - Unit Conversion

*Message #9 Posted by **Eric Smith** on 27 Mar 2010, 9:07 p.m.,*
in response to message #8 by Ángel Martin

Did you really have to add KiloOHM, MilliHENRY, and PicoFARAD? I thought they already handled SI prefixes? (Or was that a feature that was added for the 28/48 unit conversions?)

Re: MCODE - Unit Conversion

*Message #10 Posted by **Ángel Martin** on 28 Mar 2010, 5:19 p.m.,*
in response to message #9 by Eric Smith

No support for multiple/submultiple chars in the implementation exists - so yes, they have to be added individually.

mH, pF, and kOhm are more typical than their |proper| SI counterparts and therefore the addition...

Re: MCODE - Unit Conversion

*Message #11 Posted by **Jake Schwartz** on 26 Mar 2010, 1:06 p.m.,*
in response to message #1 by Ángel Martin

The fabulous HP Unit Management system was first presented by HP's Eric Vogel on 3/28/81 at the 1981 HP Handheld Conference in Rockville, Maryland. A full 32 pages of the conference proceedings consisted of Eric's material, presented as it first appeared in the HP41 Petroleum Fluids Pac. I remember the audience being amazed. Following the dinner after the one-day affair, Richard Nelson, Irv Weiner (the Providence, RI PPC chapter coordinator), Eric and I returned to the conference meeting room to chat and wound up staying there until 6:30AM the next morning. Fun times.

Jake Schwartz

Re: MCODE - Unit Conversion

*Message #12 Posted by **Ángel Martin** on 26 Mar 2010, 3:11 p.m.,*
in response to message #11 by Jake Schwartz

oh my, did those proceedings survive the passing of time or are they lost forever??

it's not that I would have liked having them before, I've had a great time deciphering this rosetta stone - one of the best ones so far!

I'm curious to see if the assumptions I've made align with the original designer goals.- after all reverse-engineering code is always tricky.-

The main unknown was which code to give to the new primary magnitude (the electric current), as all dimensional checks will use it and should be uniquely characterized. I opted for a nice prime -unlucky for some- number and it seems to work quite well :)

And sure I agree, there's nothing short to fabulous in this implementation, still today!

Best, 'AM

[NT] - You've got mail

*Message #13 Posted by **PeterP** on 26 Mar 2010, 11:01 p.m.,*
in response to message #12 by Ángel Martin

Peter

Re: MCODE - Unit Conversion

*Message #14 Posted by **Jake Schwartz** on 26 Mar 2010, 11:06 p.m.,*
in response to message #12 by Ángel Martin

> Quote:
>
> oh my, did those proceedings survive the passing of time or are they lost forever??

They survive in the PPC CD#4 disk of conference proceedings from 1979-1999 along with all the Australian HP calc newsletters, but I just put up a copy of that proceedings (around 10 MB) here for viewing or downloading if anybody is interested. None of the pdf bookmarks in the left column will work except for the "contents" one, but Eric's material can be found from pages 13 to 44.

Jake

Re: MCODE - Unit Conversion

*Message #15 Posted by **Ángel Martin** on 27 Mar 2010, 6:21 a.m.,*
in response to message #14 by Jake Schwartz

Got it , many thanks. I guess I should be placing an order for the new DVD to have the complete story.

Best, ÁM

Re: MCODE - Unit Conversion

*Message #16 Posted by **Eric Smith** on 27 Mar 2010, 9:09 p.m.,*
in response to message #11 by Jake Schwartz

I thought Petroleum Fluids ROM had the latest and greatest version, following after the Machine Design ROM and the Thermal Transport ROM. Do I have the history wrong?

Re: MCODE - Unit Conversion

*Message #17 Posted by **Eric Smith** on 27 Mar 2010, 9:05 p.m.,*

in response to message #1 by Ángel Martin

HP's most complete implementation of unit conversion for the 41 was in the Petroleum Fluids ROM.

It was extremely clever how they tracked the dimensionality. The general idea was to multiply and divide by prime numbers, so if length (m) was assigned 2, and time (s) was assigned 3, then m/s^2 would be 2/9. However, since multiplication and division are relatively expensive on the Nut processor, they added and subtracted logarithms instead, using a 10 bit field. It is possible to find inconsistent conversions that they won't detect, but it is extremely unlikely in practice.

Edited: 27 Mar 2010, 9:07 p.m.

Re: MCODE - Unit Conversion

*Message #18 Posted by **Ángel Martin** on 28 Mar 2010, 5:22 p.m.,*
in response to message #17 by Eric Smith

Yes, I figured that already. I have used 19 (13 Hex) for the Ampere and so far it seems to be uniquely differentiated in all the derived dimensions I've tried.

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[OT] useful feedback search tool for the infamous auction web site

*Message #1 Posted by **Pascal** on 25 Mar 2010, 2:59 a.m.*

Hello, I came across a search engine that can display extensive feedback ratings and comments (even mutually withdrawn feedbacks) for the infamous auction site. It displays all neutral and negative feedbacks of a user collected over the years. It also reveals negative feedback that were removed from statistics when the auction site changed its feedback policy.

see www.toolhaus.org

Pascal.

Re: [OT] useful feedback search tool for the infamous auction web site

*Message #2 Posted by **DavidShenk** on 25 Mar 2010, 12:32 p.m.,*
in response to message #1 by Pascal

I'd like to see a site that keeps completed items longer than just a few weeks. This would be especially useful when researching items that don't sell often, maybe just a few a year.

Re: [OT] useful feedback search tool for the infamous auction web site

*Message #3 Posted by **Wilhelm Taylor** on 25 Mar 2010, 6:02 p.m.,*
in response to message #1 by Pascal

Wow!!! I just found that a guy selling on eBay has some very interesting negative & neutral feedback. Wish I'd known that before I started bidding. I'll be using this often. Thanks very much.

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Office Max Catalog now features HP 50g

*Message #1 Posted by **Eddie W. Shore** on 23 Mar 2010, 10:09 p.m.*

We had our annual Office Max office fair at work today (Cal Poly Pomona). Among other things we got a 2010 Office Max catalog. I usually like to browse the calculator section of these catalogs. Low and behold for the first time in any office calculator, the HP 50g was offered!

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HP 48GII keyboard

*Message #1 Posted by **Han** on 23 Mar 2010, 9:47 p.m.*

Are these any good? Did they use the same manufacturing technique for the HP 48GII as the HP 50G? I was thinking of waiting out for a cheap 48GII or even 39GS or 40GS to swap keypads with my current HP 49G+.

Re: HP 48GII keyboard

*Message #2 Posted by **David Hayden** on 24 Mar 2010, 1:10 p.m.,*
in response to message #1 by Han

I have a 50g, two 48gII's (the old version and the new one) and a 39gs. The keyboards seem identical to me but I must admit that I haven't done a careful side-by-side comparison.

Given the similarities of the calculators, I think it's a safe bet that the keyboards are all manufactured with the same process, and probably by the same machines.

Dave

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HP.45 Keyboard - Dead Row

*Message #1 Posted by **John Stark** on 23 Mar 2010, 4:48 p.m.*

Recently purchased a nice HP.45 calculator on the Unmentionable Site.

The only issue is that no keys on the bottom row register when pressed.

Disassembled unit, and found no issue by visual inspection (broken trace etc.)

All LED segments light up OK.

It appears either the bottom row is not getting "strobed", or the return from that row has an issue (either electronic or mechanical).

Any ideas would be appreciated.

Thanks.

John Stark

Re: HP.45 Keyboard - Dead Row

*Message #2 Posted by **John Robinson** on 23 Mar 2010, 7:25 p.m.,*
in response to message #1 by John Stark

Hi John,

I am not familiar with the 45, but you should be able to find all the information you need to trace the correct line all the way back to the CPU chip. The following will help :

1. Tony Duells article Inside the HP45 gives some good background to the HP 45 internals.

2. The PPC DVD should have the circuit diagrams for the 45 (it has the circuit diagrams for the HP 65). You need to contact Jake Schwartz to purchase the DVD, see PPC DVD

I hope that helps.

Cheers, John

Re: HP.45 Keyboard - Dead Row

*Message #3 Posted by **ClausB** on 25 Mar 2010, 7:00 a.m.,*
in response to message #1 by John Stark

I recently disassembled and cleaned my 45 and found a few cracked solder joints on the long gold pins that connect the two boards. Use a magnifier to look for cracks and use a clamp to hold the pins straight while resoldering.

Re: HP.45 Keyboard - Dead Row

*Message #4 Posted by **John Stark** on 26 Mar 2010, 8:32 a.m.,*
in response to message #1 by John Stark

Thanks to all for your help !

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Significant variation in Woodstock keyboards?

*Message #1 Posted by **Michael Meyer** on 22 Mar 2010, 10:21 p.m.*

I received another "broken" HP-21 in the mail today. Fresh batteries and it works perfectly. This one is nice, with no corrosion whatsoever on the springs, contacts, circuit board. But I notice that the entire keyboard is really "soft"-- not just a few well-worn keys. I have other Woodstocks with almost ridiculously stiff and crisp keyboards... like some of my Spice series machines. And all my Woodstocks vary significantly in keyboard "stiffness"... and now that I've noticed this, I don't believe it has anything to do with how used the calculators were... you'd expect them to vary more within the same calculator, if that were the case.

What do you think accounts for this significant variation, one calculator to another... I have another HP-21 with very stiff keys!

Re: Significant variation in Woodstock keyboards?

*Message #2 Posted by **Walter B** on 23 Mar 2010, 1:29 a.m.,*
in response to message #1 by Michael Meyer

Woodstocks open easily. So, if you want to know, I'd suggest opening those two. Then check for significant differences.

Edited: 23 Mar 2010, 1:30 a.m.

Re: Significant variation in Woodstock keyboards?

*Message #3 Posted by **Michael Meyer** on 23 Mar 2010, 11:37 a.m.,*
in response to message #2 by Walter B

Of course, I've opened all of them... to repair, swap chips, clean, etc. First thing I did with the new one was to soak the keyboard all day in soapy water then a good rinse and dry. Looks and works great.

Visually, the keyboards look the same, regardless of their tension. Since they're heat staked, the only ones I've torn apart were corroded. I'd like to avoid taking 2 of them apart just to answer this question if someoneone else on the forum has some insight and more experience.

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HP41 models and susceptibility for cracked posts

*Message #1 Posted by **Nigel Bamber** on 22 Mar 2010, 6:34 p.m.*

I was wondering whether some of the newer built models would have less susceptibility for posts cracking due to changes in design i.e. in the early models the logic board was a separate unit and connected by the zebra connector to the main PCB in the first HP41c units. But in the later CX and CV units they had one PCB Board with all IC hardwired to it , I believe, thus reducing connection difficulties relating to the separate logic board.

If so is it possible to tell which units only had one PCB board, eg maybe all Halfnut units ?

What are the views here ?

Thanks

Nigel

Re: HP41 models and susceptibility for cracked posts

*Message #2 Posted by **John Robinson** on 22 Mar 2010, 6:39 p.m.,*
in response to message #1 by Nigel Bamber

Hi Nigel, all 41 calcs are susceptible to screw post breakage, but as you point out, single board versions don't rely on case pressure to keep the contact between several boards. Hence single bpard calcs remain operational even if the screw posts are broken.

All half nuts are single boards, except for the CX models, which have an extra piggy back board, but it doesn't rely on case pressure for good contact between the main board and the piggy back board.

HTH

Cheers, John

Re: HP41 models and susceptibility for cracked posts

*Message #3 Posted by **Etienne Victoria** on 23 Mar 2010, 4:46 p.m.,*
in response to message #1 by Nigel Bamber

Moreover, even halfnut HP41 designs are subject to cracked posts. Even though the boards are not impacted on these models, the module connector sub-assembly is.

It is held tight to the main board by pressure and will fail if the upper screw posts are cracked.

Etienne

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HP 97, OK I cracked the print head..

*Message #1 Posted by **Ed Sowell** on 21 Mar 2010, 10:33 p.m.*

Now what?

I read that this was a possibility so I was extremely careful... at least doing what I thought I needed to be careful about. The thing slipped nicely between the clamping bar, slid nicely under the platen, was not cocked or misaligned as nearly as I could see with my magnifying glass and flashlight, and yet "Snap" when I tightened.

What's the best shot at getting a replacement? A 82143A printer?

Assuming a replacement is available, what is the secret for reinstalling this thing?

Grrr!

Edited: 21 Mar 2010, 10:36 p.m.

Re: HP 97, OK I cracked the print head..

*Message #2 Posted by **Ignazio Cara (Italy)** on 22 Mar 2010, 3:14 a.m.,*
in response to message #1 by Ed Sowell

Hello Ed, unfortunately the thermal printer head of the 82143/82162 printers aren't compatible (80 ohm Vs 11 Ohm of Topcat printer series). You must search another Topcat printer if you want replace yours. Sorry for the bad news.

Regards

Ignazio

Re: HP 97, OK I cracked the print head..

*Message #3 Posted by **Ed Sowell** on 22 Mar 2010, 10:57 a.m.,*
in response to message #2 by Ignazio Cara (Italy)

Thanks, Ignazio. BTW, what is a "topcat" printer? I've seen the term used here but don't know what it means exactly. I assume it refers to the particular printer used in the 97 and probably others, but I don't know which others.

Do you know what I might have done wrong? I did look at the head with a magnifying glass before tightening and all look OK to me. IOW it was not cocked in the slot. I held the platen out of the way so I could push the head in till it registered against the opposite side of the carrier, leaving the top end flush with the carrier.

Ed

Re: HP 97, OK I cracked the print head..

*Message #4 Posted by **geoff quickfall** on 22 Mar 2010, 1:49 p.m.,*
in response to message #3 by Ed Sowell

Sorry to here that Ed.

The specs are different and the HP 91, 92, 97S and 97 are the "TopCat" family.

Cheers, Geoff

Re: HP 97, OK I cracked the print head..

*Message #5 Posted by **Ignazio Cara (Italy)** on 22 Mar 2010, 3:03 p.m.,*
in response to message #3 by Ed Sowell

Hello Ed, Geoff has just answered to your first question about the Topcat calculators. Regard the second question I must say that I haven't understood so well how do you have tried to assemble the print head. I prefer to assemble the paper feed cam with the carrier and the print head, not over tighten the two screws that hold the clamp, then install this assembly in the body of the printer. And after mounting the lead screw, the two rod and all the other parts, as the last thing reconnect the printer cable contacts to the PCA using a thin metal foil 24 mm wide. Let me know if my English is understandable and if you prefer some pics too.

Regards

Ignazio

Re: HP 97, OK I cracked the print head..

*Message #6 Posted by **Ed Sowell** on 22 Mar 2010, 5:55 p.m.,*
in response to message #5 by Ignazio Cara (Italy)

Thanks, Igzazio. I understand your explanation of your method... basically you're installing the head on the carrier before installing things into the housing. I reversed the disassembly procedure given by Tony Duell in his Sept 2005. This makes the print head installation on the carrier last, after everything else is in place. But, I don't see why that should make any difference as long as the head is properly positioned in the carrier.

Does anyone know exactly what typically causes the fracture? For example, is it:

a. Improper positioning in the slot it's supposed to register in on the carrier?

b. The head being pushed too far or not far enough into the carrier?

c. Simply overtightening?

d. The head interfering with the cam?

In other words, just saying "be careful" doesn't help if one doesn't know what to be careful about.

I haven't removed it yet, but I will now and see if there any clues.

Ed

Edited: 22 Mar 2010, 10:34 p.m.

Re: HP 97, OK I cracked the print head..

*Message #7 Posted by **Ed Sowell** on 23 Mar 2010, 7:33 p.m.,*
in response to message #6 by Ed Sowell

Looks like I might have cried wolf too soon. I took the head off the carrier and it's all in one piece and no cracks are evident with a magnifying glass. I won't know for sure till I get it all back together, of course.

I also removed the carrier from the slide rods etc. so I could see exactly what it means to have the head registered in the carrier. There is a lip on the carrier where the business end of the head goes. Obviously, the head must be within its channel and registered against this lip. I think I may have had it slightly up over the lip and the snap I heard while tightening it was when it managed to snap down where it belongs.

It would be nice if the head could be installed on the carrier before installing it on the lead screw and cam. However, there would be a problem getting the cam through the carrier. The only way that could be done would be to pull one of the rollers off, slip the shaft through the carrier, and then reassembly the cam assembly in situ, so to speak. Triky biz.

Another thing I noticed is it looks like there was some kind of thread locker on the screws that lock the head to the carrier. has anyone else noticed this? That would make it unnecessary tighten them so much.

Ed

Re: HP 97, OK I cracked the print head..

*Message #8 Posted by **Ignazio Cara (Italy)** on 24 Mar 2010, 3:32 a.m.,*
in response to message #7 by Ed Sowell

Ed, If you have a multimeter or a Ohm_meter (?), you can verify if the resistance between the ground and each other seven tracks is about 11 ohms, measured to the connector at the other end of the flat cable. If this is not true for one or more of the contact, your thermal head must be throwed away. You can assemble the carrier with the paper feed cam and close it with the print head and the clamp. The two screws must be installed with a drop of thread locker on the tip. You must remember to lubricate the rod and the lead screw after intslling them on the body of the printer.

Ciao

Ignazio

Re: HP 97, OK I cracked the print head..

*Message #9 Posted by **Ed Sowell** on 24 Mar 2010, 2:50 p.m.,*
in response to message #8 by Ignazio Cara (Italy)

> Quote:
>
> Ed, If you have a multimeter or a Ohm_meter (?), you can verify if the resistance between the ground and each other seven tracks is about 11 ohms, measured to the connector at the other end of the flat cable.

All are about 10.8 ohnm, so I guess I dodged the bullet! Since I have not removed the

cable from the connector I did these measurements at the PCB pins.

> Quote:
>
> You can assemble the carrier with the paper feed cam and close it with the print head and the clamp.

I figured that out after I wrote the last note. that's what I will most likely do. In retrospect, its the only way one can really see that the head is properly seated at the "business end," if you understand that term.

It also occurs to me that by removal of one roller from the cam shaft the during disassembly one could slip the carrier/head assembly off the cam so the rollers could be worked on without even disturbing the print head. have you tried that?

> Quote:
>
> The two screws must be installed with a drop of thread locker on the tip.

I'll use the kind that is less strong so it will be possible to remove them if needed.

> Quote:
>
> You must remember to lubricate the rod and the lead screw after intslling them on the body of the printer.

What would you recommend that I might be able to find? How about graphite powder sucn as used in locks?

Ed

Edited: 24 Mar 2010, 2:55 p.m.

Re: HP 97, OK I cracked the print head..

*Message #10 Posted by **Ignazio Cara (Italy)** on 24 Mar 2010, 3:54 p.m.,*
in response to message #9 by Ed Sowell

Ed,

> Quote:
>
> All are about 10.8 ohnm, so I guess I dodged the bullet! Since I have not removed the cable from the connector I did these measurements at the PCB pins.

I prefer to measure the resistance on the flat cable disconnected from the PCB. The value of 10.8 Ohm is correct.

> Quote:
>
> I figured that out after I wrote the last note. that's what I will most likely do. In retrospect, its the only way one can really see that the head is

> properly seated at the "business end," if you understand that term.

I don't understood "business end", can you translate in other words? Thanks Look at this image, thermal printer assembled with carrier and paper feed cam.

and at this, after installing on the printer body:

> Quote:
>
> What would you recommend that I might be able to find? How about graphite powder sucn as used in locks?
>
> You must lubricate the lead screw and guide rods with lightweight machine oil (sewing machine) and a long nosed applicator. Apply one drop at each bushing, and one or two drops along the screw itself and each guide rod. Then turn the main gear a number of time to distribuite the lubricant.
>
> I hope this help.
>
> Ignazio

Re: HP 97, OK I cracked the print head..

*Message #11 Posted by **Ed Sowell** on 24 Mar 2010, 8:02 p.m.,*
in response to message #10 by Ignazio Cara (Italy)

Thanks, Ignazio.

"Business end" of something is slang for the end that does the work. I was looking for an easy way to refer to the end of the print head that actually does the printing.

OK, that clears up the lubricant issue. I believe the exploded view of the printer in the Service Manual shows these points. I've seen posts recommending "plastic lube" for the plastic parts such as the cam, but I wouldn't know where to get such a product.

Re: HP 97, OK I cracked the print head..

*Message #12 Posted by **Ignazio Cara (Italy)** on 25 Mar 2010, 3:04 a.m.,*
in response to message #11 by Ed Sowell

Ed, thanks for your explanation about the " business end". Let me know how your work goes ahead with the printer.

Regards

Ignazio

HP 97, OK I cracked the print head..

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Hawkeye Bendix: Remember this one ? (2/?) [Long + pictures, Sorry]

*Message #1 Posted by **Etienne Victoria** on 21 Mar 2010, 3:41 p.m.*

Hi all,

Back in July, I posted a couple of pictures of a Bendix-modified Hp-67:

Serial: 2004S02232

The first posting.

I purchased this calculator to get parts for a Hp-67 I'm restoring for a friend. I have his calculator since Eons and feel guilty not to be able to repair it faster :-(

Anyway, I opened it and thought I would share a few pictures.

I've tried to identify the pins and signals as requested by Katie but have been unsuccessful until now (I need time to delve in Tony Duell's schematics and in the mixed color wires from the connector.

Let's open it:

Card reader is pretty much the standard device:

From the MicroK connector, the yellow, blue, red and black wires are connected to the card reader through small white sockets. I cannot figure out where the brown lead goes.

The whole assembly is VERY tight and wires are short, therefore flipping over the card reader assembly does not seem a good solution. I maintained it slightly lifted with clamps.

The logic board is 00067-60003 with components from Korea and Malaysia.

For comparison purpose, this is a picture of another board with components from Malaysia:

Going to the keyboard sub-assembly and much to my surprise, the board is black and not translucent as is the one of all the other Hawkeye I have opened.

Some minor corrosion spots here --> cleaned up.

Maybe somebody has already encountered such a board.

The card reader has the standard "Goo all over the place" syndrom: cleaned up, restored and refit.

And yes I can hear the crowd :-) --> I prefer O-rings over tubing.

Restoring the card reader shows a black wheel axis. Beside I've put the white axis from another 67. However, I think black wheel axes are very common.

The funny thing is the small plastic 'pin' protuding from the axis, it is definitely not a manufacturing defect and seems to be there on purpose.

I hope it is visible on the pic:

Let's end this first sequence by a view of the display part:

When I have time to go back to the machine, I will focus on:

- trying to identify the signals as proposed by Katie,

- try to understand the behaviour of the LBLs calls.

I apologize for the long post and the somewhat blurred pictures but I took them in a quick sequence while cleaning/repairing.

As soon as I have more time, I'll post more info.

Spring has come.

Cheers to all from France!

Etienne

Edited: 21 Mar 2010, 4:49 p.m. after one or more responses were posted

Re: Hawkeye Bendix: Remember this one ? (2/?) [Long and big pictures, Sorry]

*Message #2 Posted by **Alberto Fenini** on 21 Mar 2010, 4:00 p.m.,*
in response to message #1 by Etienne Victoria

ciao Etienne,
then, in theory, any HP67 could be turned into a Bendix modified machine, or is there any IC modification ?
take care Alberto

Re: Hawkeye Bendix: Remember this one ? (2/?) [Long and big pictures, Sorry]

*Message #3 Posted by **Etienne Victoria** on 21 Mar 2010, 4:14 p.m.,*
in response to message #2 by Alberto Fenini

Ciao Alberto,

I have swapped the logic board with two others and the machine has the same behaviour.

I have not seen this logic board on my other 67s.

However, I still have to check if other components are different from mainstream 67s, for example the card reader.

Best

Etienne

Re: Hawkeye Bendix: Remember this one ? (2/?) [Long + pictures, Sorry]

*Message #4 Posted by **Eric Smith** on 21 Mar 2010, 6:32 p.m.,*
in response to message #1 by Etienne Victoria

If the wiring connects to the card reader, it seems likely that this is an interface to load programs and/or data from an external device.

Re: Hawkeye Bendix: Remember this one ? (2/?) [Long + pictures, Sorry]

*Message #5 Posted by **tim m.** on 22 Mar 2010, 10:20 p.m.,*
in response to message #4 by Eric Smith

That's a good guess. If one could get it apart a bit more, one could continuity test with a multimeter to see if the added leads are connected to anything in common with the magnetic head or its associated circuitry.

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HP-67 not displaying decimal point

*Message #1 Posted by **Etienne Victoria** on 21 Mar 2010, 12:24 p.m.*

Hi all!

I'm restoring/repairing an HP-67 for a friend.

It took me a long time to find the proper parts and I have restored the card reader, the battery contacts, found a perfect keyboard with non-yellowish keys.

It now works fine except for one thing: the decimal point does not display.

That is all digits display perfectly, calculations, programming... are fine except the decimal point that should light and doesn't!!

Logic board is Ok.

I would like to repair it if possible instead of swapping the display subassembly because I use the Bendix Hp-67 as a base and it has a very complex internal wiring to a specific connector (I've posted pics here a couple of months ago)

Does anybody have a hint ?

Many thanks in advance!

Etienne

Re: HP-67 not displaying decimal point

*Message #2 Posted by **Etienne Victoria** on 21 Mar 2010, 12:54 p.m.,*
in response to message #1 by Etienne Victoria

Hi all,

Me again.

I've solved the problem.

One of the Bendix connector wires had an unwanted connection to the display driver.

The decimal point is back !

Thanks

Next week-end, I'll try to post a couple of picture of the internals.

Etienne

You spoiled our party ;-)

*Message #3 Posted by **Juergen Keller** on 21 Mar 2010, 2:27 p.m.,*
in response to message #2 by Etienne Victoria

Etienne,

by solving the problem by yourself, you've spoiled our party! We would have been so happy to help you locating the problem ... ;-)

I'm looking forward to your pictures!

Best Regards, Juergen

Re: You spoiled our party ;-)

*Message #4 Posted by **Etienne Victoria** on 21 Mar 2010, 3:23 p.m.,*
in response to message #3 by Juergen Keller

Hello Jürgen !

Don't worry, I still have problems with the Bendix-67 :-)

Mainly a weird behaviour during calls to LBLs A to E (programming them is Ok, calling them is not).

As I don't know if this is related to this particular customized calculator, I'll let it to rest for this week and try again in a couple of days.

It's been 8 hours and 2 sushi meals since I started the repair.

Even if it's not my first 67 repair, I proceed more cautiously with this one as I don't want to break the custom connectors all linked to the card reader.

Instead, I'll post the first pictures in a couple of minutes.

Cheers to all !

Etienne

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OT: For Sale: Bill Hewlett's 1987 Chevy Suburban

*Message #1 Posted by **Steve Leibson** on 21 Mar 2010, 11:44 a.m.*

Just blogged this on my EDN blog:

There was an oddity inside of an oddity in today's San Jose Mercury News. First, there was a real classified section. The Sunday paper looked bulkier than usual, one of my bellwether signs of economic health here in Silicon Valley. I very, very rarely look at the classified section of the newspaper any more, but I did today. Still not sure why. However, in the auto classifieds, under "Customs and Classics," I spotted this ad:

"Chevy 1987 Suburban Custom Bill Hewlett's Deluxe 20. An all-original 1987 Chevy Suburban with only 28,000 miles! Previously owned by Bill Hewlett, founder of Hewlett-Packard. This truck is in excellent condition and has been garaged for 23 years. 208-721-8572."

A quick Google shows the same ad in a few online classifieds. Sometimes, the asking price is $30K. Other times, no price is listed. Area code 208 is in Idaho. Actually, it's all of Idaho although a little more Googling shows that this phone number is in Ketchum, Idaho. In fact, it seems to belong to a company called "Wood River Igloos."

Here's an unprecedented opportunity for those collectors of rare HP paraphernalia to own something possibly owned by Bill Hewlett. Sure, it's not his HP 35 calculator, but it's much, much bigger! I haven't called Ketchum to verify any of this information. I don't have room for a Suburban in one of my condo parking spots and it's not really my kind of vehicle anyway. However, I'll bet someone out there wants it. I wonder if it really was his and how it got to Idaho. Must be a good story there.

Re: OT: For Sale: Bill Hewlett's 1987 Chevy Suburban

*Message #2 Posted by **Martin Pinckney** on 21 Mar 2010, 6:26 p.m.,*
in response to message #1 by Steve Leibson

Just think - one of you guys (gal) with the huge HP collection could install shelves and take it on a tour as a traveling museum.

Maybe you can find some of Bill Hewlett's shirts at a garage sale somewhere...

Edited: 21 Mar 2010, 6:28 p.m.

Re: How Bill Hewlett's 1987 Chevy Suburban came to be in Ketchum, Id. (sheer fantasy).

*Message #3 Posted by **Hal Bitton in Boise** on 22 Mar 2010, 1:52 a.m.,*
in response to message #1 by Steve Leibson

So, Bill had driven up to visit the printer division headquarters at the beautiful HP campus here in Boise. He then continued on up to Ketchum/Sun Valley for some skiing (he was an avid outdoorsman, after all). An urgent situation developed, which required his immediate return to Palo Alto. The HP corporate jet was dispatched to the resort to pick him up, where he had to leave his Suburban with a friend. Bill never got around to retrieving the SUV.

Hey it makes a good story, and it could have happened that way. 8)
Hal.

Re: How Bill Hewlett's 1987 Chevy Suburban came to be in Ketchum, Id. (sheer fantasy).

*Message #4 Posted by **Walter B** on 22 Mar 2010, 1:57 a.m.,*
in response to message #3 by Hal Bitton in Boise

d:-) Don't deliver this story to the seller! d;-)

Re: How Bill Hewlett's 1987 Chevy Suburban came to be in Ketchum, Id. (sheer fantasy).

*Message #5 Posted by **sylvandb** on 23 Mar 2010, 9:57 a.m.,*
in response to message #3 by Hal Bitton in Boise

I'd bet the chevy was used on his Idaho ranch (just around the corner from Ketchum).

Re: OT: For Sale: Bill Hewlett’s 1987 Chevy Suburban

*Message #6 Posted by **Etienne Victoria** on 22 Mar 2010, 5:40 p.m.,*
in response to message #1 by Steve Leibson

Was the truck garaged in the now famous "Hp Garage" ?

if this is the case, how could this precious relic (The Holy Truck) be proposed to sale without it's original box (aka The Not less Holy Garage :-)

A true Hp collector should not accept this situation :-)

Okay...I'll go back to my Hp-67...

Etienne

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33s or 35s or casio fx-5800 for electronic engineering

*Message #1 Posted by **Pablo P (Spain)** on 21 Mar 2010, 4:59 a.m.*

Hi all. I am an electronic engineer (soon I hope) and I need a programmable (but not graphical) calculator. I have read about them and I think that I have those three options. Is 35s a bad product? is it true that 33s is faster than 35s but 35s is more powerful for programming? And what about fx-5800? It has the same amount of memory, 4 line display and a language similar to basic but, has it got some lacks? Also I hope that I could use the calculator in the future.

Thanks all.

Re: 33s or 35s or casio fx-5800 for electronic engineering

*Message #2 Posted by **hugh steers** on 21 Mar 2010, 9:45 a.m.,*
in response to message #1 by Pablo P (Spain)

fx-5800p? what is this. can't find a lot about it out there, some sales in Germany only and a few on ebay from Korea.

does anyone know more about it. the screen looks nice. looks like it uses casios weird programming notation. i hope it's not too modal (the curse of casio). maybe i should get one and check it out?

Re: 33s or 35s or casio fx-5800 for electronic engineering

*Message #3 Posted by **hugh steers** on 21 Mar 2010, 9:53 a.m.,*
in response to message #2 by hugh steers

thoughts:

might be a follow up to the 4800p,

http://www.voidware.com/calcs/fx4800p.htm

Re: 33s or 35s or casio fx-5800 for electronic engineering

*Message #4 Posted by **Bruce Bergman** on 21 Mar 2010, 11:43 a.m.,*
in response to message #2 by hugh steers

Interesting info here:

Casio FX-5800p Page

Bruce

Edited: 21 Mar 2010, 12:12 p.m.

Re: 33s or 35s or casio fx-5800 for electronic engineering

*Message #5 Posted by **Pablo P (Spain)** on 21 Mar 2010, 12:25 p.m.,*
in response to message #2 by hugh steers

I compare fx-5800p and hp 35s because, If we do not copare them with discontinued products, they are the most advanced programmable (not graphical) calculators from casio and hp.

About the fx-5800

Page:

http://edu.casio.com/products/program/fx5800p/

Some specs:

http://www.casio-intl.com/calc/programmable/programmable_spec.pdf

Manual:

http://support.casio.com/pdf/004/fx-5800P_E.pdf

I am undecided. Hp 35s has RPN and its pretty complete, but fx-5800p is faster according to http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=700

And also 33s is faster than the others but I cannot do gto to a line number.

Calculator Speed Benchmark using the N-Queens Problem

4:17 HP-35S Keystroke / RPN

3:47 FX-5800P Formula / Array

2:11 HP-33S Keystroke / RPN

Edited: 21 Mar 2010, 12:26 p.m.

Re: 33s or 35s or casio fx-5800 for electronic engineering

*Message #6 Posted by **Bruce Bergman** on 21 Mar 2010, 2:00 p.m.,*
in response to message #5 by Pablo P (Spain)

Strictly speaking, I believe the (current model) HP-50g to be the most advanced scientific and graphing calculator HP makes. You probably would be best to compare that one against the Casio.

Thanks,

Bruce

Re: 33s or 35s or casio fx-5800 for electronic engineering

*Message #7 Posted by **Mark Henderson** on 21 Mar 2010, 2:02 p.m.,*
in response to message #5 by Pablo P (Spain)

I would only consider RPN personally. I have both 33s and 35s and for day-to-day work the 35s is far preferred - better keyboard, layout, display contrast etc.

Re: 33s or 35s or casio fx-5800 for electronic engineering

*Message #8 Posted by **Bruce Bergman** on 21 Mar 2010, 2:06 p.m.,*
in response to message #5 by Pablo P (Spain)

Also, it would be fun to see the times using the 30b and the Casio FX-9860g slim (the best Casio in my estimation, and also arguably one of the fastest calculators made).

Anyone up for posting the speeds on the other two above?

Last year we had some discussion of this and Egan posted the speeds for the 71b and 41c. Results Here

Thanks,

Bruce

Re: 33s or 35s or casio fx-5800 for electronic engineering

*Message #9 Posted by **Bruce Bergman** on 21 Mar 2010, 2:12 p.m.,*
in response to message #8 by Bruce Bergman

Kind of answered my own question. ;-)

I found the master list from 2007 and it appears that the posting is updated by Xerxes regularly. He has times for both the FX-9860g at a blazing 17 SECONDS for N-queens, and the 30b at a shocking 11 SECONDS. Wow. :-)

This 30b is one fast calculator...

Edited: 21 Mar 2010, 2:16 p.m.

Re: 33s or 35s or casio fx-5800 for electronic engineering

*Message #10 Posted by **hugh steers** on 21 Mar 2010, 2:26 p.m.,*
in response to message #9 by Bruce Bergman

Hi,

yes, the 30b runs at a faster clock rate than the 9860g, base rates are 36Mhz (i think) and 14.7Mhz resp.

However, i've overclocked my 9860 by about 2x :-) There is a 4x option, but it's a bit unstable, but 2x is fine (just uses more power). In my reckon calculator for the 9860g, i temporarily engage the 2x for heavy-duty operations, like integer factorisation and graph plotting.

when i get around to putting a program language in it, i plan to let the user have control over the speed setting - could be very useful.

Re: 33s or 35s or casio fx-5800 for electronic engineering

*Message #11 Posted by **hugh steers** on 21 Mar 2010, 2:19 p.m.,*
in response to message #5 by Pablo P (Spain)

here is what i'd say at first glance;

firstly, i think your choice is either the 35s or the 5800p.

the casio will be faster and more accurate, integrate and solve are likely to be better (more modern algorithm, + brute force). the screen is bigger, which may be a big plus for matrices if you need them. However, i never had any problem with matrices on the single line 15c, so it's not a dealbreaker, and further it makes the unit physically larger.

casio have their weird programming language which isnt basic and rather odd, although i can see it being ok for small programs. alternatively the 35s is step programmable, which is pretty low level, but useable and also not great for large programs. also, you might have problems using all of the 35s program memory due to labels etc.

casio really missed a trick here not having a standard way to transfer programs to the PC (or am i wrong?) i see it comes with calc-to-calc transfer, but not calc-to-pc transfer. it might be worth seeing if there are some user community tools for calc-to-pc transfer. if this is possible, if it were me, i'd get the casio (im a big fan of cross development) and also it means you can load programs from others without having to type them in - this would be a huge plus!

complex number might work a bit more intuitively on the casio, but i suspect that the support for complex operations is limited to the 4 basic ops, sqrt, 1/x. for example Y^X is probably not supported for complex Y. however, the complex support on the 35s is also a bit lacking (compared to 15c, 48 etc).

however, the biggest overall factor is whether you like the way the machine works. some machines have a habit of being really annoying and some aren't. i cant say if the 5800p is or not. if it's like the 4800p, i think it's ok, but makers have a habit of making simple things complicated and annoying (for example if you press "Sqrt(" then 2, so you have to press ")" as well). if you get the 35s, then you really need to be using it in RPN, so that means you like RPN. If you hate RPN, i would advise the casio conversely if you are big on RPN, get the 35s.

lastly, i presume you don't want graphics for some reason, despite the fact that the 5800 has a large screen, so it's not a size constraint. otherwise there are more calculators to choose from.

Re: 33s or 35s or casio fx-5800 for electronic engineering

*Message #12 Posted by **marais** on 21 Mar 2010, 5:53 p.m.,*
in response to message #11 by hugh steers

As an EE, I'd say the biggest factor is how complex numbers are handled. I find both machines lack behind my 28C/S, or the 15C, for that matter. Otherwise I am quite fond of my 35S. The graphing capabilities are worthless for an engineer (since we have access to more powerful tools), but handy for students. I know my comment is not helpful, but had to give it anyway.

Re: 33s or 35s or casio fx-5800 for electronic engineering

*Message #13 Posted by **Michael Andersson** on 21 Mar 2010, 2:20 p.m.,*
in response to message #1 by Pablo P (Spain)

Owning one of each, here are my thoughts.

Of the three the fx-5800 has the most functions. It can do pretty much what the HP:s can and much more. The only thing I can thing of that the HP:s can that the fx-5800 cannot is to take the logarithm of a complex number. But for normal complex calculations the Casio is much easier to use. One problem with all the functions in the fx-5800 though is that many are burried quite deep in menus and requires many keystrokes to get to.

The calculator I enjoy using the most is the 33s. It's RPN, has most functions I need and has a nice feel to the keyboard. Compared to the 33s the 35s adds some nice functions. But I don't like the layout of the keyboard of the 35s and it constantly misses keystrokes if you type too fast. The feeling in the keyboard of the fx-5800 is not good, but at least it does not miss any key strokes.

Re: 33s or 35s or casio fx-5800 for electronic engineering

*Message #14 Posted by **Norman Dziedzic** on 21 Mar 2010, 5:46 p.m.,*
in response to message #1 by Pablo P (Spain)

I love my 35s. In fact it rekindled in me the love of hp calculators and started me collecting them.

I use it all the time as except when I need to work in hex or binary when I use a 32sii.

I really like the solver feature which I hadn't played with much on the 32sii although I have had it for years.

I have to wonder what problems people are doing on a daily basis that they are complaining about the speed of a hand held calculator. For serious stuff I would use MathCad or scilab or even Excel.

Re: 33s or 35s or casio fx-5800 for electronic engineering

*Message #15 Posted by **David Hayden** on 21 Mar 2010, 6:38 p.m.,*
in response to message #1 by Pablo P (Spain)

I can't speak to the casio, but if you want an HP calculator for engineering, I'd get the 50g, or the 48gII if money is a concern. You will find the CAS system extremely useful when you start getting to complicated equations. Also, you'll want the I/O capabilities so you can easily load programs onto the calculator. With the 35s or 33s, you have to key in the programs by hand, which can be very time consuming.

If you don't need RPN, you might look at the 40gs also.

I own both the 48gII and 50g. To me, the advantages of the 50g are (in order) the SD card, more memory, faster processor, larger display, carrying pouch vs slide-on plastic shell. The 48gII has one advantage over the 50g in my opinion: an easier-to-read keyboard.

A word of warning - if you decide to get the 48gII, be aware that HP made two versions that are quite different. The old version, which is available on ebay for very cheap, has 80k for memory, a serial point only, no equation library etc. The newer ones have serial and USB, 230k of memory, equation library and use 4 batteries. You can tell the difference on the blister pack by looking for the number of batteries and by carefully reading the package to see if it says it supports USB.

A good calculator can make a huge difference when taking tests and doing homework. If you get the right one, you'll use it for decades. I used my HP41CV for 25 years, but I got the card reader attachment very quickly after buying the calculator so I could enter programs easily. Trust me, you NEED I/O.

Dave

Re: 33s or 35s or casio fx-5800 for electronic engineering

*Message #16 Posted by **Pablo P (Spain)** on 21 Mar 2010, 9:10 p.m.,*
in response to message #1 by Pablo P (Spain)

I think that I will buy the hp 35s for these reasons:

- Casio fx-5800p seems good but it lacks rpn. Also I want to taste an hp calculator (I have always used casio

ones).

- I want a lightweight, not very big calculator.

- About 48gII and 50g: They have I/0 and that is very good. However I only need the calculator for a daily use and not for very complex things. I agree with Norman Dziedzic: If I want to do complex things I use Maple or Matlab.

- For my needs, I value simultaneous equation solving, operate with complex numbers, base conversions, and writing moderately complex programs. 35s has those features. 33s does not have built-in simultaneous equation solving (you have to program it and waste some labels) and although it is faster, it cannot gto program line. Also it lacks indirect variables (useful in complex programs).

I will go to bed now. Thanks and see you tommorrow.

Re: 33s or 35s or casio fx-5800 for electronic engineering

*Message #17 Posted by **Don Shepherd** on 21 Mar 2010, 9:17 p.m.,*
in response to message #16 by Pablo P (Spain)

Don't expect much from the 35s base conversions. 33s is much better for that.

Re: 33s or 35s or casio fx-5800 for electronic engineering

*Message #18 Posted by **Lutz Jacob** on 22 Mar 2010, 6:10 p.m.,*
in response to message #1 by Pablo P (Spain)

I would suggest going for a 33s and ignoring the 35s because of its collection of really stupid bugs (base conversions, unusable floating point display, ...). The 35s looks nice but that doesn't help if you can't see the result of a calculation or have to press lots of keys to do some simple calculations with hexadecimal or binary numbers. And if you have to do many calculations with complex numbers - which is very likely in any kind of electrical engineering - than you should go for a HP48, 49 or 50. The 33s and 35s are nearly useless in this area.

Re: 33s or 35s or casio fx-5800 for electronic engineering

*Message #19 Posted by **bill platt** on 22 Mar 2010, 7:25 p.m.,*
in response to message #1 by Pablo P (Spain)

In the present context, anything but a computer is essentially a toy, or useful assistance to ad-hoc manual computation.

To that end, the 35s, the Casio, the 33s, old HP RPN machines, are all a crippling disadvantage. I'd steer clear of them if you are young and want to get ahead.

Those of us who are older fondly remember the days when we got our first 11c or 15c, or a bit older, when we got our 34c, 41C, or before that our 55, 65, 67 etc. In those days, when a real programmable computer such as the HP83 cost over $2200, and the Apple and the TRS 80 model II did not yet exist, these programmable calculators were fantastic!

Today, even the programmables, such as our venerable 41C, 42S, 15C, or the newer, more crippled 35S, are avocational curiosities, not effective tools, where programming is concerned. Computation, yes, portability, yes, programming, no.

Don't get me wrong: I own a number of RPN machines including the new ones. I use the 27s frequently for its

solver. But I am "old" and therefore make use of legacy equipment because I already know it well and it works for me. But if there is a lot to do, I go to the computer.

Some other posts mention test-taking. This is really the crux of the matter. In your career, you are going to use a real computer to solve real programs. You will buy fantastic software for $1000 that can run circles around everything--circuit analysis, harmonic analysis, you name it. But for tests you need a calculator. To this end, find out what is *permissible* in your university. Find out what is permissible for your licensing examinations. It is likely that the 50G will be the only proper choice, if permitted. IT is *fully* programmable in RPL, SysRPL, Assembly language, and C! (If you like retro, buy a 48G series but you'll need cards and SpeedUI or Metakernel, and ALG48 or Erable for CAS--stuff I don't have expertise in).

In the US, we have to use the 33s or 35s for licensing tests as the 50G and all graphing calcs are banned. In the recent past, everybody used 48S and later 48G series on the tests. This dates all the way back to 1990!

35S has the disadvantages mentioned above: goofy quirky incomplete functional design for non base 10, and polar to rectangular. Trouble with trig close to 90 degrees. Some have problem with non registering keys. This also happens to some 33s. We are picky--we grew up on Voyagers, Spice, Classics, Woodstocks and Pioneers!

35S solver is better than 33s because of full editability of equations. 33S is way better in its layout for doing Base arithmetic, Polar to Rectangular and other stuff. Earlier ROM versions of the 33s had a bug in the Rectangular to Polar, as well as the Decimal Hours to H.MS maths! Only buy a newer one with the bigger decimal point. If you get an old one, you can write short, easy programs to do these functions correctly (I and a number of others here wrote programs that did this and you can find them and check them. At one point HP even made them a service release though I don't know it it is still up on their website).

I hope that helps.

[edited for spelling and grammar]

Edited: 22 Mar 2010, 10:06 p.m. after one or more responses were posted

Re: 33s or 35s or casio fx-5800 for electronic engineering

*Message #20 Posted by **Martin Pinckney** on 22 Mar 2010, 9:09 p.m.,*
in response to message #19 by bill platt

> Quote:
>
> In the present context, anything but a computer is essentially a toy, or a useful assistance to ad-hoc manual computation.
>
> To that end, the 35s, the Casio, the 33s, old HP RPN machines, are all a crippling disadvantage. I'd steer clear of them if you are young and want to get ahead...
>
> Today, even the programmables, such as our venerable 41C, 42S, 15C, or the newer, more crippled 35S, are avocational curiosities, not effective tools, where programming is concerned. Computation, yes, portability, yes, programming, no...
>
> I use the 27s frequently for its solver...

Bill, if you hadn't posted this so late, so that not many will see it, you would have started another big debate.

Of course I disagree, because I consider writing Solver routines programming, and those are a boon to me

in my work. As far as keystroke programming, well, I hardly ever do it myself, so I can't disagree on the practicality, but I do disagree on the power available there.

I think perhaps what you are really saying is for the young engineer starting out, don't bother trying to learn programming calculators, because you will really use computers for almost everything...

Re: 33s or 35s or casio fx-5800 for electronic engineering

*Message #21 Posted by **bill platt** on 22 Mar 2010, 9:52 p.m.,*
in response to message #20 by Martin Pinckney

> Quote:
>
> I think perhaps what you are really saying is for the young engineer starting out, don't bother trying to learn programming calculators, because you will really use computers for almost everything...

Yep. And why waste effort with no I/O (42s, 27s 15c, 35s etc)? If it is ad-hoc, so what, but for real work, that's crazy.

Re: 33s or 35s or casio fx-5800 for electronic engineering

*Message #22 Posted by **Martin Pinckney** on 23 Mar 2010, 5:29 p.m.,*
in response to message #21 by bill platt

> Quote:
>
> If it is ad-hoc, so what, but for real work, that's crazy.

I recently had a real work problem that I could not find a ready solution via computer programs, but I found a HP 48 program that would solve it!

Re: 33s or 35s or casio fx-5800 for electronic engineering

*Message #23 Posted by **bill platt** on 23 Mar 2010, 7:56 p.m.,*
in response to message #22 by Martin Pinckney

...and that is the great thing about the 48 (including the 49 and 50): it has a lot available, and it has I/O, and it can be run as an emulator on the computer, and you can take the files back and forth from the real thing to the computer. Really it is the holy grail of calculators....even though I am a rank beginner on the 48, I see its merits!

Edited: 23 Mar 2010, 7:59 p.m.

Re: 33s or 35s or casio fx-5800 for electronic engineering

*Message #24 Posted by **Bruce Bergman** on 22 Mar 2010, 9:32 p.m.,*
in response to message #19 by bill platt

A lot of good points, but I too disagree. Maybe it's not such a help in electrical engineering, but I can tell you that in computer science -- as a software developer -- having a calculator handy can be a big help. It's a daily event.

When I have 20 windows open on my computer, and things are already slow enough, the last thing I want to do is open a copy of Free42 or other program and wait for it to launch.

In fact, on a day-to-day basis, I actually have an HP-97 sitting on my desk. I get a lot of laughs and smirks, but when I have a group sitting in my office working out some simple math problem, I'm at the answer far faster than anyone in my area. That, IMHO, is valuable.

Thanks,

Bruce

Re: 33s or 35s or casio fx-5800 for electronic engineering

*Message #25 Posted by **bill platt** on 22 Mar 2010, 9:54 p.m.,*
in response to message #24 by Bruce Bergman

Hi Bruce,

> Quote:
>
> When I have 20 windows open on my computer, and things are already slow enough, the last thing I want to do is open a copy of Free42

That's exactly what I mean by ad hoc and help with manual computation. I do the same thing with my little fleet of old hp gems :-)

Re: 33s or 35s or casio fx-5800 for electronic engineering

*Message #26 Posted by **Steve Simpkin** on 23 Mar 2010, 1:33 a.m.,*
in response to message #19 by bill platt

But I don't feel old..... I mean I do remember lusting after the HP-25 when it first came out and the pure joy of buying one shortly after. But I don't really feel that old. Sigh.....

Re: 33s or 35s or casio fx-5800 for electronic engineering

*Message #27 Posted by **MK-52** on 23 Mar 2010, 8:25 p.m.,*
in response to message #1 by Pablo P (Spain)

Hello. I am Japanese and I have a fx-5800p. Personally, I think that if you can buy TI or HP calculators, you should not buy 5800p. Because it has no CAS and complex operations is meaningless. 5800p can't calculate even i^i and (-1.6)^(1.5). Program language is only BASIC style language. This calculator need many key strokes. For example, if you calculate the factorial, you must type FUNCTION 1 5. ABS, Hyperbolic function and its inverse function are the same.

BTW, I don't speak English well. I apologize for my poor English.

Re: 33s or 35s or casio fx-5800 for electronic engineering

*Message #28 Posted by **Martin Pinckney** on 23 Mar 2010, 9:34 p.m.,*
in response to message #27 by MK-52

> Quote:
>
> I apologize for my poor English.

No apology needed- you made your points very well.

Re: 33s or 35s or casio fx-5800 for electronic engineering

*Message #29 Posted by **Bruce Bergman** on 24 Mar 2010, 12:31 a.m.,*
in response to message #27 by MK-52

Indeed -- very well spoken, and relevant to the discussion. Thanks!!

Re: 33s or 35s or casio fx-5800 for electronic engineering

*Message #30 Posted by **Pablo P (Spain)** on 24 Mar 2010, 2:20 p.m.,*
in response to message #27 by MK-52

Hi all again, finally I have bought the hp 35s. This is my first programmable rpn calc and my impression is good.

Be warned, I am a noob in calculators but this is my first review:

Good complex numbers support, you can covert between polar and rectangular coordinates (if you see them as complex numbers), high quality case and buttons, huge memory for a RPN Keystroke programmable calc, simultaneus equation solver (2*2 an 3*3), it is small and light which it is good for daily use...

On the other hand it has some known lacks, you can do all calculations and connversions between bases but you have to type many buttons. It has not got a function to calculate logarithms in a base other than 10. Also I do not like its logic capabilities: when I do the NOT of 1111b I expect 0000b but I get 11111111111111110000b (but probably I will not use this feature)...

Perhaps it is very soon to make a judgement but I like this calc.

Re: 33s or 35s or casio fx-5800 for electronic engineering

*Message #31 Posted by **Gene Wright** on 24 Mar 2010, 3:31 p.m.,*
in response to message #30 by Pablo P (Spain)

1) The LN key computes logs to base e.

2) Binary word size is set to 36 bits. Can't change it.

(deleted post)

*Message #32 Posted by **deleted** on 24 Mar 2010, 3:36 p.m.,*
in response to message #30 by Pablo P (Spain)

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: 33s or 35s or casio fx-5800 for electronic engineering

*Message #33 Posted by **Pablo P (Spain)** on 24 Mar 2010, 6:43 p.m.,*
in response to message #32 by deleted

Quote:

Hi Pablo,

I will forecast your future:

You will keep the 35s and enjoy using it for stuff it is quick and easy for. But then you'll buy a 50G anyway....

best regards,

Bill

For easy and normal things I am productive with a programmable calculator. For complex tasks I use computer software like Maple or Matlab.

Edited: 24 Mar 2010, 6:44 p.m.

Re: 33s or 35s or casio fx-5800 for electronic engineering

*Message #34 Posted by **Sok-khieng Chum Hun** on 25 Mar 2010, 8:03 a.m.,*
in response to message #30 by Pablo P (Spain)

I think it's normal to get this answer because in binary numbers, you have two kinds, signed and unsigned

Re: 33s or 35s or casio fx-5800 for electronic engineering

*Message #35 Posted by **Marcus von Cube, Germany** on 24 Mar 2010, 2:54 p.m.,*
in response to message #27 by MK-52

On the other hand, the 5800 has a built-in equation library.

Re: 33s or 35s or casio fx-5800 for electronic engineering

*Message #36 Posted by **Pablo P (Spain)** on 29 Mar 2010, 10:47 a.m.,*
in response to message #1 by Pablo P (Spain)

If someone is interested I have written a little review with some photos about my new hp 35s.

http://blog.sortingthecomputer.com/

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HP-41 draws sine curve

*Message #1 Posted by **Juergen Keller** on 20 Mar 2010, 8:18 p.m.*

HP-41 draws sine curve

Enjoy!

I love it, brings back memories of my lab in 1986

*Message #2 Posted by **geoff quickfall** on 20 Mar 2010, 8:30 p.m.,*
in response to message #1 by Juergen Keller

nt

Re: HP-41 draws sine curve

*Message #3 Posted by **Geir Isene** on 20 Mar 2010, 9:04 p.m.,*
in response to message #1 by Juergen Keller

Excellent

Re: HP-41 draws sine curve

*Message #4 Posted by **Garth Wilson** on 21 Mar 2010, 12:13 a.m.,*
in response to message #1 by Juergen Keller

It says you need the plotter module. The plotter module will probably make it easier, but you can do this without it. The plotter just uses HPGL (HP graphics language) which is plain text, so it's basically like you're printing the text data, and the plotter interprets it. "PU" (plain text characters) for example means "pen up." If you have the 82169A HPIL-to-HPIB (GPIB, or IEEE-488) interface converter, you can use the HPIB version of the plotter too, without needing the HPIL option. Alternately, if you have the HP82164A or FSI164A HPIL-to-RS232 interface converter, you could use the RS-232 version of the plotter without the HPIL option. There are lots of ways to skin a cat.

Re: HP-41 draws sine curve

*Message #5 Posted by **Juergen Keller** on 21 Mar 2010, 5:18 a.m.,*
in response to message #4 by Garth Wilson

Yes, I know that, but I wanted to keep the movie short; pointing out all options would have been too confusing.

Anyway, when plotting bar code - I suppose this was one of the main applications - the plotter module turns out _very_ handy. I also tried the HP-IB option with my 9872B plotter (this is a real beast). The only difference is that you have to SELECT the plotter manually (use MANIO, then enter the address of the plotter and SELECT). Finally, an unfullfilled dream is to drive a 7580B plotter with an HP-41 ;-)

Cheers, Juergen

Re: HP-41 draws sine curve

*Message #6 Posted by **Thomas Chrapkiewicz** on 21 Mar 2010, 8:54 a.m.,*
in response to message #5 by Juergen Keller

Nice work Juergen!

I too have been doing similar work, although with the HP48 family and RS232 communication.

[Very nice video production, by the way!]

It is a fascinating 'act' to watch a tiny calculator driving an 'E' size sheet plotter!

Cheers, TomC

Edited: 21 Mar 2010, 11:32 a.m.

Re: HP-41 draws sine curve

*Message #7 Posted by **Brian Walsh** on 21 Mar 2010, 12:18 a.m.,*
in response to message #1 by Juergen Keller

Yup, I have all the stuff including the 7470 Opt. 003, although I expect all the pens dried up years ago.

Re: HP-41 draws sine curve

*Message #8 Posted by **Juergen Keller** on 21 Mar 2010, 4:46 a.m.,*
in response to message #7 by Brian Walsh

You can still buy suitable new pens, e.g., on eBay ...

Re: HP-41 draws sine curve

*Message #9 Posted by **Brian Walsh** on 23 Mar 2010, 8:43 p.m.,*
in response to message #8 by Juergen Keller

> Quote:
>
> You can still buy suitable new pens, e.g., on eBay ...

Thanks, Juergen!

Re: HP-41 draws sine curve

*Message #10 Posted by **Walter B** on 21 Mar 2010, 2:24 a.m.,*
in response to message #1 by Juergen Keller

Oh yeah, those were the times ...

Re: HP-41 draws sine curve

*Message #11 Posted by **Ángel Martin** on 21 Mar 2010, 10:48 a.m.,*
in response to message #1 by Juergen Keller

Great production Juergen!

Thanks for the Sunday present :)

Re: HP-41 draws sine curve

*Message #12 Posted by **Didier Lachieze** on 21 Mar 2010, 11:05 a.m.,*
in response to message #1 by Juergen Keller

Very nice to see this in action. It reminds me an article from the December 1982 HP Journal:

Controlling a Graphics Plotter with a Handheld Programmable Calculator,
by Robert M. Miller and Randy A. Coverstone The plotter is the 7470 A. The calculator is the HP-41C.

Re: HP-41 draws sine curve

*Message #13 Posted by **Ignazio Cara (Italy)** on 22 Mar 2010, 3:20 a.m.,*
in response to message #1 by Juergen Keller

Hi Jurgen, many thanks for this beautiful time machine.

Regards

Ignazio

Re: HP-41 draws sine curve

*Message #14 Posted by **Eddie W. Shore** on 23 Mar 2010, 10:03 p.m.,*
in response to message #1 by Juergen Keller

Thank you for posting the video, Juergen. It is neat to see the plot of the sine curve with an HP 41.

:)

P.S. Beautiful choice of background music, too.

Edited: 23 Mar 2010, 10:05 p.m.

Re: HP-41 draws sine curve

*Message #15 Posted by **PeterP** on 24 Mar 2010, 10:07 a.m.,*
in response to message #1 by Juergen Keller

really cool. I'm still looking for the 7470A Opt 3 (got a 7475 with HP-IB though). Anyone has one or knows of one, pls let me know...

What is it that makes it so slow? I think if it were driven by a HP-71, it would be faster. But the program sounds pretty simple... IF one wanted to do this in MCODE, how could one speed it up?

Cheers

Peter

Re: HP-41 draws sine curve

*Message #16 Posted by **Egan Ford** on 24 Mar 2010, 10:25 a.m.,*
in response to message #15 by PeterP

> Quote:
>
> What is it that makes it so slow?

The 41. I've got the same plotter and have done the same plot. Yes it is slow. However using EMU41 or nonpareil in turbo mode with a PIL-Box or IL-ISA adapter is significantly faster.

Re: HP-41 draws sine curve

*Message #17 Posted by **PeterP** on 24 Mar 2010, 10:43 a.m.,*
in response to message #16 by Egan Ford

so MCODE would make it faster. Is it the PRPLOT program that is so slow or the sin calculation?

Cheers

Peter

Re: HP-41 draws sine curve

*Message #18 Posted by **Egan Ford** on 24 Mar 2010, 1:59 p.m.,*
in response to message #17 by PeterP

It could be PRPLOT, the 41, or the HP-IL adapter. Hard to tell without a PRPLOT replacement.

Re: HP-41 draws sine curve

*Message #19 Posted by **Garth Wilson** on 25 Mar 2010, 4:46 p.m.,*
in response to message #18 by Egan Ford

The 41 is not very quick at any of the major factors here: calculating the SIN, probably doing some division and multiplication to scale it to the drawing size and maybe addition or subtraction for the drawing's offset, putting the text commands out, converting the number result to text, and then operating the IL which it only does at about 150 bytes per second (compared to the 71's 5,000 bytes per second). When I used the 41 for controlling equipment and printing out long lines of test results, synthetic programming sped up some of the printing operations because I could do things like embed escape sequences in quoted text. The 41 might also be inputting status from the plotter before every command, although there apparently is no danger of overrunning the plotter's input buffer!

Edited: 25 Mar 2010, 4:47 p.m.

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Does this look familiar to any one?

*Message #1 Posted by **Gerardo Rincon** on 20 Mar 2010, 4:43 p.m.*

Does this calculator look familiar to any one?

Victor V-12

https://ssl.discountofficeitems.com/technology/office-machines-electronics/calculators/business-financial-calculators/victor-financial-calculator/p44581.html

Edited: 20 Mar 2010, 4:44 p.m.

Re: Does this look familiar to any one?

*Message #2 Posted by **Marcus von Cube, Germany** on 20 Mar 2010, 5:03 p.m.,*
in response to message #1 by Gerardo Rincon

Yes, it does. It's a well known 12c work alike. Whether it uses code and patents from HP, I don't know.

Re: Does this look familiar to any one?

*Message #3 Posted by **Eric Smith** on 20 Mar 2010, 11:13 p.m.,*
in response to message #2 by Marcus von Cube, Germany

I'm not sure what patents you're referring to, but it is unlikely that it uses any of HP's code, as there are many differences in its behaviour compared to the 12C (and 12c Platinum).

Re: Does this look familiar to any one?

*Message #4 Posted by **Marcus von Cube, Germany** on 21 Mar 2010, 2:19 a.m.,*
in response to message #3 by Eric Smith

I wasn't thinking of any specific patent. From what you are telling, it's not a licensed copy, just a clone.

Re: Does this look familiar to any one?

*Message #5 Posted by **Walter B** on 21 Mar 2010, 2:27 a.m.,*
in response to message #2 by Marcus von Cube, Germany

AFAIK, after more than 25 years, any patents still applicable seem pretty unlikely.

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Does this look familiar to any one?

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worth it or not worth it ?

*Message #1 Posted by **Alberto Fenini** on 20 Mar 2010, 12:23 p.m.*

ciao a tutti,
being a rainy day and having received few days ago an HP97 box in used conditions

I have tried to restore it, and I'll will appreciate your comments or suggestions

at first I have removed all the old tape, and protected the items that I did want to preserve from painting

then I have tried both with spray and with a roller brush to paint to the closest color I have found

well ... what do you think ? Has anyone ever tried to restore cardbox ?

take care all of you and have a nice weekend, Alberto

Re: worth it or not worth it ?

*Message #2 Posted by **Ed Sowell** on 20 Mar 2010, 3:06 p.m.,*
in response to message #1 by Alberto Fenini

You got the disease bad, Albetro :-)

Re: worth it or not worth it ?

*Message #3 Posted by **Alberto Fenini** on 20 Mar 2010, 4:25 p.m.,*
in response to message #2 by Ed Sowell

I know, I know, btw, I haven't written it, but of course I haven't finished yet, the lettering will also be restored, I'll post more pics when it will be done ...

Re: worth it or not worth it ?

*Message #4 Posted by **Bruce Bergman** on 20 Mar 2010, 5:43 p.m.,*
in response to message #2 by Ed Sowell

LOL! No kidding! ;-)

THAT'S a true LOYAL HP fan!

Re: worth it or not worth it ?

*Message #5 Posted by **Eddie W. Shore** on 20 Mar 2010, 8:07 p.m.,*
in response to message #1 by Alberto Fenini

Nice job on the box. I'll vote for Worth It.

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New HP-41 Skin for the free HP-42S!!!

*Message #1 Posted by **Namir** on 20 Mar 2010, 10:51 a.m.*

I was checking the latest version of Thomas Okken's free HP-42s emulator. I also downloaded new skins that Thomas recently posted. Among them is a very cool HP-41C skin. It is awesome and makes the calculator a bit easier to use. There are "blue" and "gold: commands located on the keys. You invoke them by clicking the mouse on them! This saves having to go through the menu system to find and execute these commands.

Namir

Edited: 20 Mar 2010, 10:51 a.m.

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What is the best financial calculator made by HP

*Message #1 Posted by **Jeff Kearns** on 20 Mar 2010, 10:34 a.m.*

My 'collection', and I hesitate still to refer to my dozen or so models as a collection, since I use them all, or try to, regularly, has consisted of scientific calculators. Lately, my career path has taken me into the Marketing and Sales world, but I still consider myself an engineer at heart. Anyway, I scored a truly pristine HP 19BII (with RPN) for $50CDN on Kijiji yesterday. I have neglected and avoided owning any of the financial calculators up until now since my main financial interests seldom went beyond the Time Value of Money, which is easily computed on a number of programmables, but am I ever impressed with this one! With its scientific feature set and HP Solve, it makes for a great multi-function calculator! Plus, it looks great on a desk.

How does it compare with other financial calculators made either by HP or others? I know it is far more powerful than the world-famous 12C, but I wanted to get your thoughts on this.

Jeff Kearns

Re: What is the best financial calculator made by HP

*Message #2 Posted by **Marcus von Cube, Germany** on 20 Mar 2010, 11:12 a.m.,*
in response to message #1 by Jeff Kearns

The 17bII (and its recent incarnations with the "+") comes closest. Same feature set except for the missing trig functions and the less then perfect alpha entry in the solver.

Re: What is the best financial calculator made by HP

*Message #3 Posted by **Bruce Bergman** on 20 Mar 2010, 2:44 p.m.,*
in response to message #1 by Jeff Kearns

HP-30b. It's the pinnacle of modern tech, with the most finance and stats functions available. Also programmable.

Of course, the 17bii+ have the HP Solver, which is also legendary.

thanks,

bruce

Re: What is the best financial calculator made by HP

*Message #4 Posted by **Dave Britten** on 20 Mar 2010, 2:48 p.m.,*
in response to message #1 by Jeff Kearns

The HP palmtops (95LX, 100LX, and 200LX) are all financial/business calculators at heart. The HP Calc application is essentially the 19BII with a huge screen, and there are also built in word processing and scheduling programs, and a great little customizable database. Plus you have Lotus 1-2-3, and full DOS 5.0 compatibility, and you get a lot more storage than 7KB!

Re: What is the best financial calculator made by HP

*Message #5 Posted by **Jeff Kearns** on 20 Mar 2010, 7:17 p.m.,*
in response to message #4 by Dave Britten

Aside from the palmtops (which I assume have it all...) do any other financial calcs have hyperbolic trig functionality (or trigonometric functionality period!)? The 17BII doesn't appear to, and forget about the 12C, 27, 38C etc...

You can hardly call the Palmtops calculators. I am really enjoying this (my first clamshell) fine machine, the HP 19BII. I put in a similar category to my trusty HP 32E, also a great machine with some interesting features that its elder brother the 34C doesn't have, but that are oh, so important - e.g. hyperbolic trig!

Jeff Kearns, in Ottawa

Re: What is the best financial calculator made by HP

*Message #6 Posted by **Tim Wessman** on 20 Mar 2010, 9:10 p.m.,*
in response to message #5 by Jeff Kearns

Both the 20b and 30b have trig and hyperbolic.

Arguably, they are the most powerful financials HP has ever made. Sure as mentioned with programability you can make up for it with some other models, but there is a strong argument for that statement.

TW

Re: What is the best financial calculator made by HP

*Message #7 Posted by **Eddie W. Shore** on 20 Mar 2010, 7:48 p.m.,*
in response to message #1 by Jeff Kearns

For the moment, I'm torn between the HP 30b and 17BII+ (Silver). Both are very fast and have a great amount of features.

The 30b has an extended funciton set, both in finance and scientific caclulator functions; but with 17bII+'s big memory, one can make up for it.

The 14B gets an honorable mention, only because it was made in the USA.

The 12C Platinum - the 25th Anniversary Edition - is my dad's favorite.

Edited: 20 Mar 2010, 7:55 p.m.

Re: What is the best financial calculator made by HP

*Message #8 Posted by **Eric Smith** on 20 Mar 2010, 11:21 p.m.,*
in response to message #1 by Jeff Kearns

If you want traditional RPN, the 19BII is the best. The 20b and 30b have RPN, but it's different in several ways from traditional RPN, which I find very irritating. That aside, the 30b is certainly one of the most powerful financial calculators.

Re: What is the best financial calculator made by HP

*Message #9 Posted by **Tim Wessman** on 20 Mar 2010, 11:27 p.m.,*
in response to message #8 by Eric Smith

Good point. I think it was Gene Wright that said "it is a 4 level RPL machine".

The differences are there, but coming from RPL machines personally it is the first "RPN" machine that doesn't annoy me to death. Every time I use one I constantly end up with duplicated items on the stack. :-D

TW

Re: What is the best financial calculator made by HP

*Message #10 Posted by **Eric Smith** on 21 Mar 2010, 6:35 p.m.,*
in response to message #9 by Tim Wessman

I could live with four-level RPL, though I don't think it's a particularly good idea, but I can't stand that pressing the backspace key doesn't act as CLx when there is a result in the display. I complained to Cyrille about that previously, and he claims that it's a useful feature, but I've never understood how it is useful.

Re: What is the best financial calculator made by HP

*Message #11 Posted by **Tim Wessman** on 21 Mar 2010, 10:21 p.m.,*
in response to message #10 by Eric Smith

Unless I am mistaked about what CLx does on old RPN machines, ON/CE does that operation on the 20/30. Is there a way to edit the number in your display on old machines?

TW

Re: What is the best financial calculator made by HP

*Message #12 Posted by **Eric Smith** on 22 Mar 2010, 3:54 a.m.,*
in response to message #11 by Tim Wessman

No, and I don't see why there should be a way to edit a result; that doesn't make any sense. On the 41C/CV/CX, 11C, 15C, 16C, AND on all RPL models (28/48/49/50), the backspace key allows editing of entry, but acts as clear X for results.

Edited: 22 Mar 2010, 3:55 a.m.

Re: What is the best financial calculator made by HP

*Message #13 Posted by **Tim Wessman** on 22 Mar 2010, 10:03 a.m.,*
in response to message #12 by Eric Smith

I find myself editing things all the time. Granted, it isn't a result but rather a miskeyed entry on the 20b. . . :-D

TW

Re: What is the best financial calculator made by HP

*Message #14 Posted by **Eric Smith** on 22 Mar 2010, 10:57 a.m.,*
in response to message #13 by Tim Wessman

I don't have any issue with editing entered numbers. I've never before seen a calculator that makes it easy to accidentally edit results, and IMNSHO the value of the feature is negative.

Re: What is the best financial calculator made by HP

*Message #15 Posted by **Nigel J Dowrick** on 22 Mar 2010, 1:40 p.m.,*
in response to message #14 by Eric Smith

There's a possible joke to be made about the particular needs of the accountancy profession here ...!

Re: What is the best financial calculator made by HP

*Message #16 Posted by **JDonley** on 20 Mar 2010, 11:43 p.m.,*
in response to message #8 by Eric Smith

Choosing between the 17B11 and the 19B11 is a horse race I won't bet on. I have 2 of each. If a person wants to carry one in his pocket, the 17B11 wins. If he (she) wants to do alot of solver problems, the 19B11 wins hands down (to me). However,it isn't pocket-able. These are just two different and wonderful creatures. Buy and enjoy them both!

Looking forward to getting my 30B with a good keypad (hopefully).

don

Re: What is the best financial calculator made by HP

*Message #17 Posted by **Jeff Kearns** on 22 Mar 2010, 11:29 a.m.,*
in response to message #16 by JDonley

The 19BII does fit nicely in a jacket pocket though. Jeff Kearns

Re: What is the best financial calculator made by HP

*Message #18 Posted by **Walter Lam** on 23 Mar 2010, 2:56 a.m.,*
in response to message #17 by Jeff Kearns

I prefer 17BII. It's a masterpiece except for the LCD Display.

17BII+ is also good financial calculator but I like the industrial design and keyboard feel of old 17BII more than 17BII+.

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How to transform an HP-25 into an HP-25C ?

*Message #1 Posted by **Giovanni Jimenez** on 20 Mar 2010, 9:42 a.m.*

Is it possible to make a Continuous Memory calculator out of an HP-25 ?

Maybe with the right connections from the battery terminals?

Probably adding one of those button-cell 3V batteries to maintain the tiny current needed to keep the chips' memory ?

I am willing to risk my newly acquired HP-25 if someone tells me What / Where / How to make the connections.

Thanks...Giovanni

Re: How to transform an HP-25 into an HP-25C ?

*Message #2 Posted by **Hal Bitton in Boise** on 20 Mar 2010, 10:03 a.m.,*
in response to message #1 by Giovanni Jimenez

Hi Gionanni
The 25C was built with CMOS (complimentary metal oxide semiconductor) circuitry, which used MOSFET logic, which required very little current to operate. The 25 used TTL (transistor-transistor logic), which draws much more current. I'm afraid the only way to make your HP 25 non-volital is to leave it on all the time.
best regards, Hal

Re: How to transform an HP-25 into an HP-25C ?

*Message #3 Posted by **Andrés C. Rodríguez (Argentina)** on 20 Mar 2010, 12:49 p.m.,*
in response to message #2 by Hal Bitton in Boise

The HP-25 and similar calculators were built with PMOS technology, the HP-27 was made with NMOS. CMOS made their appearance in the HP-25C, followed by HP-29C and so. Not all the HP-25C was made with CMOS technology, only part of the RAM memory is CMOS. That's why only registers R0 thru R7, program steps and (if memory helps) X register are preserved with the calculator off. In the 29C, only part of the registers are non-volatile. The HP-41C is a full CMOS design.

TTL is based in bipolar transistors (as oposed to MOS), and its power requirements are much higher; also the density (devices per chip) was much lower than MOS. It is not a suitable technology for portable devices, in general terms.

Re: How to transform an HP-25 into an HP-25C ?

*Message #4 Posted by **Michael de Estrada** on 20 Mar 2010, 1:01 p.m.,*
in response to message #3 by Andrés C. Rodríguez (Argentina)

FYI - The stack X-register is not preserved in the HP-25C when the calculator is turned off, however, it is preserved in the HP-29C.

Re: How to transform an HP-25 into an HP-25C ?

*Message #5 Posted by **Andrés C. Rodríguez (Argentina)** on 20 Mar 2010, 5:52 p.m.,*
in response to message #4 by Michael de Estrada

If I recall correctly, the HP-25C saves R0-R7 (eight 56 bit registers), 49 program steps (seven 56 bit registers, or 7 x 7 x 1 Byte), and the LAST X register; all of them in a 16 register, 56 bit per register CMOS RAM chip. So the X register is not preserved, as you said.

In the HP-29C, there are 32 non-volatile registers (double than in the 25C). Not completely sure about this, but I think that 98 program steps are saved using 14 registers, 16 data registers are saved, and a backup copy of X is also saved (the "real" X is on the CPU). I think that LAST X is not preserved on the 29C, perhaps the remaining regsiters are used to save the program counter and pending return addresses for GSB instructions.

Re: How to transform an HP-25 into an HP-25C ?

*Message #6 Posted by **Michael de Estrada** on 20 Mar 2010, 6:14 p.m.,*
in response to message #5 by Andrés C. Rodríguez (Argentina)

Correct. Last X is preserved in the HP-25C but is not preserved in the HP-29C.

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hp 30b keyboard issue

*Message #1 Posted by **Gerardo Rincon** on 19 Mar 2010, 11:33 p.m.*

I ordered an HP 30b directly from HP (Small Medium Business Dept.) When the calculator arrived, the #4 key in the keyboard was damaged (no click) it was depressed and it was hard to press to produce the #4 in the screen. I called HP (Small Med Bus dpt) and they were very nice about it and sent me a replacement. When the replacement arrived, same problem again but now with the "." (period) key. I called again and they are sending me another exchange.

Is this a coincidence to get two calculators with bad keyboard keys? Has any one else experience similar issues with 30b keyboards?

I have to say HP has been VERY nice about exchanging the units, great service. But I just rather have a 100% good calculator....

Re: hp 30b keyboard issue

*Message #2 Posted by **Bruce Bergman** on 20 Mar 2010, 2:22 a.m.,*
in response to message #1 by Gerardo Rincon

I have four of the 30b's, including two that came last week, and none of them have a keyboard problem. There were a couple issues with that very bottom row, but they were fixed.

I'd guess you probably just hit a bad spot. What were the serial numbers?

Thanks,

Bruce

Re: hp 30b keyboard issue

*Message #3 Posted by **Gerardo RIncon** on 20 Mar 2010, 8:21 a.m.,*
in response to message #2 by Bruce Bergman

YOu are probably correct - the serial numbers are similar... 4CY00300075 and 4CY00300024 .. they are 51 calculators from each other?

Re: hp 30b keyboard issue

*Message #4 Posted by **Joe Burwell** on 23 Mar 2010, 6:02 p.m.,*
in response to message #3 by Gerardo RIncon

I purchased two HP 30b calculators and have not had a problem. The serial number on one of them is 4CY00300074.

Re: hp 30b keyboard issue

*Message #5 Posted by **Gerardo Rincon** on 23 Mar 2010, 9:25 p.m.,*
in response to message #4 by Joe Burwell

Update: I just received replacement calculator from HP and is all good! All Keys work correctly. Serial # 4CY00300040. It may have been a random error.

Edited: 23 Mar 2010, 9:27 p.m.

Re: hp 30b keyboard issue

*Message #6 Posted by **Walter B** on 24 Mar 2010, 1:54 a.m.,*
in response to message #5 by Gerardo Rincon

Congratulations!

Nevertheless, pulling two random errors of one kind out of a production featuring a gross error probability of - let's guess - significantly less than 0.1% is very improbable, i.e. much less than 1ppm. So, your experience should make us wondering - especially those folks who know the production numbers.

Re: hp 30b keyboard issue

*Message #7 Posted by **Dave Shaffer (Arizona)** on 24 Mar 2010, 12:57 p.m.,*
in response to message #6 by Walter B

The real question should perhaps become: "is it really a random error?"

When you take most probablility and statistics courses, you spend the semester considering only proper statitical problems. However, when the probability gets too low, maybe it is time to think different thoughts. i.e. if you roll a dice (without looking too closely at it), and you get a 5 twenty time in a row, perhaps it is time to inspect the dice more closely!! You are more likely to have a loaded dice than to have actually rolled the same number 20 times at random.

Here, there may well have been a production glitch that comparably affected a bunch of machines.

Re: hp 30b keyboard issue

*Message #8 Posted by **Walter B** on 24 Mar 2010, 6:33 p.m.,*
in response to message #7 by Dave Shaffer (Arizona)

Hi Dave, that's exactly what I wanted to initiate :) Two random errors in a row are very improbable. We may only speculate about the true cause, however, since nobody but the people close to this production have all the information.

Re: hp 30b keyboard issue

*Message #9 Posted by **Tim Wessman** on 20 Mar 2010, 10:08 a.m.,*
in response to message #1 by Gerardo Rincon

Please send me an email. I'll probably be wanting those to look at. Apart from some very early issues due to really bad warping in the plastic while the process was getting set up (very normal), this would be the very first keyboard issue.

TW

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Curta calculator

*Message #1 Posted by **Bruce Bergman** on 19 Mar 2010, 9:38 p.m.*

A guy around town here is selling a Curta Type II calculator on craigslist.

Follow this link

The curious part is that he hasn't set a price. I'm assuming that this is going to go for a darn pretty penny, but I have no idea of a good price (not that I'm going to bid on it anyhow). Just a curiosity to me, but what do you think something like this is worth?

Thanks,

Bruce

Re: Curta calculator

*Message #2 Posted by **geoff quickfall** on 20 Mar 2010, 1:43 a.m.,*
in response to message #1 by Bruce Bergman

I have seen these, with canister and booklet go in mint condition for 1000 to 2000 depending on the day of the week.

Found mine in a junk store in Winnipeg for $60.00 but the first digit would not increase past 8 internally.

When you selected 9 as the first digit, internally the machine would select eight. Mentioned this and the fact that these cost 400 to fix at a minumum and the seller dropped the price.

Turns out there is a screw at the base of the machine that is a shade to long when tightened. A short filing (minute amount) of the working end of the machined screw and all was working perfectly!

Cheers, Geoff

Re: Curta calculator

*Message #3 Posted by **jotne** on 20 Mar 2010, 2:31 p.m.,*
in response to message #1 by Bruce Bergman

Do a search on eBay for "curta" to see what they are sold for.

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odd serial number on HP97S

*Message #1 Posted by **Alberto Fenini** on 19 Mar 2010, 4:50 p.m.*

ciao a tutti !! *(hello everyone)*

I have just received my new baby, an HP97S

However, the Serial Number (quite a low one) rather than heat-printed in the back cover is on an HP sticker..

Does it mean anything to the more experts of you ?

Thanks in advance for your replies/comments, take care and enjoy the weekend, Alberto

Re: odd serial number on HP97S

*Message #2 Posted by **Eric Smith** on 20 Mar 2010, 11:25 p.m.,*
in response to message #1 by Alberto Fenini

I don't see anything unusual about the serial number itself. It doesn't seem like "quite a low one" to me.

My 97S has the serial number on a sticker. I'm guessing that Fort Collins division wasn't set up to stamp serial numbers the way that Corvallis division did.

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Running executable on HP 95LX

*Message #1 Posted by **B Jong** on 19 Mar 2010, 11:06 a.m.*

Dear all,
In a nostalgic mood I dusted off my old HP 95LX with the intention to try to do some programming for it.
I looked around in this forum and found a lot of interesting information. Thank you for that!
In a thread from sept. 2007 "HP-95LX Programming" I read that it would be possible to create an executable with TurboPascal 5.5 that would run on the 95LX.
So I installed TP 5.5 and wrote a very simple "hello world" program with TurboPascal and copied the compiled exe file to the 95LX.
However when I run it, the screen goes blank and the device gets completely blocked.
Reading through the information on this forum and linked sites, I guess that it might have to do with the setting of the screen size. However I could not find how to do that properly for the 40x16 screen.
I would very much appriciate if anyone could help me out here. Could it indeed be the screen size setting and if so what should I do, or is it anything else?
Thanks.

Re: Running executable on HP 95LX

*Message #2 Posted by **Bill (Smithville, NJ)** on 19 Mar 2010, 11:53 a.m.,*
in response to message #1 by B Jong

A couple of quick things to check for:

Under Options/Compiler, make sure Numeric Processing is set to Emulation and not 8087/80287.

Also, make sure the box for 286 instructions is NOT checked.

Bill

Re: Running executable on HP 95LX

*Message #3 Posted by **B Jong** on 20 Mar 2010, 5:19 a.m.,*
in response to message #2 by Bill (Smithville, NJ)

Thank you for your reaction. The menu options are a bit different, but I got the drift. Unfortunately there is no difference. Any other suggestions?

Re: Running executable on HP 95LX

*Message #4 Posted by **Marcus von Cube, Germany** on 20 Mar 2010, 8:35 a.m.,*
in response to message #3 by B Jong

Does you program run on a DOS-PC?

What does it do? How do you access screen and keyboard?

Re: Running executable on HP 95LX

*Message #5 Posted by **B Jong** on 21 Mar 2010, 5:48 a.m.,*

in response to message #4 by Marcus von Cube, Germany

I found the solution. What I did is I copied the compiled file to the SRAM card on a PC with a PCMCIA slot, put it in the 95LX and tried to run it then. However apparently the file gets corupted in this proces. I now use the CPACK connection and all works fine.

Thank you all for your support.

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TI-58/9 Case Bottom

*Message #1 Posted by **ClausB** on 18 Mar 2010, 10:46 p.m.*

Does any of you have a spare case bottom from a dead parts donor 58 or 59? I would like to modify my 58's case but keep the original bottom intact. Please email me if you have one available. Thanks.

Re: TI-58/9 Case Bottom

*Message #2 Posted by **Michael Meyer** on 19 Mar 2010, 11:25 a.m.,*
in response to message #1 by ClausB

How many do you want? I'll have to check, but I think I still have 5 or 6.... send me an e-mail with your address!

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HP 41C and CV boards with some piggy backing from the factory

*Message #1 Posted by **Geoff Quickfall** on 18 Mar 2010, 1:51 p.m.*

Further to my queries below, and thanks for all the help from everyone.

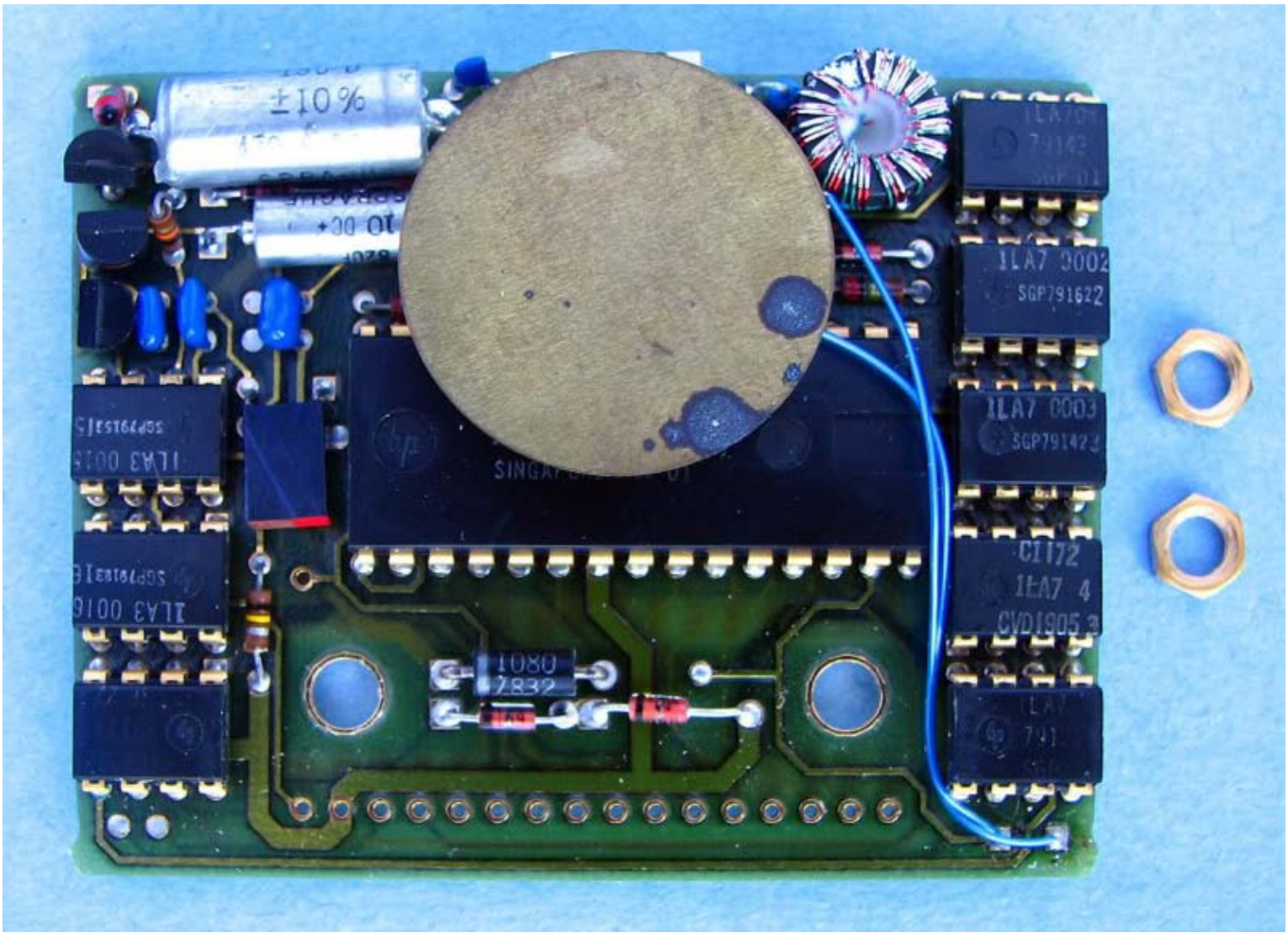
Just to let you know, I do have an orphan CV board which will donate the LCD panel (functioning of course) and the:

1LE7 0001 THROUGH 1LE7 0005

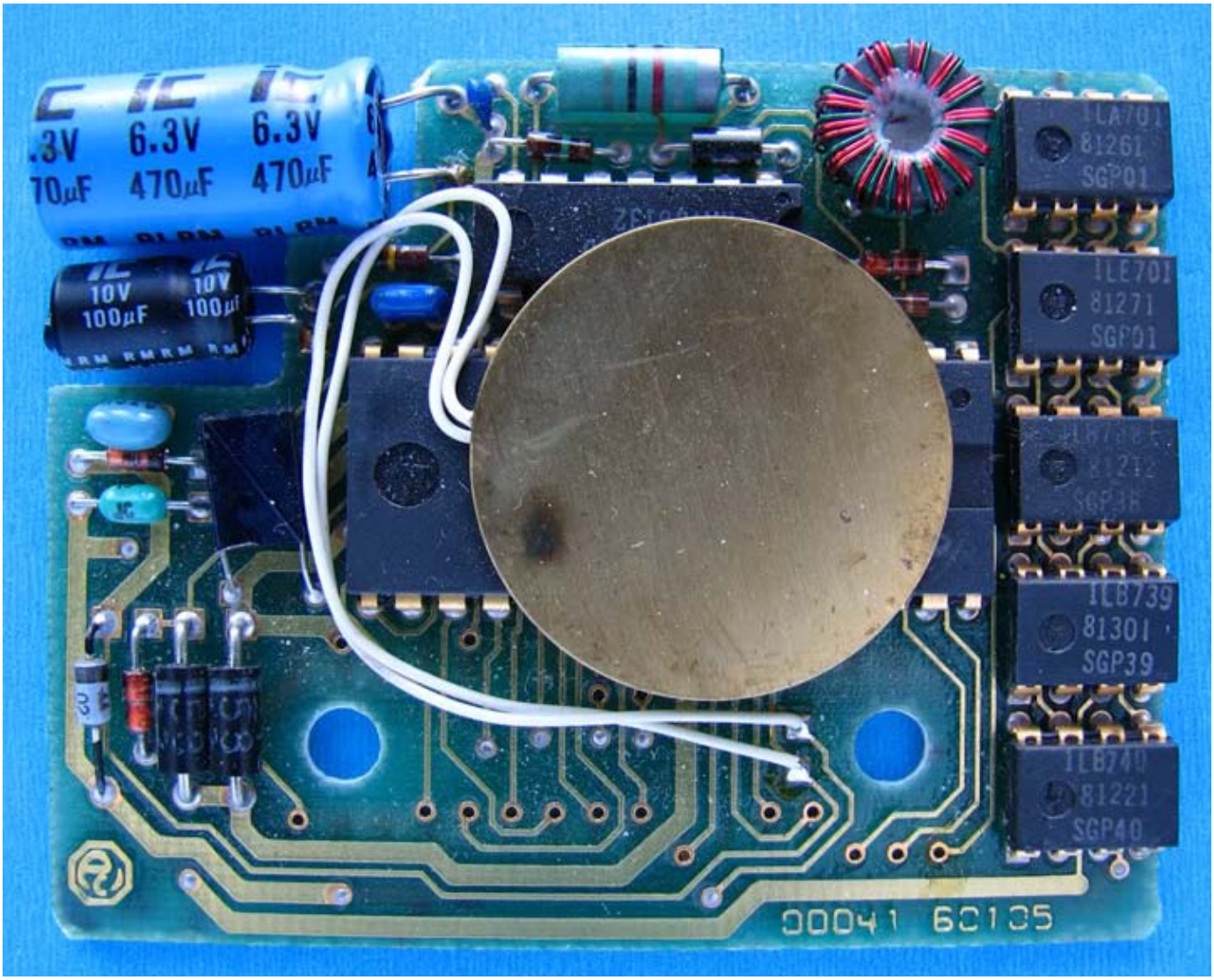
to a "with all bugs, tall keys, contact balls" 1979 HP 41C with a bad D/S. This will give it a CV memory while saving the bugs which is the intent.

Here are five pictures of two C pcas and three CV pcas:

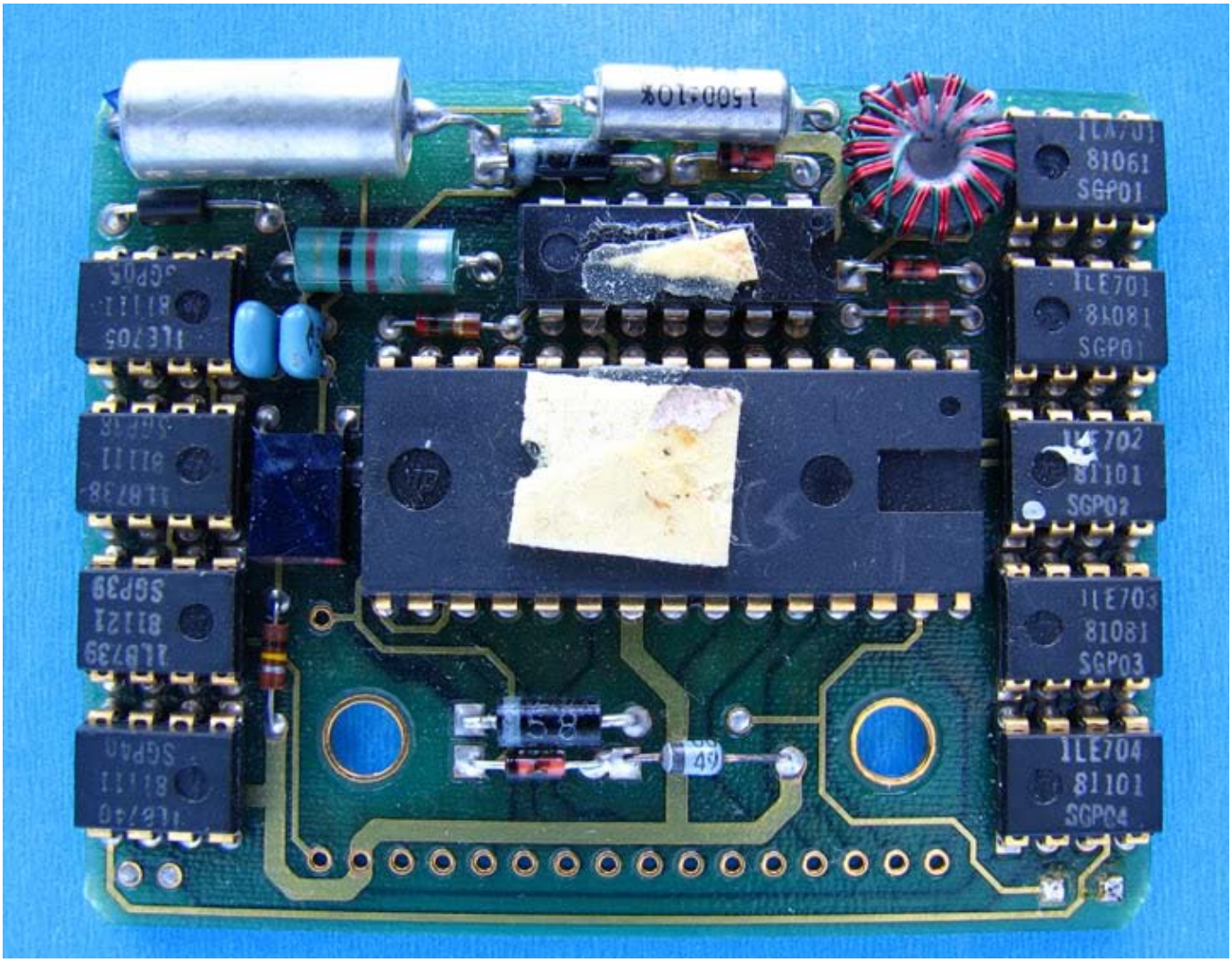
The "with all bugs, tall keys, contact balls" 1979 HP 41C with a bad D/S:



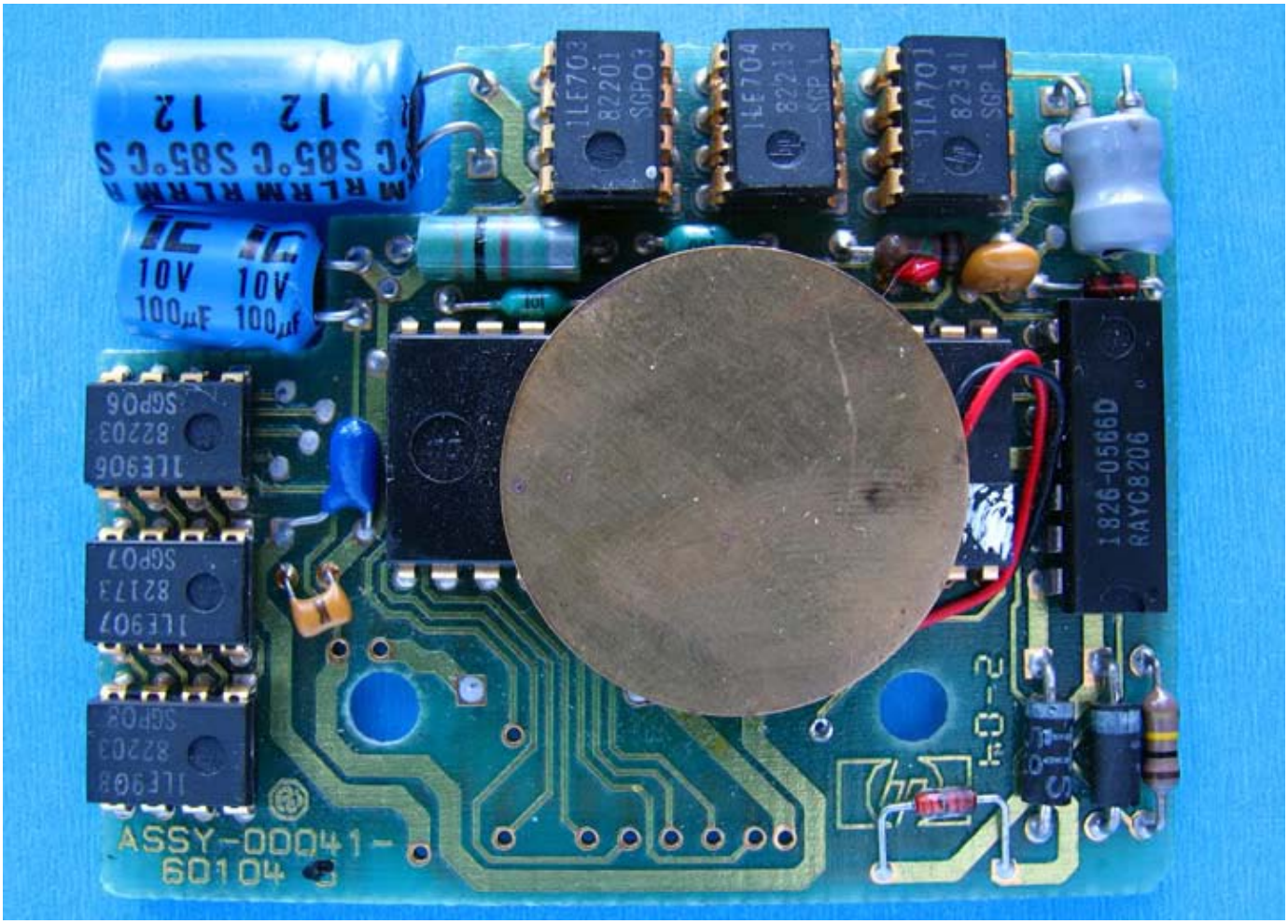
An HP 41C circa 1981:



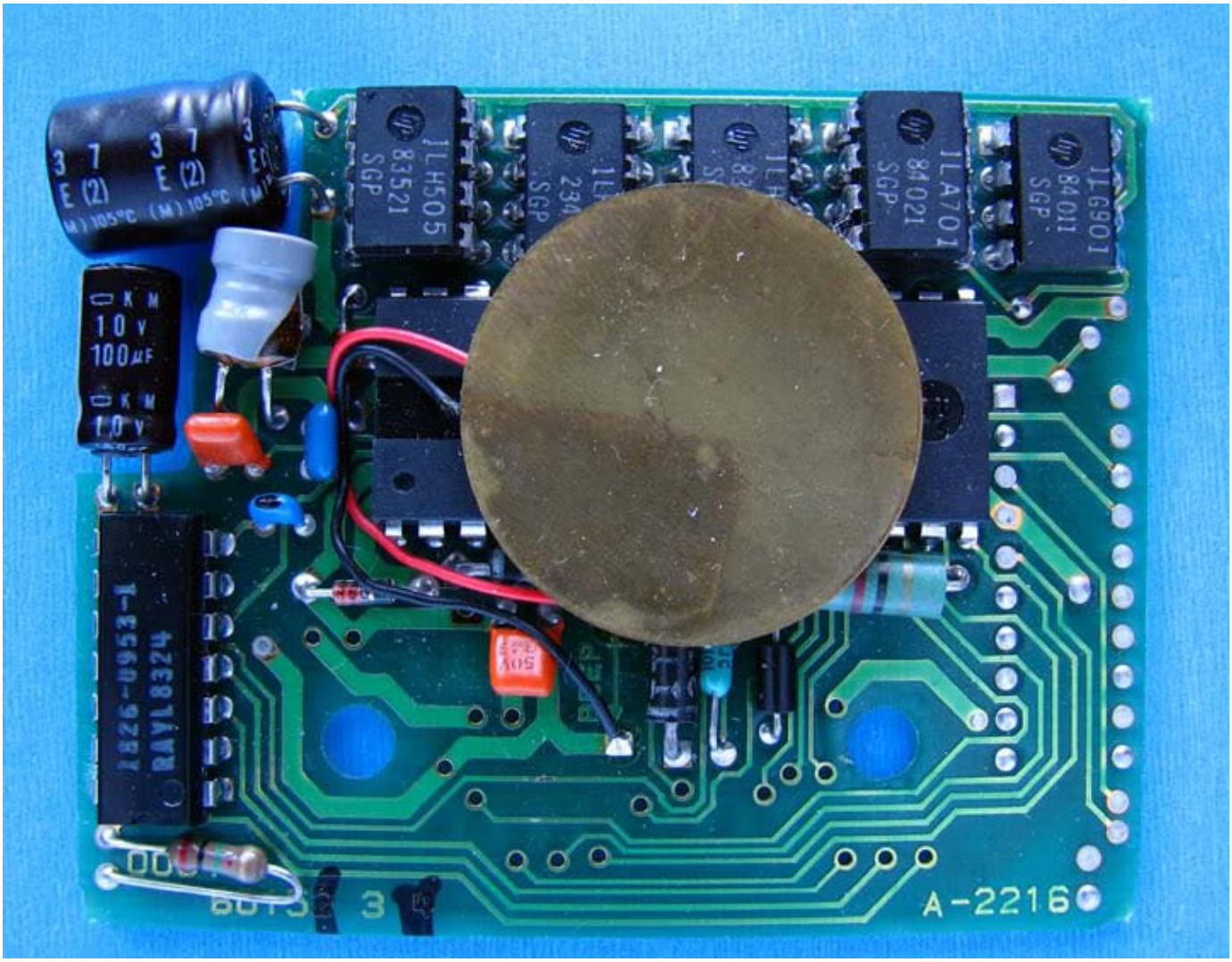
An HP 41CV circa 1981 no piggy backing:



A 1982 HP 41CV with all six D/S chips piggy backed located at the top:



A 1983 version with two piggy backed D/S chips:

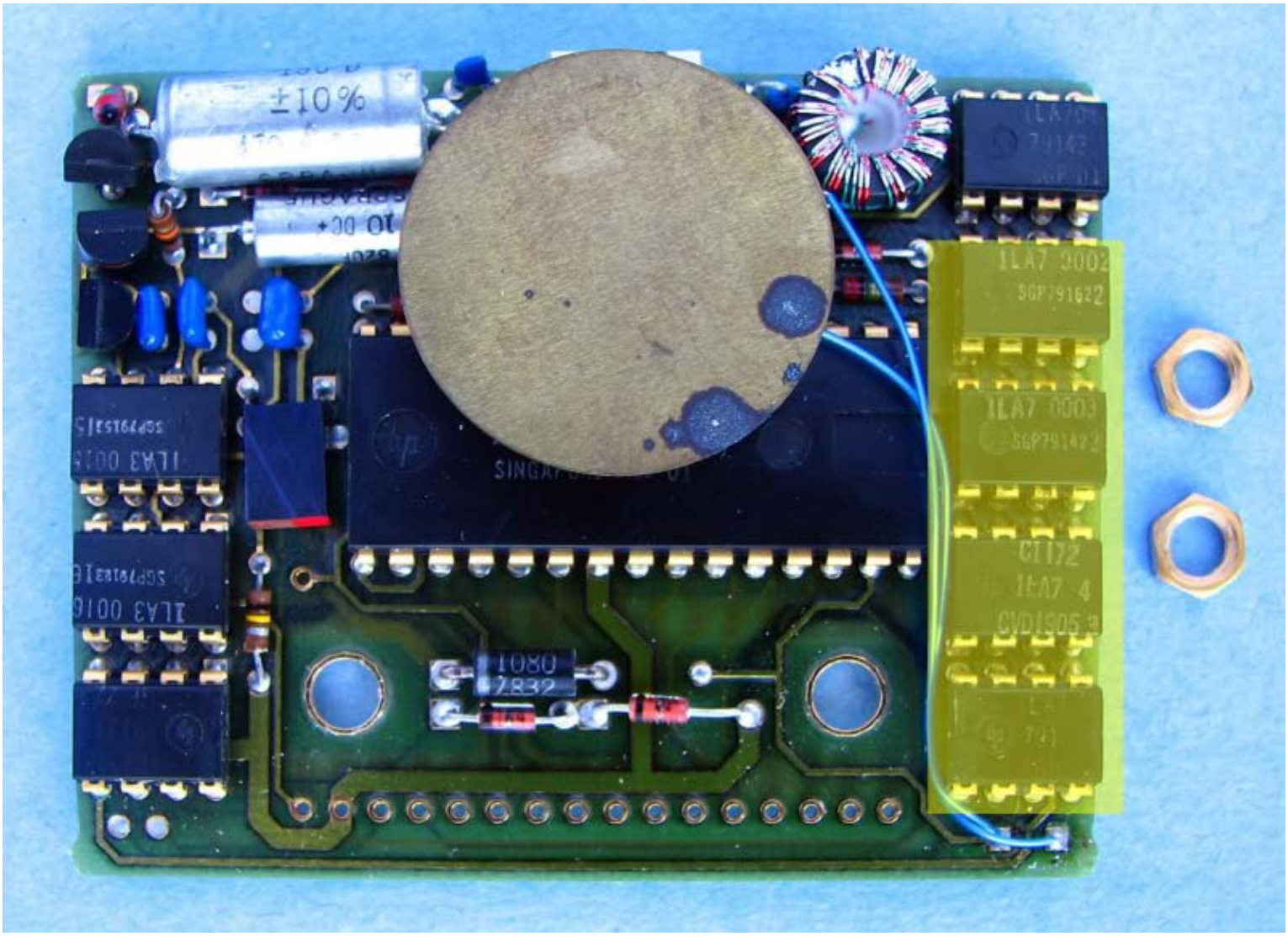


Now I know what piggy backing is (what a neophyte!)

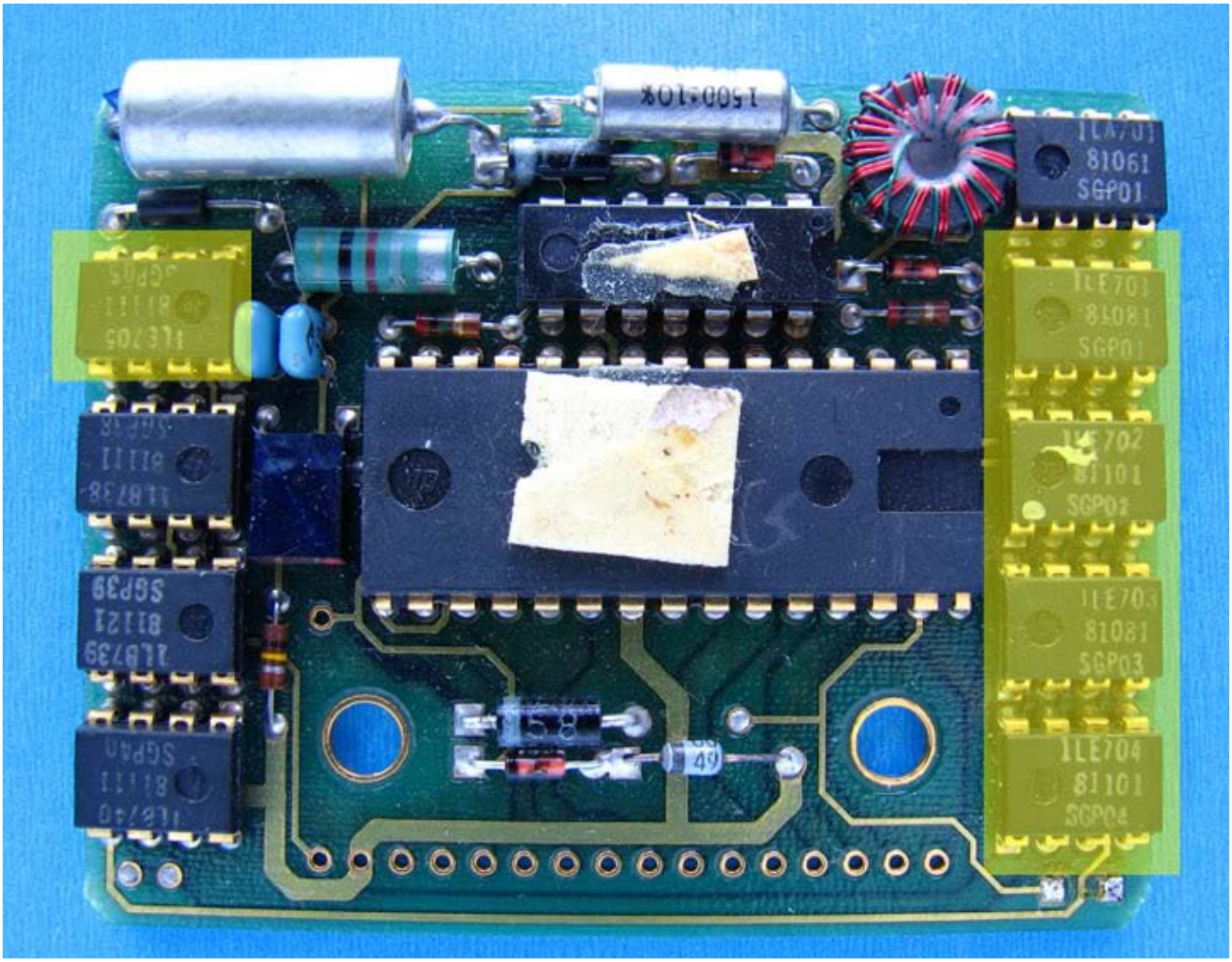
==========
==========

Here is the project:

remove the yellow highlighted D/S chips on this HP 41C:



remove the yellow highlighted D/S chips on this HP 41CV and install them on the HP 41C board above with one chip piggy backed near the top for case clearance (thanks Eric, Randy and Jim):



If you see any problems with this YELL as I won't be doing it today ;-)

Cheers, Geoff

Edited: 18 Mar 2010, 3:02 p.m.

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Is peace of mind worth $150 ?

*Message #1 Posted by **Michael de Estrada** on 18 Mar 2010, 11:48 a.m.*

We've all heard the horror stories of Woodstocks being destroyed by the sketchy charging system. While it's questionable whether charging a good battery inside the calculator with the calculator turned off will result in eventual damage or failure, it is nerve-racking to contemplate ruining one of my good units given the near impossibility of replacement. As I've posted before, it seems to me that the Woodstock line is rapidly becoming the rarest of vintage calculators, since most have been ruined through neglect and misuse. I don't like to use disposable 1.5V AA alkaline batteries, due to the higher voltage, and only use 1.2V AA flat top NiCads. Since I weld a jumper between the two battery cells at the spring end to ensure good electrical continuity, charging the individual cells in an external charger is not an option. So I finally bit the bullet, and paid nearly $150 for a Woodstock external charger (powerpack), so that from now on a charger will never be attached to any of my Woodstocks. Am I being overly cautious and did I spend too much for my peace of mind?

Re: Is peace of mind worth $150 ?

*Message #2 Posted by **Håkan Thörngren** on 18 Mar 2010, 12:13 p.m.,*
in response to message #1 by Michael de Estrada

$150 is not much to pay for peace of mind. I would like to own a Woodstock also, as I have none.

I payed a hefty sum for a NOS HP-41CX to be used as a backup for the old (very nice condition) one I hardly dared to use. Then I could start to use it without worrying.

However, I soon started to think, what happens if it breaks? Then I only have the backup and would be afraid to use it. So I bit the bullet and bought a backup for the backup! Also a NOS HP-41CX for the same hefty sum.

Now I am not afraid that I will run out of HP-41 for the rest of my life. That is peace of mind for me and it was worth the hefty price tag (times two) that I paid!

Re: Is peace of mind worth $150 ?

*Message #3 Posted by **Ángel Martin** on 18 Mar 2010, 1:03 p.m.,*
in response to message #2 by Håkan Thörngren

I too have a triad of CX's... but more and more I use the virtual rendition (V41) and recently got myself an iPodTouch just because of i41CX - so the real machines are even better preserved ;)

Re: Is peace of mind worth $150 ?

*Message #4 Posted by **Alberto Fenini** on 18 Mar 2010, 12:19 p.m.,*
in response to message #1 by Michael de Estrada

Naaaa, I don't think you have spent too much, since I was the one bidding against you, I was ready to spend the same money... Congratulations ! BTW, I was just doing it because of the box, since I already have a working external charger for the woodstock... would you sell me just the box ? Take care Alberto

Re: Is peace of mind worth $150 ?

*Message #5 Posted by **Michael de Estrada** on 18 Mar 2010, 12:37 p.m.,*
in response to message #4 by Alberto Fenini

Alberto,

Check your email.

Regards, Michael

Re: Is peace of mind worth $150 ?

*Message #6 Posted by **Bill (Smithville, NJ)** on 18 Mar 2010, 1:06 p.m.,*
in response to message #1 by Michael de Estrada

Michael,

I ruined one HP-25 by charging in the unit. Then I spent about $150 to replace it with a HP-25C. With it I only use AA batteries, but would love to have an external charger for it. I gave the broken HP-25 to Randy so he could use the parts to save other woodstock. I almost wish I had hung onto it and turned it into an external charger.

My philosophy is "as long as the wife is okay" then I didn't spent too much ;)

Bill

Re: Is peace of mind worth $150 ?

*Message #7 Posted by **Michael de Estrada** on 18 Mar 2010, 1:23 p.m.,*
in response to message #6 by Bill (Smithville, NJ)

Actually, I've been using a duplicate HP-22 as a battery charger for my other Woodstocks, so at worst I was going to ruin that one. Still, I'd rather not ruin anything. All my Woodstocks are in perfect working condition, as well as excellent cosmetically, and I'd like to keep it that way.

Re: Is peace of mind worth $150 ?

*Message #8 Posted by **juan demin** on 24 Mar 2010, 9:43 p.m.,*
in response to message #7 by Michael de Estrada

I fully agree with you Michael... that's not a big sum of money to keep peace of mind... well done!!

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Sick HP40G

*Message #1 Posted by **Nicholas Cole** on 18 Mar 2010, 3:08 a.m.*

I have a HP40G which is reluctant to turn on and off; if I use the solution suggested for sick HP42S, pressing on the keyboard just below the screen, it works, but I would like to open it up and substitute something for the foam which apparently doesn't fill its role and maintain a good contact.

The HP40G is a sort of clamshell design in 2 parts clipped or glued together, with no overlay for the keyboard, and no screws I can find anywhere. The solution must be to prise apart the two halves of the machine. I've tried, timidly, but I fear damage if I apply more force.

Has anybody done this, or have ideas on how to do it ? Any hidden claws, anything that slides ? Thanks in advance, Nicholas

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Thoughts on HP 30b

*Message #1 Posted by **Eddie W. Shore** on 18 Mar 2010, 12:02 a.m.*

Having just got it from HP on 3/16:

* This is a nice, lightweight calculator. I so far do not have any keyboard issues. The keys feel better on the 30b than on the 20b.

* The calculator comes with a cover pouch, which I have to say it is better than the pouch for the 17bII+. I cannot accidently turn the 30b on while it is in its pouch. Plus the 30b contains declining depreciation w/crossover, inverse and quadratic regressions, and trigonmetric functions.

* Programming is similar to the HP 12c, with every number being literally being a step. For example, entering 12000 in a program takes five steps. The comparison mechanisms are nice too (test operators work similar to HP50g).

* While there are only 290 steps, one could fit some nice programs, after all most HP 12c owners have been working with only 99 steps since 1982.

* Like the 20b, the 30b is super fast.

* Ther learning manuals on HP's web site are well written. I only wish that they put more concrete examples in the getting started guide.

* The truly annoying thing about programming in the 30b is that if you have to access something in the Math menu, you will use a lot of steps to get there.

Sample Program: Blueprint for the Sum Function - RPN Mode M2 Sigma f(M0) M0 = M1

store values in M1 (beginning) and M2 (end) before excuting the program (4 in this example)

0

STO 3

EEX

3

+/-

RCLx 2

RCL+ 1

STO 4

Lbl 41 (hold Shift+%)

RCL 4

Math

Up (hold Shift+Up arrow)

Up

Input (Math, Up, Up, Input gives IP [integer part])

STO 0

CALL 42 (like XEQ, hold Shift+7)

STO+ 3

ISG 4 (for ISG, hold Shift+ +/-)

GOTO 41 (hold Shift+CshFl)

RCL 3 (Sum)

Stop (hold Shift+RCL)

Lbl 42

[input f(MO) here]

RTN (hold Shift+8)

Eddie

Edited: 18 Mar 2010, 12:02 a.m.

Re: Thoughts on HP 30b

*Message #2 Posted by **Tim Wessman** on 18 Mar 2010, 12:41 p.m.,*
in response to message #1 by Eddie W. Shore

Have you had a chance to try the solver yet?

TW

Re: Thoughts on HP 30b

*Message #3 Posted by **Eddie W. Shore** on 18 Mar 2010, 4:35 p.m.,*
in response to message #2 by Tim Wessman

Yes. The solver is like the Sovler on the 15c. The equation is entered as a program. Then Sovler is activated in calculator mode.

Re: Thoughts on HP 30b

*Message #4 Posted by **Gerardo Rincon** on 18 Mar 2010, 7:16 p.m.,*
in response to message #3 by Eddie W. Shore

The one thing I really don't like about the 20b and 30b is the number of steps it takes to execute some simple functions thru the MENU. For example a simple % change in the 12C (and most hp calcs) it takes 4 steps: type number, <ENTER>, second number, <%change> and you have the answer.

To do the same operation with the 20b and 30b it takes 5 key press to get to the <% change function> and then 8 additional steps to do the actual % change calculation ==> 5 + 8 = 13 steps. It is a very inneficient way to perfom this operation.

What used to be done in 4 stpes, it takes 13 steps now.... I know the benefit of the menus is to add more function capabilities, but a second color function (let's say an orange)would have provided more of the common functions without having to go through the complicated menus.

Re: Thoughts on HP 30b

*Message #5 Posted by **Tim Wessman** on 18 Mar 2010, 8:53 p.m.,*
in response to message #4 by Gerardo Rincon

And on the 17bII? (just wondering as I am not familiar at all with those units)

Unfortunately, the 20/30 do so much you couldn't fit it on the keyboard even if you tried. You'd end up with a lot of keys that would activate menus, but you'd still have menu operations.

TW

Edited: 18 Mar 2010, 9:00 p.m.

Re: Thoughts on HP 30b

*Message #6 Posted by **Sancerre (Phoenix)** on 18 Mar 2010, 10:34 p.m.,*
in response to message #5 by Tim Wessman

It is isolated as an example, but the 17Bii uses a menu (under Business) for % change. Once you go to the menu, you enter the before number, then the after number, and click on the soft menu for % change). Basically, it functions as though you had coded up a solver equation.

--Sancerre

Re: Thoughts on HP 30b

*Message #7 Posted by **Gene Wright** on 18 Mar 2010, 11:12 p.m.,*
in response to message #6 by Sancerre (Phoenix)

That's part of the design approach chosen. Has pros and cons.

Good news is that you can easily write a program that does the functions you use often and assign them to the keyboard so you don't spend time finding them in menus.

My 30b has several small programs loaded for the inverse trig functions. These are "assigned" to the shift-hold locations of the regular trig functions. Very nice.

I've also assigned the normal distribution and inverse normal distribution functions in a similar way.

If you keep in mind that the programming approach is **really** much more a macro ability than a programming environment, then the keystrokes in a program required to access functions in menus makes sense.

That said, some VERY good programs, some very good FAST programs can be written on this little machine.

And, financial functions never before found on a business calculator too, such as FMRR.

I think this may grow on you. I for one don't pick up my 12c nearly as often as I used to...and I've used that 12c for 25 years.

Re: Thoughts on HP 30b

*Message #8 Posted by **David Hayden** on 19 Mar 2010, 8:13 a.m.,*
in response to message #5 by Tim Wessman

Overlays overlays overlays. I really believe that this problem and all sorts of others could be avoided by providing a user-assignable keyboard and keyboard overlays. 99% of the "my favorite function is buried in the menus" complaints would go away.

I know that some (most? all??) of the calculators allow user-assignable keys already, but with no convenient way to tell what function has been assigned to a key, this extremely useful feature is effectively crippled, IMHO.

Dave

Re: Thoughts on HP 30b

*Message #9 Posted by **Don Shepherd** on 19 Mar 2010, 9:06 a.m.,*
in response to message #8 by David Hayden

It would have been nice if the 30b package contained an overlay that you could write on. The overlay that is included is very good, but it shows only the programming commands, which is necessary for program development, obviously, but not useful to the end-user. Perhaps someone will offer for sale a good quality overlay (like the enclosed one) that you can write on (or computer print on).

Re: Thoughts on HP 30b

*Message #10 Posted by **Egan Ford** on 19 Mar 2010, 11:02 a.m.,*
in response to message #8 by David Hayden

> Quote:
>
> but with no convenient way to tell what function has been assigned to a key, this extremely useful feature is effectively crippled, IMHO.

On the 41 you press and hold. The function will be displayed, and if you keep holding 'NULL' will be printed indicating no action taken. I think its a perfect solution and it works with user defined keys as well, i.e. it prints what you defined, not the base function of the key.

Re: Thoughts on HP 30b

*Message #11 Posted by **Bruce Bergman** on 19 Mar 2010, 11:26 a.m.,*
in response to message #8 by David Hayden

On the 30b, you can achieve this by creating up to 10 user-defined keys. Just create a program with the functionality you want (even as simple as just one keystroke) and then assign it to another key on the keyboard. Shifted or unshifted.

In the program catalog, you can also see which key it is assigned to, or review all user-assigned keys on the calculator.

thanks,

bruce

Re: Thoughts on HP 30b

*Message #12 Posted by **Don Shepherd** on 19 Mar 2010, 12:45 p.m.,*
in response to message #11 by Bruce Bergman

Neither pressing and holding the key (a la 41) nor bringing up the program catalog, as Bruce suggested, is the ideal solution to this problem; both require work a user shouldn't have to do to run a custom program assigned to a key. Anyone who wants to use the 30b as a platform for users (or anyone, really) to run custom-coded solutions really needs a custom overlay.

I believe that HP should step up here and offer some such service. The 30b will never reach its fullest potential without this capability.

Of course, the "best" solution would be programmable keytops!

Re: Thoughts on HP 30b

*Message #13 Posted by **David Hayden** on 19 Mar 2010, 8:37 p.m.,*
in response to message #12 by Don Shepherd

I agree with Don that keys with programmable key top displays would be ideal, but I don't think the technology exists today, and if it does I have to believe that it isn't cost effective.

I agree with Egan that the 41's solution was wonderful and it's practical. Holding the key down showed you what function it performed. In addition, the calculator came with overlays that had the normal functions printed on them, along with a set of small stickers that could be placed on the overlay to indicate new functions. Some of the stickers had existing functions pre-printed on them and others were blank, so if you reassign existing functions or assign keys to execute new programs. You put the stickers on an overlay where the reassigned keys are, slap it on on the calculator and all the keys would be labeled. Indeed, this is how my calculator went through life for about 20 years.

I don't know how hard it would be to display the function of a key on a 50g, but it might not be trivial. At the very least, it means that a key's function isn't executed when the key is pressed, but when it is released.

But overlays seem pretty easy to me. All it requires is a small lip around the top of the keyboard and a spring latch to hold the overlay in place. It looks like the keyboards for many calcs in the current lineup are the same shape, so one size would fit all, so to speak.

There's an alternative that would work well with the existing calculators if someone has time on their hands to do it. Craft stores sell programmable paper cutters. One could probably be programmed to cut out an overlay. Now if the paper is really a big peel-off label with post-it adhesive, you've got an overlay that you can firmly attach to the calc. Add a word-processor template that lets you print the key labels on the sheet before you feed it into the cutter and you have your overlays.

Dave

Re: Thoughts on HP 30b

*Message #14 Posted by **Don Shepherd** on 19 Mar 2010, 9:10 p.m.,*
in response to message #13 by David Hayden

> Quote:
>
> But overlays seem pretty easy to me. All it requires is a small lip around the top of the keyboard and a spring latch to hold the overlay in place.

Actually, on the 30b, you don't need any spring latch. The overlay for the programming commands, which is included with the calculator, is clear plastic with the Shift+hold programming functions listed in black type, and it just clings to the surface of the calculator very well. It is great because it does not peel off when you don't want it to, but you can remove it easily if you do want to do that.

I'd say the ideal solution is this exact type of overlay that can be printed on by your PC printer and it covers the entire keyboard (as opposed to only the top 4 rows). If HP would furnish that as an accessory, at a reasonable cost, that would make this calculator truly revolutionary.

Re: Thoughts on HP 30b

*Message #15 Posted by **Eddie W. Shore** on 20 Mar 2010, 6:04 p.m.,*
in response to message #14 by Don Shepherd

The overlay would be nice. I think the overlay provided with the HP 30b is necessary for programming.

Re: Thoughts on HP 30b

*Message #16 Posted by **Forrest Switzer** on 19 Mar 2010, 4:42 p.m.,*
in response to message #8 by David Hayden

Maybe this is a good time to ask a simple question about the 30b. Does the 30b have degree-minute-second math functions? On the 41/42, those would be HMS+, HMS-, HR, and HMS. I'm just trying to figure if I could reassign keys and make this a useful calculator for me.

Re: Thoughts on HP 30b

*Message #17 Posted by **Don Shepherd** on 19 Mar 2010, 5:26 p.m.,*
in response to message #16 by Forrest Switzer

> Quote:

> Does the 30b have degree-minute-second math functions?

No.

Re: Thoughts on HP 30b

*Message #18 Posted by **Bruce Bergman** on 19 Mar 2010, 9:31 p.m.,*
in response to message #16 by Forrest Switzer

No, but you could write four little programs to do that, and then assign each of those to a key. Then you have what you want!

Thanks,

Bruce

Re: Thoughts on HP 30b

*Message #19 Posted by **Forrest Switzer** on 20 Mar 2010, 2:30 a.m.,*
in response to message #18 by Bruce Bergman

I know. Just a matter of IP, addition, subtraction, and division and multiplication by 60. But, it seems that the only things of interest to me on the 30b calculator are the speed and trig functions. I have some backup 42's. It is just such a PITA if I have to re-enter those programs on the 42. I guess once every three or four years shouldn't be a concern. I have a a number of calcs at work, but when I really need to do something it is always the 42 that gets picked up. Contrary to popular belief, I think the display is perfect for what it does (annotations and numbers on two lines).

I'll wait until they come out with the 30s or 45s. None of the other recent calcs (since the 42) have been better for my needs.

thanks

Re: Thoughts on HP 30b

*Message #20 Posted by **bill platt** on 22 Mar 2010, 7:49 p.m.,*
in response to message #19 by Forrest Switzer

They already used the 30S name and it sucked. Have to be the 31S :-P

Re: Thoughts on HP 30b

*Message #21 Posted by **Paul Dale** on 22 Mar 2010, 10:02 p.m.,*
in response to message #20 by bill platt

Or 34S. Much better pedigree :)

- Pauli

Re: Thoughts on HP 30b

*Message #22 Posted by **bink** on 20 Mar 2010, 7:41 p.m.,*

in response to message #5 by Tim Wessman

My observations on the 30B are that whilst it adds a lot of great functions over the 12C, the 12C is still preferable as a daily calculator, mainly because its extra shifted functions make it faster to use.

Going through menus for regularly used functions is a huge disadvantage when the speed of a calculation is critical, as it is when used in a financial markets environment.

Disadvantages of 30B over 12C: - Lack of 12x and 12/ for time value functions, since these are often used. - Having y^x and 1/x as shifted functions is a problem as these are often used in rate calculations. - STO is a shifted function - again, this adds time to complex calculations.

Re: Thoughts on HP 30b

*Message #23 Posted by **Eddie W. Shore** on 20 Mar 2010, 8:11 p.m.,*
in response to message #22 by bink

All that is needed is to set 12 as P/Y, then SHIFT N acts as 12x. The interest key is for annual interest, not periodical interest.

Re: Thoughts on HP 30b

*Message #24 Posted by **Don Shepherd** on 20 Mar 2010, 8:20 p.m.,*
in response to message #22 by bink

To be fair, the 12* and 12/ aren't needed on the 30b because you can set p/yr to whatever you want. And I would think that financial people would not use y^x and 1/x and STO often enough that the shift on the 30b for these would be a problem.

I know most users of the 12c don't write and run programs, but from a programming perspective there is no comparison between the 12c and 30b, the 30b wins hands-down.

I have both, and I like both. But if I'm going to write a program (which is all I generally do with these), I'll do it on the 30b.

Re: Thoughts on HP 30b

*Message #25 Posted by **bink** on 21 Mar 2010, 6:20 a.m.,*
in response to message #24 by Don Shepherd

Don,

y^x and 1/x are used a lot in doing interest rate conversions. Similarly, STO is also used a lot for storing several constants (in different registers) and also intermediate results. Also, setting 12 as the number of periods (if I understand correctly) is something that would have to be changed frequently as you alternate between annual compounding and monthly compounding calculations.

Eddie,

Cashflow calculations can be done for different periods, such as monthly when calculating swap rates and valuations. The annual convention is arbitrary, and irrelevant for some calculations, so I think in terms of compounding periods rather than years or months.

An example of the 12C 12/ function use is when an NPV is being calculated and the rate is quoted as an annual equivalent on a monthly compounding basis. Having the 12/ function makes it easy to throw in 12 g i (4 keystrokes) instead of 12 ENTER 12/.

Bruce,

I know the 30B has a faster processor, and I will try it at some point, but I doubt that it will be faster than the 12C at everyday financial market calculations.

Compare the way the 12C and 30B are laid out - the 12C is really laid out in a more organized way. I don't think that serious financial number crunchers were consulted in the design of the 30B. Having the y^x and 1/x keys near the Time Value of Money section is very useful.

As a related aside, I had a conversation with someone at HP a few years ago and mentioned that a limitation of the 12C was that it needed a greater number of digits in the display, and gave the example of calculating swap values, but they seemed unaware of this application (which leads me to believe they didn't consult professional users). Maybe it is more accurate to say that HP DID consult professional users in designing the 12C, but this part of HP's organizational memory has been lost.

In addition to the TVM, the y^x, 1/x, STO and RCL keys are probably the most often used keys in doing everyday rate, cashflow and bond related calculations (i.e. bonds, swaps, futures).

I don't know of any common finance applications that rely on trig functions - I would have thought that that should have been relegated to a menu, rather than on the main keyboard.

FWIW, I have used the 12C for 20+ years (after using a 41C), and have tried various other HP models, but none so far beats the 12C for financial markets usage.

Edited: 21 Mar 2010, 6:24 a.m.

Re: Thoughts on HP 30b

*Message #26 Posted by **Don Shepherd** on 21 Mar 2010, 9:31 a.m.,*
in response to message #25 by bink

> Quote:
>
> I have used the 12C for 20+ years (after using a 41C), and have tried various other HP models, but none so far beats the 12C for financial markets usage.

Then I'd say you should stay with the 12c unless another calculator does something you need to do that the 12c does not do.

Re: Thoughts on HP 30b

*Message #27 Posted by **Bruce Bergman** on 21 Mar 2010, 12:20 p.m.,*
in response to message #25 by bink

> Quote:

> Compare the way the 12C and 30B are laid out - the 12C is really laid out in a more organized way. I don't think that serious financial number crunchers were consulted in the design of the 30B. Having the y^x and 1/x keys near the Time Value of Money section is very useful.

Tim or Katie can probably comment on the relative speed of calculations between the 30b and 12c, but I would also be interested in hearing that answer.

Remember, if you don't like the keyboard layout of the 30b, you can reassign up to 10 keys. This way you could move y^x, 1/x up where you want them, and you could even flip the behavior of STO and RCL (RCL being shifted, or put on another key, and STO being the default action of that key).

Each key has three possibilities: keypress, shift-keypress and shift-hold-keypress.

All that being said, if you're really that attached to the 12c, I would agree with Don that you probably won't like any other calculator for your daily use.

Thanks,

Bruce

Re: Thoughts on HP 30b

*Message #28 Posted by **cyrille de brebisson** on 21 Mar 2010, 1:50 p.m.,*
in response to message #25 by bink

Hello,

> Quote:
>
> y^x and 1/x are used a lot in doing interest rate conversions. Similarly, STO is also used a lot for storing several constants (in different registers) and also intermediate results.

But the 30b has an interest conversion function (IConv), so you don't real need ^ and inv. I agree that STO is important, unfortunately, we ran out of keys. RCL was put as primary because you normally do multiple RCL per STO.

> Quote:
>
> setting 12 as the number of periods is something that would change frequently as you alternate between annual compounding and monthly compounding calculations.

if you alternate between 1 period per year and 12 periods per year, yes, you will have to change it often. not that it is slow. 1 shift P/YR is only 3 keys...

> Quote:
>
> Cashflow calculations can be done for different periods,

cash flow calculations are done in the CF menu and it has it's own p/yr setting, so

this would not affect the p/yr used for TVM calculations. Basicaly, on the 30 (and every other modern finance calculator), Interest rates are ALWAYS on a yearly basis with a given compounding. Since these calculators do not overload keys by having them being used for various semi-related thing for various function, it means that you can have simultaneous TVM calculations with 12 p/yr and TVM calculations with p/yr=1 going on at the same time.

> Quote:
>
> I doubt that it will be faster than the 12C at everyday financial market calculations.

If you are a power user of the 12c, you are probably right. and the main reason is that the 12c has 1 function per key, threfore resulting in faster user input. However, if you are NOT a power user and do not remember exactly which registers the bond values have to be placed on an what arguments are needed for the BOND price function and what the result means, then the 30b is much better. Also, realize that the 30b has at least 2 to 3 times more functions than the 12c. So, a 30b with one function per key would require close to 80 additional keys compared with the 12c.

If you do cash flow calculations, you should realy have a look at the 30b as it makes working with cash flow a whole lot easier thanks to the nice CF editor.

> Quote:
>
> I don't know of any common finance applications that rely on trig functions - I would have thought that that should have been relegated to a menu, rather than on the main keyboard.

This is mostly done because finance student more often than none have to take some math and need the trig functions. This has beed a magor hurtle for the 10b and therefore had to be added proeminently on the 20/30b.

regards, cyrille

Re: Thoughts on HP 30b compared to the 12c...

*Message #29 Posted by **Gene Wright** on 22 Mar 2010, 12:52 p.m.,*
in response to message #25 by bink

Hi bink. I am a longtime user of the 12c as well as a former university instructor who taught business math to freshmen and sophomores for nearly 20 years. Let me comment on some of your observations.

1) y^x and 1/x. The only real way these could have been better positioned for what you want is to have made them primary keys on the 20/30b. However, the primary keys are already used/taken for other functions / menus, such as the IRR / NPV menus and the cash flow environment, etc. Given that they were going to be shifted functions on account of this, the finger travel distance is essentially the same where they are located on the 20b/30b and where they would have been had they been located near the top of the calculator.

2) P/YR vs. periodic compounding. This is essentially a wash, as I have become convinced over a number of years. On the 20b/30b (and it must be said, the 10b2, TI

BAII Plus, TI BAII Plus professional, the casio financials, the sharp financials and every other (?) financial calculator presently sold other than the 12c), you must type 12 shift P/YR or 1 shift P/YR or 4 shift P/YR when you want to change the payment frequency. This is **offset** by the requirement on the 12c to divide the nominal interest rate by the under of periods in order to enter a periodic interest rate. Having taught classrooms of students using BOTH types of machines for 20 years, there is no speed difference between the methods that I have ever been able to ascertain. It is a matter of taste and what you are accustomed to.

3) STO as a shifted function. While Tim and Cyrille are correct ... that you tend to store a number/value less often than you recall the value, I too would like to see a primary store key. In practicality, I don't see this as a make/break compromise.

4) Cash flow compounding periods. Given that the 20b/30b are MENU oriented calculators, this is affected by setting a #CF/yr value at the bottom of the cash flow environment. Set it once if you don't need to change it very often and you are good to go. If you need to change it all the time, this might be less convenient.

5) Speed. The new 12c+ is certainly about as fast as the 20b/30b at many financial calculations, certainly. The older 12c seems painfully slow now at some functions, however. Compared to the older 12c, the 30b can be 10-20 times faster. Calculations are simply instantaneous in almost all circumstances.

6) Interest rate conversions. These seem to be the primary reasons the location of the 1/x and y^x key placement seems to be very important to you. However, once you have used the interest rate conversion environment found in IConv, you will be slower at converting interest rates using 1/x and y^x.

7) Professional user involvement. Suffice it to say that there were professional users involved and feedback was very positive.

Bottom line (ha).

For someone used to the 12c, great... buy a brand new 12c+ that runs much faster and continue to enjoy the HP way.

However, the 20b/30b offers much that the 12c does not. You may have no use for these, but they are certainly wonderful to have available if you ever find a need for them.

Advantages of the 20b/30b over the 12c...

1) Customizable keyboard. Bring ANY function out from a menu and assign it to a primary, shifted, or shift-hold key position. Write a program to do any calculation you want, including 12 / and assign it to any key position...such as the shift I/YR position. Now you have the 12 / function from the 12c on the 30b. You can do this for 10 key positions if you wish.

2) Trigonometry, inverse trignometry, hyperbolic trigonometry and inverse hyperbolic trigonometry. Hey, not everyone needs these, but even a financial analyst might want to know how tall a telephone pole is given the length of its shadow and the angle to the sun.

3) Probability distributions. Normal distribution and inverse normal. Students t distribution and inverse. F Distribution and inverse. Chi-square distribution and

inverse. And depending on the rom revision, the binomial distribution. No substitute for having these built in when you might need them.

4) Much more advanced statistics. Built-in population standard deviation of X and Y. No more computing the mean and doing Sigma+ to fake this. Covariance. Nice financial computation built-in. Standard error of the X and Y means. Very handy for hypothesis testing or confidence intervals. Built-in permutation and combination calculations. SEVEN regression models including Best fit. Just no comparison here. If you don't use statistics, these don't mean much to you. Sure.

5) Increased financial functionality. 30b has MIRR built-in. !2c requires a program or a move to Excel. 30b has FMRR (financial management rate of return) as an alternative to MIRR. For NPV calculations, there is also Net FV, Net Uniform Series, Payback, discounted payback, and a total cash flow summation. The 12c does not directly offer ANY of that.

6) Bond calculations. The 30b offers two bond duration calculations. 20b/30b directly compute yield to call as well as yield to maturity.

7) Breakeven. 20b/30b have this built in. 12c does not.

8) Black Scholes Option pricing. Built in. 12c requires a wonderful program written by Tony Hutchins.

9) Programmability. The 12c can be programmed. Sure. The 30b has more program space and is MUCH faster. It also allows for up to 10 separate programs. Has subroutine abilities, text messaging abilities, etc. 12c looks old by comparison.

So...

Don't get me wrong. I was raised on the 12c. I still THINK like the 12c works. But, the 30b is well worth a look by anyone who has used a 12c. The VERY few changes required to use the 30b (which works like all other financial calculators in existence today) are well rewarded by a host of improvements and things you just cannot do with a 12c. Part of me is pained to write that sentence, but I believe it to be true.

My 2 cents...and that's a distinct present value.

Re: Thoughts on HP 30b compared to the 12c...

*Message #30 Posted by **Sancerre (Phoenix)** on 22 Mar 2010, 5:42 p.m.,*
in response to message #29 by Gene Wright

You didn't add the solver, which is a huge addition. The main reason I stayed with my 17BII throughout my MBA was the solver, which is much easier to quickly use than key stroke programming (and this is coming from a programmer). --Sancerre

Re: Thoughts on HP 30b compared to the 12c...

*Message #31 Posted by **Gene Wright** on 22 Mar 2010, 6:04 p.m.,*
in response to message #30 by Sancerre (Phoenix)

Agree about the solver.

I was thinking of it with regard to programming, since you write a program to evaluate the function so that it is equal to zero.

But, you are correct. The ability to have a program that evaluates:

A - B / C + D*E = 0

and to easily store values into A, B, C, D or E and solve for the unknown is very nice.

The learning module on using the HP Solve in RPN mode contains an entire solver program that handles loans with odd days first periods. 2 odd days, 34 odd days, etc. You can even SOLVE for the odd days if you know the other pieces.

Rather difficult to do on the 12c, certainly with only one program...and especially since the 30b program is simply written as the formula set to equal zero. And, again, I say things like that about my old friend the 12c with a twinge of pain.

Gene

30b manuals online? (was Re: Thoughts on HP 30b compared to the 12c...)

*Message #32 Posted by **Bart (UK)** on 25 Mar 2010, 6:05 a.m.,*
in response to message #31 by Gene Wright

Is there a manual available? I can't seem to find any on the HP site. I know there are modules, but in this electronically connected age, manuals are usually available online and I like to look through them before deciding to buy (or not).

The 30b seems like a nice almost-do-everything calculator (financial with a good bit of maths & stats), I'm just dissapointed by the lack of programming space. Probably because initial information said it would have 32k. But I guesss they wanted more reasons to place it below the 17bii+. However, a bit more e.g. 4k would have been nice.

Re: 30b manuals online? (was Re: Thoughts on HP 30b compared to the 12c...)

*Message #33 Posted by **Don Shepherd** on 25 Mar 2010, 8:07 a.m.,*
in response to message #32 by Bart (UK)

Agree wholeheartedly about the need for more program space. I think the 290 byte limit has more to do with the characteristics of the ARM processor than a marketing consideration.

To those who have purchased the 30b, did it come with a manual on CD?

Re: 30b manuals online? (was Re: Thoughts on HP

30b compared to the 12c...)

*Message #34 Posted by **Paul Dale** on 25 Mar 2010, 5:36 p.m.,*
in response to message #33 by Don Shepherd

> Quote:
>
> I think the 290 byte limit has more to do with the characteristics of the ARM processor than a marketing consideration.

The CPU has 2048 bytes of non-volatile RAM. The low level drivers don't use any of this (at least they don't on the 20b and I suspect they are identical in this respect).

So 1758 bytes are being used for other purposes (and probably a bit spare for bug fixing etc). I smell a lot of waste here :)

Pauli

Re: 30b manuals online? (was Re: Thoughts on HP 30b compared to the 12c...)

*Message #35 Posted by **Bart (UK)** on 25 Mar 2010, 6:30 p.m.,*
in response to message #34 by Paul Dale

Surely it can handle a bit of external RAM?

Re: 30b manuals online? (was Re: Thoughts on HP 30b compared to the 12c...)

*Message #36 Posted by **Paul Dale** on 25 Mar 2010, 7:03 p.m.,*
in response to message #35 by Bart (UK)

There is another 4096 bytes of volatile RAM which is powered down most of the time.

Yes, external storage could be added for additional cost.

I'd personally prefer some kind of SD or USB host capability. There is no reason user code couldn't be run from such.

- Pauli

Re: 30b manuals online? (was Re: Thoughts on HP 30b compared to the 12c...)

*Message #37 Posted by **Bart (UK)** on 25 Mar 2010, 7:38 p.m.,*
in response to message #36 by Paul Dale

Just to clarify, with "external" I meant "not part of the processor" but still on the PCB, not external to or removable from the calculator (although that would be nice). Maybe HP were afraid of the complaints again "what's the use use of having all that memory without ways to backup and restore it". They could see it coming: add memory, add I/O. Price, positioning (again I make my point - relative to the 17Bii+) all had their influence I suppose. (Like the 42s was a crippled upgrade to the 41, but I digress).

From what information I've gathered, it seems a very nice calculator for the price. (but I would have been happy with just that bit more memory*, even without I/O capability).

* But as any programmer will tell you "how much memory is enough? just that little bit more ;)

Re: 30b manuals online? (was Re: Thoughts on HP 30b compared to the 12c...)

*Message #38 Posted by **Gene Wright** on 25 Mar 2010, 7:55 p.m.,*
in response to message #37 by Bart (UK)

I don't know what is stored where, but there are a lot of financial variables that are kept by the continuous memory (think things like PV, N, etc and cash flows and statistics data and ...) all of which has to be stored too.

Re: 30b manuals online? (was Re: Thoughts on HP 30b compared to the 12c...)

*Message #39 Posted by **Tim Wessman** on 25 Mar 2010, 7:59 p.m.,*
in response to message #34 by Paul Dale

A lot of waste? There isn't a spare byte of space left in there. 290 bytes is all that is left for user program space.

You have to store all of the various menu items, saved data, settings and so on. Remember the calculator is essentially turned off all the time. It has to be able to retain all of those items in saved memory or they disappear when you release the key.

There are approximately 200, 12 digit+3exponent numbers that need to be maintained, plus space for the lower and upper lines of text. . .

TW

Edited: 25 Mar 2010, 8:04 p.m.

Re: 30b manuals online? (was Re: Thoughts on HP 30b compared to the 12c...)

*Message #40 Posted by **Paul Dale** on 25 Mar 2010, 9:23 p.m.,*
in response to message #39 by Tim Wessman

> Quote:
>
> A lot of waste? There isn't a spare byte of space left in there. 290 bytes is all that is left for user program space.

Just because there isn't a spare byte doesn't mean there isn't any waste :)

> Quote:
>
> There are approximately 200, 12 digit+3exponent numbers that need to be maintained, plus space for the lower and upper lines of text. . .

Financial registers -- a complete waste ;-) For the sarcasm impaired both this and my original comment have a degree of jest present. Opps, that was sarcasm too: damn an infinite loop.

Given that the bulk of the non-volatile RAM is used for these numbers, how much space is left? 12 digits + 3 exponent digits + 2 sign bits can be packed into seven bytes without any difficulty: three digits per ten bits plus two sign bits is 52 bits leaving 4 unused bits. 200*7 = 1400, leaving 600 bytes for other stuff. System state and the lines of text (the lower line isn't really text but we will ignore that) will consume some of this but over half seems very high.

However, using 8 bytes per register and doing a dumb BCD encoding leaves about 400 bytes minus the 290 for programming and we're down to a size I can believe for the other overheads (although it still seems a bit on the high side). However this *is* wasting precious memory.

Memory is very short on this CPU and the CPU is very fast. Trading CPU cycles for memory is beneficial here: store the numbers space efficiently and convert them to/from an unpacked format for calculations.

Yeah, I know existing code, time to market, etc will stop this form being a possibility...

- Pauli

Re: 30b manuals online? (was Re: Thoughts on HP 30b compared to the 12c...)

*Message #41 Posted by **Marcus von Cube, Germany** on 26 Mar 2010, 4:16 a.m.,*
in response to message #40 by Paul Dale

Another idea would be t have a curtain between the numbers and program space which moves automatically. So you have probably less room for cashflow data if you have stored a bigger program but who cares?

Having lot of UP/DOWN steps in a program isn't very memory efficient either. Why not code each function as such? That would make reading programs easier, too.

Spending a lot of CPU cycles for routine tasks my drain the batteries faster.

Edited: 26 Mar 2010, 4:19 a.m.

Re: 30b manuals online? (was Re: Thoughts on HP 30b compared to the 12c...)

*Message #42 Posted by **Katie Wasserman** on 26 Mar 2010, 10:45 a.m.,*
in response to message #41 by Marcus von Cube, Germany

I agree, the 30b should have dynamic memory allocation. The 290 steps are not "fully merged", so sequences like "STO + 2" take up 3 bytes of RAM. After writing a good number of programs for the 30b I've concluded that the program memory is effectively not much more than the 99 steps of the 12C. OTOH, having an array of 100 bytes that's always available is awfully nice even if the programs that use that array tend to be quite long.

-Katie

Re: 30b manuals online? (was Re: Thoughts on HP 30b compared to the 12c...)

*Message #43 Posted by **David Hayden** on 26 Mar 2010, 10:57 a.m.,*
in response to message #39 by Tim Wessman

> Quote:
>
> A lot of waste? There isn't a spare byte of space left in there. 290 bytes is all that is left for user program space.

Although I completely understand the hardware and cost limitations here, it's still very unfortunate that in 2010, when memory costs something like 10 one-millions of a penny per byte, that a calculator has only 290 bytes of memory available for programming. I'd actually view this as a marketing snafu. A consumer who reads the specs carefully is likely to think "290 BYTES of memory? Didn't they have more than that on the HP 41C 30 years ago?" A consumer would wonder why HP didn't raise the cost by a penny and put in a hundred K of memory. Maybe another processor with more embedded NVRAM will come available.

Still, I'm very encouraged by the 30b, mostly because it seems to imply a push towards native ARM code!!

Re: 30b manuals online? (was Re: Thoughts on HP 30b compared to the 12c...)

*Message #44 Posted by **Gene Wright** on 25 Mar 2010, 8:30 a.m.,*
in response to message #32 by Bart (UK)

Think of the 30b this way...

1) A nice, inexpensive "do everything" calculator. Well, almost everything.

2) Programmable enough for one or two big programs (prime factor, base conversion and lunar lander all fit at once) or use the program space to reassign up to 10 keyboard locations with frequently used functions.

3) Programming is more like a macro recording language than we've seen before. Keep that in mind and you won't get all worked up over UP and DOWN showing as program steps to access menu items.

4) An advanced financial model containing functions never before found on any financial calculator.

5) An advanced statistics calculator too.

I will be curious what the community at large think of it. I know Don and I like it. :-)

Re: 30b manuals online? (was Re: Thoughts on HP 30b compared to the 12c...)

*Message #45 Posted by **Bart (UK)** on 25 Mar 2010, 7:02 p.m.,*

in response to message #44 by Gene Wright

I have received a copy of the manual. It certainly has some handy functions, including ones that the 35s hasn't got (apart from financial that is). I will try and plan some programs and see what I can can fit in once I get one (if and when it finally lands in the UK).

30b learning modules and example programs

*Message #46 Posted by **Gene Wright** on 25 Mar 2010, 7:48 p.m.,*
in response to message #45 by Bart (UK)

The 30b learning modules have quite a few programming examples in them too.

Examples

```
Example 1: Calculating digits of PI
Example 2: Finding prime factors of an integer
Example 3: Base conversions for bases 2-10
Example 4: Lunar lander game from the 1975 HP 25
Applications Program book
Example 5: Guess the secret number game
```

and here:

HP Solve examples

Example 5: Generalized odd-days loan solver program

All the 30b learning modules can be found here:

30b learning modules

Re: 30b manuals online? (was Re: Thoughts on HP 30b compared to the 12c...)

*Message #47 Posted by **Bruce Bergman** on 25 Mar 2010, 11:24 a.m.,*
in response to message #32 by Bart (UK)

I too would prefer more programming space, but -- honestly -- once you start playing around with it, you'd be surprised at just how much you can fit in there. And how much more effort you put into thinking them through and making them smaller. It's actually rewarding!

Give it some time. My bet is that as you write your first dozen programs, you'll find that there's more space than you imagined.

thanks,

Bruce

Re: Thoughts on HP 30b compared to the 12c...

*Message #48 Posted by **Joe Burwell** on 23 Mar 2010, 6:25 p.m.,*

in response to message #29 by Gene Wright

Enjoyed reading your comments on the calculators, I liked all the information. I am a Financial Planner and very much prefer the HP 12C but that was not always the case.

When I first started as a planner I would use a different financial calculator every day. I used the; Sharp EL-738, TI BA II, HP 10B, etc. Both older models purchased on e-bay and new models. I did not use the HP 12C as I purchased one but did not use it enough to see the advantages of RPN. Several years ago I tried it again. I learned the advantages of RPN and also loved the fact I could do most financial calculations with a lot fewer keystrokes. Now I love it and use it most of the time.

I do have a HP17bll+ which I have also put a few programs in but still prefer the HP 12C. I also purchased two HP 30b calculators and have input one program just for fun.

For a person who truly is using the calculator as a financial calculator, the key set up on the HP 12C is unbeatable. I have several of the newest model that will calculate the FV, for example, right away.

Re: Thoughts on HP 30b compared to the 12c...

*Message #49 Posted by **Don Shepherd** on 26 Mar 2010, 9:37 p.m.,*
in response to message #48 by Joe Burwell

Hi Joe. If you are going to write programs for the 30b, this file may be of assistance to you. Capitalization in the file name is important, BTW.

Re: Thoughts on HP 30b

*Message #50 Posted by **Bruce Bergman** on 20 Mar 2010, 11:06 p.m.,*
in response to message #22 by bink

As both Eddie and Don have pointed out, I think you'll find that the 30b is much easier and faster to use than it first seems. You really should look at the keyboard and give it a shot.

Thanks,

Bruce

Re: Thoughts on HP 30b

*Message #51 Posted by **Jake Schwartz** on 26 Mar 2010, 1:19 p.m.,*
in response to message #50 by Bruce Bergman

Now that the machine is announced and shipping, I would *love* to see where the HP marketing folks have advertised this unit. How can the world learn about it? I receive a couple of emails from HP each week, advertising PC-related products and I have found none so far with any calculator items. Does HP advertise in print any more, even in financial pubs? If anybody knows of an ad for HP calcs *anywhere* in print or on line (but not HP's website), please let me know. And if they're not doing it, why not? It can't cost THAT much to sneak something into an HP-originated email about a calculator, could it? I know, corporate rules, blah blah blah, but you can't buy something you don't

know exists.

Re: Thoughts on HP 30b

*Message #52 Posted by **Martin Pinckney** on 27 Mar 2010, 7:35 p.m.,*
in response to message #51 by Jake Schwartz

Jake, you raise a VERY interesting point, which applies to the 35s, new faster 12c, etc. We have had many threads on here debating cost to add this or that feature, or cost to improve keyboard quality, or how $5, $10, or $20 added to the final price would affect sales numbers, what market is HP going after, etc. etc. ad infinitum.

But I do not remember any discussions on HP's marketing efforts! Come to think of it, neither do I recall seeing any HP calculator ads, even in their own emails. You have to dig into the website to find the calculators. What does this say about HP's investment in the calculator market?

This is an important topic, so since your post was No. 51, few are going to read it; I suggest you start a new thread with this topic.

Edited: 27 Mar 2010, 7:41 p.m.

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Sick HP42S

*Message #1 Posted by **Chuck Galloway** on 17 Mar 2010, 11:01 p.m.*

To Mr Goeff Quickfall,

On March 5 you responded to my problem of the malfunctioning keys on the right column. I tried your trouble shooting suggestion with success. Unfortunately travel has kept me away from following through with repairs. You said the solution was through entering the calculator. Can you recommend a reputable source for this repair?

Thanks,

Chuck

Re: you have email.

*Message #2 Posted by **Geoff Quickfall** on 17 Mar 2010, 11:31 p.m.,*
in response to message #1 by Chuck Galloway

nt

Here is one example for opening up the calculator

*Message #3 Posted by **Geoff Quickfall** on 17 Mar 2010, 11:46 p.m.,*
in response to message #1 by Chuck Galloway

there are more, but I cannot comment on them as of yet as I use this method solely.

HP 42S opening and final result

Check your email also.

Geoff

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4 PPC CDs Combined into Single DVD

*Message #1 Posted by **Jake Schwartz** on 17 Mar 2010, 10:03 p.m.*

Hi,

The four PPC CD disks, containing 4 decades of HP calculator materials from various user groups, have been combined into a single DVD disk for more ease of use. Everything remains in pdf format and once entered, the user may navigate anywhere in the material from within the Acrobat environment. The DVD also incorporates an updated PPC CD #3 with the British Handheld and Portable Computer Club's Datafile Issues extended to a 27th year to 2008.

For additional information on obtaining these, check Here.

Jake Schwartz

P.S. - See you at the HHC2010 conference on Sept 25-26th, location to be announced.

Re: 4 PPC CDs Combined into Single DVD

*Message #2 Posted by **Namir** on 18 Mar 2010, 7:14 a.m.,*
in response to message #1 by Jake Schwartz

Thanks Jake. I placed an order for the DVD.

Thanks for letting us know about the HHC2010 date. Vegas will be nice!!

Namir

Re: 4 PPC CDs Combined into Single DVD

*Message #3 Posted by **Bill Zimmerly** on 19 Mar 2010, 5:34 a.m.,*
in response to message #2 by Namir

> Quote:
>
> Thanks Jake. I placed an order for the DVD.
>
> Thanks for letting us know about the HHC2010 date. Vegas will be nice!!
>
> Namir

Hi Namir and Jake!

Jake - I love the DVD collection and am about 50% through it! :)

Vegas would be nice, but *I* would prefer Chicago, if possible.

- Bill

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New Classic Battery Cover Latches For Sale

*Message #1 Posted by **aj04062** on 17 Mar 2010, 9:38 p.m.*

I am in the process of making new plastic latches for a classic series calculator.

These will be made via a rapid prototyping machine and made in a structural plastic. Drawback is the natural color is white. It can be painted to match various models.

I am posting this to gage interest in the forum as I am willing to make up more than the two I need. Price is TBD at this point as I have not finished them to determine total costs. I think they could be in the 30-40 range for a pair. Are people willing to pay this for new latches?

I can make 2 versions - 1 with cutout for rubber feet. Another made from solid plastic if your feet are missing.

I am also seeking to gage interest in the production of other like parts for other models. Drop me an email if you are interested.

Peace, Adam

Re: New Classic Battery Cover Latches For Sale

*Message #2 Posted by **John Robinson** on 18 Mar 2010, 7:48 p.m.,*
in response to message #1 by aj04062

Yes please Adam, I'd been keen for 8 - 10 assuming price will be a few $$$ each.

Cheers, John

Re: New Classic Battery Cover Latches For Sale

*Message #3 Posted by **aj04062** on 18 Mar 2010, 9:38 p.m.,*
in response to message #2 by John Robinson

is what I quoted "a few"? I am not looking to get rich here, but some of the processes that I am experimenting with are expensive, others are not quite so. One that could give me a black part without painting is much more expensive than the white version I would need to paint.

would you want to pay less for unpainted versions and you finish?

here is a link

Latch Picture

Edited: 18 Mar 2010, 9:44 p.m.

Re: New Classic Battery Cover Latches For Sale

*Message #4 Posted by **Paul Dale** on 18 Mar 2010, 9:58 p.m.,*
in response to message #1 by aj04062

I'd be interested but not at those price points.

I've only got one classic and it is missing one of these feet/latches.

- Pauli

Re: New Classic Battery Cover Latches For Sale

*Message #5 Posted by **aj04062** on 18 Mar 2010, 10:42 p.m.,*
in response to message #4 by Paul Dale

Thanks, keep the requests coming. The more I see, the better chance I have at getting the prices manageable. I'd like to be in the 10-20 RANGE per. Does that sound attractive?

Re: New Classic Battery Cover Latches For Sale

*Message #6 Posted by **geoff quickfall** on 19 Mar 2010, 2:18 p.m.,*
in response to message #5 by aj04062

I would order about 5 pairs, more if the cost could come down! I would finish in the correct colour. Also they would be the ones without the rubber cutout as I would insert new rubber myself.

Cheers, Geoff

Edited: 19 Mar 2010, 2:20 p.m.

Re: New Classic Battery Cover Latches For Sale

*Message #7 Posted by **james summers** on 20 Mar 2010, 12:12 p.m.,*
in response to message #5 by aj04062

I'ld like 3 pairs if the price was in the 10-20 range, preferably with the cutout for rubber feet, white OK.

Best wishes

James

Re: New Classic Battery Cover Latches For Sale

*Message #8 Posted by **Alberto Fenini** on 20 Mar 2010, 12:42 p.m.,*
in response to message #5 by aj04062

If the price goes down, I would order few pairs myself, but, how can these pe painted and how can the rubber feet replaced ? take care Alberto

Re: New Classic Battery Cover Latches For Sale

*Message #9 Posted by **Tim** on 20 Mar 2010, 10:51 p.m.,*
in response to message #8 by Alberto Fenini

I would purchase a few myself. I would need to paint them black.

Re: New Classic Battery Cover Latches For Sale

*Message #10 Posted by **Gerardo Rincon** on 20 Mar 2010, 11:56 p.m.,*
in response to message #1 by aj04062

The hp third generation Hp 31E to hp 38E were notorious for losing the battery covers. Myself I have 34E without battery cover. I have been looking for one to show up in ebay for a long time but no luck..

Re: New Classic Battery Cover Latches For Sale

*Message #11 Posted by **aj04062** on 25 Mar 2010, 11:21 p.m.,*
in response to message #10 by Gerardo Rincon

Ok here's the deal.

I got these working tonight. I'd like to offer them for $15 a pair without paint + shipping. My first batch required a little sizing with an exacto knife and a nail file. I will tweak the CAD model so this is minimized in future builds. However, I beleive it is better to have too much material than too little so I will leave some material to be filed.

If you want a pair please send $16.50 to my Paypal account: adamjjones@adelphia.net

OR

See my posting on eBay. You can go there to see a picture.

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=130377815175

I am open to making other plastic items for restorations, but I need good samples to copy.

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work in progress

*Message #1 Posted by **Eric Smith** on 17 Mar 2010, 5:26 p.m.*

http://www.flickr.com/photos/22368471@N04/4441032895/

Re: work in progress

*Message #2 Posted by **Mark Henderson** on 17 Mar 2010, 5:31 p.m.,*
in response to message #1 by Eric Smith

Looks interesting, looks like a "big enter key" keyboard - but what is it??

Re: work in progress

*Message #3 Posted by **Johnny Bjoern Rasmussen** on 17 Mar 2010, 5:48 p.m.,*
in response to message #2 by Mark Henderson

Yeah, Eric. That's like telling half a joke... Come on...

Re: work in progress

*Message #4 Posted by **Eric Smith** on 17 Mar 2010, 7:18 p.m.,*
in response to message #3 by Johnny Bjoern Rasmussen

Obviously I'd like it to be some sort of calculator, but it isn't there yet. Right now it's just prototype hardware that doesn't do much more than scan the keyboard, display test messages on the LCD, and test energy consumption in various modes (running at various frequencies, sleeping at various frequencies with and without peripherals enabled, etc.

The processor is an Energy Micro "Gecko" microcontroller, which uses an ARM Cortex-M3 core. This has very low power consumption in both active and sleep modes. There are a few other microcontrollers that get lower uW/MHz, but they generally don't have nearly as much compute performance per clock cycle, so the Gecko might actually have the best power/performance ratio.

I wired this up to verify their power claims, and to determine whether a calculator using it could have a decent battery life on a pair of lithium coin cells. Now that I've answered those questions, I'll move on to the fun part.

Re: work in progress

*Message #5 Posted by **cyrille de Brébisson** on 18 Mar 2010, 9:34 a.m.,*
in response to message #4 by Eric Smith

Hello Eric,

Can you post your power consumption in Off mode, Idle mode (LCD on) and in running mode (indicating the frequency?)

thanks, cyrille

Re: work in progress

*Message #6 Posted by **Eric Smith** on 18 Mar 2010, 3:42 p.m.,*
in response to message #5 by cyrille de Brébisson

Hi Cyrille!

This is the EFM32G290F128, which has 128KB of flash and 16KB of RAM. All 16KB of RAM is preserved in sleep mode, though it is possible to turn portions of it off to save even more power. I haven't done that.

Off mode (32 kHz osc running, wakeup on timer or key press): 1.6 uA

The LCD I am using is just some random surplus character LCD module, so it doesn't make any sense for me to report power consumption with that. Without the LCD, idle mode is nearly the same as off mode, since the CPU isn't doing anything different other than scanning the whole keyboard rather than just the ON key. There is a version of this CPU with on-chip LCD controller for up to 160 segments, but I'm not using it, so I haven't measured its power consumption.

Running mode, internal RC oscillator, zero wait state flash:

```
1 MHz:  450 uA
7 MHz:  2.4 mA
11 MHz:  3.4 mA
14 MHz:  4.1 mA
```

Running mode, internal RC oscillator, one wait state flash:

```
21 MHz:  4.6 mA
28 MHz:  6.1 mA
```

Running mode, external crystal, one wait state flash:

```
32 MHz:  7.2 mA
```

What currents have you measured for your AT91SAM7L128-based calculators?

Thanks, Eric

Edited: 18 Mar 2010, 7:09 p.m.

[OT] half jokes (was Re: work in progress)

*Message #7 Posted by **Eric Smith** on 17 Mar 2010, 7:52 p.m.,*
in response to message #3 by Johnny Bjoern Rasmussen

If you really want a half-joke: "Why does the porridge-bird lay his eggs in the air?"

Or: "What's the difference between a Vulcan and a revolving door?"

Re: [OT] half jokes (was Re: work in progress)

*Message #8 Posted by **Michael Meyer** on 17 Mar 2010, 9:37 p.m.,*
in response to message #7 by Eric Smith

Awesome... a Firesign Theatre reference!! "I see you are a sailor..."

Velly Interlesting!

*Message #9 Posted by **Geoff Quickfall** on 17 Mar 2010, 6:51 p.m.,*
in response to message #1 by Eric Smith

I recognize the layout ;-)

Cheers, Geoff

Re: work in progress

*Message #10 Posted by **Jim Creybohm** on 17 Mar 2010, 6:58 p.m.,*
in response to message #1 by Eric Smith

Interesting. Looks like a 41 keyboard with a dual line display a la 42? Could this be a 41/42 hybrid?

I am not an electronics guy, so this is just a guess...

Re: work in progress

*Message #11 Posted by **Walter B** on 17 Mar 2010, 8:37 p.m.,*
in response to message #1 by Eric Smith

Looks very interesting. Seems to become something like a 48, taking the number of keys into account. Are you sure you're striving for a pocketable device? d;-)

Ceterum censeo: Launch a 43S.

Re: work in progress

*Message #12 Posted by **Eric Smith** on 18 Mar 2010, 12:37 a.m.,*
in response to message #11 by Walter B

I'm not likely to do anything like the 28, 38/39/40, or 48/49/50 families; implementing the software for those would take too long. (Though if someone else wants to write the software...) Like the earlier DIYRPN calculators Richard Ottosen and I have made, this prototype has enough keys to compare with the various pre-Saturn handheld calculators.

Re: work in progress

*Message #13 Posted by **Marcus von Cube, Germany** on 18 Mar 2010, 10:13 a.m.,*
in response to message #12 by Eric Smith

Could be a platform for Free42. Does the design care for I/O?

Re: work in progress

*Message #14 Posted by **Eric Smith** on 18 Mar 2010, 3:28 p.m.,*
in response to message #13 by Marcus von Cube, Germany

The only likely I/O is a serial port, and an SD or microSD card slot.

There's only 128KB of flash, not enough to fit Free42. I also didn't put enough keys for Free42, though that could be fixed easily. It's also really hard to find a suitable graphic LCD module for

Free42, that isn't physically too wide for a handheld calculator.

Re: work in progress

*Message #15 Posted by **Paul Dale** on 18 Mar 2010, 5:54 p.m.,*
in response to message #12 by Eric Smith

OpenRPN had a fairly complete RPL implementation which could be used. Otherwise, my 20b firmware would easily fit.

- Pauli

Re: work in progress

*Message #16 Posted by **Walter B** on 19 Mar 2010, 2:50 a.m.,*
in response to message #15 by Paul Dale

> Quote:
>
> Otherwise, my 20b firmware would easily fit.

As an extra benefit, a "real" 2-line dot matrix LCD combined with that would open new opportunities compared to the 20b/30b.

Re: work in progress

*Message #17 Posted by **Hugh Evans** on 21 Mar 2010, 9:00 p.m.,*
in response to message #15 by Paul Dale

All of the code written for OpenRPN is still up on the sourceforge svn. I also still have all the documentation and I would love to help out with a project like this or any of the current repurposing concepts.

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MoHPC *The Museum of HP Calculators*

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HHC2010 Schedule???

*Message #1 Posted by **Namir** on 17 Mar 2010, 5:03 p.m.*

Hi All,

Anyone knows about the location and date for the HHC2010?

Thanks,

Namir

Re: HHC2010 Schedule???

*Message #2 Posted by **Eric Smith** on 17 Mar 2010, 5:15 p.m.,*
in response to message #1 by Namir

I'm guessing mid-September in Fort Collins, Colorado, though there has been some consideration of other possibilities such as Boise, Idaho and Las Vegas, Nevada.

As far as I know, neither the date nor location are finalized, but mid-September is traditional.

Re: HHC2010 Schedule???

*Message #3 Posted by **Namir** on 17 Mar 2010, 5:35 p.m.,*
in response to message #2 by Eric Smith

Thanks Eric!

Re: HHC2010 Schedule???

*Message #4 Posted by **Geoff Quickfall** on 17 Mar 2010, 6:49 p.m.,*
in response to message #3 by Namir

HPCC Datafile V29 N1 says Sept 25th - 26th although that is probably tentative.

Las Vegas and then as a side trip the Star Trek show at the Hilton ;-)

Cheers, Geoff

p.s. see you there.

Re: HHC2010 Schedule???

*Message #5 Posted by **Dave Shaffer (Arizona)** on 17 Mar 2010, 9:11 p.m.,*
in response to message #4 by Geoff Quickfall

Unfortunately, the Star Trek show has been out of business for several years.

I'd root for Vegas, though: only a 250 mile drive and we used to live there (for 15 years - a somewhat surreal state of affairs!).

Re: HHC2010 Schedule???

*Message #6 Posted by **Eddie W. Shore** on 17 Mar 2010, 11:48 p.m.,*
in response to message #5 by Dave Shaffer (Arizona)

I'll vote for Vegas too. Hopefully the conference is a week or two earlier - then I could go before school starts in fall.

VIVA LAS VEGAS!

remember what happens there stays there!

*Message #7 Posted by **geoff quickfall** on 18 Mar 2010, 12:03 a.m.,*
in response to message #6 by Eddie W. Shore

to bad about the star trek thing!

;-)

Re: HHC2010 Schedule???

*Message #8 Posted by **Bruce Bergman** on 18 Mar 2010, 12:31 a.m.,*
in response to message #5 by Dave Shaffer (Arizona)

Vegas would be great. They have, like, $49 flights from San Diego to Las Vegas all the time. It'd be great!

Vegas has my vote.

Thanks,

Bruce

Re: HHC2010 Schedule???

*Message #9 Posted by **Katie Wasserman** on 18 Mar 2010, 1:24 a.m.,*
in response to message #8 by Bruce Bergman

I think that LV would be great for us East Coasters too. While it's still a long trip it's pretty cheap and the non-calculator things to do there makes for a good, very long weekend destination.

Also, I like the idea of holding the conference at a hotel with many food options, places to hang out, things to see, machines and people to lose money to and like-minded friends to meet and talk with. Frankly the idea of sitting in one room at HP for 2 days straight is a bit scary to me.

-Katie

Re: HHC2010 Schedule???

*Message #10 Posted by **Egan Ford** on 18 Mar 2010, 10:23 a.m.,*
in response to message #9 by Katie Wasserman

> Quote:
>
> Frankly the idea of sitting in one room at HP for 2 days straight is a bit scary to me.

I think the argument to use an HP facility was to save a bit of coin. However, what is saved in conference fees ($20/day?) is quickly lost to rental cars. Corvallis is clearly the exception--a mecca for HP calc nerds.

I too cast my vote for a hotel in Vegas. There are many transportation options from the airport and within the city there is a monorail. Cars should not be necessary.

If you are looking for field trip ideas, then check out http://www.neonmuseum.org/. Not as high tech as last year, but suitable low tech for this type of conference.

Re: HHC2010 Schedule???

*Message #11 Posted by **Eric Smith** on 18 Mar 2010, 7:30 p.m.,*
in response to message #9 by Katie Wasserman

> Quote:
>
> Frankly the idea of sitting in one room at HP for 2 days straight is a bit scary to me.

It's not any worse than sitting in one room at some other conference facility for 2 days straight. In fact, it's better, since HP has provided snacks, beverages, and even meals when they've hosted it, while at hotels and such the snacks have usually been limited to what you can get from their vending machine.

In any case, the conferences are usually so interesting that rather than the two days seeming long, I'm surprised that they're over so quickly.

I'm OK with almost any location in North America. I think it would be nice to visit Chicago or Philadelphia again one of these years, if the folks there felt like hosting another conference.

Re: HHC2010 Schedule???

*Message #12 Posted by **Egan Ford** on 18 Mar 2010, 7:44 p.m.,*
in response to message #11 by Eric Smith

> Quote:
>
> HP has provided snacks, beverages, and even meals when they've hosted it

There is no reason why HP cannot provide food, drink, etc... if in a hotel.

Re: HHC2010 Schedule???

*Message #13 Posted by **Eric Smith** on 19 Mar 2010, 12:54 a.m.,*
in response to message #12 by Egan Ford

If it's in a hotel, they generally have to contract with the hotel to provide it, which costs a lot more money than if HP can use their usual food service contractor. In the past at hotels they've sponsored a dinner, but if memory serves they usually haven't provided other snacks, beverages, meals, etc.

Re: HHC2010 Schedule???

*Message #14 Posted by **Namir** on 18 Mar 2010, 7:15 a.m.,*
in response to message #8 by Bruce Bergman

Vegas has my vote too!

Re: HHC2010 Schedule???

*Message #15 Posted by **BruceH** on 18 Mar 2010, 6:43 p.m.,*
in response to message #8 by Bruce Bergman

Can you check how much extra ticket prices are during school/college holiday times? Several people who work in education are denied the opportunity to attend because of the timing. The traditional reason for the timing is that the costs are lower than in high season. It would be nice to know how much lower.

Re: HHC2010 Schedule???

*Message #16 Posted by **Dave Shaffer (Arizona)** on 19 Mar 2010, 12:50 a.m.,*
in response to message #15 by BruceH

It almost doesn't matter when you go to Vegas (except, unlike almost all other destinations, weekends can be the HIGH cost days!).

Also, unless you enjoy 110 F days, the summer is the low (cost - not temperature!) season in Vegas.

Re: HHC2010 Schedule???

*Message #17 Posted by **Brian Walsh** on 19 Mar 2010, 4:50 p.m.,*
in response to message #2 by Eric Smith

I for one would vote AGAINST Las Vegas. Not because of any cost issues but because the place has become so darned congested and walking distances are very long. It's NOTHING like it was 10 years ago, much less 27 years ago (1983 at the Marina). And like a lot of others, speaking for myself of course, gambling holds no interest for me. I'd also like to know what kind of weather there is in September, but I expect it's still quite hot.

Fort Collins was pretty nice, but I agree with Katie it was kind of weird being more or less sequestered at HP, and I only attended on Sunday. But I'd take Fort Collins over Las Vegas in a heartbeat, especially if there is more freedom to move around.

Is Boise out of the running?

Re: HHC2010 Schedule???

*Message #18 Posted by **Alex L** on 28 Mar 2010, 3:49 a.m.,*
in response to message #17 by Brian Walsh

Please, not Vegas. I finally have a shot to attend this year, but Vegas falls outside the scope of "as long as the spouse is happy".

Re: HHC2010 Schedule???

*Message #19 Posted by **Dave Shaffer (Arizona)** on 29 Mar 2010, 12:02 p.m.,*
in response to message #18 by Alex L

What does it take to "keep the spouse happy"?

I lived in Vegas for 15 years, and can assure you that there is lots to do besides spend time in casinos. If outdoor activities are favored, there are parks and hiking within an easy day drive, and Zion National Park can be done in a long day. Hoover Dam is fascinating (take the "inside" tour). California sand dunes can be seen on a day trip, too.

What else? The Liberace Museum? The Atomic Bomb (!) museum? The neon sign museum (OK, that one's mostly nostalgic Las Vegas kitsch)?

Re: HHC2010 Schedule???

*Message #20 Posted by **Tim Wessman** on 18 Mar 2010, 12:43 p.m.,*
in response to message #1 by Namir

My vote would be for Vegas as well. Used to live there as a kid and it will definitely be more exciting than Fort Collins.

TW

Re: HHC2010 Schedule???

*Message #21 Posted by **Richard J. Nelson** on 18 Mar 2010, 1:24 p.m.,*
in response to message #20 by Tim Wessman

All of the comments regarding HHC 2010 are great. The date is fixed, it is the last weekend in September. The location is open and several considerations are being discussed.

We haven't had a conference in Vegas for many years and this year is certainly a good time with all the new hotel rooms keeping the prices low. We have a local contact that can help with this.

The committee is the same as last year and we should be getting together to make a decision in the next few weeks. Keep the comments and ideas coming.

X < > Y,

Richard

Re: HHC2010 Schedule???

*Message #22 Posted by **Namir** on 18 Mar 2010, 7:44 p.m.,*
in response to message #21 by Richard J. Nelson

Richard,

I hope we can get a hotel on the strip. I think the Excalibur has very reasonable prices.

Namir

Re: HHC2010 Schedule???

*Message #23 Posted by **Eric Smith** on 19 Mar 2010, 1:04 a.m.,*
in response to message #22 by Namir

Maybe there might be good deals for us at one of the Harrah's resorts? :-)

Re: HHC2010 Schedule???

*Message #24 Posted by **Eric Smith** on 19 Mar 2010, 12:55 a.m.,*
in response to message #20 by Tim Wessman

Fort Collins might not seem exciting to you, but I liked it fine. :-)

Re: HHC2010 Schedule???

*Message #25 Posted by **Bill Zimmerly** on 19 Mar 2010, 5:46 a.m.,*
in response to message #24 by Eric Smith

> Quote:
>
> Fort Collins might not seem exciting to you, but I liked it fine. :-)

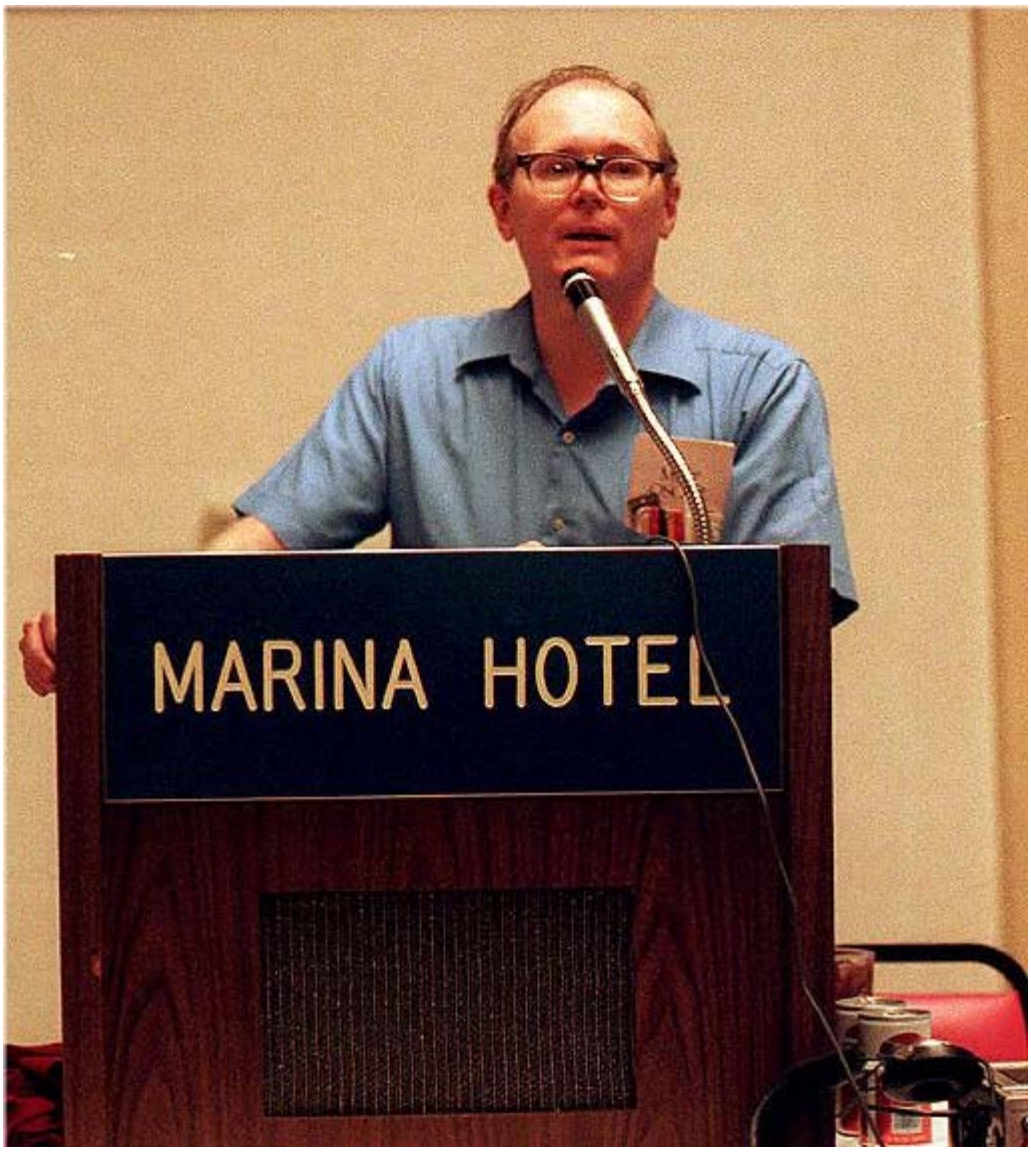
I liked Fort Collins too ... but wish I didn't get sick there right after the conference. (Probably the bug that Tim warned us about.)

I would like the conference anywhere that has a nearby Amtrak station as I love taking the train - especially to Chicago. ;)

Re: HHC2010 Schedule???

*Message #26 Posted by **Jake Schwartz** on 19 Mar 2010, 7:32 a.m.,*
in response to message #25 by Bill Zimmerly

The last conference in Las Vegas was in 1983 at the Marina Hotel (which stood where the MGM grand stands now). The HP41 was all the rage and "Mcoders" were scrounging for information.



We all had visions of MLDLs dancing in our heads..

Jake Schwartz

Edited: 19 Mar 2010, 7:35 a.m.

Re: HHC2010 Schedule???

*Message #27 Posted by **Eric Smith** on 19 Mar 2010, 2:50 p.m.,*
in response to message #26 by Jake Schwartz

The Marina Hotel is still there! :-)

http://www.vegastodayandtomorrow.com/marina.htm

Re: HHC2010 Schedule???

*Message #28 Posted by **Jake Schwartz** on 19 Mar 2010, 9:54 p.m.,*
in response to message #27 by Eric Smith

Quote:

> The Marina Hotel is still there! :-)

Well, I be darned! That's pretty amazing. Do you think it's possible that when they were gutting it for renovations, they might have found a pocket Hex Table or perhaps an HP41 keyboard overlay in the rubble?

:-)

Re: HHC2010 Schedule???

*Message #29 Posted by **David Hayden** on 19 Mar 2010, 8:45 p.m.,*
in response to message #1 by Namir

Mmmmm.... If we do Vagas, I suggest that we all carry calculators prominently and NOBODY says why we're there. Hire a guard for the door.

This will be worth it just to see what the rumor mill decides we are doing, and to drive security crazy.... :) :) :)

Dave

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O.T. Solar System Formation

*Message #1 Posted by **designnut** on 17 Mar 2010, 1:59 p.m.*

Someone expressed a wish to discuss solar system formation. Most theorists assume it was an orderly process. I thunk it must have tangled with another system along the way which left some peculiar artifacts. Lets get it on. Write designnut@cox.net Sam By the way, I lost all my addresses courtesy of microsoft. Anyone please mail me so I can capture their address. Thanks

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HP 95LX FAQ

*Message #1 Posted by **Dan Eicher** on 17 Mar 2010, 9:00 a.m.*

Can anyone tell me where to find the HP 95LX FAQ?
Thanks,
Dan

Re: HP 95LX FAQ

*Message #2 Posted by **Bill (Smithville, NJ)** on 17 Mar 2010, 9:17 a.m.,*
in response to message #1 by Dan Eicher

Hi Dan,

I'm not sure there is an offical faq or not, but a Google Search for HP 95LX FAQ turns up the following links:

HP Palmtop 95LX - Technical Information

Skolob's Hewlett Packard 95LX Palmtop

HP-95LX manuals can be found at:

HP-95LX manuals

Hope this helps.

Bill

Edited: 17 Mar 2010, 1:23 p.m. after one or more responses were posted

Re: HP 95LX FAQ

*Message #3 Posted by **Dan Eicher** on 17 Mar 2010, 11:38 a.m.,*
in response to message #2 by Bill (Smithville, NJ)

Wow,
I didn't know there was that many FAQ's for the 95LX around.
The one I'm looking for, was originally posted on comp.sys.palmtops by Anthony J Stiebe.
I found an early version on groups.google.com, but I was thinking this version saw a lot of updates over the years.
Thank you for taking the time to make the suggestions that you did!
Dan

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HP 41C data storage integrated circuit swapping: Maybe Eric could answer this ;-)

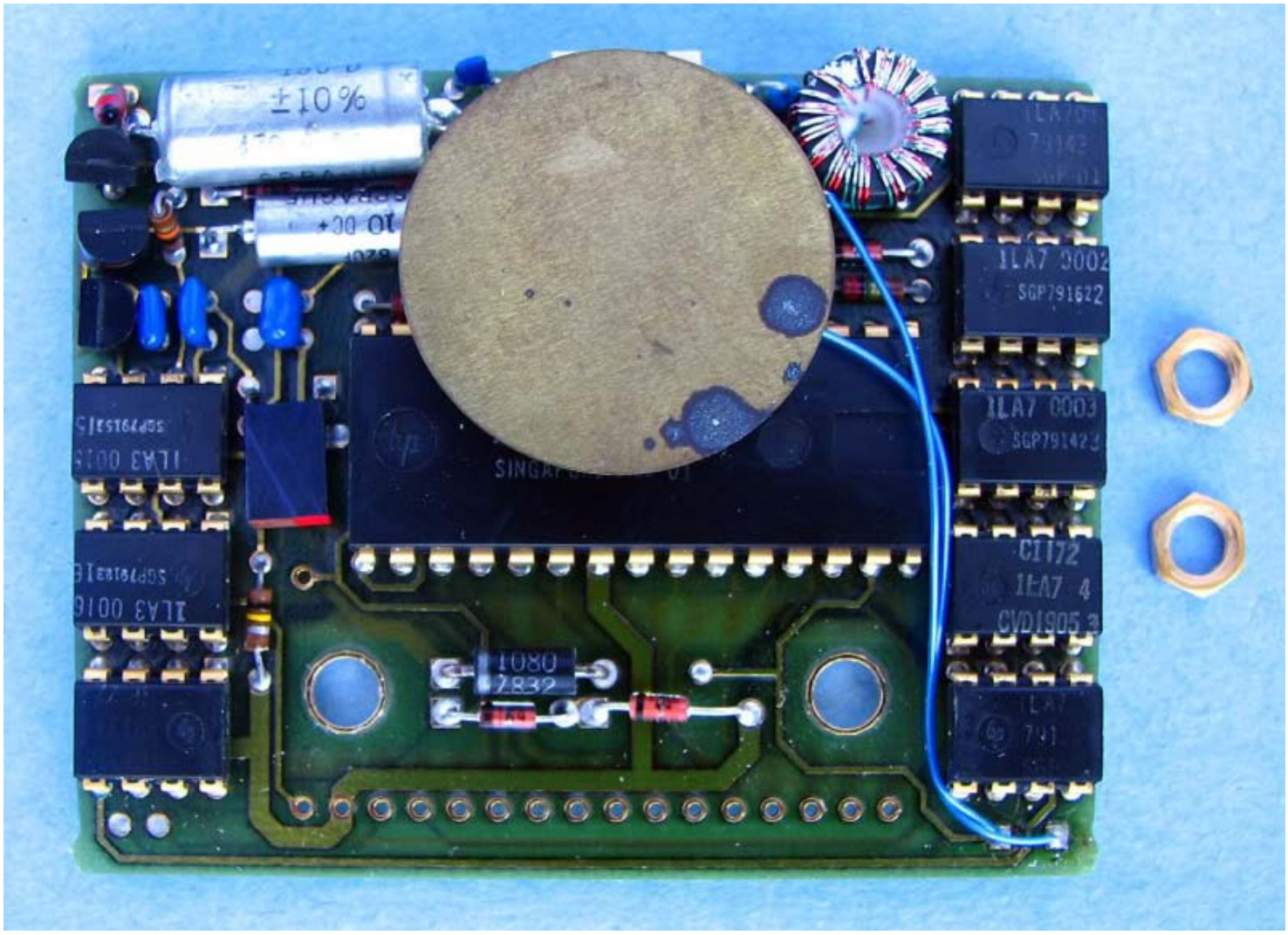
*Message #1 Posted by **Geoff Quickfall** on 17 Mar 2010, 3:44 a.m.*

Hello experts,

I posted this many months ago and cannot find it in the archives. I know Eric Smith had many good answers including swapping the memory with a 41CV. I just can't find the info so here is the question again

Here is a photo of an early HP 41C with all the bugs and also with a defunct D/S integrated circuit (RAM) (ser# 1931Axxxxx). It is the one at the bottom right labelled:

```
1LA705
```



When SIZE 000 is executed the program registers available equal 47 out of the required 63. All programs execute and the data registers used for STO when SIZE 047 is executed are accessable. This indicates that (my logic) the last D/S chip is unserviceable and must be replaced:

```
1LA705:
```

My quandry is that I have a newer HP 41C board (1981) with the following chips. They have the following codes from first to last:

```
1LA701,
1LE701,
1LB738,
ILB739,
1LB740 (this chip is in the same position as the chip on the
        early board)
```

My assumption is that the last chip; 1LB740 would be the one to use. My question is, is it swappable with 1LA705.

I also have a two CV's with similar blocks of 5 D/S chips:

```
1LA701
1LE701
1LE702
1LE703
1LE704  this chip is in the same position as the chip on the
        early board)


AND


1LG901
1LA701
1LH502
1LH503
1LH505  (this chip is in the same position as the chip on the
        early board)
```

My questions are as follows:

```
1.  is my assumption correct and the last D/S chip is the
    defunct chip on the photo above; chip 1LA705?
2.  Which chip in the 3 lists above are swappable;
    1LB740, 1LE704, 1LH505 or any of the others?
```

The reason for doing this, to keep the early with bugs board intact with its bugs. That precludes me just swapping out the board for a newer one which I have. That is I would like to use a donar chip from the three options above to replace the bad chip that I hopefully have identified correctly.

Thanks in advance, Geoff

Edited: 17 Mar 2010, 3:51 a.m.

Re: HP 41C data storage integrated circuit swapping: Maybe Eric could answer this ;-)

*Message #2 Posted by **Randy** on 17 Mar 2010, 11:25 a.m.,*
in response to message #1 by Geoff Quickfall

> Quote:
>
> My assumption is that the last chip; 1LB740 would be the one to use. My question is, is it swappable with 1LA705.

1LB738/39/40 are the roms so no, it is not swappable.

> Quote:
>
> My questions are as follows:
>
> 1. is my assumption correct and the last D/S chip is the defunct chip on the photo above; chip 1LA705? 2. Which chip in the 3 lists above are swappable; 1LB740, 1LE704, 1LH505 or any of the others?

1 - Not a valid assumption, you can only identify the faulty d/s with the service rom.

2 - AFAIK, none of the three can be interchanged.

Re: HP 41C data storage integrated circuit swapping: Maybe Eric could answer this ;-)

*Message #3 Posted by **Jim Horn** on 17 Mar 2010, 12:06 p.m.,*
in response to message #1 by Geoff Quickfall

If it helps, Geoff, when the '41CV came out a few of us who worked at HP Santa Rosa got the new CV RAMs directly from Corvallis and replaced the ones in our '41C machines, turning them into CVs but with all the first generation bugs. As I recall, the CV had one more RAM than the C did, so one was piggybacked onto the board to make it fit. One of the reasons for doing that was that in-house orders for the CV had something like a six month wait list whereas the ICs were available immediately.

Last time I used it it still worked fine but, like most of my things, it's in long term storage. Otherwise I'd pop it apart to verify the details including IC numbers.

Jim Horn - my 41C has 319 registers, power contacts in the battery access tunnel, etc.

Thanks Jim and Randy, further info

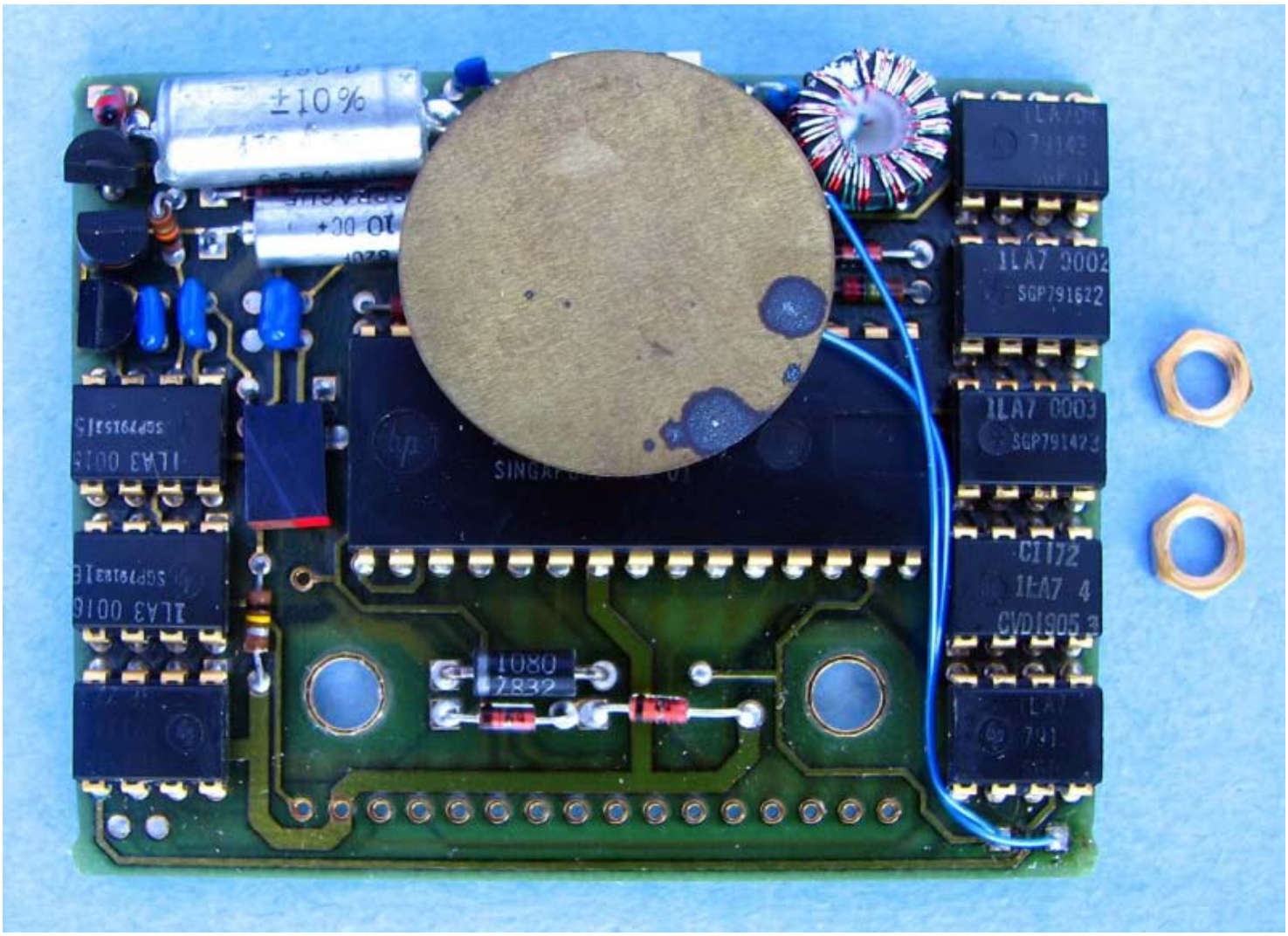
*Message #4 Posted by **geoff quickfall** on 17 Mar 2010, 2:20 p.m.,*
in response to message #1 by Geoff Quickfall

after running the diagnostic with the service module the calculator passes all tests except for the D/S which doesn't surprise me.

The failure message is:

```
D/S   1   BAD
```

If I am doing this correctly and according to the 41C service manual that would imply, refering to the photo, that 1LA7 002 (the second D/S chip on the top right) is bad.



The first chip 1LA701 would be used internally for the X,Y,Z,T LASTX and ALPHA which all work correctly.

Knowing that would the 1LE701 from the 1981 HP 41C be usuable as a replacement, it too is the D/S 1 chip?

Failing that, Jim, the HP 41CV conversion sounds interesting as I have the ability to swap out all the c chips for working cv chips. More info on that would be interesting, converting this to a tall keys with gold balls 41C also!

Cheers, Geoff

Edited: 17 Mar 2010, 2:25 p.m.

Re: Thanks Jim and Randy, further info

*Message #5 Posted by **Ignazio Cara (Italy)** on 17 Mar 2010, 3:19 p.m.,*
in response to message #4 by geoff quickfall

Hello friends, you can find all information you need at the following link , about all the HP-41C released (Initial, two transistor and final) with the tabs for the replaceables parts. I hope this could be a little help for Geoff and Randy.

Regards

Ignazio

Thanks Ignazio

*Message #6 Posted by **Geoff Quickfall** on 17 Mar 2010, 6:57 p.m.,*
in response to message #5 by Ignazio Cara (Italy)

I currently am using the HP 41C service manual but unfortunately only have access to the 41CV and 41CX diagnostics rom.

It looks like I will be swapping the four HP 41C D/S rams with four HP 41CV D/S rams as described by Jim Horn and Eric Smith.

This should give me an HP 41C "with all the bugs" in a tall keys 1979 case but with HP 41CV memory (319) registers.

Cheers, Geoff

Re: Thanks Jim and Randy, further info

*Message #7 Posted by **John Robinson** on 17 Mar 2010, 9:18 p.m.,*
in response to message #5 by Ignazio Cara (Italy)

Hi Ignazio,

I am curious where this information came from ?, and whether similar information is available for the fullnut CV and CX boards ?

Thanks John

Re: Thanks Jim and Randy, further info

*Message #8 Posted by **Ignazio Cara (Italy)** on 18 Mar 2010, 3:45 a.m.,*
in response to message #7 by John Robinson

Hi John, the info I have posted came from the 'HP-41C/CV/CX Service manual", 00041-90472 integrated by the addendum 00041-90542 related to the half-nut release of the three calculator. I'm trying to send this manual and other (Card reader, wand and printer 82143 service manuals) to Dave via ftp, to integrate further editions of MoHPC DVDs. Regards

Ignazio

Re: Thanks Jim and Randy, further info

*Message #9 Posted by **John Robinson** on 19 Mar 2010, 1:27 a.m.,*
in response to message #8 by Ignazio Cara (Italy)

Thanks for the info Ignazio

Cheers, John

Re: Thanks Jim and Randy, further info

*Message #10 Posted by **Eric Smith** on 17 Mar 2010, 5:13 p.m.,*
in response to message #4 by geoff quickfall

Which diagnostic ROM did you use? If it's reporting a bad D/S 1, it probably is a diag for a 41CV/CX.

With 48 registers working, I'd think that the 1LA7-0005 is the bad one. When the memory is sized, they start from address 0C0 and count upwards until they find a non-existent register. If a RAM in the middle fails, the good RAMs past it are not found. (They can still be accessed as data registers, though. However if the 41C D/S 1 (1LA7-0002) fails, it won't be able to find any registers, and won't be able to create the permanent ".END.". I'd expect the calculator to work very poorly if at all.

From memory, which might be mistaken, I believe the mapping is:

```
000-00F  D/S 0  1LA7-0001  status registers
```

```
010-03F  gap
040-07F  X FCN memory (41C/CV),  D/S 6 1LE7-0006 or 1LH5-0006 (41CX)
080-0BF  X FCN memory (41C/CV),  D/S 7 1LE7-0007 or 1LH5-0007 (41CX)
0C0-0CF  D/S 1  1LA7-0002 (41C) \
0D0-0DF  D/S 2  1LA7-0003 (41C)  \ D/S 1 1LE7-0001 or 1LH5-0001 (41CV/CX)
0E0-0EF  D/S 3  1LA7-0004 (41C)  /
0F0-0FF  D/S 4  1LA7-0005 (41C) /
100-13F  mem module 1 or quad mem (41C), D/S 2 1LE7-0002 or 1LH5-0002 (41CV/CX)
140-17F  mem module 2 or quad mem (41C), D/S 3 1LE7-0003 or 1LH5-0003 (41CV/CX)
180-1BF  mem module 3 or quad mem (41C), D/S 4 1LE7-0004 or 1LH5-0004 (41CV/CX)
1C0-1FF  mem module 4 or quad mem (41C), D/S 5 1LE7-0005 or 1LH5-0005 (41CV/CX)
200      gap
201-2EF  X MEM 1
2F0-300  gap
301-3EF  X MEM 2
3F0-3FF  gap
```

You could replace all four chips 1LA7-0002 through 1LA7-0005 with a single 1LE7-0001 or 1LH5-0001. You'd still have the equivalent memory of a 41C if you did that without adding 1LE7-0002 through 1LE7-0005 or 1LH5-0002 through 1LH5-0005.

Eric, YEAH!!

*Message #11 Posted by **geoff quickfall** on 17 Mar 2010, 6:35 p.m.,*
in response to message #10 by Eric Smith

From memory I remember you mentioning this. I was thinking also that if a bad memory chip was found the program registers would stop and not continue, which is not the case here.

You are correct, the diagnostic is the CV and CX version, I mistakenly thought it would diagnose the chips in order. But intuitively it did not seem correct that the first chip would be the bad one considering the calculator acts pefectly up to 46 registers in the program mode.

> Quote:
>
> You could replace all four chips 1LA7-0002 through 1LA7-0005 with a single 1LE7-0001 (do have a spare 1LE7-001) or 1LH5-0001 (don't have a spare 1LH5-001)

It would seem that this is the way to go as I have 3 spare working cv boards.

To clarify, I would remove 1LA7-002 through 1LA7-005 and replace with a single 1LE7-0001 at the 1LA7-002 position. Thus, obviously, leaving the other 3 successive chip solder points empty.

Sorry to be such a neophyte with this, if it was my calculator I wouldn't hesitate to experiment but trying to keep this buggy and with the correct memory registers is the intent.

Cheers, and thanks, Geoff

p.s. to get fancy and to increase the memory to a CV with the C bugs would the chip swap below result in the HP-41C with bugs having the same 319 registers as the CV the chips came from. I mention this as Jim Horns posting sounds as though this is possible:

```
ORIGINAL 41C      SWAP      ORIGINAL 41CV
   CHIPS                         CHIPS


1LA7-002          <-->          1LE701
1LA7-003          <-->          1LE702
1LA7-004          <-->          1LE703
1LA7-005          <-->          1LE704
```

I think Gene would like a 41C with all the bugs plus the memory of a CV in a tall keys case.

Wouldn't you Gene????????

Re: Eric, YEAH!!

*Message #12 Posted by **Eric Smith** on 17 Mar 2010, 7:21 p.m.,*
in response to message #11 by geoff quickfall

If you want the full CV memory, you'd have to put in all five of the 1LE7 chips from the CV, and keep the 1LA7-0001, so you'd have to piggyback one of them.

The RAMs have identical pinout and wiring, so it doesn't matter which physical location they're installed into.

Piggy backing

*Message #13 Posted by **Geoff Quickfall** on 17 Mar 2010, 7:29 p.m.,*
in response to message #12 by Eric Smith

Physically what does this entail. find a location for the extra chip and use jumper wires to the previous chip. Is there a crossover required such as in the double-x-memory mod.

Actually, is this explained in the archives or journal?

Thanks for you help.

Of course the easiest thing is to just remove the four and swap for the one.

Cheers, Geoff

Edited: 17 Mar 2010, 7:43 p.m.

Re: Piggy backing

*Message #14 Posted by **Eric Smith** on 17 Mar 2010, 8:06 p.m.,*
in response to message #13 by Geoff Quickfall

No crossovers, the pinout is identical and there is no chip select. Piggybacking is just soldering one chip onto the legs of another, avoiding use of jumper wires. HP did this themselves in the 41CX (fullnut only), in order to get two 12Kword ROMS and eight RAMs to fit in five 8-pin DIP footprints.

Re: Piggy backing

*Message #15 Posted by **Randy** on 17 Mar 2010, 8:13 p.m.,*
in response to message #14 by Eric Smith

Piggybacking was also done in CV's when using the common C/CV/CX PC board 5081-5564.

If you want to do it in the original 41C board, use only the top most position next to the toroidal transformer as any lower and the thickness will be too much for the case back to fit properly.

Re: Piggy backing, good suggestion and noted.

*Message #16 Posted by **Geoff Quickfall** on 17 Mar 2010, 9:00 p.m.,*
in response to message #15 by Randy

don't want to have to do any milling of the plastic thats for sure.

Thanks Randy,

Geoff

Re: Piggy backing

*Message #17 Posted by **Jim Horn** on 18 Mar 2010, 11:56 a.m.,*
in response to message #15 by Randy

Geoff, Eric and Randy hit the nail on the head. That's exactly how I did mine, including the piggybacking and which chips went where. Thanks, team!

By the way, piggybacking was not uncommon back then. Many of the first Amiga owners (model 1000) piggybacked two more sets of DRAMs on those in it, giving (with the optional 256k plug in) a total of 1M of RAM - a staggering amount back then. I remember having 24 active programs crowding the screen with memory to spare. Now my HP-50g has far more memory, CPU horsepower, etc. (as does my cell phone, my PDA, and so on). Moore's Law is our friend!

I won't even describe what we did to my HP-110 Portable...

Thanks Eric

*Message #18 Posted by **Geoff Quickfall** on 17 Mar 2010, 8:13 p.m.,*
in response to message #14 by Eric Smith

Well that is that then, might throw this in an appendix for the heck of it (if it works ;-)

Cheers, Geoff

p.s. can you send my your address via email. Then I can send you the HP-01 circuit board.

one final question ;-(

*Message #19 Posted by **geoff quickfall** on 18 Mar 2010, 12:21 a.m.,*
in response to message #14 by Eric Smith

the donar chip is labelled:

1LE701

is that equivalent to your:

1LE7-0001

==========

That would be all but as an extra I am going to take pictures of the 3 CV boards I have.

two of these have piggy backed D/S and one does not.

Re: one final question ;-(

*Message #20 Posted by **Eric Smith** on 18 Mar 2010, 5:18 p.m.,*
in response to message #19 by geoff quickfall

Yes. They usually leave off the first two zeros of the suffix printed on the 8-pin parts, but the official part number is still 1LE7-0001.

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Further to an earlier posting, Method to the madness!

*Message #1 Posted by **Geoff Quickfall** on 16 Mar 2010, 1:14 p.m.*

Earlier this month the qestion was asked:

"is more valuable a 41cx broken calculator than a good one?"

As the person that purchased the HP-41CX I can let you in on the reasoning. The same seller was also auctioning the following HP-41C parts which I purchased for 122 USd:

```
1.  two HP-41CV boards
2.  two HP-41C boards
3.  one complete HP-41CV case
4.  one complete HP-41C case
5.  one half HP-41CV top with a 41CX bottom.
6.  one partly diassembled card reader (with all parts)
7.  various screws, zebra strips and misc.
```

Combine this with the HP-41CX not working auction for 98 USd. This calculator in fact was working but had an HP-41C bottom shell and HP-41CX top shell. Also the not working part was the connection between the module i/o block and the keyboard pca. Cleaned the contacts and it is now fully functional.

Also, I have Roger Hills original HP-41C with all the bugs and a bad LCD driver and Gene Wrights HP-41C with all the bugs and a bad ram chip.

After testing the parts auction I now am able to:

```
-  replace Genes Ram chip (which will be returned to the owner)
-  replace Rogers LCD panel (which will be returned to the owner)
-  repare and rebuild the card reader
-  repare and rebuild two HP-41CVs
-  repare and rebuild one HP-41C
-  swap out the wrong HP-41C shell on the CX with the correct
   bottom shell
```

so for approximately 200 USd I will have:

```
-  six functional HP-41xx's (two being returned as fixed to
   their owners.
-  a functional card reader.
-  some spare parts.
```

The moral is, sometimes auctions aren't all they appear!

Cheers, Geoff

Edited: 16 Mar 2010, 1:27 p.m.

Re: Further to an earlier posting, Method to the madness!

*Message #2 Posted by **Gene Wright** on 16 Mar 2010, 2:48 p.m.,*
in response to message #1 by Geoff Quickfall

Geoff the magnificent wrote:

"After testing the parts auction I now am able to:

- replace Genes Ram chip (which will be returned to the owner)"

Gene: Yay! My baby will soon be home. Do tell me what I owe you.

Woohoo... and this news on my BIRTHDAY as well. Makes getting older more fun.

Re: Further to an earlier posting, Method to the madness!

*Message #3 Posted by **Marcus von Cube, Germany** on 16 Mar 2010, 6:49 p.m.,*
in response to message #2 by Gene Wright

Congrats on your birthday, Gene!

Re: Further to an earlier posting, Method to the madness!

*Message #4 Posted by **Massimo Gnerucci (Italy)** on 17 Mar 2010, 2:38 p.m.,*
in response to message #2 by Gene Wright

Gene, congratulations from a fellow 3.16er!!

Greetings,
Massimo

Re: Further to an earlier posting, Method to the madness!

*Message #5 Posted by **Michael Meyer** on 16 Mar 2010, 5:48 p.m.,*
in response to message #1 by Geoff Quickfall

Very nice work, Geoff. Very nice follow-up!

Re: Further to an earlier posting, Method to the madness!

*Message #6 Posted by **BruceH** on 16 Mar 2010, 6:47 p.m.,*
in response to message #1 by Geoff Quickfall

> Quote:
>
> After testing the parts auction I now am able to:
>
> ```
> -  replace Genes Ram chip (which will be returned to the owner)
> ```

I think Gene will want the 41 back, not the ram chip. ;-)

Re: Further to an earlier posting, Method to the madness!

*Message #7 Posted by **Geoff Quickfall** on 16 Mar 2010, 9:38 p.m.,*
in response to message #6 by BruceH

Thanks Bruce!!

Did not think that anyone would catch that (or) just bad grammer on my part.

Cheers

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OT, but where better to ask?

*Message #1 Posted by **P.Hart** on 16 Mar 2010, 11:45 a.m.*

Where better to ask what is the best replacement for the HP LX machines? Since the early 90's I have used a HP 100LX, a 200LX 1MB and a 200LX 2MB as personal organisers. The hinges on the first two broke and sadly the third is now going the same way. Any LX bought now would be very expensive or well on its way to a similar fate. Which currently available machine would people recommend as a replacement? The must-have LX features for me are the appointments, phone book, custom database, spreadsheet, note taker and filer applications and the ability to install other programs. Very grateful for any recommendations.

Re: OT, but where better to ask?

*Message #2 Posted by **Mark Henderson** on 16 Mar 2010, 12:26 p.m.,*
in response to message #1 by P.Hart

I replaced my LXs (95->100->200) with a Sharp Zaurus SL-C3200 - amazing little machine (full Linux, built in apps, color, keyboard, 6GB hard drive). There are others in the series that are very similar (SL-C3100, SL-C3000, SL-C860 etc.). All imports from Japan but available here and there, of course on E*ay etc. And you can run HP calc emulators on it! Recommended.

Re: OT, but where better to ask?

*Message #3 Posted by **Egan Ford** on 16 Mar 2010, 12:46 p.m.,*
in response to message #2 by Mark Henderson

I still have my SL-C860. It was my PDA from 2004 until 2008. Having a color VGA (640x480) Linux machine in my pocket was awesome. I could do so much on it. My HP calc ports can still be obtained from here: http://sense.net/zc/. Click on the x48, nonpareil, and free42 directories. I also ran EMU71 and EMU41 in Bochs. You could probably run an LX emulator in Bochs (my bochs build is also at the aforementioned URL).

Sadly I had to dump it as a PDA. It was a great pocket Linux machine, but a lousy PDA. Syncing was the top issue. I also got tired of hauling around two devices (Phone and PDA). In 2008 I got the iPhone.

My primary uses for my C860 was:

1. SSH and VNC access to customer machines.
2. Video and music.
3. PDA stuff.
4. HP Calcs.

The iPhone has all of that and many HP calcs too (e,g, 1*C, 41CX, 42S, 48*, 49G).

It was hard not having a keyboard at first, but I adapted.

Re: OT, but where better to ask?

*Message #4 Posted by **Dave Britten** on 16 Mar 2010, 12:42 p.m.,*
in response to message #1 by P.Hart

Here are a few possibilities I can think of at the moment.

Psion 5/5mx - Spreadsheet is pretty weak compared to Lotus 123, and the database application isn't as full-featured, but it's got all the basic functionality, plus a nice, big keyboard. You can sync with Outlook 2007, and even synchronize multiple computers to separate calendar or data/contact files (one of very few PDAs I've seen that can do this). Not as much Epoc software readily available as there is for DOS. The built-in programming language is kind of like QBasic, but notably lacking dynamic allocation without a lot of pointer tricks.

Later model HP Jornada (e.g. 700 series), or NEC Mobilepro - It's Windows CE, which you may or may not have strong feelings for/against. The later versions include Pocket Access, which is pretty stripped down, but still functional. Battery life will be lessened due to the backlight and color screen. Again, Pocket Excel is no Lotus 123.

Old HP OmniBook - You know, the old ones with the little fly-out plastic mouse. It's larger than a 200LX, but still pretty darn small for a laptop. The advantage here is the mountain of DOS/Win3.1/Win95 software you could load on the thing. I believe some (all?) of these included an HP Calc application that's much like the one on the 200LX.

HP OmniGo - Not as impressive as the 200LX, and not nearly as DOS compatible, but they can be found pretty cheaply at times. Runs GEOS, with a touch-screen, and the keys are a little bit bigger. It's been a while since I messed with mine, but I don't think the database application was as good as the 200LX. Compact Flash compatibility is limited, as I recall.

Re: OT, but where better to ask?

*Message #5 Posted by **Bill (Smithville, NJ)** on 16 Mar 2010, 1:12 p.m.,*
in response to message #4 by Dave Britten

If the 200LX really meets yours needs, then I don't think getting a replacement is really that expensive - just did a check on the bid site and many go for less than $200. Considering that many people pay that much for a new cell phone every year or so, it doesn't seem outrageous to pay that much for something that really does what you want it to do.

Many of the other options have already been mentioned. The Psion, Zarus, Wince machines will all fill the bill. The NEC Moblepro's are some of the best WINCE machines and can be had for very reasonable prices. Nice keyboard and there is a lot of old software that can be found on the net. One thing to remember on all the Wince machines, rechargeable batteries may be next to impossible to come by. Some of the machine did have an accessory to use standard penlight batteries (I think the Nec Mobile pro did).

While large (compared to the 200LX), the HP Omnibook series are fantastic computers and do have a fairly complete version of the HP-Calc and HP-Appt, plus you could load the 200LX connectivity software on it to fully emulate the 200LX.

The best one is the OB-430 which was the last one to still run directly off of penlight batteries. You can use standard Compact Flash cards for a C-Drive and still access two other CF cards as Drives A & B. While normally runs MSDOS and WIN 3.1, I've also have CF Cards loaded with older version of Linux and CPM/86. A really fun machine to play with.

But I still recommend just getting another HP-200LX.

Bill

Re: OT, but where better to ask?

*Message #6 Posted by **P.Hart** on 16 Mar 2010, 6:27 p.m.,*
in response to message #1 by P.Hart

Thanks everyone, just the superbly informative response I was hoping for. Now I must sort out the recommendations. Mention of Psion by Dave Britten prompts me to mention that I dug out my old Psion LZ64, not seen since it gave way to the LX100. It still works perfectly except that the data packs are unreadable. It's a bit too simple to replace an LX but at least there were no hinges to break.

Re: OT, but where better to ask?

*Message #7 Posted by **Dave Britten** on 16 Mar 2010, 6:41 p.m.,*
in response to message #6 by P.Hart

The Organiser II is a pretty cool machine. There's even a Y2K patch for the CM and XP models floating around. As a handheld calculator, I find it rather lousy, but for programming and expandability, I'd say it definitely gives the 41C a run for its money.

Speaking of durability, you should probably be aware that the Psion 5 is somewhat notorious for having the display ribbon cable fail over time. I don't have any first-hand experience with how long it takes to fail, but it's something you should know ahead of time, and not after!

Another machine I forgot to mention is the Fujitsu Poqet PC Plus. The hardware is similar to the 200LX, but the screen and keyboard are larger (you can likely touch-type), and it features a backlight and two PCMCIA slots. I believe it has DOS 5 in ROM. That's about all it has in ROM, though - no real PIM or office software to speak of. The major drawback is that it uses a proprietary NiCd battery.

Re: OT, but where better to ask?

*Message #8 Posted by **Marcus von Cube, Germany** on 16 Mar 2010, 6:45 p.m.,*
in response to message #6 by P.Hart

I'm still on the original Psion netBook, an EPOC machine, as my main organizer. Its WinCE successor netBook PRO never took over.

As a backup, I have a Psion 5mx, and my 200LX is still alive, too. I've written a program to export the LX contatcs database as a vCard stack which imports easily into the Psion Contacts app. If you're interested, just ask here.

Re: OT, but where better to ask?

*Message #9 Posted by **BruceH** on 16 Mar 2010, 6:42 p.m.,*
in response to message #1 by P.Hart

[Apologies to all but P. Hart has left no email address in his profile.]

I have a spare. Email me on bruce at scorecrow dot com

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OT, but where better to ask?

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Happy square root of 10 day!

*Message #1 Posted by **Gene Wright** on 16 Mar 2010, 9:11 a.m.*

I did not think PI should have all the fun. :-)

Re: Happy square root of 10 day!

*Message #2 Posted by **Maximilian Hohmann** on 16 Mar 2010, 9:49 a.m.,*
in response to message #1 by Gene Wright

> Quote:
>
> I did not think PI should have all the fun. :-)

And why does no one think about us europeans? We get no fun at all, the way we write our dates :-(

Re: Happy square root of 10 day!

*Message #3 Posted by **Egan Ford** on 16 Mar 2010, 10:10 a.m.,*
in response to message #2 by Maximilian Hohmann

Your Pi day will come (22/7).

Re: Happy square root of 10 day!

*Message #4 Posted by **Namir** on 16 Mar 2010, 10:04 a.m.,*
in response to message #1 by Gene Wright

I remember noticing how close pi and the square of 10 were when I was playing with simple approximations for pi!

I bet you are now more aware of these things after visiting locations in Greece where old Greek mathematicians lived.

Namir

Edited: 16 Mar 2010, 10:06 a.m.

Re: Happy square root of 10 day!

*Message #5 Posted by **Crawl** on 16 Mar 2010, 10:12 a.m.,*
in response to message #4 by Namir

Supposedly, Plato suspected that pi was exactly equal to the sum of the square root of 3 and the square root of 2.

Re: Happy square root of 10 day!

*Message #6 Posted by **Massimo Gnerucci (Italy)** on 16 Mar 2010, 10:48 a.m.,*
in response to message #1 by Gene Wright

Thank you! Since today is my birthday too... and, finally, someone pointed out *my* approximation :-D

Greetings,
Massimo

Re: Happy square root of 10 day!

*Message #7 Posted by **Palmer O. Hanson, Jr.** on 16 Mar 2010, 9:15 p.m.,*
in response to message #1 by Gene Wright

Gene:

I am fairly sure that some slide rules were made with the CF scales folded at the square root of ten rather than at pi.

I am away from my files for a few days. I will try to verify it next week.

Palmer

Re: Happy square root of 10 day!

*Message #8 Posted by **Steve Keeley** on 17 Mar 2010, 2:29 a.m.,*
in response to message #7 by Palmer O. Hanson, Jr.

You are correct. I have a Hemmi 250 with the CF and DF scales folded at sqare root of ten.

Re: Happy square root of 10 day!

*Message #9 Posted by **Martin Pinckney** on 17 Mar 2010, 8:25 a.m.,*
in response to message #8 by Steve Keeley

> Quote:
>
> I have a Hemmi 250 with the CF and DF scales folded at square root of ten.

Interesting. My Posts (made by Hemmi) are folded at Pi.

Re: Happy square root of 10 day!

*Message #10 Posted by **C.Ret** on 17 Mar 2010, 7:03 a.m.,*
in response to message #1 by Gene Wright

Hey, guys !

We still have to wait 12 years before the really true square of 10 day !

3.16.22 March, 16th of 2022 ?

Or two and nearly two an a halb centuries for the high precision 10 SQR day : 3.16 2278

Happy square root of 10 day!

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HP48 One Minute Marvels

*Message #1 Posted by **Mark Henderson** on 15 Mar 2010, 7:49 p.m.*

Has anyone collected all the HP48 One Minute Marvels? I can find a few of them with Google, but I'd like to have them all.

TIA

Re: HP48 One Minute Marvels

*Message #2 Posted by **Dave Britten** on 15 Mar 2010, 9:16 p.m.,*
in response to message #1 by Mark Henderson

I believe the full document is available at hpcalc.org. I know I've downloaded it there at least once.

Re: HP48 One Minute Marvels

*Message #3 Posted by **John Cadick** on 16 Mar 2010, 8:35 p.m.,*
in response to message #2 by Dave Britten

The file name is 1minmarv.zip. It is available here: http://www.hpcalc.org/search.php?query=1minmarv.zip

John

Re: HP48 One Minute Marvels

*Message #4 Posted by **Mark Henderson** on 17 Mar 2010, 12:36 a.m.,*
in response to message #3 by John Cadick

Thank you! Perfect!

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Re: N cell alkaline batteries, inexpensive

*Message #1 Posted by **ClausB** on 15 Mar 2010, 6:03 p.m.*

Yesterday the local Radio Shack had store brand N cells at 2 for $0.99 so my 41C got its first new batteries of the millennium.

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HP-97 Card reader reassembly

*Message #1 Posted by **Ed Sowell** on 15 Mar 2010, 5:42 p.m.*

I've replaced the drive rollers, cleaned everything, and am now ready to reassmble. The problem I'm having is getting the side load springs in place.

To simplify description of the issue, I will refer to the read head assembly (motor, read head, etc) as the TOP and the frame (the part with the feet and ball recesses) as the BOTTOM.

When I took it apart the spings dutifully stayed in their recesses in the TOP as I lifted it off the BOTTOM. However, I now can't get them to stay in place as I attempt to set the TOP back onto the BOTTOM.

One would think that these springs should be set into the BOTTOM, along with the pinch roller and nylon balls so the TOP could be dropped into place without the springs falling out. However, the sping recesses in the BOTTOM are so large that they don't hold the springs in the position where they must be to mate with the smaller recesses in the TOP.

So, it's pretty clear that HP wants me to set the springs into the recesses in the TOP. However, they don't fit tight enough in the TOP recesses, so they fall out when I invert it to set the TOP onto the BOTTOM.

Sorry for being so wordy here, but I wanted to make myself clear.

TIA

Edited: 15 Mar 2010, 6:29 p.m. after one or more responses were posted

Re: Card reader reassembly

*Message #2 Posted by **John Robinson** on 15 Mar 2010, 6:26 p.m.,*
in response to message #1 by Ed Sowell

Hi Ed, I sometimes just bend them a bit more so they stay in place while reassembling.

Cheers, John

Re: HP-97 Card reader reassembly

*Message #3 Posted by **Ed Sowell** on 15 Mar 2010, 6:45 p.m.,*
in response to message #2 by John Robinson

Thanks!

To keep from kinking it I wrapped it around a 1/8" diameter dowell pin. Worked great.

Ed

Edited: 15 Mar 2010, 6:45 p.m.

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Did We Miss The 20th Anniv. of the HP48SX?

*Message #1 Posted by **Jake Schwartz** on 15 Mar 2010, 4:34 p.m.*

Hi,

I think we may have missed acknowledging the 20th anniversary of the HP48SX on 6 March. Boy was that an exciting time. The U.S. HP calculator conference in 1990 was held in the Chicago area between June 1st and 3rd and Bill Wickes and Eric Vogel visited from Corvallis. It was a really fun weekend, extending to the CHIP group meeting on the following Wednesday. I remember that the intro of the 48 really legitimized RPL to the point where most of the locals in my area who held off getting the 28C or 28S finally jumped in with both feet, migrating from their HP41 systems. Bill's book, "HP41 HP48 Transitions" was a big help.

Jake Schwartz

Re: Did We Miss The 20th Anniv. of the HP48SX?

*Message #2 Posted by **BruceH** on 15 Mar 2010, 7:14 p.m.,*
in response to message #1 by Jake Schwartz

> Quote:
>
> I think we may have missed acknowledging the 20th anniversary of the HP48SX on 6 March.

You lot on this forum may have forgotten :-P but it was a topic of conversation at the HPCC meeting in London two days ago. I had hoped to put an HP48 related article into the latest Datafile, but, sadly, there was no space. It will have to wait for the next one.

Re: Did We Miss The 20th Anniv. of the HP48SX?

*Message #3 Posted by **Seth Morabito** on 15 Mar 2010, 7:49 p.m.,*
in response to message #1 by Jake Schwartz

My first HP calculator, and still my favorite! I got mine in October 1990, and of course it's still going strong.

Re: Did We Miss The 20th Anniv. of the HP48SX?

*Message #4 Posted by **Steve Simpkin** on 15 Mar 2010, 8:06 p.m.,*
in response to message #3 by Seth Morabito

> Quote:
>
> My first HP calculator, and still my favorite! I got mine in October 1990, and of course it's still going strong.

I bought my HP48SX in early 1991 at Educalc. Richard Nelson personally verified it had the latest firmware. I had to sell my HP28S first so I could afford the 48. I still use it several times a week. Works

and looks just like it did like new. Steve

Re: Did We Miss The 20th Anniv. of the HP48SX?

*Message #5 Posted by **Eddie W. Shore** on 20 Mar 2010, 6:13 p.m.,*
in response to message #4 by Steve Simpkin

Got to go find my 48SX!

Re: Did We Miss The 20th Anniv. of the HP48SX?

*Message #6 Posted by **Namir** on 15 Mar 2010, 11:21 p.m.,*
in response to message #1 by Jake Schwartz

Jake,

Time flies bad fast. Yes of course!! I remember attending the meeting and giving a talk about the HP-48SX RPL. It was a very cool meeting.

On the way back home, I remember singer Linda Ronstadt was on the flight as she went from Chicago to Roanoke, VA. I sat facing her at the airport for an hour thinking "here is another Linda Ronstadt look-alike!" She was the real deal!!!

Namir

Re: Did We Miss The 20th Anniv. of the HP48SX?

*Message #7 Posted by **Bill Zimmerly** on 19 Mar 2010, 5:55 a.m.,*
in response to message #6 by Namir

> Quote:
>
> Jake,
>
> Time flies bad fast. Yes of course!! I remember attending the meeting and giving a talk about the HP-48SX RPL. It was a very cool meeting.
>
> On the way back home, I remember singer Linda Ronstadt was on the flight as she went from Chicago to Roanoke, VA. I sat facing her at the airport for an hour thinking "here is another Linda Ronstadt look-alike!" She was the real deal!!!
>
> Namir

(Laughing) That was cool! :)

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Adjusting card reader eccentric screw

*Message #1 Posted by **Ed Sowell** on 15 Mar 2010, 12:32 p.m.*

I would like to try the adjustment method based on motor current draw as described in the Service manual. Since my calculator is in pieces can I disconnect the motor leads and use a 1.5v(?) battery in the test?

Re: Adjusting card reader eccentric screw

*Message #2 Posted by **Geoff Quickfall** on 16 Mar 2010, 1:11 p.m.,*
in response to message #1 by Ed Sowell

Thats how I do it and I have yet to have a problem.

Cheers, Geoff

Re: Adjusting card reader eccentric screw

*Message #3 Posted by **Ed Sowell** on 16 Mar 2010, 4:25 p.m.,*
in response to message #2 by Geoff Quickfall

Just to be sure, is the motor test voltage supposed to be 1.5 volts? I recall having seen that somewhere but now can't find it.

Re: Adjusting card reader eccentric screw

*Message #4 Posted by **Ed Sowell** on 17 Mar 2010, 4:29 p.m.,*
in response to message #1 by Ed Sowell

The spec says I should adjust the eccentric screw to get 180 +/- 20 mA while holding the card from going through. The lowest I can get is about 330 mA. When the motor is running freely w/o card it draws about 190-205 mA. This is while using a nominal 1.5 volt battery, which actually is about 1.4 volts, with a digital multimeter in series.

I am using O-rings bought from the eBay seller.

Is this typical?

Edited: 17 Mar 2010, 4:35 p.m.

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HP-34C switch problem

*Message #1 Posted by **Giovanni Jimenez** on 15 Mar 2010, 11:48 a.m.*

My HP-34c turns on fine and works ok; however, when I move the right switch to "PRGM" mode, the calculator turns off.

If I then turn the ON swtich to OFF and back to ON, the 000- digits appear and seem to be working properly (i.e. I can enter a program).

Any idea why and how can this be fixed ? hopefully without opening the case.

I looked into this link but didnt find the answer:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/forum.cgi?read=164451#164451

Thank you !

Re: HP-34C switch problem

*Message #2 Posted by **Giovanni Jimenez** on 15 Mar 2010, 12:14 p.m.,*
in response to message #1 by Giovanni Jimenez

sorry...I meant this link:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=361

Re: HP-34C switch problem

*Message #3 Posted by **Ed Look** on 15 Mar 2010, 3:30 p.m.,*
in response to message #2 by Giovanni Jimenez

Giovanni, I still have my 34C, even if I have not turned it on in a few years now. The last days that it was still somewhat serviceable, I had a very similar problem.

I was more brave in those days, and I opened the 34C (I don't think nowadays I can do so without breaking the shell) and gave the switch contact strip a cleaning with a simple (but clean) pencil eraser, wiping off any dirt, probably rubbing of some of the oxides that may have built up over the years. After that, it worked much better, but only for about a year's time or less.

I tried this because even then, I called HP and they said they no longer had any of the switches on hand and these switches even then were no longer manufactured.

That was then. Now, I would recommend you try FixThatCalc.com or if one of the forum guys with experience with these Spice series HP calculators might want to see if they can do something for you.

Re: HP-34C switch problem

*Message #4 Posted by **Giovanni Jimenez** on 15 Mar 2010, 3:51 p.m.,*
in response to message #3 by Ed Look

Thank you Ed. I will contact fixthatcalc.com first.

giovanni

Re: HP-34C switch problem

*Message #5 Posted by **John Garza** on 15 Mar 2010, 5:31 p.m.,*
in response to message #2 by Giovanni Jimenez

DeOxit and DeOxit Gold work great for switches. I use the pen applicator with a slightly abrasive tip. Just scrub it on and it cleans an leaves a protective film.

Re: HP-34C switch problem

*Message #6 Posted by **Giovanni Jimenez** on 16 Mar 2010, 2:44 p.m.,*
in response to message #5 by John Garza

Thank you John. I will have to open the case after all because the quote from fixthatcalc.com came way too high (for my budget at least).

Giovanni

Re: HP-34C switch problem

*Message #7 Posted by **Ed Look** on 16 Mar 2010, 5:05 p.m.,*
in response to message #6 by Giovanni Jimenez

Well then, be careful and search for information on opening the 34C (or any Spice) shell.

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Geodat, any info about the ic's and unit?

*Message #1 Posted by **Geoff Quickfall** on 15 Mar 2010, 2:26 a.m.*

Hi there,

This was sent to me for battery replacement. Two nicads which are toast.

It contains an HPIL module (at least it looks like one). When the unit is assembled and the HPIL is plugged into the HP 41C and simutaneously into the Geodat pca the following module titles are found in CAT 2:

```
printer 2e
mass st 1h
ctl fns
```

With the HPIL plugged into the HP 41C and not attached to the Geodat pca via the 16 pin plug nothing displays, in fact the calculator freezes.

I am assuming that the ROM modules reside in the EPROM (chip with the white paper label).

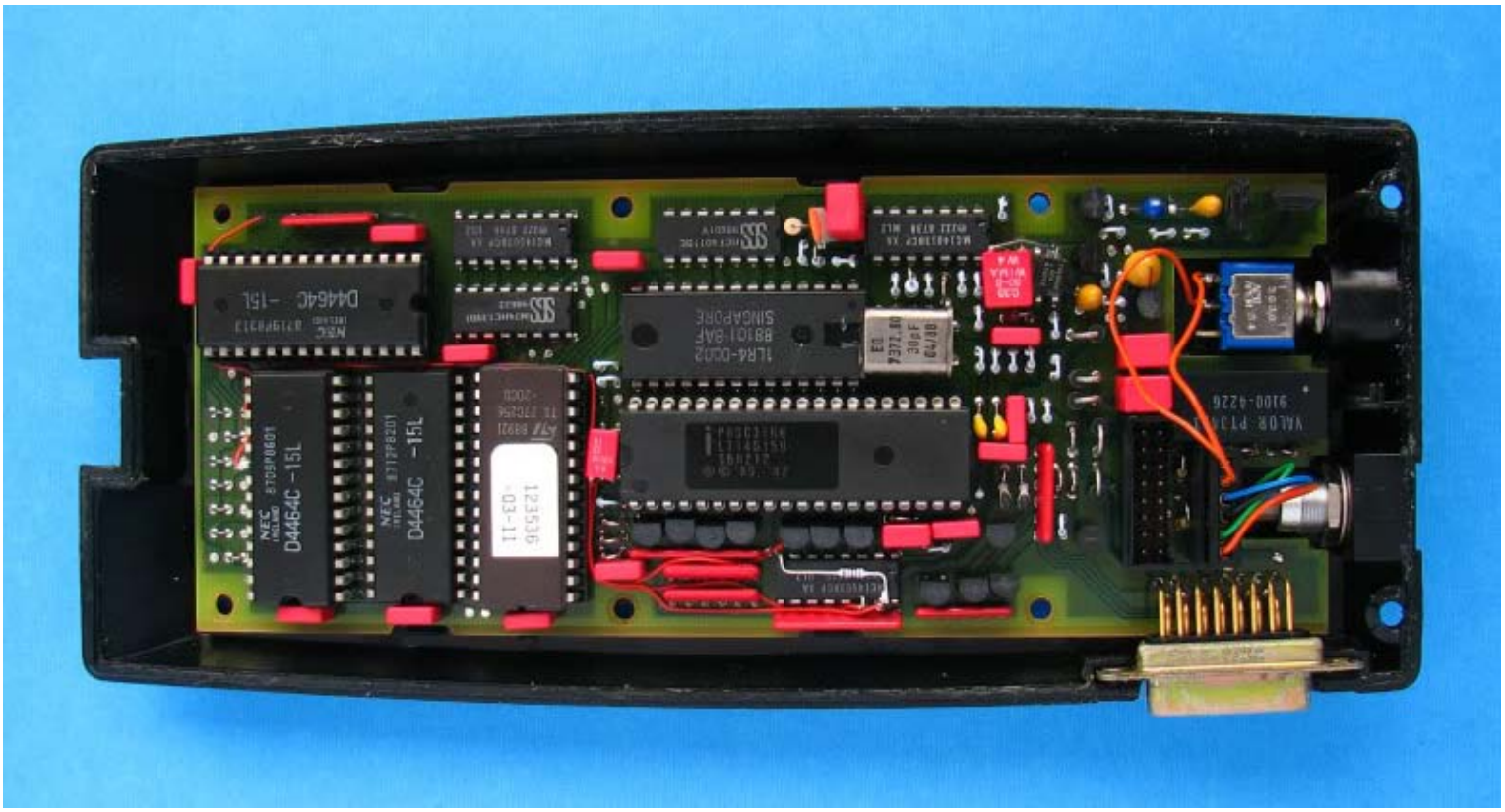
It will be an easy procedure to replace the batteries but I was wondering if anyone had any more info for this that I could supply the owner with and maybe include in the book.

check out the following pictures:

Top shell

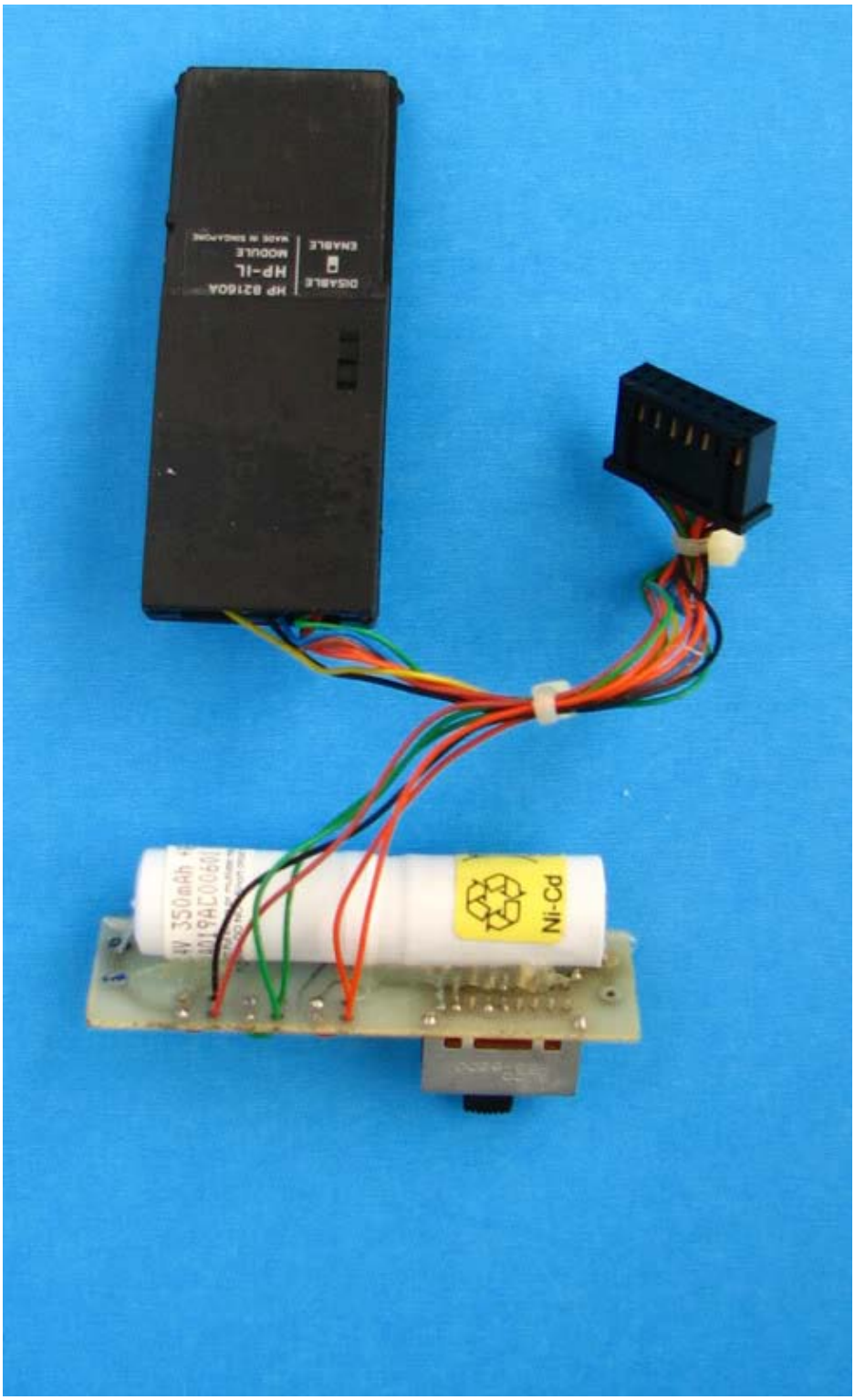
Top shell removed showing Geodat PCA and EPROM with white paper label:

Geodat, any info about the ic's and unit?



HPIL link and battery; two views:

Geodat, any info about the ic's and unit?



Cheers, Geoff

Re: Geodat, any info about the ic's and unit?

*Message #2 Posted by **Klaus** on 15 Mar 2010, 4:11 a.m.,*
in response to message #1 by Geoff Quickfall

Hi Geoff, I have the Geodat unit and a HP-41C module called "Geodat 126C". It is a takeover module that redefines nearly all the keys when the calculator boots. It only works with my HP-41CV, the HP-41CX gets a "memory lost" when this module is inserted into it.

Since the backside of the unit includes some reference to functions, I have assumed that the user can enter some user-defined functions which the Geodat then uses for calculations.

Btw, my Geodat unit has the "Printer enable" switch of the HP-IL module set to "disable".

Could it be that the calc freezes because the HP-IL loop is broken?

Kind regards, Klaus

Edited: 15 Mar 2010, 4:13 a.m.

Re: Geodat, any info about the ic's and unit?

*Message #3 Posted by **Stuart Sprott** on 15 Mar 2010, 7:05 a.m.,*
in response to message #2 by Klaus

Hi,

I am a Surveyor and just from memory I can recall that the Geodat was a data collector for the Geodimeter Theodolite. (I can't remember the model number.) This would have been in the early 1980s.

Esentially it would have captured data in the form of rectangular co-ordinates or polar co-ordinates straight from the Theodolite.

Some Surveyors used straight HP 41 calulators as data recorders and wrote their own software. They were never really a great success. There were troubles with the cable connection. For a Surveying instrument the cable connection has to be very robust in order to survive field conditions. Eary GPS units had the same problems with cables. Now days most connections are done by blue tooth.

I never used a Geodat, so I can't really comment on its reliability.

Re: Geodat, any info about the ic's and unit?

*Message #4 Posted by **Klaus** on 15 Mar 2010, 10:52 a.m.,*
in response to message #3 by Stuart Sprott

By chance, I have some photos of my unit, I have uploaded them to: photobucket

Re: Geodat, any info about the ic's and unit?

*Message #5 Posted by **Eric Smith** on 15 Mar 2010, 10:33 a.m.,*
in response to message #1 by Geoff Quickfall

The 1LR4 is a replacement for the 1LB3 HP-IL chip. As far as I know, it is functionally identical to the 1LB3-0003.

The Intel part is a ROMless microcontroller. The EPROM is firmware for that, and the three NEC chips are CMOS static RAM for it.

The "takeover module" mentioned by Klaus must be mounted in the HP-IL module itself. Does the HP-IL module look like it has been cut open and glued back together?

Re: Geodat, any info about the ic's and unit?

*Message #6 Posted by **Klaus** on 15 Mar 2010, 12:45 p.m.,*
in response to message #5 by Eric Smith

Hi Eric, I posted the link to the pictures of my unit after you replied. It seems that my unit has the same hardware as the other unit, so it guess the other unit will require the takeover-module (which is in a standard HP-41C module housing), as well

Regarding the hardware, I found a reference in "the american surveyor" (the page says november, Copyright 2007, so this is likely to be the issue date) to the hardware, claiming that in 1981 the "Geodimeter 140 Series and GeoDat 126 Data Collector" were introduced. I found the page on the internet, it contains the history of Geotronics titled "A Company of Firsts".

Edited: 15 Mar 2010, 12:46 p.m.

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Is the HP49G+ that bad?

*Message #1 Posted by **Han** on 14 Mar 2010, 10:41 p.m.*

I just got one off eBay for just over $33. I did a search for completed auctions, and it appears that most sell for very little. Are these really so bad that most people are willing to part with them for so little?

(edited for spelling)

Edited: 14 Mar 2010, 11:59 p.m. after one or more responses were posted

Re: Is the HP49G+ that bad?

*Message #2 Posted by **Reth** on 14 Mar 2010, 11:14 p.m.,*
in response to message #1 by Han

AFAIC, yes. I've got one and I'm ready to give it away($0.00 plus postage). It's one of the very first built units, currently with HP50 screen protector
Cheers

Re: Is the HP49G+ that bad?

*Message #3 Posted by **Han** on 14 Mar 2010, 11:57 p.m.,*
in response to message #2 by Reth

Oh my =) I suddenly feel ripped off with my $33 purchase -- haha!

Han

Re: Is the HP49G+ that bad?

*Message #4 Posted by **Nigel J Dowrick** on 15 Mar 2010, 9:15 a.m.,*
in response to message #3 by Han

What ruined it for me was an absolutely horrible keyboard that would repeatedly register multiple key presses. If the keyboard on your model is fine (later models were better, I believe) and the colour scheme appeals to you, then you've got a bargain! It's a very powerful machine.

Nigel

Re: Is the HP49G+ that bad?

*Message #5 Posted by **Jeff Kearns** on 15 Mar 2010, 11:00 a.m.,*
in response to message #4 by Nigel J Dowrick

Mine is, I believe, a later model. CNA41900***. Although I have noticed the odd double entry key press issue in the past, I find it acceptable - notwithstanding the colour scheme and ENTER key size and placement. I would go so far as to say that the 50G is the most disappointing incremental

improvement in calculator design ever. How does a new colour scheme (albeit a very nice one), a fourth battery, a quasi-RS232 serial port, and a slightly improved keyboard (over later models) warrant a whole new model number?

Here is an old post comparing the two units. There is no fundamental difference in my opinion, and a later model 49G+ (at a good price) is a good deal.

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv017.cgi?read=111874

Re: Is the HP49G+ that bad?

*Message #6 Posted by **Tim Wessman** on 15 Mar 2010, 11:23 a.m.,*
in response to message #5 by Jeff Kearns

I wasn't with HP at the time and have heard nothing to confirm this, but I am almost certain it was so that after the several disasters on the 49g+ the customer would be able to know for certain that it was a unit without those problems.

TW

Re: Is the HP49G+ that bad?

*Message #7 Posted by **Ed Look** on 15 Mar 2010, 3:40 p.m.,*
in response to message #6 by Tim Wessman

I have a 49g+ that I had to have exchanged by HP. This one is nice and works well, no real glitches nor hiccups I can think of, off hand.

As to the 50g, I guess one could call it an incremental improvement, even over the non-improved early 49g+ version, but to me, the increase in speed coupled with the ability to use a larger SD card and faster at that, is a major thing. I... and I'm sure others too... do not like waiting too long for a calculator (or computer or microwave, or subway train) to do it's thing, whether it's a calculation or searching for a file.

Re: Is the HP49G+ that bad?

*Message #8 Posted by **bill platt** on 15 Mar 2010, 5:46 p.m.,*
in response to message #5 by Jeff Kearns

And besides, the whole "+" thing is annoying, anyway.

It would be like naming the Porsche 911RSR the 911+.

Edited: 15 Mar 2010, 5:47 p.m.

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Happy Pi Day

*Message #1 Posted by **Egan Ford** on 14 Mar 2010, 5:14 p.m.*

I have done little to nothing with Pi on my calculators since last Pi day.

Pi to 1000 digits on i41CX+ with CAS:

```
on rounded;
precision 1000;
pi;
```

Happy Pi Day.

Re: Happy Pi Day

*Message #2 Posted by **Eddie W. Shore** on 14 Mar 2010, 9:54 p.m.,*
in response to message #1 by Egan Ford

Happy Pi Day! :)

Re: Happy Pi Day

*Message #3 Posted by **Iqbal** on 15 Mar 2010, 10:43 a.m.,*
in response to message #2 by Eddie W. Shore

There was a competition in my daughter's school, and she won. She listed 370 numbers of pi by heart. As for me, I only know 3.142

Re: Happy Pi Day

*Message #4 Posted by **Gerson W. Barbosa** on 15 Mar 2010, 5:19 p.m.,*
in response to message #3 by Iqbal

Hey, I know a fancy technique to easily learn the whole hundreds, thousands figures. Hopefully you do the mnemonic work better to obtain more for the contests. Got it? :-)

Re: Happy Pi Day

*Message #5 Posted by **DavidShenk** on 15 Mar 2010, 6:42 p.m.,*
in response to message #4 by Gerson W. Barbosa

Wow, I knew a forum patterned to digits would see funny response.

Edited: 15 Mar 2010, 6:52 p.m.

Re: Happy Pi Day

*Message #6 Posted by **Gerson W. Barbosa** on 15 Mar 2010, 8:29 p.m.,*
in response to message #5 by DavidShenk

Very nice! I will not reply properly as I've become wordless. Now, for something really impressive, in case you don't know it yet, follow the link:

Poe, E. Near a Raven.

It's a 740-word mnemonic poem modelled after Edgar Allan Poe's "The Raven".

I also like this one:

How I want a drink, alcoholic of course, after the heavy lectures involving quantum mechanics.

(I don't drink, but when I had those classes I wished I did :-)

Re: Happy Pi Day

*Message #7 Posted by **DavidShenk** on 16 Mar 2010, 11:08 a.m.,*
in response to message #6 by Gerson W. Barbosa

Thank you for that link. That took quite a bit of work.

Re: Happy Pi Day

*Message #8 Posted by **fiveolddogs** on 15 Mar 2010, 3:49 p.m.,*
in response to message #1 by Egan Ford

My son and I baked two blueberry pies last night to celebrate pi day. We carved the pi symbol in the crusts to serve as vent holes.

Friends, you will just have to take my word for it when I say they were very tasty.

Re: Happy Pi Day

*Message #9 Posted by **Lyuka** on 15 Mar 2010, 3:50 p.m.,*
in response to message #1 by Egan Ford

Happy Pi day.

I was surprised by the internal digits and accuracy of the Free42.

Calculate Pi using Gauss-Legendre method. Four iteration for 24 digits accuracy.

```
LBL "PiGL"
1
STO 00
STO 02
STO 03
.5
SQRT
STO 01
XEQ 00
XEQ 00
XEQ 00
XEQ 00
+
X^2
RCL/ 02
RTN
LBL 00
RCL 01
RCL- 00
X^2
RCL* 03
```

```
STO- 02
RCL 03
STO+ 03
RCL 00
RCL+ 01
.5
*
RCL 00
RCL* 01
SQRT
STO 01
X<>Y
STO 00
RTN
```

Re: Happy Pi Day

*Message #10 Posted by **Howard Owen** on 15 Mar 2010, 6:54 p.m.,*
in response to message #1 by Egan Ford

> Quote:
>
> Happy Pi Day.

Forget Pi day, I'm waiting for Avogrado's exponent day.

Probably not going to make it to Avogrado's mantissa day.

Re: Happy Pi Day

*Message #11 Posted by **BruceH** on 15 Mar 2010, 7:21 p.m.,*
in response to message #10 by Howard Owen

> Quote:
>
> Forget Pi day, I'm waiting for Avogrado's exponent day.

6x10^23 = 6/10/23 you mean?

Much sooner than that is the day next year in January (or October) when binary becomes as easy as 1,2,3: 01/10/11

Re: Happy Pi Day

*Message #12 Posted by **Michael Meyer** on 15 Mar 2010, 7:29 p.m.,*
in response to message #11 by BruceH

And, of course, the obvious: 3.1416 will be here soon. Won't see another one of those in my lifetime.

Re: Happy Pi Day

*Message #13 Posted by **tony (nz)** on 15 Mar 2010, 8:47 p.m.,*
in response to message #12 by Michael Meyer

3/14/16 is rounded pie day ;-)

I guess 6/28 could be 2Pi day.

Edited: 16 Mar 2010, 12:04 a.m.

Re: Happy Pi Day

*Message #14 Posted by **Howard Owen** on 15 Mar 2010, 9:55 p.m.,*
in response to message #11 by BruceH

6.022142 to six decimals. So I read that as 6.02.2142. Round to four decimals and I might have a chance :)

But that is Avogrado's **mantissa** day. The exponent day is 10/23, a little over 7 months away.

Edited: 15 Mar 2010, 9:58 p.m.

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Hurray: Just got an HP-85

*Message #1 Posted by **Johnny Bjoern Rasmussen** on 14 Mar 2010, 5:08 p.m.*

Just to say that I'm happy.

Cheers!
Johnny
http://1.bp.blogspot.com/_UbExdZJBL14/S5uXI1QMbtI/AAAAAAAADtI/-l2H7oW_zrE/s1600-h/SANY0087.JPG

Edited: 14 Mar 2010, 5:10 p.m.

Re: Hurray: Just got an HP-85

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 14 Mar 2010, 5:17 p.m.,*
in response to message #1 by Johnny Bjoern Rasmussen

Nice piece!

Congratulations.

I'm positive all of us here are sincerely happy for you, too.

Cheers.

Luiz (Brazil)

Re: Hurray: Just got an HP-85

*Message #3 Posted by **Johnny Bjoern Rasmussen** on 14 Mar 2010, 5:26 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Thanks a bunch Luiz. Hmmm... It has the "Error 23 SELF TEST."-syndrome though. Did anyone ever find out what the problem was?

Re: Hurray: Just got an HP-85

*Message #4 Posted by **Namir** on 14 Mar 2010, 8:38 p.m.,*
in response to message #1 by Johnny Bjoern Rasmussen

Congratulations on your new acquisition!

The HP-85 was my very first PC. I got the matrix ROM and the Advanced Program ROM. I also had VisiCalc and the Regression Pac. When I wanted to buy an external disk drive for the machine I realized that the drive costs as much as an Apple][+. So I sold my H-85 and it's software and bought an HP-85. I still long for it though. When I got the Apple][+ I was disappointed that the Apple BASIC did not do matrices. You had to write matrix subroutines from the ground up!

Namir

Edited: 14 Mar 2010, 8:38 p.m.

Re: Hurray: Just got an HP-85

*Message #5 Posted by **JDonley** on 14 Mar 2010, 11:23 p.m.,*
in response to message #1 by Johnny Bjoern Rasmussen

I completely understand your elation. My HP-85 was delivered to the house in the spring of 1980....came from Educalc for $3250 (I think). It was my first computer and I remember how awed I was upon removing it from the packing box. No computer since has given me that same feeling. It is still in my garage in the humongous case I bought for it and should still be in perfect condition. Hope yours brings as much joy as mine has.

don

Re: Hurray: Just got an HP-85

*Message #6 Posted by **Wilhelm Taylor** on 15 Mar 2010, 7:18 p.m.,*
in response to message #1 by Johnny Bjoern Rasmussen

Man oh man. I used an HP85 from '80-82 and designed some significant hardware (Xanar, medical lasers) with it. I still have my printouts for gaussian beam calcs in my files.

I recall that one of the tape drives had a game on it named "Bulls" where you corralled little bull icons while trying to keep from being caught. I was fascinated with the programming method. Anybody remember this? Brings back some memories after almost 30 years!

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Shirt pocket plotter for HP41

*Message #1 Posted by **Wilhelm Taylor** on 14 Mar 2010, 4:35 p.m.*

At HP in Colorado Springs, 1981 or 1982, we had some visitors from Palo Alto who showed us a shirt pocket plotter. It looked like a case for eyeglasses which broke open in the middle. The two halves were connected by a telescoping flat bar at the bottom and another bar (for the pen) at the top and clicked into place with enough space between then to engage a piece of 8.5" wide paper. The engineers mentioned a new grit roller system which I had not heard of at the time. This mini plotter connected via HP-IL to an HP41. The plotter drew a space shuttle - a wire frame image many of you have seen.

We were told not to take pictures or even talk about the project until it got to market. I never saw or heard about the mini plotter again but did see the first of the grit-roller plotters come out in a much larger size - the 7470A.

Watching the little plotter was fascinating. When the paper was loaded, it moved in-and-out several times, rather slowly. Then a pencil stylus came out of one half of the pack and went back and forth while the paper moved up and down to create the line image.

I have mentioned this encounter to several people and nobody seems to remember it. Am I in the Twilight Zone? Can anyone confirm what I know I saw?

Re: Shirt pocket plotter for HP41

*Message #2 Posted by **Steve Leibson** on 14 Mar 2010, 10:44 p.m.,*
in response to message #1 by Wilhelm Taylor

I left HP in 1980. At least two or three years earlier, in Lovelend, Colorado, I attended a meeting where HP labs people demonstrated grit-wheel plotting. There were two projects at the time. I am pretty sure they were called SweetPea and SweetLips. SweetPea eventually became the HP 7470 plotter. I imagine the mini plotter you're describing was Sweet Lips. The paper went back and forth through the grit wheel/capstan pinch roller initially to impress tiny indentations in the paper, creating a unique sort of rack and pinion between the paper (rack) and the grit wheel (pinion). This was the essential innovation developed at HP labs and was the basis of the 7400 series HP plotters, which grew and grew. I don't think the mini plotter ever made it to market because ink-jet printers quickly took over.

Re: Shirt pocket plotter for HP41

*Message #3 Posted by **Wilhelm Taylor** on 15 Mar 2010, 10:41 a.m.,*
in response to message #2 by Steve Leibson

Thanks, Steve

The thing that intrigues me about this is having a plotter in you shirt pocket. Pure HP41 territory. I can just envision that prototype sitting in some box in a warehouse....

When'd you work at HP Loveland? I worked there pt while I went to CSU 1974-76. Continued in Colorado Springs after graduating until 82.

Re: Shirt pocket plotter for HP41

*Message #4 Posted by **Steve Leibson** on 15 Mar 2010, 11:44 a.m.,*
in response to message #3 by Wilhelm Taylor

Wilhelm,

I worked at HP in Northern Colorado (Loveland and Ft. Collins) from 1975-1980.

I admit, a shirt-pocket plotter would have been cool. These days, I'm trying not to carry so many things in my pocket. I think that a connection to wireless printers and plotters is much better.

Steve

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i41CX+ gets another plus (CAS with editor) [micro review]

*Message #1 Posted by **Egan Ford** on 14 Mar 2010, 3:36 p.m.*

i41CX+ already has a lot of pluses, e.g.:

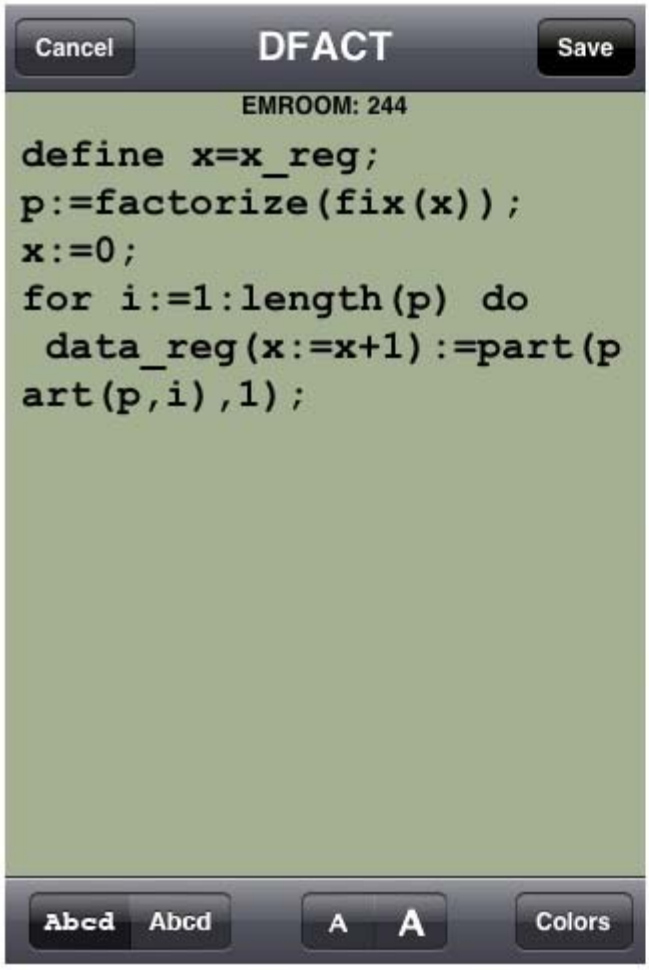
- Direct HW access (e.g. GPS, compass, accelerometer, etc...)
- Printer emulation
- Overlays and skins
- Module support including HEPAX
- Many ways to get data in and out
- ARM-based math module with advanced functions (e.g. LnGamma, LambertW, etc...)
- 5 field stack display

And soon, with the next release, CAS and a text editor.

I am currently beta testing the next release of i41CX+ and I thought I'd share with you some of the new CAS and editor features.

The Editor

There is a new command (I41CXED) that when executed will edit and/or create a text file as defined in the alpha register. The text file unless too large will be saved into XM. Any XM text file can be edited. If the file is too large then it will be saved (and can be retrieved) from XXM (extended extended memory :-). IOW, the iPhone main flash memory. AFAIK, only the I41CXED and CAS commands can actually access XXM files.



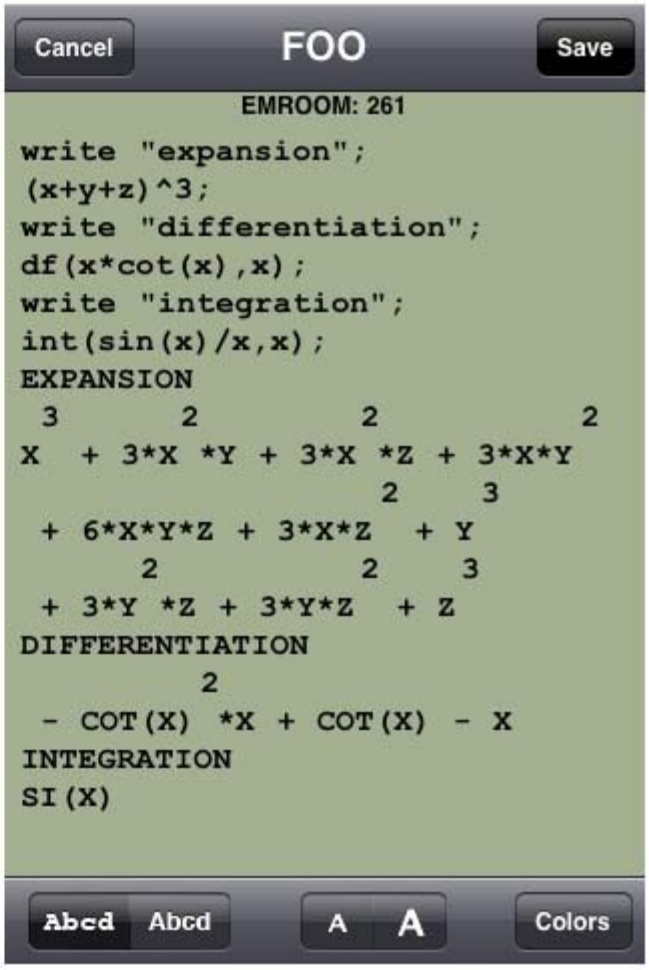
The editor supports two fonts (monospace and not monospace) with variable sizes and colors. The colors mimic the 41CX LCD, but you can toggle to black on white. Your last font, font size, and color are retained between sessions. Tapping the name of the file will drop down the keyboard.

The alternative would be to email (cut and paste) or download text files created elsewhere (also supported by i41CX+). Having the editor built-in is much nicer since the iPhone still does not allow the multitasking of 3rd party apps. I like it so much that Sigma+ is now I41CXED.

CAS

The CAS is based on REDUCE--"A portable general-purpose computer algebra system" (http://reduce-algebra.sourceforge.net/). The version of REDUCE used in i41CX+ is optimized for embedded systems (http://reduce-algebra.svn.sourceforge.net/viewvc/reduce-algebra/branches/asau-bsd-port/csl/embedded/). I use the embedded version on my MacBook to quickly prototype REDUCE programs for i41CX+. The documentation for both versions is the same and can be obtained from the first URL. (I have a PDF of the docs for any that are interested).

REDUCE is a worksheet style CAS environment similar to Mathematica, Sage, etc... Basically, you enter some expressions, statements, programs, etc... execute CAS and then view the output, e.g.:



Unless specified the output will be appended to the input. Most useful for a quick CAS session. Unlike Mathematica, Sage, and many others the input and output on the worksheet is not separated. Because of this a "re-CAS" would produce the same initial results, but then could produce a lot of errors as it parses the old output. The solution for this is to specify two files in the alpha register, e.g. FOO,BAR. Where FOO would be the input file and BAR the output file. When the editor is invoked it will stop parsing the alpha register when either a comma or end of line is encountered. If the output file does not exist then CAS will create it with the output of the input file. If the output file exists then the output will be appended. If the output file is not specified but a comma still terminates the line (e.g. FOO,), then the output is sent to /dev/null, IOW there will be no output. There is actually a use for no output when writing programs that directly manipulate the 41CX registers (more on this later).

Given all the CAS programs available for the iPhone, including HP 49g emulation in m48+, you may be asking yourself, "why?"

There are a few distinct advantages of having this CAS built into i41CX+:

1. You can write an RPN program to programmatically create a CAS input file, execute CAS, then parse the output. Large matrix operations perhaps?
2. You can write powerful CAS programs that can use any 41CX register as input and/or output.
3. Because it's CAS in a 41CX. :-)

CAS Program Examples

REDUCE programs are not much different that other structured programming languages (smells a bit like Pascal). What is unique with REDUCE for i41CX+ is that you can get and put data to any RPN register. The following table illustrates this relationship:

41CX	REDUCE
X,Y,Z,T,L	x_reg, y_reg, etc...
ALPHA	a_reg
R000-R*nnn*	data_reg(0)-data_reg(*nnn*)

Some of the following examples have been submitted for inclusion into the on-board i41CX+ examples.

FACTOR:

```
define x=x_reg;
p:=factorize(fix(x));
x:=0;
for i:=1:length(p) do <<
 q:=part(p,i);
 for j:=1:part(q,2) do
  data_reg(x:=x+1):=part(q,1);
>>;
```

FACTOR will store all the prime factors of an integer into the 41CX registers starting with R001 with the number of factors stored in X. The *fix* function converts any non-integer input to integer--input conditioning as apposed to proper error handling. If the number of registers required is not available the CAS system will exit with a DATA ERROR message. I am unsure if a flag is set on error.

FACTOR can be easily modified to only return distinct primes by replacing this block:

```
for i:=1:length(p) do <<
 q:=part(p,i);
 for j:=1:part(q,2) do
  data_reg(x:=x+1):=part(q,1);
>>;
```

with:

```
for i:=1:length(p) do
 data_reg(x:=x+1):=first part(p,i);
```

FACTOR relies on the CAS *factorize* function. *factorize* returns a list of pairs (lists), e.g. {{2,2},{5,2}}. The *part* function is one way to manipulate lists.

The *define* statement can be use to assign an alias. If you find your code using a lot of *_reg variables you can reduce your byte count by redefining some of the *_reg variables. This strategy was important with the early CAS betas, but now that XXM is supported it is less important.

REDUCE can use << >> or *begin end* to delimit blocks.

DIVIS:

```
define x=x_reg;
define r=data_reg;
r(0):=0;

procedure err(a); <<
 a_reg:=a;
 r(0):=-1;
 update_regs_and_quit();
>>;

if not fixp x then
 err """NOT INTEGER""";
if x<1 then err """X < 1""";

p:=factorize(x);
q:={1};
if x=1 then p:={};

while p neq {} do <<
 t:=first p;
 s:=first t;
```

```
 p:=rest p;
 l:=length q;

 for i:=1:second t do <<
  k:=s^i;
  for j:=1:l do
   q:=append(q,{part(q,j)*k});
 >>;
>>;

x:=length q;
if x>part(length(r),1)-1 then
 err """OUT OF REGS""";
for i:=1:x do r(i):=part(q,i);
```

DIVIS will return all the divisors of an integer into registers R001-R*number-of-divisors* with the number of divisors stored in X unless the initial X is not an integer or less than 1. In that case X is left on the stack and an error message returned to the ALPHA register. If the number of registers required is less than the number of divisors then DIVIS will exit with an error, however X will contain the number of divisors (and therefore the number of registers needed (remember to add one for R000)).

DIVIS does a better job of error handling than FACTOR. To do this I defined a procedure (err) to accept an encapsulated string as an argument that then stores that to the ALPHA register as well as stores a -1 to R000 (the default is R000=0). The last statement *update_regs_and_quit()* updates the registers then exits. If *quit* or *bye* had been used then none of the *_reg variables would have been returned to the 41CX environment.

Below is an RPN wrapper around DIVIS (also called DIVIS). R000 is used as a return code; 0 for OK, and -1 for error. If error, then AVIEW, otherwise print the divisors.

```
01♦LBL "DIVIS"
02 "DIVIS,"
03 CAS
04 RCL 00
05 X≠0?
06 GTO 01
07 RDN
08 ENTER↑
09 ENTER↑
10 1000
11 /
12 1
13 +
14 PRREGX
15 RDN
16 RTN
17♦LBL 01
18 AVIEW
19 RDN
20 .END.
```

Example output of 90 DIVIS:

```
 R01=   1.000000000
 R02=   2.000000000
 R03=   3.000000000
 R04=   6.000000000
 R05=   9.000000000
 R06=   18.00000000
 R07=   5.000000000
 R08=   10.00000000
 R09=   15.00000000
 R10=   30.00000000
 R11=   45.00000000
 R12=   90.00000000
```

If you have a 49/50 handy you will notice both output in the same order (I'll assume they use the same basic algorithm). To address the order issue I created a small *straight insertion* sort program.

SORT:

```
define r=data_reg;
for j:=2:x_reg do <<
 a:=r(j);
 k:=j-1;
 while k>0 and r(k)>a do <<
  r(k+1):=r(k);
  k:=k-1;
 >>;
 r(k+1):=a;
>>;
```

All that is needed is to call this sort in my DIVIS RPN program. Since the X register is left with the number of divisors and the sort program is expecting X to have the last register used for sorting then all that is needed is:

```
SORT,
CAS
```

New RPN DIVIS:

```
01*LBL "DIVIS"
02 "DIVIS,"
03 CAS
04 RCL 00
05 X≠0?
06 GTO 01
07 RDN
08 "SORT,"
09 CAS
10 ENTER↑
11 ENTER↑
12 1000
13 /
14 1
15 +
16 PRREGX
17 RDN
18 RTN
19*LBL 01
20 AVIEW
21 RDN
22 .END.
```

New output of 90 DIVIS:

```
R01=   1.000000000
R02=   2.000000000
R03=   3.000000000
R04=   5.000000000
R05=   6.000000000
R06=   9.000000000
R07=   10.00000000
R08=   15.00000000
R09=   18.00000000
R10=   30.00000000
R11=   45.00000000
R12=   90.00000000
```

Easy!

Summary

A 41CX with CAS? What's next? Graphics? :-)

I am not an expert with REDUCE. I have only quickly scanned the documentation. I cannot tell you if REDUCE is the most complete or best CAS for the iPhone. Without a complete survey its hard to say. However, I've tried just about every iPhone CAS. For programming, flexibility, and fun, this has to be my favorite (CAS is now assigned to Sigma-).

Edited: uploaded images locally

Edited: 15 Mar 2010, 11:20 a.m.

Re: i41CX+ gets another plus (CAS with editor) [micro review]

*Message #2 Posted by **hugh steers** on 15 Mar 2010, 1:17 p.m.,*
in response to message #1 by Egan Ford

Looks cool, is there a PC or non-iphone version. i dont have an iphone, but i'd like to try it.

thanks,

Re: i41CX+ gets another plus (CAS with editor) [micro review]

*Message #3 Posted by **Egan Ford** on 15 Mar 2010, 1:35 p.m.,*
in response to message #2 by hugh steers

There is the Windows PC version of REDUCE here: http://reduce-algebra.sourceforge.net/.

Re: i41CX+ gets another plus (CAS with editor) [micro review]

*Message #4 Posted by **Timo** on 15 Mar 2010, 2:02 p.m.,*
in response to message #1 by Egan Ford

Very nice work, congratulations!

I already have the emulator on my ipod Touch. I'm really looking forward to the this release...

Re: i41CX+ gets another plus (CAS with editor) [micro review]

*Message #5 Posted by **Eddie W. Shore** on 18 Mar 2010, 12:05 a.m.,*
in response to message #1 by Egan Ford

Great job, Egan.

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OT: TI-Nspire 2,0 arrived

*Message #1 Posted by **Joerg Woerner** on 13 Mar 2010, 9:15 p.m.*

Hi folks,

I received yesterday both a TI-Nspire 2.0 and TI-Nspire CAS 2.0 and played two hours or so with them.

Short answer: PERFECT CALCULATORS!!!

I found nothing to complain and look forward to spend $10 for the new Touchpad and upgrade my original TI-Nspire's. Unfortunately can the the original TI-Nspire CAS not be upgraded.

I tested all configurations with the different versions and keyboards and it look pretty impressive!

Even the new TI-Nspire with Touchpad emulates the TI-84...

Regards,

Joerg

Re: OT: TI-Nspire 2,0 arrived

*Message #2 Posted by **Don Shepherd** on 14 Mar 2010, 5:41 a.m.,*
in response to message #1 by Joerg Woerner

Looks great, Joerg.

> Quote:
>
> Unfortunately can the the original TI-Nspire CAS not be upgraded.

I'm not sure what you mean by this. I upgraded my original CAS unit to OS v2 and it works OK, just no touchpad, of course. I also upgraded my PC software, teacher CAS edition, to v2 and it works fine with the touchpad emulator.

One thing I noticed about the new programming commands, Text and Request, is that Text does let you split your text across several lines using char(13)&char(10), but Request does not. Perhaps TI will add that capability to Request in v2.1.

Re: OT: TI-Nspire 2,0 arrived

*Message #3 Posted by **Marcus von Cube, Germany** on 14 Mar 2010, 1:39 p.m.,*
in response to message #2 by Don Shepherd

Jörg seems to be referring to the simple keypad upgrade available for the non CAS version of the Nspire only. This is the $10 option he's mentioning in his post. The v2 OS is running on my older Nspire CAS with success, just with the original clickpad.

Jörg, how's the touchpad?

Re: OT: TI-Nspire 2,0 arrived

*Message #4 Posted by **Han** on 14 Mar 2010, 10:53 p.m.,*
in response to message #3 by Marcus von Cube, Germany

I don't speak for Jörg, but my personal experience with the touchpad is that it is much nicer than the clickpad, but it is still far from being as good as a touchpad found on today's laptops. When you press the MENU button, the pointer disappears. Touching the touchpad requires a few milliseconds for the pointer to reappear (i.e. moving your finger over the touchpad does not result in the immediate response of a moving cursor; there is a bit of a delay). I think I have become too used to the touchpad on my laptop, and am a bit more critical of the touchpad's sensitivity than perhaps your "normal" user.

Bottom line, however, it is worlds better than the clickpad.

Re: OT: TI-Nspire 2,0 arrived

*Message #5 Posted by **Joerg Woerner** on 15 Mar 2010, 10:57 p.m.,*
in response to message #3 by Marcus von Cube, Germany

See Han's comment below.

I agree 100%.

Regards, Joerg

Re: OT: TI-Nspire 2,0 arrived

*Message #6 Posted by **Namir** on 14 Mar 2010, 8:40 p.m.,*
in response to message #1 by Joerg Woerner

Congratulations Joerg! They look great!!!

When will the public be able to order them???? I am ordering one (or two).

Namir

Re: OT: TI-Nspire 2,0 arrived

*Message #7 Posted by **Joerg Woerner** on 15 Mar 2010, 10:59 p.m.,*
in response to message #6 by Namir

May 2010.

Joerg

Re: OT: TI-Nspire 2,0 arrived

*Message #8 Posted by **Nigel J Dowrick** on 15 Mar 2010, 9:54 a.m.,*
in response to message #1 by Joerg Woerner

They do look good. However, they still remain aimed clearly at "education", meaning schools. No differential equation graphing; still very few input and output facilities in programs (although the improvement is nice); no 3D graphing (perhaps because it isn't required in schools? I'm not sure about this). These machines are so powerful that it seems to me that they would make excellent engineering calculators or general-purpose data-collection devices. Are these latter two markets really so small that TI has chosen to ignore them?

I fear that the answer may be "yes". Will TI ever again produce a new calculator like the TI-89?

Nigel

Re: OT: TI-Nspire 2,0 arrived

*Message #9 Posted by **Timo** on 15 Mar 2010, 1:55 p.m.,*
in response to message #8 by Nigel J Dowrick

I've made the experience that functions like differential equation solver or 3D-ploting are rarely required for engineering purposes.

Personally I owned a TI Voyage 200 that I used for some time in university. When I started my first job I had it in a drawer in my office for quite a while but never used it. Everytime things like differential equations, 3D plotting or something smilar had to be tackled I used tools like Scilab ot Matlab.

Part of the reason for this is surely that these tasks were part of larger projects that needed to be documented in a traceable manner. That's something you can hardly do with a calculator unless you connect it to a printer.

So frankly, I do not see much use for such powerful calculator functions nowadays unless you need a really handy powerful unit for field use.

Re: OT: TI-Nspire 2,0 arrived

*Message #10 Posted by **Alain Mellan** on 16 Mar 2010, 1:26 a.m.,*
in response to message #8 by Nigel J Dowrick

Definitely meant for the education market, not for engineers: look at the size and position of the EE key!

Re: OT: TI-Nspire 2,0 arrived

*Message #11 Posted by **hugh steers** on 15 Mar 2010, 1:15 p.m.,*
in response to message #1 by Joerg Woerner

Nice pictures,

does anyone know if these are new improved hardware and if so what the specs are, or are the new models just variations?

thanks,

Re: OT: TI-Nspire 2,0 arrived

*Message #12 Posted by **Egan Ford** on 15 Mar 2010, 2:23 p.m.,*
in response to message #11 by hugh steers

Can it be re-purposed? C, C++?

Re: OT: TI-Nspire 2,0 arrived

*Message #13 Posted by **Don Shepherd** on 15 Mar 2010, 2:47 p.m.,*
in response to message #12 by Egan Ford

Egan, I did read somewhere about some hack that allows you to run C-developed apps on the NSpire, but I know TI would frown upon that since they guard their operating systems pretty closely. But it might be "possible".

Re: OT: TI-Nspire 2,0 arrived

*Message #14 Posted by **Joerg Woerner** on 15 Mar 2010, 11:04 p.m.,*
in response to message #11 by hugh steers

Difficult question!

The old SoC was labeled TI-NS2006 and the new one TI-NS2007 Magnum.

The old PCB had three memory chips, the new one misses the NOR-Flash. I suppose that it was integrated into the ASIC. Everything else looks identical.

Execution speed is identical, LC-display is identical.

I will post pictures of the PCB'son my website before the end of this week. Stay tuned.

Regards,

Joerg

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Repair of HP 11C

*Message #1 Posted by **Don Steele** on 13 Mar 2010, 7:13 p.m.*

New Poster - I have an older 11C and the faceplate came off. I tried to re-attach with rubber cement which was a horrible plan. I have taken it completely apart and cleaned it up. I have read prior forum articles about using using hobby tire cement to hold down the keyboard pcb and using a soldering iron to remelt stake tops to attach the pcb. Other articles talk about using tire cement or gorilla glue for the faceplate. Opinions about what is best?

The foam connector between the keyboard pcb and the display/cpu came off. This has a black side and a red side. Which side goes next to the keyboard pcb? I think it is the black side.

Where can I get another spring? There was only one spring when I opened this up.

I appreciate your help. - Don

Re: Repair of HP 11C

*Message #2 Posted by **Michael Plant** on 14 Mar 2010, 1:45 a.m.,*
in response to message #1 by Don Steele

Gorilla glue expands, so be careful with that. I'd just use double sided tape, personally. However, I've never attempted this on a Voyager (I've never had the face plate off one), so I'm keen to hear other opinions.

Re: Repair of HP 11C

*Message #3 Posted by **geoff quickfall** on 14 Mar 2010, 12:42 p.m.,*
in response to message #2 by Michael Plant

Check this posting and scroll down through the replies:

hp 10c and 15C bezels

Geoff

I used a thin coating of contact cement applied to both pieces, the bezel and the case.

Edited: 14 Mar 2010, 12:44 p.m.

Re: Repair of HP 11C

*Message #4 Posted by **Dave Shaffer (Arizona)** on 14 Mar 2010, 1:43 p.m.,*
in response to message #3 by geoff quickfall

> Quote:
>
> I used a thin coating of contact cement applied to both pieces, the bezel and the case.

A minor warning: contact cement gives you NO second chance at alignment - once the two pieces touch, you can not slide them around.

Re: Repair of HP 11C

*Message #5 Posted by **Geoff Quickfall** on 14 Mar 2010, 2:33 p.m.,*
in response to message #4 by Dave Shaffer (Arizona)

Dave is correct.

To minimize the need to realign I start with small points of application on the bezel with corresponding points on the case. There is no need to coat the entire bezel and case at all contact points.

Then, with the bezel at a 45' angle to the case (longitudinally) place the bezel on the case starting at one end. Line it up at this point then lower the opposite end confirming the line up, until the bezel is in place.

If after this it is out of alignment, a reaplication of heat on the bezel as described (and as the glue is new) will allow you to remove the bezel and reapply it -or- to remove the bezel, pick off the glue from the case and bezel and reapply it.

Cheers, Geoff

I have used this method for applying Classic labels, Voyager bezels, Pioneer keyboard overlays and have never had to remove them yet (perhaps just lucky)

In any case (pun intended) let us see the results.

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Repaired 41C

*Message #1 Posted by **ClausB** on 13 Mar 2010, 8:09 a.m.*

I repaired my 41C's flex circuit which was damaged by corrosion. In testing, I found something odd. With no other modules in place, the Math Pac worked in port 1 but not in port 2. The display would come on but then no response to any key, including power. The repair is on the port 1/3 side of the flex circuit, not the port 2/4 side.

However, with a 4X RAM in port 1, the Math Pac works in port 2. I read that the ROM has to come after the RAM, but why would the ROM not work without the RAM?

(Edited: they're ports, not slots. D'oh!)

Edited: 13 Mar 2010, 11:08 p.m. after one or more responses were posted

Re: Repaired 41C

*Message #2 Posted by **Jeff Kearns** on 13 Mar 2010, 8:41 a.m.,*
in response to message #1 by ClausB

I believe you are simply not allowed to leave slot 1 empty. Although the instructions indicate that you can leave 'gaps' e.g. memory module in port 1 and application module in port 3 or 4 with port 2 empty etc., you may have to use port 1 first in either case.

Re: Repaired 41C

*Message #3 Posted by **Massimo Gnerucci (Italy)** on 13 Mar 2010, 8:58 a.m.,*
in response to message #2 by Jeff Kearns

The only requirement is to fill lower ports with RAM modules (if present). How could you use Card reader (and associated ROM) without additional RAM modules otherwise?
Since you mention corrosion check that you got rid of all of it

Greetings,
Massimo

Edited: 13 Mar 2010, 9:01 a.m.

Re: Repaired 41C

*Message #4 Posted by **ClausB** on 13 Mar 2010, 7:59 p.m.,*
in response to message #3 by Massimo Gnerucci (Italy)

The only corrosion I found on the PCB was a bit on the gold contacts to the flex circuit, easily cleaned off. The flex circuit itself was badly corroded. The negative battery terminal was destroyed so I cleaned it and covered it with a metal strip that reaches up to the PCB contact. It is a bit thick so I covered the adjacent contacts with aluminum foil strips to ensure contact.

It seems to work except for the oddity noted above, but perhaps that is normal?

Re: Repaired 41C

*Message #5 Posted by **Massimo Gnerucci (Italy)** on 14 Mar 2010, 7:40 a.m.,*
in response to message #4 by ClausB

May I suggest that you try to contact Diego Diaz (http://www.clonix41.org/Maintenance/IO_Block/IO_Block.htm) for a replacement, if available?

;)

Greetings,
Massimo

Edited: 14 Mar 2010, 7:40 a.m.

Re: Repaired 41C

*Message #6 Posted by **ClausB** on 15 Mar 2010, 6:14 p.m.,*
in response to message #5 by Massimo Gnerucci (Italy)

That new flex circuit looks very nice but I recently put in new batteries (Radio Shack, 2 for $0.99) and now the Math Pac works in port 2 with or without RAM in port 1. Yay! The old batteries measured about 1.25 V each unloaded and there was no Lo Batt indicator, but they were 15 years old. They had been stored outside the calculator, after the corrosion damage had occurred with the previous set.

Edited: 15 Mar 2010, 6:20 p.m.

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HP41 faster after crash and reset?

*Message #1 Posted by **Timo** on 13 Mar 2010, 7:06 a.m.*

I've had the first unpleasant experience with my Fullnut HP-41CV yesterday. During a business trip I got it out of its pouch for some quick calculations only to discover that it had turned completely nuts over night.

It did not turn on correct, displayed only garbage, etc. All quick recovery actions failed. When I got home I was able to reset it by taking out the batteries, shorting the contacts for half an hour (combined with pressing the On-key for two minutes), then pressing Backspace-Enter-On a couple of times. That when I was able to turn it on as normal again, and after performing a master clear (Backspace-On) the episode was over.

However, when I had my programs wanded in again I had the impression, that the calculator is now a good bit faster than before. Is that only in my imagination or can this really be true?

Maybe discharging all the capacitances in the system cleared some memory garbage or else??

And BTW, how can such a crash happen in the first place? I mean, I didn't even touch the unit before it went nuts...

Re: HP41 faster after crash and reset?

*Message #2 Posted by **Håkan Thörngren** on 13 Mar 2010, 1:11 p.m.,*
in response to message #1 by Timo

Maybe you just went out of USER mode? That can make the calculator a lot more responsive.

HP-41s can get lost, crash and lose the memory. It is not common, but I think it happens a little bit more often than most other LCD HP calculators which tend to be very stable. (I have extremely little experience with LED calculators, so I will not judge them).

I do not know why, maybe it is due to the zebra strip in the early ones, in combination with temperature variations?

Re: HP41 faster after crash and reset?

*Message #3 Posted by **Timo** on 15 Mar 2010, 1:40 p.m.,*
in response to message #2 by Håkan Thörngren

Oh man, sorry for this late response, but I do not find lots of time for this forum at the moment...

I don't think its attributed to the USER-Mode since I exit this mode everytime I do not need it. I don't know, maybe I was just so happy to see my little friend back alive, that I thought it's also slightly faster now...

However, what I did find regarding possible causes of a crash is this PDF: See this...

It seems to be a letter from HP to a customer who sent his HP 41 to HP for repair. In this letter they mention that strong magnetic fields or electromagnetic discharges can cause such problems on a HP-41. I

did actually hear the high pitched noise that depressed keys can emit as mentioned in this document, though it was hardly discernable.

I don't know, maybe I had it stored to close to this age-old TV-Set in my hotel room... ;)

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New ILPer version for the PIL-Box

*Message #1 Posted by **J-F Garnier** on 13 Mar 2010, 6:11 a.m.*

Hi,

Thanks to Christoph Giesselink, a new version of my ILPer software is now available.

Main change is that ILPer is now written in VC6 instead of VB2005, and no more requires the installation of the MS NET Framework.

This new version also provides several fixes and improvements: the ILPer window can be minimized and restored without problems, the COM port can be selected from a list of available ports, there is a “open file” buttom to select the disc image file, and finally the settings (COM port and speed, image file name) are saved.

I recommend using ILPer to transfer data/programs between HP41/71 and Emu41/71, even if Emu41 (and Emu71 very soon) provide native PIL-Box support. ILPer is faster and more robust.

J-F

Link to My HPIL page .

Re: New ILPer version for the PIL-Box

*Message #2 Posted by **Christoph Klug** on 13 Mar 2010, 9:46 a.m.,*
in response to message #1 by J-F Garnier

Dear Jean-Francois,

Thanks a lot for this great news anf for your support :-)

Best wishes - Christoph Klug

Re: New ILPer version for the PIL-Box

*Message #3 Posted by **Egan Ford** on 13 Mar 2010, 11:24 a.m.,*
in response to message #2 by Christoph Klug

> Quote:
>
> Dear Jean-Francois,
>
> Thanks a lot for this great news anf for your support :-)
>
> Best wishes - Christoph Klug

I'll second that. Thanks again!

Re: New ILPer version for the PIL-Box

*Message #4 Posted by **Geir Isene** on 13 Mar 2010, 10:12 a.m.,*
in response to message #1 by J-F Garnier

Would it be feasible to create it in Qt to have it cross-platform (Windows/Mac/Linux)?

Re: New ILPer version for the PIL-Box

*Message #5 Posted by **J-F Garnier** on 14 Mar 2010, 10:58 a.m.,*
in response to message #4 by Geir Isene

I'm not familiar with Qt. It may be possible. The C++ source files in VC6 are on my site, if someone wants to do it.

J-F

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HP 30b Business Professional

*Message #1 Posted by **Gerardo Rincon** on 12 Mar 2010, 8:01 p.m.*

I just recevied confirmation of HP shipping my new HP 30b Business Professional! I can't wait to have it.

Re: HP 30b Business Professional

*Message #2 Posted by **Don Shepherd** on 12 Mar 2010, 9:03 p.m.,*
in response to message #1 by Gerardo Rincon

Then maybe you will want to look here for some training modules, including how to program it.

Re: HP 30b Business Professional

*Message #3 Posted by **Gerardo Rincon** on 13 Mar 2010, 1:16 a.m.,*
in response to message #2 by Don Shepherd

Great Link! Thank you!

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Adjusting HP-97 card reader

*Message #1 Posted by **Ed Sowell** on 12 Mar 2010, 4:18 p.m.*

In his great write-up on replacing the rubber drive wheel, Mike Davis says "Adjust slotted shaft until the card reads and writes properly."

What's being adjusted here? Perhaps the slotted shaft, which is the axle for the gear roller and gear, is slightly excentric so turning it moves the gear closer to or farther away from the worm on the motor shaft?

Re: Adjusting HP-97 card reader

*Message #2 Posted by **Michael de Estrada** on 12 Mar 2010, 5:07 p.m.,*
in response to message #1 by Ed Sowell

Yes, the shaft is eccentric, but what is being moved is the rubber wheel against the card to increase are decrease the pressure. Too much pressure and the motor will strain and the card will pull through too slowly. Too little pressure and the card may slip and not pull through smoothly. The service manual uses the current draw in the motor as the card is held back in the reader to determine the proper adjustment.

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One HP-35 back to life

*Message #1 Posted by **Jean-Michel** on 12 Mar 2010, 4:02 p.m.*

Hello all!

I'm pleased to share with you, and especially with those who answered my question a few days ago about polarities of the HP-35, the fact that my recently acquired 35 is ALIVE. I plugged it to an adjustable current supply set to the required 3.75 V and the screen immediately showed the most beautifull "0" I've ever seen... I tested all the keys and none of them is out of use.

I now have to glue the right side of the bottom label and to refresh the silver strips just above the ON key and it will be ready to receive a new battery set.

Any hits of how to do it with current batteries?

I tried to do the same with the 25 I received from the same person, but it seems that corrosion damaged the circuitry. Surprisingly the two pcbs seems very clean. But I know that a killed electronic component may look totally normal.

If anyone of you has a better idea, he could make me even happier.

Kind regards. Jean-Michel

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Cleaning the goo off card reader

*Message #1 Posted by **Ed Sowell** on 12 Mar 2010, 2:35 p.m.*

What's a good solvent for cleaning the gooey rubber off the HP 97 card reader parts? Acetone? DesolveIt?

Re: Cleaning the goo off card reader

*Message #2 Posted by **Ed Sowell** on 12 Mar 2010, 5:45 p.m.,*
in response to message #1 by Ed Sowell

I decided to try acetone. It disolves the goo just fine, but I'm worried it might attack the plastic parts too. So far, I've used it only on the steel shaft that carries the rubber roller.

If anybody has a better idea, let me know.

Re: Cleaning the goo off card reader

*Message #3 Posted by **geoff quickfall** on 12 Mar 2010, 6:59 p.m.,*
in response to message #2 by Ed Sowell

Alcohol or rubbing alcohol (anhydrous propynol, iso-propynol). I use 99% and you can find it at the drug store. Acetone hates plastic and if you get some on the pinch roller plastic you will ruin the teeth.

In fact alcohol will remove the goo from the card reader frame work and not affect any of the plastic. Use a stif natural bristle brush and clean the eccentric cam, pinch roller, framework.

Your next step is to decide on which type of pinch roller rubber substitute you will use, silicone tubing or o-rings.

Also, once the pinch roller is cleaned and the rubber replaced the next fault area is the dampening couple (incorrectly refered to as the motor clutch). It is the tiny aluminum sleeve connecting the motor shaft to the worm gear.

It is made of the same rubber and suffers the same degradation as the pinch roller. While you are at this point you might as well replace the rubber there also otherwise the rotational stress of the new pinchroller system will cause it to fail.

Cheers, Geoff

Re: Cleaning the goo off card reader

*Message #4 Posted by **Ed Sowell** on 12 Mar 2010, 10:35 p.m.,*
in response to message #3 by geoff quickfall

> Quote:
>
> Alcohol or rubbing alcohol (anhydrous propynol, iso-propynol). I use 99% and you can find it at the drug store. Acetone hates plastic and if you get some on the pinch roller plastic you will ruin the teeth.

Good thing I asked! The Rubbing alcohol on the shelf is 70%. Will that do?

> Quote:

> Your next step is to decide on which type of pinch roller rubber substitute you will use, silicone tubing or o-rings.

I bought the O-rings from the eBay seller of same. Seemed easier than looking for a model airplane store or a medical supplier, the apparent sources of other suggested replacements.

> Quote:
>
> Also, once the pinch roller is cleaned and the rubber replaced the next fault area is the dampening couple (incorrectly refered to as the motor clutch). It is the tiny aluminum sleeve connecting the motor shaft to the worm gear.
>
> It is made of the same rubber and suffers the same degradation as the pinch roller. While you are at this point you might as well replace the rubber there also otherwise the rotational stress of the new pinchroller system will cause it to fail.

So I have to remove the motor, pull the sleeve/worm gear off, and dig the goo out of that tiny aluminum tube? What is the replacement? [/quote]

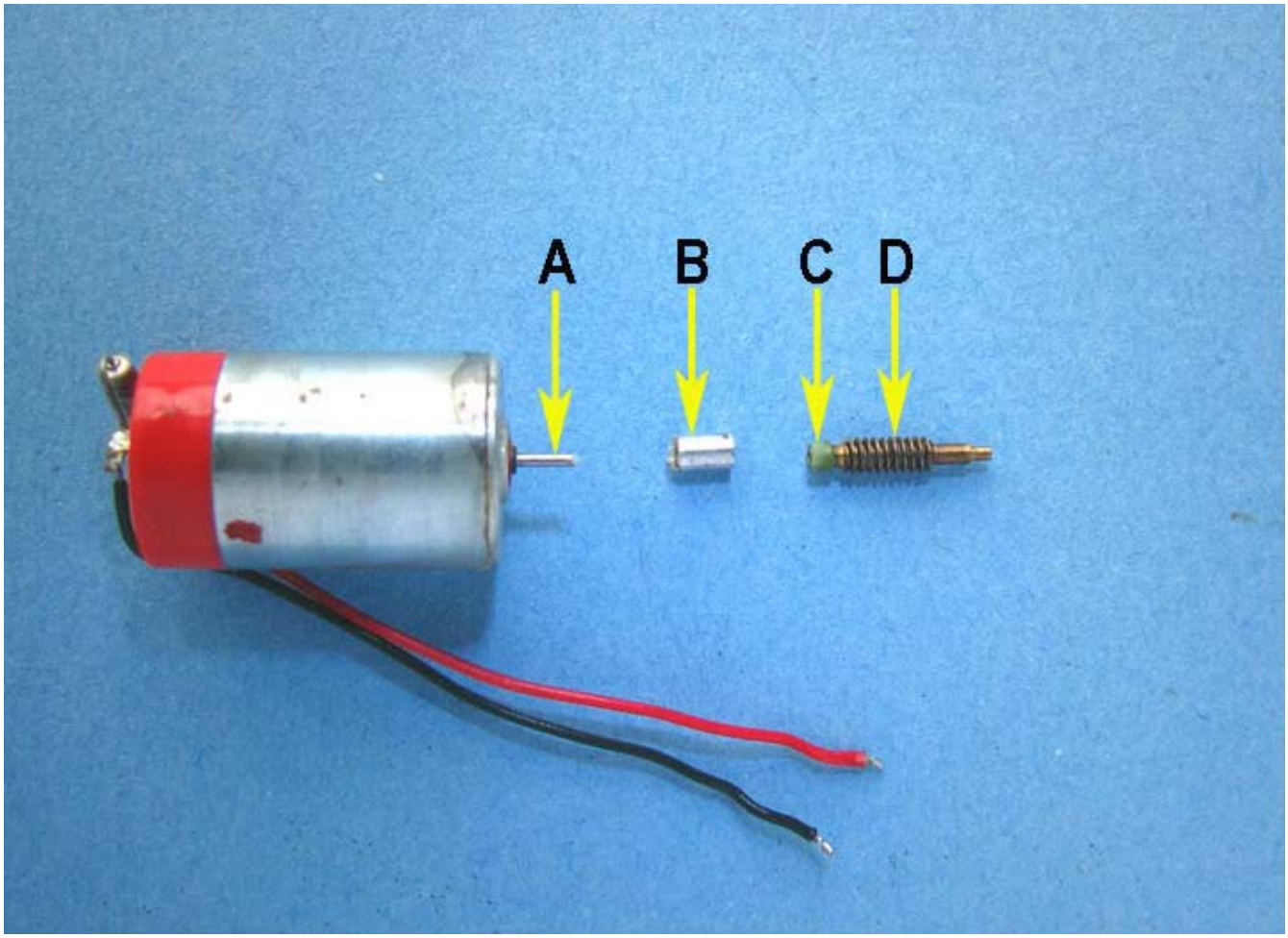
Thanks!

here you go

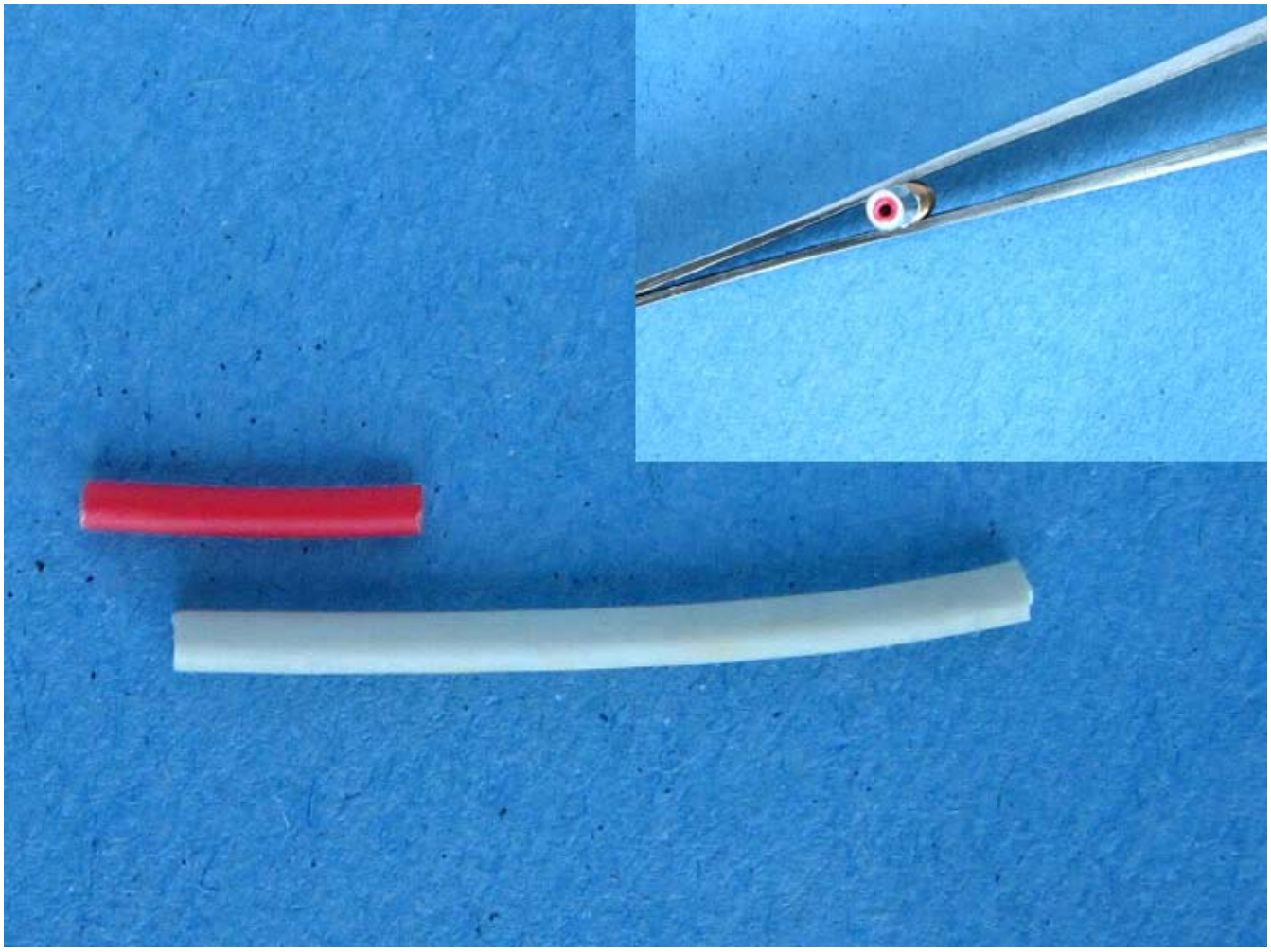
*Message #5 Posted by **geoff quickfall** on 12 Mar 2010, 11:23 p.m.,*
in response to message #4 by Ed Sowell

70% works fine, nice thing is that the alcohol will evaporate. I use it to clean the pcas and contact points. Good for the card reader head, similar to the cassette deck cleaners we used with cassettes.

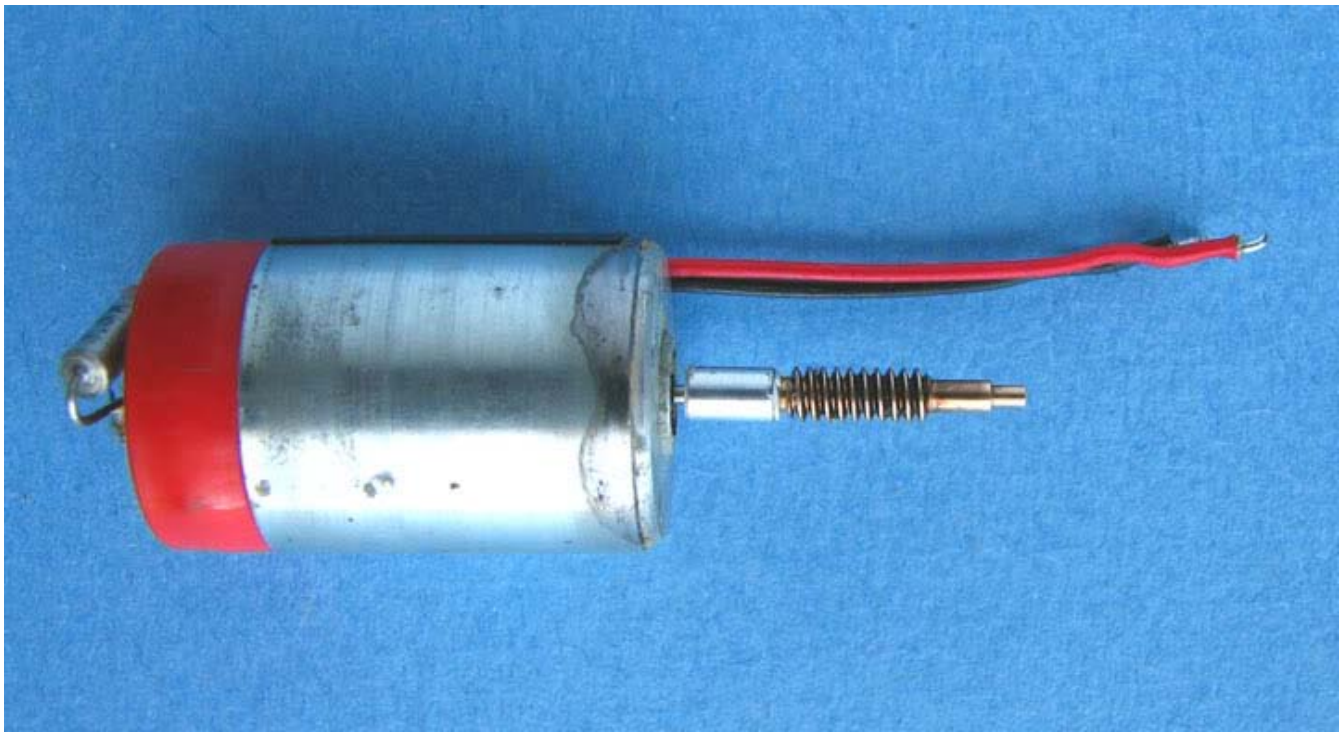
here are some photos of the dampening couple. I use two different diameter wire insulations to simulate the rubber of the original couple. remove the wires and insert the small diameter into the larger diameter. the smaller diameter will be shorter allowing the wide diameter to connect to the worm gear and the narrow diameter to connect to the spindle of the motor:



a: spindle
b: aluminum sleeve of couple
c: couple (deteriorated rubber)
d: worm gear



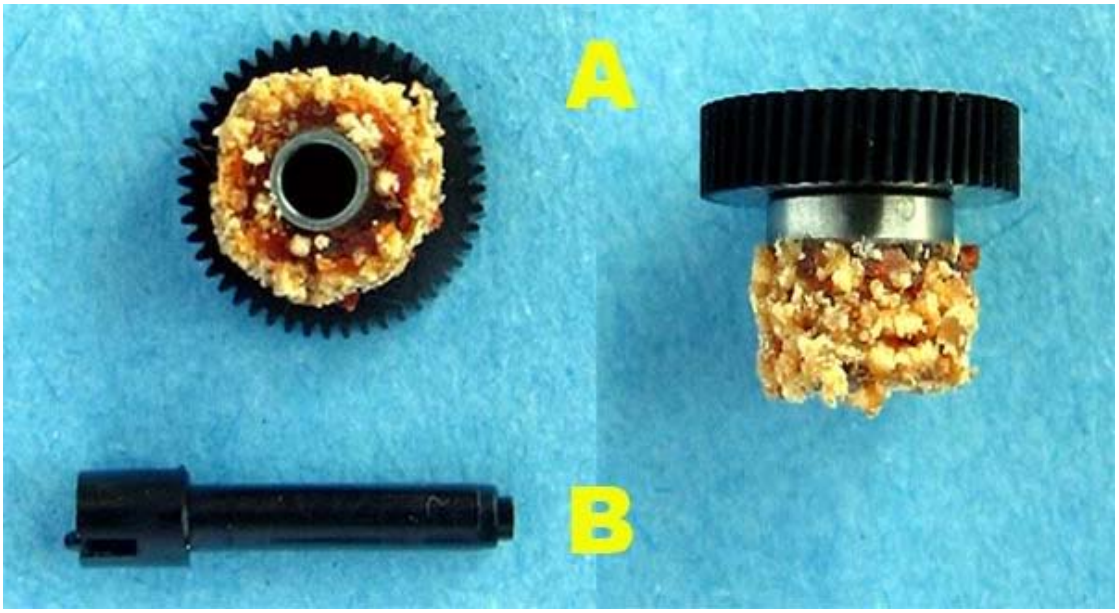
inset showing relationship of inner to outer insulation



assembled unit

I find this preserves the intent of the couple; to dampen the vibration between the motor and the worm gear.

I never tire of showing the following image of a deteriorated pinch roller from an HP-41C



cheers, Geoff

Edited: 12 Mar 2010, 11:25 p.m.

Re: here you go

*Message #6 Posted by **Ed Sowell** on 13 Mar 2010, 4:14 p.m.,*
in response to message #5 by geoff quickfall

Thanks, Goeff.

A couple more questions.

How do I tell if my dampening coupler needs to be fixed?

In the original part, was th pliable material bonded or glued to the sleeve and shaft? What I'm getting at is whether slipage is indended, or the action of a dampened spring?

Finally, do you recall the wire sizes?

Re: here you go

*Message #7 Posted by **Geoff Quickfall** on 13 Mar 2010, 5:15 p.m.,*
in response to message #6 by Ed Sowell

"How do I tell if my dampening coupler needs to be fixed?"

Because it is there ;-) Really because it is the same material as the pinch roller and age and you might as well repair it at the same time that you have it apart for the pinch roller. It saves flexing the solder joints and wires.

"In the original part, was th pliable material bonded or glued to the sleeve and shaft? What I'm getting at is whether slipage is indended, or the action of a dampened spring?"

It is compression and friction fit, no glue, that is why gluing or adding cyano acrylate as some suggest is not the best fix, although it works.

"Finally, do you recall the wire sizes?"

Not off hand and I am not at home to refer to my notes, but get the larger diameter with a slightly larger outer diameter then the aluminum sleeve and the narrow insulation should have an inner diameter smaller then the motor shaft for a friction fit. You nmight have to experiment.

Cheers, Geoff

Re: here you go

*Message #8 Posted by **Marcus von Cube, Germany** on 14 Mar 2010, 12:37 p.m.,*
in response to message #7 by Geoff Quickfall

Shrinking tube is another material suitable to fix the coupler.

Re: here you go

*Message #9 Posted by **Geoff Quickfall** on 15 Mar 2010, 2:14 a.m.,*
in response to message #8 by Marcus von Cube, Germany

Hello Marcus,

I have heard this before and was wondering if you have had first hand experience with it.

Do you remove the aluminum sleeve and just join the shaft and worm gear together with the heat shrink tube?

Or do you fit it then slide the aluminum tube over the repair. If so do you equalize the diameter of the tubing on the narrow part to equal the thickness of the tubing over the worm shaft.

Cheers, Geoff

Re: here you go

*Message #10 Posted by **Marcus von Cube, Germany** on 15 Mar 2010, 6:08 a.m.,*
in response to message #9 by Geoff Quickfall

I did it just once for my 41 card reader. I think its just the tube without the metal sleeve. You need tube with the right "shrinking factor" because the ends are of different diameter. When I find the time, I'll open the case and check again.

Re: here you go

*Message #11 Posted by **Ed Sowell** on 15 Mar 2010, 12:27 p.m.,*
in response to message #10 by Marcus von Cube, Germany

I don't see any mention of heat shrink in Geoff's method. Seems to be just ordinary insulation pulled off of solid wire.

Edited: 15 Mar 2010, 12:28 p.m.

Heat shrink

*Message #12 Posted by **Geoff Quickfall** on 15 Mar 2010, 3:06 p.m.,*
in response to message #11 by Ed Sowell

Never used the heat shrink method. I will check it out as an addendum to my HP 41C card reader chapter.

I have used the wire insulation method, but if the heat shrink works, and obviously it does, I will try it and document it.

Just recieved a box of HP 41cv cx and c boards shells and etc. Five in all and they all test even thought they have bad posts and shell washers. Looks like all five will be working when assembled and the shells repaired.

Also included was a card reader. All this for 122 USd:

```
2 HP 41C boards and one case(both boards test working)
3 HP 41CV boards and 3 cases (two boards test ok)
1 HP 41CX board and case (also tests ok)
1 HP 41 card reader disassembled in part (repairable)
```

Not a bad haul and as I stated, I will try the shrink wrap method on this card reader. The test will be to see how the hard shrink wrap dampens the vibration.

Cheers, Geoff

Edited: 15 Mar 2010, 3:07 p.m.

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Reduce fraction on HP50G

*Message #1 Posted by **olivier scalbert** on 12 Mar 2010, 2:12 p.m.*

Hello,

When I derive and eval the following function: (x^3 -8)^(1/3), I get: x^2 * (x^3-8)^(1/3)/(x^3-8)

Is it possible to simplify the (x^3-8) in order to get: x^2 / (x^3-8)^(2/3)

Thanks very much,

Olivier

Re: Reduce fraction on HP50G

*Message #2 Posted by **Glenn Shields** on 12 Mar 2010, 9:20 p.m.,*
in response to message #1 by olivier scalbert

It can be "forced" by the following: enter the expression, use DERVX in the CALC menu, press down-arrow to enter eqn writer, press down-arrow, down-arrow, right-arrow, EVAL, enter (to leave the eqn writer), then EVAL once more. You should have : x^2 / (cube root of x^3-8)^2, close to but not the fractional power you want. I'm a new user and after going thru the AUR twice, nothing comes back to me in this regard. Any suggestions? ☺

Re: Reduce fraction on HP50G

*Message #3 Posted by **Glenn Shields** on 12 Mar 2010, 9:22 p.m.,*
in response to message #2 by Glenn Shields

Sorry, that was my attempt at "alt + 1" with num-lock on, which is supposed to return a smiley. It appeared, really. Thanks, Glenn

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HP 19B

*Message #1 Posted by **Keith Midson** on 11 Mar 2010, 9:07 p.m.*

Hi Hp world,
I have two 19Bii's in my collection - one with a traditional side battery cover, and the other with a rear battery cover.
I have never seen a 19B come up for auction anywhere. I am keen to get one to compete that part of my collection, but every listing on TAS seems to be a 'ii' model!
Were there not many made? Quickly replaced by the Bii model perhaps?
Thanks, Keith

Re: HP 19B

*Message #2 Posted by **JDonley** on 11 Mar 2010, 9:58 p.m.,*
in response to message #1 by Keith Midson

I have seen them in the past on E*** auction site. Don't know how long you have been looking, but I think if you are patient you will find one on that site.

don

Re: HP 19B

*Message #3 Posted by **Allen** on 11 Mar 2010, 11:12 p.m.,*
in response to message #1 by Keith Midson

Trouble with the unmentionable site is the naming confusion with the 19b series. The 19b was the "Business Consultant II" because it followed the 18c business consultant.

The 19bii was also "Business Consultant II".... I think it causes confusion among the sellers who simply list both as "19bii"

Edited: 11 Mar 2010, 11:14 p.m.

Re: HP 19B

*Message #4 Posted by **Keith Midson** on 12 Mar 2010, 3:47 a.m.,*
in response to message #3 by Allen

Perfect! Thanks Allen - that explains it! I had always looked at the "Business Consultant II" and thought that related to the 19BII ...
Just found one on that auction site.

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Economical replacement for 42s

*Message #1 Posted by **fiveolddogs** on 11 Mar 2010, 5:43 p.m.*

During a recent move, I lost my trusty 42s. In looking to replace it, I notice two things. First, they are quite expensive to buy, apparently becoming collectible items while I was busy becoming middle-aged. And second, the current HP models are not nearly as cool as the old ones.

Now, I don't use 10% of the features the old 42s had. I use it for simple around-the-house and at-work calculations.

What I love about the 42s: the fantastic HP buttons RPN the stack the build quality

Given what I love about the 42s and that I don't need most of its special features or functions, what HP calc past or present can you folks recommend to me as a economical replacement?

Thanks!

Re: Economical replacement for 42s

*Message #2 Posted by **Martin Pinckney** on 11 Mar 2010, 6:01 p.m.,*
in response to message #1 by fiveolddogs

I think you would have to be more specific about what features of the 42s you used.

The quick answer is HP expects you to buy a 35s.

But if the feature set is adequate for your needs, then comments on this forum might suggest the new 30b has better build quality.

Re: Economical replacement for 42s

*Message #3 Posted by **Allen** on 11 Mar 2010, 7:07 p.m.,*
in response to message #1 by fiveolddogs

are emulators an option for you ? http://delicious.com/elegant.algorithm/calculator+emulator

Re: Economical replacement for 42s

*Message #4 Posted by **Michael Meyer** on 11 Mar 2010, 7:20 p.m.,*
in response to message #3 by Allen

For basic calculations, there's no better deal (IMHO)than a vintage HP-12C. You can buy one for $10 or less at that auction site, if you watch-- there's always a bunch of them being sold. HP keyboard, RPN, etc. But, personally, I wouldn't be able to sleep well at night without replacing the 42S. I'd pick up a 32S as a backup to that. But that's a collector's point of view..... P.S. Wait until you try an HP-25. You'll like that one, too..... it has LED's.

Re: Economical replacement for 42s

*Message #5 Posted by **Dave Britten** on 11 Mar 2010, 7:16 p.m.,*
in response to message #1 by fiveolddogs

The 17bii might be a good option if you don't need trig or other advanced scientific functions. They can be found much cheaper than the 42s. The 32s and 32sii are also quite nice if you don't mind spending a bit more. The 30b that was just released looks promising, but I haven't had a chance to try one yet. If a grapher isn't out of the question, the 48SX and 48G have been available at very reasonable prices lately (I'd lean toward the 48SX personally).

Re: Economical replacement for 42s

*Message #6 Posted by **Martin Pinckney** on 11 Mar 2010, 7:37 p.m.,*
in response to message #5 by Dave Britten

> Quote:
>
> The 17bii might be a good option if you don't need trig or other advanced scientific functions.

This is actually probably the best suggestion - it has the same form factor as the 42s, also a two-line display, and uses soft keys - RPN option - you'll feel right at home!

Re: Economical replacement for 42s

*Message #7 Posted by **Dave Britten** on 11 Mar 2010, 8:30 p.m.,*
in response to message #6 by Martin Pinckney

Plus it does list-based stats, rather than summation registers, which I much prefer. And you CAN get it to do trig if you're patient enough to (mis)use the solver to implement these functions. Check the articles forum for a few implementations.

Oh, and you can also use it as an alarm clock - the 42s doesn't do that! ;)

I find that it's a very underrated machine, if prices are any indication. (Ditto for the 20s.)

Trig on 17BII

*Message #8 Posted by **Martin Pinckney** on 11 Mar 2010, 10:01 p.m.,*
in response to message #7 by Dave Britten

> Quote:
>
> ... you CAN get it to do trig ... Check the articles forum for a few implementations.

I checked, and found four, I think, by Gerson Barbosa, W. B. Maguire II, and Michael Blankenship. Hope I didn't leave anyone out.

Anyone tried all and compared these methods?

Re: Trig on 17BII

*Message #9 Posted by **Nigel J Dowrick** on 12 Mar 2010, 5:55 a.m.,*
in response to message #8 by Martin Pinckney

I believe that there are several different calculators, all called 17Bii. The earliest looks just like the HP-42S; it's fine. After that came a multi-coloured model that looks great but apparently has very poor build quality (I don't have one myself). The current 17Bii is silvery-looking and solidly-built; I picked up a second-hand one cheap and (apart from the lack of trig functions) it's one of my favourite machines. I'm hoping that the new 30b has a similar build quality.

Nigel

Re: Trig on 17BII

*Message #10 Posted by **Don Shepherd** on 12 Mar 2010, 6:40 a.m.,*
in response to message #9 by Nigel J Dowrick

> Quote:
>
> I believe that there are several different calculators, all called 17Bii.

Well, first there was the 17b (algebraic), then the 17bii (added RPN). These looked alike and had a great solver. Then came the brown/gold rubbery case 17bii+, with a less-than-stellar, shall we say, solver. Then about 3 years ago came the 17bii+ silver/retro look, with a great build quality but the same less-than-stellar solver.

And, yes, the 30b has the same build quality as the current silver 17bii+.

Re: Trig on 17BII

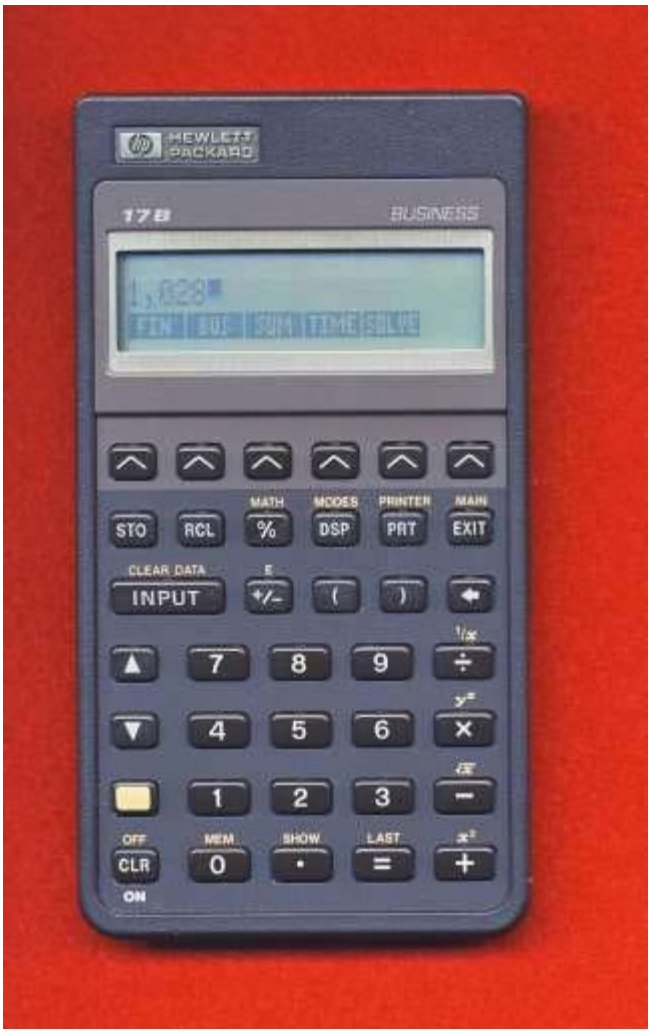
*Message #11 Posted by **Martin Pinckney** on 12 Mar 2010, 8:49 a.m.,*
in response to message #10 by Don Shepherd

Many eB** sellers add to the confusion by not making any distinction between the various ii models in their auction titles. But as far as fiveolddogs is concerned, since he is trying to replace a 42s, IMO only the Pioneer 17bii will do. No +'s.

Re: Trig on 17BII

*Message #12 Posted by **Allen** on 12 Mar 2010, 4:50 p.m.,*
in response to message #10 by Don Shepherd

Ya, I agree, the 17bii is a good replacement for the 42s I find no trouble switching between the two. I also agree it's hard to know what you're buying these days. Most online retailers don't clearly say. In order: 17b (NOT RPN!), 17bii, 17bii+ (gold), 17bii+ (silver) (images copyright Enterhp.com, used with permission)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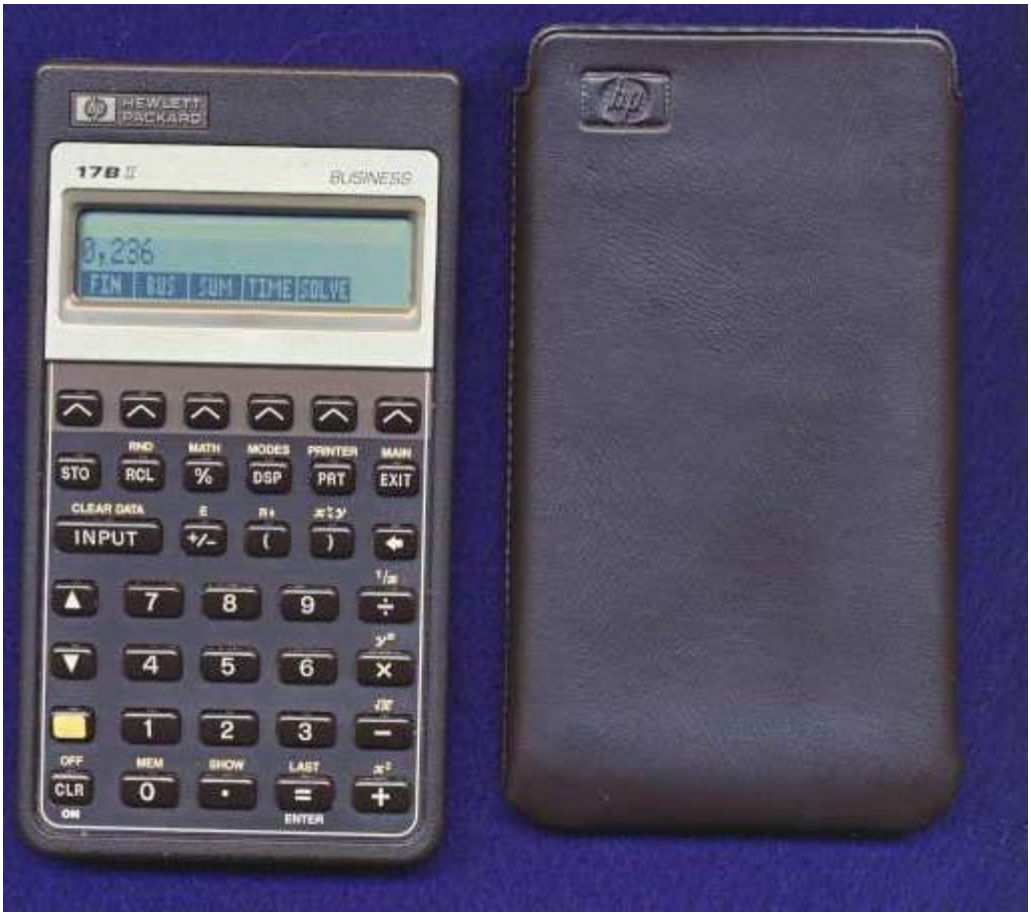
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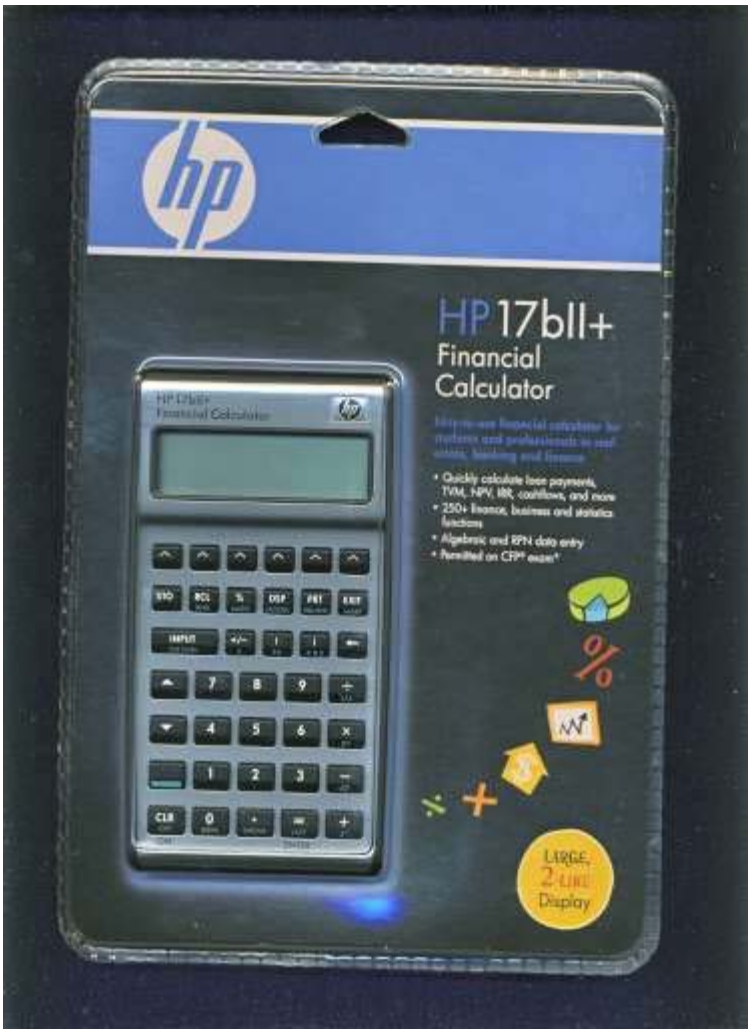

Edited: 12 Mar 2010, 4:51 p.m.

Re: Economical replacement for 42s

*Message #13 Posted by **Paul Dale** on 12 Mar 2010, 4:08 a.m.,*
in response to message #1 by fiveolddogs

If I ever get it finished, the replacement firmware (WP-34s) for the 20b (& 30b I suspect) will do most of what the 42s does (e.g. no matrix, less nice complex). Certainly closer than the 35s :)

Pauli

Re: Economical replacement for 42s

*Message #14 Posted by **Richard Reed** on 12 Mar 2010, 10:41 a.m.,*
in response to message #1 by fiveolddogs

I got quite lucky with a somewhat marred but perfectly operational 42s for $86. If that sort of price is reasonable for you, and you haven't lost patience with e***y (aka TAS), here's a description of mine:

Two dents, one significant in the bezel, but in the auction photo and in real life, no effect on the display, which starts to darken before achieving the contrast I like, but is fine, really. No discoloured pixels.

Slightly gritty looking keyboard face, but keys all firm and labels clear.

Self test is all pass.

Battery compartment is clean.

Case is from another calculator, maybe 32s.

I haven't tested the IR output yet.

I reason that I got that $86 price because the collectors weren't interested due to the cosmetic problems. I was willing to pay $200, and this was my fifth attempt to snipe at that price. Later I saw a prettier one with a failing display go for $235!

Re: Economical replacement for 42s

*Message #15 Posted by **Martin Pinckney** on 12 Mar 2010, 10:45 a.m.,*
in response to message #1 by fiveolddogs

Fiveolddogs, have gotten enough recommendations yet? :-)

Re: Economical replacement for 42s

*Message #16 Posted by **fiveolddogs** on 15 Mar 2010, 11:14 a.m.,*
in response to message #15 by Martin Pinckney

Some great information here; I really appreciate it. That last post with the pics of the 17iib's really helped clarify a few things.

I kind of like the idea of grabbing an old 12c, but I don't know if I could handle having only one line of the stack visible at a time. I may get one of these as a backup anyway, just for kicks, if I can find one in that $10-$15 range.

Right now, I'm feeling inclined to skip eBay and go with a new calc. I have to say, it's disappointing there is not a more direct replacement for the 42s on the scientific side of things.

If I understand the recommendations here, a new silver 17bii+ has a solid build with a quality keyboard and will do RPN. If that is correct, I think that's the way I'll go.

Re: Economical replacement for 42s

*Message #17 Posted by **Martin Pinckney** on 15 Mar 2010, 2:41 p.m.,*
in response to message #16 by fiveolddogs

> Quote:
>
> ... I don't know if I could handle having only one line of the stack visible at a time.
>
> If I understand the recommendations here, a new silver 17bii+ has a solid build with a quality keyboard and will do RPN. If that is correct, I think that's the way I'll go.

Correct, but remember the silver 17bii+, like all 17b's, has a two-line display, but the lower line is dedicated to the soft key menus; so you still will only see one stack value at a time.

Just so you know.

Re: Economical replacement for 42s

*Message #18 Posted by **fiveolddogs** on 15 Mar 2010, 3:44 p.m.,*
in response to message #17 by Martin Pinckney

> Quote:
>
> Correct, but remember the silver 17bii+, like all 17b's, has a two-line display, but the lower line is dedicated to the soft key menus; so you still will only see one stack value at a time.
>
> Just so you know.

Wait. Really? I just assumed those menus were only active in certain circumstances, allowing that line to display the stack most the time.

Okay, let's go back to the 35s. No one recommended this one for me, but it looks like it does 2 lines, RPN, and is a scientific calc. What is the argument against this one?

Re: Economical replacement for 42s

*Message #19 Posted by **Ron Ross** on 15 Mar 2010, 5:00 p.m.,*
in response to message #18 by fiveolddogs

You never qualified what you NEED in a calculator. If it is a similar form factor, feel and quality of the Hp 42s, the Hp 17Bii is you best physical replacement. Also has long variable names and an extremely easy solver to use. The stats functions are actually superior as its stats are list based.

If you need trig, two line display and programming, the Hp 35s is you your other solution. The programming accesses 32K of RAM but is limited to only single name variables and address numbers. In some ways, the Hp33s (aside from an ugly keyboard and no address lines) has a better keyboard with a better handling of Rect to Polar conversions and HEX,BIN,DEC conversions.

I have both, and while I like the look of the Hp35s better, I preferr to use the Hp33s. Better size and the R->P seals the deal for me. The Hp35s is nearly the physical size of a graphics calculator. It is not really a true pocket calculator.

Hp is just releasing an Hp 30B which you might also consider, but beforewarned, it has only a meager 130 keystroke steps. Not sure if you can segment these out to several programs or not. Looks to be a promising calculator, but is optimized for the business user first so that trig is buried under menus, still a better option than the Hp 17bii if you do need trig though.

Sadly, the only true replacement for an Hp42s is another Hp42s. There is not yet a superior or even close replacement. If I had to replace my Hp42s and didn't have my spare, I would then use an Hp48g over the present offerings.

Currently I am in a Graduate design course and I use an Hp50G and it is fast and has lots of bell and whistles, but I still like my Hp48g better and am seriously considering stepping down to the Hp 48g(ok, +) even though it is lots slower. I just like the keyboard and the number crunching layout BETTER! Knowing this I hesitate to tell you to upgrade to any newer Hp graphics. While they have improved their keyboards and their prices are actually less than their Ti counterparts, they still don't have that old Hp feel that an Hp 48g would probably give you.

And while an Hp 48g isn't a pocket calculator, if your Hp 42s sat on your desk, an Hp 48g would probably sit on your desk just as well.

Re: Economical replacement for 42s

*Message #20 Posted by **Don Shepherd** on 15 Mar 2010, 5:39 p.m.,*
in response to message #19 by Ron Ross

> Quote:
>
> Hp is just releasing an Hp 30B which you might also consider, but beforewarned, it has only a meager 130 keystroke steps. Not sure if you can segment these out to several programs or not. Looks to be a promising calculator, but is optimized for the business user first so that trig is buried under menus, still a better option than the Hp 17bii if you do need trig though.

Hi Ron. On the 30b, the SIN, COS, and TAN functions are on the keyboard (shift key), but the other trig functions are under the Math menu, you are right. For keystroke programming, it actually has 290 bytes available, which isn't much, certainly, and many common functions take more than one byte, like STO 1 takes 2 bytes, and STO x 3 takes 3 bytes, so effectively it has the equivalent of about 130 keystrokes as we know them on the 12c, for example. Still, I agree, woefully too small. On the positive side, you can have up to 10 programs stored in those 290 bytes and each can be accessed from whatever key you want.

Re: Economical replacement for 42s

*Message #21 Posted by **Mike Morrow** on 15 Mar 2010, 6:33 p.m.,*
in response to message #19 by Ron Ross

> Quote:
>
> Sadly, the only true replacement for an Hp42s is another Hp42s. There is not yet a superior or even close replacement.

These are the most accurate words written on this subject. HP completely dropped the ball with the clownishly inadequate HP32SII, HP33S, and HP35S units. I'd rather have a $18 Casio fx-115ES than any of those.

The HP50G is the only current HP product that provides the capability of the HP42S, but it is RPL and is more than twice the size and weight. It is nonsense to suggest any financial calc as a replacement, as much as I like my HP17BII for what it does.

I have two HP42S 1993 ROM C models, one still new in box. Still, I jumped at the opportunity to buy a new condition HP42S 1989 ROM A model and manual for $120 at a ham radio flea market last week. (Minor gloat...sorry!)

Unfortunately, there's NEVER been a RPN calculator better than the 22-year-old HP42S design. If I couldn't have an HP42S, my HP50G comes closest, all things considered.

Re: Economical replacement for 42s

*Message #22 Posted by **Martin Pinckney** on 15 Mar 2010, 11:21 p.m.,*
in response to message #21 by Mike Morrow

> Quote:
>
> Sadly, the only true replacement for an Hp42s is another Hp42s. There is not yet a superior or even close replacement.
>
> These are the most accurate words written on this subject.
>
> The HP50G is the only current HP product that provides the capability of the HP42S, but it is RPL and is more than twice the size and weight. It is nonsense to suggest any financial calc as a replacement, as much as I like my HP17BII for what it does.

All true, but remember the OP stated:

> Quote:
>
> Now, I don't use 10% of the features the old 42s had. I use it for simple around-the-house and at-work calculations.
>
> Given what I love about the 42s and that I don't need most of its special features or functions, what HP calc past or present can you folks recommend to me as a economical replacement?

So that is why several recommended some of the financial calcs that they believe embody:

> Quote:
>
> What I love about the 42s: the fantastic HP buttons RPN the stack the build quality

And by the way, fiveolddogs, although I did not quite *recommend it,* for the record I did state right up front:

> Quote:
>
> The quick answer is HP expects you to buy a 35s.

After all, it is scientific, it has a two line display, and it does RPN.

Re: Economical replacement for 42s

*Message #23 Posted by **Jeff O.** on 15 Mar 2010, 10:09 p.m.,*
in response to message #18 by fiveolddogs

> Quote:
>
> Okay, let's go back to the 35s. No one recommended this one for me, but it looks like it does 2 lines, RPN, and is a scientific calc. What is the argument against this one?

Okay, I will go out on a limb and recommend the 35s. I used a 42S for many years and extolled its virtues many times on this forum. I now use the 35s almost exclusively. It has a long list of bugs and/or operating "quirks", but they are easy to avoid or just plain don't come up in normal use. As the first calculator with a dedicated "i" key, I feel I must support it.

Just my two cents, your mileage may vary!

Best regards to all,

Jeff

...

Re: Economical replacement for 42s

*Message #24 Posted by **Bruce Bergman** on 16 Mar 2010, 12:28 a.m.,*
in response to message #23 by Jeff O.

The 35s was my most recent favorite "go to" calculator. It's got a sweet look to it, reminiscent of the calcs of yore, a great keyboard and some good programmability. It is lacking in other areas, though, like use of labels in programs, general useful program options and so on.

However, my new "go to" calculator is the HP-30b. Light years better than the 20b, but retains all of the good things. For example, it has a much improved keyboard (one of the best recently), a nice display, and the programmability is better, IMHO, than the 35s. This because you can display arbitrary strings, do complex conditionals, prompt for values, reassign programs to keys and so on.

I would highly recommend you give the 30b a chance. At $49, it's also cheaper than the 35s. I think you'll be impressed.

thanks!

Bruce

Re: Economical replacement for 42s

*Message #25 Posted by **Jeff O.** on 16 Mar 2010, 8:28 a.m.,*
in response to message #24 by Bruce Bergman

The 30b is a nice calculator. A repurposed 30b would be awesome. However, in its standard financial calculator form, I do not consider it to be an acceptable replacement for a scientific calculator.

...

Re: Economical replacement for 42s

*Message #26 Posted by **John B. Smitherman** on 15 Mar 2010, 2:55 p.m.,*
in response to message #16 by fiveolddogs

You may want to consider the newly released 30b.

Regards,

John

Re: Economical replacement for 42s

*Message #27 Posted by **Andrés C. Rodríguez (Argentina)** on 15 Mar 2010, 4:55 p.m.,*
in response to message #1 by fiveolddogs

A 42S emulator (like 42S from Byron Foster or Free42 from Thomas Okken) running on an iPod Touch is my preferred option; now I have a 42S with me all the time (while my real 42S is safe at home). Not exactly "economical": you may need to justify the emulator platform with other uses as wi-fi client; music player, photo album, etc. There are many excellent emulators not only for iPod / iPhone but also for PDAs and PocketPCs / Windows Mobile devices. Granted, mechanical key feedback is absent.

The 17 BII Silver is a good option too, I have one and use it from time to time.The upcoming 30B may also deserve its place. On the other hand, I don't like the 33S (because of chevron keyboard and poor display) or the 35S (good looks, but bad display, quirky functions for BASE and R<>P among others, and some strange bugs).

HTH.

Edited: 16 Mar 2010, 7:48 a.m.

Re: Economical replacement for 42s

*Message #28 Posted by **Paul Guertin** on 16 Mar 2010, 7:28 a.m.,*
in response to message #1 by fiveolddogs

I recently bought a Casio fx-9860g slim calculator and installed Hugh Steers' excellent Reckon application on it. The more I play with it, the more I like it. See this video on Youtube for a demo.

Re: RPN on Casio 9860G (was Re: Economical replacement for 42s)

*Message #29 Posted by **Bart (UK)** on 16 Mar 2010, 8:44 a.m.,*
in response to message #28 by Paul Guertin

Yep, I've been using it on my 9860GII and am very happy with it. Nigel Dowrick's CasioRPN is also good.

Get Reckon here
Get CasioRPN here

Re: Economical replacement for 42s

*Message #30 Posted by **JDonley** on 16 Mar 2010, 11:27 p.m.,*
in response to message #1 by fiveolddogs

If you go 17B11 get the earliest ones.....wonderful keypads. You can find plenty of them on E*** for < $50 with very few cosmetic dings. Mine are all 1990-1991 made in Singapore.

don

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Gaussian Primes

*Message #1 Posted by **Gerry Schultz** on 11 Mar 2010, 5:00 p.m.*

I'm reading a book called "Stalking the Riemann Hypothesis" by Dan Rockmore. I've always been interested in prime numbers but I've always thought of them as positive integers. This book talks about complex prime numbers which I had never put together before in my head and I find it fascinating (I am not a geek, I am not a geek...). One of the interesting facts Dan Rockmore mentions is that in the complex plane, 2 is NOT a prime number (1+i)(1-i)=2.

The HP-15c, HP-42, and the RPL calculators can all handle complex numbers. Is it possible to write a program to calculate and display prime complex numbers? Could it use the same algorithms as is used to display integer primes? An example program is in William C Wicks' book "HP-48 Insights Part I" (Original edition) Section 12.11.2 on pages 359 and 360 or pages 397 through 399 in the GX version.

Since complex numbers are on a plane and not a line, a different way to display complex prime numbers is shown on page 113 of the book by using the Cartesian plane and marking 'Xs' where prime numbers are shown.

Anyway, to you Math Majors this might seem like a trivial subject but it's fascinating to me so if you have any comments to share I would appreciate it. I did search through the HP Museum about this topic but I didn't see anything specific about this jump out.

Thanks for your feedback, Gerry

Re: Gaussian Primes

*Message #2 Posted by **Egan Ford** on 11 Mar 2010, 6:26 p.m.,*
in response to message #1 by Gerry Schultz

> Quote:
>
> Is it possible to write a program to calculate and display prime complex numbers? Could it use the same algorithms as is used to display integer primes?

From Wikipedia:

A Gaussian integer a + bi is prime if and only if:

- one of a, b is zero and the other is a prime of the form 4n + 3 or its negative -(4n + 3) (where n >= 0)
- or both are nonzero and $a^2 + b^2$ is prime.

So, you should be able to modify your prime search program to test for (p-3)/4 is integer (got mod?, then p mod 4 = 3), if not, then since all primes not in the form 4n+3 are the sum of two squares, find the squares. Every odd prime number you find will fit the first or second case. So, all you are really doing is altering the output of any prime search program. In the first case you could report (0,p), (p,0), (-p,0), (0,-p) and in the second (a,b), (-a,b), (a,-b), (-a,-b).

Reporting all 4 for each case may be redundant. I'd just report to paper tape p or p:a,b, e.g.:

```
3           4n+3
5 :1,2      4n+1 (sum of squares)
7
11
13:2,3
17:1,4
19
etc...
```

P.S. If you like the Riemann Hypothesis mixed with a bit of history then read *Prime Obsession*.

Edited: 11 Mar 2010, 7:27 p.m.

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Scientific American Magazine Article

*Message #1 Posted by **ClausB** on 11 Mar 2010, 12:17 p.m.*

I remember an issue in the mid-70's with an HP calculator keyboard close-up on the cover and some articles inside about how a calculator works, microcode, and digital electronics. I may be combining several issues in my memory. Can anyone specify the issue and maybe provide a link to the articles? My web search was fruitless. It seems only the newer and older issues have been digitized.

Re: Scientific American Magazine Article

*Message #2 Posted by **Ken Shaw** on 11 Mar 2010, 1:02 p.m.,*
in response to message #1 by ClausB

See this thread:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv018.cgi?read=137580

Re: Scientific American Magazine Article

*Message #3 Posted by **ClausB** on 11 Mar 2010, 6:03 p.m.,*
in response to message #2 by Ken Shaw

That's it! Is your offer of a personal copy, not for profit, still available?

Re: Scientific American Magazine Article

*Message #4 Posted by **Ken Shaw** on 12 Mar 2010, 5:22 a.m.,*
in response to message #3 by ClausB

Yes, it is.

You can contact me through the forum (click on the sender names in the postings to be directed to a contact page), but let me know if you already got a copy from someone else.

I can't deliver on it until next week.

Re: Scientific American Magazine Article

*Message #5 Posted by **John Cadick** on 11 Mar 2010, 7:32 p.m.,*
in response to message #2 by Ken Shaw

Ken:

How does one go about getting your email address?

John

Re: Scientific American Magazine Article

*Message #6 Posted by **ClausB** on 11 Mar 2010, 9:03 p.m.,*
in response to message #2 by Ken Shaw

One very kind forum member scanned the article and sent it to me. I believe this article inspired my lifelong interest in digital electronics. It was fun to read it again, this time with one third of a century's experience behind me.

Re: Scientific American Magazine Article

*Message #7 Posted by **John Cadick** on 11 Mar 2010, 10:17 p.m.,*
in response to message #6 by ClausB

I would really appreciate a copy. just remove all of the NS in my forum email listing.

John

Re: Scientific American Magazine Article

*Message #8 Posted by **Ken Shaw** on 12 Mar 2010, 5:23 a.m.,*
in response to message #7 by John Cadick

Contact me early next week if you are still looking for a copy.

Re: Scientific American Magazine Article

*Message #9 Posted by **John Cadick** on 13 Mar 2010, 12:20 p.m.,*
in response to message #8 by Ken Shaw

Thanks, Ken. I already got a copy.

John

Re: Scientific American Magazine Article

*Message #10 Posted by **Joel Setton (France)** on 12 Mar 2010, 3:30 p.m.,*
in response to message #6 by ClausB

Hi Claus,

I'd love to get a copy, too... for purely non-commercial use, some kind of travel back in time!

Joel Setton

Re: Scientific American Magazine Article

*Message #11 Posted by **Martin Pinckney** on 11 Mar 2010, 5:54 p.m.,*
in response to message #1 by ClausB

Try this.

Re: Scientific American Magazine Article

*Message #12 Posted by **ClausB** on 11 Mar 2010, 6:04 p.m.,*
in response to message #11 by Martin Pinckney

That's the one! Cool.

Re: Scientific American Magazine Article

*Message #13 Posted by **Allen** on 11 Mar 2010, 7:20 p.m.,*
in response to message #1 by ClausB

Here's a host of other advertisements for free from the newly released Popular Science Archives:

http://www.popsci.com/results?query=hp+calculator

Re: Scientific American Magazine Article

*Message #14 Posted by **Martin Pinckney** on 11 Mar 2010, 7:44 p.m.,*
in response to message #13 by Allen

What a cool trip down Memory Lane!

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Sparcom manuals somewhere?

*Message #1 Posted by **matti** on 11 Mar 2010, 11:42 a.m.*

Hi All

Does anyone know if the manuals are available for HP48SX/GX's Sparcom General Chemistry Application Pac or Statistic Pac? Has anybody "published" them somewhere.

Thanks for this most enjoyable forum, matti (Finland)

Re: Sparcom manuals somewhere?

*Message #2 Posted by **Martin Pinckney** on 11 Mar 2010, 12:30 p.m.,*
in response to message #1 by matti

Yes, I did find a link to several of the manuals, and the libraries, posted on some forum (not this one), but I can't find it just now. However, if memory serves, the Statistics Pac wasn't among them.

Re: Sparcom manuals somewhere?

*Message #3 Posted by **Walter B** on 11 Mar 2010, 6:33 p.m.,*
in response to message #1 by matti

Hyvää päivää, Matti,

if you drop me a mail I can send you a pdf of the General Chemistry Applications Manual. Some (few) manuals are still sold by Samson, but not Statistics.

Walter

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Latest crazy auction - HP-70 for $660

*Message #1 Posted by **Michael de Estrada** on 11 Mar 2010, 11:24 a.m.*

HP-70

Someone just paid $660 for an HP-70 with AC Adapter, but no box, manual or soft case. Also, the seller refers to it as "Mint", however, photos that he sent me show corrosion in the battery compartment and multiple scratches/grooves in the back label. I realize that this model is extremely rare, however, I can't justify paying this much for something in this condition. A genuine Red Dot, maybe.....

Re: Latest crazy auction - HP-70 for $660

*Message #2 Posted by **Michael Meyer** on 11 Mar 2010, 12:23 p.m.,*
in response to message #1 by Michael de Estrada

I was too busy this morning and didn't bid on this in time. Probably best-- that's a lot of money for me right now. Still, it's a major "hole" in my HP collection. I guess if it were ever "complete", I'd have something less to strive for.

Re: Latest crazy auction - HP-70 for $660

*Message #3 Posted by **Michael de Estrada** on 11 Mar 2010, 1:03 p.m.,*
in response to message #2 by Michael Meyer

The problem I have is that it is not truly complete, because I would still lack unique accessories such as the manual, which I've never seen for sale. My concept of collecting, especially with vintage HPs, is that the whole package set is just as important as the bare calculator. What good is an HP-65 without its hard case, leather soft case, spiral bound manual and QR guide, and Standard Pac. About the only part that can be sourced separately is the AC adapter. Also, patience is a virtue. After watching incomplete and imperfect HP-92's sell for $500 for years, I recently picked up a complete set with even the box in excellent condition for $303. Maybe that will never happen with the HP-70, but like you said if my collection were complete, then I'd have nothing to do anymore.

Re: Latest crazy auction - HP-70 for $660

*Message #4 Posted by **Keith Midson** on 11 Mar 2010, 3:00 p.m.,*
in response to message #1 by Michael de Estrada

Someone bought my HP Xpander for AUD$750 (about US$660) yesterday. Cheers, Keith

Re: Latest crazy auction - HP-70 for $660

*Message #5 Posted by **Michael de Estrada** on 11 Mar 2010, 3:26 p.m.,*
in response to message #4 by Keith Midson

Well, I can see that price as it is ultra rare, since it was never released, whereas the HP-70 did see several years of production. The Xpander is more in the class of the HP-95C, and I would definitely pay that much

for it.

Re: Latest crazy auction - HP-70 for $660

*Message #6 Posted by **Juergen Keller** on 11 Mar 2010, 4:26 p.m.,*
in response to message #1 by Michael de Estrada

Money rules the world ...

If you say you wouldn't pay that much that's your decision. But why do you say this auction is crazy? This implies that the winner is crazy, too. But I think it is the bidder's decision how much he wants to pay. These calcs are collectibles, and for collectibles the price range is always large. You cannot see into the bidder's mind; perhaps the HP-70 was his first calculator, and after 30 years he wants to have one again to fresh up all the good memories.

Well, we all are a little crazy because we are so addicted to these old calculators. At least, that's my wife's point of view ;-)

Cheers, Juergen

Re: Latest crazy auction - HP-70 for $660

*Message #7 Posted by **Martin Pinckney** on 11 Mar 2010, 5:40 p.m.,*
in response to message #6 by Juergen Keller

> Quote:
>
> At least, that's my wife's point of view ;-)

In this case, at least, she is right.

Re: Latest crazy auction - HP-70 for $660

*Message #8 Posted by **Keith Midson** on 11 Mar 2010, 7:31 p.m.,*
in response to message #7 by Martin Pinckney

I agree we must be crazy, but it's fun for whatever reason ;)

I just had a look at the HP70 lising - it was an early production of the HP70, so that adds to the collectability for some people. Also the 70 is seemingly hard to get hold of (I don't have one, but would like one one day!).
I have to wonder if the item was listed internationally on ebay (ie. they put a postage price for international shipping) then it might have attracted more buyers and sold for even more. Even though the seller said that they would post internationally, it didn't come up in searches from other ebay sites (Australia, UK, etc), so wasn't found.
Prices are a fickle thing - depends on who 'really' wants something at any one time, and how much they are prepared to pay for it. I have paid 'silly' prices for something that I 'had' to have, but I have a collection that means something to me and that's what matters. Sure it's similar for others. Cheers, Keith (and my wife thinks i'm mad too).

Re: Latest crazy auction - HP-70 for $660

*Message #9 Posted by **Michael Meyer** on 11 Mar 2010, 9:17 p.m.,*
in response to message #8 by Keith Midson

Interesting how you mention your wife.... that's probably the main reason I didn't put in an earlier bid on this one.... "Oh, Sweetie? You don't mind that I spent nearly $1000 on an old calculator, do you?"

Re: Latest crazy auction - HP-70 for $660

*Message #10 Posted by **Dave Shaffer (Arizona)** on 11 Mar 2010, 9:50 p.m.,*
in response to message #9 by Michael Meyer

> Quote:
>
> "Oh, Sweetie? You don't mind that I spent nearly $1000 on an old calculator, do you?"

My wife and I have made a point of keeping a separate pool of money for each of us to spend as we please. My wife is into Indian art and I just spent my latest kilobuck on camera lenses. Anybody else here a victim of LBA (lens buying addiction; as, I guess, contrasted to CBA - calculator buying addiction). Mike - you could have a field day with this. Are these officially recognized afflictions!?!

Re: Latest crazy auction - HP-70 for $660

*Message #11 Posted by **Juergen Keller** on 12 Mar 2010, 2:37 a.m.,*
in response to message #9 by Michael Meyer

Well, spending 1000$ for something that keeps (or even raises) its value is like saving the money on your bank account. Hope this helps in discussions with your wife ;-)

The fine print: there are two problems. First, we are not sure if our calcs are really of the same value in ten or twenty years. Second, if we have a nice one it would break our heart to sell it. But as I said, this is the fine print, you can ommit it in discussions with your wife!

Cheers, Juergen

Re: Latest crazy auction - HP-70 for $660

*Message #12 Posted by **Michael Meyer** on 12 Mar 2010, 10:57 a.m.,*
in response to message #11 by Juergen Keller

LOL! I agree with both of you! And I do think, after discussing it on the Forum, that these machines will hold their value or increase. Now: is it an addiction? I've been known to call it that. I prefer "hobby" or "passion". Or maybe it's just that some addictions are healthier than others. I suppose if it were to start to interfere with my marriage, work, etc., I'd have to call it a disorder. So far I think my wife has been very understanding and supportive.

Re: Latest crazy auction - HP-70 for $660

*Message #13 Posted by **Bart (UK)** on 12 Mar 2010, 11:14 a.m.,*
in response to message #12 by Michael Meyer

> Quote:
>
> I suppose if it were to start to interfere with my marriage, work, etc.

Or get you into debt. It's fine to pay $1000 if you can afford it, but I can't. It's one of the reasons I don't have any HP LED calcs. I've decided to start saving a monthly amount, so maybe in a few month's time...

But as they say here in the UK with shares investments: "the price can go down as well as up"...
I might end up chasing an ever increasing goal.

Re: Latest crazy auction - HP-70 for $660

*Message #14 Posted by **Martin Pinckney** on 12 Mar 2010, 11:28 a.m.,*
in response to message #11 by Juergen Keller

> Quote:
>
> ... we are not sure if our calcs are really of the same value in ten or twenty years.

I predict that truly mint rare or important models will hold their value as collectibles - but everything else will diminish after the generation that used these when they were new is gone.

Re: Latest crazy auction - HP-70 for $660

*Message #15 Posted by **Michael de Estrada** on 12 Mar 2010, 12:15 p.m.,*
in response to message #14 by Martin Pinckney

> Quote:
>
> I predict that truly mint rare or important models will hold their value as collectibles

I think that this is a crucial point. Models that represent milestones, such as the HP-35 Red Dot, HP-65 and HP-25C will always be valuable. Models like the HP-70 can only be valuable if they are mint and complete, which is not the case with the HP-70 that is the topic of this thread. Even through the HP-70 is a rarity, I don't see it's value being very high when it's condition is only average and it's missing crucial accessories such as the Owner's Manual. Having said this, I do not collect calculators as an investment or with the intention of selling them at a future date for a profit.

Re: Latest crazy auction - HP-70 for $660

*Message #16 Posted by **Bart (UK)** on 12 Mar 2010, 12:59 p.m.,*
in response to message #15 by Michael de Estrada

For many it is not just milestones that make a collectable, it also the amount in existance. The fewer there are, the more people are prepared to pay for not-so-good items. The items must have some fame. Older HP calculators in general have fame. Of course this is more important for those that collect for investment or want to have at least one of each of this famous brand.

> Quote:

> I do not collect calculators as an investment or with the intention of selling them at a future date for a profit.

I feel the same way. I'd like some HP LED calcs because I like them. I would not buy it for the thought of making money, similarly I would not buy a piece of art I find ugly just because it would be a good investment, it must be something I like to look at. I like to look at HP calculators (wow, look at that beauty - [hmmm that sounds geeky :)]) - and use them. If I buy an HP classic I'd like to play with it once in a while. Not just take it out the cabinet, put the battery in, type "3 enter 3 *" then remove the battery, wipe off the fingerprints and put it away. I would treat it with care, but still occasionally use it for an actual calculation requiring a scientific calulator. I like to experience it, not just look at it.

Re: Latest crazy auction - HP-70 for $660

*Message #17 Posted by **Juergen Keller** on 12 Mar 2010, 6:46 p.m.,*
in response to message #15 by Michael de Estrada

Michael,

my previous posts were a little provocative, but don't get me wrong; that's my nature. We all share the same passion, and even if we don't agree on everything, we all know that HP produced some really impressive milestones which will keep their value (at least their value as technical innovation).

But what I've learned in my time as collector is that the value of a certain model heavily depends on the individual experience, i.e., the first HP calculator you got in your hands has always a special value. My HP career started with a 41, and the Series 41 calculators are still my favorites. Probably, the reason is that the first HP calculator taught you an important lesson: there is an easier and more efficient way to solve computational problems!

The value of an item is an individual parameter. It depends on individual experience and on the money you have in your pockets.

Finally, one of my favorite citations: "The quality remains long after the price has been forgotten!" (Frederick Henry Royce, co-founder of Rolls Royce)

Best Regards, Juergen

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HP 50G...the last graphing calc from HP?

*Message #1 Posted by **juan demin** on 11 Mar 2010, 7:24 a.m.*

I found specific state-of-the-art software developed for TI 89 calculator. When I asked if they were thinking of producing it also for HP calculators, the Technical Services Dept gave me a quick and sharp answer: “no, because HP will no longer produce scientific plotting calculators” Ups…!!! Is it true?

Re: HP 50G...the last graphing calc from HP?

*Message #2 Posted by **Eddie W. Shore** on 11 Mar 2010, 9:38 a.m.,*
in response to message #1 by juan demin

I sincerely hope not.

Re: HP 50G...the last graphing calc from HP?

*Message #3 Posted by **Marcelo Vanti (Brasil)** on 11 Mar 2010, 11:17 a.m.,*
in response to message #1 by juan demin

Hello,
I don't think so. The Titanium and HP 50 G are improvements of previous TI 89 and HP 49 graphic calculators.
One can read from TI internet page: Introducing TI's most powerful graphing calculator: The TI-89 Titanium ...Well, the TI 89 was released in 1998, the same with HP 49.
M Vanti

Re: HP 50G...the last graphing calc from HP?

*Message #4 Posted by **Tim Wessman** on 11 Mar 2010, 1:00 p.m.,*
in response to message #1 by juan demin

I don't know how a call center person would know anything about what R&D is working on. They don't get any information until a product is about to be released. . .

I suspect there was a misunderstanding somewhere.

TW

Re: HP 50G...the last graphing calc from HP?

*Message #5 Posted by **Michael Plant** on 11 Mar 2010, 1:19 p.m.,*
in response to message #4 by Tim Wessman

Just to note, I infer from the original post that the call centre person works for a 3rd party software developer, not HP.

Re: HP 50G...the last graphing calc from HP?

*Message #6 Posted by **Tim Wessman** on 11 Mar 2010, 3:00 p.m.,*
in response to message #5 by Michael Plant

Re-reading it again, that does seem to be the case. Although I am still a bit unclear. . .

TW

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Residuals in HP41 BatteryCompartment

*Message #1 Posted by **Timo** on 11 Mar 2010, 3:47 a.m.*

Good morning everybody! (If you don't live in Central Europe replace the Good Morning Appropriately... ;))

Below is a link to a picture showing the battery compartment of a HP-41CX. The seller claims that the unit never suffered any battery leakage in its life. I tend to believe him, since the contacts are indeed shiny and new. However, I nevertheless wonder which effect could cause the whitish rediuals on the bottom of the compartment?

Does anybody on the form have a good explanation for this (dust, a reflexion...???)

And here is the link to the picture:

See here...

Thanks for your feedback in advance! Timo

Edited: 11 Mar 2010, 3:48 a.m.

looks like dust

*Message #2 Posted by **Frank Boehm (Germany)** on 11 Mar 2010, 5:25 a.m.,*
in response to message #1 by Timo

don't forget - it's 30 years old :)

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Apollo Soyuz HP 65

*Message #1 Posted by **ClausB** on 10 Mar 2010, 11:04 p.m.*

Forgive me if this has been asked and answered. I don't know how to search the forum archive. Have the Apollo - Soyuz mission programs for the HP 65 been published anywhere on the 'net? Also, does anyone know the whereabouts of the actual flight calculator?

Re: Apollo Soyuz HP 65

*Message #2 Posted by **Juergen Keller** on 11 Mar 2010, 3:08 a.m.,*
in response to message #1 by ClausB

The web site HP calculators and space exploration contains a lot of information about HP calculators in space, and of course about the Apollo Soyuz mission. There was also a short article in the HP-65 Users' News (Vol 1, No 2), read it here: HP-65 in Space Rendez-Vous.

Re: Apollo Soyuz HP 65

*Message #3 Posted by **Don Shepherd** on 11 Mar 2010, 6:15 a.m.,*
in response to message #1 by ClausB

I've been trying to find those programs for years, without success. If you have any luck finding them, please post it here.

Re: Apollo Soyuz HP 65

*Message #4 Posted by **juan demin** on 11 Mar 2010, 7:17 a.m.,*
in response to message #3 by Don Shepherd

I would like to have them too.....!!!!

Re: Apollo Soyuz HP 65

*Message #5 Posted by **Bill (Smithville, NJ)** on 11 Mar 2010, 8:05 a.m.,*
in response to message #1 by ClausB

You may want to look at the following HPMuseum forum tread about HP and space. Some good info there.

HP In Space Forum Thread

Bill

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Graphing Calculator Innovations

*Message #1 Posted by **Eddie W. Shore** on 10 Mar 2010, 10:51 p.m.*

(I'm not sure I have this 100% right, but here it goes):

First Graphing Calculator: Casio 7000G in 1985

First Foldable/Clamshell Calculator: HP 28S. There is one on the market today, Casio fx-9860 Slim.

First one with Natural Input: HP 48S

First one with a Stylus: Casio Classpad 300

First one with a Touchpad: TI nSpire Touchpad

First one with "documents": I want to say the HP 38G/39G; I think that was slightly before Casio came out with their e-activity.

First one with external backup: HP 48S

First one I ever owned: TI 81 back in 1991 - I was in high school. The first HP graphing calculator I owned was the HP 48G in 2000. The first Casio graphing calculator I owned was the fx-Algebra 2 (I think it was 2004).

Re: Graphing Calculator Innovations

*Message #2 Posted by **Frank Boehm (Germany)** on 11 Mar 2010, 1:57 a.m.,*
in response to message #1 by Eddie W. Shore

The 28C was released one year(?) before the 28S.
First one with external backup? You need to go *way* back - check out the CompuCorp 3xx series. Though a lot larger than the 48, I'd still call them a "pocket calculator".
If you consider them being too large, the 41 or Sharp PC-series from about the same time offer external backup as well.
The first calculator I owned was the fx-7000G (199 German Marks back then), soon to be replaced by a 28C (444 German Marks).

Re: Graphing Calculator Innovations

*Message #3 Posted by **C.Ret** on 11 Mar 2010, 3:16 a.m.,*
in response to message #2 by Frank Boehm (Germany)

Your are right on several points:

* HP28C was out nearly one year sooner than HP28S, but due to distribution and logistic facts, HP28S apears only a few months or weeks after the HP28C in many dealer shops ! (Especialy in Europe)

* Right in 1982 I own a SHARP PC-1211 with CE-121 Cassette Interface which I use for external backups

on audio tapes. Note that 28 years later, most of these backups are still available and functional.

Re: Graphing Calculator Innovations

*Message #4 Posted by **Palmer O. Hanson, Jr.** on 11 Mar 2010, 3:29 a.m.,*
in response to message #1 by Eddie W. Shore

You should add the first graphing calculator with a color display.

Re: Graphing Calculator Innovations

*Message #5 Posted by **Eddie W. Shore** on 11 Mar 2010, 9:21 a.m.,*
in response to message #4 by Palmer O. Hanson, Jr.

Thanks Palmer, I did forget:

Color Graphing: Casio 9850g Series (late 1990s, early 2000s)

In addition: the one with backlight (that I know of) Casio 9860g Series (GII, Slim)

First one with a Matrix/List Editor: HP 48S

First with 3D Graphing as a feature: TI-89 (?) I am truly not sure about this one.

Re: Graphing Calculator Innovations

*Message #6 Posted by **Marcus von Cube, Germany** on 11 Mar 2010, 11:53 a.m.,*
in response to message #5 by Eddie W. Shore

The TI 92 predates the 89. It runs the same software (at least in the "plus" version. Don't know about the plain 92's graphics capabilities.

You could add the first with full alpha keyboard (28C or TI-92? No: Sharp PC-1210 or Casio FX702P is more probable.)

Edited: 11 Mar 2010, 11:53 a.m.

Re: Graphing Calculator Innovations

*Message #7 Posted by **Xerxes** on 11 Mar 2010, 12:52 p.m.,*
in response to message #5 by Eddie W. Shore

The first color graphing calculator was the CFX-9800G from early 1990s.

I'am not sure, but probably the FX-7500G was the first foldable graphing calculator.

one more thing

*Message #8 Posted by **Frank Boehm (Germany)** on 11 Mar 2010, 4:07 a.m.,*
in response to message #1 by Eddie W. Shore

The first foldable/clamshell calculator dates *way* back too (how could I forget - I have a massive sterling silver encased one <g>):
http://www.vintagecalculators.com/html/facit_1106_sharp_el-805s.html#EL-8009
I'm unsure about the "Natural Input" - I'd say the (earlier) Casio BASIC-capable models offered the same feature. AFAIR you were able to enter something like "sqr(sin(45)+cos(45))="...

one more thing (2)

*Message #9 Posted by **Frank Boehm (Germany)** on 11 Mar 2010, 5:09 a.m.,*
in response to message #1 by Eddie W. Shore

How could I forget again (since I own both of them, maybe I'm getting old): the first stylus-based calculators are without doubt the Litton Royal II and III:
http://www.vintagecalculators.com/html/royal_digital_iii___iv.html

Re: one more thing (2)

*Message #10 Posted by **Eddie W. Shore** on 11 Mar 2010, 9:26 a.m.,*
in response to message #9 by Frank Boehm (Germany)

The Royal Digital III looks like a Price Is Right display. Four digits-display? Wow. They are neat looking calculators, thanks Frank.

what's so funny about "only" 4 digits?

*Message #11 Posted by **Frank Boehm (Germany)** on 11 Mar 2010, 2:26 p.m.,*
in response to message #10 by Eddie W. Shore

Try this one - with only 3 digits:
Sharp EL-120
I think this is about the oddest calculator ever inventend. Please note the special "+1" counter button (below the display).
Btw: they (oddly enough) even made an OEM version for Quelle, Germany (formerly the largest mail order in Europe, maybe worldwide).

The Sharp EL-120

*Message #12 Posted by **Palmer O. Hanson, Jr.** on 11 Mar 2010, 9:07 p.m.,*
in response to message #11 by Frank Boehm (Germany)

While the EL-120 displays three digits at a time it can calculate and display many more. For example, in the reference that you give when 123456789 is entered the user can see three digits at a time, i.e., 123 then 456 and then 789 where the actual displays are

+123,,

456 ,

789.

and the machine does more than in the discussion in the reference. For example, with the A M switch in the A (automatic) position the result of a calculation will be automatically sequenced through the display with a pause of about one second for each part of the answer.

The machine can actually calculate up to twelve digits, nine to the left of the decimal point and three to the right of the decimal point. For example, if you multiply 111111.1 times 1111.11 the machine will display

+123,,

456 ,

645.

.321

Re: Graphing Calculator Innovations

*Message #13 Posted by **Martin Pinckney** on 11 Mar 2010, 10:34 a.m.,*
in response to message #1 by Eddie W. Shore

48SX preceded 48S.

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Comparason of Old Computers and Calculators ....

*Message #1 Posted by **Dimitri Simitas** on 10 Mar 2010, 10:16 p.m.*

Since I am working on my project I am looking at old systems and how they implemented some features. Anyways some notable historic items came up as I was reading.

Compared to the cost of the early computers, and the HP-65 and the HP-67. If I was even alive at that time, I think a HP-65/67 would have been a better choice then the computers on the market. It seems like a no-brainer, atleast to me, that HP had a winner even if it was more of a "calculator" then a computer. For 450$ for a programmable handheld with magnetic strip storage, verses lets say the Sol-20 in 1976 costing 745$, plus the monitor, plus $2295 for the 8" floppy drive! Ouch!

What do you guys think?

Dimitri

Re: Comparason of Old Computers and Calculators ....

*Message #2 Posted by **Palmer O. Hanson, Jr.** on 11 Mar 2010, 3:44 a.m.,*
in response to message #1 by Dimitri Simitas

I purchased my Radio Shack Model 100 in early 1983. It came with

BASIC language programming

14 digit calculations

Telephone interface

A full size keyboard so that I could touch type

A sound output which could be used to play music

A graphing capability loong before the fx-7000G

External backup on magnetic tape - see another current thread

After that I "played" with programmable clculators but for real work I used my Model 100.

Re: Comparason of Old Computers and Calculators ....

*Message #3 Posted by **Marcus von Cube, Germany** on 11 Mar 2010, 11:46 a.m.,*
in response to message #2 by Palmer O. Hanson, Jr.

Palmer, do you still have it? Do you know Club100.org? A nice group of people, similar to this one.

Model 100's ....

*Message #4 Posted by **Palmer O. Hanson, Jr.** on 11 Mar 2010, 5:51 p.m.,*
in response to message #3 by Marcus von Cube, Germany

> Quote:
>
> Palmer, do you still have it? Do you know Club100.org? A nice group of people, similar to this one.

I have two. I purchased the first one in the 32K version. I got the second one for a low price at a garage sale. I have a printer cable, a cassette recorder cable and bar cod reader.

I also have a Model 200 purchased at a garage sale for five dollars.

I am not familiar with Club100.org. I will have to check it out.

I have some nice little programs for the Model 100. One of them will play four Christmas carols while the display shows a fire burning in a fireplace.

Re: Model 100's ....

*Message #5 Posted by **Marcus von Cube, Germany** on 14 Mar 2010, 10:17 a.m.,*
in response to message #4 by Palmer O. Hanson, Jr.

Palmer, it's time to join the mailing list. Info is on the web site.

Re: Comparason of Old Computers and Calculators ....

*Message #6 Posted by **Håkan Thörngren** on 11 Mar 2010, 4:45 a.m.,*
in response to message #1 by Dimitri Simitas

I remember back around 1983, when I had a HP-41CV with card reader and a Commodore 64, first with tape, then floppy.

The computer was way more powerful, it was faster, had bigger display, capacity and it could even run Forth. However, the calculator was more portable and easier to have a bunch of useful programs in it. They were both very useful in their different ways.

Today the vintage calculator holds up very well, but I see no reason to run such vintage computer...

Re: Comparason of Old Computers and Calculators ....

*Message #7 Posted by **David Hayden** on 11 Mar 2010, 10:50 a.m.,*
in response to message #6 by Håkan Thörngren

> Quote:
>
> Today the vintage calculator holds up very well, but I see no reason to run such vintage computer...

Excellent observation!!!

"no reason" *is* the reason

*Message #8 Posted by **Frank Boehm (Germany)** on 12 Mar 2010, 2:53 p.m.,*
in response to message #6 by Håkan Thörngren

We all know that your USB keyboard probably has more RAM and more CPU power than an ALTAIR. Still it's good to know that there are people around, caring about this "way outdated" stuff - just for the fun of it. I don't see a huge difference between collecting old electronic stuff and, say, old books.

Re: Comparason of Old Computers and Calculators ....

*Message #9 Posted by **Jim Horn** on 11 Mar 2010, 12:06 p.m.,*
in response to message #1 by Dimitri Simitas

Well, back in 1975 - 1977 the computers available were hobby toys, not practical machines for most folks. The Altair 8800 had 256 bytes of RAM and no provision for any I/O of any sort (1975). The TRS-80, Apple][and Commodore PET didn't arrive until 1977 and they were generally 8k RAM (4k for the Apple), limited video (often upper case only) and I/O but priced high (the PET was $799 but hard to find; the Apple was well over $1000 with 4k). Printers started at about $1000 for Centronics and similar pin-feed monsters and went up - way up from there. Floppies weren't out yet and when they did arrive held 128k of data unless you went for the enormous 8 inch 1M drives at well over $1000 each.

The HP-65 was $795 in 1974. The HP-67 came out in 1976 (I had mine in August '76) for $395 as I recall. Not cheap on a second lieutenant's pay of $6700 per year but worth every penny. I seriously lusted after a computer - but bought the '67. And gave my HP-25 to my brother Joseph. "And now you know... the Rest of the Story."

The HP-65 Users Club (later to become PPC, etc.) published scores of pages each month of programs to analyze circuits, do math, etc. The HP-65 Users Library (via HP) had exotic code to do satellite orbit analysis, etc. The RAND Corporation published "Hand Calculator Programs for Military Officers" that derived orbital trajectories accounting for a non-spheroidal earth. Meanwhile, Byte, Creative Computing, Dr. Dobb's Journal (of Computer Calisthenics and Orthodontia - "Running Light Without Overbyte") and such were publishing 2k byte Tiny Basic interpreters, how to gut a cheap TI LED watch to add a real-time clock circuit and such.

Computers were lots of fun (and still are). Calculators were serious workhorses (and still are - though computers are too now). Both sets of user groups were priceless.

Gotta enjoy 'em both! And my eternal gratitude to Richard Nelson and the myriad wonderful folks who made all this so worthwhile!

Jim Horn (older^2 than dirt; PPC 1402 usw.)

Re: Comparason of Old Computers and Calculators ....

*Message #10 Posted by **John Garza** on 15 Mar 2010, 6:04 p.m.,*
in response to message #9 by Jim Horn

In the 70's, the first personal computers were as much hobbies as useful tools. They caught the trailing edge of DIYers, ham radio buffs, etc. Most of the fun of "using" them was building and constantly tinkering with them. Nowdays they are appliances, like toasters. But back then, if you didn't know a resistor from a capacitor, you were in for trouble. The true appliance machines didn't hit until the second wave (Apple II, Commodore PET, Tandy TRS-80); and were popular with the newbies who kept hearing tales of wonder from the Altair owners.

HP, on the other hand, did not market to hobbyists or the curious but less competent newbies. They sold well-built and well-designed machines for professionals.

So, IMHO, it's an unfair comparison - the traditional apples & oranges. Yes, they're both fruit, but that's about it.

-J (3665)

Re: Comparason of Old Computers and Calculators ....

*Message #11 Posted by **Martin Pinckney** on 11 Mar 2010, 12:12 p.m.,*
in response to message #1 by Dimitri Simitas

The early programmable calculators were ideal for the everyday routine engineering calculations that prevailed at the time (and still do, to a lesser extent). Most engineering calculations in the 70's and 80's were made with simplified mathematical models that had been developed before the advent of computers. The early personal computers gave no significant advantage for these calculations; spreadsheets are one exception.

As more and more powerful personal computers became available, more programs were developed that do a lot of number crunching, beyond the power of calculators. They remain useful for the simpler algorithms, however, because they are so handy.

"beyond" is the right wording

*Message #12 Posted by **Frank Boehm (Germany)** on 11 Mar 2010, 2:35 p.m.,*
in response to message #11 by Martin Pinckney

I ported both Mandelbaum and bifurcation diagram to the fx-7000. I think the classic "fractal image" took a bit more than 24h to complete (with lowest possible iterations). And remeber: it had only about 600 pixels to calculate (black and white). Raising the number of iterations easily depleted the batteries before completion.

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fair Value on HP-35

*Message #1 Posted by **aj04062** on 10 Mar 2010, 9:48 p.m.*

Anyone have any thoughts on what a fair value on a std HP-35 would be with charger and case?

$100 a good deal. I know you can pay more.

Re: fair Value on HP-35

*Message #2 Posted by **tim m.** on 10 Mar 2010, 10:12 p.m.,*
in response to message #1 by aj04062

I paid roughly $120 for a '35 (early second version) in good working condition including all accessories (some well-used) as well as original sales receipts and other documentation from the original owner.

So, if the '35 on offer for you is in working condition, I think $100 would be a good deal--especially considering that the market may be a bit bullish lately from what I've been reading on the forum.

-Tim

Re: fair Value on HP-35

*Message #3 Posted by **AJ04062** on 11 Mar 2010, 12:33 p.m.,*
in response to message #2 by tim m.

Thanks,

I haven't made the offer, but I was thinking of starting there and see where it goes.

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OT: New Version of TI-Nspire

*Message #1 Posted by **Gerry Schultz** on 10 Mar 2010, 1:31 p.m.*

I just bought a TI-Nspire, but haven't received it yet. It's the first non-HP Scientific calculator I have ever bought. I have a lot of mixed feelings about it but I'm getting tired of waiting for HP to come out with a competing unit.

There was an earlier topic about a new Nspire coming out and in my research of the Nspire family, it now has four models; the TI-Nspire with Clickpad, the TI-Nspire CAS with Clickpad, the TI-Nspire with Touchpad, and the TI-Nspire CAS with Touchpad. The clickpad version is the original and the Touchpad is new but a little different and the screen is the same for all four units, 320 x 240 pixels, around 115 DPI and 16-level gray-scale with no touching the screen for input. The big hardware difference is the new keypad that separates alpha and numeric keys and owners of the original Nspire will be able to order the new keypads for $10. There is a major update to the OS to version 2.0 but I don't know if it's a big improvement or not.

I'm not sure if I'm going to like this unit, being so spoiled by HPs, but I've been curious about the Nspire ever since it came out. I almost bought one then but when I read the reviews, it turned me off so I waited, hoping HP would release a new generation unit to compete with the Nspire. Since HP has written off the school market and focuses on the Financial profession, I wonder if HP will ever release a new HP scientific to replace the 50g (that's NOT an update)?

I have had a 50g for several years and like it but it's basically a revamped 49g+ (which I also have), which is an update to the 49g (which I have), which is an update to the 48gx (I have several), which ...etc. After being at HHC 2009 and learning about just how small their calculator development division is and what they have to deal with, at present they can barely turn out one or two 'upgraded' calculators a year.

Sorry to be such a downer, but I am getting tired of reading and discussing HP's past successes. What is HP doing today to keep up with the scientific/engineering market? Are their products so good and ahead of the competition they can wait to come out with new products? Or are they just looking at where they can get the most bang for the buck? Where is the innovation and long-term view? That's what excited me about my first HP-45 and later sold it to buy to the HP-55 (which I still have). Something so unlike anything I had seen before that excited me just by looking at it and to hell with the price. When I saw it in the Base Exchange (I was in the Air Force at the time), I borrowed money from my girl friend to get enough cash to buy it. I didn't care who... opps, I mean what I had to sell to get it, I WANT IT, NOW! That's also how I felt about the HP-41 then and which I still collect and work on today. No wonder my wife thinks I'm crazy.

I also wanted an HP-97 back then but it was just too much money. I had to wait over 25 years and now I have two of them. I'm so glad to have them but I rarely use them. What's that all about?

Anyway, Feeling frustrated today,

Gerry

Edited: 10 Mar 2010, 1:46 p.m.

Re: OT: New Version of TI-Nspire

*Message #2 Posted by **Don Shepherd** on 10 Mar 2010, 2:12 p.m.,*

in response to message #1 by Gerry Schultz

> Quote:
>
> I'm so glad to have them but I rarely use them. What's that all about?

That's about owning something today that was built years ago to last decades, and has! I feel the same way about my HP-65 I got about 3 years ago; built like a tank and still works great after all those years. There is nothing like those flashing LEDs while your program is running. And there is something very satisfying about implementing an algorithm in a programming space that is limited to 100 lines and 9 registers.

HP's new 30b is primarily a financial calculator but it does have the trig functions, a keystroke programming capability (it could use a lot more program space, however), and a blazingly-fast ARM processor.

You will like the NSpire, I predict. As an educator who has had the CAS unit for the past 3 years, I can upgrade to the CAS TouchPad version for free. I sent my old unit off a couple of days ago and, hopefully, will receive the new one shortly. I had already downloaded the new OS2 onto my old unit to see how it worked, and I was satisfied with it. Here are the principal changes.

The home screen now includes something they call a "scratchpad" that lets you play around with calculations and graphs without worrying about saving them in documents (although you can if you change your mind). Personally, that's kind of nice, but I was always able to play around with calculations and graphs on the old unit without undue work.

I think the new OS will let you solve simultaneous equations and polynomial equations on the regular NSpire (non-CAS) unit, whereas you needed the CAS version to do that before. Since I had the CAS, that's not an advantage for me.

The touchpad looks interesting. It will make navigation between screens and windows and documents easier, I think, but a real touch-screen and stylus would have been a revolutionary improvement; maybe next time.

I'm anxious to see what the real screen looks like on the new units. One of my complaints during the last 3 years was that you really need a very strong light source to be able to see what's on the screen. I remember when I first got the old NSpire, in a TI training class in Nashville, they dimmed the room lights so we could see the overhead projector images, but dimming the lights made the NSpire screens almost invisible. A backlight would have worked wonders. Another poster said that the new screen really does look as good as the image in one of the other threads, and I hope so. You can choose between 3 font sizes, but even the largest is rather hard to read with my old eyes.

From the beginning, the NSpire was not a very good programming platform, which is one of my main interests. As originally issued, you could only code functions. They added programs almost immediately, but it was hard to edit them on the handheld unit itself. Then they gave you a program editor and user libraries, which were good improvements. But the biggest problem was, there was no INPUT command to get user input during the execution of the program. That crippled the BASIC-like language, in my estimation. I think what drove that was kids creating games and playing them in class when they are supposed to be doing interesting math things like studying box and whisker plots (I'm being facetious a bit, I hate box and whisker plots). But now there is the equivalent of the INPUT command (called Request) and a textbox command (called Text). Those do work, I've tried them out on my old unit.

The NSpire is really meant for students. I suspect that a real engineer will probably be disappointed in it, especially since the trig functions are accessible only via a menu. That's not a big deal to me, but I'm not an engineer.

When you get it, please post your reaction here. We'd all like to know how an engineer view it.

Re: OT: New Version of TI-Nspire

*Message #3 Posted by **Martin Pinckney** on 10 Mar 2010, 5:04 p.m.,*
in response to message #1 by Gerry Schultz

> Quote:
>
> ... are they just looking at where they can get the most bang for the buck? Where is the innovation and long-term view?

IMO it's partly corporate philosophy and partly just the realities of the present-day marketplace.

Certainly the corporate philosophy of HP has changed since the days of the Classics, or even the 48 series, for that matter. But everything electronic has such a short life-cycle these days because of constantly-changing technology. Why design something to last 25 years if it will only be used for, say, 5 years tops? At least I think that's the prevailing wisdom nowadays. We all lament it, but will any company have the courage (or stupidity, depending on how you look at it) to buck the tide? That is, produce a really quality scientific calculator, even if it's market life is short?

Re: OT: New Version of TI-Nspire

*Message #4 Posted by **Eddie W. Shore** on 10 Mar 2010, 10:34 p.m.,*
in response to message #1 by Gerry Schultz

Gerry,

After TI upgraded their NSpire software to Version 2 and having just acquired a Casio Classpad 330 (birthday calculator, LOL my birthday is 3/14), I am also itching to see if HP responds with a HP 51G. That would be so cool.

I have only upgrade the CAS; I will upgrade my blue "non-CAS" version tonight. Actually the way I found out about the new nSpire stuff was on this board, because I kind of forgot about it shortly after I purchased it.

Some thoughts on Version 2:

MAJOR improvement over Version 1. The scratchpad allows for everyday calculations and graphs. This is good for quick calculations or if you don't need to open an "official" document for calculations. Can't use programming commands (i.e. If, Then, etc..) on the scratchpad, but that's OK. Multiple commands, separated by a colon, are allowed though.

The home screen has improved as well and is a lot more organized.

The Graph and Geometry applications have been separated, which gives a better focus to each application.

The screen looks much better and crisp than it did in Version 1. To me the screen in Version 1 was always kind of blurry. The screen actually is readable now.

More programming commands in the input/output department: Request boxes, Output command (I have to look this command up), and Text Box (similar to HP 50G's message box). And the Disp command gets a nice upgrade being able to display more than one thing. In addition, you can display more than one line with Disp.

Some of the new commands are:

Derivative at Point "box": give the variable and number it returns the derivative form where you fill the remaining box with the function

Solve a system dialog box: same concept as the Derivative at Point; you give the variables and order and the TI Nsprie does the form; all that reamins to is to put in the equations.

On the Graph Applicaton: When something is graphed you can toggle the Table with Ctrl+T. Also graph analysis tools are now included (zeros, mins, maxes, etc)

The mouse movement is also better, more responsive. I have the "old" keyboard.

Version 2 makes the TI nSpire actually useable IMHO.

Eddie

To anyone with a TI nSpire - UDPATE to version 2! Highly recommend it.

Edited: 10 Mar 2010, 10:35 p.m.

Re: OT: New Version of TI-Nspire

*Message #5 Posted by **Don Shepherd** on 11 Mar 2010, 9:20 a.m.,*
in response to message #4 by Eddie W. Shore

> Quote:
>
> More programming commands in the input/output department: Request boxes, Output command (I have to look this command up), and Text Box (similar to HP 50G's message box). And the Disp command gets a nice upgrade being able to display more than one thing. In addition, you can display more than one line with Disp.

Eddie, I haven't seen any documentation on a new "Output" command; let us know if you find it in there. The Disp command has been able to display more than one thing for some time, I think. Like Disp "the score is",s for example.

In my brief testing (before I sent my NSpire CAS clickpad back to TI to swap for a touchpad version), using crlf=char(13)&char(10) to get a new line, the Text command supports this structure (to get multiple lines in a dialog box in one command), but the Request command does not. I didn't test the RequestStr, but I imagine it doesn't either. Perhaps TI will fix this inconsistency.

Re: OT: New Version of TI-Nspire

*Message #6 Posted by **Eddie W. Shore** on 11 Mar 2010, 9:31 a.m.,*
in response to message #5 by Don Shepherd

> Quote:
>
> Eddie, I haven't seen any documentation on a new "Output" command; let us know if you find it in there. The Disp command has been able to display more than one thing for some time, I think. Like Disp "the score is",s for example.
>
> In my brief testing (before I sent my NSpire CAS clickpad back to TI to swap for a touchpad version), using crlf=char(13)&char(10) to get a new line, the Text command supports this structure (to get multiple lines in a dialog box in one command), but the Request command does not. I didn't test the RequestStr, but I imagine it doesn't either. Perhaps TI will fix this inconsistency.

You're right, Don, I didn't find the Output command now that I'm looking through the reference guide. Maybe Disp is the "Output" command given it has been enhanced.

I'll have check out the mulitline consistency.

Re: OT: New Version of TI-Nspire

*Message #7 Posted by **Han** on 10 Mar 2010, 11:13 p.m.,*
in response to message #1 by Gerry Schultz

I have been teaching with TI's, and HP's and I have found that the nSpire to be the worst calculator for in-class use. It is great for doing presentations, but it is horrible as a calculator due to the fact that everything is drop-down-menu driven.

The notion of a graphical menu works well only if you have an equally responsive input device such as a mouse. Even with the new touchpad feature (where they big, square, "arrow keys" region is like a touchpad on a laptop), navigating all those menus with an arrow is tedious.

What makes a calculator a viable piece of electronics today is the fact that its input method involves a dedicated keyboard. There is a reason why those fancy hand-held devices with huge RAM and CPU power and colored screens will never replace a calculator (even something as "cool" as an iPhone with the HP48 emulator) -- it's the fact that there are not enough dedicated keys!

When comparing the HP50, TI89, and nSpire, the menus are easiest to navigate in that order: HP50, TI89, nSpire. The TI89 has way too many items nested within a single menu --- the "MATH" menu. The built-in Fn menus do help a bit, but it is still cumbersome to navigate. The HP on the other hand has several "main" menus categorized by topic. I should mention that the menu system "devolved" from the HP48 to the HP50 (a few menus and key assignments could have made the HP50 a better machine). The nSpire is just a horrible in terms of getting to the correct function. While they nicely categorize the functions, it takes me a lot longer on the nSpire to get to the "limit" operator vs on an HP50. I do like the inspire, however, in that once you have selected something like "limit," you are then shown the limit operator as seen in textbook format, and you merely fill in the blanks. To move around input fields, you can use the tab key or the touchpad/arrows (tab is just faster than moving that pointer around).

One other benefit to using the menu system on the HP50 is that the menus themselves do not cover up the main screen. Imagine finding a function whose location you accidentally forgot. I can hunt around on the HP50 without losing track of what I am doing since I can see the main screen. That is not the case with the 89 or nSpire. The TI85 was a good calculator in this respect.

Input methods aside, the nSpire has an extremely powerful software set. I just wish it had 3D graphing capabilities (I was unable to find it on the latest release of the nSpire; but I have only played with it a few days)

Edited: 10 Mar 2010, 11:15 p.m.

Re: OT: New Version of TI-Nspire

*Message #8 Posted by **Eddie W. Shore** on 10 Mar 2010, 11:44 p.m.,*
in response to message #7 by Han

Good point, Han. The soft key menus are my favorite.

While we are on the subject: I don't understand why the trig functions (SIN/COS/TAN/ASIN/ACOS/ATAN) have to be grouped into one key and further more, why the

recirpocal, factorial (should be for all numbers in the complex plane IMHO), and rect/polar conversions aren't on the keyboard at all. Not a deal breaker but a minor thorne for me.

Re: OT: New Version of TI-Nspire

*Message #9 Posted by **Don Shepherd** on 11 Mar 2010, 9:12 a.m.,*
in response to message #8 by Eddie W. Shore

I beleive SIN, COS, and TAN were on the keys in the original NSpire clickpad, but TI moved them to a trig menu now, probably because they aren't as necessary for students every day as they would be for engineers.

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Query re. HP 82973A HP-IL Interface card and 82161A Digital Cassette Drive

*Message #1 Posted by **John AS (UK)** on 10 Mar 2010, 8:00 a.m.*

Hi,

I'm currently reading the manual for the 82973A HP-IL Interface card (ISA bus card), it describes the HPIL.SYS driver as follows:

```
In CONFIG.SYS enter the line:

       DEVICE = HPIL.SYS


You can use HP-IL peripherals as you would other devices connected to your

 IBM PC computer. The following table lists the names that your IBM PC

 recognizes and their corresponding devices on the loop.


        Name                        Device
        ------------------------------------------------------------------
        HPILPRN                     The first printer on HP-IL.

        HPILPLT                     HP 7470A Graphics Plotter (option 003).

        Drives C to J (D to K)      Disc drives or HP 82161A Digital Cassette

                                    Drive. (Drives D to K for the IBM XT.)
```

I can understand that a 9114A/B disk drive would appear as a MSDOS drive letter, and the manual says these can either be formatted by an HP-110 or by usng the HPILFOR utility on a PC with the 82973A. But can you actually format a cassette tape as an MSDOS drive (ie with a FAT), either on an HP-110 or via the 82973A?

I thought from earlier forum posts that the 82161A only understood Filbert protocol, and the HP-110 only understood SS-80 protocol, so the two were incompatible (without any additional software!) I would also be surprised if HPIL.SYS provides support for the Filbert protocol.

Regards,
John

Re: Query re. HP 82973A HP-IL Interface card and 82161A Digital Cassette Drive

*Message #2 Posted by **Egan Ford** on 10 Mar 2010, 11:14 a.m.,*
in response to message #1 by John AS (UK)

I have no idea, but I do have all the necessary parts. I can try this weekend perhaps.

What is your intended use? Are you trying to exchange data with the HP-110?

Re: Query re. HP 82973A HP-IL Interface card and 82161A Digital Cassette Drive

*Message #3 Posted by **John AS (UK)** on 10 Mar 2010, 4:55 p.m.,*
in response to message #2 by Egan Ford

> Quote:
>
> I have no idea, but I do have all the necessary parts. I can try this weekend perhaps.

Thanks, that would be very helpful.

> Quote:
>
> What is your intended use? Are you trying to exchange data with the HP-110?

Ongoing quest of a friend to retrieve files off his cassette drive, and also I am curious if I am understanding the manual correctly.

Regards,
John

Re: Query re. HP 82973A HP-IL Interface card and 82161A Digital Cassette Drive

*Message #4 Posted by **Egan Ford** on 11 Mar 2010, 11:27 a.m.,*
in response to message #3 by John AS (UK)

I tried this AM. No luck.

With EMU71/EMU41/FreeDOS I can format, read, and write to both my 9114B and 82161A.

If I add DEVICE=HPIL.SYS to my CONFIG.SYS and reboot, then both drives fire up and are assigned drive letters. If I try to access the drive letter I get an error.

```
dir e:

Error reading from drive E: DOS area: unknown unit for driver
(A)bort, (I)gnore, (R)etry, (F)ail?
```

If I try to format I get:

```
hpilfor e: (or hpilfor e: /w)

(I hear the drive)

Press any key to begin formatting E:

Media Format Error.
```

Perhaps its FreeDOS or that I am running DOS under DOSEMU. I guess I need to try MS-DOS.

Re: Query re. HP 82973A HP-IL Interface card and 82161A Digital Cassette Drive

*Message #5 Posted by **Egan Ford** on 11 Mar 2010, 12:44 p.m.,*
in response to message #4 by Egan Ford

Just tried DOS 3.3 on bare-metal. Same errors. Out of ideas.

Re: Query re. HP 82973A HP-IL Interface card and 82161A Digital Cassette Drive

*Message #6 Posted by **Egan Ford** on 11 Mar 2010, 1:00 p.m.,*
in response to message #1 by John AS (UK)

Quote:

```
        Drives C to J (D to K)     Disc drives or HP 82161A Digital Cassette

                                   Drive. (Drives D to K for the IBM XT.)
```

Hmmm... my docs do not state 82161A. Can you send me your software? Or a URL?

Re: Query re. HP 82973A HP-IL Interface card and 82161A Digital Cassette Drive

*Message #7 Posted by **John AS (UK)** on 11 Mar 2010, 1:10 p.m.,*
in response to message #6 by Egan Ford

Quote:

> Hmmm... my docs do not state 82161A. Can you send me your software? Or a URL?

I was referring to copy of HP 82973 manual from a MoHPC CD3 from a few years ago (a .txt file). For the software I would refer you to 'the other HP museum'.

I guess HP found the error in the manual and removed it from later versions such as you have.

Thanks very much for trying,
Regards,
John

Re: Query re. HP 82973A HP-IL Interface card and 82161A Digital Cassette Drive

*Message #8 Posted by **Egan Ford** on 11 Mar 2010, 5:38 p.m.,*
in response to message #7 by John AS (UK)

Quote:

> 'the other HP museum'.

Same code as I have and that is available via ftp://hpmuseum.org. It would be nice to get the 1984 code to see if it works.

Re: Query re. HP 82973A HP-IL Interface card and 82161A Digital Cassette Drive

*Message #9 Posted by **John AS (UK)** on 12 Mar 2010, 8:50 a.m.,*
in response to message #8 by Egan Ford

> Quote:
>
> Same code as I have and that is available via ftp://hpmuseum.org. It would be nice to get the 1984 code to see if it works.

Thanks for the link. I've found the newer version of the HP 82973A manual you referred to:

ftp://hpmuseum.org/lif/hplink/manual.txt

so quite a few changes from the earlier version, no mention of the 82161A Digital Cassette Drive.

Nice too to find a description of the DOS INT 54 service:

ftp://hpmuseum.org/lif/hplink/int54h.doc

used to send/receive data over the 82973A.

Thanks again for your help,
Regards,
John

Edited: 12 Mar 2010, 8:58 a.m.

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Why no relative pointer in RPL

*Message #1 Posted by **David Hayden** on 10 Mar 2010, 7:22 a.m.*

I noticed the other day that RPL has no simple way to evaluate an object via a relative address. What I mean is that there's no way to say "evaluate the object whose address is here +/- some offset." This ability is practically a requirement of creating position-independent code.

It's trivial to evaluate an object using an absolute address - just put the address in the run stream. But when a library wants to call a subroutine, it must do it via an XLIB object which finds the library, gets the command from the hash table and jumps there. This is complex and time consuming. The other ways are via a global identifier or a LAM. Since many HP39gs aplets aren't libraries, they have to resort to a jump table at the beginning of the program. Double yuck.

A solution to this seems simple to me. A "relative pointer" object consisting of a 5 nibble prolog and a 5 nibble relative offset. It's function would be to call the object pointed at by the offset.

I suspect there's a good reason why such a thing doesn't exist, but I can't think of it. Does anyone have any ideas?

Thanks, Dave

Re: Why no relative pointer in RPL

*Message #2 Posted by **C.Ret** on 10 Mar 2010, 11:25 a.m.,*
in response to message #1 by David Hayden

Hye,

There is several simple ways to evaluate an object in RPL via a relative address. I may missing same thing about the XLIB and LAM object you speak about.

As far as I understand indirect reference mechanisms, the following RPL codes are all indirect reference to object in the XLib list :

Suppose the following list of objects store in XLib { 10 20 30 [1 2 3] [[7 8 9][4 5 6][1 2 3]] "Any Text" « DUP PRG » (12,3) 12.3_feet #adress ...} 'XLib' STO

To evaluate the object at the relative adress n, simply GET it ! 'XLib' n GET EVAL

Ex. 'XLib' 5 GET EVAL or 'XLib(5)' EVAL returns "Any Text"

And, a more relative adress can be used using any supplementary Index :

Ex. { 3 5 2 4 6 7 6 3 9 } 'Index' STO then 'Xlib' 'Index' 2 GET GET returns "Any text"

Or several as need : Ex. [1 2 3 4 5 1 2 3 4 5] 'PostIndex' STO tehn 'XLib' 'Index' 'PostIndex' 7 GET GET GET returns "Any Text"

And so on...

So, it looks to be easy and simple to make relative, relative indexed, relative multi indexed references in RPL !

No extra "pointer" object is required as any list, array or matrix may be used as a pointer table.

I certainly missing samething there and I may mistaken which XLIB, LAM or prolog's nibble you speak about.

Can you please be a bit more explicit concerning the HP49g's aplets jump table ?

Re: Why no relative pointer in RPL

*Message #3 Posted by **David Hayden** on 10 Mar 2010, 1:43 p.m.,*
in response to message #2 by C.Ret

The methods you mention will work, but what I'm talking about is something lower level. Suppose you have a library like this:

```
xNAME CMD1
::
  %1
  myInc
  %2
  myInc
;


NULLNAME myInc
::
  %1
  %+
;
```

The calls from CMD1 to myInc get converted into XLIB objects (AKA DOROMP objects). These objects contain a 3 nibble library ID and a 3 nibble command number. XLIB's prolog has to find the library, find its link table, find the command's entry in the link table and only then does it know where "myInc" is located.

A "relative pointer" object would be 1 nibble smaller than an XLIB, it would reduce the size of a library (because the internal commands wouldn't need to be in the link table) and it would be faster.

This is low level stuff related to how programming languages are implemented. Sorry if I wasn't clear.

Thanks, Dave

Dave

Re: Why no relative pointer in RPL

*Message #4 Posted by **Han** on 11 Mar 2010, 12:52 a.m.,*
in response to message #3 by David Hayden

Is the GOTO command perhaps what you are looking for?

There are other ways to implement such a relative jump, but it requires embedding in a little bit of Saturn assembly code. The following code is untested (just what came to my head).

```
xNAME CMD1
::
  %1
  myInc
  %2
```

```
CODE
  GOSBVL =SAVPTR
  GOTO   _jumphere-(*)
ENDCODE
;


NULLNAME myInc
::
SKIP
CODE
_jumphere
  GOVLNG =GETPTRLOOP
ENDCODE
  %1 %+
;
```

Re: Why no relative pointer in AKA DOROMP objects

*Message #5 Posted by **C.Ret** on 11 Mar 2010, 2:55 a.m.,*
in response to message #4 by Han

Thanks for the explanations.

I now understand my mistake, all this have nothing with user RPL and it looks to me more related to internal code and machine assembly language than I have expected from the first post title.

As I have no HP49, nor HP50, I only interpret RPL as user RPL languages as available on HP28C/S calculator. And I have to admit I have no clue of what all this stuff is related to.

What you are describing here have nothing to do with classic RPL and it's look to be really system specific (I suspected you aren't actualy hacking all this code on true HP calculator, but on emulator or dedicated software environnment).

That's the cost of this technology, no more portability and sharable understanding or logic. This is exactly the travers denoncied by RPN users who like RPN's portability, no hardware specificity and a wide shared standard.

Sorry, for being incompetant in this stuff.

Re: Why no relative pointer in AKA DOROMP objects

*Message #6 Posted by **David Hayden** on 11 Mar 2010, 11:09 a.m.,*
in response to message #5 by C.Ret

> Quote:
>
> What you are describing here have nothing to do with classic RPL and it's look to be really system specific (I suspected you aren't actualy hacking all this code on true HP calculator, but on emulator or dedicated software environnment).

Actually, it isn't system specific, it's generic system RPL and goes right back to Wickes's RPLMAN.DOC description of the language.

I received a wonderful explanation in a private email. I won't mention who in case he wants to remain anonymous. It isn't really practical currently because of the way the calculator does memory management. When you execute a command in a library that isn't in port 0, the calculator copies the command to temporary memory and executes it there. Since it copies the

command and not the whole library, a relative pointer wouldn't point to the right place.

Another casualty of an address space that's too small.

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Battery pack for an HP-35

*Message #1 Posted by **Jean-Michel** on 9 Mar 2010, 4:12 p.m.*

Hello all,

believe me or not, but I was given these past days two old HPs for free.

One is an HP-25, serial number 1803B... in very good cosmetic condition, as well as the leather-like pouch, with very few and minor scratches. It seems to have been used very few, as the keys still have the famous "rotate-and-click" behavior. Unfortunately, it has been left for years with the battery pack inside, and I found a huge leakage when openning it. A good cleaning and fresh AA batteries did not bring it back to life. At least I now have a very nice paper weight...

The other I received just today is an HP-35, serial number 1302S..., in very good cosmetic condition too. Like the first one, it seems to have been unused the major part of its life, which is rather surprinsing when one knows the price of this calculator in '73! Since there is no battery pack in it and the battery terminals don't show major evidences of battery leakage, I keep a tiny hope it's still functional.

My question is the following: since there's no marking in the battery compartment nor on the battery cover showing the polarities of the battery terminals, could someone tell me what they are, so that I could test the calc? Same for the 3 plugs on the back side, near the battery door. In case of use, mine is like the third one starting from the left on this photo.

Any help much appreciated.

Kind regards.

Jean-Michel.

Edited: 9 Mar 2010, 4:33 p.m.

Re: Battery pack for an HP-35

*Message #2 Posted by **tim m.** on 9 Mar 2010, 6:07 p.m.,*
in response to message #1 by Jean-Michel

Here ya go: http://www.hpmuseum.org/batts/battery.htm.

-Tim

Re: Battery pack for an HP-35

*Message #3 Posted by **db (martinez, ca.)** on 9 Mar 2010, 9:30 p.m.,*
in response to message #1 by Jean-Michel

if that link didn't work on your computer any better than mine, try:
http://cgi.ebay.com/HP-Calculator-Battery-Pack-35-45-55-65-67-

80_W0QQitemZ220568168603QQcmdZViewItemQQptZCalculators?hash=item335ae3289b

there's also another guy selling reproductions of the plastic frame and tabs in kit form on ebay.

Here is a photo of the correct polarity for the prongs

*Message #4 Posted by **geoff quickfall** on 9 Mar 2010, 10:44 p.m.,*
in response to message #3 by db (martinez, ca.)

Here is a link to an old posting RE: HP 45 restoration. Scroll down to the 9th photo for the labelling of the prongs.

HP 45 posting

Cheers, Geoff

Re: Battery pack for an HP-35

*Message #5 Posted by **Hal Bitton in Boise** on 10 Mar 2010, 1:34 a.m.,*
in response to message #1 by Jean-Michel

On the HP 25, I'm assuming that you have put the new AA's into the original battery case. If so, be sure you have good contact at the closed end of the case, where the cells are (supposed to be) jumpered together (the original cells had a soldered on strip connecting them at this end). Without that strip, that spring in the end of the case is the sole connection. Perhaps it's corroded through.
Best regards, Hal

Re: Battery pack for an HP-25

*Message #6 Posted by **geoff quickfall** on 10 Mar 2010, 2:08 a.m.,*
in response to message #5 by Hal Bitton in Boise

Hal suggestion is excellent, while there, sometimes the round soldered battery contacts of the logic pca are corroded.

I have a 29C sold as broken which appeared excellent. Never powered up and I could not find any corrosion damage. It turned out to be the negative battery contact on the logic PCA. This was a cold solder and the connection although appearing perfect was broken at the solder.

After remelting both of the logic pca contacts (they look like rivets) on the logic pca the calculator works and I haven't looked back since.

Geoff

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is more valuable a 41cx broken calculator than a good one?

*Message #1 Posted by **Gonzalo Fernandez (Spain)** on 9 Mar 2010, 2:25 p.m.*

See http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=280472811380 versus
http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=280472808417 ($93 versus $81)

Re: is more valuable a 41cx broken calculator than a good one?

*Message #2 Posted by **Raymond Del Tondo** on 9 Mar 2010, 3:38 p.m.,*
in response to message #1 by Gonzalo Fernandez (Spain)

Part of the answer is given in the auction text:

> Quote:
>
> There is a name engraved in the calculator and battery case (an attempt to scratch them out has been made)

The broken one isn't more valuable than the working unit,
but who wants a calc which has the previous owner's name engraved?

Actually the broken unit is not a halfnut, so there's a great chance to get it repaired.

HTH

Re: is more valuable a 41cx broken calculator than a good one?

*Message #3 Posted by **John Robinson** on 9 Mar 2010, 6:47 p.m.,*
in response to message #2 by Raymond Del Tondo

However, the broken one has the wrong case :-) so that will detract from it's value.

Cheers, John

method to the madness??

*Message #4 Posted by **geoff quickfall** on 9 Mar 2010, 7:57 p.m.,*
in response to message #1 by Gonzalo Fernandez (Spain)

As the guy (me) who purchased the broken one you have a good point but:

- PARTS if possible and very probable for 5 others that need work... - Combined with the other auction:

parts auction

- Required for the book as I intend to disect a keyboard heat stake system the least destructive way possible then document the process.

also;

- Can't find broken ones around here unfortunately.

Cheers, Geoff

p.s. if it is a candidate for restoration it will look and act as though new, pristine even, and as stated it is a full sized board and not a "halfnut" later version.

Edited: 9 Mar 2010, 7:59 p.m.

Re: method to the madness??

*Message #5 Posted by **Gonzalo Fernandez (Spain)** on 10 Mar 2010, 4:55 a.m.,*
in response to message #4 by geoff quickfall

You are right, sometimes is more valuable a good cosmetic condition but broken calculaton for parts than a working one in bad cosmetic status.

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16c case refurbishment

*Message #1 Posted by **Dan Eicher** on 9 Mar 2010, 1:29 p.m.*

Recently I picked up a 16C on ebay. The electronics, keys and display all work perfect. The case shows signs of a very hard life, the aluminum has rough scratches and the case is chipped and dinged.

Anyone have any advice for cleaning up the aluminum and plastic case?

Thanks, Dan

Re: 16c case refurbishment

*Message #2 Posted by **geoff quickfall** on 9 Mar 2010, 2:09 p.m.,*
in response to message #1 by Dan Eicher

Try this link. Email me with questions?

HP 10C bezel replacement and HP 15C bezel restoration

Cheers, Geoff

scroll down to the HP-15C posting which has the technique for restoring a bezel while it is still in place.

Edited: 9 Mar 2010, 2:10 p.m.

Re: 16c case refurbishment

*Message #3 Posted by **Alberto Fenini** on 9 Mar 2010, 4:39 p.m.,*
in response to message #2 by geoff quickfall

Geoff, any time I see these pictures I have to congratulate, is the book ready for sale ? I'd like to have a copy, take care, cheers from Italy, Alberto

Re: 16c case refurbishment

*Message #4 Posted by **geoff quickfall** on 10 Mar 2010, 1:24 a.m.,*
in response to message #3 by Alberto Fenini

Alberto,

thanks for the comments, the book target date is, at the latest, HCC2010 this fall.

Cheers, Geoff

p.s. just the Sting, TopCat, Clamshell chapters left.

Edited: 10 Mar 2010, 11:52 a.m. after one or more responses were posted

Looking forward...

*Message #5 Posted by **Johnny Bjoern Rasmussen** on 10 Mar 2010, 7:41 a.m.,*
in response to message #4 by geoff quickfall

Hi Geoff
Waiting with excitement for your great book!

Johnny

Re: 16c case refurbishment

*Message #6 Posted by **Dan Eicher** on 10 Mar 2010, 4:52 p.m.,*
in response to message #4 by geoff quickfall

Your book would be great. Every thought of setting up a google form to tally they interested?

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HP41c rechargeable battery (82120A) circuit diagrams ?

*Message #1 Posted by **John Robinson** on 9 Mar 2010, 7:16 a.m.*

Hi All, does anyone have the circuit diagrams for the 2 pin and 3 pin versions of the 82120A, the hp41 rechargeable battery pack ?

Thanks John

Edited: 10 Mar 2010, 10:42 p.m.

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H-P on TV

*Message #1 Posted by **Palmer O. Hanson, Jr.** on 8 Mar 2010, 10:14 p.m.*

Tonight one of the characters in the "Big Bang" show said

> Quote:
>
> I have endless patience. I once spent two and one half hours on hold with Hewlett Packard customer service just to complain about their customer service.

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Reading and writing text files from/to LIF-files: Two new scripts

*Message #1 Posted by **Geir Isene** on 8 Mar 2010, 5:41 p.m.*

Ok, here goes - an itch that needed some scratching.

Whereas the following two scripts are not general purpose read/write from/to LIF-files, they do read an ascii file from a LIF-file and write an ascii file into a LIF-file. From the web site:

"lifasread " - a Ruby script to read an ascii file stored in a lif-formated file (used by the HP-41 as file format on mass storage mediums. Tested on Linux. Run the script with the -h (or --help) option to see how it is used.

"lifaswrite " - a Ruby script to write a text file to a lif-formated file (the reverse of "lifasread". Run the script with the -h (or --help) option to see how it is used.

Re: Reading and writing text files from/to LIF-files: Two new scripts

*Message #2 Posted by **Egan Ford** on 8 Mar 2010, 6:14 p.m.,*
in response to message #1 by Geir Isene

Nice. Thanks.

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Classic USB power cable and replacement connectors

*Message #1 Posted by **Mark Henderson** on 8 Mar 2010, 3:55 p.m.*

An enterprising gentleman has developed an after-market Classic series DC power plug and a USB power cable - I purchased a USB cable from eB*y and it is wonderful! He also sells just the connector for retrofit in case your connector/cable is flakey. A little pricey, but not when compared to the alternative. Highly recommended.

Classic Power Cable

I saw those last week and found them intriguing. >>

*Message #2 Posted by **tim m.** on 9 Mar 2010, 12:41 a.m.,*
in response to message #1 by Mark Henderson

I could use a new plug as mine has its structural integrity provided by a lot of Loctite epoxy. ;)

What I'd really like to see is a faithful molded repro, in black plastic, of the original plug.

-Tim

Re: I saw those last week and found them intriguing. >>

*Message #3 Posted by **aj04062** on 14 Mar 2010, 3:44 p.m.,*
in response to message #2 by tim m.

hey Tim,

What would you pay for a new plug? I could model one in CAD and then "rapid prototyped" from a hard rubber. No mold required.

I need one for a restoration I am doing. If you might pay, maybe I'd got that route.

Adam

Re: I saw those last week and found them intriguing. >>

*Message #4 Posted by **Alberto Fenini** on 15 Mar 2010, 1:01 p.m.,*
in response to message #3 by aj04062

That would be interestating, do you think it could be done for the battery cover latches as well ? Take care Alberto

Re: I saw those last week and found them intriguing. >>

*Message #5 Posted by **aj04062** on 16 Mar 2010, 6:37 a.m.,*
in response to message #4 by Alberto Fenini

Perhaps. That would take a bit more modeling and trial and error, I think. I have a need too on a 55 that has acid eaten latches.

What model do you need them for?

Do you feel there is a bigger demand for these?

Re: I saw those last week and found them intriguing. >>
*Message #6 Posted by **Alberto Fenini** on 16 Mar 2010, 9:44 a.m.,*
in response to message #5 by aj04062

Well, I do think very is a huge demand, if price is attractive enough, since are very easy to break, 8 out of 10 battery covers will need a replacement.

The problem I can see is that there are different models and differente colours to be done, and this may increase the production price.

If you want, I can send you some sample pics, I can post them here, or I can send you an email, I can be reached at alberto_1964 at hotmail.com, let me know

take care Alberto

Re: I saw those last week and found them intriguing. >>
*Message #7 Posted by **aj04062** on 16 Mar 2010, 12:29 p.m.,*
in response to message #6 by Alberto Fenini

well, I modeled the part up and am getting the first piece today or tomorrow. I will need to match the color of my 55 (black should be much easier).

I only have a 55. Are all the classics the same except for color?

If succesful with this one, it shouldn't be hard to do the other models. I would need good samples to start from. Are you willing to let me borrow yours if it is different than the 55?

peace, Adam

Re: I saw those last week and found them intriguing. >>
*Message #8 Posted by **Alberto Fenini** on 16 Mar 2010, 1:21 p.m.,*
in response to message #7 by aj04062

Sure I will, I have sent you an email, how much are we talking about ? take care, Alberto

Re: I saw those last week and found them intriguing. >>
*Message #9 Posted by **aj04062** on 16 Mar 2010, 5:38 p.m.,*
in response to message #8 by Alberto Fenini

I'll let you know when I get a price to produce the part. I should know on Weds.

Adam

Re: I saw those last week and found them intriguing. >>
*Message #10 Posted by **Alberto Fenini** on 16 Mar 2010, 6:14 p.m.,*
in response to message #9 by aj04062

Thank you very much for the time and the brilliant idea, take care Alberto

---

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Here's a rare HP48GX

*Message #1 Posted by **Han** on 8 Mar 2010, 2:45 p.m.*

I am not sure whether to be offended or amused:

eBay Listing

Edited: 8 Mar 2010, 2:47 p.m.

Also a rare TI-82

*Message #2 Posted by **Martin Pinckney** on 8 Mar 2010, 2:53 p.m.,*
in response to message #1 by Han

The same seller has this listed.

Edited: 8 Mar 2010, 2:54 p.m.

Don't confuse them with this rare HP55 camera

*Message #3 Posted by **Dave Shaffer (Arizona)** on 8 Mar 2010, 5:52 p.m.,*
in response to message #2 by Martin Pinckney

Want a Rare Camera instead??

Re: Don't confuse them with this rare HP55 camera

*Message #4 Posted by **Martin Pinckney** on 9 Mar 2010, 8:50 p.m.,*
in response to message #3 by Dave Shaffer (Arizona)

The really scary thing about **that** auction is the seller - a Goodwill store! They are catching on to the the value of older calculators - no more bargains!

Re: Don't confuse them with this rare HP55 camera

*Message #5 Posted by **Dave Shaffer (Arizona)** on 9 Mar 2010, 9:27 p.m.,*
in response to message #4 by Martin Pinckney

> Quote:
>
> They are catching on to the the value of older calculators - no more bargains!

They do need a better ad writer though - between the "camera' and the "LCD display"! Still, they didn't do too badly.

Re: Don't confuse them with this rare HP55 camera

*Message #6 Posted by **Namir** on 9 Mar 2010, 10:05 p.m.,*
in response to message #5 by Dave Shaffer (Arizona)

Not sure about the calculator quality though! I recently bought a "working" HP-55 only to discover that each digit's lower right segment does not light up. Since I am sooo much attached to the 55 (my very first HP) I decided to send it to Randy.

Namir

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Mildly amusing and relevant

*Message #1 Posted by **Dave Shaffer (Arizona)** on 8 Mar 2010, 1:03 p.m.*

Two of the comics from last Saturday (March 6, 2010) brought to mind topics address here from time to time:

Opening your HPxx blister pack

You need the AUG!

Re: Mildly amusing and relevant

*Message #2 Posted by **Namir** on 8 Mar 2010, 2:18 p.m.,*
in response to message #1 by Dave Shaffer (Arizona)

These people have no shame making fun of me and my phone!!! Any decency left in the world??? My wife will be terrified that someone was listening to our conversation!

:-(

Namir

Edited: 8 Mar 2010, 2:20 p.m.

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HP-35S : do the battery last that long?

*Message #1 Posted by **Jean-Michel** on 8 Mar 2010, 12:34 p.m.*

Hi folks,

My HP-35S I bought new in nov' 2007 and barely used since needed some fresh batteries to power on today! (Not a problem of contrast setting, I checked this).

My question: did you guys notice that the lifetime of the two CR2032 cells was that short in this calc?

Just as an information: my 26 years old CASIO fx-602P needs much less similar batteries. I don't remember when I bought some new, but it's much more than two years ago!

Any opinions appreciated.

Kind regards.
Jean-Michel

Re: HP-35S : do the battery last that long?

*Message #2 Posted by **Michael de Estrada** on 8 Mar 2010, 1:23 p.m.,*
in response to message #1 by Jean-Michel

Yes, that is normal for the HP-35s. I only get an average 18 months use out of a pair of batteries. The calculator drains power even when turned off to maintain the contents of memory. The HP-33s is even worse.

Re: HP-35S : do the battery last that long?

*Message #3 Posted by **Jean-Michel** on 8 Mar 2010, 5:22 p.m.,*
in response to message #2 by Michael de Estrada

Michael,

many thanks for your prompt answer. I'm rather sad to know that this calc of the 21st century needs that much power to maintain the memory whereas calcs over twenty years old don't...I was far from thinking of this. Is this what we call progress?

One last question (probably stupid, but who cares?) : would it drain the same power to maintain the content of the memory if this one would be totally empty (variables and prgm lines)? Since my wife uses it quite exclusively now without ever putting anything into memory, I could leave it empty if this would help to increase the lifetime of batteries, but I doubt! If one of you have an idea...

Kind regards. JM

Re: HP-35S : do the battery last that long?

*Message #4 Posted by **Michael de Estrada** on 8 Mar 2010, 5:53 p.m.,*

in response to message #3 by Jean-Michel

I am certainly no expert with electronics, however, I doubt that the power consumption of the non-volatile memory is in any way related to it's state. OTOH, when the calculator is performing a calculation or running a program, it will consume more power than when it is idle. I believe the reason that the power consumption of the HP-33s is greater than the HP-35s is because its CPU runs at a faster speed. Because the memory of the HP-35s is much larger than older vintage calculators, it probably requires more power to maintain its contents when the calculator is powered off. If you use this calculator only occasionally and don't need to maintain the contents of memory, you might consider simply removing the batteries during storage,since it is extremely easy to remove and install batteries in this model.

Re: HP-35S : do the battery last that long?

*Message #5 Posted by **Katie Wasserman** on 8 Mar 2010, 9:24 p.m.,*
in response to message #4 by Michael de Estrada

The 35S has a fairly high off-state current draw. I measured it on at around 10ua per cell. A typical CR2032 cell has a maximum rated capacity of around 220mah so you could expect about 2.5 years of battery life if you never use the calculator.

The amount of memory is insignificant to the off-state current draw for most calculators. What is stored in memory has zero effect on current draw in CMOS technology. What counts is:

1) circuit design -- cells in parallel with no blocking diodes is bad (the 12C+, 20b and 30b all have this problem).

2) silicon technology -- the leakage current on each gate. The Voyager series used chips that had near zero leakage current and the silver oxide button cells lasted for many, many years.

3) firmware design -- if the processor needs wake up often to scan the keyboard, update a RTC or do other maintenance functions, battery life is going to suffer.

-Katie

Re: HP-35S : do the battery last that long?

*Message #6 Posted by **Jean-Michel** on 9 Mar 2010, 3:50 p.m.,*
in response to message #5 by Katie Wasserman

Hello Katie,

let me thank you for your very complete and technical explanations. I couldn't have any better answer.

Kind regards.

Jean-Michel.

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identify old calculator?

*Message #1 Posted by **randy bozarth** on 8 Mar 2010, 11:29 a.m.*

I am trying to identify a calculator I used in the late 60's or very early 70's. Definitely before hand-held calculators. ....Hewlett-Packard? Approximately 14" x 14" x 24" high and rolled on casters. Keypad and digital readout was on top. Add, subtract, multiply, divide only. Stack memory. RPN?

Re: identify old calculator?

*Message #2 Posted by **Jean-Michel** on 8 Mar 2010, 12:41 p.m.,*
in response to message #1 by randy bozarth

Hi Randy

Give a try to this site :
http://www.calculatormuseum.nl/calc/start.htm
Perhaps is the calc you're looking for there...

Re: identify old calculator?

*Message #3 Posted by **Frank Boehm (Germany)** on 8 Mar 2010, 4:05 p.m.,*
in response to message #1 by randy bozarth

Most of the early electronic "monsters" had 2 casters on the back side - too heavy to carry around, you just had to lift the front a bit and were able to move the calculator somewhat back on your desk. Your description limits the number of possible calculators to around 100 or so... So a little drawing (position of keyboard, display, maybe outer casing, as these were often quite "strange") might help to narrow down to a handful of possibilities.

Re: identify old calculator?

*Message #4 Posted by **randy bozarth** on 8 Mar 2010, 10:52 p.m.,*
in response to message #3 by Frank Boehm (Germany)

Here is an image of what I remember. It didn't roll around on the desk but rolled on the floor. I apologize for the lack of details.

Edited: 8 Mar 2010, 10:54 p.m.

I'm clueless...

*Message #5 Posted by **Frank Boehm (Germany)** on 9 Mar 2010, 4:22 a.m.,*
in response to message #4 by randy bozarth

I haven't seen a floor-standing model yet. Are you sure it wasn't just mounted on a cabinet? The first

electronic calculators (Anita, IME, Canola, Sharp) were "desktop-sized".
One exception were WANG-calculators, those used a floor-standing electronics unit and several remote displays/keyboards (which is different from your image).
All larger calculators did use a vertical display, only about 1969, a somewhat more "horizontal" (like 45o angle) type was introduced for "portable" desktop calculators.
Example:Walther ETR 1

Re: identify old calculator?

*Message #6 Posted by **Bart (UK)** on 9 Mar 2010, 4:31 a.m.,*
in response to message #4 by randy bozarth

There was a prototype Friden that was similar, but the production model was "desktop" sized (Friden 130).

See here, the black & white sketches show the cabinet size prototype.

Re: identify old calculator?

*Message #7 Posted by **Martin Pinckney** on 8 Mar 2010, 4:24 p.m.,*
in response to message #1 by randy bozarth

Quote:

...Hewlett-Packard? ... Add, subtract, multiply, divide only.

Definitely not HP. From this site:

The HP 9100A was Hewlett-Packard's first calculator. In the mid to late 1960's electronic four function fixed point calculators were brand new and typically cost $1000-$2500. In 1968 HP introduced the HP 9100A featuring:

* Floating point math with a range of 10^-98 to 10^99 * Log (natural and base 10) * Antilog (natural) * Square root * Trigonometric (including hyperbolic) functions and inverses * Vector addition/subtraction * Polar/rectangular conversion * Misc. features like 1/x, PI etc. * A logic system that could handle complex expressions (RPN) * Programmability * A magnetic card reader/writer * Options such as a printer and a plotter

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Applied Stats Solutions 1 and 2 documentation

*Message #1 Posted by **David Airey** on 7 Mar 2010, 3:00 p.m.*

I was trying to find PDF copies of the Applied Stats 1 and 2 Solutions documents that reportedly contained some of the following program. (Not the Test Stats Book or Business Stats book.) Does anyone know where a copy might be found? I've been in contact with Tony Duell. Thanks.

ONEST : One Sample Test Statistic for Mean : Test Stats Solution Book CORRTS : Test Statistic fr Correlation Coefficient : Test Stats Solution Book DIFFPRP : Differences Among Proportions : Test Stats Solution Book BEHRENS : Behrens-Fisher Statistic : Test Stats Solution Book KRUSKAL : Ruskal-Wallis Statistic : Test Stats Solution Book MNSQD : Mean-Square Successive Difference : Test Stats Solution Book RUNTEST : Run Test for Randomness : Test Stats Solution Book INTCLSS : Intraclass Correlation Coefficient : Test Stats Solution Book FISHTST : Fisher's Exact Test for 2*2 Contingency : Test Stats Solution Book BARTLTT : Bartlett's Chi-Square Statistic : Test Stats Solution Book MANNWHT : Mann-Whitney Statistic : Test Stats Solution Book KENDALL : Kendall's Coefficient of Concordance : Test Stats Solution Book

INTCONF : Mean and Confidence Interval : Applied Stats 1 Solution Book HISTNRM : Histogram Normality Test : Applied Stats 1 Solution Book ECHIND : 2 Independant Samples F & T Tests : Applied Stats 1 Solution Book ECHPAIR : 2 Related Samples T Test : Applied Stats 1 Solution Book ANVA1 : Single Classification ANOVA : Applied Stats 1 Solution Book ANVA2 : Randomized Complete Blocks ANOVA : Applied Stats 1 Solution Book ANVA3 : Latin Square ANOVA : Applied Stats 1 Solution Book STAT8 : Comparisons Among Means : Applied Stats 1 Solution Book ANVA5 : Nested ANOVA : Applied Stats 1 Solution Book

ANVA6 : Two-Way ANOVA : Applied Stats 2 Solution Book ANVA7 : 3-Factor ANOVA : Applied Stats 2 Solution Book ANVA8 : Factorial Experiments : Applied Stats 2 Solution Book PMCORR : Product Moment Correlation Coefficient : Applied Stats 2 Solution Book LINREGR : Linear Regression : Applied Stats 2 Solution Book ANCOVA : Analysis of Covariance : Applied Stats 2 Solution Book RANKTST : Non-Parametric Rank Test : Applied Stats 2 Solution Book FREQTST : Non-Parametric Frequency Test : Applied Stats 2 Solution Book

SMOOTH : Forcasting using Exponential Smoothing : Business Stats Solution Book SEASVAR : Monthly Seasonal Variation Factors : Business Stats Solution Book MULTLR : Multiple Linear Regression : Business Stats Solution Book NORMDST : Normal & Inverse Normal Distribution : Business Stats Solution Book TDIST : T Distribution : Business Stats Solution Book FDIST : F Distribution : Business Stats Solution Book STAT2V : Basic Statistics for 2 Variables : Business Stats Solution Book MOVAVG : Moving Average : Business Stats Solution Book GOMPRTZ : Gompertz Curve Trend Analysis : Business Stats Solution Book BRKEVEN : Break-Even Analysis : Business Stats Solution Book LRNCURV : Learning Curve for Manufacturing Cost : Business Stats Solution Book DEMAND : Price Elasticity of Demand : Business Stats Solution Book

Re: Applied Stats Solutions 1 and 2 documentation

*Message #2 Posted by **J-F Garnier** on 12 Mar 2010, 2:41 p.m.,*
in response to message #1 by David Airey

The Applied Statistics I & II documentation appeared on The Other Site.

Actually, I submitted the french "Statistiques Appliquées I" to the MoHPC (is on the current DVD), and the

strange program line I reported some times ago is also present in the english version, see here .

This answers to the questions I asked at the time, it seems that the english version is a translation of the original french documentation, and programs are the unchanged french versions.

Last question : does someone own the french manual "Statistiques Appliquées II" ?

J-F

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USB Logic Analyzer

*Message #1 Posted by **Thomas Chrapkiewicz** on 7 Mar 2010, 10:37 a.m.*

Hello:

Would anybody like to share their opinions / experiences with USB port Logic Analyzers such as these:

http://www.usbee.com/sx.html

http://www.saleae.com/logic/

Thanks, TomC

Re: USB Logic Analyzer

*Message #2 Posted by **Meindert Kuipers** on 7 Mar 2010, 11:28 a.m.,*
in response to message #1 by Thomas Chrapkiewicz

Thomas,

I have the LogicPort device and I am very happy with it: - http://www.pctestinstruments.com/

I have used this intensively for the MLDL2000 development. It is very flexible, and especially the large number of channels is something I really wanted. It may be a bit more expensive than the low-cost tools you are considering, I just needed the channels.

You might also look at: - http://www.tech-tools.com/dv_dv1.htm I have worked with this, also good, a bit more expensive - http://www.pic-tools.com/dbg_sigma.htm I do not have any experience with this

Meindert

Re: USB Logic Analyzer

*Message #3 Posted by **Bruce Bergman** on 7 Mar 2010, 12:56 p.m.,*
in response to message #1 by Thomas Chrapkiewicz

I hadn't seen the Saleae unit before, but it looks *really* nice. I'd be interested in hearing about either of these two units as well.

Thanks, Bruce

Re: USB Logic Analyzer

*Message #4 Posted by **Seth Morabito** on 7 Mar 2010, 3:56 p.m.,*
in response to message #1 by Thomas Chrapkiewicz

I own a Saleae Logic. For the price, it's a great product, I really love mine. The software is Windows-only at

the moment, but it's being rewritten from the ground up to be cross platform, which I certainly appreciate.

I have no experience with the USBee, but it also looks like a good product. It looks like it has more built-in protocol decoders in the software, but otherwise a very similar or identical feature set. I'd like to be able to compare the two side-by-side.

Re: USB Logic Analyzer

*Message #5 Posted by **cyrille de Brébisson** on 8 Mar 2010, 8:47 a.m.,*
in response to message #1 by Thomas Chrapkiewicz

Hello,

I have and use the Salee one and I love it. Go for it, worth every of the few penny it cost!

cyrille

Re: USB Logic Analyzer

*Message #6 Posted by **Bruce Bergman** on 9 Mar 2010, 4:19 p.m.,*
in response to message #5 by cyrille de Brébisson

Interesting. I have known of the USBee SX for some time, but had never seen the Saleae unit before. After digging into the web for more information on both, I see the following differences:

```
Price:
  USBee SX = $139
  Saleae   = $149


Bling:
  USBee SX has additional CLK and TRG signal leads; signal generator
  Saleae comes with carrying case; leads detachable


Software:
  USBee SX has "Suite" version; many more config/trigger options
  Saleae is ultra nice; *MAY* have a Linux version in future


Blogs/comments:
  USBee SX:
    solid history
    software more feature rich and useful
    signal generator cool
    company seems solid and stable
  Saleae:
    after initial run, they "scaled back" resources due to economy
    promised Linux version now for over a year
    removable lead pod is awesome and useful
    leads are easier to attach (soft wires)
```

With all that in mind, I'm tempted to go with the USBee SX unit. Is there anyone else that can shed some light onto the pros and cons?

thanks, bruce

Edited: 9 Mar 2010, 4:19 p.m.

Re: USB Logic Analyzer

*Message #7 Posted by **Adrian Godwin** on 9 Mar 2010, 4:47 p.m.,*
in response to message #6 by Bruce Bergman

It's true the salae unit has promised linux / OSX support for a long while, but it's not vaporware : there is an alpha version which is extremely usable and easily available from the company. I won't give more details here but you won't have difficulty if you ask.

Build quality is what sold me on it - the usbee seems like the usual plastic box. Salae is a black-anodised pod with flex wires and real ez-hook grabbers.

The salae software was way ahead (with SDK for protocol analysers too) but while they worked on the cross-platform version usbee have pretty well caught up on a slick interface and are now offering protocol details for data transfer (you could possibly use something like the Sump analyzer software with it).

I think the usbee hardware is slightly more flexible (external clock and power for interfaces) but salae seem to 'get' user interfaces better. I suspect an HP lover would go for the salae and a TI lover for the usbee!

I don't know about company stability. Salae seem to have been quiet for such a long time that they're either about to produce something wonderful or announce they've sold up. Initial supply problems were solved some time back, I think.

Re: USB Logic Analyzer

*Message #8 Posted by **Adrian Godwin** on 9 Mar 2010, 4:54 p.m.,*
in response to message #7 by Adrian Godwin

Also see this one :

http://dangerousprototypes.com/2010/02/25/prototype-open-logic-sniffer-logic-analyzer-2/

Note that it's a completely different device from the others - it has a small amount of fast on-chip storage rather than an indefinite amount of pc-based storage. Better for fast data, worse for long, slower data. It's also completely open source, FPGA included.

I'm very happy with the Salae but will very likely buy one of these too. And I already own an HP16500.

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HP50g SigmaDat

*Message #1 Posted by **Chris** on 7 Mar 2010, 10:18 a.m.*

I just got an HP50g. I have been playing around with it and trying (I stress "trying") to store data in the "sigmaDAT" variable for stats.

The manual suggests that when I enter data in the MATRW I should just then store it to sigmaDat (STO SDAT) as if there's a simple key sequence that will do that.

However I cannot (and again I stress cannot) find any way to store something to the SigmaDat register.

I see where sigmaDAT is when I go to run the stats application but no way to store something in it.

I could store it to any other memory register, but the good folks at HP clearly state I should be able to store it to the sigmaDat register as if there is such a thing.

How do I do this?

Re: HP50g SigmaDat

*Message #2 Posted by **Han** on 7 Mar 2010, 11:21 a.m.,*
in response to message #1 by Chris

If you are in the default algebraic mode, then: 1. create a matrix of values (or a vector, depending on what sort of stats you plan to do) and press ENTER. 2. press the STO> key and you should see ANS(1)> on the command line (the 1 may be a different value); finish typing into the command line the following keystrokes: right-shift, SIN, right-arrow, backspace, backspace, alpha, alpha, D, A, T, ENTER

If you are in RPN mode: 1. create your matrix/vector and place it onto the stack 2. type in the variable name with the tic marks: ', right-shift, SIN, right-arrow, backspace, backspace, alpha, alpha, D, A, T, ENTER, STO>

Re: HP50g SigmaDat

*Message #3 Posted by **BruceH** on 7 Mar 2010, 1:40 p.m.,*
in response to message #1 by Chris

sigmaDAT is the reserved variable. STOsigma (accessed from the CATalog) stores into it; RCLsigma recall it to the stack. Sigma+ and sigma- add and remove data points to and from your data set.

Re: HP50g SigmaDat

*Message #4 Posted by **Chris** on 10 Mar 2010, 2:32 p.m.,*
in response to message #3 by BruceH

Thanks! I was able to finally find it waaaay down the list on the CAT menu.

Amazingly inconvenient.

Another poster also noted to directly enter it from the STAT menu.

As much as I have loved HP calculators for the past 30 years I fear that the quality of the product itself is going downhill. I am sure the 50g is far more powerful than I will ever utilize but I equally fear that it is cheap construction and materials and there's no way it will be around 22 years later like my trusty 11C is.

Thanks for all the help on this!

Re: HP50g SigmaDat

*Message #5 Posted by **Dave Britten** on 7 Mar 2010, 3:49 p.m.,*
in response to message #1 by Chris

The original 48GX Stat menu is available on the 50g, but hidden for whatever reason. All the SigmaDAT operations are in the DATA submenu. To access it, use the following steps: 96 MENU

I would suggest making a small program out of that, and either adding it to your Custom menu, or to a User key binding (USER Right-Shift 5 being the obvious choice).

Better yet, just buy a 48SX or 48GX, which has a sane menu layout. ;)

Another related tip: You can, of course, store a matrix directly in SigmaDAT, but you can also store the name of another matrix variable into SigmaDAT. If it contains a name, then all stat operations will operate indirectly on that named variable. This makes it much easier to store and work with a few different sets of data in one directory. The matrix variable has to already exist, however, otherwise Sigma+ will simply create a new matrix and store it directly in SigmaDAT.

Re: HP50g SigmaDat

*Message #6 Posted by **Norris** on 7 Mar 2010, 11:10 p.m.,*
in response to message #1 by Chris

Here's another way to store something into SigmaDAT.

Go to the STAT menu with [right-shift] 5.

Pick the type of statistical analysis that you want. Let's say it's "1. Single-Variable Statistics". So you select that.

In the resulting form, the cursor will be in the first space in the upper left, which is "SigmaDAT".

If you've already stored your data in a matrix variable, press CHOOSE and select it. The matrix will be copied to SigmaDAT.

If you haven't entered your data yet, press EDIT to go to the Matrix Editor and enter your data. When you finish, the result will be stored in SigmaDAT.

Re: HP50g SigmaDat

*Message #7 Posted by **Hal Bitton in Boise** on 8 Mar 2010, 11:15 a.m.,*
in response to message #1 by Chris

If EDAT already exists, here is yet another, very simple way to store data into it (RPN mode)...

Put the matrix you want to store into EDAT on level 1 of the stack.

Call up the VAR menu and find the EDAT softkey by scrolling through the variables with NXT.

Press left shift (and release), then the EDAT softkey to store whatever is in level 1 into the EDAT variable. (This works with any variable).

You can of course review what's already in EDAT by simply pressing it's softkey. You can also use the stack to save/swap data sets into EDAT.
Best regards, Hal

Re: HP50g SigmaDat

*Message #8 Posted by **Dave Britten** on 8 Mar 2010, 1:17 p.m.,*
in response to message #7 by Hal Bitton in Boise

Yup, Left-Shift SigmaDAT is a convenient way to store new data, as long as the variable already exists (or you've added its name to a custom menu). If not, you have to use a different approach.

Also, if you're going to work with multiple data sets, I'd recommend using the technique I mentioned earlier, i.e. storing the names of other variables into SigmaDAT. This will safeguard against a stack-clearing mishap destroying any of your data, or user error while shuffling data between variables. Also, the CLSigma command will only delete SigmaDAT, and not the underlying matrix variable holding the actual data, offering another layer of protection.

As an example, I wrote some programs for recording drive times of different routes, where each route is stored in its own matrix variable. The program prompts for a route name with 3 TVARS TMENU ... INPUT, then converts the resulting input string to a name and stores it in SigmaDAT. Then the program uses either Sigma+, or stores the data point directly into a new matrix if the named variable doesn't exist yet. The analysis/plotting routines do pretty much the same thing, minus creating new matrices.

Incidentally, you can do this same indirection with CST for saving custom menus. For example, I keep my normal custom menu in CST.DEFAULT, then store 'CST.DEFAULT' in CST. From there, I create submenus by invoking other CST.whatever list variables with TMENU. Thus I don't have to worry about a program's injudicious use of MENU deleting my permanent custom menus.

The one other place I can think of where this works is EQ - you can store the name of an algebraic variable, or a list of such variables. (This works with both the standard solver and multiple-equation solver.)

These indirection features aren't particularly obvious on the 48GX and newer models - I don't think the manual mentions it - but the way the variable catalog system works on the 48SX makes it second nature.

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An update on Carly

*Message #1 Posted by **Palmer O. Hanson, Jr.** on 6 Mar 2010, 8:12 p.m.*

An article on politics in California on page 40 of the latest issue of *The Economist* states

> Quote:
>
> ... Carly Fiorina is running for the seat of Barbara Boxer, one of the most liberal members of Congress. Ms. Fiorina was once boss of HP, a printer- and computer-maker. She is trying to make voters overlook the fact that HP was worth much less when she left than when she came, not to mention that the board ousted her in 2005. Her grasp of governance matters is superficial: she recently seemed to think that California could declare bankruptcy. And her campaign and advertising have been bizarre.

Re: An update on Carly

*Message #2 Posted by **Seth Morabito** on 7 Mar 2010, 2:13 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

Oh yes. As a California resident, I can confirm that it has been a fairly bizarre campaign. But don't take my word for it. Just Google "Demon Sheep".

Re: An update on Carly

*Message #3 Posted by **Namir** on 7 Mar 2010, 5:19 a.m.,*
in response to message #2 by Seth Morabito

Seth,

That "Demon Sheep" political ad on YouTube sounded more like an episode of Rod Serling's Night Gallery!!

Namir

Re: An update on Carly

*Message #4 Posted by **Michael Plant** on 7 Mar 2010, 3:59 p.m.,*
in response to message #3 by Namir

I'm speechless...

Re: An update on Carly

*Message #5 Posted by **Palmer O. Hanson, Jr.** on 8 Mar 2010, 2:36 a.m.,*
in response to message #4 by Michael Plant

Wasn't Carly considered for the Vice-Presidential slot with John McCain? Will the GOP national

ticket in 2012 be Palin and Fiorina?

Re: An update on Carly

*Message #6 Posted by **Tom Mathes** on 8 Mar 2010, 10:17 a.m.,*
in response to message #5 by Palmer O. Hanson, Jr.

> Quote:
>
> Wasn't Carly considered for the Vice-Presidential slot with John McCain? Will the GOP national ticket in 2012 be Palin and Fiorina?

Talk about a gift to the other side.

I hope they do just that.

Re: An update on Carly

*Message #7 Posted by **Eddie W. Shore** on 8 Mar 2010, 11:44 p.m.,*
in response to message #6 by Tom Mathes

> Quote:
>
> Talk about a gift to the other side.
>
> I hope they do just that.

Great, not only we have Meg Whitman to worry about, now Fiona. Must be the year of crazy GOP women.

Re: An update on Carly

*Message #8 Posted by **Tom Mathes** on 9 Mar 2010, 10:30 a.m.,*
in response to message #7 by Eddie W. Shore

> Quote:
>
> Great, not only we have Meg Whitman to worry about, now Fiona. Must be the year of crazy GOP women.

No, not crazy, but just like any other CEO, thinks they walk on water and can do no wrong. Being a man or woman has nothing to do with it. Just sheer ego. It goes with the job.

Re: An update on Carly

*Message #9 Posted by **db (martinez, ca.)** on 9 Mar 2010, 10:14 p.m.,*
in response to message #8 by Tom Mathes

"No, not crazy, but just like any other CEO, thinks they walk on water and can do no wrong. Being a man or woman has nothing to do with it. Just sheer ego. It goes with the job."

That's such a nice way of putting it Tom. I'll use that in the future. **My** standard rant has usually started out something like: "once someone has sucked their way to any position of authority they will use that power to prove that they are omniscient, omnipotent, transcendent, righteous..... to themselves" and it continues downhill from there. I'm as likely to vote Democrat as Republican, but never Carly, not after she turned "the company of engineers" into the company of loss-leader printers.

Carly's opponent, Tom Campbell, was interviewed on KGO radio today. They invited her too but according to her handlers: "Ms Fiorina doesn't do media".

Re: An update on Carly

*Message #10 Posted by **Eddie W. Shore** on 10 Mar 2010, 8:41 a.m.,*
in response to message #9 by db (martinez, ca.)

I will not be voting for Carly either.

Re: An update on Carly

*Message #11 Posted by **Howard Owen** on 9 Mar 2010, 1:45 p.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

Arianna Packard flays Carly from the right. (PDF)

Re: An update on Carly

*Message #12 Posted by **Stefan Hauschild** on 10 Mar 2010, 3:07 a.m.,*
in response to message #11 by Howard Owen

The most annoying part of the original article was to me the reference to HP as a "printer- and computer-maker" like some company from the outback of China.

But I think the kids don´t know it better today.

Re: An update on Carly

*Message #13 Posted by **Martin Pinckney** on 10 Mar 2010, 10:52 a.m.,*
in response to message #12 by Stefan Hauschild

> Quote:
>
> The most annoying part of the original article was to me the reference to HP as a "printer- and computer-maker" like some company from the outback of China.

Well... that's what it's become.

Re: An update on Carly

*Message #14 Posted by **John Garza** on 15 Mar 2010, 6:20 p.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

Wasn't it on her watch that HP gave out employee SS numbers so people could impersonate them on the telephone? "Pretexting" I think was the euphemism used in the media. Or was it after her?

I think Tolkien had it right. The mere fact that someone desires power is enough to disqualify them. It points to psycological issues that could be greatly amplified by the addition of power.

-J

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Classic Calculator Feet/Latch

*Message #1 Posted by **aj04062** on 6 Mar 2010, 5:57 p.m.*

Does anyone know where to find these or a new door?

Specifically for HP-55

Olive color preferably.

Edited: 6 Mar 2010, 5:57 p.m.

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Wild hack: Synchronize your HP-41 with your mobile phone calendar

*Message #1 Posted by **Geir Isene** on 6 Mar 2010, 12:31 p.m.*

From the fringe outback of sanity: You can now use your HP-41 as a true PDA and have it synchronized with your Google Calendar (and hence your mobile phone if it supports Google Calendar).

It's a wild hack consisting of the REM program (v.0.4) on your HP-41 and a Ruby script (remsync.rb) on your PC and requires a working HP-41<->EMU41 setup with PIL-box or such as the link.

From the REM web page (go to the page to get all the needed links):

With the help of a PC-side program, you can now even sync your HP-41 with Google Calendar and through that service keep your mobile phone calendar and HP-41 in sync! This requires you to have the PIL-Box or similar bidirectional communication with your PC and the EMU41 running on your PC (use Dosbox if you use Linux). Download the Ruby-script here.

Download the EMU41.INI (and edit it to suit your needs), the Dosbox config (edit the serial1 as needed - it is set for use with Ubuntu Linux 9.10) and the remsync config (Linux users should save remsync.conf as ".remsync.conf" while Windows users should save it as it is - without the period in front of the file name). For Linux users, read this post on how to get your HP-41 connected to EMU41 in Dosbox on your PC via the PIL-Box.

Before you can synchronize, you need to format the HDRIVE1 Lif-file: XEQ "NEWM" and press "001" to format the file rem.lif with only one file (the REMF). Then create the REMF file in the Lif-file: Enter "REMF" in Alpha, 126 in X and XEQ "CREATE". Finally create a file called "rem.lif" on your PC and make sure you edit the variable "Lif_file" (in ".remsync.conf") to point to "rem.lif". Note: for Windows users, edit remsync.rb so that you load the correct remsync.conf file (leave it somewhere and let the load command in remsync.rb point to where it is).

To synchronize, first ensure you have EMU41 running on your PC with your HP-41 connected (via the PIL-box or otherwise) and XEQ "REMSYNC" on your 41. The program will stop and display "RUN PC PRGM". You then run remsync.rb on your PC. When remsync.rb finishes, press R/S on your 41, and voilÃ¡ - you have sync'ed. You will now find that the next 25 or so appointments are the same in REM on your HP-41 and your Google Calendar. Only the start date/time and the titles are sync'ed to not eat all you Extended Memory on your 41. Try to keep the titles of your appointments short as you enter them in Google calendar (preferably 12 characters or less).

Useful? Probably not. Fun to make? You bet :-)

Thanks to Egan Ford and Tony Duell.

Re: Wild hack: Synchronize your HP-41 with your mobile phone calendar

*Message #2 Posted by **Juergen Keller** on 6 Mar 2010, 2:39 p.m.,*
in response to message #1 by Geir Isene

Coool project!

Just another idea that came to my mind when visiting your web site: there is this YouTube video showing your (unfortunately lost) calculator collection. Last week I read that you now can provide subtitles for YouTube

videos (didn't try it yet). As most of us do not understand Norwegian, this might be a nice addition to your video. Maybe you have some free minutes between your great calculator projects ;-)

Keep on your amazing work and thank you for sharing it,
Juergen

Re: Wild hack: Synchronize your HP-41 with your mobile phone calendar

*Message #3 Posted by **Geir Isene** on 6 Mar 2010, 6:06 p.m.,*
in response to message #1 by Geir Isene

Oh, I forgot to mention that you need the Ruby Gem "gcal4ruby" installed (on Linux: "sudo gem install gcal4ruby")

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LIF file specification

*Message #1 Posted by **Geir Isene** on 6 Mar 2010, 7:50 a.m.*

Could anyone point me to an online specification for the LIF format or send me the specification?

Re: LIF file specification

*Message #2 Posted by **Juergen Keller** on 6 Mar 2010, 8:02 a.m.,*
in response to message #1 by Geir Isene

Have a look at this article on this site:
HP-IL Files: Where, What, Why, How, etc.

Also look into Tony Duell's LIF utilities:
LIF Utilities for linux v1.4
(they might also be a good start for your own programs)

Hope this helps,
Juergen

Re: LIF file specification

*Message #3 Posted by **Geir Isene** on 6 Mar 2010, 10:41 a.m.,*
in response to message #2 by Juergen Keller

Thanks for the article pointer.

Tony Duell's lifutils have been very useful the last few days. I now have a working system where I can read and write text files to a Lif-file. There is a wild hack coming.

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Transformer Source? 82002A Charger

*Message #1 Posted by **aj04062** on 6 Mar 2010, 7:19 a.m.*

I have a 82002A charger that appears to have been dropped (not by me!) and the transformer has broken. It broke away from the plastic support and probably broke the winding wires from the contacts that are soldered to the board.

Anyone know of a source for this transformer?

Edited: 6 Mar 2010, 8:08 a.m.

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db: Double wide ENTER key spotted in the wild

*Message #1 Posted by **Joerg Woerner** on 5 Mar 2010, 11:32 p.m.*

Dennis,

This is the ENTER key you were looking for:

Have a great weekend and some sleeplesss nights!

Regards,

Joerg

Re: db: Double wide ENTER key spotted in the wild

*Message #2 Posted by **Han** on 6 Mar 2010, 12:01 a.m.,*
in response to message #1 by Joerg Woerner

If this is a prototype of the next version of the nSpire, it is unfortunate that they did not do much to improve the keyboard. The current nSpires have buttons that are way too tiny (letter keys) and cluttered (letter keys in between normal buttons). I see that they have not done much in terms of improving the key size for letters.

There is something just... "nice" about have those extra buttons for common functions like SIN, COS, TAN, etc...

Re: db: Double wide ENTER key spotted in the wild

*Message #3 Posted by **Pal G.** on 6 Mar 2010, 1:23 a.m.,*
in response to message #2 by Han

It looks like a fluke..

Pun intended.

Re: db: Double wide ENTER key spotted in the wild

*Message #4 Posted by **Hal Bitton in Boise** on 6 Mar 2010, 3:56 a.m.,*
in response to message #3 by Pal G.

> Quote:
>
> It looks like a fluke..

I agree...where do you plug the leads in? 8D

Re: db: Double wide ENTER key spotted in the wild

*Message #5 Posted by **Walter B** on 6 Mar 2010, 3:08 a.m.,*
in response to message #1 by Joerg Woerner

Hallo Jörg,

das Tastenfeld wirkt deutlich aufgeräumter als in der vorherigen Version. Die Alphatasten sehen erstmals brauchbar aus. Aber es hat immer noch zu viele Minitasten auf engem Raum. Vernünftige Größen und Abstände haben eigentlich nur die Ziffern und die Tasten darüber. Und es sieht wirklich aus wie ein Fluke.

Beste Grüße aus dem alten Europa (heute wieder eingeschneit)

Walter

(For our English-only readers: Keyboard looks tidier, but still crammed. And the device in total really looks like Fluke.)

Re: db: Double wide ENTER key spotted in the wild

*Message #6 Posted by **Bart (UK)** on 6 Mar 2010, 5:41 a.m.,*
in response to message #5 by Walter B

Wow, all that German translates to 2 short English sentences ;).

PS Google Translate does quite a good job of German -> English (I think).

> Quote:
>
> And the device in total really looks like Fluke.

Perhaps meant to be as it's possibly aimed for purchase by schools only (re text under keypad) - to dissuade theft (who'd want to own something that looked like THAT. :))
Then again for those in T&M, it would fit in perfectly with the other test equipment. Maybe even pursuade the boss to pay for it - with datalogging devices of course.

Re: db: Double wide ENTER key spotted in the wild

*Message #7 Posted by **Nigel J Dowrick** on 6 Mar 2010, 6:02 a.m.,*
in response to message #6 by Bart (UK)

I'm guessing it's yellow because it's a school property model - these are often made yellow to make stealing them more difficult.

I think that the keyboard is an improvement: having the two sets of buttons in different places will at least make the main buttons easier to press without pressing the tiny ones.

The display looks to be a lot higher contrast than the present model, too.

I wonder if there are any plans to make this new model properly programmable?

Nigel

Re: db: Double wide ENTER key spotted in the wild

*Message #8 Posted by **Nigel J Dowrick** on 6 Mar 2010, 6:04 a.m.,*
in response to message #7 by Nigel J Dowrick

Sorry about echoing the previous poster's comments about school property - I should have read the post

first!

Nigel

Re: db: Double wide ENTER key spotted in the wild

*Message #9 Posted by **Walter B** on 6 Mar 2010, 6:17 a.m.,*
in response to message #6 by Bart (UK)

> Quote:
>
> Wow, all that German translates to 2 short English sentences

That's the famous "loss in translation", you know d;-)

Re: db: Double wide ENTER key spotted in the wild

*Message #10 Posted by **Joerg Woerner** on 7 Mar 2010, 7:52 p.m.,*
in response to message #5 by Walter B

Walter,

We can't complain about the snow at the east coast - it accummulated 100 inches this season so far ;-))

Expect the new TI-NSpire in a few weeks and you'll love it! It sports a TOUCHPAD!!!

Regards, Joerg

Re: db: Double wide ENTER key spotted in the wild

*Message #11 Posted by **Namir** on 8 Mar 2010, 7:58 a.m.,*
in response to message #10 by Joerg Woerner

Wow Joerg .... there is a NEW TI-NSPIRE???????????

The TI web site is announcing the new vaersion. Very nice!!

I did not get the email!!!

Namir

Edited: 8 Mar 2010, 9:41 a.m.

Re: db: Double wide ENTER key spotted in the wild

*Message #12 Posted by **Don Shepherd** on 6 Mar 2010, 8:09 a.m.,*
in response to message #1 by Joerg Woerner

Well, this is an interesting development. If the display on this new unit really looks as sharp and clear as that pictured, with that degree of resolution, that would be great because the display on the original unit was really hard to discern; this is crystal clear.

But the bigger item of interest is the icons at the bottom of the screen, which lead me to believe that this is a touch screen, with a stylus maybe. That would be a huge improvement.

If it still has a BASIC-like programming language but with an added ability to enter data DURING program execution (which the original lacked, significantly), I'm getting one!

Re: db: Double wide ENTER key spotted in the wild

*Message #13 Posted by **Walter B** on 6 Mar 2010, 8:23 a.m.,*
in response to message #12 by Don Shepherd

> Quote:
>
> If the display on this new unit really looks as sharp and clear as that pictured, with that degree of resolution, that would be great because the display on the original unit was really hard to discern; this is crystal clear.

IMHO this picture is pure artwork only. Maybe it's based on a photograph, but nothing more.

> Quote:
>
> But the bigger item of interest is the icons at the bottom of the screen, which lead me to believe that this is a touch screen, with a stylus maybe. That would be a huge improvement.

Well, it says "TI-Nspire Touchpad", so let's assume this means something d;-)

Re: db: Double wide ENTER key spotted in the wild

*Message #14 Posted by **Don Shepherd** on 6 Mar 2010, 9:35 a.m.,*
in response to message #13 by Walter B

Well, this kind of explains what's new. You may be right about the screen being based on a picture, I don't know, the release notes don't say anything about a much more readable screen, so I assume that the resolution and clarity of the display is unchanged. If true, that is unfortunate.

There is no stylus or touchscreen, but the "touchpad" makes it somewhat easier to navigate on the screen; still, a stylus and real touchscreen would have been a huge improvement.

On the plus side, the programming language now includes a command to prompt for an input during program execution. This is good. But unless the screen is much more readable, I don't think I'll upgrade yet.

Re: db: Double wide ENTER key spotted in the wild

*Message #15 Posted by **Tim Wessman** on 7 Mar 2010, 8:34 p.m.,*
in response to message #14 by Don Shepherd

I thought that it looked much more like this personally. . .

Re: db: Double wide ENTER key spotted in the wild

*Message #16 Posted by **db (martinez, ca.)** on 7 Mar 2010, 9:40 p.m.,*
in response to message #15 by Tim Wessman

Tim; That Ranger in the picture isn't a bad unit, except that it's bigger and heavier than the 50g, saddled with a mistake generating touch screen and a proprietary battery pack, not programmed in RPL, and sold as the only platform for surveying software that "passes the gee wizz test but fails the so what test". It's got good keys though. Did you or John ever consider porting your 48-50 stuff onto the Ranger too?

Re: db: Double wide ENTER key spotted in the wild

*Message #17 Posted by **Han** on 7 Mar 2010, 9:04 p.m.,*
in response to message #1 by Joerg Woerner

I actually got to play with one of these today. My sister got back from the T3 conference in Atlanta (TI's international conference).

Anyway, some cool things about this unit:

1) The keyboard is modular -- you can remove it and presumably in the future they will have several types of keyboards that change be interchanged with the one you see.

2) The "touch" aspect has to do with the "arrow" key (center top of photo). The big square button actually is like a mousepad/touchpad; you can also use the square as a set of big arrow keys too.

3) TI plans to have rechargeable battery packs for this unit.

4) The screen is in fact as crisp as you see in the photo.

5) Navigation is still a pain in the rear -- menu systems only work well when you have a REAL mouse (though the touchpad is a nice upgrade). However, imagine going through 4 levels of menus just to get to your basic commands...

6) I could see these things being used for data collection in the near future...

I'll try to post photos later this week. The model I played with was black and dark grey.

Re: db: Double wide ENTER key spotted in the wild

*Message #18 Posted by **Joerg Woerner** on 7 Mar 2010, 9:24 p.m.,*
in response to message #17 by Han

Han,

Please drop me a line..

Regards,

Joerg joerg@datamath.org

Re: db: Double wide ENTER key spotted in the wild

*Message #19 Posted by **Don Shepherd** on 7 Mar 2010, 9:34 p.m.,*
in response to message #17 by Han

This is what the new OS2 looks like on an older CAS unit. With a strong light shining directly on the screen, it's not too bad. But without a strong direct light, it's still hard to discern. I hope the screen characteristics of the new

touchpad unit, as you say, overcome this problem.

The biggie in OS2, from a programming point of view, is commands for getting user input while a program is running: "Text" displays a dialog box; "Request" lets the user enter a numeric value for a variable; and RequestStr gets string input. The NSpire programming language is now a real programming language. The dialog boxes, however, are pretty small and tough to read.

Re: db: Double wide ENTER key spotted in the wild

*Message #20 Posted by **Nigel J Dowrick** on 8 Mar 2010, 4:32 a.m.,*
in response to message #19 by Don Shepherd

Information on the new nspire models and the enhancements in OS2 is now available on the TI website. It all looks very good - I shall be upgrading my old nspire (non-CAS) as soon as I can! It's nice to see new calculator hardware and software still being actively developed in an imaginative way, even if the results are not exactly what everyone would like! Good for TI! (ducks)

Nigel

Re: db: Double wide ENTER key spotted in the wild

*Message #21 Posted by **Eddie W. Shore** on 8 Mar 2010, 11:54 p.m.,*
in response to message #20 by Nigel J Dowrick

Hmmm... time for a HP 51G?

Re: db: Double wide ENTER key spotted in the wild

*Message #22 Posted by **Walter B** on 9 Mar 2010, 12:54 a.m.,*
in response to message #21 by Eddie W. Shore

Please line up - the HP 43S is first in queue :-)

Re: db: Double wide ENTER key spotted in the wild

*Message #23 Posted by **Eddie W. Shore** on 9 Mar 2010, 1:07 a.m.,*
in response to message #20 by Nigel J Dowrick

Regarding the nSpire: I am encouraged by the new Scratchpad and the added graphing and application capabilities.

Re: db: Double wide ENTER key spotted in the wild

*Message #24 Posted by **Marcus von Cube, Germany** on 11 Mar 2010, 10:17 a.m.,*
in response to message #23 by Eddie W. Shore

OS 2 can be downloaded to the older devices. I've just done it with my Nspire CAS. :)

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The HP 50G could have been given a large ENTER key

*Message #1 Posted by **Han** on 5 Mar 2010, 11:25 p.m.*

I recently purchased an HP50G (waiting for it to arrive). I know this topic has been beaten to death, and I am aware of some of the reasons for the ENTER key being placed where it is include:

- the need to be able to enter in letters and press the arrow keys simultaneously (K, P, Q, and R on the HP48 series were tied to the arrows keys); having a larger ENTER key meant losing one of the regular keys

- similarity to other graphic calculators (e.g. TI has its ENTER key in the same position)

While the second reason seems silly to me, I have to wonder why they made the keys on rows 4 through 6 slightly wider than the first 3 rows. The HP48 calculators only had "large" keys for the numbers, shifts, and four basic operations +, -, *, and /. The other keys were all smaller width. It seems to me that had rows 4 through 6 on the HP50 used keys with the same widths as rows 1 through 3, they could have fit 3 more buttons per row. Or this could translate to 2 more new keys and a large ENTER.

I wonder if the design was limited by the number of address lines connected to the CPU...

Re: The HP 50G could have been given a large ENTER key

*Message #2 Posted by **Hal Bitton in Boise** on 6 Mar 2010, 4:48 a.m.,*
in response to message #1 by Han

If HP would have put six proper keys in that space(as in the 48 series), instead of those 4 silly buttons, they could have had up to 18 keyboard functions in that same real estate that the 50G now has only 4. With my 48gx, I've never had a problem with the arrow keys also being alpha keys. Of much more significance to me is that the divide key is *NOT* also an alpha key on the 48, whereas it is on the 50G.

The large, centrally placed enter key was not only HP's trademark, it was part of a very well thought out keyboard scheme that dates back to the original HP35. It epitomized the superior design for which HP was known. It's size and placement make it easy to get to and hit with a thumb or finger of either hand. Why HP choose to abandon it with the 49g/50G is beyond me.
I still like my 50G very much, but it would be that much better with a proper "HP" keyboard layout.
Best regards, Hal

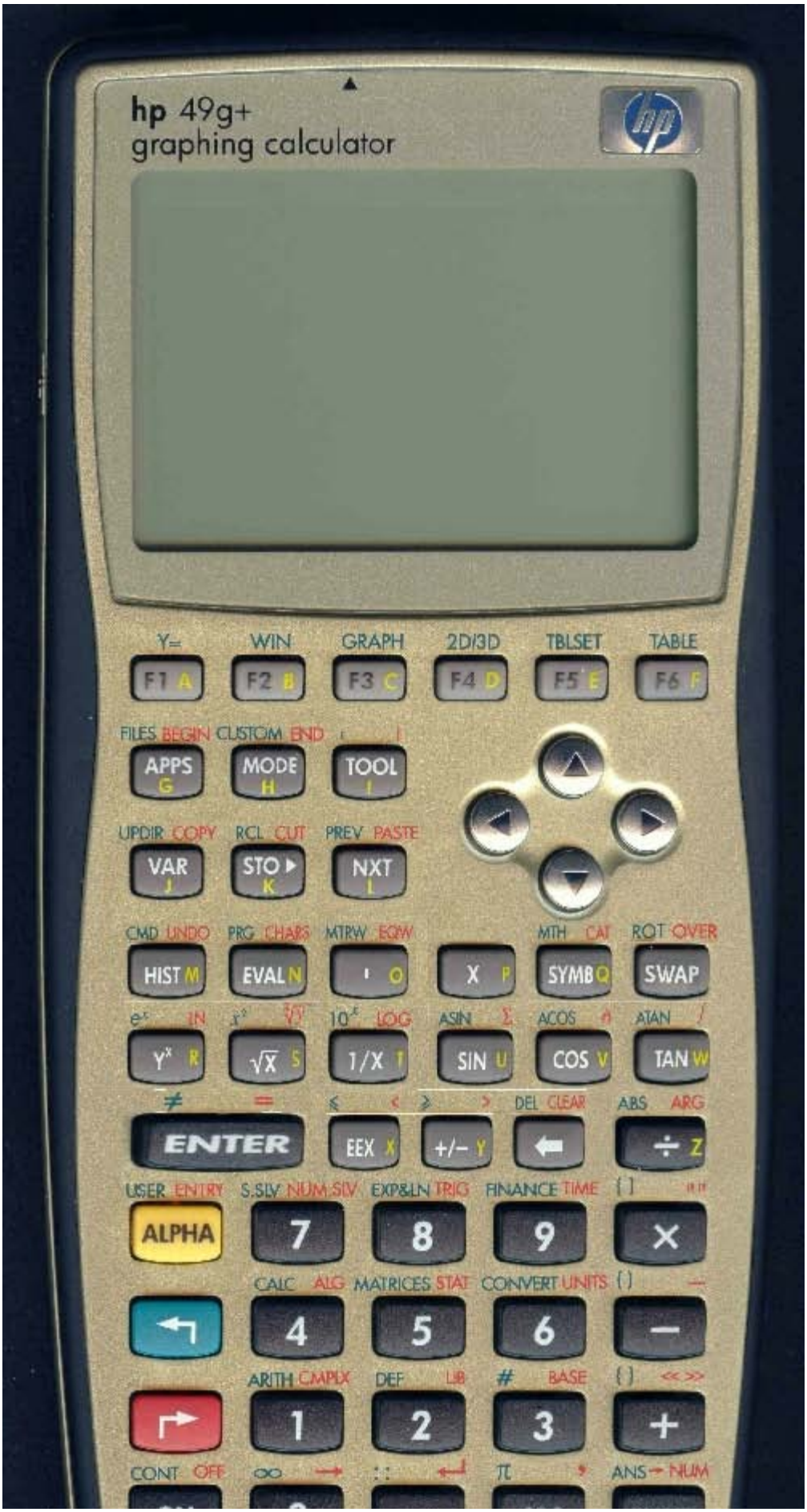
Re: The HP 50G could have been given a large ENTER key

*Message #3 Posted by **Jake Schwartz** on 6 Mar 2010, 2:24 p.m.,*
in response to message #2 by Hal Bitton in Boise

Hi,

Yes, this has been mentioned before. Just because the 49G in 1999 had the ENTER in the lower right corner didn't mean that it was a precedent which needed to be retained. It seemed that HP was getting the message when the 35S returned the ENTER to its original place from where it had been moved on the 33S. Back at HHC2004 in San Jose, I proposed this "hack" as an alternate key layout the HP49G+, with

ENTER keys in BOTH places a la Hydrix' Qonos:



Unfortunately, when the 50G appeared two years later, they were still not doing keyboard changes in the graphing line to please the HP "traditionalists".

Jake Schwartz

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HP-97 printer paper feed cam shaft

*Message #1 Posted by **Ed Sowell** on 5 Mar 2010, 7:52 p.m.*

How are the nylon(?) rollers attached to the shaft? for example, is the nylon roller bonded to the steel, or is it more like a tire that is glued on? Has anyone ever tried replacing them with something?

Re: HP-97 printer paper feed cam shaft

*Message #2 Posted by **Ignazio Cara (Italy)** on 6 Mar 2010, 3:59 a.m.,*
in response to message #1 by Ed Sowell

Hello Ed, take a look at these pics . I hope this could help you, but if you have any kind of question, please reply here.

Regards

Ignazio

Re: HP-97 printer paper feed cam shaft

*Message #3 Posted by **Michael de Estrada** on 6 Mar 2010, 9:20 a.m.,*
in response to message #2 by Ignazio Cara (Italy)

That should be in Geoff's book if it's not already. Are the o-rings the same size as the ones used for the card reader repair?

Re: HP-97 printer paper feed cam shaft

*Message #4 Posted by **Ignazio Cara (Italy)** on 6 Mar 2010, 12:34 p.m.,*
in response to message #3 by Michael de Estrada

Hello Michael, Sure. I would be very happy if Geoff decided to put this procedure on his book. The o-rings are a little bit more large: they are 8 mm (outer diameter) and 2 mm thickness. I have uploaded some other images here to better describe the procedure.

Thanks.

Ignazio

Edited: 6 Mar 2010, 12:40 p.m.

Re: HP-97 printer paper feed cam shaft

*Message #5 Posted by **Ed Sowell** on 8 Mar 2010, 4:48 p.m.,*
in response to message #4 by Ignazio Cara (Italy)

Hi Ignazio,

Couple questions.

First, are the "supports" embedded within the rubber? It looks like they are.

Second, how did you get the plastic parts that the rubber is molded to off the shaft? Looks like one would need a thin, strong slotted "collar" of some kind to slip behind the part, then press on the steel shaft using an arbor press.

I have found a person who can possibly mold new rubber on if I can get them off the shaft.

Ed

Re: HP-97 printer paper feed cam shaft

*Message #6 Posted by **Ignazio Cara (Italy)** on 9 Mar 2010, 4:36 a.m.,*
in response to message #5 by Ed Sowell

Hi Ed,

I hope I understood your questions. To the first, yes, the support is embedded on the rubber. Today evening, when at home, I will upload other more detailed images of the cilinder without the rubber, from diffrent view angle.

To the second question, it's very trivial to take apart the cilinder from the shaft. You must push the pin of the shaft against a strong surface, holding the cilinder tightly. I will show the way with a photo as well.

I hope to be helpful, for now. Take care

Ignazio

Re: HP-97 printer paper feed cam shaft

*Message #7 Posted by **Ed Sowell** on 9 Mar 2010, 7:29 p.m.,*
in response to message #6 by Ignazio Cara (Italy)

That worked worked. Only problem is the spring jumped out. After much searching I finally found it. Believe it or not, it had jumped into the little box I had been putting my little parts i!

I've now sent the wheels off to a person who rebuilds this kind of stuff for turntables and the like. Says he can do it. I'll let you know, probably in a week or two.

Thanks for all your help.

Ed

Re: HP-97 printer paper feed cam shaft

*Message #8 Posted by **Ed Sowell** on 6 Mar 2010, 11:39 a.m.,*
in response to message #2 by Ignazio Cara (Italy)

Quote:

Hello Ed, take a look at these pics . I hope this could help you, but if you have any kind of question, please reply here.

Regards

Ignazio

Thanks, Ignazio. That helps a lot. Did you put it a lathe to do the mods? How does it work? Ed

---

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LogicDart help needed (probes)

*Message #1 Posted by **Hrvoje** on 5 Mar 2010, 5:32 p.m.*

Greetings from the Croatia! I have a HP LogicDart without probes. For many years I tried to buy it, and now that I finally succeeded, I can not find the probe or any information about how I can make them. Therefore, I believe that this is the right place to ask you nicely to someone give me any information obout the purchase or construction of probes for the Logic Dart. Manny thanks! Best regards

Edited: 6 Mar 2010, 7:02 p.m.

Re: LogicDart help needed (probes)

*Message #2 Posted by **BruceH** on 7 Mar 2010, 3:07 p.m.,*
in response to message #1 by Hrvoje

The bare Darts recently appearing on eBay were probably service replacements which is why they come without cases or probes.

Unfortunately the probes contain some electronics and HP never released a service manual explaining what went on. So, unfortunately, there is no easy way to replace them.

Re: LogicDart help needed (probes)

*Message #3 Posted by **Hrvoje** on 7 Mar 2010, 5:39 p.m.,*
in response to message #2 by BruceH

I am aware of what you wrote. Unfortunately, I realized it only when the LD came into my hand (after I bought it, of course, on e-Bay). My LD really looks like new (not even one scratch), and it seems to work perfectly (passed all tests that do not include the probes). Has a small sticker on the back that says: HP refurbished product. I really like this product, and I really need it in my work so I'm ready to do anything to make it complete (make or buy a probes). If anyone has any idea where to start, please tell me. Best regards, Hrvoje

Re: LogicDart help needed (probes)

*Message #4 Posted by **BruceH** on 8 Mar 2010, 7:24 p.m.,*
in response to message #3 by Hrvoje

You can't make the probes because no one knows how they work. You can't reverse engineer a probe because no one wants to ruin a working one. You can't reverse engineer what they do by looking inside the LogicDart because it has a couple of big custom chips. And you can't buy probes from a broken LogicDart because it's odds on that whatever zapped the Dart also zapped the probes.

:-(

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How sweet it is!

*Message #1 Posted by **Namir** on 5 Mar 2010, 4:00 p.m.*

I was browsing in the list of user contributed programs on the current museum documentation DVD/ Some of these titles looked awful familiar! When I opened the files for these program I almost fell off my chair! They were programs I wrote and submitted to Corvallis 30 years ago!!! It was so nice to see them again. I will take the time and enter them again in my machines.

Whoever scanned these programs I offer my deepest thanks!!!!

Namir

Re: How sweet it is!

*Message #2 Posted by **Xavier A. (Brazil)** on 6 Mar 2010, 6:54 p.m.,*
in response to message #1 by Namir

How happy you are! :)

Re: How sweet it is!

*Message #3 Posted by **Namir** on 6 Mar 2010, 7:27 p.m.,*
in response to message #2 by Xavier A. (Brazil)

Xavier,

It is like meeting an old friend. I used to travel a lot for this water treatment company I worked for. While on the road, I'd sit after dinner in the hotel room and write HP-41C programs that I submitted to the User's Library in Corvallis.

I also realized that several of my old programs came with the .RAW files. This makes loading them on the 41 emulator a snap!!

:-)

Namir

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FDIO - floppy drive utility

*Message #1 Posted by **John AS (UK)** on 5 Mar 2010, 3:13 p.m.*

Hi,

Found this site today:

http://www.hp9845.net/9845/projects/fdio/

FDIO is designed to read early HP floppy disk formats, to create and restore disk images under Windows.

Not tried it yet, looks like a useful tool.

Same person as HPDRIVE utility, so a good pedigree!

Regards,
John

Re: FDIO - floppy drive utility

*Message #2 Posted by **Egan Ford** on 8 Mar 2010, 4:05 p.m.,*
in response to message #1 by John AS (UK)

I wanted to give this a shot to see if this would work like Tony Duell's lifdump/lifimage for Linux, but the RAW FD driver does not support USB drives.

I only own notebooks and they all use USB floppy drives (if ever needed). The only exception is my 200MHz, 32MB, RH9 Linux/FreeDOS machine that I use with my HP-IL ISA adapter. I do not think XP will run on it.

Perhaps another can try to see if they can read a 9114B disk and convert it to a LIF image for use with EMU* (and vv.). I can do this with lifdump/lifimage on any of my Linux machines with floppy drives (however I have not tested a USB floppy drive).

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A viable vintage data aquisition system?

*Message #1 Posted by **Timo** on 5 Mar 2010, 2:06 p.m.*

This is a question out of pure curiosity.

In my job I regularly work on electronic data aquisition systems and I'm always wondering how experimental data (in a laboratory for example) was aquired and processed in the "HP-41 era".

After some googling I wonder if the following "HP-only" system would have been a viable solution:

- an HP-41CV/CX

- a Agilent HP 3468A Digital Multimeter

- an HP 82160A HP-IL module to connect to the 3468A

- an HP 82162A printer

- another HP 82160A HP-IL module to connect to the printer.

Using this system you could read the voltage samples from a sensor, convert and process them, store them temporarily and finally print them. In case you have a 41CX or a C/CV with time module it could even be done time triggered. Some kind of mass storage device would come in handy as well...

As I said, it's really just to sattisfy my interest in engineering history. Maybe there are a few guys here on the forum who did actually work on such laboratory systems in the late seventies or early eighties. I'd really be interested to know whether a system like the one outlined aboe was actually ever used professionally in a laboratory.

Thanks for your feedback in advance and best regards, Timo

PS.: And before you ask: No I do not own all of this equipment! However, I'd lie if I said that it is not tempting to try and get all the components together... ;)

Edited: 5 Mar 2010, 2:08 p.m.

Re: A viable vintage data aquisition system?

*Message #2 Posted by **Garth Wilson** on 5 Mar 2010, 2:24 p.m.,*
in response to message #1 by Timo

My first automated test equipment (ATE) system contact with a 41 used the HP3421A data-acquisition unit with HPIL. It was like a DMM with relay cards also to do some controlling, not just taking data. The company got a loaner 3421A from HP to evaluate for buying. Most of the engineers in the engineering lab had their own HP-41's, and my friend used his on this and took 20 minutes of his lunch time to write the program and get it going.

It was an instant hit, being so much less expensive and easier to program than the other millions of dollars of

IEEE-488 equipment and controllers the company had. A requisition was put in for a set, but management wounldn't approve the 41, saying it was too easy for someone to put it in their pocket and walk off with it. Instead, they got an IBM PC with an IEEE-488 card, and three weeks after it came in, the two engineers responsible for setting it up were still trying to get the PC and IEEE-488 card to be friends.

A couple of years later, I was at another, much smaller company that was starting to need some ATE. I had my own 41cx by then (1986) and started using it with the HPIL-to-HPIB (IEEE-488) interface converter (HP82169A) to connect to equipment on the workbench to automate the repetitive jobs of taking certain readings through the DMM, and controlling signal generators, relay boxes, power supplies, and so on. In small but quick steps, the company got into a product line that required a lot of testing that was totally impractical to do by hand. Not realizing how quickly this situation was going to escalate, I set up automated testing, using my HP-41 as the controller. Especially back then in the late 80's, people would be absolutely stunned to see a large rack of instrumentation controlled by something that would fit in a pocket. It gradually got to where I didn't get to use my HP-41 much anymore. Production test operators were using it all day to test our product. In fact, the first two million dollars' worth were tested by this HP-41cx and a 20-page program.

Eventually we transfered the control of the production testing to a 68000-based HP series 9000 computer. Interestingly, it was not even twice as fast as the HP-41, because much of the time was spent giving filters time to settle and waiting for readings to come back from the equipment.

I still use the same 41cx every day, but it's pretty seldom that I use it to control anything on the workbench anymore. The 71 gets used more for that-- in fact, that's nearly the only thing I use the 71 for these days-- but that's still not much. My workbench control and data acquisition now is mostly handled by a home-made workbench computer about 5"x7"x2.5".

Edited: 5 Mar 2010, 2:33 p.m.

Re: A viable vintage data aquisition system?

*Message #3 Posted by **Timo** on 5 Mar 2010, 4:16 p.m.,*
in response to message #2 by Garth Wilson

THanks for your response Garth,

very interesting! I thought about the HP-41 only in terms of a device for laboratory level usage. But you are right I forgot about the HP-IL/HPIB converter which opens a much wider field of applications.

I'm reasonably familiar with GPIB since almost all of our test equipment offers a GPIB interface. As far as I know, HPIB and GPIB are very similar since GPIB is based on the HPIB. I'm not sure but would it be possible to control GPIB devices with the HP-IL/HPIB converter and a HP-41?

I'm just imagining a Keithley DMM being controlled by a pocket calculator which was produced about 20 years before the Keithley was even designed - and the looks of the colleagues...

Re: A viable vintage data aquisition system?

*Message #4 Posted by **Garth Wilson** on 5 Mar 2010, 4:40 p.m.,*
in response to message #3 by Timo

I have never found any differences between HPIB and GPIB. IEEE adopted HPIB as a standard and gave it the number IEEE-488. I used the 41 to control IEEE-488 instruments from HP, Wavetek, Cytec, and others, all at once. HPIL is basically a serial implementation of HPIB, and the interface converter was basically invisible to the 41. IOW, as far as the 41 was concerned, the instruments out on the IEEE-488 bus were really on HPIL, except that they weren't auto-addressed. My programs had to say "9 SELECT" for example to select the device at HPIB address 9.

To call it "viable" (your word) is a big understatement. In spite of the 41's lack of structured programming, I found it easier and quicker to devlop the programs on the 41 than I did later on the 68000-based HP-9000 computer running Rocky Mountain Basic 5.1. Remember I said my friend wrote that initial test set-up program in 20 minutes of his lunch. You couldn't do any better with a modern system with a drag-and-drop graphical test-writing interface.

I should mention that I have the Extended I/O module (built into my HPIL module so it doesn't take up an extra port). I also have the FSI164A which was virtually identical to the HP82164A HPIL-to-RS232 interface converter except that the FSI came with two RS-232 channels and optionally had up to 8, and could also be battery-powered. I wish I had gotten both of the HPIL-to-parallel interface converters when they were available. I can do it now through my home-made workbench computer by communicating with it through RS-232 and having it do that parallel part, but it's a "middleman." This is in fact how I use my parallel printer with the 41 and 71.

Edited: 5 Mar 2010, 4:45 p.m.

Re: A viable vintage data aquisition system?

*Message #5 Posted by **Dimitri Simitas** on 6 Mar 2010, 1:53 a.m.,*
in response to message #4 by Garth Wilson

Have you priced HPIB equipment recently? I just did to see if its a better choice for my project, and dang its expensive.

Dimitri

Edited: 6 Mar 2010, 2:00 a.m.

Re: A viable vintage data aquisition system?

*Message #6 Posted by **Garth Wilson** on 6 Mar 2010, 3:21 a.m.,*
in response to message #5 by Dimitri Simitas

> Quote:
>
> Have you priced HPIB equipment recently? I just did to see if its a better choice for my project, and dang its expensive.

If you buy the new equipment, yes, it's very expensive. You can get used equipment very inexpensively on the auction site. It has its advantages, depending on what you want to do. Most of it you can also use stand-alone if you want to, without a computer to control it, unlike a lot of things made strictly for the PC, whether to go inside it or have proprietary driver software that only runs under certain operating systems within a narrow range of release times. The product life of industrial buses is much longer than that of the fast-moving PC market, and that longevity gives valuable stability.

For the last ATE I did at that last place of work however, we were supposedly going to need seven sets. In that case, the "rack-and-stack" IEEE-488 approach would have been cost-prohibitive, so we pursued a route that took more development time but the time could easily be amortized over the seven sets since the per-set hardware cost would be a lot less. The hardware platform we (or should I say *I*, since I did 90% of the work on it) chose was STD bus. "STD," by the way, stands for "simple to design," not "standard." STD is far less expensive than something like VME or VXI. I used a 19"-wide card cage and off-the-shelf power supplies and STD-bus cards for CPU, signal generators, and analog I/O, and designed custom boards too for

programmable filters, signal routing relay sets, programmable power supplies, programmable loads, and DMM front-end.

I had gotten my start in Forth on the HP-71 (which is not a very good Forth), but this project is where I really took off with Forth. I programmed the project in Forth and found that it made for very efficient use of programming time, leaving more time to debug hardware problems (which it also facilitated). During the development, relations turned sour with a couple of our foreign assembly plants, and I stopped with only two sets of the ATE. For only two, it might have been more cost-effective, at least when the development time was factored in, to go with the rack-and-stack IEEE-488 equipment. (Test fixtures had to be custom either way though.)

Edited: 6 Mar 2010, 3:24 a.m.

Re: A viable vintage data aquisition system?

*Message #7 Posted by **Dimitri Simitas** on 6 Mar 2010, 1:09 p.m.,*
in response to message #6 by Garth Wilson

> Quote:
>
> I programmed the project in Forth and found that it made for very efficient use of programming time, leaving more time to debug hardware problems (which it also facilitated).

Well I can admit I never worked with Forth or STD or even HPIB, I was wondering which one for a hobby programmer who does micro-controllers would you recommend for a modern HP-41 calculator?

Dimitri

Edited: 6 Mar 2010, 1:11 p.m.

Re: A viable vintage data aquisition system?

*Message #8 Posted by **Garth Wilson** on 6 Mar 2010, 2:22 p.m.,*
in response to message #7 by Dimitri Simitas

> Quote:
>
> I was wondering which one for a hobby programmer who does micro-controllers would you recommend for a modern HP-41 calculator?

Get a used HP3421A HPIL data-acquisition unit from the auction site, making sure it has the relay cards in it. You can use them to select inputs for the internal DMM and do some low-speed digital I/O with them too. This will take you a long way on a small budget. I recently got one, full, for $100 plus shipping. (That was the starting bid and no one else bid, IIRC.) I think both the user manual and the service manual are available in digital form on both this site and Warren Furlow's HP-41 site.

Re: A viable vintage data aquisition system?

*Message #9 Posted by **Karl Schneider** on 11 Mar 2010, 2:56 a.m.,*
in response to message #2 by Garth Wilson

> Quote:
>
> My first automated test equipment (ATE) system contact with a 41 used the HP3421A data-acquisition unit with HPIL. It was like a DMM with relay cards also to do some controlling, not just taking data. The company got a loaner 3421A from HP to evaluate for buying. ... It was an instant hit, being so much less expensive and easier to program than the other millions of dollars of IEEE-488 equipment and controllers the company had.
>
> ...
>
> *(The company later)* got an IBM PC with an IEEE-488 card, and three weeks after it came in, the two engineers responsible for setting it up were still trying to get the PC and IEEE-488 card to be friends.

That story had certain things in common with my 'challenge' from 1993. Part of my task was to write a program for an HP3852A Data Acquisition Unit to receive measurements from a load cell. The other part as to write Visual Basic software for a PC to accept and process the data from the HP3852A.

After overcoming one hurdle by replacing the DOS-based GPIB card with one that supported Windows 3.1, we were able to send data to the PC in a 64-bit double-precision IEEE standard floating-point format that both devices supported. However, the data received appeared to be random noise. I thought at first that the problem might be incorrect parity.

It turned out to be "little-endian, big-endian": The Intel-based PC stored words in reversed byte order, while the Motorola-based(?) HP3852A stored words in their original representations. (Peter Norton's books termed this "backwords".)

Not seeing any option in the GPIB's data-transfer commands to account for this, I managed to handle it by writing a DLL routine in C language to perform the 'byte-swapping'. One minor misstep: I learned that a 'short int' is not necessarily one byte if a regular 'int' is two bytes. Execution of the byte-swapper using a pointer to a two-byte 'short int' was entertaining to watch on the PC, as waves of gibberish passed over the screen accompanied by frequent beeps, due to corruption of instructions. That cleared up after changing the swap variable to a 'char'.

-- KS

Edited: 11 Mar 2010, 3:23 a.m.

Re: A viable vintage data aquisition system?

*Message #10 Posted by **Marcus von Cube, Germany** on 11 Mar 2010, 10:13 a.m.,*
in response to message #9 by Karl Schneider

Karl, this is why the IP protocol family defines a "network byte order" which is, btw, big endian. Writing networking software always has to deal with this. Many protocols and data formats use strings for numeric data to avoid these problems.

The C language specifies only that sizeof long >= sizeof int >= sizeof short int >= sizeof char. In most implementations, long is 4 bytes, int is 2 bytes on 16 bit compilers and 4 on 32 bit compilers, short int is 2 bytes and char is 1 byte. With the rise of unicode, 2 byte chars are possible but mostly a seperate data type (wchar) is defined.

Since Java runs on a virtual architecture, definitions are much more strict here (big endian, 8, 4, 2, 2 bytes for long, int, short and (unicode) char). To access a single byte a seperate data type byte exists.

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Sick HP42S

*Message #1 Posted by **Chuck Galloway** on 4 Mar 2010, 10:55 p.m.*

Virtually all function keys on the right column (+, -, x, /) have stopped working. In addition, this evening powering-up became sporatic. Is there an easy fix for this?

Re: Sick HP42S

*Message #2 Posted by **tim m.** on 5 Mar 2010, 1:04 p.m.,*
in response to message #1 by Chuck Galloway

Sounds like a loose connection to the matrix keypad.

Re: Sick HP42S

*Message #3 Posted by **geoff quickfall** on 5 Mar 2010, 2:15 p.m.,*
in response to message #1 by Chuck Galloway

Press down just under the LCD panel above the top row of keys.

While pressing at this point depress the faulty keys. They should work. If so it is the physical connection between the keyboard pca and logic pca via the flex pcb. This means the foam pressure pad completing the connection is desintigrating and needs replacement.

Only way is to enter the calculator.

Got to go to work.

Cheers, Geoff

Re: Sick HP42S

*Message #4 Posted by **Chuck Galloway** on 6 Mar 2010, 12:34 a.m.,*
in response to message #3 by geoff quickfall

That did it Geoff. Thanks for the tip.

Re: Sick HP42S

*Message #5 Posted by **Nicholas Cole** on 17 Mar 2010, 4:58 a.m.,*
in response to message #3 by geoff quickfall

That solution worked for a HP40G which doesn't want to switch on.

Apart from opening it up to change the foam pad, any tips for the repair ?

Thanks in advance, Nicholas

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That old auction business of "disclosure"

*Message #1 Posted by **bill platt** on 5 Mar 2010, 10:09 a.m.*

You know all the humorous threads, like "Mint" equals "my kid spilled jelly on it this morning" and "runs great" means "dirtier than sack of %^%2" etc.

Here's my latest auction win. See if you think the description meets with the concept of "disclosure":

Description was:

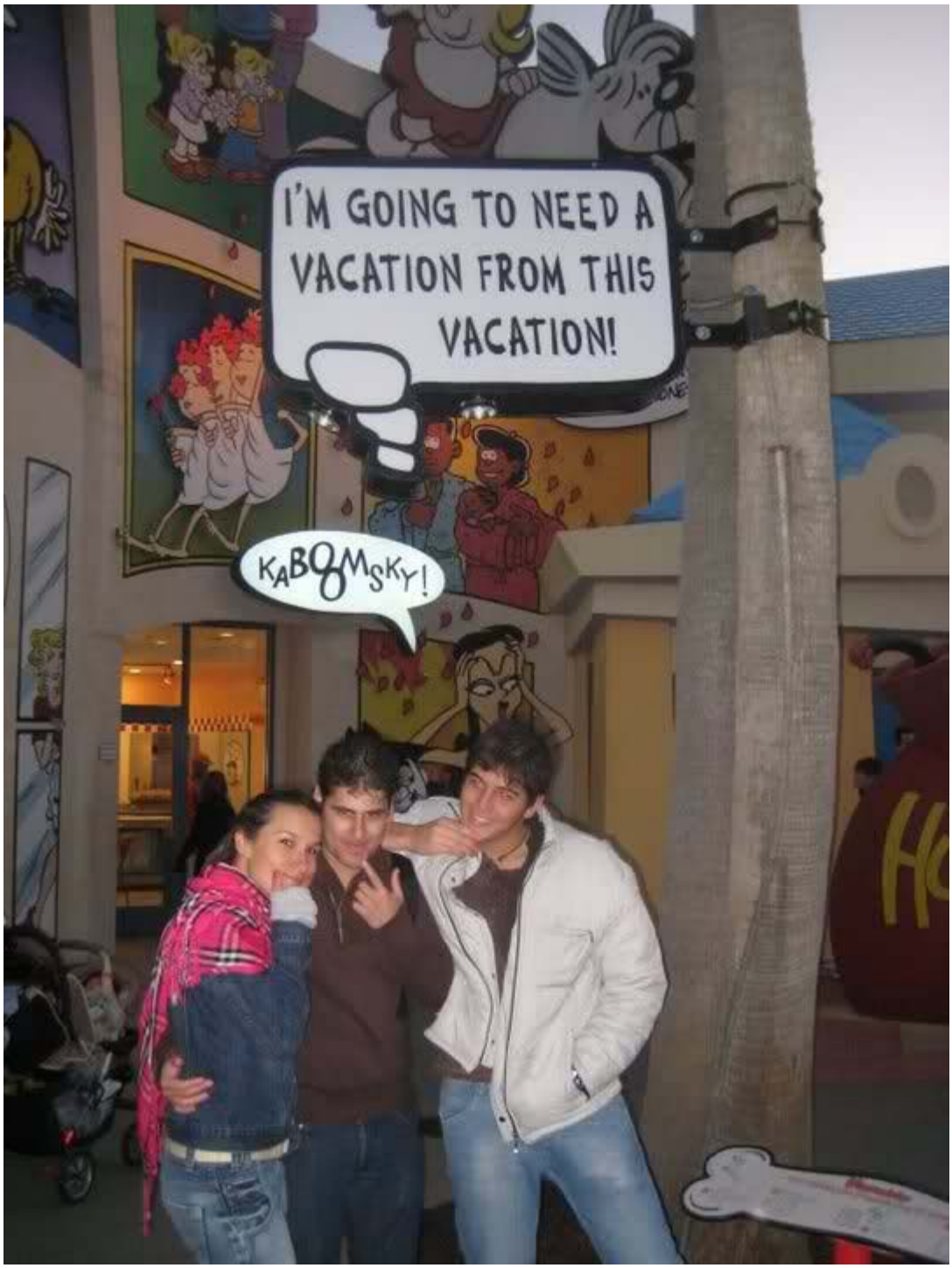
```
This is Vintage Hewlett Packard 27S Scientific Calculator. Used and
shows some wear but seems to be working just fine and still in good
usable condition. Comes with batteries.
You will receive actual item shown in the pictures, thank you.
```

And the picture was:

In reality, the bezel has both deep dents, as well as sharp dents that look like a mechanical pencil injury, and the screen has two deep mechanical pencil impalements.

And of course the batteries were completely dead. Voltage was at 1.0 per cell.

Here's a scan I made. Even this doesn't really show the extent of the dents.



Most of my online auction experiences have been good. But there have been a handful that are not good. Makes me skittish...

Re: That old auction business of "disclosure"

*Message #2 Posted by **Bruce Bergman** on 5 Mar 2010, 10:47 a.m.,*
in response to message #1 by bill platt

Leave the seller a negative rating, and bit.ly this page as evidence. It will at least make them think twice before advertising like that again...

I agree -- this kind of thing hurts, especially for those who are being above board on everything.

thanks, bruce

Re: That old auction business of "disclosure"

*Message #3 Posted by **Bart (UK)** on 5 Mar 2010, 10:54 a.m.,*
in response to message #1 by bill platt

Isn't there also something about not trusting fuzzy pictures?

That said, I have a near mint 48GX (I think it has only seen batteries in it to run self tests), sold from a less than perfect picture. Which probably helped me as I got it for a reasonable price.

Sometimes you're lucky - sometimes not :(.

Now for you to find a dead donor with a perfect case & faceplate.

The original picture shows it all.

*Message #4 Posted by **Frank Boehm (Germany)** on 5 Mar 2010, 11:11 a.m.,*
in response to message #1 by bill platt

At least that's what I think. Scratches are visible, and that dull area would have stopped me to bid more than a handful of $$$.
I don't think the seller cheated you with a "better than real" picture, and the definition of "some wear" differs a lot 8)
dead batteries sold as "good" are a no-no though, but personally I always hope that *no* batteries are included, as I would have to bring them to the hazardous waste collection point...

Re: That old auction business of "disclosure"

*Message #5 Posted by **DavidShenk** on 5 Mar 2010, 11:18 a.m.,*
in response to message #1 by bill platt

It looks like the initials scratched into the top have been blurred out of the auction photo.

My most obvious issue with an auction item was for a 42s and case. The case was shown in several photos and looked fine, however, when I received it, it had a big chunk torn out of one side. By sheer coincidence, all of the photos happen to be taken of the good side. I gave the seller a little email feedback, if you know what I mean. Not a huge deal, but that was deliberate.

Dave

Re: That old auction business of "disclosure"

*Message #6 Posted by **Walter B** on 6 Mar 2010, 3:22 a.m.,*
in response to message #1 by bill platt

I second most of the previous posts. After all, that's what eBay feedback is for. There are 3 alternatives you may click, not just one. And in the detailed feedback, there are even 5. Please use them. The seller may cry, but it's refecting your feelings.

Re: That old auction business of "disclosure"

*Message #7 Posted by **DaveJ** on 6 Mar 2010, 4:58 p.m.,*
in response to message #1 by bill platt

The reality of it is that the average consumer does not collect calculators and they do not fuss over the visual appearance to the extent that those on this forum would.

Therefore I believe the description is fairly accurate and adequate for the average buyer. Yes, they could have mentioned the engraving.

Sorry to say, but if you cared about the visual appearance that much, you should have asked for more hires photos. The photo they provided clearly shows some scratches and a big scuff mark on the top.

You paid your money and took your chances without asking questions. Buyer beware.

Dave.

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MLDL2000 Disassembler to SDK - Help

*Message #1 Posted by **PeterP** on 4 Mar 2010, 10:28 p.m.*

Hi,

I was trying to test the disassembly functionality of the MLDL200) to SDK (using the version 1.51). While I got the disassembled text it did not appear to be at all in SDK format.

Has anyone successfully used the 1.51 version to disassemble a ROM into SDK41 format? If so, would be great to pass on some tips if possible,

Thanks!

Peter

Re: MLDL2000 Disassembler to SDK - Help

*Message #2 Posted by **Meindert Kuipers** on 7 Mar 2010, 10:01 a.m.,*
in response to message #1 by PeterP

Peter (and others who are interested),

Please make certain that you are using the latest version of M2kM, this is 1.61 and available on my website at http://www.kuiprs.nl/support.htm.

Meindert

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OT: Bid War

*Message #1 Posted by **Egan Ford** on 4 Mar 2010, 7:32 p.m.*

http://gizmodo.com/5484997/how-to-save-148-on-an-ipod-touch

Re: OT: Bid War

*Message #2 Posted by **Johnny Bjoern Rasmussen** on 5 Mar 2010, 2:23 a.m.,*
in response to message #1 by Egan Ford

:-)

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HP Forum Archive 19

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HP owners actually use them?

*Message #1 Posted by **Dimitri Simitas** on 4 Mar 2010, 5:39 p.m.*

I got to ask, so far everything I bought seems to look like they were used once and stored. So did most HP users even use their items?

Just in jest, but I still wonder since most things from the 80s I own or have owned never looked as good as the HP-41 items I have purchased recently.

Dimitri

Re: HP owners actually use them?

*Message #2 Posted by **Mark Henderson** on 4 Mar 2010, 6:04 p.m.,*
in response to message #1 by Dimitri Simitas

I think it's a tribute to how well the older HP machines were made! In building my Classic collection (I now have at least one of each :-)) I definitely have calcs that were WELL used... But amazingly, even the saddest of them ends up being a reliable, smooth operating machine after only basic cleaning and repair. Amazing for 35+ year electronics! In fact, the best feeling keyboards are on my oldest and most worn calcs! I, for one, use my Classic, Woodstock and Nut HPs every day, rotating them based on whim, or occasionally based on what I'm doing!

Re: HP owners actually use them?

*Message #3 Posted by **Rainer Wiedemann (Germany)** on 4 Mar 2010, 6:51 p.m.,*
in response to message #1 by Dimitri Simitas

I second your observation. Most of the hp41 stuff I bought on TAS or elsewhere has been delivered in outstanding condition.

I bought my HP-41CV together with the card reader in 1982, when I was a student. Although sponsored by granny and my parents it was really expensive. So I always took good care of it in order to keep it in good shape. Now, after 28 years it still has almost no signs of use or wear and works like a charm.

IMO hp's quality is one reason to the good shape after so many years. Another reason: the effort to own one was a motivation to take good care of it. Devices, which were heavily mistreated, are very likely to have all died after such a long time. A similar effect can be observed on the marketplace of used cars, at least I can speak for Germany, where rolling junk vanishes over the time and only cars in collector's condition survive. So in the end devices in good optical condition may be the majority. But a nice appearance does not necessarily correlate to a good technical condition. Defects or aging of the electronic circuitry mostly elude the owner's care.

Re: HP owners actually use them?

*Message #4 Posted by **Walter B** on 5 Mar 2010, 2:02 a.m.,*
in response to message #3 by Rainer Wiedemann (Germany)

I second this fullheartedly. HP calcs were a real investment at that time! Paying many bucks for a quality tool. After all it turned out being a good one. But watch it, it takes a long time to build a reputation and an instant to destroy it.

Re: HP owners actually use them?

*Message #5 Posted by **Bart (UK)** on 5 Mar 2010, 5:22 a.m.,*
in response to message #3 by Rainer Wiedemann (Germany)

> Quote:
>
> But a nice appearance does not necessarily correlate to a good technical condition.

IMHO, the nicer & less used it is, the more chance of corroded batteries (and subsequent internal circuitry damage).

Re: HP owners actually use them?

*Message #6 Posted by **Michael Meyer** on 4 Mar 2010, 9:30 p.m.,*
in response to message #1 by Dimitri Simitas

My HP-25 was stolen in 1979 after I bought a TI-59. If anyone finds my HP-25, please return it to me. Egan will pay a $51 reward. (Just kidding).

Re: HP owners actually use them?

*Message #7 Posted by **Martin Pinckney** on 5 Mar 2010, 12:00 a.m.,*
in response to message #6 by Michael Meyer

Maybe the thief figured if you bought a TI, you didn't deserve the HP anymore...

Re: HP owners actually use them?

*Message #8 Posted by **Walter B** on 5 Mar 2010, 1:54 a.m.,*
in response to message #6 by Michael Meyer

That was nothing more than your just deserts, don't you think so, too? d;-)

Re: HP owners actually use them?

*Message #9 Posted by **Michael Meyer** on 5 Mar 2010, 10:59 a.m.,*
in response to message #8 by Walter B

I stepped right into that one. ;-}

Re: HP owners actually use them?

*Message #10 Posted by **Egan Ford** on 4 Mar 2010, 10:31 p.m.,*
in response to message #1 by Dimitri Simitas

> Quote:

> I got to ask, so far everything I bought seems to look like they were used once and stored. So did most HP users even use their items?

Given the cost of 70s and 80s high-end portable electronics I expect that they were used and very well taken care of. It also helps that they were built to last.

I cannot image many that would purchase a $100-$400 calculator and not use it more than once. A good calculator was both a tool and an investment. All of my classmates engraved their names on their 15Cs. Not me--it was too pretty.

For 9 years my 15C was a constant companion only to be betrayed by my shinny new 48GX. The 15C still looking like the day it was purchased was thrown in a box with other stuff from the 80s. Later I lent it to my best friend, it came back like it had been to hell and back. It's on my desk now. The battery compartment cover still has a sticker with my name on it from 1984.

Re: HP owners actually use them?

*Message #11 Posted by **Maximilian Hohmann** on 5 Mar 2010, 3:04 a.m.,*
in response to message #1 by Dimitri Simitas

Hi!

> Quote:
>
> So did most HP users even use their items?

I would say: The newer they are, the less they were used. Not for the obvious reason (age), but because in the eighties people started using their desktop PCs for the real calculations and kept their calculator in the drawer. That's why so many HP-41s look new and unused from the outside, but have their battery terminals corroded away after they were completely forgotten eventually.

And for "field use" (schools, univerities, construction sites) HPs have always been too expensive/precious for most. Even students who could afford an HP calculator would normally leave it at home and take a cheap replacement to school/university every day. That's what I also did with my Ti59, and this cost only 1/3 of a comparable HP-67 or -41 of that era.

But from my collecting experience, early LED calculators, especially the HP-45 (being the first "affordable" HP calculator) really saw some heavy usage. I have some badly worn '45s - but because of their rugged construction, they all work till this day!

Regards, Max

Re: HP owners actually use them?

*Message #12 Posted by **bill platt** on 5 Mar 2010, 9:06 a.m.,*
in response to message #11 by Maximilian Hohmann

My son was observing this just yesterday. He dug out an HP45 from one of my boxes, and compared it to the new 35s. He recognized the style ideas, but was especially impressed with the old keys of the 45, and astounded that they were molded with "inlay" as he termed it. "And yes, it still works" brought special appreciation...

Re: HP owners actually use them?

*Message #13 Posted by **Han** on 5 Mar 2010, 11:36 a.m.,*
in response to message #1 by Dimitri Simitas

Well, I use most of them. I have a brand new, never opened HP48SX, HP48S, HP48G, HP48GX, and HP48G+. These I do not use, but keep around because I like owning a little bit of HP history (back when they still made awesome calculators). I am about to purchase an HP50G and if this one turns out to be a well-designed calc, I may buy another one just to keep for my collection.

The ones I do use include an HP20S (I use this to do simple calculations when I am at my desk), about 4 HP48GX's (two set up for programming with Jazz, two set up for ALG48 and Erable to do math -- a set for home and the other for work), and 3 HP48G's upgraded to 512KB RAM (these I keep around for fun and to run things like SpeedUI and Metakernel).

At one point, I owned every single Pioneer-series calculator, but then sold that collection since I never used them. (I collected them since they looked like the HP48 series). I do regret selling my HP42S and my HP32SII, though.

Re: HP owners actually use them?

*Message #14 Posted by **bill platt** on 5 Mar 2010, 12:07 p.m.,*
in response to message #13 by Han

HI Han,

You can put metkernel on a 48G with a hard-wired 512 RAM upgrade?

How much RAM is left for user programs?

It is more stable than having MK installed using both ports? I found that I ended up with a few "memory lost" cases where I accidentally joggled the 128k card :-(

Any ideas where to get a 48 cable without spending $30?

Best regards,

Bill

Re: HP owners actually use them?

*Message #15 Posted by **Han** on 5 Mar 2010, 11:48 p.m.,*
in response to message #14 by bill platt

> Quote:
>
> HI Han,
>
> You can put metkernel on a 48G with a hard-wired 512 RAM upgrade?

Yes. The upgraded units have the memory split as follows: 128K for port 0 (i.e. user RAM), 128K for "card slot 1" (port 1), and 256K for "card slot 2" (ports 2 and 3). Thus when I install Metakernel, I install it to port 1. My upgrades uses 2 extra chips (74HC00 NAND gate and 74HC32 OR gate) that act as a bank switcher for the 512K RAM chip.

> Quote:

> How much RAM is left for user programs?

128K in port 0 and 256K in ports 2 and 3 (384K total).

> Quote:
>
> It is more stable than having MK installed using both ports? I found that I ended up with a few "memory lost" cases where I accidentally joggled the 128k card :-(

Well, MK should only be installed in port 1.

Perhaps I am not sure what you mean by using both ports. My guess is that you are referring to the case of using a 256KB or 512KB RAM card in card slot 1. In this case, putting a copy of MK on each 128KB "bank" (where a "bank" is equivalent to a port when used in card slot 2) ensures that the calculator always sees MK no matter which "bank" is used by card slot 1. This is one way to make a card larger than 128KB to appear to the HP as only 128KB (as all the banks look the same in terms of their contents).

Regarding stability, I use MK for non-essential stuff as even the latest revision (2.30) is somewhat buggy (especially when working with large matrices of integers). I prefer SpeedUI; but there are also many features in SpeedUI that I would rather not have (and which makes SpeedUI take up a lot of memory). The main one is the catalog of commands (just the list of commands is ~5KB) which I never use. Perhaps someday Raymond might make a "light" version consisting of only the 6-lvl stack with pretty-print and the improved editor (and maybe customizable fonts).

> Quote:
>
> Any ideas where to get a 48 cable without spending $30?

I suppose there is always the option of building your own =). But commercially, I have only seen them as low as $19.99 plus shipping (on eBay).

Re: HP owners actually use them?

*Message #16 Posted by **bill platt** on 7 Mar 2010, 8:58 a.m.,*
in response to message #15 by Han

Hi Han,

Thanks very much for the details.

Maybe my memory is slipping. Years ago, Raul Lion walked me through the Metakernel load. I remember using the 1MB card, merging the 128mb card, then "installing" metakernel from the 1MB card to the system...maybe that is totally faulty memory.

On the other hand, perhaps I should just give SpeedUI a try.

I have 2 48GX, two 128MB klotz cards (one with a broken switch but someone here suggested I just make a solder bridge so that it works as RAM) and one 1MB Klotz card.

I might as well use them for some good!

Re: HP owners actually use them?

*Message #17 Posted by **designnut** on 5 Mar 2010, 12:12 p.m.,*
in response to message #13 by Han

I have some HP calcs still in the package against the day I might need them. I have some intended for gifts. I have a 32SII at my hand as I type, used as needed. I used easy to remember and use formulas several times a day while working, no long retired at 81. I learned relations with RPN i would never have known with algebraic. RPN can give you multiple answers as you calculate that were useful to me while with algebraic you get one answer. In calculating resistive dividers I first got the total resistance, then the divider fraction, then the equivalent resistance from the divider. I could do things with resonant elements that were fast and surprising as I changed the book formulas to be handy on RPN with fewer data entries using the automatic repeating t register. It is surprising what you can squeeze out of the original HP35 if it is all you have. More remarkable still with programmable versions. I fitted curves that are still intractable as they don't use the tools right, but only conventionally. Sam

Re: HP owners actually use them?

*Message #18 Posted by **Martin Pinckney** on 5 Mar 2010, 1:38 p.m.,*
in response to message #17 by designnut

> Quote:
>
> I learned relations with RPN I would never have known with algebraic. RPN can give you multiple answers as you calculate that were useful to me while with algebraic you get one answer.

Come now, Sam, its OK to be an RPN afficianado, but this over-glorification of its virtues ...

With algebraic you can accomplish the same thing with how you structure your parentheses. Well, OK, that depends on which implementation of algebraic we're talking about. With the algebraic Pioneers, for instance, each time you close a parenthesis, you get an intermediate answer. With a 48 series, you would have to wait until you EVAL.

Re: HP owners actually use them?

*Message #19 Posted by **designnut** on 5 Mar 2010, 5:03 p.m.,*
in response to message #18 by Martin Pinckney

Martin, we don't need no stinking parenthesis! I stand by my premise that I learned relations with RPN I would never have seen with algebraic. I changed the book formulas to be handy with RPN. The book formulas are clumsy to use. I changed them for quick RPN calculations and I did discover relations I have never seen published. Probably because they didn't have an RPN calculator when the books were written. Sam

Re: HP owners actually use them?

*Message #20 Posted by **hpnut** on 5 Mar 2010, 7:01 p.m.,*
in response to message #19 by designnut

> Quote:
>
> Martin, we don't need no stinking parenthesis! I stand by my premise Sam

I agree with Sam. Parentheses are a burden, one has to remember to open and close. RPN dispenses with () and = !

Re: HP owners actually use them?

*Message #21 Posted by **bill platt** on 5 Mar 2010, 8:20 p.m.,*
in response to message #20 by hpnut

Ironcically enough, if you have an HP *RPL* machine, you can put in an *algebraic* object and not have to keep track of parenthesis.

(Same is true on many other current designs including 35s).

What's worse--tracking parenthesis, or overfilling a 4 level stack and losing a calculation off the t-register? I think the latter is worse, as it can happen without realizing it. In parenthesis, if there is a limit to them, you will be told before the result!

Re: HP owners actually use them?

*Message #22 Posted by **Bart (UK)** on 6 Mar 2010, 6:05 a.m.,*
in response to message #21 by bill platt

> Quote:
>
> What's worse--tracking parenthesis, or overfilling a 4 level stack and losing a calculation off the t-register?

I've had my days with parenthesis tracking, getting erroneous results. Having to re-do the calculation several times to get the correct result or at check that I get the same answer at least twice. Give me RPN any day. I find a 4-level stack quite adequate. And from the HP-45 onwards you had plenty of storage registers to store intermediate results in (Something many algebraic scientifics have lacked). I had so many mess-ups with parenthesis (yes, it tells you when you are wrong - but where in the line did I make the mistake? Oh, let's start AGAIN) that I used to analyse problems so that I could use the memory function or even took to writing down intermediate results. Perhaps that's why I took so easily to RPN when I got my first HP.

Re: HP owners actually use them?

*Message #23 Posted by **Martin Pinckney** on 6 Mar 2010, 7:53 p.m.,*
in response to message #20 by hpnut

Why do you have to "remember"? They appear on the screen; you can see them...

Re: HP owners actually use them?

*Message #24 Posted by **designnut** on 9 Mar 2010, 12:35 a.m.,*
in response to message #23 by Martin Pinckney

Martin, In chain calculations with RPN we can get answers that are later consumed in the next calculation. We can use store to save those intermediate results. In calculating a resistive divider I enter the lower resistor repeatedly to fill the stack, then the upper resistor and add; see the total resistance; divide see the fraction of the divider: multiply and subtract: see the equivalent output resistance. For RC corner frequency I use 2Pifrc=1: multiply the known values and invert for the unknown. For LC frequency resonance I removed the square root sign and use 2PiF2PiFLC=1 With 2PiF in the t register key either L or C, multiply twice and invert to see the other resonant element.

As an intermediate result when 2PiFL is shown it is the reactance of the elements at resonance. These are bread abd butter calculations for electronics. This method may be expanded to other common calculations with ingenuity and practice. I felt sad when neophyte engineers had to wr4ite programs to solve these basics. Sam

Re: HP owners actually use them?

*Message #25 Posted by **Martin Pinckney** on 6 Mar 2010, 8:05 p.m.,*
in response to message #19 by designnut

> Quote:
>
> I stand by my premise that I learned relations with RPN I would never have seen with algebraic.

Can't argue that point, because that is your experience. I was arguing the other point you made, that with algebraic you only get one answer, no intermediate results. I stated that's not necessarily true, and I stand by that!

Re: HP owners actually use them?

*Message #26 Posted by **Martin Pinckney** on 5 Mar 2010, 1:25 p.m.,*
in response to message #13 by Han

> Quote:
>
> At one point, I owned every single Pioneer-series calculator, but then sold that collection since I never used them. (I collected them since they looked like the HP48 series).

What a coincidence... I first got interested in a 48sx because it looked like a "stretched" Pioneer!

Re: HP owners actually use them?

*Message #27 Posted by **bill platt** on 5 Mar 2010, 1:56 p.m.,*
in response to message #26 by Martin Pinckney

I look back to some time in the early 90s when I sa wa catalog of current offerings, and I wince at what I thought at that time: "Oh, yuck, they sell algebraics now," and "that big 48 looks terribly clunky."

Now I know better. I missed the opportunity to get in on the ground floor with the 27s, now one of my all-time favorites, and of course the 48 series is clunky, but oh-so- powerful and well-made, too. I daresay seems much better made than that 41 series. I've shied away from them ever after buying my first "great condition" one back in 2002 or so.

Re: HP owners actually use them?

*Message #28 Posted by **brianh** on 7 Mar 2010, 8:41 a.m.,*
in response to message #1 by Dimitri Simitas

Who still uses them?

Well, I work in the Planning & Engineering Department of the world's busiest airport.

HP 11Cs and 15Cs are still fairly common on the desks of the engineering staff. We have one engineering consultant that still pulls out his 41CX. One of our oldest engineering staff members has an HP 45 on his desk, and it still works and he uses it every day. The battery pack is shot and he keeps it plugged in all the time, but the LEDs still glow!

There are at least two HP 50s at work in my office (one of them mine)

My desk sports an fully functional HP 97. I fire it up now and again for show or if I'm doing a calculation for which I want a paper trail.

However, my day-to-day go-to calculator is a new HP 35S. If I just need to crunch a few numbers it fits the bill fine. I used it just the other day to compute some coordinate system adjustments. There is still a place for a good RPN scientific calculator with basic functions available at the primary or secondary key level.

Sadly, my sense is that new engineering students get no introduction to calculator-level RPN. Most newly minted engineers (and we get our share of Ga. Tech grads) don't know anything about RPN-based calculators. I put it down to lack of choices and, of course, the rise of PC-based software tools to handle most of the basic calculations that engineers used to tackle with handheld calculators just a few years ago.

There is a clear generational dividing line. "Older" staff - say those over 45, will frequently be seen using HP calculators. Most of them old, beat up 10-series models. "Newer" staff, those that entered the job market after the desktop PC became the engineering tool of choice, more frequently grab any old algebraic calculator to punch numbers.

Re: HP owners actually use them?

*Message #29 Posted by **Dimitri Simitas** on 7 Mar 2010, 12:11 p.m.,*
in response to message #28 by brianh

> Quote:
>
> "Newer" staff, those that entered the job market after the desktop PC became the engineering tool of choice, more frequently grab any old algebraic calculator to punch numbers.

You know recently when I tried to do math with a Algebraic since I started to use RPN, seems that I have become pretty useless on them. Takes a couple tries to get it to work. And although I am young at 22 I see the calculator as the device who's job is to do math. The PC is for CAD/CAM and doing other work. And yes when working on something both are on my desk and used.

But it is nice to know the overall feeling of this thread. For a moment there I thought maybe the HP users bought them, got frustrated and then ran off to get a new Algebraic keeping the RPN in storage instead. Kidding of course.

Dimitri

Re: HP owners actually use them?

*Message #30 Posted by **bill platt** on 7 Mar 2010, 12:32 p.m.,*
in response to message #29 by Dimitri Simitas

I used an 11c/15c exclusively for 13 years, and a 32sii exclusively for another 7 or so.

Now I use an *algebraic* 20s most of the time, or the "algebraic" objects on a 48. But the 15c gets attention, too. It is in the same drawer.

I don't have any real problems switching back and forth. The more you switch, the easier it is:-) (It was harder to switch back and forth at first...)

Edited: 7 Mar 2010, 12:32 p.m.

Re: HP owners actually use them?

*Message #31 Posted by **Martin Pinckney** on 7 Mar 2010, 7:02 p.m.,*
in response to message #28 by brianh

In my very small company, I use Pioneers and a 48SX, and one of my drafters uses a 32SII. The other uses a Calculated Industries model. A staff engineer uses a 48GX. My professional surveyor still uses his 41CV. One field guy uses an old beat-up TI 30-something, the other a 48GX and 35s.

A former employee, professional surveyor, died recently. The last I heard, he had been still using his original HP 35!

Edited: 7 Mar 2010, 7:04 p.m.

Re: HP owners actually use them?

*Message #32 Posted by **Keith Midson** on 8 Mar 2010, 4:30 a.m.,*
in response to message #31 by Martin Pinckney

I have a reasonably large collection of HP's, but I currently have on my desk a 28S that I use for more complex calculations where I need to see the stack, a 71B (which I have a couple of novel programs that I use for my business, although I don't 'need' to), and a 12C (a mint condition 1984 USA model, not a new China version) that I use for quick or financial calculations. I also carry around a 50G in my laptop bag, and often have a 42S or 32Sii in my jacket pocket.
I my previous job in a large engineering firm, there were many 15C's (another favourite of mine), 42S's, 48S's, 48G's, 11C's on desks everywhere. These calculators just never die!
Cheers, Keith

Re: HP owners actually use them?

*Message #33 Posted by **SteveH** on 8 Mar 2010, 7:38 a.m.,*
in response to message #28 by brianh

> Quote:
>
> Well, I work in the Planning & Engineering Department of the world's busiest airport.

"When the flights from all airports in a city are combined, London is by far the busiest aviation centre in the world." ;o)

Sorry couldn't resist...

I take it you're in Atlanta.

Steve

Re: HP owners actually use them?

*Message #34 Posted by **brianh** on 8 Mar 2010, 8:49 p.m.,*
in response to message #33 by SteveH

Ayyup! Not the biggest, but certainly the busiest.

> Quote:
>
> "When the flights from all airports in a city are combined, London is by far the busiest aviation centre in the world." ;o)
>
> Sorry couldn't resist...
>
> I take it you're in Atlanta.
>
> Steve

Re: HP owners actually use them?

*Message #35 Posted by **Mike T.** on 8 Mar 2010, 2:41 p.m.,*
in response to message #1 by Dimitri Simitas

I have several spice series machines I use regularly though since I can't get anything remotely IT related in or our of the office these days I have to make do with an emulator at work...

Mike T.

Re: HP owners actually use them?

*Message #36 Posted by **Wilhelm Taylor** on 14 Mar 2010, 3:55 p.m.,*
in response to message #35 by Mike T.

I started out with an HP35A a year after it came out - I worked at HP in Loveland, CO, at the time and got a 30% employee discount (i.e. 70% of $299!!!). Switched to HP41 when it came out (and was cheaper) and have used it since. I'm an opto-mechanical engineer and am conversant with all manner of CAD, spread sheets, MathCAD, etc... but was perturbed last week when my N-batteries died (at work) and I couldn't find any in this town (Boulder). So...purchased 12 batteries on-line.

I tried an HP48 once after my 41 was stolen but found it tedious, so traded the new 48 for a used 41 - I got the best of that deal.

Re: HP owners actually use them?

*Message #37 Posted by **Egan Ford** on 14 Mar 2010, 4:01 p.m.,*
in response to message #36 by Wilhelm Taylor

> Quote:
>
> ... but was perturbed last week when my N-batteries died (at work) and I couldn't find any in this town (Boulder).

Next time try Walgreens. I've never had a problem getting N's there.

BTW, I am assuming Boulder, CO and not Boulder, UT. There are no N's in Boulder, UT.

HP owners actually use them?

Go back to the main exhibit hall

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There seems to be a very recent bull market...

*Message #1 Posted by **bill platt** on 4 Mar 2010, 11:45 a.m.*

The 15c is on the rise...again.

It used to be that the only ones that broke $200 had a manual and a box...now I see one that broke $360 without a manual or a box, and even has a worn slipcase.

Extraordinary!

And then there is the 49G. What had been sold for $20 to $30 spiked to $40 to $60 for about a week, and now seems to be deflating like a leaky balloon.

"Pricing" for antique calculators seems to be nothing if not reliably volatile. I noticed the same basic tendency 10 years ago, but now the prices are higher :-/

We should start a spoof radio show--like "Marketplace" on public radio. When we "do the numbers" we can really do them!

Edited: 4 Mar 2010, 11:46 a.m.

Re: There seems to be a very recent bull market...

*Message #2 Posted by **Egan Ford** on 4 Mar 2010, 12:03 p.m.,*
in response to message #1 by bill platt

My observations over the last three years is that prices drop (Less competition? More supply?) over the summer and xmas holidays.

Perhaps spring cleaning increases the number of items and disposable income is directed to summer activities.

Holiday shopping must have an impact. But it goes both ways. I spend nothing on calc purchases (need to get gifts for family), but then my wife may pay anything to get me a calc for xmas.

Re: There seems to be a very recent bull market...

*Message #3 Posted by **Dave Shaffer (Arizona)** on 4 Mar 2010, 12:10 p.m.,*
in response to message #2 by Egan Ford

> Quote:
>
> but then my wife may pay anything to get me a calc for xmas.

How explicit are your hints?! I haven't had the nerve to try this for $1000 camera lenses!

Re: There seems to be a very recent bull market...

*Message #4 Posted by **Namir** on 4 Mar 2010, 12:14 p.m.,*
in response to message #3 by Dave Shaffer (Arizona)

Dave,

I have recently coughed up some pretty pennies for some of the hp vintage machines. I am amazed how the prices are trying to remain high.

BTW, my son Joey was accepted by Oregon State University (in good old Corvallis) for a PhD in theoretical condensed matter. I thought you might like to know. He is graduating this May from NAU. I will be there in early April. Perhaps we can have lunch one day?

Namir

Edited: 4 Mar 2010, 5:19 p.m.

Re: There seems to be a very recent bull market...

*Message #5 Posted by **Dave Shaffer (Arizona)** on 4 Mar 2010, 9:21 p.m.,*
in response to message #4 by Namir

Hi Namir,

Great news for Joey. My niece got her Industrial Engineering degree from OSU (Corvallis is her home town) a few years ago.

Great on coming to Flagstaff in April - let me know when. I think my email address is available via the Forum, but if not: shaffer .at. alumni-dot-caltech-dot-edu .

Re: There seems to be a very recent bull market...

*Message #6 Posted by **Egan Ford** on 4 Mar 2010, 7:09 p.m.,*
in response to message #3 by Dave Shaffer (Arizona)

> Quote:
>
> How explicit are your hints?!

Direct. My wife, kid and myself for years have had nothing on our xmas lists, so we gave up on xmas and just did family trips. However my kid wanted xmas again, so we started up two seasons ago. Xmas tree, presents, etc... The problem still remains, nobody wants anything, but if you do not pick something, then you'll get stuff that you do not need or want. So we all have to have a list to hand out to the others.

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Capricorn CPU microcode

*Message #1 Posted by **Olivier De Smet** on 4 Mar 2010, 8:33 a.m.*

I started to look more precisely to the Capricorn CPU with the HP patent # 4424563. With this patent I started to look at the microcode of the CPU, but it appears that the given microcode is not the final one. It can be seen with the LDM R4,=xxyy instruction. In a real HP85/86 this code jump to xxyy+1 address and with the microcode from the patent this jump to xxyy+3 or +4 (if DRP R4 code before).

Does anyone have more informations about that ?

Thanks in advance.

Olivier

Edited: 4 Mar 2010, 11:16 a.m.

Re: Capricorn CPU microcode

*Message #2 Posted by **Eric Smith** on 4 Mar 2010, 8:37 p.m.,*
in response to message #1 by Olivier De Smet

Interesting. The patent application was submitted at a late enough date that the PLA contents (microcode) should have been long since finalized. I haven't yet studied it in enough detail to confirm your finding, so perhaps you could explain in a bit more detail how the patent microcode gets to +3/+4 rather than +1.

Aside from finding someone who worked on it, the only way I know to determine the exact microcode in a production Capricorn chip would be to decap and photomicrograph the chip, and thereby extract the PLA pattern.

Re: Capricorn CPU microcode

*Message #3 Posted by **Olivier De Smet** on 5 Mar 2010, 3:52 a.m.,*
in response to message #2 by Eric Smith

Here is a link to an excel file with the microcode executed for each opcode:

http://sites.google.com/site/olivier2smet2/CL.xls

The first page is the PLA decoded with some comments.

The second is about the outputs of the control logic.

The third is the microcode for each opcode (the Byte and Multibyte opcode are grouped). This was done with a python script interpreting the PLA for each opcode.

The fourth is the opcodes in octal, the fifth in hexadecimal.

The comments are mainly in french, sorry.

It was used to make a simulation with tkGate software. Actually it's operational (based on the patent and some other documentations) but this bug is a serious one ...

To see the bug, look at 'Ajustement PC' : adjust the PC (R4-5), code done after the most opcodes (and particularly NOT done after ARP and DRP opcodes see 'ARP R#' witch jump back to state 16d (read a new opcode)).

It can be seen that after 'LDM D,=a' opcode the jump is made to state 7d (Adjust PC)

Adjust PC (state 7d for PCL:R4 and 17d for PCH:R5) is adding N register + 1 to PC. N is an internal register counting the bytes read from the last 'real' opcode, and in this case the =a loop (state 1, near excel line 148, is done 2 times and stopped due to RPTE input) increments N by 1 at each loop (NCDM column, INN output). If a DRP R4 opcode was just before the LDM, N was already incremented by one (state 25d excel line 41).

So the total adjustment is 3 or 4.

It is consistent with the tkGate simulation where the PLA is computed with a Verilog script to drive the rest of the CPU (done with the schemes from the patent).

Edited: 5 Mar 2010, 5:38 a.m.

Re: Capricorn CPU microcode

*Message #4 Posted by **Eric Smith** on 5 Mar 2010, 1:03 a.m.,*
in response to message #1 by Olivier De Smet

I was having trouble visualizing the flow of the microcode, so I used graphviz to plot a graph of the state machine: http://www.brouhaha.com/~eric/hpcalc/series80/capricorn-ucode-state.pdf

It only has the state numbers (in octal), without any annotations to explain the meanings of the states or transitions.

Re: Capricorn CPU microcode

*Message #5 Posted by **Olivier De Smet** on 5 Mar 2010, 6:22 a.m.,*
in response to message #4 by Eric Smith

Thanks for the graph, I found a mistake in the excel file given previously. After state 37O (31d) it's state 4O (4d), not 8O as I used ... I'll look at it more precisely.

It's only in the excel file not on the microcode I used, so not a real mistake.

Anyway, I just wired a small hack to the simulation (CLN when WRAM and CDRP==5 for those who might understand ;)) and it's enough to continue

Edited: 5 Mar 2010, 11:19 a.m.

Re: Capricorn CPU microcode

*Message #6 Posted by **John AS (UK)** on 10 Mar 2010, 2:59 a.m.,*
in response to message #5 by Olivier De Smet

Quote:

> Anyway, I just wired a small hack to the simulation (CLN when WRAM and CDRP==5 for those who might understand ;)) and it's enough to continue

Could this 'hack' exist already in the real HP-85, either as a few gates inside the Capricorn processor chip or as external logic?

Regards,
John

Re: Capricorn CPU microcode

*Message #7 Posted by **Olivier De Smet** on 10 Mar 2010, 3:50 a.m.,*
in response to message #6 by John AS (UK)

Yes it could be. It's a simple one only 10 gates or so and all the signals are already in the function block 'COUNTERS' (on patent fig 1)

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Notes on installing EMU41P on Portable Plus

*Message #1 Posted by **John AS (UK)** on 4 Mar 2010, 3:19 a.m.*

Thanks to J-F Garnier for the EMU41P package:http://www.jeffcalc.hp41.eu/hpplus/index.html . Here are my notes on installation.

Setup:
HP Portable Plus (110+) with 1MB memory module, set to give 512KB user RAM and the remainder as EDSIK (drive A:)
82169A HPIB/HP-IL convertor (all switches to 0)
9122D floppy drive (supports SS-80)
Double sided / double density floppy disks (aka 720k)

1. Format a DOS floppy on the Portable Plus

format c: /y

The /y option uses 512 byte sectors. The resulting floppy can be used on PC under XP (and probably Linux too), appears to be 693kB rather than 720kB, due to having less tracks (77 rather than 80).
2. On PC create subdirectory \emu41 and copy in emu41p.exe and all the .bin files, renaming those to match the emu41.ini file (see below).
3. Create emu41.ini in Notepad, here is one I used:
[MODULES]
0 12 a:\emu41\rom41cx.bin
3 4 a:\emu41\cxfcn.bin
5 8 a:\emu41\cxtime.bin
6 4 a:\emu41\prter1e.bin
7 4 a:\emu41\hpil1h.bin
8 4 a:\emu41\xio1a.bin
9 4 a:\emu41\ccd_osx.bin
10 12 a:\emu41\adv41b.bin
[DEVICES]
DISPLAY
HPDRIVE1
; DOSLINK
; SERIAL1
XIL
4. On Portable Plus copy contents of floppy (C:) to EDISK (A:), into directory a:\emu41
5. Run EMU41p and enjoy!

I have had the Portable Plus for years, but only recently also have a 9114A. This works fine under EMU41P as a Filbert drive. I assume I could have created the DOS floppy above on the 9114A instead of the 9122D, but it was out on loan at the time.

Regards,

John

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Kitchen timer on 17B/17BII/17BII+/19B/19BII/27S

*Message #1 Posted by **y.miyata** on 4 Mar 2010, 1:31 a.m.*

Does anyone know a way to set an appointment time from the Solver in 17BII ?

These calculators have appointment alarm function, thus can be used as a kitchen timer. If you wish to count 8 min for boiling spaghetti (or whatever you want to do),

1. You get the current time in the calculator.

2. Add 8 min to the current time to get the appointment time.

3. Set the appointment time for an alarm.

This could be done manually;

1. Select MAIN -> TIME menu.

2. Add 8 min to the current time in your brain to get the appointment time.

3. Select MAIN -> TIME -> APPT -> APTx (x=1 to 9), key-in the appointment time calculated by you to TIME

Letfs do it in a slightly sophisticated manner;

1. Keep a gTIMERh equation in Solver

TIMER: HMS(HRS(MIN/100)+HRS(CTIME))=ALARM

2. MAIN -> SOLVE -> select TIMER equation -> CALC, input 8 to MIN, calculate ALARM

3. Remaining the ALARM value in the x register (calculator line), set an appointment alarm by MAIN -> TIME -> APPT -> APTx (x=1 to 9) -> TIME

O.K., it works fine (please forget a possibility to start boiling spaghetti after 23:52 midnightc). Step 3 above can be done automatically if I can put the ALARM time within the Solver, probably knowing the internal variable name for the appointment settings. I would like to ask you if there is a way to set the calculated appointment time from the Solver?

I hope you understand what I wish to do and somebody here helps me.

Re: Kitchen timer on 17B/17BII/17BII+/19B/19BII/27S

*Message #2 Posted by **Martin Pinckney** on 4 Mar 2010, 12:18 p.m.,*
in response to message #1 by y.miyata

Only a geek would think of such a thing. It's a cool idea! However, I don't see any reference to alarm functions in the Solver, only date functions. perhaps an undocumented call?

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New MLDL2000 Disassembler function

*Message #1 Posted by **PeterP** on 3 Mar 2010, 8:22 p.m.*

Hi,

I'm trying out the new MLDL200.exe from Meindert and the Disassembler function to SDK but I must be doing something wrong. I always get a 'Range Check' error. Here are the steps I do:

- Open MLDL2000.exe
- Open a ROM file from within the same directory as the MLDL2000.exe
- Click on Show Fat
- Click on Dissassemble

The result is always the same, independent of the ROM I use - it shows pass 1, 2, 3, 4 in the status line at the bottom and then 'Range Check' Error comes up.

Any hints?

Cheers

Peter

Re: New MLDL2000 Disassembler function

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 3 Mar 2010, 10:27 p.m.,*
in response to message #1 by PeterP

Hi, Peter;

I am using ML2K 1.51.0.39 and I did exactly what you did and I could see different ROM listings. Usually I suppress [List FAT], but I tried with some ROM files with and without [List FAT]: works OK both ways.

Have no 'Range Check' message (is it an error?) in any case, though.

What ML2K Manager version are you using?

Cheers.

Luiz (Brazil)

Edited: 3 Mar 2010, 10:29 p.m.

Re: New MLDL2000 Disassembler function

*Message #3 Posted by **PeterP** on 3 Mar 2010, 11:50 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

The new beta version 1.61. Meindert posted here a little while ago and it is up on his page. It has the new

dissassembly function to SDK format so I wanted to try that.

Thanks for checking Luiz, its great to see you around again so much here in the forum!!!

Cheers

Peter

Re: New MLDL2000 Disassembler function

*Message #4 Posted by **Meindert Kuipers** on 7 Mar 2010, 10:04 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Some ROM files may result in this error, for example when a FAT entry point to a strange address outside this ROM, the error handling is not always as good as it should be. Always use the latest version (current is 1.61, but this is BETA still),

Meindert

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30b can be ordered

*Message #1 Posted by **Don Shepherd** on 3 Mar 2010, 8:09 p.m.*

$58 bucks and free shipping.

here

Re: 30b can be ordered

*Message #2 Posted by **Allen** on 3 Mar 2010, 10:35 p.m.,*
in response to message #1 by Don Shepherd

Nice! I recommend the folks here getting one!

Re: 30b can be ordered - in US only? :(

*Message #3 Posted by **Walter B** on 4 Mar 2010, 1:31 a.m.,*
in response to message #1 by Don Shepherd

... at least not in Europe through HP's website d:-(

Re: 30b can be ordered

*Message #4 Posted by **Paul Dale** on 4 Mar 2010, 1:52 a.m.,*
in response to message #1 by Don Shepherd

Sigh :-(

Having just be made redundant, I don't think I can spring for non-essentials like this just yet :-(

- Pauli

Re: 30b can be ordered

*Message #5 Posted by **Walter B** on 4 Mar 2010, 4:26 p.m.,*
in response to message #4 by Paul Dale

Thanks to a note from a fellow forumer, it turned out the 30b will be sold in Germany from May on d:-). It's listed by a distributor for 49,95 Euros plus shipping - so much about currencies and fair trade d:-(.

@Pauli,

If it'll still be appropriate then, we'll think about some import to down under, declaring it as semi-finished product d;-). Until then, keep your head and spirit up. Good luck!

Walter

Re: 30b can be ordered

*Message #6 Posted by **John B. Smitherman** on 4 Mar 2010, 4:35 p.m.,*
in response to message #5 by Walter B

Hi Walter. My guess is that it will sell for 50 dollars, 50 euros and 50 british pounds. :-(

Regards,

John

Re: 30b can be ordered

*Message #7 Posted by **Jeff O.** on 4 Mar 2010, 8:13 a.m.,*
in response to message #1 by Don Shepherd

It seems that you have to call to get free shipping. If you order on-line, a shipping charge gets added in the cart.

Edited: 4 Mar 2010, 3:43 p.m.

Re: 30b can be ordered

*Message #8 Posted by **Tim Wessman** on 4 Mar 2010, 3:11 p.m.,*
in response to message #1 by Don Shepherd

Hello,

Somehow, the price is messed up and they put in a request to fix it. The price on the hp website should be 49.99 and will be fixed within the next day or two.

FYI

TW

Re: 30b can be ordered

*Message #9 Posted by **Peter A. Gebhardt** on 4 Mar 2010, 5:54 p.m.,*
in response to message #8 by Tim Wessman

Tim,

someone should correct "Black Sholes" to "Black–Scholes" in Specs too ;-)

Best regards

OT: Did you receive my email on the (Germany specific) 17bII+ issue?

Re: 30b can be ordered

*Message #10 Posted by **Tim Wessman** on 4 Mar 2010, 6:50 p.m.,*
in response to message #9 by Peter A. Gebhardt

Sheesh. I've sent back changes to fix that page two different times now (both times had that mistake corrected). Seems like they just glance at it and make the change if they happen to notice a difference. Maybe third time's a charm.

TW

Re: 30b can be ordered

*Message #11 Posted by **Bruce Bergman** on 5 Mar 2010, 1:00 a.m.,*
in response to message #8 by Tim Wessman

What about those of us who bought it at the $59 price and had already completed our order yesterday?

(sigh)

Re: 30b can be ordered

*Message #12 Posted by **Tim Wessman** on 5 Mar 2010, 10:32 a.m.,*
in response to message #11 by Bruce Bergman

Send me an email and I will send you to the correct person who can help.

TW

Re: 30b can be ordered

*Message #13 Posted by **Tom Mathes** on 5 Mar 2010, 11:06 a.m.,*
in response to message #1 by Don Shepherd

What does "rotate and click" keys in the description mean?

Re: 30b can be ordered

*Message #14 Posted by **Bruce Bergman** on 5 Mar 2010, 10:15 p.m.,*
in response to message #13 by Tom Mathes

In non-technical terms, it means the keyboard is light years better than the 20b. Maybe not as good as the classic calcs, but it's a solid, positive tactile feel. In addition, there are no problems with double-presses, missed keystrokes or anything of that sort.

Translation: buy it, you'll love it. :-)

bruce

Edited: 5 Mar 2010, 10:16 p.m.

Re: 30b can be ordered

*Message #15 Posted by **Thomas Radtke** on 6 Mar 2010, 7:52 a.m.,*
in response to message #13 by Tom Mathes

I guess the rotation of a key by a few degrees around the axis formed by the two hinges is meant with 'rotate'. I heard this term the first time with the 30b. 'click' might be the obvious.

Re: 30b can be ordered

*Message #16 Posted by **Walter B** on 6 Mar 2010, 8:31 a.m.,*
in response to message #13 by Tom Mathes

Nothing more than what HP's calculator keys used to do since the HP35 until the HP48GX inclusively. So, the wheel wasn't reinvented but relabeled - something US-American marketeers can do best d;-)

Re: 30b can be ordered

*Message #17 Posted by **Thomas Radtke** on 6 Mar 2010, 8:58 a.m.,*
in response to message #16 by Walter B

Hi Walter!

Is it different for the 50g and 35s?

Thomas

Re: 30b can be ordered

*Message #18 Posted by **Tim Wessman** on 6 Mar 2010, 10:06 a.m.,*
in response to message #17 by Thomas Radtke

Not really. The domes are different between them slightly, but the underlying methodology is identical. This was a late printing and had a few issues so ignore those. Neither cyrille nor I have seen the shipping units.

For those wondering, all the text was tweaked from the 20b. Things were centered, aligned, enlarged (numbers, arrows, backspace) and spaced much better. Anything with CAPITAL spelling is a direct command (except where it wouldn't make sense - IRR vs Irr), lowercase signifies a menu. The fonts are Luz Sans and Gentium (as opposed to TNR on the 20 - blech).

TW

Edited: 6 Mar 2010, 10:09 a.m.

Re: 30b can be ordered

*Message #19 Posted by **Walter B** on 6 Mar 2010, 10:55 a.m.,*
in response to message #18 by Tim Wessman

FWIW, this one shot method is used since the Pioneers. Earlier models (Voyagers and before) had individual keys.

The 35S uses a similar approach. No idea about the 50G, however.

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HP41 bugs - testing

*Message #1 Posted by **John Robinson** on 3 Mar 2010, 7:08 p.m.*

Hi All, are there comprehensive test steps written down somewhere to determine which bugs a 41c has ? If so, can someone point me to those please ?

Thanks John

Re: HP41 bugs - testing

*Message #2 Posted by **Namir** on 3 Mar 2010, 7:23 p.m.,*
in response to message #1 by John Robinson

You should have been there (when the HP-41C was launched in 1979)!!

Re: HP41 bugs - testing

*Message #3 Posted by **Allen** on 3 Mar 2010, 8:12 p.m.,*
in response to message #1 by John Robinson

A full list is in "Extend Your HP-41" available on the DVD Version 7

Main versions:

```
ROM   Date codes   Comments
DDE   1926-1940
FDE   1936-1952
FEE   1951-2034
GFF   2035-84??
HFF   84??-Present CV version
NFL   2329- Present current CX version
```

Re: HP41 bugs - testing

*Message #4 Posted by **PeterP** on 3 Mar 2010, 8:19 p.m.,*
in response to message #1 by John Robinson

John, if you scroll to to the bottom here you see the range of serial numbers which have specific bugs.

A simple test to see if you have most/all bugs is the following: 49, Sto 00, SF IND 00

If the Bat-indicator goes on you have bug 3 and hence most likely all other bugs as well.

Cheers

Peter

Edited: 3 Mar 2010, 11:48 p.m. after one or more responses were posted

Re: HP41 bugs - testing

*Message #5 Posted by **Gene Wright** on 3 Mar 2010, 10:01 p.m.,*
in response to message #4 by PeterP

For bug 1:

48 SIGMA+ LASTX ... if 48 is not displayed, it has bug 1.

For bug 2:

999 ENTER 3 STO IND Y.... if this works, it has bug 2.

For bug 3:

49 STO 00 SF IND 00...if the BAT indicator turns on, it has bug 3. Note: this is 49, not 59.

BUG 4 is bad results from SIN for small angles. Can't remember the arguments.

The information below is from http://www.finseth.com/hpdata/hp41c.php

```
#4: Early models compute the SIN of small angles incorrectly.

#5: CLP would only clear 1089 program lines.

#6: -67A/-97A prorams that contain combinations of number entry, EEX, and CHS do not
translate correctly.  Example:

        EEX     CHS     7       CHS     5

translates to

        E-7-5

instead of

        1E-7    -5

#7: The second nybble of the seventh byte of Alpha is copies along
with the first six bytes during an ASTO.

#8: Early machines do not decompile programs if they are turned off
during PRGM mode.

#9: Executing CAT 1 while in PRGM mode, then interrupting it with R/S causes step
labelling oddities.

#10: If flag 25 is set and MEAN or SDEV causes an overflow, some flags can be altered.

#11 (CW1): If a program at the end of CAT 1 is replaced or deleted, a return to that
program will return into the new program or off-program memory.

#12: On early models, the function LN(1+X) gives wrong answers for
values of X between -.9990234374 and -1.00.

#13: On early models, the operation (.1)^-43 gives an answer of
9.999999999E42 instead of 1E43.
```

Re: HP41 bugs - testing

*Message #6 Posted by **Namir** on 4 Mar 2010, 7:27 a.m.,*
in response to message #5 by Gene Wright

Gene,

And to know we paid sooo much for such faulty machines. I feel cheated by HP. <wink>

Namir

Re: HP41 bugs - testing

*Message #7 Posted by **John Robinson** on 4 Mar 2010, 7:19 p.m.,*
in response to message #6 by Namir

Thanks All,

I have a 1954 serial number, with the "tall keys".

Cheers, John

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HP41 Rechargeable Battery Pack - three pins ?

*Message #1 Posted by **John Robinson** on 3 Mar 2010, 6:36 p.m.*

Hi All,

I have just aqcuired a 41C with rechargeable battery pack, but it has three pins instead of the normal two pins for the charger. Does anyone know what the extra (middle) pin is for ?, and can I charge this with a normal 41c battery charger ?

Thanks John

Re: HP41 Rechargeable Battery Pack - three pins ?

*Message #2 Posted by **Allen** on 3 Mar 2010, 10:40 p.m.,*
in response to message #1 by John Robinson

I wonder if that middle pin was designed to be a 'ground' pin at one point.. The AC plug is conspicuously missing a 'case' ground.

Re: HP41 Rechargeable Battery Pack - three pins ?

*Message #3 Posted by **Chiu Yiu Wai** on 4 Mar 2010, 3:43 a.m.,*
in response to message #1 by John Robinson

I am not sure the answer, some senior told me before , the different between two and three pin battery was the three pin battery could be used the AC charger power to hp41 directly.It also need 3 pin AC charger. Similar to classic series 45,65,67,80.The two pin battery can not used the AC charger power directly,it just charged the battery only when it plugged the AC charger.

If it is not correct answer, every senior user please tell me the true of the different between these two battery.

Edited: 4 Mar 2010, 3:46 a.m.

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Repairing a HP 82033 Battery Pack

*Message #1 Posted by **Dimitri Simitas** on 3 Mar 2010, 5:28 p.m.*

I bought a printer with a dead battery, since the rest of the HP stuff the seller was selling worked less the printer due to the battery I figured the 30$ printer was worth the risk. So reading over the DVDs I have not found any tech specs on the pack.

Anyone have any advice how to rebuild the battery pack?

Dimitri

Re: Repairing a HP 82033 Battery Pack

*Message #2 Posted by **Garth Wilson** on 3 Mar 2010, 5:55 p.m.,*
in response to message #1 by Dimitri Simitas

http://www.nicdladyonline.com/battery_rebuilding.html

They do outstanding work.

Re: Repairing a HP 82033 Battery Pack

*Message #3 Posted by **Egan Ford** on 3 Mar 2010, 6:49 p.m.,*
in response to message #2 by Garth Wilson

I've used them and 2nd that. Only issue is the 8 week backlog.

Re: Repairing a HP 82033 Battery Pack

*Message #4 Posted by **Dimitri Simitas** on 3 Mar 2010, 7:17 p.m.,*
in response to message #3 by Egan Ford

Oh well, the box is packaged up already.

Thank you to both of you. Its in the mail in the morning.

Dimitri

Re: Repairing a HP 82033 Battery Pack

*Message #5 Posted by **Dave Shaffer (Arizona)** on 3 Mar 2010, 9:27 p.m.,*
in response to message #1 by Dimitri Simitas

Depending on where you live, another possible option is Batteries Plus. In general, you give them a battery pack, and they return the same thing with the latest in NiCd or MiMH batteries installed. I've had them work only on my electric razors, but they seem to do a good job.

Re: Repairing a HP 82033 Battery Pack

*Message #6 Posted by **Dimitri Simitas** on 4 Mar 2010, 1:37 p.m.,*
in response to message #5 by Dave Shaffer (Arizona)

There are no Battery Plus stores in Canada per the site.

Dimitri

Re: Repairing a HP 82033 Battery Pack

*Message #7 Posted by **Rainer Wiedemann (Germany)** on 4 Mar 2010, 7:14 p.m.,*
in response to message #1 by Dimitri Simitas

If you have at least decent soldering skills, you can fix it on your own. See this museum page. Also you might want to check the articles section of this site. A google search like "battery site:hpmuseum.org" will show you lots of the museum archive contents related to battery packs.

It's really simple, good luck!

Re: Repairing a HP 82033 Battery Pack

*Message #8 Posted by **Dimitri Simitas** on 6 Mar 2010, 2:11 a.m.,*
in response to message #7 by Rainer Wiedemann (Germany)

I saw that, but figured for 28$ getting it rebuilt is pretty cheap, especially if I mess up.

Dimitri

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Somewhat OT, but not really. Screwy cursor behavior.

*Message #1 Posted by **Martin Pinckney** on 3 Mar 2010, 4:56 p.m.*

I find that,the cursor flies to somewhere else from where I want it sometimes, when I am typing in the Message box,

There it just happened again! (seriously). So I get garbled text. Does this happen to anyone else?

Re: Somewhat OT, but not really. Screwy cursor behavior.

*Message #2 Posted by **Walter B** on 3 Mar 2010, 5:00 p.m.,*
in response to message #1 by Martin Pinckney

Not observed here. Any problems with your mouse?

Re: Somewhat OT, but not really. Screwy cursor behavior.

*Message #3 Posted by **bill platt** on 3 Mar 2010, 5:35 p.m.,*
in response to message #1 by Martin Pinckney

That's a laser mouse artifact.

Either that, or you are tapping your foot to Aerosmith and it is joggling the mouse tail :-P

Edited: 3 Mar 2010, 5:36 p.m.

Re: Somewhat OT, but not really. Screwy cursor behavior.

*Message #4 Posted by **Norman Dziedzic** on 3 Mar 2010, 8:00 p.m.,*
in response to message #3 by bill platt

I once had a similar problem. I was at the in laws who did not have wireless and went into the room with the Internet connection to do some online stuff.

My cursor started acting weird and then flying all over the screen. Needless to say I was a bit freaked out.

I had forgotten that I bad left my wireless Bluetooth mouse in the other room and my father in law, wondering what it was, had picked it up and was moving it around. Little did he know I was in the other room thinking my laptop had become posessed by deamons.

Re: Somewhat OT, but not really. Screwy cursor behavior.

*Message #5 Posted by **Martin Pinckney** on 3 Mar 2010, 8:58 p.m.,*
in response to message #3 by bill platt

Bill, am I correct that your first response was serious?

It is a MS Compact Optical Mouse. It is a laser mouse? Is this a known problem with this type?

Re: Somewhat OT, but not really. Screwy cursor behavior.

*Message #6 Posted by **bill platt** on 3 Mar 2010, 9:45 p.m.,*
in response to message #5 by Martin Pinckney

Hi,

Believe or not, I was serious, but not based on any solid proof. Merely my own observations from experience. The past few office machines I've run had optical mice, and one had a wireless mouse, and the cursor would just "jump" to a corner inexplicably at times. It has never happened that way on my wired mice (like the one I have now at home). My current mouse is optical. But it has behaved better than some others.

I had a theory with the optical jump that it is caused by "confusion" due to surface texture. For instance they never work on white formica.

Edited: 3 Mar 2010, 9:47 p.m.

Re: Somewhat OT, but not really. Screwy cursor behavior.

*Message #7 Posted by **Vieira, Luiz C. (Brazil)** on 3 Mar 2010, 10:38 p.m.,*
in response to message #1 by Martin Pinckney

Hi;

It happens to me only when typing with the laptop, but it is not only with the message box. I am not quite sure about that, but it seems that somehow the movement of my fingers and hands over the touchpad sometimes causes the text cursor to jump, along with the mouse cursor. If I am not paying enough attention, already written words and sentences are broken by others. I considered that the touchpad sensitivity could be adjusted, but in my laptop I found no way to adjust it.

It never happened when I am typing with my desktop.

Cheers.

Luiz (Brazil)

Edited: 3 Mar 2010, 10:40 p.m.

Re: Somewhat OT, but not really. Screwy cursor behavior.

*Message #8 Posted by **bill platt** on 4 Mar 2010, 12:11 a.m.,*
in response to message #7 by Vieira, Luiz C. (Brazil)

Oh yes, there's another one. I don't have a laptop but have borrowed one from time to time. That touch-pad thing is a pain! I've had my typing "broken up" just as you say.

Re: Somewhat OT, but not really. Screwy cursor behavior.

*Message #9 Posted by **Dave Shaffer (Arizona)** on 4 Mar 2010, 12:08 p.m.,*
in response to message #8 by bill platt

Quote:

> That touch-pad thing is a pain! I've had my typing "broken up" just as you say.

That's happened to me, too. I think it happens because your palm(s) is/are resting on or near the touch pad. It is quite a pain to look up and discover you are typing somewhere at random in your document.

When I realize this, I lift my palms and keep going. Not a real comfortable position, but since I never type very much on any laptop, it's not too much of a problem. For real typing, I go to my trusty original IBM PC/AT keyboards - these rank in quality with anything else ever discussed here: I have several of them, they are approaching 30 years of age, are being used on their fifth or sixth computer, and except for a slightly flaky flip-up foot, they are perfectly functional.

Re: Somewhat OT, but not really. Screwy cursor behavior.

*Message #10 Posted by **bill platt** on 4 Mar 2010, 8:11 p.m.,*
in response to message #9 by Dave Shaffer (Arizona)

Hi Dave,

Was it you that pointed out to us that the old PC/AT keayboards have a brisk ebay market?

And btw WP is awesome!

Re: Somewhat OT, but not really. Screwy cursor behavior.

*Message #11 Posted by **Dave Shaffer (Arizona)** on 4 Mar 2010, 9:14 p.m.,*
in response to message #10 by bill platt

> Quote:
>
> Was it you that pointed out to us that the old PC/AT keayboards have a brisk ebay market?

It might have been, although I'm not sure I would have called it "brisk." I do joke, though, that they are part of my retirement plan - their value has increased since I bought them (although I haven't checked their prices lately).

> Quote:
>
> And btw WP is awesome!

Glad you like it - I use it (in many incarnations - for both DOS and Windoze) every day.

Re: Somewhat OT, but not really. Screwy cursor behavior.

*Message #12 Posted by **Antonio Maschio (Italy)** on 4 Mar 2010, 12:22 p.m.,*
in response to message #1 by Martin Pinckney

This happens to my wife's optical wired mouse when she uses our living room's white marble surfaced table as the running mouse-surface.

Probably the optical reflection confuses the mouse-driver.

My 2 euro-cents.

Somewhat OT, but not really. Screwy cursor behavior.

-- Antonio

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HP35s zip cover

*Message #1 Posted by **DurbanGuy** on 3 Mar 2010, 10:09 a.m.*

I used to have a HP35s, however sadly it was stolen of my desk at work.

I have since orderd and recieved a new one but i was shocked to find the new one arrived with a slip on cover. I work in the field all day and my zip cover on my old HP35s made it irrepaleable.

Does anyone know where i could order a new zipper case online?? i have searched and cant seem to find one anywhere.

Re: HP35s zip cover

*Message #2 Posted by **Bruce Bergman** on 3 Mar 2010, 11:14 a.m.,*
in response to message #1 by DurbanGuy

What? The 35s now comes with a different case? Arrgggh! That's one of the best things about that calc!

(sigh)

Re: HP35s zip cover

*Message #3 Posted by **Seth Morabito** on 3 Mar 2010, 12:07 p.m.,*
in response to message #1 by DurbanGuy

That sucks! I had no idea they came with a different case now.

Leave me a private message here and give me your address, I have an extra HP35s zip case that I'd be happy to send to you.

Re: HP35s zip cover

*Message #4 Posted by **Martin Pinckney** on 3 Mar 2010, 4:32 p.m.,*
in response to message #1 by DurbanGuy

Typical. First bring out a new product at a certain price. Then keep subtracting things from the package (printed manual, zip cover, what's next?), giving the illusion that the price is stable, while in reality the effective price is creeping up.

Re: HP35s zip cover

*Message #5 Posted by **Tim Wessman** on 3 Mar 2010, 6:49 p.m.,*
in response to message #4 by Martin Pinckney

What is and isn't included in the packages almost always is dictated by distributors and retailers for consumer products (shelf/shipping/peg space)

I think the case was a casualty of needing to make the packaging thinner.

TW

Re: HP35s zip cover

*Message #6 Posted by **Martin Pinckney** on 3 Mar 2010, 9:03 p.m.,*
in response to message #5 by Tim Wessman

> Quote:
>
> What is and isn't included in the packages almost always is dictated by distributors and retailers for consumer products (shelf/shipping/peg space)

Incredible. Once was a time when the manufacturer dictated to the distributor/retailer how the product was to be displayed/stocked/sold. Sam Walton changed all that.

Re: HP35s zip cover

*Message #7 Posted by **Maarten Ambaum (Reading, UK)** on 4 Mar 2010, 4:50 a.m.,*
in response to message #5 by Tim Wessman

Having said that, the 50g I recently bought from amazon.co.uk came with a thumping big crap MP3 player packaged. Hardly a space saving device.

I'd be interested to see what is in the 30b package when they start selling it in the UK. Perhaps that is an indication of things to come.

Re: HP35s zip cover

*Message #8 Posted by **Bart (UK)** on 4 Mar 2010, 5:33 a.m.,*
in response to message #5 by Tim Wessman

> Quote:
>
> I think the case was a casualty of needing to make the packaging thinner.

To cut costs on both the cover and packaging.

BTW, the webpage for the 35s now says "pouch", but the PDF still says "premium protective case". You may want to get them to update the PDF too.

Re: HP35s zip cover

*Message #9 Posted by **Bart (UK)** on 5 Mar 2010, 5:35 a.m.,*
in response to message #8 by Bart (UK)

> Quote:
>
> To cut costs on both the cover and packaging.

That said, it makes sense. I tried my 33s pouch with the 35s and it fits perfectly. Would fit the 17BII+ too I'd guess (looks much like the 35s shape - though I don't own one to compare). So it would make sense to produce one cover that fits many models.

Just think - those of us that have a zipper case can in 30 years time advertise on eBay (or whatever takes its place) "with original zip case - only sold with earlier models" (much like the "red dot" ?? :))

Re: HP35s zip cover

*Message #10 Posted by **bill platt** on 5 Mar 2010, 9:08 a.m.,*
in response to message #9 by Bart (UK)

Hahaha. Stranger things have happened in the world of antiques!

Re: HP35s zip cover

*Message #11 Posted by **David Hayden** on 11 Mar 2010, 11:14 a.m.,*
in response to message #5 by Tim Wessman

> Quote:
>
> What is and isn't included in the packages almost always is dictated by distributors and retailers for consumer products (shelf/shipping/peg space) TW

Tim,

I hope that HP will consider (or already has considered) selling the case as an accessory. I actually think there might be a bunch of money to be made by selling soft cases, printed manuals, etc. as add-on accessories.

Re: HP35s zip cover

*Message #12 Posted by **Maarten Ambaum (Reading, UK)** on 4 Mar 2010, 4:46 a.m.,*
in response to message #1 by DurbanGuy

That is indeed infuriating - the quality cover was a great feature of the 35s.

So did they replace it with a sturdy leather cover of some quality (like the 50g)?

Re: HP35s zip cover

*Message #13 Posted by **Bart (UK)** on 4 Mar 2010, 5:28 a.m.,*
in response to message #12 by Maarten Ambaum (Reading, UK)

> Quote:
>
> ... slip on cover

Sounds more like in the lines of the 33s slip case.

Re: HP35s zip cover

*Message #14 Posted by **Michael Plant** on 4 Mar 2010, 9:51 a.m.,*
in response to message #12 by Maarten Ambaum (Reading, UK)

I found a picture here:

http://thumbnail.image.rakuten.co.jp/s/?@0_mall/auc-july/cabinet/calculator/35s-10.jpg

Looks like the 33s case...

Re: HP35s zip cover

*Message #15 Posted by **DurbanGuy** on 4 Mar 2010, 10:23 a.m.,*
in response to message #14 by Michael Plant

Yip, its pretty much exactly the same as the 33s. I mailed HP but its over 24hrs now and i still dont have a response.

Re: HP35s zip cover

*Message #16 Posted by **Ed Look** on 4 Mar 2010, 5:29 p.m.,*
in response to message #15 by DurbanGuy

If it's the 33s case, it is pretty nice. The 33s case is sturdy enough to protect the calculator from short falls, reasonable protection from objects hitting the cased calculator.

The Pioneer cases, if like the ones with my 20S and 32SII, are awful; they are thin vinyl and really only keeps dirt and moisture off the calc and is no good for anything more massive than a spitball hitting the calculator.

Re: HP35s zip cover

*Message #17 Posted by **bill platt** on 5 Mar 2010, 9:08 a.m.,*
in response to message #16 by Ed Look

The 35s is very loose inside the 33s case...

Re: HP35s zip cover

*Message #18 Posted by **Bart (UK)** on 5 Mar 2010, 9:40 a.m.,*
in response to message #17 by bill platt

Interesting, mine fits quite nicely. I can hold it with the opening facing down, and it takes a bit of shaking before it starts to fall out.

Re: HP35s zip cover

*Message #19 Posted by **bill platt** on 5 Mar 2010, 10:12 a.m.,*
in response to message #18 by Bart (UK)

Maybe my 33s case has worn it. I used the 33s solidly for 1 year--as primary--to see if I could adapt (couldn't) and even the 33s is looser in it than it used to be.

Re: HP35s zip cover

*Message #20 Posted by **Ken Shaw** on 5 Mar 2010, 11:51 a.m.,*
in response to message #16 by Ed Look

Not all the Pioneer cases are thin vinyl. The later ones are similar to the Voyager cases (leatherette--maybe vinyl--with a padded interior) and they fit nicely.

Re: HP35s zip cover / 33s slip case

*Message #21 Posted by **Bart (UK)** on 11 Mar 2010, 9:51 a.m.,*
in response to message #16 by Ed Look

A pioneer itself is very loose in the 33s slip case. Together with its slip case it fits in nicely. The pioneer's case stays inside when the calculator is withdrawn. Offers protection for both the Pioneer and it's slip case.

However, I have not figured out yet where in the UK to order extra 33s cases (or whatever other calc they get sold with).

Re: HP35s zip cover

*Message #22 Posted by **Martin Pinckney** on 4 Mar 2010, 12:04 p.m.,*
in response to message #14 by Michael Plant

After seeing the picture, I realize I have one of those cases I got for my Pioneers. They are actually quite nice. I would prefer it over the original 35s zip cover, but that's just my preference.

Re: HP35s zip cover

*Message #23 Posted by **Scott Newell** on 4 Mar 2010, 7:20 p.m.,*
in response to message #22 by Martin Pinckney

I think I'd prefer it over the zipper case too. Both zippers on one of my 35S cases have gone bad, rendering the case useless.

Re: HP35s zip cover

*Message #24 Posted by **Reth** on 5 Mar 2010, 2:39 a.m.,*
in response to message #23 by Scott Newell

Mine got bad too - the zip case is a piece of @#$%. Where could one buy the pouch?
Cheers

Re: HP35s zip cover

*Message #25 Posted by **DurbanGuy** on 5 Mar 2010, 8:02 a.m.,*
in response to message #24 by Reth

I am still trying to source one than i will have both. I suppose in a day or two i will adjust to the slip on one.

It really is amazing how a calculator can become so important in your life, when ever i have to try use someone else i am lost...

Re: HP35s zip cover

*Message #26 Posted by **bill platt** on 5 Mar 2010, 9:13 a.m.,*
in response to message #25 by DurbanGuy

The "HP way" was always starkly different from Casio or Sharp or even Ti in terms of keyboard layout, logic of arrangement of mathematical functions, input paradigms (not just the RPN aspect) that I generally don't trust all the "bells and whistles" on other machines---I am never sure I have figured them out correctly. Stuff like nCr, or fraction

input, or even more, memory...or the AOS/EOS variations....all can bite you rather badly when switching to non-HP.

But as long as I stick to the basics--just arithmetic--or take a little bit of time to test the "advanced" features in immediate need, then I can get along with the "other" machines OK in a pinch.

The converse is also true. Hand any HP to a Casio user and he's dumbfounded about the layout. But they all sway (about pioneers and older) "but these buttons are great!"

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HP-41 / EMU41P emulator query

*Message #1 Posted by **John AS (UK)** on 3 Mar 2010, 5:55 a.m.*

Hi,

I have recently installed the free version of EMU41P (HP-41 emulator) on my HP Portable Plus (has 1MB RAM so should work fine).

I am having problems with ALPHA mode, I am seeing the following:

Key pressed -> Character displayed
A -> a
B -> b
C -> c
Q -> *
W -> *
N -> *
T -> *
H -> *

basically I can only enter lower case abcd, other characters give * (I did see some other special characters, can't remember what I pressed), I can't enter upper case A to Z. I think I have entered some sort of character mode, can anyone suggest how to return to normal? Backspace deletes the * characters as normal.

I can enter commands OK, eg

XEQ ALPHA CAT ALPHA

enters the CAT command.

Regards,
John

Re: HP-41 / EMU41P emulator query

*Message #2 Posted by **J-F Garnier** on 3 Mar 2010, 12:27 p.m.,*
in response to message #1 by John AS (UK)

Hi John,

There is no problem with Emu41p, very likely you loaded the CCD ROM (or the CCD-OSX). Just activate the USER mode to access the normal upper characters in ALPHA mode, see the CCD ROM manual. Or remove the CCD ROM from the emu41.ini file if you are not confortable with it.

J-F

Re: HP-41 / EMU41P emulator query

*Message #3 Posted by **Ángel Martin** on 3 Mar 2010, 1:52 p.m.,*
in response to message #2 by J-F Garnier

Exactly my thoughts. I wish the CCD designers had implemented the reversed arrangement for the lower-case characters (that is activated with USER is ON and not the other way around).

BTW, does anybody (besides Raymond :) have access to a original (read: commented) CCD source code listings?

Best, 'AM

Re: HP-41 / EMU41P emulator query

*Message #4 Posted by **John AS (UK)** on 4 Mar 2010, 2:59 a.m.,*
in response to message #2 by J-F Garnier

Many thanks for the replies, apologies for the basic question I am a HP-41 newbie. This was the first time I tried to use the CCD module, the answer was to press USER (F2 in EMUI41P) to switch User mode on - all working fine now.

I've had a look at the CCD manual, and it explained about the keypad mapping to allow direct entry of any character - very nice. A colleague also added that the HP-41 display cannot show any lower case apart from abcde, hence the ******!
Next (simple) question on the CCD module then - how please do I enter following commands:

CAT'0 - to list HP-IL devices
CAT'7 - to DIR of HP-IL module

I tried:

XEQ ALPHA CAT ALPHA 0 (or 7) but that just listed all the functions.

Regards,
John

Re: HP-41 / EMU41P emulator query

*Message #5 Posted by **Ángel Martin** on 4 Mar 2010, 6:19 a.m.,*
in response to message #4 by John AS (UK)

SHIFT, ENTER, 0

or

SHIFT, ENTER, 7

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Parametric and Polar functions on 50G

*Message #1 Posted by **Ben** on 2 Mar 2010, 9:36 p.m.*

Greetings everyone. I'm a new HP convert, I'm moving from a TI-84 to an HP 50G in anticipation for college. However, I still need to finish High School Calculus. On the TI-84 one could put a function in parametric or polar form and on the "calc" menu find the value, dy/dx, dr/d0, dx/dt, or dy/dt, at any point in the window? Is there a way to do this on 50G? Looking at a friends TI-89, I see they have this function, but this capability is only available with functions on the 50G. Help!

Re: Parametric and Polar functions on 50G

*Message #2 Posted by **Eddie W. Shore** on 3 Mar 2010, 12:57 a.m.,*
in response to message #1 by Ben

Not on the graph, I think you have do this from the home screen.

Re: Parametric and Polar functions on 50G

*Message #3 Posted by **John McCormick** on 3 Mar 2010, 2:18 p.m.,*
in response to message #1 by Ben

Hi Ben, I was a TI-82 user until a few years ago, so I know where you're coming from. What you describe on the TI 8x series is a real convenience, but that kind of specialization makes the your TI a much less flexible tool.

I use my 50g in RPN mode with soft menus. I store information in a directory structure similar to a personal computer. I have directories like MATH, PHYS, etc and each has subdirectories based on chapters and sections down to individual problems. This allows me to store the plot, equations, derivatives, matrices, and nearly anything else for any particular problem all together in one place. Yes, I can carry my homework around on my calculator. I use the Archive command to back it all up.

Ok, so what does all that have to do with your question? It puts the lack of a corresponding function on your HP 50g into perspective. On your HP, you can compute derivatives symbolically, store the result, and then recall the result to the stack and use the SUBST (substitute) function in the ALG menu to plug in a numerical value (or a list of numerical values!) on the stack or you can plot the derivative and look up values in the table. Use the variable EQ to store an expression to plot. You can also plug your own values into the independent variable on the table if you select "Build Your Own" in the TBLSET screen under Type. Note that you can even store the table you produce! So it's a different approach and it takes some practice, but it's much more profitable in the long run. Programming can make a lot of this happen with a few button presses.

Have fun and make sure you download the training aids at http://h20331.www2.hp.com/Hpsub/cache/383680-0-0-225-121.html

You should also check out the comp.sys.hp48 newsgroup where there is scads of information similar to what you're looking for.

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N cell alkaline batteries, inexpensive

*Message #1 Posted by **Garth Wilson** on 1 Mar 2010, 10:55 p.m.*

I was looking in the Mouser catalog for batteries for something else (actually the smallest lead-acid ones I can find) and came across their Gold Peak alkaline N cells: $.65/ea in singles, $.59/ea in qty 100-499 Mouser stock number 573-910A. There's another N cell, Energizer, Mouser stock number 525-E90, for $1.42/ea, or $1.34/ea if you buy 10. Go to mouser.com and put the stock numbers in the search bar near the top. That's considerably less than I've paid at Radio Shack for my HP-41 batteries. I buy parts occasionally from Mouser, so I would wait until I'm ready to order other stuff.

Re: N cell alkaline batteries, inexpensive

*Message #2 Posted by **Namir** on 2 Mar 2010, 2:36 p.m.,*
in response to message #1 by Garth Wilson

Thanks Garth! I ordered 50 batteries from the web site.

Namir

Re: N cell alkaline batteries, inexpensive

*Message #3 Posted by **Martin Pinckney** on 2 Mar 2010, 9:31 p.m.,*
in response to message #2 by Namir

> Quote:
>
> I ordered 50 batteries...

How many 41's do you have? Shelf life is short for cheap Chinese cells. I have bought blister packs of the A76 size (Pioneers) and they go bad in the pack before I can use them all.

Re: N cell alkaline batteries, inexpensive

*Message #4 Posted by **Tom Mathes** on 2 Mar 2010, 5:25 p.m.,*
in response to message #1 by Garth Wilson

I've seen these batteries before in other flavors, like AA size. They came in some Fluke DMMs we have in the lab. They lasted about 1/2 as long as a Duracell/Energizer and leaked on us. I swore to never allow the Gold Peak brand back in our office.

I hope you have better luck that we had. After my experiences I only use Duracell or Energizer. Our lab gear is worth more than a few bucks spent on a battery that doesn't leak easily and if it does is warranted. Plus in the end nothing was saved cost wise since they didn't last as long. You could tell they would not last as long since the batteries weighed a whole lot less than well known brands. They must have had dramatically less active chemicals in them than the brand names.

Re: N cell alkaline batteries, inexpensive

*Message #5 Posted by **Garth Wilson** on 2 Mar 2010, 8:51 p.m.,*
in response to message #4 by Tom Mathes

So if they're a lot lighter and don't last nearly as long, maybe they're not really alkaline and they're just lying, as was the case with a small Chinese FM radio I made the mistake of buying. It says "stereo" right on it, but it's not. The left and right earphones get the same signal. They probably figured, "Who's going to prosecute us?" Anyway, the Energizer-brand batteries are still there for $1.42/ea, or $1.34/ea if you buy 10.

Edited: 2 Mar 2010, 11:28 p.m.

Re: N cell alkaline batteries, inexpensive

*Message #6 Posted by **Tom Mathes** on 3 Mar 2010, 9:37 a.m.,*
in response to message #5 by Garth Wilson

> Quote:
>
> So if they're a lot lighter and don't last nearly as long, maybe they're not really alkaline and they're just lying, as was the case with a small Chinese FM radio I made the mistake of buying. It says "stereo" right on it, but it's not. The left and right earphones get the same signal. They probably figured, "Who's going to prosecute us?" Anyway, the Energizer-brand batteries are still there for $1.42/ea, or $1.34/ea if you buy 10.

I don't think they were lying, it's just they did not put as much active chemicals in the cell and hence did not last long. I find that 'bargain' brand batteries often are not a bargain when you consider they wear out quicker. I've stuck with Duracell or Energizer, even though more expensive, since they last longest and price/time used works out to be the same. Plus if they leak and trash my device both companies are good about reimbursing you for replacement.

Re: N cell alkaline batteries, inexpensive

*Message #7 Posted by **Garth Wilson** on 3 Mar 2010, 3:02 p.m.,*
in response to message #6 by Tom Mathes

> Quote:
>
> it's just they did not put as much active chemicals in the cell and hence did not last long

The fact that they weighed a lot less too however suggests a different type of battery. I've seen some very misleading labeling on Chinese batteries, but I don't remember if they just straight out said they were alkaline when they were zinc-chloride. I have had to tell our customers sometimes when they complained about battery life that "Heavy Duty" normally means zinc-chloride, not alkaline. The next step down below that of course is carbon-zinc.

Re: N cells and 13/44/76/357 cells

*Message #8 Posted by **Karl Schneider** on 3 Mar 2010, 1:56 a.m.,*
in response to message #1 by Garth Wilson

> Quote:

> and came across their Gold Peak alkaline N cells:

I once bought a pack of Gold Peak button cells (for Pioneer/Voyager) via eBay, after becoming chagrined with short life in my HP-17B and HP-27S calc's. I later learned in this Forum how to turn off the clock ("coma" mode -- turn off while also pressing upper-right and lower-right keys). Use of an emulator (such as Thomas Okken's Free42) can reduce usage of the IR printer on the HP-42S.

I had no problems with the cheap cells, but did not feel confident entrusting vintage electronics to them.

Energizer silver oxide US-made 13/44/76/357 cells can now be bought in convenient and more-economical three-packs -- just the ticket for for Pioneer and Voyager series models.

> Quote:
>
> That's considerably less than I've paid at Radio Shack for my HP-41 batteries.

The electronics/photo departments at stores like Target or Fred Meyer (US Northwest) also sell calculator cells. Probably not much cheaper than RS, though.

-- KS

Edited: 3 Mar 2010, 1:58 a.m.

Re: N cell alkaline batteries, inexpensive

*Message #9 Posted by **Tom Mathes** on 3 Mar 2010, 9:42 a.m.,*
in response to message #1 by Garth Wilson

> Quote:
>
> I was looking in the Mouser catalog for batteries for something else (actually the smallest lead-acid ones I can find) and came across their Gold Peak alkaline N cells: $.65/ea in singles, $.59/ea in qty 100-499 Mouser stock number 573-910A. There's another N cell, Energizer, Mouser stock number 525-E90, for $1.42/ea, or $1.34/ea if you buy 10. Go to mouser.com and put the stock numbers in the search bar near the top. That's considerably less than I've paid at Radio Shack for my HP-41 batteries. I buy parts occasionally from Mouser, so I would wait until I'm ready to order other stuff.

Just keep an eye on those cells, make sure they don't leak. Outside of that no harm in trying them. I'm also curious to see if you get the same life out of your '41 like you did from Duracell/Energizer.

When I had a 41c (broke in 1998 after being dropped one too many times), I never had to buy batteries for it. My father's best friend was a Duracell exec that worked in the plant making the N cells. He'd give me 12 packs whenever I'd visit my home town. The cells were typically a week old or less right off the production line. :-) I went 18 years with never having to buy a battery for that calc.

Edited: 3 Mar 2010, 9:42 a.m.

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N cell alkaline batteries, inexpensive

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Why are Serial Ports so Annoying? 49G But sort of Off Topic

*Message #1 Posted by **bill platt** on 1 Mar 2010, 10:40 p.m.*

I have a 49G and it has ROM 1.18. After two years of relatively normal operation, only occasional crashes, it finally became unbearable.

So I finally decided to try to interface the 49G with the computer.

(I used to do this successfully with the 48GX but I lost *that* cable over two years ago. And the backup battery on the 1MB card went dead and I lost all the saved stuff. So what, wasn't important anyway and the good stuff was old and on the backup computer anyway...)

I read James Prange's (remember him? Where'd he go?) amazing write-up on getting a 49G+ ROM onto a 49G and I was pretty lost. Along the way, I read a number of people's comments on C.S. HP48 which indicated it is better to update to the "unsupported" ROM 1.19-something.

So I gave it a try. I downloaded ROMs and connectivity kit (the one with the little dog).

And then

Nothing.

Computer never sees the HP49.

Why is this stuff always so da^$%$$#$ annoying!

I'm more of a mechanical and electrical as in analog waves guy. I get Lost in Acronyms.

Is this why the MacIntosh is popular? Are there fewer Acronyms?

I don't have a Clue what to do.

Re: Why are Serial Ports so Annoying? 49G But sort of Off Topic

*Message #2 Posted by **Martin Pinckney** on 2 Mar 2010, 12:01 a.m.,*
in response to message #1 by bill platt

Bill,

I think you will need to supply more info, such as, are you using a real serial port on the computer, or a USB-serial adapter? What operating system? What file transfer software?

Re: Why are Serial Ports so Annoying? 49G But sort of Off Topic

*Message #3 Posted by **bill platt** on 2 Mar 2010, 10:42 a.m.,*
in response to message #2 by Martin Pinckney

Hi Martin,

Perhaps Raymond's approach is best....

But yes, it is a real serial port. Of course it is Windows XP pro. And the file transfer software is as I described: the one with the picture of the little happy dog...

I am *sure* the problem just must have to do with IRQ interrupt COM port crap. I haven't had to struggle with that stuff in over 10 years, but when I did deal with that, back in the Neanderthal 90s, it was EPIC.

Edited: 2 Mar 2010, 10:45 a.m.

Re: Why are Serial Ports so Annoying? 49G But sort of Off Topic

*Message #4 Posted by **Raymond Del Tondo** on 2 Mar 2010, 3:18 a.m.,*
in response to message #1 by bill platt

Seriously, it's only a 49g.

I have seen various on TAS for between $20 and $50,
a few weeks ago someone sold a NIB for 13 Euros!

So if you really want to fiddle with the FHB,
I'd suggest not to waste too much time with updating it,
but instead to simply get another;-)

HTH

Raymond

Re: Why are Serial Ports so Annoying? 49G But sort of Off Topic

*Message #5 Posted by **bill platt** on 2 Mar 2010, 10:36 a.m.,*
in response to message #4 by Raymond Del Tondo

LOL!

Hi Raymomnd, you crack me up. That laugh was needed here this morning.

I get your point, even through your amuzing acronyms :-)

The best part is here:

http://www.gaarde.org/Acronyms/?lookup=fhb

Best regards,

Bill

Edited: 2 Mar 2010, 10:39 a.m.

Re: Why are Serial Ports so Annoying? 49G But sort of Off Topic

*Message #6 Posted by **Ron Ross** on 2 Mar 2010, 11:50 a.m.,*
in response to message #4 by Raymond Del Tondo

I believe the correct acronym is FHBB.

As the 49G isn't that popular today, hence not as well documented as other calculators, FHBB is short for Frozen Hamster Butt Blue.

Regards,

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hp48, factorization

*Message #1 Posted by **Sok-khieng Chum Hun** on 1 Mar 2010, 9:51 p.m.*

Hi, I am studying electronic engineering and I would like to know why my hp 48gx cannot factorize this transfer function :

10^4*s^2/(s^4 + 100*sqrt(2)*s^3 + 2.01*10^4*s^2 + 10^8*sqrt(2)*s + 10^12)

I use both alg48 and erable and I don't know why it can't factorize

(sorry for my bad english :()

Thank you :)

Re: hp48, factorization

*Message #2 Posted by **hugh steers** on 2 Mar 2010, 2:36 p.m.,*
in response to message #1 by Sok-khieng Chum Hun

what should the answer be?

Re: hp48, factorization

*Message #3 Posted by **Rainer Wiedemann (Germany)** on 2 Mar 2010, 2:49 p.m.,*
in response to message #2 by hugh steers

According to Wolfram alpha, the denominator's roots are

s ~ -739.788 - 672.84i, s ~ -739.788 + 672.84i, s ~ 669.077 - 743.193i, s ~ 669.077 + 743.193i,

Maxima didn't factor/gfactor the polynomial, too, but its solve function found the roots. Unfortunately the exact result is too long to post here. Not one of the roots would fit inside a hp48 lcd.

Has anyone an hp50g at hands to countercheck this, too?

Edited: 2 Mar 2010, 3:14 p.m.

Re: hp48, factorization

*Message #4 Posted by **Sok-khieng Chum Hun** on 2 Mar 2010, 4:01 p.m.,*
in response to message #2 by hugh steers

Hi, when i factorize it with matlab, it returns :

10^4*s^2/((s^2 + 1480*s + 1e006) (s^2 - 1338*s + 1e006))

Thank you :)

Re: hp48, factorization

*Message #5 Posted by **Rainer Wiedemann (Germany)** on 2 Mar 2010, 5:19 p.m.,*
in response to message #4 by Sok-khieng Chum Hun

Multiplying the factors from your solution shows, that Matlab did not yield an exact solution, but an approximation:

```
(s^2 + 1480*s + 1e006)(s^2 - 1338*s + 1e006) = s^4+142*s^3+19760*s^2+142000000*s+1000000000000 != s^4 + 100*sqrt(2)*s^3 +
2.01*10^4*s^2 + 10^8*sqrt(2)*s + 10^12
```

Re: hp48, factorization

*Message #6 Posted by **Sok-khieng Chum Hun** on 2 Mar 2010, 6:31 p.m.,*
in response to message #5 by Rainer Wiedemann (Germany)

Hi, than I must conclude that alg48 or erable are not able to factorize because they both only factorize exact solution?

I didn't take the time to ask myself whether the zpk function in matlab gives the exact solution or an approximation O_o.

Thank you, I very appreciate your help :)

Re: hp48, factorization

*Message #7 Posted by **Rainer Wiedemann (Germany)** on 2 Mar 2010, 7:05 p.m.,*
in response to message #6 by Sok-khieng Chum Hun

No, I don't think so. It should at least have found a numerical solution.

I just dug out my hp50g and I also found batteries for it. So I tried your polynomial. The 50g does factoring much similar to your Matlab solution, it yields a numerical solution.

It finds:

```
(s^2 + 1473.5755*s + 1000000) * (s^2 - 1338.1541*s + 1000000)
```

I couldn't get it to perform further factoring, i. e. have it find the complex roots. That seems strange to me.

OK, I'm not an experienced hp50g user, coz I prefer my old 41, and do higher complexity stuff on a pc.

So I suppose it might be a RAM issue, AFAIK the 48gx has 128k, the 50g some more.

Probably Raymond reads this thread, he's a 48g(x) expert and he could know more about CAS and its limitations.

Edited: 2 Mar 2010, 7:53 p.m.

Re: hp48, factorization

*Message #8 Posted by **Marcus von Cube, Germany** on 3 Mar 2010, 9:34 a.m.,*
in response to message #7 by Rainer Wiedemann (Germany)

Derive isn't bad at it. For the denominator it returns

(s^2 + s·(10·sqrt(19849) + 50·sqrt(2)) + 1000000)·(s^2 + s·(50·sqrt(2) - 10·sqrt(19849)) + 1000000)

I pasted and entered the complete equation and used the menu to factor it.

Re: hp48, factorization

*Message #9 Posted by **Rainer Wiedemann (Germany)** on 3 Mar 2010, 4:15 p.m.,*
in response to message #8 by Marcus von Cube, Germany

Is Derive still maintained or (at least) available? I remember the early 80s, where it was en vogue due to its efficient implementation and low hardware requirements.

For the sake of completeness (and for trying out my brand new guest file account :-)) I'm posting the exact roots calculated by wxMaxima:

$$s=-\frac{5\sqrt{643232\sqrt{19849}-99245\,2^{13/2}}\,\%i}{2^{5/2}\,19849^{1/4}}-5\sqrt{19849}-25\sqrt{2}$$

$$s=\frac{5\sqrt{643232\sqrt{19849}-99245\,2^{13/2}}\,\%i}{2^{5/2}\,19849^{1/4}}-5\sqrt{19849}-25\sqrt{2}$$

$$s=-\frac{5\sqrt{643232\sqrt{19849}+99245\,2^{13/2}}\,\%i}{2^{5/2}\,19849^{1/4}}+5\sqrt{19849}-25\sqrt{2}$$

$$s=\frac{5\sqrt{643232\sqrt{19849}+99245\,2^{13/2}}\,\%i}{2^{5/2}\,19849^{1/4}}+5\sqrt{19849}-25\sqrt{2}$$

I still can't get my hp50g find these as a final result, but it works for 4th order equations with smaller coefficients ?!? What am I doing wrong? ?

Is Derive able to find these? If so, does it do by factoring commands, or do you have to solve for the zeroes of the original denominator polynomial (as wxMaxima does)?

Edit: %i = sqrt(-1) in Maxima notation

Edited: 3 Mar 2010, 4:19 p.m.

Re: hp48, factorization

*Message #10 Posted by **Marcus von Cube, Germany** on 4 Mar 2010, 12:01 p.m.,*
in response to message #9 by Rainer Wiedemann (Germany)

I think, Derive has been replaced by the Nspire PC software. It can't be ordered directly from TI.

Derive finds 4 solutions for denominator = 0:

```
                4           3          4  2     8          12
#10:   SOLVE(s  + 100·√2·s  + 2.01·10 ·s  + 10 ·√2·s + 10   = 0, s)

#11:   s = - 5·√19849 - 25·√2 - 5·i·√(20101 - 10·√39698) v s = - 5·√19849 - 25·√2 + 5·i·√(20101 - 10·√39698) v s =

         5·√19849 - 25·√2 - 5·i·√(10·√39698 + 20101) v s = 5·√19849 - 25·√2 + 5·i·√(10·√39698 + 20101)
```

I didn't double check my input.

Edited: 4 Mar 2010, 12:04 p.m.

Re: hp48, factorization

*Message #11 Posted by **Steve Keeley** on 3 Mar 2010, 10:47 p.m.,*
in response to message #1 by Sok-khieng Chum Hun

Try this on your 48:

Hit right shift - solve
choose "Solve poly..." enter the coefficients: 1, 141.4214, 2.01*10^4, 1.414214*10^8, 10^12
Then hit "solve"

You'll get an array containing the following:
(-739.7877, -672.8403)
(-739.7877, 672.8403)
(669.0770, 743.1930)
(669.0770, -743.1930)

Re: hp48, factorization

*Message #12 Posted by **Bart (UK)** on 4 Mar 2010, 5:40 a.m.,*
in response to message #11 by Steve Keeley

That's the denominator (as solved by several people from message 3 onwards), how would you include the numerator?

Also, as per the original request, how does one factorise it?

Edited: 4 Mar 2010, 5:55 a.m.

Re: hp48, factorization

*Message #13 Posted by **Steve Keeley** on 4 Mar 2010, 2:32 p.m.,*
in response to message #12 by Bart (UK)

"Also, as per the original request, how does one factorise it?"

On an out-of-the-box 48, you don't factorise it in one step. You'd have to write or find a program for it.

With a 50g the FACTOR function would give 10000*s*s/(s^2-1338.15*s+1000000)*(s^2+1479.58*s+1000000). Rainer and Sok-khieng Chum Hun found the same denominator; the numerator doesn't factor further.

In order to factor the denominator all the way to the complex roots you need to use the Poynomial solve the same as on the 48.

Once you have the complex roots on the 48, you can get the quadratic forms by subtracting each pair of roots from s, multiplying them, and executing EXPAND and COLLECT.

Edited: 4 Mar 2010, 8:20 p.m.

Re: hp48, factorization

*Message #14 Posted by **Hal Bitton in Boise** on 4 Mar 2010, 1:46 a.m.,*
in response to message #1 by Sok-khieng Chum Hun

I got the same results for the denominator as Rainer did on both my 48G and 50G (with the 50G in approx mode). On the 48G I used the polynomial solver app...I did have to do a bit of juggling to get the coefficients into the solver in numerical form as follows: I put each coefficient onto the stack starting with the high order in level 5, and ending with the constant in level 1, making sure not to enter them as algebraic objects (') so they would evaluate to real (approx) numbers. Then I entered 5 and executed ->ARRY, and ended up with the coefficient array in level 1. Then go to the solve poly app, and with the coefficient field selected, hit NEXT, and the CALC (softkey)...the array is waiting in level 1, so just hit OK to put the coefficients into the solver app. Then solve for the roots as normal. Hit SYMB softkey and return to the stack to see the roots in factor form. Works like a champ. I don't know why the 50G wouldn't factor it symbolically.
If it's any consolation, I tried symbolically factoring this on my Ti89 emulator, and it locked up..;0
Best regards, Hal

Re: hp48, factorization

*Message #15 Posted by **Rainer Wiedemann (Germany)** on 4 Mar 2010, 6:14 p.m.,*
in response to message #14 by Hal Bitton in Boise

So now I learned: in order to get the complex roots I must use the "solve poly" function. Factorization seems to be restricted to real results.

Meanwhile I tried Steve's and your procedures on both my hp50g and on m48, an hp48 emulator on iphone, and bingo - I got the expected results.

Like you Hal, I don't know, why the 50g is not able to factorize symbolically. At least this thread has worked up my appetite for taking a closer look at the hp50g. If only the keyboard wouldn't be that (over)crowded, that's why I preferred using a pc for symbolic math and a hp41 as a calculator up to now. IMHO hp should have considered a double keyboard design for the hp50g as implemented in the hp28C/S. I guess that would have improved acceptance of this machine also among old-school calculator users like me.

Re: hp48, factorization

*Message #16 Posted by **Hal Bitton in Boise** on 5 Mar 2010, 5:34 a.m.,*
in response to message #15 by Rainer Wiedemann (Germany)

> Quote:
>
> So now I learned: in order to get the complex roots I must use the "solve poly" function. Factorization seems to be restricted to real results.

Actually, I tried this again with my real 50G (I was using my emulator before), and this time when using the factor command, the calculator asked me if I wanted to switch to approx mode, to which I responded yes. The 50G then factored the denominator with the aforementioned approximate results. It also worked using the symbolic solve function as long as the calc was in approx mode. (In case you may not be aware of it, you can quickly toggle between exact and approx modes by holding down right shift, and pressing ENTER)
Best regards, Hal

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MoHPC *The Museum of HP Calculators*

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HP-41: Read/Write XM file from a LIF-file?

*Message #1 Posted by **Geir Isene** on 1 Mar 2010, 6:38 a.m.*

What is the easiest way to both read & write an XM-file to a LIF file. I believe I could read the file via Tony Duell's lifget... but write?

Edit: Turns out even reading an XM file from a LIF-file is quite a task - first saving all of Extended Memory to a LIF-file via WRTXM (from Extended IL(+)) and then extracting the whole XM file via Lifutil's command "lifget -f 'lif-file' 'xm-file'" and then poking out the file within Extended Memory from that... tough.

Anyone got some magic up their sleeves?

I will pay you back with a severe geek-hack :-)

Edited: 1 Mar 2010, 3:38 p.m.

Re: HP-41: Perhaps easier: Read/Write a data file from a LIF-file?

*Message #2 Posted by **Geir Isene** on 2 Mar 2010, 3:51 p.m.,*
in response to message #1 by Geir Isene

Since no takers, I have an idea that might be easier: Read and write a 41 "data file" (registers saved by the HP-IL command WRTR) in a LIF-file.

Still don't know how to do this yet, but it should be somewhat easier to accomplish as the registers are fixed length.

Anyone?

Edited: 2 Mar 2010, 3:52 p.m.

Re: HP-41: Read/Write XM file from a LIF-file?

*Message #3 Posted by **Håkan Thörngren** on 3 Mar 2010, 9:02 a.m.,*
in response to message #1 by Geir Isene

Do you want to write individual files from extended memory to mass storage device and back to extended memory?

Are there no such functions available?

And this Extended IL+ module you mention, where can I find it? I assume it is not the Extended IO module, as that one does not have any WRTXM.

Re: HP-41: Read/Write XM file from a LIF-file?

*Message #4 Posted by **Ángel Martin** on 3 Mar 2010, 1:55 p.m.,*
in response to message #3 by Håkan Thörngren

The PANAME module has XM<->Tape (or disk) functions, but not sure about individual files.

As far as I know the other mentioned ROM must be the only one still being sold commercially by the author. A pity for the real enthusiasts...

Re: HP-41: Read/Write XM file from a LIF-file?

*Message #5 Posted by **Geir Isene** on 4 Mar 2010, 2:45 p.m.,*
in response to message #4 by Ángel Martin

The WRTXM is part of the original HP-IL Extended module by Sqwid (image over at TOS).

Edited: 4 Mar 2010, 2:45 p.m.

Re: HP-41: Read/Write XM file from a LIF-file?

*Message #6 Posted by **Egan Ford** on 3 Mar 2010, 4:12 p.m.,*
in response to message #1 by Geir Isene

So you want to create an XM file on your real 41, e.g. an ASCII file call "FOO" with the contents "HP41, LIVE FREE OR DIE\0xFF". Then you want to copy FOO to a LIF diskette via HP-IL/9114. Then you want to shuttle that floppy to your Linux box and run "lifget" to get FOO on your PC. Then you want to be able to read it from Linux? And then you want to do the reverse?

Re: HP-41: Read/Write XM file from a LIF-file?

*Message #7 Posted by **Geir Isene** on 4 Mar 2010, 2:44 p.m.,*
in response to message #6 by Egan Ford

Pretty much - except I want to use the PIL-Box except for the shuttle disk.

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HP-41, HP-71, HP-75, HP-IL or all of the above?

*Message #1 Posted by **Dan Grelinger** on 1 Mar 2010, 8:58 a.m.*

Listing on ebay: "HP 71B CALCULATOR HP-IL 41CX 75C 75D 41C 41CV IL 41". Should we insist on getting one of each if we win this auction? http://cgi.ebay.com/HP-71B-CALCULATOR-HP-IL-41CX-75C-75D-41C-41CV-IL-41_W0QQitemZ230443760544QQcmdZViewItemQQptZCalculators?hash=item35a784bba0

Edited: 1 Mar 2010, 8:58 a.m.

Re: HP-41, HP-71, HP-75, HP-IL or all of the above?

*Message #2 Posted by **DavidShenk** on 1 Mar 2010, 11:26 a.m.,*
in response to message #1 by Dan Grelinger

Maybe everyone on the forum should contact the seller asking where the other calcs are...

Re: HP-41, HP-71, HP-75, HP-IL or all of the above?

*Message #3 Posted by **Namir** on 1 Mar 2010, 12:42 p.m.,*
in response to message #2 by DavidShenk

I think the seller is trying to get the attention of the collectors for the other models who scan auctions by keywords in the title. I am not sure that this is acceptable with eBay (I may be way wrong) because it can be confusing and misleading.

Namir

Re: HP-41, HP-71, HP-75, HP-IL or all of the above?

*Message #4 Posted by **Dan Grelinger** on 1 Mar 2010, 1:19 p.m.,*
in response to message #3 by Namir

Yes, it violates two eBay policies. One, that a seller must describe the item that he is selling accurately. And two, that a seller may not use 'keyword spamming' in attempt to hijack searches for other items to his item.

If someone were to buy this item and not receive what was described in the title, they could make a lot of trouble for the seller since ebay would automatically find in the favor of the buyer for any dispute. "Item misrepresentation."

Re: HP-41, HP-71, HP-75, HP-IL or all of the above?

*Message #5 Posted by **Martin Pinckney** on 1 Mar 2010, 10:37 p.m.,*
in response to message #4 by Dan Grelinger

Smart sellers get around this rule by this kind of subterfuge:

"HP 71B calculator NOT 41C..." etc.

Accomplishes the same purpose without being technically inaccurate.

Re: HP-41, HP-71, HP-75, HP-IL or all of the above?

*Message #6 Posted by **Dan Grelinger** on 2 Mar 2010, 10:47 a.m.,*
in response to message #5 by Martin Pinckney

That works for the first requirement of using an accurate item description in the title. It still is considered keyword spamming by ebay.

Re: HP-41, HP-71, HP-75, HP-IL or all of the above?

*Message #7 Posted by **Dave Shaffer (Arizona)** on 1 Mar 2010, 12:43 p.m.,*
in response to message #2 by DavidShenk

or report it to ebay? I had a listing taken down for far less egregious reasons (I had the audacity to accept CASH!!)

Re: HP-41, HP-71, HP-75, HP-IL or all of the above?

*Message #8 Posted by **Michael Meyer** on 1 Mar 2010, 1:43 p.m.,*
in response to message #7 by Dave Shaffer (Arizona)

My brother wondered about this once. You can't buy stocks with cash. Yet U.S. money says right on the bills, "This note is legal tender for all debts, public and private."

Re: HP-41, HP-71, HP-75, HP-IL or all of the above?

*Message #9 Posted by **Eric Smith** on 1 Mar 2010, 3:08 p.m.,*
in response to message #8 by Michael Meyer

If they don't give you the stock, you don't have a debt to them. It's a different situation than if you eat at a restaurant then try to pay with cash; at that point they can't refuse to accept the cash.

Re: HP-41, HP-71, HP-75, HP-IL or all of the above?

*Message #10 Posted by **Michael Meyer** on 1 Mar 2010, 3:37 p.m.,*
in response to message #9 by Eric Smith

Good point....

Re: HP-41, HP-71, HP-75, HP-IL or all of the above?

*Message #11 Posted by **Ron Ross** on 1 Mar 2010, 2:03 p.m.,*
in response to message #7 by Dave Shaffer (Arizona)

I quit using ebay since nearly if not ALL transactions insist upon paypal (sweet deal for ebay, since they own paypal).

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HP-41, HP-71, HP-75, HP-IL or all of the above?

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Finally found a new 12C at Fry's; firmware version

*Message #1 Posted by **Eric Smith** on 28 Feb 2010, 10:22 p.m.*

Every time I go to a bay area Fry's I look for a new 12C, and every time it's been the non-ARM model until today. I finally found the ARM model at the Fry's in Campbell.

It has the 2008-06-28 firmware (checksum 00be). Has anyone seen different firmware provided on a retail-purchase 12C?

Re: Finally found a new 12C at Fry's; firmware version

*Message #2 Posted by **Eddie W. Shore** on 2 Mar 2010, 8:56 a.m.,*
in response to message #1 by Eric Smith

Is it the 12C that requires two RC2032 batteries instead of one?

Re: Finally found a new 12C at Fry's; firmware version

*Message #3 Posted by **Katie Wasserman** on 2 Mar 2010, 5:37 p.m.,*
in response to message #2 by Eddie W. Shore

Yes. It has a very wide battery door that you can see by looking into the packaging from the top.

-Katie

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48GII Specifications?

*Message #1 Posted by **Thomas Chrapkiewicz** on 28 Feb 2010, 9:16 p.m.*

A while ago, a thread:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv019.cgi?read=149314#149314

Indicated that the 'latest' 48GII calculators had both Serial and USB connectivity and uses 4AAA cells. The HP website today does not show this.

Can some one explain? Was it the older 48GII devices that were like this?

Thank you, TomC

Re: 48GII Specifications?

*Message #2 Posted by **Tim Wessman** on 1 Mar 2010, 8:31 a.m.,*
in response to message #1 by Thomas Chrapkiewicz

No, someone just hasn't updated it. I will mention it to the correct person later today to get fixed. Thanks.

TW

Re: 48GII Specifications?

*Message #3 Posted by **Thomas Chrapkiewicz** on 1 Mar 2010, 9:20 a.m.,*
in response to message #2 by Tim Wessman

Thanks Tim for the prompt reply.

TomC

Re: 48GII Specifications?

*Message #4 Posted by **Thomas Chrapkiewicz** on 3 Mar 2010, 9:36 p.m.,*
in response to message #2 by Tim Wessman

Good to see the HP site has been updated.

I wonder if the HP48GII has the same physical connectors for the USB and Serial ports as the HP50G.

Also, I noticed that the link to the HP50g product manuals connects to the HP40G manuals!! Oops!

TomC

Re: 48GII Specifications?

*Message #5 Posted by **David Hayden** on 3 Mar 2010, 10:38 p.m.,*
in response to message #4 by Thomas Chrapkiewicz

> Quote:
>
> I wonder if the HP48GII has the same physical connectors for the USB and Serial ports as the HP50G.

The USB port is the same, but I don't know for certain about the serial port. I regularly plug both calculators into the same USB cable on my desk. The same connectivity software works with both calculators also.

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OK, Fess Up, Who's the lucky winner? :-)

*Message #1 Posted by **bill platt** on 28 Feb 2010, 9:01 p.m.*

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=160407028852&ssPageName=STRK:MEBIDX:IT&autorefresh=true

Someone in Brazil asked about shipping...I can think of a few here...

Not me! 8^((was: OK, Fess Up, Who's the lucky winner? :-)

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 28 Feb 2010, 10:51 p.m.,*
in response to message #1 by bill platt

Hi, Bill;

although I have no HP67 (I have an HP97 thatÂ´s been fully cooperative when I need it...), this one would be welcome. A couple of months ago I lost the chance to buy one for R$150,00 (less then US$100,00 if I am not wrong), but for a matter of minutes it was taken by someone else. Too bad, the one I almost bought seemed to be in good shape.

Cheers.

Luiz (Brazil)

Re: OK, Fess Up, Who's the lucky winner? :-)

*Message #3 Posted by **Michael de Estrada** on 28 Feb 2010, 11:35 p.m.,*
in response to message #1 by bill platt

Frankly, I don't think it's such a good price for a calculator with a questionable card reader, no photo of the battery compartment and no accessories other than the AC adapter. Perhaps I'm a little jaded, as I found the two HP-67s in my collection for less with more accessories, although I did need to overhaul both card readers. Mine work perfectly and are in excellent to mint condition. Looking at the stats of the winning bidder, I'm thinking European, possibly German.

Meanwhile, in another auction a very questionable (probably ruined) HP-29C went for $330, which reinforces my previous contention that clean Woodstocks are becoming the new gold standard.

Re: OK, Fess Up, Who's the lucky winner? :-)

*Message #4 Posted by **Xavier A. (Brazil)** on 1 Mar 2010, 5:56 a.m.,*
in response to message #1 by bill platt

Sorry, I am not the 'lucky' bidder. Like Luiz I am looking for a better opportunity.

Re: OK, Fess Up, Who's the lucky winner? :-)

*Message #5 Posted by **Namir** on 1 Mar 2010, 8:26 a.m.,*
in response to message #1 by bill platt

Somehow the HP-67s price are up. They were not that high when I was selling them (fully restored) last year! I bought 2 recently, one was fully restored, and paid a pretty penny for that one. To make myself feel a little better about the high price I have been writing HP-67 programs (and HP-41C versions of the same programs) and posting them on my web site. It's fun to see the limit of the HP-67 and the HP-41CX (of course with this 41 you have more memory, programming steps, and more sophisticated stack and indirection commands). Granted that the HP-67 and HP-41 programs have nowhere near the power, speed, and superior results' display of Excel.

Namir

Edited: 1 Mar 2010, 8:30 a.m.

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old HP67/97 programs for satellite communications

*Message #1 Posted by **Don Shepherd** on 28 Feb 2010, 12:04 p.m.*

In a thread below, aj04062 found an old document which contains HP67/97 programs. I Google'd that and found the author of that document, Mr. Michael Durbin, who wrote it in March of 1978. It contains information on 18 programs having to do with antenna things, and it includes: descriptions, program card images, code, formulae used, and algorithms. I contacted Mr. Durbin and he found a copy of this old document he wrote 32 years ago and scanned it and sent it to me (I'm thinking this is the same document referred to by aj04062). I uploaded it to my server. It consists of two pdf files, part 1 and part 2.

Mr. Durbin says we may all see it and use it. His web site is here. He currently lives in Texas.

Dave, I don't know if this is on your DVD or not, but it looks like it should be. You can contact Mr. Durbin from his website.

Edited on 3/3/2010, removed the two links above, part 1 and part 2. See message #3 below for the one link to the document.

Edited: 3 Mar 2010, 12:41 p.m. after one or more responses were posted

Re: old HP67/97 programs for satellite communications

*Message #2 Posted by **Allen** on 28 Feb 2010, 8:40 p.m.,*
in response to message #1 by Don Shepherd

Great detective work, Don!

Re: old HP67/97 programs for satellite communications

*Message #3 Posted by **Don Shepherd** on 1 Mar 2010, 4:55 p.m.,*
in response to message #1 by Don Shepherd

aj04062 scanned the document and it appears to be the same as the document contained in the two links posted above, with the addition of a different cover page and some notes on page 2 about the HP-41 calculator. Here is the document he scanned.

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MoHPC *The Museum of HP Calculators*

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hp 50g won't find 2-line intersect on graph

*Message #1 Posted by **Noah Magnuson** on 28 Feb 2010, 10:30 a.m.*

I have read the large manual and everything else I could find, but when I graph two equations, I can move the cursor near any of the intersections, and it will only jump to either the x or y axis when I hit Isect, even if the intersection is far away from the axes. Am I missing something? I have even tried tracing to the point nearest an intersection and still it jumps to an axis. From reading the manual, it seems like it should be pretty simple.

Thanks for any help.

Re: hp 50g won't find 2-line intersect on graph

*Message #2 Posted by **Eddie W. Shore** on 28 Feb 2010, 7:32 p.m.,*
in response to message #1 by Noah Magnuson

What functions did you have a problem with?

Re: hp 50g won't find 2-line intersect on graph

*Message #3 Posted by **Noah Magnuson** on 1 Mar 2010, 8:59 p.m.,*
in response to message #2 by Eddie W. Shore

This is the first time I really wanted to use this feature. It was y=4-x, y=x, and y=4-3x. Nothing fancy at all. It would only go to the [0,4] intersect no matter where the cursor was. I tried it on some other random equations to see if it would find them, with no luck. I can easily calculate the intersections myself, but it says that it will find them by putting the cursor near the point and pressing ISECT. Been doing some volume rotations around the axes, so it would be nice to find them that much quicker.

I just set it up again to do the same three, and it only will give me the [2,2] intersection no matter where I put the cursor. I feel like I am just using it wrong or missing something.

Thanks, Noah

Edited: 1 Mar 2010, 9:04 p.m.

Re: hp 50g won't find 2-line intersect on graph

*Message #4 Posted by **Eddie W. Shore** on 2 Mar 2010, 8:59 a.m.,*
in response to message #3 by Noah Magnuson

I get you are getting, Noah, the ISECT function is pointing to the same point no matter where the cursor is currently located.

Playing with the order of equations makes a difference where the HP50g decides to concentrate its "efforts". I think the ISECT works on only the first two equations listed and ignores everything else.

Eddie

Re: hp 50g won't find 2-line intersect on graph

*Message #5 Posted by **Noah Magnuson** on 2 Mar 2010, 10:52 a.m.,*
in response to message #4 by Eddie W. Shore

Thank you. That is what it seems. I have to say I am pretty disappointed with that particular command. I guess something could be programmed... ,but really, how hard is it to find an intersection point. :)

Thanks again for the insight,

Noah

Re: hp 50g won't find 2-line intersect on graph

*Message #6 Posted by **Steve Keeley** on 2 Mar 2010, 8:01 p.m.,*
in response to message #5 by Noah Magnuson

After finding the intersection of the first two curves, go to "Y=", select the first equation, hit "NXT", and then "move down" twice. You can now find the intersection of the next two equations.

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HP-41: Manual for the ChemUser ROM?

*Message #1 Posted by **Geir Isene** on 28 Feb 2010, 4:13 a.m.*

Anyone?

Re: HP-41: Manual for the ChemUser ROM?

*Message #2 Posted by **Geir Isene** on 1 Mar 2010, 6:11 a.m.,*
in response to message #1 by Geir Isene

Got in contact with the creator of the rom: Here's what he has to say:

"I created the CHEMUser ROM. It is a collection of the programs that appear in the HP41 Chemistry Users Solutions book, which should serve as the manual. All programs run according to the instructions there.

Re: HP-41: Manual for the ChemUser ROM?

*Message #3 Posted by **Ángel Martin** on 1 Mar 2010, 12:27 p.m.,*
in response to message #1 by Geir Isene

I'm not familiar with that ROM, sorry Geir.

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Off-Topic: Who can solve this?

*Message #1 Posted by **Matthias Wehrli** on 27 Feb 2010, 1:22 p.m.*

Who can solve this sudoku for me? Maybe someone is interested in programming a special solver ;)

http://www.hp-collection.org/Sudoku.png

The sudoku needs digits from 1 to 9 and operates with the relation symbols "< is less than" and "> is more than"

Yours Matthias

Edited: 27 Feb 2010, 1:23 p.m.

Re: Off-Topic: Who can solve this?

*Message #2 Posted by **Eric Smith** on 27 Feb 2010, 4:38 p.m.,*
in response to message #1 by Matthias Wehrli

Is this four ovelapping sudoku puzzles?

Re: Off-Topic: Who can solve this?

*Message #3 Posted by **Matthias Wehrli** on 27 Feb 2010, 4:45 p.m.,*
in response to message #2 by Eric Smith

Hi Eric

I do not know what you mean. you simply have to insert the digits 1 to 9so that every relation sysmbol is correct.

Matthias

Re: Off-Topic: Who can solve this?

*Message #4 Posted by **Eric Smith** on 27 Feb 2010, 7:02 p.m.,*
in response to message #3 by Matthias Wehrli

So there isn't a limitation as to how many of each digit are used in each row, column, etc.?

Re: Off-Topic: Who can solve this?

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 27 Feb 2010, 5:16 p.m.,*
in response to message #1 by Matthias Wehrli

Hi;

I felt dizzy twice: by looking at the drawing and by thinking of the the possibilities of starting over...

I particularly do not like games neither mind puzzles, but I like to understand their solutions. In some cases there is a rational line in finding one or another solution, in others is just a matter of being lucky enough choosing the starting direction.

I thought about starting with '5' (upper, leftmost digit in the top) because the set is symmetrical and '5' is right in the middle of it: 1,2,3,4,**5**,6,7,8,9 and the '>' and '<' alternate with each other in the first line. Then I thought: 'Too simple minded solution...' and tried to 'see' how would the numbers evolve in the picture. ThatÂ´s when I felt the second dizziness and gave up.

Success and thanks for bringing it up! And if someone finds a rational way to solve it by reasoning, please, let me know the solution. Otherwise, if it is just a matter of starting with the right numbers, then the chances to make it wrong are way bigger than to make it right, and in this case, the solution cannot be explained, only shown.

ThatÂ´s why I prefer trying to solve problems of the real world.

Luiz (Brazil)

Edited: 27 Feb 2010, 5:17 p.m.

Re: Off-Topic: Who can solve this?

*Message #6 Posted by **Paul Dale** on 27 Feb 2010, 11:46 p.m.,*
in response to message #1 by Matthias Wehrli

I don't know the limitations on the placements of the digits. I'd assume that each 3x3 square has the digits 1 through 9 as per a traditional sudoku. A sudoku is normally a 9x9 grid with each row and column also including the digits 1 through 9, clearly this isn't the case here. It kind of looks like four sudoku puzzles overlapped at the corners.

Despite that, it doesn't look too horrible. Every nine digit must have all neighbours less than (given the lack of equalities). Likewise every 1 digit must have all neighbours greater. These two rules ought to net a few digits in the grids. Then a lot of deductive logic follows...

If I get bored enough I might give it a go....

- Pauli

Re: Off-Topic: Who can solve this?

*Message #7 Posted by **Paul Dale** on 28 Feb 2010, 7:21 a.m.,*
in response to message #6 by Paul Dale

I got bored enough -- something about most of our office having been made redundant on Tuesday :-(

It is four sudoku puzzles with common corners. The key things here are each 3x3 square with semi-bold borders has the digits 1 through 9. Each row and column of the 9x9 bold squares has the digits 1 through 9.

Anyway, it is possible to progress. Start by considering '9'. Any square containing this must be greater than all adjacent squares. Search the grid for a 3x3 square which has one square greater than everything and no others. E.g. the middle square in the second from the bottom row or the bottom right corner on the lower puzzle. Fill these with '9'. Then some deduction will allow you to completely fill all nines.

Next, do the same thing for '1'. Find a 3x3 square with only one place less than all its neighbours. E.g. the

bottom right square in the lower puzzle. Fill these with '1'. Some more deduction will allow you to fill every '1' in the puzzle in.

Consider '8'. Any square that is less than a blank cannot hold an '8'. So we've got to locate squares that are greater than all their neighbours (excepting possibly a '9'). The same bottom right square is an example here too. Some more searching and deduction allows every '8' bar two to be placed.

Do the same things for '2'. Again all can be placed.

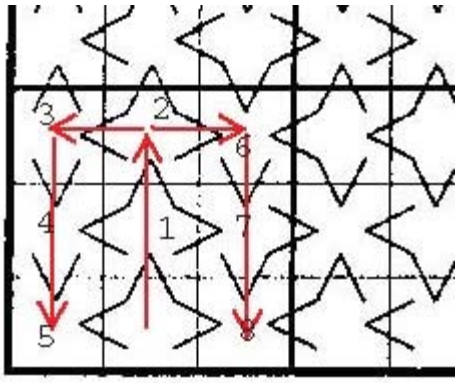
You should have the idea by now. Continue with the other numbers.

- Pauli

Re: Off-Topic: Who can solve this?

*Message #8 Posted by **Allen** on 28 Feb 2010, 10:01 a.m.,*
in response to message #7 by Paul Dale

I"m looking into a graphical method by which "line length" is used to find the topology of each grid. Starting with a "peak" you can move downhill, counting each line length only once, and so find some useful relations. This square shows the easiest one for "9". The numbers are counting steps, not the number that should be in the grid.



Re: Off-Topic: Who can solve this?

*Message #9 Posted by **Vieira, Luiz C. (Brazil)** on 28 Feb 2010, 11:25 a.m.,*
in response to message #8 by Allen

Hi, allen;

this makes sense to me. First I thought the numbers you placed were the ones to fill the squares, then I saw they were the 'filling' sequence. If we start with 9, choosing were to place 6 and 5 (left-right or right-left) depends on the relations with the other 9-squares square, right? Would it be some Operational Research problem? Should G.A.M.S. be used to solve it?

Good luck to you all!

Luiz (Brazil)

Edited: 28 Feb 2010, 11:26 a.m.

Re: Off-Topic: Who can solve this?

*Message #10 Posted by **Eric Smith** on 28 Feb 2010, 9:37 p.m.,*
in response to message #1 by Matthias Wehrli

I'm working on a solver for it. I typed in a representation of the puzzle in plain text to work from, using A and V to represent the vertical inequalities, but it's tedious work and rather error-prone. Would anyone care to check my work? I think the easiest way would be for someone else to create the same thing, then we can diff them.

My text is:

```
             < > < > < > < >
            A V A V A A A V V
             > < > < < > > <
            A A A V V V V A V
             < > > > < > < <
            V V V A A V A A V
             > > < < > < < >
            A A A V V A V V A
             > < > < < > < >
            V A V A A V A V V
             < > < > > < > <
            A V A A A V V A V
 > < > < < < > < < > > < > > < < > < < <
A A A A A V V V V A A V V A A A A A V V V
 > < > < > < > > < > > < < < < < < > > > <
V A V A V A V A V V V A A A A V V V A A A
 > > < > < > < > < < > < > < > < > < > < <
V V V V V V A A A       V A V V V A A A A
 > > < > < > < < >        < > > < < < > <
V V A A A V A V V       A A V A A A V V A
 < < > < > < > <          < > < < < > < <
A A V V V A A A V       V V A A A A A A V
 < < > > < > > <          > < < < < > < >
A A V A A V V A V       A A A V V V A A V
 < > < < > < > > < > < > > < > > < < < >
V A V V V A V A A V A V V A A A A A V V V
 < > > < > > < > > < > > < < < > < > < >
V A V A V V A V A A V V A V V V A A A V V
 < > < < > < < < > > < < > > > < < > > >
             A V V V A A V A A
              > < > < < < < >
             V A A A A A V V V
              < < > < < > < >
             A V V A A A A V A
              > < < < < > > <
             A A A A V V A V V
              > > < > < > > <
             V A A V A V V A A
              > < > < > < < >
             V V V A V A A A A
              < < < > < < < <
```

(I caught one error and updated this.)

Edited: 28 Feb 2010, 11:27 p.m.

Re: Off-Topic: Who can solve this?

*Message #11 Posted by **Eric Smith** on 1 Mar 2010, 1:19 a.m.,*
in response to message #10 by Eric Smith

My solver reports that there are eight solutions to this puzzle, rather than a single unique solution. Here's the first solution it found:

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

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

Edited: 1 Mar 2010, 1:32 a.m.

combinations vs. permutations

*Message #12 Posted by **mike reed** on 3 Mar 2010, 10:07 a.m.,*
in response to message #11 by Eric Smith

Eric - I suspect your solver may be reporting combinations, not permutations... I don't think there is more than one unique solution to this puzzle, but with it's 90 degree rotations, the mirror solution, and its rotations - that gives you eight combinations. It was a fun puzzle to solve - took me about 45 minutes and a pencil. I did not use any calculating or computational devices.

Re: combinations vs. permutations

*Message #13 Posted by **Eric Smith** on 4 Mar 2010, 8:41 p.m.,*
in response to message #12 by mike reed

No, there aren't any rotations, etc., that satisfy the inequalities, because the inequalities are not arranged symmetrically around the puzzle. The eight solutions my solver found are very similar, differing mainly by a few values near the bottom of the puzzle.

I have not manually verified all eight solutions, so it is possible that my solver has a bug. I can send all eight to anyone that cares to try to verify them, or post them here if there is general interest.

Edited: 5 Mar 2010, 3:19 a.m. after one or more responses were posted

Re: combinations vs. permutations

*Message #14 Posted by **Eric Smith** on 5 Mar 2010, 3:19 a.m.,*
in response to message #13 by Eric Smith

The eight solutions are the possible combinations of three independent variations in different parts of the puzzle.

```
Solution 1:


 1:               2 7 4[5 3 6]1 9 8
 2:               3 1 5 4 8 9 6 2 7
 3:               6 9 8 2 1 7 3 4 5
 4:               4 2 1[6 9 5]7 8 3
 5:               7 3 9 1 2 8 5 6 4
 6:               5 8 6 7 4 3 9 1 2
 7: [3 1 6 2 4]8 9 5 7 8 6 2 4 3 1 5 6 2 7 8 9
 8:  9 2 7 5 6 1 8 4 3 9 7 1 2 5 6 8 9 7 3 1 4
 9:  8 5[4 9 3]7 1 6 2 3 5 4 8 7 9 3 4 1 5 2 6
10:  7 4 1 6 2 5 3 8 9       6 8 5 1 2 3 9 4 7
11:  2 3 9 7 8 4 5 1 6       7 9 2 4 5 6 1 3 8
12:  5 6 8 3 1 9 7 2 4       3 1 4 7 8 9 2 6 5
13:  6 7 5 8 9 2 4 3 1 9 6 8 5 2 7 6 1 4 8 9 3
```

```
14: [4 8 3]1 7 6 2 9 5 3 7 4 1 6 8 9 3 5 4 7 2
15:  1 9 2 4 5 3 6 7 8 5 1 2 9 4 3 2 7 8 6 5 1
16:               7 4 6 1 2 3 8 9 5
17:               3 8 9 4 5 6 2 7 1
18:               5 1 2 7 8 9 4 3 6
19:               9 5[3 8 4]7 6 1 2
20:               8 6 7 2 9 1 3 5 4
21:               1 2[4 6 3]5 7 8 9


Locations of possible alternates are marked above with
brackets.


Solution 2:  replace line 19 [3 8 4] with [4 8 3]
             replace line 21 [4 6 3] with [3 6 4]


Solution 3:  replace line 7 [3 1 6 2 4] with [4 1 6 2 3]
             replace line 9 [4 9 3] with [3 9 4]
             replace line 14 [4 8 3] with [3 8 4]


Solution 4:  replace line 1 [5 3 6] with [6 3 5]
             replace line 4 [6 9 5] with [5 9 6]


Solution 5:  apply the changes of both Solutions 2 and 3


Solution 6:  apply the changes of both Solutions 2 and 4


Solution 7:  apply the changes of both Solutions 3 and 4


Solution 8:  apply the changes of Solutions 2, 3, and 4
```

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Problems with my 40G

*Message #1 Posted by **Tanya Poz** on 27 Feb 2010, 5:13 a.m.*

Please, I need advice!!!! My 40g calculator displays the 'invalid card data' message. It blinks and beeps and does not allow me to perform any actions on it. When I take batteries out and back in, it does all the same. The calculator does not react to any key. Does anyone knows what can be done? Thank you!

Re: Problems with my 40G

*Message #2 Posted by **Marcus von Cube, Germany** on 27 Feb 2010, 1:12 p.m.,*
in response to message #1 by Tanya Poz

From the manual:

Resetting the HP 39G/40G

If the calculator “locks up” and seems to be stuck, you must reset it. This is much like resetting a PC. It cancels certain operations, restores certain conditions, and clears temporary memory locations. However, it does not clear stored data (variables, aplet databases, programs) unless you use the procedure below, “To erase all memory and reset defaults”.

To reset using the keyboard

Press and hold the ON key and the third menu key simultaneously, then release them. If the calculator does not respond to the above key sequence, then:

1. Turn the calculator over and locate the small hole in the back of the calculator.

2. Insert the end of a straightened metal paper clip into the hole as far as it will go. Hold it there for 1 second, then remove it.

3. Press ON. If necessary, press ON and the first and last menu keys simultaneously.

To erase all memory and reset defaults

If the calculator does not respond to the above resetting procedures, you might need to restart it by erasing all of memory. You will lose everything you have stored. All factory-default settings are restored.

1. Press and hold the ON key, the first menu key, and the last menu key simultaneously.

2. Release all keys.

Note: To cancel this process, release only the top-row keys, then press the third menu key.

Re: Problems with my 40G

*Message #3 Posted by **Tanya Poz** on 27 Feb 2010, 5:23 p.m.,*

in response to message #2 by Marcus von Cube, Germany

Oh, Marcus, thank you so much!!! It really works now!!! Now I actually thought it was something more serious with it!!!

Re: Problems with my 40G

*Message #4 Posted by **Marcus von Cube, Germany** on 28 Feb 2010, 7:07 a.m.,*
in response to message #3 by Tanya Poz

As usual: If everything else fails, read the documentation. ;)

Which steps did you follow to render you 40g functional again?

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Power switch repair

*Message #1 Posted by **aj04062** on 27 Feb 2010, 12:04 p.m.*

I just picked up a HP-55 and the power switch is not making good contact at the detent or far right position.

Slide it back a bit and it works fine.

Is there any non-intrusive remedy for this?

Adam

Re: Power switch repair

*Message #2 Posted by **Michael de Estrada** on 27 Feb 2010, 12:31 p.m.,*
in response to message #1 by aj04062

AFAIK, there is no way to acomplish this without opening the calculator to clean the contacts. The only problem is that you must pull back the top of the large back label to access the two middle mounting screws, and it's quite tricky to do this without damaging the label in the process. If this is the only problem and the switch can be made to work properly, I wouldn't bother with it. The only time I open a classic calculator is if some of the key contacts require cleaning or to effect some other repair.

Here you go

*Message #3 Posted by **geoff quickfall** on 27 Feb 2010, 1:22 p.m.,*
in response to message #1 by aj04062

Unfortunately no non invasive way.

try this link:

HP 45 restoration

Michael is correct, the only way in is to remove the big label. Check out the link and scroll down also as I describe the way to remove the label and then flatten it to restore it to pristine shape.

Cheers, Geoff

Edited: 27 Feb 2010, 1:30 p.m.

Re: Here you go

*Message #4 Posted by **Nigel J Dowrick** on 27 Feb 2010, 3:24 p.m.,*
in response to message #3 by geoff quickfall

I'd like to add that I've followed Geoff's instructions for disassembling an HP-45 with great success. My repairs involved the power switch, keyboard cleaning, and resoldering a couple of broken tracks. The

calculator came apart beautifully and is back together once again, as good as new. Smoothing out the label and re-applying it was also successful.

I really enjoyed doing this - thanks, Geoff!

Nigel

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EMU41 2.50 released as open source!

*Message #1 Posted by **Egan Ford** on 27 Feb 2010, 10:04 a.m.*

http://www.jeffcalc.hp41.eu/emu41/index.html

Thank you JFG!

When (if) I find the time I may port it to Linux/UNIX/OSX. Of course I'd welcome someone else doing it first. :-)

Re: EMU41 2.50 released as open source!

*Message #2 Posted by **Geir Isene** on 27 Feb 2010, 3:17 p.m.,*
in response to message #1 by Egan Ford

Yiiha!

Re: EMU41 2.50 released as open source!

*Message #3 Posted by **Howard Owen** on 3 Mar 2010, 8:17 p.m.,*
in response to message #1 by Egan Ford

My, my.

This community now has a proven, battle-tested HP/IL implementation available under the GPL, as well as an excellent HP41 emulator. The HP/IL part is unique to my knowledge, outside the specs.

Thank you, JF.

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Programmable ?

*Message #1 Posted by **Gilles Collas** on 27 Feb 2010, 6:52 a.m.*

Hi!

The following sequence of keys should be able to demonstrate the ability of a HP 41C to be programmed. It is the case on my 41 CVs, but not on the 41C, I would like to know what is going wrong here.

Keys ----> Display

ON+CLX ---> MEMORY LOST

PRGM ----> 00 REG 46

GTO .. ----> 00 REG 46

LBL alpha AAA alpha ----> 01 ASHF

SIN ---> ROM

R/S ---> ROM

PRGM --> 0.0000

PRGM ----> 01 ASHF

SST ----> PRIVATE

BST ----> PRIVATE

GTO .. ----> 00 REG 12

LBL alpha BBB alpha ----> 01 ASHF

COS ---> ROM

R/S ---> ROM

PRGM --> 0.0000

PRGM ----> 01 ASHF

SST ----> PRIVATE

BST ----> PRIVATE

GTO .. ----> 00 REG 12

And so on, I can't enter any program....

Any comments, gents (or ladies) ?

gilles

Re: Programmable ?

*Message #2 Posted by **Håkan Thörngren** on 27 Feb 2010, 8:49 a.m.,*
in response to message #1 by Gilles Collas

My guess is that something is wrong with the built in ROM, try a service module and see what it says.

Re: Programmable ?

*Message #3 Posted by **Gilles Collas** on 27 Feb 2010, 4:08 p.m.,*
in response to message #2 by Håkan Thörngren

> Quote:
>
> My guess is that something is wrong with the built in ROM, try a service module and see what it says.

Sorry, but can you tell me what a service module is and how to operate?

Re: Programmable ?

*Message #4 Posted by **Håkan Thörngren** on 28 Feb 2010, 4:19 a.m.,*
in response to message #3 by Gilles Collas

The service module was not officially sold, but it can pop up on ebay.

An alternative way is to obtain the ROM image and download it to suitable reprogrammable module (hardware), such as an MLDL or a Clonix module.

Re: Programmable ?

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 27 Feb 2010, 9:01 a.m.,*
in response to message #1 by Gilles Collas

Hi;

I second HÃ¥kanÂ´s conclusion. One of the main interests I had when using MLDL2000 to emulate the HP41 system ROMÂ´s functionality was not only to locate the faulty ROM but also to test the remaining calculator if there is none to replace it.

In this case, the only way to repair would be taking a good ROM from a donator, though.

Success!

Luiz (Brazil)

Re: Programmable ?

*Message #6 Posted by **Marcus von Cube, Germany** on 27 Feb 2010, 1:02 p.m.,*

in response to message #5 by Vieira, Luiz C. (Brazil)

I was thinking of a faulty RAM. Can you check what happens if you store various numbers in a register?

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HP-41: Nirvana Setup

*Message #1 Posted by **Geir Isene** on 27 Feb 2010, 3:51 a.m.*

With excellent help from Egan Ford, I have what I would now call a Nirvana Setup™.

Laptop: IBM Thinkpad, Linux (Ubuntu 9.10 Server), Dosbox 0.73, EMU41 v2.50 with the following modules (from EMU41.INI):

```
8   4 CCD_OSX.BIN
9   4 ICEBOX1H.bin
10  4 xio1a.bin
11  4 EXILplus.bin
12  4 Paname_L.bin
13  4 Paname_U.bin
14  4 m2k_rom.bin
```

HP-41CX (halfnut) with 2*XM module, NoV-64 and open port 4 for various modules and open port 3 for HP-IL or a self-built port-a-lite. The NoV-64 has the following setup (XROM# in parenthesis):

```
ROM:
   Bank1 (Regular):
      ICEBOX (16)
      CCD OS/X (20)
      (empty - cater for 8K modules)
      (empty - cater for 8K modules)
   Bank2 (HP-IL):
      Ext IO (23)
      XIL+ (27)
      (empty - cater for 8K modules)
      (empty - cater for 8K modules)
RAM:
   Bank0 (Time):
      (Hepax ram)
      (Hepax ram)
      (Hepax ram)
      (Hepax ram)
   Bank1 (Math):
      (Hepax ram)
      (Hepax ram)
      SandMath 6 L (2 or 8)
      SandMath 6 U (3 or 7)
   Bank2 (Astro/Phys):
      (Hepax ram)
      Astro I (31)
      Data Acq L (21)
      Data Acq U (31)
   Bank3 (MCODE):
      (Hepax ram)
      ICEBOX (4) - for further development on the 41
      David Assembler (2)
      Labels Rom (6)


Usual plugin roms for E/F
   Advantage (22,24)
   Paname (5,9)
   Navigation (14)
   Financial (4)
   Math/Stat (1,2)
   Games (10)
```

All RAM banks have block of HEPAX RAM to accommodate for full HP-41 Ram save/restore to have different

environments for each bank setup (one for math, one for Mcode development etc.) - programs in ram, key assignments, different flag setups etc. This is easily done with the ICEBOX functions SAVEN and GETN. The most used banks are accessed via the functions N100, N101 etc. assigned directly to keys.

And then the excellent PIL-Box to connect my 41 to the laptop. Works like a charm. Just wanted to share this.

Me = happy geek :-)

Edited: 27 Feb 2010, 4:00 a.m.

Re: HP-41: Nirvana Setup

*Message #2 Posted by **geoff quickfall** on 27 Feb 2010, 1:17 p.m.,*
in response to message #1 by Geir Isene

To quote an HP GURU; "ME WANT".

What a wonderful system, and what a fantastic update to the 41C system.

Cheers, Geoff

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82059B/D

*Message #1 Posted by **Egan Ford** on 26 Feb 2010, 6:14 p.m.*

What is the difference between the B and D?

Thanks.

Re: 82059B/D

*Message #2 Posted by **Raymond Del Tondo** on 26 Feb 2010, 6:38 p.m.,*
in response to message #1 by Egan Ford

Should be a different localisation.

HTH

Raymond

Re: 82059B/D

*Message #3 Posted by **Eric Smith** on 27 Feb 2010, 4:45 p.m.,*
in response to message #2 by Raymond Del Tondo

No, the base (numeric) part number is different when the plug and/or voltage rating is different. The letter is a product revision. The 82059A wasn't suitable for later calculators. They added a slot in the plug and a keying piece in the socket to prevent the 82059A from being plugged into later calculators.

I'm not sure about the difference between the B and D; it's possible that it is just a manufacturing change with no significance to end users. Check the manual for a specific calculator to see which model is recommended; later revisions should work fine. In other words, if the manual calls for an 82059B, and 82059D will be fine, but the reverse may not be true.

Re: 82059B/D

*Message #4 Posted by **Allen** on 26 Feb 2010, 6:44 p.m.,*
in response to message #1 by Egan Ford

Electrically they seem identical. As far as markings go, the D-model has "Class 2 Transformer" in addition to all the language that appears on the B-Model. This suggests they were designed to meet a slightly different u.l. rating 891Z for the D model and 191J for the b model.

Re: 82059B/D

*Message #5 Posted by **Egan Ford** on 26 Feb 2010, 9:33 p.m.,*
in response to message #4 by Allen

Thanks. So, are they interchangeable?

Re: 82059B/D

*Message #6 Posted by **Allen** on 27 Feb 2010, 10:37 p.m.,*
in response to message #5 by Egan Ford

I think so, the manuals are not very heavy on what AC plugs are interchangeable.

Re: 82059B/D

*Message #7 Posted by **Egan Ford** on 28 Feb 2010, 2:10 p.m.,*
in response to message #6 by Allen

So I have noticed. Of all the devices I have only the 9114B and 41CX battery pack manuals specify what recharger to use (A, B, or C based on location). None mention D. The rest just refer to the AC adapter.

BTW I've only ever used a 'D' with my 9114Bs.

Thanks.

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After my two fauxpas; re the HP41C below, here is the book

*Message #1 Posted by **Geoff Quickfall** on 26 Feb 2010, 5:06 p.m.*

so far.

I should never type without reference material. To clarify ;-) the HP41C card reader does indeed have fewer nylon balls then the HP 65, 67, and topcats, if you deem zero balls fewer! Also the cam is eccentric.

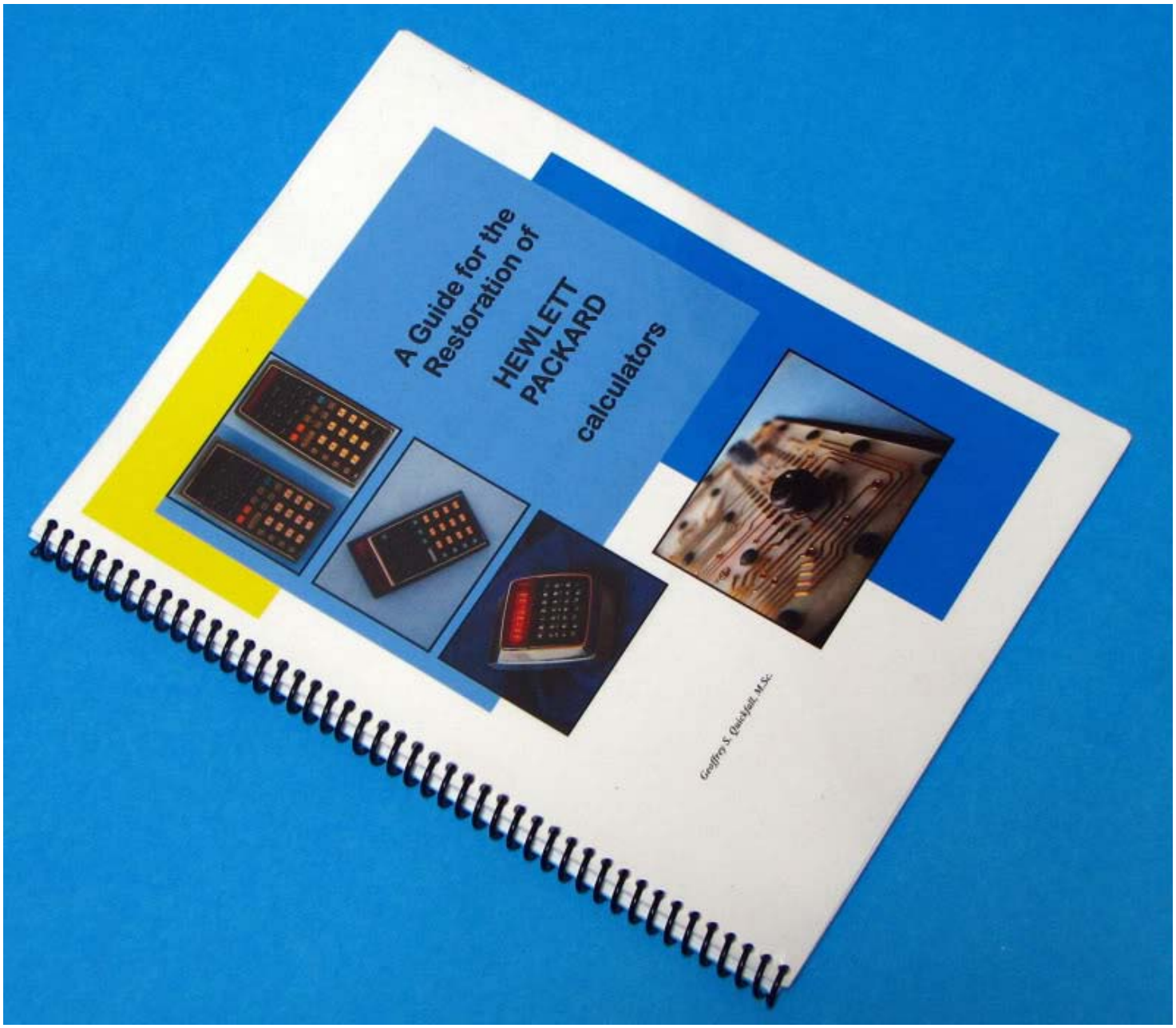
In any case these two facts were correctly stated in the 'book', if only I had referenced my chapter 8!!!

Still some chapters left to do, including the HP19C or 10 chapter. I still have to aquire some examples for restoration photos of these two as I have all the others required. In fact if anyone out there has a defunct 19C that requires repair I will do it for free (if possible) just to have an example for the book. Let me know if you have a donor that I can repair for documentation and then ship back to you!

Now to the posting, here are some shots of the book as it appears now.

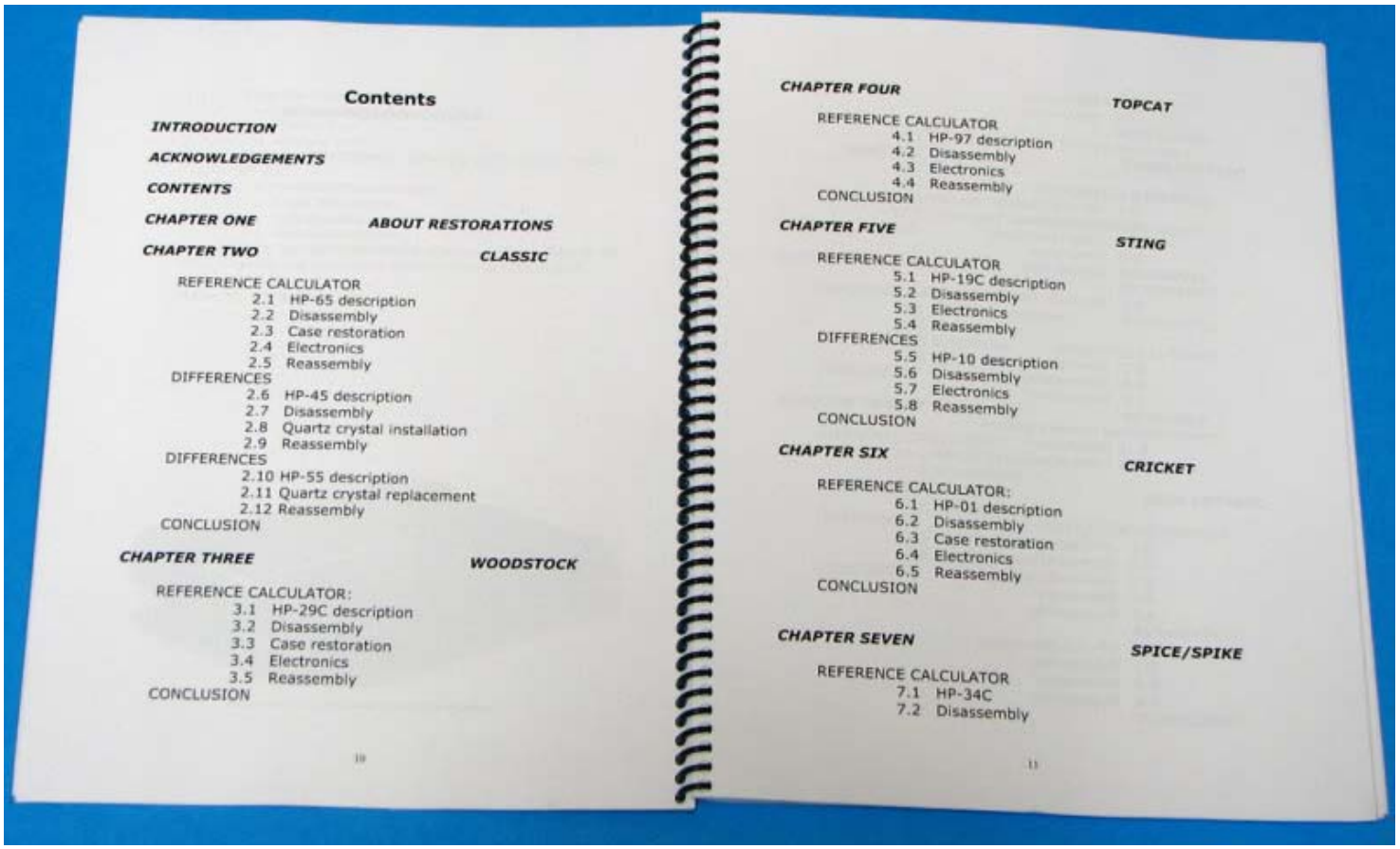
The Cover:

After my two fauxpas; re the HP41C below, here is the book



Contents:

After my two fauxpas; re the HP41C below, here is the book



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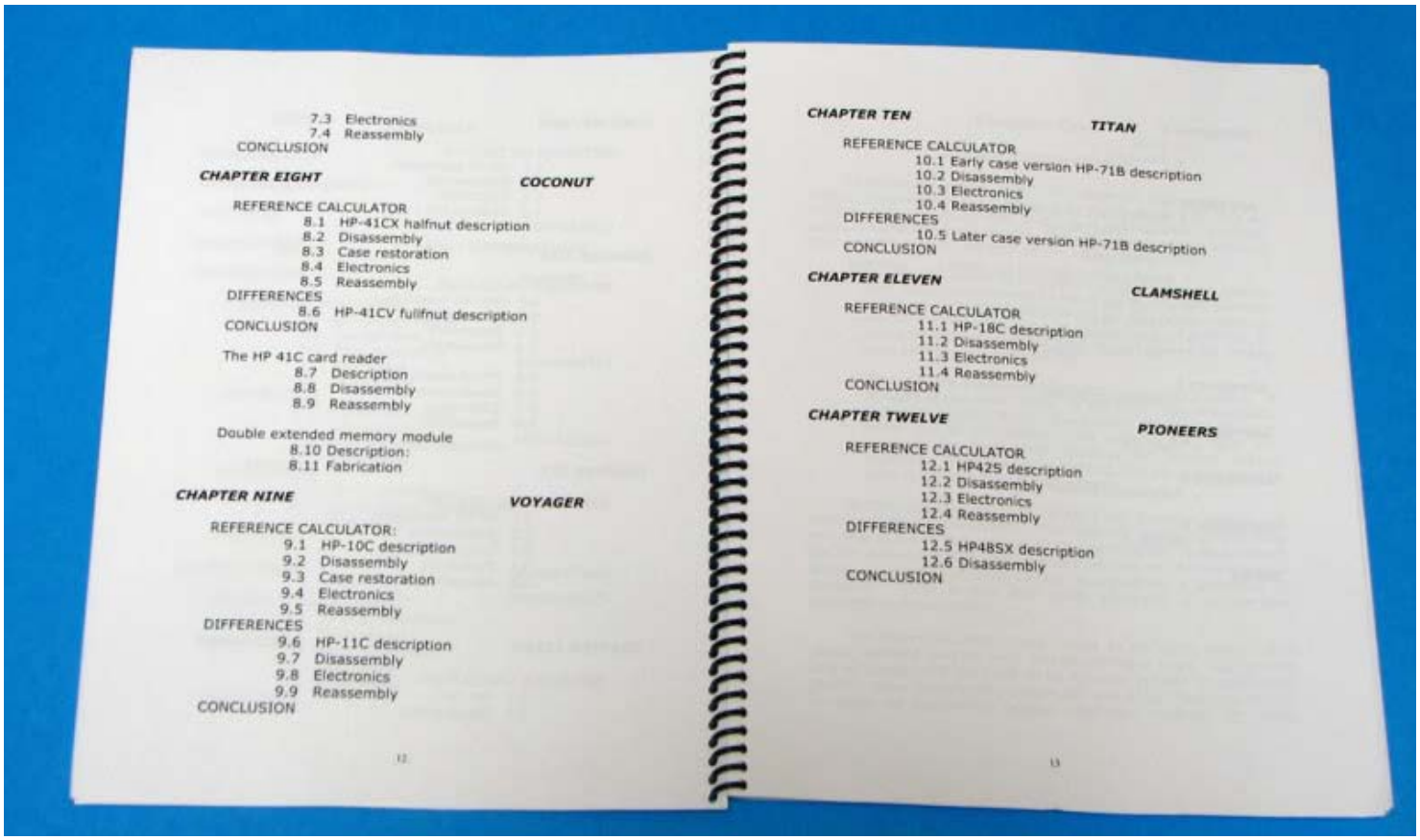

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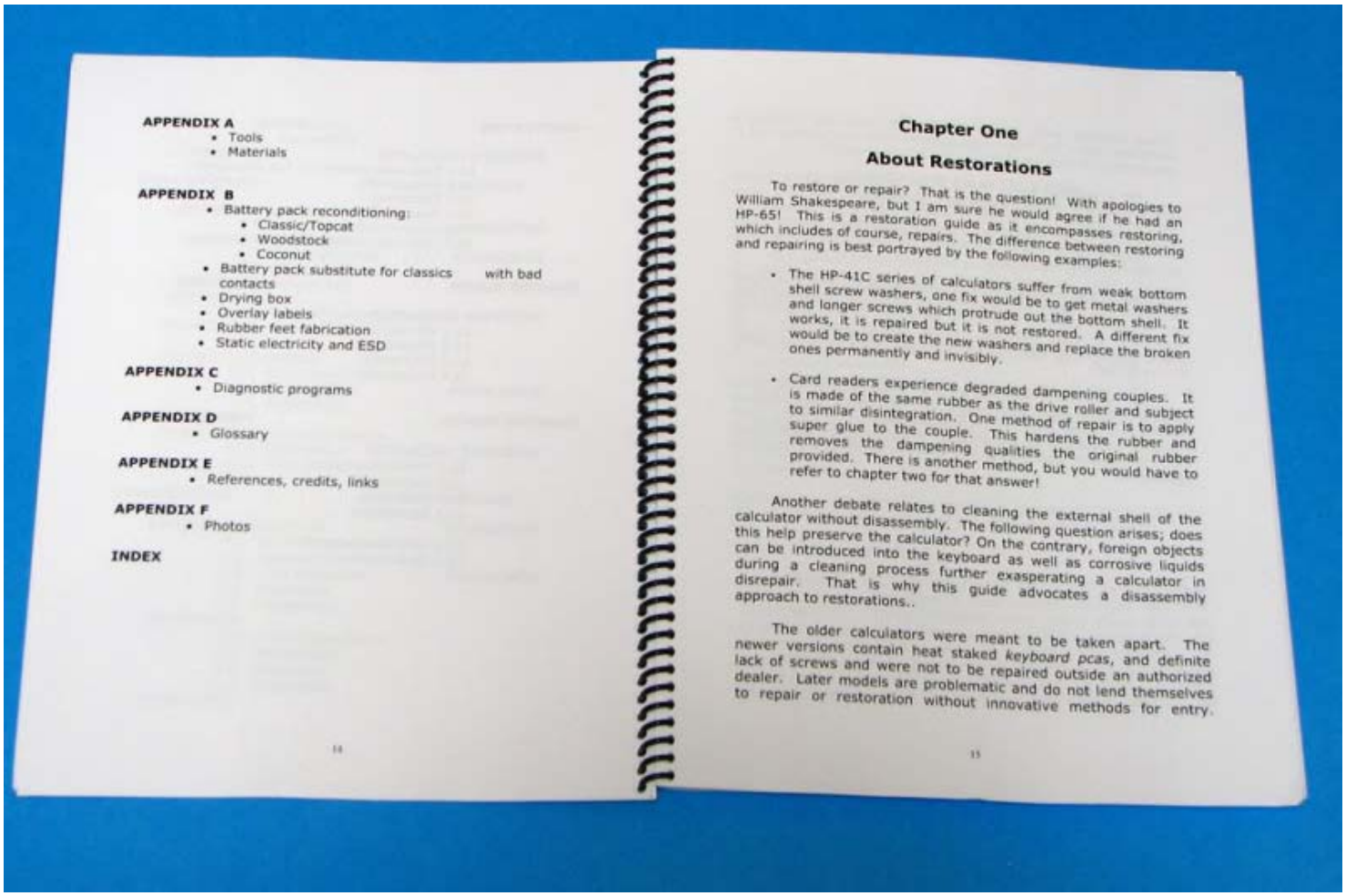

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Chapter One

About Restorations

To restore or repair? That is the question! With apologies to William Shakespeare, but I am sure he would agree if he had an HP-65! This is a restoration guide as it encompasses restoring, which includes of course, repairs. The difference between restoring and repairing is best portrayed by the following examples:

- The HP-41C series of calculators suffer from weak bottom shell screw washers, one fix would be to get metal washers and longer screws which protrude out the bottom shell. It works, it is repaired but it is not restored. A different fix would be to create the new washers and replace the broken ones permanently and invisibly.

- Card readers experience degraded dampening couples. It is made of the same rubber as the drive roller and subject to similar disintegration. One method of repair is to apply super glue to the couple. This hardens the rubber and removes the dampening qualities the original rubber provided. There is another method, but you would have to refer to chapter two for that answer!

Another debate relates to cleaning the external shell of the calculator without disassembly. The following question arises; does this help preserve the calculator? On the contrary, foreign objects can be introduced into the keyboard as well as corrosive liquids during a cleaning process further exasperating a calculator in disrepair. That is why this guide advocates a disassembly approach to restorations..

The older calculators were meant to be taken apart. The newer versions contain heat staked *keyboard pcas*, and definite lack of screws and were not to be repaired outside an authorized dealer. Later models are problematic and do not lend themselves to repair or restoration without innovative methods for entry.

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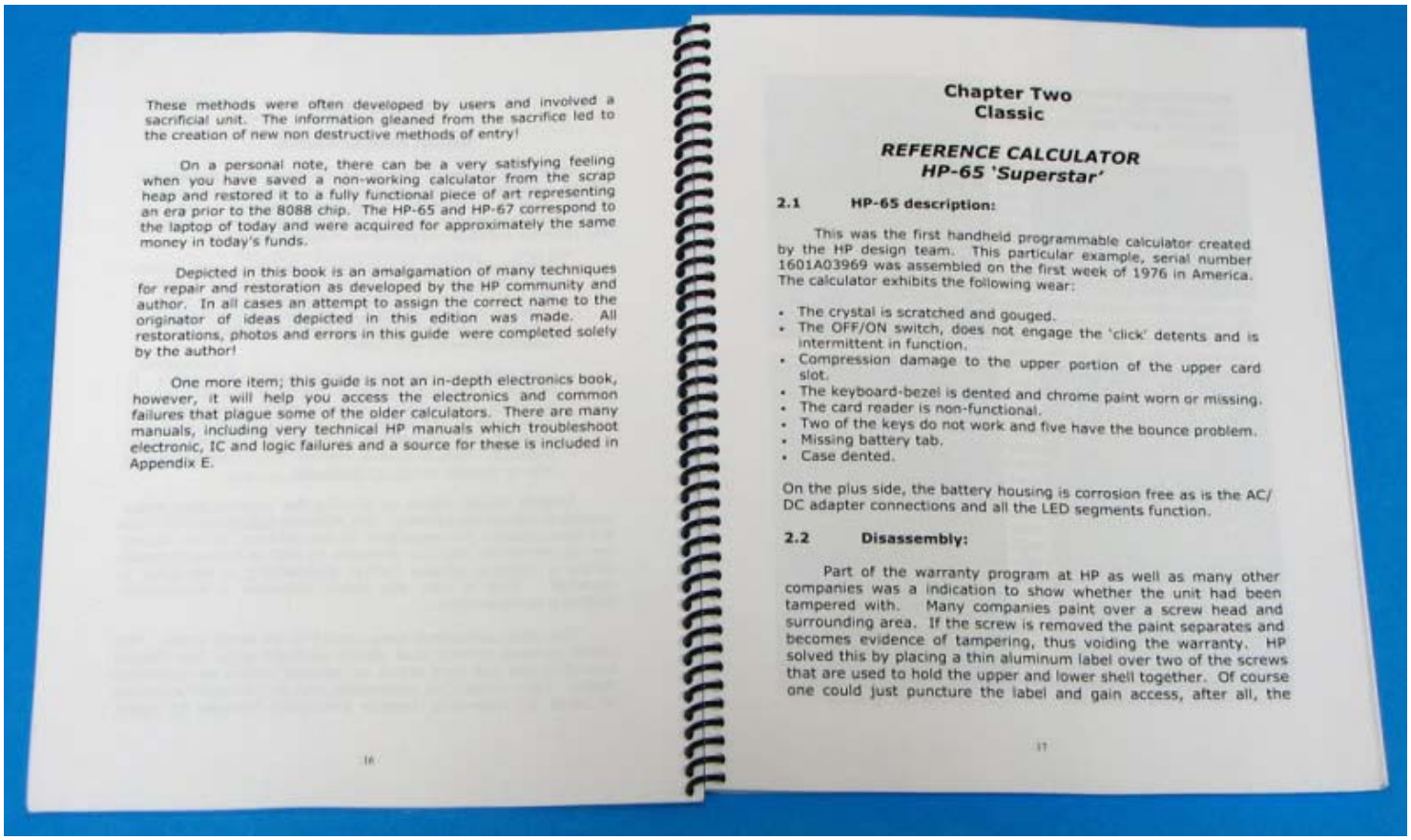
Page 16 refering to the HP 65 restoration:



These methods were often developed by users and involved a sacrificial unit. The information gleaned from the sacrifice led to the creation of new non destructive methods of entry!

On a personal note, there can be a very satisfying feeling when you have saved a non-working calculator from the scrap heap and restored it to a fully functional piece of art representing an era prior to the 8088 chip. The HP-65 and HP-67 correspond to the laptop of today and were acquired for approximately the same money in today's funds.

Depicted in this book is an amalgamation of many techniques for repair and restoration as developed by the HP community and author. In all cases an attempt to assign the correct name to the originator of ideas depicted in this edition was made. All restorations, photos and errors in this guide were completed solely by the author!

One more item; this guide is not an in-depth electronics book, however, it will help you access the electronics and common failures that plague some of the older calculators. There are many manuals, including very technical HP manuals which troubleshoot electronic, IC and logic failures and a source for these is included in Appendix E.

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Chapter Two
Classic

REFERENCE CALCULATOR
HP-65 'Superstar'

2.1 HP-65 description:

This was the first handheld programmable calculator created by the HP design team. This particular example, serial number 1601A03969 was assembled on the first week of 1976 in America. The calculator exhibits the following wear:

- The crystal is scratched and gouged.
- The OFF/ON switch, does not engage the 'click' detents and is intermittent in function.
- Compression damage to the upper portion of the upper card slot.
- The keyboard-bezel is dented and chrome paint worn or missing.
- The card reader is non-functional.
- Two of the keys do not work and five have the bounce problem.
- Missing battery tab.
- Case dented.

On the plus side, the battery housing is corrosion free as is the AC/DC adapter connections and all the LED segments function.

2.2 Disassembly:

Part of the warranty program at HP as well as many other companies was a indication to show whether the unit had been tampered with. Many companies paint over a screw head and surrounding area. If the screw is removed the paint separates and becomes evidence of tampering, thus voiding the warranty. HP solved this by placing a thin aluminum label over two of the screws that are used to hold the upper and lower shell together. Of course one could just puncture the label and gain access, after all, the

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Again the HP65 (Classic chapter) and some card reader tips:

keyboard pca and the *card reader pca*.

If corrosion is present, again in the form of powder, etc, then a mild solution of vinegar may be applied and gently brushed with a soft brush then rinsed with water followed by alcohol. Allow to dry thoroughly in the drying box!

Card reader assembly:

In **figure 2.9** we see the card reader assembly is composed of the following items:

- **A** Card reader motor.
- **B** Power wires from the card reader pca to the motor.
- **C** Dampening couple.
- **D** Eccentric cam.
- **E** Worm gear.
- **F** Card reader head.
- **G** "Gummy" driver roller.
- **H** Card reader logic pca.

Figure 2.9: card reader assembly.

Turning the assembly over, the card reader assembly screws are exposed as well as the card reader switch which senses the insertion and passing of the cards. The switch also detects clipped cards from non clipped versions. Remove the screws marked by the yellow arrows in **figure 2.10**.

Figure 2.10: screw locations.

Do not remove or loosen the screws marked by the red arrows, **figure 2.10.** Do not bend or catch the double edged prongs of the switch as they are set at the factory at a precise angle. As the card passes through it pushes on the tiny white balls, which in turn push the prongs into the circuit board completing a read or write circuit.

Figure 2.11: screw location at arrow.

Turn the *card reader assembly* over and you will see the last screw to remove. It is located by the upper corner of the card reader motor indicated by the yellow arrow in **figure 2.11.**

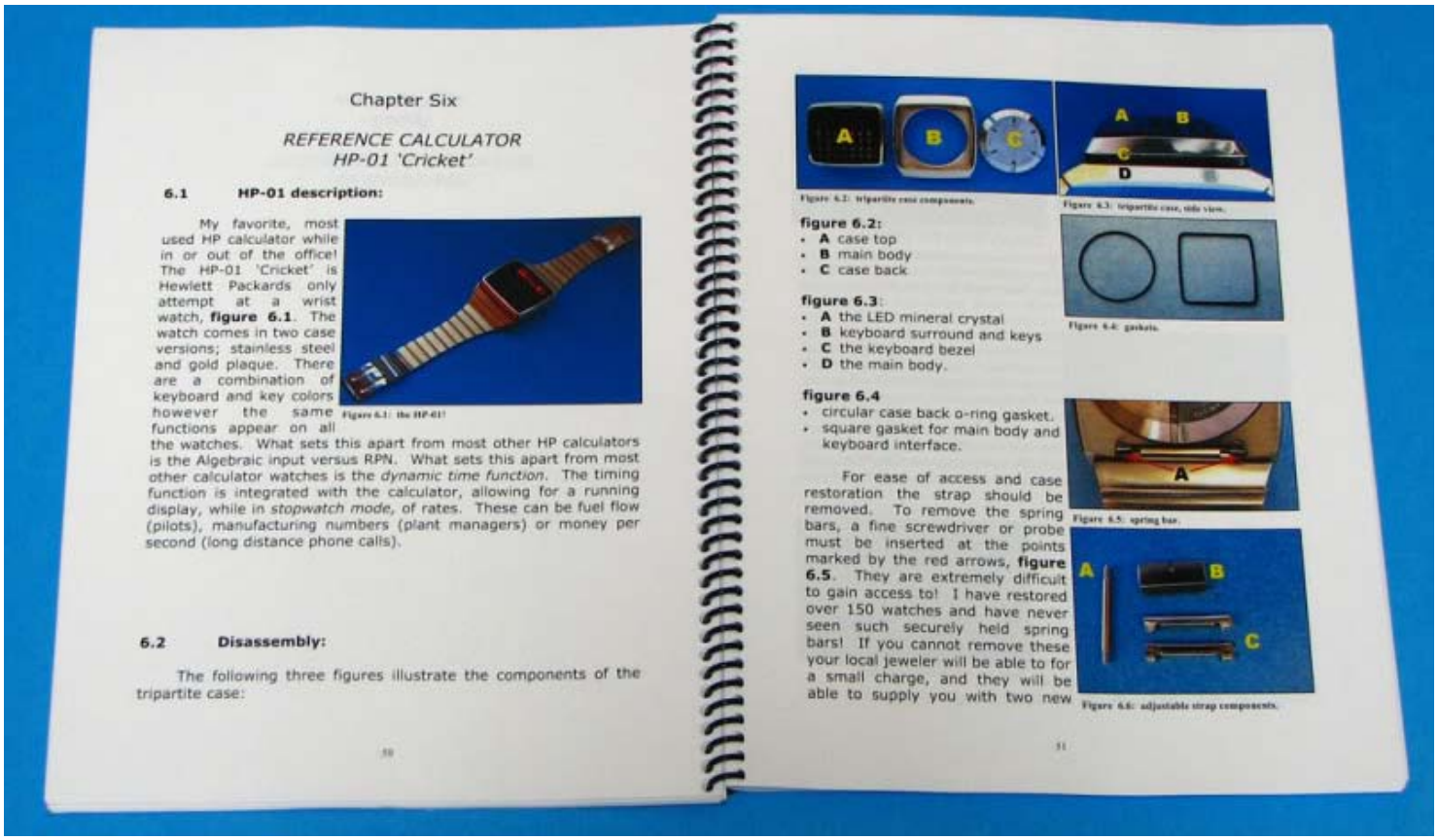
Figure 2.12: card reader components.

Place the entire assembly in a large clear bag. Remove the screw with caution and separate the two halves. The reason for placing the assembly in the bag and then removing the screw is now apparent. This way you will not lose the four small plastic balls, one small pinned white roller or the two bronze side springs that guide the card through the reader, **figure 2.12**.

Figure 2.13: card reader components.

With the *card reader assembly* apart, and referring to **figure 2.13,** gently pull the white slotted eccentric cam, **C**, out with a pair of pliers. Note that the entire *card reader assembly* frame has been removed in this example. In your restoration the card reader head would still be affixed to the frame preventing the complete removal as seen in **figure 2.13**. This was done for photographic purposes. The removal of the card reader head from the frame is not recommended as it is set at the factory.

Chapter 6, the HP 01 cricket:



Chapter Six

REFERENCE CALCULATOR
HP-01 'Cricket'

6.1 HP-01 description:

My favorite, most used HP calculator while in or out of the office! The HP-01 'Cricket' is Hewlett Packards only attempt at a wrist watch, **figure 6.1**. The watch comes in two case versions; stainless steel and gold plaque. There are a combination of keyboard and key colors however the same functions appear on all the watches. What sets this apart from most other HP calculators is the Algebraic input versus RPN. What sets this apart from most other calculator watches is the *dynamic time function*. The timing function is integrated with the calculator, allowing for a running display, while in *stopwatch mode*, of rates. These can be fuel flow (pilots), manufacturing numbers (plant managers) or money per second (long distance phone calls).

Figure 6.1: the HP-01!

6.2 Disassembly:

The following three figures illustrate the components of the tripartite case:

Figure 6.2: tripartite case components.

Figure 6.3: tripartite case, side view.

figure 6.2:
- **A** case top
- **B** main body
- **C** case back

Figure 6.4: gaskets.

figure 6.3:
- **A** the LED mineral crystal
- **B** keyboard surround and keys
- **C** the keyboard bezel
- **D** the main body.

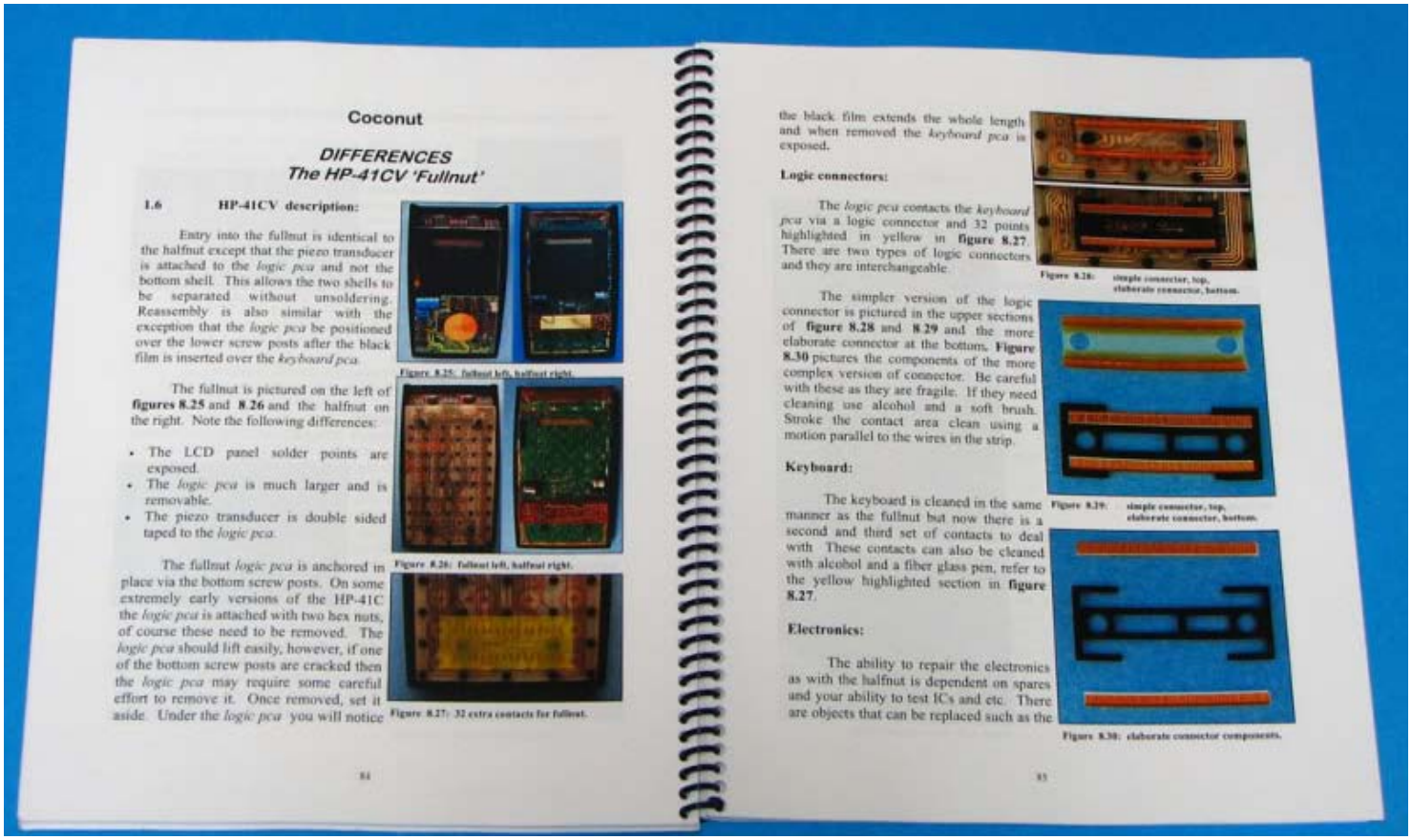
figure 6.4
- circular case back o-ring gasket.
- square gasket for main body and keyboard interface.

Figure 6.5: spring bar.

For ease of access and case restoration the strap should be removed. To remove the spring bars, a fine screwdriver or probe must be inserted at the points marked by the red arrows, **figure 6.5**. They are extremely difficult to gain access to! I have restored over 150 watches and have never seen such securely held spring bars! If you cannot remove these your local jeweler will be able to for a small charge, and they will be able to supply you with two new

Figure 6.6: adjustable strap components.

Second section of Chapter 8, the Fullnut:



Coconut

DIFFERENCES
The HP-41CV 'Fullnut'

1.6 HP-41CV description:

Entry into the fullnut is identical to the halfnut except that the piezo transducer is attached to the *logic pca* and not the bottom shell. This allows the two shells to be separated without unsoldering. Reassembly is also similar with the exception that the *logic pca* be positioned over the lower screw posts after the black film is inserted over the *keyboard pca*.

The fullnut is pictured on the left of **figures 8.25** and **8.26** and the halfnut on the right. Note the following differences:

- The LCD panel solder points are exposed.
- The *logic pca* is much larger and is removable.
- The piezo transducer is double sided taped to the *logic pca*.

The fullnut *logic pca* is anchored in place via the bottom screw posts. On some extremely early versions of the HP-41C the *logic pca* is attached with two hex nuts, of course these need to be removed. The *logic pca* should lift easily, however, if one of the bottom screw posts are cracked then the *logic pca* may require some careful effort to remove it. Once removed, set it aside. Under the *logic pca* you will notice

Figure 8.25: fullnut left, halfnut right.

Figure 8.26: fullnut left, halfnut right.

Figure 8.27: 32 extra contacts for fullnut.

the black film extends the whole length and when removed the *keyboard pca* is exposed.

Logic connectors:

The *logic pca* contacts the *keyboard pca* via a logic connector and 32 points highlighted in yellow in **figure 8.27**. There are two types of logic connectors and they are interchangeable.

Figure 8.28: simple connector, top, elaborate connector, bottom.

The simpler version of the logic connector is pictured in the upper sections of **figure 8.28** and **8.29** and the more elaborate connector at the bottom. **Figure 8.30** pictures the components of the more complex version of connector. Be careful with these as they are fragile. If they need cleaning use alcohol and a soft brush. Stroke the contact area clean using a motion parallel to the wires in the strip.

Figure 8.29: simple connector, top, elaborate connector, bottom.

Keyboard:

The keyboard is cleaned in the same manner as the fullnut but now there is a second and third set of contacts to deal with. These contacts can also be cleaned with alcohol and a fiber glass pen, refer to the yellow highlighted section in **figure 8.27**.

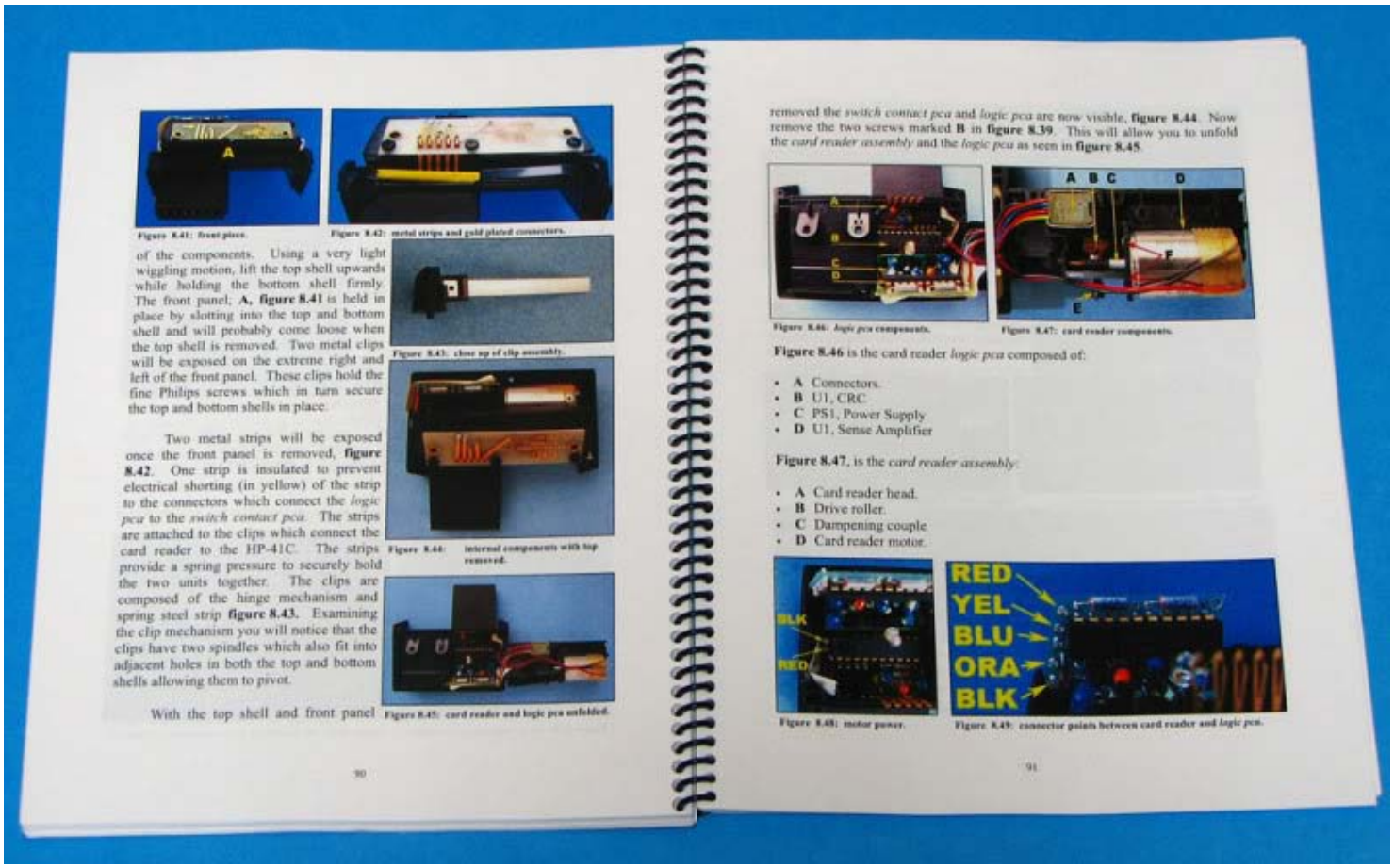
Electronics:

The ability to repair the electronics as with the halfnut is dependent on spares and your ability to test ICs and etc. There are objects that can be replaced such as the

Figure 8.30: elaborate connector components.

HP 41C the third section of Chapter 8, the card reader:

After my two fauxpas; re the HP41C below, here is the book



of the components. Using a very light wiggling motion, lift the top shell upwards while holding the bottom shell firmly. The front panel; **A, figure 8.41** is held in place by slotting into the top and bottom shell and will probably come loose when the top shell is removed. Two metal clips will be exposed on the extreme right and left of the front panel. These clips hold the fine Philips screws which in turn secure the top and bottom shells in place.

Two metal strips will be exposed once the front panel is removed, **figure 8.42**. One strip is insulated to prevent electrical shorting (in yellow) of the strip to the connectors which connect the *logic pca* to the *switch contact pca*. The strips are attached to the clips which connect the card reader to the HP-41C. The strips provide a spring pressure to securely hold the two units together. The clips are composed of the hinge mechanism and spring steel strip **figure 8.43.** Examining the clip mechanism you will notice that the clips have two spindles which also fit into adjacent holes in both the top and bottom shells allowing them to pivot.

With the top shell and front panel

removed the *switch contact pca* and *logic pca* are now visible, **figure 8.44**. Now remove the two screws marked **B** in **figure 8.39**. This will allow you to unfold the *card reader assembly* and the *logic pca* as seen in **figure 8.45**.

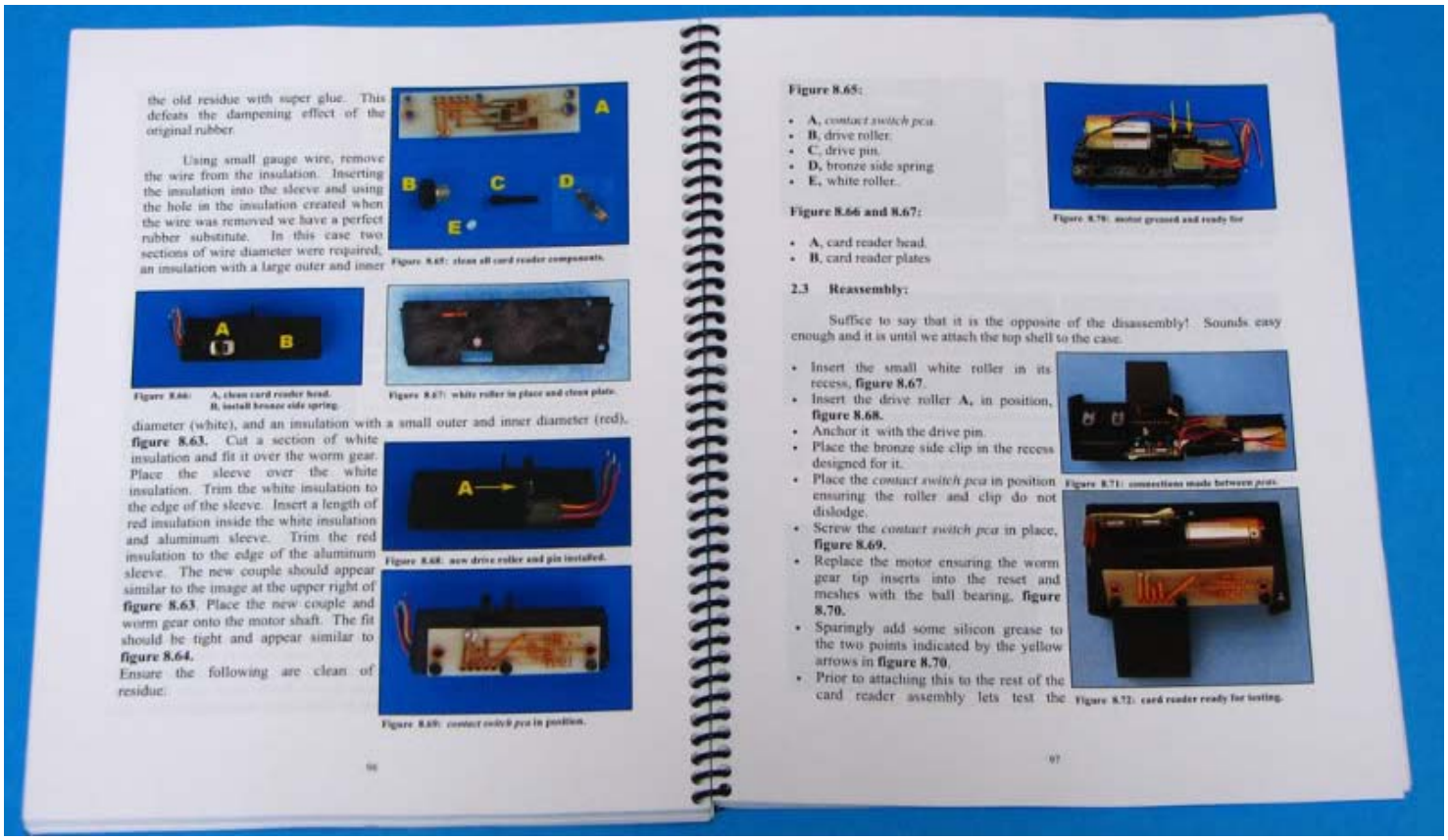
Figure 8.46 is the card reader *logic pca* composed of:

- **A** Connectors.
- **B** U1, CRC
- **C** PS1, Power Supply
- **D** U1, Sense Amplifier

Figure 8.47, is the *card reader assembly*:

- **A** Card reader head.
- **B** Drive roller.
- **C** Dampening couple
- **D** Card reader motor.

Stuff I should have refered to before typing responses on the HP41C card reader below!!



the old residue with super glue. This defeats the dampening effect of the original rubber.

Using small gauge wire, remove the wire from the insulation. Inserting the insulation into the sleeve and using the hole in the insulation created when the wire was removed we have a perfect rubber substitute. In this case two sections of wire diameter were required; an insulation with a large outer and inner diameter (white), and an insulation with a small outer and inner diameter (red), **figure 8.63**. Cut a section of white insulation and fit it over the worm gear. Place the sleeve over the white insulation. Trim the white insulation to the edge of the sleeve. Insert a length of red insulation inside the white insulation and aluminum sleeve. Trim the red insulation to the edge of the aluminum sleeve. The new couple should appear similar to the image at the upper right of **figure 8.63**. Place the new couple and worm gear onto the motor shaft. The fit should be tight and appear similar to **figure 8.64.**

Ensure the following are clean of residue:

Figure 8.65:

- **A**, *contact switch pca*.
- **B**, drive roller.
- **C**, drive pin.
- **D**, bronze side spring
- **E**, white roller.

Figure 8.66 and 8.67:

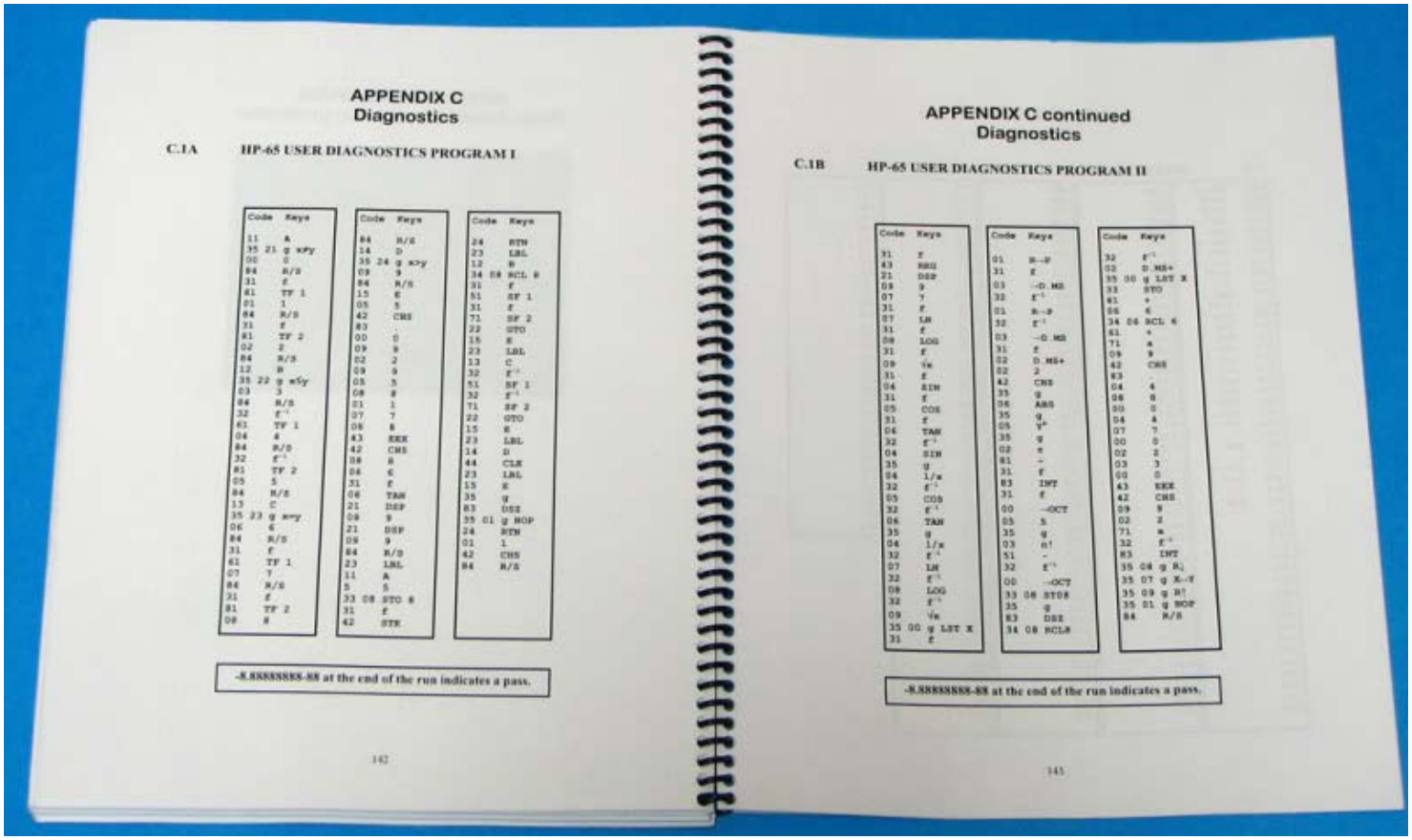
- **A**, card reader head.
- **B**, card reader plates

2.3 Reassembly:

Suffice to say that it is the opposite of the disassembly! Sounds easy enough and it is until we attach the top shell to the case.

- Insert the small white roller in its recess, **figure 8.67**.
- Insert the drive roller **A**, in position, **figure 8.68.**
- Anchor it with the drive pin.
- Place the bronze side clip in the recess designed for it.
- Place the *contact switch pca* in position ensuring the roller and clip do not dislodge.
- Screw the *contact switch pca* in place, **figure 8.69.**
- Replace the motor ensuring the worm gear tip inserts into the reset and meshes with the ball bearing, **figure 8.70.**
- Sparingly add some silicon grease to the two points indicated by the yellow arrows in **figure 8.70**.
- Prior to attaching this to the rest of the card reader assembly lets test the

One of the appendices, this one will include diagnostic programs documentation for those calculators that do not have built in diagnostics:



APPENDIX C
Diagnostics

C.1A HP-65 USER DIAGNOSTICS PROGRAM I

-8.888888888-88 at the end of the run indicates a pass.

142

APPENDIX C continued
Diagnostics

C.1B HP-65 USER DIAGNOSTICS PROGRAM II

-8.888888888-88 at the end of the run indicates a pass.

143

I have selected a large clear Verdana font. All the figures are referenced in the text with large clear labels where required. The book as you can see is spiral bound, 11 inches by 8.5 with clear large figures with excellent resolution.

When done (HCC2010 or before) it will be aproximately 300 pages with over 400 illustrations. It will be peer reviewed also and will probably be completed with online publishing and some hard copies available through me. Have yet to pin all that down.

The current version illustrated here **(just to see how it would look and to see how the photos would print)** still requires 3 chapters to be completed and as a one off print at the local STAPLES it cost me $80 (200 pages bound in high res. colour laser). This will come down once I have established costs with a publisher.

Cheers, Geoff in rainy busy Olympic Vancouver.

Edited: 26 Feb 2010, 6:16 p.m. after one or more responses were posted

Re: After my two fauxpas; re the HP41C below, here is the book

*Message #2 Posted by **PeterP** on 26 Feb 2010, 5:14 p.m.,*
in response to message #1 by Geoff Quickfall

Geoff, awesome, can't wait to get one, preferably signed by the author :-) BTW - I do have a 10c which could use some restoration if you are in need for an example there as well. The other thing should be on its way to you by tomorrow morning in either case.

Cheers

Peter

Re: After my two fauxpas; re the HP41C below, here is the book

*Message #3 Posted by **Geoff Quickfall** on 26 Feb 2010, 5:23 p.m.,*

in response to message #2 by PeterP

Peter,

thanks for the offer but I did a typo on the request, it is the printing HP10 or printing 19C that I require. In fact the 10C voyager is the subject of one section of the Voyager chapter.

If you have a printing 10 (STING Family) that would help!

I will keep an eye for the other thing in the mail.

Cheers, Geoff

Re: After my two fauxpas; re the HP41C below, here is the book

*Message #4 Posted by **David Hayden** on 26 Feb 2010, 5:14 p.m.,*
in response to message #1 by Geoff Quickfall

This is really a stunning piece of work, Geoff. Thank you, in advance!

Dave

Re: After my two fauxpas; re the HP41C below, here is the book

*Message #5 Posted by **Martin Pinckney** on 26 Feb 2010, 5:22 p.m.,*
in response to message #1 by Geoff Quickfall

> Quote:
>
> Cheers, Geoff in rainy busy Olympic Vancouver.

Lucky you!

This looks fabulous, Geoff. Forgive me if I missed this in earlier threads, but will it include upgrades (e.g 42s memory), or just restoration and related repairs?

Re: After my two fauxpas; re the HP41C below, here is the book

*Message #6 Posted by **Geoff Quickfall** on 26 Feb 2010, 5:26 p.m.,*
in response to message #5 by Martin Pinckney

Absolutely,

I am trying to make it as comprehensive as possible. The HP 42S is the subject in the Pioneer section and includes the memory upgrade as well as mentioning the clock speed. There will also be a section on the Stretch Pioneer featuring an HP48SX.

See below about the pioneer chapter.

Cheers, Geoff

Edited: 26 Feb 2010, 7:21 p.m. after one or more responses were posted

Re: After my two fauxpas; re the HP41C below, here is the book

*Message #7 Posted by **Martin Pinckney** on 26 Feb 2010, 5:34 p.m.,*
in response to message #6 by Geoff Quickfall

> Quote:
>
> There will also be a section on the Stretch Pioneer featuring an HP48SX.

> Yes! Thanks! (Although I've never heard that term before, "stretch Pioneer", I like it. I once said the 48SX *looks like* a "Pioneer on steroids").

Re: After my two fauxpas; re the HP41C below, here is the book

*Message #8 Posted by **Geoff Quickfall** on 26 Feb 2010, 6:28 p.m.,*
in response to message #7 by Martin Pinckney

Also known as the Charlemagnes. I have been using the terminology for naming the families following "A Guide to HP Handheld Calculators and Computers" by W.A.C. Mier-Jerzejowicz.

Wlodek has been helping me with suggestions and examples to restore as well. All that will be mentioned in the book.

Of course, every one or two months and another repair comes to light. For example I had no idea about the radix jumper in the spice so of course I have to include the radix change with examples in the Spice chapter.

Other things come up such as 42S low contrast problem involving jumper switch and a different capacitor show up and have to be included. Of course this entails actually doing the upgrade and then modifying the chapter.

The problem is YOU people keep comming up with new clever ideas that have to be included!

Cheers, Geoff

Re: After my two fauxpas; re the HP41C below, here is the book

*Message #9 Posted by **Bart (UK)** on 26 Feb 2010, 8:03 p.m.,*
in response to message #8 by Geoff Quickfall

Geoff, it looks like an excellent piece of work, I think you will have sales to many forum members, including me.

> Quote:
>
> The problem is YOU people keep comming up with new clever ideas that have to be included!

That's what updated editions are for :-)

Cheers,
Brt

Re: After my two fauxpas; re the HP41C below, here is the book

*Message #10 Posted by **Thomas Radtke** on 26 Feb 2010, 5:34 p.m.,*
in response to message #1 by Geoff Quickfall

Great :-).

Small typesetting problem: Captions (first line of it) should be on the text body baseline. You did it in Word, right? ;^)

You will immediately see an improvement, when you try to adjust it, even by hand, if Word still doesn't support baseline snaps.

Re: After my two fauxpas; re the HP41C below, here is the book

*Message #11 Posted by **Geoff Quickfall** on 26 Feb 2010, 5:50 p.m.,*

in response to message #10 by Thomas Radtke

In Microsoft Publisher,

In fact these photos are slightly out of date as typos, typsetting and some other small glitches have been solved.

keep pointing them out thought, and I am sure the peer review team will not be merciful ;-)

Cheers, Geoff

Re: After my two fauxpas; re the HP41C below, here is the book

*Message #12 Posted by **Thomas Radtke** on 26 Feb 2010, 5:58 p.m.,*
in response to message #11 by Geoff Quickfall

Ok, another thing: When defining a paragraph style, never allow for a page break right after the first or before the last line of a paragraph, so you never have just one line of it on a page.

You probably fixed that already.

Re: After my two fauxpas; re the HP41C below, here is the book

*Message #13 Posted by **Geoff Quickfall** on 26 Feb 2010, 6:12 p.m.,*
in response to message #12 by Thomas Radtke

Yep!

Keep going

;-)

Problem is when I move or change or resize a figure it ricochets down the chapter. Each chapter is it's own section in Publisher. this limits how much damage I can do when I change something at the beginning of the chapter.

New to this aspect. My thesis and journal articles follow a preset published set of rules. Apparently I can follow those! This ad-hoc approach has its own rewards though.

Once all the text is completed and the figures done positioned correctly I will go through the pages and clean up the stray sentences and etc...

Geoff

Edited: 26 Feb 2010, 6:57 p.m. after one or more responses were posted

Re: After my two fauxpas; re the HP41C below, here is the book

*Message #14 Posted by **hpnut** on 26 Feb 2010, 6:35 p.m.,*
in response to message #13 by Geoff Quickfall

Awesome work, Geoff! Any way of twisting Hp's arms to buy this book in huge quantities to reduce the selling price? :-)

l will definitely be placing an order from you .

Re: After my two fauxpas; re the HP41C below, here is the book

*Message #15 Posted by **Geoff Quickfall** on 26 Feb 2010, 6:55 p.m.,*
in response to message #14 by hpnut

Actually working on that aspect!

Cheers, Geoff

and thanks for the compliments.

Re: After my two fauxpas; re the HP41C below, here is the book

*Message #16 Posted by **Gerry Schultz** on 26 Feb 2010, 7:49 p.m.,*
in response to message #13 by Geoff Quickfall

Geoff:

You book looks fantastic! I'm looking forward to it as I have a couple of 41CX keyboards that need a little attention and I have two extended memory modules that I would like to merge together. I also just got an HP-55 that needs a little restoration as well as a second 71b whose battery terminals need some work.

It's great to see the section on rebuilding the 41 card reader. Do you intend to include other 41 peripherals in a second volume, perhaps later on? It could cover the 143/162 peripheral printers as well as the 161A tape drive and the 9114 A/B floppy drives. For instance, I have a 41 barcode wand in which the threaded ring the tip screws into has broken apart so the tip is hanging on by a small thread. It would be interesting to see how to fix that.

I will be purchasing a copy of your book when it's released. Thanks for doing this for all of us. We appreciate it.

Gerry

Yep!

*Message #17 Posted by **geoff quickfall** on 26 Feb 2010, 8:15 p.m.,*
in response to message #16 by Gerry Schultz

In fact I have section in the appendix for memory module combination "double x-memory". Restoring different battery packs.

The HP41 peripheral section could be a book on its own. So other than the card reader, calculators, memory upgrades, battery packs and a few other sections such as heat stake replacement/repairs, I think the peripherals will have to wait.

Take a look a Mathias site for the number of HP41 peripherals there are!!

I will be restoring a GEODAT 126 in the appendix which may help people get into other types.

Yep, THAT book would easily be 500 pages on its own!!

So far the logistics entails finding a representative of each family, some peripherals, memory upgrades and etc and then actually doing/documenting each repair.

Peripherals would be fun and I do have the following HP41 peripheral which could be included but I think the calculators will be the focus for HCC2010:

```
HPIL printer
HPIL plotter
Non HPIL printer
Infared printer
HPIL tape drive
HPIL floppy drive
LASER wand
6 card readers
```

As it is I have included and completed the following restorations and upgrades:

```
HP65 complete restoration
HP45 quartz crystal upgrade
HP55 quartz crystal replacement
```

Classic series LED block replacement as an example of unsoldering.

HP29C complete restoration
Woodstock battery modifications

HP97 complete restoration including card reader and printer

HP01 complete restoration including case, quartz crystal, trimming capacitor and possible an LED block swap

HP34C soldered complete restoration
HP spice unsoldered complete restoration

HP41CX complete restoration, with Diego Diazs battery pcb included
HP41CV complete restoration
HP41C early version complete restoration
Card reader with it's own section complete restoration
Double ex memory section

HP10C complete restoration including aluminum bezel swap
HP11C complete restoration including heat stake removal and remelting

71B early version complete restoration
71B later version complete restoration

HP18C complete restoration
HP28C complete restoration

HP42S complete restoration, memory upgrade, contrast enhancement
HP48SX complete restoration

Appendices:
battery pack reconditioning for CLASSIC/Topcat, Woodstock, Coconut

battery pack substitute for classics with bad contacts
battery pack repair for broken spice with bad ribbons

make your own drying box

make your own overlays

make your own rubber feet

Discussion on ESD protection while working on calcs

Diagnostic programmes

Glossary

references, citations and credits (including URLs with permission)

EYE CANDY photos of before and after (playboy section for calc nerds)

index

As you can see a lot of work and photography. I think peripherals not covered would indeed fit in a book on its own. Having said that, the title is HP Calculators (with some extras).

My wife is renovating the house, I am restoring my 1973 Celica from the ground up, work and the book so pretty busy here for the time being. Company just called and now off to Hong Kong tomorrow.

Work, work, work!!! Of course during my first 3 hour break I will work on the book on my laptop.

Cheers, all!

Edited: 26 Feb 2010, 9:08 p.m.

Re: After my two fauxpas; re the HP41C below, here is the book

*Message #18 Posted by **Garth Wilson** on 26 Feb 2010, 7:05 p.m.,*
in response to message #1 by Geoff Quickfall

Super! I want one when it's ready.

Since you can still edit it, a quick search-and-replace of "fullnut" replaced with "coconut" would be good. The original HP-41's were "coconuts." HP never had a "fullnut."

Re: After my two fauxpas; re the HP41C below, here is the book

*Message #19 Posted by **Geoff Quickfall** on 26 Feb 2010, 7:15 p.m.,*
in response to message #18 by Garth Wilson

Thanks Garth and actually corrected. I was using a general user term but have switched to HP terms whenever they exist in the latest version. This book was produce about 7 months ago to see how the graphics and text read and as such does contain errors. No doubt the final edition will also contain errors! I haven't submitted the final copy to the peer review group (I think it may compose of the HCC committee members, fingers crossed as they are busy people!).

Codenames such as the 'Coconut HP41C', 'Silverbird Hp41CV' and 'Honeynut HP41CX' are used in the book. The 41CX was the Honeynut and later came with a simplified electronics and was codenamed 'Halfnut' refering to the size of the PCA. In fact, according to Wlodeks book, it may have refered to the fact that the HP41 newest design was to include only two ports instead of four. The user group has developed the term 'fullnut' although it is not an HP codename to differentiate between the original versus halfnut electronics.

Cheers, Geoff

"A Guide to HP Handheld Calculators and Computers" by W.A.C. Mier-Jerzejowicz

Edited: 26 Feb 2010, 7:18 p.m.

How I tackle a chapter for the book, with reference to..

*Message #20 Posted by **Geoff Quickfall** on 26 Feb 2010, 7:07 p.m.,*
in response to message #1 by Geoff Quickfall

Thomas Radkes observations on the typos and text position errors in the posting above ;-)

Firstly, choose a Reference calculator that exhibits most of the restoration points of interest and represents the majority of the family.

For example, in the Pioneer family all the calculators can be accessed the same way. Once inside the 42S lends itself to upgrading, both memory (jumper change and memory chip), clock speed (quartz crystal) and contrast (by swapping a capacitor and changing a jumper). That is, once inside to repair the standard problems, keyboard, zebra strip contact foam, keys and etc this example allows for upgrades.

Document each step by taking a raw series of photos with a macro lens, lighting and appropriate background. Pick the best photo and crop, label, align and size for correct use as a figure.

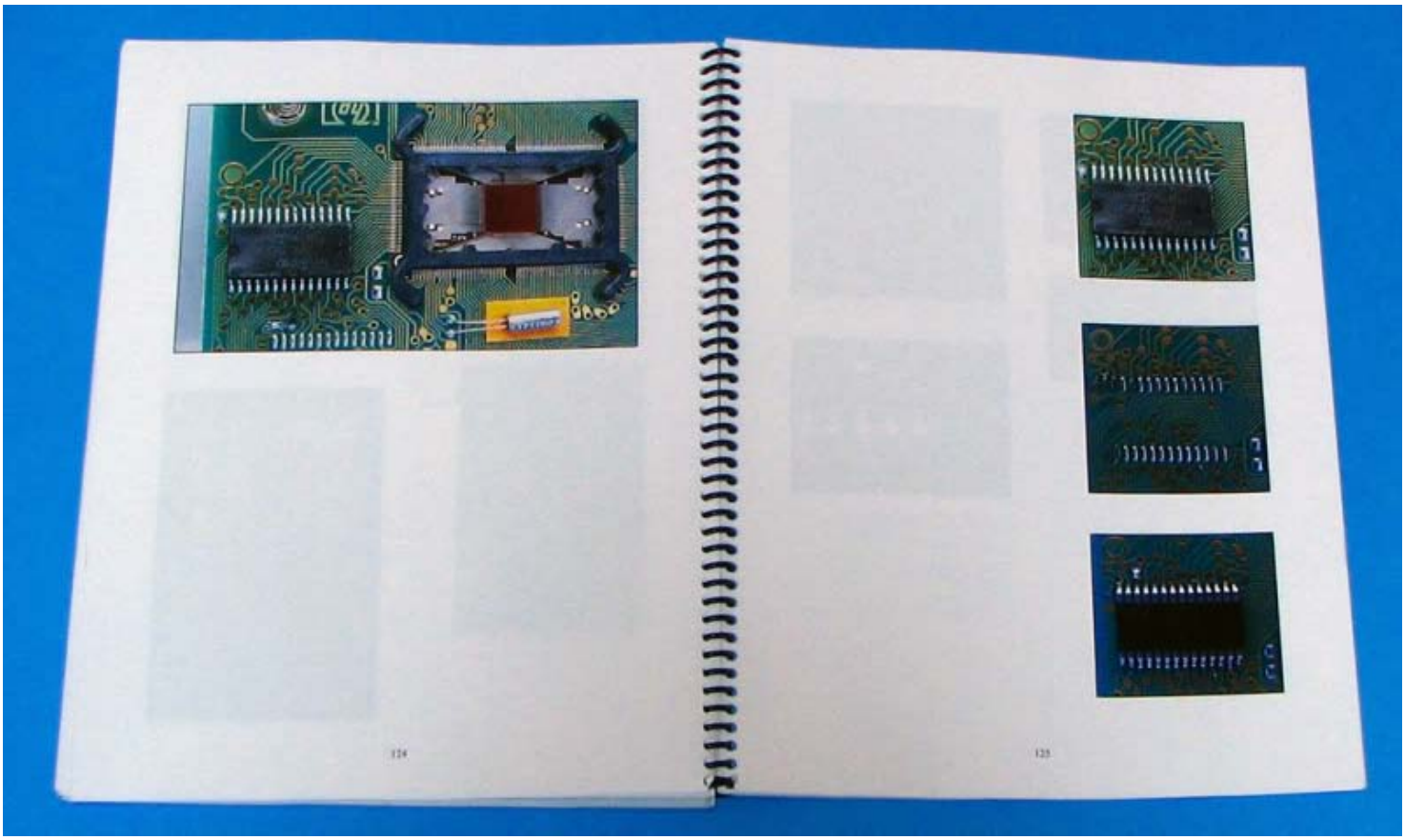
Place the figures in the appropriate order on the virtual book and then write the text around the sequence of figures.

Go back and take new pictures, insert them after cleaning them up and write more text. I try to over do the pictures as they are worth a thousand words.

Here are some shots of the Pioneer chapter with a reference calculator. Notice the reference calculator is the HP42S. The differences section of the Pioneer chapter includes the Stretch Pioneer (Charlemagne). I included the Stretch Pioneer in with the Pioneers as their construction is extremely similar.

The following pages show the figures cropped and sized but not yet labelled. The labelling will depend on the text.

After my two fauxpas; re the HP41C below, here is the book



After my two fauxpas; re the HP41C below, here is the book

This is the reference section and you can see some of the labels have been applied to the photos.

The next step is to write the text step by step referencing the figures. This of course changes the location of each figure with respect to the page number.

Once completed then correct any stray sentences and add or change some of the figures for better explanatory clarity.

Cheers, Geoff and it still raining!

Re: How I tackle a chapter for the book, with reference to..

*Message #21 Posted by **Marc Ferrer (France)** on 2 Mar 2010, 4:31 p.m.,*
in response to message #20 by Geoff Quickfall

Hi Geoff,

I've been amazed by your outstanding achievements for a long time, Well I'm afraid my English isn't fluent enough to say it.

...and I'm also afraid you'll have another copy of your book to send to Europe when it'll be finished :-)

I wish you great success !

Greetings from France, Marc

Re: After my two fauxpas; re the HP41C below, here is the book

*Message #22 Posted by **Bart (UK)** on 26 Feb 2010, 8:08 p.m.,*
in response to message #1 by Geoff Quickfall

> Quote:
>
> In any case these two facts were correctly stated in the 'book', if only I had referenced my chapter 8!!!

If all else fails...read the manual - even if you wrote it yourself :-)))

We're all looking forward to it's imminent release.

ha ha ha haaaa ha, good one! ;>)

*Message #23 Posted by **geoff quickfall** on 26 Feb 2010, 8:17 p.m.,*
in response to message #22 by Bart (UK)

nt

Re: ha ha ha haaaa ha, good one! ;>)

*Message #24 Posted by **Eddie W. Shore** on 27 Feb 2010, 12:02 a.m.,*
in response to message #23 by geoff quickfall

Amazaing, great job Geoff!

Re: ha ha ha haaaa ha, good one! ;>)

*Message #25 Posted by **Prabhu Bhooplapur** on 27 Feb 2010, 7:52 a.m.,*
in response to message #23 by geoff quickfall

Hi Geoff, Excellent work! Waiting for the release. Best regards, Prabhu Bhooplapur

Re: After my two fauxpas; re the HP41C below, here is the book

*Message #26 Posted by **Geir Isene** on 27 Feb 2010, 2:09 a.m.,*
in response to message #1 by Geoff Quickfall

Amazing. Me want

Re: After my two fauxpas; re the HP41C below, here is the book

*Message #27 Posted by **Johnny Bjoern Rasmussen** on 27 Feb 2010, 5:17 a.m.,*
in response to message #26 by Geir Isene

Looks absolutly fantastic. I want that book!
Johnny

Re: After my two fauxpas; re the HP41C below, here is the book

*Message #28 Posted by **Marcus von Cube, Germany** on 27 Feb 2010, 7:53 a.m.,*
in response to message #27 by Johnny Bjoern Rasmussen

You will have to ship more than one copy to Europe! :)

Just to second all the other guys...

*Message #29 Posted by **Vieira, Luiz C. (Brazil)** on 27 Feb 2010, 9:03 a.m.,*
in response to message #1 by Geoff Quickfall

Congrats, Geoff!

Impressive!

Luiz (Brazil)

Re: After my two fauxpas; re the HP41C below, here is the book

*Message #30 Posted by **John Pierce** on 27 Feb 2010, 11:34 a.m.,*
in response to message #1 by Geoff Quickfall

What more could a calculator geek, in rainy Vancouver, want besides a great book on a wonderful topic ??

Off to Hong Kong, but before...

*Message #31 Posted by **geoff quickfall** on 27 Feb 2010, 1:11 p.m.,*
in response to message #30 by John Pierce

I go I would like to thank everyone for their support, comments and ideas as well as emails.

On another note, I have a donor hp 19C that needs repair that I can use. Of course if anyone has an extra messed up one that they want to sell, I am always willing to purchase it.

Cheers, until next week, Geoff

A new thing to do in Hong Kong during my walks...

*Message #32 Posted by **geoff quickfall** on 1 Mar 2010, 12:29 a.m.,*
in response to message #31 by geoff quickfall

Hit the electronic stores in the back streets and look for the one with dusty boxes in the front window.

Can't photo the find here but I can describe it. It cost $20 Canadian dollars. A brand new in box (dusty) 38G still shrink wrapped complete with manual.

The box has a copyright of 1995 and the serial number of the calculator is 3539sxxxxxx.

Now to find the shop with the 23 HP42S in the back room still shrink wrapped. They might be here as this 38G is 1995 vintage. Now that would be fun to find.

Cheers, from foggy misty Hong Kong.

What a hockey game!!!! Even if the anouncers were speaking chinese, incredible hockey (Canada vs USA).

Geoff

Re: A new thing to do in Hong Kong during my walks...

*Message #33 Posted by **Martin Pinckney** on 1 Mar 2010, 10:27 a.m.,*
in response to message #32 by geoff quickfall

Even though I personally like the 38G, the market does not. A brand new old stock 38G is worth about what you paid for it.

Keep looking for the 42S cache.

Re: A new thing to do in Hong Kong during my walks...

*Message #34 Posted by **Diego Diaz** on 1 Mar 2010, 1:29 p.m.,*
in response to message #33 by Martin Pinckney

Hi Geoff,

Your work on this book looks as outstanding as the restorations described inthere.

My sincere congrats on that... ;-)

I will still take a few weeks to get back to Europe, but I'd like to renew my interest in getting one copy when you release the final edition.

Best wishes.

Diego.

Re: Off to Hong Kong, but before...

*Message #35 Posted by **Michael Meyer** on 1 Mar 2010, 2:16 p.m.,*
in response to message #31 by geoff quickfall

I have a partially working HP 10 that I tried to restore. I cleaned the circuit boards, etc. and it still isn't working right... several numbers don't work (not the keyboard) and it won't print, etc. Let me know if you want to borrow it.

I spent a fortune on two of them, combining the best parts, so I do have a working one. Definitely the most I've ever spent on a model, but it was necessary....

Re: After my two fauxpas; re the HP41C below, here is the book

*Message #36 Posted by **Brian Walsh** on 1 Mar 2010, 4:58 p.m.,*
in response to message #1 by Geoff Quickfall

It looks like an instant classic, Geoff.

Re: After my two fauxpas; re the HP41C below, here is the book

*Message #37 Posted by **Alberto Fenini** on 3 Mar 2010, 7:12 a.m.,*
in response to message #1 by Geoff Quickfall

Congratulations ! It looks fantastic, be prepared to send some copies to Italy as well ! cheers, Alberto

After my two fauxpas; re the HP41C below, here is the book

HP Forum Archive 19

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HP 30B

*Message #1 Posted by **JDonley** on 26 Feb 2010, 10:33 a.m.*

Any insight into release date of 30B? I really need a new calculator (NOT)....this one may be the tipping point for an addition to the abode, just for storing calcs. It's gotta be aspergers syndrome.

don

Re: HP 30B

*Message #2 Posted by **Eddie W. Shore** on 26 Feb 2010, 11:17 a.m.,*
in response to message #1 by JDonley

I have not seen the 30B in the U.S., yet. :(. Come on HP we Americans are waiting!

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GTO Go back to the main exhibit hall

HP Forum Archive 19

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HP67-97 Space Systems User's Guide

*Message #1 Posted by **aj04062** on 26 Feb 2010, 7:00 a.m.*

I have a photocopied copy of this I acquired with other 67 manuals and items. I've sold off these items and this it what remains.

I do not have the program card for this, but it could be interesting to someone.

Let me know if you have interest, maybe we could trade something or, in the least, you could pay shipping.

Re: HP67-97 Space Systems User's Guide

*Message #2 Posted by **db (martinez, ca.)** on 26 Feb 2010, 11:02 a.m.,*
in response to message #1 by aj04062

Can someone say if this is on the museum DVD yet?
My copy is old.

Re: HP67-97 Space Systems User's Guide

*Message #3 Posted by **aj04062** on 26 Feb 2010, 4:53 p.m.,*
in response to message #2 by db (martinez, ca.)

I can scan and send to anyone as well!

pdf format

Re: HP67-97 Space Systems User's Guide

*Message #4 Posted by **PeterP** on 26 Feb 2010, 5:00 p.m.,*
in response to message #3 by aj04062

a pdf would be great to keep it for the community. You could send it to my email and/or to the curator to have it for the next edition.

Space and Space physics is my passion so I'd be very interested in seeing it (even though I never had a 67, just 41).

Cheers

Peter

Re: HP67-97 Space Systems User's Guide

*Message #5 Posted by **Don Shepherd** on 27 Feb 2010, 9:46 a.m.,*
in response to message #3 by aj04062

Quote:

I can scan and send to anyone as well!

pdf format

Yeah, I'd like a copy of this. Click on my name above and send me a message and I'll send you my email address.

thanks Don Shepherd

Re: HP67-97 Space Systems User's Guide

*Message #6 Posted by **Don Shepherd** on 28 Feb 2010, 12:09 p.m.,*
in response to message #3 by aj04062

aj, see my new post at the top of the threads. I found the gentleman who wrote this, and he provided it to me. If it is the same doc that you have, there is no need to scan it as he already did that and made it available to us.

Don Shepherd

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HP Forum Archive 19

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HP-55 Value, 3 complete calculators

*Message #1 Posted by **aj04062** on 25 Feb 2010, 11:38 p.m.*

I picked up 3 of these complete with cases, chargers, notepads, manuals and registration info.

Is there interest in these? What would be the value?

One has no battery leak damage while the other two have slight. One of these the foot/lock has crumbled from the acid (does anyone have one or a good battery door?).

They all work.

Adam

pictures here: http://picasaweb.google.com/aj04062/HP55#

Edited: 26 Feb 2010, 9:35 p.m.

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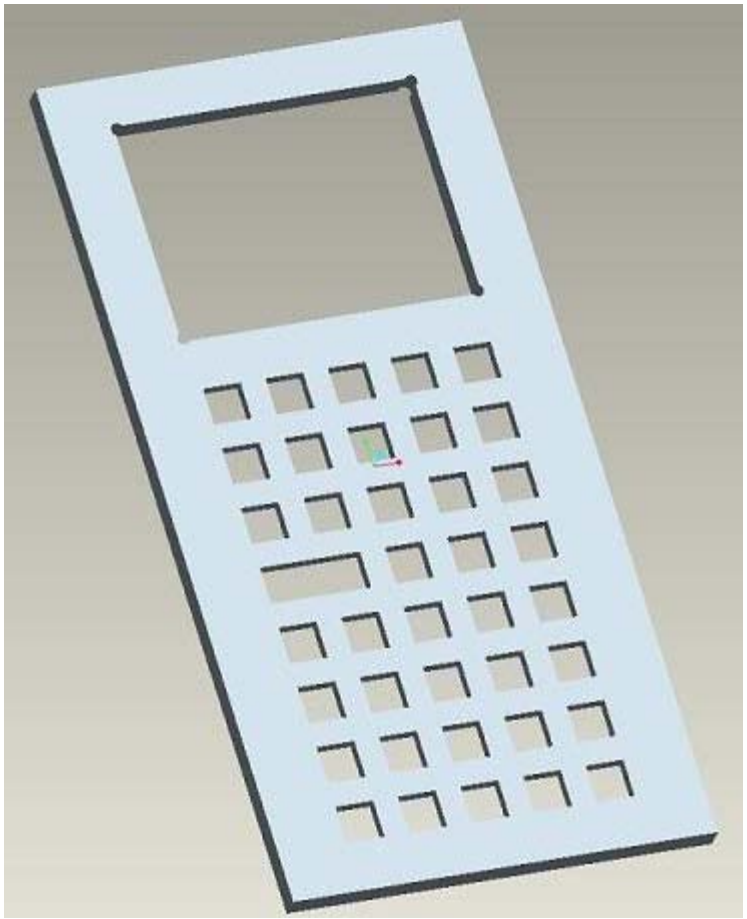
If you could....

*Message #1 Posted by **Dimitri Simitas** on 25 Feb 2010, 8:51 p.m.*

If you could layout this keyboard anyway you wished to for a RPN Graphing calculator, how would you?



Its 39 buttons in all.

Dimitri

Re: If you could....

*Message #2 Posted by **DaveJ** on 25 Feb 2010, 9:02 p.m.,*
in response to message #1 by Dimitri Simitas

I'd add another row of buttons for a start.

And possibly have the upper half buttons a smaller pitch to add another column as well.

Dave.

Re: If you could....

*Message #3 Posted by **db (martinez, ca.)** on 25 Feb 2010, 10:12 p.m.,*
in response to message #1 by Dimitri Simitas

Interesting question.
To get the kind of answers you want, we need to know
1)how many shift keys can there be
2)can functions be picked out by alpha, like the 41 series
3) if there will be a user keyboard option or if what we get is written in stone.

Two things i can say right now are that i really want you not to forget p<>r & r<>p and that putting programming functions on the primary (only?) keyboard of an alfa equiped calc (like the 41) is a waste of valuable prime real estate. Ex:All those X=whatever functions on the 41's shifted +,-,x,/ functions would have been better used as time arithmatic. We do more math than programming.

Re: If you could....

*Message #4 Posted by **Dimitri Simitas** on 25 Feb 2010, 10:27 p.m.,*
in response to message #3 by db (martinez, ca.)

Good point so my design considerations so far:

1) HP-41 compatible
a) Programs written in HP-41 format in a text document will run from SD card.
b) Programs will be accessible and used exactly like a HP-41.
c) Talk software interface for the HP-IL system and HP-41 printer.
2) No on board programming for now.
3) Built in HP Pac's in system for ease of use.
4) One shifted function per key.
5) Will have menu functions as to not need too many special keys.
6) RS-232 output and input available, built in command set with minimal additional added code in user programs (no advance programming needed) for robotic control etc
7) G-code interpreter with output connected to RS-232 for CNC hobby applications. G-code files on the SD card.
8) Graphing functions and equation solving routines built in.

Dimitri

Edited: 25 Feb 2010, 10:33 p.m.

Re: If you could....

*Message #5 Posted by **Monte Dalrymple** on 26 Feb 2010, 12:02 a.m.,*
in response to message #4 by Dimitri Simitas

Similar in some ways to my version... except I have no use for graphics. I haven't yet come up with a way to bring out the rs232 or SD interfaces, but that also isn't a priority at the moment.

Take a look at the appendicies in this document:
http://www.systemyde.com/pdf/newt.pdf

And here's a photo of the circuit board:

http://www.systemyde.com/hp41/photo_2.jpg

Monte

Re: If you could....

*Message #6 Posted by **Dimitri Simitas** on 26 Feb 2010, 8:16 a.m.,*
in response to message #5 by Monte Dalrymple

Looks interesting I will admit I'll be cheating alittle, internally it will be more like a old computer from the 80s then a single chip calculator.

I will be using the Atmel AVR series with 4 diffrent MCU in the system, the processor (the calculator & SD card + any built in flash), the graphic output chip, the HP-IL/RS-232/FDD chip, and one to interface the keyboard on their own chips connected with a TWI/I2C network internally.

Dimitri

Re: If you could....

*Message #7 Posted by **Eddie W. Shore** on 26 Feb 2010, 11:14 a.m.,*
in response to message #1 by Dimitri Simitas

(Long Message) Dimitri, this is a long message but here it goes.... I think mine ended being a 28/48 approach but instead of RPL, it has keystroke programming:

KEYBOARD

```
SH-390G


GRPH  (     PRGM   )    MATH (lambda) TEST (mu)   STAT (sigma)
  F1          F2           F3           F4           F5


ALOCK       ADV   ?     APP  (+-)     EQN  $      XEQ  &
ALPHA       (LEFT)        (UP)        (DOWN)       (RIGHT)


            =    A      %    B        i   C       (angle) D
SHIFT        x<>y        R(DOWN)      STO          RCL


   MODE  D              Sigma+ E      Sigma- F     CLEAR  G
   ENTER                CHS (+/-)     EXP (10^)    Backspc


>HMS H      SQRT I      ^   P         ROOT  K      ASIN  L
   -          7           8           9            SIN


>H   M      x^2  N      P>R  O        R>P  P       ACOS  Q
   +          4           5           6            COS


1/x  R      x!  S       LN  T        e^x  U       ATAN  Q
   x          1           2           3            TAN


F<>D W      pi  X       LOG Y        10^x Z       OFF  ESC
   ÷          0            .          R/S          ON
                          a b/c


Legend:
```

```
SHIFT  ALPHA
   PRIMARY
```

Menus: (F1, F2, F3, F4, F5) Mulit-page menus loop with MORE

GRPH: f(x)=, PLOT, ANAL, TRACE, VIEW (here you can change the viewing window - and gives xmin, xmax, xscl, xstep, and similar for y, theta, r, u, n, n-1 depending on graph mode)

GRPH-ANAL: VALUE, ROOT, SLOPE, EXTRM (Extrema), MORE; INTER (Intersect), SHADE, AREA, TEXT (Write on the Graph), MORE

PRGM: LIST, CREATE, CMD, DISP, LOOP

Programs and equations have 12-character names. Up to 10 programs and equations can also be assigned to 0-9 for quick access.

PRGM-List: List programs alphabetically, programs can be erased with highlighting it and hitting CLEAR, make a "quick-program" by highlighting it and pressing a number key; hence XEQ 0-9 executes programs labled 0-9

PRGM-CMD: LBL, GTO, RTN, BREAK, MORE; SF, CF, SF?, CF?, MORE

PRGM-DISP: INPUT, MSG (Message), PAUSE, R/S, MORE; ShowSt (Show Stack), ShowG (Show Graph), ClrSt (Clear Stack), ClrG (Clear Graph), MORE

Message Command: Use ALOCK to insert quotes (" "), i.e. to display "HP 41C" in a program: SHIFT ALOCK HP ALPHA 4 ALPHA 1 C SHIFT ALOCK MSG (PSE or R/S)

PRGM-LOOP: ISG, DSE, If, For, Do

PRGM-LOOP-If: IF, THEN, ELSE, ENDIF

If Structure: IF y x (test) THEN (true) ELSE (false) ENDIF

PRGM-LOOP-For: FOR, NEXT, STEP

For Structure #1: start end FOR var (cmds) NEXT

For Structure #2: start end FOR var (cmds) incr STEP

PRGM-LOOP-Do: DO, UNTIL, ENDO

Do Structure: DO (cmds) UNTIL y x (test) ENDO

MATH: Prob, Cmplx, Base, Num, HYP

MATH-Prob: nCr, nPr, Binom (Binomial CDF), Pois (Poisson CDF), MORE; NCDF (Normal Dist CDF), Ninv (Normal Inverse), CHI2CDF (Chi Squared CDF), CHI2INV (Chi Squared Inverse), MORE

MATH-Cmplx: ABS, ARG, REAL, IMAG, CONJ (Conjugate)

MATH-Base: (Prefixes) d, b, h, o, MORE; (convert to) DEC, BIN, HEX, OCT, MORE

MATH-Num: INTG, FRAC, INT÷, REM (Remainder/Mod), ROUND (Round y to nearest x)

TEST: x?y, x?0, AND, OR, NOT (First two gets you to <, <=, >, >=, MORE, =, ~= (not equal), MORE)

STAT: Means, Sums, Reg, x' (Predict x), y' (Predict y)

STAT-Means: MEAN (returns y-bar and x-bar), STD (standard deviation for both y and x), POPD (population deviation for both y and x)

STAT-Sums: SUM (Sy, Sx), SUMSQ (Sy^2, Sy^x), Sxy, n

STAT-Reg: Eqn (lists equation on stack), Corr, BEST (finds the best correlation), LIN (Linear), MORE; LOG (Logarithm), POW (Power),EXPR (Exponential), INV (Inverse y = a + b/x), MORE; QUAD (Quadratic), CUBIC (Cubic), SIN (Sinusodial), LOGIS (Logistic), MORE

APP: F1 - MEM (Memory) F2 - TVM (Time Value of Money) F3 - RK4 (Differential Equation using 4th Order Runge-Kutta) F4 - CASH (Cash Flow: Net Present Value, IRR, Net Future Value, Net Utility Stream, MIRR) F5 - I/O (USB and/or Card Management)

ADV: F1 - Constants Library (or Formula Library) F2 - Conversions Library F3 - ZETA F4 - ERF (Error Function) F5 - MORE

F1 - DATE+ F2 - DAYS (Days between dates) F3 - DAYWK (Day of the Week, return a three letter code, i.e. "MON" for Monday) F4 - Matrix F5 - MORE

(** Date functions is a must for me)

ADV-Matrix: Entry, Add a Row, Add a Column, Delete a Row, MORE; Delete a Column, INV, DET, EIGEN (Eigenvalues), MORE; Row+, Row*, Row+*, IDEN (Identity), MORE

EQN: List, Create, CMD, Poly (Polynomials up to 6th order), Simultaenous (up to 6th order)

EQN-List: List programs alphabetically, programs can be erased with highlighting it and hitting CLEAR, make a "quick-equation" by highlighting it and pressing a number key; hence RCL 0-9 recalls equaitons 0-9

EQN-CMD: EVAL, SOLVE, Sum, Integral, Derivative

MODE: RUN, BASE, ANGLE (Deg, Rad, Grad), GRAPH (Function, Parametric, Polar, Sequence), DISP (All, Fix, Sci, Eng)

F<>D: Toggle between Decimal and Fraction display mode.

In fraction display mode, the following are displayed: fractions, exact square roots, and pi (I guess this is EXACT mode)

Enter fractions like this: whole number, decimal point, numerator, decimal point, denominator (like the HP 35s)

In decimal display mode: everything is a numerical approximation

Memory Capacity: (at least) 100,000 program steps (at least) 15,000 bytes for statistics, equations, and matrices

Edited: 26 Feb 2010, 11:24 a.m.

Re: If you could....

*Message #8 Posted by **Didier Lachieze** on 26 Feb 2010, 11:37 a.m.,*
in response to message #7 by Eddie W. Shore

Interestingly, in your layout the SIN, COS and TAN keys are in the same column while on almost all past or existing calculators they are on the same line ... the Sinclair Scientific being one of the exceptions.

Re: If you could....

*Message #9 Posted by **Dimitri Simitas** on 26 Feb 2010, 4:13 p.m.,*
in response to message #7 by Eddie W. Shore

Long but good, I was honestly going to skip Stat S+/S- (picture the Greek letter) mainly because I honestly don't know it, but will be on the later prototypes. Yah I am in college taking calculus courses but was never taught statistics.

You think basic high level programming would be good?

Really its going to be a interpreter on board, so I have been worried about it due to the available on board RAM already dealing with 30 floating point numbers (X, Y, Z, T, U and memory number Registers 1 to 25) plus doing math with them. Although it wouldn't be too bad since it will process actions in small steps anyways.

Dimitri

Re: If you could....

*Message #10 Posted by **Eddie W. Shore** on 26 Feb 2010, 11:59 p.m.,*
in response to message #9 by Dimitri Simitas

Programming is a favorite feature of mine since knowing even the basics of it - you can the calculator do almost anything. (and I really don't consider myself of having more than working knowledge)

Re: If you could....

*Message #11 Posted by **Dimitri Simitas** on 27 Feb 2010, 6:09 p.m.,*
in response to message #10 by Eddie W. Shore

> Quote:
>
> Programming is a favorite feature of mine since knowing even the basics of it - you can the calculator do almost anything.

Looking into Flash Chip based onboard programming now. Just cause of you ;)

Dimitri

Re: If you could....

*Message #12 Posted by **Eddie W. Shore** on 28 Feb 2010, 4:02 p.m.,*
in response to message #11 by Dimitri Simitas

:) Dimitri.

I hope things are going well so far with the project.

Re: If you could....

*Message #13 Posted by **Walter B** on 28 Feb 2010, 2:52 a.m.,*

in response to message #7 by Eddie W. Shore

Nice to see an independent layout. Some questions and comments:

- What's ROOT? Does SHIFT 9 calculate the x-th root of y, since SHIFT 8 seems to compute y^x?
- There's a mix of horizontal and vertical arrangements of related functions, e.g. SQRT and x^2 versus LN and e^x. For sake of consistency, either one would be prefered. Most people read from left to right d;-)
- The arrangement of arithmetic operators goes far back in history. Personally, I'd prefer the sequence + - x / going up with increasing complexity. Your mileage varies obviously d:-)
- I doubt trigs are used more frequently than a SQRT or LN / e^x. Apparently, you had to put SIN, COS, and TAN on primary since you feature a single SHIFT only.
- Nice and pretty complete menu system.
- Very nice programming set of functions. Assume you will display these structures using the big screen.
- 100.000 lines of code definitively require I/O. Thanks for taking this into account.
- Why is "=" on the keyboard? You don't propose an algebraic mode, do you?

Thanks for sharing your thoughts.

Walter

Re: If you could....

*Message #14 Posted by **Eddie W. Shore** on 28 Feb 2010, 3:59 p.m.,*
in response to message #13 by Walter B

Walter,

ROOT: The universal root function (y^(1/x)). I don't know how to type the radical sign in text.

Regarding the arrangement: sounds good going from right to left. I take it you are not a fan of the trig functions going downward. :) My first draft of fitting the functions onto the keyboard.

Arrangement of arithmetic operators: I was going for retro (HP 41C).

I would like to see LN and LOG as primary functions, though I was working with keyboard of 39 keys. I could rearrange the keys so that scientific functions are primary and menus are shifted.

Thank you about the menu system, I appreciate the compliment, Walter.

Currently I would have the I/O set in the APP menu (APP - F5).

Maybe the command set would be: SSD (to SD), RSD (from SD), SCPU (send to computer), RCPU (receive from computer), SCREEN (send screen shot) (Am I missing anything?)

No, this calculator does not have the algebriac mode. The "=" is for the Solver. Currently, I have the EQN work like the equation feature of the HP35s.

This keyboard is definately worth several revisions.

:)

Edited: 28 Feb 2010, 4:01 p.m.

Re: If you could.... (Version 2 of keyboard)

*Message #15 Posted by **Eddie W. Shore** on 28 Feb 2010, 8:40 p.m.,*
in response to message #14 by Eddie W. Shore

(Long Message) My second take at it:

Changes:

* Moved the arithmetic keys to the left side

* Horizontal arrangements of related functions

* Added the I/O Menu

* << = Backspace

* GREEK = Greek Letters

* INT'L = International Characters

KEYBOARD

```
SH-390G  [Version 2]


GRPH  (     PRGM   )    MATH GREEK  TEST INT'L   STAT   &
  F1          F2           F3           F4          F5


ALOCK       ADV   ?     APP  (+-)     EQN  $      XEQ (theta)
ALPHA        (left)       (up)        (down)       (right)


            =    A      %    B        i   C       (angle) D
SHIFT        x<>y        ROLLD        STO          RCL


 MODE    D            ASIN  E        ACOS F        ATAN  G
   ENTER                SIN           COS          TAN


CLEAR  H      x^2  I     SQRT  J       y^x  K      y^(1/x) L
   <<            7          8           9           /


Sigma+ M      >H   N     >HMS  O       P>R  P       R>P  Q
   EE           4          5           6           x


Sigma- R      1/x  S      x!   T       e^x  U       LN   V
 +/-(CHS)      1          2           3           -


OFF ESC       pi  W       F<>D X       10^x Y       LOG  Z
   ON           0                       R/S         +
                          a b/c


Legend:


SHIFT  ALPHA
   PRIMARY
```

Menus: (F1, F2, F3, F4, F5) Mulit-page menus loop with MORE

GRPH: f(x)=, PLOT, ANAL, TRACE, TABLE

GRPH-ANAL: VALUE, ROOT, SLOPE, EXTRM (Extrema), MORE; INTER (Intersect), SHADE, AREA, TEXT (Write on the Graph), MORE

PRGM: LIST, CREATE, CMD, DISP, LOOP

Programs and equations have 12-character names. Up to 10 programs and equations can also be assigned to 0-9 for quick access.

PRGM-List: List programs alphabetically, programs can be erased with highlighting it and hitting CLEAR, make a "quick-program" by highlighting it and pressing a number key;

hence XEQ 0-9 executes programs labled 0-9

PRGM-CMD: LBL, GTO, RTN, BREAK, MORE; SF, CF, SF?, CF?, MORE

PRGM-DISP: INPUT, MSG (Message), PAUSE, R/S, MORE; ShowSt (Show Stack), ShowG (Show Graph), ClrSt (Clear Stack), ClrG (Clear Graph), MORE

Message Command: Use ALOCK to insert quotes (" "), i.e. to display "HP 41C" in a program: SHIFT ALOCK HP ALPHA 4 ALPHA 1 C SHIFT ALOCK MSG (PSE or R/S)

PRGM-LOOP: ISG, DSE, If, For, Do

PRGM-LOOP-If: IF, THEN, ELSE, ENDIF

If Structure: IF y x (test) THEN (true) ELSE (false) ENDIF

PRGM-LOOP-For: FOR, NEXT, STEP

For Structure #1: start end FOR var (cmds) NEXT

For Structure #2: start end FOR var (cmds) incr STEP

PRGM-LOOP-Do: DO, UNTIL, ENDO

Do Structure: DO (cmds) UNTIL y x (test) ENDO

MATH: Prob, Cmplx, Base, Num, HYP

MATH-Prob: nCr, nPr, Binom (Binomial CDF), Pois (Poisson CDF), MORE; NCDF (Normal Dist CDF), Ninv (Normal Inverse), CHI2CDF (Chi Squared CDF), CHI2INV (Chi Squared

Inverse), MORE

MATH-Cmplx: ABS, ARG, REAL, IMAG, CONJ (Conjugate)

MATH-Base: (Prefixes) d, b, h, o, MORE; (convert to) DEC, BIN, HEX, OCT, MORE

MATH-Num: INTG, FRAC, INT/, REM (Remainder/Mod), ROUND (Round y to nearest x)

TEST: x?y, x?0, AND, OR, NOT (First two gets you to <, <=, >, >=, MORE, =, ~= (not equal), MORE)

STAT: Means, Sums, Reg, x' (Predict x), y' (Predict y)

STAT-Means: MEAN (returns y-bar and x-bar), STD (standard deviation for both y and x), POPD

(population deviation for both y and x)

STAT-Sums: SUM (Sy, Sx), SUMSQ (Sy^2, Sy^x), Sxy, n

STAT-Reg: Eqn (lists equation on stack), Corr, BEST (finds the best correlation), LIN (Linear), MORE; LOG (Logarithm), POW (Power),EXPR (Exponential), INV (Inverse y = a + b/x),

MORE; QUAD (Quadratic), CUBIC (Cubic), SIN (Sinusodial), LOGIS (Logistic), MORE

APP: F1 - MEM (Memory): List (you can erase single items), Reset (reset the entire calculator) F2 - TVM (Time Value of Money) F3 - RK4 (Differential Equation using 4th Order Runge-Kutta) F4 - CASH (Cash Flow: Net Present Value, IRR, Net Future Value, Net Utility Stream, MIRR) F5 - I/O: SDD (send to SD), RSD (receive from SD), SCPU (send to computer), RCPU (receive from computer), SCREEN (screen shot)

ADV: F1 - Constants Library (or Formula Library) F2 - Conversions Library F3 - ZETA F4 - ERF (Error Function) F5 - Matrix

ADV-Matrix: Entry, Add a Row, Add a Column, Delete a Row, MORE; Delete a Column, INV, DET, EIGEN (Eigenvalues), MORE; Row+, Row*, Row+*, IDEN (Identity), MORE

EQN: List, Create, CMD, Poly (Polynomials up to 6th order), Simultaenous (up to 6th order)

EQN-List: List programs alphabetically, programs can be erased with highlighting it and hitting CLEAR, make a "quick-equation" by highlighting it and pressing a number key; hence

RCL 0-9 recalls equaitons 0-9

EQN-CMD: EVAL, SOLVE, Sum, Integral, Derivative

MODE: RUN, BASE, ANGLE (Deg, Rad, Grad), GRAPH (Function, Parametric, Polar, Sequence), DISP (All, Fix, Sci, Eng)

F<>D: Toggle between Decimal and Fraction display mode.

In fraction display mode, the following are displayed: fractions, exact square roots, and pi (I guess this is EXACT mode)

Enter fractions like this: whole number, decimal point, numerator, decimal point, denominator (like the HP 35s)

In decimal display mode: everything is a numerical approximation

Memory Capacity: (at least) 100,000 program steps (at least) 15,000 bytes for statistics, equations, and matrices

Edited: 28 Feb 2010, 9:01 p.m.

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HP-Emulator 64 bit program versions

*Message #1 Posted by **Christoph Giesselink** on 24 Feb 2010, 6:17 p.m.*

Hello, there was a thread from Mike about running Emu42 on Win7-64bit some weeks ago. Three years ago I began making my emulators x64 compatible. Last week Richard Garner tried a x64 bit version of Emu42 on his Win7 64bit PC. A new session emulating a HP-42S worked, but when loading a state file created with the Win32 version of Emu42 the x64 version freezed. I detected the reason for this behavior, which is a design problem of the original Emu48 emulator and was handed down to Emu28 and Emu42.

So you shouldn't create x64 versions base on the current published sources of Emu28, Emu42 and Emu48 by yourself.

Meanwhile I fixed the design problem in my beta versions of Emu28 v1.20, Emu42 v1.13 and Emu48 v1.50. This allowed me to make a benchmark test with Emu48. Several years ago I wrote UserRPL program splitting a real number into it's prime factors. Which a large prime number the program runs about 3 minutes depending on the PC hardware.

On my test computer with Win7-64bit Enterprise the x64 version of Emu48 was about 8% slower then the x86 version. Because Emu42 x64 takes no advantage from the larger address area, it makes IMHO no sense to publish the x64 versions.

Regards

Christoph

Edited: 25 Feb 2010, 4:57 p.m. after one or more responses were posted

Re: HP-Emulator 64 bit program versions

*Message #2 Posted by **Marcus von Cube, Germany** on 25 Feb 2010, 3:57 p.m.,*
in response to message #1 by Christoph Giesselink

Christoph, just out of curiosity: Alignment problems? Data size differences (long, int?)

Re: HP-Emulator 64 bit program versions

*Message #3 Posted by **Christoph Giesselink** on 25 Feb 2010, 6:32 p.m.,*
in response to message #2 by Marcus von Cube, Germany

> Quote:
>
> Christoph, just out of curiosity: Alignment problems? Data size differences (long, int?)

A structure hold the internal state of the CPU, but also contain three memory pointers to the port memory. These pointer grow up from 4 bytes in the x86 to 8 bytes in the x64 version. It's also possible that these pointers moved too, to adjust them to an aligned address.

This "CPU structure" is part of the calculator state file, so the state file format differed from the x86 to the x64 version and caused the described problems.

Christoph

Re: HP-Emulator 64 bit program versions

*Message #4 Posted by **Paul Dale** on 25 Feb 2010, 4:20 p.m.,*
in response to message #1 by Christoph Giesselink

No surprise that the extra address space isn't of any use.

The wider registers could be useful -- the saturn is 64 bits internally (at least sort of). Making use of these will likely require extra effort and the benefits are unlikely to be huge. More so given the weirdness of the saturn's register fields etc.

- Pauli

Re: HP-Emulator 64 bit program versions

*Message #5 Posted by **Egan Ford** on 25 Feb 2010, 6:36 p.m.,*
in response to message #1 by Christoph Giesselink

Thanks for EMU*.

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Celestial Navigation softwarer for HP

*Message #1 Posted by **juan demin** on 24 Feb 2010, 4:58 p.m.*

Hi, I recently met with the "Sparcom Celestial Navigation Pac" for the HP 48. Does anybody know if there is a new version and/or new software to use with the HP 50G? Thanks

Re: Celestial Navigation softwarer for HP

*Message #2 Posted by **Martin Pinckney** on 24 Feb 2010, 9:50 p.m.,*
in response to message #1 by juan demin

Try this.

Re: Celestial Navigation softwarer for HP

*Message #3 Posted by **juan demin** on 25 Feb 2010, 9:09 a.m.,*
in response to message #2 by Martin Pinckney

Thanks Martin, this is the Sparcom's program developed for the HP 48 many years ago... it says that only the library is compatible with the HP 50.... Even though GPS slowed down or stopped celestial nav developments, there is a software called "StarPilot" that runs in the Texas Instruments calculators and is also sold together and preinstalled in the TI-89... I wonder where to find the equivalent for HP calcs….

Re: Celestial Navigation softwarer for HP

*Message #4 Posted by **Richard Reed** on 25 Feb 2010, 5:40 p.m.,*
in response to message #3 by juan demin

I'm also interested in the subject, but just Googled for a while and there doesn't seem to be anything new for 50g. The best seems to be the Sparcom upload to hpcalc.org mentioned above, but as you know that's 1993 (even though it was created for re-upload in 09). There's even another one there called Almanac by Thomas Metcalfe, but that's older (not the anonymous one).

BTW, don't get confused between Star-Pilot (StarPilotLLC.com) that you mentioned which is for several TI's, and "Star Pilot", an astronomy suite for PalmOS on a different web site.

Re: Celestial Navigation softwarer for HP

*Message #5 Posted by **juan demin** on 1 Mar 2010, 9:55 a.m.,*
in response to message #4 by Richard Reed

Hi Richard Nice to see I am not alone with this....If you find something for HP, please let me know. Thanks

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9815 A/S displays available!

*Message #1 Posted by **Joel Setton (France)** on 24 Feb 2010, 3:50 p.m.*

Folks,

If you're a fan of the 9815 and are looking for a replacement gas-discharge display -- or just a spare --, there's some on sale on TAS right now. These displays are new, they're the original HP part, and if you're reading this you know they are very hard to find!

Joel Setton

P.S. Needless to say, I have no business interest in this.

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HP11c - Swapping Internals Between Two

*Message #1 Posted by **DavidShenk** on 24 Feb 2010, 11:23 a.m.*

I have a working 11c that looks horrible on the outside. If I bought a nonworking 11c that looked good, how easy would it be to switch the "insides" so that I would have a nice looking, functional calculator built from the two?

Thanks, Dave

Re: HP11c - Swapping Internals Between Two

*Message #2 Posted by **geoff quickfall** on 24 Feb 2010, 1:26 p.m.,*
in response to message #1 by DavidShenk

Swapping internals with the heat staked keyboards is do-able. It requires that the keyboard heat stakes are decapitated and then somehow refixed to the new bezel by:

```
remelting
gluing
small screws
```

Check out this posting and see the restoration of the aluminum bezel on a 15C in place and the swapping of a dented aluminum bezel with a donor on a 10C:

bezel restorations on a 15C and 10C

Re: HP11c - Swapping Internals Between Two

*Message #3 Posted by **DavidShenk** on 24 Feb 2010, 2:05 p.m.,*
in response to message #2 by geoff quickfall

Hi Geoff,

Thanks for the info. I may attempt that. My bad 11c looks like it was stored in a corrosive environment at some point and the keyboard background is full of areas of peeling and flaking paint.

I am also interested in your book when it comes out.

Dave

Edited: 24 Feb 2010, 2:11 p.m.

Re: HP11c - Swapping Internals Between Two

*Message #4 Posted by **John Robinson** on 25 Feb 2010, 7:15 p.m.,*
in response to message #2 by geoff quickfall

I've done heatstake removal and restoration on several 41c units, by using a small flat screw driver to lift the top off the heat stake, such that you remove the surround only, i.e. it's donut shaped, and not shearing

off the whole top. Then to restore, I use a hot glue gun, squirt some glue, lick my finger, then press with my finger. The licking is to speed up the glue cooling, and prevent my finger getting burnt :-)

Cheers, John

Re: HP11c - Swapping Internals Between Two

*Message #5 Posted by **geoff quickfall** on 25 Feb 2010, 7:34 p.m.,*
in response to message #4 by John Robinson

Johns suggestion is excellent.

I have removed the heads of the heat stakes as he describes and then dry assembled the board back and it held remarkably well without and glue application. As of yet I have not glued the system back together but will.

Additionally, because the back plate is screwed together at four points a thin sheet of dense foam cut to cover the circuit board and placed between the board and the calculator back might also relieve the stress on the decapitated heat stakes.

Cheers, Geoff

Re: HP11c - Swapping Internals Between Two

*Message #6 Posted by **Walter B** on 26 Feb 2010, 1:53 a.m.,*
in response to message #5 by geoff quickfall

Hi Geoff,

any news from your book? ETD?

Walter

I used a different method

*Message #7 Posted by **Frank Boehm (Germany)** on 26 Feb 2010, 4:55 a.m.,*
in response to message #4 by John Robinson

I carefully removed the molten (donut-shaped) part and after fixing the calc used a soldering iron with a very pointy tip - it looked like new :)

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HP70 original box

*Message #1 Posted by **Alberto Fenini** on 24 Feb 2010, 9:23 a.m.*

ciao a tutti !

does anyone know what the original box for the HP70 was ? I have been looking on the site, but while is fairly easy to find pictures for the other classic models, I still haven't found a hint on what the original package for the 70 was.

Thanks for help, take care Alberto

Re: HP70 original box

*Message #2 Posted by **Matthias Wehrli** on 24 Feb 2010, 11:18 a.m.,*
in response to message #1 by Alberto Fenini

Hi

When I'm correct there was the same box as for the HP-35/45 - a white paperbox with only a print " HP 70A" on the side. I was told that these boxes where used for sending the calculators.

Re: HP70 original box

*Message #3 Posted by **Michael de Estrada** on 24 Feb 2010, 12:10 p.m.,*
in response to message #2 by Matthias Wehrli

I don't know what a HP-70 box would look like, but I do know that the HP-35 and HP-45 boxes were sized to match the hard plastic travel cases for those calculators. The boxes were heavy duty cardboard with a closure flap. The HP-70 did not have a travel case, so I would have expected the box to look more like those for later models like the Woodstocks, which had inserts for the charger and calculator soft case. The boxes for the HP-35 and HP-45 were meant to be discarded after shipment, since they had the hard cases for storage of the calculator and accessories. The box for the HP-70 would be retained, and I would expect it to be fancier.

Re: HP70 original box

*Message #4 Posted by **tomdrewski** on 25 Feb 2010, 1:54 p.m.,*
in response to message #1 by Alberto Fenini

One of my HP 70 calculators was obtained with its original box.

It is a plain cardboard box similar to those used for the HP35. But it also contains an insert with 2 cut outs; one for the calculator (in it's vinyl case) and the other for the A/C charger.

Re: HP70 original box

*Message #5 Posted by **Alberto Fenini** on 25 Feb 2010, 5:04 p.m.,*
in response to message #4 by tomdrewski

Thank you very much, do you have a picture of it ? Take care, Alberto

Re: HP70 original box

*Message #6 Posted by **tomdrewski** on 26 Feb 2010, 2:06 p.m.,*
in response to message #5 by Alberto Fenini

Here you go!

Re: HP70 original box

*Message #7 Posted by **David Hayden** on 26 Feb 2010, 5:17 p.m.,*
in response to message #6 by tomdrewski

Interesting! Clearly this box was not designed for retail display. I wonder if they had a retail box as well, or just relied on fliers and such.

Dave

Re: HP70 original box

*Message #8 Posted by **Randy** on 27 Feb 2010, 7:52 a.m.,*
in response to message #7 by David Hayden

> Quote:
>
> Interesting! Clearly this box was not designed for retail display. I wonder if they had a retail box as well, or just relied on fliers and such.

AFAIK, first generation HP calculators were not sold retail... everything was direct through HP's own sales channels. The Woodstock line was the first to appear in stores.

Re: HP70 original box

*Message #9 Posted by **Alberto Fenini** on 27 Feb 2010, 2:27 p.m.,*
in response to message #6 by tomdrewski

Thank you so much, I had never seen one, and now that I have, I suspect these are almost impossible to find these days. Where they using zippered poouches or is just your ? Take care, and thanks again Alberto

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Card Reader motor - doesn't spin smoothly

*Message #1 Posted by **John Robinson** on 23 Feb 2010, 8:14 p.m.*

Hi all, I have two motors from HP41 card readers that don't spin smoothly, they're kinda "jerky" if that makes sense. Yet other card reader motors I have spin smoothly.

Does anyone know the cause of the jerkiness ?, and a cure ?? Or perhaps it's nto really a problem ? I am yet to test that.

Thanks John

Re: Card Reader motor - doesn't spin smoothly

*Message #2 Posted by **Michael Meyer** on 23 Feb 2010, 8:19 p.m.,*
in response to message #1 by John Robinson

Have they been rebuilt since they were new? All calculator card readers have rubber rollers that break down over time. Please check the "articles" section of the forum for more information and links to articles about repairs.

Re: Card Reader motor - doesn't spin smoothly

*Message #3 Posted by **Michael de Estrada** on 23 Feb 2010, 8:51 p.m.,*
in response to message #1 by John Robinson

Are you talking about the actual motor by itself, or the action of the card reader when pulling a card through? If the card reader action is jerky and/or noisy, it could be a slipping coupling (AKA clutch) between the motor shaft and worm gear. These couplings deteriorate and break down over time and need to be repaired.

Re: Card Reader motor - doesn't spin smoothly

*Message #4 Posted by **John Robinson** on 23 Feb 2010, 11:15 p.m.,*
in response to message #3 by Michael de Estrada

Thanks for the responses. I am referring to the motor itself, well the worm gear anyway, so I guess that means motor and clutch. I have already done the roller repair on this one, but it still throws up "Malfunction". I am pretty confident the roller repair is ok, as the other four card readers I did the same repair to all work fine :-)

Any clues ? Perhaps it's the clutch ??

Thanks John

Re: Card Reader motor - doesn't spin smoothly

*Message #5 Posted by **Michael de Estrada** on 23 Feb 2010, 11:58 p.m.,*
in response to message #4 by John Robinson

Yes, the coupling (clutch) is the probable culprit. I have repaired the coupling using some wire insulation. Geoff Quickfall may have this written up by now (it's his idea), but if not I can can pm you with more details.

Re: Card Reader motor - doesn't spin smoothly

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 24 Feb 2010, 12:11 a.m.,*
in response to message #4 by John Robinson

Hi;

I had some issues with the first card reader I repaired because after having the 'gummy wheel' replaced by two o-rings, the motor was somehow noisy and [MALFUNCTION] was shown in almost all card reading sessions. I inspected the gear

which gummy wheel I replaced and I noticed that the external portion of the axle (thicker than the rest of it) had a cut (for a screw driver?) and a small guiding mark. I removed the card reader from the calculator and inserted a card in the card slot till it touched the o-rings. Then I adjusted the axle by gently turning it (either clockwise or counterclockwise) with a screw driver till I felt the lower pressure possible over the card while gently trying to insert it. Then I tested it again, and the card passed faster with almost no extra noise, I could only hear the actual motor noise. Since then, I adjust the axles accordingly.

Hope this helps.

Luiz (Brazil)

Re: Card Reader motor - doesn't spin smoothly

*Message #7 Posted by **geoff quickfall** on 24 Feb 2010, 3:09 a.m.,*
in response to message #6 by Vieira, Luiz C. (Brazil)

Kind of busy right now but not enough to abandon the forum!

The dampening couple (motor shaft to worm gear):

Now we know why it is called a 'dampening couple' by HP! The couple to the worm gear is composed of an aluminum tube with the same type of rubber that the pinch roller has. Thus it suffers the same degradation over time that the roller does (bacterial infection has been suggested.

Hello Luiz, was the card reader you refer to from a 65, 67 or topcat (see below with reference to the HP41C series)?

The pinch roller axle (eccentric cam}:

In the HP 67, topcats and 65 the pinch roller axle shaft is assymetric allowing the pinch roller to raise or lower relative to the card reader horizontal axis. Luiz is correct that this may be a source of the noise or slipping of the card in the reader. The height of the pinch roller affects the card reading speed; slipping of the card inside the reader; again in my examples. It also raises, or put another way, changes the way the card presses against the card reader head. This to affects the ability of the card reader to read the card.

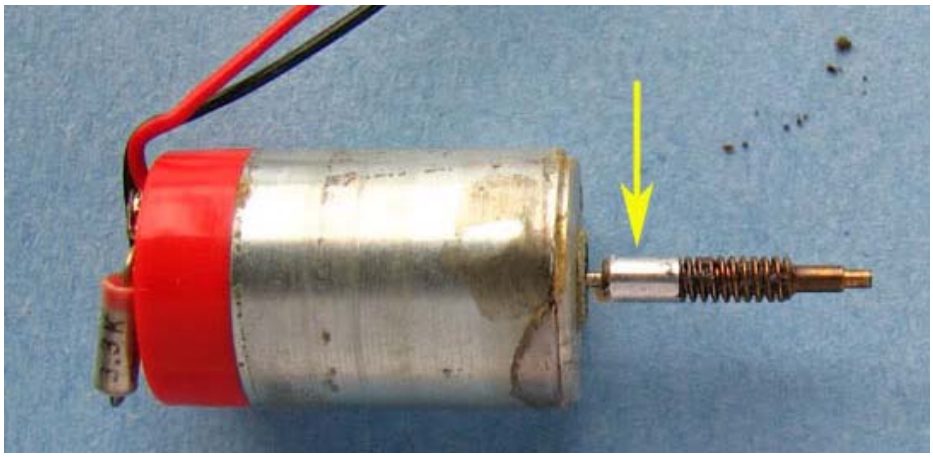
In the HP 41; at least the 15 I have restored to date, the axle is not assymetric (edtited: this is not correct as the axle is eccentric, Feb 25, 2010).

The motor itself may have very worn or corroded brushes causing the jerkiness. Have you powered the motors by a 1.5 volt battery outside of the housing, or at least while not attached to the card reader worm gear. Is it jerky.

Here is a sample of a fix Michael was refering to for the worm gear couple taken from my presentation at HCC2009 and will be found in my book. It refers to an HP 41C assembly. Notice the shaft of the pinch roller axle is not assymetric. Also, the HP41C series of card readers and the 65 (I have not compared them to a 67 or topcats) does not have interchangeable motor shaft/worm gears. They are of a different length and will not fit when the motor is placed back in the card reader assembly:

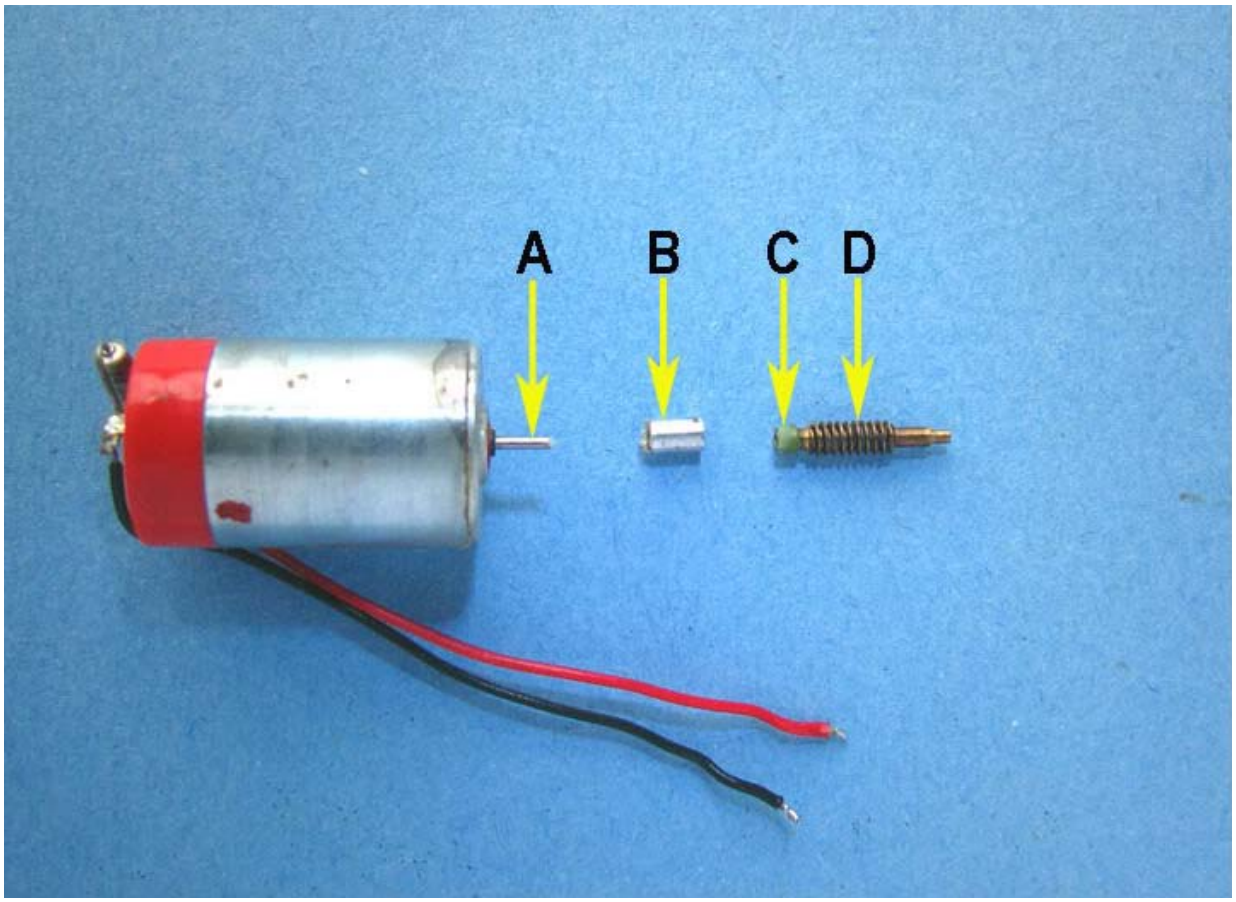
```
HP-65   drive roller axle:      8.32mm
HP-41C  drive roller axle:      8.23mm
HP-65   worm gear length:       14.43mm
HP-41C  worm gear length:       14.36mm
```

Original assembly removed with NOISY dampening couple:

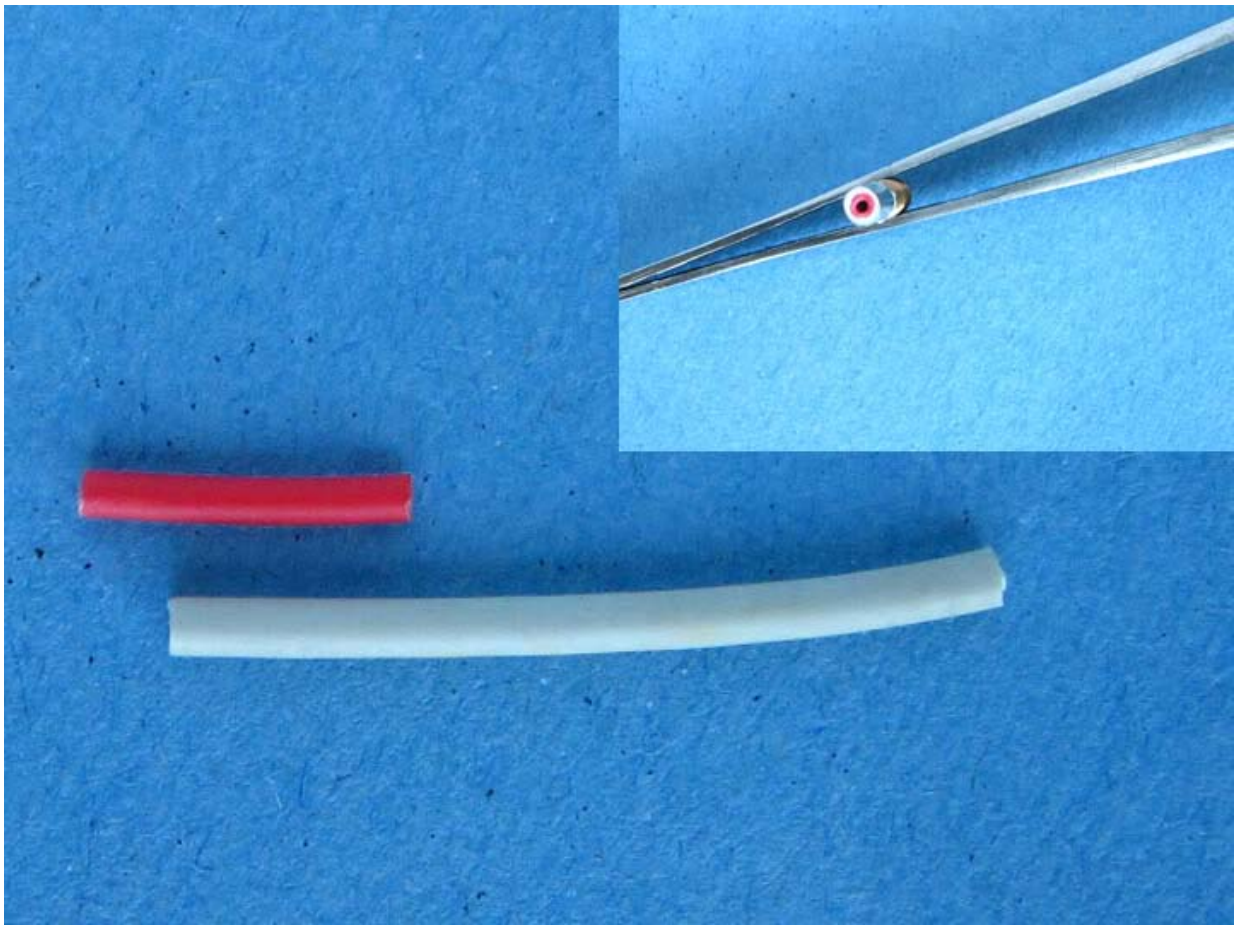


Couple components:

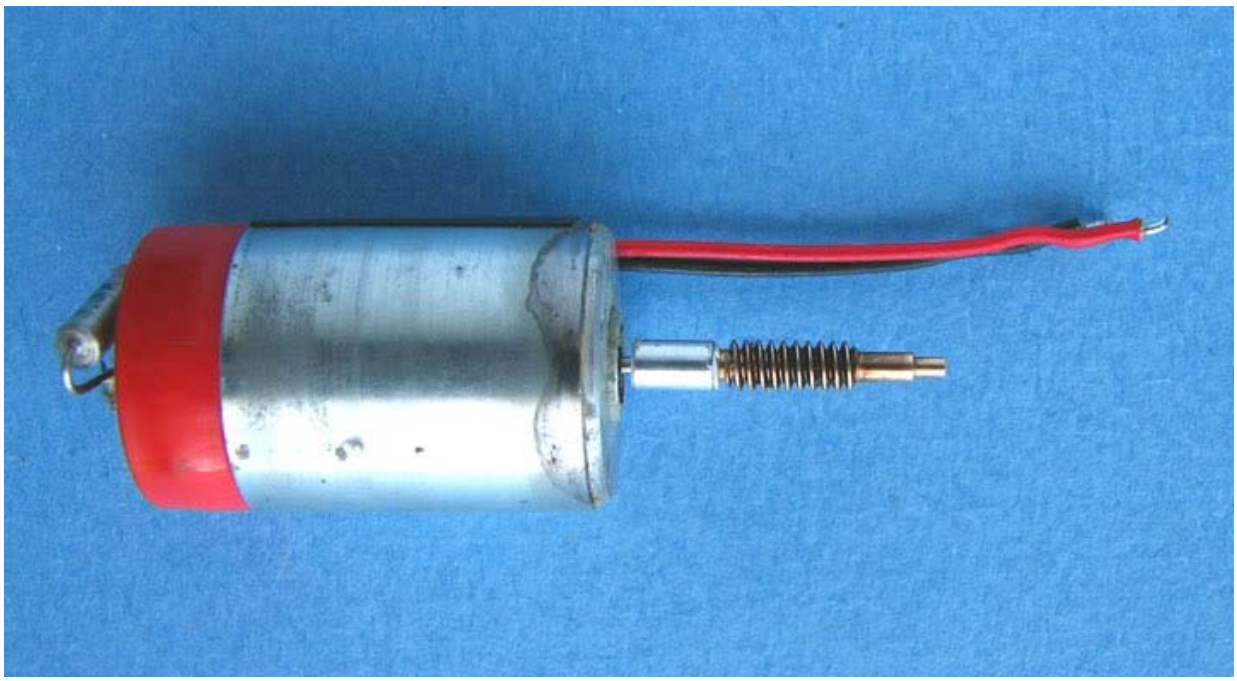
```
a. motor shaft
b. aluminum tube
c. part of the urethane rubber couple material
d. worm gear
```



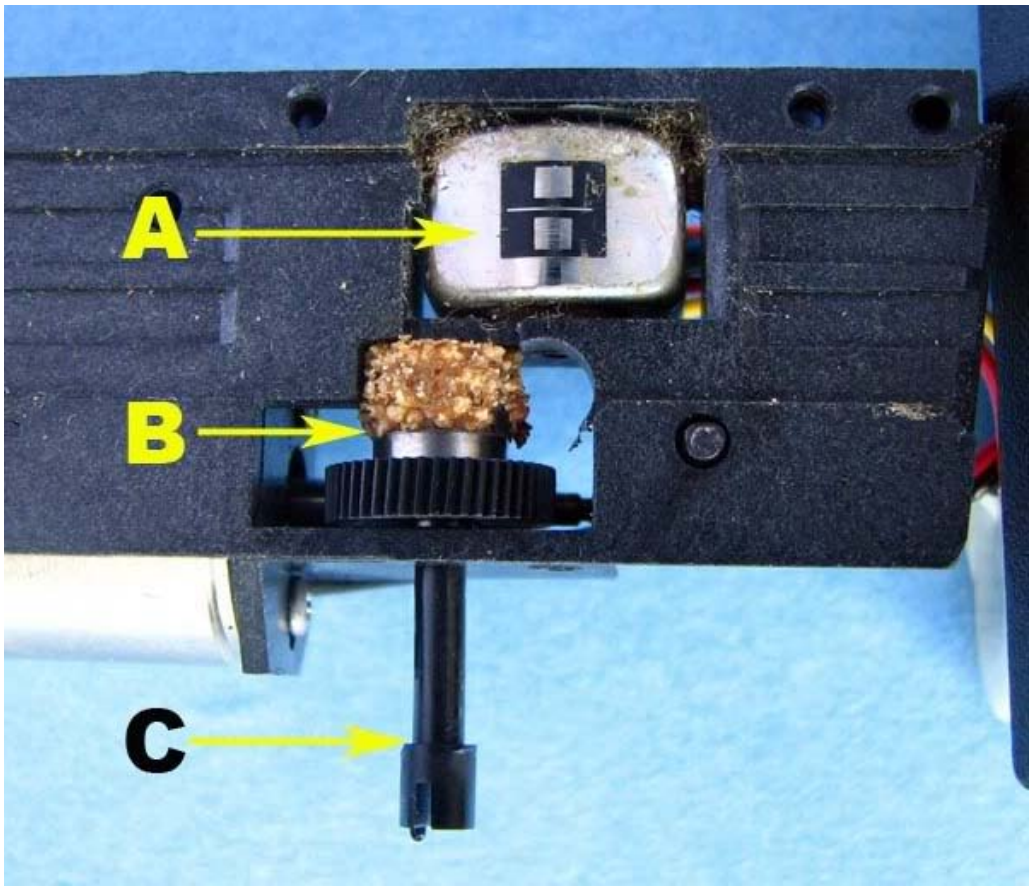
Using wire insulation, two diameters, one inserted inside the other to accommodate the larger worm gear attachment diameter and the narrow motor shaft attachment.

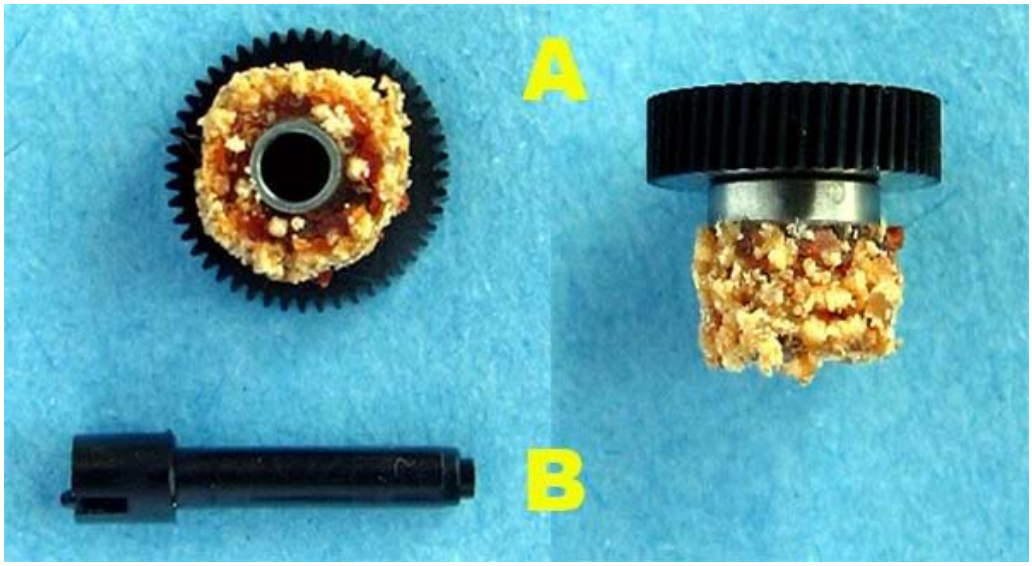


Completed and assembled:



Interesting photos of the pinch roller from an HP41C assembly showing the bacterial infection in full force (H1N1 for the HP 41C):





Edited: 25 Feb 2010, 11:49 a.m. after one or more responses were posted

Re: Card Reader motor - doesn't spin smoothly

*Message #8 Posted by **Vieira, Luiz C. (Brazil)** on 24 Feb 2010, 7:58 a.m.,*
in response to message #7 by geoff quickfall

Hi, Geoff;

the first card reader I repaired was an E-version 82104A, the one that shows [CARD READER] header in CAT 2 instead of [CARD RDR vn], where vn is the version identifier. Now that you mention about the axle shaft (missing term in my previous post... Sorry!) of the 82106A not being asymmetrical, I feel confused... In fact, after repairing the first one I had the issues I mentioned, rotating the shaft allowed to correct it. Since then I repaired about four or five card readers and I used the same o-ring in all of them. Because of this, I rotated their axle shafts to match the same adjustment I found in the first one and they worked fine. Based on what you wrote, I see no explanation for the

correct operation of the first card reader since the axle shafts are symmetrical, and in the other ones I could have left the axle shaft in any position that it would not affect final operation.

Why did the guys left the alignment dot and the screw driver slot in the axle shaft if they have no purpose? Go figure...

Thanks for the very impressive photos and for your comprehensive descriptions. Very clarifying and totally useful. The solution of using wire insulator to fix the worm gear and the photos showing it are priceless! Thank you and Michael for that!

Best regards.

Luiz (Brazil)

Edited: 24 Feb 2010, 8:03 a.m.

Re: Card Reader motor - doesn't spin smoothly

*Message #9 Posted by **Alberto Fenini** on 24 Feb 2010, 9:21 a.m.,*
in response to message #8 by Vieira, Luiz C. (Brazil)

ciao a tutti,

very nice pictures Geoff, I don't want to be blasphemous, but should I feel guilty because I simply put some glue to fix the clutch problem ? Cheers everybody, Alberto

Re: Card Reader motor - doesn't spin smoothly

*Message #10 Posted by **Raymond Del Tondo** on 24 Feb 2010, 12:21 p.m.,*
in response to message #7 by geoff quickfall

> Quote:
>
> In the HP 67, topcats and 65 the pinch roller axle shaft is assymetric allowing the pinch roller to raise or lower relative to
> the card reader horizontal axis. Luiz is correct that this may be a source of the noise or slipping of the card in the reader.
> The height of the pinch roller affects the card reading speed; slipping of the card inside the reader; again in my examples.
> It also raises, or put another way, changes the way the card presses against the card reader head.
> This to affects the ability of the card reader to read the card.
> [..]
> In the HP 41; at least the 15 I have restored to date, the axle is not assymetric.
> Rotating it in its socket does nothing to position the pinch roller.

Hi,

maybe you have special HP-41 card readers, but _every_ HP 82104A card reader I repaired so far (and it were many) does have an asymmetric pinch roller axle,
and adjusting this axle with a screw driver does have a very direct impact on the pressure between the gummy wheel and the small white counter-wheel.

The influence may not be obvious if you use O-rings as wheel replacements, but O-rings are no good solution at all, since even in the least-pressure position of the axle, they apply too much unbalanced pressure towards the counter-wheel,
and thus the mechanical force to the complete transport mechanism is higher than needed.
This in turn can lead to effects as stated by the OP, to more battery drain than needed, and to more wear than needed.

A much better solution than O-rings are silicon tubes, but suitable ones are hard to get.

HTH

Regards

Raymond

Re: Card Reader motor - doesn't spin smoothly, more thoughts.

*Message #11 Posted by **geoff quickfall** on 24 Feb 2010, 12:56 p.m.,*
in response to message #10 by Raymond Del Tondo

Luiz and Raymond, good to get corrections and thanks.

Darn,

Just printed out a response and lost the whole thing trying to save it.

The topcat manual refers to eccentric cams. I do not have an HP 41C repair manual so I cannot find the reference. My observation of the 41C reader is that my versions were not eccentric. It maybe that the eccentricity is much less visually then the classics. Also I have been fortunate with the 41C repairs as they have not needed to be rotated to allow the reader to work, maybe just luck.

The 65, 67 and topcats have needed rotating as per the manual.

I think I will have to tear down another, (sitting on the desk) and look again.

Thanks for the info, could it be that some later versions were not eccentric?

Cheers, Geoff

P.S. take a close look at the black cam in the photo. You can see the right hand tip that fits into the back end of the asssmebly is in the centre of the shaft, or visually, extremely close to centre. The slotted end also has the shaft protruding from the centre of its axis also. Compared to the classics this shaft section and tip are not visually eccentric. I will pull one out and check the measurments. It may be that the eccentricity of the cam is MUCH less but still required.

Also, does anyone have an HP41C card reader repair manual? The DVD set does not include one.

cheers, Geoff

Edited: 24 Feb 2010, 1:21 p.m.

Re: Card Reader motor - doesn't spin smoothly, more thoughts.

*Message #12 Posted by **Didier Lachieze** on 25 Feb 2010, 6:59 a.m.,*
in response to message #11 by geoff quickfall

> Quote:
>
> Also, does anyone have an HP41C card reader repair manual? The DVD set does not include one.
>
> cheers, Geoff

The 82104A card reader service manual is available on TOS, there is a section dedicated to "Motor installation and adjustment" on page 3-5.

Card reader does have eccentric cam! OOPS

*Message #13 Posted by **geoff quickfall** on 25 Feb 2010, 11:46 a.m.,*
in response to message #12 by Didier Lachieze

Well, thanks everyone including Ignazio and Didier for pointing me to the correct reference in the manual.

There is an eccentric cam in the HP41C which it seemed everyone new about but me ;-).

I have modified the chapter to include the same procedures for aligning the cam to create the minimum current draw for the motor. This would be the correct position for the cam.

I have a white 67 cam and a black 41C cam in front of me now and the (in my defence ;-) level of eccentricity of the 41C cam is much lower then the 67 version.

Cheers, Geoff

Re: Card Reader motor - doesn't spin smoothly

*Message #14 Posted by **Vieira, Luiz C. (Brazil)** on 24 Feb 2010, 3:07 p.m.,*
in response to message #10 by Raymond Del Tondo

Hi, Raymond;

I tried a silicon tube once and after cutting a piece of it and assembling it, I noticed that its thickness was not regular, leaving a visible 'lump' that pressed the card a bit more while pulling it and causing many reading problems. After that I restored all card readers I could with o-rings, and the three ones I own work fine with them. Is it possible that I am using o-rings with such dimensions they fit correctly in place? I never noticed any problems with my card readers after using o-rings.

Cheers.

Luiz (Brazil)

Re: Card Reader motor - doesn't spin smoothly

*Message #15 Posted by **John Robinson** on 24 Feb 2010, 6:37 p.m.,*
in response to message #14 by Vieira, Luiz C. (Brazil)

Hi All,

Thanks for all your responses, and thanks for the great pics Geoff.

To answer your question Geoff, it's jerky when not in the card reader. I pulled the motor out, but left the power wires connected to the card reader circuit board, then inserted a card in the slot to turn the motor on, so the jerkiness is present with the motor unloaded. If it is the brushes, are these motor serviceable at all ?, they look like a sealed unit to me.

Also, I too believe that pinch roller axle shaft is assymetric, and I too don't like the O-ring repair, I prefer silicon hosing. I "true" it up by putting it on the gear, then mounting that on a shaft then spin it up on a dremel, and essential lathe it with an emery stick (those things that women used to smooth their finger nails). Silicon hosing is much more pliable than the hard rubber of the O-rings. Using silicon, I am sure there is different pressure applied to the nylon pinch roller as the roller axle is rotated.

Out of my spare motors, I only have one that is not jerky, so I'll give that a shot.

Cheers, John

great answers

*Message #16 Posted by **geoff quickfall** on 24 Feb 2010, 7:29 p.m.,*
in response to message #15 by John Robinson

Obviously I will have to check some of 41C card readers!!!

Not a problem as I have two here that need new pinch rollers and both dated 1979 and 1980. I have yet to open the motor as all mine have worked smoothly. Other than cleaning the internal stator and brushes I don't know what or wear parts could be secured. I keep an eye out for absolutely recked machines for spares. And then swap the parts. That is how I found that the HP65 motor and worm gear will not work in an HP 41 C card reader due to the lenght of the assemblies.

Also, if you buy 'mil specification' fuel line hose, you will get the hole in the centre. I supplied everyone at the HCC2009 with 6 inches of this tubing and the hole is perfectly centred. No need for latheing.

I will dig up the roll (50 feet) and check the brand name. It seems this stuff is used by professional gas model airplane makers and military drones.

Cheers, Geoff

Edited: 24 Feb 2010, 7:34 p.m.

Re: great answers

*Message #17 Posted by **John Robinson** on 25 Feb 2010, 7:11 p.m.,*
in response to message #16 by geoff quickfall

Hi Geoff,

That's interesting about the 65/41 card reader motor and roller gear not being interchangeable. Do you know if there is an level of "interoperability", i.e. between 65/67/97 and 41 ?. I am led to believe that the roller gears alone are interchangeable. Any more thoughts on that ? And what about the motors alone, i.e. without clutch and worm gear ??

Cheers, John

Re: great answers

*Message #18 Posted by **geoff quickfall** on 25 Feb 2010, 7:30 p.m.,*
in response to message #17 by John Robinson

The motor and shaft as well as the worm gear must be a specific length. I found this out the hard way by restoring a couple on a complete spare HP65 system. I then swapped out a bad 41C motor and worm gear for the HP65 system. I started to tighten the screws and noticed that the system was to long and forcing the screws would result in a jammed worm gear or the pressing out of the ball bearing at the tip of the worm gear.

Thats when I did the above measurements. Things in common appear to be the pinch roller, the nylon balls although the HP 41C has fewer and the nylon roller. The eccentric cams appear to be interchangeable but the HP41C eccentricity is much less then the classics (see above postings ;-)

I have to take apart the HP 67 to do a comparison and I am about to complete the topcat chapter at which time I will do more measurements. My inclination is that the Classic including the TopCat series will be the same but they will all differ from the HP 41C series. Of course there may be production differences between countries as HP shifted their manufacturing base.

Cheers, Geoff

Re: great answers

*Message #19 Posted by **Michael de Estrada** on 26 Feb 2010, 10:37 a.m.,*
in response to message #18 by geoff quickfall

> Quote:
>
> ...the nylon balls although the HP 41C has fewer...

Actually, the 82104A (HP-41C) card reader does not have any nylon balls, because it does not rely on them for the operation of the card sensor switches. Although I am not sure about this, I think it uses a reflected-light sensor. There is an LED inside the reader that I believe is used for this purpose. Perhaps Randy or someone else can correct/clarify/elaborate on this.

Re: great answers

*Message #20 Posted by **Randy** on 26 Feb 2010, 11:00 a.m.,*
in response to message #19 by Michael de Estrada

The I/R LED receiver and transmitter are the clipped card detector.

The motor run and card edge detector are done with the the two leaf spring switches.

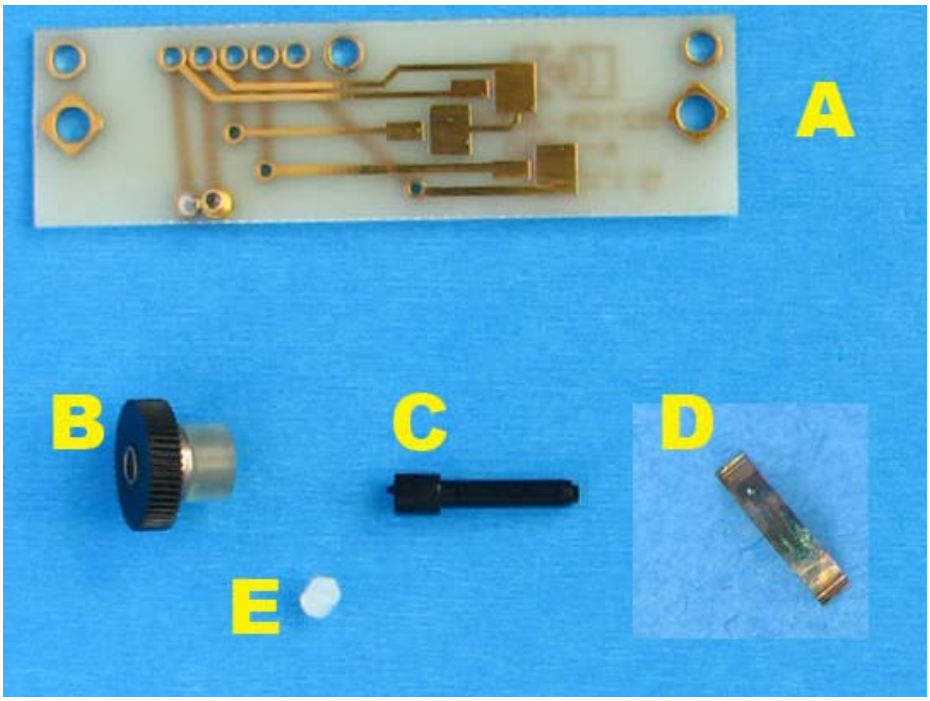
ARRRGGHHHH, I really should refer to my notes prior..

*Message #21 Posted by **geoff quickfall** on 26 Feb 2010, 1:43 p.m.,*
in response to message #19 by Michael de Estrada

to typing late at night from memory. And to boot this was part of the HCC2009 presentation (done correctly!)

Here I am writing a book, and then not refering to it! Not a very good advertisement. Here are some shots from chapter eight, the section dedicated to the HP 41C card reader!!!!

I really should think before I type:



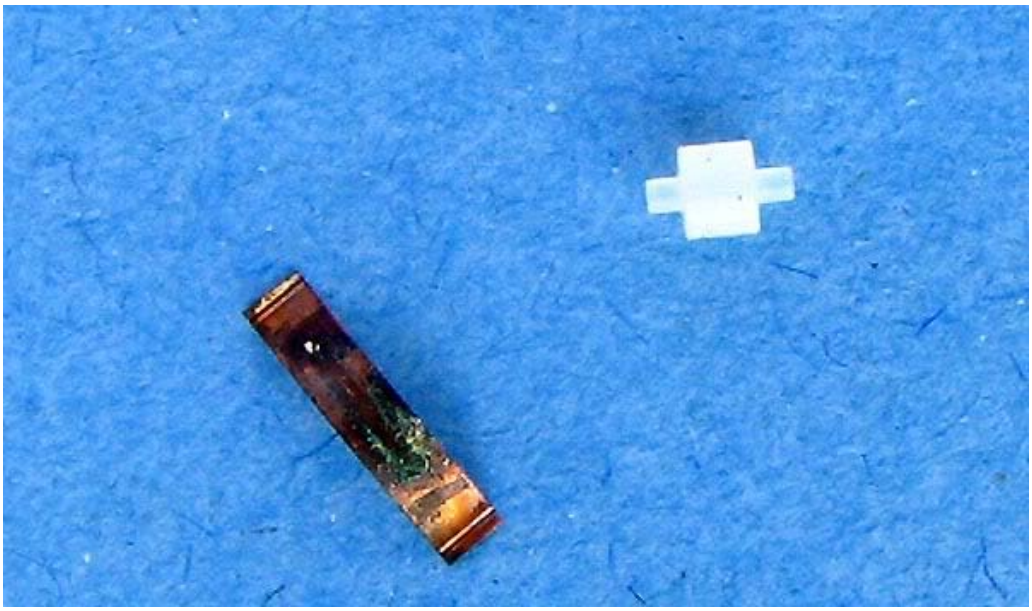

```
A:  CONTACT SWITCH pca
B:  DRIVE ROLLER
C:  ECCENTRIC CAM
D:  BRONZE SIDE SPRING (GUIDE)
E:  WHITE ROLLER (NYLON)
```

I will endeavour to reference the material before typing at night from memory. My wife has told me my memory is lacking sometimes!!!!

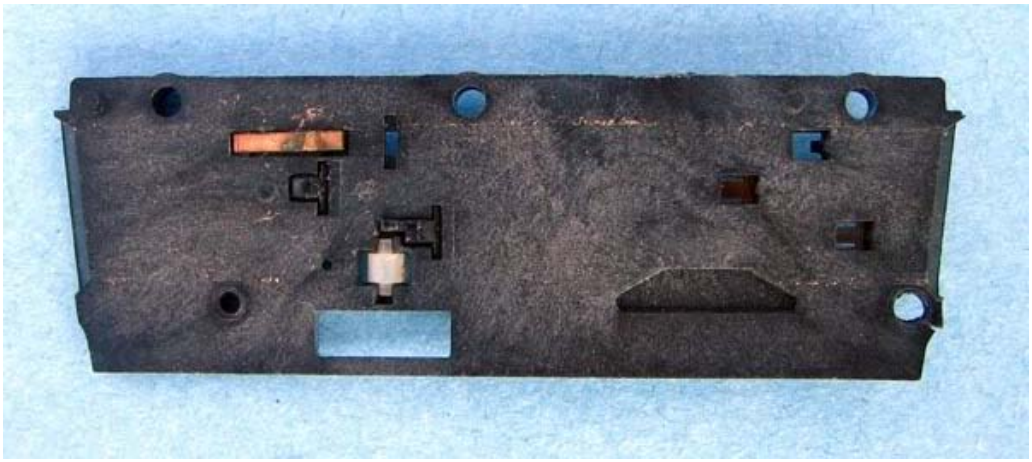
Signed, a slightly embarrassed Geoff

Some more shots:

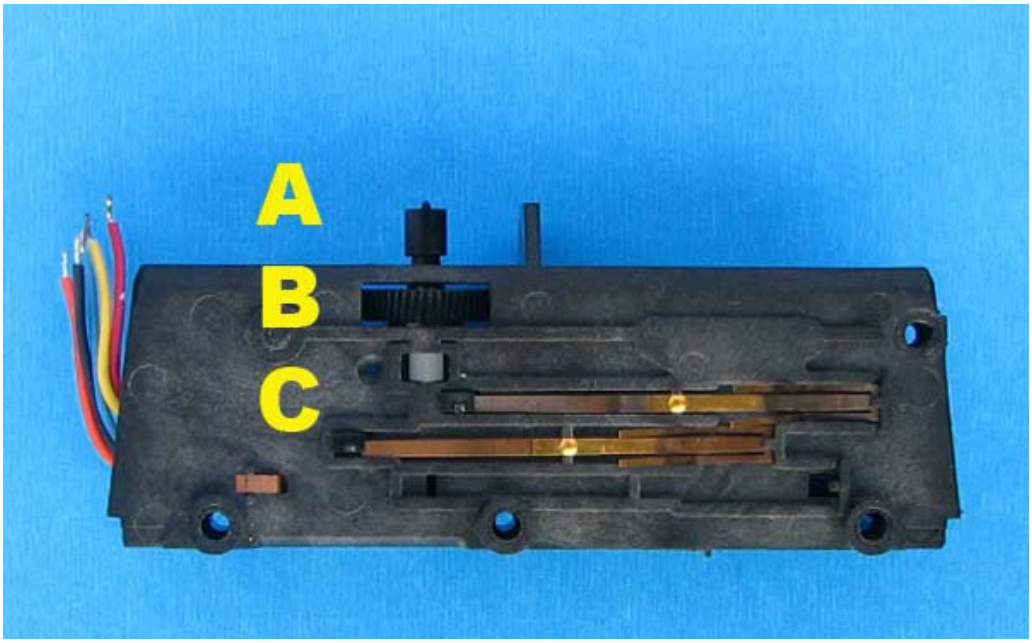
NYLON ROLLER AND BRONZE SPRING both also found in the classic and topcats



Nylon roller in place (no nylon balls):



The leaf spring switches Randy is refering to:



Edited: 26 Feb 2010, 1:50 p.m.

Re: Card Reader motor - doesn't spin smoothly

*Message #22 Posted by **Marcus von Cube, Germany** on 25 Feb 2010, 4:22 p.m.,*
in response to message #7 by geoff quickfall

I think, the clutch can be repaired with shrinking tube. Would some lubricant help with the motor?

Re: Card Reader motor - doesn't spin smoothly

*Message #23 Posted by **John Robinson** on 25 Feb 2010, 7:09 p.m.,*
in response to message #22 by Marcus von Cube, Germany

It's worth a shot Marcus, particularly if the motors can't be disassembled. Thanks for the suggestion.

Cheers, John

Card reader motor issues

*Message #24 Posted by **Randy** on 26 Feb 2010, 8:56 a.m.,*
in response to message #1 by John Robinson

Geoff is correct, the 65/67/topcat reader screws and housings are approximately 1 mm shorter than the 41 reader.

The motor itself, although they appear different in early models, are interchangeable between all readers.

With respect to jerky motion, before I suspect a bad motor, I'd look first at the coupler and then very carefully at all wiring and connections to same.

The 41 reader motors can be disassembled but getting the brushes back into place correctly involves careful study and sometimes just plain luck. The brush neutral position must also be set before gluing back together. The only real reason to open would be to lubricate but if you have the lead screw off, just set it on end and place a few drops of penetrating oil into the shaft area and allow to sit overnight. Repeat once then clean very well before re-attaching the screw.

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HP-35 Bug: highest serial number?

*Message #1 Posted by **Mark Henderson** on 23 Feb 2010, 2:55 p.m.*

Any ideas what the highest serial number got to for the HP-35s with The Bug? Were they all 1143s or did some 1230s also get it?

Re: HP-35 Bug: highest serial number?

*Message #2 Posted by **Michael de Estrada** on 23 Feb 2010, 6:53 p.m.,*
in response to message #1 by Mark Henderson

I have a late version 2 (S/N inside battery compartment) 1249A08206 with "the bug".

Re: HP-35 Bug: highest serial number?

*Message #3 Posted by **Mark Henderson** on 23 Feb 2010, 7:34 p.m.,*
in response to message #2 by Michael de Estrada

Wow, that seems like a lot of units - we know the "week code" (1249 etc.") really wasn't the production week, but I guess the rest of the number couldn't be sequential, either? MoHPC and some other sources describe 20,000 - 25,000 original "buggy" units, but a quick look shows buggy units with S/Ns 1143Axxxxx, 1230A8xxxx, 1230A9xxxx, and your high numbered 1249A. Were the last 5 digits then really only recording a few thousand units? Interesting!?!

Re: HP-35 Bug: highest serial number?

*Message #4 Posted by **Matthias Wehrli** on 24 Feb 2010, 11:21 a.m.,*
in response to message #3 by Mark Henderson

Without any doubt on the unit of Michael de Estrada: It is very easy to exchange the mainboard of a non-bug unit with a bugy one or am I wrong?

Re: HP-35 Bug: highest serial number?

*Message #5 Posted by **Michael de Estrada** on 24 Feb 2010, 11:59 a.m.,*
in response to message #4 by Matthias Wehrli

That scenario seems a little far fetched to me. Certainly, I didn't do this and I don't believe the prior owner did either. The calculator showed no evidence of being opened (intact original back label) and the front of the calc has all version 2 indicators (bump on 5 key, front label w/o 35). Unlike a Red Dot, where a fake might have great value, I don't think there's much to be gained by deliberately creating a buggy version 2. I have seen strange inconsistencies in serial numbers on other calculators, so I wouldn't put too much stock on that factor in this case.

Re: HP-35 Bug: highest serial number?

*Message #6 Posted by **tomdrewski** on 25 Feb 2010, 2:00 p.m.,*

in response to message #2 by Michael de Estrada

> Quote:
>
> I have a late version 2 (S/N inside battery compartment) 1249A08206 with "the bug".

ditto. 1249A00373

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Curious question (OT): Green LEDs?

*Message #1 Posted by **Maximilian Hohmann** on 23 Feb 2010, 6:01 a.m.*

Hello!

Just a curious question: Many sellers advertise calculators with fluorescent displays as "green LED". I have seen several desktop calculators that really have green LED displays, but never a pocket calculator. So: was there ever an LED pocket calculator with a display colour other than red (like green or yellow)? Some Sinclairs have violet/purple filters over their red LEDs, but that dosen't count...

Regards, max

calculators: no

*Message #2 Posted by **Frank Boehm (Germany)** on 23 Feb 2010, 6:56 a.m.,*
in response to message #1 by Maximilian Hohmann

At least not to my knowledge. I think there were some hefty downsides (prohibitive expensive?), probably no driver ICs existed, requiring a transistor based driver (too large and too expensive).
There were one or two LED watches using green LEDs - extremely rare and sought after, because they were expensive back then :)

Re: calculators: no

*Message #3 Posted by **Thomas Radtke** on 23 Feb 2010, 8:52 a.m.,*
in response to message #2 by Frank Boehm (Germany)

Green LEDs were invented in the 1970th, so they were not available for the first pocket calculators. I might be wrong, but due to the smaller wavelength they probably consume more power. This, and the fact that at that time vfds were spreading, would have made it not really attractive for any company to switch from red to green displays.

Link of green LED watch

*Message #4 Posted by **Frank Boehm (Germany)** on 23 Feb 2010, 9:06 a.m.,*
in response to message #2 by Frank Boehm (Germany)

Green LED watch

Re: Curious question (OT): Green LEDs?

*Message #5 Posted by **Ron Ross** on 23 Feb 2010, 8:14 a.m.,*
in response to message #1 by Maximilian Hohmann

Yes, there were some green LED calculators. My first calculator was a Radio Shack 4 banger (Casio derivitive) and it came with green LEDs. It was a quality Casio calculator and used 2 AA batteries.

Re: Curious question (OT): Green LEDs?

*Message #6 Posted by **Thomas Radtke** on 23 Feb 2010, 8:53 a.m.,*
in response to message #5 by Ron Ross

Do you remember the exact identifier?

uh, *no*

*Message #7 Posted by **Frank Boehm (Germany)** on 23 Feb 2010, 8:59 a.m.,*
in response to message #5 by Ron Ross

Casio used LEDs for less than a handful calculators (I own 3 different, and I doubt there are more...) and moved as early as possible to VFDs (already in 1972 with the MINI!). So your Radio shack used (green) VFD...

I stand corrected.

*Message #8 Posted by **Ron Ross** on 23 Feb 2010, 10:06 a.m.,*
in response to message #7 by Frank Boehm (Germany)

I stand corrected. You are correct.

Re: Curious question (OT): Green LEDs?

*Message #9 Posted by **Philippe Lasnier** on 23 Feb 2010, 8:23 a.m.,*
in response to message #1 by Maximilian Hohmann

I suppose that there were genuine green LED displays used in calculators, but most of the time the descriptions you refer to are given by ignorant people, or people who don't actually care that their description should be technically accurate..."LED means 'display' , right? and it's green-ish..."

On the same subject, how many time would you have seen plastic pouches and cases advertised as "leather"? It seems a lot of people don't know the meaning of the word...

Phew, it felt good to let that off my chest ;-)

Philippe

Re: Curious question (OT): Green LEDs?

*Message #10 Posted by **Eddie W. Shore** on 23 Feb 2010, 9:02 a.m.,*
in response to message #1 by Maximilian Hohmann

I had one with a green LED. I think it was a bluish TI adding machine. I think I was two years old ('78/'79) when I was playing with it however.

Edited: 23 Feb 2010, 9:03 a.m.

Re: Curious question (OT): Green LEDs?

*Message #11 Posted by **Bart (UK)** on 23 Feb 2010, 9:37 a.m.,*
in response to message #1 by Maximilian Hohmann

Hi Max!

I remember my dad bringing home a Sharp scientific calculator, the first one i'd seen (he had a 4-banger) - I was in primary school then. I was amazed that it had an exponent function. I always remember it having a green display and thought it was LED. Having searched the internet and from my memory, it was probably an EL-502 - which has a VFD display. So, I certainly can't recall any. I'll trust the great collectors on this forum on this topic - as if i'd doubt them in any case :-).

Bart

Re: Curious question (OT): Green LEDs?

*Message #12 Posted by **marais** on 23 Feb 2010, 9:51 a.m.,*
in response to message #11 by Bart (UK)

I am almost certain that what you recall as being green LEDs were all vacuum fluorescent displays. They were quite common in the late 70s, and still a sight to see, if you want my opinion.

Andreas

Re: Curious question (OT): Green LEDs?

*Message #13 Posted by **Thomas Klemm** on 23 Feb 2010, 11:34 a.m.,*
in response to message #1 by Maximilian Hohmann

There's an old thread: Green LED's?

Re: Curious question (OT): Green LEDs?

*Message #14 Posted by **Garth Wilson** on 23 Feb 2010, 3:11 p.m.,*
in response to message #1 by Maximilian Hohmann

I doubt it. For many years green was the least-efficient of the LED colors. Even when blue was super expensive, it still gave more brightness for the amount of current than green did.

I had a calculator (Cannon, I think) with a truly green (not bluish-green) vacuum-fluorescent display in high school. The display was quite attractive, but the calculator finished off a pair of AA alkaline batteries in about three hours-- maybe less.

Re: Curious question (OT): Green LEDs?

*Message #15 Posted by **Kiyoshi Akima** on 26 Feb 2010, 1:02 p.m.,*
in response to message #14 by Garth Wilson

Something's been tickling the back of my mind, and it finally came to the forefront this morning. No, I couldn't think of any calculators with green LEDs, but I've used cameras with green indicators in the viewfinder, and their manuals claim they're LEDs.

No, I haven't taken one apart to see whether they actually are LEDs, or whether they're some other color with a green filter.

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non-scientific LED calculator worth more than HP35 red dot?

*Message #1 Posted by **Bart (UK)** on 23 Feb 2010, 4:49 a.m.*

Would anyone pay UKP1035.90 (~ USD1600.00) for this?: Realtronic red LED on eBay.

edit: from the Datamath museum info this is probably one of the "Far East Generic Design" types

Edited: 23 Feb 2010, 4:57 a.m.

Re: non-scientific LED calculator worth more than HP35 red dot?

*Message #2 Posted by **Maximilian Hohmann** on 23 Feb 2010, 5:19 a.m.,*
in response to message #1 by Bart (UK)

Hello!

Look at his other auctions, he obviously has set his calculator to engineering number format or something like that ;-)

Regards, Max

Re: non-scientific LED calculator worth more than HP35 red dot?

*Message #3 Posted by **Bart (UK)** on 23 Feb 2010, 5:39 a.m.,*
in response to message #2 by Maximilian Hohmann

Well, he couldn't have been using that one then as it doesn't even have have engineering format :-).

I think he's trying to get hits or a higher offer. It's been listed for about a year but previously at around 45 pounds IIRC. (Still not worth it, but he's not getting the message).

Re: non-scientific LED calculator worth more than HP35 red dot?

*Message #4 Posted by **Maximilian Hohmann** on 23 Feb 2010, 5:52 a.m.,*
in response to message #3 by Bart (UK)

Hi!

> Quote:
>
> I think he's trying to get hits or a higher offer.

Very strange. His Britney Spears CDs too have buy-it-now prices in excess of 1000 pounds. I always thougt the higher the starting price, the higher the eBay fees, even if the articles don't sell?

Re: non-scientific LED calculator worth more than HP35 red dot?

*Message #5 Posted by **Thomas Radtke** on 23 Feb 2010, 5:56 a.m.,*
in response to message #4 by Maximilian Hohmann

It's like a lottery. He pays that fees to get a low chance for a stupid buyer.

Re: non-scientific LED calculator worth more than HP35 red dot?

*Message #6 Posted by **Bart (UK)** on 23 Feb 2010, 6:04 a.m.,*
in response to message #5 by Thomas Radtke

I was thinking that maybe he is hoping for that one big sale.

Re: non-scientific LED calculator worth more than HP35 red dot?

*Message #7 Posted by **Eddie W. Shore** on 23 Feb 2010, 9:08 a.m.,*
in response to message #1 by Bart (UK)

I wouldn't do it.

Edited: 23 Feb 2010, 9:09 a.m.

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HP-41CX Memory Registers

*Message #1 Posted by **Prabhu Bhooplapur** on 23 Feb 2010, 2:11 a.m.*

Hi,

My HP-41CX shows "00 REG 155" instead of the usual "00 REG 219". Memory reset does not help. Can this be repaired? Thanks for your ideas. Prabhu

Re: HP-41CX Memory Registers

*Message #2 Posted by **Garth Wilson** on 23 Feb 2010, 2:28 a.m.,*
in response to message #1 by Prabhu Bhooplapur

What does SIZE? give you?

Re: HP-41CX Memory Registers

*Message #3 Posted by **Prabhu Bhooplapur** on 23 Feb 2010, 2:32 a.m.,*
in response to message #2 by Garth Wilson

SIZE? gives me 36. Any suggestions?

Re: HP-41CX Memory Registers

*Message #4 Posted by **Håkan Thörngren** on 23 Feb 2010, 4:53 a.m.,*
in response to message #1 by Prabhu Bhooplapur

Do you have any module plugged in at the upper end? In that case, remove them. Is your HP-41 overclocked/speed up?

Starting with a <- ON sequence (MEMORY LOST). In that case the free program registers should be correct. I do not think the calculator actually test the integrity of the program registers. It checks the free program registers by counting zero registers until it sees something non-zero (or hit the limiting address 0C0). Incorrect memory not reading 0 after memory reset could give this symptom of too few program registers.

It does however check the integrity of data registers, and if you have a faulty memory, SIZE? may come up short.

Re: HP-41CX Memory Registers

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 23 Feb 2010, 5:43 a.m.,*
in response to message #1 by Prabhu Bhooplapur

HI;

just to add another question: is it a coconut or a halfnut? The coconut type may be repaired, as the memory chips are 'discrete', 8-pin DIP IC´s, but you need a 'donator' coconut because AFAIK, those memory chips are

not regularly sold. The halfnut units have a single hybrid chip under the LCD with all RAM/ROM and display driver circuitry (also called 'R2D2' in the Voyager structure) and are not serviceable.

To see the difference between both:

Success!

Luiz (Brazil)

Edited: 23 Feb 2010, 5:45 a.m.

Re: HP-41CX Memory Registers

*Message #6 Posted by **Prabhu Bhooplapur** on 23 Feb 2010, 7:27 a.m.,*
in response to message #5 by Vieira, Luiz C. (Brazil)

Thanks Garth, Hakan, and Luiz,

The 41CX under discussion is a full nut. I had a look at the printed circuit board. It has a row of 8pin DIP ICs as mentioned by Luiz and they are soldered one above the other (piggy-bac arrangement). Do you think it is possible to get these ICs? Then the question comes on how to identify which of these are faulty? Any ideas?

As Håkan mentions this appears to the case of faulty memory.

Prabhu

Re: HP-41CX Memory Registers

*Message #7 Posted by **Vieira, Luiz C. (Brazil)** on 23 Feb 2010, 10:49 a.m.,*
in response to message #6 by Prabhu Bhooplapur

Hi;

the IC´s you want to search for are RAM IC´s, and these ones are in number of five (64 * 5 = 320). If you remove all of the 8-pin DIP IC´s you will see that five of them have the same prefix (usually ILE7xx) with the last digit being counted 1 to 5. They store 64 registers each, and the first one (lower numbered) relates to the HP41C basic memory. The other four relate to the Quad Memory Module, for instance.

If your HP41CX sees 192 registers (156 + 36, considering that the 3 bytes for the permanent .END. are counted as one less register), it means that the fourth RAM IC is faulty (ILE704). Interesting: I had two HP41CV´s in the same circumstance: the fourth RAM IC faulty.

If you want to confirm with a single test, provided that you have a single Memory Module, with the calculator OFF (could not miss mentioning that) insert it in port #3 and check if the memory count goes OK, then. If you do not have a single Memory Module, try this (I am not sure if this is the correct procedure, just have none of the faulty calculators at hand now):

- perform SIZE 191
- key in 256 (or any number from 256 to 319)

- try VIEW IND X

If I am not wrong, it will give no error message. But I cannot guaranty, OK? Consider that you have an HP41C with two modules, then you perform SIZE 191, then you insert a memory module in the fourth port. That´s what we achieve with the procedure above. So, the last 64 registers are available and there is a gap related to port #3.

Let us know how it goes.

Cheers.

Luiz (Brazil)

Edited: 23 Feb 2010, 10:51 a.m.

Re: HP-41CX Memory Registers

*Message #8 Posted by **Prabhu Bhooplapur** on 24 Feb 2010, 10:19 a.m.,*
in response to message #7 by Vieira, Luiz C. (Brazil)

Hi Luiz,

I have a single memory module and tried that as suggested. No change in memory count.

I also tried the procedure you recommended without the memory module. The result is 'NONEXISTENT' display.

Any further suggestions?

Prabhu

Re: HP-41CX Memory Registers

*Message #9 Posted by **Michael de Estrada** on 24 Feb 2010, 10:47 a.m.,*
in response to message #8 by Prabhu Bhooplapur

What kind of memory module do you have installed? You should not use a 82106A or 82170A module in an HP-41CX. If that's what you have, remove it. A 82180A module is OK, but will not affect main memory.

Re: HP-41CX Memory Registers

*Message #10 Posted by **Prabhu Bhooplapur** on 24 Feb 2010, 9:53 p.m.,*
in response to message #9 by Michael de Estrada

Hi Michael, I had first tried, before your message, memory module 82106A. After seeing your message I also tried 82180A memory module. Still the memory count does does not increase. It still shows "00 REG 155" instead of "00 REG 219". Any other suggestions?
Prabhu

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HP-41 CX at ebay - reasonable price?

*Message #1 Posted by **Timo** on 22 Feb 2010, 12:45 p.m.*

Hello all!

I've just discovered this HP-41 CX auction at ebay:

HP-41CX at ebay...

Would you regard this as a justified price for a HP-41 CX in this (promised) condition? I've checked earlier auctions of the seller and some CXs sold for even more, one for about 600$...

Since I've bought my (Fullnut) 41-CV I've started using it more and more (especially since I discovered HP41UC) and am thinking about buying a well preserved Halfnut 41-CX to have a spare.

My feeling tells me that's a bit high for a 41CX but I'm relatively new to this market, so I'd be interested in your opinion.

Cheers, Timo

Re: HP-41 CX at ebay - reasonable price?

*Message #2 Posted by **Marcus von Cube, Germany** on 22 Feb 2010, 1:46 p.m.,*
in response to message #1 by Timo

I wouldn't pay that much for a CX.

Re: HP-41 CX at ebay - reasonable price?

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 22 Feb 2010, 2:04 p.m.,*
in response to message #2 by Marcus von Cube, Germany

... neither would I...

Re: HP-41 CX at ebay - reasonable price?

*Message #4 Posted by **Timo** on 22 Feb 2010, 3:22 p.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

All right, thanks for your quick feedback.

This atually confirms my thoughts...

HP-41 CX: just to add that...

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 22 Feb 2010, 3:49 p.m.,*
in response to message #4 by Timo

... as you are interested in aerospace, sports and motorbikes, I'd guess you at least intend to use the calculators somehow.

If you want computing power, you´d add an HP50G to your 'wishing list', and it would serve you pretty well. If you want actual computing devices as tools to help you reasoning about a problem in order to solve it, so you need any scientific calculator. The HP41 series fit fine in most design needs, since they are easy to use and have as much power as you can add to them, either by programming or by ready-to-use application modules. And there are new tools (toys?) available today, by both Diego Diaz and Meindert Kuipers. These guys offer the ultimate, up-to-date data storage facilities you´d surely need to plug in any of your HP41 calculator.

Just check these out:

The Clonix homepage
MLDL2000 homepage

These are worth spending some bux with. Hope it helps.

Cheers.

Luiz (Brazilien)

Edited: 22 Feb 2010, 3:51 p.m.

Re: HP-41 CX: just to add that...

*Message #6 Posted by **Timo** on 22 Feb 2010, 4:59 p.m.,*
in response to message #5 by Vieira, Luiz C. (Brazil)

Hi Luiz,

thanks for your response. You are right, I actually do use my HP-41. Although I have to confess that I'm not nearly old enough to have witnessed the times when it came out, I'm nevertheless absolutely fascinated by this little machine and its abilities.

I'm not only interested in aerospace, I work as an aeronautical engineer. We develop, document and certify all sorts of fligth experiments, so my main jobs are engineering computations and the 41 does a great job on these. Besides, the look of colleagues when you get it out during a discussion for a quick calculation is just priceless...

However, once things start to get too intense regarding the math required to solve a problem I usually switch over to tools like Scilab (mainly because the results are much easier to document). So a HP50 would indeed by nice, but I doubt that I would use it to its full capabilities. A HP-41 serves both, my computational needs as well as my nostalgic interest in engineering history (I even put out my fathers slide rule from time to time, just to remind myself how complex things were in his early active years...)

By the way, thanks for the links, they sure look interesting! I will study them soon.

Best regards from Germany, Timo

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10BII Display Problems?

*Message #1 Posted by **JT** on 22 Feb 2010, 12:11 p.m.*

I just purchased a 10BII to add to my collection. It's the "middle" version (between the original 10B and the newest "retro" version). Was there a problem with the LCD display on this version? There seems to be a LOT of people on Amazon who reviewed this calculator around the time it was in production and complained about the display going bad after short time. What makes me wonder is that they also complained about the calculator accidently turning on while it was in their backpack etc., so they could have also inadvertently adjusted the display contrast without even knowing that feature existed on the 10BII. Just wondering if anyone could confirm whether or not there was a real QC problem with the LCD display on this version of the 10BII.

Edited: 22 Feb 2010, 12:11 p.m.

Re: 10BII Display Problems?

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 22 Feb 2010, 2:10 p.m.,*
in response to message #1 by JT

Hi;

I have two HP10BII with a bad LCD. Some segments and some whole digits went off for good. I opened one of them and the zebra connector was broken. Piece of s..t, if you pardom my French, that zebra connector. Seems to be made to never bent, always broke. When I opened the second unit, I saw the same scenario.

I am about to ask my brother, who has a third HP10BII I bought him some years ago. Either it´s been thrown away and he never mentioned that or it is still working fine. I would not bet in the second option, though...

Cheers.

Luiz (Brazil)

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Sign of a new HP calculators prices inflation?

*Message #1 Posted by **Xavier A. (Brazil)** on 22 Feb 2010, 6:55 a.m.*

Hello,

for months now I'm seeking HP-80 financial calculator prices; this auction drives me a bit confused:
is that possible to spend such an amount of money in this (used & partially broken) calculator?

What is actually very strange is that the final bidder seems to have a big experience... new buyers (like me a few years ago) could have spent so much money, but this one?

Re: Sign of a new HP calculators prices inflation?

*Message #2 Posted by **Thomas Radtke** on 22 Feb 2010, 7:41 a.m.,*
in response to message #1 by Xavier A. (Brazil)

> Quote:
>
> is that possible to spend such an amount of money in this (used & partially broken) calculator?

It's quite complete, and the seller shows lots of good pictures.

You mean the broken case? Unfortunately, these hinges often break over the time. I've payed an insane price for a complete 35 set just to have a (mostly) good case, so, I wouldn't have placed a bid on that item. But others have a different focus.

Well, you need just two people wanting an item enough to get a strange final bit. It's much like a traffic jam, where just one car can cause a 20km stau (the slowest car is always the first one ;-).

Re: Sign of a new HP calculators prices inflation?

*Message #3 Posted by **Xavier A. (Brazil)** on 25 Feb 2010, 7:11 a.m.,*
in response to message #2 by Thomas Radtke

Thank you for your reply.

Another factor which we didn't mention is the fact that the seller decided a minimum price to be reached. For sure this parameter artificially pulls up the item's value.

Well, in this other example, it is obvious that also new buyers help prices growing. I am curious about this new sale, where pictures are excellent, the case perfect and the calculator aesthetically best as in the previous auction.

My opinion is that new buyers with new interests in HP products (like old financial calcs) are making the market ever more 'juicy' for sellers.

Re: Sign of a new HP calculators prices inflation?

*Message #4 Posted by **Gilles Collas** on 27 Feb 2010, 2:49 p.m.,*
in response to message #3 by Xavier A. (Brazil)

Also, can anyone explain this one : EB #290395201549

Re: Sign of a new HP calculators prices inflation?

*Message #5 Posted by **Marcus von Cube, Germany** on 27 Feb 2010, 4:16 p.m.,*
in response to message #4 by Gilles Collas

A working, clean machine with accessories and box. I'd like to have one. :)

Re: Sign of a new HP calculators prices inflation?

*Message #6 Posted by **Gilles Collas** on 28 Feb 2010, 9:44 a.m.,*
in response to message #5 by Marcus von Cube, Germany

Sure but the price is incredible to me..

Re: Sign of a new HP calculators prices inflation?

*Message #7 Posted by **Xavier A. (Brazil)** on 1 Mar 2010, 6:08 a.m.,*
in response to message #6 by Gilles Collas

With the box it is actually very rare, so it is very expensive :)

Re: Sign of a new HP calculators prices inflation?

*Message #8 Posted by **Alberto Fenini** on 1 Mar 2010, 10:35 a.m.,*
in response to message #6 by Gilles Collas

Yes it is ... I have been bidding on this item till 200 US$, then, since I have to add duties and shipping charges (I only use Priority International) I stopped. Just for everyone information, no later then one month ago, on the italian ebay direct sales site(called "ebay annunci") the same machine in WORKING conditions, with EU power supply and manuals (without box) was offered for 60 € .... take care all of you, Alberto

Re: Sign of a new HP calculators prices inflation?

*Message #9 Posted by **Michael de Estrada** on 1 Mar 2010, 10:57 a.m.,*
in response to message #6 by Gilles Collas

It's an HP-27, that's why. It's near impossible to find one in good working condition and complete. Woodstocks in general are very difficult to find in working condition, because they have been ruined by battery leakage and outgassing, and using the AC adapter with bad or no batteries. Of all the Woodstocks, the HP-27 is the rarest. I found one for about 1/3rd this price that was in good working condition but had some unfortunate engraving and markings on it. It has all accessories except the box.

Re: Sign of a new HP calculators prices inflation?

*Message #10 Posted by **Xavier A. (Brazil)** on 1 Mar 2010, 7:07 a.m.,*
in response to message #3 by Xavier A. (Brazil)

Well, the final price (US$ 242,50) of the auction I was speaking about seems to demonstrate a new interest of speculators or HP fans in HP-80 financial calculator (is there need to remember that this particular model never cause a big enthusiasm among HP fans?).

With recent new buyers on the market (as one can see for instance here or there), my opinion is that HP calcs prices will keep on growing next years. The question is now: until when?

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Almost a Red-Dot. It seems only to lack the hole!

*Message #1 Posted by **Ignazio Cara (Italy)** on 21 Feb 2010, 1:41 p.m.*

I have got ah HP-35 from a american guy (SF, CA) and this seems to be a red-dot without the hole on the keyboard face plate. Ist serial number is 1143A4799 like you can see on the pictures. It have a battery pack with part code 03501A, the first type released by HP for this kind of calculator. Let me know how do you think about. Thanks a lot in advance.

Edited: 4 Mar 2010, 10:16 a.m. after one or more responses were posted

Re: Almost a Red-Dot. It seems only to lack the hole!

*Message #2 Posted by **Michael de Estrada** on 21 Feb 2010, 10:05 p.m.,*
in response to message #1 by Ignazio Cara (Italy)

It's an early Version 2. There are other differences between a Version 1 (Red Dot) and a Version 2. Early Version 2's shared a lot of similarities with the Red Dot, whereas later Version 2's were more similar to the Version 3, such as the serial numbers inside the battery compartment. Nonetheless, it's a nice find and looks to be in good condition.

Re: Almost a Red-Dot. It seems only to lack the hole!

*Message #3 Posted by **Ignazio Cara (Italy)** on 22 Feb 2010, 6:16 a.m.,*
in response to message #2 by Michael de Estrada

Many thanks for your appreciated contribute. This calculator is in very good working order, after an accurate restore from a very dirty and oxidized state. It hasn't the original ROM bug. I have just ask to the seller the story of this calculator , but He hasn't answered yet. If he does I will inform you. Regards

Ignazio

Re: Almost a Red-Dot. It seems only to lack the hole!

*Message #4 Posted by **Matthias Wehrli** on 22 Feb 2010, 7:04 a.m.,*
in response to message #3 by Ignazio Cara (Italy)

I guess it was a red Dot, but the upper faceplate was changed. As I can see there is a red dot on the power slider as well as there is the typical serial number plate of the Red Dot. Does it has a bug or not?

Re: Almost a Red-Dot. It seems only to lack the hole!

*Message #5 Posted by **Ignazio Cara (Italy)** on 22 Feb 2010, 7:11 a.m.,*
in response to message #4 by Matthias Wehrli

As you can read in my latest post, the calculator hasn't the ROM bugs, bu I agree with you about

the possibility that the keyboard face plate could be not so old. I'm awaiting for some information by the seller. Regards

Ignazio

my understanding:

*Message #6 Posted by **Frank Boehm (Germany)** on 22 Feb 2010, 7:51 a.m.,*
in response to message #1 by Ignazio Cara (Italy)

It's a factory refurbished red dot.
The serial# sticker is without doubt a red dot (and not V2) sticker, the serial number itself matches this.
When the "bug" was discovered, some/most users sent their machine to HP to have the ROM replaced (you can probably see some soldering remains from the manual rework on the PCB). Often "bad parts", like a damaged case part, were replaced for free. The original red dot faceplate was probably worn and has been replaced by a V2 part (as if the red dot hole was good for anything anyway <g>), after fixing it, the back label had to be replaced as well - with a V2 part (stating the "35").

Re: my understanding:

*Message #7 Posted by **Michael de Estrada** on 22 Feb 2010, 9:47 a.m.,*
in response to message #6 by Frank Boehm (Germany)

Maybe. Certainly the large rear label is not original and different from a Red Dot, but as you said would have been replaced if it had been refurbished by the factory. I am not so convinced by the serial number label, as there were a few Version 2's that had this style label (small numbers), and this serial number is higher than the earliest Version 2. Dr. Michael Eckstein has a database that has this information. You are correct that there is evidence of ROM replacement, and other evidence that the logic board itself is a Version 1 (Red Dot). Whether this was truly a Red Dot that has been factory refurbished or has been cobbled up from various pieces, some Red Dot and some not, is hard to tell, unless a factory work order or work makings can be found.

Re: my understanding:

*Message #8 Posted by **Ignazio Cara (Italy)** on 22 Feb 2010, 10:12 a.m.,*
in response to message #7 by Michael de Estrada

Thanks Michael, thanks Frank, I have deleted the image of the battery pack and insert a new image of the gold contact, I hope this could help us to discover the mistery. I think that only the Red-Dot had this kind ofcontact bridge. Is true or not? Frank, if you remember long time ago I purchased by you a RED-DOT s/n 1143A02874 and I are still the proud owner.

Ignazio

ser# label

*Message #9 Posted by **Frank Boehm (Germany)** on 22 Feb 2010, 10:32 a.m.,*
in response to message #7 by Michael de Estrada

The V2 and red dot ser# label differ, so it's actually impossible to falsify a V2 into a red dot. Probably a handful of people do know what to look for, but it's better not to tell ;)
I don't think the "earlier V2 number" is the full truth, probably another factory refurbished machine - it's not too hard to imagine they had the ability to reprint a ser# label...

Great discussion. I can add...>>

*Message #10 Posted by **tim m.** on 22 Feb 2010, 7:30 p.m.,*
in response to message #1 by Ignazio Cara (Italy)

...that my '35, #1143A31237, purchased from the original owner, is an early version 2 with bug that was refurbished by the owner. The back label states "HP-35" and one can see faint remnants of the old label. Plus, the original owner provided documentation indicating when the calculator was serviced for the "bug."

I'm judging that it is early v. 2 (without opening it) based on lack of red dot and S/N label style. It is conceivable that the faceplate was replaced, but the original owner had the machine serviced within a year or so of purchase, so I doubt this.

-Tim

Edited: 22 Feb 2010, 7:31 p.m.

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Hardest part about doing taxes

*Message #1 Posted by **Michael Meyer** on 20 Feb 2010, 4:44 p.m.*

The hardest part about doing my taxes: which calculator do I use? Totalling deductions seems best done on an HP-97. But for routine calculations, do I use an HP-25? 19C? 32S? Maybe a business calculator? It's so confusing. The IRS website gives no guidance for this at all.

Re: Hardest part about doing taxes

*Message #2 Posted by **Sancerre (Phoenix)** on 20 Feb 2010, 4:58 p.m.,*
in response to message #1 by Michael Meyer

I had the same dilemma - ultimately I choose my 42S and leveraged the infra-red printing so that I had a ticket for each category.

Re: Hardest part about doing taxes

*Message #3 Posted by **Garth Wilson** on 20 Feb 2010, 6:11 p.m.,*
in response to message #1 by Michael Meyer

They've made it too complicated, so I haven't done my own in years. It takes me more than a whole day to prepare everything to take to the accountant.

Re: Hardest part about doing taxes

*Message #4 Posted by **Michael Meyer** on 20 Feb 2010, 7:08 p.m.,*
in response to message #3 by Garth Wilson

LOL! All I'm doing IS preparing everything to take to the accountant... and it does take all day!

Re: Hardest part about doing taxes

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 20 Feb 2010, 10:01 p.m.,*
in response to message #4 by Michael Meyer

Hi, Doc;

and Yep, we have the same problem here in Brazil. And I gave up computing our equivalent to the IRS about five/six years ago. Now I just press [R/S] in the accountant´s keyboard...

Cheer$.

Luiz (Brazil)

Edited: 20 Feb 2010, 10:02 p.m.

Re: Hardest part about doing taxes

*Message #6 Posted by **Eddie W. Shore** on 21 Feb 2010, 4:12 p.m.,*
in response to message #5 by Vieira, Luiz C. (Brazil)

I usually use tax preparation software, but for short calculations, I usually reach for a financial calculator (12c, 17b).

Re: Hardest part about doing taxes

*Message #7 Posted by **Peter A. Gebhardt** on 20 Feb 2010, 7:03 p.m.,*
in response to message #1 by Michael Meyer

To start doing them ... ;-))

Seriously: Spreadsheets because of documentation.

Best regards,

Peter A. Gebhardt

Edited: 20 Feb 2010, 7:04 p.m.

Re: Hardest part about doing taxes

*Message #8 Posted by **Nenad (Croatia)** on 2 Mar 2010, 3:37 a.m.,*
in response to message #7 by Peter A. Gebhardt

Though the tax calculation procedure here in Croatia is a bit complicated, each year in February I implement the same approach: I download the Excel spreadsheet from the site of Erste bank, fill the data in, print it out and save it into a zip file for the next year.

They at Erste Bank always prepare the actual sheet taking into account possible changes of regulations during the year and the printed spreadsheet looks exactly like the paper form that other people use and fill manually. I only have to sign it and to send it to the local office of Tax administration.

Next year, I copy/paste the most data from the previous year sheet.

Re: Hardest part about doing taxes

*Message #9 Posted by **Michael Meyer** on 2 Mar 2010, 1:46 p.m.,*
in response to message #8 by Nenad (Croatia)

There has to be a role for an HP calculator in this process somewhere. Maybe to double check the spreadsheet? I don't trust them computers.

Re: Hardest part about doing taxes

*Message #10 Posted by **Nenad (Croatia)** on 3 Mar 2010, 3:10 a.m.,*
in response to message #9 by Michael Meyer

Yes, it is essential to double check the output (spreadsheet figures) by my wife's HP12C (btw, dr Mike, she is your colleague, but a pediatrician).

From time to time it happens that the original form is stupid and requires you to enter the same figure (e.g. life insurance premium) into two different cells in the spreadsheet. Normally, the actual calculation can take only one of them into account. You do not know which one. It is the best

practice to go through the output manually (meaning with a HP calculator), to help you check the figures mentally.

The main advantage of the spreadsheet is the possibility of "what if". You replace one expense with a zero and see what happens.

However, the spreadsheet is useful as it produces the filled form you have only to print into pdf, and file both the xls and pdf versions together.

Re: Hardest part about doing taxes

*Message #11 Posted by **Dave Britten** on 20 Feb 2010, 7:09 p.m.,*
in response to message #1 by Michael Meyer

A 200LX, of course. Huge screen, Lotus 1-2-3, Pocket Quicken, a financial calculator that rivals even the 19BII in functionality...

Re: Hardest part about doing taxes

*Message #12 Posted by **Allen** on 20 Feb 2010, 7:47 p.m.,*
in response to message #1 by Michael Meyer

I used a 97 calculator for the first pass, then for the different sections, used a 17bii and 82240B printer- It's a little faster and has the TVM calculations at hand if needed. The 42s is also an excellent Idea- saw that above.

Lastly, I double checked the math on my HP 30b.

Re: Hardest part about doing taxes

*Message #13 Posted by **Martin Pinckney** on 20 Feb 2010, 7:57 p.m.,*
in response to message #1 by Michael Meyer

17B

Re: Hardest part about doing taxes

*Message #14 Posted by **Palmer O. Hanson, Jr.** on 20 Feb 2010, 8:44 p.m.,*
in response to message #1 by Michael Meyer

I have done my own taxes for sixty years. All that I have ever needed is a four-banger calculator, a pen, some scratch paper, the appropriate forms, the appropriate instructions, and the ability to read and follow the instructions. It really isn't that hard. I could probably do it using a chisel and stone tablet if I really had to.

Re: Hardest part about doing taxes

*Message #15 Posted by **Ed Look** on 20 Feb 2010, 10:03 p.m.,*
in response to message #1 by Michael Meyer

I wound up using my HP-48G+. I could have just as well used the 49g or 50g. The only reason for these and not a simple scientific or 4-banger is that it's nice to have a bunch of stack levels visible at the same time without having to store the figures in a variable or a register and then having to recall them. And, the 48, 49, and 50 series machines have an "infinite" stack.

Re: Hardest part about doing taxes

*Message #16 Posted by **Michael Meyer** on 20 Feb 2010, 10:52 p.m.,*
in response to message #1 by Michael Meyer

I love all the feedback... as you know, I wasn't being entirely serious. If I use all of my calculators, can I claim them all as deductions for business equipment? I should be able to claim them as dependents (They are my babies)!

Re: Hardest part about doing taxes

*Message #17 Posted by **Sancerre (Phoenix)** on 20 Feb 2010, 11:23 p.m.,*
in response to message #16 by Michael Meyer

I got your tongue and cheek tone; but I had to admit that my taxes were ever so bit delayed due to the dilemma of what calculator to use. In theory, the 17BII had to be the right choice, but I the elegance of the 42S won. The biggest decision was whether to sacrifice the full stack of the 48G.

So, yes I got your humor, but was nevertheless trapped in the same scenario....

Re: Hardest part about doing taxes

*Message #18 Posted by **designnut** on 20 Feb 2010, 11:30 p.m.,*
in response to message #17 by Sancerre (Phoenix)

Turbotax grabs your dats from previous years, can download from Scottrade or Citibank. Used it for years, no hassle. Sam

Re: Hardest part about doing taxes

*Message #19 Posted by **Katie Wasserman** on 21 Feb 2010, 10:15 a.m.,*
in response to message #1 by Michael Meyer

I need a calculator just to prepare my taxes to give to the accountant!

Which one to use is certainly a dilemma and it took years to figure out the best solution for me: a 17BII with 82240B printer.

hp 97 of year 1980

*Message #20 Posted by **dania** on 21 Feb 2010, 10:54 a.m.,*
in response to message #19 by Katie Wasserman

Dear, are an Italian citizen resident in Como (nearby Milan) and I have a HP 97 calculator purchased in 1980. For 2 years more to read cards; can't (do not enter into the slot). (The probable problem in your calculator is a damaged transport wheel inside the card reader). Everything works perfectly. I do not know where address repair not having any address where address. I tried shops in Palo Alto, but did not have a proper address. I ask you if you are able to provide me with an address where I can address and that it is serious.

Thank you in advance one awaiting your reply.

Re: hp 97 of year 1980

*Message #21 Posted by **Vieira, Luiz C. (Brazil)** on 21 Feb 2010, 11:18 a.m.,*
in response to message #20 by dania

Hello;

try www.fixthatcalc.com

Your HP97 will be in very good hands.

Cheers.

Luiz (Brazil)

Edited: 21 Feb 2010, 11:19 a.m.

Re: hp 97 of year 1980

*Message #22 Posted by **dania** on 21 Feb 2010, 12:34 p.m.,*
in response to message #21 by Vieira, Luiz C. (Brazil)

Gentile Luiz C. (Brasil)

Obrigado por darem fornecido o endereço do fixthatcalc.com

Agora eu tinha perdido esperanças para poder reparar minha HP 97.

Já me contatou a empresa e na aparência próxima poucos dias uma resposta.

Obrigado novamente

Gian Carlo Caratelli

Re: hp 97 of year 1980

*Message #23 Posted by **Ignazio Cara (Italy)** on 21 Feb 2010, 12:44 p.m.,*
in response to message #22 by dania

Gian Carlo, ad integrazione del post precedente, vorrei aggiungere che il mio intervento è puramente gratuito, escluse le spese di rispedizione, e può interessare anche la modifica del sistema di trascinamento della spampante, che dopo svariati anni smette di funzionare correttamente. Garantisco il massimo della serietà.

Un saluto

Ignazio

Re: hp 97 of year 1980

*Message #24 Posted by **Vieira, Luiz C. (Brazil)** on 21 Feb 2010, 7:17 p.m.,*
in response to message #22 by dania

Hi, Gian Carlo;

I do not write in Italian so I cannot answer you in your tongue as you cordially did in mine, sorry! But Portuguese knowledge allows me to understand and agree with Ignazio. If the problem is related to the traction parts, replacement by a new, working part is not hard. And Ignazio has shown us here more than the necessary skills to perform this sort of repair, it is a good idea to take this opportunity mostly because you are both in the same country. Post charges and delivering period will be smaller, no doubts about.

Success!

Luiz (Brazil)

Edited: 21 Feb 2010, 7:23 p.m.

Re: hp 97 of year 1980

*Message #25 Posted by **Ignazio Cara (Italy)** on 22 Feb 2010, 4:28 a.m.,*
in response to message #24 by Vieira, Luiz C. (Brazil)

Ciao Luiz, ti ringrazio molto per le tue parole.

Saluti dalla Sardegna ai cugini brasiliani.

Ignazio

Re: hp 97 of year 1980

*Message #26 Posted by **Ignazio Cara (Italy)** on 21 Feb 2010, 12:33 p.m.,*
in response to message #20 by dania

Hi Dania, I live near you in Italy and I can help you with your beloved HP-97. Let me know at my mail address ignaziocara(at)tiscali(dot)it. Regards

Ignazio

Re: Hardest part about doing taxes

*Message #27 Posted by **cyrille de brebisson** on 22 Feb 2010, 8:39 a.m.,*
in response to message #1 by Michael Meyer

Hello,

This year, I will be using a HP30b :)

cyrille

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HP-41C with unusual serial number ?

*Message #1 Posted by **Marc Ferrer (France)** on 20 Feb 2010, 11:48 a.m.*

Hello,

Many years ago I got a used HP-41C (still working). Only recently, I realized that its serial number is unusual :

Instead of being stamped on the appropriate area, it's printed on a silver sticker which holds the number : 47067993. Under the sticker, no other marking.

I wonder if it's a refurbished machine, or maybe something more special...

In advance thank you all !

Cheers, Marc

Re: HP-41C with unusual serial number ?

*Message #2 Posted by **Iqbal** on 20 Feb 2010, 9:44 p.m.,*
in response to message #1 by Marc Ferrer (France)

Most likely the backpiece was changed.

Re: HP-41C with unusual serial number ?

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 20 Feb 2010, 10:05 p.m.,*
in response to message #1 by Marc Ferrer (France)

HI;

I have one with the serial number printed a silver sticker glued in the black plastic sheet inside the battery compartment. The back case has no serial stamped on it.

Cheers.

Luiz (Brazil)

Edited: 20 Feb 2010, 10:05 p.m.

Re: HP-41C with unusual serial number ?

*Message #4 Posted by **Marc Ferrer (France)** on 21 Feb 2010, 4:42 a.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

Hello Iqbal and Luiz,

Thank you for your answers; that leads me to other questions :

Is there a relationship between these non-standard serial numbers and dates ? or more likely, in the case of a repairing process, is it just a record number used at HP servicing department ? (which would make dating more difficult if not impossible)

Thanks again for your help !

Marc

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HP-41CV with HP82106A

*Message #1 Posted by **Dimitri Simitas** on 19 Feb 2010, 8:59 p.m.*

I got to ask I just recieved in the mail a HP82106A memory modual, and reading the HP Advance programming guide it mentions not using it on a HP-41CV, any reason for that?

Dimitri

Re: HP-41CV with HP82106A

*Message #2 Posted by **Eric Smith** on 19 Feb 2010, 9:32 p.m.,*
in response to message #1 by Dimitri Simitas

The HP-41CV and HP-41CX already contain the maximum amount of normal memory, so it is not possible to use the 82106A memory module or 82170A quad memory module with them. These modules should only be used in an HP-41C (no "V" or "X" suffix). Installing these modules in an HP-41CV or HP-41CX will not add usable memory, and may result in system crashes, higher battery drain, or other problems.

Similarly, the 82170A should never be used in combination with any 82106A modules.

Re: HP-41CV with HP82106A

*Message #3 Posted by **Michael de Estrada** on 19 Feb 2010, 9:37 p.m.,*
in response to message #1 by Dimitri Simitas

Adding a 82106A memory module or 82170A quad memory module to a HP-41CV or HP-41CX will not increase the memory in those models, because they already contain the maximum 319 addressable registers of internal memory. A HP-41C is the only model that can benefit, as its internal memory contains only 63 registers. A 82106A module will add 64 registers and a 82170A quad module will add 256 registers to an HP-41C. You can expand an HP-41C to 319 registers by adding 4 82106A modules or 1 82170A module. If you do install one of these modules in an HP-41CV or HP-41CX it will not function properly and the calculator will lock up if you attempt certain memory operations.

Edited: 19 Feb 2010, 9:38 p.m.

Re: HP-41CV with HP82106A

*Message #4 Posted by **Dimitri Simitas** on 19 Feb 2010, 9:46 p.m.,*
in response to message #1 by Dimitri Simitas

Thank you two for that, I have removed the module mind you still reading have not tried any memory functions with it thankfully. I guess it means I should have read up more. Mind you I ordered it before getting the calculator in the mail. Shame 33$ off ebay and not useful as a paper weight. Guess it will go into the parts box.

Dimitri

Re: HP-41CV with HP82106A

*Message #5 Posted by **Garth Wilson** on 19 Feb 2010, 10:37 p.m.,*
in response to message #4 by Dimitri Simitas

> Quote:
>
> Shame 33$ off ebay and not useful as a paper weight.

I have a CX which can't use them, but I intentionally got a couple anyway (although maybe only about $10 each) for the possibility of building something else into them at a later date, like NoVRAM.

Re: HP-41CV with HP82106A

*Message #6 Posted by **Dimitri Simitas** on 21 Feb 2010, 12:41 p.m.,*
in response to message #5 by Garth Wilson

Interesting. I wonder if there are any in HP production technical specs available to produce new cards like that. Maybe the DVDs will have some data I can use for that end.

Dimitri

Re: HP-41CV with HP82106A

*Message #7 Posted by **Karl Schneider** on 20 Feb 2010, 12:13 a.m.,*
in response to message #4 by Dimitri Simitas

> Quote:
>
> I have removed the *(82160A memory module from an HP-41CV)* ... Shame 33$ off ebay and not useful as a paper weight. Guess it will go into the parts box.

I'd keep it in case you decide to acquire an HP-41C to complete an HP-41 collection: C, CV, CX. "Fullnut" models (1979-84/85) have nicer, more-legible displays, and the earliest models of these (e.g., C and CV from 1979-80) have shorter, but bolder, display segments.

The first-year HP-41C is of the steep-edged "tall keys" design carried forward from LED-display models that immediately preceded it. The later key design was better, but the original has some collector value...

-- KS

Edited: 20 Feb 2010, 1:26 a.m.

Re: HP-41CV with HP82106A

*Message #8 Posted by **Dimitri Simitas** on 21 Feb 2010, 12:57 p.m.,*
in response to message #7 by Karl Schneider

Thank you for the reply. I do have somewhat of a similar goal but not to collect the calculators but accessories to use.

Double ended sword. I want to learn to use the HP-41 as well as I can but I also want to reverse the process as I am back in college and have a couple 4 month summers to get it done. Get a updated modern version of the HP-41 with SD cards for program storage and a HP-41 type slot to use original accessories with the HP-IL system. The memory expansion will not work in the slot, since there is the

SD slot will hold program files. As will a ROM chip inside will hold many application packs built in.

Dimitri

Edited: 21 Feb 2010, 1:01 p.m.

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[OT] Future Calculator Nut?

*Message #1 Posted by **Tim Wessman** on 19 Feb 2010, 12:16 p.m.*

Probably not. . .

For those of you who know and have met my wife Katie (Wessman with no 'a' and no 'r') at the past few HHC conferences, she is feeling great and both are doing well.

Since I have access to more calculators now, this new little one gets an upgrade compared to his older sister. She had to chew on a quickcalc. He gets upgraded to a 10bII so he can start learning at an earlier age what a good keyboard (to a small extent) should feel like. I don't mind if it gets sucked on.

More info for those wanting at timandkatie.com.

TW

Edited: 19 Feb 2010, 12:18 p.m.

Re: [OT] Future Calculator Nut?

*Message #2 Posted by **Thomas Radtke** on 19 Feb 2010, 12:27 p.m.,*
in response to message #1 by Tim Wessman

Cute. Congratulations, Tim!

Make sure to not have batteries in the calculator. For the childs sake, not the 10BIIs ;-).

Re: [OT] Future Calculator Nut?

*Message #3 Posted by **Tim Wessman** on 19 Feb 2010, 12:41 p.m.,*
in response to message #2 by Thomas Radtke

Would you like to donate a 41 or something for a crib toy? :-)

TW

Re: [OT] Future Calculator Nut?

*Message #4 Posted by **Thomas Radtke** on 19 Feb 2010, 1:08 p.m.,*
in response to message #3 by Tim Wessman

Erm, classic calculators are out of discussion. You know, some small parts might have become loose over the time ;-).

Re: [OT] Future Calculator Nut?

*Message #5 Posted by **Michael Meyer** on 19 Feb 2010, 1:50 p.m.,*
in response to message #4 by Thomas Radtke

There's always the Woodstocks. I know there were stories about them surviving being buried in the snow all winter, being dropped from great heights, being thrown from a snow blower, being run over with cars, etc. But child testing would be the ultimate. Probably wouldn't be safe because of the keys, though...

Congratulations on the new addition to your collection!

Re: [OT] Future Calculator Nut?

*Message #6 Posted by **Walter B** on 19 Feb 2010, 4:47 p.m.,*
in response to message #5 by Michael Meyer

Woodstocks? Though they were pretty solid, you're talking about Voyagers presumably ... d:-)

@Katie & Tim: All the best to you four d:-)

Re: [OT] Future Calculator Nut?

*Message #7 Posted by **Allen** on 19 Feb 2010, 7:28 p.m.,*
in response to message #1 by Tim Wessman

Congrats (again)!!!

Re: [OT] Future Calculator Nut?

*Message #8 Posted by **Don Shepherd** on 19 Feb 2010, 8:10 p.m.,*
in response to message #1 by Tim Wessman

A 10bii? Give him a new 30b so he can start learning keystroke programming between his Dr. Seuss books! We need to pass the torch to his generation.

Congrats on your growing family.

Don

Re: [OT] Future Calculator Nut?

*Message #9 Posted by **hpnut** on 19 Feb 2010, 8:27 p.m.,*
in response to message #1 by Tim Wessman

Tim and Katie, congratulations!! May your little one grow into A true calculator nut like me.

Uncle hpnut in Malaysia :-)

Re: [OT] Future Calculator Nut?

*Message #10 Posted by **Namir** on 20 Feb 2010, 12:26 a.m.,*
in response to message #1 by Tim Wessman

Tim,

Congratulations on the HP-10BII .... the kid looks kinda cute too!!!

Namir

Re: [OT] Future Calculator Nut?

*Message #11 Posted by **David Hayden** on 20 Feb 2010, 9:18 p.m.,*
in response to message #1 by Tim Wessman

Congratulations to you and Katie!

This reminds me of a funny story. When my wife was pregnant in 1995, I wrote a very small and VERY simple program for the 100LX she had from work. It timed her contractions....

The trick was that had to be better than bullet-proof. It had to be better than idiot-proof. It had to be "expectant dad with wife in labor" proof!! Now that was a challenge.

I settled on 3 buttons: START STOP and SHOW. Press START when she started a contraction, press STOP when it ended and press SHOW to display a table of their duration and frequency. The code had to account for, say, pressing START, and then not being able press STOP because the missus was squeezing my hand and shouting at me... :)

I actually used the calculator during her brutal 45 hr labor.

The 100LX is in sight right now. Mother and child are upstairs watching a movie. :)

Dave

P.S. Tim, your children will not remember learning to use a mouse any more than you remember learning to use a door knob. They will have no memory of EVER hunting for keys on a keyboard. The very idea of not knowing which key is where will be completely alien to them.

Re: [OT] Future Calculator Nut?

*Message #12 Posted by **Bill Zimmerly** on 21 Feb 2010, 4:24 p.m.,*
in response to message #1 by Tim Wessman

Hi Tim and Katie!

I'm glad Katie is feeling great and the baby is doing well. (What a cute little boy!) I hope he is a talented engineer/mathematician someday. ;)

- Bill

Re: [OT] Future Calculator Nut?

*Message #13 Posted by **Eddie W. Shore** on 23 Feb 2010, 9:23 a.m.,*
in response to message #1 by Tim Wessman

How nice :). Congratulations!

Eddie

Re: [OT] Future Calculator Nut?

*Message #14 Posted by **db (martinez, ca.)** on 23 Feb 2010, 10:50 p.m.,*
in response to message #1 by Tim Wessman

IMHO, your kids deserve RPN calculators to chew on. But like the song almost says: "don't let your babies grow up to be surveyors" - even ones with great software.

Congrats, db

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HP-41CX beeps when turned on !!

*Message #1 Posted by **Giovanni Jimenez** on 19 Feb 2010, 9:04 a.m.*

I recently acquired an HP-41CX that looks in great shape; however, when inserted new batts and turned on, it just beeps (continuously), and doesn't respond to any key (incl ON key).

Any ideas ?

Re: HP-41CX beeps when turned on !!

*Message #2 Posted by **Håkan Thörngren** on 19 Feb 2010, 10:53 a.m.,*
in response to message #1 by Giovanni Jimenez

Try to remove batteries, press and keep down "<-", tap "ON", then release "<-" procedure. Put batteries back and try to start it again.

If you still have a problem, try to get a diagnostic module and see if it can take control and tell you what is wrong.

Does it emit a high pitched noise or is it just a continuous beep?

Re: HP-41CX beeps when turned on !!

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 19 Feb 2010, 11:33 a.m.,*
in response to message #1 by Giovanni Jimenez

Hi;

can you tell us if it is a coconut (fullnut) or a halfnut? Coconuts have the well known problems related to broken posts, and chances are that yours is suffering from this kind of trouble. To identify one for another:

Let us know about your findings, please.

And success!

Luiz (Brazil)

Re: HP-41CX beeps when turned on !!

*Message #4 Posted by **Giovanni Jimenez** on 19 Feb 2010, 11:44 a.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

Followed Hakan's procedure and it stopped beeping (it was a high pitch beep). It doesn't turn on though.

It is the half-nut model.

What is the next step? and thanks !

Re: HP-41CX beeps when turned on !!

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 19 Feb 2010, 1:17 p.m.,*
in response to message #4 by Giovanni Jimenez

Hi, Giovanni;

you may want to repeat Hakan´s procedure a couple of times again (as many as you need) and see if the calculator gets back to normal.

There is one straight procedure that is explained in the HP41 manual: leave the calculator without batteries for a couple of days (the C/CV may need about four to five days) in order to discharge all remaining electrical charges in all capacitors (it is known that the HP41 has two 'big' electrolytic capacitors). Because it uses low-power C-MOS technology IC´s as load, these capacitors take too long to get rid of remaining charge. The HP41C/CV (not the CX) may retain RAM contents for hours without batteries. The CX has the internal clock and extra RAM circuitry so discharging is faster.

There is also the electrostatic charge, different of the one found in capacitors due to regular operation. I had once to disassemble a coconut and 'resurrect' it after discharging the capacitors and leaving it over an aluminum foil, carefully pressed in the side without components so all terminals were shorted wit each other. After about an hour it was singing and dancing again.

Hope you succeed.

Edited: 19 Feb 2010, 1:20 p.m.

Re: HP-41CX beeps when turned on !!

*Message #6 Posted by **Michael Meyer** on 19 Feb 2010, 1:53 p.m.,*
in response to message #5 by Vieira, Luiz C. (Brazil)

Hi, Luiz!

You've been gone for awhile from the forum lately. I hope all is well.

Re: HP-41CX beeps when turned on !!

*Message #7 Posted by **Vieira, Luiz C. (Brazil)** on 20 Feb 2010, 2:56 a.m.,*
in response to message #6 by Michael Meyer

Hi, Doc;

main reason: classes have already begun and particularly in the university I teach at, many structural changes took place and, as you know, teachers are always the advanced front in the battle...

Appart of that, no problems. Should I have a 36-hour day, I´d use the extra 12 just for experimentation in my (humble) lab. Even in our 'carnival' week I took it for solving some issues.

Cheers and thanks for asking (in time: you have mail...)

Luiz (Brazil)

Re: HP-41CX beeps when turned on !!

*Message #8 Posted by **Giovanni Jimenez** on 19 Feb 2010, 5:03 p.m.,*
in response to message #5 by Vieira, Luiz C. (Brazil)

Thanks guys. Will let you know in a couple of days.

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The HP-71B “Math Machine” 25 Years Old

*Message #1 Posted by **Marcus von Cube, Germany** on 19 Feb 2010, 8:48 a.m.*

Article by Joseph K. Horn, Richard J. Nelson, & Dale Thorn

Link posted by user "brutal" in french MySilicium Forum.

Edited: 19 Feb 2010, 8:52 a.m.

Re: The HP-71B Math Machine 25 Years Old

*Message #2 Posted by **Didier Lachieze** on 19 Feb 2010, 11:14 a.m.,*
in response to message #1 by Marcus von Cube, Germany

Very good article! It's part of the February issue of the HP Solve calculator newsletter available here: HP Solve

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Website update

*Message #1 Posted by **Matthias Wehrli** on 19 Feb 2010, 7:23 a.m.*

Just made a small update of my website:

http://www.hp-collection.org

As I still have some time left: In that sort of information would you be interested on my website?

Re: Website update

*Message #2 Posted by **Peter Geiser** on 19 Feb 2010, 3:13 p.m.,*
in response to message #1 by Matthias Wehrli

Hi Matthias

You have a great website! I appreciate the wealth of the information.

It would be nice to see more about all the special devices (e.g. prototypes) you have.

Keep up the good work!

Best regards
Peter

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Lagrangian Interpolation for the HP-67 and HP-41C

*Message #1 Posted by **Namir** on 18 Feb 2010, 2:27 p.m.*

Hi All,

I posted PDF files that contain Lagrangian interpolation programs for the HP-67 and HP-41C on my web site.. The HP-41C programs come in two versions. The accompanying algorithm pseudo-code explains the difference. The second version performs some of the calculations needed once and stores the intermediate results. When you perform interpolation, the program performs the needed calculations that involve the interpolated value of x. Therefore, you save time when you perform multiple interpolation with the same set of observations.

Namir

Edited: 18 Feb 2010, 2:28 p.m.

Re: Lagrangian Interpolation for the HP-67 and HP-41C

*Message #2 Posted by **Bill Zimmerly** on 21 Feb 2010, 4:38 p.m.,*
in response to message #1 by Namir

Thanks Namir!

It was good to meet you at HHC 2009 and I look forward to HHC 2010.

- Bill

Re: Lagrangian Interpolation for the HP-67 and HP-41C

*Message #3 Posted by **Namir** on 24 Feb 2010, 10:59 a.m.,*
in response to message #2 by Bill Zimmerly

Same here. Any word on where and when HHC2010 will take place?

Re: Lagrangian Interpolation for the HP-67 and HP-41C

*Message #4 Posted by **Bill Zimmerly** on 28 Feb 2010, 2:08 p.m.,*
in response to message #3 by Namir

> Quote:
>
> Same here. Any word on where and when HHC2010 will take place?

I haven't seen anything on it, but I'm sure that Richard, Joe, et al are working on it. ;)

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HP200LX Connectivity Pack under Windows 7

*Message #1 Posted by **Mike (Stgt)** on 18 Feb 2010, 6:11 a.m.*

Just tried to run the HP200LX Connectivity Pack under Win7 Starter - and failed. Do I realy need QEmu, DosBox, VMware Player, or similar?

Ciao.....Mike

Re: HP200LX Connectivity Pack under Windows 7

*Message #2 Posted by **Massimo Gnerucci (Italy)** on 18 Feb 2010, 7:48 a.m.,*
in response to message #1 by Mike (Stgt)

32 or 64 bit Windows? did you try compatibility mode (all the way back to Win95...)?

Greetings,
Massimo

Re: HP200LX Connectivity Pack under Windows 7

*Message #3 Posted by **Mike (Stgt)** on 18 Feb 2010, 12:13 p.m.,*
in response to message #2 by Massimo Gnerucci (Italy)

No, I did only try to start it this morning in a hurry between a cup of tea and a shower before work. Did a "EasyTransfer" tonite from my worn-out WinXP-MSI Wind to an AAO-D250 under this funny Win7-Starter. 32 bit of cause. No chance neither for XP compatibility mode neither for the latest Virtual PC.

I searched the Internet for an advice, alas nothing found. If I can not make it run on the bare system I'll force it with DOS-Box or Qemu.

The other emulators work fine so far: Hercules (for IBM main frames), Emu28, Emu42, Emu48, and vTI. This evening I will try VirtualPC 2007, V41, Nonpareille, emu41, emu71, and Mini-VMac (for OS7). Some others I'll try end of next week.

"... and virtual _is_ real." (George Clinton in a song written by Prince)

Ciao.....Mike

Re: HP200LX Connectivity Pack under Windows 7

*Message #4 Posted by **Dave Britten** on 18 Feb 2010, 2:28 p.m.,*
in response to message #3 by Mike (Stgt)

Virtual PC 2007 should work on Windows 7 32-bit, but I think you need the SP1 release of VPC. (There's no SP2 version of it yet, is there?)

Re: HP200LX Connectivity Pack under Windows 7

*Message #5 Posted by **Mike (Stgt)** on 19 Feb 2010, 7:55 a.m.,*
in response to message #4 by Dave Britten

AFAIK there is no SP2 for it, and I assume never will be. I only tried it with one VHD and it vPC did not reflect if the additions are installed or not as it does not allow to directly link directories from the host as disks to the guest.

I'll be back in one week - there are 3 days carneval in Basle now.

BTW - thanks for your reply!

Ciao.....Mike

Re: HP200LX Connectivity Pack under Windows 7

*Message #6 Posted by **Han** on 19 Feb 2010, 2:16 p.m.,*
in response to message #1 by Mike (Stgt)

Is there a specific feature of the connectivity pack you wish to use? Or do you simply need some means to transfer files? If you only need to transfer files, Hyperterminal works just fine.

Re: HP200LX Connectivity Pack under Windows 7

*Message #7 Posted by **Mike (Stgt)** on 2 Mar 2010, 8:20 a.m.,*
in response to message #6 by Han

Yes, there is a specific feature on the real HP200LX (and 100LX) that the Connectivity Pack does not have: this LX-kind of task switching, where you may virtually open more than one application. So i wish there was an "EmuLX" as close as possible to the real HW (like Emu42 from Christoph Giesselink).

Last week I tried this and that. I was not able to get the CPack200 to work on a bare Win7 Starter Edition (7 = holy number, Win7 = holy sh.t), at minimum DOSBox is necessary. There I still have to solve the keybord issue (it's a swiss one), Win7 switched back every now and then to german keybord but that's fixed now. Virtual PC 2007 works too, alas the direct link to directories is waaay too slow. VMware Player works too. But, best of all is Hercules.

Ciao.....Mike

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OT: Computer Archeology 2010

*Message #1 Posted by **Johnny Bjoern Rasmussen** on 18 Feb 2010, 2:42 a.m.*

Hi there
I hope to see some of you if you just happen to be in western Denmark on 8th May 2010.

Cheers!

Johnny

http://2.bp.blogspot.com/_UbExdZJBL14/S3zu4SyaMdI/AAAAAAAADsQ/n8m6G0pz7gE/s1600-h/Computer+Archeology+2010.jpg

Edited: 18 Feb 2010, 2:43 a.m.

Too bad

*Message #2 Posted by **Frank Boehm (Germany)** on 18 Feb 2010, 10:16 a.m.,*
in response to message #1 by Johnny Bjoern Rasmussen

it' still a 3-4 hour drive from Flensburg :(

Re: Too bad

*Message #3 Posted by **Marcus von Cube, Germany** on 18 Feb 2010, 11:59 a.m.,*
in response to message #2 by Frank Boehm (Germany)

Still better than from the Rhein/Main area. :(

Johnny Björn, if you can rent a truck and come to me, I probably have more giveaways in my basement than you can imagine. I need to make a list.

Too bad?!? Lucky you!

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 19 Feb 2010, 8:51 a.m.,*
in response to message #2 by Frank Boehm (Germany)

I´m almost in the other side of the globe... bit less, though! OK, OK, about 1/3 of the perimeter, but there's a whole ocean ahead! And I'd like to go, too... At least I have the symptoms!

Luiz (Brazil)

Re: OT: Computer Archeology 2010

*Message #5 Posted by **Chuck** on 18 Feb 2010, 5:48 p.m.,*
in response to message #1 by Johnny Bjoern Rasmussen

SMACK!!!

> Quote:
>
> *You're the type who constantly program old computers and gizmos.
>
> *You may not have the heart to get rid of your trusty DOS 2.11

I just got Windows 3.1 and multiple DOS and early Window programs running on my Mac Book Pro. Woot!! Still having a hard time recalling how to get it to network. After 15+ years it all starts to fade. ;)

Edited: 18 Feb 2010, 8:23 p.m. after one or more responses were posted

Re: OT: Computer Archeology 2010

*Message #6 Posted by **Marcus von Cube, Germany** on 18 Feb 2010, 6:47 p.m.,*
in response to message #5 by Chuck

Chuck, you need to install Windows for Workgroups.

Re: OT: Computer Archeology 2010

*Message #7 Posted by **Chuck** on 18 Feb 2010, 8:23 p.m.,*
in response to message #6 by Marcus von Cube, Germany

Thanks Marcus. I vaguely remember that 3.11 for WG had some nice improvements. Unfortunately I don't know if I still have all my 3.11 disks. Time for a trip up to the attic.

Re: OT: Computer Archeology 2010

*Message #8 Posted by **Johnny Bjoern Rasmussen** on 19 Feb 2010, 11:22 a.m.,*
in response to message #7 by Chuck

Thanks for your replies, folks :-)

Too bad that none of you yet can attend. The most likely will be for some people from Germany as you Franck and you Marcus to attend but I fully understand you. I don't think that I would be travelling very far to another meeting.

My elder brother and I will be here with some of my HP's. I also have two old Memotech MTX-500, a Psion XP, a TI-59 and some other non-HP's... A friend of mine collecting old CPU's and some of the old IBM classisc will also be here. Finaly some of my working collegues will probably show up also to look at us geeks :-) I have sent an invitation to a danish classic-computer-club though they have not responded yet.

So come on girls and guys - until now we will be only a few nerds...

BTW if some of know the whereabouts of any similar events in near by countries like Germany, Netherlands or eg. Sweden I will like know.

Thanks!

Johnny

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Interesting HP41CV?

*Message #1 Posted by **Dimitri Simitas** on 16 Feb 2010, 9:45 p.m.*

Reading through the archives slowly I came across this and reminded me of a auction.

Calculator Modifications

&

Odd HP-41CV

Think it being done this way really offer advantages.

Dimitri

Edited: 16 Feb 2010, 9:47 p.m.

Re: Interesting HP41CV?

*Message #2 Posted by **Timo** on 17 Feb 2010, 3:24 a.m.,*
in response to message #1 by Dimitri Simitas

It sure is interesting!

However, I'm not really suprised by the speed modification. Lately I've stumbled accross another site giving some information about programming and a bit of personal HP-41 history of the owner.

See here.

The site is only in German, but it is stated there, that the owner of said HP-41 ordered a company to modify his calculator for greater speed. The modification also included a micro-switch on the side of the calculator that could be used to switch it back to normal speed if required.

But I agree, the extend of these modifications is impressive, I wonder at which price it will sell...

Edit: Found ths same page in English language format. Link is updated.

Edited: 17 Feb 2010, 3:26 a.m.

Re: Interesting HP41CV?

*Message #3 Posted by **Klaus** on 20 Feb 2010, 3:48 a.m.,*
in response to message #2 by Timo

<Shameless mode on> I am offering a HP-41CY with the turbo modification in the ad section

<RPN mode on> There are many programming quirks on the HP-41, you should know about labels (local and global), label searching, memory layout etc. to develop programs. You can even use synthetics or

machine language to speed up your programs. The turbo switch doesn't make bad programs good, it just makes a bad program faster.

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HP logo upside down = DY, happened a long time ago

*Message #1 Posted by **Don Shepherd** on 15 Feb 2010, 10:03 p.m.*

A thread recently discussed the logo for one of the proposed re-purposed scientific calculators included the HP logo turned upside-down, or DY for do-it-yourself. Turns out that idea happened a long time ago.

Re: HP logo upside down = DY, happened a long time ago

*Message #2 Posted by **Dave Shaffer (Arizona)** on 15 Feb 2010, 11:59 p.m.,*
in response to message #1 by Don Shepherd

Somewhere in this set of very interesting articles, it is pointed out that some early computers were called instrument controllers in order to get past US government rules (in the 1960s).

I started working at NASA in 1979 as a contractor, and our group used an HP mini-computer which was prominently labelled as an instrument controller for that very reason, so it took a long time to finally be allowed to buy a "computer" if you worked for Uncle Sam. I think the big computer centers did not want to lose their influence (and tithe from the users).

Re: HP logo upside down = DY, happened a long time ago

*Message #3 Posted by **Steve Simpkin** on 16 Feb 2010, 8:03 p.m.,*
in response to message #2 by Dave Shaffer (Arizona)

> Quote:
>
> Somewhere in this set of very interesting articles, it is pointed out that some early computers were called instrument controllers in order to get past US government rules (in the 1960s).

This still occurs!!! The company I work for sells emergency radio/911 dispatch equipment to state and federal governments. We happen to utilize Windows computers to run the user interface software. These computers run dedicated software 24/7 for 7-10 years. The do not need virus software, they are not connected to the internet nor do they ever get updates to the OS over their lifetime. In some cases (the State of California for example) we have to officially label the Windows computer an "interface controller". If they are called a "computer", they immediately fall under the responsibility of the State IT department who will update them on a weekly or monthly basis just like every other computer they have in their inventory. This would be a bad thing so we have to play games like calling them something other than a computer so they will not be messed with.

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HP-97 Print Intensity Mystery

*Message #1 Posted by **Michael de Estrada** on 15 Feb 2010, 5:21 p.m.*

I had been working on two HP-97s, swapping parts in an attempt to obtain one complete and fully functional unit. At one point I tried swapping the two printer assemblies, when I noticed some odd behavior. Prior to the swap, the print intensity on both printers was normal, however, afterwards the print intensity became very light and thin on one printer but very dark and thick on the other. I swapped paper rolls, but there was no change. So, I read the HP-97 service manual, and found out that there is a resistor R8 that controls print intensity, which is located on the printer PCA. This PCA is connected to the printer by a cable and by connector pins to the main logic PCA. The thing is, when I swapped the printer assemblies, the printer PCAs remained with their respective printers and were not interchanged. So, since the intensity resistance was not changed in the process, why did the intensity change? As soon as I returned the printers to their original locations, the print intensities returned to normal. I am trying to understand the inner workings of these calculators and would like to know if anyone on this forum has encountered this behavior and determined the cause.

Re: HP-97 Print Intensity Mystery

*Message #2 Posted by **Randy** on 15 Feb 2010, 7:05 p.m.,*
in response to message #1 by Michael de Estrada

You kept the printer PCA together with the printer but the PIK which drives the printer did not swap since it is on the main logic PCA.

I'll bet if you keep the PIK's with their original printer assemblies, intensity will remain the same.

Re: HP-97 Print Intensity Mystery

*Message #3 Posted by **Michael de Estrada** on 15 Feb 2010, 7:50 p.m.,*
in response to message #2 by Randy

Thanks for the info. I see where the pinouts from the PIK connect to the printer PCA. There must be some variability in PIK outputs which require each printer to be adjusted for its PIK that accounts for the range of resistance values. I thought that it had something to do with variability in the thermal print heads. So, would swapping the resistors accomplish the same thing, or is there more to it than that? Changing a resistor is a lot easier than an IC.

Re: HP-97 Print Intensity Mystery

*Message #4 Posted by **Katie Wasserman** on 15 Feb 2010, 10:26 p.m.,*
in response to message #3 by Michael de Estrada

I've had good (but not dramatic) results with resistor changes on the 97 printer board. It's certainly easy enough to try.

Re: HP-97 Print Intensity Mystery

*Message #5 Posted by **Saile (Brazil)** on 16 Feb 2010, 8:16 a.m.,*

in response to message #4 by Katie Wasserman

The type of the paper (very old paper) :-)

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Squaring the circle: all-MCODE Bessel functions

*Message #1 Posted by **Ángel Martin** on 15 Feb 2010, 2:05 p.m.*

It's done at last: an All-MCODE implementation of the Bessel functions IBS and JBS, for any real integer and any real argument.

Not an easy feat by my standards, I had to go around numerous issues and limitations to coax the venerable coconut to pull this off! (no doubt my poor programming skills :)

So if you're intrigued by it or interested in 30-year old technology warping its sensible limits, then make sure you check out the forthcoming version of the SandMath module, soon at a TOS near you :)

Also a new mini-white paper on the Bessel functions is ready, including source code listings and even a FOCAL version for complex arguments and complex indexes.

Can you spell J[(1+i),(-1-i)]?

Cheers, "AM

Re: Squaring the circle: all-MCODE Bessel functions

*Message #2 Posted by **PeterP** on 15 Feb 2010, 4:55 p.m.,*
in response to message #1 by Ángel Martin

do you ever sleep Angel? Your output these last few months has been nothing short of astonishing!

Congratulations

Peter

Re: Squaring the circle: all-MCODE Bessel functions

*Message #3 Posted by **JMBaillard** on 16 Feb 2010, 4:58 a.m.,*
in response to message #2 by PeterP

Hi,

my HP48 returns:

J1+i(-1-i) = -8.88878423739 + 2.2945020794 i

Best regards, Jean-Marc

Re: Squaring the circle: all-MCODE Bessel functions

*Message #4 Posted by **Ángel Martin** on 16 Feb 2010, 7:29 a.m.,*
in response to message #3 by JMBaillard

Excellent answer and correct result.

Here's validation of the ZJBS output then: 1, ENTER^, ZENTER^, ZNEG, ZJBS
-> -8,888784241+J2,294502076

and here's the answer from Wolfram Alfa:

-8.888784237348673979366870033718529955861649282410490734 00... +
2.294502079363192545304966249871363891874295540911034807 61... i

I was never entirely comfortable using the 48, I guess it shows ;-)

Best wishes,
ÁM

Edited: 16 Feb 2010, 7:35 a.m.

Re: Squaring the circle: all-MCODE Bessel functions

*Message #5 Posted by **JMBaillard** on 17 Feb 2010, 4:54 p.m.,*
in response to message #4 by Ángel Martin

Hi,

I've also written a "JNZ" program for the HP-41 and it yields:

-8.888784232 + 2.294502069 i

Roundoff-errors are more important, but my preference still goes to the HP41!

All the Best, Jean-Marc.

Re: Squaring the circle: all-MCODE Bessel functions

*Message #6 Posted by **Ángel Martin** on 18 Feb 2010, 2:29 a.m.,*
in response to message #5 by JMBaillard

Let it be publicy said that your 41 Math library is nothing short of sensational, Jean-Marc. You have single-handedly built an impressibe body of programs, all posted here in the museum and obligued reference.

I checked your Bessel functions entry but didn't see the complex treatment. Did I miss it somehow or is not posted yet?

http://www.hpmuseum.org/software/41/41besslj.htm

Yes rounding errors become more apparent when there's only 9 significant digits instead of ... 13, or 15? I'm not even sure what's the precission in the 48X anymore.

Incidentally I found this problem to be less of an issue when doing complex numbers calculations. I'm probably wrong but it somehow seems to be a more forgiving environment. I now realize I should have used the 13-digit precision mainframe routines in some of my 41Z functions, and will revise them eventually.

The exception to this "benign rule" has been the Lambert W function. Using the ZSOLVE program I can't always find the right root for the functional equation that defines W(z). I also

tried with your program "ROOTZ", but the same issue occurs.

http://www.hpmuseum.org/software/41/41cmpxf.htm

Have you tried using ROOTZ to calculate the Lamber W function with it?
The equation to solve is Exp[W(z)]*W(z)-Z0 = 0, and I'm using the following code to define it:

```
LBL "*W"
ZEXP
LASTZ
Z*
ZRCL
4
Z-
END
```

where the function's complex argument Z0 is stored in complex register ZR4, and the evaluated guesses of the equation z are in the complex stack register "Z" upon entry.

It fares well for "small" Z0 values (say 1+i) but starts acting up when the argument "grows" - say (5+5i).

In truth, I wonder to what extent one can use the secant method in the complex plane - where the mere concept doesn't hold up very gracefully.

Cheers, ÁM

Edited: 18 Feb 2010, 2:53 a.m.

Re: Squaring the circle: all-MCODE Bessel functions

*Message #7 Posted by **Paul Dale** on 18 Feb 2010, 4:22 a.m.,*
in response to message #6 by Ángel Martin

I've done complex Lambert's W for my 20b scientific firmware :)

My references to the algorithm sources are:

```
http://en.wikipedia.org/wiki/Lambert_W_function
http://ioannis.virtualcomposer2000.com/math/LWExpansion.html
http://ioannis.virtualcomposer2000.com/math/LWCalculating.html
```

These are quite probably not up to date.

I used the algorithms from the wikipedia page.

Start with the approximation under 7.2 and then refine it using Halley's method under 7.1 (I limited my maximum iterations to 20).

- Pauli

Edited: 21 Feb 2010, 4:34 a.m.

Re: Squaring the circle: all-MCODE Bessel functions

*Message #8 Posted by **Ángel Martin** on 21 Feb 2010, 1:58 p.m.,*
in response to message #7 by Paul Dale

Thanks for the references Paul. So you wrote the firmware extensions for the 20B in machine code as well? Hmm, that makes me consider purchasing the machine, despite

I'm sure I won;t understand half of it (never been a financial guy).

Cheers, 'AM

Re: Squaring the circle: all-MCODE Bessel functions

*Message #9 Posted by **Paul Dale** on 21 Feb 2010, 3:53 p.m.,*
in response to message #8 by Ángel Martin

I've written everything so far in C. The 20b uses an ARM CPU and compilers for that are easy to get. I'm using HP-GCC.

- Pauli

Re: Squaring the circle: all-MCODE Bessel functions

*Message #10 Posted by **JMBaillard** on 18 Feb 2010, 4:30 p.m.,*
in response to message #6 by Ángel Martin

```
Hi Angel,


Many thanks for your appreciations.
The complex version "JNZ" is missing in the museum,
all the more that I wrote it after your post on J1+i(-1-i)


-Here is the listing:


Data Registers:  R00 thru R10: temp


Flag:  F01     CF 01  to compute  Jn(z)
               SF 01  to compute   In(z)


Subroutines:  "GAMZ" or "GAMZ+"         ( cf "Gamma Function For the HP-41"
§ 1°)-h) )
              "Z^2"  "Z*Z"  "Z^Z"  "Z/Z"  ( cf "Complex Functions for the
HP-41" )


     "Z^2"  "Z*Z" ... and so on ...  may replaced by M-Code routines
      ( cf "A few M-Code Routines for the HP-41" )



01  LBL "JNZ"
02  STO 01
03  RDN
04  STO 02
05  RDN
06  STO 03
07  X<>Y
08  STO 04
09  2
10  ST/ 01
11  ST/ 02
12  RCL 02
13  RCL 01
14  XEQ "Z^2"
15  STO 09
16  X<>Y
17  STO 10
18  CLX
19  STO 06
20  STO 08
21  SIGN
22  STO 00
23  STO 05
24  STO 07
```

```
25  LBL 01
26  RCL 10
27  RCL 09
28  RCL 06
29  RCL 05
30  XEQ "Z*Z"
31  RCL 00
32  FC? 01
33  CHS
34  ST/ Z
35  /
36  RCL 03
37  RCL 00
38  +
39  RCL 04
40  X<>Y
41  XEQ "Z/Z"
42  STO 05
43  X<>Y
44  STO 06
45  RCL 08
46  +
47  STO 08
48  LATSX
49  -
50  X<>Y
51  RCL 07
52  +
53  STO 07
54  LASTX
55  -
56  R-P
57  ISG 00
58  CLX
59  X#0?
60  GTO 01
61  RCL 02
62  RCL 01
63  RCL 04
64  RCL 03
65  XEQ "Z^Z"
66  RCL 08
67  RCL 07
68  XEQ "Z*Z"
69  STO 07
70  X<>Y
71  STO 08
72  RCL 04
73  RCL 03
74  1
75  +
76  XEQ "GAMZ"       or        XEQ "GAMZ+"
77  RCL 08
78  RCL 07
79  R^
80  R^
81  XEQ "Z/Z"
82  END


( 125 bytes / SIZE 011 )


       STACK          INPUTS     OUTPUTS


         T               b         /
         Z               a        /
         Y               y     Im [ f(z) ]
         X               x     Re [ f(z) ]



             n = a + i b
  where      z = x + i y
  and     f(z) = Jn(z)  if flag F01 is clear,
          f(z) = In(z)  if flag F01 is set.
```

```
Examples:       n = 1 + 4 i  ,   z = 2 + 3 i
```

- CF 01

```
   4   ENTER^
   1   ENTER^
   3   ENTER^
   2   XEQ "JNZ"   >>>>   J1+4i ( 2+3.i ) = 0.342267397 - 0.424349408 i   (
Execution time = 33s )
```

- SF 01

```
   4   ENTER^
   1   ENTER^
   3   ENTER^
   2   XEQ "JNZ"   >>>>   I1+4i ( 2+3.i ) = 1.391608538 + 0.315041667 i   (
Execution time = 33s )
```

```
With respect to the Lambert W functions, "ROOTZ" seems to work well
provided we choose 2 initial guesses close to Ln(z) [ if z # 0 ]

For example, if z = 5 + 5i , try z0 = 1.9 + 0.8 i and z1 = 2 + 0.9 i

With the subroutine

LBL "W"
STO 11
X<>Y
STO 12
X<>Y
XEQ "E^Z"
RCL 12
RCL 11
XEQ "Z*Z"
RCL 10
RCL 09
XEQ "Z-Z"
RTN

"ROOTZ" returns  w(5+5i) = 1.501424530 + 0.477488825 i after 6 or 7
iterations.

But Newton's method has a better convergence,
and it is used in the following routine:

LBL "LAMBZ"
STO O1
X<>Y
STO 02
R-P
X=0?
GTO 01
RCL 02
RCL 01
XEQ "LNZ"
GTO 02
LBL 01
CLST
LBL 02
STO 03
X<>Y
STO 04
LBL 03
RCL 04
RCL 03
XEQ "E^Z"
STO 05
X<>Y
STO 06
```

```
X<>Y
RCL 04
RCL 03
XEQ "Z*Z"
ST+ 05
X<>Y
ST+ 06
X<>Y
RCL 02
RCL 01
XEQ "Z-Z"
RCL 06
RCL 05
XEQ "Z/Z"
CHS
RCL 03
+
STO 03
LASTX
-
X<>Y
CHS
RCL 04
+
STO 04
LASTX
-
R-P
VIEW 03
 E-9
X<Y?
GTO 03
RCL 04
RCL 03
END


and for example,  5  ENTER^  XEQ "LAMBZ" gives


  w(5+5i) = 1.501424530 + 0.477488825 i


( the same result as "ROOTZ" with one iteration less )


Likewise  w(7+9i) = 1.796464032 + 0.591616466 i


"RTZ4" should give even faster results...


My contribution to the HP-41 programs has not stopped:
Since 2007, I've sent about 80 ( yes, eighty ) new or updated pages
and I'm surprised not to see them in the MoHPC!


Perhaps will I create my own website, but it's impossible for the moment:
my access provider has many problems since the end of October
and it still does not work normally!


Best Regards,
Jean-Marc.
```

Re: Squaring the circle: all-MCODE Bessel functions

*Message #11 Posted by **Ángel Martin** on 21 Feb 2010, 4:04 a.m.,*
in response to message #10 by JMBaillard

Hi Jean-Marc,

Excellent news, thanks for looking into this. Yes, ZSOLVE now works fine for Lambert

W using the better initial estimation as you suggest, using the logarithm instead of my crude choice.

I'm impressed by the short execution times of your programs in general, also JNZ. Not bad at all considering you're not using MCODE routines. Are you programming the standard definition doing the summation, or other approximation perhaps?

Shame to hear that your newer contributions aren't posted yet - I hope that gets corrected soon! BTW, I didn't find the reference you gave on the "Some MCODE routines for the 41" - is that another one not posted as well? I was curious to see if you used the standard mainframe routines or the 13-bit extended precision to program the complex functions.

Thanks again for your inputs.

Edited: 21 Feb 2010, 4:17 a.m.

Re: Squaring the circle: all-MCODE Bessel functions

*Message #12 Posted by **Paul Dale** on 21 Feb 2010, 4:36 a.m.,*
in response to message #11 by Ángel Martin

I've also noticed the software library hasn't been updated for ages. I've only submitted a few programs but they were a long time ago.

- Pauli

Re: Squaring the circle: all-MCODE Bessel functions

*Message #13 Posted by **JMBaillard** on 21 Feb 2010, 5:39 p.m.,*
in response to message #11 by Ángel Martin

Hi Angel,

I've just sent you the page on M-code routines
and since I don't know how to use 13-bit precision
I would need some tutorial on this point...

Best Regards,
Jean-Marc.

Re: Squaring the circle: all-MCODE Bessel functions

*Message #14 Posted by **Ángel Martin** on 17 Feb 2010, 1:48 a.m.,*
in response to message #2 by PeterP

Thanks Peter, it was just rounding off some loose ends in the SandMath - but I admit it's taken me farther (and longer) than what I originally thought.

Now I'm preparing some mini-papers to document the highlights of the module. As addictive as 41 MCODE is, it'll be good to rest for a while!

Cheers, 'AM

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Better fitting case for a HP-41C?

*Message #1 Posted by **Dimitri Simitas** on 15 Feb 2010, 1:24 p.m.*

Title pretty much says it all. The case seems to be sized for a HP-41C with card reader (foam in the bottom) but too big to fit in my laptop bag pocket. Anyone know of any alternatives?

Dimitri

Re: Better fitting case for a HP-41C?

*Message #2 Posted by **Raymond Del Tondo** on 15 Feb 2010, 3:34 p.m.,*
in response to message #1 by Dimitri Simitas

For some of my HP-41 units (the CY's;-) I use the HP-55 zipper case,
which fits exactly, and also looks better than the original case.

HTH

Raymond

Re: Better fitting case for a HP-41C?

*Message #3 Posted by **Allen** on 15 Feb 2010, 5:40 p.m.,*
in response to message #1 by Dimitri Simitas

The spice cases are a decent fit.. from time to time you will see a HP 41 with a black case similar to the ones shipped with SPICE units.

Re: Better fitting case for a HP-41C?

*Message #4 Posted by **Dimitri Simitas** on 15 Feb 2010, 6:38 p.m.,*
in response to message #3 by Allen

Thank you both for the replies. I will look into getting one.

Dimitri

Re: Better fitting case for a HP-41C?

*Message #5 Posted by **Jose Gonzalez Divasson** on 16 Feb 2010, 2:45 p.m.,*
in response to message #3 by Allen

Tighter than I would like. I have been using one but refrained when using the infrared module too.

Re: Better fitting case for a HP-41C?

*Message #6 Posted by **Timo** on 16 Feb 2010, 4:25 p.m.,*

in response to message #3 by Allen

It's just a guess, but couldn't the zipper case of an HP-48 series unit do the job as well? It might be a bit too long but placing a piece of foam inside it could make a HP-41 fit right into it?

They might also be a bit easier to find. However, I'm not totally sure about the dimensions though...

Re: Better fitting case for a HP-41C?

*Message #7 Posted by **Dimitri Simitas** on 16 Feb 2010, 6:30 p.m.,*
in response to message #6 by Timo

> Quote:
>
> It's just a guess, but couldn't the zipper case of an HP-48 series unit do the job as well? It might be a bit too long but placing a piece of foam inside it could make a HP-41 fit right into it?

Actually the case for the calculator has foam due to length I want a shorter case that fits the length right.

Dimitri

Re: Better fitting case for a HP-41C?

*Message #8 Posted by **db (martinez, ca.)** on 16 Feb 2010, 9:51 p.m.,*
in response to message #7 by Dimitri Simitas

Educalc made a black leather one that fit the classics & 41. It had their name embossed onto it and a slot for a business card. Kind of hard to find now if you don't have a time machine.

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Heinz Haber and his 35 / german TV show

*Message #1 Posted by **Thomas Radtke** on 15 Feb 2010, 7:52 a.m.*

I remember watching a science show with Prof. Haber (german physicist, former co-worker of W. von Braun) in which he proudly presented his new 35.

Does anyone know which show it was? I went through some of them on youtube, so far without success.

Thanks!

Edited: 15 Feb 2010, 7:53 a.m.

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Serial no of HP48GX

*Message #1 Posted by **matti** on 15 Feb 2010, 3:25 a.m.*

Hi all

Can you explain this serial no of HP48GX (black LDC) ID144023xx

ID is for Indonesia but then 1 or 14 for manufacturing year? is it then 1991? 2004?

(http://www.hpmuseum.org/collect.htm#numbers)

thanks, matti (Finland)

Re: Serial no of HP48GX

*Message #2 Posted by **Frido Bohn** on 15 Feb 2010, 3:56 a.m.,*
in response to message #1 by matti

Hi Matti,

the structure of the HP48 serial numbers can be found in the FAQ for this device (Section 2.20).

As I interpret this, your machine was manufactured in Indonedia in the 44th week of the year 1991.

Best regards
Frido

Re: Serial no of HP48GX

*Message #3 Posted by **Frido Bohn** on 15 Feb 2010, 4:10 a.m.,*
in response to message #2 by Frido Bohn

Hi again,

Sorry, I was wrong.

> Quote:
>
> As I interpret this, your machine was manufactured in Indonedia in the 44th week of the year 1991.

For sure, it shoul be 2001 instead of 1991.

1) The HP48GX was introduced first 1993

2) The kind of serial number for your machine was introduced 1997.

All to read in the HP48-FAQ.

Re: Serial no of HP48GX

*Message #4 Posted by **Nacho** on 15 Feb 2010, 4:14 a.m.,*
in response to message #2 by Frido Bohn

Hello,

48GX started production in 1993 in Singapore not Indonesia, and black units appeared during year 2000 so your calc was made in 2001 week 44.

Regards

Re: Serial no of HP48GX

*Message #5 Posted by **matti** on 15 Feb 2010, 2:54 p.m.,*
in response to message #1 by matti

Thanks for your prompt reply /matti

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In praise of dirty calculators-- again.

*Message #1 Posted by **Michael Meyer** on 14 Feb 2010, 2:05 p.m.*

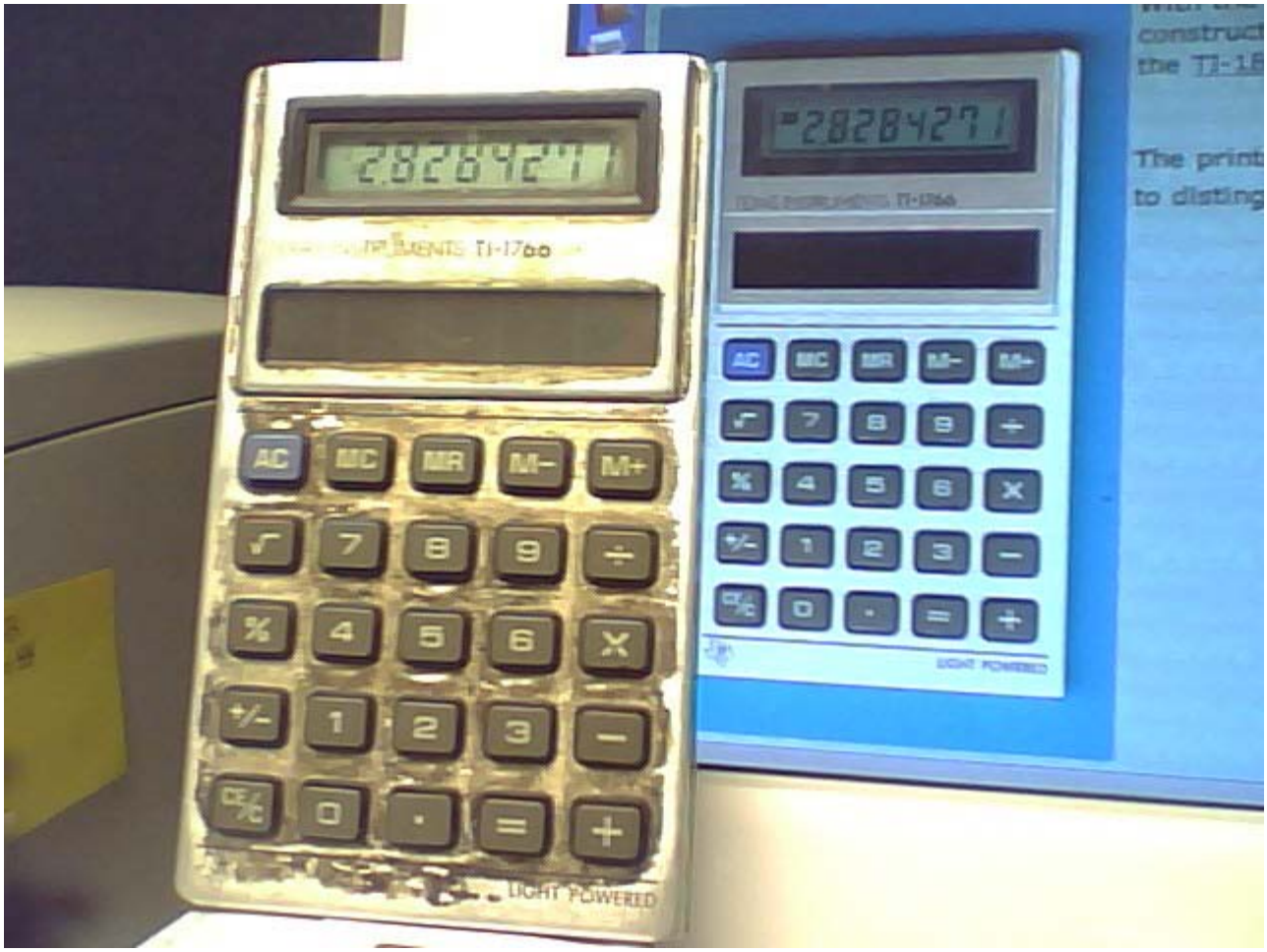
I bought an SR-52 from TOS. It's pristine... not a mark on it, rubber feet have no wear, and there's no wear near the switch as always develops on this model.

It appears that someone spilled something on this calculator, as all the keys were sticking and some wouldn't even press. I'm guessing that it was put back in its box without the battery, as there's no corrosion whatsoever. And no battery. After a good bath of the case and all the keys, and a new foam sheet behind the keys, it works perfectly. Nice.

Re: In praise of dirty calculators-- again.

*Message #2 Posted by **Joerg Woerner** on 14 Feb 2010, 3:18 p.m.,*
in response to message #1 by Michael Meyer

This is now really a dirty calculator:



(FYI: 26.5 years in use)

Regards, Joerg

Re: In praise of dirty calculators-- again.

*Message #3 Posted by **Michael Meyer** on 14 Feb 2010, 3:53 p.m.,*
in response to message #2 by Joerg Woerner

Nice. O.K....Joerg. As you know, my point is that the dirty calculators I've bought have often turned out to be little or even unused, and often clean up nicely. Let's see you clean that one up to look new....<grin>. That one looks well used... not just dirty! Nice photo.

Moral question: once fixed, can I call this calculator mint or even NIB? I guess I could just tell its story... There isn't even a mark on the red plexiglas... it really looks new! The blank magnetic cards were never removed from their package.

To Joerg & Dr. Mike Re: dirty calculators

*Message #4 Posted by **db (martinez, ca.)** on 14 Feb 2010, 10:48 p.m.,*
in response to message #3 by Michael Meyer

"once fixed, can I call this calculator mint or even NIB?"

Dr.Mike; I guess you could call it one of those but here's a way to make sure. Someone posted the following in about 2000 or 2001 so you might have seen it then. Five or so of the more cynical definitions are mine.

-EBAYese to English DICTIONARY-
Hard to Find = It's the only one I'm auctioning today.
Rare = "It's the only one I'm auctioning this week.
Very Rare = It's the only one I'm auctioning this month.
Unique = It's the only one I'm willing to sell.
Seller Prefers Paypal = I want your money and I want it NOW.
Mint = It looks more-or-less like it did when I bought/inherited/salvaged/found/stole it.
Minty = It's mint (q.v.), except for the funny green sauce I dribbled on it while eating lamb chops the other night.
M.I.B. = Mint In Box, but the item and box got slammed in the tailgate at the flea market.
New in Box (NIB) = I bought this with the sole intent of selling it for many times what I paid for it.
Nice = Looks great - doesn't work.
Complete = Except for the valuable, hard-to-find bits required to make it work.
Not Tested/Sold As-Is = 12VDC? 120VAC? There's a difference?
Like New = Like running over it with a car could really be that bad for it.
With Extras = I didn't feel like auctioning the manual, battery door, and case separately.
Buyer protection on eBay = We have your money. What's your problem?
I'm no expert on this.... = broken
I don't have batteries to test it = broken
I don't know how to test it = broken
It worked last time my dad used it = broken
Reserve Price = Cost of an item in Heaven - the SELLERS Heaven.
No Reserve = none needed in light of the outrageous miniium bid.
Buy It Now = ...for twice what it's worth, or risk paying three times as much to stave off snipers.

Joerg; That's a great idea you have there - wiping the dirt off your hands on a T.I. first, before using an RPN calculator. I'm going to start doing that! ;-)

Re: To Joerg & Dr. Mike Re: dirty calculators

*Message #5 Posted by **Michael Meyer** on 15 Feb 2010, 5:10 p.m.,*
in response to message #4 by db (martinez, ca.)

Thanks for the list!!! I guess it's a moot point. I was playing with the new toy last night and decided I couldn't let it go any time soon anyway. I've bought several SR-52's over the years, and most were severely damaged by age and corrosion. The keyboards seemed especially prone to damage, relative to TI-59's. This one is like having a brand new one in my hands, and every key works perfectly... Even the two I've successfully restored aren't as sweet as this one. It does read cards, but needs the reader re-built due to dents in the drive wheel. (I'll probably break it somehow in the process...)

I noticed that the sticker on the back is different than any other SR-52 I've seen. It's in 3 languages, and the calculator was assembled in Holland rather than U.S.A.

Damn hobby... is collecting. I haven't sold a single calculator yet...

Re: To Joerg & Dr. Mike Re: dirty calculators

*Message #6 Posted by **ClausB** on 28 Feb 2010, 10:10 a.m.,*
in response to message #5 by Michael Meyer

Two questions about my formerly dirty SR-52:

I found this loose piece between the LED board and the main board. See bottom of picture. Does it go somewhere in the calculator?

There is a 10K resistor soldered between two other components. See horizontal resistor in picture (ignore blue wires - it came with those in place of battery contact springs). Is the resistor a factory mod or some hack?

Thanks!

Re: To Joerg & Dr. Mike Re: dirty calculators

*Message #7 Posted by **Michael Meyer** on 3 Mar 2010, 8:31 p.m.,*
in response to message #6 by ClausB

Claus- I'm not really sure. The resistor doesn't appear in my 52's, and I've never seen that other piece before either. I do know that the TI-59's went through lots of different re-designs, and it wasn't unusual for TI to add things- like the resistor shown- to the circuits, so that probably holds true with the SR-52 as well. It looks like that like the loose piece was used to insulate something, perhaps the battery contacts themselves? I guess.

Re: To Joerg & Dr. Mike Re: dirty calculators

*Message #8 Posted by **ClausB** on 4 Mar 2010, 8:49 p.m.,*
in response to message #7 by Michael Meyer

Thanks for checking. This one's date code is 0776DTA. Are yours later or earlier models?

Re: To Joerg & Dr. Mike Re: dirty calculators

*Message #9 Posted by **Etienne Victoria** on 5 Mar 2010, 3:17 a.m.,*
in response to message #6 by ClausB

Claus,

In my SR-52A serial n°032631 (manufactured 11/76), the horizontal resistor is present.

I will try to check the other 52's this week-end and also check the part you found.

Best

Etienne

Re: To Joerg & Dr. Mike Re: dirty calculators

*Message #10 Posted by **ClausB** on 5 Mar 2010, 11:53 a.m.,*
in response to message #9 by Etienne Victoria

Great! Thank you very much.

Re: To Joerg & Dr. Mike Re: dirty calculators

*Message #11 Posted by **Etienne Victoria** on 6 Mar 2010, 5:22 a.m.,*
in response to message #10 by ClausB

Okay,

Now, on my later SR-52s serial 959034 & 960227 manufactured 05/77 and 07/77, **NONE** of them have this resistor found on earlier series.

I'll try to post a couple of pics if I can convince my battered camera to turn on.

MfG aus Frankreich.

Etienne

Re: To Joerg & Dr. Mike Re: dirty calculators (No my SR-52s are not dirty :-)

*Message #12 Posted by **Etienne Victoria** on 6 Mar 2010, 5:52 a.m.,*
in response to message #10 by ClausB

Claus,

And now a pic showing a first gen & 2nd gen SR-52 side by side:

Cheers

Etienne

Edited: 6 Mar 2010, 5:53 a.m.

Re: To Joerg & Dr. Mike Re: dirty calculators (No my SR-52s are not dirty :-)

*Message #13 Posted by **ClausB** on 6 Mar 2010, 7:54 a.m.,*
in response to message #12 by Etienne Victoria

That is very informative. Merci.

The one on the left looks just like mine, which was made 4 weeks earlier. The one on the right looks like the picture on the Datamath site.

Re: To Joerg & Dr. Mike Re: dirty calculators (No my SR-52s are not dirty :-)

*Message #14 Posted by **Etienne Victoria** on 6 Mar 2010, 8:50 a.m.,*
in response to message #13 by ClausB

Fine,

As I understand you have an SR-52 rev 1, I'll be glad to send you any part you need for this model.

Just let me know at E t i e n n e . v i c t o r i a @ f r e e . f r

I wish you success with this beautiful machine.

Etienne

Re: To Joerg & Dr. Mike Re: dirty calculators (No my SR-52s are not dirty :-)

*Message #15 Posted by **Alberto Fenini** on 8 Mar 2010, 4:16 p.m.,*
in response to message #12 by Etienne Victoria

Dear all, if it can be of any help, I'm attaching a picture of my two SR-52s

This one has S/N : 942058 (top label) and LTA4176 (bottom label)

I use it for spares, and it was not working since it has arrived.

The second one has S/N 014131 (top label) and 4775DTA (bottom label)

Frankly speaking, there has been a time when both were on the table open up, and I *may*have swapped the bottom covers.

Both have the battery contacts broken, has anyone ever replaced them and with what ?(BTW, I have the same problem on a couple of TI59).

Also, the card reader works (I mean the card goes through without problems) but not logically.

What could I try in order to fully restore it ?

Thanks for help everybody, Alberto

Re: To Joerg & Dr. Mike Re: dirty calculators (No my SR-52s are not dirty :-)

*Message #16 Posted by **ClausB** on 9 Mar 2010, 7:01 a.m.,*
in response to message #15 by Alberto Fenini

It appears that your case backs are not swapped. The lower picture is of the older 52, judging by the date codes on the ICs (YYWW on the ICs, WWYY on the case).

My 52 came with wires soldered onto the broken contacts (see photo in top post above). I removed them and soldered on two coil springs from the battery compartment of a broken toy. I'll post a picture later.

Re: To Joerg & Dr. Mike Re: dirty calculators (No my SR-52s are not dirty :-)

*Message #17 Posted by **Alberto Fenini** on 9 Mar 2010, 9:15 a.m.,*
in response to message #16 by ClausB

Thank you very much, I think your is a brilliant idea, I'm also interested in getting back to work the card reader, from both the SR52 and my TI59s. As for HP's I have understood that other than the gummy wheels, some capacitors should also be replaced. Have you ever did it ? Thank you very much for help, Alberto

Re: To Joerg & Dr. Mike Re: dirty calculators (No my SR-52s are not dirty :-)

*Message #18 Posted by **ClausB** on 13 Mar 2010, 7:50 p.m.,*
in response to message #16 by ClausB

> Quote:
>
> My 52 came with wires soldered onto the broken contacts. I removed them and soldered on two coil springs from the battery compartment of a broken toy.

I just tried it with my PC-100A and it works!

Re: To Joerg & Dr. Mike Re: dirty calculators (No my SR-52s are not dirty :-)

*Message #19 Posted by **Etienne Victoria** on 9 Mar 2010, 3:32 p.m.,*
in response to message #15 by Alberto Fenini

Good evening Alberto !

Thank you for the pictures and information!

Unfortunately, I cannot help you on the electronic repair of the SR-52 card reader as I only repaired it mechanically (basically the card reader wheel):

here.

My card reader then read & wrote cards during 3 years and then refused to write them.

Having no service manual and not much time to investigate, I gave up trying for now.

I wish you the best in your restoration!

Etienne

Re: To Joerg & Dr. Mike Re: dirty calculators (No my SR-52s are not dirty :-)

*Message #20 Posted by **Alberto Fenini** on 9 Mar 2010, 4:57 p.m.,*
in response to message #19 by Etienne Victoria

ciao Victoria,

thank you very much for help, and congratulations for your website, it's very nice and helpful.

You should only update the old link
http://perso.orange.fr/etienne.victoria/Spice_decimal to the new link
http://etienne.victoria.free.fr/Spice_decimal/

I'll do some tests on my card reader and I'll let you know. take care and thank you very much again Alberto

Re: To Joerg & Dr. Mike Re: dirty calculators (No my SR-52s are not dirty :-)

*Message #21 Posted by **Etienne Victoria** on 10 Mar 2010, 5:38 a.m.,*
in response to message #20 by Alberto Fenini

Thank you Alberto!

I'll update the links this week-end.

My "site" is more a compilation of various repair procedures I have used and my knowledge of website construction/maintenance is near zero :-)

I just save my Aperture images in my Mac's (site) folder and sync it.

Thanks again and have a nice day.

Etienne

Dirty calculators (+ site updated with HP-97 reed switch procedure)

*Message #22 Posted by **Etienne Victoria** on 13 Mar 2010, 4:50 a.m.,*
in response to message #20 by Alberto Fenini

Hi Alberto!

I have corrected the bad link on the "site" and also updated the email button.

Have also added a couple of (ugly as usual) pictures on the Topcat printer reed switch replacement procedure.

As I work also this week-end, I will try to comment the pictures next week.

Cheers to all!

Etienne

Re: To Joerg & Dr. Mike Re: dirty calculators

*Message #23 Posted by **ClausB** on 5 Mar 2010, 11:50 a.m.,*
in response to message #6 by ClausB

Yay! It works!

Another of this 52's problems was that an exponent digit would not light up. I experimented and found that the digit driver had failed. The SN97311 IC has 7 drivers and one of them tested open. I wired an NPN transistor and a 2K resistor across it and now the digit lights up. It's not perfect - an 8 is a little dimmer than a 1 - but it's better than pressing [2nd] [log] to see what the digit should be!

Re: To Joerg & Dr. Mike Re: dirty calculators

*Message #24 Posted by **Michael Meyer** on 5 Mar 2010, 12:43 p.m.,*
in response to message #23 by ClausB

Wow... I'm impressed. My abilities to restore these devices stops at the level of mechanical engineering (contacts, card reader, batteries, wiring, etc.) and basic chip exchanges. Nice job. Let me know if you'd like some TI-59 and SR-52 "guts"... I have parts I don't think I'll ever use.

Re: To Joerg & Dr. Mike Re: dirty calculators

*Message #25 Posted by **ClausB** on 5 Mar 2010, 5:44 p.m.,*
in response to message #24 by Michael Meyer

Thanks. I'm pleased it works. I suppose the best repair would be to replace the driver chip but I could find no data on the web, let alone any parts. I don't know how the SN97311 differs from the SN27882 used in other TIs.

Your offer of spare parts is very kind. I just replaced those blue wires with two battery contact coil springs from a broken toy. I should have asked here first for the right parts!

Re: To Joerg & Dr. Mike Re: dirty calculators

*Message #26 Posted by **Michael Meyer** on 7 Mar 2010, 7:42 p.m.,*
in response to message #25 by ClausB

I don't think I'd consider the original contacts to be "the right parts." They were so flimsy and prone to corrosion. Most of the "parts" boards I have are missing the contacts!

Re: To Joerg & Dr. Mike Re: dirty calculators

*Message #27 Posted by **ClausB** on 27 Feb 2010, 8:31 a.m.,*
in response to message #4 by db (martinez, ca.)

Hi, all, I'm new to calculator collecting. I've accumulated some over the years: my original TI-59; an HP-41C with card reader and printer; a TI-58 with PC-100A; my wife's HP-45; a TI-55; an HP-33e; an SR-40. Recently I've added more from eBay: an SR-56 like I had in '77; a TI-57; a Sperry like my first calculator ever; an MBA; an SR-52.

Many thanks to Joerg and Viktor and the MoHPC for their fine sites in helping me to restore these machines.

I used eBay because I don't know where else to look. Any suggestions?

On topic: The SR-52 keyboard was filthy and the poor photo on eBay did not show that. Some keys were gummed up badly. Disassembly and thorough cleaning restored it. The gumminess seemed to come from the faceplate glue leaking out. Some traces of glue are evident UNDER the brown factory coating! I thought the -52s had high quality. Anyway the keys work well now with no bounce, as with the -56. Can't say that for the later TIs - lots of keybounce there.

Edited: 27 Feb 2010, 8:34 a.m.

Re: To Joerg & Dr. Mike Re: dirty calculators

*Message #28 Posted by **Marcus von Cube, Germany** on 27 Feb 2010, 4:12 p.m.,*
in response to message #27 by ClausB

The key bounce of later machines is unavoidable. The plastic construction with welded wires simply sucks. That's sad truth.

Re: To Joerg & Dr. Mike Re: dirty calculators

*Message #29 Posted by **Michael Meyer** on 27 Feb 2010, 6:29 p.m.,*
in response to message #27 by ClausB

Interesting. I'd wondered if the sticky and stuck keys was from glue from the face plate. The sticky substance took quite a soaking in "goo-gone" and scrubbing with a toothbrush to remove from the keys. There was no sign of any other substance inside the calculator. Your observation confirms what I'd only suspected!

Re: To Joerg & Dr. Mike Re: dirty calculators

*Message #30 Posted by **ClausB** on 27 Feb 2010, 8:44 p.m.,*
in response to message #29 by Michael Meyer

Same here. Inside was clean. Even the foam sheet was reusable.

You got yours at TOS? What is TOS? Are there other places better than eBay?

Re: To Joerg & Dr. Mike Re: dirty calculators

*Message #31 Posted by **Michael Meyer** on 27 Feb 2010, 11:37 p.m.,*
in response to message #30 by ClausB

I've personally never found a calculator anywhere else but on eBay. I've looked at garage sales and at thrift stores, but the thrift store people tell me that the people who work there usually have pre-arranged deals to sell donated calculators to people they know, so they never reach the sales floor. I don't have time to check out estate sales, unfortunately.

Re: In praise of dirty calculators-- again.

*Message #32 Posted by **Thomas Radtke** on 15 Feb 2010, 3:53 a.m.,*
in response to message #3 by Michael Meyer

> Quote:
>
> I guess I could just tell its story...

A good deal on TAS often is about items not well pictured. So, let some pictures sell your calculator.

Edit: I forgot something:

can I call this calculator [...] NIB?

I would expect an untouched item in this case, e.g. a sealed box.

Edited: 15 Feb 2010, 6:51 a.m.

Re: In praise of dirty calculators-- again.

*Message #33 Posted by **Joerg Woerner** on 15 Feb 2010, 8:55 a.m.,*
in response to message #32 by Thomas Radtke

Thomas,

How much do you ask for it?

I would Buy-It-Now or do you want to trade it for an RPN calculator?

Regards,

Joerg

Re: In praise of dirty calculators-- again.

*Message #34 Posted by **Thomas Radtke** on 15 Feb 2010, 9:30 a.m.,*
in response to message #33 by Joerg Woerner

Hi Jo"rg,

I've sent you an email.

Thomas

Re: In praise of dirty calculators-- again.

*Message #35 Posted by **Joerg Woerner** on 15 Feb 2010, 7:54 p.m.,*
in response to message #34 by Thomas Radtke

I have sent you a New-IN-Box National Semiconductor NS-900.

You'll love the manual: 15 keys explained in tiny characters.

Enjoy!

Regards, Joerg

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xThink Calculator

*Message #1 Posted by **hpnut** on 14 Feb 2010, 12:27 p.m.*

l found this cool application for my Windows Tablet PC

http://www.xthink.com/Calculator.html

Re: xThink Calculator

*Message #2 Posted by **Dave Shaffer (Arizona)** on 14 Feb 2010, 2:21 p.m.,*
in response to message #1 by hpnut

For $44.95, I could send you some pencils and paper and maybe even throw in a 33S!!

Re: xThink Calculator

*Message #3 Posted by **Jean-Michel** on 14 Feb 2010, 3:37 p.m.,*
in response to message #2 by Dave Shaffer (Arizona)

Dave, I don't share your point of view. This software looks innovative. More to say, no need to ask if it's algebraic or RPN, and to start endless discussions about shifted or unshifted keys, menus, size of the enter key, locations of keys and so on. This is math as it should be: paper, pencel, equations and results. No calculator. Regards.

Re: xThink Calculator

*Message #4 Posted by **Martin Pinckney** on 14 Feb 2010, 6:03 p.m.,*
in response to message #3 by Jean-Michel

> Quote:
>
> Dave,This software looks innovative.

That's an understatement!

> Quote:
>
> More to say, no need to ask if it's algebraic or RPN...

Maybe it's both? It obviously uses algebraic notation, but I don't see an equals key at the bottom menu, just Enter! (Return) (There is an equals sign on the results line, though).

Re: xThink Calculator

*Message #5 Posted by **DaveJ** on 14 Feb 2010, 3:39 p.m.,*
in response to message #1 by hpnut

Cute, but you'd have to rely on the recognition technology to be 100% reliable. It won't be of course, so the time you spend double checking every calculation with what it recognises, it would have been faster to just use a regulator calculator.

A classic case of a product with a neat technical solution to a problem that didn't exist.

Dave.

Re: xThink Calculator

*Message #6 Posted by **Kevin Kitts** on 14 Feb 2010, 5:45 p.m.,*
in response to message #5 by DaveJ

Anyone had a chance to play with this... looking interesting...

http://www.macresearch.org/showcase-review-pi-cubed-iphone-ipod-touch

Re: xThink Calculator

*Message #7 Posted by **Steve S** on 15 Feb 2010, 8:01 p.m.,*
in response to message #5 by DaveJ

Dave: As a long-time user of MathJournal, which is xCalc's "big brother," I have a lot of experience comparing MJ to calculators. All I will say is that you can't really appreciate the power of xCalc or MathJournal unless you spend some time with them. While the recognition of written mathematics is not as finely honed as the recognition of handwriting, there are a few simple "penmanship rules" that, if used with either application, greatly enhance accurate recognition.

Regarding your confidence in an accurate answer, I would like to point out that estimating the approximate result in your head is a wise action when using ANY calculation tool; slide rule, calculator or xCalc...

Re: xThink Calculator

*Message #8 Posted by **hpnut** on 20 Feb 2010, 10:23 a.m.,*
in response to message #7 by Steve S

You can find a scholarly discussion of the xthink calculator here.

http://www.activemath.org/~paul/MathUI06/proceedings/Thimblebys-MathMathUI-MathUI06.pdf

Re: xThink Calculator

*Message #9 Posted by **Steve S** on 20 Feb 2010, 5:19 p.m.,*
in response to message #8 by hpnut

hpnut: Interesting article. I think that the tablet's graphic UI has a lot of potential; it's a shame that it hasn't been better promoted by Microsoft and its industrial partners.

IMO, one of the biggest features (and advantages) of applications like Calculator (xCalc) and MathJournal is the free format input. You can scribble a calculation at some location on the page, add notes or observations (in MJ, even data plots!) and then go on to write other calculations later on the page.

BUT... if you look back and suddenly realize that you forgot something, or you decide that you want to do another calculation and place it near your first calculation (for comparison), Calculator

and MJ will allow you to do this! This is one significant reason why free format is so useful. It is also the reason why I say that you can't really appreciate these types of tools without a little 'hands on" time.

As much as I love my HP calculators (and I have a few of them), the engineer in me has to admit that this is really the future of computing...

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Cleaning HP48 keys NON-INTRUSIVELY

*Message #1 Posted by **Angus** on 13 Feb 2010, 11:02 p.m.*

I just got my HP48G back, and all that seems to be wrong w/it is that the B key doesn't work and the C key is flaky. I'm *praying* that the problem can be remedied by buying fresh batteries (it's giving low batteries warnings) but I'd be surprised if that works. All I've read about maintaining these calculators involves opening a device that was not designed to be opened, and I'm quite certain that'll leave me w/a non-calculator.
I'm hoping that the problem is a dusty contact. Is there any measure I can take to clean it w/out opening it up?

Re: Cleaning HP48 keys NON-INTRUSIVELY

*Message #2 Posted by **Dave Britten** on 14 Feb 2010, 1:02 p.m.,*
in response to message #1 by Angus

It might be a problem with the keyboard ribbon cable rather than the keys themselves. If you press firmly on the bezel beneath the screen, does the key response improve?

I tried opening a 48G once to repair some issues, and honestly, I don't think it was worth the trouble. The thing looks like a mess now, so I just use it as an alarm clock. The 48G can be had cheaply enough that you might be better off just looking for another one. Or, alternatively, a 48S/SX, which are also relatively inexpensive.

Re: Cleaning HP48 keys NON-INTRUSIVELY

*Message #3 Posted by **Iqbal** on 14 Feb 2010, 6:24 p.m.,*
in response to message #2 by Dave Britten

I would contact fixthatcalc.com > Randy does a wonderful job, and while he is at it, ask him to increase the memory. It's worth the while. The 48G just doesnt have enough memory period.

Re: Cleaning HP48 keys NON-INTRUSIVELY

*Message #4 Posted by **Angus** on 14 Feb 2010, 7:52 p.m.,*
in response to message #2 by Dave Britten

> Quote:
>
> It might be a problem with the keyboard ribbon cable rather than the keys themselves. If you press firmly on the bezel beneath the screen, does the key response improve?

Yes, that does seem to be it. If I push down on the bezel I can use the B key. Well that's good. God help me if it fails during the midterm, though. What should I be doing about this?

> Quote:
>
> I tried opening a 48G once to repair some issues, and honestly, I don't think it was worth the trouble. The thing looks like a mess now, so I just use it as an alarm clock. The 48G can be

had cheaply enough that you might be better off just looking for another one. Or, alternatively, a 48S/SX, which are also relatively inexpensive.

Inexpensive!!?? Where? Looking on eBay they go for 100s of $! I paid the better part of 200$ new 15 years ago for mine (Canadian!) My friend tried to sell one on eBay for 1$ and didn't get any bites. I wonder what she did wrong?

BTW, fixthatcalc doesn't do the 48G :(

Edited: 14 Feb 2010, 8:01 p.m. after one or more responses were posted

Re: Cleaning HP48 keys NON-INTRUSIVELY

*Message #5 Posted by **Martin Pinckney** on 14 Feb 2010, 8:00 p.m.,*
in response to message #4 by Angus

Quote:

Inexpensive!!?? Where? Looking on eBay they go for 100s of $!

Have you looked lately? A check today of recent completed auctions shows prices in the $30 - $70 range for excellent to mint 48G's.

Re: Cleaning HP48 keys NON-INTRUSIVELY

*Message #6 Posted by **Dave Britten** on 14 Feb 2010, 9:14 p.m.,*
in response to message #4 by Angus

The 48GX - and frequently the 48G+ - will normally sell for at least $100. And any model with a good pile of accessories will sell for a lot. Survey software and memory cards are typically the most popular, and can push prices above $200. But a loose 48G or 48SX will often go for $50 or less. I recently got a 48SX with a 32KB card, HP EQ Library card, Pocket Professional Mathematics card, and the manuals for all of it for about $60. That was a little outside the norm, but good deals are out there.

Re: Cleaning HP48 keys NON-INTRUSIVELY

*Message #7 Posted by **Bart (UK)** on 15 Feb 2010, 7:18 a.m.,*
in response to message #4 by Angus

Quote:

Inexpensive!!?? Where? Looking on eBay they go for 100s of $!

Don't go for expensive BINs. Keep watching the auctions for a while and you can get yourself a good deal.

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Barcode generator for Optical Wand?

*Message #1 Posted by **Timo** on 14 Feb 2010, 10:52 a.m.*

I was just reading a PDF about the optical wand for the HP 41 series calculators.

And I started to wonder whether anyone has ever developed a software tool for converting program listings (maybe devloped on a HP-41 PC-emulator) into a barcode that can be printed and loaded into the HP-41 using the optical wand?

Using such a tool all you'd have to do is enter the program once on a PC, run the software and the result would be the barcode. This way you could store your programs either as a listing or barcode on your PC and print them out to upload them into the HP anytime you need them.

All I know is, that back in the "active days" of these calculators you could send a program listing to HP and they would print a barcode interpretation for you for relatively affordable amounts of money. Maybe this service has been ported to a software solution already?

Looking forward to your replies, Timo

Re: Barcode generator for Optical Wand?

*Message #2 Posted by **Egan Ford** on 14 Feb 2010, 11:09 a.m.,*
in response to message #1 by Timo

Use HP41UC. Read this recent thread:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv019.cgi?read=158818

Other threads:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv018.cgi?read=144063

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv018.cgi?read=140472, jump to message 9.

Also try from Google:

site:hpmuseum.org barcode

Edited: 14 Feb 2010, 11:23 a.m.

Re: Barcode generator for Optical Wand?

*Message #3 Posted by **Timo** on 14 Feb 2010, 4:16 p.m.,*
in response to message #2 by Egan Ford

Thanks for the links, that's exactly what I thought about!

Seems it's really worth looking out for an optical wand now...

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HP41 Optical Wand - how to open plug ?

*Message #1 Posted by **John Robinson** on 14 Feb 2010, 4:14 a.m.*

Hi, can anyone tell me how to open the HP 41 optical want plug please ? hopefully with pictures ?

Thanks in advance

Cheers, John

Re: HP41 Optical Wand - how to open plug ?

*Message #2 Posted by **Winfried Maschke** on 14 Feb 2010, 2:58 p.m.,*
in response to message #1 by John Robinson

Don't do it ;)
The two halfes of the plug are glued together and are not easy to open. It is possible only with violence.
This picture shows a new one from a printer (without pcb) which is the same like the plug of the wand and was never glued together. Maybe it helps you: http://maschke.de/hp41/a560.jpg

Re: HP41 Optical Wand - how to open plug ?

*Message #3 Posted by **John Robinson** on 14 Feb 2010, 10:31 p.m.,*
in response to message #2 by Winfried Maschke

Thanks Winfried, time to get violent !!!

Cheers, John

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Pictures of Time Module for HP 41 series?

*Message #1 Posted by **Timo** on 13 Feb 2010, 12:41 p.m.*

Hi,

I recently got my hands on a time module for my HP 41CV, complete with manual and keyboard map. Only downside is that the company that used the time module in its active days removed the original plackards from the module and replced them with some paper stickers showing company internal designations.

I'd like to restore the look of the module by replacing the stickers with new plackards that look like the old original markings of the module.

Could anyone with a time module post some pictures of the plackards on the front and bottom of the module so that I know what exactly was written on them?

Thanks a lot in advance and best regards, Timo

Re: Pictures of Time Module for HP 41 series?

*Message #2 Posted by **Johnny Bjoern Rasmussen** on 13 Feb 2010, 3:00 p.m.,*
in response to message #1 by Timo

Hi Timo
Hope some of these are usefull

Cheers!
Johnny
http://1.bp.blogspot.com/_UbExdZJBL14/S3cEgyUI6fI/AAAAAAAADsA/0maYu8fqg8s/s1600-h/SANY0037.JPG

http://3.bp.blogspot.com/_UbExdZJBL14/S3cEYGMp8bI/AAAAAAAADr4/dTX9XwPyIBg/s1600-h/SANY0040.JPG

Edited: 13 Feb 2010, 3:01 p.m.

Re: Pictures of Time Module for HP 41 series?

*Message #3 Posted by **Timo** on 13 Feb 2010, 4:21 p.m.,*
in response to message #2 by Johnny Bjoern Rasmussen

Hi Johnny,

brilliant pictures, thanks a lot! :)

Regards, Timo

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HP38G/39G/48SX/48GX./49G Emulator now availble for iPhone/iPod Touch

*Message #1 Posted by **Steve Simpkin** on 13 Feb 2010, 12:03 p.m.*

An enhanced version of the m48 HP48GX emulator is now available for the iPhone/iPod Touch that adds emulation for the HP38G, HP39G, HP48SX and HP49G. This version also features program/library import/export, many skins, save/load multiple calculator states, optional landscape layout, QWERTY keyboard, a http based file server, a file system manager and much more.

I have developed almost a hundred engineering utilities, formulas and nano Apps over the past 19 years for my HP48SX and now I can finally have them available in my shirt pocket wherever I am.

At $20, it is expensive for an iPhone App but it was well worth it for me. See:
http://www.mksg.de/m48plus/m48plus.html

Re: HP38G/39G/48SX/48GX./49G Emulator now availble for iPhone/iPod Touch

*Message #2 Posted by **Eric Smith** on 13 Feb 2010, 2:11 p.m.,*
in response to message #1 by Steve Simpkin

Given that both m48 and m48+ are using GPL'd code, where is the source code?

Re: HP38G/39G/48SX/48GX./49G Emulator now availble for iPhone/iPod Touch

*Message #3 Posted by **Egan Ford** on 14 Feb 2010, 11:04 a.m.,*
in response to message #2 by Eric Smith

I emailed the author for the source to m48 a while ago and it was sent to me. Just ask for it.

Re: HP38G/39G/48SX/48GX./49G Emulator now availble for iPhone/iPod Touch

*Message #4 Posted by **Eric Smith** on 14 Feb 2010, 12:23 p.m.,*
in response to message #3 by Egan Ford

I'll do that. It doesn't meet the GPL license requirements, though:

> Quote:
>
> 3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:
>
> a) accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,
>
> b) Accompany it with a written offer, valid for at least three years, to give any third part, for a charge no more than your cost of physically performing source distribution, a

> complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,
>
> c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

Option 3 is not applicable to m48+ because it is sold commercially, and not applicable to m48 because there is no upstream party that can provide the "corresponding source code". Note that all three options require that something actually be provided with the binary distribution, if only a written offer, which could be on the About page in the application.

Re: HP38G/39G/48SX/48GX./49G Emulator now availble for iPhone/iPod Touch

*Message #5 Posted by **cyberespia** on 17 Feb 2010, 5:01 p.m.,*
in response to message #4 by Eric Smith

Video m48+ working (in spanish) http://www.youtube.com/watch?v=EEmg6k15VCk

Re: HP38G/39G/48SX/48GX./49G Emulator now availble for iPhone/iPod Touch

*Message #6 Posted by **Egan Ford** on 17 Feb 2010, 6:01 p.m.,*
in response to message #4 by Eric Smith

> Quote:
>
> Note that all three options require that something actually be provided with the binary distribution, if only a written offer, which could be on the About page in the application.

It is. From the About:

> Quote:
>
> *Source:*
>
> Source available upon request.

Re: HP38G/39G/48SX/48GX./49G Emulator now availble for iPhone/iPod Touch

*Message #7 Posted by **Eric Smith** on 17 Feb 2010, 11:42 p.m.,*
in response to message #6 by Egan Ford

I stand corrected.

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Random Number Generation Challenge (sort of)

*Message #1 Posted by **Namir** on 13 Feb 2010, 9:07 a.m.*

Hi All,

I am trying to write a random number generator on my HP41CX such that I use the built-in time module to generate either an initial seed for a sequence of random numbers, or generate random numbers outright. Using the values for the current time (and also date) has the potential of generating unique initial seed values.

I think the solution involves the values of time, date, and possibly some sort of a counter.

The simpler the solution the better. So let's put our math thinking caps, shall we!

Namir

PS: I am also trying to solve the same problem with Excel. Of course using VBA code I have a lot of options for more complex/elaborate solutions and more speed.

Edited: 13 Feb 2010, 9:16 a.m.

Re: Random Number Generation Challenge (sort of)

*Message #2 Posted by **Vladan Dugaric** on 13 Feb 2010, 9:54 a.m.,*
in response to message #1 by Namir

From http://www.hpmuseum.org/software/41/41ranjm.htm

```
01  LBL "RNG4"
02  DATE
03  TIME
04  +
05   E49
06  *
07  PI
08  MOD
09  LN1+X
10  R-D
11  FRC
12  END
```

That's what I use.

This one will always make a new random number, it does not have the capability of regenerating a given sequence. It is a good starting point for both functions, though, since the routine can be used as a seed, then plugged into another RNG from the same URL that just uses a given seed.

Vladan

Edited: 13 Feb 2010, 9:57 a.m.

Re: Random Number Generation Challenge (sort of)

*Message #3 Posted by **Namir** on 13 Feb 2010, 11:09 a.m.,*
in response to message #2 by Vladan Dugaric

Thank you Vladan!!!

Namir

Re: Random Number Generation Challenge (sort of)

*Message #4 Posted by **Namir** on 14 Feb 2010, 11:58 a.m.,*
in response to message #1 by Namir

Here is the VBA code for a class (which I call CVirtTime) that performs random number generation using a "virtual clock" that is not affected by the speed of the computer running the code. This virtual clock will advance the virtual time each time you call method NextRand() which generates uniform random numbers between 0 and 1. You must initialize the instance of the class using either InitMyTime or InitTime. The first method allows you to specify any time and date you want (and therefore you can duplicate the sequence of numbers generated). The method InitTime initializes the class instance using the current system date and time. Using this method you cannot replicate the sequence of random numbers. Once you initialize the class instance the virtual clock "ticks" as fast as the number of calls to method NextRand().

```
Option Explicit


Private m_nSec As Integer
Private m_nMin As Integer
Private m_nHour As Integer
Private m_nDay As Integer
Private m_nMonth As Integer
Private m_nYear As Integer
Private m_fCounter As Double
Private PI As Double


Private Function Log10(ByVal X As Double) As Double
  Log10 = Log(X) / Log(10)
End Function


Private Function AbSin(ByVal X As Double) As Double
  AbSin = Abs(Sin(X)) + 1
End Function


Private Function AbCos(ByVal X As Double) As Double
  AbCos = Abs(Cos(X)) + 1
End Function


Private Sub INC(ByRef N As Integer)
  N = N + 1
End Sub


Public Sub InitMyTime(ByVal nSec As Integer, ByVal nMin As Integer, ByVal nHour As Integer,
_
                      ByVal nDay As Integer, ByVal nMonth As Integer, ByVal nYear As
Integer)
  m_nSec = Abs(nSec)
  If m_nSec > 59 Then m_nSec = 0
  m_nHour = Abs(nHour)
  If m_nHour > 23 Then m_nHour = 0
  m_nMin = Abs(nMin)
  If m_nMin > 59 Then m_nHour = 0
  m_nDay = Abs(nDay)
  If m_nDay > 30 Or m_nDay = 0 Then m_nDay = 1
  m_nMonth = Abs(nMonth)
  If m_nMonth > 12 Or m_nMonth = 0 Then m_nMonth = 1
  m_nYear = Abs(nYear)
```

```
  If m_nYear < 1900 Then m_nYear = 1900
  m_fCounter = 0
  PI = 4 * Atn(1)
End Sub


Public Sub InitTime()
  Dim t As Date


  t = Now
  m_nSec = Second(t)
  m_nHour = Hour(t)
  m_nMin = Minute(t)
  m_nDay = Day(t)
  m_nMonth = Month(t)
  m_nYear = Year(t)
  m_fCounter = 0
  PI = 4 * Atn(1)
End Sub


Public Function NextRand() As Double
  Dim X As Double


  ' manage the virtual time and date
  If m_nSec = 60 Then
    m_nSec = 0
    INC m_nMin


    If m_nMin = 60 Then
      m_nMin = 0
      INC m_nHour


      If m_nHour = 24 Then
        m_nHour = 0
        INC m_nDay


        If m_nDay = 30 Then
          m_nDay = 1
          INC m_nMonth


          If m_nMonth = 12 Then
            m_nMonth = 1
            INC m_nYear
          Else
            INC m_nMonth
          End If


        Else
          INC m_nDay
        End If


      Else
        INC m_nHour
      End If


    Else
      INC m_nMin
    End If


  Else
    INC m_nSec
  End If



  X = (5773 * AbSin(137 * m_nSec) * AbCos(173 * m_nMin) * AbSin(137 * m_nHour)) + _
      (2377 * AbSin(237 * m_nDay) * AbCos(117 * m_nMonth) * AbCos(m_nYear))
  m_fCounter = m_fCounter + 1
```

```
  If m_fCounter > 1E+99 Then m_fCounter = 0
  X = X + Abs(Sin(m_fCounter) + Log(1 + m_fCounter))
  NextRand = X - Int(X)


End Function
```

Calculating the value for variable X is more of an art than a science (at least in my humble opinion). You can develop so many different kinds of expression to calculate X--some better than others. I tried using the modulo operator in a "creative" way, but found that using sin and cos function works rather well.

Namir

Edited: 15 Feb 2010, 8:52 a.m. after one or more responses were posted

Re: Random Number Generation Challenge (sort of)

*Message #5 Posted by **JMBaillard** on 14 Feb 2010, 5:10 p.m.,*
in response to message #4 by Namir

```
Hi everyone.
Here is an M-Code function that I wrote to get random numbers.


-"RAND" uses the timer to produce pseudo-random numbers r between 0 and 1 ( 0 < r < 1
). I don't know if r = 0 may happen.
-The content of register X is saved in L-register



084   "D"
00E   "N"
001   "A"
012   "R"
0F8   READ 3(X)
128   WRIT 4(L)
130   LDI S&X
010   010                 The user memory must be deselected by selecting
270   RAM SLCT            a non-existent RAM ( at 010h )
130   LDI S&X             then the Timer
0FB   0FB                 is
3F0   PRPH SLCT           selected
3E8   WRIT 15(e)          Set the A/B pointer to A
038   READ DATA
1BC   RCR 11              Rotates C-register 11 digits right
046   C=0 S&X             The user memory
270   RAM SLCT            is selected again
05E   C=0 MS
130   LDI S&X
041   041
2A0   SETDEC
10E   A=C ALL
04E   C=0 ALL
35C   PT=12
1D0   LD@PT- 7
210   LD@PT- 8
110   LD@PT- 4
050   LD@PT- 1
090   LD@PT- 2
250   LD@PT- 9
190   LD@PT- 6
1D0   LD@PT- 7
210   LD@PT- 8
1D0   LD@PT- 7
044   CLRF 4                  C
070   N=C ALL                 =
171   ?NCXQ                   A
064   195C                 mod C
10E   A=C ALL
0B0   C=N ALL
261   ?NCXQ                   C =
060   1898                    A/C
0E8   WRIT 3(X)
3E0   RTN
```

```
Best Regards,
Jean-Marc.
```

Re: Random Number Generation Challenge (sort of)

*Message #6 Posted by **Namir** on 14 Feb 2010, 5:29 p.m.,*
in response to message #5 by JMBaillard

Cool ..... but it looks Greek to me!!!

:-)

Namir

Re: Random Number Generation Challenge (sort of)

*Message #7 Posted by **Ángel Martin** on 15 Feb 2010, 4:30 a.m.,*
in response to message #5 by JMBaillard

Beautiful example Jean-Marc, thanks for sharing it.

There is another implementation on the SandMath module, functions SEEDT and RAND written by Håkan Thörngren "a few years ago" - and published on PPCJ back then. I like it because it uses a memory buffer to store the seed(s). Also the time module is used to obtain an initial seed if the input is zero.

Cheers, ÁM.

Edited: 15 Feb 2010, 4:30 a.m.

Re: Random Number Generation Challenge (sort of)

*Message #8 Posted by **Marcus von Cube, Germany** on 15 Feb 2010, 2:23 a.m.,*
in response to message #4 by Namir

Namir, having read Donald Knuth I have the feeling that you are on the wrong track. From the top of my head, he states that having a complicated function does not make the pseudo random sequence any better. As a result: There are simple workable solutions like the Linear Congruential Method:

$$x_n \equiv a \cdot x_{n-1} \pmod{p}, \quad n \geq 0, x_0 \in \mathbf{Z}_p.$$

(from the pages cited below.)

Useful link: http://random.mat.sbg.ac.at/ (I'll have to check the pages for myself but they look promising.)

Re: Random Number Generation Challenge (sort of)

*Message #9 Posted by **Namir** on 15 Feb 2010, 5:48 a.m.,*
in response to message #8 by Marcus von Cube, Germany

Marcus,

Sure the equation you mentioned is very popular and I used it to write typical pseudo-random number generators. My basic approach in this thread is to use the computer's system date and time as an automatic initial seed OR as a way to generate uniform random numbers outright. Since PC's run fast, a system date/time based algorithm risks of generating large arrays of the same random number. This problem prompted me to think of a using a counter to avoid generating the same numbers. Then, I

thought of creating a class for a virtual clock that can be initialized by the actual system clock and then run at it's own pace and totally independent of the actual CPU speed. Thus, my virtual clock ticks each time you generate a random number.

The equation I am using uses all of the components of date and time.

Namir

Re: Random Number Generation Challenge (sort of)

*Message #10 Posted by **Bart (UK)** on 15 Feb 2010, 8:05 a.m.,*
in response to message #1 by Namir

> Quote:
>
> PS: I am also trying to solve the same problem with Excel. Of course using VBA code I have a lot of options for more complex/elaborate solutions and more speed.

I found that many random number generating routines performed poorly with regards to having too much repitition when I required 100's of 1000's of numbers. A very good one I found for Excel was Mersenne-Twister. On the site there are links to several implementations and also an Excel add-in.

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Woodstocks - the new gold standard?

*Message #1 Posted by **Michael de Estrada** on 11 Feb 2010, 6:11 p.m.*

It seems like Woodstocks are becoming the hardest vintage pocket HPs to find in good and complete condition, especially the continuous memory models. Here's a case in point:

HP-29C

Edited: 11 Feb 2010, 6:13 p.m.

Re: Woodstocks - the new gold standard?

*Message #2 Posted by **Xavier A. (Brazil)** on 11 Feb 2010, 7:19 p.m.,*
in response to message #1 by Michael de Estrada

Hello,

The same seller showed few months ago a 'customed' HP-67 for use in flight about the same price, or perhaps more - without any success, like this HP-29c for sure.

It is just a market observer who has noticed that hp-65, 67 and 29c are the best sellers of the brand HP.

But for me, it is the most beautiful box HP ever realized...

Re: Woodstocks - the new gold standard?

*Message #3 Posted by **Michael Meyer** on 11 Feb 2010, 7:55 p.m.,*
in response to message #2 by Xavier A. (Brazil)

I will have to say-- It took me about 8 years and 3 HP-29C's to finally get a working one. Total cost $400-600 (I don't remember each price anymore). Two had irreparable circuit damage and one had a bad case and keyboard but a functioning circuit.

Just in my opinion, for that rare a model in functioning condition AND in a box, $600 or even $800 might not seem that out of line these days. $1000 is, I agree, on the high end, but maybe not that terribly out of line if someone is that serious about finding a working one in a box.

I see that HP-10's have sold for around the $500 range without even knowing if they work, and a working 25C just went for $400 and an HP-27 for around $1000. The new-in-box 41CX's go for about $1000.

I can't even imagine what an HP-70 would go for these days... though I wish I had one. Some day. Yes, maybe the new "gold standard" after all. Wonder if it'll last.... (see my thread about calculator values).

Re: Woodstocks - the new gold standard?

*Message #4 Posted by **Mark Henderson** on 12 Feb 2010, 1:23 a.m.,*
in response to message #3 by Michael Meyer

I just got an HP-70 - paid $360.... A lot, but I think an investment (if I sell it before we all die off!)

Re: Woodstocks - the new gold standard?

*Message #5 Posted by **Martin Pinckney** on 12 Feb 2010, 10:39 a.m.,*
in response to message #1 by Michael de Estrada

I am a fan of Pioneers - use them every day. But if I did get a classic LED HP, the 29c is the one I would like to have.

Alas, at these eB** prices I will just have to get lucky at a thrift store...

Re: Woodstocks - the new gold standard?

*Message #6 Posted by **Michael de Estrada** on 12 Feb 2010, 11:54 a.m.,*
in response to message #5 by Martin Pinckney

I have a near perfect HP-29C in my collection and it's one of my favorites. IMO the Woodstocks were the best design of the LED pocket calcs; best pocketability, best as hand held, easiest to swap battery packs in the field. They retained the ruggedness of their classic predecessors withough the excess bulk, and their introduction of continuous memory allowed for long battery time. Unfortunately, their stupid charging system has resulted in very few remaining in working condition, which is why IMO prices have risen so dramatically. Most Classics on TAS are in working condition, whereas most Woodstocks are not.

Re: Woodstocks - the new gold standard?

*Message #7 Posted by **Maximilian Hohmann** on 12 Feb 2010, 12:20 p.m.,*
in response to message #6 by Michael de Estrada

Hello!

> Quote:
>
> IMO the Woodstocks were the best design of the LED pocket calcs

Absolutely! The problem is, that they will stop working eventually even if you charge them correctly. Like my HP25 did overnight. That's why I will never pay "moon prices" for any of them, it's only a matter of time when the last of them will die. Unfortunately, they are not built to last. It a bit like proton decay - only faster.

Greetings, Max

Re: Woodstocks - the new gold standard?

*Message #8 Posted by **Jon S Canale** on 12 Feb 2010, 12:26 p.m.,*
in response to message #7 by Maximilian Hohmann

I've GOT to find my manuals for my 25c - they're around here somewhere...

I'm planning on getting rid of it, 'cause I just can't see those red LLLLEEEEEDDDDD's anymore!

Re: Woodstocks - the new gold standard?

*Message #9 Posted by **David Hayden** on 12 Feb 2010, 2:50 p.m.,*
in response to message #7 by Maximilian Hohmann

I agree also. The woodstocks had a wonderful form-factor because you could hold and operate it in one hand.

Does anyone know of any current manufacturers who make something similar? By that I mean a scientific programmable that can be held and operated in one hand?

Re: Woodstocks - the new gold standard?

*Message #10 Posted by **Martin Pinckney** on 12 Feb 2010, 1:30 p.m.,*
in response to message #6 by Michael de Estrada

> Quote:
>
> IMO the Woodstocks were the best design of the LED pocket calcs; best pocketability, best as hand held, easiest to swap battery packs in the field. They retained the ruggedness of their classic predecessors without the excess bulk, and their introduction of continuous memory allowed for long battery time.

May I add to that the color scheme? Is it just me, or do others find the two-tone scheme to have more curb appeal than earlier and later all-black models?

Re: Woodstocks - the new gold standard?

*Message #11 Posted by **Michael Meyer** on 12 Feb 2010, 2:26 p.m.,*
in response to message #6 by Michael de Estrada

Michael--their stupid charging system and the fact that, when the batteries do leak or outgas, they have a direct route to destroying the circuits. I've seen extensive battery leakage in the classics not destroy the circuits as much due to the separate battery compartment. Corrosion still claims its share of Woodstocks. And Spices. And, unfortunately, Stings as well.

Re: Woodstocks - the new gold standard?

*Message #12 Posted by **Jim Horn** on 12 Feb 2010, 5:28 p.m.,*
in response to message #11 by Michael Meyer

As my first calculator was an HP-25 which I still have and really enjoyed, I agree with all the above postings. As mine no longer works - and not just because the battery pack is long since dead and I don't have the wall-wart charger - I'm curious about the charging system induced failures mentioned. Are they something that can be repaired? If not perhaps I should consider creating a replacment processor board - all the physical convenience of the '25 but with modern speed, constant memory, increased programming, etc.

Re: Woodstocks - the new gold standard?

*Message #13 Posted by **Marcus von Cube, Germany** on 13 Feb 2010, 4:04 a.m.,*
in response to message #12 by Jim Horn

Am new board with NonPareil technology: That sounds nice! :)

Re: Woodstocks - the new gold standard?

*Message #14 Posted by **Brian Walsh** on 14 Feb 2010, 12:09 p.m.,*
in response to message #12 by Jim Horn

> Quote:
>
> As my first calculator was an HP-25 which I still have and really enjoyed, I agree with all the above postings. As mine no longer works - and not just because the battery pack is long since dead and I don't have the wall-wart charger - I'm curious about the charging system induced failures mentioned. Are they something that can be repaired? If not perhaps I should consider creating a replacment processor board - all the physical convenience of the '25 but with modern speed, constant memory, increased programming, etc.

Hi Jim! Eric Smith and Rich Ottosen created the next best thing with the DIY-RPN machine. It has 21, 22, 25C, 27, 29C, 32E, 33C, and 37E emulations built in, with matching keyboard "overlays." Mine measures about 5 1/4" x 2 3/4" x 3/4" and weighs 4.1 oz. including the two coin cell batteries. It screams "geek" :-)

Brian

Re: Woodstocks - the new gold standard?

*Message #15 Posted by **Mike Morrow** on 13 Feb 2010, 12:31 p.m.,*
in response to message #6 by Michael de Estrada

I also like the Woodstock form factor. It's far better than, say, the terribly awkward landscape format of the Voyagers.

My idea of the closest thing to perfection in a LED calculator would be an HP-34C in Woodstock format, which would not have been too difficult to package. Both the HP-29C and the HP-34C have the same number of keys, switches, and display digits. I consider the Woodstock's combined battery/compartment door design to be the best that HP ever used. In this "ideal" machine, the designers used a little basic common sense to implement a decent charging system that won't destroy the machine, along with a competently designed battery compartment that can't admit chemical contamination from the battery into the calculator insides.

That would be perfection in an LED calculator!!

I consider the HP-34C, as a calculator, to be a great step forward from the HP-29C. I like the HP-34C even better than the HP-67 that I've had for 33 years. But its very flimsy mechanical design, including the battery compartment, was a great step backward from the Woodstocks.

HP has a long tradition of unsatisfactory design practices, unfortunately.

Re: Woodstocks - the new gold standard?

*Message #16 Posted by **Randy** on 13 Feb 2010, 12:55 p.m.,*
in response to message #15 by Mike Morrow

> Quote:
>
> HP has a long tradition of unsatisfactory design practices, unfortunately.

Really? I'd say you're applying 20-20 hindsight and ignoring the fact that most of the design work was cutting edge.

IMO, with the notable exception of the spice mechanical design, when their practices are viewed in proper context, that is at the time they where done and the market which they targeted, they did a really great job overall.

My challenge to anyone who believes otherwise: Name another company that produced calculators in the seventies and eighties that have had the longevity of HP's. Just think about the number of them still in use today...

Re: Woodstocks - the new gold standard?

*Message #17 Posted by **Mike Morrow** on 13 Feb 2010, 7:07 p.m.,*
in response to message #16 by Randy

Perhaps. My first Woodstock was a HP-21 that I purchased in 1976.

So...there's not too much hindsight in my statements, then. My statements aren't those of a person who was NOT a contemporary HP user 34 years ago. I did NOT know how criminally stupid HP's design of the charging system was. That design incompetency was even reflected in the HP-67 that I purchased in 1977.

I deserved better. HP knew better. They failed their customers.

But, I will admit that overall HP did a better job than TI did with respect to reliability, a third if a century ago.

Re: Woodstocks - the new gold standard?

*Message #18 Posted by **Palmer O. Hanson, Jr.** on 13 Feb 2010, 8:57 p.m.,*
in response to message #16 by Randy

> Quote:
>
> IMO, with the notable exception of the spice mechanical design, when their practices are viewed in proper context, that is at the time they where done and the market which they targeted, they did a really great job overall.

I am not sure what "a really great job overall" means. I am waiting for someone to explain how a firm which did superb design in many areas could have been totally inept in power supply design. Could it have been that power supply design wasn't considered to be very difficult and got short-changed during development?

> Quote:
>
> My challenge to anyone who believes otherwise: Name another company that produced calculators in the seventies and eighties that have had the longevity of HP's. Just think about the number of them still in use today...

The Sharp's go on forever.

Re: Woodstocks - the new gold standard?

*Message #19 Posted by **Maximilian Hohmann** on 14 Feb 2010, 3:05 a.m.,*
in response to message #18 by Palmer O. Hanson, Jr.

Hello!

> Quote:
>
> The Sharp's go on forever.

Not all of them. I have several Tamaya NC2 and NC77 astro navigation calculators that were made by Sharp in the 70ies based on "normal" scientific calculators like the EL-8018. Some do not work at all, and the two of them that do work show the same display problems: all digits dimly lit all the time.

From my calculators from the 70ies only those made by Aristo (Dennert&Pape) still work with no exception. But they were the second most expensive to HP then.

Regards, max

Re: Woodstocks - the new gold standard?

*Message #20 Posted by **Randy** on 14 Feb 2010, 6:23 a.m.,*
in response to message #19 by Maximilian Hohmann

"criminally stupid"

"totally inept"

Such harsh condemnation...

In context: HP's experience with rechargeable AA's in the classics lead them to what they did with the Woodstocks. They didn't leak and they didn't have charging problems. At the time, HP's calculator line was under tremendous attack from the other manufacturers and the Woodstocks were HP first product ever to be targeted at the open, retail market. Cost cutting had to be done. The form factor had been established.

An open challenge to all: redesign the charging circuit of a Woodstock without resorting to external devices and achieved with components available in 1975. Don't just say you could do thus and so, really do it. Then show us how it fits into the case.

Re: Woodstocks - the new gold standard?

*Message #21 Posted by **Mike Morrow** on 14 Feb 2010, 12:43 p.m.,*
in response to message #20 by Randy

HP was fully conscious of the severe damage that could occur when a Woodstock or an HP-67 was operated on AC charger without a good battery pack in place. It's stated in the warning found in the user manuals.

HP designed very expensive hardware. The HP-67 cost the 2009 equivalent of $1600, and even the "cheapest" HP-21 cost the 2009 equivalent of $290. This deliberate design defect could have been eliminated with charging system changes that likely would have added only a couple of 1977 dollars per unit. That HP did not resolve a fault that would destroy high-dollar hardware for a highly probable simple user error indicates to me that the day of very significant *deliberate* HP quality short-cuts goes back at least to 1977. In contrast, today's HP50g is an amazingly competent and trouble-free machine for the price, one that is very hard to inadvertently and innocently destroy in normal usage.

As an old long-time HP calculator user, I can't help but smile at the frequent lament of many for those (fictional) old glory days of HP calculator quality. Most of these people who buy into that mythology weren't even alive back in the days that they claim were HP's quality zenith.

Edited: 14 Feb 2010, 12:58 p.m.

Re: Woodstocks - the new gold standard?

*Message #22 Posted by **Randy** on 14 Feb 2010, 4:16 p.m.,*
in response to message #21 by Mike Morrow

> Quote:
>
> HP was fully conscious of the severe damage...

Really? Where you working there at the time? Part of the design team that made the decisions?

67 fry without a batteries in place? Is that something you know to be true or just something you read on the Internet? Care to explain what parts fail in the 67 when used with just the charger?

Re: Woodstocks - the new gold standard?

*Message #23 Posted by **Michael de Estrada** on 14 Feb 2010, 4:47 p.m.,*
in response to message #22 by Randy

I found this prior post in which you specifically stated that it was unsafe to operate the HP-67 from the AC adapter/charger without a battery in place:

> Quote:
>
> Classic safety clairification Message #13 Posted by Randy on 7 Nov 2009, 1:26 p.m., in response to message #8 by Michael de Estrada
>
> It is *NOT* safe to operate a 65 or 67 from the AC adapter without a good battery in place. The battery is the only load on the constant current supply such that without the battery, you have 16 volts open circuit exactly as mentioned. But, there is a danger to the card reader sense amplifier/motor controller - as it is connected directly to the battery terminal and therefore sees that 16 volt source when there is no battery in place.
>
> The original IC, 1826-0158 was used in the 65 and was susceptible to over-voltage damage. The part was redesigned as the 1826-0322 which appeared in the 67,97 and 41 readers. While it was supposedly better able to withstand the over-voltage stress, I wouldn't tempt fate.
>
> Thanks to Tony Duell for explaining this quite clearly several years ago as it isn't obvious without seeing the schematics.

Edited: 14 Feb 2010, 4:50 p.m.

Re: Woodstocks - the new gold standard?

*Message #24 Posted by **Randy** on 14 Feb 2010, 5:39 p.m.,*
in response to message #23 by Michael de Estrada

I'm aware of what I've written about the 67. What I was hoping for was Mr. Morrow to respond with his seemingly extensive knowledge of what happens to a 67 since he thinks HP was "fully conscious of the severe damage" that occurred.

IMO, one part that had been redesigned to prevent damage - does not warrant the vitriol in this thread. Pick on the Woodstocks all you like but my power supply redesign challenge still stands...

Re: Woodstocks - the new gold standard?

*Message #25 Posted by **Michael de Estrada** on 14 Feb 2010, 6:21 p.m.,*
in response to message #24 by Randy

Well, just pointing out that you accused him of getting his information from the internet, and the internet was you. Surely, you can provide all of us with the benefit of your extensive knowledge without resorting to attacks on the rest of us ordinary mortals.

Re: Woodstocks - the new gold standard?

*Message #26 Posted by **Randy** on 14 Feb 2010, 6:53 p.m.,*
in response to message #25 by Michael de Estrada

Attacking? Seems to me the other guys are the ones throwing the rocks. I presented a challenge, I'll be waiting for a serious answer to same.

I didn't accuse him of anything, I asked a question. Grow some thicker skin.

Re: Woodstocks - the new gold standard?

*Message #27 Posted by **Michael de Estrada** on 14 Feb 2010, 7:01 p.m.,*
in response to message #26 by Randy

> Quote:
>
> Grow some thicker skin.

OK, tough guy.

Re: Woodstocks - the new gold standard?

*Message #28 Posted by **Bart (UK)** on 15 Feb 2010, 7:31 a.m.,*

in response to message #26 by Randy

From my point of view, you're the one doing the attacking - anyone who dares criticize HP design.

You seem to be quite sensitive about any criticism on HP quality - talk about needing thicker skin. "People in glass houses..." comes to mind.

I'd be happy to accept your challenge - if I had a Woodstock that I'd want to bother protecting.

Re: Woodstocks - the new gold standard?

*Message #29 Posted by **Michael de Estrada** on 15 Feb 2010, 10:17 a.m.,*
in response to message #28 by Bart (UK)

How dare you challenge the pronouncements or authority of the Grand Ayatollah! He is the sole keeper of the Truth, and the rest of us are foolish heretics. There is only one true deity, and that deity is pure and perfect and NEVER makes mistakes. To say otherwise is certain condemnation to eternal misery.

Edited: 15 Feb 2010, 10:51 a.m.

Re: Woodstocks - the new gold standard?

*Message #30 Posted by **Mike Morrow** on 14 Feb 2010, 11:07 p.m.,*
in response to message #22 by Randy

No, but I did spend $450 in 1977 for an HP-67. And I read the manual then, and later.

Apparently you are unaware of the following statement on page 312:

"CAUTION Operating the HP-67 from the ac line with the battery pack removed may result in damage to your calculator."

Or, do you think HP was just making a baseless warning?

Or, do you think a HP-67 whose card reader no longer works after AC charger use without battery in place does not constitute real damage?

None of this comes from your bugaboo "internet" that you ranted about "internet style." So just what the hell is your point??? Whatever it is, HP in 1976 disagrees with you. I guess you know better than HP. You've just lost a lot of credibility.

Re: Woodstocks - the new gold standard?

*Message #31 Posted by **Randy** on 15 Feb 2010, 6:16 a.m.,*
in response to message #30 by Mike Morrow

If you're foolish enough to spend $450 on a calculator an then not follow the instructions in the manual, that pretty much covers the credibility issue, doesn't it?

You made my point better than I ever could have, thank you.

Re: Woodstocks - the new gold standard?

*Message #32 Posted by **Palmer O. Hanson, Jr.** on 15 Feb 2010, 2:44 p.m.,*
in response to message #30 by Mike Morrow

> Quote:
>
> Apparently you are unaware of the following statement on page 312:
>
> "CAUTION Operating the HP-67 from the ac line with the battery pack removed may result in damage to your calculator."

If that were the only mention of the problem in the handbook I would contend that it was an inadequate warning. Who reads the Service and Maintenance section until he has a problem? However, on page 27 the end of the first paragraph in Section 1 Getting Started states:

> Quote:
>
> ... Whether you operate from battery power or from power supplied by the charger, *the battery pack must always be in the calculator.*

where the italics are in the manual. I'm not sure there really an option to use battery power which is not from the battery pack. Are we discussing a user who might try to apply external battery power through the charger connector?

A very similar warning appears on page 11 of the HP-27 Owner's Handbook and on page 9 of the HP-22 Owner's Handbook.

Earlier, Randy wrote

> Quote:
>
> An open challenge to all: redesign the charging circuit of a Woodstock without resorting to external devices and achieved with components available in 1975. Don't just say you could do thus and so, really do it. Then show us how it fits into the case.

I would suggest that if the designers couldn't fit reasonable power supply circuitry into some predetermined case size (somebody's dress shirt pocket maybe) then they should have considered making the machine

somewhat larger. Would a quarter of an inch have been enough?

Re: Woodstocks - the new gold standard?

*Message #33 Posted by **Martin Pinckney** on 15 Feb 2010, 3:47 p.m.,*
in response to message #32 by Palmer O. Hanson, Jr.

This is a classic illustration of The Real Murphy's Law ("If there are two or more ways to do something and one of those results in a catastrophe, then someone will do it that way."), not the bastardized version you so often see quoted in the popular media ("If anything can go wrong, it will.")

Re: Woodstocks - the new gold standard?

*Message #34 Posted by **Michael Meyer** on 14 Feb 2010, 1:34 a.m.,*
in response to message #15 by Mike Morrow

The battery compartment would be easy... have it completely enclosed and thus "external" to the calculator, thread the two contacts in as nuts and bolts extending on either side, then connect the circuit board to the internally projecting contacts with leaf springs. Easy. It would remain functionally the same, but immune to leakage and outgassing. (Except the two easily replaceable posts.)

The charging circuit I will leave to others here who are far more qualified.

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Classic display segment intermittent - cause?

*Message #1 Posted by **Mark Henderson** on 11 Feb 2010, 5:30 p.m.*

Hi - I recently added a nice HP-70 to my collection. It's in good shape overall, working.

When first powered up the "c" segment in each digit is off (identifying segments from "a" at top, clockwise). I've seen posts about this kind of fault (usually display driver?).

However, after about 5-10 minutes from cold power-on, the segment will behave correctly, for about 10 minutes, then the segment will extinguish again, and stay off (until the calc is switched off and left for a few hours).

So it seems to be some sort of "warm up" behavior. I'm going to go in with a scope etc and see what's going on, but from the collective experience of the forum, what might be wrong, or where should I start looking?

Cheers

Re: Classic display segment intermittent - cause?

*Message #2 Posted by **Randy** on 12 Feb 2010, 4:33 p.m.,*
in response to message #1 by Mark Henderson

A bad anode driver is a likely culprit. Part number is 1820-1024 which is unique to the 70. While other classics use different part numbers in that position, they might function as they all share the same pin outs.

Re: Classic display segment intermittent - cause?

*Message #3 Posted by **Mark Henderson** on 12 Feb 2010, 7:58 p.m.,*
in response to message #2 by Randy

Probably wishful thinking on my behalf, but I was wondering if this could be a bad solder joint or similar on the inductor?

Re: Classic display segment intermittent - cause?

*Message #4 Posted by **Mark Henderson** on 27 Feb 2010, 7:25 p.m.,*
in response to message #3 by Mark Henderson

Well I finally opened up my HP-70 and did a full restore. Sure enough, the intermittent segment behavior (above) was just a very obvious dry solder joint - fixed in 10 seconds! Now I have a very clean, 100% functional HP-70!! Used Novus plastic cleaners for the first time, and very impressed.

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Calculator sale value-- will it persist?

*Message #1 Posted by **Michael Meyer** on 11 Feb 2010, 12:04 a.m.*

I certainly didn't begin collecting calculators for their financial value, and when they were less expensive years ago, I especially enjoyed repairing and restoring these wonderful antiques.

I can't help but notice that many of these machines are worth much more than I paid for them. Not bad, in the sense that the things I enjoy have appreciated in value much more than what many people collect... figurines, beanie babies, etc. (On the down side, it makes it harder to collect the models I'm missing.)

So, I was wondering. Do you think the value of these HP (and some other) calculators will continue to increase or will the value suddenly drop off when most of us who were alive when they were new...well, "drop off"?

Re: Calculator sale value-- will it persist?

*Message #2 Posted by **Walter B** on 11 Feb 2010, 2:46 a.m.,*
in response to message #1 by Michael Meyer

My guess is it will drop off at the time you stated. As you can see in this forum, many of us have fond memories to different vintage models. We were young when they were launched. We saw them in the shops, but couldn't afford them. We saved money for many months to be able to buy a model with a function set you get for 15 bucks today. So we really cared for our babies. And using, owning or collecting them today brings back those memories. These personal memories will die with us. No problem - the next generations will have their "babies" as the previous had.

Re: Calculator sale value-- will it persist?

*Message #3 Posted by **Thomas Radtke** on 11 Feb 2010, 10:41 a.m.,*
in response to message #1 by Michael Meyer

Calculators and computers have a serious problem unseen with earlier collector items: At some point, they will go bad and are hard if not impossible to repair. E.g., a dead woodstock is worth nothing but a few spare parts, and TAS prices reflect that. So, their value is limited in time.

Some calculators might survive generations of users enjoying them, and since classic HPs are really special in many respects, you'll probably always find people interested in *using* them.

From time to time, I look at the C64 and Amiga followings. There are quite active guys born in the 80th using and enjoying the 64!

My personal conclusion: An extraordinary piece of harware will always sell as long as it is working. The price just reflects the ratio of potential buyers to objects on sale. I can't see the number of potential buyers of classic HPs decreasing any time soon. If they are in use now, where computers are ubiquitous, there's no reason why people should gave up on them.

Re: Calculator sale value-- will it persist?

*Message #4 Posted by **Dimitri Simitas** on 13 Feb 2010, 3:16 p.m.,*
in response to message #3 by Thomas Radtke

> Quote:
>
> My personal conclusion: An extraordinary piece of harware will always sell as long as it is working. The price just reflects the ratio of potential buyers to objects on sale. I can't see the number of potential buyers of classic HPs decreasing any time soon. If they are in use now, where computers are ubiquitous, there's no reason why people should gave up on them.

I have been told a few times by older Mech Engineers and Machinists "never trust a Engineer without a HP" and they are regarded by most as being the creme of the crop. Hence my interest in them since they seem to be respected by people who I look up to. However I am sure I am not the only young guy in a manufacturing field to hear these comments.

As I figure it the number of units out there will slowly drop as the number of people wanting them may go down the demand for the available HPs will go up.

Dimitri

Re: Calculator sale value-- will it persist?

*Message #5 Posted by **Martin Pinckney** on 11 Feb 2010, 11:13 a.m.,*
in response to message #1 by Michael Meyer

My take is that there will always be a relatively small group of hard core collectors who will be willing to pay big bucks for mint specimens, but eventually the value of all other vintage calculators will drop off at the time you suggested.

I can cite my experience with Nikon film cameras of a certain era. After the world finally went digital in a big way, these cameras and their lenses suddenly dropped to about 1/3 their previous value on eB**, excepting absolutely mint cameras and certain rare lens types.

Re: Calculator sale value-- will it persist?

*Message #6 Posted by **db (martinez, ca.)** on 11 Feb 2010, 11:25 a.m.,*
in response to message #1 by Michael Meyer

There's figurines & beanie babies on one end of the increasing value scale.
This is on the other and it doesn't even have an enter key.
Didn't those things use N cells though?

Re: Calculator sale value-- will it persist?

*Message #7 Posted by **Walter B** on 11 Feb 2010, 12:09 p.m.,*
in response to message #6 by db (martinez, ca.)

Heh, this guy is running circles around co****in, isn't he! d;-)

Re: Calculator sale value-- will it persist?

*Message #8 Posted by **Thomas Radtke** on 11 Feb 2010, 12:15 p.m.,*
in response to message #6 by db (martinez, ca.)

Now, what if that particular game module goes defect? Does the investment loses $13,000 by a simple

sparc?

Re: Calculator sale value-- will it persist?

*Message #9 Posted by **Martin Pinckney** on 11 Feb 2010, 1:07 p.m.,*
in response to message #6 by db (martinez, ca.)

A foole and his money be soone at debate: which after with sorow repents him too late.

-T. Tusser, 1573

Re: Calculator sale value-- will it persist?

*Message #10 Posted by **Juergen Keller** on 11 Feb 2010, 1:47 p.m.,*
in response to message #1 by Michael Meyer

When looking at another interesting device, the CURTA calculator, I didn't notice that prices collapsed. I guess many of the buyers are too young to have actively used CURTAs in their younger days; they just buy these calculators out of curiosity and admiration. Probably this is also true - at least partly - for HP calculators ...

Re: Calculator sale value-- will it persist?

*Message #11 Posted by **Michael Meyer** on 11 Feb 2010, 2:33 p.m.,*
in response to message #10 by Juergen Keller

Juergen-- you make an interesting observation. I think the value of cameras dropped because people were just then ceasing to use them. Now, the only value is to collectors, and that will sort out on its own, and to collectors, some models should slowly get more valuable, I suppose.

It's of interest to me because I don't plan to part with most of my calculators until I part from them... but will I out-live their value? Hopefully I have a few years to figure that out. But I don't think I'm any closer to getting rid of them.

I know that I've bought many calculators from people selling an estate, and they're often please to have them go to an "appreciative" home.

Re: Calculator sale value-- will it persist?

*Message #12 Posted by **DaveJ** on 11 Feb 2010, 6:12 p.m.,*
in response to message #1 by Michael Meyer

Fads for old gear like this usually start out with those who worshiped the gear when they were younger as we all know. But then I suspect it's common for those with a generic collector mentality in similar fields eventually grow to dominate. It's at this point the industry become a bit self perpetuating.

So I think it will be around a for a lot longer than we imagine, absent some external factor that brings fear or big change to the market and possible eventual collapse.

Dave.

Re: Calculator sale value-- will it persist?

*Message #13 Posted by **Michael Meyer** on 11 Feb 2010, 8:06 p.m.,*
in response to message #12 by DaveJ

Dave, that makes a lot of sense to me. I'm thinking about other kinds of antiques... cars, furniture, certain

books, etc. that continue to be collectible long after the original users are gone. Perhaps it just becomes widely known that they are of value and that maintains their value as an antique.

Part of me is glad that these calculators have gone up in value. Part of me is sad, because it makes it a very tough hobby for someone with limited resources who wants to enjoy these fine machines.

Re: Calculator sale value-- will it persist?

*Message #14 Posted by **tim m.** on 11 Feb 2010, 10:17 p.m.,*
in response to message #13 by Michael Meyer

I agree with the sentiment as well. I wasn't around when the Classics debuted; my interest stems from a general interest in antiques with a bit of bias for vintage electronics due to being an engineer.

Re: Calculator sale value-- will it persist?

*Message #15 Posted by **DavidShenk** on 13 Feb 2010, 1:45 a.m.,*
in response to message #12 by DaveJ

Apparently, HP calculators are becoming so rare they are now being sold "by the slice".

;) Dave

Re: Calculator sale value-- will it persist?

*Message #16 Posted by **DaveJ** on 13 Feb 2010, 4:16 a.m.,*
in response to message #15 by DavidShenk

> Quote:
>
> Apparently, HP calculators are becoming so rare they are now being sold "by the slice".

Why didn't I think of that! Multiply your investment with a bandsaw!

Watch out for the other parts in coming weeks ;-)

Dave.

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HP41 MLDL2000 new version of M2kM

*Message #1 Posted by **Meindert Kuipers** on 10 Feb 2010, 3:35 p.m.*

Hello all,

I have just uploaded a new version of the MLDL2000 Manager M2kM to my website. Most important additional feature is the possibility to disassemble a ROM image to SKD41 syntax and format for editing and re-assembly with SDK41. I have also fixed some issues with Class 0 mnemonics.

Be aware that this is still BETA, and that I do need your feedback in case you discover any undesirable features.

Download is at my website.

Meindert

Re: HP41 MLDL2000 new version of M2kM

*Message #2 Posted by **Ángel Martin** on 12 Feb 2010, 2:16 a.m.,*
in response to message #1 by Meindert Kuipers

Hi Meindert, thanks for the update. I downloaded it and will take it for a spin during the week-end... I'm curious about how it'll fare disassembling the SandMath and the 41Z :-)

Best wishes, ÁM

Re: HP41 MLDL2000 new version of M2kM

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 14 Feb 2010, 3:21 p.m.,*
in response to message #1 by Meindert Kuipers

Hi, Meindert;

I second Àngel when thanking you for the update. Because the school classes have already started here and we are at 'full steam' power, I'll download and use it these days of 'Carnival' (Brazilian 'Mardi Gras' celebrations). Because I have so too many pending things to do, I spend these days working and studying. To be honest, I do not have too much relation to such festivities myself...

Cheers.

Luiz (Brazil)

Edited: 14 Feb 2010, 3:22 p.m.

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So I got the printed HP35 manual

*Message #1 Posted by **Dimitri Simitas** on 9 Feb 2010, 6:55 p.m.*

I asked and got one pretty quick, Friday after lunch and it came today with UPS.

Since there was talk about HP's spiral bound manuals used in the past. I thought you may be interest to know the value of the manual is apparently 1.88$ printed in China.

Which makes me wonder why HP choises to ship them on request. Time on a 800 number, the call takers wage, the UPS shipping, must add up unless really few ask for the manuals?

Dimitri

Re: So I got the printed HP35 manual

*Message #2 Posted by **Thomas Radtke** on 10 Feb 2010, 4:38 a.m.,*
in response to message #1 by Dimitri Simitas

You're talking about the 35s.

Time on a 800 number, the call takers wage, the UPS shipping, must add up unless really few ask for the manuals?
... which is probably the case.

The green argument doesn't count as long as the product ships in a plastic blister instead of a cardboard box.

Re: And how about the 50g!

*Message #3 Posted by **Maarten Ambaum (Reading, UK)** on 10 Feb 2010, 5:55 a.m.,*
in response to message #1 by Dimitri Simitas

Not bad. I just got a 50g and they still include a short paper manual with a more extensive manual on a CD. However, both these manuals are practically USELESS if you are interested in programming RPL, or want to use any of the more advanced features (USB connecting to a Mac, for example; how advanced is that?). Thankfully, there are many active users who have posted their own programs, manuals and tutorials - the short HPMuseum RPL tutorial is more informative than the corresponding chapter in the user manual. Perhaps HP should be straightforward about it and just provide a command reference (including system RPL) and refer to the web community for advanced manuals.

The 50g also came in a plastic shell which requires heavy machinery and protective clothing to open it (this time I am not joking!). It took me about 20 minutes, opening the shell trying not to damage the calculator. I have heard that they changed this ridiculous packaging for the new models. Does anyone have evidence of this?

They also packaged with it some el cheapo MP3 player. Do they really believe that more people will buy the calculator if they include some not asked for cheap gimmick? It hardly advertises this calculator as a "serious piece of kit". The marketing guys at HP really must go on a basic marketing course.

Re: And how about the 50g!

*Message #4 Posted by **Thomas Radtke** on 10 Feb 2010, 6:12 a.m.,*
in response to message #3 by Maarten Ambaum (Reading, UK)

They also packaged with it some el cheapo MP3 player.

Interesting. Should be at least an iPod Shuffle to reach the target audience (students). Otherwise, it is more distracting than attracting since you have to dispose ist somehow ;-).

Cheap Gimmick?

*Message #5 Posted by **Frank Boehm (Germany)** on 10 Feb 2010, 7:03 a.m.,*
in response to message #3 by Maarten Ambaum (Reading, UK)

I think MPEGLA etc. royalties are probably more expensive than a printed manual.
Nice set of priorities on HPs' side :)

Re: And how about the 50g!

*Message #6 Posted by **Martin Pinckney** on 10 Feb 2010, 10:21 a.m.,*
in response to message #3 by Maarten Ambaum (Reading, UK)

> Quote:
>
> They also packaged with it some el cheapo MP3 player. Do they really believe that more people will buy the calculator if they include some not asked for cheap gimmick? It hardly advertises this calculator as a "serious piece of kit". The marketing guys at HP really must go on a basic marketing course.

Agreed. And perhaps more to the point? - The marketing guys are running the program rather than the product development guys?

Re: And how about the 50g!

*Message #7 Posted by **Egan Ford** on 10 Feb 2010, 3:54 p.m.,*
in response to message #3 by Maarten Ambaum (Reading, UK)

Perhpas you purchased the MP3 player and the 50g was the freebee. :-)

Re: And how about the 50g!

*Message #8 Posted by **Maarten Ambaum (Reading, UK)** on 11 Feb 2010, 5:56 a.m.,*
in response to message #7 by Egan Ford

Perhaps I can use the MP3 player to store your hpgcc stuff: with the size of the binaries it produces I can easily fill the 1gig on the MP3 player ...

Re: And how about the 50g!

*Message #9 Posted by **David Hayden** on 11 Feb 2010, 8:00 a.m.,*
in response to message #8 by Maarten Ambaum (Reading, UK)

> Quote:

> Perhaps I can use the MP3 player to store your hpgcc stuff: with the size of the binaries it produces I can easily fill the 1gig on the MP3 player ...

I know that you made the comment in jest, I'll still point out that even if your HPGCC binaries were 100k each (a big over estimate), a 1GB card will hold 10,000 of them. They load very quickly from SD, so to me, the large binary size is a non-issue on the 50g.

Re: 50g RPL programming manual (was: Re: And how about the 50g!)

*Message #10 Posted by **Bart (UK)** on 11 Feb 2010, 8:27 a.m.,*
in response to message #3 by Maarten Ambaum (Reading, UK)

> Quote:
>
> both these manuals are practically USELESS if you are interested in programming RPL

Yes, for some stupid reason HP do not include the necessary manual on CD. It is available on the website: HP 48gII and 50g Graphing Calculator Advanced User's Reference Manual (V2). It has only recently been updated to include references to the 50G, it used to only refer to the 48GII / 49G+ !!! This manual provides instruction and examples for RPL programming and a complete command and function reference.

Re: 50g RPL programming manual (was: Re: And how about the 50g!)

*Message #11 Posted by **Walter B** on 11 Feb 2010, 8:48 a.m.,*
in response to message #10 by Bart (UK)

Thanks for that link!

Re: 50g RPL programming manual (was: Re: And how about the 50g!)

*Message #12 Posted by **Ed Look** on 11 Feb 2010, 2:33 p.m.,*
in response to message #11 by Walter B

I thank you, too.

I had been using the 50g and 49g+ on the basis of what I remember from the 48g/g+ and THEIR AUR, which was a pretty good manual, but I suspect there are things specific to the 49g+/50g series that not in there.

Re: 50g RPL programming manual (was: Re: And how about the 50g!)

*Message #13 Posted by **David Hayden** on 12 Feb 2010, 11:00 a.m.,*
in response to message #12 by Ed Look

Walter and Ed, note that the 49G Advanced User Reference PDF includes hyperlinks in the document while the 50G version does not. This makes the 49G version a lot easier to navigate through. I have both documents on my computer but I always go to the 49G manual first.

You probably know this already, but get HPUserEdit or Debug4x so you can develop your code on a PC. It's vastly easier than trying to develop and debug directly on the calculator.

Re: 50g RPL programming manual (was: Re: And how about the 50g!)

*Message #14 Posted by **Ed Look** on 12 Feb 2010, 9:19 p.m.,*
in response to message #13 by David Hayden

Actually, stepping through a program with the "SST" softkey isn't so bad if you can put up with a long program. I'm not good enough with RPL that I could print or display a program and spot what's wrong just by reading through it.

But you're right, HPUserEdit has been invaluable to me, even if more for converting 50g programs to 48g or vice versa. Next time I need to program any of the 50/49 or 48's I'll use HPUserEdit before I waste battery power tapping it out on the calcs.

As for hyperlinks, eh... I'm old-fashioned enough that they don't do much for me. I am sort of upset that for the 49g and 50g, the AUR really can only read onscreen (this is why I first reach for the 48G AUR).

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For the Door That Has No Equal
*Message #1 Posted by **db (martinez, ca.)** on 9 Feb 2010, 11:34 a.m.*

Large Enter Key

Re: For the Door That Has No Equal
*Message #2 Posted by **Jean-Michel** on 9 Feb 2010, 1:17 p.m.,*
in response to message #1 by db (martinez, ca.)

And a huge screen would be a glass door just above...

Re: For the Door That Has No Equal
*Message #3 Posted by **Michael Meyer** on 9 Feb 2010, 3:20 p.m.,*
in response to message #2 by Jean-Michel

Very fun. Brings to mind other possibilities: "Esc" "Backspace" "Stand by" etc.

Re: For the Door That Has No Equal
*Message #4 Posted by **Joerg Woerner** on 9 Feb 2010, 3:43 p.m.,*
in response to message #1 by db (martinez, ca.)

For TI users:

AOS - Advanced Operating System

Joerg ;-))

Re: For the Door That Has No Equal
*Message #5 Posted by **Walter B** on 10 Feb 2010, 7:45 a.m.,*
in response to message #4 by Joerg Woerner

Maybe I missed the point, but what has this doormat to do with "AOS"?

Re: For the Door That Has No Equal
*Message #6 Posted by **Joerg Woerner** on 10 Feb 2010, 8:19 a.m.,*
in response to message #5 by Walter B

Texas Instruments calculators are not always welcome on this forum ;-)

Regards, Joerg

Re: For the Door That Has No Equal

*Message #7 Posted by **Marcus von Cube, Germany** on 10 Feb 2010, 8:51 a.m.,*
in response to message #6 by Joerg Woerner

TIs are welcome if read from reverse. ;)

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New Article: HP 41c translator overlay for 71b

*Message #1 Posted by **Allen** on 8 Feb 2010, 3:01 p.m.*

I often get requests for this overlay. Custom overlays are expensive to make, and hard to sell, so here are photos to make one from a blank overlay.

Translator Overlay Article

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HP-29C Behavior that is odd!

*Message #1 Posted by **Jeff Davis** on 7 Feb 2010, 11:18 a.m.*

I have a really nice HP-29C calculator and it was working 100%. I sold it on e-bay and shipped it to France where the buyer stated that the unit was intermitent. Once the unit was returned, true enough the unit would not turn on every time the on switch was toggled. The switch from the top side looks kind of dirty down inside. Could the switch just be dirty or bad? Please let me know your thoughts.

Re: HP-29C Behavior that is odd!

*Message #2 Posted by **Michael de Estrada** on 7 Feb 2010, 11:43 a.m.,*
in response to message #1 by Jeff Davis

I suggest you read the thread concerning power-on problems with the HP-19c, before you jump to conclusions.

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Any sightings of the 30b yet? (n/t)

*Message #1 Posted by **Peter A. Gebhardt** on 7 Feb 2010, 7:54 a.m.*

(n/t)

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Suggestions for HP41C

*Message #1 Posted by **Dimitri Simitas** on 6 Feb 2010, 10:06 p.m.*

I was wondering what you would all consider a fair price for a good working HP-41C would be?

Also wondering the availability of the Machine Design, Stress Analysis pacs and the Mechanical Engineering, Physics and Fuild Dynamics Solution Books?

I'd be looking to acquire this over the course of my mechanical design program. So no real rush, I would be starting with the calculator though as the rest require it for use.

Thank you in advance.

Dimitri

Re: Suggestions for HP41C

*Message #2 Posted by **Walter B** on 6 Feb 2010, 11:24 p.m.,*
in response to message #1 by Dimitri Simitas

> Quote:
>
> I was wondering what you would all consider a fair price for a good working HP-41C would be?

Many "fair price" discussions are found in the forum archives. Eventually, a "fair price" for an object depends on the buyer and his/her desire to own said object.

> Quote:
>
> Also wondering the availability of the Machine Design, Stress Analysis pacs and the Mechanical Engineering, Physics and Fuild Dynamics Solution Books?

The pacs show up every once and a while on TAS. For the books, please find the answer here together with lots of other interesting information, saving you many bucks d:-). I strongly recommend this DVD if you're willing to read.

HTH

Walter

Re: Suggestions for HP41C

*Message #3 Posted by **Dimitri Simitas** on 7 Feb 2010, 12:09 a.m.,*
in response to message #2 by Walter B

> Quote:

> Eventually, a "fair price" for an object depends on the buyer and his/her desire to own said object.

Thank you for the quick reply Walter. I've been watching Ebay so far, but I realize sometimes Ebay is not a clear indication of market value. Calculators are not like cars that have a "Blue Book" value making it easy to establish a base price and go from there.

Yes I know of the DVD, and it will be ordered shortly, just waiting on my paycheck. I hate running a balance on my credit card.

Dimitri

Re: Suggestions for HP41C

*Message #4 Posted by **Martin Pinckney** on 7 Feb 2010, 9:05 p.m.,*
in response to message #3 by Dimitri Simitas

> Quote:
>
> ... I realize sometimes Ebay is not a clear indication of market value.

IMO, eB** is the *best* indicator of market value, with the proviso that the market is the worldwide universe of collectors and users who are "internet comfortable".

Of course there are many other markets, and eB** may indeed not be the best indicator for those markets.

Re: Suggestions for HP41C

*Message #5 Posted by **Dimitri Simitas** on 7 Feb 2010, 9:43 p.m.,*
in response to message #4 by Martin Pinckney

I don't know, Ebay makes prices increase in my mind due to the ease of access for the items.

None the less my post is now more academic, ordered the HP DVD and a near new looking HP-41CV from Ebay.

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=280462429141

Dimitri

Re: Suggestions for HP41C

*Message #6 Posted by **Martin Pinckney** on 8 Feb 2010, 8:54 a.m.,*
in response to message #5 by Dimitri Simitas

> Quote:
>
> I don't know, Ebay makes prices increase in my mind due to the ease of access for the items.

Where buyer and seller can easily find each other, and can freely enter into a buy-sell agreement, and throw on top of that multiple transactions of similar items, to me that defines

market value.

Local markets may vary, however.

Re: Suggestions for HP41C

*Message #7 Posted by **Frido Bohn** on 8 Feb 2010, 3:24 p.m.,*
in response to message #1 by Dimitri Simitas

Hi Dimitri,

just finished to buy an HP41C via an e..y-auction. I was pretty lucky that the guy sold it as damaged, but it resulted to be in perfect condition. The seller obviously avoided to use the right kind of batteries and failed to test the 41 adequately.

The price for which I finally won the auction was 41.41 Euros - the only price for which an HP41 should be purchased - that is about $58.
I would estimate from my observations in the German area that the usual price for an 41C is about $150, for an 41CV about 200$, and for an 41CX about $350. All being in a fair mint condition.

Regards
Frido

Re: Suggestions for HP41C

*Message #8 Posted by **Dimitri Simitas** on 8 Feb 2010, 5:43 p.m.,*
in response to message #7 by Frido Bohn

Thank you for the reply, in Canadian dollars including shipping I got the HP-41CV for just under 200$ so I think I did good.

That is a pretty good deal for that calculator of yours!

Dimitri

Re: Suggestions for HP41C

*Message #9 Posted by **Aldo Luis Molinari** on 11 Feb 2010, 8:19 a.m.,*
in response to message #1 by Dimitri Simitas

Dear Dimitri: I am looking for an excellent Card Reader for my HP41CX; could you tell me, please, where can I buy it. I have more than 50 navigation programs and I can't charge into my HP41CX because the card reader is out of service. I live in Argentina, Buenos Aires. My email is amolinari@sgp.gov.ar or alfalima@fibertel.gov.ar.- Thank you in advance for your consideration.-

Re: Suggestions for HP41C

*Message #10 Posted by **Dimitri Simitas** on 11 Feb 2010, 12:59 p.m.,*
in response to message #9 by Aldo Luis Molinari

I have seen a few on Ebay the last little while however I do not have one myself yet.

If yours stopped working check Ebay there are repair services available.

Dimitri

Re: Suggestions for HP41C

*Message #11 Posted by **Frido Bohn** on 11 Feb 2010, 3:50 p.m.,*
in response to message #9 by Aldo Luis Molinari

Hola Aldo Luis!

I would strongly recommend to look for a repair of the card reader. Typically, the gear roller is worn down after so many years, and a "new" card reader could develop the same problems.
If you look at the Repair Instructions for the 82104A Card Reader, you may feel encouraged to do it for yourself.
I have done this for myself, and thereafter the device was fine as ever before.

Saludos
Frido

Re: Suggestions for HP41C

*Message #12 Posted by **Aldo Luis Molinari** on 15 Feb 2010, 1:27 p.m.,*
in response to message #11 by Frido Bohn

Where can I buy this equipment or accesorie? I didn´t found the way to buy one for repairing my Card Reader...- Thank you so much!!!

Re: Suggestions for HP41C

*Message #13 Posted by **Dimitri Simitas** on 13 Feb 2010, 8:02 p.m.,*
in response to message #1 by Dimitri Simitas

I purchased the Machine design module on its own. As well as a ROM card folder and memory card for my HP 41CV. I am getting there.

Dimitri

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Feeling older

*Message #1 Posted by **Palmer O. Hanson, Jr.** on 6 Feb 2010, 9:39 p.m.*

The Hi and Lois comic strip in today's paper has the son saying

> Quote:
>
> With these new phones you can surf the internet, make movies, play music ...

and the father replying

> Quote:
>
> It makes me feel old. I once thought it was amazing that my pocket calculator could tell time.

That illustrates why selling pocket calculators is not easy these days, and why selling retro versions will be even more difficult. What pocket calculators can do just isn't Gee-Whiz anymore.

Re: Feeling older

*Message #2 Posted by **Chuck** on 6 Feb 2010, 10:04 p.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

How very true. However, I still don't have a cell phone and doubt I ever will; and I'm not yet to my fifth decade. I still think there is a future calculator out there that will be Gee-wiz for me. And if it makes a phone call, well..... :)

CHUCK

Re: Feeling older

*Message #3 Posted by **Ed Look** on 8 Feb 2010, 1:52 a.m.,*
in response to message #2 by Chuck

I see college kids too often using their cell phones AS THEIR CALCULATORS... in science courses, no less.

Unfortunately, the cell phone calc programs generally are only glorified 4-bangers. My son informs me that his i-pod touch CAN download a scientific calculator, but he hasn't done it (nor, I guess, many of his friends). Of course, these same students don't seem to wear watches, neither. Yep, you guessed it- they use their cell phones. Don't they know that to tell time on a phone, you have to first pull it out of your pocket, pocketbook, backpack, briefcase, or whatever, but with a watch, all you have to do flip your wrist?... and they brag about being oh, so lazy...

... lazy??... I enable the clocks on my HP-48g's, 49g+, and 50g. The clocks really aren't all that accurate, but when you've had your nose stuck for a long time into the LCD screens, it's nice to be able to just

glance up at the upper right and see how long it's been, even if the time itself might be a few minutes off.

And why do I use these big bricks instead of the more pleasurable to use simple programmable scientifics (HP-33s, 35s)? I need to look at or use data often from a periodic table. I've got 'em on the walls, inside books (within arm's reach), or maybe even on the computer screen. But if I've got to do some calculations on the calculator with that information, I won't even have to shift my eyes- just a couple of the proper keypresses and I can call up the necessary information, enter it on the stack, and off I go. (And I complain about kids not using books anymore...)

Re: Feeling older

*Message #4 Posted by **Bart (UK)** on 8 Feb 2010, 5:15 a.m.,*
in response to message #3 by Ed Look

> Quote:
>
> Of course, these same students don't seem to wear watches, neither. Yep, you guessed it- they use their cell phones.

I have done so for the past dozen years.

> Quote:
>
> Don't they know that to tell time on a phone, you have to first pull it out of your pocket,....

Exactly, where it's less liable to get scratched, bashed, fall off due to a broken strap, etc. I have a growing collection of old and functioning cell phones, but have lost at least 1 watch (my first - an LED - got it from my dad when I was in school), and irrepairably damaged a further 3. Now I just keep some for occasions.

> Quote:
>
> (And I complain about kids not using books anymore...)

I certainly can't be the one complaining, I use a computer for work all day, and instead of pulling out a book I often just google the info.

Just my 2p worth

Re: Feeling older

*Message #5 Posted by **Egan Ford** on 8 Feb 2010, 4:45 p.m.,*
in response to message #4 by Bart (UK)

> Quote:
>
> I certainly can't be the one complaining, I use a computer for work all day, and instead of pulling out a book I often just google the info.

Frontline (US PBS news show) last week aired "Digital Nation". One of the topics was how kids are learning differently because of the Net. Your statement *is* the status quo for many kids today.

Frontline is free to watch on pbs.org. If you have XBMC (Linux/XBOX), Boxee

(Windows/Mac/Linux), or Plex (Mac) then you can see it there too. Depending on the episode Frontline is free/fee on iTunes.

Re: Feeling older

*Message #6 Posted by **megarat** on 9 Feb 2010, 4:15 p.m.,*
in response to message #5 by Egan Ford

> Quote:
>
> Frontline (US PBS news show) last week aired "Digital Nation". One of the topics was how kids are learning differently because of the Net. Your statement *is* the status quo for many kids today.

That's my personal experience as well. While I love books, and own many, many, many of them, I tend to resort to "my Google brain" first especially while seated at a computer (which is 85+% of the time at work).

And this has been my academic experience as well. I was an undergrad back in the late '80s, early '90s, and then completed an evening Master's program from '06-'08. When I wrote a research paper as an undergrad, it involved hours of meticulous research, searching terminals for possibly relevant articles, and painstaking evaluation of the article by digging up, looking through, and photocopying the physical publications. Writing a research paper now, the difference is completely striking: just go to google scholar and you can get dozens of candidate references in a heartbeat, and text searches within the content can confirm an article's relevancy in about 1/20th the time. As a result, my papers had more and better references, and needed less time to research; the process was entirely paperless and didn't require schlepping to the library and fighting for terminals.

I wouldn't describe this, however, as a learning process, but rather a research process, as researched material isn't necessarily learned. (And this applies for both my early and later experiences.) I may check out that episode to see how this impacts learning in general.

Re: Feeling older

*Message #7 Posted by **Dusan Zivkovic** on 8 Feb 2010, 6:04 a.m.,*
in response to message #3 by Ed Look

Take your son's iPod Touch, start up the Calculator, tip it on the side. It will turn into a scientific calculator. Your son will say "wow".

It happened with my son, who also told me he won't be downloading i41cx+ any time soon :) At least it knows it exists... Maybe he will go for it when I show him the printer which can email printouts.

Re: Feeling older

*Message #8 Posted by **Dimitri Simitas** on 8 Feb 2010, 9:17 a.m.,*
in response to message #3 by Ed Look

> Quote:
>
> I see college kids too often using their cell phones AS THEIR CALCULATORS... in science courses, no less.

That is because they spent 500$ on a cell phone, and can't afford a calculator. Both my cellphones have been gifts, both have always been in silence all mode and the current one is in my locker while I am on campus. Everyone keeps telling me I need to carry it on for "emergencies" funny how their idea of one so far doesn't match my idea of a real emergency.

Between a calculator and a cellphone, I would keep the calculator if I had to pick one. And I am only 22.

Dimitri

Re: Feeling older

*Message #9 Posted by **Dave Shaffer (Arizona)** on 8 Feb 2010, 1:24 p.m.,*
in response to message #8 by Dimitri Simitas

> Quote:
>
> can't afford a calculator

I realize you are probably joking, but you can find any number of simple scientifics - all algebra, of course :(- for less than $10 on sale.

I used to have half a dozen Casios, TIs, even an HP, handy when I taught physics and astronomy labs, so that whining students couldn't avoid doing the lab assignment by claiming "I don't have my calculator!" I just finally gave them all to the local high school science teacher.

Re: Feeling older

*Message #10 Posted by **Dimitri Simitas** on 8 Feb 2010, 3:16 p.m.,*
in response to message #9 by Dave Shaffer (Arizona)

> Quote:
>
> I realize you are probably joking, but you can find any number of simple scientifics
> - all algebra, of course :(- for less than $10 on sale.

That is correct mostly. Mind you with 500$ cellphones and 70$ a month voice/data plans I have heard people say they can't afford one.

Dimitri

Re: Feeling older

*Message #11 Posted by **Bart (UK)** on 8 Feb 2010, 5:57 p.m.,*
in response to message #10 by Dimitri Simitas

Sounds about right, they spend all their money on what they ***want*** and so don't even have small change left for what they ***need***. :)

Re: Feeling older

*Message #12 Posted by **Mike T.** on 9 Feb 2010, 4:53 p.m.,*
in response to message #3 by Ed Look

I thought the calculator on a friends iPOD rather primative - until he turned the display through 90 degrees...

Mike T.

Re: Feeling older

*Message #13 Posted by **Chuck** on 9 Feb 2010, 9:37 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

Years ago in primary school kids learned basic math: add, subtract, multiply, divide, etc. and computers were learned and used by the college kids at the universities. Now it's reversed: they learn to use computers in primary school, and we have to teach basic math to our college kids. Sad.

Re: Feeling older

*Message #14 Posted by **Ed Look** on 10 Feb 2010, 12:09 a.m.,*
in response to message #13 by Chuck

You ever hear a bitter laugh?

I just did... from my own mouth, Chuck.

What you said is so sadly, pathetically true. Unfortunately, there's more evil that that: those kids who are using computers in primary school later become poor secondary school students and even worse college students, assuming they even get that far.

A student once told me she couldn't afford the required texts, all the while her earrings, necklaces, rings, and watch, all nice stuff, was dangling, jingling, and twinkling as she spoke. So, I gave one earring a gentle flick of the finger. She responded, "Oh, my boyfriend gave me these." I replied, "Next time he comes around, tell him you want textbooks!" No response came from her on that.

Incidentally, these same primary level pupils are also using calculators- FOR BASIC ARITHMETIC!! No wonder they can't do math anymore.

Re: Feeling older

*Message #15 Posted by **Norman Dziedzic** on 10 Feb 2010, 8:33 a.m.,*
in response to message #14 by Ed Look

I think some teachers are getting the message. My 3rd grader's teacher is doing basic drills like I remember doing. Sadly this is not part of the regular curriculum.

My 5th grader is in an advanced math class and while a calculator was required on the list of supplies (TI 30XA basic scientific), he said they rarely use it.

The tests that are written well do not require calculators.

Re: Feeling older

*Message #16 Posted by **Michael Plant** on 10 Feb 2010, 9:08 a.m.,*
in response to message #15 by Norman Dziedzic

This is an issue here (BC, Canada), as well. Calculators are now required in grade seven and graphing calculators in grade 11 (although the graphing calculators are not allowed on any tests).

When I was a student, we were never required to own a calculator and were not allowed to use them in class until grade nine. I can't for the life of me understand why students "must" buy or rent from the school a $150 calculator to learn math that many of my classmates did without a calculator at all 25 years ago. I imagine the argument must be something like the students in grade 11 are taught how to use the calculator to prepare them for physics 11 and 12, calculus 11 and 12 and math 12.

I think that the reality is that the education boards across North America have been seduced by getting on for 20 years of successful TI marketing. It doesn't hurt that textbooks include instructions on how to accomplish many tasks using a TI-83 Plus, either.

Re: Feeling older

*Message #17 Posted by **Ed Look** on 10 Feb 2010, 8:54 p.m.,*
in response to message #16 by Michael Plant

> Quote:
>
> ... textbooks include instructions on how to accomplish many tasks using a TI-83 Plus...

Is anyone familiar with the undergraduate level chemistry text, Experiments in Physical Chemistry by Shoemaker and Garland and another person depending on edition?

When I first got it for *COLLEGE*, the third guy was Steinfeld, and there was a page on programming a... get this... HP-45 to a least squares fitting of your data! Now, there were no more HP-45's (except as "vintage" among collectors, I suppose) sold by the time I got to college, and the page looked like it was lifted by the authors from an earlier edition of their own book.

Alas, I looked in later editions and the page was replaced by a larger and more in-depth section on using spreadsheets (although Quattro Pro and Lotus 1-2-3 was included, despite the [relative??] unavailability of these two programs) and mathematics programs like Mathematica, Maple, etc. And in later editions, the chapter on programming mainframes for chemical calculations appear to be gone, too. I guess, why bother if you have access to Mathcad or Gaussian on a PC?

And, it seems to me that programming as we know it... ahem, as *I* know it... might be brushed aside by the likes of LabVIEW. The GUI takes over the universe, with his henchmen the mouseclick and drag'n'drop!!! To books... or, er, was that, arms?... old folks! We are under siege!

Edited: 10 Feb 2010, 8:57 p.m.

Re: Feeling older

*Message #18 Posted by **Don Shepherd** on 10 Feb 2010, 9:54 p.m.,*
in response to message #17 by Ed Look

We are fond of reminiscing about the "good old days," but in some ways the good old days weren't so good. Yes, overnight turnaround of your punch card jobs meant that you tended to "desk check" your program first (and I'm sure that went away decades ago), but 5 second turnaround sure beats 12 hour turnaround. Are the C++ programs being written today orders of magnitude better or worse than the old FORTRAN programs we wrote 30-40 years ago?

Probably not. Do programmers today have that "magical" feeling that we had when we implemented a neat algorithm or found a new way of doing something in code? Probably not. The industry has changed drastically, but then again, what hasn't? It's the natural order of things. Luckily, we still have our vintage machines to play around with, because HP built them to last. I'm thankful for that.

I'm more concerned about the fundamental change in human interaction these days. Walk around a college campus and you will find that maybe 90% of the students you encounter are either talking on their cell phone or engrossed in whatever is coming out of their i-whatever. You used to be able to walk around and say "hi" to people; they don't even hear you anymore. I think that bodes bad for the future. But, I don't know, every generation has survived since we've been tracking these things, and I'm sure this one will too.

Re: Feeling older

*Message #19 Posted by **David Hayden** on 10 Feb 2010, 10:52 p.m.,*
in response to message #18 by Don Shepherd

As a professional programmer for the past 25 years, I thought I'd comment.

> Quote:
>
> Are the C++ programs being written today orders of magnitude better or worse than the old FORTRAN programs we wrote 30-40 years ago? Probably not.

Much of the code is orders of magnitude slower, but this hidden because the hardware is more orders of magnitude faster. Studies have shown that the number of bugs per thousand lines of code is relatively constant, so the higher level languages, where you can get more done with few lines, tend to have fewer bugs for the same amount of functionality. The people who design software languages and tools are slowly starting to realize that they need to think about security and bug prevention, not just functionality. I'm honestly amazed that people put up with the poor quality of software that we deliver.

> Quote:
>
> Do programmers today have that "magical" feeling we had when we implemented a neat algorithm or found a new way of doing something in code? Probably not. The industry has changed drastically, but then again, what hasn't? It's the natural order of things.

Most of the cool algorithms are available in well established software libraries these days, but I live for the thrill of figuring out how to do something that everyone said couldn't be done :).

> Quote:
>
> Luckily, we still have our vintage machines to play around with, because HP built them to last. I'm thankful for that. I'm more concerned about the fundamental change in human interaction these days. Walk around a college campus and you will find that maybe 90% of the students you encounter are either talking on their cell phone or engrossed in whatever is coming out of their i-whatever. You used to be able to walk around and say "hi" to people; they don't even hear you anymore. I think that bodes bad for the future. But,

> I don't know, every generation has survived since we've been tracking these things, and I'm sure this one will too.

While I agree with you completely, I think it's also true that the dating sites will have quite a big impact on society as a whole. By figuring out how to match up compatible people, I think they will raise the overall happiness of society greatly.

Dave

Re: Feeling older

*Message #20 Posted by **Martin Pinckney** on 15 Feb 2010, 10:41 p.m.,*
in response to message #19 by David Hayden

> Quote:
>
> I'm honestly amazed that people put up with the poor quality of software that we deliver.

What alternatives do we have?

Re: Feeling older

*Message #21 Posted by **Allen** on 10 Feb 2010, 11:58 p.m.,*
in response to message #18 by Don Shepherd

> Quote:
>
> Do programmers today have that "magical" feeling that we had when we implemented a neat algorithm or found a new way of doing something in code? Probably not. The industry has changed drastically, but then again, what hasn't? It's the natural order of things. Luckily, we still have our vintage machines to play around with, because HP built them to last. I'm thankful for that.

Don, I could not agree more! With the exception of some embedded design. (how few even code directly in machine language any more?) there are few left who experience that euphoria. Once felt, it's hard to go back to sloppy code. Then again, the world no longer has to get to the moon and back on 32,000 bits of RAM. We no longer have to, and likely not go back so soon because of it!

> Quote:
>
> I'm more concerned about the fundamental change in human interaction these days.

Darn right.. people using new internet chat forums when they used to write a letter in the mail! :)

Re: Feeling older

*Message #22 Posted by **PeterP** on 11 Feb 2010, 12:12 a.m.,*
in response to message #18 by Don Shepherd

Don,

Fully agree on you with regards to 'the good old days'. And I'm pretty sure that our parents who were brought up only on paper and pencil and - maybe - a slide ruler - also thought why the heck do kids need calculators in grade nine, we didn't need them, now, did we?

On the social side thought I'd like to throw things I heard/read from researches in 'generational culture and value' that is quite interesting. It would indicate that why baby boomers and generation x was a lot about 'I' millenium kids and later are much more a 'we' generation. Some say they are actually socially far more connected than we ever were - just not in person, but via facebook, twitter, sms, etc. Now, we might say, that this is not the same, but then thats the same as the people back in eary 20th century said that no-one needs a car or a phone - you can just walk or ride there or write a letter. And I'm pretty sure that our parents did'nt quite understand at all why anyone would ever need a computer or a cell-phone. I think one can go back quite a while and see how the advent of new technologies has changed how people interact with each other in in general conduct their lives. And I'm also pretty sure that for many generations, parents bemoaned the fact that 'the good old days' are gone. The one thing that I do believe is changing, is the cycle time of new technologies. It took I think some 30 years or more to have 25% of the US population with TV. But only 7 to get a cell-phone. However 'a generation' of human life is still round-about 30 years. So relative to our life-span, the impact of technology in how we live our life as drastically increased - we have n-times more change in technology per unit of life (say a decade) today than we had 50 years ago. Which, btw, all boils down to the exponential impact of Moores law and its derivatives. If you like looking at charts for this, Ray Kurzweil and his books and presentations (can be found via Google :-)) have plenty of hard data for this.

Cheers

Peter

Re: Feeling older

*Message #23 Posted by **Don Shepherd** on 11 Feb 2010, 7:58 a.m.,*
in response to message #18 by Don Shepherd

David and Allen and Peter, all well said! Thanks.

My current thrill is re-purposing my 12c+, with Katie's help. Katie re-purposed it to be a base 12 machine, and I took her code and modified it to create a base 16 machine that does arithmetic in base 16, complete with a display of the hex letters, ala 16c. You've never seen this on a 12c before!

Re: Feeling older

*Message #24 Posted by **Walter B** on 11 Feb 2010, 8:34 a.m.,*
in response to message #23 by Don Shepherd

Hi Don,

great to see this! Looks like another repurposing project. For sure you reassigned some keys of this calc allowing you to reach this display. Any details available?

Re: Feeling older

*Message #25 Posted by **Don Shepherd** on 11 Feb 2010, 12:40 p.m.,*
in response to message #24 by Walter B

Walter, here is the C++ code from Katie that I modified to get the hex characters on the 12c+. Cyrille has already defined the lcd segment pattern for several letters in one of the other files in the development environment. My 12c+ will now do hex arithmetic, using the TVM keys and CHS as ABCDEF. Unfortunately, it won't do anything else! But, hey, this is way cool.

I have learned that repurposing is not easy. It took installation of an older SDK from IAR and about 150 emails (exaggerating only slightly) and several phone conversations with Katie to get this little thing to work. If you already know C++, it will help. But this is a good way to learn it!

Re: Feeling older

*Message #26 Posted by **Juan J** on 13 Feb 2010, 2:19 p.m.,*
in response to message #17 by Ed Look

> Quote:
>
> Is anyone familiar with the undergraduate level chemistry text, Experiments in Physical Chemistry by Shoemaker and Garland and another person depending on edition?
>
> When I first got it for *COLLEGE*, the third guy was Steinfeld, and there was a page on programming a... get this... HP-45 to a least squares fitting of your data! Now, there were no more HP-45's (except as "vintage" among collectors, I suppose) sold by the time I got to college, and the page looked like it was lifted by the authors from an earlier edition of their own book.
>
> And, it seems to me that programming as we know it... ahem, as *I* know it... might be brushed aside by the likes of LabVIEW. The GUI takes over the universe, with his henchmen the mouseclick and drag'n'drop!!! To books... or, er, was that, arms?... old folks! We are under siege!

Hello,

I am familiar with it, and I keep a copy, given to me by a friend back in university days.

Mine is Shoemaker and Garland only, and includes methods to check computations using,IIRC, the rule of 9's; there was also advise on keeping significant figures, tracking the decimal point on a slide rule. The section ended with notes on using HP precision timers. An old edition, it seems. Last but not least, another section detailed guidelines on report contents and style, which are still useful to me.

We do not check calculations anymore, and too often I find young engineers who are unable to keep significant figures or make reasonable guesses. Computing power has become too cheap, too accessible, and too many people take it for granted.

JuanJ

Re: Feeling older

*Message #27 Posted by **Ed Look** on 13 Feb 2010, 4:02 p.m.,*
in response to message #26 by Juan J

Juan, I am of the calculator generation; my high school class was the first in my high school allowed to use calcs for exams.

An older colleague is of the slide rule generation (though he claims he first did math with chisel and stone tablet) and he can make quick estimates before people my age can finish it in our heads, and before those even younger can get started figuring what the problem was, and I'm not joking.

I will say that misuse of the calculator, particularly in secondary and earlier educational levels have ruined the ability for the present generation to quickly size up things mathematically... in general. I'm sure (hope??) there are exceptions.

Re: Feeling older

*Message #28 Posted by **Juan J** on 13 Feb 2010, 8:37 p.m.,*
in response to message #27 by Ed Look

Hello Ed,

Although I am a late comer of sorts, I belong to the calculator generation as well.

Loke you, I have met people able to figure out estimates before I can finish calculations in my head. It never ocurred to me that it would become even worse. But it has.

A calculator is but your brain's extension, nothing else. It deals with the repetitive stuff out for you, allowing you to work smarter. Sadly, this is misinterpreted today and a calculator is deemed as a black box that thinks and provides answers.

JuanJ

Re: Feeling older

*Message #29 Posted by **Palmer O. Hanson, Jr.** on 13 Feb 2010, 9:19 p.m.,*
in response to message #27 by Ed Look

> Quote:
>
> An older colleague is of the slide rule generation (though he claims he first did math with chisel and stone tablet) and he can make quick estimates before people my age can finish it in our heads, and before those even younger can get started figuring what the problem was, and I'm not joking.

I never used a chisel and a stone tablet but I did do a lot of pencil and paper arithmetic in high school in the mid 1940's. We were expected to multiply six to eight digit numbers and get the exact answers. Now, that was dogwork, but it did eestablish an ability to do arithmetic accurately. I was in a small school with only 55 in my graduatiing class. I didn't take trigonometry or solid geometry in high school because the school had a minimum class size of ten and that was hard to meet. When

I was a junior some seniors came up with the idea to let some of the better juniors double up in math by taking advanced algebra and trigonomtry in the same year as a way to get enough trigonometry students. But we still could only get nine.

After Sputnik there was a push to get more mathematics in the lower grades but some of the effort was not well done. My wife was teaching fifth graqd in an Ohio school system in 1966-67. The system provided some assistance with the idea of estimation. My wife came home totally frustrated because in trying to encourage the students the instructor called every estimate a "good" estimate, where "good" apparently meant as good as the partiular student could manage.

Re: Feeling older

*Message #30 Posted by **Ed Look** on 13 Feb 2010, 10:34 p.m.,*
in response to message #29 by Palmer O. Hanson, Jr.

Palmer- And as we can see now even in the news, this problem is now out of control. Some entire school systems have toyed with not grading or flunking kids for fear of wounding their self-esteem. Do you deserve self-esteem if you can't divide... by hand?

To use your intellect is the most human, most basically human of things. If you do not develop your mind, and mathematics is only a small part of that, then that much of your personhood is stunted.

Feeling good does not necessarily contribute to this.

I hope someday soon this can be changed. It seems, too, that necessity is not necessarily the mother of invention...

Juan- I tell students to try to NOT just consider devices, especially convenient ones, as merely black boxes that do their magic and one doesn't have to understand, but that to be truly educated, whatever their major, they should at least have some somewhat more than rudimentary understanding of how things might work.

Consider computers on science fiction shows, or analytical instrumentation on a police show. Generally, someone punches in some data, or nowadays, scans it in, and then way before the next commercial break, the machine spits out the very useful and cool results. Most people seem to treat their things that way. What do most users know about their cell phones, televisions, computers, or what do most students know about their calculators? And if one day it stops connecting you to your friend in another city, stops bringing you your favorite show, stops getting you to your online game, or spitting out the answer to the test question, what do you do? Granted most of today's devices cannot truly be repaired from home, this attitude denies one of even the slightest chance of being able to something for oneself.

Everyone- I suppose this is one reason why I like scientific programmable or even graphing calculators; they are small and light enough to hold in my hand, bring anywhere, and programming them reduces some of that impenetrable black box quality I might have attributed to them. I'm not really any kind of true programmer, but maybe this is why I like programming (I hate debugging, but that's another matter).

Pay no attention to that man behind the curtain.

Re: Feeling older

*Message #31 Posted by **Palmer O. Hanson, Jr.** on 10 Feb 2010, 4:44 p.m.,*
in response to message #13 by Chuck

> Quote:
>
> Years ago in primary school kids learned basic math: add, subtract, multiply, divide, etc. and computers were learned and used by the college kids at the universities. Now it's reversed: they learn to use computers in primary school, and we have to teach basic math to our college kids. Sad.

I don't believe that it was so good years ago. At the University of Minnesota in 1949 I was asked to help tutor a student in physics. I agreed only to find out that she was enrolled in "Physics without Mathematics". How does one study physics without mathematics? One teaches at the elementary general science level; i.e., hot air rises, water runs down hill, etc.

When I was in Navy OCS in 1953 I was asked to help a college graduate with celestial navigation. We weren't studying the basics but rather were learning to make the appropriate measurements with a sextant and obtain the solution using tables and working our way through a printed form. I managed to get the student to solve some of the early textbook problems. Then we had a problem in which interpolation between the entries in the tables was required and the student exclaimed "I've never been able to do fractions."

I believe that too many students continue to be moved through the education system without learning to master even basic arithmetic and the presence of calculators in the elementary and high school classrooms doesn't materially affect that situation one way or another. It may serve to help them balance their checkbooks. I also believe that the presence of calculators is appropriate and helpful in the advanced classes taken by students planning to study engineering and the sciences in college, just as it was useful and appropriate for them to use slide rules in earlier days.

Re: Feeling older

*Message #32 Posted by **Ed Look** on 10 Feb 2010, 9:00 p.m.,*
in response to message #31 by Palmer O. Hanson, Jr.

Palmer, given the year you cited, I find the story about the college grad and his issues with fractions not so easy to believe!

Not so easy to believe

*Message #33 Posted by **Palmer O. Hanson, Jr.** on 11 Feb 2010, 9:47 p.m.,*
in response to message #32 by Ed Look

> Quote:
>
> Palmer, given the year you cited, I find the story about the college grad and his issues with fractions not so easy to believe!

I suspect that I should have continued the story to explain that I found that the individual could do the simple fractions associated with interpolation but struggled with more complicated fractional expressions; for example something such as 4/15 - 1/7 . But even though he could do the simple

fractions he still struggled with the very concept of interpolation.

At the time I didn't find the situation "not so easy to believe" because of an earlier incident as a teaching assistant at the University of Minnesota in 1951. I found that a trigonometry student (actually two of them from the same high school) seemed to understand trigonometric concepts but couldn't get the correct answers to the problems which involved using the log and log-trig tables. His problem was that he couldn't do the addition and subtraction with any consistency.

There is a a lot of material in this forum which I find "not so easy to believe". Examples: inability to agree on the value of -3^2; inability to cope with parentheses; inability to cope with an ENTER key of a different shape or in a different position; and on and on.

A different example is the story of the Spitfires which didn't reach Malta which appeared in the earlier thread on Metric versus U.S. I had been a bit of a buff about WW II aircraft and something about the story made me uneasy. Some research showed me that the aircraft involved were probably Hawker Hurricanes rather than Supermarine Spitfires.

Re: Not so easy to believe

*Message #34 Posted by **bill platt** on 11 Feb 2010, 10:39 p.m.,*
in response to message #33 by Palmer O. Hanson, Jr.

> Quote:
>
> There is a a lot of material in this forum which I find "not so easy to believe". Examples: inability to agree on the value of -3^2; inability to cope with parentheses; inability to cope with an ENTER key of a different shape or in a different position; and on and on.

These are great!

Oh, that damned unary minus thing. I have a teacher in my child's school who insists that subtraction is not the same as a negative number and insists on writing them differently. Ugh! (That is what I have always detested about the 32sii and its progeny the 33s & 35s. There is nothing useful or even consistent about the "high" minus sign and the "subtraction"--or whatever they call them--in these machines. We can't always worship every HP product or every part of one...)

Edited: 11 Feb 2010, 10:42 p.m.

Re: Not so easy to believe

*Message #35 Posted by **Ed Look** on 12 Feb 2010, 12:11 a.m.,*
in response to message #34 by bill platt

I know an intelligent little girl, who is now a college student, who years back in junior high/high school argued with her mother over a math problem. Her mother, graduated with a degree in mathematical physics major at a very distinguished university, happened to notice an incorrect approach to a problem. She tried to explain the correct method to her daughter, who essentially just folded her arms and declared that this was what the teacher showed her and that the teacher must be right and knows more than her mother.

Believe it or not, the mother lost the "argument".

Easy to believe

*Message #36 Posted by **Palmer O. Hanson, Jr.** on 12 Feb 2010, 3:46 a.m.,*
in response to message #35 by Ed Look

> Quote:
>
> I know an intelligent little girl, who is now a college student, who years back in junior high/high school argued with her mother over a math problem. Her mother, graduated with a degree in mathematical physics major at a very distinguished university, happened to notice an incorrect approach to a problem. She tried to explain the correct method to her daughter, who essentially just folded her arms and declared that this was what the teacher showed her and that the teacher must be right and knows more than her mother.
>
> Believe it or not, the mother lost the "argument".

Now that's a story that is really easy to believe, and from two points of view.

First, "a graduate with a degree in mathematical physics major at a very distinguished university" is likely to be a pedant, particularly when dealing with individuals that she perceives as being her inferiors, and she is also highly likely to even understand that she is a pedant. See the Big Bang show on Monday nights on CBS.

Second, the daughter was hardly the first child in all of history to challenge parental authority.

Re: Easy to believe

*Message #37 Posted by **Bart (UK)** on 12 Feb 2010, 5:02 a.m.,*
in response to message #36 by Palmer O. Hanson, Jr.

> Quote:
>
> Second, the daughter was hardly the first child in all of history to challenge parental authority.

That's for sure! That story is so familiar. I showed it to my wife as we're forever in such arguments with our 9 year old daughter.

Edited: 12 Feb 2010, 5:03 a.m.

Re: Not so easy to believe

*Message #38 Posted by **Dimitri Simitas** on 12 Feb 2010, 9:04 p.m.,*
in response to message #35 by Ed Look

> Quote:
>
> She tried to explain the correct method to her daughter, who essentially just folded her arms and declared that this was what the teacher showed her and that the teacher must be right and knows more than her mother.

Well not surprising kids believing the teacher. I always questioned my teachers. I hope to raise my kids the same way.

"Question everything, assume nothing, and by God learn something for yourself"

Dimitri

Re: Not so easy to believe

*Message #39 Posted by **Katie Wasserman** on 12 Feb 2010, 1:09 a.m.,*
in response to message #34 by bill platt

> Quote:
>
> That is what I have always detested about the 32sii and its progeny the 33s & 35s. There is nothing useful or even consistent about the "high" minus sign and the "subtraction"--or whatever they call them--in these machines

I don't have a 33s or 35s handy at the moment, but on the 32sii I only see the difference in the exponent and in program mode when you enter a negative number. I like the high "-" sign in the exponent I think that's easier to read. In program mode, it's extremely rare to need a negative number and small integers are much more memory efficient if entered as [##] [+/-].

-Katie

Re: Not so easy to believe

*Message #40 Posted by **bill platt** on 12 Feb 2010, 11:12 a.m.,*
in response to message #39 by Katie Wasserman

Hi Katie:

The dumb part appears in the equation editor. In fact, the 32sii formally invokes a "unary minus" which takes precedence over exponentiation. However there is a bug with it and it doesn't work correctly when the unary minus is the leading digit (or something like that--I think Craig Finseth has it well-described).

see http://h10032.www1.hp.com/ctg/Manual/bpia5305.pdf page 104

compare to http://h10032.www1.hp.com/ctg/Manual/c00059731.pdf page 106--one good thing about the 33s is that they got rid of the unary minus precedence. But they kept the confusing idea of minus sign being different from subtraction.

In one or both of these models, hitting +/- is supposed to invoke the "high minus" but it isn't consistent--and the LCD is partially to blame: the initial position doesn't have the same pixels as the rest of the screen.

Edited: 12 Feb 2010, 11:13 a.m.

Re: Not so easy to believe

*Message #41 Posted by **Katie Wasserman** on 12 Feb 2010, 12:09 p.m.,*
in response to message #40 by bill platt

Ah yes, the very funky equation editor. I never really liked the idea of having an algebraic equation solver on an RPN calculator anyway. The 42s implemented the solver the "right" way.

-Katie

Re: Not so easy to believe

*Message #42 Posted by **bill platt** on 12 Feb 2010, 12:24 p.m.,*
in response to message #41 by Katie Wasserman

...and the 27s implemented the solver the right "other" way.

27s sign handling is simple and effective. So is 48 series, though slightly different (the parsing from command line is slightly different):

```
48G:  type: '48---6' and <ENTER>
parsed to line 1: '48-6'
27s command line: type: 48---  and when you type the third minus,
it
 reverts to a single minus (it toggles)
27s solver: type: A=48---6xL
it stays that way--the signs negate out and solve correctly.


48G:  type '48-6 and then use +/- to toggle the sign of |6|
27s command line: type: 48-6 and use +/- to toggle a single or
double
 minus ahead of |6|
27s solver: +/- key is invalid. {as it should be!}
```

Best regards, Bill

Edited: 12 Feb 2010, 12:28 p.m.

Re: Not so easy to believe

*Message #43 Posted by **Thomas Okken** on 15 Feb 2010, 10:38 p.m.,*
in response to message #34 by bill platt

> Quote:
>
> Oh, that damned unary minus thing.

Unfortunately, I can't provide any references, but I seem to remember that every single book on programming and compiler design I read when I was a kid unanimously stated that unary minus had higher precedence than everything else, and even as a 14-year old I couldn't help noticing that *mathematics* textbooks did not follow that convention, e.g.

$$\ln(1+x) = \sum_{n=1}^{\infty} (-1)^{n+1} \frac{x^n}{n} \text{ for } -1 < x \leq 1$$

I've never seen a math textbook that omitted the parentheses around the -1 in formulae like that. I suspect some compiler pioneer once created a parser that had the bogus unary minus implementation, probably based on the idea that the minus is part of the number, and hordes of parser and textbook writers since then simply copied that mistake.

Re: Not so easy to believe

*Message #44 Posted by **bill platt** on 16 Feb 2010, 10:57 a.m.,*
in response to message #43 by Thomas Okken

Hi Thomas,

That's it! It makes sense!

I've wondered this forever--how on earth did the calculator design get all flubbed up with unary minus? It looks like you've found the One Little "Bug" that refuses to die.

Maybe that first compiler writer hated parenthesis. Uh-oh I better not go there...;-)

It's funny you should mention the maths textbook thing, because the last time this unary minus ended up being discussed here in a very long thread (with some defending the unary minus and others opposing) I went and pulled all my maths books down, all the way back to the algebra books and found just what you did: to a man, all the mathematicians put a parenthesis if they want that sign to have precedence. In fact it wasn't even discussed as such. Why should it be: of course powers have precedence over subtraction: powers are repetitive multiplication as in a^3 = a*a*a and so -a^3 is -(a*a*a)because of that fundamental law of algebra etc...

Edited: 16 Feb 2010, 11:03 a.m.

Re: Feeling older

*Message #45 Posted by **bill platt** on 11 Feb 2010, 10:36 p.m.,*
in response to message #32 by Ed Look

Mathophobes weren't invented yesterday. Art History has always been a popular course of study for the numerically challenged trust-funder.

Re: Feeling older

*Message #46 Posted by **Ed Look** on 12 Feb 2010, 12:13 a.m.,*
in response to message #45 by bill platt

Yeah, but what business do mathophobes have working with celestial navigation??

Re: Feeling even older

*Message #47 Posted by **Palmer O. Hanson, Jr.** on 12 Feb 2010, 3:55 a.m.,*
in response to message #46 by Ed Look

> Quote:
>
> Yeah, but what business do mathophobes have working with celestial navigation??

The incident that I described happened during the Korean War. That was the last war in which nearly everyone participated. In the next war in Viet Nam Lyndon Johnson chose the "guns and butter" approach". How did that turn out?

(deleted post)

*Message #48 Posted by **deleted** on 12 Feb 2010, 10:14 a.m.,*
in response to message #47 by Palmer O. Hanson, Jr.

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: Feeling even older

*Message #49 Posted by **Palmer O. Hanson, Jr.** on 12 Feb 2010, 11:37 a.m.,*
in response to message #48 by deleted

> Quote:
>
> Well, we might have never had to have fought in Viet Nam if we'd stayed in Korea and finished the job. ..."

Sounds a lot like "Dugout Doug" talking!

(deleted post)

*Message #50 Posted by **deleted** on 12 Feb 2010, 12:11 p.m.,*
in response to message #49 by Palmer O. Hanson, Jr.

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: Feeling even older

*Message #51 Posted by **Palmer O. Hanson, Jr.** on 13 Feb 2010, 3:15 a.m.,*
in response to message #50 by deleted

> Quote:
>
> Actually it was a French war correspondent, Bernard Fall, who pointed out the facts to me in his book, "hell in a very small place"

Is a French war correspondent a good source for "facts" about the effects of what happened at Dien Bien Phu? At the time the Chinese Communists had been fought to a standstill in Korea and the British were winning the battle in Malaysia. The fall of Dien Bien Phu was considered to be the result of a poor choice of a battleground based on a bad estimate of the enemy's capabilities. Some analysts consider the loss at Dien Bien Phu to signal the end of French influence as an effective fighting force. Encyclopedia Britannica offers the following

> Quote:
>
> ... In the spirit of the Truman Doctrine the United States had been pouring in aid for the anti-Communist cause, and in the end was largely financing the war while French, colonial. and French-led Indochinese troops did the fighting. There were many

> promises by the French commanders that the war could be won; but the situation became progressively more hopeless until, with the fall of the fortress at Dien Bien Phu in May 1954, it was irretrievable.
>
> ---
>
> where I admit that the phrase "many promises by the French commanders that the war could be won" sounds a lot like what happened to us later.

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32s won't power on

*Message #1 Posted by **Dave Britten** on 6 Feb 2010, 6:05 p.m.*

I've just acquired a 32s that looks to be in great condition, with the small problem that it won't turn on. The keyboard seems to be in good shape, and I tried the standard first approach of pressing on the bezel beneath the screen. I opened it up to check the circuit board, and there aren't any cracks, which isn't surprising, given the unit doesn't bear any nasty dents or other signs of abuse.

The strange thing is when I put in the batteries, the LCD appears to receive power continuously, as there's the faint "glow" of the pixels which can be seen in an LCD that is powered, but blank.

Are these symptoms indicative of any common ailments in a Pioneer?

Re: 32s won't power on

*Message #2 Posted by **Allen** on 6 Feb 2010, 7:25 p.m.,*
in response to message #1 by Dave Britten

I had a 17bii with the same problem. The best I could determine was the CPU was not seeing the XTAL clock, and was not properly executing the boot-loader.

I've also seen the contrast set all the way down so the screen only appeared to be broken. For the pioneers with a BEEP function, you can test this by resetting and pressing [0] [/] to see if the screen is broken but not the CPU. For the others, it requires measuring the current.

I do hope you get it working.

Re: 32s won't power on

*Message #3 Posted by **Dave Britten** on 6 Feb 2010, 8:45 p.m.,*
in response to message #2 by Allen

Hmm, I don't see anything resembling a crystal on this 32s board. Odd. The only component besides the CPU is a fairly substantial beige item marked "226 10K". A resistor of some sort? It measures a lot higher than 10K Ohms - more like 16 Mega Ohms. Though if I reverse the polarity on the meter, it reads about 30 Mega Ohms.

Maybe I'll try to dig up a small magnifying lens and examine the wiring to the CPU.

Re: 32s won't power on

*Message #4 Posted by **Norman Dziedzic** on 6 Feb 2010, 7:26 p.m.,*
in response to message #1 by Dave Britten

You might try this: http://www.fixthatcalc.com/try.php

Or, perhaps, the contrast is set so low that you cannot see it? To adjust that, hold on key and press + or - to try

to adjust the contrast.

Re: 32s won't power on

*Message #5 Posted by **Ingo Paschke** on 8 Feb 2010, 5:28 a.m.,*
in response to message #1 by Dave Britten

I have a 17 BII I bought on eBay as working that showed the same symptoms. I also disassembled it and nearly gave up on it. It turned out that a stuck key was the cause. I smacked it against my flat palm, and it's been flawless ever since.

Re: 32s won't power on

*Message #6 Posted by **Dave Britten** on 8 Feb 2010, 12:12 p.m.,*
in response to message #5 by Ingo Paschke

You know what, the 1 key DOES feel like it has no spring to it, and may be stuck... Hmm... I'll give this a try later when I'm home from work.

Re: 32s won't power on

*Message #7 Posted by **Dave Britten** on 8 Feb 2010, 5:37 p.m.,*
in response to message #5 by Ingo Paschke

Yup! It's definitely a stuck key problem! I undid the three metal twist connectors that hold the board against the keyboard ribbon cable as a quick way to disconnect all the keys with a little prying force, and I saw a bunch of 1s on the screen (along with a lot of weird flickering, since I was also loosening the lower zebra stripes on the LCD).

Now, the followup question: how to unstick a key on a Pioneer? I'll try the palm slap a few times, but assuming that doesn't work, should I attempt to drill the metal backing with a very thin bit and push the key outward with a toothpick? I don't fancy taking my chances with the 50 or so heat stakes that hold the keyboard in place.

Re: 32s won't power on

*Message #8 Posted by **Dave Britten** on 9 Feb 2010, 11:23 a.m.,*
in response to message #5 by Ingo Paschke

Well, good news, it's working beautifully now. I used up all the least invasive options for popping the stuck key, so I had to suck it up and pop the heat stakes. Fortunately the design of the Pioneers is such that the heat stakes aren't responsible for the pressure fit against the keyboard ribbon cable and LCD connectors (unlike the 28S, which is practically ruined as soon as you open it).

Somehow, the plastic dome under the 1 key was staying down when pressed, and not springing back up, though it could be pushed back up manually. I was about five minutes away from transplanting the keyboard mechanism from a 10B, when I figured I'd try experimenting a bit. I took my pocket knife, and made a tiny vertical incision radially at the lower edge of the plastic dome. It was just enough to reduce the tension holding the dome in its depressed state, and now it pops back up on its own like it should! The 1 key is a bit softer than the rest of the keyboard now, and makes a faint popping sound when pressed, but it actuates perfectly, with no bounce, and no hesitation. And best of all, no sticking.

To put the whole mess back together, since the heat stakes weren't available to provide rigidity to the keyboard anymore, I packed the case with a few rows of weather stripping to hold the keyboard plate against the front of the case. It's doing an admirable job of holding the keyboard in place, though I don't

doubt there's a better way to do it.

So there you have it, another 32S rescued. And I almost found a use for my 10B, too. ;)

Re: 32s won't power on

*Message #9 Posted by **Ingo Paschke** on 9 Feb 2010, 3:10 p.m.,*
in response to message #8 by Dave Britten

Congratulations! And thanks for the interesting description of your repair.

I'm glad I could solve my keyboard-problem without taking the keyboard apart. For me, it was hard enough to open the case without causing too much damage :-).

Re: 32s won't power on

*Message #10 Posted by **Dave Britten** on 9 Feb 2010, 4:32 p.m.,*
in response to message #9 by Ingo Paschke

Yeah, the case was rather tough to open, but not nearly as difficult as a 48, and certainly not as destructive as a 28. The keyboard plate wasn't very hard to remove either, just time consuming, what with all the heat stakes.

Maybe if I can score another similarly damaged unit, I'll attempt some photos of the repair process. Might be a nice way to get a super cheap 42S...

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HP29C strange behavior

*Message #1 Posted by **Alberto Fenini** on 5 Feb 2010, 6:31 p.m.*

Hi everybody
I have just received two HP29C, and one seems to have some life in it
I'm powering the unit with an external battery pack
as the unit is switched on, the **Error**message appears

it blinks once, and then ANY key pressed produces the following output

Switching to program mode is working

but then again, pressing any key (in prgm mode) will produce the following output

Further pressing will increase the program line counter, but the rest of the display shows what you see in the picture
Has ever happend to someone else ?
Thanks in advance for help, and have everyone a nice weekend, Alberto

Re: HP29C strange behavior

*Message #2 Posted by **Joel Setton (France)** on 6 Feb 2010, 8:49 a.m.,*
in response to message #1 by Alberto Fenini

Hi Alberto,

The cause could be one shorted key in the keyboard. Did you try swapping the keyboard between your two units? Or with another Woodstock?

IHTH!

Joel Setton

Re: HP29C strange behavior

*Message #3 Posted by **Alberto Fenini** on 9 Feb 2010, 3:51 p.m.,*
in response to message #2 by Joel Setton (France)

Thank you very much for your suggestion, actually I had already tried, and with the other keyboard the unit doesn't even power on. I may have a HP25 spare keyboard, but I believe pinout is different, I'll keep you posted, take care Alberto

Re: HP29C strange behavior

*Message #4 Posted by **Randy** on 9 Feb 2010, 5:41 p.m.,*
in response to message #3 by Alberto Fenini

The cause is most likely a bad ACT or ROM. The only way to troubleshoot is to replace all the chips one at a time with known good parts, starting with the ACT.

FWIW, all Woodstock keyboards are the same pinout. The only difference is the 27 which lacks the second toggle switch. So, putting a 27 keyboard on a 29C logic board would work but it would be stuck in prgm mode.

Re: HP29C strange behavior

*Message #5 Posted by **Eric Smith** on 11 Feb 2010, 4:13 p.m.,*
in response to message #4 by Randy

Oddly enough, the HP-21 wires the keyboard columns differently than the other Woodstock models, but this is done on the logic board, and the keyboard is, as you say, identical.

This was a bit of a surprise when I first was trying to get the HP-21 working in Nonpareil.

Re: HP29C strange behavior

*Message #6 Posted by **Eric Smith** on 11 Feb 2010, 4:24 p.m.,*
in response to message #1 by Alberto Fenini

The code you are seeing in program mode is an illegal program step with the hex code FF. This suggests to me that probably one of the RAM chips has gone bad.

Chip failures in Woodstock series calculators are often the result of having the external power adapter plugged in with no battery pack installed, a bad battery pack, or the pack making poor/no electrical contact for mechanical reasons or due to contact corrosion.

Re: HP29C strange behavior

*Message #7 Posted by **Alberto Fenini** on 12 Feb 2010, 5:17 p.m.,*
in response to message #6 by Eric Smith

That's also my guess, since the previous owner has admitted that he has tested the unit powering it without the battery pack (that was dead anyway) installed. The second unit is behaving like this :

the models have close serial numbers, the interior if the model that has a fixed number on the display is :

while the interior of the unit with the "random zeroes" is like this :

really I wouldn't know what to take from one unit to transplant to the other ... thanks in advance for any suggestion ! take care and have a great weekend, Alberto

Re: HP29C strange behavior

*Message #8 Posted by **Eric Smith** on 13 Feb 2010, 4:21 a.m.,*
in response to message #7 by Alberto Fenini

The RAM chips are the 16-pin ceramic-packaged ICs. I'm not completely convinced that I would transplant anything, given the both units act like they have bad chips. :-(

Re: HP29C strange behavior - IT WORKS !

*Message #9 Posted by **Alberto Fenini** on 14 Feb 2010, 8:42 a.m.,*
in response to message #8 by Eric Smith

Thanks for the suggestion, I have cleaned both mother boards, and transplanted the "violet" chips onto the motherboard hosting the "withe chips". This unit is now fully working, and it retains data too ! The other seems dead ... I'll keep working on this in the next days. Take care and have a nice weekend Alberto

Re: HP29C strange behavior - IT WORKS !

*Message #10 Posted by **Michael Meyer** on 14 Feb 2010, 1:57 p.m.,*
in response to message #9 by Alberto Fenini

Great!!! Congratulations. At least for me, there's this sense I get when I hold and use and display a newly restored and functioning HP that a little piece of the universe is better again. Good job adding to that piece a litle bit more.

Re: HP29C strange behavior - IT WORKS !

*Message #11 Posted by **Eric Smith** on 14 Feb 2010, 6:49 p.m.,*
in response to message #9 by Alberto Fenini

Good work!

Re: HP29C strange behavior - IT WORKS !

*Message #12 Posted by **Alberto Fenini** on 15 Feb 2010, 8:02 a.m.,*
in response to message #11 by Eric Smith

Thank you guys, that now brings me back to the other one. I'll load some pics later today. The unit now working is the one that originally had the "white" chips. When turned on, showed always the some number. Since this is the older, I started reworking on the other one, the one that showed some highlighted zeroes on the display. Took away all the chips, the powersupply board, cleaned throughly in and out and polished to get the board to shine conditions. (well, you'll see the pics). To my surprise, when I have resoldered all the components, except the ram chips which I have installed on the other unit, this was not even turning on anymore. My guess is that the powerunit, has some bad contacts. Differently fomr the other, which has the power-involved-components directly mounted on the board, this has the components soldered on a mini board which is then connected to the mainboard. Since the machine was showing something before, I'd like to bring it back at least to that condition and then start some investigation. Does anyone has ever tried to feed power to the machine bypassing those components ? Take care Alberto

Re: HP29C strange behavior - IT WORKS !

*Message #13 Posted by **Eric Smith** on 15 Feb 2010, 8:16 p.m.,*
in response to message #12 by Alberto Fenini

What part number do your calculators have for the ROM/anode driver? That's the 18-pin chip under the display. I expect they would be 1818-0378 or 1818-0431. I've been trying to get a 1818-0378 (or any other than the 1818-0431) to dump the ROM.

Re: HP29C strange behavior - IT WORKS !

*Message #14 Posted by **Michael Meyer** on 15 Feb 2010, 10:23 p.m.,*

in response to message #13 by Eric Smith

Eric-- I have one with an 0432, but it's clearly a replacement on a dead board. Does that even make sense? Do you want it?

Re: HP29C strange behavior - IT WORKS !

*Message #15 Posted by **Eric Smith** on 16 Feb 2010, 12:30 a.m.,*
in response to message #14 by Michael Meyer

Unless I've gotten my part numbers confused, the 1818-0432 is the ROM/anode driver for a 19C, and if one was installed by mistake in a 29C, that would certainly keep the 29C from working.

I don't specifically need a broken 29C, but in general I am interested in getting broken units of any pre-Saturn models to have extra parts for reverse-engineering purposes.

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Mysterious HP-19C power-on behavior-- solved with interesting cause.

*Message #1 Posted by **Michael Meyer** on 5 Feb 2010, 10:47 a.m.*

Well, I got back to my two 19C's with problems powering on after sitting for a few days. They would both power on with a regulated supply, but not with battery packs. I soldered a "c" shaped wire over the battery contacts with no luck. Couldn't figure it out-- very frustrating.

Both battery packs-- rebuilt with brand new Energizer Ultimate Lithium batteries... show full voltage.

When I switched to NiMH batteries, both calculators work fine. I haven't had time to investigate further, but I'm guessing that they may have changed the formulation of the batteries or that I got a bad batch... they seemed to work fine in all of my other calculators and have historically had enough amperage!!

Any thoughts? When Energizer came out with "Advanced Lithium" (Cheaper), did they change the "Ultimate Lithium" formulation?

Re: Mysterious HP-19C power-on behavior-- solved with interesting cause.

*Message #2 Posted by **Michael de Estrada** on 5 Feb 2010, 11:05 a.m.,*
in response to message #1 by Michael Meyer

Yes, cheap batteries can be a problem. Not just lithium, but also NiCad and even alkaline. Case in point, I have a digital camera that works off both rechargeable or disposable AA batteries. I have been using name brand alkaline AA's, but replaced them with some cheap store brand batteries that would not work at all, even though they all checked out fine with a voltmeter. I tested different cells from the lot, but none of them would work. As soon as I returned to some name brand cells, the camera worked fine. Not being any sort of battery expert, I'm not sure what the problem was, but in any case your situation is very credible.

Re: Mysterious HP-19C power-on behavior-- solved with interesting cause.

*Message #3 Posted by **Katie Wasserman** on 5 Feb 2010, 11:15 a.m.,*
in response to message #1 by Michael Meyer

I run one of my 19C calculators on Energizer lithium cells too with no problems. However I have seen problems with the cells themselves at times. The "button" on the end of the cell is often a bit shorter than the ones on alkaline cells and sometimes the rim of the cell makes contact with the spring (or whatever) in the battery case instead of the button. The effect of this is to have an open in the batter pack, a bypassed cell or, worst case, a shorted cell that can get dangerously hot.

-Katie

Re: Mysterious HP-19C power-on behavior-- solved with interesting cause.

*Message #4 Posted by **Michael de Estrada** on 5 Feb 2010, 12:41 p.m.,*
in response to message #3 by Katie Wasserman

You bring up another very good point in that the choice of battery form can also contribute to this problem.

I was having mysterious intermittent contact problems with some of my Woodstocks when using high top (button) AA cells, and the problem was completely solved by replacing them with flat top AAs. Also, the damage to the battery contacts in Spices is IMO often due to the use of regular high top AAs.

Re: Mysterious HP-19C power-on behavior-- solved with interesting cause.

*Message #5 Posted by **juandemin** on 7 Feb 2010, 11:54 p.m.,*
in response to message #4 by Michael de Estrada

.

Re: Mysterious HP-19C power-on behavior-- solved with interesting cause.

*Message #6 Posted by **Michael Meyer** on 5 Feb 2010, 1:09 p.m.,*
in response to message #3 by Katie Wasserman

Lithium batteries aren't supposed to be "cheap"... they're the most expensive and I buy them because, so far, there have been no reports here of them ever leaking. Alas, companies always seem to find a way to make things cheaper.....

Katie-- one pack was altered with extra springs so that all four batteries can be inserted as bare cells and "float" between springs. The other pack was soldered together and only had two springs to push the end cells against the calculator contacts. THAT'S what was so baffling. I "knew" that the batteries were making contact, and I'd switch the packs around, and eventually BOTH of the calculators would turn on and work fine, only to fail to turn on and to act squirrely a few days later!

I never suspected the cells themselves due to my long history of success with them....

Re: Mysterious HP-19C power-on behavior-- solved with interesting cause.

*Message #7 Posted by **BobVA** on 5 Feb 2010, 1:58 p.m.,*
in response to message #1 by Michael Meyer

I'd guess it's either a contact problem, or high resistance in the cells. NiCd and NiMh cells have very low internal resistance and consequently can deliver high surge currents (like when a motor starts or a circuit powers up) without a voltage sag. In cells with greater internal resistance, a large current demand may cause a brief voltage sag and subsequent malfunction of digital electronics.

I took a quick look at the data sheets for Energizer lithium and compared it to the data for their NiMh AA batteries. I noticed that the internal resistance of the lithium batteries is about 3 - 5 times higher than that of the NiMh.

Without some detailed measurements it's tough to say that's the cause, though. Another possibility would be one out-of-spec cell (low power, high IR, etc) that's causing the problem.

Interesting that it's an 19C being fussy. I wonder if there's something that draws a lot of current on power-up (like some big capacitors in the power supply or motor drive circuitry)?

Cheers, Bob

Re: Mysterious HP-19C power-on behavior-- solved with interesting cause.

*Message #8 Posted by **Michael Meyer** on 5 Feb 2010, 2:32 p.m.,*
in response to message #7 by BobVA

Thanks, Bob.

Again, strangely, once the calculators would power on corrrectly, they'd work fine, including the printers. And they'd work just fine and turn on and off until put away for a few days. Then, it would take a long time and lots of strange behaviors before they'd power up again! It was really baffling me!

Edited: 5 Feb 2010, 3:32 p.m.

Re: Mysterious HP-19C power-on behavior-- solved with interesting cause.

*Message #9 Posted by **Marcus von Cube, Germany** on 5 Feb 2010, 4:02 p.m.,*
in response to message #8 by Michael Meyer

Probably a capacitor to recharge and causing a voltage drop in the batteries?

Re: Mysterious HP-19C power-on behavior-- solved with interesting cause.

*Message #10 Posted by **Michael Meyer** on 5 Feb 2010, 5:33 p.m.,*
in response to message #9 by Marcus von Cube, Germany

Marcus-- that was my very first thought when I posted this puzzle last month. It makes sense that the batteries ALMOST provide enough power and the calculators eventually power up and "stay up". I'll test the batteries for their shorted current capacity against some older lithium cells also. I'm still a bit baffled. They could power the LED's and printer just fine once the calculator(s) would "start"... you'd think they'd turn them on o.k.!

Re: Mysterious HP-19C power-on behavior-- solved with interesting cause.

*Message #11 Posted by **Katie Wasserman** on 5 Feb 2010, 6:34 p.m.,*
in response to message #10 by Michael Meyer

The other possibility is that the voltage is too high. Lithium cells with no load are 1.7V so the calculator when shut off -- but the 19C is never really "off" -- sees 6.8 volts. This might be causing the CMOS to "latch up" preventing the calculator from turning on.

Here's an easy test for that...

Remove one of the cells from the pack and replace it with a metal screw or something that's just the right size. The calculator will see a more reasonable 5.1 volts with no load and probably around 4.8 volts when it's running.

-Katie

Still a mystery to me!

*Message #12 Posted by **Michael Meyer** on 6 Feb 2010, 3:43 p.m.,*
in response to message #11 by Katie Wasserman

Katie... you could be right, and I had thought about that. But I'm afraid it might take some more time to solve this puzzle because they are both starting up easily while I try to figure this out.

I tested each of the lithium cells... they put out between 6 and 7 amps each, and over two amps in the packs. So, providing enough power wouldn't seem to be the problem. And, of course, both calculators ran perfectly last night. I ran them both for quite a while, printing listings, etc.

This morning, one would not turn on. When I hooked up the pack externally with leads, the calculator turned on. Some kind of stubborn contact problem? Or no over-voltage problem because they haven't sat long enough.

I'll have to wait a few days and then see if they'll start if hooked up externally and if not, if they'll start with 3 cells fed in instead of 4.

If it's still a problem with the battery contacts, why would they work so reliably once turned on, only to quit and be so stubborn after a few days? And why would NiMH cells work when the lithium cells are causing problems? Your answer could be correct. I'll give your over-voltage theory a try when they stop working again....

Such a strange, annoying, and stubborn mystery that I should be smart enough to figure out!

Re: Mysterious HP-19C power-on behavior-- solved with interesting cause.

*Message #13 Posted by **BobVA** on 6 Feb 2010, 5:13 p.m.,*
in response to message #11 by Katie Wasserman

Too high a voltage is an interesting hypothesis. It would be certainly be worse with a four cell pack (I've had no problems using Li primaries in Woodstock 2 cell packs).

Let us know what you find out!

Cheers, Bob

Katie is probably right.

*Message #14 Posted by **Michael Meyer** on 7 Feb 2010, 5:13 p.m.,*
in response to message #11 by Katie Wasserman

Well, it's Sunday. I completely rebuilt one 19C battery pack; cutting away the inside front frame (as I've done with the other to allow standard cells to be removed and inserted), installing new springs and even a curved m-shaped gold-plated contact which connects the middle two cells but doesn't block the stock circuit board "prongs" in the 19C.

Results: The calculator turns on with NiMH cells, but not Lithium cells.

Complete disclosure: One of the two calculators seems to be fine, now, with lithium cells. I'll let it sit a month or so and re-check it. Also, this stubborn calculator would turn on with lithium cells when connected externally. Still, I can't believe poor contact alone would explain this phenomenon, especially with a completely rebuilt pack.

Well, all of this is interesting.... but most important... I have red LLLEEEDDD's. I think I'll just have to use this one to do my taxes instead of the 97.....

Re: Katie is probably right.

*Message #15 Posted by **Michael Meyer** on 22 Feb 2010, 8:37 p.m.,*
in response to message #14 by Michael Meyer

Quick follow-up: Both of my 19C's turn on perfectly, even after a week of sitting idle, with NiMH cells rather than lithium cells. Thanks for all the input, and I'd love to hear if

anyone else has trouble with this model using the lithium batteries.

Re: Katie is probably right.

*Message #16 Posted by **Katie Wasserman** on 22 Feb 2010, 9:16 p.m.,*
in response to message #15 by Michael Meyer

Thanks for the followup! I'm always concerned about over voltage issues with several lithium cells in series, that extra 0.2 volts can add up fast.

-Katie

Re: Katie is probably right.

*Message #17 Posted by **BobVA** on 24 Feb 2010, 2:00 p.m.,*
in response to message #16 by Katie Wasserman

Indeed - great remote diagnosis! Thanks for the follow-up.

I use my 19C a lot so I'm using NiMH in it now. If I ever change it to a shelf queen, I'll be certain to take Katie's caution into account.

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HP-15C Enter Key Behaviour

*Message #1 Posted by **Timo** on 5 Feb 2010, 4:10 a.m.*

Hello everyone,

after only reading the helpful forum topics for a while I'm now in need of a littel help as well.

I recently bought a HP-15C. It is in absolutely fantastic condition, near mint. Not a scratch on the whole calculator. The keys have no backlash, i.e. they do not rattle when you shake the calc, and all the markings are perfectly intact. They all have the typical klick and feel - except the enter key. When I pressed the enter key I noticed that the displacement between the fully released and fully depressed position is only about 1/3 to 1/2 of that of all the other keys. It also does not have the same destinct keybreak the other keys have.

I've read a similar description in another post here in the form, (See here) relating the enter key behaviour to the fact that it is hinged at the bottom and presses on two separate metal discs. However, the topic did not completely answer my one and only question: Is this a normal behaviour for a HP-15C enter key and if not, can this easily be fixed in any way?

I'm looking forward to you replies, thanks in advance! Timo

Re: HP-15C Enter Key Behaviour

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 5 Feb 2010, 6:33 a.m.,*
in response to message #1 by Timo

Hi, Timo;

I have disassembled some Voyagers and I actually pressed the lower metal disk under the ENTER key while the calculator was turned ON, both in normal (RUN) and program mode. I do not remember observing any reaction at all, and pressing only the upper disk, the one that is actually pressed when the ENTER key acts, provides necessary action. You can see in the picture how I managed to make them work outside the case...

Click to enlarge

Taken from Randy´s post (link you shared):

> Quote:
>
> The rubber sheet between the snap discs and the keys gets holes worn through the rubber from the key pin that pushes on the snap disk. This results in keys that are lower than surrounding key. They otherwise work okay, they just don't have the correct or same physical travel as the others. This is most common on the right hand side of the keyboard, i.e. the heaviest use keys (0 and . seem to go first).

I have an HP15C, bought new in the 80´s, and both [g] and [STO] keys have this problem: no keybreak (and no 'snap' feeling) the other keys have. But they work pretty fine once you press them the same way as the other

keys.

I sincerely would not care much about it, but this is only the way IO see it.

Cheers.

Luiz (Brazil)

Edited: 5 Feb 2010, 6:34 a.m.

Re: HP-15C Enter Key Behaviour

*Message #3 Posted by **Timo** on 5 Feb 2010, 7:49 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Thanks for the feedback Luiz,

I wasn't actually worried. As far as I can tell, the enter key is not lower than the others. And it does produce a notceable "klick" but not as destinct as the other keys. It's simply not that crisp regarding its behaviour, generally spoken.

I was just wondering wether this is a general spciality of the enter key alone on the 15C? After all, it's by far the largest key on the keyboard and the only one with a slightly weird feel to it. I think it would be quite odd if it was a sign of wear since the calculator is in such a fine condition...

Thanks once again and best regards!

Edited: 5 Feb 2010, 7:51 a.m.

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Interesting Pairing

*Message #1 Posted by **Norman Dziedzic** on 4 Feb 2010, 8:57 p.m.*

I have noticed the prices of the 35s Coming down and now one internet seller is throwing in a 10S with the 35s Newegg 35S/10S bundle

I wonder...moving dead inventory or wiping out the models? Curious...

Re: Interesting Pairing

*Message #2 Posted by **Katie Wasserman** on 4 Feb 2010, 11:07 p.m.,*
in response to message #1 by Norman Dziedzic

I've heard a rumor that the next "Shell Shocker" at Newegg will be a free HP-95C when you buy this QuickCalc 3-pack for only $279.99 :)

Edited: 4 Feb 2010, 11:08 p.m.

Re: Interesting Pairing

*Message #3 Posted by **Michael de Estrada** on 4 Feb 2010, 11:15 p.m.,*
in response to message #2 by Katie Wasserman

Now, that's funny!

I wonder

*Message #4 Posted by **Frank Boehm (Germany)** on 5 Feb 2010, 4:31 a.m.,*
in response to message #2 by Katie Wasserman

if they are really worth 120USD each. Maybe HP decided to use massive 24k gold keycaps (plastic coated)?

Re: Interesting Pairing

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 5 Feb 2010, 6:58 a.m.,*
in response to message #2 by Katie Wasserman

I have seen those calcs announced for sale a few weeks ago and wonder which company was producing them. Did not care for their looks, did notice the logo...

Luiz (Brazil)

Re: Interesting Pairing

*Message #6 Posted by **Martin Pinckney** on 5 Feb 2010, 10:43 a.m.,*
in response to message #2 by Katie Wasserman

Someone pointed out this offer months ago. Makes one wonder:

1. Is Newegg's website management so incompetent that after all this time, no one has noticed the error, or

2. Their sales department so incompetent that no one has noticed they received no sales of this item, or

3. They conceived this as a joke, or

4. They figured at the MSRP of $6 each they would only have to sell one 3-pack to some idiot to equal 300 at the regular price so why not give it a go?

Re: Interesting Pairing

*Message #7 Posted by **Michael Meyer** on 5 Feb 2010, 1:15 p.m.,*
in response to message #6 by Martin Pinckney

With all the cuts to my reimbursement due to insurance cut-backs and Medicare (30% cut this year!), etc., I've been joking that I should raise my rates to a million dollars an hour.

Then if could get only ONE patient to pay their bill.....

Re: Interesting Pairing

*Message #8 Posted by **DavidShenk** on 5 Feb 2010, 10:20 p.m.,*
in response to message #2 by Katie Wasserman

I love the one review:

Pros: If you've ever been jealous of the people who owned the first calculators in the 1970's, this is your chance to relive all the fun. These are basic 4-function calculators, and they cost $120 each! Now when one of your friends brags about having bought a calculator in the 1970's for a hundred bucks, you can respond that you paid $120 this MORNING!

Cons: These calculators redefine the low end of price vs. performance.

Redefine it, indeed!

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Hp 41C in excellent condition

*Message #1 Posted by **Nigel Bamber** on 3 Feb 2010, 5:17 p.m.*

I have just purchased this HP41c which was described in ' as new ' condition. It was rarely used and then stored in its box.

See what you think.

I hope that I have a bought a very good specimen.

Nigel

Re: Hp 41C in excellent condition

*Message #2 Posted by **Allen** on 3 Feb 2010, 6:12 p.m.,*
in response to message #1 by Nigel Bamber

Hard to say with only this perspective. I can only conclude that the faceplate is clean. The insides might be completely broken posts, or corroded from dormant batteries, or completely empty...

Re: Hp 41C in excellent condition

*Message #3 Posted by **Reth** on 4 Feb 2010, 1:07 a.m.,*
in response to message #1 by Nigel Bamber

BRILLIANT! I wish a could touch it!
Cheers

Re: Hp 41C in excellent condition

*Message #4 Posted by **Nigel Bamber** on 4 Feb 2010, 2:19 a.m.,*
in response to message #3 by Reth

> Quote:
>
> BRILLIANT! I wish a could touch it!
> Cheers

Thanks Reth. So do I as I haven't seen it in person yet!

I have seen pics of the battery contacts and there is no corrosion whatsover. I am buying it from the original owner who used it lightly , took great care over it when he bought it and then stored it in it's box thereafter. Also I am not buying it from one of those 'professional' sellers on eBay who mark up the price and make it look better than it is.

I had to laugh to myself recently when one was sold recently with this description " HP41cx Calculator AND (my emphasis) unopened mint condition accessories" . The calculator wasn't new but it looked OK and it sold for $580 !

I can't tell about any broken posts in my machine but all of display works so there is no reason to suspect that they are broken or cracked.

Not that I have ever seen a new HP 41 , but this one did seem to stll have a bright black look about it , not one whose colour has faded over time.

I did really want a HP41cx but in the end the apparent 'new' condition of this one won me over.

Nigel

Re: Hp 41C in excellent condition

*Message #5 Posted by **Maarten Ambaum (Reading, UK)** on 4 Feb 2010, 5:33 a.m.,*
in response to message #4 by Nigel Bamber

A bit cruel to show these photos here - I am jealous. Are you going to reveal how much you paid for it? Perhaps we should try and let people guess first and give a price (a near new HP41c?) to the one with the best guess. I'd say 110 pounds.

Re: Hp 41C in excellent condition

*Message #6 Posted by **Reth** on 4 Feb 2010, 4:46 p.m.,*
in response to message #5 by Maarten Ambaum (Reading, UK)

> Quote:
>
> A bit cruel to show these photos here - I am jealous.

Same here :(; just to add to it - remember the smell? I do and there is no better one than of freshly opened box ;)
Cheers

Re: Hp 41C in excellent condition

*Message #7 Posted by **Vieira, Luiz C. (Brazil)** on 4 Feb 2010, 7:44 a.m.,*
in response to message #1 by Nigel Bamber

Congratulations, Nigel!

Made me remember the day I bought my HP41C (80's, NIB), still with me but needing some refurbishment (broken posts, mostly).

But I still like the CX more...

Cheers.

Luiz (Brazil)

Re: Hp 41C in excellent condition

*Message #8 Posted by **Jim Horn** on 4 Feb 2010, 7:31 p.m.,*

in response to message #7 by Vieira, Luiz C. (Brazil)

Oh, do I remember opening my '41C in August, 1979 (SN 1932A...)! A friend and I bought one each the day they came out before the word got out and they became scarce. I later replaced the 8 pin DIP RAMs with the '41CV's parts so mine is now a 'CV with all the original bugs (such as access to *any* register via indirection). Still works great, too.

When I was interviewed to work at HP Santa Rosa, someone mentioned the then-brand-new HP-41C. I answered that I really enjoyed mine. The interviewer was astonished that I had one and asked about it. When I said it was in my car outside, we promptly marched out and got it. While they grilled / interviewed me the rest of the day, there was a small mob of HP engineers playing with my '41 in the cubicle they had it in. I'm still not entirely sure they hired me for my electrical engineering skills or to get a '41 in house right away...

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Plexiglas replacement

*Message #1 Posted by **Alberto Fenini** on 2 Feb 2010, 7:54 a.m.*

ciao a tutti !

I'm trying to restore a security cradle for the woodstock units, I have had the locker replaced (the key was missing) but it still has the red plexiglass broken. Browsing on the web I have found this company, http://www.acrylite-shop.com/US/us/index.htm , it's an Italian company but sells worldwide.

The question is, would it be a good replacement ? Could it be useful for other restoring purposes (calculator display, HP-01 display) ?? Any advice or any other ideas for restoring/replacing plexiglass parts would be really appreciated !

take care, Alberto

Re: Plexiglas replacement

*Message #2 Posted by **Katie Wasserman** on 2 Feb 2010, 6:14 p.m.,*
in response to message #1 by Alberto Fenini

I've made several replacement printer windows for the Topcats and the 82143A and 82162A printers using 1/16" Plexiglas. This material is thin enough to score with a knife and break. I then file down the edges to match the original window. It works and looks fine, I don't bother with the top lift edge nor the 3 little bumps that keep the paper away from the window, but this would be easy to add if you wanted perfection.

-Katie

Re: Plexiglass replacement

*Message #3 Posted by **Alberto Fenini** on 2 Feb 2010, 7:03 p.m.,*
in response to message #2 by Katie Wasserman

ciao Katie,
thank you very much for your reply, did you replace some of the red plexiglass ? Do you know I can math the same color that is used for the classic, or woodstock display ? (btw, it looks to me the all the hp led display share the same color)
take care, Alberto

Re: Plexiglass replacement

*Message #4 Posted by **Katie Wasserman** on 2 Feb 2010, 10:59 p.m.,*
in response to message #3 by Alberto Fenini

I haven't used red Plexiglas to replace windows in calculators but I do have some around for other projects of mine and it's a pretty good color match for typical LED windows used in older calculators. 1/16" might be a little on the thick side but some manufactures of acrylic sheet make 1/32" and may sell that in red too.

Re: Plexiglas replacement

*Message #5 Posted by **Johnny Bjoern Rasmussen** on 3 Feb 2010, 6:15 a.m.,*
in response to message #1 by Alberto Fenini

Hi Alberto
How about this: RS Components Italy

Cheers
Johnny
Denmark

Re: Plexiglas replacement

*Message #6 Posted by **Alberto Fenini** on 5 Feb 2010, 6:17 p.m.,*
in response to message #5 by Johnny Bjoern Rasmussen

Hi Johnny, thank you very much for the tip, I had a look at the catalog, and i'm going to order a piece of the red one, I'll keep everyone posted on ayn progress I would make, take care Alberto

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Early (Buggy) HP-35 - Insides

*Message #1 Posted by **Mark Henderson** on 1 Feb 2010, 4:27 p.m.*

I have just got an early HP-35 into my collection - one with "The Bug "- exhibits all the bugs documented here on MoHPC. It's a Type/Model 2 (dot on 5 key, "Hewlett Packard" without the 35, S/N is 1230A).

It has intermittent power switch and battery "switch" contacts, and since the label had already been damaged, I disassembled and cleaned it up a little.

Very interested to see some "tinplate" EMI shielding in the case bottom and around the display - I haven't seen this in other Classics (HP-45, HP-55) - was this the norm for this generation? Do other 35s have this (I have a Type/Model 4 but have not opened it yet)?

Looks just like tricks I've had to play on my own products to get through FCC, but this wasn't as much an issue in the 70s, or was it??

Cheers

Re: Early (Buggy) HP-35 - Insides

*Message #2 Posted by **Thomas Radtke** on 1 Feb 2010, 5:42 p.m.,*
in response to message #1 by Mark Henderson

> Quote:
>
> Very interested to see some "tinplate" EMI shielding in the case bottom and around the display - I haven't seen this in other Classics (HP-45, HP-55) - was this the norm for this generation?

My 45 does have this shielding around the LED, too. Opened it not too long ago.

Re: Early (Buggy) HP-35 - Insides

*Message #3 Posted by **Joel Setton (France)** on 2 Feb 2010, 3:24 p.m.,*
in response to message #2 by Thomas Radtke

Folks,

At the time the Classics were launched, the FCC limits for radiated EMI were not as low as they are now. However, the "tinplate" shields may have been included in these calculators to improve their immunity to spikes and static coming from the outside. HP imposed a high level of immunity to static discharge, even though this was not a regulatory requirement. It was an HP quality requirement, and one of the reasons why HP products were among the most reliable on the market. Of course, that was then.

My interpretation is that these shields were included in the earliest units which needed them for protection against electrostatic discharge spikes, then removed at a later time when the noise immunity of the MOS ICs improved. At that time, MOS-LSI chips were a new and delicate technology!

FWIW...

Joel Setton

Re: Early (Buggy) HP-35 - Insides

*Message #4 Posted by **Mark Henderson** on 2 Feb 2010, 4:20 p.m.,*
in response to message #3 by Joel Setton (France)

Ah, yes, perhaps it was for external source protection, also ESD...

Interesting...

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HP - Quo vadis?

*Message #1 Posted by **Frido Bohn** on 1 Feb 2010, 10:14 a.m.*

Dear all,

have you seen the calculator which HP shows in its newsletter of December 2009 above the header "The HP-41 system – 30 years old" Calculator Newsletter 16 (December 2009)?
It's only me, who has the impression, it's not the HP-41?
If a lack of consciousness for the past is indicative for a poor future, then we may not expect too much for the calculator branch of HP.

Regards
Frido

Re: HP - Quo vadis?

*Message #2 Posted by **Thomas Radtke** on 1 Feb 2010, 10:45 a.m.,*
in response to message #1 by Frido Bohn

It's a 35 for sure.

Enough has been said about HPs strategies in the calculator market. The targets are education and financial business (12C(P)). Engineering and science is obviously out of scope, and so the company doesn't really care about the 41 legacy.

Re: HP - Quo vadis?

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 1 Feb 2010, 11:17 a.m.,*
in response to message #2 by Thomas Radtke

> Quote:
>
> The targets are education and financial business (12C(P)). Engineering and science is obviously out of scope (...)

I wonder why.

I am an electrical engineer and I 'act' as a teacher lately, mostly because in Brazil it is hard to do what I like most: R&D. I can point out many reasons for that, but the main ones relate to '$'! R&D demand 'risky' investments, but today´s management demands 'risky' to be measured. I was (re)viewing some specials related to NASA and the Moon, but a particular mentioning from one of the engineers working with the lunar module called my attention. They were asked to predict budget and scheduling for the modules, but, he says, budget and scheduling are 'best guesses' based on previous experiences. How can someone give a 'best guess' based on no previous experiences? Delays and unexpected expenses should be taken as lack of experience instead of lack of knowledge.

Now we are facing another 'reality': once developers do not prove it is profitable, forget it! No matter if it will benefit mankind, it must benefit sponsors bank accounts. And were are the engineers and scientists? I wrote developers, it does not mean they are engineers neither scientists. CAD/CAE/CAM and HDSL need only commands to produce mechanical parts and integrated circuits.

Guys, I am waiting for an answer, don´t have any! I am teaching, and my students are supposed to be system analysts, pedagogues, physicians ('Computer Science Applied to Medicine') and managers. No scientists, no engineers.

Who´s gonna turn ideas into reality in the near future?

Cheers.

Luiz (Brazil)

Re: HP - Quo vadis?

*Message #4 Posted by **Thomas Radtke** on 1 Feb 2010, 11:29 a.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

Hi Luiz,

spoken out of my heart, as we say in german.

> Quote:
>
> Now we are facing another 'reality': once developers do not prove it is profitable, forget it!

And here I think about the 42s. What was the reason to cease production? Too few sales, I suppose. So, here it has been proven that such a machine doesn't sell.

In my career I worked together with a lot of engineers and scientists, about 100 I estimate. Two of them were working with a no-name calculator, one had a 15C, and I was using a 32SII. All others were doing fine w/o any calculator.

Sad but true, HP is right. To me, using a calculator means convenience and safety, but I'm used to check Excel results ;-). Others just generate numbers with computer programs, visualize them and thats it.

Re: HP - Quo vadis?

*Message #5 Posted by **Walter B** on 1 Feb 2010, 12:21 p.m.,*
in response to message #4 by Thomas Radtke

Yes, there is a lot of belief in numbers a computer puts out today. To my experience, what is lacking is the ability to reason or to check results for plausibility, to perform coarse estimates etc. The need for even simplest mental arithmetic or order-of-magnitude estimation has decreased significantly, so this knowledge is decreasing, too. People tend to believe what Excel displays.

Re: HP - Quo vadis?

*Message #6 Posted by **Bart (UK)** on 1 Feb 2010, 1:59 p.m.,*
in response to message #5 by Walter B

I think the problem is not only the faith in the numbers produced by computers (GIGO*

machines), but also that nubers are the be-all and end-all of problem solving.

Someone once said that if we cannot quantify something, we do not understand it. With computers it is so easy to quantify things, that there seems to be a misguided belief that we fully undertand it.

*GIGO: Garbage In, Garbage Out

Re: HP - Quo vadis?

*Message #7 Posted by **Walter B** on 1 Feb 2010, 2:29 p.m.,*
in response to message #6 by Bart (UK)

> Quote:
>
> Someone once said that if we cannot quantify something, we do not understand it.

"Someone" was Lord Kelvin in 1883.

HTH

Re: HP - Quo vadis?

*Message #8 Posted by **Thomas Radtke** on 1 Feb 2010, 2:57 p.m.,*
in response to message #7 by Walter B

He was selling thermometers, right?

(joke)

Re: HP - Quo vadis?

*Message #9 Posted by **Walter B** on 2 Feb 2010, 12:24 a.m.,*
in response to message #8 by Thomas Radtke

Almost d;-) AFAIK he was laying some grounds for selling more accurate thermometers. Maybe he wasn't even thinking of sales. So he would have been more grateful for a 43S than for a 30b.

HTH

Re: HP - Quo vadis?

*Message #10 Posted by **DaveJ** on 1 Feb 2010, 5:04 p.m.,*
in response to message #4 by Thomas Radtke

> Quote:
>
> In my career I worked together with a lot of engineers and scientists, about 100 I estimate. Two of them were working with a no-name calculator, one had a 15C, and I was using a 32SII. All others were doing fine w/o any calculator.

This is pretty much my experience also in my field of electronics design and associated software,

mechanical and acoustics design I've worked in.

In my case it's a lot more than 100 engineers over the last 20 years, and I've always taken an interest in what calculator they have on their desk.

Very few HP's, and very few programmable or graphic calculators in general at all. 5% tops, and I'm being generous here. When I've asked them why they have a programmable or graphic calc, the answer is always the same - "I don't need one, it's just the one I used at school".

The other 95% either have nothing at all, a basic non-programmable scientific, or even a 4-Banger.

Same personally for me, I have no need for anything but a basic scientific.

This is why I've been saying that any scientific HP brings out should have significant retro appeal, it will be the only way to generate mass interest in such a machine.

Dave.

Edited: 1 Feb 2010, 5:08 p.m.

Re: HP - Quo vadis?

*Message #11 Posted by **Richard J. Nelson** on 2 Feb 2010, 11:08 a.m.,*
in response to message #4 by Thomas Radtke

Why was the HP-42S discontinued?

I was working at EduCALC as the New Product/Technical Support manager at the time. This was back in the days when HP actually had staff to "support" dealers - Oh, they are called resellers now.

We were very upset at EduCALC because the HP-42S was a best seller. The HP rep told us that EduCALC sold more HP-42s than all the other sellers combined. We knew how many we sold and based on doubling or tripling our sales numbers it was obvious that the volume of sales did not justify the continued manufacturer of the HP-42S.

Trivia question. What vital feature was omitted on the HP-42S?

The answer to this question could also explain why the HP-42S was not more successful.

X < > Y,

Richard

Re: HP - Quo vadis?

*Message #12 Posted by **Thomas Radtke** on 2 Feb 2010, 11:17 a.m.,*
in response to message #11 by Richard J. Nelson

> Quote:
>
> Trivia question. What vital feature was omitted on the HP-42S?

Admittance for certain exams I suppose.

Re: HP - Quo vadis?

*Message #13 Posted by **Garth Wilson** on 2 Feb 2010, 12:25 p.m.,*
in response to message #11 by Richard J. Nelson

> Quote:
>
> Trivia question. What vital feature was omitted on the HP-42S?

HPIL. Not trivial.

Re: HP - Quo vadis?

*Message #14 Posted by **Jeff O.** on 2 Feb 2010, 12:35 p.m.,*
in response to message #11 by Richard J. Nelson

> Quote:
>
> Trivia question. What vital feature was omitted on the HP-42S?

Some form of input/output.

Re: HP - Quo vadis?

*Message #15 Posted by **Ken Shaw** on 3 Feb 2010, 4:46 p.m.,*
in response to message #11 by Richard J. Nelson

How about date arithmetic and a real-time clock, which can be found on both the 17B and 27S?

Re: HP - Quo vadis?

*Message #16 Posted by **Palmer O. Hanson, Jr.** on 2 Feb 2010, 9:42 p.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

> Quote:
>
> Who´s gonna turn ideas into reality in the near future?

The Apple people, and other modernists like them.

Re: HP - Quo vadis?

*Message #17 Posted by **martin pinckney** on 1 Feb 2010, 2:50 p.m.,*
in response to message #2 by Thomas Radtke

> Quote:
>
> ... HPs strategies in the calculator market. The targets are education and financial business... Engineering and science is obviously out of scope...

Well, they certainly seem to be doing OK in financial business, but they have failed miserably to get into education... so why not go back to science and engineering in a big way?

But what do I know?

Re: HP - Quo vadis?

*Message #18 Posted by **Thomas Radtke** on 1 Feb 2010, 3:06 p.m.,*
in response to message #17 by martin pinckney

Ok, at least I know very little about these matters. I just observe that nearly all calculator companies jumped on the educational train, leaving professionals behind. Probably with Casio an exception with one or two models. That leads to believe there's no longer money to earn.

Another observation: Past models could easily been brought back to market, like the 15C. It hasn't been done and I refuse to believe that HP didn't had even a single thought about that.

Re: HP - Quo vadis?

*Message #19 Posted by **DaveJ** on 5 Feb 2010, 1:23 a.m.,*
in response to message #18 by Thomas Radtke

> Quote:
>
> Another observation: Past models could easily been brought back to market, like the 15C. It hasn't been done and I refuse to believe that HP didn't had even a single thought about that.

They have thought about it, they even paid for an industry survey on what model people would like to see.

I still don't know why they haven't released the 15C, it's a complete no-brainer from almost any perspective.

Dave.

Re: HP - Quo vadis?

*Message #20 Posted by **Rainer Wiedemann (Germany)** on 2 Feb 2010, 3:06 a.m.,*
in response to message #2 by Thomas Radtke

They (HP) can't obviously distinguish an HP-35 with LED display from an HP-41 with LCD anymore, perhaps, because all of the know-how was transferred to China in the past and therefore has gone forever (together with the engineers).

In RPN tip #16 HP even redefines Euler's constant as 2.1. Since the article's author was using an HP-35S, my first thought was, he found another bug, wouldn't have wondered so. But my 35S did right. I suppose, he must have been using an updated ROM code, adding some new features to the 35S.

Maybe I should follow HP's invitation for the Educator outreach: "What would you like to see HP calculators do to improve? We can't wait to hear from you! Send an email to: Calceducation@hp.com"

OK, but unfortunately I don't speak Chinese ...

Regards,

Rainer

Re: HP - Quo vadis?

*Message #21 Posted by **Maarten Ambaum (Reading, UK)** on 2 Feb 2010, 6:12 a.m.,*
in response to message #2 by Thomas Radtke

I never quite understood what the difference between "education" and "science/engineering" is. I haven't changed my calculator needs when I changed from being a "student" to a "scientist."

Most students like gadgets and would be glad to buy a top-of-the-range calculator if it has the proper wow-factor. Think of Apple laptops: expensive but my students still get them. It's all marketing. If students knew that a HP15cII or a HP42sII is the Roll-Royce of calculators, they would probably get it. They just don't know (and, needless to point out, they don't exist as yet ....)

Re: HP - Quo vadis?

*Message #22 Posted by **Thomas Radtke** on 2 Feb 2010, 6:37 a.m.,*
in response to message #21 by Maarten Ambaum (Reading, UK)

> Quote:
>
> I never quite understood what the difference between "education" and "science/engineering" is. I haven't changed my calculator needs when I changed from being a "student" to a "scientist."

There's a varity of graphing cals on the market. Students apparently love it, I don't. They take too much space on the desk :-). At the same time, many of these calculators are not very powerfull, with the 50g an exception. And how about ergonomics? If I want to do a R<>P conversion, I have to remember where the angle or where y is left. Not that easy with a Casio. In general, this textbook entry thing is more of an obstacle to a professional.

Of course, I can only speak for myself.

Re: HP - Quo vadis?

*Message #23 Posted by **megarat** on 4 Feb 2010, 6:42 p.m.,*
in response to message #21 by Maarten Ambaum (Reading, UK)

Speaking only for the USA, math classes up to the university level can have entire curricula based around specific calculators. It is not uncommon for students to be required to purchased a specific calculator model for their class.

In this sense, the calculator is less used as a tool than it is as a teaching instrument.

"Type this in and you will see a hyperbola." "Oooh ..."

Re: HP - Quo vadis?

*Message #24 Posted by **Dimitri Simitas** on 4 Feb 2010, 10:16 p.m.,*
in response to message #23 by megarat

Many schools here are similar, actually all 3 highschools I went to used TI-83s as teaching aids. TI scientific calculators are the only recommended calculators making it easy to teach students how to use them. I have had a TI-83 since grade 10.

Dimitri

Re: HP - Quo vadis?

*Message #25 Posted by **Thomas Radtke** on 5 Feb 2010, 4:04 a.m.,*
in response to message #24 by Dimitri Simitas

My sister in law told me that her kids were even required to get a TI Voyage. I find this unacceptable for many reasons, but it fits perfectly into a series of doubtful changes in education in Germany.

Re: HP - Quo vadis?

*Message #26 Posted by **Dimitri Simitas** on 5 Feb 2010, 12:49 p.m.,*
in response to message #25 by Thomas Radtke

> Quote:
>
> My sister in law told me that her kids were even required to get a TI Voyage. I find this unacceptable for many reasons, but it fits perfectly into a series of doubtful changes in education in Germany.

Its odd, should allow highschool students only scientific so the can learn math not short cuts. I was in while scientific only for tests and graphing was ok in class, almost required actually the way it was taught. The schools did however buy enough that one TI-83 could be shared by 2 students in class however. Most of us bought our own as it made it easier. Now they "strongly" recommend the purchase.

Dimitri

Re: HP - Quo vadis?

*Message #27 Posted by **Richard J. Nelson** on 2 Feb 2010, 10:51 a.m.,*
in response to message #2 by Thomas Radtke

". . company doesn't really care about the 41 legacy." Business is about the future. From a classical business perspective the past doesn't mean much because the customer has paid for the product. It is the NEXT sale that is important.

If HP had zero interest in the "past" they wouldn't have approved the publication of the article. As the author of the article I mentioned that HP had published my enthusiastic opinion regarding the HP-41 in three major articles. My interest is that we concerned users should also try to understand the constraints that HP has. HP provides us with many valid complaints, but to dwell on a decision that you too would make if you had to live by the same rules (that they have to follow) isn't very constructive. We try to bridge this understanding with the annual conferences because we all want HP to continue to make the best possible machines.

Corporate memory is an important concern and this came up at HHC 2009. See: http://holyjoe.net/hhc2009/Corporate_Memory.pdf

I agree, however, that there is no excuse for not knowing the difference between and HP-35A and an HP-41.

X < > Y,

Richard

Re: HP - Quo vadis?

*Message #28 Posted by **Thomas Radtke** on 2 Feb 2010, 11:07 a.m.,*
in response to message #27 by Richard J. Nelson

> Quote:
>
> If HP had zero interest in the "past" they wouldn't have approved the publication of the article.

I haven't said that HP has no *interest*. The opposite is true, since the past is an element in their marketing. And still, they don't care. They just use it ;-).

> Quote:
>
> HP provides us with many valid complaints, but to dwell on a decision that you too would make if you had to live by the same rules (that they have to follow) isn't very constructive.

Well, I often said HP is right. They are out of business concerning scientific calcs, as they impressivly have shown with the 35s. It's a marketing toy. A give-away.

Re: HP - Quo vadis?

*Message #29 Posted by **Dimitri Simitas** on 2 Feb 2010, 9:15 p.m.,*
in response to message #2 by Thomas Radtke

> Quote:
>
> The targets are education and financial business (12C(P)). Engineering and science is obviously out of scope

What if your in education for Engineering?

I don't know, if the took the HP-35S that I use for college and added a flash chip and interface to build in the Software packs for the HP-41C I'd spend 250$ on it without blinking.

Dimitri

Re: HP - Quo vadis?

*Message #30 Posted by **Thomas Radtke** on 3 Feb 2010, 3:32 a.m.,*
in response to message #29 by Dimitri Simitas

> Quote:
>
> What if your in education for Engineering?

You mean, would I buy a calculator that cannot be used in the exams? Probably, but that's only me ;-).

Re: HP - Quo vadis?

*Message #31 Posted by **Dimitri Simitas** on 3 Feb 2010, 5:09 p.m.,*
in response to message #30 by Thomas Radtke

> Quote:
>
> You mean, would I buy a calculator that cannot be used in the exams? Probably, but that's only me ;-).

Well the HP-35S is allowed in the US (not so sure about other areas) for the the FE and PE exams, since they seem bent on exam security, I don't see why you couldn't talk them into a pre-programmed scientific based on the HP-35S if HP cared about getting the Engineering side of things back on track. Especially when there are services to pre-program your HP-35S for you.

Dimitri

Re: HP - Quo vadis?

*Message #32 Posted by **Thomas Radtke** on 3 Feb 2010, 5:28 p.m.,*
in response to message #31 by Dimitri Simitas

> Quote:
>
> Well the HP-35S is allowed in the US (not so sure about other areas) for the the FE and PE exams, since they seem bent on exam security

Yes, and so were the 33S and the 32S* calculators. Unfortunately, there haven't been any bufixes for the 35s, which would be the first thing one could expect. So, one 'crossover-machine' exists, but is not really usable by professionals.

Re: HP - Quo vadis?

*Message #33 Posted by **Dimitri Simitas** on 4 Feb 2010, 10:10 p.m.,*
in response to message #32 by Thomas Radtke

Now you got me wondering ... bugs?

Dimitri

Re: HP - Quo vadis?

*Message #34 Posted by **Thomas Radtke** on 5 Feb 2010, 2:38 a.m.,*
in response to message #33 by Dimitri Simitas

35s bug list

Edited: 5 Feb 2010, 2:38 a.m.

Re: HP - Quo vadis?

*Message #35 Posted by **Walter B** on 5 Feb 2010, 12:18 p.m.,*
in response to message #33 by Dimitri Simitas

Hi Dimitri,

it may be worthwile for you to search the forum archives for several topics. There is a lot of valuable information stored within.

HTH

Walter

Re: HP - Quo vadis?

*Message #36 Posted by **Dimitri Simitas** on 5 Feb 2010, 12:51 p.m.,*
in response to message #35 by Walter B

Thank you both for the replies and I will read up on it did not realize that HP had bugs. You'd have thought 50+ years of research and production would have made the bugs non-existent.

Dimitri

Re: HP - Quo vadis?

*Message #37 Posted by **Thomas Radtke** on 5 Feb 2010, 1:08 p.m.,*
in response to message #36 by Dimitri Simitas

There is a certain evolution within some series of models, e.g. 48S to 48G or 32S up to the last version of the 32SII, but generally it's difficult to have a new calculator based on old software. The CPU might have become unavailable or outdated, old IDEs are no longer available and so on. So, very often it is easier to rewrite a new firmware from scratch, thereby introducing new bugs.

Especially with C++ and Java, reusable code becomes an issue. Now, we're waiting for some good classes from HP ;-).

Oh, and don't forget that the mix of RPN and Alg has caused a new level of complexity!

Wow, I'm defending HP!

Edited: 5 Feb 2010, 1:10 p.m.

Re: HP - Quo vadis?

*Message #38 Posted by **Dimitri Simitas** on 6 Feb 2010, 10:46 p.m.,*
in response to message #37 by Thomas Radtke

> Quote:
>
> Oh, and don't forget that the mix of RPN and Alg has caused a new level of complexity!

Its my first RPN calculator, so no complexity problems for that as I made sure it was set on RPN on the Monday evening I bought it. Last semester (my first, 2nd time in college) and I used it for my Calculus Mid-term Wednesday morning that same week, as in our Monday morning class my Prof said no Graphing calculators. At the time I only had my TI-83 from high school. And it had to be a HP as I was told by a few "Never trust a engineer without a HP on his desk" while working as a machinist.

Dimitri

Edited: 6 Feb 2010, 10:46 p.m.

Re: HP - Quo vadis?

*Message #39 Posted by **Walter B** on 6 Feb 2010, 11:07 p.m.,*
in response to message #38 by Dimitri Simitas

> Quote:
>
> > Quote:
> >
> > Oh, and don't forget that the mix of RPN and
> > Alg has caused a new level of complexity!
>
> Its my first RPN calculator, so no complexity problems for that as I made sure it was set on RPN on the Monday evening I bought it.

Thomas was referring to the people who wrote the firmware of your calculator.

HTH

Walter

Re: HP - Quo vadis?

*Message #40 Posted by **Ángel Martin** on 1 Feb 2010, 2:30 p.m.,*
in response to message #1 by Frido Bohn

this just adds insult to injury... what a shame.

Not only they waited until the END of the anniversary year, they also had to get their images mixed up.

What could I say... I used to work for that company when it really was what it was poised to be by its founders.

Sign of the times.

Re: HP - Quo vadis?

*Message #41 Posted by **Dave Shaffer (Arizona)** on 1 Feb 2010, 5:06 p.m.,*
in response to message #1 by Frido Bohn

To the right of the "HP41" is an invitation to join "The Calculator Club" - one of whose benefits is "HP Calculator Forum"!!

Do they run one of their own?!?! (I guess, technically, this is just the "HP Forum".)

Re: HP - Quo vadis?

*Message #42 Posted by **Norman Dziedzic** on 1 Feb 2010, 7:05 p.m.,*
in response to message #41 by Dave Shaffer (Arizona)

I tried to sign up for the newsletter and even received an ack from someone but I did not get this one.

They do have a forum in the business section of their sight.

Re: HP - Quo vadis? Dignus est intrare :-)

*Message #43 Posted by **Etienne Victoria** on 1 Feb 2010, 6:09 p.m.,*
in response to message #1 by Frido Bohn

Dignus est intrare for the blessed ones who can still sort out these old calculator models :-)

Etienne

Re: HP - Quo vadis?

*Message #44 Posted by **Walter B** on 2 Feb 2010, 12:29 a.m.,*
in response to message #1 by Frido Bohn

Lasciate ogni speranza voi che entrate d:-/

Re: HP - Quo vadis?

*Message #45 Posted by **Massimo Gnerucci (Italy)** on 2 Feb 2010, 5:35 a.m.,*
in response to message #1 by Frido Bohn

Quo vadis, HP?
Venio Romam iterum crucifige.

Re: HP - Quo vadis?

*Message #46 Posted by **Martin Pinckney** on 2 Feb 2010, 9:44 a.m.,*
in response to message #45 by Massimo Gnerucci (Italy)

Massimo,

I like your subtle humor.

Re: HP - Quo vadis?

*Message #47 Posted by **Massimo Gnerucci (Italy)** on 2 Feb 2010, 10:14 a.m.,*
in response to message #46 by Martin Pinckney

Thanks a lot Martin!
Just a little addendum...

Odi et amo [to HP]

Odi et amo. Quare id faciam, fortasse requiris.
Nescio, sed fieri sentio et excrucior.

Alas, *excrucior* is the key!

Greetings,
Massimo

With apologies to *Gaius Valerius Catullus*

Edited: 2 Feb 2010, 10:16 a.m.

Re: HP - Quo vadis?

*Message #48 Posted by **Martin Pinckney** on 2 Feb 2010, 10:32 a.m.,*
in response to message #47 by Massimo Gnerucci (Italy)

> Quote:
>
> Odi et amo.

It seems this defines the relationship many on this "Forum" have with HP.

> Quote:
>
> Alas, *excrucior* is the key!

Indeed!

> Quote:
>
> With apologies to *Gaius Valerius Catullus*

Apologies? What better praise than to be quoted over 2000 years later!

Re: HP - Quo vadis?

*Message #49 Posted by **Peter Klein** on 3 Feb 2010, 5:07 p.m.,*
in response to message #48 by Martin Pinckney

Classical scholars and pre-Vatican II Catholics have an advantage on this thread. :-)

Re: HP - Quo vadis?

*Message #50 Posted by **Massimo Gnerucci (Italy)** on 4 Feb 2010, 2:35 a.m.,*
in response to message #49 by Peter Klein

> Quote:
>
> Classical scholars and pre-Vatican II Catholics have an advantage on this thread. :-)

Or googlers... ;)

Available in Klingon, too...

Greetings,
Massimo

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HP Forum Archive 19

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Look what I found for $50 USd; off topic but I think you will like the photos.

*Message #1 Posted by **Geoff Quickfall** on 31 Jan 2010, 6:18 p.m.*

Hello all,

Been away from the computer for awhile here. No new HP calcs other then the 30b prototype to play with and 5 upgraded HP42s's.

Renovating the house, working, family, the book and now my 1973 Celica is going undergoing a ground up restoration. Bought it in 1974 in High School and it does not have a sticky accelerator pedal!

In any case all the business doesn't stop one from looking around and now to the off-topic topic:

Found this Scientific instrument at the local junk store for $50 USd. A Barograph circa 1940! Fully functional with spare barograph paper, used papers, working eight day clock, key, ink bottle, and spare nib. Now another project for restoration!

Here are the befores which will be followed at a later date with the afters:

Here is the Barograph as found with masking tape holding all the top 5 panel glass case together. The glass is all heavy plate glass and the cabinet is mahogany:

Another view with the two section drawer slightly open exposing a recorded chart labelled "Kaohsiung to Vancouver, B.C." Other charts include "Tokyo to Vancouver" and "Vancouver to Keelung". Obviously this was part of a ships meterology room!

Look what I found for $50 USd; off topic but I think you will like the photos.

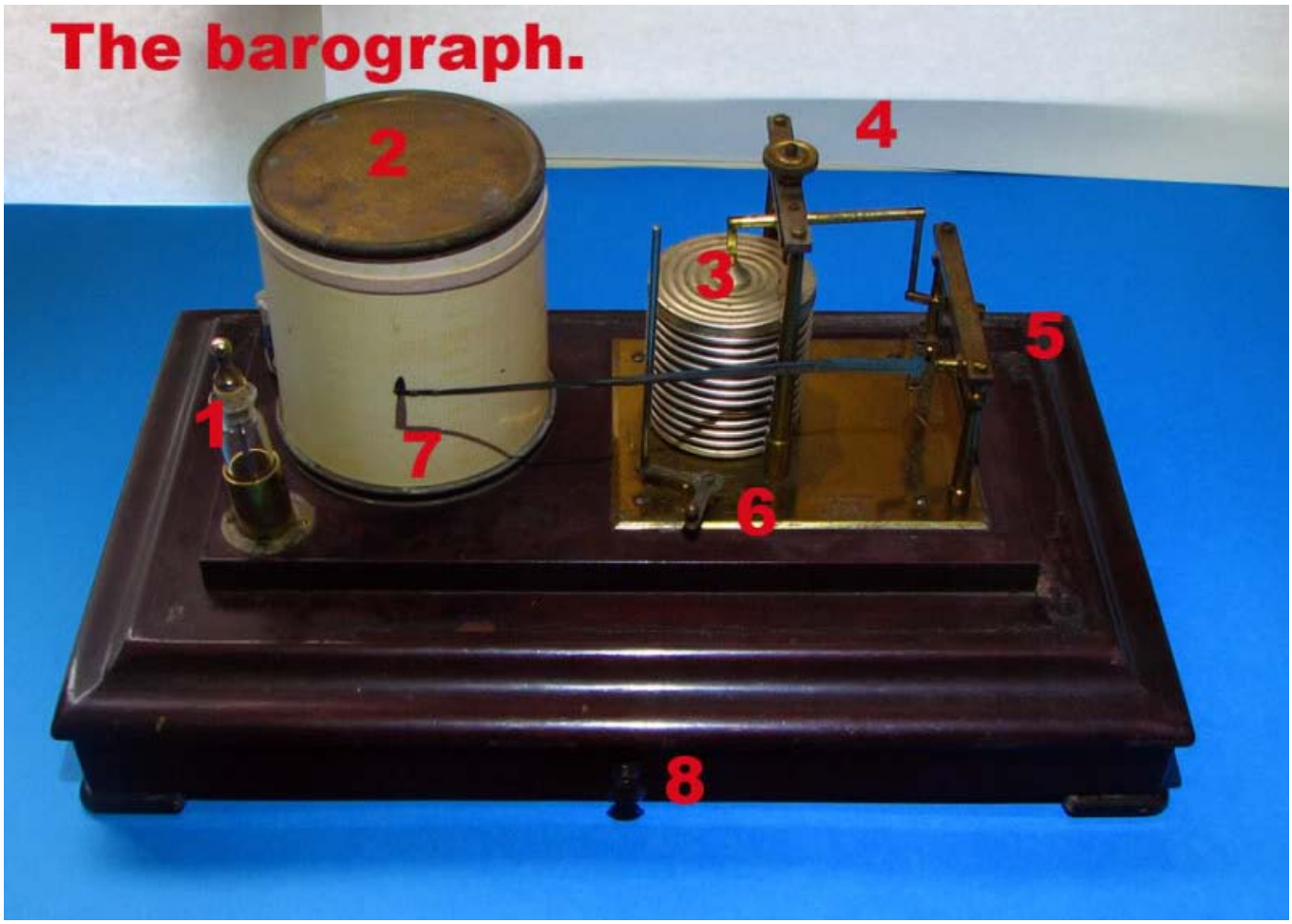
This view is with the glass top removed:

Look what I found for $50 USd; off topic but I think you will like the photos.

A numbered explanation of the major components:

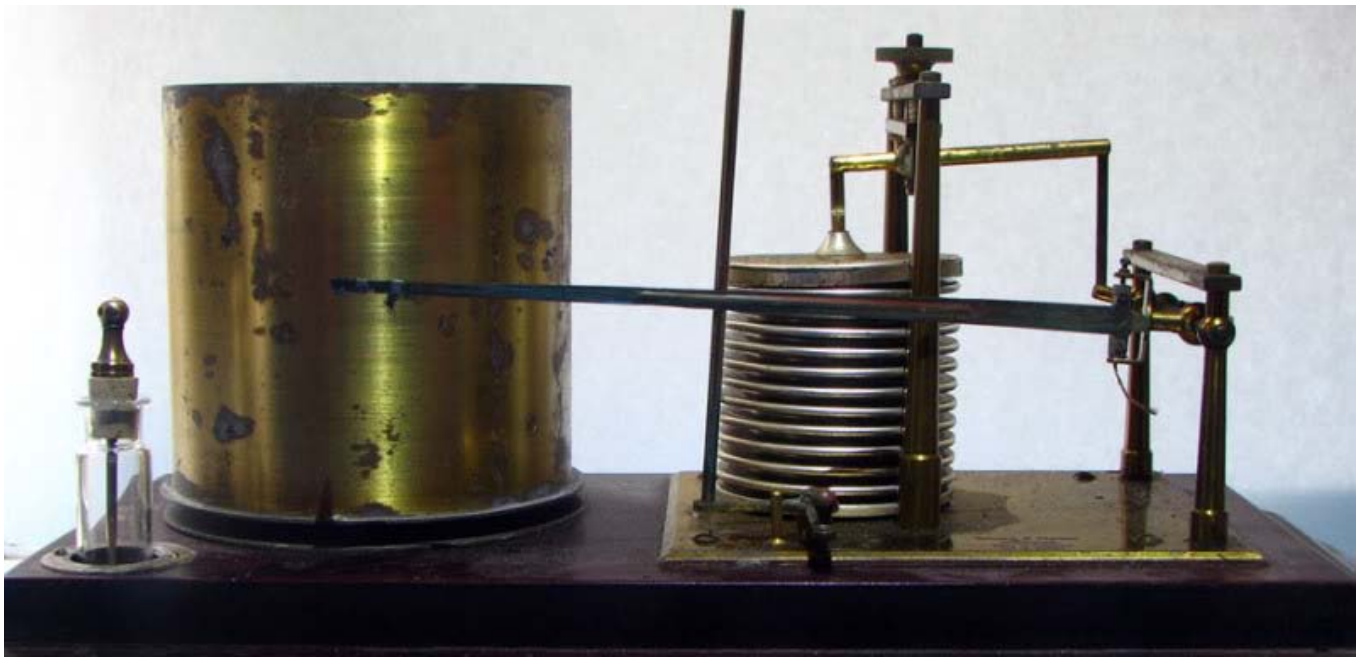
1 ink bottle
2 chart canister and clock mechanism within
3 11 diaphramed stack
4 the adjusting knob to synchronize the reading to a base measurement
5 system of levers to transfer and amplify the pressure change from the stack to the pen and chart
6 lever for retracting the pen arm from the chart cannister
7 the pen arm and nib, this one is corroded and non functional, but replacement has been secured
8 the two section drawer containing used and unused charts.

Look what I found for $50 USd; off topic but I think you will like the photos.



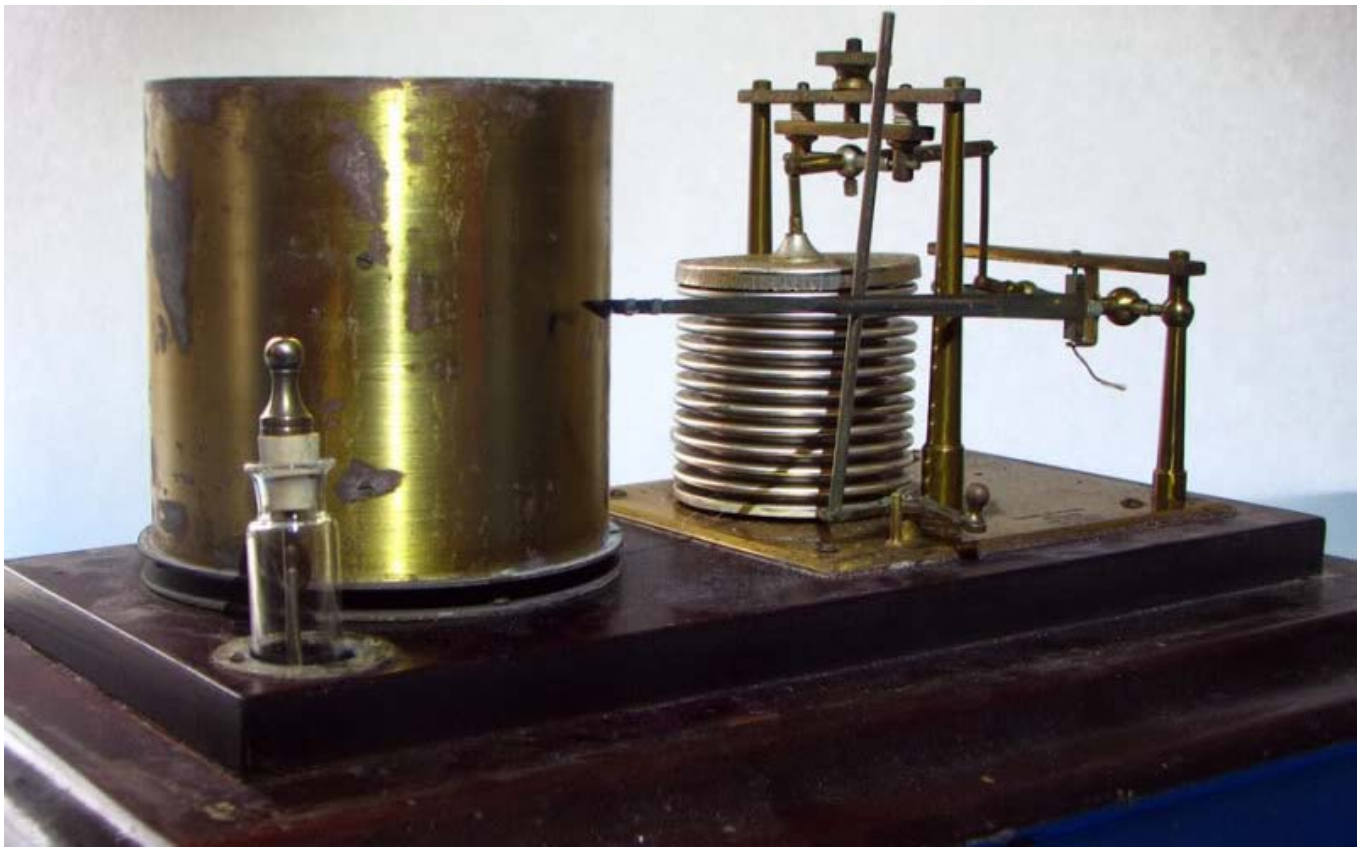
The following shots are around the barograph with the top case removed and the lid and chart removed from the chart canister:

front:

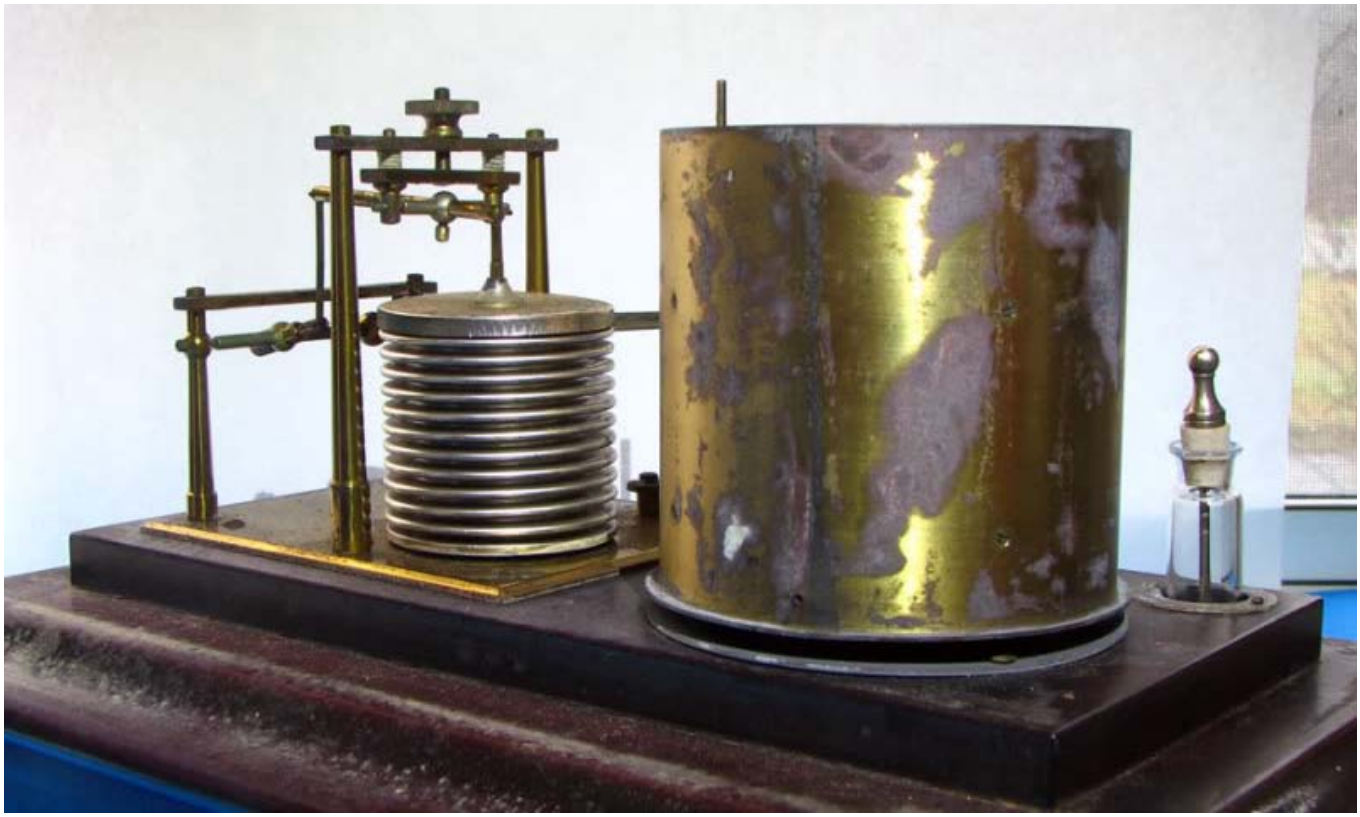


front quarter left:

Look what I found for $50 USd; off topic but I think you will like the photos.

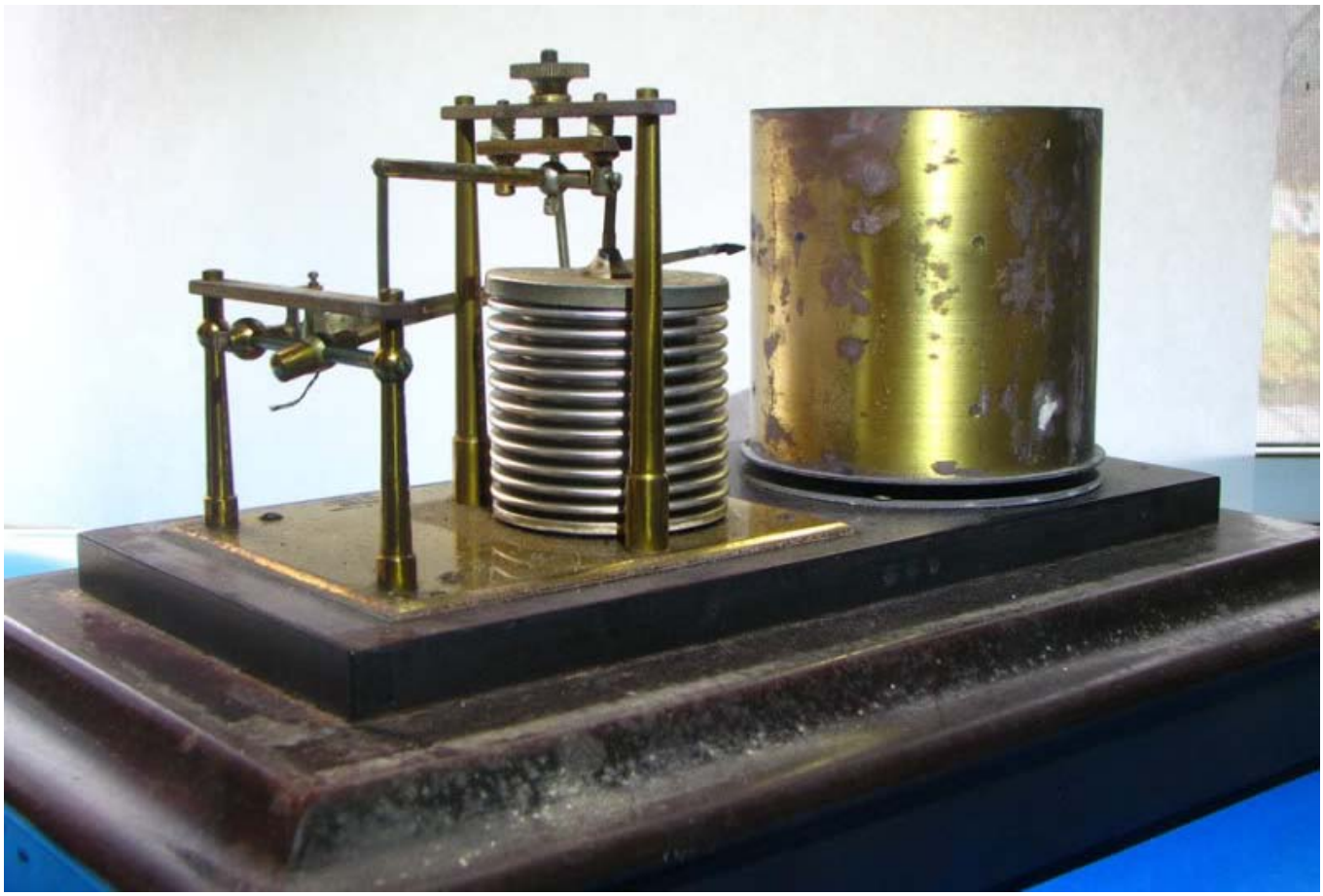


rear quarter right:



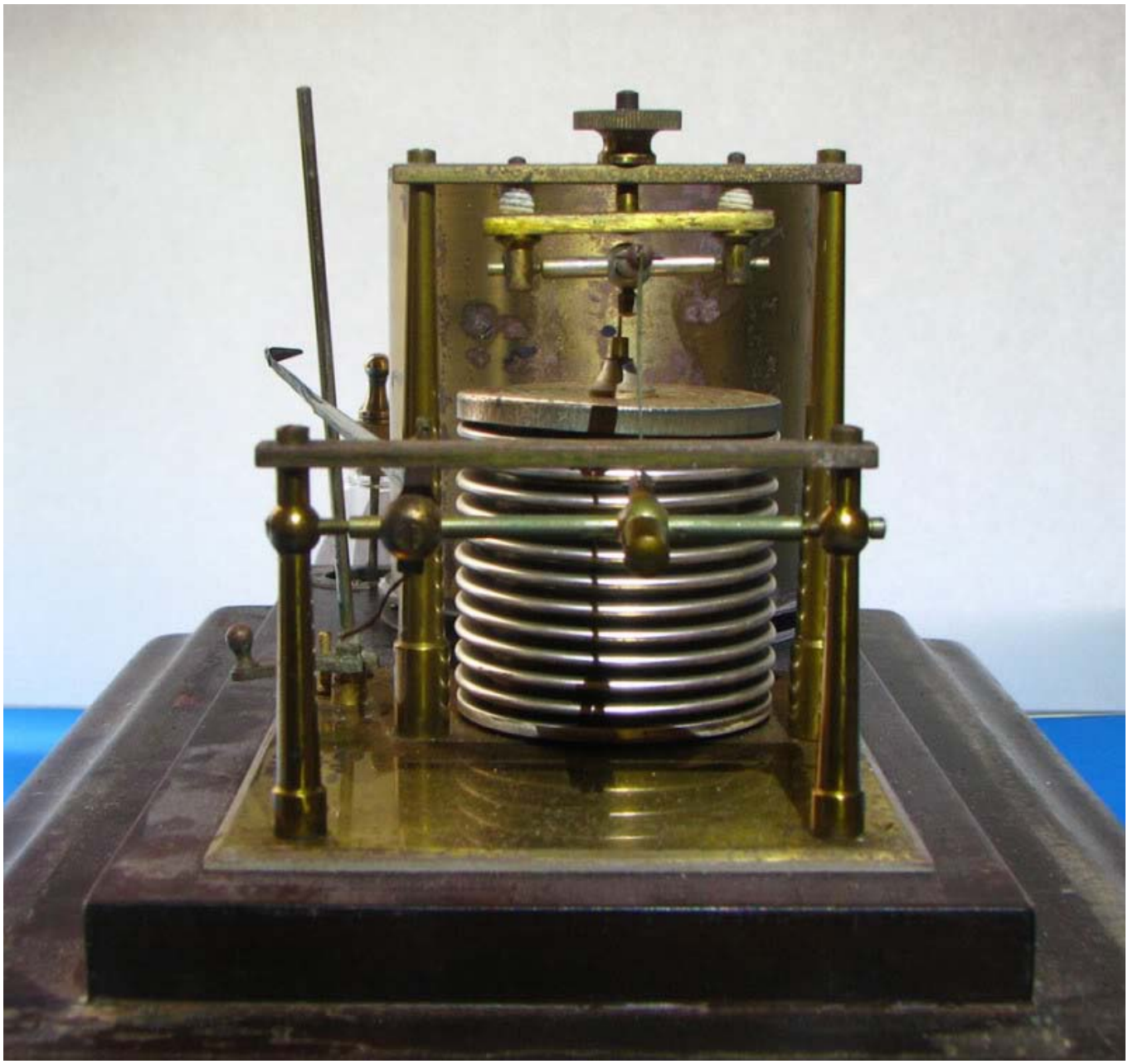
rear quarter left:

Look what I found for $50 USd; off topic but I think you will like the photos.



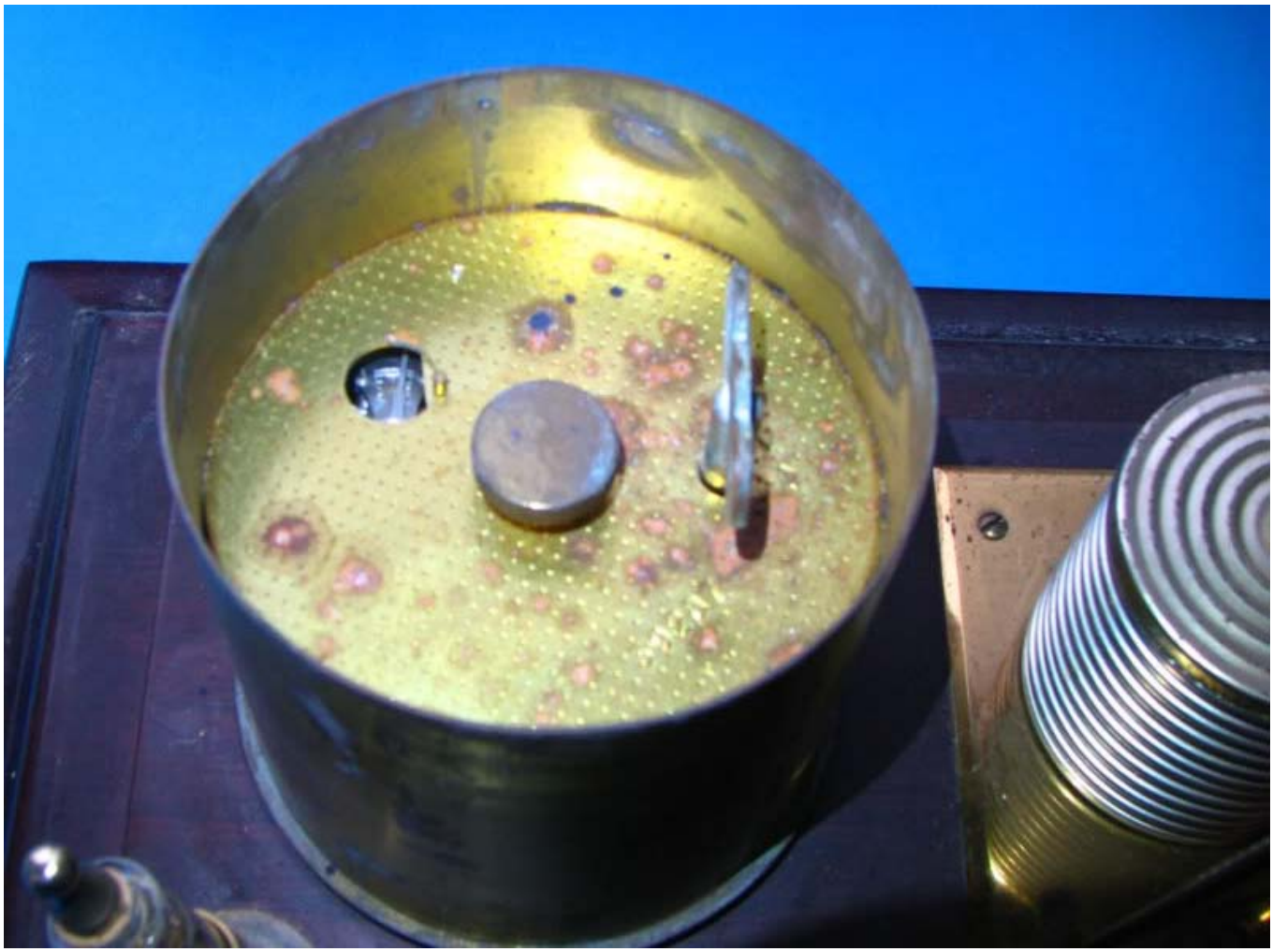
edge on from lever side:

Look what I found for $50 USd; off topic but I think you will like the photos.

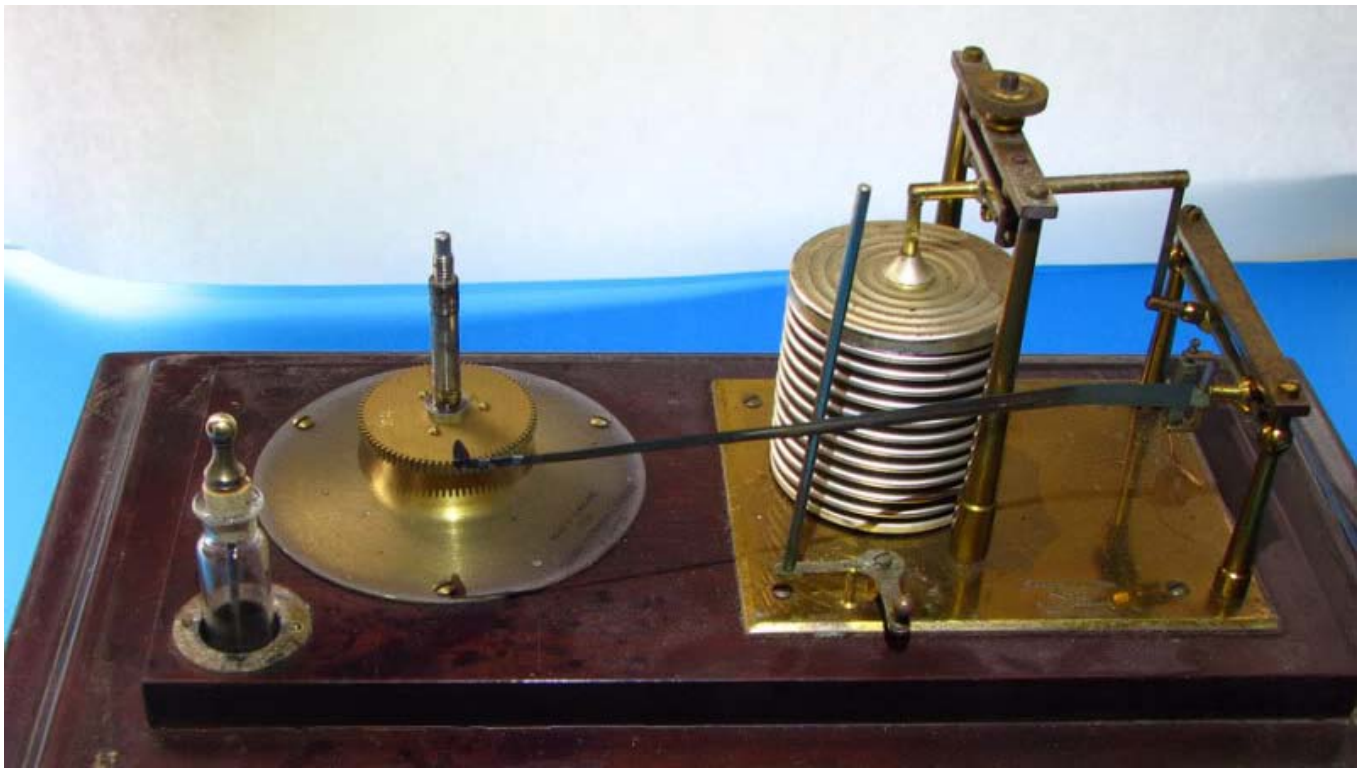


By removing the top lid from the chart canister one exposes the winding key and fast slow adjust:

Look what I found for $50 USd; off topic but I think you will like the photos.

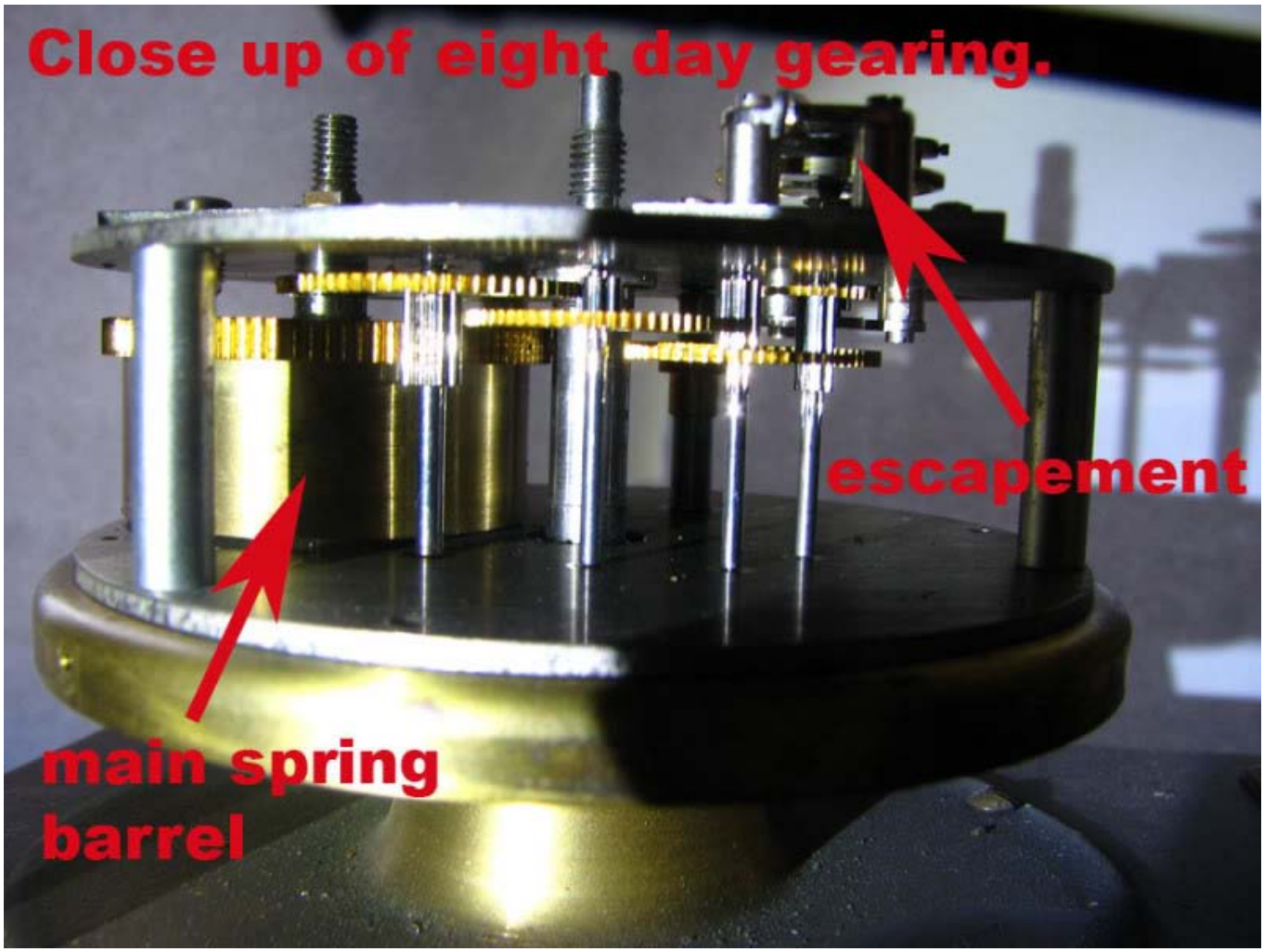


Removing the centre screw knob in the above picture allows the entire canister containing the clock to be removed:

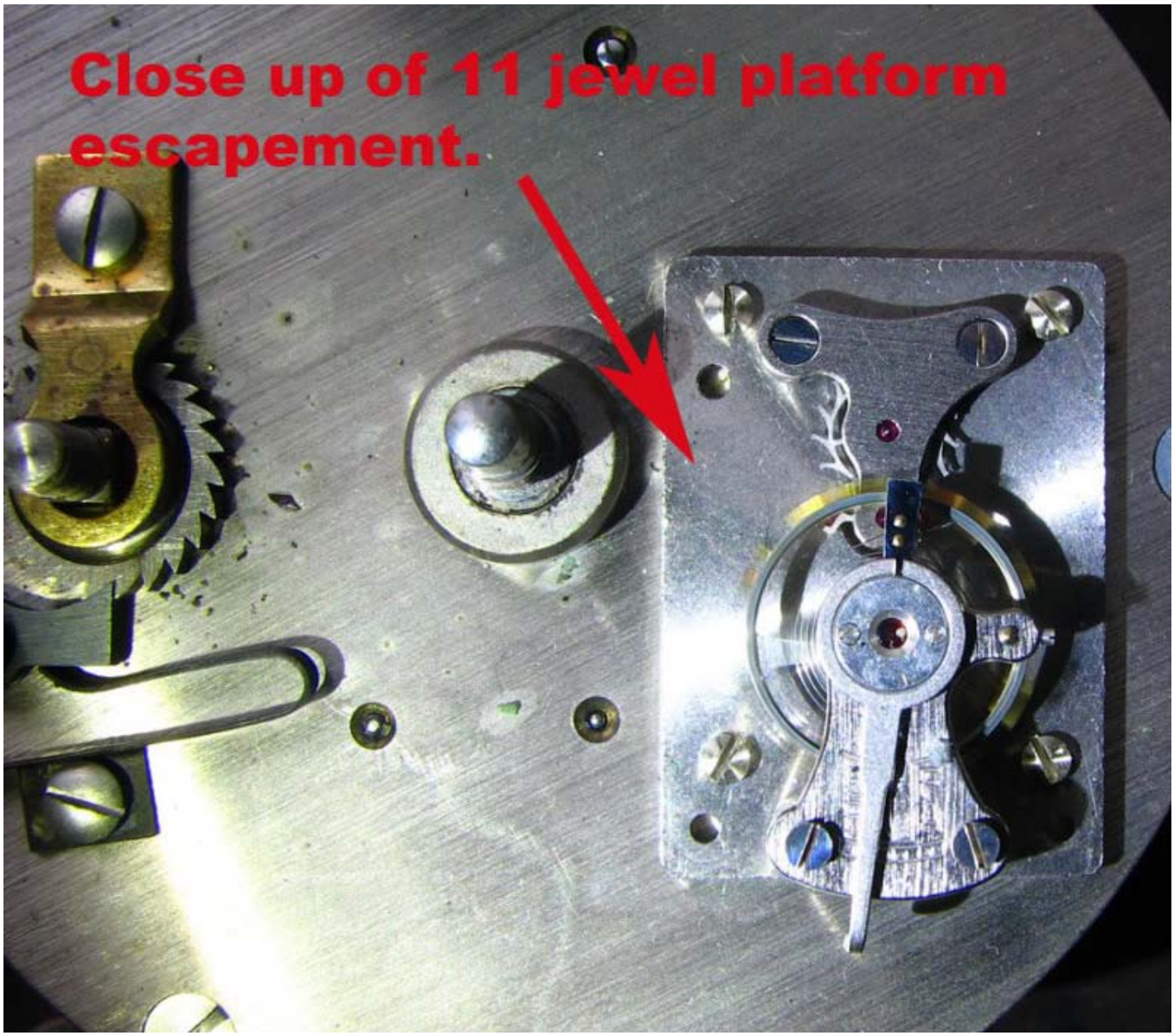


Continuing with the disassembly, eight tiny screws in the side of the canister exposes the clock mechanism gears and platform escapement:

Look what I found for $50 USd; off topic but I think you will like the photos.



Look what I found for $50 USd; off topic but I think you will like the photos.



I have placed the clock mechanism without canister back on to the base for ease of storage:

Look what I found for $50 USd; off topic but I think you will like the photos.

The inscription on the clock mechanism:

Look what I found for $50 USd; off topic but I think you will like the photos.

The inscription on the brass base plate:

Well there you have it, another project which will require the following:

```
1  case restoration and finish
2  brass strip, clean and relaqueur
3  new pen nib and correct ink
4  new charts
5  clock mechanism cleaned, adjusted and oiled.
```

I will do the work here and if your interested I will post the results. Of course this is for free time between writing the book (almost done), home, work, car, dog, life...

If you want more info on barographs start with wikipedia:

wikipedia barograph link

for parts if you have one:

parts link

The above link to the parts supplier is incredible, I already ordered new ink, charts, nib and the book and it arrived from England in 5 days!

Cheers, Geoff

Edited: 31 Jan 2010, 11:57 p.m. after one or more responses were posted

Congrats! (was: Look what I found for $50 USd; off topic but I think you will like the photos).

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 31 Jan 2010, 7:13 p.m.,*
in response to message #1 by Geoff Quickfall

Hi, Geoff;

I did not only like the photos, I also liked to see the instrument itself. I always tell my students that knowing the destiny does not mean knowing the path, or, in terms of knowledge and technology, knowing current, updated technology does not mean knowing technology itself, one must know the path, the history, the origin. All digital versions of analog devices are only possible after mastering the physical phenomenon they deal with.

A beautiful instrument, indeed! I like it!

Thanks for sharing!

Luiz (Brazil)

Re: Congrats! (was: Look what I found for $50 USd; off topic but I think you will like the photos).

*Message #3 Posted by **Geoff Quickfall** on 31 Jan 2010, 8:37 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Luiz,

Thanks for the response. I have two nephews, one an engineer and neither of them recognize pre 1980.

The engineer is a computer programming professional with an Engineering degree, electrical major and I tried showing him my functioning 9825A.

Chuckled at how primitive it was. Not the response I was expecting as these are the progenitors to his sophisticated systems. Also tried to explain (I taught courses at University during my post-grad studies) that the tech of today is the unsophisticated primitive of the future.

It may start to sink in....

Cheers, Geoff

Edited: 1 Feb 2010, 2:09 a.m.

Re: Congrats! (was: Look what I found for $50 USd; off topic but I think you will like the photos).

*Message #4 Posted by **David Hayden** on 1 Feb 2010, 9:38 a.m.,*
in response to message #3 by Geoff Quickfall

That's a beautiful instrument Geoff. Like others, I look forward to any news you may post on the restoration.

Regarding your nephew, he shouldn't discount the early technology. There's a lot he can learn from it. I know because I'm also a computer programmer with an electrical engineering degree. People have lost sight of how fast computers are today and I have occasionally taken on projects at work that others thought couldn't be solved in a realistic amount of time. Knowing the basics of computers can help one write stunningly fast software. After all, a quad-core PC running at 3GHz executes a little less than 12 billion instructions per second. You can get a lot done in 12 billion steps... :)

Beautiful piece. It will look magnificent once fully restored. >>
*Message #5 Posted by **tim m.** on 31 Jan 2010, 8:37 p.m.,*
in response to message #1 by Geoff Quickfall

As a collector of clocks and watches, that is a higher-grade movement than I would have expected.

-Tim

Re: Beautiful piece. It will look magnificent once fully restored. >>
*Message #6 Posted by **Geoff Quickfall** on 31 Jan 2010, 9:02 p.m.,*
in response to message #5 by tim m.

Hello Tim,

I agree, nice high grade 11 jewel movement. The balance spring is elinvar with a non compensated balance. Interestingly the standard for an eight day barograph is a one hour deviation at the end of the period. When you consider one rotation of the barrel is 7 days then an extremely accurate clock is not a requirement as it would not be indicated by the scale of the chart.

The movement is standard 18000 beats per hour (5 beats per second) or 2.5 herz. With my vibrometer I will adjust this to within minutes per week as long as the temperature does not deviate to much in the house and that should not be a problem.

Over 40 clocks reside here, most American eight day ranging from 1812 to 1900.

Two hundred and fifty watches, 150 restored Omegas, Longines, Mido, Universal, Wakmann-Breitling, and others including the HP-01.

Here is a restored Georgian Bracket (ca 1812) clock I did a couple of years ago that you would be interested in:

Look what I found for $50 USd; off topic but I think you will like the photos.

Look what I found for $50 USd; off topic but I think you will like the photos.

Look what I found for $50 USd; off topic but I think you will like the photos.

and some of the watches:

Look what I found for $50 USd; off topic but I think you will like the photos.

Look what I found for $50 USd; off topic but I think you will like the photos.

Cheers, Geoff

Edited: 1 Feb 2010, 2:10 a.m. after one or more responses were posted

Lovely pieces. >>
*Message #7 Posted by **tim m.** on 31 Jan 2010, 9:47 p.m.,*
in response to message #6 by Geoff Quickfall

And nice to see some LED watches represented.

I don't have a good group shot, but here are a few highlights.

Omega Constellation 751, originally owned by my grandfather.

Look what I found for $50 USd; off topic but I think you will like the photos.

Waltham Colonial Riverside

Look what I found for $50 USd; off topic but I think you will like the photos.

Look what I found for $50 USd; off topic but I think you will like the photos.

And by far my most accurate watch (narrowly beating out my Bulova Accutrons) is this Hamilton 4992b.

Look what I found for $50 USd; off topic but I think you will like the photos.

Re: Beautiful piece. It will look magnificent once fully restored. >>
*Message #8 Posted by **Juan J** on 31 Jan 2010, 9:48 p.m.,*
in response to message #6 by Geoff Quickfall

Hello Geoff,

I have seen you restoring a few abused watches to mint (or very good) condition. Dumb question: how can you tell a worthy restoring project from an abused beyond repair item? Is it always possible to turn an ugly duckling into a swan?

Just curiosity.

JuanJ

Re: Beautiful piece. It will look magnificent once fully restored. >>
*Message #9 Posted by **Geoff Quickfall** on 31 Jan 2010, 10:18 p.m.,*
in response to message #8 by Juan J

Hello Juan

Most if not all of my collection are museum restorations. I pay particular attention to finding new-old-stock parts whenever possible.

Before on the right, after on the left (hopefully that was obvious)! The dial was redone, the hands stripped, relumed and painted, crystal polished with diamond polishing paste, movement cleaned, lubricated and timed, case finish redone in the brushed sunburst pattern. All the gaskets in crown, pushers and case were replaced.

Look what I found for $50 USd; off topic but I think you will like the photos.

Notice the SST on the case back. It is the Boeing version, not the British/French Concorde.

Look what I found for $50 USd; off topic but I think you will like the photos.

The above before and after is of a rare Glycine chronograph. 100 were made in 1965 and only 5 are known to exist. This one is featured in a book about Glycine comming out in March.

Here is a link to an article I did on restoring another Glycine watch from bad to good (five it time to download):

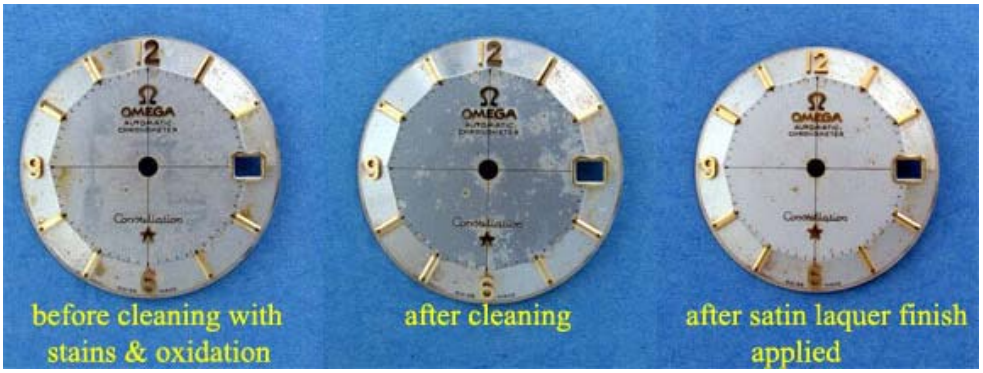
glycine repair article

As Tim has pictured above (hi Tim) you get a general feeling about what is classic and restorable. Of course this takes time as my early restorations were no name Swiss with nice movements. I personally look for complication, be it day-date-month, moonphase, chronograph, chronometer and etc. One must educate oneself as this is expensive and there are a lot of non-restorable watches being sold!

Here is a 1960 Omega Constellation that I restored a year ago:

Look what I found for $50 USd; off topic but I think you will like the photos.

some of the dial work done to the watch as part of the restoration:



So educating oneself is important, I have reference material on watch houses which includes case and movement numbers, style of hands and etc...

It is like knowing which HP calculator is worth spending time on. Do you cannabalize an HP10B for parts for the HP 42S in your collection or vice-versa.

Cheers, Geoff

Edited: 1 Feb 2010, 2:27 a.m.

Re: Beautiful piece. It will look magnificent once fully restored. >>
*Message #10 Posted by **Juan J** on 2 Feb 2010, 6:07 a.m.,*
in response to message #9 by Geoff Quickfall

Hello Geoff,

Thank you for the explanation. Live and learn, and educate yourself in the process.

JuanJ

Re: Look what I found for $50 USd; off topic but I think you will like the photos.
*Message #11 Posted by **Eddie W. Shore** on 1 Feb 2010, 9:27 a.m.,*
in response to message #1 by Geoff Quickfall

Great find, Geoff! Please post when this is restored. I am curious to find out if it is accurate against today's techonlogy.

Re: Look what I found for $50 USd; off topic but I think you will like the photos.
*Message #12 Posted by **Geoff Quickfall** on 1 Feb 2010, 3:29 p.m.,*
in response to message #11 by Eddie W. Shore

The problem with setting the mechanism is getting the response of the nib to vertically match the correct chart readings.

From what I understand this is done by adjusting the lever system. There is a gross adjustment knob which I have already set to a meterology station at the airport. That is I set the nib to correspond to the reading of 29.98 inches on the y axis of the chart recieved from the met report.

I will chart the error when I am around the machine by comparing it to hourly met reports from the airport. At least I can determine the vertical error at that point. As it is now it would seem to almost be spot on.

Cheers, Geoff

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SandMath - Reloaded

*Message #1 Posted by **Ángel Martin** on 31 Jan 2010, 12:18 p.m.*

Sunday News:-

A new version of the SandMath will soon come available at TOS, this time with the following new additions:

1. Digamma function, for any real number where it's defined
2. LogGamma function, for all real numbers where Gamma>0
3. Improved Bessel functions - with extensive MCODE inplementation.

The last one in particular is a hard nut to crack - I sat forth with the intention to implement it all in MCODE but soon enough I got a reality check (a few, actually)... it's about 80% MCODE for the first kind and 50% for the second kind. The speed gains are obvious in the first kind group, and not so much for the others given the 9-digit precission default mode.

Nevertheless it's a vast improvement over the previous all-User code versions, but I won't attempt something similar in a long time! (laborious and pesky as only MCODE can be...)

Almost forget: a new overlay has been designed for the SandMath module, with function launchers and color-coded function groups... will post samples as soon as I catch my breath.

Cheers, 'AM

Re: SandMath - Reloaded

*Message #2 Posted by **PeterP** on 1 Feb 2010, 5:24 p.m.,*
in response to message #1 by Ángel Martin

You're on a roll!!!

Awesome work Angel, very impressed!

Cheers,

Peter

Re: SandMath - Reloaded

*Message #3 Posted by **Ángel Martin** on 4 Feb 2010, 2:49 p.m.,*
in response to message #1 by Ángel Martin

Here it is, a "repurposed" 41C... with a little help of my friends :)

Enjoy!

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Collection display

*Message #1 Posted by **Michel Beaulieu** on 30 Jan 2010, 9:39 p.m.*

I have a lot of calculator but they ar not visible. I search the web for a wood base display for my collection with some kind of light in it and doors. It needs to accomodate for, let's say 60 calculators and mabye mor in future; do you have any photos or plans for that kind of project?

Thanks Michel

Re: Collection display

*Message #2 Posted by **Walter B** on 31 Jan 2010, 12:18 a.m.,*
in response to message #1 by Michel Beaulieu

IIRC, that topic was discussed here maybe one or two years ago. Some pictures were included then.

HTH

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MoHPC *The Museum of HP Calculators*

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PIL-box <- EMU41 <- Dosbox <- Linux

*Message #1 Posted by **Geir Isene** on 30 Jan 2010, 4:29 p.m.*

I have seen a post here some time back with a successful PIL-box <- EMU41 <- Dosbox <- OSX setup. Has anyone had success with Linux (Ubuntu)?

I have this EMU41.INI

```
--------------------

; emu41.ini        emu41 init file


[MODULES]
; page size filename
0  12 rom41cx.bin
3   4 cxfcn2d.bin
5   8 cxtime2c.bin
6   4 prter1e.bin
7   4 hpil1h.bin
; ------------
8  12 adv41b.bin
10  4 xio1a.bin


[DEVICES]
DISPLAY
HDRIVE1
HDRIVE2
LPRTER1
DOSLINK
XIL COM1:

--------------------
```

And this .dosboxrc

```
--------------------

[serial]
serial1=directserial realport:ttyUSB0
serial2=disabled
serial3=disabled
serial4=disabled


[dos]
keyboardlayout=no


[sdl]
mapperfile = .mapper.txt


[autoexec]
mount d: /home/noosisegei/G/Tech/Dos/
d:
cd bnu
bnu
cd ..
c:
```

The bnu runs but no success getting the PIL-box up and running :-(

Edited: 30 Jan 2010, 4:30 p.m.

Re: PIL-box <- EMU41 <- Dosbox <- Linux

*Message #2 Posted by **Egan Ford** on 2 Feb 2010, 7:56 p.m.,*
in response to message #1 by Geir Isene

Hello Geir,

I just got a chance to test this. Yes, it works with Ubuntu just fine.

A few notes:

1. I tested Ubuntu 9.04. Ubuntu 9.04 did not work properly with the PIL-Box until after I upgraded the kernel. There is a known issue with FTDI USB chips and Ubuntu 9.04. I do not know if 9.10 fixed it. On my 9.04 system I am using 2.6.30-02063006-generic.
2. For best performance you'll want to set the latency timer to 2. E.g. echo 2 >/sys/bus/usb/devices/5-1:1.0/ttyUSB0/latency_timer. The 5-1:1.0 will vary, use lsusb or dmesg to find the right hub.
3. I do not recall if this was necessary, but chmod 666 /dev/ttyUSB0 just in case.
4. No : after the COM1, e.g. XIL COM1, not XIL COM1: (perhaps it makes no difference).
5. I commented out all [DEVICES] but XIL for testing.

I just formatted a tape with NEWM 100. Fast and no probs. Contact me directly (egan@sense.net) if you need me to send you my EMU41.INI and my dosbox.prefs file.

Good luck.

Edited: 2 Feb 2010, 7:59 p.m.

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HP gee-whiz question (batteries)

*Message #1 Posted by **megarat** on 29 Jan 2010, 2:29 a.m.*

Hey all,

I'm looking to solve a piece of trivia that goes beyond my own scope with HP calcs: which HP calculator was the first to use off-the-shelf batteries that still exist, abundantly, today? I mean batteries that I can buy at the corner pharmacy, not via special order from Rat Shack.

Is it really the Voyagers, or am I missing something earlier? Would it be the 41C series?

I'm less interested in outliers like the HP-01 or the computer-esque models (e.g., 71B). And I almost want to disqualify anything that uses N-cells because, as I understand it, the "standard size" of the cells has changed and they're now less convenient to replace with some models, e.g., the 28S/28C.

Edited: 29 Jan 2010, 2:33 a.m.

Re: HP gee-whiz question (batteries)

*Message #2 Posted by **Mohammed Hadi** on 29 Jan 2010, 3:40 a.m.,*
in response to message #1 by megarat

The 41C series uses type N cells which probably match the CR-2032 coin cells (modern hp calcs, some car remote keys and PC motherboards) in terms of local store availability. Just make sure you get the 1.5V rating as they come at severl voltage levels.

Re: HP gee-whiz question (batteries)

*Message #3 Posted by **Martin Pinckney** on 29 Jan 2010, 9:34 a.m.,*
in response to message #2 by Mohammed Hadi

I think N cells are 1.5v period, unless rechargeable substitutes, in which case they would be either 1.2v or 1.25v, depending on how the manufacturer rates them.

Re: HP gee-whiz question (batteries)

*Message #4 Posted by **Mike Reed** on 30 Jan 2010, 1:17 p.m.,*
in response to message #2 by Mohammed Hadi

I don't have any at hand to measure, but as I remember it, the 'N' cells I put in my several HP-41's (when I had them) were cylindrical, about the diameter of a AAA battery, but about 1/2 it's length. They were not disc shaped at all - not even remotely like a CR-2032. These N cells were and still are widely available in the USA. I just saw a blister pack of 4 at my local pharmacy (chemist shop, for Euro friends) for less than $5.

Re: HP gee-whiz question (batteries)

*Message #5 Posted by **Martin Pinckney** on 30 Jan 2010, 10:46 p.m.,*
in response to message #4 by Mike Reed

Mike, Mohammed said they matched "in terms of local store availability", not any physical features.

Re: HP gee-whiz question (batteries)

*Message #6 Posted by **Mohammed Hadi** on 31 Jan 2010, 6:08 a.m.,*
in response to message #5 by Martin Pinckney

Thank you Martin for responding on my behalf. And thank you also for correcting my information regarding the N cell rating.

Re: HP gee-whiz question (batteries)

*Message #7 Posted by **Martin Pinckney** on 31 Jan 2010, 2:49 p.m.,*
in response to message #6 by Mohammed Hadi

There is a 12v battery that is very close to the N cell in physical dimensions. A23 I think.

Re: HP gee-whiz question (batteries)

*Message #8 Posted by **megarat** on 4 Feb 2010, 6:19 p.m.,*
in response to message #4 by Mike Reed

> Quote:
>
> I don't have any at hand to measure, but as I remember it, the 'N' cells I put in my several HP-41's (when I had them) were cylindrical, about the diameter of a AAA battery, but about 1/2 it's length. They were not disc shaped at all - not even remotely like a CR-2032. These N cells were and still are widely available in the USA. I just saw a blister pack of 4 at my local pharmacy (chemist shop, for Euro friends) for less than $5.

As I understand it (I'm certainly no authority on the subject): the "standard physical dimension" of N-cells went through a change sometime in the 90s, to be very slightly thicker.

Someone told me this by way of explanation for why it was so difficult to remove the batteries from my (then-) HP 28c. Validation pending. Perhaps this is complete bollocks and that N-cells have always been a bugger to change on the HP 28-series (or that my own unit was an outlier), but it's the only data I have.

Can anyone confirm/verify/refute?

Edited: 4 Feb 2010, 6:20 p.m.

Re: HP gee-whiz question (batteries)

*Message #9 Posted by **Bart (UK)** on 29 Jan 2010, 4:17 a.m.,*
in response to message #1 by megarat

> Quote:
>
> And I almost want to disqualify anything that uses N-cells because, as I understand it, the "standard size" of the cells has changed and they're now less convenient to replace with some models, e.g., the 28S/28C.

It depends on where in the world you are. From my point of view, N-cells are off-the-shelf and abundant, as here in the UK I can get them at my local Tesco, in the Tesco brand even. I prefer Duracell and recently ordered some here.

By the way, the 12V remote batteries are slightly smaller than the N cell, but the best advice is "always read the label".

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Symbolic Calculus 50g

*Message #1 Posted by **Shu Y Pong** on 28 Jan 2010, 8:40 p.m.*

I am trying to figure out how to get the 50g to take the time derivatives symbolicly for r in dynamics problems. so r dot and r double dot as a function of theta. So the question is, is there a way to make the calculator see theta symbolicly as some unknown function of time instead of as a constant so that when it takes the derivative it executes the chain rule as it would if theta were a function instead of getting zero because it thinks theta is a constant. for instance if r = sin(theta) then r dot = cos(theta)*theta dot. instead the calculator just gives zero or if you take it with respect to theta then you just get cos(theta)

Edited: 28 Jan 2010, 8:43 p.m.

Re: Symbolic Calculus 50g

*Message #2 Posted by **Norman Dziedzic** on 28 Jan 2010, 10:58 p.m.,*
in response to message #1 by Shu Y Pong

You have to tell the calculator that theta is a function of t.

If you type in d/dt(cos (theta(t))) then you will get the result you expect. I get

cos(theta(t)) * d1 theta(t)

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O.T. runaway car

*Message #1 Posted by **designnut** on 28 Jan 2010, 1:36 p.m.*

I experienced a mechanical accelerator stick on the highway, I turned the key off which locked the steering, so it was off, jiggle the pedal, on, steer a little until I gained control. The present problem is a potentiometer element losing it's end bonding to contacts. Lose the ground and people waiting at a light get a surge forward. Lose the upper contact and nothing happens until the pedal is fully on. Our toyota has an engine off key position which can be used to gain control. Those with a button start must press and hold it 3 seconds to stop. Best you know your options and make sure family is advised. Sam

Re: O.T. runaway car

*Message #2 Posted by **bill platt** on 28 Jan 2010, 2:52 p.m.,*
in response to message #1 by designnut

Aha!

It's the damned "keyless entry" crap that has Toyota in a corner!

We have a manual Camry and can turn it off immediately. We have not had a problem with the "fly by wire" accelerator pedal.

Have you really experienced this porblem with the accelerator?

Re: O.T. runaway car

*Message #3 Posted by **bill platt** on 28 Jan 2010, 2:58 p.m.,*
in response to message #1 by designnut

Here is the correspondence I had with Toyota some months ago:

Recently you contacted Toyota. Below is a summary of your contact message and our response.

Thank you for allowing us to be of service to you.

Subject Brake Override Sysytem on 2007 Camry

Discussion Thread Response (JSpe) 12/11/2009 02:46 PM Mr. Platt,

Thank you for your email to Brian Lyons, it has been forwarded to Toyota's Customer Experience Center for a response.

Your feedback to Toyota about your 2007 Camry is greatly appreciated, and we apologize for any concerns caused by the Potential Floor Mat Interference with Accelerator Pedal Safety Recall notification Toyota has issued regarding possible interference between the floor mat and the accelerator pedal on certain Toyota and Lexus models.

The brake override system you mention would prevent operation of a manual transmission in way described in your email. Please understand that the recall has just been issued, the application of the brake override system is still being researched. Once you receive your notification in the mail, please speak with your local Toyota dealership to see if any changes have been made and how the may affect the repairs that need to be completed on your vehicle.

If we can be of further assistance, please utilize the following link to find a variety of avenues to contact our offices, http://www.toyota.com/help/. Your email has been documented at our National Headquarters under file #0912119660.

Jay Spencer

Customer (Entered by JSpe) 12/11/2009 02:18 PM Dear Mr. Lyons,

I am the owner of a 2007 Camry with manual 5 speed transmission. I find the car to be pretty good. But I am concerned about this latest recall, and the plans being suggested, specifically:

"In addition, as a separate measure independent of the vehicle-based remedy, Toyota will install a brake override system onto the involved Camry, Avalon, and Lexus ES 350, IS350 and IS 250 models as an extra measure of confidence. This system cuts engine power in case of simultaneous application of both the accelerator and brake pedals."

As I mentioned, I am owner of the rather rare 5-speed manual version of the Camry. I like to drive it, and I frequently heel-toe and double-clutch on downshift. It seems to me that if a brake override system were installed, my car would not function properly. Will this new "feature" be installed on all future Toyota manual transmission cars?

I am further concerned that something more is going on with this story. My dealer tells me that the Root Cause Analysis showed the problem to be extra floormats--stacked on top of factory ones. The extra ones, which are specifically not authorized, slide around. It seems to me that this could (and probably does) happen on many types of cars, and further, that this is an operator problem. Why wouldn't Toyota stand up against this? I understand pleasing your customers and all, but I am a pleased customer, and having driven my car over 65k miles, I just cannot see how there is any sort of legitimate claim against Toyota, unless there is in fact something else going on. Is GM behind this? Is there actually something else that Toyota engineering is concerned about but not mentioning? I wonder.

I do hope that something will be done to prevent the loss of functionality of the manual transmission car. (It is bad enough now that we have clutch interlocks. In the old days, if you stalled in a flood, you could literally drive the car out of it on the starter motor--I know from experience. Now you have to lose your car in a flood--which happened to my father once).

I hope to hear from you with an answer to my concerns regarding manual transmission heel-toe and downshift.

Best regards,

Bill Platt

Re: O.T. runaway car

*Message #4 Posted by **designnut** on 28 Jan 2010, 3:37 p.m.,*
in response to message #3 by bill platt

Bill et al. My runaway was a Ford rental of long ago. I have not had any throttle problem with a 2009 Camry. I have read that the Japanese made controls are much better in failure rate. The US failure rate is about one in a thousand. I do not believe the floor mat causation as several have reported runaway with no

accelerator usage at all, like waiting at a light, or reversing.Some have stated they had no floor mat at the time of the incident. The Camry has a computer memory of conditions at the time of a crash, like the black box in aircraft. These should give important parameters. Sam

Re: O.T. runaway car

*Message #5 Posted by **Jon S Canale** on 28 Jan 2010, 4:40 p.m.,*
in response to message #4 by designnut

I think my Pontiac Vibe is included in this recall, being basically a Toyota Matrix under the hood.

I for one am not impressed with the hype of Toyota's magical "quality" levels. We had both a 2003 Vibe 5-spd (mine), and a 2004 automatic (wife's). At 5 years young and 65k miles, my 2003 was diagnosed with a bad manual transmission ($4k to fix), and while they were looking, an oil leak (another $2k to fix). From what I could find online, neither the transmission nor the oil leak are unheard of through the Vibe, Matrix, Corolla lineup. Needless to say, I was not spending $6,000 to fix this 5 year old car and traded it in on a used Ford. (With full disclosure to the dealer!)

My wife now drives the Ford and loves it, while I have her 2004 Vibe with an automatic transmission that does not "feel right" to me either. I may be looking for a replacement for that one as well.

Sorry, but I had to complain about this!!!

I'm not buying any more Toyota's, I can tell you that!

Re: O.T. runaway car

*Message #6 Posted by **db (martinez, ca.)** on 28 Jan 2010, 10:34 p.m.,*
in response to message #5 by Jon S Canale

re: "I'm not buying any more Toyota's, I can tell you that!"

I just heard that some fords are being recalled. It seems that ford bought parts from the same supplier that toyota did. Thank globalization; someone somewhere sold both manufacturers wear prone accelerator pedals. It's hard to buy something worth buying, that has an american nameplate, that is made in the us. The best 4wd is a subaru - made in the usa. The two best trucks are toyota and ford - both made here. Skill tools are now made in china, as are most RPN calculators. All i have been buying lately is building materials so thankfully; i can choose wood and it's all been from here in the good ol' us of a. Kinda worried about that hickory though; i think that it's from the "confederate states of america".

Re: O.T. runaway car

*Message #7 Posted by **Matt Kernal** on 29 Jan 2010, 1:26 p.m.,*
in response to message #6 by db (martinez, ca.)

> Quote:
>
> I just heard that some fords are being recalled. It seems that ford bought parts from the same supplier that toyota did. Thank globalization; someone somewhere sold both manufacturers wear prone accelerator pedals. It's hard to buy something worth buying, that has an american nameplate, that is made in the us.

Pedal manufacturer:
http://www.ctscorp.com

and a couple press releases:
http://www.ctscorp.com/publications/press_releases/nr100127.htm.

http://www.ctscorp.com/publications/press_releases/nr100129.htm.

If you can assume these pedals are being correctly built to Toyota's specs, then this is a Toyota design problem. Toyota is not saying there is a manufacturing defect on CTS's part.

I heard on today's news that a new pedal, made of a different type of nylon that is not as "susceptible to moisture" (which is what is believed to "cause", or contribute to, the sticking) has been released to manufacturing.

I also heard Toyota doesn't believe the pedal to be the main problem, but is addressing it nonetheless.

Edited: 29 Jan 2010, 1:33 p.m.

Re: O.T. runaway car

*Message #8 Posted by **Marcus von Cube, Germany** on 29 Jan 2010, 1:58 p.m.,*
in response to message #7 by Matt Kernal

We had a mention of the case her in Germany today. Some Toyotas here are recalled. In the U.S, 19 people's deathes are attributed to the failure.

What I do not understand is why drivers are unable to turn the engine off or to set the gearshift to neutral. With a manual shift, I don't see a problem to stop the car even if I can't stop the engine.

Re: O.T. runaway car

*Message #9 Posted by **bill platt** on 29 Jan 2010, 2:10 p.m.,*
in response to message #8 by Marcus von Cube, Germany

There are only three manual transmission Camrys in the US and I own one of them ;-)

Seriously, there are probably ony 0.1% manuals in the US.

And when you consider the keyless entry 3 second aspect, and the fact that the keyless entry is de rigeur for fashionable people and standard on all but the base model, and the fact that the base model is less than 10% of sales (or something like that) then you can see where the problem comes from.

Of course an automatic tranny driver could knock the gearshift out of gear, except for one problem: unlike habitual manual drivers, the automatic driver is not accustomed to touching that thing except for parking--and being interested in automatic, want the easy weay out, no thinking etc....

I'm ranting but I think you know what I mean about "automatic" drivers....

Edited: 29 Jan 2010, 2:12 p.m.

Re: O.T. runaway car

*Message #10 Posted by **Matt Kernal** on 29 Jan 2010, 2:11 p.m.,*

in response to message #8 by Marcus von Cube, Germany

In the US, there are a lot more Automatic transmissions (vs Manual) installed in the affected cars, except for maybe the Corollas in the "economy" class of vehicle. BTW, I prefer the "stick" in my car.

The problem on the "higher end" cars, is that they don't have regular key-operated ignition switches any more, but rather, a Start-Stop pushbutton that is enabled by close (radio) proximity of the key fob that can stay in your pocket. The problem is that people try to turn off the car, but continually keep pushing the button (from panic no doubt), rather than holding it down for the required 3 seconds to actually turn off the engine.

I agree with you Marcus.. I don't understand what is so hard about shifting into Neutral? Also, applying the brakes can overcome the engine. I don't get it (unless people are in too much of a panic, or don't have enough time to think).

Edited: 29 Jan 2010, 2:19 p.m.

AUDI 5000 ;-))

*Message #11 Posted by **Joerg Woerner** on 29 Jan 2010, 3:03 p.m.,*
in response to message #8 by Marcus von Cube, Germany

Marcus,

Living now for almost four years in the US and driving a lot of rental cars both in Germany and here, I can tell you:

The cars here are different!!!

You can't switch an automatic transmission easily in Neutral while driving! The shifter is blocked from most movements if you are not touching the brake pedal, don't have the ignition on and so on. Differs from car to car. Recently I drove a Hyundai and it took me some time to stop the engine on the parking lot of an Outback Steakhouse (thw steak was okay). You had to push the gearshift in PARK before you could turn the engine off and pull the key. try this at 65 mph (I'm in NY State).

WHY these differences? Remember the Audi 5000 (Audi 100 in good old Germany) and its "sudden unintended accelerations"?

Cheers, Joerg

Re: O.T. runaway car

*Message #12 Posted by **Dimitri Simitas** on 29 Jan 2010, 8:15 p.m.,*
in response to message #7 by Matt Kernal

> Quote:
>
> I also heard Toyota doesn't believe the pedal to be the main problem, but is addressing it nonetheless.

Remember the seat belt recall? They used the same similar line. Actually for the seat belts they went as far as to say it was the users ("fat Americans") who lodged food into the latch mechanism. Anything to save face.

Dimitri

Re: O.T. runaway car

*Message #13 Posted by **Jon S Canale** on 29 Jan 2010, 2:56 p.m.,*
in response to message #6 by db (martinez, ca.)

Wood! Plywood at Home Depot and Lowes is from China!!!

Re: O.T. runaway car

*Message #14 Posted by **Garth Wilson** on 30 Jan 2010, 9:40 p.m.,*
in response to message #5 by Jon S Canale

> Quote:
>
> I for one am not impressed with the hype of Toyota's magical "quality" levels.

Last July we rented a new Corolla for a trip. At one point I had to hit the brakes a little harder than usual, not a panic stop though, and inspite of ABS, I locked up all four wheels on dry pavement. It wasn't a problem, but obviously the ABS was no good on this car that only had one or two thousand miles on it.

Re: O.T. runaway car

*Message #15 Posted by **Scott Newell** on 28 Jan 2010, 8:49 p.m.,*
in response to message #3 by bill platt

As a heel+toe double-clutcher, I understand where you're coming from. However, you don't *have* to submit to the recall.

As far as the clutch interlock, I've found that it's usually a pretty easy job to just disable the switch. I agree that it can be very handy to crank in gear (in my case, it was to load the car onto a trailer). Just be sure all potential drivers know about it before they turn the key!

Re: O.T. runaway car & interlocks

*Message #16 Posted by **Karl Schneider** on 29 Jan 2010, 1:13 a.m.,*
in response to message #3 by bill platt

For brake interlocks on automatic transmissions, you can thank the "unintended acceleration" incidents of the mid-1980's US Audi 5000 models, which invariably were caused by driver error -- foot on the gas instead of the brake, whose pedals were close together.

Clutch interlocks on manual-transmission cars are fairly new. Depressing the clutch on startup is a good idea for several reasons, but it should not be made compulsory such that emergency capabilities are disabled. If the switch fails, can the car be started? I also hope that push-starting for dead batteries and failed starters is not affected by clutch interlocks.

> Quote:
>
> I just cannot see how there is any sort of legitimate claim against Toyota, unless there is in fact something else going on. Is GM behind this?

Not too far-fetched, maybe:

"On Wednesday, G.M. began offering discounts and no-interest financing specifically to Toyota owners.

“We’re responding to the concerns of many Toyota owners who have asked our dealers for help,” said a G.M. spokesman, Tom Henderson. “We’re reacting by offering a solution.”

http://www.nytimes.com/2010/01/28/business/28sales.html

Edited: 30 Jan 2010, 1:45 p.m. after one or more responses were posted

Re: O.T. runaway car & interlocks

*Message #17 Posted by **Mike Reed** on 30 Jan 2010, 1:39 p.m.,*
in response to message #16 by Karl Schneider

I had a 2003 Toyota Corolla LE, automatic, in which my daughter had put clear plastic floor-mats over the carpet floor-mats that came with the car. On at least 3 separate occasions, while using "passing gear" for extra power to climb a hill, the accelerator pedal did in fact become hooked on the floor-mats, and wouldn't stop accelerating. A vigorous kick to the pedal freed it. Removal of the clear plastic mats fixed it - no problems since. In case of runaway acceleration, turn off engine BEFORE going to neutral, if at all possible, else don't go to neutral. Going to neutral first can result in a quick engine overspeed, and that can result in a thrown rod, broken crank or other lesser maladies... Expensive.

Re: O.T. runaway car & interlocks

*Message #18 Posted by **Marcus von Cube, Germany** on 30 Jan 2010, 2:18 p.m.,*
in response to message #17 by Mike Reed

18 people reported dead. I'd prefer a broken engine.

Re: O.T. runaway car & interlocks

*Message #19 Posted by **bill platt** on 30 Jan 2010, 5:23 p.m.,*
in response to message #17 by Mike Reed

The problem with engine shutdown as the 1st option is that it isn't possible!

You have to wait 3 seconds because of the push-button! That is a a long time!

The real problem here is the Law of Unintended Consequences.

Consequence #1: keyless start does not have a safe effective kill switch (with is innately part of a normal key operation) Consequence #2: many automatic transmissions are difficult to safely shift out of gear while moving. Furthermore, there is wide variation from design to design. Finally, shifting the automatic, especially towards neutral, is not part of SOP and is not taught, practiced or envisioned by drivers. In an emergency situation, this lack of training becomes fatal.

Edited: 30 Jan 2010, 5:24 p.m.

Re: O.T. runaway car & interlocks

*Message #20 Posted by **designnut** on 30 Jan 2010, 5:36 p.m.,*
in response to message #19 by bill platt

My dentist drove his wife to the airport and she got out taking the key fob with her. He was in

fear of it stopping. I read they blame moisture in the throttle for the problems and are adding a shim as a fix. That is not entirely consistent with the low failures of The Japanese made Denso control. Color me skeptical. Sam

Re: O.T. runaway car

*Message #21 Posted by **Eric Rechlin** on 30 Jan 2010, 7:11 p.m.,*
in response to message #1 by designnut

Just hit the brakes, that's all it takes.

There's not a car sold in the US (unless modified in an unsafe fashion, perhaps by massively upgrading the engine while leaving the brakes stock) where the brakes cannot stop the car, even when the throttle is wide-open.

Yes, it may take some force, but all these deaths seen in these Toyota-related incidents could have been prevented if the driver would have just slammed on the brakes.

Here's some hard proof, from the March 2010 issue of Car and Driver magazine:

Toyota Camry V-6:
70-0 mph, closed throttle: 174 feet
70-0 mph, full throttle: 190 feet
100-0 mph, closed throttle: 347 feet
100-0 mph, full throttle: 435 feet

As you can see, while the stopping distance is increased somewhat, the car still stops just fine.

Yes, Toyota has a defect that should be addressed, but it's not the big deal that some people are making of it.

(for the record, I do happen to own a Type 44 Audi -- the vintage affected by the totally driver-caused "unintended acceleration" scare in the mid-80s -- and I'm not afraid of it)

Eric

Re: O.T. runaway car

*Message #22 Posted by **designnut** on 30 Jan 2010, 8:16 p.m.,*
in response to message #21 by Eric Rechlin

It is unwise to stop on a roadway, really bad news,one must get out of the traffic flow so some control of the car is needed. I had good success with the key on/off override. I suggest that the computer controlled cars have a rev limiter function built in, I am not certain. At full throttle engine vacuum boost is depends on the reserve and you get limited applications of the brake thereafter. Hard to keep control and not lose braking. Like the Boy Scouts, Be Prepared. Sam

Re: O.T. runaway car

*Message #23 Posted by **Garth Wilson** on 30 Jan 2010, 9:46 p.m.,*
in response to message #21 by Eric Rechlin

> Quote:
>
> Just hit the brakes, that's all it takes.

The lack of vacuum from having the throttle open will make it require more pedal pressure; but even a small woman should be able to put a couple hundred pounds on the pedal, which is always enough. I fault our driver's training though. It does not deal with how to manage mechanical failures like pilot instruction does. My wife had the vacuum fail one time, and she thought the brakes went out. Fortunately she did not crash. Then her mother told her she should pump the pedal, which of course does nothing but waste valuable braking time in that case. (There was no hydraulic failure.) She also didn't remember that the emergency brake is called that for a reason-- that it's not just for parking, but it's a direct mechanical linkage to the rear brakes that is 100% good even if the hydraulics were to fail completely. The bottom line is that there are various ways to stop that car, but driver's training doesn't teach you.

Edited: 30 Jan 2010, 9:46 p.m.

Re: O.T. runaway car

*Message #24 Posted by **Martin Pinckney** on 30 Jan 2010, 10:43 p.m.,*
in response to message #23 by Garth Wilson

All good advice, but for the emergency brake part - it almost always goes to the rear wheels only, and will NOT stop a car with a runaway engine. Many have proven this by driving around with the emergency brake on, until they finally smelled the burning shoes...

Re: O.T. runaway car

*Message #25 Posted by **Garth Wilson** on 31 Jan 2010, 3:42 a.m.,*
in response to message #24 by Martin Pinckney

If you apply it as intended (which means hard), it will be impossible to drive with it on. It will lock up the back wheels. If you have front-wheel drive and enough torque to break traction in 1st gear, then you might be out of luck for 1st gear, but not for gears used to reach higher speeds.

Re: O.T. runaway car

*Message #26 Posted by **designnut** on 31 Jan 2010, 11:52 a.m.,*
in response to message #25 by Garth Wilson

Toyota has blamed floor mats, now they call it a sticking accelerator. The fix is to increase the spring tension. When people experience sudden acceleration while waiting for a light, it is not a sticking pedal. They blamed water condensation. They don't have a clue. Heres their "fix" <The repair that U.S. regulators cleared is a "selective spacer," or shim, that would be inserted into the gas-pedal assembly to increase tension within the pedal to prevent the accelerator from remaining in a depressed position. Toyota has told dealers that it can produce as many as 120,000 of the shims a day.> I don't buy it, I hope you don't either. Sam

Re: O.T. runaway car

*Message #27 Posted by **Martin Pinckney** on 31 Jan 2010, 3:58 p.m.,*
in response to message #25 by Garth Wilson

Your emergency brake must work better than the ones I have used. Especially on rear wheel drive cars. The engine simply overpowers the brake.

Edited: 31 Jan 2010, 4:02 p.m.

Re: O.T. runaway car

*Message #28 Posted by **designnut** on 31 Jan 2010, 11:30 p.m.,*
in response to message #27 by Martin Pinckney

Years ago a transformer failed at Collins Radio. There was corrosion next to a nylon bobbin. Collins chemists traced it to silicon mold release used in the bobbin manufacture. Silicon is incompletely polymerized and with heat and pressure releases monoatomic fluorine which is corrosive. Washing in alcohol made the parts usable. Silicon is notable a non-stick agent, so any attempt to cement parts to a nylon housing might meet with failure. I read the part is made of nylon. Sam

Re: O.T. runaway car

*Message #29 Posted by **Martin Pinckney** on 31 Jan 2010, 11:50 p.m.,*
in response to message #28 by designnut

In 2005 after Hurricane Wilma came through, the electric coop on Marco Island got the power back on in record time - just two days if memory serves. Then a few days later it failed again. The reason? Salt carried by the high winds from the Gulf had been deposited on insulators causing them to ground out.

We were treated to the spectacle of the Fire Department going all over the island washing off the insulators with the high pressure hoses. An inelegant but very effective low-tech solution.

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OT: Apple iPad

*Message #1 Posted by **Don Shepherd** on 28 Jan 2010, 11:48 a.m.*

Well, that iPad looked kinda neat, so I thought maybe I might want to develop an app for it. Oh, you have to pay Apple $99 to get the SDK to write any code for it (in addition to having an Apple computer, of course). Gee, I remember when you bought a computer and it came with BASIC so you could develop something right out of the box, no extra charge thank you. My Apple][even came with two programming languges, Applesoft BASIC and Integer BASIC.

Times have changed. For the worse.

Re: OT: Apple iPad

*Message #2 Posted by **John B. Smitherman** on 28 Jan 2010, 12:01 p.m.,*
in response to message #1 by Don Shepherd

I can't wait to see Byron Foster's 42s running on an iPad.

Regards,

John

Re: OT: Apple iPad

*Message #3 Posted by **Dave Britten** on 28 Jan 2010, 12:42 p.m.,*
in response to message #2 by John B. Smitherman

On a related note, the iPad could end up being home to the world's first reasonably usable TI-92 emulator.

Re: OT: Apple iPad

*Message #4 Posted by **Didier Lachieze** on 29 Jan 2010, 3:20 a.m.,*
in response to message #3 by Dave Britten

Could be a great platform for a HP-71B emulator too.

Re: OT: Apple iPad

*Message #5 Posted by **Juergen Keller** on 28 Jan 2010, 1:58 p.m.,*
in response to message #1 by Don Shepherd

Do you really have to pay to get the SDK? I thought you only have to register and pay if you want to run your programs on an iPhone etc. (and not in the emulator which is good enough to learn iPhone programming). And then you get a possibility to sell your programs easily in the App Store and earn money (if you are lucky, much more than $99).

Well, Apple has cool gadgets but they also know very well how to earn money. Now, they sell eBooks, too,

which is a fast growing market ...

Regards,
Juergen

Re: OT: Apple iPad

*Message #6 Posted by **Don Shepherd** on 28 Jan 2010, 3:09 p.m.,*
in response to message #5 by Juergen Keller

Juergen, I think you have to pay the $99 to be an individual developer and get the SDK. From whatever Apple web page I was at, it certainly seemed that the SDK was not free. I may be wrong.

I am not interested in making apps for others to use, I'm just interested in seeing how it is programmed and playing around with it. But it looks like that will cost me $99 (plus the cost of an Apple computer to develop the app on).

You are right, Apple knows how to make money! Always has.

Don

Re: OT: Apple iPad

*Message #7 Posted by **Juergen Keller** on 28 Jan 2010, 3:46 p.m.,*
in response to message #6 by Don Shepherd

On http://developer.apple.com/iphone/, they say the following:

> Quote:
>
> To access iPhone SDK 3.1.2 and additional technical resources and information, log in with your Registered iPhone Developer Apple ID and password, or sign up as a free Registered iPhone Developer today.

I think you mix up something. Signing up as a Registered iPhone Developer is free, but if you want to distribute your program over App Store you have to join the iPhone Developer Program for $99.

As far as I heard from colleagues they have some good and useful tutorials. Give them a try and enjoy :-)

Cheers, Juergen

Re: OT: Apple iPad

*Message #8 Posted by **Marcus von Cube, Germany** on 28 Jan 2010, 6:20 p.m.,*
in response to message #7 by Juergen Keller

Still much cheaper than software develpment for Windows used to be. MS development tools used be quite expensive. Meanwhile there a few free tools from MS (Visual Basic Express comes to my mind.)

Re: OT: Apple iPad

*Message #9 Posted by **fbronner** on 28 Jan 2010, 8:17 p.m.,*
in response to message #8 by Marcus von Cube, Germany

Yes Visual express may be free, but as soon as you want to make something a little bit more professional you have to pay for it. And the license is pretty expensive.

Whereas the XCode is the same version whether you develop for iPhone, iPad or OS X.

As a footnote, if you want to develop only for OS X, its free since XCode comes with it. Its only to develop and deploy to iPhone or iPad you need the registration.

Re: OT: Apple iPad

*Message #10 Posted by **Maximilian Hohmann** on 29 Jan 2010, 4:20 a.m.,*
in response to message #1 by Don Shepherd

Godd morning!

> Quote:
>
> Times have changed. For the worse.

Yes and no, I would say (regarding the term "worse"). As a convinced Macintosh user for over 20 years, I had great expectations in this thing. Technologically, these are more or less met: Fast processor, large enough and seemingly very responsive touchscreen, long battery life, UMTS, WLAN and Bluetooth wireless capability, GPS sensor. Apart from the missing OLED display that some rumours attributed to the iPad. And the missing USB (and FireWire and DVI and PC card) interface.

But unfortunately, it turns out to be a kingsize iPhone and not a Macintosh. None of my programs will run on it. Only "apps". That have to be uploaded through the iTunes store, even if I program them myself. The same with all documents for the eBook-reader (probably). And so on. So its a lifestyle/consumer product, not a computer. I'm glad that I found a replacement logic board for my titanium PowerBook, that I originally wanted to replace with an iPad when it broke. This way, I can wait until the iPad evolves into something that really replaces my notebook computer...

And regarding its use as a "pocket" calculator: Why is everybody thinking in terms of emulators only? This thing really offers the opportunity to be much more than that: A truly customisable calculator. With hundreds of keys if necessary. All unshifted and without the need to navigate through those awful menus. What I would like to see is something like a "CDK" (calculator development kit). A toolbox that can be used to create ones own calculator by dragging and dropping keys and display elements into the most convenient positions. With a library of mathematical functions in the background that can be assigned to the keys at will. This should not be much harder to implement than an emulator?

Greetings, Max

Re: OT: Apple iPad

*Message #11 Posted by **Bart (UK)** on 29 Jan 2010, 5:27 a.m.,*
in response to message #10 by Maximilian Hohmann

> Quote:
>
> Only "apps". That have to be uploaded through the iTunes store, even if I program them myself.

I'm confused, are you saying that if you develop an app yourself and want to use it on your own iPad, you

have to load it via the iTunes store?

Re: OT: Apple iPad

*Message #12 Posted by **Maximilian Hohmann** on 29 Jan 2010, 6:24 a.m.,*
in response to message #11 by Bart (UK)

Hi!

> Quote:
>
> I'm confused, are you saying that if you develop an app yourself and want to use it on your own iPad, you have to load it via the iTunes store?

It's always been this way on the iPhone. Why should it change with the maxi-iPhone?

Re: OT: Apple iPad

*Message #13 Posted by **fbronner** on 29 Jan 2010, 8:13 a.m.,*
in response to message #12 by Maximilian Hohmann

You can use the SDK to develop applications for the simulator on the Mac. If you want to run them on a device, you have to register. It costs you $99/year to be able to push to the device (thru a cable or thru itunes if you sell/give away in the appstore).

For instance, there are a couple of applications I have developped which I use only on my iPhone and my wife's iPhone. I created what is known as an Ad-hoc version which can be installed by having the user drop the application and related certificate in their iTunes.

For the iPad, as consumer and developer we have a shared directory which can be used to exchange information between the iPad and the computer. So we could possibly put PDF files in that directory to be read by a special purpose PDF reader.

Actually this document exchange schemes opens the door to a lot of potentially interesting apps.

Re: OT: Apple iPad

*Message #14 Posted by **Maximilian Hohmann** on 29 Jan 2010, 8:39 a.m.,*
in response to message #13 by fbronner

Hello!

> Quote:
>
> For the iPad, as consumer and developer we have a shared directory which can be used to exchange information between the iPad and the computer. So we could possibly put PDF files in that directory to be read by a special purpose PDF reader.

Hopefully. If one can't directly push one's documents onto the iPad to use the device as an eBook-reader, then it is definitely going to be no-no for me. Like the Amazon Kindle, where you have to upload your _own_ documents onto your _own_ reader through Amazon and pay for the service. No way!

Greetings, Max

Re: OT: Apple iPad

*Message #15 Posted by **Bart (UK)** on 29 Jan 2010, 11:56 a.m.,*
in response to message #13 by fbronner

> Quote:
>
> You can use the SDK to develop applications for the simulator on the Mac. If you want to run them on a device, you have to register. It costs you $99/year to be able to push to the device (thru a cable or thru itunes if you sell/give away in the appstore).

So in a roundabout way, Don is right, it costs $99 to develop an app for your iPad. What's the use of developing an app without eventually putting it on the target platform?

Re: OT: Apple iPad

*Message #16 Posted by **Maximilian Hohmann** on 29 Jan 2010, 12:52 p.m.,*
in response to message #15 by Bart (UK)

> Quote:
>
> ... it costs $99 to develop an app for your iPad. ...

Per year!

Re: OT: Apple iPad

*Message #17 Posted by **Bart (UK)** on 29 Jan 2010, 11:51 a.m.,*
in response to message #12 by Maximilian Hohmann

I didn't know, I don't have an iPhone, or any other i(Product).

Re: OT: Apple iPad

*Message #18 Posted by **Matt Kernal** on 29 Jan 2010, 1:55 p.m.,*
in response to message #12 by Maximilian Hohmann

> Quote:
>
> It's always been this way on the iPhone. Why should it change with the maxi-iPhone?

Maxi-iphone? Seems Apple didn't get consult with women when they named their new table. Google "IPad jokes"

They still have time to change the name :-)

Edited: 29 Jan 2010, 3:03 p.m.

Re: OT: Apple iPad

*Message #19 Posted by **Bill (Smithville, NJ)** on 29 Jan 2010, 8:07 a.m.,*
in response to message #1 by Don Shepherd

I've been a tablet PC user for several years - currently a Fujitsu Stylistic ST-5030D which runs Windows XP Tablet. Main use is as a reference computer for all my project materials. I keep linked PDF's of all project files for a particular project. I can quickly look at drawings, specifications, change orders, etc, in the office and in the field.

Having said that, I have been waiting for the iPad hoping that it would stir up the marketplace. But have to admit, I wes not too impressed - just a large iTouch/iPhone. No easy way to put my own generated content on it - which is my main use.

But, I do think the real opportunity for it will be in the colleges/universities. I can forsee a university including an iPad in the tutition and the students would purchase/download all the text books and other study material thru iTunes. The textbook publishers would love it - it would totally eliminate the used textbook market (which the publishers hate), since there would be no way to transer the textbook to another user. Also, no sharing of text books - every student would need to purchase a textbook, since most students would not be willing to loan out their iPad to another student to study from.

Will text book prices come now - doubt it. They might actually go up since it's a closed market place.

A lot of colleges are already distributing course material on the iPhone/iTouch/podcasts and I think the iPad could accerate that trend.

By the way, Poqet, in conjunction with Fujitsu, had the first "PAD" touch screen tablet with their PoqetPad which ran MSDOS. This was introduced in 1991. I had one and it had the virtual pop-up keyboad to type on. It was used mainly in vertical markets, such as inventory.

Bill

Re: OT: Apple iPad

*Message #20 Posted by **fbronner** on 29 Jan 2010, 8:16 a.m.,*
in response to message #19 by Bill (Smithville, NJ)

Bill,

Yes, you can put generated content in a shared directory. When connected to a computer the shared directory appears as a drive on your desktop.

You just have to make sure you are putting stuff you have some sort of reader for.

Re: OT: Apple iPad

*Message #21 Posted by **Thomas Radtke** on 29 Jan 2010, 9:03 a.m.,*
in response to message #1 by Don Shepherd

> Quote:
>
> Times have changed. For the worse.

Not yet. You still have the choice not to use products from companies controlling the market at the expense of customers freedom.

Re: OT: Apple iPad

*Message #22 Posted by **Don Shepherd** on 29 Jan 2010, 5:57 p.m.,*
in response to message #21 by Thomas Radtke

Well, if you can't develop an application on your own, say on a Mac PC with the Apple furnished SDK, and load it directly on the iPad and execute it, then I have no use for the iPad. I thought it would be an interesting platform to learn to develop something for. But I will never agree to use a third party service just to load my app on a computer I own anyhow. I can't imagine anybody with any sense would do that.

Re: OT: Apple iPad

*Message #23 Posted by **Egan Ford** on 29 Jan 2010, 7:36 p.m.,*
in response to message #22 by Don Shepherd

You do not need to use a 3rd party service. You pay $99 for a cross compiler. You cross compile it. You create a bundle and drop it on iTunes and then you sync. No 3rd party service needed. If you think your app is worth something, well you've paid the $99 you might as well published it for others and perhaps get a bit of coin back.

OR

You jailbreak it and do it anyway you like.

Re: OT: Apple iPad

*Message #24 Posted by **Don Shepherd** on 29 Jan 2010, 8:57 p.m.,*
in response to message #23 by Egan Ford

Egan, as far as I'm concerned, iTunes "is" a third party. The first party would be my Mac computer I would develop on, the second party is the iPad I would own, and those are the only two parties I want. And, from what I've gathered from this thread, that $99 would have to be paid every year, for example, if I wanted to change my app a year down the road. If that's the way Apple currently works, count me out, that's not a price I'm willing to pay.

Re: OT: Apple iPad

*Message #25 Posted by **Egan Ford** on 30 Jan 2010, 9:23 a.m.,*
in response to message #24 by Don Shepherd

Let me be a bit clearer. When I said iTunes, I meant the iTunes application, not the iTunes Store. You can develop an app and create an ipa bundle and then drag and drop it onto iTunes and then sync with your phone. If you desire, you can share that bundle with your family and friends (if you have their iPhone ID) and like you they simply just need to drag and drop onto the iTunes app. I do not see how this is third party. Many PDAs/Phones use some type of OS app to install apps on the device. I know this was true with my Palm and my WinMo devices. The 50g has an OS app too.

As for the $99 tax, I do not think Apple is really interested in the hobbyist market. The $99 tax entitles you to create iPhone/iPad/iTouch binaries and publish them on the App Store. Unfortunately, whether or not you publish you still pay $99. The $99/year is a subscription model. I suppose that if you never update Xcode or your i* OSes, and never publish, then I'd expect that you could continue to create ad hoc bundles for yourself and friends. But who is not going to upgrade their OS at least once a year.

Bottom line your code does not have to leave your laptop or i* device, however there is no free ride. Before you throw in the towel over principle, register and download the free Xcode SDK. You'll be able to create free-to-redistribute OS/X apps and i* apps for use in the simulator. You may unlock some hidden talent, and while developing your personal-not-to-be-shared-super-

secret-app you may stumble across that killer app. So far you're out $0 (if you already own a Mac and your *time* is worthless :-). Publish the killer app for $99, recoup your $99 and then some.

Re: OT: Apple iPad

*Message #26 Posted by **Don Shepherd** on 30 Jan 2010, 11:05 a.m.,*
in response to message #25 by Egan Ford

Thanks for the explanation, Egan. I appreciate your insight into how this whole thing works. Obviously, I've been out of the loop for awhile (like 30 years!). The Apple model with software development, i-whatever, and $99 developer/subscription fee bears no resemblance to the PC (and Mac) world of 20 or 30 years ago, which is what this old fossil is used to.

Around 1987 or 88, I developed an air traffic control simulator on my Macintosh. I forget what model of Mac that was on; it was something between the original 128k Mac (which I bought in 1984) and a PowerBook Mac laptop. But in those days, you could buy a Microsoft QuickBASIC compiler, write and compile your code and create the executable, put it on a floppy disk and sell it to whomever you wanted for whatever price you wanted. And then they could run it on their Mac. I'm sure the MS compiler cost around $100, probably. I did have to pay Apple some amount of money to license MacinTalk, which was the Apple speech synthesis application that my app used, and that was a yearly fee. I only paid it once because a year after I started selling it, I stopped. My advertising expenses always exceeded by sales receipts, and it just wasn't "fun" anymore. The things that made it worthwhile were (1) it was fun to learn how to develop a Mac application, (2) since I was the designer and implementor, I could write it exactly as I wanted, and (3) I met lots of great people who bought it and had suggestions about how to make it better, many of which I implemented. I am still friends today with one gentleman who lives in San Francisco and who was one of my first customers. So it was fun and I never regretted it. I still have a copy of the source code (but it won't run on anything I currently own).

So when I saw the neat-looking iPad, I thought it would be nice to develop an air traffic control simulation that would run on that nice platform, with all of it's innovative user-interface features. Like, if you tilt the thing, all the planes will fall to one side of the radar screen! But, seriously, I thought it would be cool to see what is required to code on that platform. Of course, that would require an Apple PC, which I don't currently own. And the $99 fee I could live with as long as it was a one-time fee and I wouldn't have to keep paying it in future years, because, despite the iStore, I have no interest in selling whatever it is I create, I'm just doing it for fun and to learn. But apparently Apple isn't predisposed to "fun" and the individual programmer who just wants to learn and play. Not that they ever were, really, but my experience base, even with the PC, is you buy a language compiler once, you don't keep "re-buying" it in the future.

So I'll wait and see. I'm not saying I will never do this, but I'm not going to sink money into buying an Apple computer to develop on, buying the iPad, paying the $99, and then find I must continue paying $99 forever.

That's just too high a price for "fun."

And I don't know what "jailbreak" means, but it sounds like something I wouldn't want to do.

Re: OT: Apple iPad

*Message #27 Posted by **Maximilian Hohmann** on 30 Jan 2010, 11:59 a.m.,*

in response to message #26 by Don Shepherd

Hello!

> Quote:
>
> And I don't know what "jailbreak" means, but it sounds like something I wouldn't want to do.

Me neither, that's why I haven't bought an iPhone until now. If I have to "crack" something that I buy before I can use it to full capability, I'm not interested.

The 1988 Macintosh you mention must have been a Mac II. Big ugly grey box, but lightyears ahead of the Windows PCs of that time. That's the Mac that got me started too - I was ph.d. student then and it was the only machine (available to us at least) that was able to run "Mathematica". Is your air traffic control simulation still somewhere to be found? I have an old PowerBook 150 somewhere that should be able to run it.

Greetings, Max

Edited: 30 Jan 2010, 12:25 p.m.

Re: OT: Apple iPad

*Message #28 Posted by **Marcus von Cube, Germany** on 30 Jan 2010, 1:28 p.m.,*
in response to message #27 by Maximilian Hohmann

I don't have an iPhone or iPod Touch, but I think I know what jailbraking is: It's a way to install software of your own liking on the device.

Re: OT: Apple iPad

*Message #29 Posted by **Thomas Radtke** on 30 Jan 2010, 1:53 p.m.,*
in response to message #26 by Don Shepherd

Wouldn't a WindowsMobile device be something for you? Few years ago MS gave away the Embedded Visual Tools CD at the cost of p&p. I bet there will be similar devices running WM or Linux soon, probably at half the cost.

Re: OT: Apple iPad

*Message #30 Posted by **Don Shepherd** on 30 Jan 2010, 6:46 p.m.,*
in response to message #29 by Thomas Radtke

Thomas, Windows Mobile does not especially interest me. The new iPad does, but I can't get really interested in it unless it lets me load my own developed application directly on it, which it sounds like it will not do. So I'll wait awhile and see what happens.

Re: OT: Apple iPad

*Message #31 Posted by **Egan Ford** on 3 Feb 2010, 10:54 a.m.,*
in response to message #26 by Don Shepherd

> Quote:

> The Apple model with software development, i-whatever, and $99 developer/subscription fee bears no resemblance to the PC (and Mac) world of 20 or 30 years ago, which is what this old fossil is used to.

In general OS/X Mac development today is really no different than Apple II development 30 years ago. The APIs are well documented and the development tools are free (e.g., BASIC in the 70's and C/C++/Objective-C today) and the code generated royalty free.

The iPhone, iPod, iPad is different. It follows the traditional consumer electrics model. If you think $99/year is bad look at the costs to be an official Nintendo, XBox, Playstation, PSP, etc... developer. These platforms all have closed development models, high fees, rigid approval processes, etc... Makes i* development look like a breeze. And the volume of Apps in the App Store proves it. IMHO, i* development compared to other embedded machines in its class (close proprietary embedded systems) is superior.

Bottom line Apple stopped being a computer company when the iPod was released. They even changed their name from Apple Computer Inc. to Apple Inc. to reflect that. Apple wants to be the next Sony, Nokia, etc...

> Quote:
>
> Around 1987 or 88, I developed an air traffic control simulator on my Macintosh. I forget what model of Mac that was on; it was something between the original 128k Mac (which I bought in 1984) and a PowerBook Mac laptop. But in those days, you could buy a Microsoft QuickBASIC compiler, write and compile your code and create the executable, put it on a floppy disk and sell it to whomever you wanted for whatever price you wanted. And then they could run it on their Mac. I'm sure the MS compiler cost around $100, probably.

You can still do that today, except that you pay nothing for Xcode.

> Quote:
>
> I did have to pay Apple some amount of money to license MacinTalk, which was the Apple speech synthesis application that my app used, and that was a yearly fee. I only paid it once because a year after I started selling it, I stopped. My advertising expenses always exceeded by sales receipts, and it just wasn't "fun" anymore. The things that made it worthwhile were (1) it was fun to learn how to develop a Mac application, (2) since I was the designer and implementer, I could write it exactly as I wanted, and (3) I met lots of great people who bought it and had suggestions about how to make it better, many of which I implemented. I am still friends today with one gentleman who lives in San Francisco and who was one of my first customers. So it was fun and I never regretted it.

I think that is why most of us still do it. I still write Apple II programs for my Apple //c for fun. Lately I have been using the cc65 C cross compiler. But I dabble in Forth and ASM as well.

> Quote:

> I still have a copy of the source code (but it won't run on anything I currently own).

There are a number of great vintage Mac emulators. My 2nd computer was a Mac 512K. I use vMac to emulate it. Every now and then I'll write a program for it for fun. Apple's support site still contains Apple II and vintage Mac OS files free for download and use. More vintage Mac abandonware can be found here: http://www.macintoshgarden.org/. For PowerMac emulation use SheepShaver.

> Quote:
>
> So when I saw the neat-looking iPad, I thought it would be nice to develop an air traffic control simulation that would run on that nice platform, with all of it's innovative user-interface features. Like, if you tilt the thing, all the planes will fall to one side of the radar screen! But, seriously, I thought it would be cool to see what is required to code on that platform. Of course, that would require an Apple PC, which I don't currently own. And the $99 fee I could live with as long as it was a one-time fee and I wouldn't have to keep paying it in future years, because, despite the iStore, I have no interest in selling whatever it is I create, I'm just doing it for fun and to learn. But apparently Apple isn't predisposed to "fun" and the individual programmer who just wants to learn and play. Not that they ever were, really, but my experience base, even with the PC, is you buy a language compiler once, you don't keep "re-buying" it in the future.

What you are really buying/year is the license to develop, execute, and publish on the i*. Again when you start to think of the i* more like a Nintendo DS or PSP and less of a computer and given the history it makes sense.

Of course there are alternatives, Linux and WinMo are "open" and have a different model. MS wants you to create apps for WinMo so that more OEMs have to license WinMo to run your apps. Apple, Nintendo, Sony, and the rest of the consumer electronic giants do not license their tech to anyone. It's a closed model, you sign an NDA, they approve/reject your code, etc... E.g., Nintendo has to approve your retail artwork--if you suck at drawing, you are out.

Linux is the light at the end of the tunnel. I've had two embedded Linux PDA's and run Linux on everything but my MacBook. My job is Linux-based. I really like Linux, but so far Linux on my PDA's and desktop have been seriously lacking in one way or another. Android/Chrome OS may change that, but it sure is taking a long time. I got the iPhone because of the apps, not because of Apple. BTW, same reason I abandoned Mac for Windows years ago--Apps.

Linux has numerous advantages, but a big disadvantage shared by WinMo--it has to support multiple devices making app development a challenge. E.g. I could not run a EMU48 on my WinMo device because it had a keyboard and no stylus. Sony, Nintendo, Apple, etc... keep it all inside, the apps and the experience are awesome.

> Quote:
>
> So I'll wait and see. I'm not saying I will never do this, but I'm not going to sink money into buying an Apple computer to develop on, buying the iPad, paying the $99, and then find I must continue paying $99 forever.

There are other reasons to buy a Mac. I'd make recreational i* development your last priority.

> Quote:
>
> That's just too high a price for "fun."

Can you put a price on "fun"? :-)

> Quote:
>
> And I don't know what "jailbreak" means, but it sounds like something I wouldn't want to do.

Every closed consumer electronic device has some sort of hack to allow hobbyists to develop applications without any restrictive license or costs and/or to repurpose. This is true of the PSP, Playstation, Nintendo DS and Wii, iPhone, iPod, iPod Classic, XBox, TI83, etc... E.g., the 50g has a hacked firmware to run HPGCC3 code! BTW, when the "open" Android phone first released it needed a Jailbreak to run unauthorized apps. How ironic. Unsure of the current state of things.

Each platform hack is different, some require a hardware mod, others a software mod. To *jailbreak* an i* requires that an unauthorized program be added to your list of programs so that you can install more unauthorized programs. It's just software and it is reverseable. Given the smorgasbord of authorized apps today, fewer and fewer jailbreak.

BTW, this computer hacking mentality goes all the way back to the late 50's. Open vs closed, the individual vs the institution, etc... is nothing new. (Read the book "Hackers" by Levy for the complete history--a must read IMHO).

Bottom line the embedded space is still mostly closed. Development of i* products compared to many other non-traditional-computer consumer electronic products is actually not that bad. Protecting profits is clearly the motivator--not necessarily a bad thing.

Edited: 3 Feb 2010, 10:59 a.m.

Re: OT: Apple iPad

*Message #32 Posted by **Don Shepherd** on 3 Feb 2010, 2:40 p.m.,*
in response to message #31 by Egan Ford

Thanks, Egan, that is enlightening.

> Quote:
>
> Can you put a price on "fun"? :-)

No, but my wife can (and does)!

Anyhow, Katie has got me interested in re-purposing my 12c+ now, and I am learning how to do that. So I'll leave the iPad alone for now.

Don

Re: OT: Apple iPad

*Message #33 Posted by **Eric Smith** on 4 Feb 2010, 1:31 a.m.,*
in response to message #31 by Egan Ford

Android didn't ever need a "jailbreak" to run unathorized apps. From day 1 there was a setting to allow loading apps from web sites other than the Android Marketplace.

The Android "jailbreak" is to get root access to the phone. The main reason to do that is to run a tethering application.

This is in comparison to the Apple iPhone ,iPod Touch, and iPad, where it is not possible to load non-App-Store applications without a jailbreak.

Edited: 4 Feb 2010, 1:31 a.m.

Re: OT: Apple iPad

*Message #34 Posted by **Egan Ford** on 4 Feb 2010, 10:46 a.m.,*
in response to message #33 by Eric Smith

> Quote:
>
> The Android "jailbreak" is to get root access to the phone. The main reason to do that is to run a tethering application.

Thanks for the clarification. IIRC, root access was also needed to run a number of applications that had to run as 'root', e.g. Screenshot, Tweaks, etc... But your point is understood, Android development not as restrictive as iPhone.

The message I was trying to get across is that just because its Linux it is not necessarily 100% open.

Edited: 4 Feb 2010, 10:49 a.m.

Re: OT: Apple iPad

*Message #35 Posted by **Frido Bohn** on 1 Feb 2010, 8:23 a.m.,*
in response to message #21 by Thomas Radtke

Dear all,

I absolutely agree that times have changed. Well, this is not just a revolutionary insight, as times always tend to change. And if it is for the worse, time will tell. So we have somewhat that resembles an incursion, doesn't it?

Apart from the specifics of the iPad, the market strategy to embed software and hardware to one sole product is not just new. It is essentially the strategy of Apple.
The separation of hardware and software was first established successfully by the IBM-PC/MS-DOS system. This was the opposite of the strategy which was followed by companies like Commodore, Atari, Sinclair and also Apple. The main advantage of the open system for the consumer was the pricing, the disadvantage surely the poor coordination between hardware and software, as we all have stories to tell. However, the disadvantage resulted in an explosion of creativity, as many skilled people took the chance to

engage their capabilities in the development of that insufficient system. You may make me eat my words, but I believe that the drawbacks of the open system was the surge for platforms as Linux and even for the whole internet stuff, which never had such a broad distribution if there were not the kind of people who showed interest to make things work better. If the initial development of the internet was to be promoted by companies it probably never would have been any more than a military network system or a high-cost amusement for well-to-be people.
When I look at the discussion on the iPad software-development, I have the strong impression that the pendulum swings back in terms of end-user creativity. A situation appears to arise where some companies try to dominate the computer(-like) market by the coerced embedment of hardware and software again. Even worse, they appear to impede the end-user of being creative. Or is there any standard to encourage own programming in devices including iPad, Kindle or the like? Instead, I am confronted with a frightening juridical apparatus, euphemistically called "licensing" before I am able to test my skills with a "hello world" program. Today, programming isn't even chic or trendy, for the masses it is the pastime of socially impaired nerds. This aggravates the situation which finally will lead us to a pure-consumer attitude where creativity and one's own initiative is unwanted.
Instead, the handling with computers will be restricted to the use of "apps" in a "cloud" environment where all activities will be controlled by a handful of companies and monitored by some unknown authorities with unknown purposes – welcome, brave new world!

Sorry for the long reply. If I had more time it would have been shorter for sure (based loosely on Goethe).

Frido

Re: OT: Apple iPad

*Message #36 Posted by **Dimitri Simitas** on 2 Feb 2010, 9:23 p.m.,*
in response to message #1 by Don Shepherd

Or you could do the next best thing and buy a Archos 9. Netbook internals, 9" wide screen, running Windows 7 so all normal software works, you get a 60GB HDD and you can do more then one thing at then time.

Yes I bought one, use it as a email/ebook reader/web browser/notetaker when not home.

Dimitri

Re: OT: Apple iPad

*Message #37 Posted by **Egan Ford** on 3 Feb 2010, 11:14 a.m.,*
in response to message #36 by Dimitri Simitas

I expect that we will see an abundance of *Pads this year and Apple has set the price. I expect to see ASUS and others with something around $199-$299 before year-end.

I am going to guess that Apple's profits will be on the 30% they snag off of every iApp and media sale. Apple can afford to drop the price to be competitive. The competition however has to make its profit on the device alone. It may either be expensive or lacking in features (usability features IMHO) or quality.

If you want a tablet that is also a hobby (i.e. you install it, set it up, troubleshoot it, virus scan it, update it, etc...) then the value would be on the non-Apple devices. I dumped my Linux-based PDA's for an iPhone because I was tired of it being a hobby.

I expect that most people here will be more attracted to non-Apple tablets because of the technical nature of the audience here. If you recall when the iPod released it was a subset of most other MP3 players, cost more, and you had to use iTunes. But it was so easy to use and relatively trouble free. It was the MP3

player for everybody else. There are more non-techies than techies. People that just want a thing and not a hobby. The iPad with its high price, lacking features (e.g. Flash video, open development model, front facing camera, etc...) will still be the better seller. And all those that provide content via Flash (like many already) will be rushing to develop apps and HTML5 content.

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Metric vs. US model of HP 50g

*Message #1 Posted by **Eric Smith** on 28 Jan 2010, 1:01 a.m.*

From the HP 50g Data Sheet (HP #4AA1-0865ENUC, June 2007), I see that those of you in the rest of the world get a much smaller model of the HP 50g than the one here in the US:

Size (L x W x D) 7.24 x 3.47 x 0.98 cm (18.4 x 8.8 x 2.5 in)

It is surprising that there isn't more difference in mass: 196g for the metric model vs. about 250g for the US model, assuming that the specified weight of 8.8 oz was measured in a 1G field.

Since the metric model is too small, and the US model is absolutely huge, I think I'll stick with my HP-48GX. :-)

Edited: 28 Jan 2010, 1:04 a.m.

Re: Metric vs. US model of HP 50g

*Message #2 Posted by **Walter B** on 28 Jan 2010, 1:39 a.m.,*
in response to message #1 by Eric Smith

d:-D

Wasn't there a Mars probe crashed for similar reasons once upon a time? Leave Myanmar alone, go metric.

Re: Metric vs. US model of HP 50g

*Message #3 Posted by **Paul Dale** on 28 Jan 2010, 3:24 a.m.,*
in response to message #2 by Walter B

Does Liberia also use these outdated units? :-)

- Pauli

Re: Metric vs. US model of HP 50g

*Message #4 Posted by **Walter B** on 28 Jan 2010, 4:55 a.m.,*
in response to message #3 by Paul Dale

Thanks Pauli, I felt there was another high tech country missing. But now we´ve got all of them d;-)

Re: Metric vs. US model of HP 50g

*Message #5 Posted by **John B. Smitherman** on 28 Jan 2010, 7:38 a.m.,*
in response to message #4 by Walter B

Yes, and the US Stock Market switched from fractions to decimals and it crashed shortly thereafter. ;-)

Regards,

John

Re: Metric vs. US model of HP 50g

*Message #6 Posted by **Walter B** on 28 Jan 2010, 8:13 a.m.,*
in response to message #5 by John B. Smitherman

Ahhh, that was the reason ... so far I thought it was caused by some (many, most?) bankers going crazy. Thanks,

John, for pointing us to the true cause. Where else could we expect such an enlightenment?

Re: Metric vs. US model of HP 50g

*Message #7 Posted by **bill platt** on 28 Jan 2010, 8:58 a.m.,*
in response to message #6 by Walter B

There is one solution to the stock market, financial bubbles, excessively large numbers, computer viruses, communism and famine: Base 60 is all we need to fix all the problems of the world.

Re: Metric vs. US model of HP 50g

*Message #8 Posted by **Don Shepherd** on 28 Jan 2010, 9:49 a.m.,*
in response to message #7 by bill platt

> Quote:
>
> Base 60 is all we need to fix all the problems of the world.

Some of my middle school students have trouble adding 3194 and 4287. Please don't make them add Cr2Mg1A and 5JetMM0.

Re: Metric vs. US model of HP 50g

*Message #9 Posted by **bill platt** on 28 Jan 2010, 10:23 a.m.,*
in response to message #8 by Don Shepherd

Actually, I misspoke.

It should be base 43:

http://www.newband.org/instruments.htm#partch%20instruments

Re: Metric vs. US model of HP 50g

*Message #10 Posted by **John B. Smitherman** on 2 Feb 2010, 11:39 p.m.,*
in response to message #6 by Walter B

The fact that the US has not converted is frustrating to me. In all of my science classes in school in the 1970's we used the metric system exclusively. However in university engineering classes the professors used our US / British based units. 30 years later we are still in limbo using a mix of both systems. What will it take to finish the conversion? Maybe we are waiting for the US to win a football World Cup. ;-)

Regards,

John

Re: Metric vs. US model of HP 50g

*Message #11 Posted by **Norman Dziedzic** on 3 Feb 2010, 8:37 a.m.,*
in response to message #10 by John B. Smitherman

>What will it take to finish the conversion?

The sad reality is that it will probably take the US losing a war and having our factories bombed to a point of destruction equivalent to what happened in Europe in the World Wars.

Doing a real change to the metric system takes real money. Imagine all the lumber mills changing all of their hard tooling to make plywood in 5mm, 10mm etc. sizes. Also the steel mills will have untold amounts of tooling to change. Every paper maker will have to change all it's dies to make A4 paper vs. 8.5x11" and then all the envelope manufacturers have to change their tooling to accept the A4 paper in different folded configurations. Every machine that processes paper will have to be changed.

How about changing every road sign in the US AND where it is placed so we don't have stupid signs that say "1.61 km to Exit"

The auto industry does most thing in metric because they change their tooling every few years and they would pay that cost regardless of the dimensions of the parts. They convert to US units for their advertising and marketing specs printed here but they design and build in metric.

The bottled beverage industry is more and more a metric dominated field. For a long time it was the lonely 2 liter pop bottle that was the only purely metric consumer product here in the states. Now most plastic water bottles and many wine bottles are in true ml designations. But guess what, the hard tooling for plastic blow molding wears out from constant temperature cycling of hot plastic and cold air. Since they are changing it on a regular basis anyway it can be made metric easily.

I'm not sure but I'd venture to say that most of our toys here that come from China are made to standard metric dimensions.

We can talk about history, or tradition of bullheadedness but, just like the calculator market, it comes down to cold hard cash.

Re: Metric vs. US model of HP 50g

*Message #12 Posted by **Walter B** on 3 Feb 2010, 12:13 p.m.,*
in response to message #11 by Norman Dziedzic

> Quote:
>
> We can talk about history, or tradition of bullheadedness but, just like the calculator market, it comes down to cold hard cash.

While both may be true, OTOH there may be a lot of cash saved. Thinking of global players producing material for more than only the US of A: they may discard their Imperial tools after next maintenance interval. And there are further advantages: e.g. paper may be cut in A0, where from A1, A2, etc. are easily made by cutting in halves repeatedly. No heaps of waste paper anymore. - No need to memorize strange conversion constants, in particular in geometry. Etc. as discussed here ad nauseam.

For the traffic signs, let the miles die last - nobody will care.

Re: Metric vs. US model of HP 50g

*Message #13 Posted by **Don Shepherd** on 3 Feb 2010, 8:41 a.m.,*
in response to message #10 by John B. Smitherman

John, I wouldn't hold my breath waiting for the US to convert to metric. Just ain't gonna happen. We know our inches and feet and pounds and we like them. We teach our kids about the metric system in school, but it is soon forgotton because it is rarely used here. We put up with liters sometimes, but we don't like them.

Re: Metric vs. US model of HP 50g

*Message #14 Posted by **Britt** on 3 Feb 2010, 5:21 p.m.,*
in response to message #13 by Don Shepherd

> Quote:
>
> We know our inches and feet and pounds and we like them. We teach our kids about the metric system in school, but it is soon forgotton because it is rarely used here. We put up with liters sometimes, but we don't like them.

I live In Iowa, USA and would much prefer if all measurements were metric. I like liters, not quarts.

Re: Metric vs. US model of HP 50g

*Message #15 Posted by **bill platt** on 3 Feb 2010, 6:07 p.m.,*
in response to message #14 by Britt

Any engineer in the US, especially if younger than what--50 or so?--is perfectly happy in either

system. It's what we do. The measurement system is trivial and arbitrary compared to the real problems.

Liters are no "better" than quarts, and in fact they are so similar in absolute size that, like the meter and the yard, you can be roughly familiar with either from the other.

What I like most about or customary units is that they are almost all one syllable words.

```
quart
pound
inch
foot
yard
slug
ounce
peck
pint
rod
chain
league
furlong (oops, 2 syls)
bushel (oops, 2 syls)
gallon (oops)


compare to
litre
kilogram
newton
centimetre
meter
millimeter
gram (finally!)
pascal  (ok I guess that is shorter than PSI but it doesn't mean
anything unless you say newtons per square meter...)
```

Re: Metric vs. US model of HP 50g

*Message #16 Posted by **Kiyoshi Akima** on 3 Feb 2010, 12:10 p.m.,*
in response to message #10 by John B. Smitherman

First down and nine meters to go?

Re: Metric vs. US model of HP 50g

*Message #17 Posted by **Glenn Shields** on 28 Jan 2010, 10:44 a.m.,*
in response to message #5 by John B. Smitherman

How about the so-called "Gimli glider," an Air Canada jet that ran out of fuel and nearly crash-landed but for the skill of the pilots, due (in part) to confusion between US and Imperial gallons. It's a great story about compounding of errors. Makes one wonder why the 50g has both "mi" and "miUS" where 1_mi = .999998_miUS . Love that old engineering joke about "furlongs per fortnight" ! cheers, Glenn

Re: Metric vs. US model of HP 50g

*Message #18 Posted by **Tim Wessman** on 28 Jan 2010, 11:02 a.m.,*
in response to message #17 by Glenn Shields

Why two miles? Those pesky surveyors! :-D

TW

Re: Metric vs. US model of HP 50g

*Message #19 Posted by **designnut** on 28 Jan 2010, 11:55 a.m.,*
in response to message #18 by Tim Wessman

I corresponded with a British lady when they made their conversion to metric, She called her new decimal system of currency metric. I remember changing a pound note to coins, I got 9 coins and looked stunned, so the lady said I have given you 5 shillings and 4 half crown. live nd learn. Then there was the octagonal thruppence for telephones. They got over it, why can't we? Sam Levy in San Diego

Re: Metric vs. US model of HP 50g

*Message #20 Posted by **bill platt** on 28 Jan 2010, 12:30 p.m.,*
in response to message #19 by designnut

But the old currency was actually easier to divide and handle in your head. 10 divides evenly only one way. 12 divides into thirds, 4ths, halfs, 6ths. The 20/12 system made possible all sorts of equal divisions.

In decimal, it is "easier" except that it isn't.

As physicists would say, choice of base system is "trivial."

So then why is base 10 so good? Only because you are used to it!

Edited: 28 Jan 2010, 12:32 p.m.

Re: Metric vs. US model of HP 50g

*Message #21 Posted by **Norman Dziedzic** on 28 Jan 2010, 12:59 p.m.,*
in response to message #20 by bill platt

> Quote:
>
> So then why is base 10 so good? Only because you are used to it!

http://www.youtube.com/watch?v=BblsNzx6yEk

Re: Metric vs. US model of HP 50g

*Message #22 Posted by **bill platt** on 28 Jan 2010, 2:13 p.m.,*
in response to message #21 by Norman Dziedzic

Oh my god, I remember that! I haven't seen that since the days of the HP 35!

Re: Metric vs. US model of HP 50g

*Message #23 Posted by **Ángel Martin** on 28 Jan 2010, 3:33 p.m.,*
in response to message #20 by bill platt

How many fingers do you have?

And toes??

Re: Metric vs. US model of HP 50g

*Message #24 Posted by **bill platt** on 28 Jan 2010, 4:09 p.m.,*
in response to message #23 by Ángel Martin

Hi Ángel!

I know two people with 11 toes...

And I have 8 fingers....

~~~:)

Re: Metric vs. US model of HP 50g

*Message #25 Posted by **Ángel Martin** on 29 Jan 2010, 2:29 a.m.,*
in response to message #24 by bill platt

aha! that explains a few things... :)

Re: Metric vs. US model of HP 50g
~~~

*Message #26 Posted by **Geoff Quickfall** on 30 Jan 2010, 3:46 p.m.,*
in response to message #17 by Glenn Shields

I actually flew the "Gimli Glider" before it was retired from service last year.

Fuelling in an imperial measure with metric units in an aircraft with correct sensing fuel gauges as well as fuel flow guages.

1. First, while sitting in the cockpit, the fuel guy hands you a receipt in gallons or litres of Jet A fuel loaded.

2. This gets converted by multiplying with a specific gravity (S.G.)to kilograms of fuel. The guages are in kilograms in Canadian Aircraft. The S.G. is temperature specific and varies each day. The fuel remaining in a tank is usually cold from altitude to landing and the S.G. will not be the same as the loaded fuel. Fortunately the fuel remaining in tank after landing is usually a percentage of the fuel loaded for the next flight and therefore has a small error to the total calculations.

3. Add the fuel on board (FOB) at landing to the converted to kilograms fuel boarded (TENDERED FUEL) and you have the total fuel.

4. Ways to check fuel consumption in the air. Five hour (Toronto to Vancouver B767) flight times on average 5000 kg/hour and you will burn 35,000kgs. The average varies due to weight of aircraft, winds and etc. This plus operational taxi fuel, holding fuel, alternate fuel, approach fuel, 5% slop fuel and you may have 45000 kgs on board. So if all goes correctly and you arrive on sched as planned then you should have approximately 10000 kgs remaining. The guages will do an analog or digital calculation based on sensors in the tank, temperature and display kilograms remaining (Fuel in tank). The computers using fuel flow will calculate the fuel in tank by taking the original FOB and subtracting the fuel flow versus time (calculated fuel in tank). This is all displayed info in the aircraft.

NOW for the Gimli glider:

1. New aircraft to the fleet and relatively new to Canada operations and the MOT (our FAA). Also the first Aircraft in Canada at AC with metric guages.

2. Fuel guages inoperative at the gate so no display of fuel. Fuel guages at the wing fuelling points also unservicable. Fuel flow system inoperative so no calculated remaining fuel indication. Not a problem usually, as one has drip sticks that will measure the depth of the fuel in the three tanks and can be accessed after fueling. The sticks WERE in inches at the time of purchase. The Air Canada charts had been converted to metric so the inches on the sticks had to be converted to cm on the chart by maintenance in conjunction with the fueller who was delivering fuel by the litre which had to be converted to kilograms with an S.G. The mistake was made at the conversion of depth of fuel in inches to cms by maintenance.

3. No indications in the air as to actual fuel via guages on tanks or fuel flow on board and since the error was made at the drip stick measurement, the incorrect total fuel on board was delivered to the pilots. They followed the book by using the maintenance procedure to measure fuel in tanks with the drip sticks. As a result, they did their rough math of X amount of fuel divided by the average for the flight and came up with sufficient. This would normally be compared to the onboard system which will display insufficient fuel but did not due to a KNOWN technical problem which pecipitated the drip stick measurment by maintenance.

4. Rectification. Well every where we go we get fuel loaded in litres except for the US. All guages on the aircraft are metric. Conversion is done from gallons to kilograms based on the S.G. No aircraft can be dispatched with a multiple fuel indication failure now. At least one of the systems must be in place as a check against the fueler, aircraft, pilots and maintenance.

The aircraft should be controllable in any loss of all engine circumstance, the skill entered when the F/O new of a decomissioned airforce runway which was obtainable in the glide, otherwise this aircraft would have landed in a field. Instead it was repaired and flew until 2008. By the way, an B767 should glide about 90 miles if at 30,000 feet.

Kind of an extremely reduced synopsis of the situation. But it sure does indicate how complicated a simple system can become:

Inches to cms, cms via a chart to kilograms, fuel boarded in gallons converted via SG to kilograms. Broken fuel guages system including the fuel flow system and both sets of guages; cockpit and wing fuel point.....

Cheers, Geoff

p.s. I am doing this from memory as I was at Canadian Airlines at the time of the incident. The problem is the fuel was boarded ultimately in pounds and labeled kilograms. So 27000 pounds incorrectly labeled 27000 kilograms would equate 12,244 kilograms. Well short of the required fuel!

Edited: 30 Jan 2010, 3:58 p.m.

Re: Metric vs. US model of HP 50g

*Message #27 Posted by **Dave Shaffer (Arizona)** on 30 Jan 2010, 4:57 p.m.,*
in response to message #26 by Geoff Quickfall

Geoff,

Could they have been warned, or at least curious, at how long (or how far down the field they went) until Vrot? Do you calculate that for every take off? Must depend to some extent on mass of the plane. Would the missing ~13000 kg have made a noticeable difference (depends on the mass of a 767, I guess)?

I time every takeoff when I'm riding commercial. If we ever get to 40 seconds before the plane actually lifts off, I'm getting ready to run for the exits! Does that sound about right?

All my own take offs & landings are in C150/172/177 - where a few hundred pounds DOES make a difference.

Re: Metric vs. US model of HP 50g

*Message #28 Posted by **Geoff Quickfall** on 30 Jan 2010, 7:26 p.m.,*
in response to message #27 by Dave Shaffer (Arizona)

Hi Dave.

40 seconds sounds about right for a heavy weight takeoff for any airliner. It depends on thrust to weight to lift ratios.

For example 777 engines on a 737 then 40 seconds would be to long ;-)

Vr (or V rotate) can take a while at a max takeoff weight.

Getting back to the 767 the entire feel of the aircraft is artificially induced via feedback to the control column by what is known as the Q-feel. In the C150/172/... this feedback is due to the direct input of the airflow on the control surface through cables to the control wheel. In small, medium and heavy airliners the feel is artificial.

So having less weight in the aircraft would have made it marginally more nimble but not noticeable through the controls. Also Vrot should have been reduced due to the lighter actual weight. Vr would have been calculated based on:

```
1  weight
2  temperature
3  air pressure
4  runway surface condition
5  wind
6  climb gradient
7  V2 calculated speed
```

As such and combined with whether the crew elected to takeoff off with a calculated 'reduced thrust'(see below) then the difference in weight would have been masked by the other conditions. Suffice to say, every takeoff off at the same takeoff weight, based on the above list would result in a different feel.

reduced takeoff is the thrust calculated to safely get the aircraft airborne while considering runway length,

stoppability on the runway prior to V1 and numerous other factors including runway contamination. In effect if all parameters allow it, it results in a thrust setting set lower then max power to save on engine wear. Again a short description!

Cheers, Geoff

p.s. the 777-300 that I fly weighs approximately 725000 pounds at max takeoff (Vancouver - Sydney non stop) and a shortage of 17000 lbs would not make any difference in the feel of the aircraft at takeoff thrust!

Edited: 30 Jan 2010, 8:04 p.m.

Re: Metric vs. US model of HP 50g

*Message #29 Posted by **David Hayden** on 30 Jan 2010, 9:30 p.m.,*
in response to message #26 by Geoff Quickfall

Geoff,

Do you know if the maintenance crew was aware that the fuel gauges and flow sensors were broken, and thus how critical their measurements and conversions were? I wonder if they were being sloppy because they thought that all the other systems would catch any error.

Re: Metric vs. US model of HP 50g

*Message #30 Posted by **Geoff Quickfall** on 30 Jan 2010, 10:20 p.m.,*
in response to message #29 by David Hayden

Without casting dispersions, not the intent here as the entire procedure was new.

The reason one 'drips' the tanks is because any single element in the fueling system is suspect. New aircraft, new systems, new requirements for trouble shooting.

To put it in perspective a few definitions are required.

1 MEL or the minimum equipment list. This is a list of items which are required for the dispatch of an aircraft. For example on a two engined aircraft there are 4 generators. One in each engine, one in the Auxilary Power unit (a small get engine used for ground or air power and adjunct to pressurization if required do to abnormal operations) and a RAT (ram air turbine) which deploys automatically or manually in flight to supply both hydraulic back up and electrical power in the event of a loss of both engine generators and APU. The question arises, one generator is not working due to a known fault. Do you ground the aircraft. Well, here there is no need as you can run the APU in the air and on the ground to cover for the failed generator. Flights will be restricted to over land only and subject to other rules, to much to cover here. Also one generator through switching is sufficient to run the entire aircraft if required. So the MEL may say "fix at main base within x days and run the APU to cover the failed engine systems.

2 the Fuel system (767): composed of six pumps, three tanks, Fuel gauges for 'total in tank', 'fuel flow', 'fuel used', system for inflight and onground determination of amount, calculating system for total fuel minus fuel used, on board display, fuel wing area display for ground personel and more.

3 The MEL by Boeing and AC state that a drip is required if any single system has failed. This will cover the aircraft to the next maintenance cycle as dictated in the MEL. The crew would have determined that a drip was required and directed maintenance to proceed with the external drip.

The point is that the drip was done as per the MEL to cover what in affect was a total system indication failure. It would not have been done on a functional system. Aircraft today do not dispatch on total system failures regardless of the drip test availability thanks to this incident. In fact, if any single gauge is U/S (unservicable) a drip is required.

So my assumption is that due diligence was exercised by maintenance as per the MEL and that the conversion error was due to other failures; metric ignorance, misplaced decimal position (calculator or hand done conversion?) or something else....

Cheers, Geoff

Edited: 30 Jan 2010, 10:22 p.m.

Re: Metric vs. US model of HP 50g

*Message #31 Posted by **Dimitri Simitas** on 3 Feb 2010, 8:33 p.m.,*
in response to message #17 by Glenn Shields

> Quote:
>
> How about the so-called "Gimli glider," an Air Canada jet that ran out of fuel and nearly crash-landed but for the skill of the pilots, due (in part) to confusion between US and Imperial gallons.

I think that was more pilot error anyways. Yes there are some that refer to the old Imp. Gal but 99% of the people I met always use the American Gallon here in Canada.

I learned the metric system first due to the governments regulations that prohibited teachers from teaching the SAE/Imp system (thankfully reversed in the last year or so). Then I learned the Imperial system in high school. I now don't understand what makes the SI system so much "better". Its a measurement system be it meters, inches or corn cobs if its got a base measurement and a standard increment rate, does one become better then the other?

Dimitri

Re: Metric vs. US model of HP 50g

*Message #32 Posted by **Walter B** on 4 Feb 2010, 12:38 a.m.,*
in response to message #31 by Dimitri Simitas

> Quote:
>
> I now don't understand what makes the SI system so much "better". Its a measurement system be it meters, inches or corn cobs if its got a base measurement and a standard increment rate, does one become better then the other?

Exactly that's the point: SI is a measurement SYSTEM - the Imperial collection is a heap of mostly unconnected measures. As I said in another post in this thread, this was discussed in this very forum several times ad nauseam already.

HTH

Walter

Re: Metric vs. US model of HP 50g

*Message #33 Posted by **Marcus von Cube, Germany** on 4 Feb 2010, 6:50 a.m.,*
in response to message #32 by Walter B

The imperial measures *are* connected:

1 mile = 1760 yards
1 acre = 43 560 square feet
1 US gallon = 128 US fluid ounces

Easy, isn't it? ;)

Edited: 4 Feb 2010, 6:51 a.m.

Re: Metric vs. US model of HP 50g

*Message #34 Posted by **Dimitri Simitas** on 4 Feb 2010, 10:34 p.m.,*
in response to message #32 by Walter B

> Quote:

> the Imperial collection is a heap of mostly unconnected measures.

3 teaspoons to a tablespoon. 2 tablespoons to a ounce. 8 ounces to a cup. 2 cups to a pint 2 pints to a quart. 4 quarts to a gallon.

3 grains to a inch. 36 grains or 12 inches to a foot. 36 inches or 3 feet to a yard. 5,280 feet or 1760 yards to a mile. (which is a 15 minute walk)

7000 grains or 16 ounces to a pound.

It all interrelates, and the above is simply from memory. Its just another system. Based on the grain (weight, distance and fluid volumes) but still a system non-the-less.

Dimitri

Re: Metric vs. US model of HP 50g

*Message #35 Posted by **Walter B** on 5 Feb 2010, 12:56 a.m.,*
in response to message #34 by Dimitri Simitas

Well:

Distance: 1km = 1000m, 1m = 1000mm, 1mm = 1000µm, 1µm = 1000nm, ...

Area: 1km^2 = 100ha, 1ha = 100a, 1a = 100m^2, 1m^2 = 100dm^2, 1dm^2 = 100cm^2, 1cm^2 = 100mm^2, ...

Volume: 1m^3 = 1000dm^3, 1dm^3 = 1liter = 1000cm^3, 1cm^3 = 1000mm^3, ...

Mass: 1Mt = 1000kt, 1kt = 1000t, 1t = 1000kg, 1kg = 1000g, 1g = 1000mg, 1mg = 1000µg, ...

Force: 1N = 1 kg*m/s^2

Pressure: 1Pa = 1 N/m^2

Energy, work: 1J = 1 N*m = 1 V*A*s

Power: 1W = 1 N*m/s = 1 V*A

I could go on ... but it's sufficient to see the *slight* difference between a system and a so called "system", isn't it?

Edit: For everyday "household" use 1m = 1 big step, 1km = 15 minutes comfortable walk, 0,3l = a big cup or a good glass of juice, 0,5l = a good jar of beer, 1l = the same in Bavaria :-) , 1kg = the "weight" of 1l Bavarian beer, 10N = the weight of the same ;-) , 2kJ = the energy contained in 100g of Swiss chocolate = 1 bar of chocolate, etc.
Off household approximation: Speed of light = 3e8 km/s = 30 cm/ns d:-)

HTH

Walter

Edited: 6 Feb 2010, 12:25 p.m. after one or more responses were posted

Re: Metric vs. US model of HP 50g

*Message #36 Posted by **Dimitri Simitas** on 6 Feb 2010, 11:04 p.m.,*
in response to message #35 by Walter B

> Quote:
>
> I could go on ... but it's sufficient to see the *slight* difference between a system and a so called "system", isn't it?

I get what you are saying however once you learn a system it makes no difference. At least for me in using both, going from one to the other or at the same time if I need to. Numbers are numbers if they are defined you can work with them even if its not terribly efficient adding .654" to 142.56mm if both are given.

Dimitri

Re: Metric vs. US model of HP 50g

*Message #37 Posted by **Walter B** on 6 Feb 2010, 11:37 p.m.,*
in response to message #36 by Dimitri Simitas

> Quote:
>
> once you learn a system it makes no difference. At least for me in using both, going from one to the other or at the same time if I need to. Numbers are numbers if they are defined you can work with them even if its not terribly efficient adding .654" to 142.56mm if both are given.

Every grown up person on this very planet has the right to make his/her life as complicated as (s)he likes. Maybe, however, (s)he will learn about other people working more efficiently and the tools they use. Then, (s)he is free to return to sentence 1 d;-). Maybe that helps.

Walter

P.S.: Most administrations support their citizens in that quest. 3 of 200 do not d:-/.

Edited: 6 Feb 2010, 11:41 p.m.

Re: Metric vs. US model of HP 50g

*Message #38 Posted by **Massimo Gnerucci (Italy)** on 7 Feb 2010, 8:29 a.m.,*
in response to message #36 by Dimitri Simitas

A global view...

Greetings,
Massimo

Re: Metric vs. US model of HP 50g

*Message #39 Posted by **Dimitri Simitas** on 7 Feb 2010, 11:17 a.m.,*
in response to message #38 by Massimo Gnerucci (Italy)

Although a nice map of countries that adopted the metric system, Canada should be neither color. About the only thing that is not dual system is our traffic signs. From filling government forms, going to the doctors or buying food everything here is dual system. Which my be why I got this view on the matter.

Dimitri

Re: Metric vs. US model of HP 50g

*Message #40 Posted by **bill platt** on 7 Feb 2010, 8:10 p.m.,*
in response to message #38 by Massimo Gnerucci (Italy)

Just 'cause everybody's doin' it don't make it right.

We get along just fine. And we actually are (along with Canadians bet even moreso than them) the only engineers on the planet who 1. can work in multiple units and 2. Are able to directly utilize a vast body of previous work without having to convert everything.

Seriously, when we trade internationally, we use metric. We make a lot of metric stuff in the U.S. and always have. Note that it is in "customary" measure that you find all the odd

stuff. In engineering we are heavily metric in the U.S.

How you measure your milk, or your fuel or count your potatoes is trivial. But changing the rules is anything but trivial. That's why it is smart for us to let sleeping dogs lie. Besides, it ain't like we have 20 or 50 millions--we are a huge country with 300 millions. We are a big market. If people want to sell to us and we want it in gallons, by god, they'll find a way to sell it to us :-)

Re: Metric vs. US model of HP 50g

*Message #41 Posted by **Don Shepherd** on 7 Feb 2010, 8:56 p.m.,*
in response to message #38 by Massimo Gnerucci (Italy)

US engineers put a man on the moon 41 years ago. We must be doing something right.

Re: Metric vs. US model of HP 50g

*Message #42 Posted by **bill platt** on 7 Feb 2010, 9:33 p.m.,*
in response to message #41 by Don Shepherd

Getting them there was "easy." It was the getting home in one piece that really was the wow! part.

Re: Metric vs. US model of HP 50g

*Message #43 Posted by **Massimo Gnerucci (Italy)** on 8 Feb 2010, 11:33 a.m.,*
in response to message #41 by Don Shepherd

During hard times, when cooperation and international funds would be a godsend, this can also turn into a disadvantage.

And "If the [Constellation] program is cancelled, 'zero' is the same in English and metric,".

Greetings,
Massimo

Re: Metric vs. US model of HP 50g

*Message #44 Posted by **Dimitri Simitas** on 8 Feb 2010, 3:19 p.m.,*
in response to message #43 by Massimo Gnerucci (Italy)

Till you look at the costs of R&D pure metric solutions from scratch, which would probably not be done so you'd end up with many 6.35mm, 25.4mm etc dimensions.

Dimitri

Re: Metric vs. US model of HP 50g

*Message #45 Posted by **bill platt** on 8 Feb 2010, 3:59 p.m.,*
in response to message #44 by Dimitri Simitas

That article is superficial and doesn't address how these things work in practice.

In fact, why would you redesign the whole system just to be "metric?" You wouldn't. Rather, you'd make hard conversions within tolerances for some parts, and direct soft conversions for others, with a tolerance matching the existing but specified in the new units.

The interfacing parts could be designed in metric units, while the bulk of the legacy platform would, as you say, have "25.4mm" parts labeled as such.

There would not be any reason to convert all of the design drawings. Political and non-scientific people love to make a lot of hay about this metric "disaster" of the Mars thing. In fact it wasn't a "metric" issue as much as it was poor

documentation. Assuming kilograms when grams or tonnes is improperly labeled, or cm vs mm, is just as much of a problem.

In the 1970s we "mated" with the Russians in space. I think we can handle it :-)

Re: Metric vs. US model of HP 50g

*Message #46 Posted by **Bart (UK)** on 8 Feb 2010, 6:37 p.m.,*
in response to message #45 by bill platt

> Quote:
>
> In fact it wasn't a "metric" issue as much as it was poor documentation.

Yep, either not written correctly or not read correctly. But it's just sooo much easier to blame a system...

> Quote:
>
> Assuming kilograms when grams or tonnes is improperly labeled, or cm vs mm, is just as much of a problem.

Or... just plain getting it wrong: integrating an electronic box some years ago I noticed it had an error in the speed. I determined that the supplier had multiplied going from knots to m/s rather than divided. this may seem an imperial to metric conversion error at first glance, but the factor used was correct but the maths was wrong - they could have made the same error going from km/h to m/s or even just from km to m.

Re: Metric vs. US model of HP 50g

*Message #47 Posted by **bill platt** on 8 Feb 2010, 8:33 p.m.,*
in response to message #46 by Bart (UK)

Yep.

"That damn Imperial system. Screws it all up!" ;-)

Edited: 8 Feb 2010, 11:23 p.m.

Re: Metric vs. US model of HP 50g

*Message #48 Posted by **bill platt** on 7 Feb 2010, 8:39 p.m.,*
in response to message #35 by Walter B

All looks nice and tidy, but in reality it gets messy. 1 calorie per degree c per gram for water. Oh, wait, the joule relates to the volt and the watt. Damn, I have some number other than 10 to convert with....

Oh well, so much for "perfect alignment of the heavens."

Re: Metric vs. US model of HP 50g

*Message #49 Posted by **Walter B** on 8 Feb 2010, 12:43 a.m.,*
in response to message #48 by bill platt

Hi Bill,

> Quote:
>
> 1 calorie per degree c per gram for water. Oh, wait, the joule relates to the volt and the watt. Damn, I have **some** number other than 10 to convert with....

d:-) (emphasis added)
Mother nature doesn't care about human systems. But humans strive for optimum, so they started developing a system minimizing the need for memorizing strange numbers some 200 years ago. Of course, whoever feels brains shall be put in (converting) pints, may do so ad libitum - please see here d:-).

Edited: 8 Feb 2010, 5:08 p.m.

Re: Metric vs. US model of HP 50g

*Message #50 Posted by **Eric Smith** on 9 Feb 2010, 3:06 a.m.,*
in response to message #48 by bill platt

Calorie isn't an SI unit, so I don't see any problem.

Re: Metric vs. US model of HP 50g

*Message #51 Posted by **bill platt** on 9 Feb 2010, 11:24 a.m.,*
in response to message #50 by Eric Smith

Right, it isn't SI--but it *is* metric, and it correlates to water so nicely, which the Joule does not, yet the Celsius units do...and so it is another case where you can see "metric" being arbitrarily inconsistent--no unit system is perfect. Metric is great, use it all the time, but it ain't the end-all be-all that some would have us believe.

Another unit which is metric but not SI is the liter. *Gasp in horror*. "What! Yes it is! Yes it is! Frenchmen use it! It must be!" (No, it's not...sorry.)

Edited: 9 Feb 2010, 11:28 a.m.

Re: Metric vs. US model of HP 50g

*Message #52 Posted by **Walter B** on 9 Feb 2010, 5:26 p.m.,*
in response to message #51 by bill platt

IMHO, what we compare is SI and anything else, and the recommendation is to take SI. It may be called "go metric" in the US of A, but then "metric" is just another word for SI.

With that said, there were (and are) of course predecessors of SI, too. Way back, our forefathers used cubits (Ellen) and spans (?) and other strange measures like different miles. These were dropped in the process of nationbuilding and later to facilitate trade. Some names survived like in our pound equalling 500g. And there are some (actually very few) handy non-SI units for household use like the liter being exactly 10^-3 m^3, or the Zentner (= 50kg). You will notice, however, *very* simple conversions to SI there. So in real life, though only a minority knows it's called SI, everybody here moves smoothly within this system.

The Calorie is a relict of an older set of units. Like many other "practical" units it turned out to be less than practical in science, so it was discarded by an international agreement some decades ago.

So, if the US of A wants to support international trade by making it easier, it's obvious what to do. If it's not done, however, that's a statement, too. Anyway, an error won't become any better by being kept d;-)

P.S.: Admittedly SI is far from perfection, but it's the most perfect system we know so far. If you have something better, stand up and show.

Edited: 9 Feb 2010, 5:33 p.m.

Re: Metric vs. US model of HP 50g

*Message #53 Posted by **bill platt** on 9 Feb 2010, 7:11 p.m.,*
in response to message #52 by Walter B

Hi Walter,

My point was that calorie and liter are both *metric* but not SI. Calories are great with thermodynamics. Joules are great with electricity. Oh well.

Metric is a larger sphere than SI. Metric includes MKS, cgs, calories, liters etc that are not strictly part of the "systeme."

Also, American business uses a lot more metric than the rest of the world seems to realize. I've worked on a lot of projects that were metric. In terms of total number, maybe 30% of them. I've worked on projects that were 100% metricated from engineering to shop level, and on others that were engineered in mm and shop in inches(stupid but it works if done right). One job had a special scale made up to read a metric drawing in feet inches (now that's really being a foot-dragger!). American firms export lots of equipment around the world. Some of it was designed in feet / pounds, but a lot is also metricated. Our federal highway administration has been doing its roadway engineering in metric since the 1970s. Roads are labeled in miles (why change? We all know what a mile feels like. There is no need to relate it to your height, or the length of your boat or whatever...).

Where there is money to be made, business goes--and so if metric is specified, business complies. Vive la free-market!

The "metric pound" of 500g is more confusion actually (rather than 454g). Leave a pound a pound and it is better...but yes these things happen.

Edited: 9 Feb 2010, 7:13 p.m.

Re: Metric vs. US model of HP 50g

*Message #54 Posted by **Walter B** on 10 Feb 2010, 2:05 a.m.,*
in response to message #53 by bill platt

Hi Bill,

as written earlier already, I see the miles as you do.

For our pound (Pfund), it's just an handy unit people use at the grocers etc. - bad luck you use the translation in English. Both have a long tradition, almost no confusion in real life observed.

Referring to your understanding of "metric": You don't have to repeat all errors and detours the rest of the world made on its way to SI. No problems with liters etc. being just nice names for units fitting perfectly into SI. But please leave the calories and their siblings were they are: in the dustbin of history.

HTH,

Walter

Re: Metric vs. US model of HP 50g

*Message #55 Posted by **Marcus von Cube, Germany** on 10 Feb 2010, 8:47 a.m.,*
in response to message #54 by Walter B

We "metricians" aren't free from detours: In plumming almost all measures are in "Zoll" (inches). And the diameter of my bike's wheels is much easier remembered in Zoll than in mm.

What I'll never get into my head is "miles per gallon": We deal with "liters per kilometer" which is reciprocal to the imperial way of thinking. You answer the question "How far will I get with the contents of my fuel tank?" while we ask "What will it cost me to get to my destination?" Different

question - different answer.

Edited: 10 Feb 2010, 8:49 a.m.

Re: Metric vs. US model of HP 50g

*Message #56 Posted by **bill platt** on 10 Feb 2010, 10:42 a.m.,*
in response to message #55 by Marcus von Cube, Germany

Hi Marcus,

We actually do use gallons per mile too--but not for little tiny cars. We use that for big machines (ships, trains etc).

Sort of reminds me of the choice of wave number or frequency...

That's funny about bicycle wheels. Here, we used to talk about 20" 24" 26" (three types: schwinn, raleigh, and balloon) 27" and 28".

But then with road racing, we started to use the European designations 700c, which ultimately supplanted the 27". At first, we would have 27" clincher training wheelsets and tubular race sets, and it would be a pain, having to slightly adjust the brake shoes. With 700c they matched the tubulars.

Ultimately, if you were in the business (rather than an ordinary Joe on the street) the metric rim diameter became the only proper way to do businees. 700c=622, 27"=630, 28"=635. These rim diameters are molded into the sidewall of all tires. Similarly, this would eliminate the chance for confusion between Schwinn 26" and standard (Raleigh) 26"....

So ironically, in the US, except for some overall sizing for marketing (17" frame, 26" wheels), we've gone completely metric. I along time ago switched from thinking about 23" to 24" frames to thinking about 58 to 60cm. Crankarms: 172,5mm, handlebars: Cinelli model 66-42(42cm), seatpost: Campagnolo 27,2 etc. Of course chain will always be 1/2" x (? or ? depending on track or road) and pedal threads will always be 9/16" because that is that....

Edited: 10 Feb 2010, 10:57 a.m.

Re: Metric vs. US model of HP 50g

*Message #57 Posted by **Dimitri Simitas** on 10 Feb 2010, 4:57 p.m.,*
in response to message #55 by Marcus von Cube, Germany

> Quote:
>
> What I'll never get into my head is "miles per gallon": We deal with "liters per kilometer" which is reciprocal to the imperial way of thinking.

Just another way to look at it, take for example a trip from Toronto to Barrie is 60mi/100km. My truck burns 15mi/gal or 15.5l/100km.

That's 60mi/15gal=4 gal or 15.20$

While its in SI

.155klx100km = 15.5l and the same cost.

Yes I chose those 2 cities for conivance but the same applies for any distance.

Dimitri

Re: Metric vs. US model of HP 50g

*Message #58 Posted by **Bart (UK)** on 12 Feb 2010, 4:25 a.m.,*
in response to message #55 by Marcus von Cube, Germany

> Quote:
>
> What I'll never get into my head is "miles per gallon": We deal with "liters per kilometer" which is reciprocal to the imperial way of thinking.

Ha ha, and I'm used to thinking in km per liter :). I also buy my car tyres as 15" by 195mm. Talk about a mix! :)

Re: Metric vs. US model of HP 50g

*Message #59 Posted by **bill platt** on 12 Feb 2010, 11:01 a.m.,*
in response to message #58 by Bart (UK)

Tyres here in the US are normally designated in mixed units:

205/70R16

205 means 205mm wide, 70 is the aspect ratio (dimensionless) and 16 is the diameter in inches. There are "millimetric" diameter tires in which case you'll see something like 205/70R415 etc but these are uncommon.

Edited: 12 Feb 2010, 11:03 a.m.

Re: Metric vs. US model of HP 50g

*Message #60 Posted by **Marcus von Cube, Germany** on 12 Feb 2010, 11:06 a.m.,*
in response to message #59 by bill platt

Same here in Germany.

Re: Metric vs. US model of HP 50g

*Message #61 Posted by **bill platt** on 12 Feb 2010, 11:16 a.m.,*
in response to message #60 by Marcus von Cube, Germany

At least tires are consistently internationally mixed up....

Re: Metric vs. US model of HP 50g

*Message #62 Posted by **Marcus von Cube, Germany** on 12 Feb 2010, 11:05 a.m.,*
in response to message #58 by Bart (UK)

I've to correct myself: It's actually liters per 100 km. It's a measure that leads to "easy" numbers in the range from 3 to 30 (depending on your car...)

Re: Metric vs. US model of HP 50g

*Message #63 Posted by **bill platt** on 10 Feb 2010, 10:48 a.m.,*
in response to message #54 by Walter B

Speaking of calories, does European food packaging list energy content in kcal or J?

Re: Metric vs. US model of HP 50g

*Message #64 Posted by **Walter B** on 11 Feb 2010, 2:25 a.m.,*
in response to message #63 by bill platt

For the time being, it's stated like "435 kJ (103 kcal)". AFAIK you may omit the Calories, at least you must not print them in a larger font than the Joules. Old customs die hard d:-/

@Dimitri:
FYI, "kl" is neither SI nor conventional nor used. Since 1000 l = 1 m^3 , it's redundant. You're young enough for learning d;-)

Re: Metric vs. US model of HP 50g

*Message #65 Posted by **Dimitri Simitas** on 11 Feb 2010, 1:07 p.m.,*
in response to message #64 by Walter B

> Quote:
>
> @Dimitri:
> FYI, "kl" is neither SI nor conventional nor used. Since 1000 l = 1 m^3 , it's redundant. You're young enough for learning d;-)

Yes I realize that now thanks. Always avoided powers that made the equation look large. That is what I was taught in school, 1km not 1000m or 1x10^3m. Similar to why I have always used asin/acos/atan instead of the power to the negative 1.

Dimitri

Re: Metric vs. US model of HP 50g

*Message #66 Posted by **bt_schmidt** on 4 Feb 2010, 7:27 p.m.,*
in response to message #17 by Glenn Shields

> Quote:
>
> How about the so-called "Gimli glider," an Air Canada jet that ran out of fuel and nearly crash-landed but for the skill of the pilots, due (in part) to confusion between US and Imperial gallons.

umm, no. As this NewYork Times article title clearly states its was a **metric** conversion error:

JET'S FUEL RAN OUT AFTER METRIC CONVERSION ERRORS
By RICHARD WITKIN (The New York Times)
July 30, 1983
"The carrier said that fuel had been measured manually with special "drip sticks" because the electronic gauging system aboard the plane, Air Canada's first metric aircraft, was not working properly. But in converting the fuel volume determined from the stick readings into total fuel weight, the wrong conversion factors were used. The net result was that the pilots apparently thought the figure for fuel weight on board was in kilograms when it was really pounds. Since one kilogram equals 2.2 pounds, the plane took off with about half the fuel that it should have had."

"Gimli glider" (was Re: Metric vs. US model of HP 50g)

*Message #67 Posted by **Bart (UK)** on 5 Feb 2010, 5:17 a.m.,*
in response to message #66 by bt_schmidt

> Quote:
>
> As this NewYork Times article...

You actually believe anything the press has to say? (I'm a bit pessimistic about the press, taking news items with a grain of salt*)

Referring to Geoff Quickfall's (an airline pilot in Canada) good description of the probable sequence of events (elsewhere in the thread), it indeed seems conversion problems had a role to play. But, I would put the ultimate blame on the procedures of the day, i.e. allowing a commercial passenger aircraft to take off without operative on-board fuel indication. Perhaps this came from an old view of "that's how we did it in the old days anyway" (referring to the assumed adequacy of drip sticks).

However, with high volume air travel requiring ground personnel to service many aricraft per day and airlaines demanding shorter turn around times, the amount of conversions to and fro (volume to weight conversions, different unit conversions), i.e. increased ground personnel & aircrew work load, old procedures may not be adequate. Unfortunately it takes these kind of incidents (and many with more tragic consequences) to highlight and change inadequate procedures (the last point 4 in Geoff's post).

*From my Dutch backgroud: "take with a grain of salt" is to not take too seriously/literally

Re: Metric vs. US model of HP 50g

*Message #68 Posted by **Glenn Shields** on 5 Feb 2010, 12:49 p.m.,*
in response to message #66 by bt_schmidt

Sorry for "shooting from the hip" without remembering the details of the Gimli glider story, I just wanted to get it out for some responses. Wow, thanks to Geoff and the other professionals out there for the quick crash course on aviation procedures. I am an airplane buff and only got my student ticket way back, but love to hear about how things are handled behind the scenes (YouTube has helped in this, with all their cockpit videos - the best has been the Virgin Atlantic 4-part series). Also interesting is the use of HP's to verify the "great circle route" parameters. That is a heck of a calculation (derivation, actually) in itself. Again, thanks to all -- Glenn

Re: Metric vs. US model of HP 50g

*Message #69 Posted by **Norman Dziedzic** on 28 Jan 2010, 1:20 p.m.,*
in response to message #5 by John B. Smitherman

The questions of fractions and SI units are old ones (at least relatively).

If you have nothing better to do you can look at this thread from a model rocketry group :

SI Units in Science Thread

It is only 96 posts long so maybe a little short by the standards here <vbg>.

Re: Metric vs. US model of HP 50g (even more OT)

*Message #70 Posted by **Kiyoshi Akima** on 28 Jan 2010, 1:44 p.m.,*
in response to message #69 by Norman Dziedzic

Even within one country, unit confusion can cause problems.

During WWII, the British decided to fly some Spitfires off a carrier to the island of Malta. Because of U-boats and Luftwaffe bombers, the Navy wasn't too keen on sailing one of their big carriers in the confines of the Med, so they asked the Air Force how close they needed to get. The RAF replied "xxx miles." The RN said "Righto" and dropped them off xxx *nautical* miles from the island.

Amazingly, four of the twelve Spits made it.

Re: Metric vs. US model of HP 50g (even more OT)

*Message #71 Posted by **bill platt** on 28 Jan 2010, 2:09 p.m.,*
in response to message #70 by Kiyoshi Akima

That's only 15% difference. Shouldn't matter so much, unless you plan your missions to the last drop of fuel....

Re: Spitfires and Malta

*Message #72 Posted by **Palmer O. Hanson, Jr.** on 5 Feb 2010, 10:29 p.m.,*
in response to message #70 by Kiyoshi Akima

> Quote:
>
> During WWII, the British decided to fly some Spitfires off a carrier to the island of Malta. Because of U-boats and Luftwaffe bombers, the Navy wasn't too keen on sailing one of their big carriers in the confines of the Med, so they asked the Air Force how close they needed to get. The RAF replied "xxx miles." The RN said "Righto" and dropped them off xxx *nautical* miles from the island.
>
> Amazingly, four of the twelve Spits made it.

There is a fairly long discussion of the several missions to supply Spitfires to Malta with British aircraft carriers and with the American carrier Wasp in Wikpedia but there is no mention of the incident that you describe. Would you please provide a reference for this story?

Re: Spitfires and Malta

*Message #73 Posted by **Les Bell** on 7 Feb 2010, 5:25 a.m.,*
in response to message #72 by Palmer O. Hanson, Jr.

Aviation flight planning these days is done pretty much exclusively in nautical miles, knots, etc. (the exception being the old Soviet Union, which was metric to the extent of even having altimeters calibrated in metres). I've never worked any other way.

However, I went back and checked in my father-in-law's navigation textbook, which he used when training as an RAF navigator in 1944 (he flew in night fighter Mosquitos, towards the end of WW II). Although it mentions statute miles, nautical miles and kilometres when introducing measurement of distance, all the calculations after that are done in nautical miles and knots.

But then I pulled my copy of "Air Publication 1565E and Air Publication 2280 A, B & C - Pilot's Notes - Spitfire VA, VB and VC Aircraft and SeaFire IB, IIC and III Aircraft" (1943) off the shelf. It quotes speeds for cruise, stall, aerobatics, etc. in m.p.h. EXCEPT in the Addendum for the Seafire, where the notes on "Deck landing" quote speeds in knots.

(On the other hand, my "Pilot's Notes" books for the Mosquito - which date from 1949 - give all speeds in knots.)

So, it's *possible* that the RAF was still working in m.p.h at that time while the Royal Navy used knots. I'd be surprised if they made such a fundamental flight planning error, though.

Best,

--- Les
[http://www.lesbell.com.au]

Hurricanes, not Spitfires

*Message #74 Posted by **Palmer O. Hanson, Jr.** on 9 Feb 2010, 11:25 p.m.,*
in response to message #73 by Les Bell

I couldn't verify the Spitfire story but I did find a very similar story about sending Hurricanes to Malta from the H.M.S. Argus on November 17, 1940.

Here's an idea on what went wrong: Models of the Hurricanes revised for flight from aircraft carriers appeared later in the war but were not available in 1940 so far as I have been able to tell. The Hurricanes flown from the H.M.S. Argus had been designed for flight from land. Could they have taken off with less than full tanks to reduce the distance to take-off to that available on the carrier.

One of the interesting things that I discovered during my reading was that the pilots who flew Hurricanes did not have a high regard for the Spitfires, and vice versa. That was reminiscent of the

mutual disregard of other machines by the pilots of F-100's and F-101's in the late 1950's. And, of course, that is similar to the mutual disregard of the TI and HP communities for the other company's machines.

Re: Metric vs. US model of HP 50g

*Message #75 Posted by **Bernard Rochlin** on 29 Jan 2010, 8:14 a.m.,*
in response to message #1 by Eric Smith

What was the size of Bill Hewett's shirt pockets

Re: Metric vs. US model of HP 50g

*Message #76 Posted by **Eric Smith** on 29 Jan 2010, 3:10 p.m.,*
in response to message #75 by Bernard Rochlin

I don't know, but I'm pretty sure that it was neither 7.24 x 3.47 x 0.98 cm nor 18.4 x 8.8 x 2.5 in.

Re: Metric vs. US model of HP 50g

*Message #77 Posted by **David Hayden** on 7 Feb 2010, 8:24 a.m.,*
in response to message #76 by Eric Smith

Really? I always thought he was wearing one of these :)

Re: Metric vs. US model of HP 50g

*Message #78 Posted by **Walter B** on 7 Feb 2010, 4:56 p.m.,*
in response to message #77 by David Hayden

d:-D Looks like tailored in North Korea ;-)

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HP41 Mcode: SELPF arguments

*Message #1 Posted by **Meindert Kuipers** on 27 Jan 2010, 12:11 p.m.*

While working on my disassembler I decided to add some comments to the SELPF instrcution, but I could not find any substantial info about the meaning of the arguments. 9 seems to be the printer, and anything below 9 belongs to HP-IL. Does anyone have more info about this instruction?

Thanks, Meindert

Re: HP41 Mcode: SELPF arguments

*Message #2 Posted by **Raymond Del Tondo** on 27 Jan 2010, 12:56 p.m.,*
in response to message #1 by Meindert Kuipers

Hi Meindert,

please take a look into the Zenrom manual;-)

IIRC the SELPF argument addresses the peripheral, and may be followed by data word(s) .

The data word LSB indicates the end of the data sequence, which means control will be passed back to the mainframe.

HTH

Raymond

Re: HP41 Mcode: SELPF arguments

*Message #3 Posted by **Meindert Kuipers** on 28 Jan 2010, 2:05 a.m.,*
in response to message #2 by Raymond Del Tondo

Thanks for the tip, it confirms what I already suspected,

Meindert

Re: HP41 Mcode: SELPF arguments

*Message #4 Posted by **PeterP** on 28 Jan 2010, 3:14 p.m.,*
in response to message #1 by Meindert Kuipers

i think one of the most complete list of SELPF is part of the HEPAX manual which can be found on this dvd as well as on TOS I believe.

Cheers

Peter

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HP-27S Successful LCD transplantation

*Message #1 Posted by **Lyuka** on 27 Jan 2010, 11:58 a.m.*

Hi.

My HP 27S of which LCD had been damaged was repaired by LCD transplantation from an HP 17B :-)

for more: HP 27S LCD transplantation

Lyuka

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OT: Retro programmable makes comeback.

*Message #1 Posted by **Egan Ford** on 26 Jan 2010, 11:33 p.m.*

http://www.bigtrakisback.com/index_2.htm

Originally released in '79 with 16 programming steps this 2010 replica will have 32 programming steps! Replica also 1/2 scale.

Perhaps another '79 programmable will make a come back.

Re: OT: Retro programmable makes comeback.

*Message #2 Posted by **Bruce Bergman** on 26 Jan 2010, 11:49 p.m.,*
in response to message #1 by Egan Ford

I had one of these when I was a teen. I loved it! It was the coolest!

Thanks for the link!

bruce

Re: OT: Retro programmable makes comeback.

*Message #3 Posted by **Bill (Smithville, NJ)** on 27 Jan 2010, 7:49 a.m.,*
in response to message #1 by Egan Ford

These were great. While I was no teen (30 at the Time), I had one with the dump trailor given to me for Christmas. I took it to work and programmed it to go from my desk to my secretary's desk where it would stop, flash lights and make siren sound, dump its trailor and then return to my desk. I would put whatever I wanted to deliver to my secrtary and use the truck to deliver it. Needless to say, not much work actually got done as eveyone would sit around and watch it do its thing.

Thanks for the link and the memory.

Bill

Edited: 27 Jan 2010, 7:51 a.m.

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TI RPN Simulator

*Message #1 Posted by **db (martinez, ca.)** on 26 Jan 2010, 10:54 p.m.*

Joerg; I see you are ebabying one of those. Before it goes: the folks here might find it interesting if you could post a photo of the printed output from a short program, or maybe a short before/after, using it on one of your 59 series. Here i am burning up your time but that's the kind of thing that would go well on the articles page. It's been a common enough recurring topic over the years.

Re: TI RPN Simulator

*Message #2 Posted by **Joerg Woerner** on 28 Jan 2010, 9:58 a.m.,*
in response to message #1 by db (martinez, ca.)

Dennis,

I just made the PDF manual of the RPN Simulator available:

http://www.datamath.net/SSSM_RPN_M_US_WM

Hope this helps.

Regards, Joerg

Re: TI RPN Simulator

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 28 Jan 2010, 11:56 a.m.,*
in response to message #2 by Joerg Woerner

Hi!

I, for one, wish to thank you, Joerg. And thank you too, Dennis, for bringing the subject up so Joerg would allow us to have access to the manual, too.

Best regards.

Luiz (Brazil)

Re: TI RPN Simulator

*Message #4 Posted by **Joerg Woerner** on 28 Jan 2010, 1:33 p.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

You are welcome!

Regards, Joerg

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special characters on hp71b + hp-il + 82162a ?

*Message #1 Posted by **John Ioannidis** on 26 Jan 2010, 5:12 p.m.*

I'm trying to do the HP41's equivalent of BLDSPC and ACSPC.

I tried creating a character with CHRSET, it displays fine on the display (DISP CHR$(128)), but prints nothing when I do PRINT CHR$(128).

What am I missing?

Re: special characters on hp71b + hp-il + 82162a ?

*Message #2 Posted by **Raymund Heuvel** on 26 Jan 2010, 6:51 p.m.,*
in response to message #1 by John Ioannidis

Hi

The 71B CHARSET characters are not equivalent to any printer. The format is 8 * 6 bits.

The 82162A uses 7 bits for characters.

Closest approach: use only 7 bits of the CHARSET character set. Assuming a 82162A, put the device in Graphics Mode, get the correct substring of CHARSET$ and send it to the printer.

BR

Raymund

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Future Value Problem, right?

*Message #1 Posted by **Anthony Baldwin** on 25 Jan 2010, 7:45 p.m.*

I'm trying to understand how to approach this problem using an HP12C.

Suppose you deposit $2,500 at the end of year 1, nothing at the end of year 2, $750 at the end of year 3, and $1,300 at the end of year 4. Assuming that these amounts will be compounded at an annual rate of 9 percent, how much will you have on deposit at the end of five years?

When I enter CF0 as 0

n=5

I=9

CFj1 as 2500

CFj2 as 0

CFJ3 as 750

CFJ4 as 1300

CFj5 as 0 (since it in year 5 there's no mention of a deposit).

Shouldn't I be able to solve for FV? I'm not getting a result (other than 0, even if I don't enter CFj5 at all).

Please advise.

Thanks.

AB

Re: Future Value Problem, right?

*Message #2 Posted by **Don Shepherd** on 25 Jan 2010, 8:41 p.m.,*
in response to message #1 by Anthony Baldwin

Anthony, I'm certainly no expert in these things, but reviewing the 12c manual, it seems that cash flows (CF0, CF1-) are related to NPV, not the TVM functions. I'd read the manual on NPV, it seems like that's what you want to use, not FV.

Re: Future Value Problem, right?

*Message #3 Posted by **Dave Britten** on 25 Jan 2010, 10:04 p.m.,*
in response to message #2 by Don Shepherd

After your enter your cash flows and calculate NPV, just store that value in PV and solve for FV as usual.

I get -5,837.03 as expected. (Make sure PMT is 0.)

Disclaimer: I majored in computer science, not finance! This approach might not work in all cases.

Re: Future Value Problem, right?

*Message #4 Posted by **Peter A. Gebhardt** on 25 Jan 2010, 8:53 p.m.,*
in response to message #1 by Anthony Baldwin

Anthony,

I can't resist: "At least enough money to buy an HP 17b+ ..." ;-))

Now for the serious part of my answer:

Because your trusty 12c doesn't have a routine for calculating NFV directly (thats the FV counterpart in he world of irregular cash-flows), you should be able to help yourself, by calculating

NFV == NPV*(1+9/100)^5

Best regards,

Peter A. Gebhardt

Re: Future Value Problem, right?

*Message #5 Posted by **Chuck** on 25 Jan 2010, 9:20 p.m.,*
in response to message #1 by Anthony Baldwin

Here's a possible, albeit inelegant way (I've only used the 12C about 5 times so dont know the "business" way to do it).

```
2500 STO 1
1.09 STO x 1
1.09 STO x 1


750 STO + 1
1.09 STO x 1


1300 STO + 1
1.09 STO x 1


RCL 1
```

I'm sure there's a better way. However, on the Casio 9860, put {2500, 0, 750, 1300,0} into List1, 9% into I% and press NFV; Voila. I'm still getting used to the Casio (versus HP's), but it's a pretty versatile little bugger.

Chuck

Edited: 25 Jan 2010, 9:22 p.m.

Re: Future Value Problem, right?

*Message #6 Posted by **David Hayden** on 25 Jan 2010, 9:25 p.m.,*
in response to message #1 by Anthony Baldwin

I know barely enough finance to balance my checkbook, but it seems to me that you can calculate this one by

hand. You just have to consider the deposits individually. Note that everything is deposited at the *end* of the year, so we're really talking about a 4 year span (from the end of year 1 to the end of year5). Also I'm assuming that the compounding period is 1 year. The problem states the rate, but not the compounding period.

```
$2,500 earns 9% for 4 years.  2500*1.09^4 = 3528.95
$750 earns 9% for 2 years.    750*1.09^2 = 891.08
1300 earns 9% for 1 year. 1300*1.09 = 1417
```

Summing to totals gives $5837.03 at then end of 5th year.

Dave

Re: Future Value Problem: what about a program to compute it?

*Message #7 Posted by **Vieira, Luiz C. (Brazil)** on 25 Jan 2010, 11:01 p.m.,*
in response to message #1 by Anthony Baldwin

Hi;

some years ago I was asked about how to compute the net future value in an HP12C, as the NFV is available in almost all other financial calcs after the HP12C and with more computing power: HP18C, 19B, 17B, 19BII, 17BII, and so. (I am not sure if the HP27S has it). The solution is trivial and already mentioned: compute NPV (net present value) with the given cash flow data and apply compound interest rate to the computed NPV (as PV) given that [n] (number of periods) matches the summation of all Nj. So, after entering all cash flow data and given [i] (interest rate), the program should automatically compute NPV, store the summation of all Nj in [n] then compute [FV], thus NFV. The program computes the summation of all Nj in the stack prior to store it in [n]. Then [PMT] is set to zero prior to compute FV. Here is the listing:

```
f [NPV]
RCL [n]
0
RCL g [Nj]
+
RCL g [CFj]
Rv
RCL [n]
g [x=0]
g [GTO] 13   if 12C Platinum: GTO 013
Rv
g [GTO] 04   if 12C PLatinum: GTO 004
+
STO [n]
0
[PMT]
[FV]
x<>y
[n]
Rv
CHS
g GTO 00   if 12C Platinum: GTO 000


Obs:
Rv    - roll-down key
x<>y  - x exchange y key
Key the program in starting at step #01, otherwise [GTO] data should be adjusted.
```

If everything is fine, last step is #22. To compute NFV, just follow the cash flow routine to store data, key the interst rate and press [i], then press

```
[GTO] 00
[R/S]
```

The expected NFV should be in the display. Please, let me know if it works as expected.

Cheers.

Luiz (Brazil)

Edited: 25 Jan 2010, 11:30 p.m.

Re: Future Value Problem, right?

*Message #8 Posted by **cyrille de Brébisson** on 26 Jan 2010, 9:23 a.m.,*
in response to message #1 by Anthony Baldwin

hello,

this is not a FV, but a NFV (Net Future Value) Problem.

you can either move to a calcualtor that suports NFV, may I propose the 20 or 30b?

if you are dead set on using the 12c, you can calculate the NPV (Net Present Value). then plug the NPV as PV in the TVM calculation, and use the TVM functions to calcualte FV.

regards, cyrille

Re: Future Value Problem, right?

*Message #9 Posted by **Eddie W. Shore** on 26 Jan 2010, 9:45 a.m.,*
in response to message #1 by Anthony Baldwin

I confirm with the others: enter the cash flow, compute the NPV, use the result for PV (I change signs first), then compute the FV.

I used the 17BII+ (silver) to verify the results of $5,837.03.

A warning: TVM´s [FV] after entering cash flow data

*Message #10 Posted by **Vieira, Luiz C. (Brazil)** on 26 Jan 2010, 1:01 p.m.,*
in response to message #1 by Anthony Baldwin

Hi, all;

just to remind that computing TVM´s [FV] as for NFV right after entering cash flow data with [CFo] and [CFj] and computing [NPV] is only valid when none of the cash flow repeats. If at least one of the cash flows has [Nj] > 1, than [n] must be adjusted prior to compute NFV with [FV].

Cheers.

Luiz (Brazil)

Edited: 26 Jan 2010, 8:44 p.m.

Re: Future Value Problem, right?

*Message #11 Posted by **tony (nz)** on 26 Jan 2010, 3:57 p.m.,*
in response to message #1 by Anthony Baldwin

Hi this just worked on my trusty Victor 12c clone:

0 CF0 1300 CFj 750 CFj 0 CFj 2500 CFj

9 ENTER 1.09 / CHS i

NPV = 5837.029025

Should work on a genuine 12c

The method is general: string the payments out in the past, so the present is future wrt the payments, and use a negative discount rate equivalent to the interest rate. Then NPV becomes NFV.

Cheers Tony

Edited: 26 Jan 2010, 9:25 p.m.

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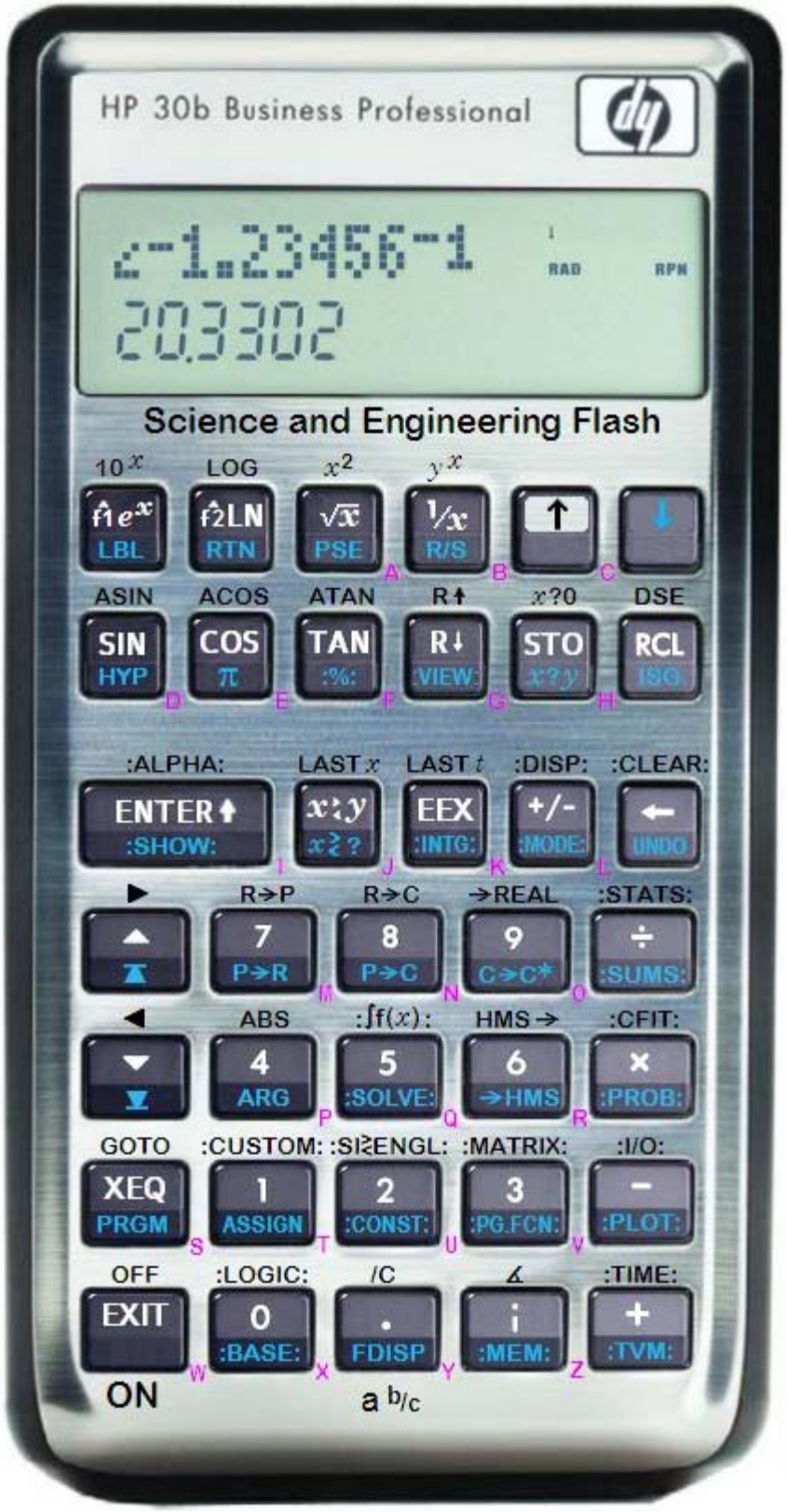
30b Repurposing Concept

*Message #1 Posted by **Jeff O.** on 25 Jan 2010, 1:09 p.m.*

Here is my 20b repurposing concept updated and applied to the 30b:



I'm not sure that both the up-shifted and down-shifted legends would fit between the keys as I depicted on my 20b concept, so I went ahead and put the blue legends on the sloped key faces. This makes the key-relabelling problem that much more difficult, but, if a way can be found to put new primary legends on the key tops, it should be possible to put the blue legends on the sloped face. I have an idea for how it might be done (nothing fancy, still a sticker or overlay concept) but for now will just assume that it could be done.

Based on the discussion of the 30b regarding the memory allocation for storage registers and such that allows only

300 or so bytes of program memory, I don't know how feasible this concept is. I believe it has been mentioned that someone at HHC 2009 had a 20b with a micro-SD card slot connected. Could programs be stored in and executed from an SD card? If so, the 2 kB of ram might be enough for data. If 300 or so bytes is indeed the limit, there would not be much point in creating a machine with the 41C/42S programming paradigm. If that is the limit, something with the capability of maybe the 11C might be doable, perhaps with only a single shift key to keep things simpler.

Paul reports below that significant program memory is possible with a very capable design.

...

Edited: 26 Jan 2010, 7:52 a.m. after one or more responses were posted

Re: 30b Repurposing Concept

*Message #2 Posted by **Martin Pinckney** on 25 Jan 2010, 1:41 p.m.,*
in response to message #1 by Jeff O.

I like the flipped HP logo. Maybe stands for *d(o it)y(ourself)*?

Re: 30b Repurposing Concept

*Message #3 Posted by **Jeff O.** on 25 Jan 2010, 7:35 p.m.,*
in response to message #2 by Martin Pinckney

> Quote:
>
> I like the flipped HP logo. Maybe stands for d(o it)y(ourself)?

Exactly!

(I wondered if anyone would notice. Nobody mentioned it on my 20b design.)

...

Re: 30b Repurposing Concept

*Message #4 Posted by **John B. Smitherman** on 25 Jan 2010, 8:47 p.m.,*
in response to message #2 by Martin Pinckney

Martin, I laughed out loud when I read your message. Thank you for the humor.

Regards,

John

Re: 30b Repurposing Concept

*Message #5 Posted by **Thomas Radtke** on 25 Jan 2010, 2:04 p.m.,*
in response to message #1 by Jeff O.

Does the 30b's LCD has an Arrow Up annunciator?

Re: 30b Repurposing Concept

*Message #6 Posted by **designnut** on 25 Jan 2010, 2:31 p.m.,*
in response to message #5 by Thomas Radtke

Jeff, I don't remember ever using the roll keys, it seems to me a single one would serve for a 4 stack. I would not make it an important key. I remember when the 35 came out my friend was never sure the upper number was still there, he had to use the x<>y key repeatedly to make sure. Sam

Re: 30b Repurposing Concept

*Message #7 Posted by **Katie Wasserman** on 25 Jan 2010, 4:06 p.m.,*
in response to message #5 by Thomas Radtke

> Quote:
>
> Does the 30b's LCD has an Arrow Up annunciator?

No, it has exactly the same display as the 20b.

Re: 30b Repurposing Concept

*Message #8 Posted by **Thomas Radtke** on 25 Jan 2010, 5:06 p.m.,*
in response to message #7 by Katie Wasserman

Thanks, Katie.

I suppose that will more or less rule out using a second shift key in any repurposing project.

Re: 30b Repurposing Concept

*Message #9 Posted by **Egan Ford** on 25 Jan 2010, 5:08 p.m.,*
in response to message #8 by Thomas Radtke

The shift indicator could blink for the 2nd shift. The dot matrix could say '2nd shift, alpha, etc...'

Re: 30b Repurposing Concept

*Message #10 Posted by **Katie Wasserman** on 25 Jan 2010, 5:15 p.m.,*
in response to message #8 by Thomas Radtke

There are two "=" annunciators, a large one and a small one. You could use the small one for the 2'nd shift or the "BEG" symbol which is directly underneath the down arrow and is not likely to be needed for anything else.

Re: 30b Repurposing Concept

*Message #11 Posted by **Paul Dale** on 25 Jan 2010, 5:40 p.m.,*
in response to message #1 by Jeff O.

It is quite possible to have more than 300 bytes for program space. The CPU has 2048 bytes of non-volatile RAM. This can be divided up as desired. The low level support routines need a few bytes but it really isn't all that many.

Walter & I have been (slowly) working on a 20b repurposing and ours has 500 merged program steps (each of two bytes since we've so many commands available). In addition we've 100 registers (16 digit BCD using 8 bytes each). These don't include the stack.

We've also got more than one shift by ignoring the built in annunciator and using the dot matrix portion of the display to show 'f', 'g' and 'h' as required.

Yes, we'll be switching to the 30b for the nicer keyboard.

- Pauli

Re: 30b Repurposing Concept

*Message #12 Posted by **Walter B** on 25 Jan 2010, 6:58 p.m.,*
in response to message #11 by Paul Dale

OK, some more facts:

Menu labels are underlined. There are 3 hotkeys. Participants of HHC2008 may know some features, but there's new stuff, too. Display shows the calc in programming mode.

The function set of the 34S is based on the one of the HP-42S RPN Scientific. This set is extended to completely include the functionality of the HP-16C (we even added and expanded some commands), the fraction mode of the HP-32SII, statistical distributions as featured by the HP-21S, and even more mathematical, statistical, scientific and engineering functions like

- Euler's Beta function, incomplete Beta and Gamma, the error function, Fibonacci number

calculation, Lambert's W as well as
- many distributions and their inverses like Binomial, Poisson, exponential and geometric, Gaussian with arbitrary mean and standard deviation, Weibull for reliability analysis,
- extended date and time calculations based on a real time clock,
- nearly 50 fundamental physical constants taken from NIST,
- over 50 different conversions between SI and Imperial units,
- extended Latin (i.e. Spanish, Portuguese, French, German, Norwegian, Swedish, Finnish, Czech, etc.) as well as Greek upper and lower case fonts in two sizes.

We had to drop matrix math due to display restrictions.

All features are subject to change without notice, but were pretty stable in the last months. Comments etc. are most welcome.

Re: 30b Repurposing Concept

*Message #13 Posted by **Gene Wright** on 25 Jan 2010, 7:42 p.m.,*
in response to message #12 by Walter B

Looks great!

Be even better if/when put on the 30b physical unit!

Re: 30b Repurposing Concept

*Message #14 Posted by **Walter B** on 26 Jan 2010, 1:59 a.m.,*
in response to message #13 by Gene Wright

Gene,

thanks for your kind words. As mentioned above, we'll use the 30b for its rotate-and-click keys. IMHO, however, matte black is a better background for label prints than shiny metal. Maybe we can sandblast a 20b plate and use it then on the 30b, since dimensions seem to match.

Walter

Re: 30b Repurposing Concept

*Message #15 Posted by **Tim Wessman** on 26 Jan 2010, 8:56 a.m.,*
in response to message #14 by Walter B

Unfortunately not. :-(

The 30b uses a different process. The LCD is completely enclosed and protected under a clear window, and the inside had to be different to give a little more space for fitting a real keyboard. They aren't compatible.

TW

Re: 30b Repurposing Concept

*Message #16 Posted by **Walter B** on 26 Jan 2010, 5:51 p.m.,*
in response to message #15 by Tim Wessman

Time to get a real 30b in our hands d:-) When will it be available?

Re: 30b Repurposing Concept

*Message #17 Posted by **Paul Dale** on 25 Jan 2010, 10:33 p.m.,*
in response to message #12 by Walter B

Extra programming features:

- As mentioned, 500 merged programming steps.
- 100 registers that hold either reals or integers depending on the current mode.
- Almost any command that takes a register can also take a stack element and/or can be done indirectly. LBL being the main exception to both.
- Extended conditional tests: all six comparisons of X against 0, 1 or any register or stack element (possibly indirect for both). Complex equality and inequality comparisons against the same.
- 100 user flags and 11 flag set/clear/flip and test operations. None of these flags are used for system purposes. Sieve of Eratosthenes without using any registers anyone?
- 100 numeric labels + three character alpha labels. 8 levels of nesting for subroutines. Solve, integrate, summation and product of functions using any of these labels. Only a single program space with three hot keys definable. Three character alpha labels are the only non-merged commands -- they take two steps not one.
- Save and restore the entire stack to registers as a single operation.
- Register move, swap, clear and sort commands.
- Store and recall arithmetic (including min and max). Complex support for basic arithmetic store and recall to register pairs.
- If you're not using complex arithmetic, there is an I register to make converting HP-34c, 32S, 33S and 35S programs easier.
- 31 character alpha register with some supporting operations. Not quite as rich as the 42s yet.

All implemented except for the low level hardware driving (works on a desktop PC in a text window). Still a few bytes left of non-volatile RAM and several kbytes of flash.

- Pauli

Re: 30b Repurposing Concept

*Message #18 Posted by **Katie Wasserman** on 26 Jan 2010, 7:04 a.m.,*
in response to message #17 by Paul Dale

This sounds like awesome software design, I can't wait to try it!

Just a word of caution about a problem that I found in all the ARM-based HP calculators (12C+, 20b, 30b). The power supply is not well designed and can/does lead to memory loss when the batteries get low. The 2 CR2032 cells are in parallel with no steering diodes so once one cell goes bad the 2nd cell will follow suit soon thereafter. In the process of changing out one cell you can easily short the contacts and lose memory too. Finally, the low battery warning code should be given careful consideration and re-design, it does not work well in any of these machines.

-Katie

Re: 30b Repurposing Concept

*Message #19 Posted by **Jeff O.** on 27 Jan 2010, 12:38 p.m.,*
in response to message #17 by Paul Dale

Pauli and Walter,
I continue to be very impressed by what you have accomplished. It sounds like you have made progress recently and are pretty close. Now that the 30b will (hopefully) soon be available, there is a worthwhile platform on which your design can be implemented. I guess I will have to buy two 30b's, one to load your "34s" on and one for my as yet un-alphanumerically designated Science and Engineering flash. I'd like to think there is room for both, as I think we have somewhat different goals, maybe. I won't presume to state your goals, but mine are as follows:

- relatively uncluttered keyboard, not that yours is cluttered, but it is quite busy :-)
- complex numbers entered as on the 35s, stored and handled just like the 42s (with display improvements as described in my 20b repurposing post)
- easily useable as an engineering/scientific by having the basic functions e^x, ln, square-root, $1/x$, SIN, COS and TAN as un-shifted key functions. (I realize that these functions are of course only one shift away on your design.)

Aside from the above, a major goal is that there be some way to upload and download programs. Otherwise there is not much point to my design since the 35s has most if not all of the functionality I desire. I'd be willing to hack the calculator, buy special cables and hardware and software, but it would be nice if a cable connected to those six-little holes on the back could do the job.

Best regards and good luck with the 34s,

Jeff

edited to correct typo

Edited: 27 Jan 2010, 2:54 p.m.

Re: 30b Repurposing Concept

*Message #20 Posted by **Walter B** on 27 Jan 2010, 6:20 p.m.,*
in response to message #19 by Jeff O.

Jeff,

as you wrote, there will be room for more than one repurposing project. And each and every design is biased by personal preferences and experience of its designers, as it has been stated many times by different forumers here. So let's run it the biological way: may many species rise and compete d:-) There isn't anyone completed and ready yet, so far. Still some work to be done.

Enjoy designing (and checking and redesigning and ... d;-)),

Walter

(Edited to correct an error)

Edited: 27 Jan 2010, 6:24 p.m.

Re: 30b Repurposing Concept

*Message #21 Posted by **Richard Reed** on 26 Jan 2010, 2:54 p.m.,*
in response to message #12 by Walter B

> Quote:
>
> OK, some more facts:
>
> ...
>
> We had to drop matrix math due to display restrictions.
>
> ...

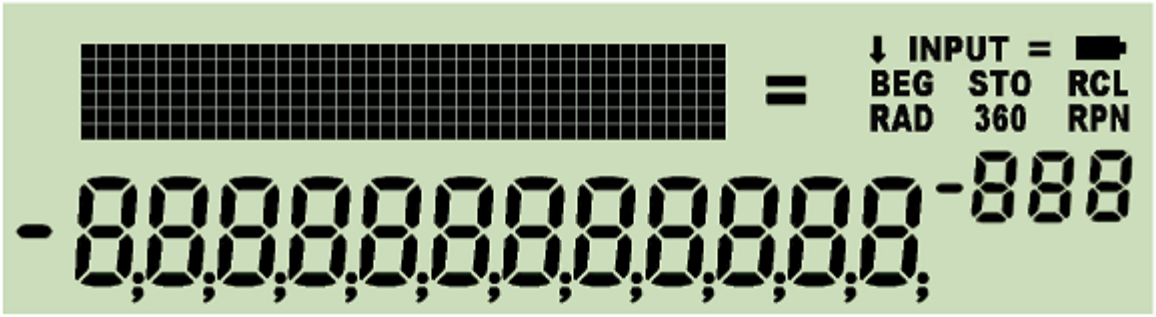
I also think the design is great, but what is different about the 30b display that makes the 42s matrix math impractical?

Re: 30b Repurposing Concept

*Message #22 Posted by **Walter B** on 26 Jan 2010, 6:18 p.m.,*
in response to message #21 by Richard Reed

> Quote:
>
> what is different about the 30b display that makes the 42s matrix math impractical?

The 42S has a dot matrix LCD 131 pixels wide and 16 high, allowing for 22 characters in each of 2 display lines, or 6 soft key labels in the lower line . OTOH, the LCD of the 20b and 30b looks like this:



No way to display a comparable number of soft keys. No space for reasonable matrix descriptors. Too tight in many ways :-(

Re: 30b Repurposing Concept

*Message #23 Posted by **Richard Reed** on 26 Jan 2010, 7:36 p.m.,*
in response to message #22 by Walter B

Thanks for that. Very clear :-(

Richard

Re: 30b Repurposing Concept

*Message #24 Posted by **Eddie W. Shore** on 26 Jan 2010, 9:50 a.m.,*
in response to message #1 by Jeff O.

Wow! Nice design, Jeff.

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Refurbished HP calcs?

*Message #1 Posted by **DaveJ** on 24 Jan 2010, 2:58 a.m.*

I noticed this refurbished 12C

Quote:
"These refurbished calculators come directly from HP distribution and have been refurbished by HP. As said by HP distributing, "These are better than new because each has been fully and personally hand tested." Some will have blemishes (usually a scuff on the casing), but include a warranty to work like new."

I didn't know HP refurbished calcs?

Dave.

Re: Refurbished HP calcs?

*Message #2 Posted by **Walter B** on 24 Jan 2010, 3:10 a.m.,*
in response to message #1 by DaveJ

You find more such claims at Samson Cables, e.g. here.

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HP-42S work-around for sticking to low contrast LCD problem

*Message #1 Posted by **Lyuka** on 22 Jan 2010, 2:40 p.m.*

Hi all. (It might be good news for DavidShenk.)

I recently bought an HP-42S which has LCD contrast problem that seems to be identical to the case of the previous thread 'An HP-42S fix success, and a contrast problem'.
I tried another way to generate the LCD bias voltage, and the work-around seems to work well so far.

for more information - A work-around for sticking-to-low-contrast LCD problem of the HP-42S

Regards,
Lyuka

Edit: URL to the image corrected.

Edited: 1 Feb 2010, 5:03 p.m. after one or more responses were posted

OMG:Re: HP-42S work-around for sticking to low contrast LCD problem

*Message #2 Posted by **Lyuka** on 29 Jan 2010, 2:07 p.m.,*
in response to message #1 by Lyuka

OMG

What I bought (at Yahoo JAPAN auction) and repaired is identical to DavidShenk's.

SN=2942S30206

> Quote:
>
> This is a version A with the flush display, S/N 2942S30206 and it passes it's self test.

It's a small world.

Re: OMG:Re: HP-42S work-around for sticking to low contrast LCD problem

*Message #3 Posted by **DavidShenk** on 1 Feb 2010, 1:25 p.m.,*
in response to message #2 by Lyuka

I take a few days off checking the forum and when I come back you've got my calculator! I did not realize you were the buyer. I had reached a dead end and just couldn't do anything else with it.

I'm glad you were able to find a fix. You always do a good job documenting what you do, and I think it will be a good help to others in the future. Dave

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"The Swiss Army Knife for nerds"

*Message #1 Posted by **David Hayden** on 22 Jan 2010, 8:15 a.m.*

I thought you'd get a chuckle out of this. I posed on my facebook page the comment "who would have thought that a hand-held calculator could solve 'killer' difficulty Sudoku puzzles in 0.1 seconds?"

I received several responses, but the best was from my wife: "The HP programmable calculator is the swiss army knife for nerds. Smooch!"

Isn't that the truth? Just like a Swiss Army knife, my HP calculators are kept close by at all times. They're tools to help with little problems that arise from time to time.

Dave

Being a nerd (kinda) myself

*Message #2 Posted by **Frank Boehm (Germany)** on 22 Jan 2010, 10:14 a.m.,*
in response to message #1 by David Hayden

I unfortunately always find myself *not* in need of an advanced calculator. Too bad, considering I have one or two thousand calculators on hand <g>

Also being a nerd (kinda) myself

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 22 Jan 2010, 11:10 a.m.,*
in response to message #1 by David Hayden

Borrowing not only Frank Boehm´s title but also the fact that I could count on one calculator or almost a hundred (based on current count...) when I needed, I have been using them either on single expression solving or in writing large programs for complex problem solving. I cannot agree more on the swiss army knife title.

I actually perform daily, fast calculations by mind (even some two-digit square roots of integers with non-integer square roots) or with pencil and paper, just for the sake of giving brain cells some activity. Anyway, I consider programming a very straightforward, 'mind stretching' activity, and I like achieving the most from the least resourceful tool.

'Swiss army knife for nerds'. I like it! But I have the feeling of reading this kind of reference somewhere else, IIRC as a reference to a Linux resource for programmers.

Cheers.

Luiz (Brazil)

Edited: 22 Jan 2010, 11:12 a.m.

Re: Also being a nerd (kinda) myself

*Message #4 Posted by **bill platt** on 22 Jan 2010, 12:34 p.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

My mentor always used to beat us whippersnappers regularly with mental arithmetic. He smirked when I brought out my HP. He had a TI and said that the one great thing about the HP was that it didn't get "TI-itis" (that keyboard disease with too many 9999999's.

Re: "The Swiss Army Knife for nerds"

*Message #5 Posted by **Maximilian Hohmann** on 22 Jan 2010, 3:59 p.m.,*
in response to message #1 by David Hayden

Good evening!

For me as well, the Swiss army knife and the programmable calculator are very similar: I always (*) carry both of them with me and never find a reason to use either of them. Probably haven't opened the knife in five years (luckily they really are made from stainless steel) and used a calculator for real calculations in ten, other than to play around with it.

Greetings, Max

(*) At work, I have to leave the knife in the car because they won't let me take it through airport security. Not long, and the calculator will have to stay in the car as well, because some idiot will find a way to use it as an explosive device.

Re: "The Swiss Army Knife for nerds"

*Message #6 Posted by **Martin Pinckney** on 23 Jan 2010, 11:12 p.m.,*
in response to message #5 by Maximilian Hohmann

> Quote:
>
> I always (*) carry both of them with me and never find a reason to use either of them. Probably haven't opened the knife in five years ... and used a calculator for real calculations in ten, other than to play around with it.

Well, first off, I'm a Leatherman guy, I carry one always, and have occasion to use it often. Ditto for my calculators, except I use those several times a day.

Re: "The Swiss Army Knife for nerds"

*Message #7 Posted by **DaveJ** on 24 Jan 2010, 2:37 a.m.,*
in response to message #6 by Martin Pinckney

> Quote:
>
> Well, first off, I'm a Leatherman guy, I carry one always, and have occasion to use it often.

I collect Swiss Army Knives :-D

My favorite everyday carry one is the MiniChamp
Small enough to fit unobtrusively in any pocket, but has all the required tools. The pen is by far the handiest item I carry!

Dave.

Re: "The Swiss Army Knife for nerds"

*Message #8 Posted by **Martin Pinckney** on 24 Jan 2010, 6:11 p.m.,*
in response to message #7 by DaveJ

> Quote:
>
> I collect Swiss Army Knives :-D

Just curious - do you prefer Wenger or Victorinox?

Re: "The Swiss Army Knife for nerds"

*Message #9 Posted by **bill platt** on 24 Jan 2010, 8:29 p.m.,*
in response to message #8 by Martin Pinckney

one of both.

Re: "The Swiss Army Knife for nerds"

*Message #10 Posted by **DaveJ** on 25 Jan 2010, 11:12 p.m.,*
in response to message #8 by Martin Pinckney

> Quote:
>
> Just curious - do you prefer Wenger or Victorinox?

I'm a Victorinox man. But Victorinox has acquired Wenger I believe, so it's a bit moot.

I always loved the handshake deal that Wenger was the "Genuine Swiss Army Knife" and Victorinox was the "Original Swiss Army Knife"

Dave.

Re: "The Swiss Army Knife for nerds"

*Message #11 Posted by **Walter B** on 26 Jan 2010, 1:28 a.m.,*
in response to message #10 by DaveJ

> Quote:
>
> But Victorinox has acquired Wenger I believe, ...

Confirmed. Please see here.

Re: "The Swiss Army Knife for nerds"

*Message #12 Posted by **Bruce Bergman** on 22 Jan 2010, 4:39 p.m.,*
in response to message #1 by David Hayden

Prediction: the HP-30b will become the new (modern) swiss army calculator of choice within one year.

Bruce

Re: "The Swiss Army Knife for nerds"

*Message #13 Posted by **bill platt** on 22 Jan 2010, 6:28 p.m.,*
in response to message #12 by Bruce Bergman

> Quote:
>
> Prediction: the HP-30b will become the new (modern) swiss army calculator of choice within one year.

Correction: you mean Chinese Red Army calculator of choice...

Re: "The Swiss Army Knife for nerds"

*Message #14 Posted by **Bruce Bergman** on 22 Jan 2010, 9:16 p.m.,*
in response to message #13 by bill platt

No, I'm serious! It may not be my favorite calculator on the planet, and not my favorite HP, but based on my day-to-day needs for calculating, quality of the hardware itself, programmability, size, cost and RPN-ness, I think it's going to be my future "go to" calculator. I will probably buy a few and spread them around my office, home and truck.

It's truly an amazing calculator...

Re: "The Swiss Army Knife for nerds"

*Message #15 Posted by **David Hayden** on 22 Jan 2010, 10:06 p.m.,*
in response to message #14 by Bruce Bergman

> Quote:
>
> It's truly an amazing calculator...

Dang.... Comments like that make me want to buy one, even though I have no use for it at all. You people are going to turn me into a collector. :)

Re: "The Swiss Army Knife for nerds"

*Message #16 Posted by **bill platt** on 22 Jan 2010, 11:04 p.m.,*
in response to message #15 by David Hayden

If you have an iphone or ipod touch, just get Thomas' free42.

Re: "The Swiss Army Knife for nerds"

*Message #17 Posted by **C.Ret** on 23 Jan 2010, 4:23 a.m.,*
in response to message #14 by Bruce Bergman

> Quote:
>
> ...I think it's going to be my future "go to" calculator...

Since I bought my HP28S in 1990 (and she's still running perfectly today), I've got a lot of "future 'go to' calculators".

This last HP is looking great, but it's only one more in my long list.

Will see what will be at the top of my 'to go' list in 20 years!

Re: "The Swiss Army Knife for nerds"

*Message #18 Posted by **Frido Bohn** on 25 Jan 2010, 6:21 a.m.,*
in response to message #17 by C.Ret

> Quote:
>
> Since I bought my HP28S in 1990 (and she's still running perfectly today)[...]

"and she's still running", I believe is the central lemma of this thread. Depending on the language area, a calculator may be a "he", "she" or "it". In my language (German) it would be a "he". However, this leads to the conclusion that some users attribute a personality to their handhelds. Of course, not just any calculator, only certain calculators are ennobled with personality. From my point of view, I could not believe that army knives have that strong appeal. The calculator-nerd feels better as long as he knows, his favourite handheld is in the vicinity. For me its the HP41, and although "he" is not indispensable for my daily work, it is good to know "he" is within reach. As the years go on, I hope I won't end up like Gollum in "The Lord of the Rings", who conducted dialogues with his "precious".

Have a nice day!

Re: "The Swiss Army Knife for nerds"

*Message #19 Posted by **Marcus von Cube, Germany** on 25 Jan 2010, 12:24 p.m.,*
in response to message #18 by Frido Bohn

Hallo Frido!

I'm pretty sure that French makes such things as cars or gadgets female: la voiture, la calculatrice. It's probably a common feature in roman languages.

Re: "The Swiss Army Knife for nerds"

*Message #20 Posted by **Michael Meyer** on 25 Jan 2010, 10:03 p.m.,*
in response to message #19 by Marcus von Cube, Germany

I know that my calculators are, "my babies..." Hadn't considered gender....

Re: "The Swiss Army Knife for nerds"

*Message #21 Posted by **DaveJ** on 23 Jan 2010, 8:29 p.m.,*
in response to message #14 by Bruce Bergman

> Quote:
>
> No, I'm serious! It may not be my favorite calculator on the planet, and not my favorite

> HP, but based on my day-to-day needs for calculating, quality of the hardware itself, programmability, size, cost and RPN-ness, I think it's going to be my future "go to" calculator. I will probably buy a few and spread them around my office, home and truck.
>
> It's truly an amazing calculator...
>
> ---

If you are an accountant, probably.

But if you need a scientific then it's not even close to being amazing.

Anything with EEX as a shift is next to useless in my book, but YMMV.

WHEN are HP going release one of these new platform calcs as a scientific??

Dave.

Re: "The Swiss Army Knife for nerds"

*Message #22 Posted by **Bruce Bergman** on 23 Jan 2010, 11:37 p.m.,*
in response to message #21 by DaveJ

Perhaps!

But remember, this thing is very customizable. You could, for example, assign the EEX key to any key you want, including face keys.

There's a limit to how many you can do that with (10), but still, it's pretty cool to be able to re-assign keys, kind of like with the 41c.

Oh, and since this one is easily flashable, you could create your own scientific with not a lot of effort. Granted, you'd need some kind of overlay for the keys, but it's a much easier proposition than the 20b. And we do already have the basis for a 43s with the 20b, so it wouldn't be difficult to put it on the 30b.

thanks, bruce

Edited: 23 Jan 2010, 11:38 p.m.

Re: "The Swiss Army Knife for nerds"

*Message #23 Posted by **DaveJ** on 24 Jan 2010, 2:08 a.m.,*
in response to message #22 by Bruce Bergman

Ah, ok, fair enough, I forgot about the re-mappable keys.

A stick-on template overlay would be trivial, you'd just have to ignore the primary designators.

I'll wait for the scientific version though, surely it's on the way?

Dave.

Re: "The Swiss Army Knife for nerds"

*Message #24 Posted by **Bruce Bergman** on 24 Jan 2010, 10:59 a.m.,*
in response to message #23 by DaveJ

That too is included! It's not a full keyboard overlay, but it at least allows you to scribble on the top four rows of keys.

I believe someone looked into using one of those cell-phone skin companies to see if they could get an overlay for it. Can't remember what came of that...

thanks, bruce

Re: "The Swiss Army Knife for nerds"

*Message #25 Posted by **Jeff O.** on 25 Jan 2010, 12:34 p.m.,*
in response to message #24 by Bruce Bergman

> Quote:
>
> I believe someone looked into using one of those cell-phone skin companies to see if they could get an overlay for it. Can't remember what came of that...

I believe that someone was me regarding a company called Skinit. I sent the following inquiry to them last October:

I would like you to make skins for a product that you do not have listed, the Hewlett Packard HP20B calculator. It must overlay the entire keyboard with holes cut for the keys so that custom key labels can be added above and/or below the keys. Is this possible?

I received the following reply:

Thank you for your interest in Skinit. Unfortunately we do not support that device at this time and we do not provide launch dates in regards to new devices being added to the website. I would not recommend buying a skin that does not specifically fit your device on our website. We cut each skin individually for each device and ordering a different skin will cause the skin to not fit. We would like to inform you that we keep updating our website regularly by adding new devices and skins, so we would request you to check back later if we have not listed your particular device on our website. We apologize for the inconvenience caused to you and appreciate your patience in this matter.

I have not checked back to see if they added the 20b.

...

Re: "The Swiss Army Knife for nerds"

*Message #26 Posted by **DaveJ** on 25 Jan 2010, 11:15 p.m.,*
in response to message #24 by Bruce Bergman

> Quote:
>
> That too is included! It's not a full keyboard overlay, but it at least allows you to scribble on the top four rows of keys.

> I believe someone looked into using one of those cell-phone skin companies to see if they could get an overlay for it. Can't remember what came of that...

You could do it using laser etched stainless steel, or thin (0.5mm) PCB material. These are easy and fairly cheap to obtain custom made from various places.

Dave.

Re: "The Swiss Army Knife for nerds"

*Message #27 Posted by **Eddie W. Shore** on 26 Jan 2010, 9:46 a.m.,*
in response to message #1 by David Hayden

I love that comment. I usually have a finance and a scientific HP around me at all times.

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emu42 on Win7-64bit

*Message #1 Posted by **Mike (Stgt)** on 22 Jan 2010, 7:04 a.m.*

Hello! Is there something like a compatibility mode in Windows7-64bit to run programs compiled for Win32 platforms like Ch. Giesselinks emu42? A colleague just asked me.

Ciao.....Mike

Re: emu42 on Win7-64bit

*Message #2 Posted by **Richard Garner** on 22 Jan 2010, 11:45 a.m.,*
in response to message #1 by Mike (Stgt)

I installed the latest version on my new computer that has Windows 7-64bit and I had no problems installing it. It will install in the Program Files (x86) folder. I copied all of my skins and programs to the folder that it created. I think I had to reset my preferences for skins but everything is working fine. I did the same with emu48 with no problems as well.

Re: emu42 on Win7-64bit

*Message #3 Posted by **Mike (Stgt)** on 25 Jan 2010, 1:09 p.m.,*
in response to message #2 by Richard Garner

Thank you for the info. Today I told the swiss colleague about your reply. When we have more time for private subjects I do show him the HP-Museum with the forum of experts.

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HP Forum Archive 19

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Keyboard Complaints

*Message #1 Posted by **Tim Wessman** on 22 Jan 2010, 12:10 a.m.*

No, not the kind you are thinking about.

Anyway, as I've been investigating keyboards and users more and more since I'll now be directly impacted by any good or bad keyboard we make (don't be ridiculous and infer stuff here - I am just musing as I educate myself about consumers and competition) I've been kind of surprised as I've talked with people about different keyboards.

For example, I've heard from many people that use little chiclet keys on phones how annoyed they are at the HP keyboards. I've often heard how they are "tiring to press","slow" and so on.

The 20b is a good example of this. If you put it side by side with pretty much any other calculator in the 30$US range, it matches up perfectly well. The internals are identical. Sure if you compare it to a BA2prof, or a 35s it sucks, but some people honestly seem to hate rotate&click keys.

I had someone trade me back a 30b for a 20 because they "liked the color better, but the keyboard was too hard to press". This same person much prefers anything that has a solid rubber mat of keys like you get on those nasty 50 cent calcs . . . yuk!

It sure seems to me more and more as I listen to end users, that it completely depends on what you use daily. If you are used to the way a cell phone feels, a lot don't seem to recognize that a 'quality HP keyboard' (lets not get into that old vs new debate, we all here know the truth) is quality and they don't like it.

Has anyone else run into other complaints like this from users/students? I sure seem to have been running into plenty of people that have a lot of complaints against the 'good' keyboards I ask them to try. Is it truly just a matter of what you are used to?

TW

Re: Keyboard Complaints

*Message #2 Posted by **Thomas Radtke** on 22 Jan 2010, 1:45 a.m.,*
in response to message #1 by Tim Wessman

Tim,

I prefer old HP keyboards but have no problems with Casio, Sharp, and most TI calculators.

I took the 20b without any expectations to hand, immediately noticing that entries failed that worked on any Casio I tried. Even the 30s does not have any problems. It's probably the shape of the keys that leads to this problem. You simply don't know where to press it ;-).

However, the 20b is one of very few calculators I know of where I have to be extremely careful about entering numbers. It is an outstanding bad design in this respect.

Thomas

Re: Keyboard Complaints

*Message #3 Posted by **Peter A. Gebhardt** on 22 Jan 2010, 4:04 a.m.,*
in response to message #1 by Tim Wessman

Tim,

Thx. to you and HP taking care of and recognizing the importance of keyboard "quality".

Let me propose, that instead of doing customer surveys with people today not having experienced "good old engineering" quality at least once in their lives, you might instead thrive to take (as an example) at least the keyboard quality of Pioneers as a yardstick.

(Even my 10b - ID912 ... has better keyboard quality than most of the other makes & brands - not talking of 17bII's and earlier models ... - but we shouldn't start these rants ;-)))

More experienced users than me would be able to point to the manufacturing dates which can serve as a timemark - after which quality deterioated.

Best regards,

Peter A. Gebhardt

Edited: 22 Jan 2010, 4:10 a.m.

Re: Keyboard Complaints

*Message #4 Posted by **Jon S Canale** on 22 Jan 2010, 8:15 a.m.,*
in response to message #3 by Peter A. Gebhardt

I like click keyboards - HP quality click keyboards. Can't stand the soft touch chicklet types. But my first experiences were on an HP25c and 11c, both of which are going strong today (well not the 25c - has been retired for a while). I had an original TI SR-50 which also had click keys, and wasn't bad while it lasted, but the keyboard died after a few years (bouncing key input). I did buy a newer TI 30XIIS and can't stand it - misses keystrokes every time I use it. Will throw it on the floor and stomp on it one of these days! I also bought a 35s when they first came out. Not too bad, but gets discouraging to see all the discussion of problems with it, and no hint that HP is ever going to respond. Wouldn't mind so much if HP does a 30b scientific - the 35s might just get left out on the desk until it disappears.

Re: Keyboard Complaints

*Message #5 Posted by **Tim Wessman** on 22 Jan 2010, 9:55 a.m.,*
in response to message #3 by Peter A. Gebhardt

First, this really has nothing whatsoever to do with anything within HP, policies, ongoing reasearch, blah blah blah, but is just me musing in my own spare time as I contemplate things. I really don't want anyone to read more into this than is really there. . .

I know the frustration of missing keys, but that really isn't the direction I was going with this. Nor is quality which we all *truthfully* know will never be back to how it was before. Consumer products simply aren't build like professional tools.

I have set down a 15c, 20s, 48 and 1-2 other 'good keyboards' in front of people. They sit and click them and complain about how hard they are to push and tire out their fingers. They are also 'loud' and 'slow' and 'push too hard on your fingers' and probably a few more negative things I've heard I am forgetting.

I have seen sentiments like this expressed online in product reviews for things like the 10bII and 50g where there has been no mention of missing keys or anything like that. Rather, it seems to me that there is a rising group of people who truthfully dislike keys that give any sort of feedback and they do like cellphone keys.

People who used and grew up on older HP keyboards complain to no end that they aren't good, but those just being introduced often are more likely to complain that it isn't a cell phone. :-(

TW

Re: Keyboard Complaints

*Message #6 Posted by **Peter A. Gebhardt** on 22 Jan 2010, 10:58 a.m.,*
in response to message #5 by Tim Wessman

Tim,

despite your disclaimer - at least you (hopefully) do have access to the "inner circle" of the calculator division ;-))

Otherwise it would indeed be a pity, if ALL HP calculators are imagined as "consumer goods" by top HP decision makers ...

Best regards,

Peter A. Gebhardt

Re: Keyboard Complaints

*Message #7 Posted by **Martin Pinckney** on 22 Jan 2010, 11:07 a.m.,*
in response to message #5 by Tim Wessman

> Quote:
>
> I know the frustration of missing keys, but that really isn't the direction I was going with this. Nor is quality which we all *truthfully* know will never be back to how it was before. Consumer products simply aren't build like professional tools.

So there you have it, folks: You can forget about HP ever responding to our comments about producing a truly quality calculator again. Apparently they are just not interested. But then, some of you with bean counter experience have been telling us that all along.

But Tim, you can see that, in spite of your protestations about "not going there", folks here still do, because it's an issue that remains important to them.

> Quote:
>
> ...it seems to me that there is a rising group of people who truthfully dislike keys that give any sort of feedback and they do like cellphone keys.
>
> People who used and grew up on older HP keyboards complain to no end that they aren't good, but those just being introduced often are more likely to complain that it isn't a cell phone. :-(

I must be out of he loop. every cell phone I have owned has had tactile feedback keys.

Re: Keyboard Complaints

*Message #8 Posted by **Tim Wessman** on 22 Jan 2010, 1:27 p.m.,*
in response to message #7 by Martin Pinckney

> Quote:
>
> So there you have it, folks: You can forget about HP ever responding to our comments about producing a truly quality calculator again. Apparently they are just not interested. But then, some of you with bean counter experience have been telling us that all along.

Gee, thanks for putting things in my mouth that were not being said. Really classy.

Unfortunately it is a reality that **all modern corporations** aren't interested in the .5% of customers. They are interested in the 99.5% (numbers pulled out of my bum there). That whole 'volume production' thing.

That is why a specialized company can sell a US$1000 "acoustically tuned volume knob made out of some rare African wood" to a small group of people and be successful.

This is why smaller niche markets can be successfully exploited by smaller companies.

It is basic economics and modern business.

> Quote:
>
> But Tim, you can see that, in spite of your protestations about "not going there", folks here still do, because it's an issue that remains important to them.

And it is important to me and everyone else that builds the things, but reality is reality when dealing with economics. Please see Gene's comment below.

The whole point of my comment was that it has surprised me how there are so many people now that don't seem to recognize a quality keyboard ala classic HPs and *don't like them*. That is what is so surprising to me.

> Quote:
>
> I must be out of he loop. every cell phone I have owned has had tactile feedback keys.

So you would be happy if HP made a calculator with a cell phone keyboard? Every time I've asked any calculator nut regarding that they respond just as I do, which is with disgust.

TW

Re: Keyboard Complaints

*Message #9 Posted by **bill platt** on 22 Jan 2010, 1:57 p.m.,*
in response to message #8 by Tim Wessman

Hi Tim,

I agree with you about small vs large companies.

Perhaps an easy way to see this in action is to look at:

1. HP Market Capitalization in 1973 or so,

2. HP Market Capitalization now.

Even inflation adjusted, I think you'll find something in the orders of magnitude there--in other words to your point, HP was a "small company" when it developed the 35. It is no longer small.

Edited: 22 Jan 2010, 1:58 p.m.

Re: Keyboard Complaints

*Message #10 Posted by **Thomas Radtke** on 22 Jan 2010, 11:22 a.m.,*
in response to message #5 by Tim Wessman

> Quote:
>
> Nor is quality which we all *truthfully* know will never be back to how it was before.

Please excuse my ignorance, Tim. What exactly was so expensive with Pioneer calculator keyboards?

Re: Keyboard Complaints

*Message #11 Posted by **Martin Pinckney** on 22 Jan 2010, 11:40 a.m.,*
in response to message #10 by Thomas Radtke

This kind of question comes up over and over. Those with bean counter experience tell us that producing a keyboard like the Pioneers would cost $___ more per calculator, so it won't happen.

The rest of up respond, "So what? We would gladly pay $___ more to get a truly useful tool."

But from Tim's comments, it seems the bean counters are correct.

Sorry, Tim, I just can't resist.

Re: Keyboard Complaints

*Message #12 Posted by **Gene Wright** on 22 Jan 2010, 1:01 p.m.,*
in response to message #11 by Martin Pinckney

A tutorial on Cost-Volume-Profit analysis (which I taught for years) would be useful at this point.

Raise the price $10. We techies here (myself included) by an extra 10K units. We are all happy.

By price being raised $10, total demand drops by 50K units.

Result: Less overall revenue and higher costs of production. Stock price goes down. Management and shareholders are unhappy. Management is fired. Division is sold to a company in Mongolia who replaces units with gummy bear keys. Make a fortune.

Techies here are unhappy. Blah blah.

That's how things like this are often decided.

Economic analysis is fairly rigorous, as my graduate degree in it reminds me.

P.S. These are made up numbers but they represent the issue.

Re: Keyboard Complaints

*Message #13 Posted by **Thomas Radtke** on 22 Jan 2010, 1:24 p.m.,*
in response to message #12 by Gene Wright

> Quote:
>
> Raise the price $10.

That was my point. Where's this kind of money in pioneer keyboards? I'd like to understand why e.g. 20b keys aren't hinged (that's a few gramm of plastic and a few minutes of drawing in Catia) and why they sit on rubber domes instead of plastic domes. Is there really more than a $1 difference?

I have a different theory. Price is not calculated so that it reflects the product, but to reflect what the target audience is willing to pay. Then the fun starts by cutting costs wherever possible to maximize profit. So, the argument "I'm willing to pay a dollar more" is completely invalid. The company already takes the estimated maximum. Right?

Re: Keyboard Complaints

*Message #14 Posted by **Michael Plant** on 22 Jan 2010, 1:34 p.m.,*
in response to message #13 by Thomas Radtke

I'd imagine that the increase in cost lies in the mechanics of the keyboard, not in the materials. Adding in the hinges would increase the complexity of manufacture - HP would need to add a step or more into the process and purchase and program robots to perform those additional operations. All factors that add to the cost.

Caveat: when I say imagine, I mean it! Nothing I've written above is based on anything other than idle speculation on my part.

Re: Keyboard Complaints

*Message #15 Posted by **Gene Wright** on 22 Jan 2010, 2:36 p.m.,*
in response to message #13 by Thomas Radtke

And, the raise the price $10 would occur because of the supply chain.

Totally made up example here having nothing to do with any private information...

If I make a product costing $5. The distributor MAY buy it for $8 who sells it to a retailer for $16. They then sell it for $39.99.

If my costs go up to $6, the ending MSRP may go up to $44.99 because of that assuming the end retailer will even CARRY the product any more.

A major retailer may well say ... this product must be at $39.99 or less. I don't care what kind of improvements you have put into it, the public won't buy it. The problem is that it

doesn't matter if the retailer is sniffing glue or not, they rule the world. What are your options then? Sell online only through your own website? Perhaps. Volume would be a lot less than using retailers/distributors.

Tough world out there. Not enough customers seem willing to pay premium prices...unless they are Apple customers, of course. ;-)

Re: Keyboard Complaints

*Message #16 Posted by **Tim Wessman** on 22 Jan 2010, 2:55 p.m.,*
in response to message #15 by Gene Wright

Don't you target mainly apple customers. . .

Hmmmm. :-D

TW

Re: Keyboard Complaints

*Message #17 Posted by **Thomas Radtke** on 22 Jan 2010, 2:55 p.m.,*
in response to message #15 by Gene Wright

> Quote:
>
> Tough world out there. Not enough customers seem willing to pay premium prices...unless they are Apple customers, of course. ;-)

Yeah, but Apple can actually take the money because they deliver high end products in terms of quality. You see: It pays! ;^)

Yes, I got your arguments. What's left is some dissapointment because the niche I'm in isn't served anymore. Buying an HP means an option for RPN. No more and no less. That's not enough at some point when the firmware gets below a certain standard like with the 35s.

Thanks anyway for making your points clear.

Re: Keyboard Complaints

*Message #18 Posted by **Gene Wright** on 22 Jan 2010, 3:43 p.m.,*
in response to message #17 by Thomas Radtke

Keep in mind that not only do I not work or speak for HP, I did not stay in a Holiday Inn Express last night either.

Well, 35s firmware aside, I would say there are more reasons for HP than just RPN.

I've picked up and used a lot of TI models, and dislike the experience intensely. If you haven't used a TI BAII Plus in a while, find one and try a problem on it for a change. Yuk.

Something else to think about is not just where HP was in the 1970s, but perhaps where they were just 10 years ago.

Rubber keys.

FHB* colored machines.

then machines that were hollow and clicked so loudly they woke the neighbors up and missed keys 80% of the time.

Compared to where they were 10 years ago, I believe there have been great improvements in quality. More to go? Sure, but the trajectory seems to be up from a long dive leading to the FHB* machine.

* Frozen Hamster Butt ... google it on comp.sys.hp48

Re: Keyboard Complaints

*Message #19 Posted by **bill platt** on 22 Jan 2010, 7:02 p.m.,*
in response to message #17 by Thomas Radtke

..and also to the point, Apple has a ridiculously small market share.

Re: Keyboard Complaints

*Message #20 Posted by **Walter B** on 23 Jan 2010, 1:51 a.m.,*
in response to message #19 by bill platt

... but everyone talks about what Apple makes.

Re: Keyboard Complaints

*Message #21 Posted by **Martin Pinckney** on 22 Jan 2010, 1:41 p.m.,*
in response to message #12 by Gene Wright

> Quote:
>
> A tutorial on Cost-Volume-Profit analysis (which I taught for years) would be useful at this point....
>
> That's how things like this are often decided.

OK, thanks for illustrating what I was referring to when I said "Those with bean counter experience tell us that producing a keyboard like the Pioneers would cost $___ more per calculator, so it won't happen."

Now what do you think of this? HP's PDF brochures available on their website refer to "HP quality". So they are marketing something that's not really there and they don't expect people to pay for it anyway? For the moment, forget the financial calculators. Who is the target market for the 35s? General consumers? Is it not scientists and engineers? People who need a reliable product, no?

Did not the same "rules" of Cost-Volume-Profit analysis also apply when the Pioneers were made? (Or any other HP era). Or did they just now start to apply?

I just don't buy this argument.

I will provide an anecdote. Recently I hired a new field surveyor (technician, not professional, just as a reference point). I noticed he had both a 48gx and 35s in his kit. When I asked him about the 35s, he replied, "it's OK for a cheapie calculator". Is that the reputation HP is trying to maintain?

End of rant.

Re: Keyboard Complaints

*Message #22 Posted by **Gene Wright** on 22 Jan 2010, 2:31 p.m.,*
in response to message #21 by Martin Pinckney

Who is the target market for the 35s? General consumers? Is it not scientists and engineers? People who need a reliable product, no?

GENE: Maybe, maybe not. I'm not privy to that. It may well be test-takers, for all I know. They may be unwilling to pay $90 for an item when substitutes are available for less. I don't know how many of them are willing to pay the CURRENT HP 35s price, so it is difficult to know what a price increase of $X would do. But it is a pretty firm law of economics that when price goes up, demand goes down.

Did not the same "rules" of Cost-Volume-Profit analysis also apply when the Pioneers were made? (Or any other HP era). Or did they just now start to apply?

GENE: It has to do with another principle of economics in that case...the availability of substitutes. Pretty firm ground there as well. More substitutes today. Less demand at the same constant dollar price. etc.

I just don't buy this argument.

GENE: Then I would politely suggest you enroll in an economics course and express those arguments with the experts in the field. I'm really not trying to be ugly here, so don't take it that way, but I believe these arguments are close to the truth.

I will provide an anecdote. Recently I hired a new field surveyor (technician, not professional, just as a reference point). I noticed he had both a 48gx and 35s in his kit. When I asked him about the 35s, he replied, "it's OK for a cheapie calculator". Is that the reputation HP is trying to maintain?

GENE: If it were, I would guess they would have exited the market a long time ago. Are there target markets where such qualities are treasured / demanded? Sure, you've mentioned one and our group here is another. So, yes, it is a different world, a different environment and a different company. No use denying that. Fortunately, we have choices. We can buy TI. We can buy Casio. We can buy HP and lament the differences between a product costing $100 in todays dollars vs. a product from 20 years ago costing $300 in todays dollars.

End of rant.

Re: Keyboard Complaints

*Message #23 Posted by **Martin Pinckney** on 23 Jan 2010, 11:01 p.m.,*
in response to message #22 by Gene Wright

Quote:

> Then I would politely suggest you enroll in an economics course and express those arguments with the experts in the field. I'm really not trying to be ugly here, so don't take it that way, but I believe these arguments are close to the truth.

Perhaps being a little ugly, but why would I want to express my arguments to "experts" in an academic setting? I'm talking the real-world of professional who need professional-quality tools for their work. That may be why we have the inferior HP we have today: too many marketing and production cost analysis "experts" calling the shots.

It about leadership. There are many anecdotes existing about how Bill Hewlett went against the experts advice during the early calculator years. And lest you argue that the times are different now, that the age of cheap consumer electronics means we will never return to the type of product that defined HP, well let me point out that the times are always changing, and in recent years there is a trend to return to high-quality products in many fields. I think what many of us have been asking HP for is the leadership to dare to do this again for professional calculators.

Re: Keyboard Complaints

*Message #24 Posted by **Jake Schwartz** on 24 Jan 2010, 11:42 a.m.,*
in response to message #23 by Martin Pinckney

> Quote:
>
> I think what many of us have been asking HP for is the leadership to dare to do this again for professional calculators.

I feel that one of the questions we're asking is whether the current HP calculator group leadership cares enough, sees *some* demand, and has the guts to go after it. They'd honestly have to be ready for the possibility that the sales might not cover their costs and that if not, hopefully it doesn't "tank" the group. There are honest ways to try for that not to happen, however, like some clever marketing to the professionals. Then, if they do a great machine, promote it to the max and it only sells a thousand units, they will at least have fought the honorable fight.

Re: Keyboard Complaints

*Message #25 Posted by **Walter B** on 24 Jan 2010, 12:18 p.m.,*
in response to message #24 by Jake Schwartz

That's the spirit of Samurai d|-)

Re: Keyboard Complaints

*Message #26 Posted by **Dimitri Simitas** on 5 Feb 2010, 7:17 p.m.,*
in response to message #22 by Gene Wright

> Quote:
>
> GENE: Maybe, maybe not. I'm not privy to that. It may well be test-takers, for all I know. They may be unwilling to pay $90 for an item

> when substitutes are available for less. I don't know how many of them are willing to pay the CURRENT HP 35s price, so it is difficult to know what a price increase of $X would do. But it is a pretty firm law of economics that when price goes up, demand goes down.

The HP-35S is sold in one place in the city (Toronto) for 83$. A HP-39G sits on the same shelf beside it for 17$ more.

Dimitri

Re: Keyboard Complaints

*Message #27 Posted by **Bart (UK)** on 23 Jan 2010, 6:03 a.m.,*
in response to message #12 by Gene Wright

Then HP has really lost that which set them apart in the early years.

They rose to the challenge:

> Quote:
>
> After the HP 9100 was demonstrated to Bill Hewlett he suggested that they should make one in one tenth the volume, ten times as fast and at one tenth the cost.

And for the HP35:

> Quote:
>
> He later reduced his suggested volume even further to "shirt pocket-sized".

If they (HP) cannot rise to the challenge to make a keyboard at a price that will keep the 50k cheapskates happy AND the quality that keeps the the 10k techies happy, then they have lost (become too big for?) the magic that made them great in the first place. Maybe they didn't always meet those challenges fully (or sometimes cheated a bit), but they managed to produce a products that made users happy.

Of course if HP has become too big to care for techie markets and wishes to concentrate on the cheap and nasty market sector, they'll make way for products like BWK. And they will continue to lose that other part of the magic that made them great - coming out with cutting edge products. On the handheld side, perhaps Casio is taking that over with the Classpad 300 series? (Wasn't the cancelled Expander something in that line?)

Note: qoutes are from HP Museum's "HP 9100A/B" page.

Re: Keyboard Complaints

*Message #28 Posted by **Thomas Radtke** on 23 Jan 2010, 6:58 a.m.,*
in response to message #27 by Bart (UK)

> Quote:
>
> (Wasn't the cancelled Expander something in that line?)

If you have a PDA running WinCE or an emulator, you're in to try the free MathExpander software. It's strictly educational and was never developed beyond a point without obvious bugs. But the geometry module is a nice thing to play with for an hour or two ;-).

About the 'old HP': Effectively, serious calculator development stopped after the Pioneers. Why did that happen? Everyone agrees that e.g. the 42S was a great machine. Obviously, it didn't sell to match the production costs. Now, where's the expected reward to try it again?

Re: Keyboard Complaints

*Message #29 Posted by **David Hayden** on 22 Jan 2010, 8:11 a.m.,*
in response to message #1 by Tim Wessman

Hi Tim,

I wonder how much of the problems with the keyboards these days is software and not hardware. When keys don't register, is it because the electrical contact wasn't made, or because the user was pressing too fast and overran the (zero length?) buffer? I personally suspect that a lot of the problems HP has with keyboards is the latter.

Here's another thought: would people care about the tactile feedback if the keypress always registered? How many complaints that say "I don't like the keyboard" are really saying "it didn't register the keys I pressed?"

The best way to find out about this stuff is to get real-time feedback from potential customers. That means setting up a usability lab or taking it on the road to schools. If you haven't already, I strongly encourage you to read "Don't Make Me Think" by Steve Krug. It's about website usability but applies equally to calculators. The gist is that the makers of the product are uniquely UNQUALIFIED to judge its usability, but getting good data from real-world users isn't that hard.

Finally, let me make a plug for User mode improvements. Assignable keys are of little use when you can't easily tell which keys are assigned to which functions. We need keyboard overlays and/or keys that display their function when held down (like the 41 did).

Thanks for asking and for caring.

Dave

Re: Keyboard Complaints

*Message #30 Posted by **Thomas Radtke** on 22 Jan 2010, 8:41 a.m.,*
in response to message #29 by David Hayden

> Quote:
>
> Here's another thought: would people care about the tactile feedback if the keypress always registered? How many complaints that say "I don't like the keyboard" are really saying "it didn't register the keys I pressed?"

Exactly. On my 20b, I can carefully press any key in a way that I receive a tactile feedback (from the rubber-dome, I suspect) but get nothing on the LCD. Pressing harder, the key registers. Same with one key on my 35s. Now, *that* is really disturbing.

Re: Keyboard Complaints

*Message #31 Posted by **Dave Britten** on 22 Jan 2010, 8:48 a.m.,*
in response to message #1 by Tim Wessman

Some thoughts on various keyboards:

Pioneers - Very nice feel and actuation, and I've never had any issues with these. Even my heavily worn 32sii with some keys that have broken free from the hinges works quite well.

12c (manufactured around 2002) - Very nice feel overall, though it seems a bit cramped somehow. The Enter key feels like it needs a little too much force to press.

28c, 28s, 19bii, etc - Too much key travel, and too stiff. The raised edge around the right half makes it difficult to press the bottom row of keys with one's thumb.

48sx - Just about perfect.

48gx - Like the 48sx, but the keys require a bit less force to press. Some of these have a cheaper feel than the 48sx.

49g - Let's just forget this ever happened.

50g - Too stiff for my liking. And yet they still feel a bit mushy somehow. I've also had weird issues with keys I haven't even pressed being actuated. I'll be typing some numbers, and suddenly the calculator thinks I've hit TAN or something. Weird. Also, the cursor keys are still MUCH too stiff.

35s - Very nice feel, though the keys have a bit of side-to-side wobble. Mechanically, they're great, but I'm sure everyone knows the issues with missed key-presses.

Personally, I find the TI-style keys more tiring to use. You have to be much more deliberate to make sure you press the key squarely. I can type much more quickly (and accurately) on my 48sx than on my TI-86. Also, the cheaper TIs, like the 36X, have lots of trouble with missed keystrokes if you type quickly.

Re: Keyboard Complaints

*Message #32 Posted by **Michael de Estrada** on 22 Jan 2010, 12:07 p.m.,*
in response to message #31 by Dave Britten

Let me add to your list:

Spices with non-soldered keyboards - terrible

Spices with soldered keyboards - very good

Re: Keyboard Complaints

*Message #33 Posted by **Jean-Michel** on 22 Jan 2010, 1:15 p.m.,*
in response to message #32 by Michael de Estrada

Hi folks,

I used quite daily for over twenty years a CASIO fx-602P I still have in very good condition before starting to collect HPs that made me fascinated in my youth, before I had money enough to buy some, and also before their prices decreased enough! What I can say is that, even if the keyboard of this Casio don't give any special feedback at key strokes, I'm pretty sure I never miss any key stroke nor

had any bouncing key, like I have on a TI-58C I bought a few years ago. More to say, as the effort to press the keys is less important, I can type quicker on this kind of keyboard than on an HP one with rotate-and-click principle. Perhaps am I afraid to break something on my HPs keyboards when typing as fast as on my Casio? It may be part of the reason, but not totally. I keep thinking HP keyboards are a little bit slower, due to this sligtly greater effort they need. That beeing said, I agree with you on the point of the good feeling they give to the user. One really have the impression of a professional device when using an HP. One last thing: let's admit there's no perfect keyboard, just for the reason that even the best we, HP fans, would declare as so, could be hated by someone else. One evidence of this is the perpetual evolution of HP keyboards. Even if they keep the "rotate-and-click", the shape of the keys, the effort to press and the travel of the keys continuously change, model after model.

Speaking of keyboards, I type this text on the tactile keyboard of my iPod: no movement of keys at all, as there are no physical keys, just the elasticity of the end of my finger, and that works! The click and the enlarged symbol of each key pressed gives the user the confirmation his entry has been registered, if ever needed. Let's live with today's tools, but also not forget good old ones :-)

Kind regards, J.-M.

Re: Keyboard Complaints

*Message #34 Posted by **Tim Wessman** on 22 Jan 2010, 1:32 p.m.,*
in response to message #33 by Jean-Michel

Nice thoughts.

> Quote:
>
> I keep thinking HP keyboards are a little bit slower, due to this sligtly greater effort they need. That beeing said, I agree with you on the point of the good feeling they give to the user.

Have you ever had the experience of letting someone try one of your units and tell you how much they hate the feedback? :-(

TW

Re: Keyboard Complaints

*Message #35 Posted by **Jon S Canale** on 22 Jan 2010, 4:44 p.m.,*
in response to message #34 by Tim Wessman

I do have to ask a dumb question. If the business economics is such big deal regarding whether to spend the pennies on "quality improvements" or not, I'm have a real hard time understanding if HP is serious about the calculator business at all, because I DON'T SEE THEM ANYWHERE! TI, Casio, and Sharp calculators are everywhere. MAYBE, I'll see a 12c or business calc. in an office supply store.

Where does HP sell it's cheaper calculators, even its algebraic models? The ONLY place I ever see them is online.

Has HP just lost the market so entirely that stores are not willing to use shelf space for them anymore? (<--<< this is the dumb question, perhaps...)

(I haven't set foot into a university bookstore for a hundred years - do they still sell HP there?)

Re: Keyboard Complaints

*Message #36 Posted by **bill platt** on 22 Jan 2010, 5:59 p.m.,*
in response to message #35 by Jon S Canale

When the 33S came out, they were originally released on Amazon, and Walmart. In fact perhaps Walmart even got before Amazon--I can't remember exactly any more. They continued to be offered at Walmart for quite some time--though there was a long period where they were *sold out* from Walmart. Eventually they all got marked down to $39.87 or less and then gone. I remember this being around the time the 35S was coming out.

I can't remember whether the 35S was at Walmart. I bought mine early on wherever I got it--complete with zip case and printed manual.

Re: Keyboard Complaints

*Message #37 Posted by **Mohammed Hadi** on 23 Jan 2010, 12:58 a.m.,*
in response to message #35 by Jon S Canale

I've been searching everywhere here in Kuwait for a place to buy an hp calculator with no luck. hp printers... sure, they're everywhere. So are computers, screens, ...etc., even the mighty Z800 workstation. Not calculators though. In comparison, TI calcs are carried by all major office supplies stores while Casio cals are short of being peddled at street corners.

I have the authority if I choose to exercise it to enforce an NCEES-like calculator restriction upon a class of Electrical Circuits Principles here at Kuwait University (800-900 students annually). I'm hesitant to do so however in the absence of the worthiest of that short list (35s) from the local market.

For the record, my 15c was bought locally 25 years ago.

Re: Keyboard Complaints

*Message #38 Posted by **John B. Smitherman** on 22 Jan 2010, 6:44 p.m.,*
in response to message #1 by Tim Wessman

Tim, I like the feel of the 35s keyboard very much. The keys are not too hard or soft to push and seem to register when struck at various angles. The 50g keys are good but harder to push than the 35s.

Regards,

John

Keyboard Wars

*Message #39 Posted by **Palmer O. Hanson, Jr.** on 22 Jan 2010, 9:38 p.m.,*
in response to message #1 by Tim Wessman

Page 65 of Wlodek's *A Guide to HP Handheld Calculators and Computers* (Fifth Edition, HHC 2007 Printing) states"

> Quote:
>
> ... The layout of keyboards often led to heated discussions in the calculator design teams -- members of the teams sometimes referred to these discussions as "keyboard wars"!

As this thread illustrates the HP user community can easily be instigated to wage one more "war" on keyboad feel. Don't you guys EVER get tired of the endless ranting?

Re: Keyboard Wars

*Message #40 Posted by **Thomas Radtke** on 23 Jan 2010, 5:03 a.m.,*
in response to message #39 by Palmer O. Hanson, Jr.

> Quote:
>
> As this thread illustrates the HP user community can easily be instigated to wage one more "war" on keyboad feel. Don't you guys EVER get tired of the endless ranting?

I guess that's a deliberate pejoration for 'arguing cusomer interests'. Capitalism is not about Hobson's choice. That would be communism. Take or leave what we offer doesn't really work when there's competition.

Re: Keyboard Wars

*Message #41 Posted by **Martin Pinckney** on 23 Jan 2010, 11:06 p.m.,*
in response to message #39 by Palmer O. Hanson, Jr.

> Quote:
>
> Don't you guys EVER get tired of the endless ranting?

No.

Re: Keyboard Wars

*Message #42 Posted by **Walter B** on 24 Jan 2010, 3:14 a.m.,*
in response to message #39 by Palmer O. Hanson, Jr.

> Quote:
>
> Don't you guys EVER get tired of the endless ranting?

YES (for reasons of elementary logic d;-))

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Calendar withdrawls

*Message #1 Posted by **Bruce Bergman** on 21 Jan 2010, 7:46 p.m.*

Having been without my HHC 2009 wall calendar for almost a month now, I'm still experiencing withdrawl symptoms. ;)

Does anyone have any suggestions for a nice calculator-themed wall calendar? Or something techy and classy?

thanks! bruce

Re: Calendar withdrawls

*Message #2 Posted by **hugh steers** on 21 Jan 2010, 8:12 p.m.,*
in response to message #1 by Bruce Bergman

there's a blank on my wall i keep looking at :-)

an idea i had a while back is that there are a number of online calendar printers where you upload your photos and they print them.

if we were to create such a calendar and make it public, people could order their own. it would be a bit DIY but doesn't involve someone committing to a print run and all the hassle involved.

it probably wouldn't be any cheaper per unit but it could work. also each person could, theoretically, personalise it. eg add birthdays etc.

to make it easy, im thinking it would really just be a set of photos, one per month and the regular month day matrix.

?

Re: Calendar withdrawls

*Message #3 Posted by **Bruce Bergman** on 21 Jan 2010, 8:18 p.m.,*
in response to message #2 by hugh steers

Yup, I've had exactly the same idea. In fact, after now browsing the web for about an hour looking for something decent (and finding nothing that really appeals to me), I think there's much merit to your idea.

You know, this just illustrates how professional the two HHC calendars were. They both were extremely well done, interesting both visually and informationally, and were collectors items. I hope that that group who created them will considering doing another two year series for this year's conference. And yes, I realize it's eight months away. ;-)

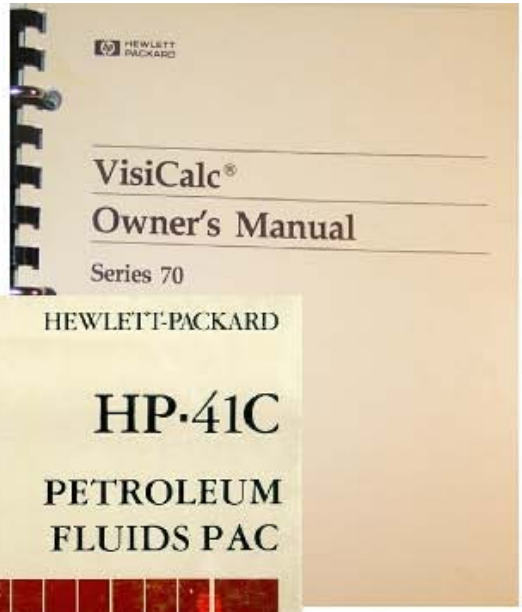
thanks, bruce

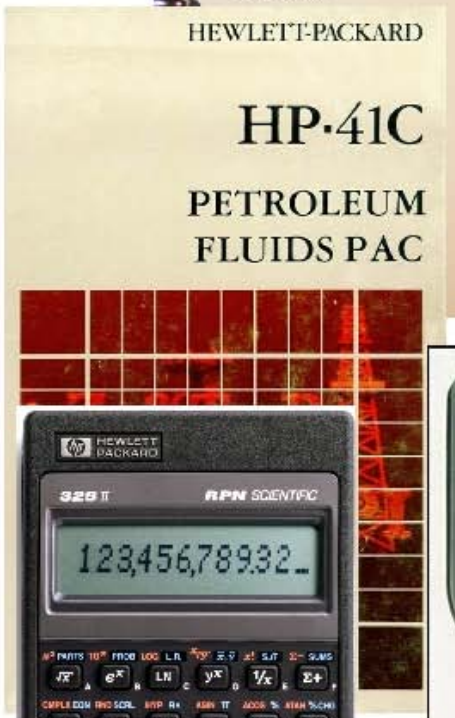
Calendar Withdrawl... me too

*Message #4 Posted by **Jake Schwartz** on 23 Jan 2010, 9:39 a.m.,*
in response to message #3 by Bruce Bergman

Hi,

Thanks so much for the kind words. The fatal flaw with the last calendar was mostly its poor *timing*. The originally-intended theme was "HP Calculator People" where Richard Nelson and I were going to devote each image page to a well-known HP calculator developer (such as Bill Wickes, etc.) and the projects to which each one contributed. Richard wanted to give each one a chance to tell us (so we could include in the calendar) info on what he/she is doing now. Unfortunately, hardly any of those who were asked by email responded in a timely manner. In fact, I believe he *still* has yet to receive responses from enough of them to fill twelve months, so that particular idea is still impractical. The only page I did as a sample to show Richard was the one for Eric Vogel (32S, 32SII, HP75 Visicalc, HP200LX, etc.) :





In any case, it was late Summer when it was realized that the theme had to be changed and time was running out. Richard decided to ask the HHC2008 conference attendees whether to do a slight enhancement on the previous years' theme or skip altogether. The vote was to enhance the theme, so we did the second one when we got home. They didn't get out of the printer until January 4th or so, so the timing was around 4 months too late for casual HP fans to want one by that point. The number printed was hundreds, and copies went to all the HHC2008 attendees and additional sales were only in the dozens. Needless to say, the sales fell short of the costs by many hundreds of dollars. Had it all been sorted out by, say, August, I think that the project might at least have broken even and Richard wouldn't be so sour on doing any more for fear of further losing his shirt. For what it is worth, copies of that 2009 calender are

still available at half price at http://www.pahhc.org/2009/Calendar.htm.

Thanks, Jake Schwartz

Re: Calendar Withdrawl... me too

*Message #5 Posted by **David Hayden** on 23 Jan 2010, 5:48 p.m.,*
in response to message #4 by Jake Schwartz

Jake, you've got mail :)

I'll look into whether it's possible to create a calendar at webshots/snapfish/whatever and then make it available for other people to purchase directly. There wouldn't be any money to be made from this, but there wouldn't be any money to be lost either :)

Dave

Re: Calendar withdrawls

*Message #6 Posted by **Hubert Weikert** on 24 Jan 2010, 12:50 p.m.,*
in response to message #1 by Bruce Bergman

Slightly OT, but a nice and interesting calendar about the pre calc era:

A 2010 'Graphical Computing' Calendar

Hubert

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Another 30b program!

*Message #1 Posted by **hugh steers** on 21 Jan 2010, 6:19 p.m.*

Following Don's initiative, here's another 30b program ive only just got working. there's probably still a few rough edges, but it basically works. I've been trying to come up with something to show off the 30b's raw performance. so here is integer factorization (always a good one).

It searches for a factor but, is unfortunately unable to spot if the number is prime. i could expand it to test this first, i guess.

The tough bit was getting it to deal with numbers up to (10^12)/2, which it deals with in about 1 minute.

```
; Pollard Rho factoring
; HP30b calculator


; usage: enter a composite odd number
; run the program
; if it finds a factor (not necessarily the least), it will stop


; NOTE: the program does not terminate if the number is prime,
;        except rarely with zero.


; Examples:
; 102691        (2 sec, 103)
; 1022117       (3 sec, 1013)
; 1071514531    (15 seconds, 32719)
; 1598880187    (21 seconds, 39989)
; 2620119269    (21 seconds, 39989)
; 4292870399    (65 seconds, 65519)
; 499898489929  (63 seconds, 707071)


STO 0  ; n
1
STO 2  ; u = 1
STO 3; ; v = 1
LBL 01
RCL 2  ; u
CALL08 ; FN(u)
STO 2  ; u = fn(u)
RCL 3  ; v
CALL08 ; FN(v)
CALL08 ; FN(FN(v))
STO 3  ; v=FN(FN(v))
RCL 2  ; u
RCL-3  ; u-v;
ENT
GF 02
MATH
DOWN
DOWN
DOWN
=     ; ABS
STO 5
RCL 0
STO 4
CALL 06 ; gcd(u-v,n)
1
<=?
GT 01   ; main loop
```

Another 30b program!

```
RD
RCL 0
>=?
GT 01   ; main loop
RD
LBL 02
STOP
LBL 06
; GCD(R4, R5)
; registers 4-5
rcl 4
rcl 5
>=
GT 07
STO 4
RD
STO 5
LBL 07
rcl 4   ; t4
ENT
rcl/5   ; t4/r5
MATH
SUP
SUP
=       ; IP
rcl*5   ; ip(t4/t5)*t5
-       ; t4-ip(t4/t5)*t5
rcl 5   ; t5
X<>Y
STO 5   ; store new t5
RD
sto 4   ; store new t4
rcl 5   ; t5
0
>       ; t5>0
GT 07
rcl 4
RTN
LBL 08
; a^2+1 mod m (possibly == m)
; registers 1, 4-9
; a on stack, m in r0
STO 1
X^2
RCL 0
STO 8   ; m
/       ; (a^2)/m
MATH
UP
UP
=       ; IP = t
STO 9   ; for FMA
RCL*8   ; t*m
+/-     ; -(t*m) = w
STO 7   ; for FMA
CALL 09 ; FMA(r9=t, r8=m, r7=w)
RCL 1   ; a
STO 9
STO 8
RD      ; FMA
STO 1   ; result
CALL 09 ; FMA(r9=a, r8=b, r7=w)
RCL-1   ; -FMA
1
+
RTN
LBL 09
; calculates r9*r8 + r7 with extended precision
; registers 4-9. destroys all but 7
rcl 9
rcl*8
STO 5
rcl+7
ENT
ENT
rcl-5
STO 4
-
rcl-5
-
rcl 7
```

```
rcl-4
+
1
EEX 6
=
1
+
STO 4
RCL*9
ENT
RCL-9
-
STO 6
STO-9
RD
rcl 4
RCL*8
ENT
RCL-8
-
sto 4
sto-8
RD
RCL 4
RCL*6
+
RCL-5
RCL 6
RCL*8
+
RCL 9
RCL*4
+
RCL 9
RCL*8
+
RTN
```

Re: Another 30b program!

*Message #2 Posted by **Katie Wasserman** on 21 Jan 2010, 7:04 p.m.,*
in response to message #1 by hugh steers

Hugh,

Very nice! I haven't digested this all yet but have a suggestion for speeding it up.

If you move the most called subroutines to the top of the code (branch around them at the start) and have nothing else except this code in the calculator it will run faster.

You're using the command SUP. What'sup with that! :)

-Katie

Re: Another 30b program!

*Message #3 Posted by **hugh steers** on 21 Jan 2010, 7:12 p.m.,*
in response to message #2 by Katie Wasserman

thanks. i just realised a few more optimisations whilst reading your pi program. for example 1 EEX is not needed and the use of obscure labels would help.

you're right, my notation is out of date. im using X<>Y instead of SWAP and ENT for Input. SUP was originally SHIFT+UP. Actually i think it's clearer to go with Don's way of having IP, ABS etc and then people know how to enter them rather than the keystrokes.

so you're saying it always looks from the start of the program rather than from the current position. also,

couldn't it make a label cache, it's not like they move around.

Re: Another 30b program!

*Message #4 Posted by **Gene Wright** on 21 Jan 2010, 7:57 p.m.,*
in response to message #3 by hugh steers

I believe it always looks from the TOP of program memory, regardless of where the branch / call originates.

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OT: Canon X-07

*Message #1 Posted by **Saile (Brazil)** on 21 Jan 2010, 4:39 p.m.*

I need the manual or any other information in format pdf. Thank's

Re: OT: Canon X-07

*Message #2 Posted by **Marcus von Cube, Germany** on 21 Jan 2010, 4:54 p.m.,*
in response to message #1 by Saile (Brazil)

I can provide some manuals and other info in French if you don't mind.

Re: OT: Canon X-07

*Message #3 Posted by **Maximilian Hohmann** on 22 Jan 2010, 3:19 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Good morning!

> Quote:
>
> I can provide some manuals and other info in French if you don't mind.

Those French manuals (and some other documentation, including schematics!) are still on the web:
http://silicium.org/oldskool/calc/x07/docs.htm

(These are also the only ones I found for my X-07).

Greetings, max

Edited: 22 Jan 2010, 3:20 a.m.

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HP41C strange display behaviour

*Message #1 Posted by **Alberto Fenini** on 21 Jan 2010, 2:03 p.m.*

Hi everybody,
I have received a second HP41C unit, and I did some repair on it.
One of the internal battery contacts was ruined and I have restored it with a thin metalic film soldered over the original contact.
It worked out, since now the unit is turning on.
However, the display is not able to light up all the segments, making it unreadble and unusable.
I have warmed and re-soldered the display contacts, both on the keyboard side and on the display back, but nothing.
For example the ALPHA label is not showing up on the display, even if the unit is in alpha mode.
What could I check without destroying the machine ?
Thanks for help, take care Alberto

Re: HP41C strange display behaviour

*Message #2 Posted by **John Robinson** on 21 Jan 2010, 6:37 p.m.,*
in response to message #1 by Alberto Fenini

Hi Alberto, it is possible to disassemble the display itself, but first you would nened to desolder it and remove it from the calc. There is a black metal spring "clip" along the top and bottom of the display. By removing that gently, the display should come apart into four pieces, the circuit board, the glass "display" and two ribber "zebra" connectors. You should clean the contacts on teh circuit board, glass display and clean the zebra connectors all with a good electronics cleaner, say an electolube product, then reassemble gently, and resolder it back it.

Cheers, John

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example of 30b program

*Message #1 Posted by **Don Shepherd** on 21 Jan 2010, 1:03 p.m.*

Another poster mentioned writing a program to determine the solvability of the famous 15 puzzle, based upon the ordering of the number tiles initially and the position of the empty square. Essentially, the puzzle is solvable if the row number of the empty square + the number of "inversions" is even, otherwise it is not solvable. Inversions are the number of cases in which a number to the right of a given cell are less than that cell. For example, for cell values 9, 8, 7, 10, there are 3 inversions (8<9, 7<9, and 7<8).

The 30b code is below. Prior to running, you must fill the stats registers 0-15 with the arrangement of the number tiles, and the empty space has value 0. The program uses indirect addressing to get the values of the cells.

Note: I edited the code on 1/23/2010 to use the ISG looping instruction, which reduced the size of the code from 127 bytes to 119 bytes, which is not insignificant when you only have 290 bytes total. Note also that if R0 contains a fractional part, the fractional part is ignored when you use R0 for indirect addressing, which is great.

```
0
sto 0       determine the row# of the empty cell (=0)
lbl 00
rcl data    get cell(r0 index)
gf 01       found the empty cell
1
sto + 0
goto 00     keep looking
lbl 01
4
rcl + 0     row# of empty cell = IP((index+4)/4)
4
/
IP
sto 3       r3 contains the number of inversions, starts with row# of empty cell
.014
sto 1       loop 1 goes from 0 to 14
lbl 02
rcl 1
1.001
+
sto 2       loop 2 goes from (loop 1 index + 1) to 15, you're going to compare two cells to
check for inversions
lbl 03
rcl 2
sto 0
rcl data    get cell value in loop 2
input       necessary because next command will pop the stack and you need this value in x
gf 04       if loop 2 value is 0, ignore it
rcl 1
sto 0       get loop 1 value now
roll down   need to get loop 2 value back in x
rcl data    get cell value in loop 1
?<
gf 04       no inversion, continue loops
1           yes, an inversion was detected, add 1 to inversion count
sto + 3
lbl 04      test to end loop 2
isg 2
goto 03
isg 1       test to end loop 1
goto 02
rcl 3       done looping, if #inversions is even, puzzle is solvable, else not
2
/
```

```
fp
gf 05
rcl 3      so inversions will be in x when you get the message (fyi)
msg Unsolv.  (limited to 8 characters)
stop
lbl 05
rcl 3
msg Solvable
stop
```

Edited: 23 Jan 2010, 6:40 a.m. after one or more responses were posted

Re: example of 30b program

*Message #2 Posted by **hugh steers** on 21 Jan 2010, 5:19 p.m.,*
in response to message #1 by Don Shepherd

Hi,

nice program.

how do you "rcl data". i'm writing a program right now, but i've run out of registers 0-9. is there a secret register i could use, like this "data"?

i need just one more.

Re: example of 30b program

*Message #3 Posted by **Don Shepherd** on 21 Jan 2010, 6:02 p.m.,*
in response to message #2 by hugh steers

Hugh, "data" is just the stats registers, of which there are 100 and indexed by register 0. In this case, I load my numbers into the stats registers before running the program, then RCL DATA gets me the contents of whichever stats register R0 points to. Or you can RCL CASHFL and use those if you want. 100 registers, shared between stats and cash flows.

Re: example of 30b program

*Message #4 Posted by **Gene Wright** on 21 Jan 2010, 6:02 p.m.,*
in response to message #2 by hugh steers

"Data" are the 100 cash flow / statistics registers.

You access these indirectly by storing the location index which goes from 0 to 99 in memory register 0 and then doing a STO DATA or RCL DATA.

"Data" starts at one end of the registers while Cashfl starts at the other.

Edited: 21 Jan 2010, 6:03 p.m.

Re: example of 30b program

*Message #5 Posted by **hugh steers** on 21 Jan 2010, 6:06 p.m.,*
in response to message #4 by Gene Wright

Understood thanks.

i guess i should read the manual :-)

Re: example of 30b program

*Message #6 Posted by **Katie Wasserman** on 21 Jan 2010, 6:59 p.m.,*
in response to message #5 by hugh steers

I added a 30b program to the many digits of pi article, if you want to look at another example of using the Data registers.

-Katie

Re: example of 30b program

*Message #7 Posted by **hugh steers** on 21 Jan 2010, 7:06 p.m.,*
in response to message #6 by Katie Wasserman

Thanks. looks like a neat program. right now my unit is stuffed full of half-working efforts :-)

Actually, there are some serious drawbacks to the global nature of the labels. is that why your labels are chosen like you have. like 81, 82 etc for program 8 or similar?

Re: example of 30b program

*Message #8 Posted by **Gene Wright** on 21 Jan 2010, 7:58 p.m.,*
in response to message #7 by hugh steers

well, tradeoffs again

With 10 spots in the program catalog, imagine the complaints if each program were limited to 10 labels (10 x 10 = 100) since only 100 were available?

With 290 bytes available, I really don't think 100 labels all of which are global is that bad. :-)

Re: example of 30b program

*Message #9 Posted by **hugh steers** on 21 Jan 2010, 8:05 p.m.,*
in response to message #8 by Gene Wright

Indeed. that's why i'll have to stop calling them LBL 01, LBL 02 etc. its not the amount, but choosing separate namespaces.

i like the idea of using program-number+label as a convention as much as possible to avoid conflicts.

but like you say, it would be wrong to enforce this. because sometimes 10 isnt enough.

Re: example of 30b program

*Message #10 Posted by **Katie Wasserman** on 22 Jan 2010, 1:32 a.m.,*
in response to message #9 by hugh steers

Yes, I try to write 30b program using labels in the form: prog_number+sequence_number if possible. Also, I usually assign them to the shift-hold number key. Shift-hold 8, would run the program in location 8, for example.

As far as showing programs on this forum, I like Don's short-cut method, but it

doens't capture all that you might be programming. Functions on the Math menu certainly make sense to abbreviate, but I'm less sure about things like clearing various memory elements using commands on the Reset menu and Memory menu. (Disturbingly you can clear parts of memory using the Memory menu which would normally only be used to read how much memory you've used, or to review the basic 0-9 registers contents.)

-Katie

Re: example of 30b program

*Message #11 Posted by **bill platt** on 22 Jan 2010, 7:52 a.m.,*
in response to message #10 by Katie Wasserman

Where are you finding the 30b for sale?

Are they made in China?

Edited: 22 Jan 2010, 7:52 a.m.

Re: example of 30b program

*Message #12 Posted by **hugh steers** on 22 Jan 2010, 1:59 p.m.,*
in response to message #11 by bill platt

They are made in china. the 30b keyboard is _much_ better than the 20b.

Re: example of 30b program

*Message #13 Posted by **bill platt** on 22 Jan 2010, 2:04 p.m.,*
in response to message #12 by hugh steers

I sooooo wish they'd not make these things in China.

What's wrong with Malaysia, or Indonesia, or heck, even Vietnam?

Re: example of 30b program

*Message #14 Posted by **Walter B** on 22 Jan 2010, 1:37 a.m.,*
in response to message #5 by hugh steers

Hi gurus,

nice watching you running circles around us <envy>. Is the manual available anywhere? So plain folks are allowed reading it, too? d;-)

Re: example of 30b program

*Message #15 Posted by **Don Shepherd** on 22 Jan 2010, 6:29 p.m.,*
in response to message #14 by Walter B

HP, are you listening? How about an online version of the 30b manual so people can read about its technical capabilities?

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the 35s pol<>rec program

*Message #1 Posted by **db (martinez, ca.)** on 21 Jan 2010, 12:07 a.m.*

An old friend just got a 35s and the p<>r program is the only thing he needs right now. I gave my 35 to my honey's daughter (gonna make her a purple haired RPN user) and can't find that great short program that someone here wrote. It was something like 12 or so lines and lot's prettier than the one i made. Could one of you post a copy or a link? TIA - db

Re: the 35s pol<>rec program

*Message #2 Posted by **Paul Dale** on 21 Jan 2010, 2:05 a.m.,*
in response to message #1 by db (martinez, ca.)

Try this:

```
P001  LBL P
P002  FS? 10
P003  GTO P011
P004: Rv
P005  Rv
P006  eqn REGZ+i*REGT
P007  ARG
P008  LASTx
P009  ABS
P010  RTN
P011: CF 10
P012  XEQ P004
P013  SF 10
P014  RTN


R001  LBL R
R002  FS? 10
R003  GTO R012
R004: Rv
R005  Rv
R006  eqn [REGZ*SIN(REGT),REGZ*COS(REGT)]
R007  [1,0]
R008  x<>y
R009  *
R010  eqn LASTx*[0,1]
R011  RTN
R012: CF 10
R013  XEQ R004
R014  SF 10
R015  RTN
```

Submitted to the software library eons ago and still no sign of it :-(

- Pauli

Edited: 21 Jan 2010, 5:38 a.m. after one or more responses were posted

Re: the 35s pol<>rec program

*Message #3 Posted by **Thomas Radtke** on 21 Jan 2010, 3:12 a.m.,*
in response to message #2 by Paul Dale

Would you mind placing it in the articles section?

Re: the 35s pol<>rec program

*Message #4 Posted by **Paul Dale** on 21 Jan 2010, 5:22 a.m.,*
in response to message #3 by Thomas Radtke

Done!

- Pauli

Re: the 35s pol<>rec program

*Message #5 Posted by **Bart (UK)** on 21 Jan 2010, 5:29 a.m.,*
in response to message #1 by db (martinez, ca.)

Geocalc has a PDF with P<>R routines here.

thanks guys

*Message #6 Posted by **db (martinez, ca.)** on 23 Jan 2010, 12:51 a.m.,*
in response to message #1 by db (martinez, ca.)

i'll see matt on sunday for the monthly brew & blues and give him both versions. he uses his hp 50 for most things and loves it but like most of us, says that a pocketable RPN is just irreplaceable.

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HP-35s in Hex mode

*Message #1 Posted by **Joel Setton (France)** on 20 Jan 2010, 4:55 p.m.*

Folks,

I guess I'm not the first person trying to use the 35s to do hexadecimal arithmetic... But the thing is next to useless! Looking at the example of a simple addition (page 11-5 in the user's guide), why does the 35s require a hex terminator, i.e. three additional keystrokes after every number?

Once HEX mode is selected, couldn't they make it work this way: 1 2 F [enter] E 9 A +

This is just plain-vanilla RPN... In decimal mode, arithmetic operators (such as + - * /) terminate the number being entered before performing the operation. Why not in hex mode? Didn't anyone at HP test this before releasing the code to production?

Beats me.

Joel Setton.

Re: HP-35s in Hex mode

*Message #2 Posted by **Don Shepherd** on 20 Jan 2010, 5:44 p.m.,*
in response to message #1 by Joel Setton (France)

Joel, it is well known that number bases were not implemented well on the 35s. It is what it is and will not likely change.

Re: HP-35s in Hex mode

*Message #3 Posted by **Martin Pinckney** on 20 Jan 2010, 9:20 p.m.,*
in response to message #1 by Joel Setton (France)

Try the 27s. In Hex mode, it provides soft keys for A-F. Effortless.

Re: HP-35s in Hex mode

*Message #4 Posted by **Joel Setton (France)** on 21 Jan 2010, 6:47 a.m.,*
in response to message #3 by Martin Pinckney

Right. I also have an HP-20S which is close to the 27s in this respect, but they are both (ewww...) algebraic. Ah, well.

Joel Setton

Re: HP-35s in Hex mode

*Message #5 Posted by **Dave Britten** on 21 Jan 2010, 7:22 a.m.,*

in response to message #4 by Joel Setton (France)

Get a 32sii (or 32s). The number base handling is nearly identical to the 20s, the only difference being you have to switch bases using a menu, which amounts to one extra keystroke.

That said, the 20s is a surprisingly capable machine, and you can do some rather interesting tricks with INPUT, SWAP, and LAST. For example, here's a MOD program that uses no storage registers:

```
LBL F
=
(
SWAP
INPUT
=
/
LAST
)
IP
*
LAST
=
(
SWAP
-
LAST
=
RTN
```

Re: HP-35s in Hex mode

*Message #6 Posted by **Martin Pinckney** on 21 Jan 2010, 3:03 p.m.,*
in response to message #4 by Joel Setton (France)

Well, I forgot to mention the 42s also has an excellent implementation, with soft keys for A-F. But as Dave pointed out, the 32sii method is pretty slick, too.

Re: HP-35s in Hex mode

*Message #7 Posted by **Ken Shaw** on 21 Jan 2010, 12:37 p.m.,*
in response to message #3 by Martin Pinckney

Lack of RPN on the 27S is it's big drawback.

That aside, the ease-of-use is amazing. R-P conversions, base conversions, etc., are all very intuitive.

I think it's very under-appreciated.

Re: HP-35s in Hex mode

*Message #8 Posted by **Martin Pinckney** on 21 Jan 2010, 2:40 p.m.,*
in response to message #7 by Ken Shaw

> Quote:
>
> Lack of RPN on the 27S is it's big drawback.

IF you are an RPN fanatic. Which I am not.

Re: HP-35s in Hex mode

*Message #9 Posted by **Dave Britten** on 21 Jan 2010, 4:42 p.m.,*

in response to message #7 by Ken Shaw

> Quote:
>
> I think it's very under-appreciated.

Based on the prices that model usually commands, I'm going to have to disagree with you. :)

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32sii: FLOOR function

*Message #1 Posted by **Dave Britten** on 20 Jan 2010, 10:27 a.m.*

I recently had a need for a FLOOR function on my 32sii (i.e. largest integer less than or equal, or "round down"). This is what I came up with, but I'm curious if anybody has something more efficient.

```
LBL F
SF 4
ENTER
FP
x=0?
CF 4
CLx
x<=y?
CF 4
FS? 4
COS
-
IP
CF 4
RTN
```

This one checks to see if X has a fractional part, and if X is less than zero. If both conditions are met, it uses COS to transform the 0 to a 1 before subtracting, thus correcting for IP rounding in the wrong direction for negative numbers. Can it be done in fewer steps/bytes?

Re: 32sii: FLOOR function

*Message #2 Posted by **Bart (UK)** on 20 Jan 2010, 11:22 a.m.,*
in response to message #1 by Dave Britten

Here's my attempt:

```
F001 LBL F
F002 ENTER
F003 FP
F004 x<>0?
F005 x<0?
F006 CLx
F007 x>y?
F008 COS
F009 +/-
F010 +
F011 IP
F012 RTN
```

Done on the 35s, should work if the 32sii has x<>0 (x not equal to 0).

Edited: 20 Jan 2010, 11:26 a.m.

Re: 32sii: FLOOR function

*Message #3 Posted by **Dave Britten** on 20 Jan 2010, 11:36 a.m.,*
in response to message #2 by Bart (UK)

Looks like it has the same issue that was present in my first version I did last night: the program will still

subtract 1 if the input is a negative integer. e.g. -6 -> -7

Mine was a lot shorter before I had to add all that flag nonsense to fix that. :) My broken version, just for reference:

```
LBL F
0
x>y?
COS
-
IP
RTN
```

Re: 32sii: FLOOR function

*Message #4 Posted by **Bart (UK)** on 20 Jan 2010, 12:14 p.m.,*
in response to message #3 by Dave Britten

Oh, yeah, that was what line 3/4 was supposed to handle, then I had to fix something else (6/7 i think) and it all went to pot. Back to the "drawing board" then.

Edited: 20 Jan 2010, 12:21 p.m.

Re: 32sii: FLOOR function

*Message #5 Posted by **Marcus von Cube, Germany** on 20 Jan 2010, 12:23 p.m.,*
in response to message #4 by Bart (UK)

If you can live with a limited range (below 1E12) why not just add 9E11, IP and subtract again?

Re: 32sii: FLOOR function

*Message #6 Posted by **Bart (UK)** on 21 Jan 2010, 4:37 a.m.,*
in response to message #5 by Marcus von Cube, Germany

From the further responses, there are some very good solutions (Katie coming up with some wonderful stuff as usual).

Re: 32sii: FLOOR function

*Message #7 Posted by **Didier Lachieze** on 20 Jan 2010, 12:24 p.m.,*
in response to message #3 by Dave Britten

This one seems to work on my 35s:

```
F001 LBL F
F002 ENTER
F003 FP
F004 0
F005 x>y?
F006 COS
F007 +/-
F008 REGZ
F009 +
F010 IP
F011 RTN
```

Re: 32sii: FLOOR function

*Message #8 Posted by **Glenn Shields** on 20 Jan 2010, 9:06 p.m.,*
in response to message #7 by Didier Lachieze

What an elegant solution. After seeing the responses to the 2*2 bug, the keyboard layout, and all the other known quirks of the 35s, this thread shows the continued need for and enjoyment of RPN keystroke programming. Sure the 50g has this function built-in, and has i/o for all the fantastic RPL programming one can create and use, but it is still lots of fun to create and debug an RPN program without worrying about having enough ENDs and << >> in all the right places! And the 35s has the new register capabilities and auto goto line renumbering, which adds to the appeal (even with all the bugs). I am sorry that programs can't be saved, because as soon as I got mine, I wrote two programs, one being the "mastermind" game of guessing four numbers, and the other the 15-puzzle test of solvability, both using indirect addressing- a lot of fun. And BTW, did anyone notice that the data-packing program secretly uses the "0" register? That's enough to keep the rate of gray cell decay to a smaller number than if we never had this buggy machine. Cheers, Glenn

Re: 32sii: FLOOR function

*Message #9 Posted by **Bart (UK)** on 21 Jan 2010, 4:54 a.m.,*
in response to message #8 by Glenn Shields

I find the 35s a very nice calculator to use despite the bugs. For instance, I like the complex input, it's just a pity there's no easy way to do P<>R conversion and extracting RE and IM parts (but program routines can easily be used for this). We all agree on the need for an external comms capability (I have a number of programs too that could do with saving/restoring (~15k mem used - I'm sure there are many on this forum with more)). Although I ahve the listings for them all, I'd hate to type them in again (it took me 2 days to type in Egan's game (of 700+ lines/~3k IIRC)) - and with the buggy lenth/checksums, mistakes would easily creep in!

Re: 32sii: FLOOR function

*Message #10 Posted by **Egan Ford** on 21 Jan 2010, 2:47 a.m.,*
in response to message #7 by Didier Lachieze

AFAIK there is no way to recall a stack register on the 32sii. At least I could not find it in the manual. Here is a modified version that *should* work on the 32sii.

```
F001 LBL F
F002 IP
F003 LASTx
F004 FP
F005 0
F006 x>y?
F007 COS
F008 x<>y
F009 Rv
F010 -
F011 RTN
```

Here's another without COS:

```
F001 LBL F
F002 IP
F003 LASTx
F004 FP
F005 0
F006 x>y?
F007 y^x
F008 x=0?
F009 *
F010 -
F011 RTN
```

Edited: 21 Jan 2010, 3:10 a.m.

Re: 32sii: FLOOR function

*Message #11 Posted by **Didier Lachieze** on 21 Jan 2010, 4:50 a.m.,*
in response to message #10 by Egan Ford

Nice ones. Here is another version for the 32sii:

```
F001 LBL F
F002 IP
F003 LASTx
F004 FP
F005 1
F006 +
F007 IP
F008 1
F009 -
F010 +
F009 RTN
```

And a shorter version working on the 35s but not on 32sii as it doesn't support the SIGN function:

```
F001 LBL F
F002 IP
F003 LASTx
F004 FP
F005 SGN
F006 x>0?
F007 CLx
F008 +
F009 RTN
```

Re: 32sii: FLOOR function

*Message #12 Posted by **Maarten Ambaum (Reading, UK)** on 21 Jan 2010, 5:35 a.m.,*
in response to message #11 by Didier Lachieze

Didier (et al.), Some nice solutions here. I assume you are aware of the INTG function on the 35s, which, as far as I can see, is precisely the floor function. I agree it is not as much fun as doing it yourself.

Re: 32sii: FLOOR function

*Message #13 Posted by **Didier Lachieze** on 21 Jan 2010, 6:00 a.m.,*
in response to message #12 by Maarten Ambaum (Reading, UK)

> Quote:
>
> I agree it is not as much fun as doing it yourself.

This is the point, it's fun to do some RPN programming! and as the topic is related to the 32sii I was using my 35s to try to find solutions that could apply to the 32sii which doesn't have a built-in FLOOR and which I don't have. The latest program from Egan in 8 steps is clearly the best one so far.

Re: 32sii: FLOOR function + 30b request

*Message #14 Posted by **hugh steers** on 20 Jan 2010, 3:30 p.m.,*
in response to message #1 by Dave Britten

Yes indeed. can we have floor added to the 30b too!!

the usual offerings are IP and FP. IP (integer part) truncates to zero, so IP(-2.9) = -2, IP(-2.1) = -2, IP(2.1) =

2, IP(2) = 2, IP(-2) = -2.

fine, but also floor is useful, so in the above we have FLOOR(-2.9) = -3, FLOOR(-2.1) = -3, FLOOR(2.1) = 2, FLOOR(2) = 2,FLOOR(-2) = -2 etc.

this came up again because recently i needed ceil(x) (ceiling), which is conveniently defined by ceil(x) = -floor(-x).

so ceil and floor are not both needed, but it would be nice to have one of them and also the existing IP, otherwise a test and branch are required.

Re: 32sii: FLOOR function + 30b request

*Message #15 Posted by **Katie Wasserman** on 20 Jan 2010, 4:04 p.m.,*
in response to message #14 by hugh steers

What I just posted on this thread will work on the 30b too and you can save the display state. Here's some not so pretty code demonstrating that:

```
STO 8
RCL Mode
STO 9
3
0
0
STO Mode
RCL 8
.
5
-
RND
RCL 9
STO Mode
ANS
Stop
```

-Katie

Edited: 20 Jan 2010, 4:13 p.m.

Re: 32sii: FLOOR function + 30b request

*Message #16 Posted by **Gerson W. Barbosa** on 24 Jan 2010, 7:17 a.m.,*
in response to message #14 by hugh steers

> Quote:
>
> so ceil and floor are not both needed, but it would be nice to have one of them and also the existing IP, otherwise a test and branch are required.

In order to avoid any test, we can define floor(x) as

```
floor(x) = IP(x) + IP(FP(x) + 1) - 1
```

The corresponding RPN program will be

```
F01 LBL F
F02 IP
F03 LASTx
F04 FP
F05 1
F06 +
F07 IP
```

```
F08 1
F09 -
F10 +
F11 RTN
```

Not the shortest one though.

Re: 32sii: FLOOR function + 30b request

*Message #17 Posted by **hugh steers** on 24 Jan 2010, 9:04 p.m.,*
in response to message #16 by Gerson W. Barbosa

i like it. i didnt think it was expressible in terms of IP & FP, but you're right.

I think a test is always a disaster because the jump causes a delay.

Re: 32sii: FLOOR function

*Message #18 Posted by **Katie Wasserman** on 20 Jan 2010, 4:02 p.m.,*
in response to message #1 by Dave Britten

What's wrong with:

```
FIX 0
.5
-
RND
ALL (may not be needed)
```

-Katie

Re: 32sii: FLOOR function

*Message #19 Posted by **Gerson W. Barbosa** on 20 Jan 2010, 9:26 p.m.,*
in response to message #18 by Katie Wasserman

> Quote:
> ---
> What's wrong with:
>
> ```
> FIX 0
> .5
> -
> RND
> ALL (may not be needed)
> ```
>
> -Katie
>
> ---

0 -> -1

-1 -> -2 . . .

```
A01 LBL A
A02 ENTER
A03 IP
A04 x<=y?
A05 GTO B
A06 1
A07 -
B01 LBL B
B02 x<>y
B03 Rv
B04 RTN
```

This works, but takes up an extra label (not a problem on the 32S-II as one would run out of memory long before running out of labels...)

Gerson.

Re: 32sii: FLOOR function

*Message #20 Posted by **Egan Ford** on 21 Jan 2010, 3:32 a.m.,*
in response to message #19 by Gerson W. Barbosa

Same without 2nd label:

```
F01 LBL F
F02 ENTER
F03 IP
F04 x<=y?
F05 RTN
F06 1
F07 -
F08 RTN
```

Y will contain original arg. Could cause a problem if used in a program.

Re: 32sii: FLOOR function

*Message #21 Posted by **Dave Britten** on 21 Jan 2010, 7:59 a.m.,*
in response to message #20 by Egan Ford

Very nice. Leaving the original argument in Y allows adding one extra label, which gives you a version of the program that behaves like a built-in command, i.e. no trashing T, and LASTx works as expected:

```
LBL R
RUp
STO i
RDown
XEQ F
x<>y
SIN
CLx
RCL i
RDown
RTN
```

Then you can have a "clean" version for interactive use, and the smaller, faster version for program loops.

Re: 32sii: FLOOR function

*Message #22 Posted by **Gerson W. Barbosa** on 21 Jan 2010, 11:33 a.m.,*
in response to message #20 by Egan Ford

Here is a 32S-II 9-step program that preserves X and Y, but does not preserve L:

```
F01 LBL F
F02 IP
F03 LASTx
F04 FP
F05 x<0?
F06 COSH
F07 IP
F08 -
F09 RTN
```

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The forensics algorithm for the 10s

*Message #1 Posted by **Palmer O. Hanson, Jr.** on 19 Jan 2010, 10:20 p.m.*

I had a good weekend for collecting by finding a Pickett N-500S in very good condition for two dollars, a old paper reactance slide rule by Shure for a dollar, and a HP-10s for three dollars.

I ran Mike Sebastian's forensic algorithm on the 10s. The answer is 9.000000002124 . The eight zeroes after the decimal point makes the result better than any other HP machine listed at Mike's site. Am I doing something incorrectly or is the 10s really that good?

Re: The forensics algorithm for the 10s

*Message #2 Posted by **Gerson W. Barbosa** on 19 Jan 2010, 10:46 p.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

> Quote:
>
> The answer is 9.000000002124 . The eight zeroes after the decimal point makes the result better than any other HP machine listed at Mike's site.

The HP-30S, also listed at the site, returns 9.000000000, for which Rodger Rosenbaum has provided an explanation:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=85973

Edited: 19 Jan 2010, 10:48 p.m.

Re: The forensics algorithm for the 10s

*Message #3 Posted by **Palmer O. Hanson, Jr.** on 20 Jan 2010, 4:25 a.m.,*
in response to message #2 by Gerson W. Barbosa

The end of Rodger's dissertation states:

> Quote:
>
> So finally, this is why the HP30S gets exactly 9.00000000000000000 when running the calculator forensics test. To see the real error, one should subtract the input argument of the test from the final result. That is, do:
>
> arcsin(arcos(arctan(tan(cos(sin(9))))))-9
>
> On the HP30S, the result is 0, leading one to believe that the HP30S is *really* accurate. But redo the test as:
>
> arcsin(arcos(arctan(tan(cos(sin(9.1))))))-9.1

> to foil its rounding near integers and see a result: 4.833288903E-11
>
> Not all that great for a calculator that can do 24 digit calculations, eh?

I did the Rodger's 9.1 version of the forensics algorithm on my 10s and received 9.100000002602 . Does that suggest that the 10s isn't doing any of the funny arithmetic that Rodger was writing about?

Re: The forensics algorithm for the 10s

*Message #4 Posted by **Gerson W. Barbosa** on 20 Jan 2010, 7:03 a.m.,*
in response to message #3 by Palmer O. Hanson, Jr.

> Quote:
>
> Does that suggest that the 10s isn't doing any of the funny arithmetic that Rodger was writing about?

Yes, apparently the 10s isn't doing any trick to make it look more accurate than it really is, otherwise it would return 9.00000000000 in the original test. Assuming the algorithms are correct, it is possible internal calculations are carried out with 15 or 16 digits internally. On classic 12-digit HP calculators intermediate results are rounded to the number of digits of the display, so the forensic results will be a bit away from 9, even though the algorithms are flawless:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=103151

It looks like HP is back to its original philosopy (see Katie's result for the 30b below).

Re: The forensics algorithm for the 10s --> 30b

*Message #5 Posted by **Katie Wasserman** on 19 Jan 2010, 11:25 p.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

The 30b comes in at 8.99999864267, the same as the Pioneers (20S, 32S, etc.).

-Katie

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TI-59 LED intensity

*Message #1 Posted by **Michael Meyer** on 19 Jan 2010, 2:12 p.m.*

Quick question: anyone know how to adjust the brightness of a TI-59's LED's? I have a couple of them with dim displays.

I just bought another cheap 59. I was considering it for "drop testing" until I saw that another one sold for $175!!!

Thanks.

Re: TI-59 LED intensity

*Message #2 Posted by **Joerg Woerner** on 19 Jan 2010, 2:27 p.m.,*
in response to message #1 by Michael Meyer

Operate it with 4.5V instead of 3.6V...

Regards, Joerg

Re: TI-59 LED intensity

*Message #3 Posted by **Michael Meyer** on 19 Jan 2010, 3:48 p.m.,*
in response to message #2 by Joerg Woerner

Thanks, Joerg! Actually, I run them all at 4.5+ volts (lithium celled packs), but this one is still mounted to the PC-100C it came on today in the mail. I'll try it at home with lithium cells. It needs its card reader rebuilt also. The good news: I've never seen corrosion in the units that were left on printers. That's always nice. This one I got today, for $25, with keys in printer, had no battery pack stuck in the printer, and the contacts there are in perfect shape. Another nice find....

O.K. Any OTHER way to adjust LED brightness?

Re: TI-59 LED intensity

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 19 Jan 2010, 4:54 p.m.,*
in response to message #3 by Michael Meyer

Hi, Doc; are you well?

By inspecting Spike de Wal´s TI59 diagram, one finds out that the battery voltage, indicated as -3.7V, directly feeds the two SN27882 (pin #1), the two IC´s closer to the LED display and responsible for its multiplexing control signal (select which digit). Each segment (SA, SB, SC, etc.) is 'lit' by the TMC0501, which is fed by Vgg (-15.7Vcc, pin #27) and Vdd (-10Vcc, pin #26). Because the voltage from the TMC 0501 that lits each segment is more negative than the voltage in the SN27882, they must be common anode.

In order to increase the brightness in such multiplexing display, either you increase the current across

the load (the LED´s) or change the cyclic ratio. The second option means to redesign the circuit, and the first one may harm the LED´s. In any way, the output voltage from the (small) power board might be checked for the values presented here. Chances are that you may find lower voltages as for the Vgg and Vdd.

Or you can try to change the LED display. Although plausible, I´d not bet on this because I do not think the LED´s would dim after time.

In time: I completely disassembled three TI59 card readers and reassembled one of them with the best of them. I found out that the one in best working conditions had a different layout in the head terminals, and the other two had gooey 'rubber roller' (is it the correct term for that stuff?), and I ended up with a few good components. Because I have another TI59 under repair, I'll try to wire the whole reader with pieces of flat cable used in high speed IDE hard disks (I always forget how many conductors it has...). I'll record the whole operation in pictures and let you all know ASAP. All of this will be done after delving into the so well known 41CX motherboard...

Cheers.

Luiz (Brazil)

Edited: 19 Jan 2010, 4:58 p.m.

Re: TI-59 LED intensity

*Message #5 Posted by **Michael Meyer** on 19 Jan 2010, 5:12 p.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

Thanks, Luiz! I'm well. I certainly wouldn't waste too much time on the TI-59... except out of interest in its repair. I bought so many of them so cheaply when I first started collecting that I have lots of parts, including some card reader assemblies. And for you, I'd be happy to send you a fully functioning 59. With their prices rising, I've been trying to add a few more to the "pile" just for fun, but I have plenty of them.....

Let me know if you want a bunch of 59 parts or just a working one... spend your time on those wonderful HP's!

Michael

Re: TI-59 LED intensity

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 19 Jan 2010, 7:42 p.m.,*
in response to message #5 by Michael Meyer

Hi, Doc;

you see, the only two TI´s I feel confident about using and repairing are the TI58C and TI59. The TI58 seems to be almost like the TI59, but the TI58C has a different circuit. The reason is simple: technology timeline and history. I almost worship these two models because they were way ahead of their time when they appeared. Their printer (PC100C) was external and could be shared amongst models (HP had the printerless HP67 OR the HP97 with built-in printer, and the affordable HP34C), they could also share the Solid State Software Library (ROM modules, available later only with the HP41) and they had plenty of memory. They were fast too, but if we inspect the diagrams (again) we´ll notice that they had a 4-bit data bus (RAM TMC0589, A.L.U. TMC 0501 and C.U.'s TMC 0582/0583) that would allow many operations to be performed in less cycles. Standard and Library ROM's use a serial access (Q1, Q2 control lines)

similar to the one found in the HP41. That´s what I like most: to inspect their 'guts' and assimilate them (am I a BORG? Should resisting be futile?)

Click to enlarge (big one, 1.2Mb)

My first calculator ever was a TI57 (still have it, still works) and I used it in the first one and a half years of the University. A fellow mate. The first TI59, along with the PC100C, was a gift from a a former colleague (retired teacher) at the university, and it worked for almost two years. The other two were bought at local e-bay (mercado livre), but none of them are working. The one in the picture (rightmost, over the pale box) is just the empty case. The TI58C (over the PC100C box) works fine, but has a problem with the memory. I was given an old unit and will try to make one fully working out of the two.

The next pictures show one of the card readers. I tried to replace the gooey roller but I could not find a fine replacement so far. All of the other components seem fine (after a 'heavy' cleanup).

Click to enlarge Click to enlarge

I cannot lie to you, doc (afterall, you are a psychologist, why should I?). I'd love to have a working TI59 as part of the 'family'. As you can see in the pictures, there´s a lot of magnetic cards waiting for being read and listed so I can register their contents and operation. I like to 'reverse engineer' these programs and retrieve their flowchart and 'working mechanics'. My brain cells take this kind of activity as relaxing... (should I look for help?)

Well, doc, I guess that the next step is to send you an e-mail with my actual address, right? Can I use the regular e-mail from the MoHPC contact form? Is yours updated? Mine is not, so I must contact you first, if using a valid MoHPC contact e-mail.

Thank you very much. And if there is anything I can do you for, you know you can count on me the same way.

Cheers.

Luiz (Brazil)

Edited: 19 Jan 2010, 7:48 p.m.

Re: TI-59 LED intensity

*Message #7 Posted by **Michael Meyer** on 19 Jan 2010, 7:54 p.m.,*
in response to message #6 by Vieira, Luiz C. (Brazil)

Try mlmeyer (at) cox.net. The TI-59 took me all the way through college ('79-'83), and I was able to re-write every computer assignment for it, even with alpha-numerics. (Boy, did that take some time, but you got quick at it...) Let me know if you want a printer with that :).

You have mail (hopefully)...

*Message #8 Posted by **Vieira, Luiz C. (Brazil)** on 19 Jan 2010, 10:20 p.m.,*
in response to message #7 by Michael Meyer

N.T.

You have snail mail (hopefully)...

*Message #9 Posted by **Michael Meyer** on 21 Jan 2010, 3:55 p.m.,*
in response to message #8 by Vieira, Luiz C. (Brazil)

The PC-100C's printhead is really prone to light printing and sticking. Cleaning it with a cotton swab is easy... open the latch and wipe with alcohol. Close the latch and advance some paper through it.

It also does make the very coolest sound when printing...

Re: You have snail mail (hopefully)...

*Message #10 Posted by **Marcus von Cube, Germany** on 21 Jan 2010, 4:46 p.m.,*
in response to message #9 by Michael Meyer

And it's pretty fast because a line is printed in parallel without a moving head. Mine had a problem with the driver circuit after maybe a year of use. A friend of mine helped me repair it. On a later occasion when I tried to revive it, the processor seemed to have given up. It locked the calculator completely. :(It was a PC-100A which worked with both my SR-56 and the TI-59 acquired later. The TI no longer reads cards and the keyboard is bouncy.

History...

Re: TI-59 LED intensity

*Message #11 Posted by **Martin Pinckney** on 20 Jan 2010, 8:19 a.m.,*
in response to message #7 by Michael Meyer

> Quote:
>
> The TI-59 took me all the way through college ('79-'83), and I was able to re-write every computer assignment for it, even with alpha-numerics.

Mine took me through graduate school and beyond. Yes, alpha-numerics was a big plus for using the printer cradle. I was a huge fan of the 59 ... until I got into HP's.

Re: TI-59 LED intensity

*Message #12 Posted by **Etienne Victoria** on 20 Jan 2010, 1:56 p.m.,*
in response to message #6 by Vieira, Luiz C. (Brazil)

Hi Luiz!

Happy New Year to you and all in the forum!

Just for a quick comparison, here are pictures of the huge SR-52 card reader I repaired in 2005:

The motor and capstan are gigantic!

Cheers!

Etienne

Edited: 20 Jan 2010, 1:57 p.m.

SR-52 repair

*Message #13 Posted by **Michael Meyer** on 21 Jan 2010, 3:51 p.m.,*
in response to message #12 by Etienne Victoria

I'm impressed. I bought about a half dozen SR-52's years ago. Of those, I was only able to get one to work reliably after rebuilding the card reader. Another works intermittently... won't read cards well. The others had various faults to the keyboards, readers, etc. from corrosion. The SR-52's keyboard plate and connections seem especially prone to destruction from outgassing. I've kept this in mind as they appear online in auctions. I hope that people paying top dollar for an unknown SR-52 don't discover this the hard way.

Re: SR-52 repair

*Message #14 Posted by **Garth Wilson** on 21 Jan 2010, 5:05 p.m.,*
in response to message #13 by Michael Meyer

If you ever design anything like that, do the customer the favor of leaving the rubber out if possible. Something like a sprocket advance with a row of holes in the card like movie film has along the edge would make for a system that would not rot or turn to goo.

Re: SR-52 repair

*Message #15 Posted by **Eric Smith** on 23 Jan 2010, 4:54 a.m.,*
in response to message #13 by Michael Meyer

While we're on the subject, does anyone happen to have the SR-52 service manual? I obtained a paper copy from TI back in 1977 or so, but unfortunately it's long gone.

TI-59 card reader repair

*Message #16 Posted by **Michael Meyer** on 21 Jan 2010, 5:36 p.m.,*
in response to message #6 by Vieira, Luiz C. (Brazil)

I repaired several at about the same time by gluing a rubber plumbing washer on the motor, powering it externally, and simply grinding it down to the right size visually. IIRC, you can adjust the tension on the roller when it's reinstalled. I had good luck with this, but as I joked in an earlier thread, I ended up finding my own advice when looking to see if anyone had found an easier or better way to do this....

This is true for the TI-59. The SR-52 roller has to be exactly the right size and at exactly the right tension, making it very difficult to replace. There's no way to adjust it except to start over....

Edited: 21 Jan 2010, 5:38 p.m.

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48G series ROM question

*Message #1 Posted by **Ed Look** on 18 Jan 2010, 6:16 p.m.*

Funny, someone just posted a thread about the HP-35s ROM.

I just had the occasion to use both my 48G and 48G+ the last couple of days. I have some constants I need stored on them and wanted to dig them out to put on my 50g. I noticed that the preloaded constants in the constants library of the 50g (naturally, I suppose) appear to be more up to date than those in the 48G machines' constants library.

I know that for most work, the differences appear generally in decimal places that aren't all that important. But still, it's nice to have the updated (and assumed more correct) numbers.

Is/was there a ROM update for the 48G series? I further suppose that any corrections to constants would appear in such an update. I did a quick poke around and did not even find an oblique reference to a 48G ROM or other kind of update.

Re: 48G series ROM question

*Message #2 Posted by **Dave Britten** on 18 Jan 2010, 6:25 p.m.,*
in response to message #1 by Ed Look

There were a few different ROM revisions, although the ROM in those machines is not user-upgradeable. I'm assuming it's a mask ROM chip.

The comp.sys.hp48 FAQ has info about the different versions. Section 3 has ROM info.

http://www.faqs.org/faqs/hp/hp48-faq/part1/

Re: 48G series ROM question

*Message #3 Posted by **Ed Look** on 18 Jan 2010, 6:56 p.m.,*
in response to message #2 by Dave Britten

Thank you, Dave. This does answer all my questions. Too bad it's not a flashable ROM. Even though I have the 49g+ and the 50g, I still use my 48g machines from time to time.

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Almost O.T.: rarity and prices...

*Message #1 Posted by **Vieira, Luiz C. (Brazil)** on 18 Jan 2010, 10:28 a.m.*

Hi, all;

I hope you forgive me, but I could not help thinking that this is something you would like to see. It relates to HP calculators and their prices, so it is not exactly off topic. The page is in Portuguese, so you can use any web translator to see it in English and any currency conversion to check the final price.

Enjoy!

Luiz (Brazil)

Re: Almost O.T.: rarity and prices...

*Message #2 Posted by **Johnny Bjoern Rasmussen** on 18 Jan 2010, 3:44 p.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

Hi Luiz
Very "On Tread" for me anyway. Looks "a little" ebay'ish...

Regards!
Johnny Bjoern Rasmussen

Edited: 18 Jan 2010, 3:47 p.m.

Re: Almost O.T.: rarity and prices...

*Message #3 Posted by **Alberto Fenini** on 18 Jan 2010, 3:55 p.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

Hi Luiz,

do they sell worldwide or just in Brazil ? take care everybody, Alberto

Re: Almost O.T.: rarity and prices...

*Message #4 Posted by **Saile (Brazil)** on 18 Jan 2010, 4:10 p.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

Yes!!! We have our Corbulin !!! :-)

Edited: 18 Jan 2010, 4:11 p.m.

Re: Almost O.T.: rarity and prices...

*Message #5 Posted by **Alberto Fenini** on 19 Jan 2010, 3:32 a.m.,*

in response to message #4 by Saile (Brazil)

Thank you very much for your reply, do I need to register myself at the site to purchase ? take care, Alberto

Re: Almost O.T.: rarity and prices...

*Message #6 Posted by **Massimo Gnerucci (Italy)** on 19 Jan 2010, 4:33 a.m.,*
in response to message #5 by Alberto Fenini

Alberto, €434??? Way too much, IMHO...

Greetings,
Massimo

Re: Almost O.T.: rarity and prices...

*Message #7 Posted by **Xavier A. (Brazil)** on 19 Jan 2010, 4:55 a.m.,*
in response to message #6 by Massimo Gnerucci (Italy)

True, Brazil has its Coberlin... or worst: before to sell his products on Brazilian market, this seller buys on U.S. E-bay (and perhaps to Coberlin!)

Regards,

Xavier

Edit : Coberlin? Corbulin? Coburlin? Who cares?

Edited: 19 Jan 2010, 4:57 a.m.

Re: Almost O.T.: rarity and prices...

*Message #8 Posted by **Saile (Brazil)** on 19 Jan 2010, 5:26 a.m.,*
in response to message #7 by Xavier A. (Brazil)

Corbulin Salles Link This is the true. :-)

Edited: 19 Jan 2010, 5:27 a.m.

Re: Almost O.T.: rarity and prices...

*Message #9 Posted by **Alberto Fenini** on 19 Jan 2010, 9:18 a.m.,*
in response to message #6 by Massimo Gnerucci (Italy)

You are right, way too much, I was just wondering in case some nice prices should show up ... who knows ... take care Alberto

Re: Almost O.T.: rarity and prices...

*Message #10 Posted by **Gerson W. Barbosa** on 19 Jan 2010, 9:42 a.m.,*
in response to message #4 by Saile (Brazil)

Quote:

Yes!!! We have our Corbulin !!! :-)

Perhaps, but at least his overpriced calculators appear to be in good shape.

He says the HP-10C was never released in Brazil, but according to this ad (April 1983) this is not true.

Re: Almost O.T.: rarity and prices...

*Message #11 Posted by **Vieira, Luiz C. (Brazil)** on 19 Jan 2010, 11:34 a.m.,*
in response to message #10 by Gerson W. Barbosa

Hi, Gerson;

As far as I know, the only Voyager that was not commercialized in Brazil was the HP16C. Neither the HP41CX, not a Voyager though.

Cheers.

Luiz (Brasil, né?)

(P.S. - if you do not speak Portuguese and are curious about it, 'né' is a contraction of 'não é', which could be translated to 'isn't it'. Just if you are curious about it...)

Re: Almost O.T.: rarity and prices...

*Message #12 Posted by **Bart (UK)** on 19 Jan 2010, 12:05 p.m.,*
in response to message #11 by Vieira, Luiz C. (Brazil)

> Quote:
>
> Just if you are curious about it...

Actually, yes. Thank you for the explanation. My curiosity was aroused as the word also is used in Afrikaans (South Africa) and has a similar meaning (there is a large Portuguese community there so was probably taken over from them).

Re: Almost O.T.: rarity and prices...

*Message #13 Posted by **Gerson W. Barbosa** on 19 Jan 2010, 3:34 p.m.,*
in response to message #11 by Vieira, Luiz C. (Brazil)

Hello Luiz,

> Quote:
>
> 'né' is a contraction of 'não é', which could be translated to 'isn't it'

Interestingly this translates every possible English question tag, so I'd say 'né' is equivalent to "isn't it true?". A nice example of the law of least effort, another one is "você" (you) which once used to be "Vossa Mercê" (Your Mercy), which people have now turned into "'ocê" or even "'cê". Now can you understand this "Cê sá sessonz passna Saváss?" ? I learned this during my three-month stay in the beautififul capital of your home state a couple of years ago :-)

By the way, to me your usage of 'né' above doesn't look like a real question tag, instead it looks like "Brazil, of course!.

Regards from Curitiba (Brasil, claro!)

Gerson.

Re: Almost O.T.: rarity and prices...

*Message #14 Posted by **Vieira, Luiz C. (Brazil)** on 19 Jan 2010, 4:09 p.m.,*
in response to message #13 by Gerson W. Barbosa

Our place, guys, please! ;-)

Hi, Gerson;

At first I thought about using 'isn't that so', for I meant 'não é mesmo' with 'né', as I aways write 'Brazil' and this time, because I was addressing a country mate, I wrote 'Brasil' (não é mesmo?). I ended up reducing it even more, did not work well...

The hardest part is finding a regular expression in a non-native tongue that has the closest meaning possible to the 'native tongue' expression. As if one can master Portuguese in Brazil the way it is in Portugal... I aways think 'Lucky me!' when I feel conscious of the fact that I was born in a country were Portuguese is spoken. Or else, I'd never dare trying to learn it. As the number of rules were not enough to confuse the speakers, there are even more exceptions... d8^D

Cheers.

Luiz (Brasil, Brazil, Brésil, Brasilien, Brazilië, etc...)

Edited: 19 Jan 2010, 7:51 p.m.

It´s been sold so far... And about Coburlin´s HP10C

*Message #15 Posted by **Vieira, Luiz C. (Brazil)** on 19 Jan 2010, 5:38 a.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

Hi;

about the HP10C offered in Brazil: was it you, Alberto?

about Coburlin´s add:

> Quote:
>
> (...) HP-10C Owner's Handbook on CD. The HP-10C Owner's Handbook on CD is easy to view and to printout to your printer.

I wonder 'where does the electronic HP10C Manual' come from...

Wow!

Luiz (Brazil)

Edited: 19 Jan 2010, 5:39 a.m.

Re: It´s been sold so far... And about Coburlin´s HP10C

*Message #16 Posted by **Alberto Fenini** on 19 Jan 2010, 9:20 a.m.,*
in response to message #15 by Vieira, Luiz C. (Brazil)

ciao Luiz, no, it wasn't me, I'm addicted ... but a wife checking the balance does help, that price was a non sense, plus, I mostly collect (and destroy trying to restore, if I look at my posts) led items ... take care Alberto

Re: It´s been sold so far... And about Coburlin´s HP10C

*Message #17 Posted by **Vieira, Luiz C. (Brazil)** on 19 Jan 2010, 11:43 a.m.,*
in response to message #16 by Alberto Fenini

Ciao, Alberto;

> Quote:
>
> and destroy trying to restore, if I look at my posts

I cannot agree with you, sorry! You are looking for directions and advice by posting here prior to go ahead, so I'd guess it is a matter of 'bad luck', although I do not believe in luck and bad luck. It is just circumstantial. I am fighting like hell to bring a 41CX mainboard back to life (not mine, it belongs to a friend) and I will give up only when there is no resource at all I can use. Unfortunately I was 'off duty' related to HP activities for the past two years (contingencies) but I am now back to it and I decided to 'warm my brain up' by fixing some of my own pieces before getting back to the CX mainboard. So far, I managed to repair one 82143A printer, one 82104A card reader, two HP41CV and one HP21. I'm setting my workbench up to go ahead with the CX mainboard, but I had to delay the 'fight' for these days because of the end-of-semester extra activities (university). The board is still there, and my brain is fuming by the tease of working on it. Sure I will, just waiting for the very moment...

Success, my friend! There are many hearts here beating with yours.

Luiz (Brazil)

Re: It´s been sold so far... And about Coburlin´s HP10C

*Message #18 Posted by **Michel Beaulieu** on 19 Jan 2010, 1:14 p.m.,*
in response to message #17 by Vieira, Luiz C. (Brazil)

Thanks for my 41CX board testing again! ;-)

Re: It´s been sold so far... And about Coburlin´s HP10C

*Message #19 Posted by **Vieira, Luiz C. (Brazil)** on 19 Jan 2010, 3:06 p.m.,*
in response to message #18 by Michel Beaulieu

Thanks for your understanding...

Luiz

Re: It´s been sold so far... And about Coburlin´s HP10C

*Message #20 Posted by **Michael Meyer** on 19 Jan 2010, 2:08 p.m.,*
in response to message #17 by Vieira, Luiz C. (Brazil)

I understand... it's so hard to give up on restoration. I've wanted an SR-11 for years. Bought two that were both too badly corroded to restore (internal batteries) years ago, though I tried. Last week I bought two online. $0.99 for one, that came broken in the mail leaking horrible corrosion (but came with a beautiful TI-1500.. an unexpectedly pretty little calculator in perfect shape) and a $5 SR-11 that came--- get this--- with no batteries inside. YEAH!! a perfect SR-11. Finally.

I can bring myself to throw away the 99 cent ones, but it's still not easy. But the HP's... it's really really hard to give up on those....

Re: It´s been sold so far... And about Coburlin´s HP10C

*Message #21 Posted by **Alberto Fenini** on 19 Jan 2010, 5:15 p.m.,*
in response to message #20 by Michael Meyer

Thanks everybody for the thumbs up ! That was really bad luck, but, it so nice when you succeed that I won't give up very easily... By the way, I want to thank Ignazio Cara that is going to take care of my LCD baby ... thanks Ignazio !!

Re: It´s been sold so far... And about Coburlin´s HP10C

*Message #22 Posted by **giancarlo** on 31 Jan 2010, 9:33 a.m.,*
in response to message #21 by Alberto Fenini

Ignazio was able to put back to life my beloved 41c with new battery contacts and many other information.

thanks

giancarlo

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HP 97 keyboard and more issue.

*Message #1 Posted by **Ignazio Cara (Italy)** on 18 Jan 2010, 9:54 a.m.*

Hi guys, I need your help with a faulty Topcat HP-97, serial number 2008B65177 and mother board 97S like. When turned on, show 0.00 at the display, but it don't receive input by the keyboard in RUN mode, display light-off if any key was depressed in PRGM mode. If something is sent to the printer, show 'Error' and if a card is inserted in the reader appear incongruous data on the display and the driving motor not start. I have tried to make some substitution among the electronic component taken from a working PCB. Step by step I have replaced the PIK 1820-1952 with a 1820-1723 (is it compatible?), the ACT, the ROM 0, ROM 3 and ROM 6. Nothing to do, the calculator show always the same issue. I have tested the voltages Vss and Vgg. With a Vbat = 5,20 I have read the following values: Vss= + 6.00 and Vgg = - 11.61. Unfortunately I do not have an oscilloscope to check the SYNC, STR, RCD, Ô1 and Ô2. What other measures can I do with a multimeter to see what does not work? Thank in advance for your kindly help.

Edited: 18 Jan 2010, 9:55 a.m.

Re: HP 97 keyboard and more issue.

*Message #2 Posted by **Ignazio Cara (Italy)** on 18 Jan 2010, 10:53 a.m.,*
in response to message #1 by Ignazio Cara (Italy)

Sorry, but I have forgot to say that the display-keyboard assembly, printer and card-reader works flawlessly if installed with another main PCB.

Re: HP 97 keyboard and more issue.

*Message #3 Posted by **Randy** on 18 Jan 2010, 5:16 p.m.,*
in response to message #1 by Ignazio Cara (Italy)

Has the behavior changed in any way with the parts that have been exchanged?

Same question, different way: Are the current symptoms identical to the original symptoms?

Re: HP 97 keyboard and more issue.

*Message #4 Posted by **Ignazio Cara (Italy)** on 19 Jan 2010, 2:13 a.m.,*
in response to message #3 by Randy

Hi Randy, I'm very glad to hear from you, thanks. No, nothing is changed before yesterday. I have changed the zener CR10 and now the Vss and Vgg are 6.27 and -12,01 Volts respectively. I don't remember how many times I have checked the PCB, my next action will be change the CRC as well. After this attempt, the dark night. You have any idea about this? Many thanks for your efforts.

Ignazio

Re: HP 97 keyboard and more issue.

*Message #5 Posted by **Randy** on 19 Jan 2010, 8:43 a.m.,*
in response to message #4 by Ignazio Cara (Italy)

PIK and CRC should have been the last IC's to swap, ALL the roms would have been my first choice.

All roms and the ACT are by far the most common failure parts.

Re: HP 97 keyboard and more issue.

*Message #6 Posted by **Ignazio Cara (Italy)** on 19 Jan 2010, 9:43 a.m.,*
in response to message #5 by Randy

My next action will be to change ROM 1, 2 and 5 (550, 551 and 229), becouse the ROM 0, 3 and 6 have been already changed. as so as the ACT. I'll keep you informed, for now thank you very much.

Ignazio

Re: HP 97 keyboard and more issue.

*Message #7 Posted by **Ignazio Cara (Italy)** on 19 Jan 2010, 2:44 p.m.,*
in response to message #5 by Randy

Hi Randy, I have replaced the ROM5 (1818-0229) and....success, all the issues disappear. But now I must find a good ROM5, I have one with bad RAM section. Have you a 0229 for sale? Let me know please and many thanks for your kindly help. Regards from Italy

Ignazio

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MoHPC *The Museum of HP Calculators*

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MCODE (what else?): Creating a new ROM from the 41 --> Transfer?

*Message #1 Posted by **Geir Isene** on 18 Jan 2010, 3:12 a.m.*

Up until now, I have created the ICEBOX rom within the SDK41 (many thanks to Warren Furlow). But as I am now exploring doing the work on the 41 itself, I wonder what the best solution is for creating the final rom image; I make the rom with David Assembler, then I.... What is the best way of getting that final rom out into the ICEBOX.ROM image file on the PC. Bear in mind I do have the PIL BOX (finally got around to using that, works great).

Edited: 18 Jan 2010, 3:14 a.m.

Re: MCODE (what else?): Creating a new ROM from the 41 --> Transfer?

*Message #2 Posted by **Mike (Stgt)** on 18 Jan 2010, 8:16 a.m.,*
in response to message #1 by Geir Isene

It depends what HW you have at hand and what you consider as "best way". I would save the page (or two?) to a LIF-disk (real or emulated), read this disk on a DOS system and apply a converter. If this is too simple use a disassembler and store the listing to disk instead of printing it. Then you still need a converter.

Ciao.....Mike

(edited)Re: MCODE (what else?): Creating a new ROM from the 41 --> Transfer?

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 18 Jan 2010, 10:12 a.m.,*
in response to message #1 by Geir Isene

Hi, Geir;

> Quote:
>
> I make the rom with David Assembler, then I.... What is the best way of getting that final rom out into the ICEBOX.ROM image file on the PC.

When you say you make the ROM with David assembler you refer to a complete 4K- page or part of it (i.e. some functions)? If you complete a 4K ROM, then I guess the image itself is ready to run, like *a regular one, right*? Then you apply the same procedure you have already applied with any other ROM image.

If you are using Diego´s NoV-32 or NoV-64, there is an affordable way to transfer files from the modules to the PC once you have the hardware to (PIC programmer): try here.

Hope this is what you are talking about.

Success! (many of us, including me, are willing to see and use this new ROM...)

Luiz (Brazil)

Edited: 18 Jan 2010, 1:21 p.m. after one or more responses were posted

Re: MCODE (what else?): Creating a new ROM from the 41 --> Transfer?

*Message #4 Posted by **Geir Isene** on 18 Jan 2010, 12:47 p.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

Ah, the RAM2ROM - I had forgot about that one. Anyone knows if it can be used with the NoV-64 burning a page from the fourth RAM block?

Re: MCODE (what else?): Creating a new ROM from the 41 --> Transfer?

*Message #5 Posted by **Diego Diaz** on 18 Jan 2010, 2:07 p.m.,*
in response to message #4 by Geir Isene

Hi,

RAM2ROM was writen to work with NoVRAM and NoV-32 processor.

Migrating this program to NoV-64 shouldn't be difficult, just allow me a few days to check for the coding differences.

Best from Spain.

Diego.

Re: MCODE (what else?): Creating a new ROM from the 41 --> Transfer?

*Message #6 Posted by **Geir Isene** on 18 Jan 2010, 3:04 p.m.,*
in response to message #5 by Diego Diaz

Great. That would be the most elegant solution.

Re: MCODE (what else?): Creating a new ROM from the 41 --> Transfer?

*Message #7 Posted by **Meindert Kuipers** on 18 Jan 2010, 12:15 p.m.,*
in response to message #1 by Geir Isene

You may tweak the ROM in the HP41 with DAVID, but I would recommend to feed this back into the original SDK41 source, so the changes are commented and you have more than a 'write-only' product.

User code is a bit tricky, AFAIK this can only be generated on the HP41 for inclusion in ROMs with the proper tools (M2K ROM has these). Documenting is SDK41 sources will soon be possible when my disassembler in M2kM fully support SDK41 mode, so the User Code disassembly listings can be copied and inserted in an SDK41 source.

I must comment that M2K ROM has anice collection of tools, but most of it is not original work. Many routines are based on Assembler 3 and the Eramco MLDL ROM.

Meindert

Re: MCODE (what else?): Creating a new ROM from the 41 --> Transfer?

*Message #8 Posted by **Ángel Martin** on 18 Jan 2010, 2:37 p.m.,*
in response to message #1 by Geir Isene

I'm afraid I must not be getting the point because to me preparing a ROM is as simple as writing the MCOde (or user code) on a Excel sheet, then use a program Diego wrote a few years back to convert the MCODE instructions (in ASCII) to a ROM file.

I admit that User code is a bit trickier, as it requires compiling the distances. I use the HEPAX emulation on V41 to read the important bytes directly using HEXEDIT.

So once I've got the ROM file I could (but I don't because I don't need it) run D41 to list it using the reference you all seem to consider the standard (for good reasons, I'm sure).

Or I can use the disassembler in the MLDL2k. There are many ways to skin a cat...

Cheers, Ángel

Re: MCODE (what else?): Creating a new ROM from the 41 --> Transfer?

*Message #9 Posted by **Geir Isene** on 18 Jan 2010, 3:07 p.m.,*
in response to message #8 by Ángel Martin

I am actually looking at doing MCODE'ing on the HP-41 itself (like when I am on vacation :) - complete the rom using David Assembler and then transfer that rom to a PC. The RAM2ROM utility from Diego would do the trick given that I can get a version that can accommodate for the two extra RAM blocks of the NoV-64 over the NoV-32.

Re: MCODE (what else?): Creating a new ROM from the 41 --> Transfer?

*Message #10 Posted by **Håkan Thörngren** on 20 Jan 2010, 7:48 a.m.,*
in response to message #9 by Geir Isene

Ouch, you are really trying to program MCODE on the hp41? I guess people did that back when they did not really have much computers.

Back then, I quickly redesigned my 6502 assembler on my Commodore 64 to do MCODE programming. Then I downloaded the results to my home built MLDL using a parallel cable that simulated the hp41 bus running WROM instructions to the ram page. I believe it took some 37 seconds to get it down. The assembler itself was very quick, being written in 6502 assembler, but reading them from the slow 1541 floppy was not (as source was too big to fit in memory). I also had an EPROM burner to do more lasting images that I just plugged into the MLDL.

I never did any programming on the hp41 itself, just paper and pen, then to the C64.

Today I would not even dream on trying it either. But if you think it is fun, why not? Then the David Assembler should be way to go.

If I where to do it on vacation with limited resources, I think I would get a small netbook and use some tools on that one instead.

As always there is the trouble of transferring to and from the hp41, it has always been like that...

Re: MCODE (what else?): Creating a new ROM from the 41 --> Transfer?

*Message #11 Posted by **Geir Isene** on 20 Jan 2010, 1:24 p.m.,*
in response to message #10 by Håkan Thörngren

Wow. MCODE on a C64... very cool.

Well, my idea of MCODE'ing on the 41 is mostly for fun but also to do simple test runs of small routines. Right now I am working on a better random number generator, and the 41 is with me everywhere (unlike my laptop).

Re: MCODE (what else?): Creating a new ROM from the 41 --> Transfer?

*Message #12 Posted by **Ángel Martin** on 20 Jan 2010, 2:55 p.m.,*
in response to message #11 by Geir Isene

To me the key to a better random number generator is in the seed. Using the timer to create a true random seed makes the trick, and what a poetic justice, considering that Hakan has posted to this thread.- as he wrote that routine!

It's in the SandMath module, see functions SEEDT and RAND.

Cheers, ÁM

Re: MCODE (what else?): Creating a new ROM from the 41 --> Transfer?

*Message #13 Posted by **Håkan Thörngren** on 25 Jan 2010, 12:58 a.m.,*
in response to message #11 by Geir Isene

I never tried programming MCODE directly on the HP41, as I could not afford the David assembler. Sounds like a cool thing to do though.

I tended to write my code using paper and pen, then transferring it to the computer. If working directly on the HP41, I think a printer could be very addition as well (something I could not afford in the past either).

Please report back later with your experiences.

Re: MCODE (what else?): Creating a new ROM from the 41 --> Transfer?

*Message #14 Posted by **PeterP** on 28 Jan 2010, 3:19 p.m.,*
in response to message #9 by Geir Isene

While I do all my MCODING in SDK, if I would make anything on the 41 I would export it via emu41 to a HDRIVE1 and save it as a rom file, which is pretty fast.

Cheers

Peter

Re: MCODE (what else?): Creating a new ROM from the 41 --> Transfer?

*Message #15 Posted by **Diego Diaz** on 18 Jan 2010, 3:29 p.m.,*
in response to message #8 by Ángel Martin

Hi Ángel,

Wow! I'm *really* happy to know this tiny encoding tool is still useful... ;-)

Keep up the good job!

Cheers

Diego.

Re: MCODE (what else?): Creating a new ROM from the 41 --> Transfer?

*Message #16 Posted by **Geir Isene** on 18 Jan 2010, 4:02 p.m.,*
in response to message #8 by Ángel Martin

Ángel, how do you create the excellent source code listings?

Re: MCODE (what else?): Creating a new ROM from the 41 --> Transfer?

*Message #17 Posted by **Ángel Martin** on 19 Jan 2010, 8:10 a.m.,*
in response to message #16 by Geir Isene

As I indicated above, I use MS Excel. The "blueprints" are direct pdf printouts from the XLS documents.

I like it because I use hyperlinks to jump along the code, a real breeze when dealing with that much stuff.

Cheers,

ÁM

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Hypothetically - How would you flash a 35s?

*Message #1 Posted by **JJB299** on 17 Jan 2010, 10:23 p.m.*

If you had unlimited time and resources, how would you write data to a HP 35s from a computer (i.e. program data)?

Ditto for the 33s.

Re: Hypothetically - How would you flash a 35s?

*Message #2 Posted by **Paul Dale** on 17 Jan 2010, 10:47 p.m.,*
in response to message #1 by JJB299

You can't the CPU has ROM inside and it cannot be rewritten.

- Pauli

Re: Hypothetically - How would you flash a 35s?

*Message #3 Posted by **Richard Reed** on 18 Jan 2010, 3:44 a.m.,*
in response to message #2 by Paul Dale

A perfect example of the dangers of cheaper 'mask' devices.

Re: Hypothetically - How would you flash a 35s?

*Message #4 Posted by **Joel Setton (France)** on 19 Jan 2010, 3:30 p.m.,*
in response to message #3 by Richard Reed

IMHO, this is not a matter of "cheap" devices. It's just that mask ROMs are the right choice for any product which is intend for large-volume production. Mask ROMs were used in the HP-35, and in many -- if not all -- HP calculators. All the Classics, Woodstocks, Spices, Voyagers, Pioneers use masked ROMs.

Joel Setton

Re: Hypothetically - How would you flash a 35s?

*Message #5 Posted by **Richard Reed** on 19 Jan 2010, 5:26 p.m.,*
in response to message #4 by Joel Setton (France)

> Quote:
>
> IMHO, this is not a matter of "cheap" devices. It's just that mask ROMs are the right choice for any product which is intend for large-volume production. Mask ROMs were used in the HP-35, and in many -- if not all -- HP calculators. All the Classics, Woodstocks, Spices, Voyagers, Pioneers use masked ROMs.

> Joel Setton
>
> Of course this is right. I should have emphasized that if you're going to commit code to a mask, you can't be cheap about testing it. I think that's what crept into 35s, and goes along with the physical cheapening of some models. In my own experience, the steady move to 'bottom-line' management of development has pushed out even obvious quality and technical considerations.

Re: Hypothetically - How would you flash a 35s?

*Message #6 Posted by **Bart (UK)** on 18 Jan 2010, 6:37 a.m.,*
in response to message #1 by JJB299

Ha, don't be put off by these negative nellies ;), with hypothetically unlimited time & resources, anything is possible.

Option 1: dig out the CPU die from under the resin blob (if you find an ingenious method of doing so without destroying stuff you need to keep, let me know), get a new CPU die, programme it and put it in place of the old one (again if you find an ingenious method of doing so with hobbyist tools, let me know).

Option 2: cut out the resin blob and some surrounding parts, create a piggy-back board that replaces what you cut out (including a new programmed CPU) that "pins-out" onto the cut tracks.

Option 3: Get (make ?) a blank complete 35s PCB, populate it with the neccessary components (including a new programmed CPU) and replace the one in the 35s.

Moral of the story: it requires replacement of the CPU as it contains built-in 256K ROM - not EPROM, FLASH or any re-programmable memory.

Re: Hypothetically - How would you flash a 35s?

*Message #7 Posted by **Walter B** on 18 Jan 2010, 7:33 a.m.,*
in response to message #6 by Bart (UK)

> Quote:
>
> > Ha, don't be put off by these negative nellies ;), with hypothetically unlimited time & resources, anything is possible.

You'll need less than 1/2 of it: sufficient time will do ;^)

> Quote:
>
> > Option 1: dig out the CPU die from under the resin blob (if you find an ingenious method of doing so without destroying stuff you need to keep, let me know)...

Just sit in front of the PCB and wait until the CPU tunnels through - just some pi times 1E16 s d:-)>

Edited: 18 Jan 2010, 7:33 a.m.

Re: Hypothetically - How would you flash a 35s?

*Message #8 Posted by **Thomas Radtke** on 18 Jan 2010, 7:46 a.m.,*

in response to message #7 by Walter B

A couple of years ago, I had some smalltalk with another physicist in an elevator. I asked about the probability to end up somewhere else in the universe. You know, the usual things to kill time. He replied that his major concern would be *how much* of us would end there.

Re: Hypothetically - How would you flash a 35s?

*Message #9 Posted by **Marcus von Cube, Germany** on 18 Jan 2010, 10:49 a.m.,*
in response to message #8 by Thomas Radtke

I would be concerned *how many* of us would end up in the same place. ;)

Re: Hypothetically - How would you flash a 35s?

*Message #10 Posted by **Walter B** on 18 Jan 2010, 10:55 a.m.,*
in response to message #9 by Marcus von Cube, Germany

Oooh, probability is very low that two of us will meet this way d;-)

Re: Hypothetically - How would you flash a 35s?

*Message #11 Posted by **Bart (UK)** on 18 Jan 2010, 11:23 a.m.,*
in response to message #10 by Walter B

In my book anything below 1E-9 is "extremely improbable" and "considered not to occur". 1E-16 is so many orders of magnitude less than that and so close to zero, that as an engineer I say "close enough to zero to = zero" :-)

Re: Hypothetically - How would you flash a 35s?

*Message #12 Posted by **Paul Dale** on 18 Jan 2010, 3:46 p.m.,*
in response to message #11 by Bart (UK)

Extremely improbable events take place around us all the time.

Want something with a probability less than 1E-9? Toss a coin thirty times recording the results in order. My 15c tells me that that was a 9.3E-10 probability event.

Want to get to 1E-16? Toss the coin some more (twenty four more times).

1E-100? 333 times.

- Pauli

Re: Hypothetically - How would you flash a 35s?

*Message #13 Posted by **Bart (UK)** on 18 Jan 2010, 11:06 a.m.,*
in response to message #7 by Walter B

Quote:

Just sit in front of the PCB and wait until the CPU tunnels through - just some pi times 1E16 s d:-)>

Hunger and the need for caffiene would be more likely to drag me away :)

Edited: 18 Jan 2010, 11:07 a.m.

Re: Hypothetically - How would you flash a 35s?

*Message #14 Posted by **Michael Meyer** on 18 Jan 2010, 11:41 a.m.,*
in response to message #13 by Bart (UK)

I guess my first thought of a solution to this isn't so far off: Stand in front of the cpu wearing only a towel, then take off the towel. HP-35S flashed.

Re: Hypothetically - How would you flash a 35s?

*Message #15 Posted by **Tim Wessman** on 18 Jan 2010, 7:56 p.m.,*
in response to message #14 by Michael Meyer

Hmm, I tried that in the office today and it didn't work. Fortunately HP is shut down for a holiday so nobody saw. . . :-D

TW

Edited: 18 Jan 2010, 7:57 p.m.

Re: Hypothetically - How would you flash a 35s?

*Message #16 Posted by **Bruce Bergman** on 18 Jan 2010, 11:31 a.m.,*
in response to message #6 by Bart (UK)

Interestingly enough, someone at Digitial Equipment Corporation (DEC) agreed with you. Back in the early 1980's, I was working with DECUS (DEC's User Society) and was on the board. I remember hearing from DEC about a group that was tasked with essentially accomplishing ANY project that came their way. Literally. The mission from Ken was to accept any job, any task and any project. With seriousness and sincerity.

The catch was that the group was allowed to couch all responses in terms of time, money and resources. If someone wanted to go to Mars, it might cost them $80B, take 100 years and half the USA propulation, but they would work on a way to make it happen.

I don't remember them ever actually beginning any project, but I know that they did respond to a few companies with proposals. I'm sure that if they still existed, they could take on this project too. :)

thanks, bruce

Re: Hypothetically - How would you flash a 35s?

*Message #17 Posted by **designnut** on 18 Jan 2010, 12:54 p.m.,*
in response to message #6 by Bart (UK)

I found DMSO dimethyl sulfoxide would dissolve epoxy. I use it freely on my body, it is used by vets. You would not need the pure product to dissolve the blob. Sam

Re: Hypothetically - How would you flash a 35s?

*Message #18 Posted by **David Hayden** on 18 Jan 2010, 8:17 a.m.,*
in response to message #1 by JJB299

> Quote:
>
> If you had unlimited time and resources, how would you write data to a HP 35s from a computer (i.e. program data)?
>
> Ditto for the 33s.

I think you mean user programs, not flashing the ROM. In that case, I'd investigate a machine to press the keys to enter whatever you want. For starters, I'd try modifying a desktop pen plotter. The pen moves in two dimensions and can be made to go up/down. Sounds like a mechanical finger to me!

You'd need some sort of jig to hold the calculator in exactly the right place. Plus software to parse the input file and output the plotter movement commands. You'd need to be mindful of timing issues to avoid getting ahead of the calculator.

Option 2: kidnap Cyrille and force him to use a TI 83 until he agrees to put some form of external I/O on the 35s. :)

Re: Hypothetically - How would you flash a 35s?

*Message #19 Posted by **Bill (Smithville, NJ)** on 18 Jan 2010, 10:07 a.m.,*
in response to message #18 by David Hayden

Hi David,

> Quote:
>
> I think you mean user programs, not flashing the ROM. In that case, I'd investigate a machine to press the keys to enter whatever you want. For starters, I'd try modifying a desktop pen plotter. The pen moves in two dimensions and can be made to go up/down. Sounds like a mechanical finger to me!

Several years ago, I had given some thought to doing just what you proposed - for programming a HP-42S. Unfortnuatelly, I never ran across any usable old pen ploters at the ham radio flea markets or the Trenton Computer Fest. If I could find a small letter size pen plotter, I figured I'd cut out a rectangular the size of the calculator in the middle of the plotter, put some foam backing in it, and then use the plotter to program the calculator. Getting the key pressure right would be the hardest part - would hate to destroy a good HP-42S.

Another though I had, was using one of those single board robot arms that were around several years ago. I had one many years ago, and if I remember right, was programmed using the FORTH language.

Bill

Re: Hypothetically - How would you flash a 35s?

*Message #20 Posted by **Egan Ford** on 18 Jan 2010, 11:52 a.m.,*
in response to message #19 by Bill (Smithville, NJ)

> Quote:
>
> Several years ago, I had given some thought to doing just what you proposed - for programming a HP-42S. Unfortnuatelly, I never ran across any usable old pen ploters at

> the ham radio flea markets or the Trenton Computer Fest. If I could find a small letter size pen plotter, I figured I'd cut out a rectangular the size of the calculator in the middle of the plotter, put some foam backing in it, and then use the plotter to program the calculator. Getting the key pressure right would be the hardest part - would hate to destroy a good HP-42S.
>
> Another though I had, was using one of those single board robot arms that were around several years ago. I had one many years ago, and if I remember right, was programmed using the FORTH language.

Just get yourself a Lego Mindstorms kit. If it can solve a Rubik's Cube (http://www.youtube.com/watch?v=3QOvEG27Gt4) then you can probably make it program your calc. I have not looked into the NXT, but the first gen could be programmed with FORTH (pbForth) and C. I used LegOS (now BrickOS) on mine with an H8 C cross-compiler. That was much better than using the native macro programming.

Re: Hypothetically - How would you flash a 35s?

*Message #21 Posted by **Martin Pinckney** on 18 Jan 2010, 2:53 p.m.,*
in response to message #19 by Bill (Smithville, NJ)

I know this thread is mostly in jest, but to use a pen plotter as described would entail a lot of work to reprogram it to for the required motions. To begin with, the normal up and down range of motion of the pens is probably not sufficient for the task.

I recall watching these things work, processing AutoCAD drawings, and they often exhibited seemingly very odd behavior. For instance, it might write some text, drawing the outline of the characters, then go and draw lines for 15 minutes, then come back and fill in the outline of the characters. Surely this was caused by AutoCAD, not the plotter itself. But it caused me to wonder what strange algorithm might be used.

In any event, by the time you figured out how to program the plotter, wrote a program to translate characters in a program listing into correct pen motions corresponding to the calculator's keys, made the physical modifications to the plotter, debugged it ... well, you get the idea.

Still, there are stranger things folks spend time on. Like responding to inane comments in a calculator geek forum...

Re: Hypothetically - How would you flash a 35s?

*Message #22 Posted by **David Hayden** on 18 Jan 2010, 5:07 p.m.,*
in response to message #21 by Martin Pinckney

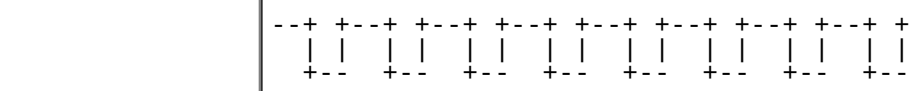
> Quote:
>
> I know this thread is mostly in jest, but to use a pen plotter as described would entail a lot of work to reprogram it to for the required motions. To begin with, the normal up and down range of motion of the pens is probably not sufficient for the task.

Yes, that would probably make the suggestion useless. But it got people thinking, and Egan's idea of using the Lego system is probably workable.

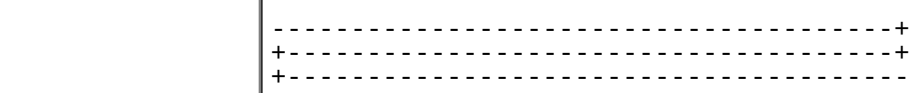
> Quote:

> I recall watching these things work, processing AutoCAD drawings, and they often exhibited seemingly very odd behavior. For instance, it might write some text, drawing the outline of the characters, then go and draw lines for 15 minutes, then come back and fill in the outline of the characters. Surely this was caused by AutoCAD, not the plotter itself. But it caused me to wonder what strange algorithm might be used.

I acquired a large surplus HP plotter for free many years ago. It turned out that the Windows printer driver had a nasty habbit of drawing thick lines like this:



instead of like this:



In other words, it would draw the width of the line, move forward one pen-width, and draw the next width. It would be substantially faster to draw the length of the line, then move over one pen width and draw another length. In a fit of frustration I decoded the plotter language, worked out the geometry, and created a filter program that detected the case and converted from one format to the other.

> Quote:
>
> In any event, by the time you figured out how to program the plotter, wrote a program to translate characters in a program listing into correct pen motions corresponding to the calculator's keys, made the physical modifications to the plotter, debugged it ... well, you get the idea.

I'm not so sure. If any commercial outfits have large software programs for the 35s, something like this could be a real time saver.

> Quote:
>
> Still, there are stranger things folks spend time on. Like responding to inane comments in a calculator geek forum...

No argument there!! :)

Re: Hypothetically - How would you flash a 35s?

*Message #23 Posted by **Bill (Smithville, NJ)** on 19 Jan 2010, 6:45 a.m.,*
in response to message #22 by David Hayden

For most plotters today, I agree that the up/down motion probally would not be enough to do the key presses. But I seem to remember that some of the early plotters had a pretty good pen motion up/down.

I don't think programming the plotter would be that difficult. Just program it to make a "DOT" at a specific x-y location. Map the x-y locations to the specific key of the calculator.

As to AutoCad plotting, we had noticed the same thing at our office. I think they try to optimize

the total pen movement - also, if it is a multi-pen plotter, then you want to minimize pen changes. Optimizing it would be like the traveling salesman problem.

A friend of mine has a computerized sheet metal forming shop and his machine exhibits the same behaviour as the plotter. It'll move the sheet metal back and forth and do punching, cutting, folding in a seemly random order.

The Lego Mindstorms look like a great idea. And a lot of fun!.

Bill

Re: Hypothetically - How would you flash a 35s?

*Message #24 Posted by **Norman Dziedzic** on 19 Jan 2010, 7:21 a.m.,*
in response to message #21 by Martin Pinckney

I recall the old hp plotter language (HPGL) to be very simple with instructions like PU (Pen Up) PD (Pen Down) And a pretty simple X/Y coordinate system for positioning. I'm not sure the plotter would have the force required to depress the keys. The pens are very light and pressing hard would rip the paper.

That said, the real thing to find to do this would be a small SCARA robot but it would be much more costly.

Re: Hypothetically - How would you flash a 35s?

*Message #25 Posted by **Bart (UK)** on 18 Jan 2010, 11:03 a.m.,*
in response to message #18 by David Hayden

Ah, yes, I see now, the reference to "flash" in the title mislead me.

I had been thinking of using some transistor controlled unit connected in parallel to the keyboard lines (this would also prevent keypad wear). This would be easier on the 35s than on the Pioneers, as the 35s can be easily opened. However, it may still take hours as one has to ensure enough delay between "keypresses" to prevent the missed keys problem (could use feedback from the "busy" annunciator line?).

This does not provide backup - although I do most of my developing in spreadsheets anyway so have copies of the code.

Re: Hypothetically - How would you flash a 35s?

*Message #26 Posted by **Richard Reed** on 18 Jan 2010, 11:46 a.m.,*
in response to message #25 by Bart (UK)

I don't have a 35s, and given the long bug list, if I had one I would want a ROM re-program if I could get one.

Now that I have admitted my prejudice, it might be understandable why I wouldn't do much work to add automated programming on 35s, but maybe if you could override some of the bugs with user code it would be worthwhile.

Re: Hypothetically - How would you flash a 35s?

*Message #27 Posted by **JJB299** on 18 Jan 2010, 8:20 p.m.,*
in response to message #1 by JJB299

Thanks guys. Very interesting responses.

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= key on HP 33s

*Message #1 Posted by **Don Shepherd** on 17 Jan 2010, 3:52 p.m.*

What is it's purpose? It doesn't seem to do anything and I can't find a reference to it in the manual. It doesn't act as = in algebraic mode, ENTER does that.

Re: = key on HP 33s

*Message #2 Posted by **Marcus von Cube, Germany** on 17 Jan 2010, 4:18 p.m.,*
in response to message #1 by Don Shepherd

It's used with equations and the solver.

Re: = key on HP 33s

*Message #3 Posted by **Martin Pinckney** on 17 Jan 2010, 8:33 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Same purpose on 32sII and 48 series.

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MCODE tools: Asking for your opinion

*Message #1 Posted by **Geir Isene** on 17 Jan 2010, 12:03 p.m.*

Premise: There are 4*4K available space to load with excellent MCODE programming tools.

Problem: I am looking at the following as the top tools (all 4K) to use for MCODE'ing:

```
David Assmbler
David Assmebler Labels Rom
Dissassembler 4D
Dissassembler 4D Labels Rom
ML ROM
```

Which 4 out of the list of 5 would you recommend (or are there other tools you would include instead)?

Re: MCODE tools: Asking for your opinion

*Message #2 Posted by **Meindert Kuipers** on 17 Jan 2010, 12:27 p.m.,*
in response to message #1 by Geir Isene

I always have David (with the Labels, another 4K) when doing mcode experiments. The ML ROM is a collection of tools which is nice to have, but not vital. In general I use the MLDL2000 for mcoding (what else ..;), in combination with SDK41. SDK 41 is my official source with comments and easy to maintain. For small and quick changes I do inline modification with David, otherwise I simply change the source, run assembler and linker and upload the new code with M2kM

Meindert

Re: MCODE tools: Asking for your opinion

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 17 Jan 2010, 1:11 p.m.,*
in response to message #1 by Geir Isene

Hi, Geir;

in the few exploratory experiments I've made, I used David Assembler + Labels (you 'see what you get') and Meindert´s M2KROM.rom. As he says, it is a slightly modified ML ROM but I think M2KROM is better than ML ROM. I also have used MLDL2000 for must of the hardwork because it has plenty of space and you can easily 'plug it in' and save your work in the computer hardisk. Diego´s NoV-series are a 'must have', too, and they occupy 'no space at all'. I have a NoVRAM and a NoV32 along with the two MLDL2000 units.

Anyway, I must confess I began 'stepping into' MCode with HEPAX' HEXEDIT, but HEPAX is a 16K-ROM, and you are mentioning only 4K-ROM, right? For me, it is easy to use if you are a beginner because it shows current memory contents before changing and you see, side by side, what you had and what you are adding . As you get skills, the other tools may give you a different perspective.

If I have to choose, I'd have HEPAX HEXEDIT and David´s ASSM with labels in the same ROM, with a few complementary tools. As I have not yet gone so far in MCoding, I can only think of insertion and copy-paste plus some tools to help building MCODE+USERCODE ROM´s.

Cheers.

Luiz (Brazil)

Edited: 17 Jan 2010, 1:21 p.m.

Re: MCODE tools: Asking for your opinion

*Message #4 Posted by **Geir Isene** on 17 Jan 2010, 1:27 p.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

Where do I get the M2KROM?

I am looking at filling 4 pages in my NoV-64 with the MCODE tools, so yes - I do have the HEPAX as well :-)

Edit: Found the M2KROM.

Edited: 17 Jan 2010, 1:56 p.m.

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30b missing the mod function?

*Message #1 Posted by **hugh steers** on 17 Jan 2010, 8:26 a.m.*

Hi,

Does the 30b have a MOD function, i cant find it? If missing, presumably this would be easy to add to the ROM.

NOTE: i know there is IP and FP, but these are not quite the same. i want to perform A * 10^k mod M, eg with k = 12 and A a 12 digit number. usually MOD is able to do this.

any thoughts?

Re: 30b missing the mod function?

*Message #2 Posted by **Don Shepherd** on 17 Jan 2010, 10:07 a.m.,*
in response to message #1 by hugh steers

Hugh, the 30b doesn't have a mod function. The following snippet will do it, however: / ans(lastx) swap fp(math up) = x

Don

Re: 30b missing the mod function?

*Message #3 Posted by **hugh steers** on 17 Jan 2010, 2:47 p.m.,*
in response to message #2 by Don Shepherd

thanks for your idea but unfortunately this wont always work.

for example 12345678 EEX 12 mod 7 (correct answer 2)

this works on HPs with the MOD function because it can deal with the 12 zeros in a clever way. unfortunately, this is exactly what i need for my algorithm!

Re: 30b missing the mod function?

*Message #4 Posted by **Don Shepherd** on 17 Jan 2010, 3:32 p.m.,*
in response to message #3 by hugh steers

Yeah, I see what you mean. I tried it on my 33s and it worked.

Don

Re: 30b missing the mod function?

*Message #5 Posted by **Dave Britten** on 18 Jan 2010, 10:36 a.m.,*
in response to message #3 by hugh steers

This raises an interesting question: what *is* the algorithm behind the built-in MOD function present on various models? I searched around Google for a bit, but didn't find any that looked promising.

Re: 30b missing the mod function?

*Message #6 Posted by **cyrille de Brébisson** on 18 Jan 2010, 10:59 a.m.,*
in response to message #5 by Dave Britten

hello,

it's a division, but without calculating the actual division value and stopping once before decimal point occur...

really simple....

regards, cyrille

Re: 30b missing the mod function?

*Message #7 Posted by **Don Shepherd** on 18 Jan 2010, 11:12 a.m.,*
in response to message #6 by cyrille de Brébisson

Cyrille, simple enough to fit in .....

:)

Don

Re: 30b missing the mod function?

*Message #8 Posted by **hugh steers** on 18 Jan 2010, 12:11 p.m.,*
in response to message #7 by Don Shepherd

request seconded!

However, there is a problem with moving and adding things to the menus. presumably this would go on the math menu; after ABS maybe. But this practice will break people's programs who are performing MATH menu UP or DOWN commands.

I have a quick suggestion before things start to go bad. maybe HP should promise to only add things to the *end* of menus and people writing program macros always emit key sequences to go _down_ the list and never to trail up a list, otherwise the counts could change and things go bad.

actually, the operation i really want from a calculator is the following:

mulmod(a,b,M) = a*b mod M

with no loss of precision when a, b, and M are 12 digits of mantissa.

alternatively, the implementation of a fused multiply add (FMA), so

FMA(a,b,c) = a*b + c. without loss of precision where possible.

in floating point, then, code mulmod in terms of this as:

```
q = IP(a*b/M)
r = FMA(a,b,-q*M)
return r
```

right now, im having a problem with squares. A^2 - B overflows and i lose accuracy (think of A and B as 12 digit mantissas). causes my program to fail sometimes. unfortunately, its not fixable without some kind of extra precision. FMA would fix it, but so could the MOD function (given some hassle).

i started asking myself why, all of a sudden, i am having these problems with the 30b and not older models. the answer is that the other models are too slow to get this far. i've been writing some factorization programs and both (2 different) algorithms have failed as the numbers get close to 12 digits.

but actually, this is what we're going to get, in the absence of any extra precision helper functions. do the older calculators factor 12 digit numbers, and if so, how (apart from trial division!)

so my conclusion is that the 30b (and presumably future models with program capability) have reached the stage where their performance warrants several new numerical primitives in order to really exploit their ability for scientific and engineering applications.

interesting.

Re: 30b missing the mod function? --> Other functions

*Message #9 Posted by **Katie Wasserman** on 18 Jan 2010, 1:38 p.m.,*
in response to message #8 by hugh steers

Hugh,

I agree that adding built-in functions to the 30b is problematic because of the menu navigation needed. Adding functions to the end of the menu items creates its own set of problems since you then have to potentially have many DOWN steps eating up what little program memory there is. However, there are some keystroke combinations that currently exist but don't really do anything useful and could be used for "special" added functions. These are: [STO/RCL] [+,/,*,-] [=]. [RCL] [=] recalls the value of the last menu item, I think that the other commands are waiting for their creator to assign a purpose to them. Because these commands don't do anything, it's hard to realize they exist, but in program mode you'll seem them.

-Katie

Re: 30b missing the mod function? --> Other functions

*Message #10 Posted by **hugh steers** on 18 Jan 2010, 1:47 p.m.,*
in response to message #9 by Katie Wasserman

hey, yes RCL = does recall the last menu. useful. and the others can be programmed, as you say.

how about having a (single digit) number, n, pressed immediately after menu navigate to the `n'th item. this would fix the problem of new additions and the extended UP or DOWN required.

also, whilst we're in request mode :-) ...

more registers!!! i can only find 10, are there more? like .0 etc.

how about .0 through .9 are local to a subroutine! ie "call" pushes them and "rtn" pops them back.

Re: 30b missing the mod function? --> Other functions

*Message #11 Posted by **Katie Wasserman** on 18 Jan 2010, 3:02 p.m.,*
in response to message #10 by hugh steers

There are the 100 indirect registers, of course. You access them with [STO/RCL] [Data/CshFl] and use register 0 as the pointer.

I don't know if there are 8 or 10 bytes per register but there's no memory left. 100 indirect registers + 10 basic ones + 15 stack (mostly in ALG/Chain mode) + many used in the built-in menus + 290 byes of program memory take up all of the 2K of non-volatile RAM.

-Katie

Re: 30b missing the mod function? --> Other functions

*Message #12 Posted by **hugh steers** on 18 Jan 2010, 7:34 p.m.,*
in response to message #11 by Katie Wasserman

Thanks. it would be nice to have a shorter way of accessing those 100 cashflow registers in a program - even if that meant overlapping. ie you can't do both at the same time.

Re: 30b missing the mod function? --> Other functions

*Message #13 Posted by **Bart (UK)** on 19 Jan 2010, 5:15 a.m.,*
in response to message #11 by Katie Wasserman

Katie,

From your description I deduce that the 100 indirect registers are independent of program memory? (Unlike e.g. the 35s where using indirect registers reduces program memory).

I think this is a pity as although it's nice to know that you have these registers over and above programs, I don't see myself making use of more than a dozen and rather have 1k of program memory. (I hardly use them on the 35s).

Re: 30b missing the mod function? --> Other functions

*Message #14 Posted by **Don Shepherd** on 19 Jan 2010, 5:37 a.m.,*
in response to message #13 by Bart (UK)

> Quote:
>
> the 100 indirect registers are independent of program memory

That is true, unfortunately. The indirect registers are also independent from the 10 standard registers, 0-9. There is no way to get > 290 bytes for program lines. The indirect registers share the same space with cash flow/stats data only, and you cannot get more than 290 bytes of program line space.

Re: 30b missing the mod function? --> Other functions

*Message #15 Posted by **Gene Wright** on 19 Jan 2010, 7:24 a.m.,*
in response to message #14 by Don Shepherd

Keep in mind that these are statistics / cash flow registers.

Their use as indirect registers is a secondary use.

Re: 30b missing the mod function? --> Other functions

*Message #16 Posted by **Bart (UK)** on 19 Jan 2010, 7:35 a.m.,*
in response to message #15 by Gene Wright

Ok, I'm sort of starting to form a picture of the layout of the program/working memory. Thus the indirect registers need to be separate (otherwise using cash flow/stats formulas would overwrite programs). One would have to keep in mind then that using indirect registers will overwrite cash flow/stats data. I assume the manual will explain which registers are used for what data.

edit: i.e. so you could use your own program to manipulate the data further as required.

Edited: 19 Jan 2010, 7:37 a.m.

Re: 30b missing the mod function? --> Other functions

*Message #17 Posted by **Don Shepherd** on 19 Jan 2010, 12:32 p.m.,*
in response to message #16 by Bart (UK)

Gene is right, the 100 registers are really for stat data and cash flow data. Cash flows and stat data share that space, I believe, and the allocation of the 100 registers between stat data and cash flow data is automatic. You could have 30 x/y pairs of stat data and 20 amt/freq pairs of cash flows, and the system keeps track of what you've got. And you can reference (or over-write) that data via indirect addressing in your program if you want.

But you can't use that space for program lines.

Re: 30b missing the mod function?

*Message #18 Posted by **Patrice** on 18 Jan 2010, 10:45 p.m.,*
in response to message #8 by hugh steers

Hello,

Did you investigated about transforming you problem to avoid floating point loss of precision?

if I understand well your problem, you have:

> Quote:
>
> mulmod(a,b,M) = a*b mod M

which I would rewrite as:

```
mulmod(a,b,M) = (a*b) mod M
```

I would transform this as :

```
mulmod(a,b,M) = ((a mod M) *(b mod M)) mod M
```

which will not overflow

Patrice

Re: 30b missing the mod function?

*Message #19 Posted by **hugh steers** on 19 Jan 2010, 8:59 a.m.,*
in response to message #18 by Patrice

unfortunately a and b are already < M.

eg let a = 16777331, b = 453320069

what is a*b (mod 1071514531)

All these numbers fit just fine on the calculator, and so does the answer.

Re: 30b missing the mod function?

*Message #20 Posted by **Katie Wasserman** on 17 Jan 2010, 12:53 p.m.,*
in response to message #1 by hugh steers

I don't think you'll be able to do this easily on the 30b, it sure would be nice to have a remainder function. I wish all calculators had that but surprisingly few do.

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Ok... Own up! Who amongst you put this 15c description on eBay?

*Message #1 Posted by **Mohammed Hadi** on 17 Jan 2010, 4:24 a.m.*

"Hewlett-Packard HP-15C calculator. I bought this new in July, 1985 ... The only real problem that I know of is that I can't turn it off unless I pull a battery. I don't see any 'off' function on the keyboard and I don't know if this has an auto-off feature after so many seconds of non-use. "

Re: Ok... Own up! Who amongst you put this 15c description on eBay?

*Message #2 Posted by **Geir Isene** on 17 Jan 2010, 5:16 a.m.,*
in response to message #1 by Mohammed Hadi

Hehe, too funny :-)

Re: Ok... Own up! Who amongst you put this 15c description on eBay?

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 17 Jan 2010, 9:43 a.m.,*
in response to message #1 by Mohammed Hadi

HI;

can we have the link so we can search for more 'easter eggs'?

Cheers.

Luiz (Brazil)

Re: Ok... Own up! Who amongst you put this 15c description on eBay?

*Message #4 Posted by **Mohammed Hadi** on 17 Jan 2010, 10:28 a.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

> Quote:
>
> HI;
>
> can we have the link so we can search for more 'easter eggs'?
>
> Cheers.
>
> Luiz (Brazil)

Here it is... That's one 15c begging for a rescue.

Re: Ok... Own up! Who amongst you put this 15c description on eBay?

*Message #5 Posted by **Dave** on 17 Jan 2010, 12:05 p.m.,*
in response to message #4 by Mohammed Hadi

You missed one of the best parts. He says he's used it for "many years" and still managed to never figure out how to turn it off, even accidentally. If his story is true, which would make him the dumbest person in history ever to manage to learn RPN, I'd hate to see the state of the batter door.

Re: Ok... Own up! Who amongst you put this 15c description on eBay?

*Message #6 Posted by **Thomas Radtke** on 17 Jan 2010, 12:18 p.m.,*
in response to message #5 by Dave

I'm quite sure this one came out of the trash.

Re: Ok... Own up! Who amongst you put this 15c description on eBay?

*Message #7 Posted by **Martin Pinckney** on 17 Jan 2010, 2:04 p.m.,*
in response to message #6 by Thomas Radtke

You guys are so cynical. You will note he said the manual has his company name stamped on it. Just for fun, I Googled it. The guys name is David Tlusty, and he is now the County Surveyor for Langlade County, Wisconsin.

No idea why he doesn't know how to turn it off, but that doesn't mean someone made the whole thing up.

If anyone is interested, email him and ask if he has a 15c for sale on eB**. I won't repeat the address here, but it's public information easily obtained on the Internet.

Re: Ok... Own up! Who amongst you put this 15c description on eBay?

*Message #8 Posted by **Tim Wessman** on 17 Jan 2010, 2:17 p.m.,*
in response to message #7 by Martin Pinckney

I know him personally as he bought one of our early dc50 units. He sometimes seemed a little stuck in his ways and resistant to change, but definitely a real person and a great guy.

Last I heard he was in the hospital recoving from a nasty secondary infection if memory serves. That was a month or two ago.

TW

Re: Ok... Own up! Who amongst you put this 15c description on eBay?

*Message #9 Posted by **Martin Pinckney** on 17 Jan 2010, 8:51 p.m.,*
in response to message #8 by Tim Wessman

> Quote:
>
> ...he bought one of our early dc50 units.

Well, then, that would explain why he no longer needs his 15c!

For the uninitiated, a DC50 is a customized 50g in a hard case with surveying software

installed. Designed to replace the 48gx, which was the mainstay generic data collector for many years (as opposed to dedicated units sold by the instrument companies).

Our company used to use 48gx's up until 5 years ago, when we switched to a dedicated unit. About $3200 with GPS software installed, compared to about $800 for a GX with surveying card and 1 MB RAM card.

Re: Ok... Own up! Who amongst you put this 15c description on eBay?

*Message #10 Posted by **Gerson W. Barbosa** on 17 Jan 2010, 12:21 p.m.,*
in response to message #1 by Mohammed Hadi

Well, at least the seller didn't say he hadn't seen any equals key either...

"It comes with the HP-15C Owners Handbook"

Which is probably in like-new condition, as it may never have been opened :-)

Re: Ok... Own up! Who amongst you put this 15c description on eBay?

*Message #11 Posted by **Frank Boehm (Germany)** on 17 Jan 2010, 2:20 p.m.,*
in response to message #10 by Gerson W. Barbosa

> Quote:
>
> Which is probably in like-new condition, as it may never have been opened :-)

Now *how* do I open this damned handbook!%$!$%!!!!! Grrrrr.

Re: Ok... Own up! Who amongst you put this 15c description on eBay?

*Message #12 Posted by **Thomas Radtke** on 17 Jan 2010, 3:04 p.m.,*
in response to message #11 by Frank Boehm (Germany)

Last page to first page if it's Polish.

If it's from Texas, you better be careful. Sometimes you miss a page or get two pages when thumb through it, especially when it's about manuals from the 80th.

Edited: 17 Jan 2010, 3:09 p.m.

Re: Ok... Own up! Who amongst you put this 15c description on eBay?

*Message #13 Posted by **David Hayden** on 18 Jan 2010, 8:30 a.m.,*
in response to message #1 by Mohammed Hadi

> Quote:
>
> "Hewlett-Packard HP-15C calculator. I bought this new in July, 1985 ... The only real problem that I know of is that I can't turn it off unless I pull a battery. I don't see any 'off' function on the keyboard and I don't know if this has an auto-off feature after so many seconds of non-use. "

I don't have a 15C and had no idea how to turn it off. It took about 90 seconds to google the manual and find

that it shuts down automatically after some inactivity.

Hoping that the seller recovers from his infection, Dave

Re: Ok... Own up! Who amongst you put this 15c description on eBay?

*Message #14 Posted by **Mohammed Hadi** on 18 Jan 2010, 10:09 p.m.,*
in response to message #13 by David Hayden

> Quote:
>
> I don't have a 15C and had no idea how to turn it off. It took about 90 seconds to google the manual and find that it shuts down automatically after some inactivity.

Dave,

The inside joke is you push the on button again to turn that sucker off. You're excused for not knowing this. Mr. eBay however most definitely is not. I have half a mind of bidding for that sorry mess just to give it a decent burial, or put it on a pedestal like that savaged Toyota pickup on the British TV show Top Gear. That's a thought! How about a virtual pedestal at the hp museum for the most savaged but perfectly working hp calc?

By the way, I'm not convinced the gentleman mentioned earlier is the owner of this 15c. The (ab)user might simply be an employee of his company.

Regards,

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HP-45, strange key response

*Message #1 Posted by **Thomas Radtke** on 16 Jan 2010, 9:12 a.m.*

I really don't want to open my 45 again (did that twice to successfully clean a key contact and the switch contacts), so I ask here if I can safly ignore this problem: One of the keys shows a strange behaviour. When only slightly pressed, just a fraction of a degree, there is a clicking noise with high frequency. Further pressing it down gets to the normal key click and the machine responds as expected. So, there are two pressure points on the rolldown button.

I can almost not feel the first click, and it woudn't be disturbing if it only would not be of notable audibility.

My question: Will I get a problem with this key due to what ever causes that click? If so, can I do something about it?

Thanks!

Re: HP-45, strange key response

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 16 Jan 2010, 10:02 a.m.,*
in response to message #1 by Thomas Radtke

Hi, Thomas;

I have an HP15C with an opposed problem: two keys have no sound, no click at all, but they work pretty well.

You see, with the Spices, HP41 and Voyagers, the keyboard has a rubber sheet between the keys and the keyboard. In this HP15C, the two keys made a small hole in the rubber sheet right under them, mostly because the keys have just a small 'flat tip' that punctuate the metal cap (dome?).

The earlier series of calculators had a plastic sheet between the keys and keyboard, and I'd guess that in your case, the plastic is probably being briefly dragged over the metal contact (hence the hi-pitch noise, like a 'squeak',I guess) before the metal contact is actually pushed down.

Can you try to identify if this is what happens?

Cheers.

Luiz (Brazil)

Re: HP-45, strange key response

*Message #3 Posted by **Thomas Radtke** on 16 Jan 2010, 11:18 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Hi Luiz,

thanks for your answer! It feels and sounds very much like a stiff piece of plastic the key rubs along, or a

part of the metal dome. It is very constant.

From opening it before, I know that the domes (or 'bridges') do look heavily used. Don't remember if there was a protecting sheet of plastic between keys and domes.

I'll probably hope for the best and leave the 45 as it is, as long as someone points out that the key must be repaired. The back lable already has some slight marks from removing it before.

Thomas

Re: HP-45, strange key response

*Message #4 Posted by **Randy** on 16 Jan 2010, 11:46 a.m.,*
in response to message #3 by Thomas Radtke

The obvious:

- Crud on the back or front of the plastic keytop
- Something sticky inside the hole where the keytop sits in the case top

The not so obvious:

- Small stress fractures developing in the metal flex strip. Really not much you can do until it breaks completely

There should be a thin piece of clear plastic sheet between the keytops and the keyboard assembly. The sheet is held in place with the plastic frame that sits atop the pc board. Two small projections hold the frame in place by engaging though the board and into the back plate of the calculator. The sheet has been called the "sneeze guard" in some old posts.

FWIW, the next time you open it, don't replace the two screws under the label. The case will never know the difference and it makes re-entry a non-decision.

Re: HP-45, strange key response

*Message #5 Posted by **Thomas Radtke** on 16 Jan 2010, 12:38 p.m.,*
in response to message #4 by Randy

Thank you very much for your answer, Randy!

> Quote:
>
> The not so obvious:
>
> - Small stress fractures developing in the metal flex strip. Really not much you can do until it breaks completely

That sounds more like it, I fear.

> Quote:
>
> FWIW, the next time you open it, don't replace the two screws under the label. The case will never know the difference and it makes re-entry a non-decision.

Great idea!

Thomas

Re: HP-45, strange key response

*Message #6 Posted by **Thomas Radtke** on 18 Jan 2010, 5:30 a.m.,*
in response to message #1 by Thomas Radtke

I did it, opened it again.

Pushing the dome is like pushing any other dome. They are equal. The key is also clean, no obvious problems.

Putting everything together again, the click is still there. Mysterious.

Re: HP-45, strange key response

*Message #7 Posted by **Randy** on 18 Jan 2010, 9:06 a.m.,*
in response to message #6 by Thomas Radtke

Those spot welds that attach the strip - have they blown through the top or are they flush? I cannot tell based on the photo... they look questionable. If one has given way, it will allow extra flexing of the strip and might be the cause of the click.

HP actually replaced complete strips during service, sometimes the welds where not as good as the production work. The fact that the faces have so much pitting is a sign of heavy use, perhaps it is on it's second set of key strips which would explain the welding.

Re: HP-45, strange key response

*Message #8 Posted by **Thomas Radtke** on 18 Jan 2010, 9:20 a.m.,*
in response to message #7 by Randy

> Quote:
>
> Those spot welds that attach the strip - have they blown through the top or are they flush?

I could inspect them with a microscope. With my bare eyes (and finges) I can't decide.

Would you do anything about it? Would a drop of superglue do the job?

Re: HP-45, strange key response

*Message #9 Posted by **Randy** on 18 Jan 2010, 9:56 a.m.,*
in response to message #8 by Thomas Radtke

Press lightly on the strip and see if it flexes at the welds. If it pops up around that area, that's the source of the click.

I've had no luck with glue, mixed success with soldering.

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OT: Sequential Boolean Analyzer

*Message #1 Posted by **Katie Wasserman** on 16 Jan 2010, 12:16 a.m.*

I came across an interesting single-chip processor in the General Instruments Microelectronics 1977 Data Catalog. They call it a Sequential Boolean Analyzer (SBA) and list it as "preliminary information", I have no idea if it was ever manufactured.

What's interesting about this chip is that it's a 1-bit RPN machine with many 30 i/o pins, a 16-level stack and supplementary storage. They specifically don't tell you if this is a microcoded design or implemented in hardware, but it's an interesting read from a theoretical design standpoint. Here's the pdf

I've never heard of an SBA before, are there other such implementations in hardware (or software)?

-Katie

Re: OT: Sequential Boolean Analyzer

*Message #2 Posted by **Norman Dziedzic** on 16 Jan 2010, 1:10 a.m.,*
in response to message #1 by Katie Wasserman

I don't understand all the terminology in it but this sounds like something pertinent:
http://comjnl.oxfordjournals.org/cgi/content/abstract/12/3/259

Re: OT: Sequential Boolean Analyzer

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 16 Jan 2010, 8:45 a.m.,*
in response to message #1 by Katie Wasserman

Hi, Katie;

thanks for pointing this guy out. The first thoughts that came to my mind were:

- DSA (Digital Signal Analysis) and
- fast 'D/A converter' interpolation

I vaguely remember the first '1-bit D/A converter' inscription in a CD-player (a Sony 5-disc CD-carroussel, perhaps?) I saw in the 80´s and I wondered, at that time, that a set of 1-bit D/A converter/analyzer chips might have been introduced. Never had those thoughts anymore until now.

Would the RPN-structure enhance performance? The block-diagrams suggest it can be used as part of a fast process controller, and I can only understand output directly connected to the input when internal compensation occurs, and in this case, the 1023-word programming would find purpose if fast enough.

Based on the 80´s 'technology shift' that began to endorse fixed, fast and easily programmable/customizable hardware, I'd bet in a mid-term, well-balanced HW/SW implementation. My memory only points to the HP28 as one of the first well-know implementing of RPN-like stack through SW.

Cheers.

Luiz (Brazil)

Edited: 16 Jan 2010, 8:48 a.m.

Re: OT: Sequential Boolean Analyzer

*Message #4 Posted by **Andrés C. Rodríguez (Argentina)** on 16 Jan 2010, 2:05 p.m.,*
in response to message #1 by Katie Wasserman

If memory helps, it somehows reminds me about the Motorola MC 14450 1-bit CPU, a rare IC that puzzled me around 1980, when I was a CMOS specsheet avid addict. However, I hadn't used it nor know any real application of it.

Re: OT: Sequential Boolean Analyzer

*Message #5 Posted by **Katie Wasserman** on 17 Jan 2010, 1:33 p.m.,*
in response to message #4 by Andrés C. Rodríguez (Argentina)

The MC14450 was an interesting processor too, here's the datasheet. This was really manufactured and I'm sure used somewhere, I don't thank that the SBA had the same traction.

What really caught my eye on the SBA chip was that section of the datasheet on stack manipulation commands, essentially: Enter, Swap [typo on this], Dup, Drop you don't see that much outside of HP calculator manuals!

> Quote:
>
> My memory only points to the HP28 as one of the first well-know implementing of RPN-like stack through SW

I never really through about that. I was certainly amazed when the HP28C came out with it's radically different and very advanced functionality. At the time, I happened to giving a talk at the HP offices in NY (about artificial intelligence) and was given one of the first HP-28C's as compensation. It was great fun to play with and very quickly disappointing because it had just 2K of RAM.

This same GI MicroElectronics Data Catalog lists their PIC as preliminary information too, which makes for a nice dichotomy of extreme success and likely failure. Stack-oriented machines just didn't make it. HP's 3000 line of computers were HW stack machines until PA-RISC came out and then it emulated the "classic 3000" instructions in SW. This happened at roughly the same time as the 28C came out.

-Katie

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HP 12C Questions

*Message #1 Posted by **Randy Wood** on 15 Jan 2010, 9:18 p.m.*

Hello to all, I recently acquired a 12C for home use, because I took my 11C to the office to use in place of my 41C which is acting up, and my 35 won't hold a battery charge for long. The 12C did not come with a manual. I had assumed, being familiar with HP calculators, that I could figure out the basic functions of the 12C. All I really need for home use is basic arithmetic (balancing the checkbook, etc.). I know, it is like swatting a mosquito with a sledgehammer, but I much prefer the RPN operation to "other" calculators. The 12C passes the self-check and the keyboard check tests, so I assume that it is fully functional. However, I can't figure out how to get it to display any digits to the right of the decimal point. For example, I can type in 125.36, but when I push the ENTER key,it only displays 125. On my scientific HPs, I can set the number of digits to the right of the decimal point using the FIX key. I can't believe that a financial calculator cannot display dollars and cents! Also, whenever the 12C is on, the word BEGIN is appears in small letters at the bottom of the display; is this normal?

Re: HP 12C Questions

*Message #2 Posted by **Jeff O.** on 15 Jan 2010, 9:37 p.m.,*
in response to message #1 by Randy Wood

I believe that the number of digits past the decimal point is set by pressing the yellow shift key ("f"), then the corresponding number key for the desired number of digits. Try pressing the blue ("g") shift key, then the "8" key to get rid of the "BEGIN" annunciator in the display.

...

Re: HP 12C Questions

*Message #3 Posted by **Randy Wood** on 16 Jan 2010, 7:37 p.m.,*
in response to message #2 by Jeff O.

Jeff, thanks! That is exactly what I needed. Works like a charm now.

Re: HP 12C Questions

*Message #4 Posted by **Don Shepherd** on 15 Jan 2010, 10:34 p.m.,*
in response to message #1 by Randy Wood

Randy, you say you recently "acquired" the 12c. Did you purchase it in a store, or get it from a friend or something? I ask this because 12c's have always come with a great manual, so I'm thinking you didn't buy this in a store, correct?

And since you said it passed the self-test, I'm thinking this is not one of the newer what we call the "12c+" which uses the ARM processor, has a small 6-pin connector in the battery compartment, has a problem with the self-test, and has an extra wide battery door to accomodate 2 CR-2032's. Yours must be an older 12c, correct?

You'll probably want to acquire the manual to get maximum benefit from the 12c. I suspect it's available

online from HP.

Re: HP 12C Questions

*Message #5 Posted by **Randy Wood** on 16 Jan 2010, 7:35 p.m.,*
in response to message #4 by Don Shepherd

Don, you are correct, it is not a new calculator. From some of the other correspondence in this forum, I am somewhat reluctant to admit that I bought it on ebay, for what I consider to be a reasonable price ($26). I only have the calculator and the case. Thank you for your suggestion regarding the manual; I was able to download not only the user's guide, but also the quick start guide, from the HP website.

Re: HP 12C Questions

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 16 Jan 2010, 12:28 a.m.,*
in response to message #1 by Randy Wood

Hi;

it´s been more and more difficult to 'dig' specific information at HP calculators site...

The HP12C Manuals can be downloaded from this address.

About the standard (default) operating modes: you can set the HP12C to 'factory condition' by clearing all memory contents. If you are sure there is nothing stored in the calculator you need to keep, just do this: (if you own and use an HP11C, you already know the procedure...)

- with the calculator turned to off, press AND HOLD the [-] key;
- while holding the [-] key, turn the calculator ON;
- release the [-] key.

If everything goes fine, you would see [Pr Error] in the display of your calculator.

If you want your HP12C to show numbers in scientific notation, press:

```
[f] [.]
```

This is a scientific notation with all possible digits in the mantissa being shown. It is like the HP11C´s

```
[f][SCI][7] (or [8] or [9])
```

There is no way to control how many digits to be shown in the HP12C while in scientific notation (same as in the HP16C)

Hope this helps a bit more.

Cheers.

Luiz (Brazil)

Edited: 16 Jan 2010, 12:33 a.m.

Re: HP 12C Questions - learning modules for download

*Message #7 Posted by **Gene Wright** on 16 Jan 2010, 10:18 a.m.,*
in response to message #6 by Vieira, Luiz C. (Brazil)

HP 12c learning module PDFs

30 short PDF files covering how to do lots of things on the HP 12c at the above link.

Learning modules: could not find the link through HP calculators...

*Message #8 Posted by **Vieira, Luiz C. (Brazil)** on 16 Jan 2010, 10:53 a.m.,*
in response to message #7 by Gene Wright

Hi, Gene;

I tried to find these modules by searching the HP homepage, but I could not find them. Is it just me or this kind of information seems to be buried as time passes? 8^(

Cheers.

Luiz (Brazil)

Edited: 16 Jan 2010, 10:55 a.m.

Re: Learning modules: could not find the link through HP calculators...

*Message #9 Posted by **Gene Wright** on 16 Jan 2010, 12:07 p.m.,*
in response to message #8 by Vieira, Luiz C. (Brazil)

You have to choose "calculators for school and business" and then the calculator pages have the learning modules. If you choose "home", they will be no where to be found.

Thanks! (N.T.)

*Message #10 Posted by **Vieira, Luiz C. (Brazil)** on 16 Jan 2010, 2:12 p.m.,*
in response to message #9 by Gene Wright

...

Re: HP 12C Questions

*Message #11 Posted by **Randy Wood** on 16 Jan 2010, 7:38 p.m.,*
in response to message #6 by Vieira, Luiz C. (Brazil)

Luiz, thanks very much for the information.

Re: HP 12C Questions

*Message #12 Posted by **designnut** on 16 Jan 2010, 10:57 p.m.,*
in response to message #11 by Randy Wood

Do people still balance checkbooks? I have everything but the gardener on autopay from the bank. Even the dentist and Kaiser take credit cards. I had a $20,000 check disappear in the mail, we hand carry large ones now. Sam

---

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HP 35S --- 2*2 lin. solve bug

*Message #1 Posted by **Maarten Ambaum (Reading, UK)** on 15 Jan 2010, 10:57 a.m.*

It appears that registers G...L are used internally in the 2*2 lin. solve in an unusual way. If there is anything other than a real number in these registers (a complex number or a vector) the linear solver returns "no solution." Kind of interesting, as these registers are not overwritten after using the linear solver, which appears to indicate that these registers are not actually used.

Another one for the bug-list. I haven't checked the 3*3 lin. solve function. Does anyone have an idea how such an unusual behaviour might occur?

Re: HP 35S --- 2*2 lin. solve bug

*Message #2 Posted by **Thomas Radtke** on 15 Jan 2010, 12:03 p.m.,*
in response to message #1 by Maarten Ambaum (Reading, UK)

> Quote:
>
> Does anyone have an idea how such an unusual behaviour might occur?

Yes, by careless programming.

HP: Please replace the 35s by an emulator of the 32SII/42S/15C or similar. It's not about having a bug or two, it's about having more bugs anyone could ever remeber. This machine kills your reputation in providing reliable tools.

HP-35 Hewlett-Packard Integrity

*Message #3 Posted by **Hiawatha Wheelwright** on 15 Jan 2010, 5:11 p.m.,*
in response to message #2 by Thomas Radtke

> Quote:
>
> The [original] HP-35 had numerical algorithms that exceeded the precision of most mainframe computers at the time. During development, Dave Cochran, who was in charge of the algorithms, tried to use a Burroughs B5500 to validate the results of the HP-35 but instead found too little precision in the former to continue. IBM mainframes also didn't measure up. This forced time-consuming manual comparisons of results to mathematical tables. A few bugs got through this process. For example: 2.02 ln ex resulted in 2 rather than 2.02. When the bug was discovered, HP had already sold 25,000 units which was a huge volume for the company. In a meeting, Dave Packard asked what they were going to do about the units already in the field and someone in the crowd said "Don't tell?" At this Packard's pencil snapped and he said: "Who said that? We're going to tell everyone and offer them a replacement. It would be better to never make a dime of profit than to have a product out there with a problem."

From hp museum's HP-35 page.

Re: HP-35 Hewlett-Packard Integrity

*Message #4 Posted by **hpnut** on 15 Jan 2010, 10:20 p.m.,*
in response to message #3 by Hiawatha Wheelwright

Yes, this story is often quoted. Many people who bought the HP 35 kept their buggy calculators rather than exchange for a new, bug free one :-)

Re: HP 35S --- 2*2 lin. solve bug

*Message #5 Posted by **Palmer O. Hanson, Jr.** on 16 Jan 2010, 10:11 p.m.,*
in response to message #1 by Maarten Ambaum (Reading, UK)

My first idea was that the 35s program used a methodology somewhat like that in the "Solution of Simultaneous Equations" program on pages 15-12 through 15-20 of the *hp 33s use's guide* which solves the 2x2 case by placing zeroes and a one in appropriate positions of the 3x3 solver. But some testing tells me that doesn't seem to be true.

The 3x3 equation seems to work properly even if a vector or a complex number is stored somewhere in registers M through Z. But, neither the 2x2 nor the 3x3 equation will solve with complex number inputs, even though the following comment from page 9-7 of the *HP35s User's Guide* would seem to indicate that it should:

> Quote:
>
> When you evaluate an equation and are prompted for variable values, you may enter complex numbers.

So, I conclude that the programmer recognized that his programs would not work with complex numbers and included a trap to alert a user of an unacceptable input, which resulted in a failure of the 2x2 solution if there was a leftover complex number in registers G theough L.

Strange stuff indeed.

Edited: 17 Jan 2010, 9:43 p.m.

Re: HP 35S --- 2*2 lin. solve bug

*Message #6 Posted by **Maarten Ambaum (Reading, UK)** on 19 Jan 2010, 5:04 a.m.,*
in response to message #5 by Palmer O. Hanson, Jr.

Thanks for your replies.

> Quote:
>
> So, I conclude that the programmer recognized that his programs would not work with complex numbers and included a trap to alert a user of an unacceptable input, which resulted in a failure of the 2x2 solution if there was a leftover complex number in registers G theough L.

Why would a programmer consciously reduce the functionality of the calculator? Surely, it would be easy to include an error check and actually give a useful error message.

I could explain it in terms of messy programming: use the non-real parts of some of the registers (i.e. the imaginary parts of registers G...L or the parts that store the second or third components of any vector in registers G ... L) as working memory. Alternatively, the processor has a strange way of allocating memory to the non-real parts of any register, such that it could interfere with some internal working memory (which I assume the processor has.) Either way, a bug it is.

I already saw this bug appeared on Paul Dale's HP-35S bug list - this forum is remarkably active!

Re: HP 35S --- 2*2 lin. solve bug

*Message #7 Posted by **Thomas Radtke** on 19 Jan 2010, 6:40 a.m.,*
in response to message #6 by Maarten Ambaum (Reading, UK)

Abusing apparently free space has some tradition. Some Motorola 68000 programs failed on 32-bit versions of this CPU due to programmers used bits 24 to 31 of its address registers for their own purpose.

Re: HP 35S --- 2*2 lin. solve bug

*Message #8 Posted by **Paul Dale** on 19 Jan 2010, 7:10 a.m.,*
in response to message #6 by Maarten Ambaum (Reading, UK)

I added it right away.

- Pauli

Re: HP 35S --- 2*2 lin. solve bug

*Message #9 Posted by **Palmer O. Hanson, Jr.** on 19 Jan 2010, 10:26 p.m.,*
in response to message #1 by Maarten Ambaum (Reading, UK)

Whatever the source of the problem is if the user encounters it he can easily bypass it by simply entering a real number in memories G through L. That doesn't seem to be an overwhelming situation.

Re: HP 35S --- 2*2 lin. solve bug

*Message #10 Posted by **Bart (UK)** on 20 Jan 2010, 5:00 a.m.,*
in response to message #9 by Palmer O. Hanson, Jr.

> Quote:
>
> Whatever the source of the problem is if the user encounters it he can easily bypass it by simply entering a real number in memories G through L. That doesn't seem to be an overwhelming situation.

And I think Maarten agrees with you, he said:

> Quote:
>
> Kind of interesting,...

And was probably just wondering what others thought could cause this:

> Quote:

> Does anyone have an idea how such an unusual behaviour might occur?

However, it is a bug nevertheless, and does add to the perception that the code and algorithms were not tested properly. I certainly would not trust this model on a space mission (should I ever find myself lucky enough to be an astronaut :-))

Re: HP 35S --- 2*2 lin. solve bug

*Message #11 Posted by **Thomas Radtke** on 20 Jan 2010, 5:53 a.m.,*
in response to message #10 by Bart (UK)

Right, it was me who (again) complained about the countless bugs. Problem is, when you find 10 bugs soon, there are likely many more. And you have to remember each of them in any situation. I can't and I don't feel like HPs beta tester.

I won't use the 35s for any professional task involving health or money, and I wouldn't like to see anyone using such a machine in my company.

Re: HP 35S --- 2*2 lin. solve bug

*Message #12 Posted by **Maarten Ambaum (Reading, UK)** on 21 Jan 2010, 5:00 a.m.,*
in response to message #11 by Thomas Radtke

Bart (UK) is right; I was just interested to see if anyone had an idea how such a bug might come about.

And Thomas:

> Quote:
>
> I won't use the 35s for any professional task involving health or money, and I wouldn't like to see anyone using such a machine in my company.

That all depends whether you believe the 35s is any worse than other models by other manufacturers. I am not so sure.

I still highly recommend this model for anyone out there: it is the best RPN scientific that HP has on offer - in case you hadn't noticed: HP stopped selling the 42s quite a while ago, so that is not a realistic option, however much I'd like to have a 42s (did you all notice that the form factor of the 20b and 30b is precisely the same as the 42s? Surely a sign that the 42s will be reborn soon!)

Let's compare the 35s with the somewhat ridiculous scientifics that most of my students now use: the number of errors they make when typing in equations far outweigh the small chance to hit on a bug in the 35s. I'd recommend a proper RPN calculator anytime above any of those calculators.

Re: HP 35S --- 2*2 lin. solve bug

*Message #13 Posted by **Thomas Radtke** on 21 Jan 2010, 5:35 a.m.,*
in response to message #12 by Maarten Ambaum (Reading, UK)

Yes Maarten, nothing to say about using it in education. Students will love to find any bugs. You bet, I was happy about every error I found in the Bronstein-Semendjajew back in the 80th :-D.

I don't compare it with any calculator out there as I don't know any current model intimately. But I do compare it with the 32SII and know what others have to say about the 15C and 42S models. It cannot be that more recent products are actually worser when it comes to calculations.

What I'm missing on the 35s package is one of the usual HP stickers, saying "not for professional use." ;-)

About the rebirth of a 42S model I share what others said: It won't happen since there's no market. And the 30b seems not to be a good platform due to the limited LCD and memory. But maybe Thomas Okken can say something about that :^).

Re: HP 35S --- 2*2 lin. solve bug

*Message #14 Posted by **Palmer O. Hanson, Jr.** on 20 Jan 2010, 9:42 p.m.,*
in response to message #10 by Bart (UK)

> Quote:
>
> However, it is a bug nevertheless, and does add to the perception that the code and algorithms were not tested properly.

If we accept the idea that the code and algorithms were not tested properly shouldn't we ask why? I suggest that one of the reasons was a desire to release the machine as a part of the celebration of the 35th anniversary of the original HP-35.

Re: HP 35S --- 2*2 lin. solve bug

*Message #15 Posted by **Jon S. Canale** on 20 Jan 2010, 10:09 p.m.,*
in response to message #14 by Palmer O. Hanson, Jr.

So HP didn't release the machine because they thought there was a need for it and they were going to fill that hole, but to pat themselves on the back for a good job done 35 years prior?

And not even to make money, but just to have some souvenirs for the show, ie, it was a total marketing event!

That would explain it all! Marketing designed and tested the machine! (It does LOOK good, sitting on the desk I'd say!!!)

Re: HP 35S --- 2*2 lin. solve bug

*Message #16 Posted by **Bart (UK)** on 21 Jan 2010, 5:09 a.m.,*
in response to message #15 by Jon S. Canale

> Quote:
>
> And not even to make money, but just to have some souvenirs for the show, ie, it was a total marketing event!

The problem is that the 33s is the only other HP offering of that type and is no longer for sale in the UK! (Interestingly it is in the US)

Re: HP 35S --- 2*2 lin. solve bug

*Message #17 Posted by **Bart (UK)** on 21 Jan 2010, 5:07 a.m.,*
in response to message #14 by Palmer O. Hanson, Jr.

> Quote:
>
> I suggest that one of the reasons was a desire to release the machine as a part of the celebration of the 35th anniversary of the original HP-35.

i.e. you're suggesting it was rushed with minimal testing to make it on time for the 35th anniversary of the original HP-35?

Re: HP 35S --- 2*2 lin. solve bug

*Message #18 Posted by **Palmer O. Hanson, Jr.** on 22 Jan 2010, 9:50 p.m.,*
in response to message #17 by Bart (UK)

> Quote:
>
> i.e. you're suggesting it was rushed with minimal testing to make it on time for the 35th anniversary of the original HP-35?

Go to the thread "HP-35/35th Anniversary Edition expected soon" near the bottom of Archive 17 at http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv017.cgi?read=111916 to get a feel for the excitement over the anticipation of a 35th anniversary machine.

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Which HP calc emulator? Which phone?

*Message #1 Posted by **vq** on 15 Jan 2010, 3:59 a.m.*

I plan to buy a new mobile phone and one of things I want to use it for is HP calculator emulation. Currently, these models are in my favorit list: iPhone 3GS/HTC Touch Pro2 (with hardware keyboard) / HTC HD2 (the largest screen on the market afaik). Which one would you recommend with respect to the HPcalc emulation? Which emulators are the best for iphone/WinMobile? Thanks in advance

Re: Which HP calc emulator? Which phone?

*Message #2 Posted by **bt_schmidt** on 15 Jan 2010, 7:48 a.m.,*
in response to message #1 by vq

Elia Freedman, CEO of Infinity Softworks, has been writing and selling calculators for mobile devices for the last dozen years. I remember paying something like $59 some years ago for his PowerOne Financial calculator for use on my Palm V

Elia's January 2010 blog entry talks to the selection of the mobile platform(s) from a developer/business viewpoint.

Developer's Perspective: Strengths/Weaknesses of Mobile Platforms, Jan 12, 2010, Elia Freedman

PS. I have no connection with Infinity Softworks other than having bought PowerOne RPN calculators for my many Palm handhelds and for my iPhone which replaced them.

Edited: 15 Jan 2010, 7:52 a.m.

Re: Which HP calc emulator? Which phone?

*Message #3 Posted by **hugh steers** on 15 Jan 2010, 2:34 p.m.,*
in response to message #1 by vq

Hi,

I have a HTC touch pro 2, which is similar to the HD2. the screen is the best bit 800x480. the keyboard is nice (if you want keyboards) however, WinMo sucks *big* time. I have a nice version of Tom Okken's free42 running on it, although be advised this is a simulator and not an emulator - although you can run most 42s programs fine.

More and more people are acquiring the iPhone and this is turning into a solid platform. there are many calculators for it already.

Also, it depends on the cost differences etc. Over here in the UK, the retailer Tesco are offering some very good deals on iPhone 3GS.

So it depends on your preferences.

Re: Which HP calc emulator? Which phone?

*Message #4 Posted by **Egan Ford** on 15 Jan 2010, 5:43 p.m.,*
in response to message #1 by vq

> Quote:
>
> Currently, these models are in my favorit list: iPhone 3GS

I use the following on my iPhone (in order of most frequently used):

1. 42s. 42S simulation based on Free42, includes virtual printer and the ability to save/restore programs. X-L stack display.
2. i41CX+. IMHO, by far the best 41CX emulator on any platform. Includes printer, import/export of programs, data, HEPAX data, modules. Supports overlays, X-L stack view, enhanced virtual 41CX hardware with support for iPhone features (accelerometer, compass, GPS). 100% 41CX compat--based on Nonpareil.
3. m48. Port of EMU48 to iPhone, all the rest of the 48 emulators are based on x48. 48GX emulation.
4. SCI-15C. Eric's Nonpareil-based 15C emulation.
5. RPN-12C/15C/16C. More Voyager emulators.
6. Free42. Another Free42 iPhone port directly from Thomas.
7. GO-21. HP 21 simulator.
8. I also have a sliderule (iSlideRule) and an abacus.

Others I have not tried:

1. 10BII
2. 17BII+
3. 12C Platinum.
4. RPN Calc 42s. This is a direct rip-off of 42s.

If you search the App store for RPN or calculator you will find many more. AFAIK there isn't a mobile platform with more HP emulation choices.

Edited: 15 Jan 2010, 6:14 p.m.

Re: Which HP calc emulator? Which phone?

*Message #5 Posted by **Ernie Brock** on 16 Jan 2010, 1:19 a.m.,*
in response to message #4 by Egan Ford

Calc12C+ is available on the iPhone as a free download for a limited time. It is a 12C and 11C emulator with a bunch of other features added on ;-)

Re: Which HP calc emulator? Which phone?

*Message #6 Posted by **Mark Hardman** on 18 Jan 2010, 12:32 a.m.,*
in response to message #1 by vq

I have a HTC Touch Pro 2 running the following:

1. Christoph Giesselink's Emu42PPC

This allows me to emulate HP-17B, HP-17BII, HP-27S, HP-28S and HP-42S. There is an excellent 640x480 VGA skin for the HP-42S. This I consider to be the best HP42 emulation available at this time. (Thanks Erik!)

2. Christoph Giesselink's Emu48PPC

Emulations supported are HP-38G, HP-39G, HP-40G, HP-48SX, HP-48GX and HP-49G. The HP-49 has a particularly good VGA skin. (Thanks Beemer)

3. eV41 HP-41 Emulator available from TOS

4. The Lygea Pocket 12C SE and Pocket 15C SE ($)

Of the 14 emulators, 12 of them are free--provided you have the capabilities and patience for dumping some of the ROMs. Can anyone with an iPhone match this?

For my part, Windows Mobile is reliable.

markHardman

Re: Which HP calc emulator? Which phone?

*Message #7 Posted by **Egan Ford** on 18 Jan 2010, 12:21 p.m.,*
in response to message #6 by Mark Hardman

> Quote:
>
> Can anyone with an iPhone match this?

1. EMU42. Currently the iPhone has Free42 (42S simulation with printer). IMHO Free42 is a 42S+ and runs much faster than EMU42. However, the purist will want the ROM-based EMU42. I do not think it would be much of an effort to port EMU42 to the iPhone since EMU48 has been ported. I.e. the effort to remove Windows APIs has been done. Perhaps I'll do it myself someday.
2. EMU48 has been ported to the iPhone and is open source (I have the source). It would not take much effort to add the rest of the calcs listed, but at this time only the 48GX (highest demand) is supported.
3. i41CX+ is vastly superior to eV41. E.g. printer, phone HW integration (compass, accelerometer, etc...), HEPAX support, overlays, ease of use.
4. Lygea is a simulator. There are many Voyager simulators and emulators for the iPhone (I count at least 11 12Cs to choose from). Purists will prefer the ROM-based emulators for identical results. ROM-based emulators are available for the 11C, 12C, 15C, and 16C.
5. From my list above there are others like the 21, 10BII, and 17BII+. Since HP published a ROM-based 12C for the iPhone I would not be surprised to see others like the 30B someday.

So no, the iPhone cannot exactly match Windows Mobile given your list, but then Windows Mobile cannot match the iPhone given my list.

IMHO, everybody is a winner here.

> Quote:
>
> For my part, Windows Mobile is reliable.

I suffered through Windows Mobile for 18 months. IMHO, the iPhone has been much more reliable. WM has the challenge of supporting many different HW platforms and you never know if its WM or the HW that is the problem. At least with the iPhone I have one neck to choke.

Re: Which HP calc emulator? Which phone?

*Message #8 Posted by **John Ioannidis** on 31 Jan 2010, 1:14 p.m.,*
in response to message #1 by vq

I use "RPNcalc" on my Android-based phone. I particularly like that the author did not try to copy the look of an existing calculator, but rather tailored it to the new technology.

My only real complaint is that there is no haptic feedback when you "press" the keys. Yes, the keys change color when you press them, but my fingers are not transparent!

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HP 35s Hardcase Issue

*Message #1 Posted by **Luke Hoffmann** on 14 Jan 2010, 3:15 p.m.*

Hello everyone!

It has been a couple of years since my last post (my pipl search still pulls up my two posts which is quite fun). I recently purchased a second HP 35s as my first one mysteriously disappeared during my break from Purdue.

Sadly, the new one didn't come packaged with a paper manual, just a 'Quick Start Guide'. I understand the cost-cutting measure; thankfully I still have my original manual.

What has been a sad realization is that the right-hand hardcase strap is sewn about a cm too high (or keeping with the 35's convention, it is about 0.00001 KM too high ;) The left hand strap is in an oh-so-perfect position. The trouble is my damned right-handedness.

So, my question is: What say you? Also, what should I do? I purchased the calc from Amazon (no one here in Lafayette seems to carry it anymore which is sad...but I convinced one of the bookstores to order one :) The CNA is 93700925 for anyone interested, and the CNA sticker is straight but not centered (the first CNA sticker was at a 30 degree angle...so we're seeing an improvement from release at least).

Thank you for keeping this place alive...sorry for my long post. I must admit I am a neophyte when it comes to the real deep uses of the 35...but at 23 years old, I can proudly say that I don't even remember what an equals sign does.

Luke

Re: HP 35s Hardcase Issue

*Message #2 Posted by **Jon S Canale** on 14 Jan 2010, 3:37 p.m.,*
in response to message #1 by Luke Hoffmann

How good are you with a needle and thread????

There should be a note in the Quick Start guide that a full printed manual is available by calling HP. That was the case two years ago when I got mine. (Bottom of page 24?)

Serial number is advancing - mine is CNA 75000967 - but supposedly there have been no rom changes.

Re: HP 35s Hardcase Issue

*Message #3 Posted by **Luke Hoffmann** on 14 Jan 2010, 3:42 p.m.,*
in response to message #2 by Jon S Canale

Not very good!

I sent an email to the HP support abyss. Hopefully I'm able to get a replacement for the hardcase. I wasn't able to find any online as replacements.

I'm glad that I still have my hard manual though ;) I can't remember my original CNA...I remember it was fairly low. I spoke with someone in house at HP a while back and he said that there were no plans for any revisions to any of their calcs for the foreseeable future. Whether this was true or he was talking out of his bum, I don't expect anything big from HP in the calc realm any time soon.

Re: HP 35s Hardcase Issue

*Message #4 Posted by **bt_schmidt** on 14 Jan 2010, 5:17 p.m.,*
in response to message #3 by Luke Hoffmann

> Quote:
>
> I don't expect anything big from HP in the calc realm any time soon.

You mean apart from the new HP 30B Programmable Financial with Trig? <grin>

Re: HP 35s Hardcase Issue

*Message #5 Posted by **Luke Hoffmann** on 14 Jan 2010, 5:27 p.m.,*
in response to message #4 by bt_schmidt

Lol...well, I'll stick to my 12c thank you. But that does look like a purchase I might make just to further convince my wife than senility can set in during someone's twenties XD

Some people collect guns, comic books, ex-wives...I collect calculators I have no use for (yet is what I tell the Mrs.). They're so damn awesome though.

I'm still waiting for the HP 50g.1 with a large enter key. I'd buy it for that alone.

Re: HP 35s Hardcase Issue

*Message #6 Posted by **Dave Britten** on 14 Jan 2010, 7:02 p.m.,*
in response to message #5 by Luke Hoffmann

It's okay, you're not the only person here in his twenties who owns more calculators than fingers. ;)

Now I just have to get my hands on a 30b...

Re: HP 35s Hardcase Issue

*Message #7 Posted by **Tim Wessman** on 14 Jan 2010, 11:39 p.m.,*
in response to message #6 by Dave Britten

What? All 3 of us in our 20s? :-)

There was a thread a while back doing average age of people in the forum unless my memory is already failing. . .

TW

p.s. I've got a 30b :-P

Re: HP 35s Hardcase Issue

*Message #8 Posted by **Eric Rechlin** on 15 Jan 2010, 12:34 a.m.,*
in response to message #1 by Luke Hoffmann

Be happy you didn't get a new one.

Now the 35s doesn't even come with a hard case, as of something like CNA942 and higher or so.

Re: HP 35s Hardcase Issue

*Message #9 Posted by **Ed Look** on 15 Jan 2010, 1:09 a.m.,*
in response to message #8 by Eric Rechlin

Really? What does the new pouch look like? Does it resemble those rather crappy soft cases the old Pioneers came with or is it still something as cool as the original hard zipper case of the 35s?

Re: HP 35s Hardcase Issue

*Message #10 Posted by **bill platt** on 15 Jan 2010, 12:58 a.m.,*
in response to message #1 by Luke Hoffmann

I don't know if this is true, but seems like you can get a printed manual:

http://h10025.www1.hp.com/ewfrf/wc/document?docname=c01748564&tmp_track_link=ot_faqs/top_issues/en_us/c01748564/loc:2&lc=en&dlc=en&cc=us&lang=en&product=3442987

Re: HP 35s Hardcase Issue

*Message #11 Posted by **Michael Plant** on 15 Jan 2010, 10:09 a.m.,*
in response to message #10 by bill platt

This is just the number listed in the Quick Guide that you call to order a manual. I don't think anything has changed on that front. Having said that, I called and ordered mine a few months back and the manual came - completely free of charge - very quickly. You need your calculator in front of you because the service rep will ask you for the serial number.

Re: HP 35s Hardcase Issue

*Message #12 Posted by **Jeff O.** on 15 Jan 2010, 7:41 a.m.,*
in response to message #1 by Luke Hoffmann

> Quote:
>
> The left hand strap is in an oh-so-perfect position. The trouble is my damned right-handedness. So, my question is: What say you? Also, what should I do?

Isn't it obvious - become left handed! I like to tell people that the proportion of geniuses who are left-handed is higher than the proportion of left-handers in the general population. I have no idea if that is true, I mostly just made it up, but the list of notable left-handers is fairly impressive.

...

Re: HP 35s Hardcase Issue

*Message #13 Posted by **Michael Meyer** on 15 Jan 2010, 1:45 p.m.,*
in response to message #12 by Jeff O.

LOL- Is that the same as "ambidecimal"?

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HP 34c battery voltage voltage

*Message #1 Posted by **Hiawatha Wheelwright** on 14 Jan 2010, 11:54 a.m.*

I have a new hp34c that came with 1.5 volt off-the-shelf alkalines installed. I was concerned about any physical stress that the slightly too-long batteries may have been causing on the PCB, so I bought a pair of rechargable tip-less NiCds. The battery clips in the calculator have been flattened out because of the alkalines, and I did not want to bend them back out, so I padded the extra space with some tin foil and the new NiCds are a perfect fit.

But I am now concerned that they are 1.2 volts instead of 1.5 volts. Will this slightly lower voltage be a problem for the calculator? hpmuseum's battery spec page recommends a pair of radio shack NiCds which are also 1.2 volts.

Re: HP 34c battery voltage voltage

*Message #2 Posted by **Marcus von Cube, Germany** on 14 Jan 2010, 12:32 p.m.,*
in response to message #1 by Hiawatha Wheelwright

NiCd always are rated 1.2V. This was equally true for the original batteries in the calculator. So 2.4V is certainly ok.

Re: HP 34c battery voltage voltage

*Message #3 Posted by **designnut** on 15 Jan 2010, 1:55 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Whenever you see the word NiCad think instead Nimh. The are more modern without the memory effect of Nicad. I have had such good results with the low self discharge Sanyo Eneloop cells I can recommend them for any service. They hold enough charge tto last over a year. Sam

Re: HP 34c battery voltage voltage

*Message #4 Posted by **Hiawatha Wheelwright** on 15 Jan 2010, 1:56 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Great, thanks.

Oddly enough, I let it charge for about 6 or 7 hours and the low battery indicator still comes on when I power up the calculator.

Re: HP 34c battery voltage voltage

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 15 Jan 2010, 10:16 a.m.,*
in response to message #4 by Hiawatha Wheelwright

Hi;

Chances are that the connection for the charger is faulty. I repaired (and replaced) many of the flex circuit that connects both the batteries and the charger input to the power board. If you have the means

to, please check if the charger is actually feeding the power board.

Success!

Luiz (Brazil)

Re: HP 34c battery voltage voltage

*Message #6 Posted by **John B. Smitherman** on 15 Jan 2010, 10:40 a.m.,*
in response to message #1 by Hiawatha Wheelwright

I've used 2 AA alkaline batteries in my 34c for 5+ years with no problem. I open the battery compartment every year to do an inspection looking for battery leakage.

Regards,

John

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HP-41: Has anyone used the Laitram rom?

*Message #1 Posted by **Geir Isene** on 14 Jan 2010, 5:47 a.m.*

If so, what do you think about this takeover rom?

Re: HP-41: Has anyone used the Laitram rom?

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 14 Jan 2010, 6:47 a.m.,*
in response to message #1 by Geir Isene

Hi, Geir;

right after building the MLDL2000 and adding a NoVRAM and a NoV32 to the 'troup', I had the change to get to know about the so many modules that existed for the HP41. I can tell I am one of the 'newest' users of these extensions amongst the 'older' worshipers of the HP41 system, though...

About the Laitran: I read about it, took a look at the manual but I was actually a lot interested on HEPAX, CCD-family, AECROM, FORTH ROM, Advantage, amongst some others. I must confess I never give it a try because it seemed to me that the proposed functionality was not something I was seeking for.

I'll get closer to it and let you know.

Cheers.

Luiz (Brazil)

Re: HP-41: Has anyone used the Laitram rom?

*Message #3 Posted by **Ángel Martin** on 14 Jan 2010, 11:48 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

I actually got one on eBay (at a very affordable price) and sold it later on - that should give you an indication of my appreciation for it... all that ado for nothing much, in my opinion.

Re: HP-41: Has anyone used the Laitram rom?

*Message #4 Posted by **Brian Walsh** on 14 Jan 2010, 12:19 p.m.,*
in response to message #1 by Geir Isene

Yes, I have one buried away in a box along with its special touchpad overlay. In my estimation it was a solution in search of a problem.

J.M. LaPeyre (I think that's the spelling) made his fortune in shrimp processing (Bubba Gump?) and a special staggered tread industrial stair/ladder (called the LaPeyre Stair), and he hired Dave Conklin and co. for the project. J.M. himself demonstrated the product at the 1985 users conference in Atlanta, and if memory serves Dave was there.

Re: HP-41: Has anyone used the Laitram rom?

*Message #5 Posted by **Marcus von Cube, Germany** on 14 Jan 2010, 12:29 p.m.,*
in response to message #4 by Brian Walsh

Can someone explain, in a few words, what this ROM is about?

Re: HP-41: Has anyone used the Laitram rom?

*Message #6 Posted by **Raymond Del Tondo** on 14 Jan 2010, 1:01 p.m.,*
in response to message #5 by Marcus von Cube, Germany

AFAIR all possible functions are accessible with a few key strokes.

HTH

Raymond

Re: HP-41: Has anyone used the Laitram rom?

*Message #7 Posted by **Geir Isene** on 14 Jan 2010, 2:26 p.m.,*
in response to message #6 by Raymond Del Tondo

Correct. It's a takeover rom where 16 keys are active and with combinations of keys, all HP-41 functions are available with very few keystrokes (2?).

Reminds me...

*Message #8 Posted by **Vieira, Luiz C. (Brazil)** on 14 Jan 2010, 2:36 p.m.,*
in response to message #7 by Geir Isene

... Sinclair´s keyboard conception. If the idea was to reduce keystrokes while entering (large) programs, maybe it is a solution. I´m addicted to [XEQ][ALPHA] spell [ALPHA] or the [USER] shortcut, though.

Luiz (Brazil)

Edited: 14 Jan 2010, 2:37 p.m.

Re: Reminds me...

*Message #9 Posted by **Garth Wilson** on 14 Jan 2010, 4:33 p.m.,*
in response to message #8 by Vieira, Luiz C. (Brazil)

> Quote:
>
> ... Sinclair´s keyboard conception. If the idea was to reduce keystrokes while entering (large) programs, maybe it is a solution. I´m addicted to [XEQ][ALPHA] spell [ALPHA] or the [USER] shortcut, though.

Maybe one of you MCODE experts could write something that allows multiple KEYS files, so USER keyboards could be swapped out quickly like on the 71. Without it, I think you would have to run a program with lots of PASN's and it would be slow and take more memory. I haven't reviewed this recently so I may be forgetting something.

Re: Reminds me...

*Message #10 Posted by **Vieira, Luiz C. (Brazil)** on 14 Jan 2010, 5:52 p.m.,*
in response to message #9 by Garth Wilson

Hi, garth;

Ángel´s first 4K 41Z had a programmable, complex-addressed USER keyboard through a single MCODE function. Anyway, any pair of consecutive USER assignment (or after packing the existing ones) will ocupy a main RAM register, as we know.

For me, the best cost-benefit relation is the use of sofkeys (HP19, HP28, HP42S, HP48-series and so), and in some applications, like the ones in the HP41 Advantage Pack, such feature is simulated (not the softkeys themselves, something close to). The HP32S also takes advantage of the ALPHA keyboard with the addition of the small arrows pointing to the active keys.

The main issue of the USER keyboard is to remember what is assigned to which key, and I believe the [NULL] feature in the HP41 was one of the solutions to help the user to 'check before using' a particular key in user mode. If we have a set of USER keyboards, I guess the user would have to retain more information, though.

Please, these are just my own considerations about the subject. I neither have an answer, nor a solution to propose, but I really would like to have another possibility for the multiple user defined keyboards.

Cheers.

Luiz (Brazil)

Re: Reminds me...

*Message #11 Posted by **Geir Isene** on 14 Jan 2010, 6:30 p.m.,*
in response to message #10 by Vieira, Luiz C. (Brazil)

Right. When I program FOCAL I do as the Advantage module (this I advice in the FOCAL coding standard).

The Laitram keyboard overlay is some crazy piece of thingymawiz

Re: Reminds me...

*Message #12 Posted by **Garth Wilson** on 14 Jan 2010, 8:32 p.m.,*
in response to message #10 by Vieira, Luiz C. (Brazil)

> Quote:
>
> Ángel´s first 4K 41Z had a programmable, complex-addressed USER keyboard through a single MCODE function. Anyway, any pair of consecutive USER assignment (or after packing the existing ones) will ocupy a main RAM register, as we know.

I am looking forward to using 41Z after I get one of the modules that can hold such images. But as for the RAM space taken by key assignments, I'm thinking of KEYS files in extended memory or one of the newer plug-in modules with more RAM file

space. Then only the active assignments take any of main RAM.

> Quote:
>
> For me, the best cost-benefit relation is the use of sofkeys (HP19, HP28, HP42S, HP48-series and so), and in some applications, like the ones in the HP41 Advantage Pack, such feature is simulated (not the softkeys themselves, something close to). The HP32S also takes advantage of the ALPHA keyboard with the addition of the small arrows pointing to the active keys.

I do this on the 41 with local alpha labels as well as with GEYKEY and GEYKEYX. Useful functions, although not the same thing.

> Quote:
>
> The main issue of the USER keyboard is to remember what is assigned to which key, and I believe the [NULL] feature in the HP41 was one of the solutions to help the user to 'check before using' a particular key in user mode. If we have a set of USER keyboards, I guess the user would have to retain more information, though.

For this reason, I frequently change key overlays on the 71. I only have one for the 41 that I could write on (I should have bought a bunch when they were available), plus the special-use ones that came with the 41 and its modules. The guide for the text editor is on the back.

Edited: 15 Jan 2010, 2:21 a.m.

Re: Reminds me...

*Message #13 Posted by **Ángel Martin** on 15 Jan 2010, 2:13 a.m.,*
in response to message #10 by Vieira, Luiz C. (Brazil)

Both the 41Z and the SandMath modules have their own "USER function files" - very comparable to Garth's example with the 71B.

On the 41Z (either 4k or 8k version) it's called ZKEYS; on the SandMath it's called MHKEYS. Either one will remap the User keyboard to a pre-assigned function set, pertinent to the module in question.

As much as this is a good approach, I find this technique a little taxing on the user: because there are that many functions, there's a lot of toggling the USER mode on and off to also access the native 41C functions (or else lot of XEQ-Spelling). It also uses up a chunk of main memory with the key assignments "buffer" .

That's why I wrote the Complex Keyboard function (ZKBRD) on the 41Z (8k version). It provides access to many more functions than available on the basic layout, it does NOT conflict with the native or the user assignments, and it doesn't take any memory register. A charm, if you ask me. The cost of course is a lot of programming behind the scenes to make it happen.

Take it for a spin and you'll see what I mean.

Cheers, "AM

Re: HP-41: Has anyone used the Laitram rom?

*Message #14 Posted by **Wayne Brown** on 18 Jan 2010, 5:18 p.m.,*
in response to message #7 by Geir Isene

Sounds rather like the eG0BEEP functions.

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SandMath 6 -> NoV: Error

*Message #1 Posted by **Geir Isene** on 12 Jan 2010, 5:24 p.m.*

A bit hyperactive here today...

I tried using the Modfile utility under Wine on Linux to extract the two ROM images from the Sandmath.mod (version 6) from TOS. It extracts the upper and lower ROM file but one of them have the extension .rom.rom (note two extensions). I rename it by removing the last ".rom" and try to compile it using the Clonix config to assemble it into a burnable HEX file for the NoV-64. But, it just won't assemble (6 errors I believe it was). Could anyone send me the two correct ROM files (upper and lower) so I can try them - in case the Modfile utility under Wine is acting up on me? (e-mail = g @ isene . com {remove spaces})

Re: SandMath 6 -> NoV: Error

*Message #2 Posted by **Ángel Martin** on 12 Jan 2010, 5:32 p.m.,*
in response to message #1 by Geir Isene

You've got mail...

Re: SandMath 6 -> NoV: Error

*Message #3 Posted by **Meindert Kuipers** on 13 Jan 2010, 12:52 p.m.,*
in response to message #1 by Geir Isene

Geir,

You might also try the M2kM software to extract the ROM files from the MOD file, with a bit more control and verification of the checksum,

Meindert

Re: SandMath 6 -> NoV: Error

*Message #4 Posted by **Geir Isene** on 17 Jan 2010, 4:57 a.m.,*
in response to message #1 by Geir Isene

The problem turned out to bee too long a file name for the Clonix Config tool, that's all.

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MoHPC *The Museum of HP Calculators*

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HP-IL a summary QRG/top 10 commands

*Message #1 Posted by **Geir Isene** on 12 Jan 2010, 5:19 p.m.*

Many modules, lots of functions, little storage space (in my mind).

Having reached a target with the ICEBOX, it's time for me to move over to doing more HP-IL stuff. Never been doing much of that and I wonder if any of you would care to give your top 10 useful HP-IL functions. There are plenty of useful functions across modules like Extended IO, Extended IL, Paname, CCD OS/X, HP-IL Devel as well as the HP-IL module itself. It would be good to have a shortlist of the best functions... Anyone?

Re: HP-IL a summary QRG/top 10 commands

*Message #2 Posted by **Egan Ford** on 12 Jan 2010, 5:40 p.m.,*
in response to message #1 by Geir Isene

CCD OS/X Cat 0 is a must for me. I wish it existed outside of CCD OS/X.

Re: HP-IL a summary QRG/top 10 commands

*Message #3 Posted by **Raymond Del Tondo** on 13 Jan 2010, 7:40 a.m.,*
in response to message #2 by Egan Ford

Hi,

the CCD OS/X already _is_ the extremely compacted version;-)

In the original CCD module, the UI code ran across (back and forth) both 4K pages.

@Geir:
I once assembled a ROM for Christoph Klug called the "Extended IL Plus" or "-EXT IL+" ,
which includes many interesting functions of various other ROMs.

Cheers

Raymond

Re: HP-IL a summary QRG/top 10 commands

*Message #4 Posted by **Geir Isene** on 13 Jan 2010, 9:05 a.m.,*
in response to message #3 by Raymond Del Tondo

Is it available somewhere?

Otherwise, the Paname module is a real kicker...

Re: HP-IL a summary QRG/top 10 commands

*Message #5 Posted by **Raymond Del Tondo** on 13 Jan 2010, 10:40 a.m.,*
in response to message #4 by Geir Isene

Christoph Klug distributes it. Please drop him a mail:-)

Raymond

Re: HP-IL a summary QRG/top 10 commands

*Message #6 Posted by **Ángel Martin** on 13 Jan 2010, 4:50 p.m.,*
in response to message #5 by Raymond Del Tondo

I'm not certain but I believe it's not for free - a shame, it'd be an excellent source to learn more MCODE tricks...

Re: HP-IL a summary QRG/top 10 commands

*Message #7 Posted by **J-F Garnier** on 13 Jan 2010, 3:23 p.m.,*
in response to message #1 by Geir Isene

Hi Geir,

For serious HP-IL usage, the Extended I/O ROM is highly recommended. Then the Extended IL ROM (Skwid) can be considered. I do not recommend the HP-IL Devpt ROM, except for HP-IL low level investigations. The Paname ROM also has many HP-IL interesting functions but is more dedicated for use with the HP82162 and HP82905 printers, and HP82163 video interface.

For the top 10 commands, it really depends on what you plan to do with HP-IL. If you are using only mass storage and printer operations, then the most used functions will likely be:

** Mass Storage Operations:

- NEWM, WRTP/READP, WRTA/READA, DIR (CAT 4), PURGE for mass storage.

- If you have several mass storage units, the COPYFL and MCOPY functions of the Ext I/O ROM will be useful.

- if you have a drive with capacity > 128KB (for instance the HP9114), then the SNEWM, SWRTP, SDIR and SCOPYFL variants from Ext-IL ROM are interesting, plus the WRTXM/READXM, WRTCAL/READCAL.

** Printer Operations:

- PRP and LIST for program listing.

- the MCPRP and MCLIST multi-colomn variants from the Ext-IL ROM.

- PRX, PRA, ACA, PRBUF, ADV for general purpose printing operations.

Then if you plan to use HP-IL for instrument control, the Extended I/O ROM is a must with many useful functions. The most important functions (from HP-IL module or Ext I/O) could be: NLOOP, FINDID/FINDAID, SELECT/RCLSEL, ID/AID, SPOLL, TRIGGER, CLRDEV/CLRLOOP, REMOTE/LOCAL/NOTREM, plus all the INA/OUTA variants, plus the low level HP-IL commands...

Finally, let me mention the 44468A Data Acq/Ctrl ROM if you have a HP3421 Data logger.

J-F

Re: HP-IL a summary QRG/top 10 commands

*Message #8 Posted by **Ángel Martin** on 13 Jan 2010, 4:52 p.m.,*
in response to message #1 by Geir Isene

Good luck with this new project Geir, it's a tall order! (I wouldn't touch the IL world with a 12-foot pole!)

Re: HP-IL a summary QRG/top 10 commands

*Message #9 Posted by **Garth Wilson** on 13 Jan 2010, 7:26 p.m.,*
in response to message #1 by Geir Isene

I just looked through a test program I used in the 80's when I used the 41 the most, which was for controlling equipment. Here are the top HPIL commands used, in order of frequency:
SELECT (32 times)
OUTA (24 times)
IND (13 times)
ACA (10 times)
ACX (10 times)
MANIO, REMOTE, CLRDEV, INSTAT (one time each)

Some of these were in subroutines that would have gotten run multiple times per set of tests.

A program used to control an EPROM programmer used:
ACA (13 times)
OUTXB, OUTA, SELECT, and ADV (12 times each)
REMOTE and NOTREM (2 times each)

A program used to check battery life on many units at once used:
OUTA (5 times)
ACA (4 times)
SELECT (3 times)
IND (2 times)
MANIO, ACX, and REMOTE (one time each)
There's also an AIP, and at the moment I can't figure out what it is, although it may not be and IL function.

Re: HP-IL a summary QRG/top 10 commands

*Message #10 Posted by **Geir Isene** on 14 Jan 2010, 5:00 a.m.,*
in response to message #9 by Garth Wilson

Nice. Thanks for this. It's exactly what I was looking for.

Now that I am diving more into the HP-IL, I have the idea that the combo CCD OS/X + Paname would do most anything (except low level debugging as in the DEVIL rom). Paname has a bunch of the Ext IO type of functionality as well as the printer/plotter/video functions.

Re: HP-IL and the EXT-IL-PLUS

*Message #11 Posted by **Christoph KLug** on 16 Jan 2010, 9:43 a.m.,*
in response to message #10 by Geir Isene

Dear HP-41 & HP-IL enthusiasts..

A lot of helpfully commands and routines for controlling HP-IL with HP-41 handhelcomputer for real

world interface applications, you find in my two books HP41 Input/Output Board & IL2000 Interface System.

Beside the IL-Module the EXT-I/O module has a key function. And of course the CCD-Module. And the best extension for this advanced module configuration is the EXT-IL-PLUS module - which is described in detail in my book, mentioned above.

If you are interested to get the EXT-IL-PLUS please contact me...

Best regtards - Christoph Klug

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48sx compared to 50g

*Message #1 Posted by **Hiawatha Wheelwright** on 12 Jan 2010, 5:10 p.m.*

I have an HP-48sx and I'm considering upgrading to the 50g - how similar or different are they? All that that guy at HP support told me was that "everything you can do on a 48 you can do on a 50" but he really didn't get into specifics.

Re: 48sx compared to 50g

*Message #2 Posted by **Norman Dziedzic** on 12 Jan 2010, 5:28 p.m.,*
in response to message #1 by Hiawatha Wheelwright

You might try this: http://www.hpcalc.org/hp49/docs/misc/49vs48.zip

It is for the 48gx vs. 49g but pretty close to what you want.

Re: 48sx compared to 50g

*Message #3 Posted by **Dave Britten** on 12 Jan 2010, 8:11 p.m.,*
in response to message #1 by Hiawatha Wheelwright

Yeah, the 50g can do anything the 48SX can do, but I find that the 50g is much more cumbersome to use. The keyboard and menu layouts are a huge step backward compared to the 48. For example, MTH, PRG, and CST are all shifted keys on the 50g. Ugh! It's also a bit fiddly about working with the HP infrared printer, though most folks probably won't care about that detail.

I own both a 48SX and a 50g (among numerous others), and it's the 48SX that I keep on my desk at work. You don't have to take my word for it, though - download Debug4x and play around with the included 50g emulator a bit to get a feel for it. It does have some very nice added functionality compared to a 48, but for me, it's not worth the huge usability sacrifices.

Re: 48sx compared to 50g

*Message #4 Posted by **Dave Boyd** on 13 Jan 2010, 2:25 a.m.,*
in response to message #3 by Dave Britten

> Quote:
>
> The keyboard and menu layouts are a huge step backward compared to the 48. For example, MTH, PRG, and CST are all shifted keys on the 50g. Ugh!

True enough, at least as it comes from the factory, but please note that the USER keyboard can be anything you like... and if you use Prof. Dr. Rautenburg's lovely KEYMAN (and perhaps TOPKEYS as well), the sky's the limit. It allows both "long-hold" and "double-press" actions in addition to the usual no-shift, shift, and shift-hold modifiers, and allows all the shifted combinations with them as well, so one key can do a couple of dozen different things instead of just six or seven-- which leads to a different set of usability

issues if these capabilities are over-used, naturally. These libraries are not specific to the 50g, but are also available for the 48GX.

Re: 48sx compared to 50g

*Message #5 Posted by **Dave Britten** on 13 Jan 2010, 8:51 a.m.,*
in response to message #4 by Dave Boyd

> Quote:
>
> True enough, at least as it comes from the factory, but please note that the USER keyboard can be anything you like... and if you use Prof. Dr. Rautenburg's lovely KEYMAN (and perhaps TOPKEYS as well), the sky's the limit. It allows both "long-hold" and "double-press" actions in addition to the usual no-shift, shift, and shift-hold modifiers, and allows all the shifted combinations with them as well, so one key can do a couple of dozen different things instead of just six or seven-- which leads to a different set of usability issues if these capabilities are over-used, naturally. These libraries are not specific to the 50g, but are also available for the 48GX.

Yes, that does work, but it leads to another non-optimal situation. If you use the user keys to group a set of related functionality that's used somewhat infrequently, you're out of luck. In my case, I've got some custom menus, user keys, and a custom Enter that speed up number base work. Being forced to leave the user keys on to remedy the very poor standard keyboard layout would prevent me from having this number-base-oriented keyboard layout ready when I need it. Either that or I'd be stuck with it full-time, which isn't really a workable option.

On a related note, I think adding the shift-and-hold key mappings was a bad idea. Anybody that's tried to go backward multiple pages in a menu on the 50g will know what I'm talking about. (Shift+Prev is actually Last Menu, so you have to keep alternately pressing and releasing the shift key, then the Prev key, or else you'll end up somewhere else entirely.) Plus some of the shifted functions on the number keys open up soft-key menus, but some open up choose boxes. And of those that open choose boxes, a select few will open soft-key menus if you do shift-and-hold. There's no real rhyme or reason to it, either.

And speaking of menus, why are there so many duplicates that differ just enough to be confusing? Try this on a 50g: hit Left-Shift, MTH, then pick HYP. Page through the menu with NXT, and notice it has the 6 hyperbolic trig functions, plus EXPM (e^x - 1) and LNP1 (ln(x + 1)). All well and good. Now hit Right-Shift, TRIG (on the 8 key), then pick HYP again. Once again, here are the 6 hyperbolic trig functions, but in a different order. Then hit NXT and notice this version of the menu doesn't have the two logarithmic functions! Now hit SYMB, then pick the TRIG menu. It's COMPLETELY different from the TRIG menu you get from Right-Shift, 8.

There are plenty of other examples of poorly thought-out menus. For instance, the SYMB key also has menus for CALC and ALG. These are, of course, completely different from the shifted CALC and ALG menus on the 4 key. Left-Shift, MATRICES (the 5 key) is quite different from MTH, MATRX, and MTH, CMPLX bears almost nothing in common with Right-Shift, CMPLX (the 1 key).

All in all, it makes for a very frustrating experience when you have to remember which of several subtly different versions of the same menu has the function(s) you're looking for. The 48 designers had the right idea - put the (mostly) numeric stuff under MTH, the symbolic manipulation functions under ALGEBRA/SYMBOLIC, low-level stuff in PRG, and give a couple more menus for stats, time, units, plotting, etc. In my opinion, if the 48SX had an un-shifted "clear stack" key like the 48GX, it would be perfect. (Let's just say I'm not fond of the 48GX having EDIT/VISIT and PURGE on adjacent same-

shifted keys. I've fat-fingered it a couple times with LASTARG disabled...)

Re: 48sx compared to 50g

*Message #6 Posted by **cyrille de Brébisson** on 13 Jan 2010, 7:10 p.m.,*
in response to message #3 by Dave Britten

hello,

take a 50g, enable real mode, RPN mode, diable pull down menus (flag -117) and you have something that will behave prety much exactly like a 48SX, but much much faster, and with a larger screen and more memory...

you can always move keys that you use a lot on top of the keybaord with user key assignement....

regards, cyrille

Re: 48sx compared to 50g

*Message #7 Posted by **Richard Reed** on 14 Jan 2010, 2:25 p.m.,*
in response to message #6 by cyrille de Brébisson

> Quote:
>
> you can always move keys that you use a lot on top of the keybaord with user key assignement....
>
> regards, cyrille

The main key to move is the ENTER key, which I found difficult, since ENTER is an operation and can't be explicitly assigned to a key. I think I've done it by assigning the silly 'X' key in the center to an empty command, counting the stack in a variable and checking the stack pre- and post-, executing DUP as appropriate and then fixing the stack.

Richard

Re: 48sx compared to 50g

*Message #8 Posted by **Vieira, Luiz C. (Brazil)** on 12 Jan 2010, 9:08 p.m.,*
in response to message #1 by Hiawatha Wheelwright

Hi;

I´d go for:

- USB comm port
- upgradable O.S.
- up to 2GBytes RAM (SD card)
- programming enhancements (somethings you can do with the 50G that cannot be done with the 48S)
- the 50G is way faster!

I experienced having to adapt some programs that ran O.K. in the 48SX and failed in the HP50G, mostly due to lists handling. Not that functionality was removed, in fact it was 'corrected'. A couple of functions (cannot remember now, should research to find) return a different number of elements to the stack in both the HP48S

(48G and 49G as well) and the 50G. After the programs failed in thee 50G, I executed them with debug and then I realized that the HP50G did not need to detect a particular circumstance in lists handling because it maintained coherence with empty lists, while the 48G returned something different.

The programs dealt with fuzzy logic and were first written for the HP48S, but I needed some features in the 48G. Then they were ported to the HP49G (more memory), and later they failed to work with the HP50G. After being rewritten they worked fine and a lot faster.

Cheers.

Luiz (Brazil)

Edited: 12 Jan 2010, 9:09 p.m.

Re: 48sx compared to 50g

*Message #9 Posted by **Bart (UK)** on 13 Jan 2010, 4:39 a.m.,*
in response to message #8 by Vieira, Luiz C. (Brazil)

> Quote:
>
> I´d go for:
>
> - USB comm port
> - upgradable O.S.
> - up to 2GBytes RAM (SD card)
> - programming enhancements (somethings you can do with the 50G that cannot be done with the 48S)
> - the 50G is way faster!

To that I'd add - better (bigger & clearer) screen

The keyboard takes some getting used to, the moved ENTER key being the most irritating one. Otherwise it's quite a good and capable machine.

Re: 48sx compared to 50g

*Message #10 Posted by **Egan Ford** on 13 Jan 2010, 10:43 a.m.,*
in response to message #9 by Bart (UK)

> Quote:
>
> To that I'd add - better (bigger & clearer) screen

To that I'd add:

1. The 50g can be easily replaced if lost or broken.
2. The 50g can be programmed in C (if you are into that type of thing). (http://sense.net/~egan/hpgcc/)

If you are running Windows then download and install Debug4x and give it a try. If OS/X or Linux then try x49gp (http://x49gp.svn.sourceforge.net/viewvc/x49gp/README.QUICKSTART).

Re: 48sx compared to 50g

*Message #11 Posted by **Martin Pinckney** on 13 Jan 2010, 11:29 a.m.,*
in response to message #10 by Egan Ford

> Quote:
>
> - The 50g can be easily replaced if lost or broken.

Just to keep things in perspective, usually there are 10 or so 48sx's listed on eB** at any given time. I checked recent completed auctions, and found the average final selling price to be about $60. Some of these are near mint calculators, some have some wear but include accessories.

The 50g regularly sells for $150 new, but can sometimes be found for less than $100 "like new" on eB**.

The 48gx usually commands higher prices, but the OP specifically mentioned the SX for comparison.

My point is the the 48sx can also be easily replaced, so IMO the more significant comparisons are feature set, speed, and build quality.

Re: 48sx compared to 50g

*Message #12 Posted by **Bart (UK)** on 13 Jan 2010, 12:34 p.m.,*
in response to message #11 by Martin Pinckney

> Quote:
>
> Just to keep things in perspective, usually there are 10 or so 48sx's listed on eB** at any given time. I checked recent completed auctions, and found the average final selling price to be about $60. Some of these are near mint calculators, some have some wear but include accessories.

IMHO this is in part due to the success of the 50G. Prior to the 50G, and in particular at the time of the bad rubber key 49G, I saw 48SX/GX selling for over $200 IIRC.

Re: 48sx compared to 50g

*Message #13 Posted by **Bill Platt** on 13 Jan 2010, 1:23 p.m.,*
in response to message #12 by Bart (UK)

What I remember was 48GX going over $200 and even $300 for a short time, while 48G maybe $100, and 48SX $20 or $30 up to $60. Similarly, you could pick up 28C for $15 and a 28S for $25.

Re: 48sx compared to 50g

*Message #14 Posted by **Pal G.** on 13 Jan 2010, 2:20 p.m.,*
in response to message #12 by Bart (UK)

For the record, near the end of last year I bought one 48G for $34 including shipping, and another 48G for $41, including shipping. They are both in great shape, and twice as fast as my 48SX. (Incidentally, the 48Gs are a bit faster than the 48GX).

I do like my 50G, but I think I like the 48Gs a bit more.. label organization, keyboard buffer, the fact you can lay it on a desk and type, etc..

Cheers.

Re: 48sx compared to 50g

*Message #15 Posted by **Ed Look** on 13 Jan 2010, 11:36 p.m.,*
in response to message #14 by Pal G.

Initially, I had gotten a 49g+ to replace my 48G and 48G+, since I found that despite the joy of using the 48G/G+ machines, they were on the fragile side. I did find, as some did, that the 49G+ was more cumbersome to use... but only at the start. Once you get used to it, it becomes as enjoyable as the 48G series units. Yeah, I might still enjoy using my 48G/G+ units slightly more, but that's like me still preferring my (now not really functional) 34C over the 32SII, 33s, and 35s- I believe this is based more on sentiment.

Then I got a 50g and it seems to be a noticeable improvement over the 49g+: it seems more solid and sturdy, as the 49g+ seemed to me only slightly less fragile than any of the 48 series calculators; there was the inclusion of an improved SD card capability; and apparently, more speed, particularly when it came to searching the SD card.

I tend to like the 50g more over the 48G or G+.

(Now if someone with the requisite skills would port over the Trek48 game to the 50g/49g+...)

Re: 48sx compared to 50g

*Message #16 Posted by **Egan Ford** on 14 Jan 2010, 10:29 a.m.,*
in response to message #11 by Martin Pinckney

Sure, but the 50g is still easier to replace. You can have a 50g same day or next day from several sources, e.g. I can drive to my local university bookstore and have a 50g in hand in less than 30 minutes. There is no guarantee that a working 48-anything will be on eBay exactly when you need it.

And lets not forget the memory card that many existing SX/GX owners require--not as easy to replace.

Re: 48sx compared to 50g

*Message #17 Posted by **Patrick Rendulic** on 14 Jan 2010, 1:06 a.m.,*
in response to message #1 by Hiawatha Wheelwright

In comparision to the 48SX the 50G surely is an improvement.

BUT there ARE features on the 48SX or the 48GX who have been badly implemented in the 50G. The haptics on the 50G are not so good. And what bothers me most is the keyboard layout, menu system, etc. . Even after 6 months of 50G use I still don't feel at home and it is always a pleasure to do something on the 48.

Re: 48sx compared to 50g

*Message #18 Posted by **Bart (UK)** on 14 Jan 2010, 5:24 a.m.,*
in response to message #17 by Patrick Rendulic

As a compromise, get the 48G/GX/G+. Quite affordable on auction sites now (I got a mint condition 48GX for ~£30). They have libraries built-in that the 48SX had as optional plug-in RAM. The 48G+ has the same on-board RAM as the 48GX. All have IR and RS232. I don't see much use for X-pandability as the cards tend to cost more than the calculator. I like the 48G/GX/G+ features over the 48S/SX but prefer the colour scheme of the S/SX. Of course the 50G has much more built-in. And upgradable ROM. And easy to interface with current PCs (both SD card and USB), making it easy to back up your programmes and data or install updated/modified libraries, user cummunity developed features (e.g. C or Lua programming), etc.

Re: 48sx compared to 50g

*Message #19 Posted by **megarat** on 14 Jan 2010, 2:17 p.m.,*
in response to message #1 by Hiawatha Wheelwright

For my own data point, I owned both the 48SX and the 49G+ (admittedly not the 50G; I got the 49G+ for ~US$50 when the 50G came out), and I just couldn't engender any joy for the 49G+. I agree that it's too cumbersome, and I would also add that w/r/t size, it's huge, feeling like a small textbook in my hands, and it's also not so miserly with battery use (which was I feature I adored with the 48SX).

I should admit that my calculator needs aren't that great, however, so it was probably a losing proposition for the 49G+ from the start. After a reasonable effort, I ended up selling it for the US$50 that I purchased it for, and kept using the 48SX at work.

Eventually I did end up selling the 48SX, because I came to regard it as overkill for my own calculator needs, and longed for the sleek simplicity (especially with storing values into registers) of my 15c. But I still have a big warm heart for the 48SX, and I regard it as their last great calculator.

Edited: 14 Jan 2010, 2:19 p.m.

Re: 48sx compared to 50g

*Message #20 Posted by **Marcus von Cube, Germany** on 14 Jan 2010, 4:41 p.m.,*
in response to message #19 by megarat

Why didn't you keep your RPL machines just for the fun of it?

Re: 48sx compared to 50g

*Message #21 Posted by **megarat** on 14 Jan 2010, 8:23 p.m.,*
in response to message #20 by Marcus von Cube, Germany

> Quote:
>
> Why didn't you keep your RPL machines just for the fun of it?

Yeah, I know ... I do (mildly) regret getting rid of the HP 48sx, but:

I wasn't using it professionally; I was devoting my spare time to other hobbies; and lastly, I always have this compulsion to try to find "proper homes" (whatever they may be) for items of mine that aren't being used appreciably. Something that's designed to be used, when it just sits on a shelf or in a drawer, it feels like waste. Maybe I've watched "Toy Story" too many times.

I do wistfully check out the 48sx scene on eBay from time to time, however.

EDIT: Oh, and if I get rid of something I'm not using, it allows me to free up that money for something new.

Edited: 14 Jan 2010, 8:24 p.m.

Re: 48sx compared to 50g

*Message #22 Posted by **fabrice** on 18 Jan 2010, 3:40 a.m.,*
in response to message #21 by megarat

I own : HP48SX hp48GX HP48G+ HP49G HP49G+ HP50.

i think HP50 is BAD calculator :

1- the general quality is bad, bad plastic. 2- i don't like the design. 3- the keyboard does't works correctly. 4- the screen protection are smooth plastic. 5- the weight is too low. 6- the screen as too poor resolution.

in my opinion (only MY opinion) HP50 is like a toy, it's a low cost calculator, hp decided to produce a new calculator for a very low cost for THEM and an big price for US.

Seriously, i continue to work with my 48gx. If hp decide to produce a new calculator in HIGH QUALITY i will return to HP but from now i've seen that TI NSPIRE calculator is made in a good quality, good case, nice design, good plastic, big screen, 16 grayscale lcd, correct price and probably assembly language programming in 1 or 2 month. So i LOVE HP CALCULATOR but if they don't produce quickly a NEW GOOD QUALITY CALCATOR i'm going to TI calculator.

Here, my colleague think like me.

the only good thing of this calculator is the speed.

Fabrice

Re: 48sx compared to 50g

*Message #23 Posted by **Don Shepherd** on 18 Jan 2010, 4:20 a.m.,*
in response to message #22 by fabrice

Everyone is certainly entitled to his/her opinion. There are lots of folks on this forum who love the 50. I am not a fan of RPL, but I respect it's power and admire those who use it productively to solve problems. And I admire HP as well for continuing to produce programmable calculators that are second to none. The 30b is the latest example.

The TI NSpire was designed for students, not engineers. It has lots of features, but the tiny keys and lack of good screen contrast would be a major turn-off to many people. And the onboard programming language--TI Basic--is crippled by lack of any command to provide input during the running of a program (presumably, to prevent students from playing games during math class). I don't know of any engineer who would seriously consider the NSpire as his/her working calculator.

Re: 48sx compared to 50g

*Message #24 Posted by **Mike Morrow** on 18 Jan 2010, 12:35 p.m.,*
in response to message #22 by fabrice

It was alleged of the HP50G:

1. "quality is bad, bad plastic"? You evidently have never used the TI-89. The HP50G is

mechanically an adequately sturdy device.
2. "don't like the design"? That's not too descriptive. It's like saying "I don't like the weather we had in the 1990s."
3. "keyboard doesn't work"? I've somehow missed this extreme defect for the three years that I've had a HP50G.
4. "screen protection are smooth plastic"? Your HP48GX LCD has absolutely NO protection at all. Try dropping something on the screen, even something light from a low height. A permanent mark will likely remain. The HP50G has far superior LCD protection.
5. "weight is too low"? What advantage is a heavy handheld? In fact, there's not much difference in a 48 (with three AA-cells) and a 50G (with four AA-cells).
6. "screen as too poor resolution"? The HP50G LCD is a tremendous advance in clarity, and some advance in resolution, compared the extremely poor contrast slow LCDs of most 48-series units.

Then, "big price for US"? Check the prices of competing products. The HP50G is very inexpensively priced for its capability (currently about $125 from Amazon). It's always less expensive than the TI-89 Titanium. I have one HP48SX and two HP48GX machines, with various memory cards, all purchased as new equipment 15 to 20 years ago. The HP50G provides a tremendous value in capability compared to the 48-series.

Plus:
1. Have you noticed the distictions and advantages of HP50G inexpensive SD memory card capability versus the bulky, bizarre, proprietary, hard to use, poorly-powered and backed up, low-capacity, extremely expensive "Epsom-type" memory cards of the HP48-series?
2. Have you noticed that you can't upgrade the firmware in your 48GX?
3. Have you noticed that the HP48GX provides no debugging or development tools such as are standard on the 50G?
4. Have you noticed that you can't apply external power to the 48-series?

My personal opinion: The HP50G is, *all* particulars examined, without any doubt the best handheld calculator ever made by HP, or by anyone else. Of course, the HP50G is not nearly perfect, nor is it the best in a number of specific areas. It's just simply the best *OVERALL*.

I have used HP calculators since the original HP-35 was released in 1972. I have more than 30 in my collection that I purchased for professional use when they were current production, between 1976 and 2009.

My three 48-series machines now collect dust...I'm just not willing to revert to using devices that are inferior to the similarly-sized HP50G.

Edited: 18 Jan 2010, 1:03 p.m.

Re: 48sx compared to 50g

*Message #25 Posted by **Ángel Martin** on 18 Jan 2010, 2:43 p.m.,*
in response to message #24 by Mike Morrow

Amen! I'm running to the shop to purchase mine... wait a minute, I can't program in RPL... but it can't be worse than 41 MCODE, or can it?

Re: 48sx compared to 50g

*Message #26 Posted by **Egan Ford** on 18 Jan 2010, 3:57 p.m.,*
in response to message #25 by Ángel Martin

If RPL is too highlevel for you then consider SysRPL. Still too highlevel? Then go for Saturn or ARM assembly. All of the above can be done on-board.

As for easier than 41 M-CODE. Well it depends on how easy M-CODE is for you. :-)

Re: 48sx compared to 50g

*Message #27 Posted by **Mike Morrow** on 19 Jan 2010, 8:07 a.m.,*
in response to message #25 by Ángel Martin

> Quote:
>
> I can't program in RPL.

I'm not a big fan of RPL either, powerful though it is.

That's one of many reasons that the HP42S remains at the top of my list, with the HP50G, both for differing reasons.

It's too bad there couldn't have been both an RPL and an RPN programming environment on the HP50G. I miss my GTO statements!

Re: 48sx compared to 50g

*Message #28 Posted by **Jeff O.** on 19 Jan 2010, 2:09 p.m.,*
in response to message #27 by Mike Morrow

> Quote:
>
> It's too bad there couldn't have been both an RPL and an RPN programming environment on the HP50G.

Hi Mike,
Yes, it would have been nice if 50g's Operating Mode menu item had the following choices:
RPN
RPL
Algebraic*

Where RPN meant a classic RPN environment with a fixed stack height and the 41C/42S programming paradigm. RPL would mean the standard RPL environment which the current (somewhat mis-labelled) “RPN” mode choice activates. Another setting for stack height would be activated in RPN mode.

With the above said, although I am no expert (so all experts please pardon any stupid statements regarding the operation of the 50g), I think there several ways that an RPN programming environment could be had on the 50g:
1. buy hrastprogrammer’s 41X or 42X emulators for the 50g.
2. write your own 50g application in RPL to create an RPN environment
3. write your own 50g application in C to create an RPN environment
4. write your own whole new rom for the 50g to create an RPN calculator that could do anything you wanted, probably.

* - I have no need for the Algebraic choice, but I won't require that they get rid of it :-)

Re: 48sx compared to 50g

*Message #29 Posted by **Egan Ford** on 20 Jan 2010, 10:45 a.m.,*
in response to message #28 by Jeff O.

> Quote:
>
> 1. buy hrastprogrammer's 41X or 42X emulators for the 50g.

Or use the free 41E version documented here: http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=802

> Quote:
>
> 3. write your own 50g application in C to create an RPN environment

I started down this path twice. The first was to port Free42 to the 50g, but its too large. The 2nd was a native RPN that used the 50g key assignments as-is. I'll probably never finish the 2nd. Hugh's Reckon may be the ticket.

Re: 48sx compared to 50g

*Message #30 Posted by **Nacho** on 18 Jan 2010, 4:43 p.m.,*
in response to message #24 by Mike Morrow

> Quote:
>
> It was alleged of the HP50G:
>
> 1. "quality is bad, bad plastic"? You evidently have never used the TI-89. The HP50G is mechanically an adequately sturdy device.
> 2. "don't like the design"? That's not too descriptive. It's like saying "I don't like the weather we had in the 1990s."
> 3. "keyboard doesn't work"? I've somehow missed this extreme defect for the three years that I've had a HP50G.
> 4. "screen protection are smooth plastic"? Your HP48GX LCD has absolutely NO protection at all. Try dropping something on the screen, even something light from a low height. A permanent mark will likely remain. The HP50G has far superior LCD protection.
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>
> Then, "big price for US"? Check the prices of competing products. The HP50G is very inexpensively priced for its capability (currently about $125 from Amazon). It's always less expensive than the TI-89 Titanium. I have one HP48SX and two HP48GX machines, with various memory cards, all purchased as new equipment 15 to 20 years ago. The HP50G provides a tremendous value in capability compared to the 48-series.

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My three 48-series machines now collect dust...I'm just not willing to revert to using devices that are inferior to the similarly-sized HP50G.

Try a >2001 48GX with black LCD and SpeedUI it will make you change point of view ;)

In terms of hard/soft I must agree but please make them (48 and 50)work outside in bad conditions and a 48 with 15years is far more reliable than a new 50.

Some users make more importance to build quality than hard/soft capabilities...

Regards,

Nacho T

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OT: Dennis (db) - Your bid is welcome!

*Message #1 Posted by **Joerg Woerner** on 12 Jan 2010, 1:28 p.m.*

Dennis,

I browsed some days ago your wonderful collection of non-HP RPN calculators and noticed that you feature only one product from Texas Instruments. I agree that the RPN module for the TI-59 was just a marketing gag but - don't underrate Texas Instruments.

We all remember the TI-88 and still speculate why it failed. Within few years TI bounced back and introduced some really interesting products. You remember the TI-78 and the TI-81?

Between these two calculators and the mind-boggling PLT SHH1 another TI project kept under the radar screen!

What I learned so far: It is based on Far Eastern technology and was tested probably only on the European market. A fellow collector in Hungary offered me recently an untouched product and I couldn't resist! I am not sure how this rare calculator made it over the iron curtain but it finally is back!

Dennis, Wall Street ruined the economy - I have to sell this unbelievable piece of Texas Instruments history on our favorite auction site. I can't think about a better place than your home for it.

LINK to your auction. Your bid is welcome.

Regards, Joerg

Re: OT: Dennis (db) - Your bid is welcome!

*Message #2 Posted by **db (martinez, ca.)** on 12 Jan 2010, 10:43 p.m.,*
in response to message #1 by Joerg Woerner

Joerg;

I do have an RPN module for the 59. I guess i should take a photo of it and post it on my hillbilly RPN site, but since i never got into playing with it; about all i would be able to write is "here's a link to Datamath for a real description". I've done that a couple of places, like your good write up of the Corvus 500 technonlgy and Mostek history page here. I never thought the TI rpn rom was a "marketing gag". I may be wrong but i saw it as a service to their customers (and an attempt to sell TIs) by letting you folks over there on the dark side use all those HP 67 users library programs.

About the Disney calculator: That's real truth in advertising. IMHO, i think that every calculator with an equals key should have Mickey Mouse embossed on it!

I hope you've been enjoying your balmy weather up there. I think that we are about to enjoy a series of warm-but-wet storms out here - the kind that makes me glad i'm near the top of the hill and etched into bedrock.

Re: OT: Dennis (db) - Your bid is welcome!

*Message #3 Posted by **Joerg Woerner** on 13 Jan 2010, 10:36 a.m.,*
in response to message #2 by db (martinez, ca.)

Dennis,

Hope you get some of our ice and snow mix ;-))

Would force you to stay at home and play with the RPN module...

Stay tuned.

Cheers, Joerg

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ICEBOX version 1H released

*Message #1 Posted by **Geir Isene** on 12 Jan 2010, 11:14 a.m.*

It's released on the ICEBOX page.

This is the rom to have if you own a NoV-32 or NoV-64. To sum up:

The functions N100, N101, N102, N200, N201, N202 and N103 allows for fast switching between the various ROM and RAM blocks in the NoV modules (N102, N103, N202 and N203 is for the NoV-64). These functions can be assigned to keys to make it lightning fast to switch blocks. Switching the RAM blocks are instant (the last digit) while switching ROM blocks (the first digit) requires the calc to be powered off and back on to effectuate the switch.

The function NX writes the content of X into address 4100 (the address that holds the NoV-32/64 config).

The function N? shows the current config (the content of address 4100)

NBS (NoV Block Switch) makes it easy to switch to a new config and restore Main Memory to a file named "N" in the new RAM block in one function. NBS is a prompting function that only accepts input in the ranges 000-003, 100-103 and 200-203. An input outside these ranges results in "DATA ERROR". If the file "N" or the function HGETA are not found, a "NONEXISTENCE" is displayed. If you switch the ROM block (first of the three digits prompted for), the message "CALC OFF" is briefly displayed to remind you that you need to turn the calc off and on to complete the ROM block switch.

SAVEN saves Main Memory to a file called "N" in the current HEPAX RAM block.

GETN restores Main Memory from the file "N" in the current HEPAX RAM block.

And there are lots of other function suitable for various purposes. The user manual is your friend :-)

Re: ICEBOX version 1H released

*Message #2 Posted by **Diego Diaz** on 13 Jan 2010, 2:14 a.m.,*
in response to message #1 by Geir Isene

Hi all,

Just a note to NoV-32 and NoV-64 users:

To gain full functionality of "NSG" (see here) a modified version of the NoV code is required:

Please mail me or Geir's in order to get the updated file.

NoV-32 modifications will be ready in short.

As soon as I get both files modified an update notice will be published at http://www.clonix.org

Oh! ...and Geir: Thanks for this great piece of software. :-)

Cheers.

Diego.

Re: ICEBOX version 1H released

*Message #3 Posted by **Geir Isene** on 13 Jan 2010, 5:33 a.m.,*
in response to message #2 by Diego Diaz

You are welcome.

The function earlier known as "NSG" became "NBS" just before the release (same function, different name).

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A tribute to Diego Diaz and Ángel Martin

*Message #1 Posted by **Geir Isene** on 12 Jan 2010, 10:52 a.m.*

Not to forget a lot of other brilliant contributors on this forum and elsewhere, but I would like especially thank Diego Diaz and Ángel Martin for their excellent work.

The combination of a hardware wizard and MCODE guru has made it possible for me to have renewed joy in my old hobby. Oh, I just love Mcoding :-)

Thanks guys and please continue. I wish I had your skills.

Re: A tribute to Diego Diaz and Ángel Martin

*Message #2 Posted by **Ángel Martin** on 12 Jan 2010, 11:39 a.m.,*
in response to message #1 by Geir Isene

Thanks for the praise Geir (I'm blushing), but I'm far from being a MCODE guru! There are others out there with the real skills, I'm just sort of persistent (read: stubburn) and not afraid to try (and try, and try... :-)

And congrats to you as well - it's a small comunity but sure enough it's a great one.

Best, ÁM

Edited: 12 Jan 2010, 11:41 a.m.

Re: A tribute to Diego Diaz and Ángel Martin

*Message #3 Posted by **Geir Isene** on 12 Jan 2010, 11:47 a.m.,*
in response to message #2 by Ángel Martin

You are being modest ;-)

The documentation you provide for your projects have taught me much MCODE.

Re: A tribute to Diego Diaz and Ángel Martin

*Message #4 Posted by **Diego Diaz** on 13 Jan 2010, 1:42 a.m.,*
in response to message #1 by Geir Isene

Hi Geir, Ángel,

Thanks so much for your kind words. I sincerely take Ángel's and will add:

Try... and fail, and re-try... and re-fail... and so on... ;-)

However, IMHO, the key is enjoying the process.

Keep up the good job.

Diego.

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OT but topical: Youtube and Maths

*Message #1 Posted by **bill platt** on 11 Jan 2010, 10:46 p.m.*

http://www.youtube.com/v/BipvGD-LCjU&hl=en_US&fs=1&

Edited: 11 Jan 2010, 10:46 p.m.

Re: OT but topical: Youtube and Maths

*Message #2 Posted by **Ángel Martin** on 12 Jan 2010, 3:10 a.m.,*
in response to message #1 by bill platt

so funny and clever, thanks for the link :)

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30b programming environment

*Message #1 Posted by **Don Shepherd** on 11 Jan 2010, 5:27 p.m.*

OK, the 30b is out and will probably be available in a couple of months. While it is a financial calculator, it is programmable, like the 12c. It certainly has more capability than the 12c, but there are some things for an RPN programmer to watch out for. Here are a few of its features:

1. Programming commands are printed on a plastic overlay that may be placed over the top four rows of keys. These commands are entered by holding down the shift key while pressing the corresponding key, and they are only effective in program edit mode while entering your code (except R/S, of course, which has its usual meaning in run mode).
2. Any of ten user programs can be assigned to any key--shifted, unshifted, or shift+hold (with a couple of exceptions). This gives you a lot of flexibility in running your programs.
3. Subroutines - Call/Return, big improvement over the 12c.
4. Text prompts, another big improvement over the 12c.
5. Solver. Not programmable, but you actually write a small program to use it.
6. Conditionals, 6 of them. This will take some getting used to for the RPN programmer, because they don't work like other RPN programmable calculators. ?< means y<x here, not x<y. You'll have to be careful when adapting code from other calcs to the 30b. These tests don't use the traditional "do if true" rule; they use GotoT and GotoF based upon the condition code set by the conditional statement and placed on the stack. GotoT and GotoF pop the condition code off the stack before transferring.
7. Indirect addressing of 100 registers (shared with stats and cash flow). R0 = index, accessed via RCL DATA and STO DATA (or RCL/STO Cashfl).
8. Ten regular registers, 0-9. STO/RCL arithmetic with all 10, 290 bytes total program space, but STO 1 takes 2 bytes and STO + 1 takes 3 bytes.
9. You can step-execute your code one line at a time while debugging, and you can goto a label while editing.
10. SIN/COS/TAN for you engineers.
11. The ARM is FAST!!

Re: 30b programming environment

*Message #2 Posted by **hugh steers** on 11 Jan 2010, 6:45 p.m.,*
in response to message #1 by Don Shepherd

Hi Don,

Yes indeed. I'm currently working on a few 30b sample programs to illustrate the programming capabilities for an article in HPCC Datafile.

Although the program capability is described as "macros", the machine is nevertheless quite capable as a programmable device.

As you've mentioned, the ace in the pack is the raw speed of the machine and the availability of scientific functions. so i'm hoping to come up with some examples for the 30b that simply are not feasible for other HP models.

I do think this machine represents capability that's been lacking for some time, and i'm very pleased to see it. the 35s got reception but, for me, this model is superior.

happy programming!

Re: 30b programming environment

*Message #3 Posted by **Don Shepherd** on 11 Jan 2010, 7:55 p.m.,*
in response to message #2 by hugh steers

> Quote:
>
> Although the program capability is described as "macros", the machine is nevertheless quite capable as a programmable device.

I agree, Hugh, it is. The prime factor example Gene listed demonstrates that, and it is fast.

Here is what the programming overlay looks like. Top quality all the way, they did a great job.

Re: 30b programming environment

*Message #4 Posted by **Dave Britten** on 11 Jan 2010, 7:10 p.m.,*
in response to message #1 by Don Shepherd

> Quote:
>
> Conditionals, 6 of them. This will take some getting used to for the RPN programmer, because they don't work like other RPN programmable calculators. ?< means y<x here, not x<y. You'll have to be careful when adapting code from other calcs to the 30b. These tests don't use the traditional "do if true" rule; they use GotoT and GotoF based upon the condition code set by the conditional statement and placed on the stack. GotoT and GotoF pop the condition code off the stack before transferring.

Ooh, I like. This is actually more like how the RPL machines behave.

I was a little worried when I read the marketing brochure talking about "macros", but it looks like this will be just as programmable as any other machine. I'll be getting one for sure.

Now I wonder if they'll do a scientific on this 'Neo-Pioneer' architecture...

Re: 30b programming environment

*Message #5 Posted by **Katie Wasserman** on 11 Jan 2010, 7:12 p.m.,*
in response to message #1 by Don Shepherd

Don,

Good list!

Let me add a bit....

0. It's not pure RPN, so that you need to Enter a number to get it onto the stack, same as you would for RPL. For example: 3 Enter x multiples whatever was previously in X by 3, or you could simply do: 3 x, but to get 3 squared you'd need: 3 Enter Enter x.

8. ..... Other commands like: Lbl, GTO, GF, GT, Call, Disp take two byes. Effectively the calculator allows for about 150-200 program lines.

-Katie

Re: 30b programming environment

*Message #6 Posted by **Katie Wasserman** on 11 Jan 2010, 11:14 p.m.,*
in response to message #5 by Katie Wasserman

Here's the N-Queens benchmark for the 30b. Run time is about 11 seconds for this totally non-optimized program when running in Prog slot 0. See Pascal's Benchmarks for many other examples

```
RCL Mode -- get the mode pseudo register
STO 9    -- and save it for later restoration
3
0
0
STO Mode -- set 0 RPN mode and 0 decimal places
8
STO 1    -- 8x8 board
0
STO 2    -- X value in grid
STO 3    -- number of solutions counter
STO 4    -- Y value in grid
Lbl 00
RCL 2
RCL 1
?=
GT 04   -- go if done
1
STO + 2
RCL 2
STO 0    -- set the X index into the Data array
RCL 1
STO Data -- store N in Data[X}
Lbl 01
1
STO + 3
RCL 2
STO 4
Lbl 02
1
STO - 4
RCL 4
GF 00
RCL 4
STO 0
RCL Data -- Data[Y]
RCL 2
STO 0
Rv (roll down)
RCL Data -- Data[X]
-
Input (i.e., Enter)
GF 03
Math
Down
Down
Down
=       -- this is ABS (yuk)
RCL 2
RCL 4
-
-
GT 02
Lbl 03
RCL 2
STO 0
RCL Data
1
-
STO Data -- Data[X]-1 --> Data[X]
GT 01
1
```

```
STO - 2
Gto 03
Lbl 04
RCL 9
STO Mode -- restore the original mode
RCL 3
Stop
```

120 bytes 246 checksum

-Katie

Edited: 11 Jan 2010, 11:15 p.m.

Re: 30b programming environment

*Message #7 Posted by **Xerxes** on 12 Jan 2010, 4:56 p.m.,*
in response to message #6 by Katie Wasserman

Hi Katie, I've added your result to the list.
Thank you for your effort.

11 seconds for the N-queens benchmark is incredible!

*Message #8 Posted by **Gene Wright** on 12 Jan 2010, 5:08 p.m.,*
in response to message #7 by Xerxes

From the articles list, the ONLY HP calculators that do this benchmark faster are:

the HP 48GX, 49g, 49g+, 50g in various C or compiled code

and

The HP 200lx in various setups.

Can anyone tell that I'm impressed? Lol.

Re: 11 seconds for the N-queens benchmark is incredible!

*Message #9 Posted by **Massimo Gnerucci (Italy)** on 12 Jan 2010, 5:23 p.m.,*
in response to message #8 by Gene Wright

```
You seem to forget the 41...


11.0       HP-41CX          Assembly / NUT @ 0.35 MHz.
Greetings,
Massimo
```

Re: 11 seconds for the N-queens benchmark is incredible!

*Message #10 Posted by **Gene Wright** on 12 Jan 2010, 5:53 p.m.,*
in response to message #9 by Massimo Gnerucci (Italy)

Ah, I said "faster" :-) Not "as fast". I saw the incredible timing using assembly on my favorite machine. Sadly, I can't program it myself in assembly. ;-)

And, I also saw the 12c+ time of about 23 seconds. I'd be shocked if the time could be cut in half.

The 30b CERTAINLY seems to be the fastest HP calculator on this test when programmed in normal user code.

Re: 11 seconds for the N-queens benchmark is incredible!

*Message #11 Posted by **Massimo Gnerucci (Italy)** on 12 Jan 2010, 5:58 p.m.,*
in response to message #10 by Gene Wright

Sure! But that's on a 355 KHz CPU in a 30+ y.o. architecture... ;-)

Greetings,
Massimo

Re: 11 seconds for the N-queens benchmark is incredible!

*Message #12 Posted by **Xerxes** on 12 Jan 2010, 5:44 p.m.,*
in response to message #8 by Gene Wright

The HP-12C+ is actually listed with ~23 seconds. Probably the 12C+ is even faster than the 30B with a small modification of the test code.

Re: 11 seconds for the N-queens benchmark is incredible!

*Message #13 Posted by **Katie Wasserman** on 12 Jan 2010, 6:11 p.m.,*
in response to message #12 by Xerxes

Actually, I tried that modification and it's still 23 seconds. I was really trying to imitate the benchmarks program you listed not optimize them. I could speed up the 12C+ a little as well as the 30b with reprogramming.

There are a lot more options as to how to program this on the 30b so I'm sure it will beat the 12C+ for this benchmark and many others, but not everything. For example, sequential access to the cash flow registers are much faster on the 12C+ because of the auto increment/decrement of the register pointer and the time needed for branches is much more consistent and potentially a lot faster on the 12C+ depending on how the code is arranged on the 30b.

They are both extremely fast calculators.

-Katie

Edited: 12 Jan 2010, 6:21 p.m.

Re: 11 seconds for the N-queens benchmark is incredible!

*Message #14 Posted by **Xerxes** on 12 Jan 2010, 6:58 p.m.,*
in response to message #13 by Katie Wasserman

The same speed of the modified code is surprising. Thanks for the verification.

Re: 30b programming environment

*Message #15 Posted by **cyrille de Brébisson** on 13 Jan 2010, 7:04 p.m.,*
in response to message #6 by Katie Wasserman

hello,

a trick, to run it faster... set the calculator in test-system mode and then set the slow clock to 25000. then redo your test... I am sure that we can smoke more calcualtors this way...

cyrille

Re: 30b programming environment

*Message #16 Posted by **Katie Wasserman** on 13 Jan 2010, 9:29 p.m.,*
in response to message #15 by cyrille de Brébisson

This speed gain is pretty modest a bit more than 1 second faster but the cost in battery life if you forget to take the system out of test mode is very large. I don't recommend using test mode -- unless there's some really good stuff in there that we don't know about yet!

-Katie

Edited: 13 Jan 2010, 9:29 p.m.

Re: 30b programming environment

*Message #17 Posted by **Eddie W. Shore** on 12 Jan 2010, 9:43 a.m.,*
in response to message #5 by Katie Wasserman

Then the 30b has effectively twice the memory of an 12c (Non-platinum).

Regarding the new GT and GF commands, I do not recall seeing them on the 50g. If they wanted the programming to be closer to RPL, couldn't HP just have IF-THEN-ELSE-END structures?

In any case, the 30b is going to be my birthday present. :)

Edited: 12 Jan 2010, 9:45 a.m.

Re: 30b programming environment

*Message #18 Posted by **Tim Wessman** on 12 Jan 2010, 9:52 a.m.,*
in response to message #17 by Eddie W. Shore

I think the best explanation I've seen regarding 20/30b operation comes from Gene(?) that they are an RPL machine with a 4 level stack. Programming was really designed to be able to use the solver and to pull your commonly used commands onto keys. Of course, everyone wasn't happy with just that so. . .

TW

Re: 30b programming environment

*Message #19 Posted by **Gene Wright** on 12 Jan 2010, 10:07 a.m.,*
in response to message #18 by Tim Wessman

Key thought: Always remember that this is essentially a macro capability with lots of nice programming features added in. That allows you to do some amazing things...

700 digits of PI computed VERY fast. N-queens problem solved faster than ANY other HP except the 50g and 200lx. Wow. Prime factor program, base 2-10 conversion program, lunar lander program, number guessing program, etc.

But, you will run out of space with only 290 bytes available. Trade offs.

Hopefully, the verdict will be that these trade offs work. I believe those who have used it already would answer: "YES".

It is a fun machine to use. Very nice financial features. Programmable in a much more useful way than the 12c.

Edited: 14 Jan 2010, 4:32 p.m. after one or more responses were posted

Re: 30b programming environment

*Message #20 Posted by **Don Shepherd** on 12 Jan 2010, 12:57 p.m.,*
in response to message #19 by Gene Wright

Gene's right. But, frankly, what would be the appeal if all it could do was record keystrokes and play them back? That's boring, and it limits you to financial functions only (yes, I know it's a financial calculator, but I can ignore all those financial keys and assign cool programs to them anyhow!). The beauty of the way it turned out is that you can do what YOU want it to do, whether that's something financial, number theory, games, or just experiment around and have some fun. You couldn't do that with a macro program only.

And yes, I am VERY happy with the way it turned out. It can be whatever you want it to be, limited only by your imagination (and 290 bytes!).

Don

Re: 30b programming environment

*Message #21 Posted by **Thomas Radtke** on 12 Jan 2010, 9:58 a.m.,*
in response to message #17 by Eddie W. Shore

> Quote:
>
> If they wanted the programming to be closer to RPL, couldn't HP just have IF-THEN-ELSE-END structures?

How to access all the keywords in an acceptable way? The LCD is not much of help here.

I like structured languages, even OO, when I have a keyboard and some space for a backup ;-).

Re: 30b programming environment

*Message #22 Posted by **David Hayden** on 12 Jan 2010, 6:52 a.m.,*
in response to message #1 by Don Shepherd

A good keyboard, native ARM code, keyboard overlays, it sounds like HP is really heading in the right direction here.

If/when they do a scientific calculator like this, I just hope that they add more programming space and a USB interface. 32k of programming space isn't useful if you have to enter the programs by hand.

Nice job HP!

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HP9830A

*Message #1 Posted by **Dylan Watkins** on 11 Jan 2010, 10:54 a.m.*

I have sort of inherited an old calculator. Now 42, when I was 6 or 7 my brother an I used to play moon landing on it. My father also attempted to teach us BASIC. My dad put it in the back of his garage when he bought his first Mac and it has sat there ever since under its cover. Is there a market for this sort of thing? I have the 9866B printer also. I haven't as yet stumbled across any cassettes or cables. Have an HP45 calculator as well.

Re: HP9830A

*Message #2 Posted by **DavidShenk** on 11 Jan 2010, 1:27 p.m.,*
in response to message #1 by Dylan Watkins

Hi Dylan,

Yes, there are people interested in those old calculators. However, I think a little less so than hp's smaller calculators because of their size and expense shipping them around. If it is something you'd like to sell, I would try putting up a free classified here at the museum to see who would be interested. It would be helpful to plug it in and test it out some first, then post with the details of what works, included accessories, etc. Even if it isn't working, the parts could be important to fix another machine.

I don't think they come up for sale very often, even on the large auction site, but can go for several hundred dollars if in working condition.

Dave

Re: HP9830A

*Message #3 Posted by **Tony Duell** on 12 Jan 2010, 5:03 a.m.,*
in response to message #1 by Dylan Watkins

I would strongly advise against just plugging it it to see if it works. If the power supply has failed in storage (and it can happen), you could wipe out every IC in the machine.

It is fairly easy to test the power supply first (you need a voltmeter and a screwdriver, nothing more) which will at least protect against that problem.

The desktop machines are much more repairable than the handhelds. In general any HP9830 can be got going again, the chips are still fairly easy to find, and there's nothing custom in there other than the ROMs. However, tracing the fault can be difficult, this is probably not a machine that can be fixed by somebody with no knowledge of electronics. However, I can give it a go :-)

The HP9830 is one of my favourite machines, it is in many ways one of the first personal computers.

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HP-35s: Better in ALG mode?

*Message #1 Posted by **Silvio A. Bensi** on 11 Jan 2010, 10:46 a.m.*

As other people here, I have been frequently experienced wrong calculations with my 35s. In order to find out if there is a hardware problem, I tried the following test: 1 ENTER 2 + 3 + ... 9 + I tried to type it as faster as I can and the calculator failed about 9 in 10 (Note: My 50g never failed in this test). Then I changed do ALG mode and typed as fast as before: 1+2+...9 The unit passed the test all the times.

I also observed that the calculator execute 253! faster in ALG mode. Forgive me the experts, but is it possible that an algebric calculator software have been adapted to work in RPN?

Sílvio A. Bensi

Re: HP-35s: Better in ALG mode?

*Message #2 Posted by **Martin Pinckney** on 11 Jan 2010, 11:05 a.m.,*
in response to message #1 by Silvio A. Bensi

> Quote:
>
> ... is it possible that an algebraic calculator software have been adapted to work in RPN?

Interesting question, which perhaps suggests some more. Because most of us, I believe, have assumed that the 35s ROM is based on modifying the 32s/32sii code, which was definitely RPN, not algebraic.

Re: HP-35s: Better in ALG mode?

*Message #3 Posted by **Tim Wessman** on 11 Jan 2010, 11:36 a.m.,*
in response to message #2 by Martin Pinckney

The code that was lost who knows how long ago?

TW

Re: HP-35s: Better in ALG mode?

*Message #4 Posted by **Martin Pinckney** on 11 Jan 2010, 2:02 p.m.,*
in response to message #3 by Tim Wessman

Tim,

Are you saying HP had to reverse-engineer their own code?

Re: HP-35s: Better in ALG mode?

*Message #5 Posted by **Gene Wright** on 11 Jan 2010, 2:25 p.m.,*
in response to message #4 by Martin Pinckney

Well, I believe the 35s uses a different processor than the earlier 32s or 32s2, so they had two choices: Emulation, which I don't believe was done, or write something new.

Re: HP-35s: Better in ALG mode?

*Message #6 Posted by **Martin Pinckney** on 11 Jan 2010, 2:43 p.m.,*
in response to message #5 by Gene Wright

> Quote:
>
> ...or write something new.

Which begs the question: why, then, duplicate the base functionality (with enhancements, of course) of the earlier machines? Why not give us something better? (The Solver comes to mind).

Re: HP-35s: Better in ALG mode?

*Message #7 Posted by **Gene Wright** on 11 Jan 2010, 3:02 p.m.,*
in response to message #6 by Martin Pinckney

The 35s **does** have a solver, just not the 17b2 style.

Whether or if there will be a 42s style machine ever again has been debated and discussed more than once. No need to go there again. Really. :-)

Re: HP-35s: Better in ALG mode?

*Message #8 Posted by **Martin Pinckney** on 12 Jan 2010, 9:20 a.m.,*
in response to message #7 by Gene Wright

> Quote:
>
> The 35s **does** have a solver, just not the 17b2 style.

Yes, of course I know it has a solver. You've made my point, though. The 17b/27s style solver is so superior to the 32sii style, if you are re-implementing the code, why give us the old inferior solver? Especially with all that memory, the named variables feature could really take off.

Re: HP-35s: Better in ALG mode?

*Message #9 Posted by **Eddie W. Shore** on 12 Jan 2010, 9:50 a.m.,*
in response to message #8 by Martin Pinckney

Agree. I like the 17b solver - especially with the Let, Get, Sum, and If commands avaiable for use.

While on the 17b, just go the Silver 17bII+ a few days ago - (a) love the look and (b) keyboard is superior to the Gold 17bII+.

Re: HP-35s: Better in ALG mode?

*Message #10 Posted by **Thomas Radtke** on 11 Jan 2010, 5:48 p.m.,*
in response to message #6 by Martin Pinckney

> Quote:
>
> Which begs the question: why, then, duplicate the base functionality (with enhancements, of course) of the earlier machines? Why not give us something better? (The Solver comes to mind).

Enhancing something that has been accepted by many users is not a bad idea. It's about getting some continued return for the time invested in 'learning' a calculator. No need to learn a completely new concept.

I think this is what HP did right. From 28C to 50G, from 34C to 35s, or even 18C to 17BII+ we saw some proven concepts developing.

No clue why the 42S concept hasn't been considered for a rebirth yet.

Anyway, the large bug list keeps the 35s in beta state ... since 2007.

Re: HP-35s: Better in ALG mode?

*Message #11 Posted by **DaveJ** on 11 Jan 2010, 6:49 p.m.,*
in response to message #10 by Thomas Radtke

> Quote:
>
> Enhancing something that has been accepted by many users is not a bad idea. It's about getting some continued return for the time invested in 'learning' a calculator. No need to learn a completely new concept.
>
> I think this is what HP did right. From 28C to 50G, from 34C to 35s, or even 18C to 17BII+ we saw some proven concepts developing.
>
> No clue why the 42S concept hasn't been considered for a rebirth yet.

The same reason for most products, it's a matter of development effort vs (perceived) potential market.

A 42S style machine would require a LOT of development effort, for what market exactly?

The 35S has the exam market, the 50G and others cover the educational graphics calc market.

A new 42S would satisfy the fanboys and maybe a small niche here or there, but meet no other real market need in today's environment.

Dave.

Re: HP-35s: Better in ALG mode?

*Message #12 Posted by **Don Shepherd** on 11 Jan 2010, 9:02 p.m.,*
in response to message #11 by DaveJ

Quote:

the 50G and others cover the educational graphics calc market.

Listening to posters on this forum, the 50g is used in the professional engineering market. It has no presence at all in the educational market, which is owned by TI.

Re: HP-35s: Better in ALG mode?

*Message #13 Posted by **DaveJ** on 11 Jan 2010, 9:30 p.m.,*
in response to message #12 by Don Shepherd

Quote:

Listening to posters on this forum, the 50g is used in the professional engineering market. It has no presence at all in the educational market, which is owned by TI.

By educational market I of course also mean university engineering courses. The number of people who buy graphics calcs outside of school/university for use in the professional market is a small percentage compared to sales for use in educational institutions. This "professional" market is what a 42S calc would be aimed at, which is not very big in the scheme of things.

TI have around 80% of the market for graphic calcs I believe, with HP the second biggest, that's still a big market for HP. HP might even have a bigger market share than TI if you are talking about the professional engineering education sector. That's why HP concentrate on education and finance, they are the two big markets, the rest is dregs.

Dave.

Edited: 11 Jan 2010, 9:32 p.m.

Re: HP-35s: Better in ALG mode?

*Message #14 Posted by **bill platt** on 11 Jan 2010, 10:35 p.m.,*
in response to message #13 by DaveJ

I am surprised that Casio and Sharp aren't considered in your guesses of graphing calc market share. I think the Europeans like those brands more than US and yet I even see some Casios at the Wallyworld. (I don't have a clue about calculator preference down under....)

Re: HP-35s: Better in ALG mode?

*Message #15 Posted by **DaveJ** on 11 Jan 2010, 10:57 p.m.,*
in response to message #14 by bill platt

Quote:

I am surprised that Casio and Sharp aren't considered in your guesses of graphing calc market share. I think the Europeans like those brands more than US and yet I even see some

> Casios at the Wallyworld. (I don't have a clue about calculator preference down under....)

I think that 80% figure I've heard might actually only be the non-university educational market (which is the biggest educational segment by far), and that would be US only too (HP's main market?). Casio are of course huge outside the US. Sharp I don't rate as much of a major player, certainly forth on the list.

Regardless of the figures the point is the same, a 42S remake would not really be a hit in any educational sector, and it won't be finance of course, so that leaves it up the creek without a proverbial paddle as far as HP marketing are concerned. Which is why you haven't and won't see a new 42S from HP. But if it makes the fanboys feel any better, I've heard a rumor the release is imminent!

Down under sales hardly rank on any pie chart I suspect, but in any case I'd guess Casio and TI would battle it out.

Dave.

Edited: 11 Jan 2010, 11:12 p.m.

Re: HP-35s: Better in ALG mode?

*Message #16 Posted by **Don Shepherd** on 12 Jan 2010, 4:16 a.m.,*
in response to message #15 by DaveJ

Dave, I agree about the HP-42 not being resurrected. TI does not have 80% of the graphing calculator market in the non-university educational area in the US; it has 100%. I think you could count the number of HP calculators used in the US public schools on one hand.

Re: HP-35s: Better in ALG mode?

*Message #17 Posted by **Thomas Radtke** on 12 Jan 2010, 2:11 a.m.,*
in response to message #14 by bill platt

> Quote:
>
> I think the Europeans like those brands more than US [...]

HPs are quite expensive over here, so it's probably just a matter of money.

Casio & Sharp (Was Re: HP-35s: Better in ALG mode?)

*Message #18 Posted by **Bart (UK)** on 12 Jan 2010, 5:33 a.m.,*
in response to message #14 by bill platt

> Quote:
>
> I am surprised that Casio and Sharp aren't considered in your guesses of graphing calc market share.

I have the Casio CFX-9850G and Sharp EL-9900. Go for HP! Even my 28S is better (apart from screen size).

Neither can do C(335,167) (I don't know whether the current 9850GC+ can), and the Casio can do eg. C(90,7) but the Sharp can only handle n or r <= 69 (we can guess what they implemented) - and this is Sharp's current top offering. This is frustrating for me as I use programs requiring n or r > 100 (but results are < 1E99). I have to add my own routine, but this slows execution down of course. At least the Sharp gives an answer fot LN(-2) and LOG(-2) in complex mode. I prefer it's interface and programming style to the Casio.

Fortunately I bought these just to play with. For serious stuff, stick with HP!

Edited: 12 Jan 2010, 5:52 a.m.

Re: Casio & Sharp (Was Re: HP-35s: Better in ALG mode?)

*Message #19 Posted by **Katie Wasserman** on 12 Jan 2010, 6:38 p.m.,*
in response to message #18 by Bart (UK)

The Casio fx-9860g can do C(335,167), at least in the latest firmware. It's a very capable calculator for real and imaginary numbers and matrix manipulation. However, it has no symbolic math capability nor bignum processing and limited RAM (64K). The back-lit display is awesome -- I've never seen a better display on any calculator -- the keyboard kind of stinks, but is typical for many non-HP-click calculators.

I think it's a serious calculator.

-Katie

Re: Casio & Sharp (Was Re: HP-35s: Better in ALG mode?)

*Message #20 Posted by **Bart (UK)** on 13 Jan 2010, 5:00 a.m.,*
in response to message #19 by Katie Wasserman

Hi Katie,

Thanks for confirming that. I've been looking at the fx-9860gII and it seems a powerful machine, unfortunately it is not yet available here in the UK. The fx-9860g is available in the Slim version, but I'd rather get the GII.

-Bart

Re: HP-35s: Better in ALG mode?

*Message #21 Posted by **DaveJ** on 11 Jan 2010, 4:29 p.m.,*
in response to message #5 by Gene Wright

Quote:

> Well, I believe the 35s uses a different processor than the earlier 32s or 32s2, so they had two choices: Emulation, which I don't believe was done, or write something new.

I was of the understanding that Kinpo wrote the code for the 35S?

Dave.

Re: HP-35s: Better in ALG mode?

*Message #22 Posted by **Gene Wright** on 11 Jan 2010, 4:32 p.m.,*
in response to message #21 by DaveJ

Even that would be something new written.

Edited: 11 Jan 2010, 4:43 p.m.

Re: HP-35s: Better in ALG mode?

*Message #23 Posted by **David Hayden** on 11 Jan 2010, 5:51 p.m.,*
in response to message #5 by Gene Wright

Quote:

> Well, I believe the 35s uses a different processor than the earlier 32s or 32s2, so they had two choices: Emulation, which I don't believe was done, or write something new.

Without the source code, it would be very difficult to add the 35s features to the 32s code, whether it was emulated or not.\

Re: HP-35s: Better in ALG mode?

*Message #24 Posted by **Dave Britten** on 11 Jan 2010, 4:38 p.m.,*
in response to message #4 by Martin Pinckney

Quote:

> Tim,
>
> Are you saying HP had to reverse-engineer their own code?

If I'm not mistaken, that was precisely the situation with the 12c Platinum.

HP-35s: Origin of source code?

*Message #25 Posted by **Karl Schneider** on 12 Jan 2010, 12:23 a.m.,*
in response to message #3 by Tim Wessman

Quote:

> Interesting question, which perhaps suggests some more. Because most of us, I believe, have assumed that the 35s ROM is based on modifying the 32s/32sii code, which was definitely RPN, not algebraic.
>
> ...
>
> - The code that was lost who knows how long ago?

Tim --

I find "lost" hard to believe. It seems to me that most of the HP-32SII code was directly ported to the HP-33s and its different microprocessor, introducing some math bugs. Some further changes were obviously made for the HP-35s (entry of base integers; input-buffer processing), but I'd expect that most of the corrected HP-33s code was carried over.

-- KS

Edited: 12 Jan 2010, 12:38 a.m.

Re: HP-35s: Origin of source code?

*Message #26 Posted by **Tim Wessman** on 12 Jan 2010, 1:09 a.m.,*
in response to message #25 by Karl Schneider

I am not certain as that was before my time, but I believe it was a complete reimplementation.

TW

Re: HP-35s: Origin of source code?

*Message #27 Posted by **Christoph Giesselink** on 12 Jan 2010, 6:20 a.m.,*
in response to message #26 by Tim Wessman

I'm mostly sure that's a reimplementation mostly written in C base on the source code of the 10BII, 17BII+, 33S, ...

Christoph

Re: HP-35s: Origin of source code?

*Message #28 Posted by **Ángel Martin** on 12 Jan 2010, 2:59 a.m.,*
in response to message #25 by Karl Schneider

What is lost, the code or the knowing what to do with it?

There are some aspects of cost-cutting and expense reduction that are only apparent with time, and one ot them is how the companies gradually lose the know-how and become more and more dependent on subcontractors. There's no going back after a while, not even if it were a market and money to pay for it.

You'd frown at this but even the storage space (both physical and virtual) gets trimmed, and there it goes... the commented source code into the trash bin lost forever and ever... but that's not a problem since there was nobody left around who could make sense out of it anyway.

In my opinion, the chances to se a rebirth of the 42S are less than nill.

Re: HP-35s: Origin of source code?

*Message #29 Posted by **Reth** on 12 Jan 2010, 2:53 p.m.,*
in response to message #28 by Ángel Martin

> Quote:
>
> In my opinion, the chances to se a rebirth of the 42S are less than nill.

And why is that? What about using Thomas' brilliant Free42 on new hardware?

Re: HP-35s: Origin of source code?

*Message #30 Posted by **bill platt** on 12 Jan 2010, 3:39 p.m.,*
in response to message #29 by Reth

Perhaps that's part of the "problem."

If you want a 42, just buy an Ipod and off you go. Why should HP bother with making hardware for such a niche product?

On the other hand, interestingly, HP has itself released Ipod apps for the 12C and 12Cp. And they aren't cheap--$25 or so.

Re: HP-35s: Origin of source code?

*Message #31 Posted by **Mike Morrow** on 12 Jan 2010, 11:02 p.m.,*
in response to message #28 by Ángel Martin

> Quote:
>
> In my opinion, the chances to see a rebirth of the 42S are less than nil.

At least you don't feel the need throw in some pejorative, stupidly dismissive nonsense term like "hp42 fanboys" such as is popular elsewhere! :-)

I'd be satisfied with a simplified non-graphing RPN version of the HP50G that is the same size as a Pioneer! How's that??

Edited: 12 Jan 2010, 11:12 p.m.

Re: HP-35s: Origin of source code?

*Message #32 Posted by **Bart (UK)** on 13 Jan 2010, 5:02 a.m.,*
in response to message #31 by Mike Morrow

> Quote:
>
> I'd be satisfied with a simplified non-graphing RPN version of the HP50G that is the same size as a Pioneer!

I've felt that way about the 28S.

Re: HP-35s: Better in ALG mode?

*Message #33 Posted by **Norman Dziedzic** on 11 Jan 2010, 6:07 p.m.,*
in response to message #1 by Silvio A. Bensi

What you are seeing sort of makes sense to me. In ALG mode, the only key that really does something is ENTER. All of the other keys are simply used to append something to the string that the calculator is building at the time.

In RPN mode, almost every key is an operation, even numeric keys have to see if pressing them should lift the stack or append to the current x register. So there is probably syntax checking with every key press. But, they should have implemented a better key buffer in the RPN mode than exists now. Other problems can probably be attributed to this as well.

Not sure why the factorial is faster (I have tried it as well). But I also tried a comination nCr(2500,200) which seemed to run about the same speed on both...

Very Interesting

Re: HP-35s: Better in ALG mode?

*Message #34 Posted by **Ivan Nejgebauer** on 12 Jan 2010, 5:19 a.m.,*
in response to message #33 by Norman Dziedzic

> Quote:
>
> In ALG mode, the only key that really does something is ENTER. All of the other keys are simply used to append something to the string that the calculator is building at the time.

Quite plausible. Also, I suspect that people are not seeing dropped keystrokes in RPN mode on the 33s because it's quite a bit faster than the 35s, and it would require superhuman typing speed to trigger that behavior.

Re: HP-35s: Better in ALG mode?

*Message #35 Posted by **Patrick Rendulic** on 14 Jan 2010, 1:12 a.m.,*
in response to message #34 by Ivan Nejgebauer

Oh yes, the dropped keystrokes ... .

My 35s still drops them. For sure, because several times a year I retrieve it from my drawer to see whether it cured itself. Then after a minute or so, it disappears again.

I cannot use this piece of CRAP, because it would interfere with my work. That's why I still use the 32sii.

HP, when are you going to step selling those faulty units?

Re: HP-35s: Better in ALG mode?

*Message #36 Posted by **Norman Dziedzic** on 12 Jan 2010, 8:38 a.m.,*
in response to message #33 by Norman Dziedzic

Silvio,

I noticed that if I take the calculator out of the clamshell case and put it on a hard surface, that I get much

better results for your test.

I also did a multiplication test and it was almost 100% (Fill the stack with 2's and then hit multiply (X) 10 times. This was 100% when I was on the hard surface.

Maybe this is a combination of hardware/software messing things up here. The + key is way down in the corner. Maybe there is something mechanical not quite right?

Re: HP-35s: Better in ALG mode?

*Message #37 Posted by **Mohammed Hadi** on 12 Jan 2010, 1:06 p.m.,*
in response to message #36 by Norman Dziedzic

> Quote:
>
> Maybe this is a combination of hardware/software messing things up here. The + key is way down in the corner. Maybe there is something mechanical not quite right?

I can attest to that. I have two 35s samples and one of them has an incosistent audible and tactile response on the upper left part of the keyboard, especially the R/S key, which feels and sounds more like the stiffest of the four arrow keys. No operational side effects though (yet).

Re: HP-35s: Better in ALG mode?

*Message #38 Posted by **Sílvio A. Bensi** on 12 Jan 2010, 10:10 p.m.,*
in response to message #36 by Norman Dziedzic

Norman

I made other tests and I am convinced that it is a software matter, although I am sure that the keys sometimes (though rarely) fail. I tried again the sequencial multiplication test. With calculator in hands and pressing keys alternating both thumbs the machine failed 5 times in 5 in RPN mode and 0 in 5 in ALG mode. With calculator on a table and using only the index finger, the calculator failed 2 times in 5 in RPN mode and 0 in 5 in ALG mode. Under the same testing, the 50g never failed. I also experimented many sequences of multiplications with 3-digit ramdom numbers and then there was no significant difference between ALG and RPN mode. The machine failed just 1 or 2 times in 10, in both modes. Conclusion: I can not use 2 or 3 fingers to make calculations in RPN mode, specially when 1-digit numbers are involved :(

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HP 35s keyboard weirdness

*Message #1 Posted by **Hiawatha Wheelwright** on 10 Jan 2010, 10:30 p.m.*

I am a new owner of an HP-35s. I've skimmed over the list of known bugs, and believe I may have a bit more info on one of them.

There have been a handful of times when I have entered a calculation without looking at the screen, only to see a result that was egregiously large and obviously wrong. I assumed that this was the result of the known "dropped keystroke" bug, where occasional binary operations would be missed by the calculator.

But it just happened again and this time I saw what happened. I had entered a single digit, pressed +/- to change the sign, and then pressed the multiply key. The multiplication was not performed, and after a noticeable delay (maybe a bit less than one second) the digit "4" appeared next to the existing number.

ie

```
x-register display          keystroke
32                             2
2  (32 now in Y)              +/-
-2                             *
-24  (32 still in Y)
```

At this point, entering another digit bumped the -24 up into Y and the 32 into Z. Has anyone come across anything like this? Seems like very odd behaviour but I will certainly be keeping an eye open to see how this manifests again in the future. I am currently theorizing that the binary keys in the right column will under some circumstances be processed as the corresponding digit in the second column, but the fact that the next digit did a preceding push doesn't quite fit that. Almost as if the * got processed as a 4 followed by some sort of no-op.

Edited: 10 Jan 2010, 10:33 p.m.

Re: HP 35s keyboard weirdness

*Message #2 Posted by **Gene Wright** on 10 Jan 2010, 10:37 p.m.,*
in response to message #1 by Hiawatha Wheelwright

and thanks, Hiawatha for making the note on amazon.com, but the review you pointed out that came from datafile was put there my me. That's my amazon.com alias it was posted under. Just an FYI. ;-)

Re: HP 35s keyboard weirdness

*Message #3 Posted by **David Hayden** on 11 Jan 2010, 6:41 a.m.,*
in response to message #1 by Hiawatha Wheelwright

To track this down and make it reproducible, I'd try focusing on the delay. Does the 35s do garbage collection? Based on the tiny amount I know about it, I'd suspect not, but who knows.

Or maybe something wacky in the keyboard software.

Re: HP 35s keyboard weirdness

*Message #4 Posted by **John B. Smitherman** on 11 Jan 2010, 9:26 a.m.,*
in response to message #1 by Hiawatha Wheelwright

Hi Hiawatha. I believe that others have experienced erratic behavior from the 35s as discussed here:

this thread

I'm hoping that HP finds the resources to tweak the 35s someday.

Regards,

John

Re: HP 35s keyboard weirdness

*Message #5 Posted by **Eddie W. Shore** on 11 Jan 2010, 9:43 a.m.,*
in response to message #1 by Hiawatha Wheelwright

I followed the steps presented and I got the correct answer of -64. Was there a keystroke after the 32?

Re: HP 35s keyboard weirdness

*Message #6 Posted by **Hiawatha Wheelwright** on 12 Jan 2010, 12:12 a.m.,*
in response to message #5 by Eddie W. Shore

Just to add to the list: Today during a couple of calculations, I got some dropped digits. ie, I'd hit a numeral, get a keyclick, yet the digit didn't show up in the display. Second time would be fine.

Re: HP 35s keyboard weirdness

*Message #7 Posted by **Bart (UK)** on 12 Jan 2010, 5:02 a.m.,*
in response to message #6 by Hiawatha Wheelwright

That could be due to the lack of a keyboard buffer. However, I have not yet been able to reproduce the error you listed in the first post yet.

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Mysterious HP-19C power-on behavior

*Message #1 Posted by **Michael Meyer** on 10 Jan 2010, 9:43 p.m.*

I have two HP-19C's that have the exact same strange behavior. I've had trouble with the batteries on both, or so I thought. I will get them working, then a few days later, they don't turn on. I didn't realize until today that I didn't need to "fiddle around" with the battery packs. After a few minutes of removing them, adjusting the cells, etc., they would finally turn on.

Today, I just spent time turning the power switch on and off. After a few minutes, and some intermittent powering up, they both power up reliably.

Any idea what component has begun to fail in both? I assume it's a capacitor. Has anyone else had observed this strange behavior?

Re: Mysterious HP-19C power-on behavior

*Message #2 Posted by **Michael de Estrada** on 10 Jan 2010, 9:54 p.m.,*
in response to message #1 by Michael Meyer

Have you cleaned the power switch contacts?

Re: Mysterious HP-19C power-on behavior

*Message #3 Posted by **Michael Meyer** on 10 Jan 2010, 10:18 p.m.,*
in response to message #2 by Michael de Estrada

Once they're on, the switches seem quite reliable. I can sure try. The keyboards are heat-staked, so it could be a challenge...

Re: Mysterious HP-19C power-on behavior

*Message #4 Posted by **Michael de Estrada** on 10 Jan 2010, 11:34 p.m.,*
in response to message #3 by Michael Meyer

Oh, so it uses the same keyboard design as the Woodstocks? I've never opened mine, so I didn't know, and just asumed that the contacts could be accessed w/o tearing the keyboard apart. I have found similar behavior on other calcs with dirty power switch contacts. It's like a milli-volt drop test - the current eventually overcomes the high contact resistance and closes the circuit.

Re: Mysterious HP-19C power-on behavior

*Message #5 Posted by **Katie Wasserman** on 11 Jan 2010, 12:12 a.m.,*
in response to message #3 by Michael Meyer

I haven't taken my 19C's apart in a while (I have 2 also). But I think you might be able to drip a bit of DeoxIT into the switch contact area from the back of the heat-staked keypad. I've done this a few times with woodstocks that have the same problem and it's worked well.

-Katie

Re: Mysterious HP-19C power-on behavior

*Message #6 Posted by **Michael Meyer** on 11 Jan 2010, 1:11 a.m.,*
in response to message #5 by Katie Wasserman

Hi Katie! That's exactly what I did tonight. Both calcs are turning on fine now, as expected. I'll let you know their behaviors in a couple of days. The stuff seeps through to the front, so I'll have to repolish them also to get the switches looking right again.

Still showing same behavior!!!! Any other ideas?

*Message #7 Posted by **Michael Meyer** on 11 Jan 2010, 11:29 p.m.,*
in response to message #6 by Michael Meyer

Thanks Michael and Katie. Both calculators still show the exact same behavior... taking many attempts to finally turn on, then turning on flawlessly after that!!!!

Any other thoughts??

Re: Still showing same behavior!!!! Any other ideas?

*Message #8 Posted by **Michael de Estrada** on 11 Jan 2010, 11:57 p.m.,*
in response to message #7 by Michael Meyer

Do you have a regulated DC power supply you can connect directly to the battery contacts? I've gotten weird behavior with some of my battery packs that did not seem to make consistent contact. Worth a try. Also, is continuous memory being retained? I assume you are getting no display in either program or run mode. Finally, try placing the printer in manual mode before you switch it on. As soon as you switch it on, even though you get no display, hit PRX, and see if there is any printer activity.

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HP-35 and HP-80: Flashing display differences?

*Message #1 Posted by **Mark Henderson** on 10 Jan 2010, 4:40 p.m.*

The HP-80 has a (charming) behavior of flashing digits on the display briefly when calculating, for example, SQRTx, much like a programmable Classic while running a program. The HP-35 (and other Classics) don't do this for pre-programmed functions).

Since the HP-80 and HP-35 were basically the same electronics (HP-80 with more ROMs), does anyone know why the different behavior? Seems to me SQRTx (et al) would be implemented the same way on both?

Re: HP-35 and HP-80: Flashing display differences?

*Message #2 Posted by **tim m.** on 10 Jan 2010, 5:08 p.m.,*
in response to message #1 by Mark Henderson

I'm presuming that the ROM implementations are different in each calculator, resulting in the distinct behaviors.

-Tim

Re: HP-35 and HP-80: Flashing display differences?

*Message #3 Posted by **Mark Henderson** on 11 Jan 2010, 10:09 a.m.,*
in response to message #2 by tim m.

Certainly there are differences, I'm interested in why this behavior in the HP-80 (flashing the display) when it isn't present in other Classics, particularly it's closest neighbors (HP-35, HP-45).

Re: HP-35 and HP-80: Flashing display differences?

*Message #4 Posted by **Eric Smith** on 11 Jan 2010, 1:49 p.m.,*
in response to message #3 by Mark Henderson

As Tim said, the difference is in the ROM code. If you want to know *why* the ROM code is different, I suppose you'd have to track down the engineers that wrote it and ask them.

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MLDL2000 Manager software: new BETA version

*Message #1 Posted by **Meindert Kuipers** on 10 Jan 2010, 7:19 a.m.*

I have just published a new BETA version of the M2kM software. It can be downloaded from my website .

The disassembler is completely changed internally, and the listing allows for much more customization. Apart from the disassembler there are no other changes in M2kM (I hope). As this is still a BETA version, please give me you feedback about the disassembler. Be aware that the disassembler also works if you do not have an MLDL2000.

The one thing I have to add to the disassembler is full SDK41 compatible disassembly, that will be part of the final release.

Meindert

Re: MLDL2000 Manager software: new BETA version

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 10 Jan 2010, 8:07 a.m.,*
in response to message #1 by Meindert Kuipers

Thanks, Meindert;

will give it a try and let you know ASAP.

In time: many of the original X-Functions do not work in the MLDL2000 'emulation': ALENG works but ANUM, ATOX works but AROT... I have a complete Work/NoWork list, and I did not include the ones dealing with X-Memory, of course. Is it possible that Page #3 has some kind of hardware disabling in the HP41C/CV scheme? Or should some of the 'unreported' X-Memory areas exist and are used as scratch pad for these functions? Do you happen to know something about it?

Cheers.

Luiz (Brazil)

(so far, MLDL2018A is working flawlessly...)

Re: MLDL2000 Manager software: new BETA version

*Message #3 Posted by **Meindert Kuipers** on 10 Jan 2010, 8:41 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Luiz,

I suspect that this is due to the CX bankswitching, which is somewhat different from the external ports. The MLDL2000 switches the banks in pairs, so bank 2 and 3 are switched together, and 4 and 5. I would first try to fill all banks of a page with the same contents, and then try again, let me know if this works (or not) and what the offending functions are.

Meindert

Re: MLDL2000 Manager software: new BETA version

*Message #4 Posted by **Meindert Kuipers** on 10 Jan 2010, 12:15 p.m.,*
in response to message #3 by Meindert Kuipers

Luiz,

I have checked the pages for the HP41CX: Bank 2 of Page 3 (CX XFuncftions ROM) maps to Bank 2 of Page 5, and that is not done in the MLDL2000. Keep a copy of Page 5, Bank 2 also in Page 3, Bank2. My documentation states that bankswitching is not supported in pages <6, but looking at my code it should work in exactly the same way as the bankswitching in the higher ports.

Good luck with further testing!

Meindert

Edited: 10 Jan 2010, 12:17 p.m.

Re: MLDL2000 Manager software: new BETA version

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 10 Jan 2010, 3:06 p.m.,*
in response to message #4 by Meindert Kuipers

Hi, Meindert;

Sorry, I did not notice you wrote a complementary message! I read Monty´s follow-up and wrote him an answer. Based on what you observed, my conclusions were wrong and the problem seems easier to be solved. I will test your configuration and post results later

Imagine hacking the HP41 O.S... What about adding Angel´s complex features and HEPAX functionality altogether in the first pages, as part of the system? If the OS can be rewritten with the use of bank switching, chances are that it would fit in the first page alone. Well, if the guys who wrote the O.S. did not write it so, chances are that it is not actually a good idea, though.

So much for the dreaming, let me get back to my teacher activities (have not concluded the end-of-semester paperwork yet... It sucks big time!)

Cheers.

Luiz (Brazil)

Re: MLDL2000 Manager software: new BETA version

*Message #6 Posted by **Monte Dalrymple** on 10 Jan 2010, 12:05 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

It may have something to do with the fact the the C/CV mainframe
ROMs start searching for functions in Page 4, completely
ignoring Page 3?

Monte

Re: MLDL2000 Manager software: new BETA version

*Message #7 Posted by **Vieira, Luiz C. (Brazil)** on 10 Jan 2010, 2:50 p.m.,*
in response to message #6 by Monte Dalrymple

Hi, Monte;

once I loaded pages 0, 1 and 2 of the CX mainframe in a CV mainboard through MLDL2000, I considered that the O.S. reads page #3 as it addresses it through the system software. Fact is when I first used MLDL2000 (some years ago) I loaded page #3 of some CV units (coco- and halfnut) with some different ROM images. These ROM list their contents with CAT 2 (hence the system 'sees' it) but once you try to execute anything there you get NONEXISTENT.

When I loaded the CX ROM set (few weeks ago) in the MLDL2000 and powered a coconut CV without the ROM IC´s with it, it behaves accordingly, as a CX, except that the time functions return blank display and X-memory functions either return file-not-found errors, as expected, or no reaction at all (EMDIR, for example, always returns [124.0000] to the X-register and no message at all, like [DIR EMPTY]). Many features, like program size in CAT1, ROM headings in CAT 2 and the fully-operating CAT 6, were observed.

When I decided to test the extended functions that might work, the following ones did not work at all:

```
ANUM
AROT
CLKEYS
CLRGX    (CX only, right?)
GETKEY
PASN
PCPLPS
POSA
PSIZE
STOFLAG
X...NN   (none of these)
```

These ones worked fone:

```
ALENG
ATOX
SIZE?
RCLFLAG
REGMOVE
REGSWAP
X<>F
XTOA
SigmaREG?  (also a CX-only, and works!)
```

I could see no pattern that might connect each of the working (or the nonworking) functions with each other. The only thing I could think of is the use of RAM scratch area that was not there. You see, I never accepted too well the concept of X-Memory discontinuity as physical, I aways took it as existing RAM area for system scratch in some X-Function/Memory 'maneuvers'. I'd gladly accept any other concise explanation, though.

This is all I can remember now. I did not have the time to test the emulation in an actual CX mainboard this weekend, will do it in the days ahead. I am trying to repair a faulty one for ages (I actually have it waiting for an actual definitive go-nogo repair procedure), and will soon post about the results here.

Cheers.

Luiz (Brazil)

Edited: 10 Jan 2010, 2:57 p.m.

Re: MLDL2000 Manager software: new BETA version

*Message #8 Posted by **Monte Dalrymple** on 10 Jan 2010, 10:38 p.m.,*
in response to message #7 by Vieira, Luiz C. (Brazil)

Luiz,

As to your first question, the CAT function searches everything from Page 3 on, but the XEQ function starts at page 4 (C/CV). This is why a Page 3 function shows up but can't be executed.

I ran into this issue when writing functions for my new design and it took me a while, watching a trace, to figure out the problem. I ended up having to map my new functions into Page 7 at startup.

As far as the CX X functiuons, everything shows up in the CAT because the function entries are all in Page 3. However, most of the functions jump fairly quickly to an address in Page 5, after switching to Bank 2. So, if the bank switching isn't done correctly the code will end up in neverland. That's why most of your CX X functions aren't working. The ones that do work remain in Page 3. For proper operation, the bank select for Page 5 must be updated while executing in either Page 3 or Page 5, but only Page 5 actually has multiple banks.

The CAT function is only capable of searching Bank 1, and that is why it has to be done this way.

Hope that clarifies things,
MOnte

Re: MLDL2000 Manager software: new BETA version

*Message #9 Posted by **Meindert Kuipers** on 11 Jan 2010, 5:55 a.m.,*
in response to message #8 by Monte Dalrymple

Monte is totally correct here. Luiz, I do not expect the MLDL2000 to work in this configuration. Remember, it always switches the odd and even banks. That means that bank 2 of Page 2 must also have valid contents (system ROM 2) when ENBANK is executed in Page 3 as Page 2 will also be switched.

In the case of the 41CX, bank 5 is also switched when ENBANK is executed while in Page 3, and the MLDL2000 will fail to do this. New firmware is required to implement and it is not very difficult, but I have no time to do that this week (travelling again).

Meindert

Re: MLDL2000 Manager software: new BETA version

*Message #10 Posted by **Monte Dalrymple** on 12 Jan 2010, 10:34 p.m.,*
in response to message #8 by Monte Dalrymple

Luiz,

And I just noticed that the last CX OS code (Rev NFL) jumps directly into Page 3 in several spots. Clearly the authors needed more space than was available in Pages 0-2. This means that the CX X functions must be available in Page 3 or "bad things" will likely happen.

Monte

Re: MLDL2000 Manager software: new BETA version

*Message #11 Posted by **Ángel Martin** on 12 Jan 2010, 9:59 a.m.,*
in response to message #1 by Meindert Kuipers

Greetings Meindert - I just downloaded the newer code and will take it for a spin in a couple of days - feedback will come then.

Thanks for keeping the 41-flame on!

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48G keyboard weirdness

*Message #1 Posted by **Lincoln** on 8 Jan 2010, 5:50 p.m.*

Hi, Got a 48G on eBay recently. Worked fine for a little while, but now the enter key is flaky, and in a strange way. Sometimes it won't work at all, sometimes it works, and a lot of times it will work if I keep it pressed down for anywhere between 1 and 10 seconds. Unfortunately, most of the time that it works it will count as multiple presses, usually two.

Any hints?

Re: 48G keyboard weirdness

*Message #2 Posted by **Han** on 8 Jan 2010, 7:17 p.m.,*
in response to message #1 by Lincoln

Does pressing down on the bezel between the screen and the first row of menu keys help? If so, you may simply have an air-gap between the PCB and the keyboard connectors.

http://www.math.uiuc.edu/~handuong/hp48/repair/

Re: 48G keyboard weirdness

*Message #3 Posted by **Lincoln** on 8 Jan 2010, 7:44 p.m.,*
in response to message #2 by Han

I tried that and it doesn't seem to make any difference. It's the occasional delayed activation that confuses me.

Re: 48G keyboard weirdness

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 9 Jan 2010, 8:17 a.m.,*
in response to message #3 by Lincoln

Hi, Lincoln;

because the key has a 'motion irregularity', it seems to me it is a mechanical problem. The delayed activation may also be related to this as well.

Anyway, to remove any chance of software causes, can you save all of your data and clear calculator memory? You can also hardware reset the calculator by using the small hole in the back of it. Then you can try the key again and see what happens.

Not too much of a help, I know...

Success!

Luiz (Brazil)

Edited: 9 Jan 2010, 8:18 a.m.

Re: 48G keyboard weirdness

*Message #5 Posted by **reth** on 10 Jan 2010, 3:39 a.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

> Quote:
>
> ... it seems to me it is a mechanical problem.

which one should expect from a 20 years old calculator even though I've got 5 of them working perfectly so far.

Re: 48G keyboard weirdness

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 10 Jan 2010, 3:09 p.m.,*
in response to message #5 by reth

Hi;

I have a 48SX, two 48G+ and two HP49G. All working fine... What the f... do we know, ahn?

Cheers.

Luiz (Brazil)

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New 41Z Manual available at last

*Message #1 Posted by **Ángel Martin** on 8 Jan 2010, 11:34 a.m.*

Greetings to all, and best new year wishes.

The new 41Z manual is finally available. Should be posted at TOS in a few days, but I can mail it to you if you're in a a hurry.

Best, 'AM

Re: New 41Z Manual available at last

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 8 Jan 2010, 12:28 p.m.,*
in response to message #1 by Ángel Martin

Great! And thanks!

I confess I tried some of the new features but I was not completely concentrated on the task... I failed in many ways. Now I'll follow the correct way.

Thanks again, Geir.

Cheers.

Luiz (Brazil)

Edited: 8 Jan 2010, 12:29 p.m.

Re: New 41Z Manual available at last

*Message #3 Posted by **Egan Ford** on 8 Jan 2010, 1:25 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

> Quote:
>
> I confess I tried some of the new features but I was not completely concentrated on the task... I failed in many ways. Now I'll follow the correct way.

Me too.

Re: New 41Z Manual available at last

*Message #4 Posted by **Ángel Martin** on 8 Jan 2010, 1:48 p.m.,*
in response to message #3 by Egan Ford

so much for self-explamatory, intuitively obvious software... which is what I'd sworn it was :(

Let's hope it gets better with the manual, or else...

You've got mail.

Re: New 41Z Manual available at last

*Message #5 Posted by **Gene Wright** on 8 Jan 2010, 1:49 p.m.,*
in response to message #4 by Ángel Martin

I want mail too ;-)

Re: New 41Z Manual available at last

*Message #6 Posted by **Ángel Martin** on 9 Jan 2010, 3:55 a.m.,*
in response to message #5 by Gene Wright

Gene, let me know your email address and I'll send it over to you.

Re: New 41Z Manual available at last

*Message #7 Posted by **Vieira, Luiz C. (Brazil)** on 8 Jan 2010, 7:47 p.m.,*
in response to message #4 by Ángel Martin

> Quote:
>
> so much for self-explamatory, intuitively obvious software... which is what I'd sworn it was :(

Hi, Ángel;

I cannot help telling you that there is no such thing as 'intuitively obvious software'... After studying semiotics I got to the conclusion that everything is obvious once known. As you created the MMI (Man-Machine Interface), it is obvious for you, of course! And it will be for all of us... once we get to know it! 8^)

I remember struggling to understand ISG/DSE and flags for the first time in my life after buying an HP41 in the 80's. I was a regular engineering student in an university with only one computer to serve its own needs. We had to program in FORTRAN with punched cards and wait for about a week to have the results (or to see the list of errors) of our code. Suddenly I had an alphanumeric display (easy) with keystroke programming (easy), subroutines (easy), indirect addressing (easy) flags (what are those for?) and loop control through ISG and DSE (What?!!??).

Took me almost a week to figure the whole calculator out, with no help at all, just reading the manual (it was in English and I was not so proficient as I am today...). And I remember the HP survey about the learning curve:

```
How long did it take for you to master the HP41?
```

And the last option was

```
More than eight hours
```

I felt embarrassed with myself... Now I teach people how to use these features and how they work.

So please, do not blame yourself. Allow us to get in touch with your thoughts first by reading the manual. THEN... we´ll talk about this again 8^D

Cheers.

Luiz (Brazil)

Edited: 8 Jan 2010, 7:48 p.m.

Re: New 41Z Manual available at last

*Message #8 Posted by **Ángel Martin** on 9 Jan 2010, 3:54 a.m.,*
in response to message #7 by Vieira, Luiz C. (Brazil)

Hi Luiz, it's interesting how our computer education went paralell ways: I too suffered the FORTRAN punched-card days, and also learned the 41 from a second language (hard to recall now but sure it was).

The good news is that the 41Z doesn't add radical new concepts to the 41 OS, it just extends them (ok, I'll admit it stretches them a bit, perhaps) but following the same game rules (when applicable).

Once you read the complex stack section and get the knack of the complex keyboard it should be crystal clear (famous last words).

That said, go ahead and send the feedback back to me, criticism included - this is for all us to enjoy, no worries to hurt any feelings.

Best wishes, AM

Edited: 9 Jan 2010, 12:25 p.m. after one or more responses were posted

Re: New 41Z Manual available at last

*Message #9 Posted by **Vieira, Luiz C. (Brazil)** on 9 Jan 2010, 7:13 a.m.,*
in response to message #8 by Ángel Martin

Hi, Ángel;

I took a brief look at the manual just right now and, based on existing documentation you wrote, it is superb as expected. Together with the blueprints (available at T.O.S.), it is truly a 'never leave home without it' manual.

Thanks again, Ángel. I only hope to develop and share the ideas I have for a ROM the way you did ;)

Cheers.

Luiz (Brazil)

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HP-41 turn-on behavior

*Message #1 Posted by **Paolo Cipollone** on 8 Jan 2010, 6:01 a.m.*

Hi all,

my first post here, though I have been visiting the museum for years. I recently got a non-working 41 and, after dealing with the broken posts and zebra contacts issues, the calc is working like new. Anyhow now and then, after sitting unused for a while, the first press of the 'on' button will not wake up the machine. On a second attempt it will usually come up alive, and from then on every subsequent on/off cycle will perform flawlessly, even with very light pressure.

Any hint? Thanks, Paolo

Re: HP-41 turn-on behavior

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 8 Jan 2010, 12:31 p.m.,*
in response to message #1 by Paolo Cipollone

Ciao, Paolo;

can you identify which model you have? A CV or a CX, coconut or halfnut?

Thanks.

Luiz (Brazil)

Re: HP-41 turn-on behavior

*Message #3 Posted by **Paolo Cipollone** on 8 Jan 2010, 1:00 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Hi Luiz,

sorry for not clarifying. It is a fullnut 41CV.

Paolo

Re: HP-41 turn-on behavior

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 8 Jan 2010, 7:26 p.m.,*
in response to message #3 by Paolo Cipollone

Paolo;

the main reason I asked about the internal structure is that the fullnut (or coconut) may suffer from bad contact. The keyboard and LCD assembly are connected to the mainboard through a series of contacts provided by a zebra connector (I know of two different types) or a conductive polymer. In any case, if one of (or a group of) the contacts fail, the calculator does not turn on. In some cases, [MEMORY LOST] may occur.

If, at the first press of the [ON] key the 'supposed' faulty contact is established, then in the second press the calculator will turn on and will react to the [ON]-key pressing for as long as it happens briefly. If it rests for a while, chances are that the contact fails again.

These are just considerations based on the fact that the calculator is a fullnut and it has been serviced. I'd search for cracks in post or, mostly, in the receded area around the hole for the top, longer screws. This area cracks easily, and chances are that they really break if the screw is forced too much. I 'sense' the pressure over the case with my fingers, but it is a bit hard to explain. I'll add some pictures later and try to use words and images, maybe I'll succeed.

Not too much of help, but it seems to me it is not hard to repair.

Success!

Luiz (Brazil)

Re: HP-41 turn-on behavior

*Message #5 Posted by **Paolo Cipollone** on 9 Jan 2010, 4:59 a.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

Hi Luis,

and thanks a lot for your interest (and thanks to Bruce, too.) The zebra contact issue was solved in a 'definitive' way, that is with wires soldered between the keyboard and the mainboard, and that was done by a pro. I know this could be questionable by 'collector' standards :), but I feel the calc is way better than new right now, at least from that point of view. Bad contact could still be there in the part under the display, though. Anyway, there is no sign of malfunction even by (lightly) twisting the calc or pressing in different areas. Bruce was asking about programs etc., but no, often the symptom has arised after a 'on+backarrow' procedure. The one thing I didn't try yet is leaving the batteries out for enough time as to provoke a 'memory lost', a real cold restart. In what would this differ from an 'on+backarrow' sequence?

Again, thank you very much, Paolo

Re: HP-41 turn-on behavior

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 9 Jan 2010, 6:46 a.m.,*
in response to message #5 by Paolo Cipollone

Ciao, Paolo;

the 'system' memory loss depends on existing system regular operation. In some circumstances, [ON]/[backspace] is disregarded and the calculator does not clear its own memory.

I prefer the 'hardware' memory loss, because it gives you the closest factory condition. In terms of final memory contents (RAM), once you see [MEMORY LOST] I cannot think of any differences between both, though.

When needed, I open the calculator and short the terminals of the two 'big' electrolytic capacitors in the mainboard. I cannot tell you which one first, but I choose the bigger one first (IIRC, this is the one with the power line). A few days ago I found myself in one particular case: a halfnut simply locked itself inside its own and lost the keys... The display froze with [0.0000] with no visible cause and stayed like like this, no reaction.I removed the batteries for a while, put them back, turned the calculator back ON and nothing changed. I tried the [ON]/[backspace] and nothing. No response at all.

It worried me a lot because it was a halfnut, and they are not serviceable the way the coconuts are. Then I opened opened the calculator and shorted the only two electrolytic capacitors it has. Working fine after about a week or so.

I also have one HP41Cx (halfnut) that has a troubled [4] key. It fails to work when pressed by the first times, but once it starts working flawlessly it stays like this until the calculator rests for a while. Like if there is some kind of dirty stuff that moves away when pushed (a gel?) but gets back when left untouched. Does it exist or it is just my pride trying to solve a mystery? :^(

Hope this helps a little bit...

Luiz (Brazil)

Re: HP-41 turn-on behavior

*Message #7 Posted by **Paolo Cipollone** on 9 Jan 2010, 8:13 a.m.,*
in response to message #6 by Vieira, Luiz C. (Brazil)

Ciao Luiz,

seems like your '4' key has something resembling my 'on' key... Anyhow, I just took the batteries out of the 41. I'll wait till reinserting them produces a 'Memory lost' and let you know what happens after that.

Thanks, Paolo

Re: HP-41 turn-on behavior

*Message #8 Posted by **Vieira, Luiz C. (Brazil)** on 9 Jan 2010, 8:24 a.m.,*
in response to message #7 by Paolo Cipollone

Paolo;

wait for a few days, maybe a week, OK? The power consumption for the HP41 is so small that it takes a while till the capacitors go bellow the minimum operating voltage. That´s why I go straight discharging the capacitors...

Cheers.

Luiz (Brazil)

Re: HP-41 turn-on behavior

*Message #9 Posted by **Alberto Fenini** on 21 Jan 2010, 4:14 p.m.,*
in response to message #5 by Paolo Cipollone

ciao Paolo,Hi everybody,

what kind of wire did you use ?
I'm thinking about fixing mine in the same way.
Thx for help, Alberto

Re: HP-41 CX Card Reader

*Message #10 Posted by **Aldo Luis Molinari** on 2 Feb 2010, 10:55 a.m.,*
in response to message #9 by Alberto Fenini

Please, what I want to know where can I find a Card Reader for my HP 41CX. If you know, please tell me where can I buy one of it.- Another thing, what I need is how can I convert my programs in a languge like Visual Basic 6.0a of Microsoft or how may I pass to a PC these programs I have done yeras ago.-

Thank you for all.

Re: HP-41 CX Card Reader

*Message #11 Posted by **Philippe Lasnier** on 3 Feb 2010, 8:49 a.m.,*
in response to message #10 by Aldo Luis Molinari

Aldo,

The best source I know of most reliable card readers (HP-82104A) for HP-41C/CV/CX is from a guy called Richard Anthony, in the US. He repaired/serviced all my card readers, and they work brilliantly. He's on eBay with the id of 'plasmoid'. He doesn't always have a card reader on sale, but drop him a line with what you want (from an active eBay item), and he will most likely be able to procure it. Considering the quality, his prices are very reasonable.

Regards,

Philippe

Re: HP-41 CX Card Reader

*Message #12 Posted by **Aldo Luis Molinari** on 3 Feb 2010, 10:59 a.m.,*
in response to message #11 by Philippe Lasnier

Thanks a lot for your consideration and deferent answer. The best for you.-

Re: HP-41 turn-on behavior

*Message #13 Posted by **Bruce Bergman** on 8 Jan 2010, 3:45 p.m.,*
in response to message #1 by Paolo Cipollone

Any programs in the calculator? Any timers active?

I used to prank my friends by putting in an "OFF" program and have it run after midnight. Drove them crazy the next morning. ;)

Doesn't sound like your situation, but I thought I'd offer.

thanks, bruce

Re: HP-41 turn-on behavior

*Message #14 Posted by **Paolo Cipollone** on 11 Jan 2010, 6:45 a.m.,*
in response to message #13 by Bruce Bergman

Well, I left the batteries out for about 12 hours and got my 'memory lost'. After that the probblem is still there. I discovered that the amount of time needed to get the 'false start' is completely random. Sometimes it will sit for hours and restart promptly (even with *very* light pressure of the 'on' key), sometimes, thirty seconds after an on/off cycle it will need two 'on' key presses. It is definitely a very insignificant 'problem', but I still wonder what may cause it.

Thanks, Paolo

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Opening HP41C

*Message #1 Posted by **Alberto Fenini** on 7 Jan 2010, 4:17 p.m.*

Hi all, I'd like to clean and repair my newly arrived HP41C, particulary the Enter key, that is firm on the left side, but is weak on the right side of the button. I tried to open the unit, but it looked to me the keyboard unit is much like the woodstock one, soldered and tied together. Is there any way of disassembly the keyboard and get access to the underneath surface ? Thank you very much for help, Alberto

Re: Opening HP41C

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 7 Jan 2010, 5:29 p.m.,*
in response to message #1 by Alberto Fenini

Ciao, Alberto;

as you mentioned, the keyboard is locked in place by melting plastic posts. The only way I know is to cut the borders of each one. I am trying small screws, like the ones used in glasses, to fix the keyboard in place after removing. Will talk about this later and add some pics, now I have to leave...

Cheers.

Luiz (Brazil)

Re: Opening HP41C

*Message #3 Posted by **John Robinson** on 8 Jan 2010, 3:12 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

I have successfully disassembled the 41 keyboard by "popping" off the top of the heatstakes with a small screw driver. The plastic that comes off is kinda donut shaped. By doing this instead of shearing off the whole top of the heatstake with a knife, the centre of the heatstake remains. To reassemble, I use "hot" glue, while maintaining pressure on the keyboard from behind.

I actually squish down the glue with my finger (after licking it first) to set the glue quicker and force a little more around the heatstake.

I have done this on five or six 41 calcs now and it works a treat !!

Cheers, John

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A humble request, if I may...

*Message #1 Posted by **Vieira, Luiz C. (Brazil)** on 7 Jan 2010, 2:00 p.m.*

Hi, all;

I address mainly those (lucky) of you who already have your own, new MoHPC CD/DVD set. If you are fond to the Voyager family itself and have you found some time to do so, I'd appreciate any comments and corrections you have after reading 'Voyagers in Brief'. I plan to add the missing topics in a future 2nd. Edition, and I'd also invite anyone who wants to add something to the book, of course quoting the author.

Please, feel free dropping me a line at linux_lcv (at)yahoo {punto} com . br or right in this thread. At least two contributors have already written me to point out some flaws (thank you, guys!) when I shared the little sip of the Voyagers in Brief.

Thanks!

Luiz (Brazil)

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Simulate "load" (or whatever) of batteries in classics hooked to chargers?

*Message #1 Posted by **Paul Brogger** on 7 Jan 2010, 11:34 a.m.*

Here's a question that's probably been asked before . . .

I'm not wanting to keep NiCds in my LED H-P's. I actually use them so infrequently, they just go bad on me. Besides, it's considered bad practice to keep batts in collectibles.

However, I *would* like to fire 'em up at a moment's notice to show 'em off.

Buuut, I've heard numerous times not to run (most? all?) H-P's on wall power without the batteries in place.

Soooo . . . Is there a way to fake the charging circuit into 'thinking' there *are* batteries installed, while running on wall power? (Some sort of r/c circuit in place of the batteries?)

It'd sure be cool to be able to flick a power strip switch and have the half-dozen LED calcs (in my little book shelf display) light up all at once!

Edited: 7 Jan 2010, 11:40 a.m.

Re: Simulate "load" (or whatever) of batteries in classics hooked to chargers?

*Message #2 Posted by **Maximilian Hohmann** on 7 Jan 2010, 11:56 a.m.,*
in response to message #1 by Paul Brogger

Hi!

The easiest and safest way would be to modify the charger in a way that it outputs only 2.5 Volts. This can be achieved with a Zener diode and a resistor. But if I had to do this, I would use the power cord of the HP calculator and connect it to a dedicated, regulated power supply set for 2.5V.

As I have several calcultors from the '20 series, the only ones that you really can kill by connecting the charger without the battery in place, I keep one functional battery pack (always externally charged!) that I use with one calculator at a time.

Greetings, Max

Edited: 7 Jan 2010, 11:57 a.m.

Re: Simulate "load" (or whatever) of batteries in classics hooked to chargers?

*Message #3 Posted by **Mark Henderson** on 7 Jan 2010, 1:06 p.m.,*
in response to message #2 by Maximilian Hohmann

It seems to be a common misconception that you shouldn't run Classics from the AC adapter without a battery inserted - from the schematics (available here on MoHPC) it is 100% clear that the battery is DISCONNECTED from the calc when you plug in the adapter - so there is absolutely no issue in leaving

the battery out.

Caveat - the HP-65 and HP-67 require a good battery in place to provide the start-up current for the card reader motor.

Later series calcs (like the Woodstocks) absolutely DO require a good battery in place to avoid damage.

Also, the Classics run on 3x NiCd cells so nominally 3.6V, not 2.5V as above.... 2.5V is probably referring to Woodstocks and later 2 cell calcs....

Re: Simulate "load" (or whatever) of batteries in classics hooked to chargers?

*Message #4 Posted by **Maximilian Hohmann** on 7 Jan 2010, 1:29 p.m.,*
in response to message #3 by Mark Henderson

> Quote:
>
> 2.5V is probably referring to Woodstocks and later 2 cell calcs....

Yes, of course. But I think I wrote somewhere that only the '20 series calculators (Woodstocks as you call them) really have this kind of problem.

Re: Simulate "load" (or whatever) of batteries in classics hooked to chargers?

*Message #5 Posted by **Paul Brogger** on 7 Jan 2010, 1:44 p.m.,*
in response to message #3 by Mark Henderson

I used the word "classics" perhaps too loosely. I meant "H-P LED models". I'm talking specifically of: an HP-45, HP-67 & 97, HP-21, HP-31E and 34C.

Is there something that might be installed in place of batteries to simulate whatever is required for safe charger-connected operation?

(Alternatively, if I just connected the appropriate DC supply voltage to each unit's battery connections, and left the chargers out of the picture, would that work?)

Re: Simulate "load" (or whatever) of batteries in classics hooked to chargers?

*Message #6 Posted by **Maximilian Hohmann** on 7 Jan 2010, 1:53 p.m.,*
in response to message #5 by Paul Brogger

> Quote:
>
> Alternatively, if I just connected the appropriate DC supply voltage to each unit's battery connections, and left the chargers out of the picture, would that work?

Of course! But be very careful, the polarity of the battery connectors is not marked very visibly, especially in Woodstocks!

Re: Simulate "load" (or whatever) of batteries in classics hooked to chargers?

*Message #7 Posted by **Michael de Estrada** on 7 Jan 2010, 10:40 p.m.,*
in response to message #3 by Mark Henderson

> Quote:

> Caveat - the HP-65 and HP-67 require a good battery in place to provide the start-up current for the card reader motor.

According to Randy, you may actually damage the card reader circuitry, even if you don't operate the card reader, if you operate the calculator from the AC adapter without a battery pack installed. This is because the card reader circuit is connected directly to the battery terminals, and sees the 17vdc output from the charging side of the AC adapter. I simply connect a regulated DC power supply (3.75vdc) to the battery terminals when I use my HP 65/67.

Re: Simulate "load" (or whatever) of batteries in classics hooked to chargers?

*Message #8 Posted by **Katie Wasserman** on 7 Jan 2010, 3:07 p.m.,*
in response to message #1 by Paul Brogger

I keep batteries in all the calculators in my collection so that I can "fire 'em up at moment's notice". My solution to the battery self-discharge and leakage/corrision issue was to use AA or AAA Energizer lithium cells.

My HP's classic calculators with AA nicad battery packs now have battery packs that use made out of AAA plastic battery holders modified to match the contact positions in the calculator battery compartment. The same is true for the Topcats. The Woodsock and Spice calculators make it easy change to lithium cells. All the non-HP calculators in my collect have had similar changes to accommodate Energizer lithium cells.

I've seen no ill effects from making these changes to over 200 calculators after several years.

Re: Simulate "load" (or whatever) of batteries in classics hooked to chargers?

*Message #9 Posted by **Marcus von Cube, Germany** on 7 Jan 2010, 3:56 p.m.,*
in response to message #8 by Katie Wasserman

"Wooden Socks" with batteries. ;)

Re: Simulate "load" (or whatever) of batteries in classics hooked to chargers?

*Message #10 Posted by **designnut** on 7 Jan 2010, 4:46 p.m.,*
in response to message #9 by Marcus von Cube, Germany

You could use actual battery cells like the Sanyo low self discharge Nimh cells if you rebuild the battery packs. They do retain their charge for a year. I have them in the HP50s now. Sam

Re: Simulate "load" (or whatever) of batteries in classics hooked to chargers?

*Message #11 Posted by **Katie Wasserman** on 8 Jan 2010, 2:34 a.m.,*
in response to message #9 by Marcus von Cube, Germany

> Quote:
>
> "Wooden Socks" with batteries. ;)

It's a cure for cold feet!

Re: Simulate "load" (or whatever) of batteries in classics hooked to chargers?

*Message #12 Posted by **John Robinson** on 8 Jan 2010, 3:19 a.m.,*
in response to message #11 by Katie Wasserman

The low discharge rate batteries from Sanyo are called "eneloop". There are other similar cells from other manufacturers too. These cells are supposed to keep 80% of charge after a year when not in use. The only downside is the maximum mAh I have found for these so far is 2000mAh where as "normal" NiMH cells can be up to 2500 mAh these days, maybe more.

As far as I know these are only available in AA size, I have not seen any other sizes.

Cheers, John

Re: Simulate "load" (or whatever) of batteries in classics hooked to chargers?

*Message #13 Posted by **Martin Pinckney** on 8 Jan 2010, 9:05 a.m.,*
in response to message #8 by Katie Wasserman

> Quote:
>
> ... Energizer lithium cells ... over 200 calculators ...

Wow. According to my calculations, you have more invested in lithium cells alone than I have in all my calculators and peripherals! And my wife thinks I have expensive hobbies.

Re: Simulate "load" (or whatever) of batteries in classics hooked to chargers?

*Message #14 Posted by **Michael Meyer** on 8 Jan 2010, 10:39 a.m.,*
in response to message #13 by Martin Pinckney

I guess that does add up. I've put them in most of my calculators. Fortunately, many only take two (Woodstocks), and some take 4 (Stings). I've found 8 packs of batteries for about 14 USD with coupons. That's about $1.75 per cell. At an average of 3 per calculator, and maybe 40 in my collection with these cells is $210.

I think NiMH cells aren't that much cheaper, though old NiCd packs for cordless phones are easily found in drug stores on clearance for $1. That's how I re-celled all my TI's, though those packs are now going on 10 years old already. I, too, like being able to "fire up" any calculator I pick up without messing with chargers and charging...

I still like Katie's approach. Lithium cells have at least a 15-year life, and I'll bet more... I still have some from 10 years ago showing full strength. But, with Katie hopefully living a long and healthy life, she just might have to re-cell them all once or twice...

Re: Simulate "load" (or whatever) of batteries in classics hooked to chargers?

*Message #15 Posted by **Eric Smith** on 9 Jan 2010, 12:16 p.m.,*
in response to message #1 by Paul Brogger

My inclination would be to put a 1N4728A zener diode across the battery terminals. This should limit the voltage to 3.3V. That will still allow the NiCD batteries to charge properly, but when a charger is connected without batteries, the zener will limit the voltage and the zener and the existing series resistor will dissipate the excess.

I'd rather use a 2.8V-3.0V zener, but I can't find any in axial lead packages with suitable current ratings. I'm fairly certain that limiting the voltage to 3.3V would be sufficient to protect the chips. I haven't tested it,

though.

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OT: Thommen altimeters

*Message #1 Posted by **Ignazio Cara (Italy)** on 7 Jan 2010, 7:29 a.m.*

There is out there any guys that knows where I can find the owner's handbook for the Thommen TP90 altitronic altimeter in english language or a copy of it, even in pdf format? Many thanks.

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classic chassis with a crack

*Message #1 Posted by **Alberto Fenini** on 6 Jan 2010, 5:18 p.m.*

Hello everybody, while restoring one of my pieces, an HP70, the chassis has shown a crack.
I was actually trying to complete disassemble the unit in order to polish the keyboard and to restor the trim line.
For the Murphy law, a task done several ways on very common units, or duplicate units, has not worked on the one I care more about ....
I have read, can't remember where, that there is a liquid that can close thin cracks making them almost invisible.
Does anyone remember the name of this thing ?
Thanks for help, Alberto

Re: classic chassis with a crack

*Message #2 Posted by **Jeff O.** on 7 Jan 2010, 10:22 a.m.,*
in response to message #1 by Alberto Fenini

See Randy's post below for the correct information.

edited to remove incorrect information.

Edited: 7 Jan 2010, 12:24 p.m. after one or more responses were posted

Re: classic chassis with a crack

*Message #3 Posted by **Randy** on 7 Jan 2010, 11:31 a.m.,*
in response to message #2 by Jeff O.

The liquid in question is methylene chloride, available in hobby stores as "plastic welding solvent".

The cements sold for PVC (poly vinylchloride) pipe will not work... as the case material is ABS (Acrylonitrile butadiene styrene).

Re: classic chassis with a crack

*Message #4 Posted by **Alberto Fenini** on 7 Jan 2010, 11:39 a.m.,*
in response to message #3 by Randy

Thank you very much to both of you, how does it work ? Few drops and that's it, or I have to separate the parts and glue them together with this product ? Does anyone know an *european* name for it ? Thx Alberto

Re: classic chassis with a crack

*Message #5 Posted by **Massimo Gnerucci (Italy)** on 7 Jan 2010, 1:34 p.m.,*
in response to message #4 by Alberto Fenini

Hi Alberto!
I've got a bottle of "Poly-Weld" from www.starloc.eu (I think I bought it on eB*y).
It contains Methylene Chloride and Methacrylate Ester.
I still have to try it though...

Nice to see another HP-70 in Italy!

Greetings,
Massimo

Re: classic chassis with a crack

*Message #6 Posted by **Alberto Fenini** on 7 Jan 2010, 1:58 p.m.,*
in response to message #5 by Massimo Gnerucci (Italy)

ciao Massimo,
nice to hear from you, were are you from ?
What thickness are you using ?
I've found they sell thin, medium and thickness,what would you suggest ?
thanks everybody for the advice

Re: classic chassis with a crack

*Message #7 Posted by **Massimo Gnerucci (Italy)** on 7 Jan 2010, 2:11 p.m.,*
in response to message #6 by Alberto Fenini

Ciao Alberto,
alas there's no indication about thickness on my bottle...
I can't find it on their new site and there's only a reference on the old one, albeit only textual.

Greetings from Milan,
Massimo

Re: classic chassis with a crack

*Message #8 Posted by **Alberto Fenini** on 7 Jan 2010, 3:19 p.m.,*
in response to message #7 by Massimo Gnerucci (Italy)

ciao Massimo,

they have a bundle where they offer all the different types, I'll go for that, and I'll try out to see which one is better for this job ... Thanks again, take care and greetings from Settimo Milanese (looks like we are close ... if you wanna email me you can use alberto_1964"at"hotmail.com)

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classic chassis with a crack

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My HP 35s keyboard improvements

*Message #1 Posted by **kiril t** on 6 Jan 2010, 1:13 p.m.*

I love the new HP 35s and would make a couple of minor changes to the keyboard. I think these changes make an already fantastic product even better. (The original unmodified image is from hpcalc.org)

In this picture I have replaced the left-shift and right-shift keys with a modern take on 'f' and 'g'. I believe this change is an improvement given the key label placements, which are above and below the primary labels; not to the left or right of them.

The +/- key has been replaced with CHS which I prefer for aesthetic, logic, and consistency reasons. I consider it more correct.

Although I would like to repaint the keys on my 35s, I'm not certain just how to go about it.

For the yellow and blue backgrounds on the 'f' and 'g' keys, I'm considering using enamel paint and letraset rub-on letters. I am not certain how to do the CHS key, although I have a few ideas in mind.

I'm new to the HP world and to this forum - are there people who do this sort of repair or customization work on calculator keys, and have these proposed changes already been discussed somewhere? If there is a custom shop I could send my calculator to in order to have these changes done professionally, I would do so.

Many thanks!

Edited: 6 Jan 2010, 3:09 p.m.

Re: My HP 35s keyboard improvements

*Message #2 Posted by **Glenn Shields** on 6 Jan 2010, 4:01 p.m.,*
in response to message #1 by kiril t

Amen, brother. You hit the main ones, but more would include (these have been mentioned before) MILE and KM in lower case, give L.R two periods, and for sure put A...F as hex labels. It's funny how this buggy little beast has such a love/hate relationship with us!

Regards, Glenn

Re: My HP 35s keyboard improvements

*Message #3 Posted by **Norman Dziedzic** on 6 Jan 2010, 4:37 p.m.,*
in response to message #2 by Glenn Shields

My quibble is with the the time conversions symbol to decimal hr. on the keyboard.

All the other conversions have an arrow pointing to the new units but what should read ->HR (like on my

32Sii) reads HMS-> so the symbol tells you where you're coming from but not where you are going!

I would also switch R/S and Sigma+ which is more like the 41 but maybe that's just me.

Re: My HP 35s keyboard improvements

*Message #4 Posted by **Paul Brogger** on 6 Jan 2010, 5:33 p.m.,*
in response to message #2 by Glenn Shields

Move the cursor "compass" keys (up, down, left, right) one row down, leaving a six-key row below the LCD that would be labeled with "A"-"F" for hexadecimal input . . .

Oh. You're talking about changes that are actually *possible* using an existing 35s? Well, then, I guess you've got most of them.

Really, very nice looking! HP will do well to consult their rabid fan base when designing the keyboard for their HP-35sII+ Ultra Turbo Palladium LX Commemorative Special Edition.

(Personally, I think the "f" & "g" would invoke extraneous and misleading -- albeit historical -- UI elements, just as do the left & right arrows. I'd like to see simply a yellow patch on the keyboard face immediately above the upper shift key, and a blue patch on the front face of the lower shift key.)

Edited: 6 Jan 2010, 5:54 p.m.

Re: My HP 35s keyboard improvements

*Message #5 Posted by **designnut** on 6 Jan 2010, 10:37 p.m.,*
in response to message #4 by Paul Brogger

I miss a dedicated store key instead of a roll key. Is there anyone that can't convert inches to cms or F to C degrees? I think that is trivial. Sam

Re: My HP 35s keyboard improvements

*Message #6 Posted by **Norman Dziedzic** on 6 Jan 2010, 11:57 p.m.,*
in response to message #5 by designnut

I like the conversions although in my field, more appropriate would be (in) -> (mm) but I digress. Yes it's trivial but there is always the case of messing up the conversion factor when you type it in. Also F->C is a two step conversion so 2 chances to type in the wrong thing.

But, all the conversions could be Under a couple menus and that would free up a lot of space.

And Yes, Yes, Yes to a dedicated Store function.

Re: My HP 35s keyboard improvements

*Message #7 Posted by **Martin Pinckney** on 7 Jan 2010, 9:40 a.m.,*
in response to message #6 by Norman Dziedzic

I too find conversions useful. But there are so many possible choices to put on a pocket calculator, that no matter what ones the designers include, each user will want something different. That's one reason I like the rich conversion capabilities of the 48 series.

Also a good conversion program for the 42s.

Edited to correct typo.

Edited: 7 Jan 2010, 1:56 p.m. after one or more responses were posted

Re: My HP 35s keyboard improvements

*Message #8 Posted by **Reth** on 7 Jan 2010, 11:38 a.m.,*
in response to message #7 by Martin Pinckney

> Quote:
>
> ... Also s good conversion program for the 42s.

???

Also a good conversion program for the 42s.

*Message #9 Posted by **Martin Pinckney** on 7 Jan 2010, 2:43 p.m.,*
in response to message #8 by Reth

Reth, I was referring to a program Thomas Okken has published on his website. It is available here, and the documentation, if you want to get an idea what it's like, is here.

I confess I have used it on Free42, but have not yet gotten it onto my physical 42s. The files he offers are RAW files, and he has a conversion program to turn text files into RAW, but I need the opposite, to enter his programs into my 42s.

Anyone know how to do this?

Re: Also a good conversion program for the 42s.

*Message #10 Posted by **Martin Pinckney** on 7 Jan 2010, 3:15 p.m.,*
in response to message #9 by Martin Pinckney

Never mind, I figured it out. Just load the program into Free42, go to "Preferences" on the top menu, and select to write the printer output to a text file, then on the Free42 keyboard, PRINT PRP, and Voila!

Edited to correct typo.

Edited: 8 Jan 2010, 8:51 a.m.

Re: Also a good conversion program for the 42s.

*Message #11 Posted by **Reth** on 8 Jan 2010, 2:48 a.m.,*
in response to message #9 by Martin Pinckney

Thanks, Martin, now I know what you meant. BTW I'd modify that program for use in 42S iPhone app by adding functionality similar to the HP48's and using the 2 display lines.
Cheers

Re: Also a good conversion program for the 42s.

*Message #12 Posted by **Martin Pinckney** on 8 Jan 2010, 8:46 a.m.,*

in response to message #11 by Reth

I'm using the Windows version of Fee42, and have yet to get my feet wet programming the 42. That will come.

Re: My HP 35s keyboard improvements

*Message #13 Posted by **Eddie W. Shore** on 7 Jan 2010, 9:52 p.m.,*
in response to message #5 by designnut

> Quote:
>
> I miss a dedicated store key instead of a roll key. Is there anyone that can't convert inches to cms or F to C degrees? I think that is trivial. Sam

I like the dedicated STO key too. It doesn't make sense to make STO a shifted function.

Re: My HP 35s keyboard improvements

*Message #14 Posted by **David Hayden** on 7 Jan 2010, 1:52 p.m.,*
in response to message #4 by Paul Brogger

> Quote:
>
> (Personally, I think the "f" & "g" would invoke extraneous and misleading -- albeit historical -- UI elements, just as do the left & right arrows. I'd like to see simply a yellow patch on the keyboard face immediately above the upper shift key, and a blue patch on the front face of the lower shift key.)

I thought the same thing but then something occurred to me - how would you represent the shift keys in a black&white printed manual? I suspect this problem is the reason that the shift keys are labeled.

I agree with the poster who said they'd like to see a dedicated STO key. I think that "more complicated" calculators should add to, but not remove from, "less complicated" ones. Of course this isn't always possible, but to me, STO/RCL are such basic features that they should have top priority for key space.

Re: My HP 35s keyboard improvements

*Message #15 Posted by **bill platt** on 7 Jan 2010, 6:28 p.m.,*
in response to message #14 by David Hayden

> Quote:
>
> how would you represent the shift keys in a black&white printed manual?

Perhaps

```
<blu>
<yel>
```

or something like it

Re: My HP 35s keyboard improvements

*Message #16 Posted by **Paul Brogger** on 7 Jan 2010, 7:45 p.m.,*
in response to message #14 by David Hayden

I'm sure you're correct.

But how 'bout graphics: line drawings of the outline of a key -- one with a white (or colored) patch above it, the other with the patch on the front of the key.

(We're all frustrated, would-be design geniuses!)

Re: My HP 35s keyboard improvements

*Message #17 Posted by **bill platt** on 7 Jan 2010, 8:39 p.m.,*
in response to message #16 by Paul Brogger

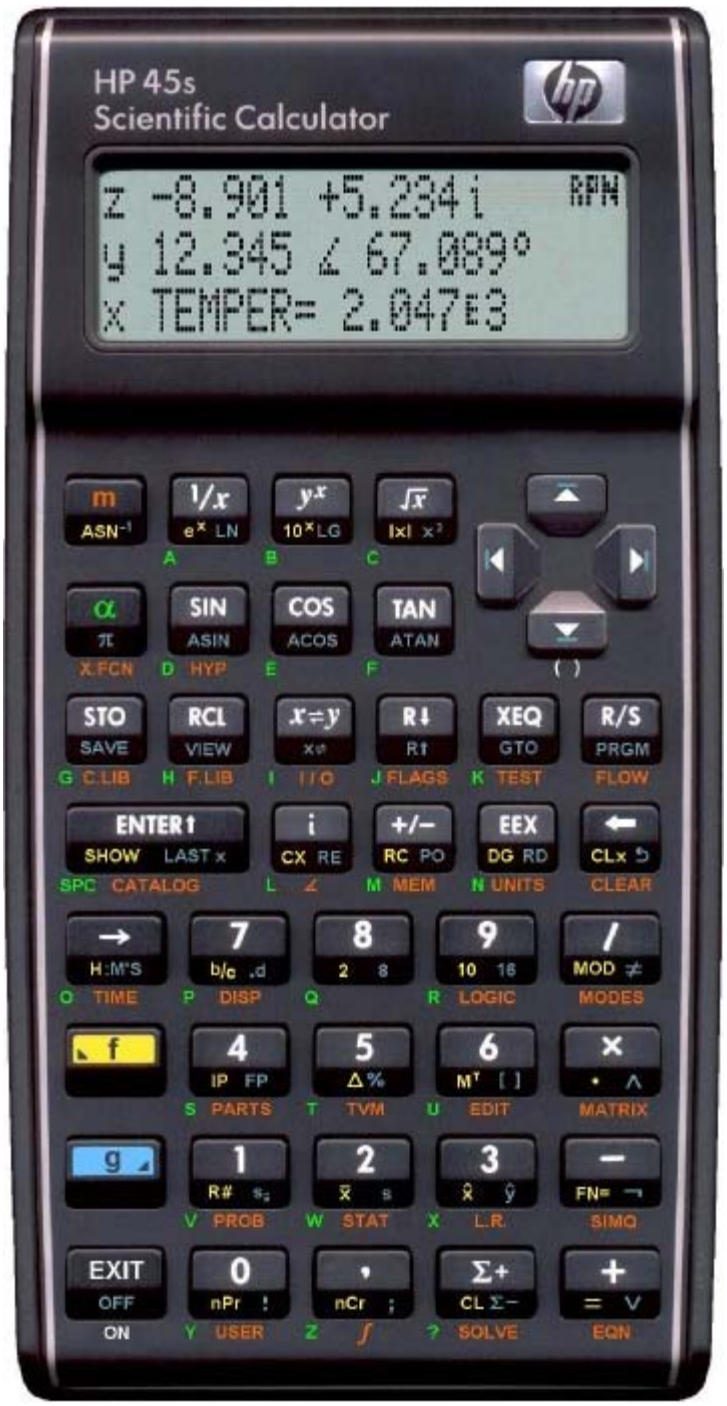
Hey, I *am* a design genius--frustrated or not ;-D

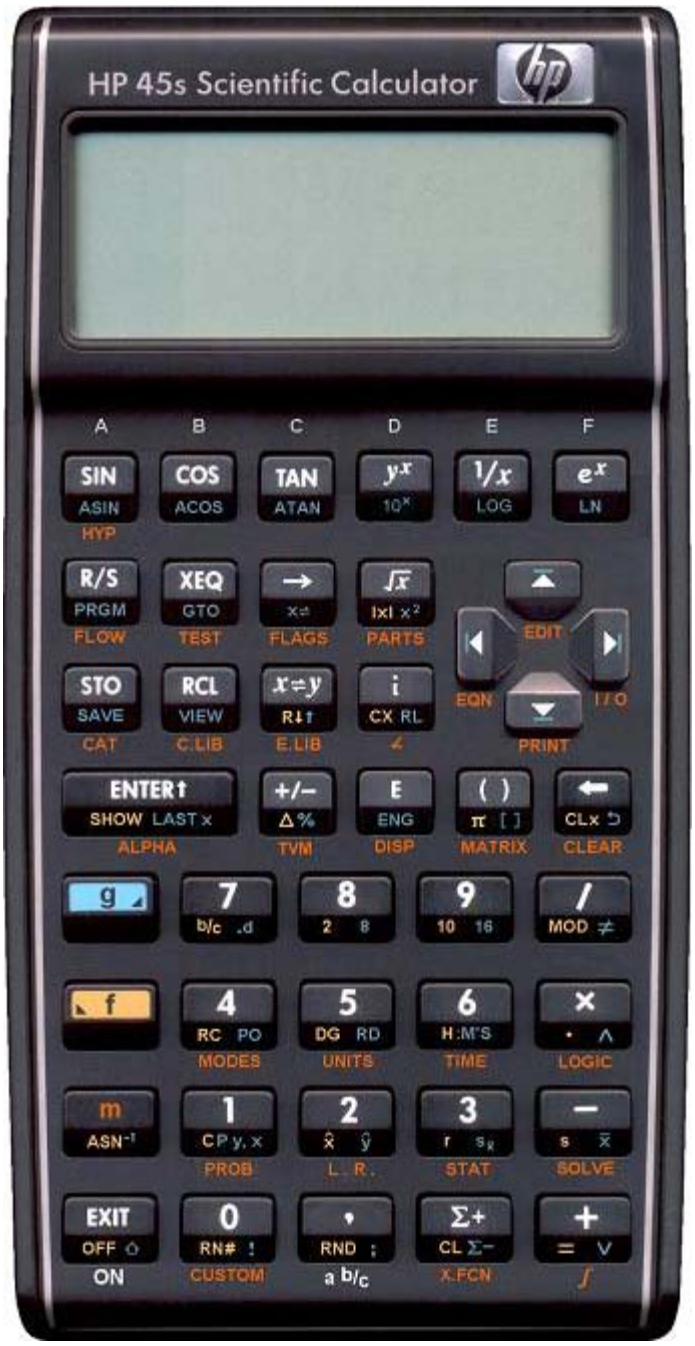
Edited: 7 Jan 2010, 8:39 p.m.

Re: My HP 35s keyboard improvements

*Message #18 Posted by **Walter B** on 7 Jan 2010, 6:19 p.m.,*
in response to message #4 by Paul Brogger

Reminds me of some old work of mine, one going back to 2007:


HP 45s
Scientific Calculator
z -8.901 +5.234i RPN
y 12.345 ∠ 67.089°
x TEMPER= 2.047E3



The last one is of summer 08 and was presented at HHC 2008. It's not a lack of proposals preventing better calculators d:(

Re: My HP 35s keyboard improvements

*Message #19 Posted by **bill platt** on 7 Jan 2010, 6:31 p.m.,*
in response to message #18 by Walter B

Just curious--

how do you go about making these amazing "pictures" of non-existent calculators? It looks like you somehow modify a bitmap photo--and yet it all looks so clean and natural.

Re: My HP 35s keyboard improvements

*Message #20 Posted by **Walter B** on 8 Jan 2010, 1:44 a.m.,*

in response to message #19 by bill platt

Thanks, Bill, for your kind words. But the base is as usual: 5% inspiration plus 95% transpiration d:-)

@Paul: You're right, it all comes down to the "real estate challenge". Recent designs have Rv unshifted, but had to drop other goodies. Even by repeated counting you won't get more keys than there are on a given calculator d;-)

Re: My HP 35s keyboard improvements

*Message #21 Posted by **kiril t** on 8 Jan 2010, 4:29 p.m.,*
in response to message #4 by Paul Brogger

> Quote:
>
> (Personally, I think the "f" & "g" would invoke extraneous and misleading -- albeit historical -- UI elements, just as do the left & right arrows. I'd like to see simply a yellow patch on the keyboard face immediately above the upper shift key, and a blue patch on the front face of the lower shift key.)

I'm missing something here. What would the extraneous and misleading UI elements be?

David wondered how to represent the shift keys in a black&white printed manual - it seems to me that if the L/R shift labels are replaced with f/g on the keys, the LCD display indicators, and in the manuals; that would solve all the problems. How would it be misleading? Did 'f' and 'g' used to have some other meaning than just to differentiate the shift keys? That's all they seem to do on the 16C that I have.

Re: My HP 35s keyboard improvements

*Message #22 Posted by **Thomas Radtke** on 7 Jan 2010, 4:08 a.m.,*
in response to message #1 by kiril t

I assume you just bought your 35s. Are you aware of the bugs mentioned here? Could you please check if anything from that list has been corrected in your 35s and if so post your s/n?

Re: My HP 35s keyboard improvements

*Message #23 Posted by **George Bailey (Bedford Falls)** on 7 Jan 2010, 1:55 p.m.,*
in response to message #1 by kiril t

> Quote:
>
> The +/- key has been replaced with CHS which I prefer for aesthetic, logic, and consistency reasons. I consider it more correct.

For international users, I'd prefer +/- over CHS because it's far more intuitive.

Re: My HP 35s keyboard improvements

*Message #24 Posted by **Mark Henderson** on 7 Jan 2010, 2:41 p.m.,*
in response to message #23 by George Bailey (Bedford Falls)

Hmm, the more I stare at my HP-35s the more changes I'd like! I like all the suggestions above.

One area that annoys me is not having all the "stack manip" keys close together - for example Rv and X<>Y so far away from ENTER..

And STO should definitely be unshifted!!

Re: My HP 35s keyboard improvements

*Message #25 Posted by **Paul Brogger** on 7 Jan 2010, 7:40 p.m.,*
in response to message #24 by Mark Henderson

I agree re: stack manipulation keys. Re: Walter's 2nd design (Thanks, Walter!), Roll Down shouldn't be shifted any more than STO.

What it comes down to is: Most of us will agree on the large Enter key. Beyond that, we'll all have our favorites which will, one way or another, clash with someone else's ideas re: highest priorities for limited keytop real estate.

(I think I'm beginning to see why H-P doesn't ask us! ;-) Keep the passion, folks!

Edited: 7 Jan 2010, 7:41 p.m.

Re: My HP 35s keyboard improvements

*Message #26 Posted by **Mohammed Hadi** on 7 Jan 2010, 11:52 p.m.,*
in response to message #25 by Paul Brogger

> Quote:
>
> (I think I'm beginning to see why H-P doesn't ask us! ;-) Keep the passion, folks!

It was a frustrated hp that produced a 41C blacknut :)

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OT: The uCalc is born

*Message #1 Posted by **DaveJ** on 6 Jan 2010, 6:11 a.m.*

Don't get excited though, it doesn't actually work yet, I just wanted to tease (myself, because I don't have the time to work on it ATM).

Before anyone asks, the bit on the side is a temporary programming header.

Dave.

Re: OT: The uCalc is born

*Message #2 Posted by **Katie Wasserman** on 6 Jan 2010, 10:50 a.m.,*
in response to message #1 by DaveJ

Dave

WOW! I think that you managed to incorporate virtually everyone's comments on keyboard layout in the final design. Even if you never get the time to finish the hardware, this alone was a successful project.

-Katie

p.s. How would you like a job putting the US health care system fixes together? :)

Re: OT: The uCalc is born

*Message #3 Posted by **Walter B** on 6 Jan 2010, 1:06 p.m.,*
in response to message #1 by DaveJ

Good work!

Though some labels could have been saved by placing the digits A ... F on the same keys where these letters are located. But I see this now and didn't discover it earlier, so I won't criticize.

BTW, what shall the label WORD do? Next to the bit you explained ;)

Re: OT: The uCalc is born

*Message #4 Posted by **Mark Henderson** on 6 Jan 2010, 1:16 p.m.,*
in response to message #3 by Walter B

Love it! Excited to see what happens next! Well done.

Re: OT: The uCalc is born

*Message #5 Posted by **Mark Henderson** on 6 Jan 2010, 1:17 p.m.,*
in response to message #4 by Mark Henderson

Would also love to see uCalc next to something for size reference!

Re: OT: The uCalc is born

*Message #6 Posted by **DaveJ** on 6 Jan 2010, 3:07 p.m.,*
in response to message #5 by Mark Henderson

> Quote:
>
> Would also love to see uCalc next to something for size reference!

It's the exact same dimensions as a credit card.

Dave.

Re: OT: The uCalc is born

*Message #7 Posted by **Geir Isene** on 6 Jan 2010, 1:27 p.m.,*
in response to message #1 by DaveJ

/me WANT!

Re: OT: The uCalc is born

*Message #8 Posted by **hugh steers** on 6 Jan 2010, 2:03 p.m.,*
in response to message #7 by Geir Isene

the unusually prominent bit operations would make this a handy pocket sized 16C. I often need hex and oct when debugging code and this might serve as a handy device for calculating with this.

to answer the "WORD" question, i presume this is to set the word size for the bit operations.

Re: OT: The uCalc is born

*Message #9 Posted by **Bruce Bergman** on 6 Jan 2010, 1:49 p.m.,*
in response to message #1 by DaveJ

When are you going to start taking pre-orders? ;-)

thanks, bruce

Re: OT: The uCalc is born

*Message #10 Posted by **DaveJ** on 6 Jan 2010, 6:53 p.m.,*
in response to message #9 by Bruce Bergman

> Quote:
>
> When are you going to start taking pre-orders? ;-)

When I actually have them ready to send!

Dave.

Re: OT: The uCalc is born

*Message #11 Posted by **Paul Dale** on 6 Jan 2010, 8:12 p.m.,*
in response to message #10 by DaveJ

Put me down for one regardless :-)

- Pauli

Re: OT: The uCalc is born

*Message #12 Posted by **Sancerre (Phoenix)** on 6 Jan 2010, 8:49 p.m.,*
in response to message #1 by DaveJ

Me too, sign me up for one whenever it is available. --Tod

Re: OT: The uCalc is born

*Message #13 Posted by **Patrick Rendulic** on 7 Jan 2010, 2:04 a.m.,*
in response to message #12 by Sancerre (Phoenix)

I will buy one.

Question:

When a single person can produce such an interesting pre-prototype in such a short type, then why can't HP produce "the dream calculator"?

Re: OT: The uCalc is born

*Message #14 Posted by **Walter B** on 7 Jan 2010, 2:58 a.m.,*
in response to message #13 by Patrick Rendulic

Many forumers ask and have asked this question. Maybe the reason is a single person is free to do what (s)he wants, more persons need to synchronize and agree on their tasks, taking some fraction of their work capacity away, and persons in big companies ... :(

Re: OT: The uCalc is born

*Message #15 Posted by **DaveJ** on 7 Jan 2010, 3:16 a.m.,*
in response to message #14 by Walter B

> Quote:
>
> Maybe the reason is a single person is free to do what (s)he wants

And indeed that is the case with the uCalc. I've had many people tell me I'm wasting my time on the uCalc as no one would want it. But they forget the most important thing - *I* want a credit card calc, and that's always enough reason for the midnight engineer!

Dave.

Re: OT: The uCalc is born

*Message #16 Posted by **DaveJ** on 7 Jan 2010, 3:11 a.m.,*
in response to message #13 by Patrick Rendulic

> Quote:
>
> When a single person can produce such an interesting pre-prototype in such a short type, then why can't HP produce "the dream calculator"?

Well, for starters there is no such thing as a single "dream calculator", everyone has (often vastly) different dreams.

Second problem is that HP (like most companies) are marketing driven, they will only produce products that they think have the best chance of making them the largest financial return. That is not always the "best" possible product, in fact a lot of the time it's simply figment of some marketing or management fools imagination!

The 35S, and recent open platform calcs show HP still actually people with a clue who at least make some of the decisions, it's encouraging.

Thirdly, they are big, and design by committee doesn't work well at all. I can turn around a product from concept to pre-production in weeks, but it takes a big company like HP weeks just to do the paper work and have the meetings just to get to the planing stage.

If you've worked in a big engineering company you'll know that Dilbert is REAL!

Dave.

Re: OT: The uCalc is born

*Message #17 Posted by **Martin Pinckney** on 7 Jan 2010, 2:50 p.m.,*
in response to message #16 by DaveJ

Just excuses. If someone in authority wanted it done, it would get done.

Re: OT: The uCalc is born

*Message #18 Posted by **Mike T** on 16 Jan 2010, 4:28 p.m.,*
in response to message #17 by Martin Pinckney

But they won't because unless they are CERTAIN that they can sell 30K+ they are not going to risk making a loss on the production costs.

Mike T.

Re: OT: The uCalc is born

*Message #19 Posted by **Steve S** on 7 Jan 2010, 7:21 p.m.,*
in response to message #12 by Sancerre (Phoenix)

...You can definitely put me down for one, too...

Re: OT: The uCalc is born

*Message #20 Posted by **DaveJ** on 7 Jan 2010, 6:41 a.m.,*

in response to message #1 by DaveJ

For those keen to see a bit more hardware, you get a glimpse in my latest BLOG

Dave.

Re: OT: The uCalc is born

*Message #21 Posted by **Paul Dale** on 7 Jan 2010, 7:11 a.m.,*
in response to message #20 by DaveJ

Lovely blog.

We've had more than a few run ins with silicon problems.

"Device doesn't always initialise" i.e. it doesn't boot or do anything. The work around -- fit a watchdog timer device and let that kick it until it does boot -- eventually.

And the ongoing conservations of the form:

```
"It is really cheap"
"But it doesn't work"
"But it is really cheap"
...
```

- Pauli

Edited: 7 Jan 2010, 7:11 a.m.

Re: OT: The uCalc is born

*Message #22 Posted by **Michael Plant** on 7 Jan 2010, 3:25 p.m.,*
in response to message #21 by Paul Dale

Looks fantastic, Dave! Thank you for sharing this with us.

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Two Interesting BigNum Stories (Via Slashdot)

*Message #1 Posted by **Les Bell** on 5 Jan 2010, 5:53 p.m.*

Surprised these weren't posted earlier, as they came via Slashdot yesterday.

1. HP Patents BigNum Implementation

This one concerns a patent issued to HP, and specifically Cyrille de Brebisson. Apparently, there may be prior art which would invalidate the patent - specifically, in Knuth's "Semi-Numerical Algorithms" as well as other papers stretching back to 1912.

The Slashdot story is at http://yro.slashdot.org/story/10/01/04/2321226/HP-Patents-Bignum-Implementation-From-1912?art_pos=23 and the patent itself is viewable at http://www.wikipatents.com/7523150.html-1.

2. Pi to 2.7 Trillion (Approx) Decimal Digits

Now *that's* a BigNum! Slashdot discussion is at http://science.slashdot.org/story/10/01/05/006243/New-Pi-Computation-Record-Using-a-Desktop-PC?art_pos=19 while Fabrice Bellard's page on how he did it is at http://bellard.org/pi/pi2700e9/.

Best,

--- Les
[http://www.lesbell.com.au]

Re: Two Interesting BigNum Stories (Via Slashdot)

*Message #2 Posted by **Michael Meyer** on 5 Jan 2010, 6:44 p.m.,*
in response to message #1 by Les Bell

Thanks! Interesting pi story. I liked how a guy with his home computer decided (and managed) to do this.

Re: Two Interesting BigNum Stories (Via Slashdot)

*Message #3 Posted by **Xavier A. (Brazil)** on 6 Jan 2010, 2:45 p.m.,*
in response to message #1 by Les Bell

> Quote:
>
> Pi to 2.7 Trillion (Approx) Decimal Digits

And the winner is...

LINUX !

(OS speaking, of course it is also an excellent human performance)

Very good news, thank you.

OT: Two Interesting BigNum Stories (Via Slashdot)

*Message #4 Posted by **DavidShenk** on 7 Jan 2010, 12:28 a.m.,*
in response to message #1 by Les Bell

There are quite a few songs written about pi, here is a favorite.

Getting more OT, musician John Boswell's Symphony of Science uses Auto-Tune software to create songs from the spoken words of Carl Sagan, Stephen Hawking and others. With the idea of promoting science, all songs are free to download.

Dave

Re: Two Interesting BigNum Stories (Via Slashdot)

*Message #5 Posted by **cyrille de Brébisson** on 7 Jan 2010, 9:10 a.m.,*
in response to message #1 by Les Bell

darn it, you guys saw that...

I obviously did not know about the prior art when I filed the application...

what is the stangest is that the thing got accepted!

one of the PB is that HP is telling us NOT to look for prior art and NOT to look in publications to see other's inventions/idea. the reason for this is that in court, when comes time to defend a patent, if the other party can show that you had knowledge of their stuff, it can be damaging to you....

anyhow, I have now made /. twice, once for good (developer friendly 20b) and once for bad (stupid patent)...

cyrille

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HP Viper board spotted on ebay

*Message #1 Posted by **john as (UK)** on 5 Jan 2010, 2:36 p.m.*

Search for item 300382229007. I think this ISA board was designed to run HP Basic with an HPIB interface on a PC, ie to effectively emulate a HP computer. No software is included but it has attracted one bidder at £75.

An unusual item.

Regards,
John

Re: HP Viper board spotted on ebay

*Message #2 Posted by **Garth Wilson** on 5 Jan 2010, 4:43 p.m.,*
in response to message #1 by john as (UK)

I used one of those for awhile at work around 1990. This was after I learned the HP-71 BASIC, so the HP BASIC 5.1 on the Viper board was an absolutely huge disappointment. The Rocky Mountain group could have stood to learn a few things from the Corvallis group.

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MK-161

*Message #1 Posted by **KoenDV** on 5 Jan 2010, 2:34 p.m.*

Hi. A question. Is this MK-161 a Russian RPN calculator with built-in analog-to-digital converter? Any chance of getting one of these with non-cyrillic keyboard?

Re: MK-161

*Message #2 Posted by **Namir** on 6 Jan 2010, 2:17 p.m.,*
in response to message #1 by KoenDV

It does not look that there are Russian RPN calculators with non-Cyrillic alphabet. I wish there were. The Viktor Tott website (click here) has a keyboard translation for one of the models.

Edited: 6 Jan 2010, 2:17 p.m.

Re: MK-161

*Message #3 Posted by **db (martinez, ca.)** on 6 Jan 2010, 10:55 p.m.,*
in response to message #1 by KoenDV

You mean like the Elektronika MC1103? That wasn't the reason for the MK161 but some crafty Russian may have made it part of one. It's sure got the connectivity for that.
If you want, go through this stub and click on the hyperlink for an English article on the cousin of your obscure object of desire.

Edited: 8 Jan 2010, 6:40 p.m.

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MCODE: Where these last posts are heading: A function called "NSG"

*Message #1 Posted by **Geir Isene** on 5 Jan 2010, 1:48 a.m.*

Here is what I want to do - to do is to create a function in the ICEBOX 1H that does this:

NSG (NoV Save/Get) is a prompting function allowing only 100-103 and 200-203 as input.

```
1. It first saves the input.
2. It then calls SAVEN (ICEBOX function to save Main Memory to file "N" in
   HEPAX RAM of the current RAM block).
3. It then switches ram block to the one specified by the users input (from
   the prompt)
4. It then restores Main Memory from another file named "N" in the new block.
```

It is simply a function that does a whole swich of bank and memory.

Problem is that when I calls the HSAVEA (from SAVEN), it kills the whole return stack and never gets back to do tasks 3 and 4.

Any idea on how to solve this?

Re: MCODE: Where these last posts are heading: A function called "NSG"

*Message #2 Posted by **Håkan Thörngren** on 5 Jan 2010, 2:58 a.m.,*
in response to message #1 by Geir Isene

I am not sure I follow fully, but if it does not get back to you, maybe it does not end with a RTN?

Before running an instruction, 00F0 is pushed on the stack. This is the return address for main loop NFRPU. If the instruction uses up all the stack, it will blow the return address and cannot end with a RTN, instead it may jump to 00F0 directly.

Is this what is happening?

Maybe it is doing something else at exit as changing the whole memory is a quite dramatic behavior and it may feel some further cautious actions are needed before giving back control.

If it does not return using the stack, then it is not easy. Maybe you can plant something to indicate that you need to do step 3-4 in some safe RAM (IO buffer, Extended Memory, SS0 or even the HEPAX ram), then pick it up using code in a poll vector.

Re: MCODE: Where these last posts are heading: A function called "NSG"

*Message #3 Posted by **Ángel Martin** on 5 Jan 2010, 3:11 a.m.,*
in response to message #1 by Geir Isene

Obvious tricks are placing code in the same QUAD so the port-independent calls can use reduced stack levels. Or better yet, use GOTO ADR's instead.

Beyond that (which of course it's not always possible) you may have to modify SAVEN to store the stack addresses upon initialization and to restore it when it ends - so that they are preserved - and force a return instead of ending via NFRU.

Hope this prompts some ideas...

Edited: 5 Jan 2010, 3:11 a.m.

Re: MCODE: Where these last posts are heading: A function called "NSG"

*Message #4 Posted by **Geir Isene** on 7 Jan 2010, 4:37 a.m.,*
in response to message #1 by Geir Isene

Excellent response. I feel fortunate to have access to people like you for my hobby.

It seems that HSAVEA eats up the whole return stack and leaves the calc in 00F0 "manually".

I have therefore opted to cut down on the functionality here and have the function do:

1. Prompt for input (100-103, 200-203) 2. Write the inputted number to address 4100 (switch the NoV block)
3. Restore Main Memory for that block by calling HGETA with the file name "N"

Thanks for the knowledge. ICEBOX v. 1H due out within 24 hours.

Re: MCODE: Where these last posts are heading: A function called "NSG"

*Message #5 Posted by **Geir Isene** on 7 Jan 2010, 12:31 p.m.,*
in response to message #4 by Geir Isene

Now there is another little tricky thingy;

The function writes the input NoV bank config (100-103, 200-203) to address 4100 and then goes straight on to do a HGETA to restore Main Memory from a file named "N" - supposedly then from the new block... But here's the catch, it reads the "N"-file from the block previous to writing the new config into 4100. It seems the NoV-64 didn't get around to actually do the block switch before the HGETA asked for the "N"-file to read it and restore the memory, hence it takes the wrong "N"-file.

I should perhaps interject a pause before the function goes ahead and does the HGETA? But - I tried to interject a call to the mainframe function PSE, but that did not change anything...

Any ideas?

Edited: 7 Jan 2010, 12:50 p.m.

Re: MCODE: Where these last posts are heading: A function called "NSG"

*Message #6 Posted by **Diego Diaz** on 8 Jan 2010, 9:04 p.m.,*
in response to message #5 by Geir Isene

Hi Geir, and very happy new year!

Seem like this one is on my side of the fence... :-)

Originally, the control word at H'4100 was designed to behave in two different ways, depending on whether it swaps RAM or ROM blocks.

RAM Blocks are switched "on the fly" during Phi1 pluse #32 of the cycle inmediately *following* the WROM (H'040) instruction.

ROM Blocks are switched after power cyclig the HP-41. This is intentional, as a way to avoid situations in which the iddle ROM block can be loaded with image(s) in address(es) that may conflict with phisical ROM(s)

E.g. you have your card reader in place and have a configuration into ROM block 1 that (consequently) leaves page #E free. However, you may have page #E loaded with any other ROM image into ROM block 2. If you're allowed to swap ROM blocks on the fly your calc will crash...

I may take a more detailed look if needed but, a first glance, it looks like if you need to swap ROM's if won't work within a program. On the other hand if the requirements for HGETA are only RAM swapping then I think that a simple NOP (H'000) after the WRT (H'040) should be enough.

Hope this helps.

Best wishes from the Canary Islands.

Diego.

Re: MCODE: Where these last posts are heading: A function called "NSG"

*Message #7 Posted by **Geir Isene** on 9 Jan 2010, 9:24 a.m.,*
in response to message #6 by Diego Diaz

> Quote:
>
> ... On the other hand if the requirements for HGETA are only RAM swapping then I think that a simple NOP (H'000) after the WRT (H'040) should be enough.

It didn't help. Here is a clarification of what happens:

```
0. Address 4100 contains 100
1. XEQ"NSG"
2. I enter "102" at the prompt
3. The NSG function then writes 102 to address 4100,
    does the NOP and jumps to the program GETN
    which simply writes "N" to the Alpha register and
    calls HGETA to restore memory from the file named "N".
4. One would suspect that HGETA gets the file "N"
    from Block #2 (h102), but it instead reads the file
    from Block #0 (h100).
```

But, if I do this manually, i.e. I do XEQ"N102" and then XEQ"GETN" (which would be the same as the function "NSG"), id oes behave correctly (reading the file "N" from the new, switched-to block.

Hm....

Edited: 9 Jan 2010, 9:27 a.m.

Re: MCODE: Where these last posts are heading: A function called "NSG"

*Message #8 Posted by **Diego Diaz** on 10 Jan 2010, 1:07 a.m.,*
in response to message #7 by Geir Isene

Hi again,

Yep, I have to correct myself:

It is the RAM power control register (internal to the NoV-64) which is updated "on the fly". The RAM block swapping takes effect after the next "STAND BY"... This is why it works as expected when the operation is performed manually.

I'll check for a suitable solution to allow RAM swapping while keeping ROM conflict protection.

Will mail you back in a few days with a modified code to test.

Best wishes.

Re: MCODE: Where these last posts are heading: A function called "NSG"

*Message #9 Posted by **Geir Isene** on 10 Jan 2010, 2:20 a.m.,*
in response to message #8 by Diego Diaz

To any MCODE dude:

Any way to do a very short STANDBY inside an Mcode program?

PS: Diego; looking forward to updated code.

Re: MCODE: Where these last posts are heading: A function called "NSG"

*Message #10 Posted by **Diego Diaz** on 10 Jan 2010, 3:02 p.m.,*
in response to message #9 by Geir Isene

Hi Geir,

Well, it looks like if it wasn't that hard...

You've got mail. ;-)

Please let me (us) know if it works OK with ICEBOX 1H and NoV-64.

If it does I'll include it also in the NoV-32 code and place an upgrade notice in my page with the new code.

Cheers.

SUCCESS :-)

*Message #11 Posted by **Geir Isene** on 12 Jan 2010, 8:57 a.m.,*
in response to message #10 by Diego Diaz

Alright; It WORKS.

And the ICEBOX 1H is just around the corner.

Thanks Diego!

Re: SUCCESS :-)

*Message #12 Posted by **Diego Diaz** on 12 Jan 2010, 9:26 a.m.,*
in response to message #11 by Geir Isene

Hi Geir,

Good to know I can contribute a bit to this new release of your ICEBOX project ;-))

Cheers!

Diego.

PS: will mail you again with the updated file for the NoV-32.

Re: SUCCESS :-)

*Message #13 Posted by **Geir Isene** on 13 Jan 2010, 5:34 a.m.,*
in response to message #12 by Diego Diaz

In the ICEBOX v. 1H, the function mentioned here as "NSG" is named "NBS" (NoV Block Switch).

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HP300s smartcalc error

*Message #1 Posted by **Scott Smith** on 5 Jan 2010, 12:31 a.m.*

Hi,

When I do the following calc on my smartcalc I get the wrong ansswer. Any ideas anyone?

The calc is 78724*pi*.075^2*.5

I get an answer of 800 instead of around 695.

Thanks

Scott

Re: HP300s smartcalc error

*Message #2 Posted by **Scott Smith** on 5 Jan 2010, 12:42 a.m.,*
in response to message #1 by Scott Smith

further to this if I multiply by .500000001 instead of 0.5 I get the correct answer.

Looks like I am back to my 48 or 30s

Re: HP300s smartcalc error

*Message #3 Posted by **Hubert Weikert** on 5 Jan 2010, 11:31 a.m.,*
in response to message #2 by Scott Smith

Hi,

With my 300s I get 221*(329/800)*PI, which converts with S<=>D to 695.5839564

Hubert

Re: HP300s smartcalc error

*Message #4 Posted by **Norman Dziedzic** on 5 Jan 2010, 1:49 p.m.,*
in response to message #3 by Hubert Weikert

Funny,

For 221*(329/800)*PI I get 285.527...

Did you copy something down wrong?

Re: HP300s smartcalc error

*Message #5 Posted by **Scott Smith** on 5 Jan 2010, 4:36 p.m.,*
in response to message #4 by Norman Dziedzic

Hi Guys,

I too get 285.382 from the above formula.

I have done this eqn over and over again on my 300s and always get 800. I have even saved intermediate values in registers and still get the wrong answer.

My 38G gives me the correct answers, so too does my 35s and 48.

Looks like I got a dud.

Re: HP300s smartcalc error

*Message #6 Posted by **Tim Wessman** on 5 Jan 2010, 7:26 p.m.,*
in response to message #5 by Scott Smith

I repeated it on my emulator. I'm not sure if it is the actual code used in the unit though, or a reimplementation. . .

I suspect it is a setting of some kind causing the problems. Not sure which one though.

TW

Re: HP300s smartcalc error

*Message #7 Posted by **Hubert Weikert** on 6 Jan 2010, 3:58 p.m.,*
in response to message #4 by Norman Dziedzic

Sorry, I had not checked what I wrote!

The correct term is (221+329/800)*PI, which results in 695.58...

The error depends on the setting of the fraction mode (SET UP/down). My calc is in MATH (MthIO) format mode.

setting ab/c (Mixed) gives 695.58...

setting d/c (improper) gives 800, thats the erroneus display.

Hubert

Edited: 7 Jan 2010, 11:27 a.m.

Re: HP300s smartcalc error

*Message #8 Posted by **Bart (UK)** on 6 Jan 2010, 12:56 p.m.,*
in response to message #1 by Scott Smith

Hi,

I have tried this by doing = between each multiplication (and S<=>D where necessary) and in the second last step have 1391.167193. Multiply this by 0.5 (i.e. display is "Ans x 0.5") and it returns 800 as well.

However, the correct answer is displayed if the equation is done in reverse.

edit: taking the last step as "Ans / 2" also gives 800

Edited: 6 Jan 2010, 1:00 p.m.

Re: HP300s smartcalc error

*Message #9 Posted by **Walter B** on 6 Jan 2010, 1:13 p.m.,*
in response to message #8 by Bart (UK)

> Quote:
>
> in the second last step have 1391.167193. Multiply this by 0.5 (i.e. display is "Ans x 0.5") and it returns 800 as well. ... taking the last step as "Ans / 2" also gives 800

Does this mean this device is unable to calculate 1391.167193 / 2 ? That's elementary math! :(Hard to believe.

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Fix Spice with unsoldered chips?

*Message #1 Posted by **Paul Brogger** on 4 Jan 2010, 4:03 p.m.*

I've a once-working 31E with unsoldered chips. I'd like to make it my desktop device -- just 'cause it's got RRREEEDDD LLLEEEDDDs! (*Who* was/is it that got known for gushing over LEDs so profusely?)

It needs a power pack too, and both clips are broken off of the little battery/recharger connector PCB, and a nearby piece of the back case is missing. Unfortunately, it exhibits the infamous "2 disease", which I attribute to having used alkaline cells rather than Ni-Cds. (I think forcing alkalines into a Spice can lead to - or exacerbate - lots of problems!)

I assume my approach should be: solder the chips to the circuit board and connect some sort of two-cell power pack? (Maybe a cordless phone pack with two Ni-Cds?) I'd rather have it portable, than rechargeable, if I'm faced with that as a trade-off.

Any further advice or options?

Thanks.

Re: Fix Spice with unsoldered chips?

*Message #2 Posted by **Michael de Estrada** on 4 Jan 2010, 4:42 p.m.,*
in response to message #1 by Paul Brogger

> Quote:
>
> Unfortunately, it exhibits the infamous "2 disease"

What exactly do you mean?

Re: Fix Spice with unsoldered chips?

*Message #3 Posted by **Paul Brogger** on 4 Jan 2010, 4:56 p.m.,*
in response to message #2 by Michael de Estrada

I can only vaguely remember, as I haven't used this calc for years. But there's been some discussion of this elsewhere -- you may wish to do a little searching.

IIRC, when actually pressing digits (any keys?), the display briefly flashes with "22222222..." all the way across. I don't think there's any other manifestation, and when the key is released, the display goes back to normal.

There has been some discussion re: the cause. It did seem to me, way back when I was paying attention, that the only common thread appeared to be that afflicted calculators (all Spice models) had at least once been run on disposable (alkaline) batteries.

Someone will surely correct me if I'm off base.

I did find this - older - discussion. Apparently, the problem only occurs when there's one or more "2" in the display -- then "ghost" 2's start showing up with keypresses.

Edited: 4 Jan 2010, 6:22 p.m. after one or more responses were posted

Re: Fix Spice with unsoldered chips?

*Message #4 Posted by **Michael de Estrada** on 4 Jan 2010, 5:31 p.m.,*
in response to message #3 by Paul Brogger

I have a dozen working Spices, and I've never seen this phenomenon on any of them.

Re: Fix Spice with unsoldered chips?

*Message #5 Posted by **Paul Brogger** on 4 Jan 2010, 6:20 p.m.,*
in response to message #4 by Michael de Estrada

I'm curious -- have you ever run any of them on disposable AA batteries (rather than NiCd rechargeables)?

Thanks

Re: Fix Spice with unsoldered chips?

*Message #6 Posted by **Michael de Estrada** on 4 Jan 2010, 6:50 p.m.,*
in response to message #5 by Paul Brogger

No. However, many of them were probably used this way by their previous owners, since the battery contacts were either bent or broken due to the use of high-top AA cells. I only use flat-top AA NiCads.

Re: Fix Spice with unsoldered chips?

*Message #7 Posted by **Vieira, Luiz C. (Brazil)** on 4 Jan 2010, 5:34 p.m.,*
in response to message #3 by Paul Brogger

Hi, Paul;

the "2 disease" term was first used by Norm (AKA Captain Zener) after seeing many 2´s being randomly shown in the display of some Spices while performing a few regular operations, mostly while running programs. Same models with same internals might have or not the so called '2´s disease', different models with different internals might also have it or not. No pattern was established or observed at that time. In one particular case, IIRC, one calculator without the '2´s disease' came up with it after being serviced. I do not recall the actual circumstances, but it seems to me that something wrong happened and the '2´s disease' was then classified as a hardware flaw.

Norm firmly believed it was a design flaw, and I disagreed with him by defending it as a design characteristic, instead. We never got to a consensus, and I believe that only the guys who designed the firmware have the answer.

As all calculators ended up operating accordingly, no further mentioning was made till now.

That´s all I can tell without 'digging' the archives.

Cheers.

Luiz (Brazil)

Edited: 4 Jan 2010, 5:36 p.m.

Re: Fix Spice with unsoldered chips?

*Message #8 Posted by **Paul Brogger** on 4 Jan 2010, 6:24 p.m.,*
in response to message #7 by Vieira, Luiz C. (Brazil)

Ahh, yes. And it was that same Norm (or, "Captain Zener") who had the hilarious habit of waxing poetic about RED LEDs!

Hello out there, Norm -- wherever you are!

Re: Fix Spice with unsoldered chips?

*Message #9 Posted by **Randy** on 4 Jan 2010, 8:35 p.m.,*
in response to message #1 by Paul Brogger

Solder the chips and the LED array into place. I normally clean the leads of the IC's first as they will be oxidized and not want to solder well at all which is why they don't like to work with pressure alone.

If you want a charger and battery, shoot me an email, I can fix you up...

Re: Fix Spice with unsoldered chips?

*Message #10 Posted by **Mike T** on 14 Jan 2010, 5:40 p.m.,*
in response to message #9 by Randy

Use a decent (temp controlled) soldering iron and remember that the chips are very very sensitive to static so use an antistatic mat and wrist strap. I killed my original HP33C trying to repair it - took me 18 years to get another!

Mike T.

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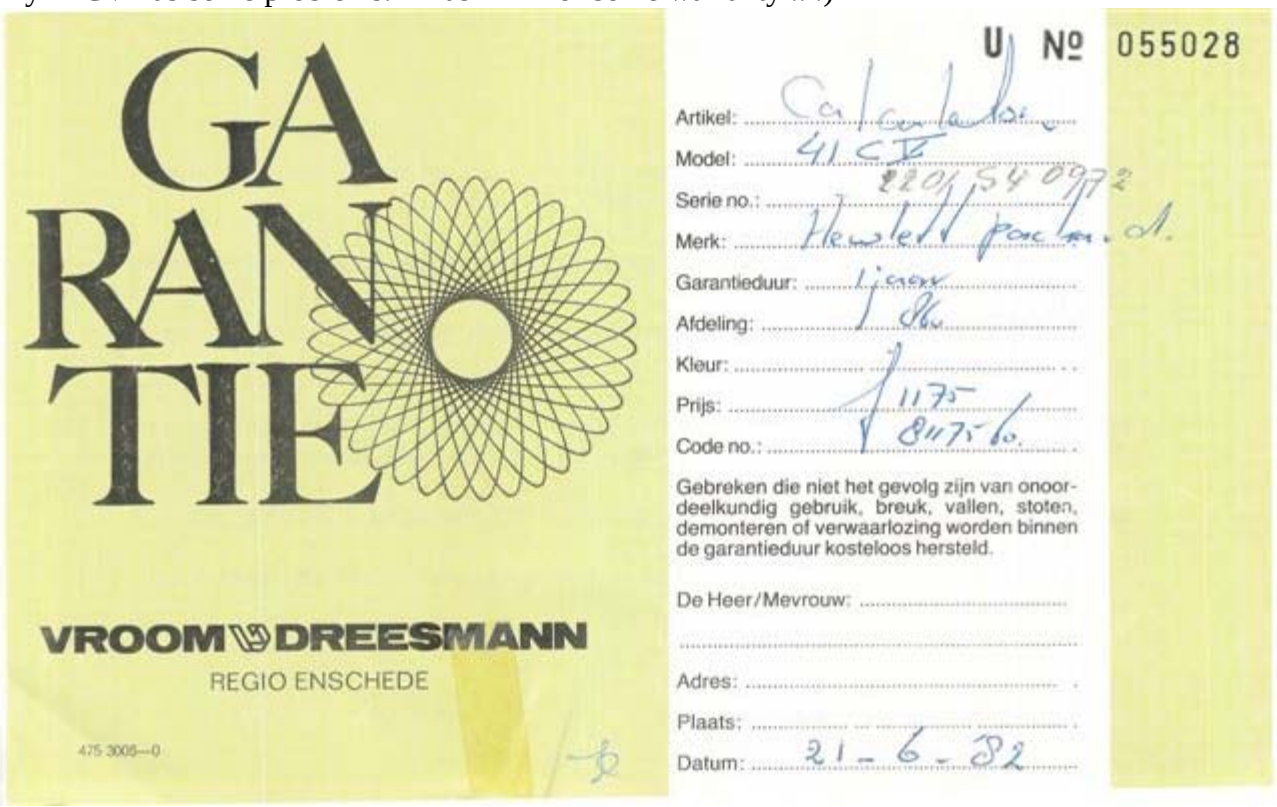
HP41CV Warranty, Just keep your receipt ...

*Message #1 Posted by **Raymund Heuvel** on 4 Jan 2010, 3:18 p.m.*

My 41CV has some problems. I'll ask HP for some warranty .. :)



Garantie is Dutch for Warranty ..
Any older/newer receipts around?
The price was in Dutch Guilders, 1175 is about 534 Euro !! BR
Ray

Re: HP41CV Warranty, Just keep your receipt ...

*Message #2 Posted by **Marcus von Cube, Germany** on 4 Jan 2010, 5:20 p.m.,*
in response to message #1 by Raymund Heuvel

Do you have a time reversal device? Your warranty has expired some time ago. ;)

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OT: Phosphor Watches - E Ink Displays

*Message #1 Posted by **Gerry Schultz** on 4 Jan 2010, 2:36 p.m.*

Has anyone seen one of these watches or owns one? How well do they work and is the display decent?

http://www.phosphorwatches.com

Thanks,

Gerry

Re: OT: Phosphor Watches - E Ink Displays

*Message #2 Posted by **Bill Wiese** on 4 Jan 2010, 3:33 p.m.,*
in response to message #1 by Gerry Schultz

E-ink is cool, but these watches probably have the build quality of Seiko/Casio junk or worse. I wouldn't be seen wearing one.

Call me when they use 316 stainless, the watchband segments are not pressed sheet metal (i.e, has real forged links) and when they have scratch-free sapphire crystals.

Bill Wiese
San Jose CA

Edited: 4 Jan 2010, 3:34 p.m.

OT: Phosphor and other Watches

*Message #3 Posted by **Karl Schneider** on 5 Jan 2010, 12:48 a.m.,*
in response to message #2 by Bill Wiese

> Quote:
>
> ...but these watches probably have the build quality of Seiko/Casio junk or worse. I wouldn't be seen wearing one.

Bite your tongue, Bill! ;-)

I still wear a 1981 Seiko H357 5030 Duodisplay. More practical in many ways than the typical Rolex, and much less attractive to thieves and street robbers.

In fairness, though, I doubt that modern Seiko quality is equal to early 1980's Seiko quality. In fact, my repairman said as much in the early 1990's.

-- KS

Re: OT: Phosphor and other Watches

*Message #4 Posted by **Bill Wiese** on 5 Jan 2010, 4:15 a.m.,*
in response to message #3 by Karl Schneider

Hi Karl,

>>>More practical in many ways than the typical Rolex

How? You always have to baby Seikos so they don't scratch. Their stainless steel is much softer/dentable, and their crystals scratch easily (some more expensive models do have sapphire crystal, but fairly rare.

My Rolex sub I've had since 1992 looks almost new and I went thru 3 Seikos in 5 years before that.

>>> much less attractive to thieves and street robbers.

I generally don't go into bad areas, don't use public transit, etc. When I travel I can have a firearm reasonably handy. In California, it's legal to drive with an unloaded shotgun/rifle, and a handgun can be transported locked in case (but readily opened quickly with practice).

Bill Wiese
San Jose CA

Edited: 5 Jan 2010, 4:16 a.m.

Re: OT: Phosphor and other Watches

*Message #5 Posted by **Marcus von Cube, Germany** on 5 Jan 2010, 6:14 a.m.,*
in response to message #4 by Bill Wiese

Buy a Rolex and get a hand gun free! :D

Re: OT: Phosphor and other Watches

*Message #6 Posted by **Maximilian Hohmann** on 5 Jan 2010, 7:19 a.m.,*
in response to message #5 by Marcus von Cube, Germany

Hello!

> Quote:
>
> Buy a Rolex and get a hand gun free!

:-) But honestly, I find the idea of killing a man to protect a stupid watch quite irritating. Especially a Rolex, 95 percent of which are fakes and the other 5 percent being worn by people one does not really want to be associated with (at least in my part of the world).

But yes, these seem to be the subtle cultural differences that still exist in the twentyfirst century.

Greetings, max

Re: OT: Phosphor and other Watches

*Message #7 Posted by **Hiawatha Wheelwright** on 6 Jan 2010, 12:44 a.m.,*
in response to message #3 by Karl Schneider

> Quote:
>
> I still wear a 1981 Seiko H357 5030 Duodisplay. More practical in many ways than the typical Rolex, and much less attractive to thieves and street robbers.
>
> In fairness, though, I doubt that modern Seiko quality is equal to early 1980's Seiko quality. In fact, my repairman said as much in the early 1990's.

I've been meaning to get a Seiko digital since 1982. They finally came out with the one I wanted, so I bought it. Solid brushed stainless steel case and bracelet, sapphire crystal, solar, atomic, LCD digital:

http://www.gmtplusnine.com/2008/11/11/sbpg001-and-sbpg003-seiko-spirit-power-design-project-digital-watch/

Now something about watches!

*Message #8 Posted by **geoff quickfall** on 5 Jan 2010, 12:44 p.m.,*
in response to message #1 by Gerry Schultz

Hello all!

Now were talking, off topic of course, but still, why not.

Rolex is probably one of the best mass produced watches on the market. Not much one can add to that, other than comparing them to Seiko mid to low cost is apples and oranges.

Upto the 70's Seikos were beautifully engineered in a very Swiss way. Production was then switched to a mass produced stamped method in which the mechanism parts were stamped robotically, therefore requiring softer metals for the stamping process as opposed to a milling process.

Seiko still uses these methods on their lower end range but the high end is every bit comparable to the best Swiss mass produced.

It is like any company that has a range of value products. Rolex was very smart in it's marketing. It made no lower quality watch called a Rolex, they were called Tudor, in affect an ETA movement in a Rolex case.

Don't want to get into a Rolex history versus Seiko but Seiko is the only watch company that make ALL it's watch parts from screws to lubricants to crystals, balance springs and etc.

Both the history of Seiko and Rolex require books but here are some Seikos from what I consider the height of their company during the 60's and EARLY 70's prior to the shift by the entire worlds watch industry to cheaper methods of production of mechanical or digital watches.

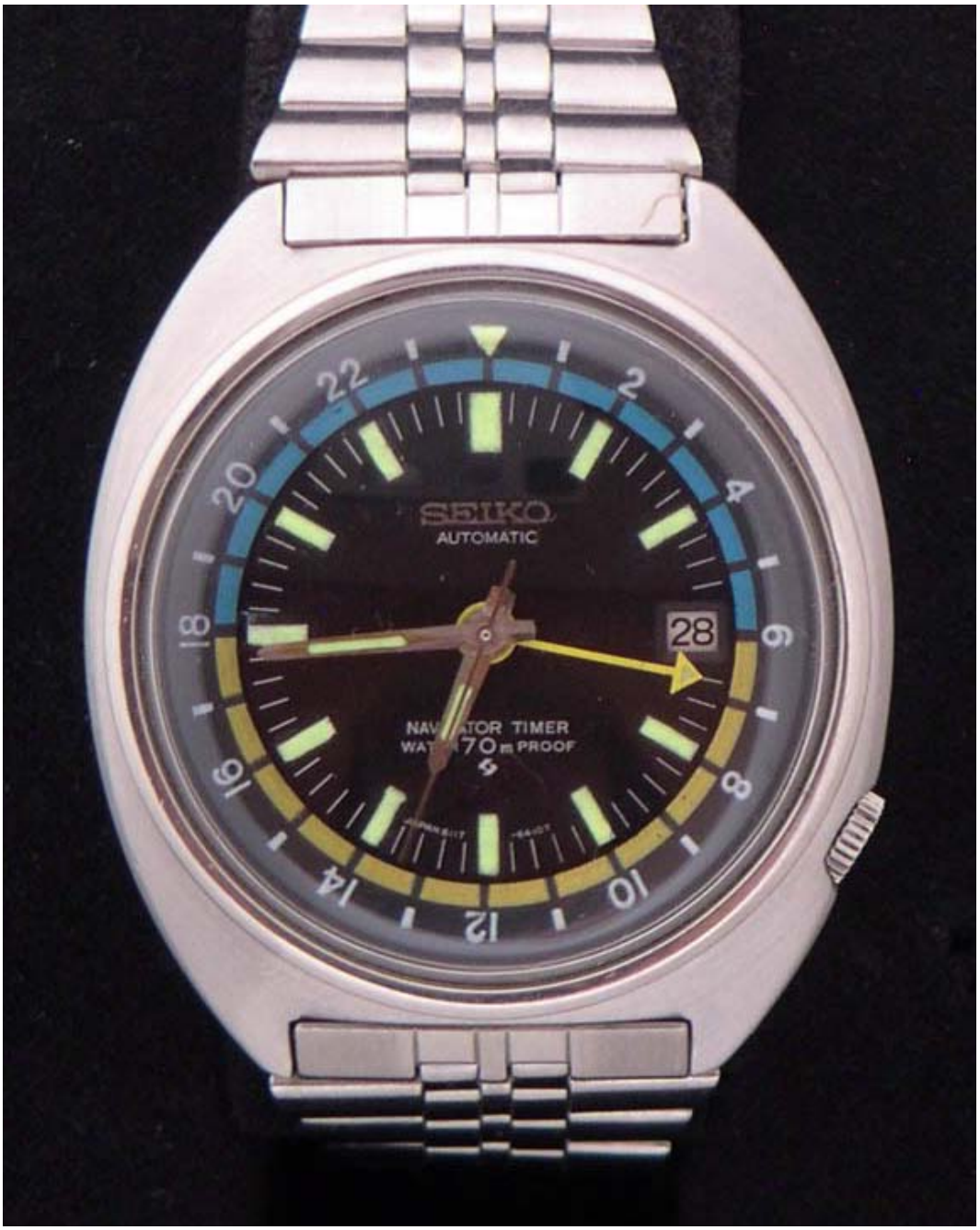
Just a short note about the cost of Seiko in the 60's when they became known as a 'cheap' watch, which should apply to the cost and not the manufacture. The watch was priced in Japan for the Japanese market. In the early 60's the watch at 25 USD was three months salary to a resident of Japan and yet was chump change to an American at the local base PX store at Haneda or Fukuoka.

In short I think the vintage Seiko (60's and early 70's)is extremely underated and good value for collection. Just a note, at the moment, I have 250 Swiss watches, over 150 are now fully restored, the rest are rainy day projects for retirement and all are considered part of the pension plan. They are all complicated movements and are considedered collectable. Here are just the Seikos:

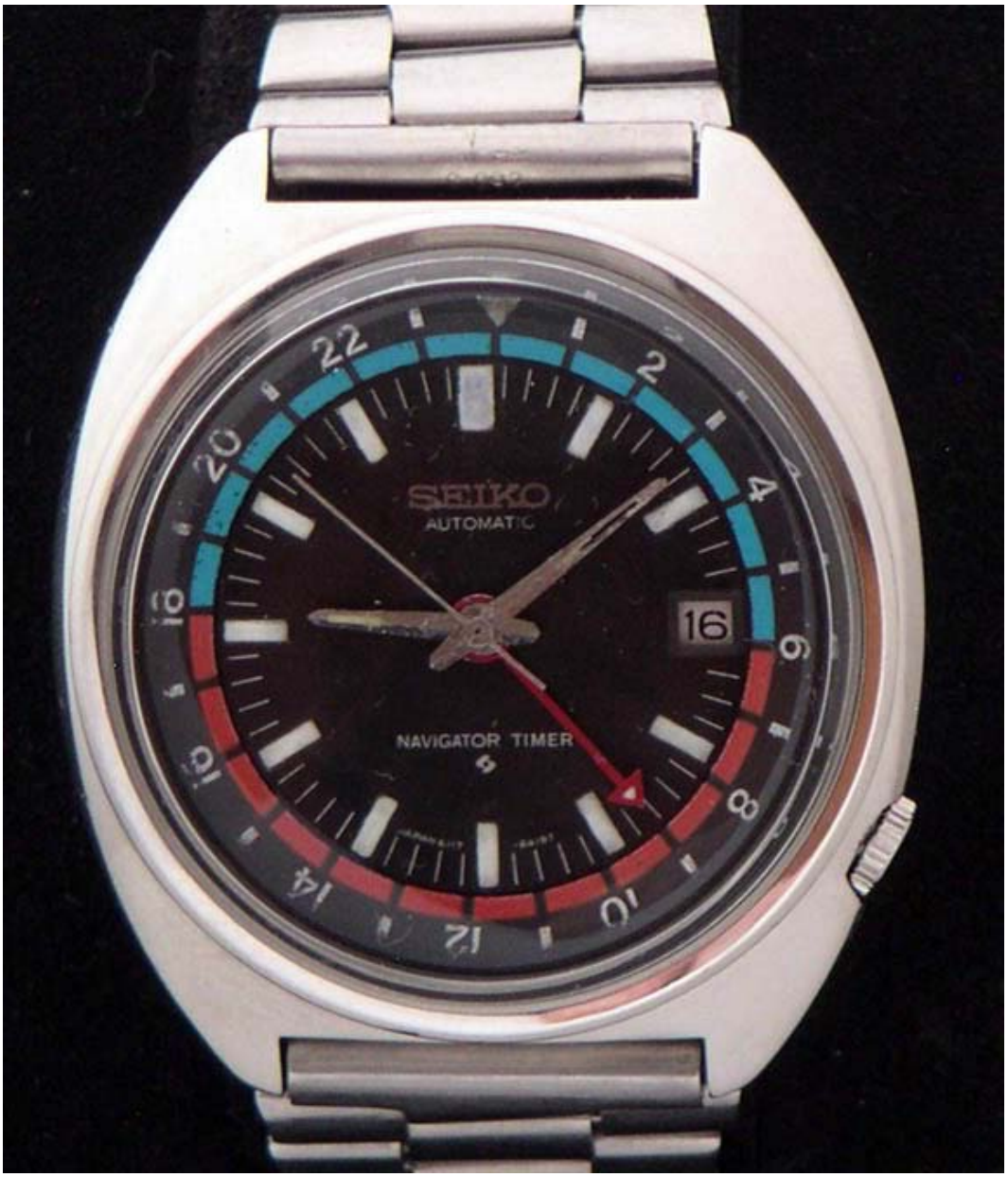
Presmatic 33 jewel qutomatic chronometer with Swiss certification, instantaneous day and date change at midnight, fully adjusted to positions and temperatures, fully stainless steel. A beautiful movement and the high end of Seiko in 1966 fully comparable to any Rolex of the time for production values.

World timer from 1964, 17 jewel automatic with world time indication from 24 hour hand.

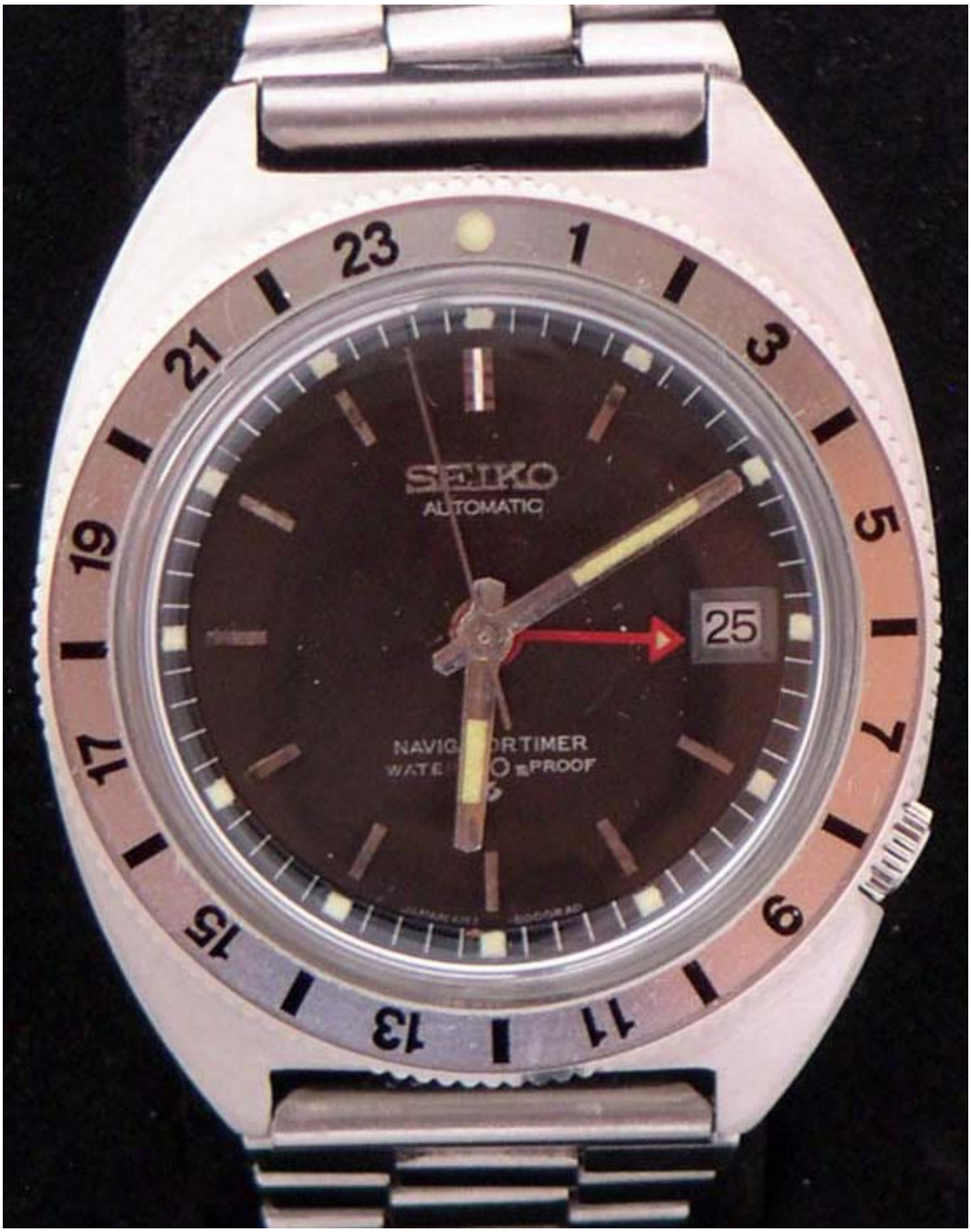
Navitimer 1969



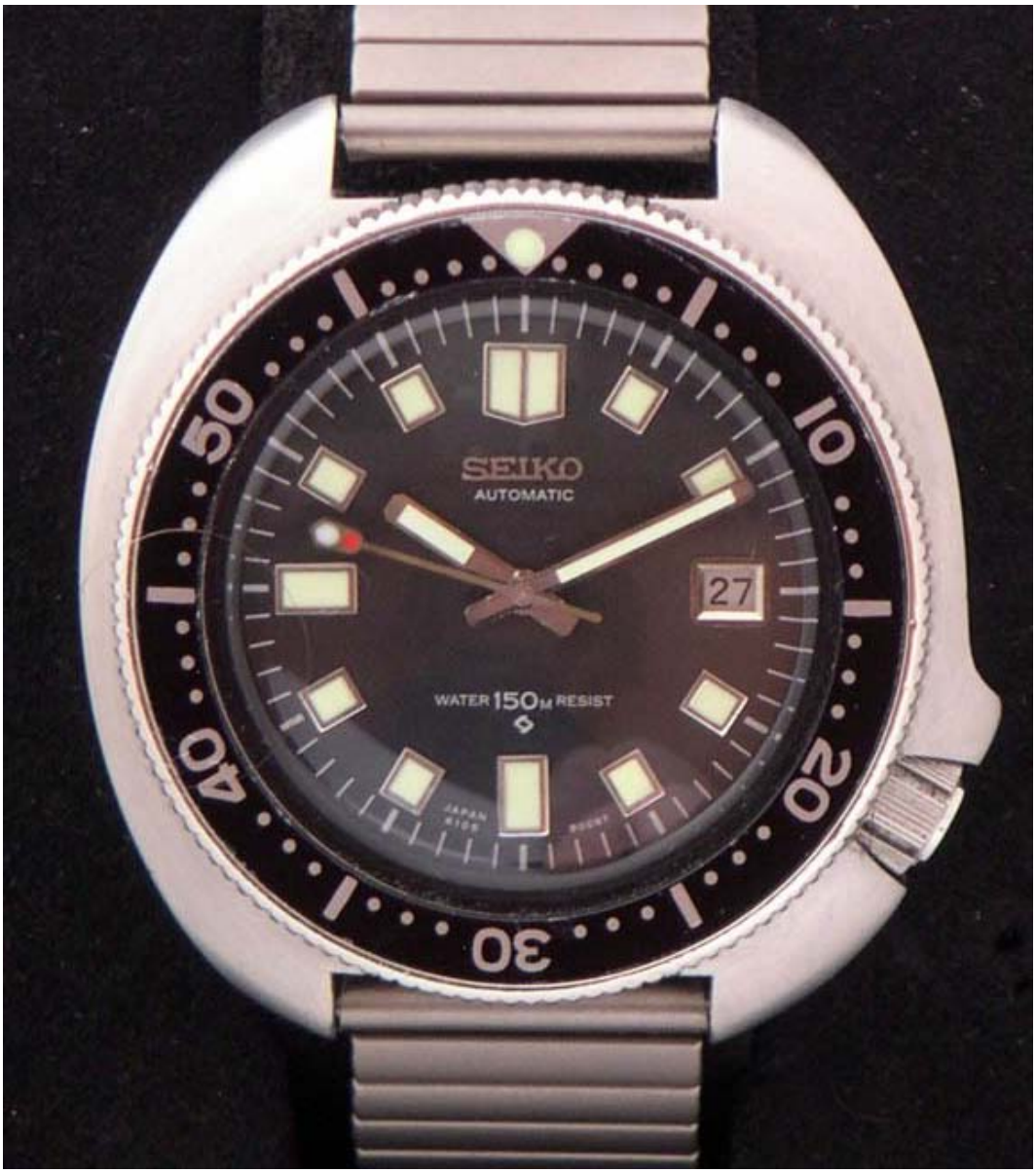
Navitimer 1969



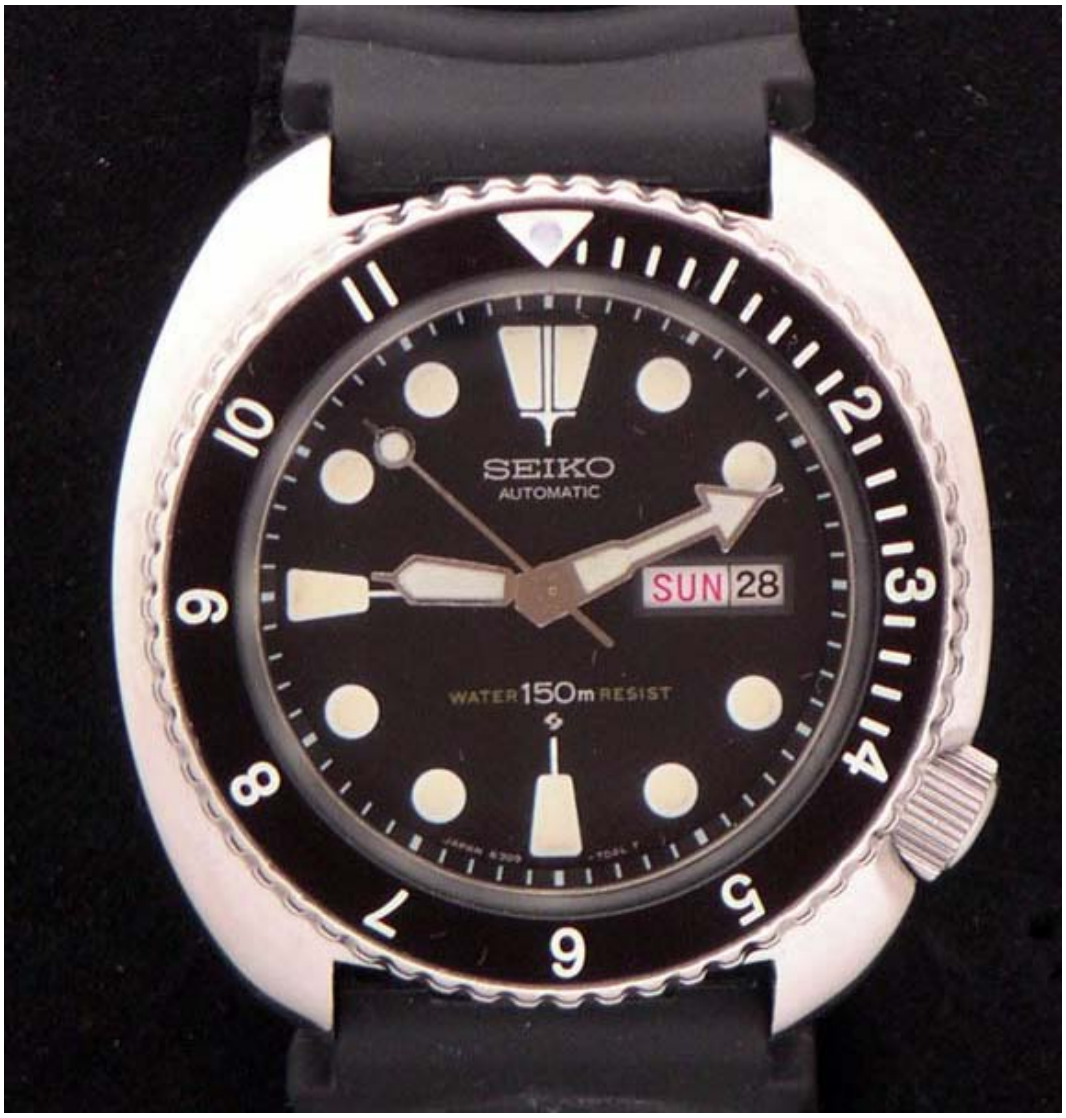
Version one of Navitimer 1968



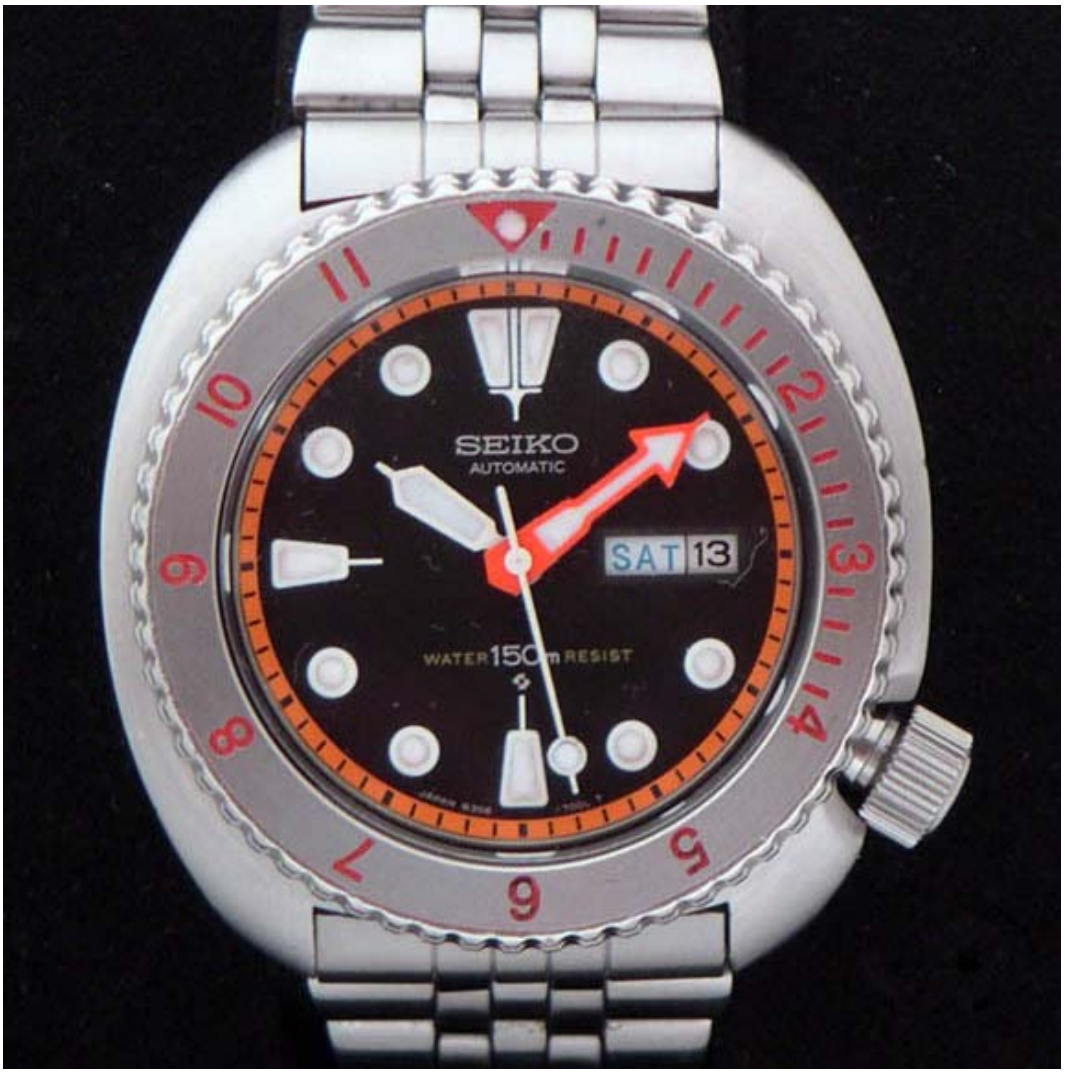
Diving watch, 6105, a cult watch to Seiko collectors with 21 jewel automatic movement. If you have seen Apocolypse now Martin Sheen is wearing one of these. It cost 25 USd at the Px and was the number one unofficial grunt watch during the Vietnam war with the same specs as a Rolex diving watch of the same era selling for 400 USd.



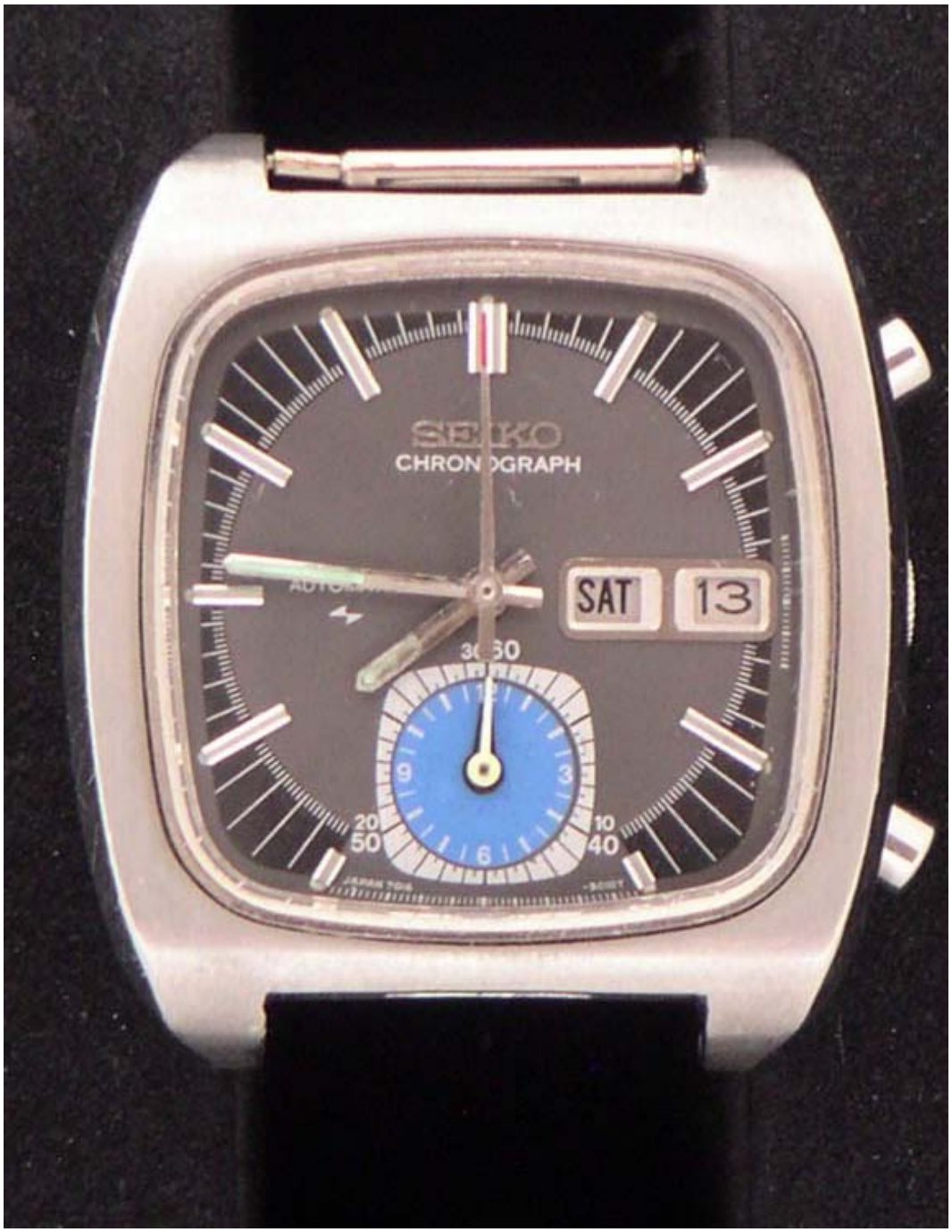
The next production version of the 150M diving watch:



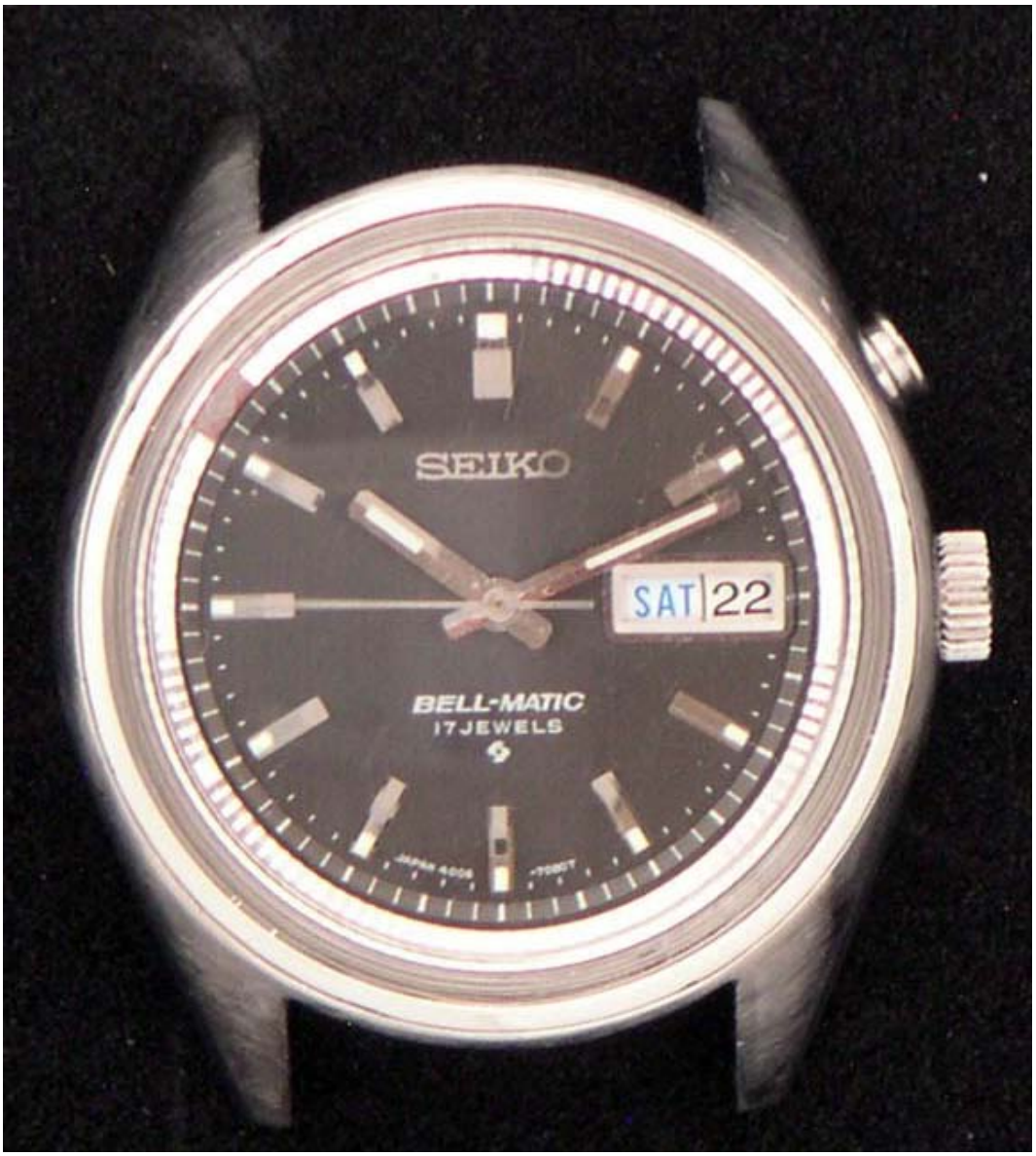
Similar watch to the above modified by me with the orange hands and 12 hour ring for timezones:



The smallest automatic 30 minute and 12 hour display chronograph in the world in 1974 when it was manufactured. It also has a dual display at the 6 for the chronograph, a feature only reproduced today by Patek Phillipe with bot the 30 minute and 12 hour display on the same register. Also a single zero setting function with instant timing (flyback), a function found on very expensive Swiss chronographs of the time:

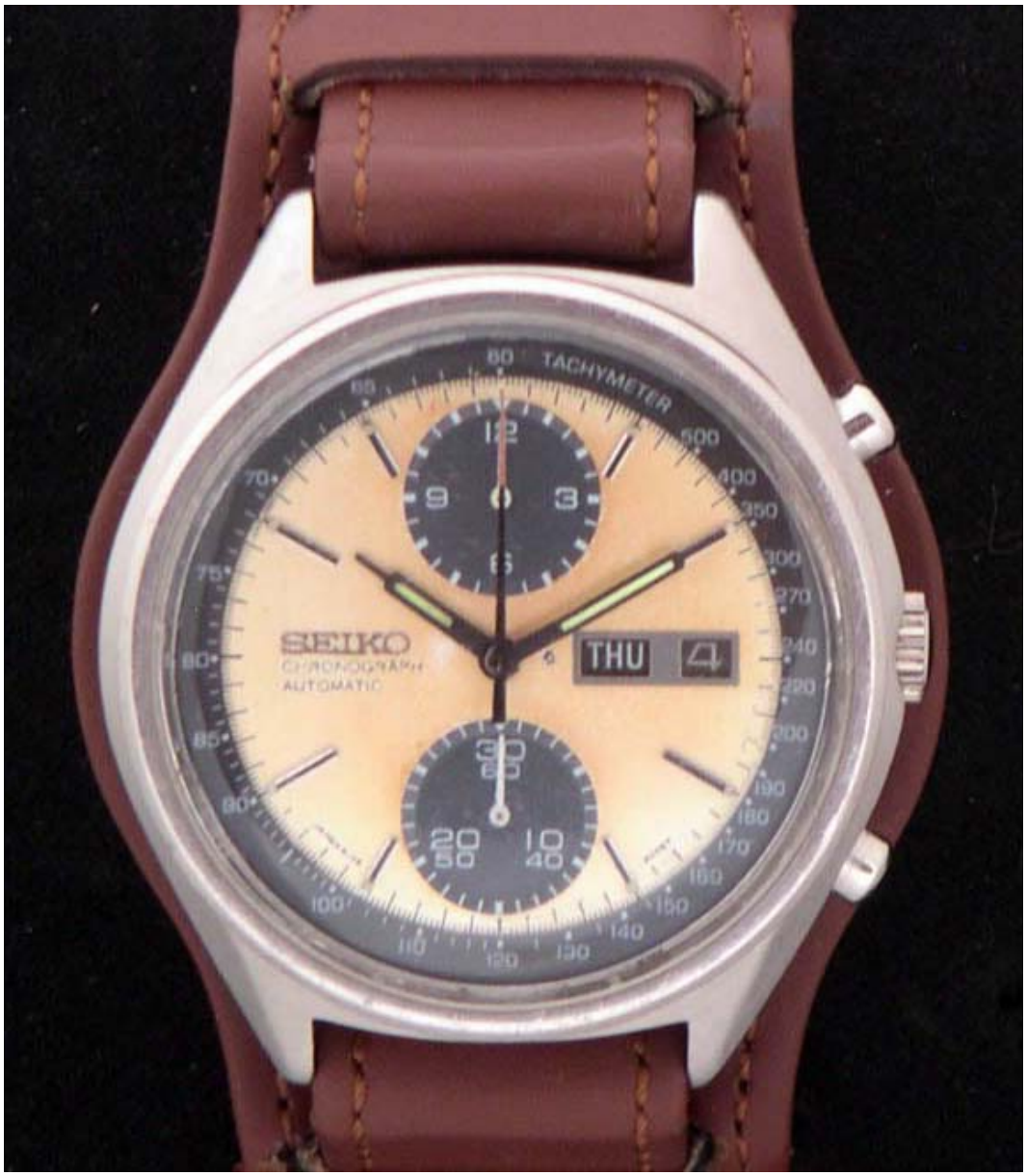


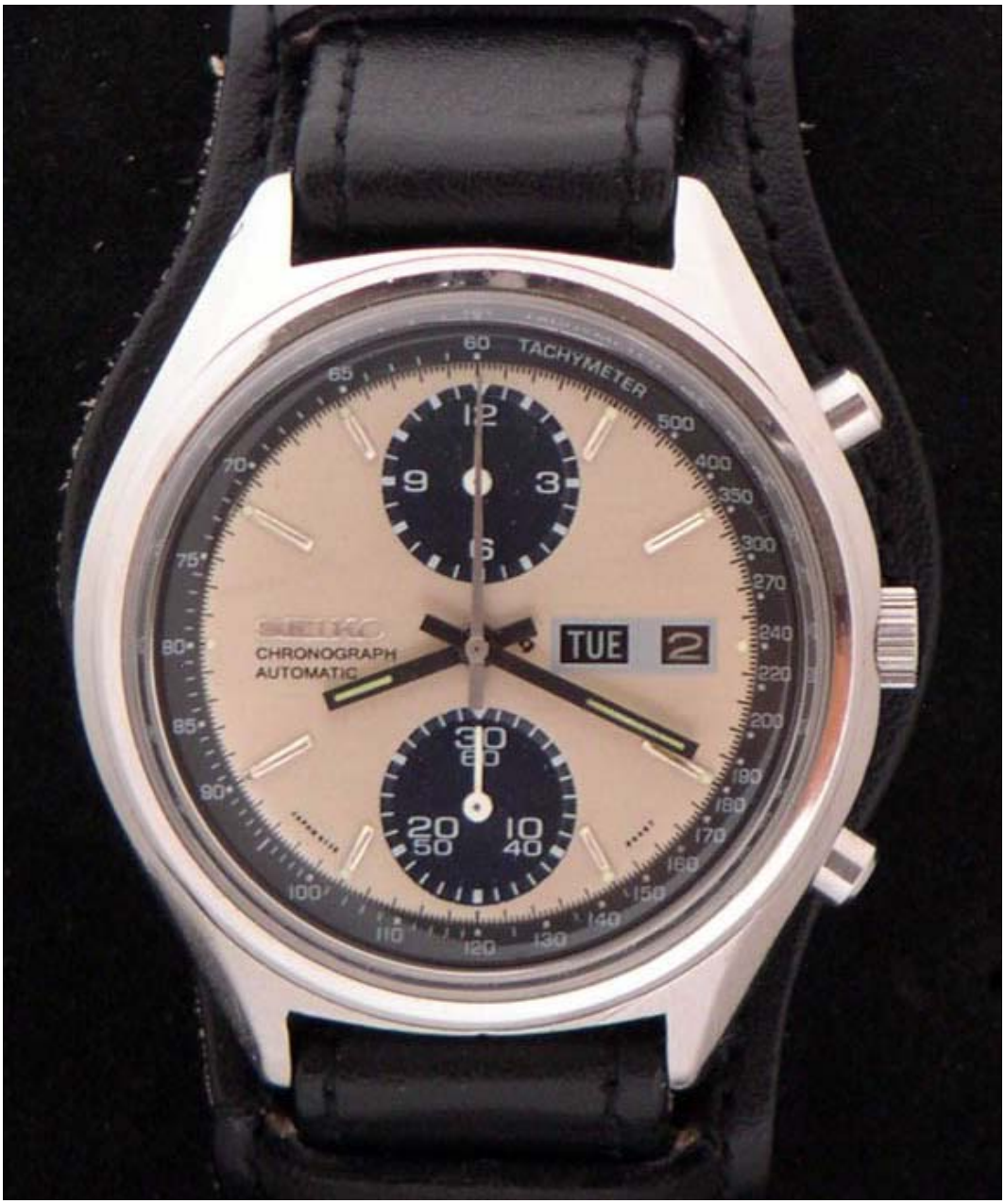
One of the first automtic alarm watches in the world,



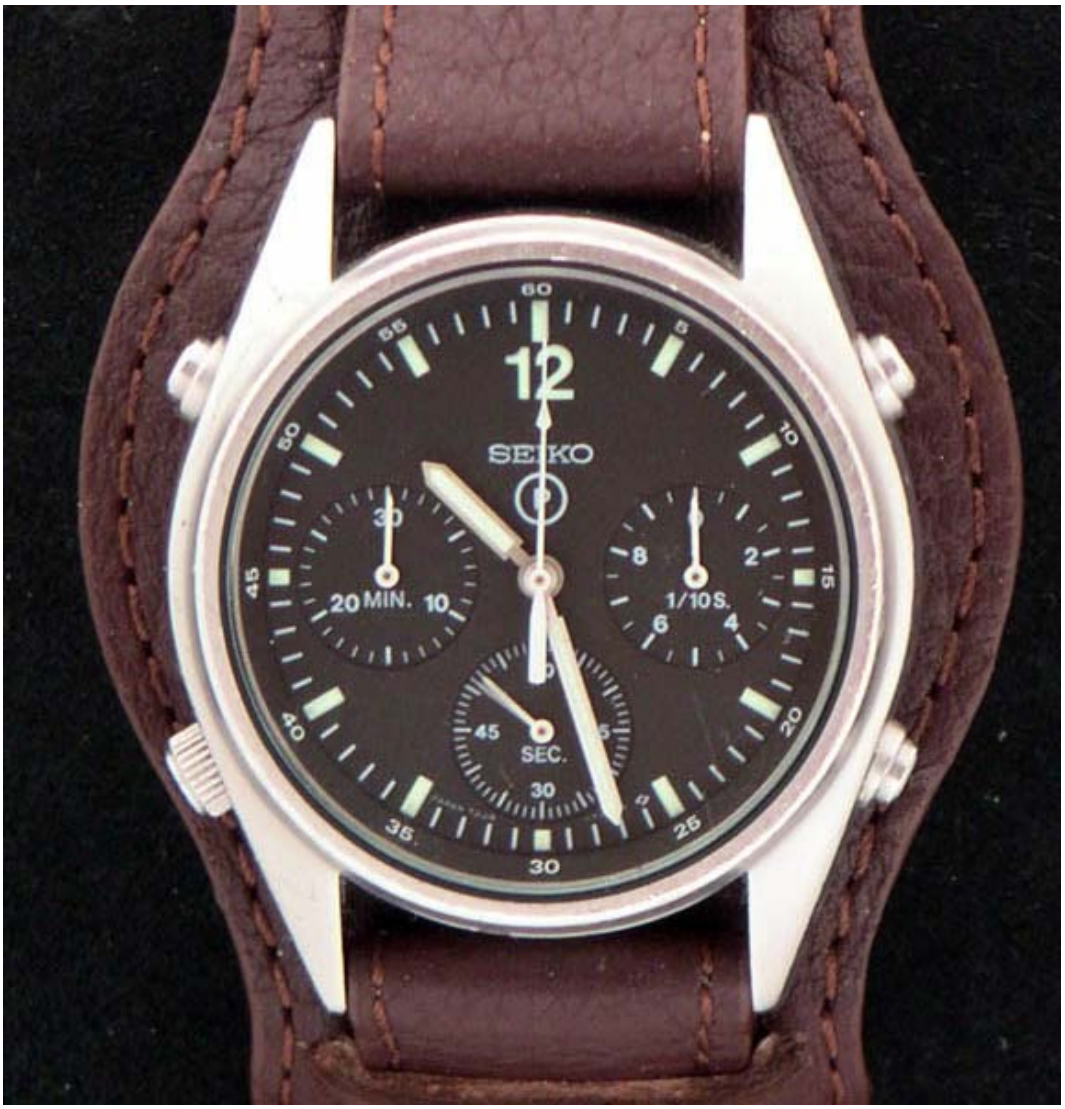
2 weeks after Zenith and Hamilton Buren anounced the automatic Chronograph Seiko came out with theirs and it included a quick set day and date! This is the 12 counter version called a Bullhead.

TACHYMETER
SEIKO
CHRONOGRAPH
AUTOMATIC

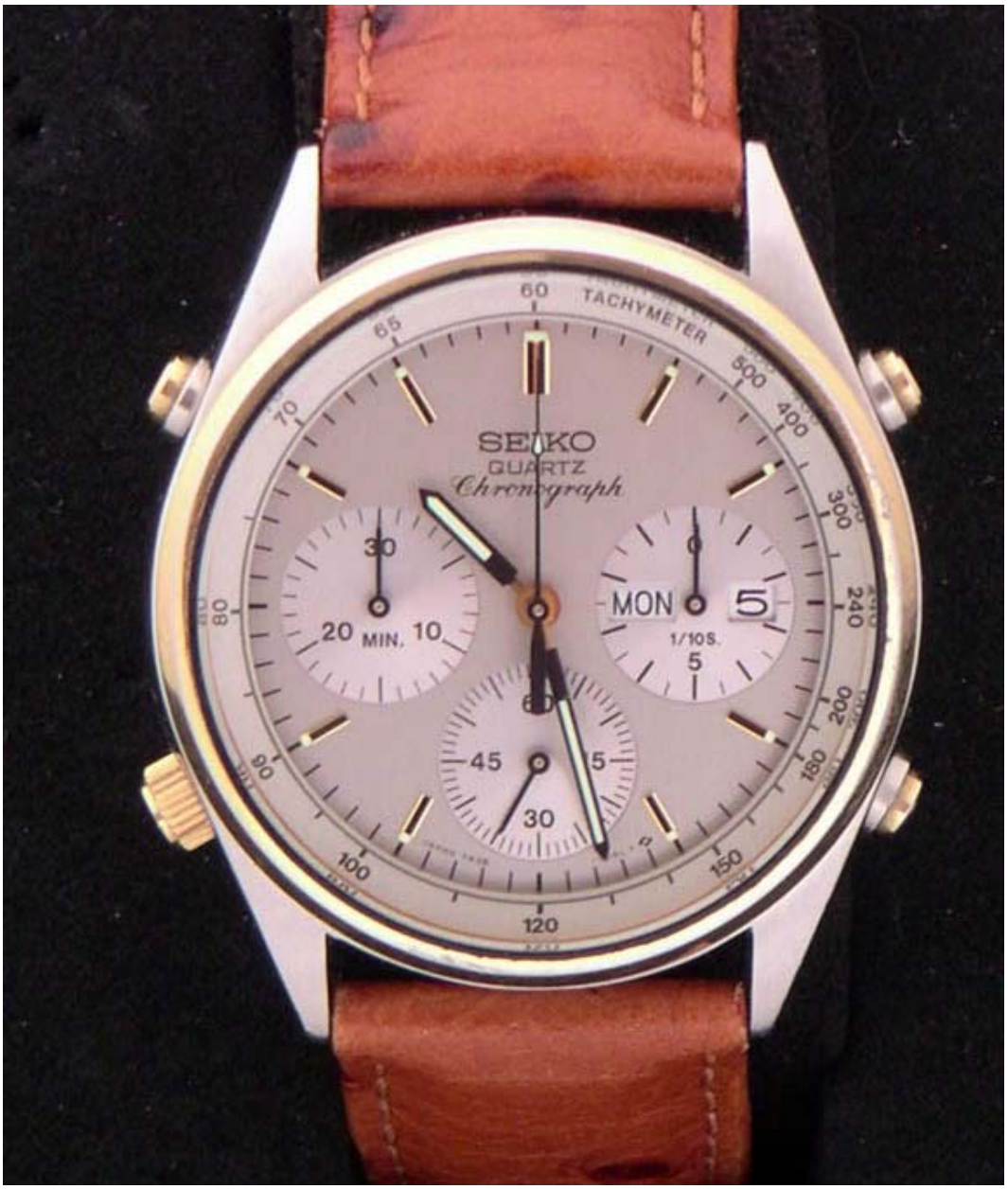

TACHYMETER
SEIKO
CHRONOGRAPH
AUTOMATIC
THU
4



Even the quartz versions can be high end. Here is a military RAF issue quartz driven analogue chronograph. The first analogue chronograph watch made anywhere and with 15 jewels. A feat only Jaeger LeCoutre matched 5 years later:



A civilian version with day and date:



Just a few of my Seikos but my collection includes mostly Swiss complicated movements:

Edited: 5 Jan 2010, 12:46 p.m.

Re: Now something about watches!

*Message #9 Posted by **Michael Meyer** on 5 Jan 2010, 1:56 p.m.,*
in response to message #8 by geoff quickfall

Geoff- Are we a compulsive group or what?

I bought a few Seiko Kinetic watches when they came out, but ended up only wearing one... a Titanium Sports 100. Glow-in-the-dark face, day-date, water resistant, and no battery. I've worn the same watch for about ten years now. Not a scratch on the crystal. I have a doctor friend down the hall who wears the same watch. For about 10 years also..... It was about $350 when I bought it. I gave one of my other Kinetic watches to my son, who loves it. Still have a couple in the drawer, but I never seem to want to vary...

My watch does a battle scar. I was playing with a new camera flash a couple of years ago and flashed the watch, which of course, glowed brightly. On the second flash, I managed to vaporize some of the paint from the hands... I had the crystal cleaned (after an embarrasing explanation to the watchmaker who hadn't actually seen anyone do this before) but it still has a bit of a dark "cloud" on the face. Gives it character....

Re: Now something about watches!

*Message #10 Posted by **Martin Pinckney** on 5 Jan 2010, 4:42 p.m.,*
in response to message #8 by geoff quickfall

Geoff,

Thanks for defending Seiko, and in a very knowledgeable way. For those of us who cannot afford a multi-thousand dollar Rolex, they make a pretty good watch. I first heard of the brand in the late 60's, when a man my father built a dock for gave one to my dad. He told my dad it cost only $15 in Japan, and he could get as many as he wanted (He was an airline pilot with PanAm).

My current watch is a military-style Kinetic. I always wore automatics until this one, because I do not like having a battery-dependent watch. Now I have quartz accuracy in an automatic!

I have an old Bell-Matic that was given to me as a gift in 1975. Unfortunately the alarm-setting stem keeps breaking, rendering it useless.

Now a question for you: what defines "higher end" for Seiko? I mean, how do you tell? Price alone? I see many brand new Seiko quarts models that go for around $100 on eB**. My Kinetic had a "list price" of about $350, if memory serves, but we got it for less than $200 at a "factory outlet".

Re: Now something about watches!

*Message #11 Posted by **Bill Wiese** on 5 Jan 2010, 5:50 p.m.,*
in response to message #10 by Martin Pinckney

> Quote:
>
> Now a question for you: what defines "higher end" for Seiko? I mean, how do you tell? Price alone? I see many brand new Seiko quarts models that go for around $100 on eB**. My Kinetic had a "list price" of about $350, if memory serves, but we got it for less than $200 at a "factory outlet".

Better Seikos sometimes have sapphire crystals. The bands on the higher end ones seem more substantive. The $250+ up "dive watches" are pretty good and are better than the 'dressy' watches - the cases seem harder and less likely to ding/scratch.

Seikos come in different grades and have categories/subbrands for premium watches - Lassale, etc. I think one of the higher lines is Grand Seiko. In fact some there are very very expensive "Spring drive" Seikos w/'continuous motion' movement - a mechanical freewheeling movent with quartz regulation: no "ticks", timing is regulated by drag. These are expen$ive.

And for those Eurosocialists assailing this capitalist pig for owning a Rolex, I will gladly note that they do increase in value even as you wear them. I paid under $1K for my Rolex sub, used, in 1993. Today I can get $3200+ out of it anytime I want. Yeah, every 5 years it takes $150 for upkeep. I'd be in the hole for a dozen $200 Seikos at this point; they just don't hold up (various 'dive models' excepted). [My biggest mistake in the 1990s was not buying more of these, and more guns, which have rocketed in value.]

Back to theme/topic:

These e-Ink watches with appropriate programming, a good case + crystal, and some capacitor sensing interface could make a good calc watch. The keyboard could be smaller and "dynamic": fewer keys displayed, depending on mode. During numeric entry just numbers could show until F key or operator key hit, etc. That way things wouldn't be too crowded. There's certainly enough compute power in this watch module to do a decent RPN sci cal...

Bill Wiese
San Jose CA

Edited: 5 Jan 2010, 6:25 p.m.

Re: Now something about watches!

*Message #12 Posted by **Martin Pinckney** on 6 Jan 2010, 9:44 a.m.,*
in response to message #11 by Bill Wiese

> Quote:
>
> ... I paid under $1K for my Rolex sub, used, in 1993.

I have a friend who bought a brand new Submariner for under $200 in 1971!

Re: Now something about watches!

*Message #13 Posted by **DaveJ** on 6 Jan 2010, 3:21 p.m.,*
in response to message #11 by Bill Wiese

> Quote:
>
> And for those Eurosocialists assailing this capitalist pig for owning a Rolex, I will gladly note that they do increase in value even as you wear them. I paid under $1K for my Rolex sub, used, in 1993. Today I can get $3200+ out of it anytime I want.

There is a regular half page ad in one of our (Australian) big newspapers from a company that buys used collectible watches, mostly Rolex, but some Seiko and other exotic brands too I think. They show photos and have these mouth wateringly high prices next to them that are "minimum for any condition" or something like that.

> Quote:
>
> These e-Ink watches with appropriate programming, a good case + crystal, and some capacitor sensing interface could make a good calc watch. The keyboard could be smaller and "dynamic": fewer keys displayed, depending on mode. During numeric entry just numbers could show until F key or operator key hit, etc. That way things wouldn't be too crowded. There's certainly enough compute power in this watch module to do a decent RPN sci cal...

Calc watches are hard. A usable keyboard just takes up so much room. You could do it with a full touch screen interface, but then you can't see the display as you type. Always compromises...

Dave.

Re: Now something about watches!

*Message #14 Posted by **tomdrewski** on 8 Jan 2010, 7:21 a.m.,*
in response to message #11 by Bill Wiese

> Quote:
>
> And for those Eurosocialists assailing this capitalist pig for owning a Rolex, ...

Touche !!

Re: Now something about watches!

*Message #15 Posted by **Michael Plant** on 6 Jan 2010, 12:05 a.m.,*
in response to message #10 by Martin Pinckney

> Quote:
>
> Now a question for you: what defines "higher end" for Seiko? I mean, how do you tell? Price alone? I see many brand new Seiko quarts models that go for around $100 on eB**. My Kinetic had a "list price" of about $350, if memory serves, but we got it for less than $200 at a "factory outlet".

As Bill notes, I think Geoff is talking about the "Grand Seiko" line, which are stunning and are priced accordingly (Rolex, but not Patek Phillipe, territory).

I have the watch collecting bug as well. My collection is very modest compared to Geoff's, though. My other compulsion is fountain pens...

Edited: 6 Jan 2010, 12:06 a.m.

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First Pocket Calculator with LED Display?

*Message #1 Posted by **Joerg Woerner** on 4 Jan 2010, 11:21 a.m.*

Happy New Year!

I just came across a Sanyo ICC-804D calculator - squeezing the four chip design of the ICC-0081 into a very tiny package. Most astonishing to me is the display, it uses very bright and large LED modules! There is no manufacturing date visible but the chips sport 1971 date codes.

One question comes up immediately:

Which pocket calculator introduced the red LED display? Was it the Busicom LE-120A of this Sanyo ICC-804D? I know that the LE-120A was ANNOUNCED early in 1971 but when was it available? Any proof about the first ICC-804D availability?

Any suggestions and comments are welcome.

Regards, Joerg

Re: First Pocket Calculator with LED Display?

*Message #2 Posted by **Katie Wasserman** on 4 Jan 2010, 12:38 p.m.,*
in response to message #1 by Joerg Woerner

Joerg,

I love my ICC-804D, it's very cool with the dot-segment LED's and flip up display cover! The chips in mine are dated in 1971 too (7139, 7140, 7137 and 7146) and there's no indication of the date of manufacture.

-Katie

Re: First Pocket Calculator with LED Display?

*Message #3 Posted by **Joerg Woerner** on 7 Jan 2010, 11:38 a.m.,*
in response to message #2 by Katie Wasserman

Katie,

Please read my comment about the two versions - do you have V1 or V2?

Regards, Joerg

Re: First Pocket Calculator with LED Display?

*Message #4 Posted by **Katie Wasserman** on 7 Jan 2010, 1:20 p.m.,*
in response to message #3 by Joerg Woerner

Joerg,

The one I have appears to be identical to the one you show in your picture (I don't know if you're calling that V1 or V2) with reed contact switches and chips with the same part numbers.

-Katie

Re: First Pocket Calculator with LED Display?

*Message #5 Posted by **Frank Boehm (Germany)** on 4 Jan 2010, 3:38 p.m.,*
in response to message #1 by Joerg Woerner

Busicom won, but probably only by 2-3 months. Sales started in mid 1971 (advertisements started in June). What I find amusing is the fact, that Sanyo was able to fit a 2-3 year old chipset (4 chips) into this housing, even using reed relais for the keys, a modular design and solid construction. Obviously it was way more expensive to manufacture than the TI or MOSTEK single chip design...

I need to reply to myself.

*Message #6 Posted by **Frank Boehm (Germany)** on 5 Jan 2010, 11:10 a.m.,*
in response to message #5 by Frank Boehm (Germany)

The LE-120A with serial# 880 has a chip date code of 7120; the version 1 ICC-804D I have has a date code of 7134 (not sure about the serial# though). 3 months of market lead time sounds about right then :)

Btw. the earliest TI single chip (TMS0105NC) I have has a date code of 7139 - that's only half a year later than MOSTEK...

Re: I need to reply to myself.

*Message #7 Posted by **Joerg Woerner** on 5 Jan 2010, 3:57 p.m.,*
in response to message #6 by Frank Boehm (Germany)

Frank,

A TMS0105 from 7139? What calculator?

Regards, Joerg

Re: I need to reply to myself.

*Message #8 Posted by **Frank Boehm (Germany)** on 5 Jan 2010, 5:22 p.m.,*
in response to message #7 by Joerg Woerner

this one:
http://computermuseum.informatik.uni-stuttgart.de/dev/f_schau/

Sidenote: the earliest TMS0103 I have is built into a Commodore C110 (first model with "G" serial number); if I remember correctly, it has a date code of 7147.

Sidenote 2: the Canon LE10 is dated around this time as well, but that's a 2 chip solution (but I think it offers 16 digit precision, like the ICC-804D)

Sidenote 3: what a huge leap the HP 35 & HP 80 were - amazing

Sanyo ICC-804D Version 1

*Message #9 Posted by **Joerg Woerner** on 7 Jan 2010, 11:37 a.m.,*
in response to message #6 by Frank Boehm (Germany)

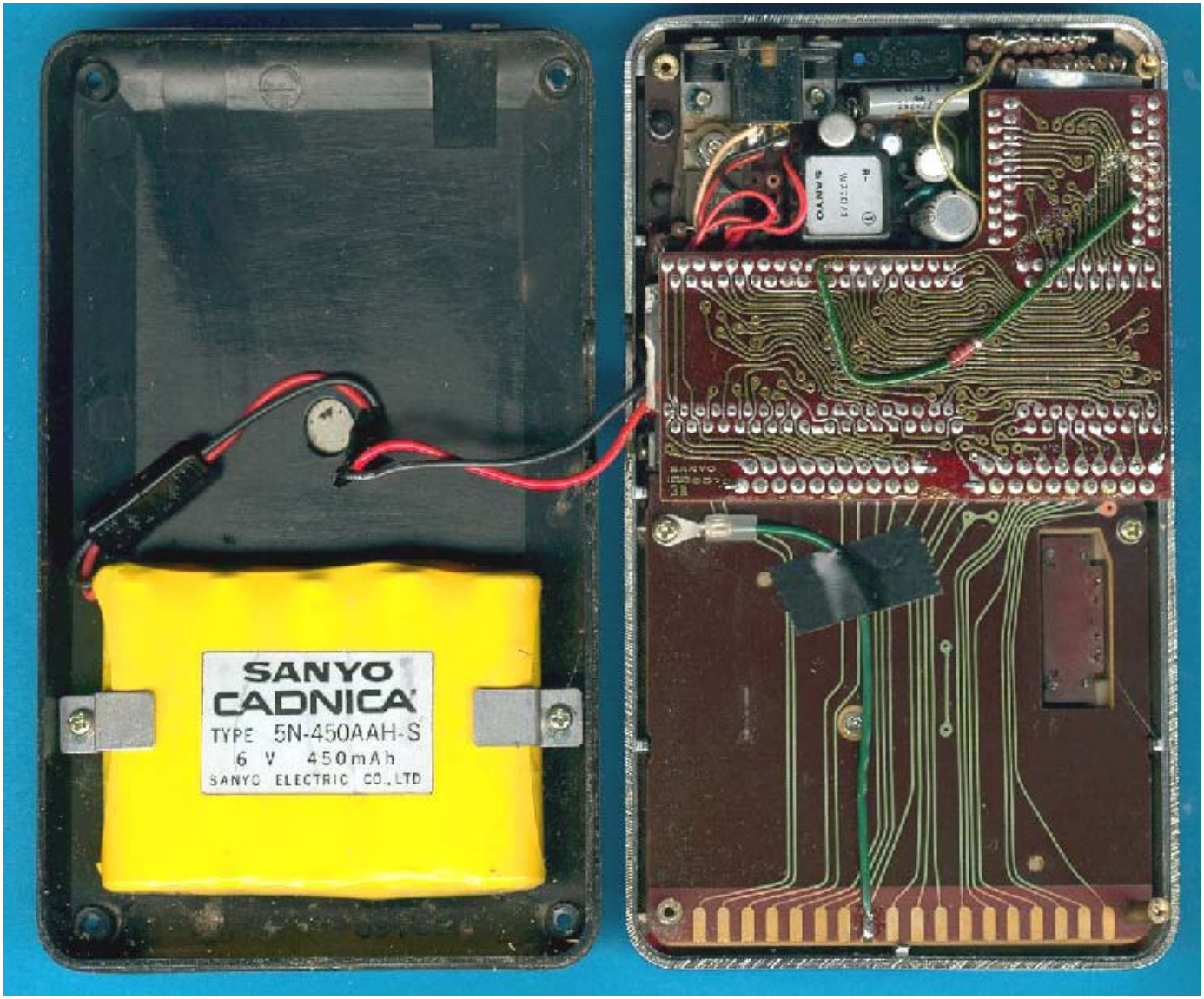
Frank,

What are the differences between Version 1 and Version 2? Mine has reed contact switches and chips 8001,2,3, and 5 - all date coded around 7135.

I remember that Peter's (Muckermann) ICC-804D had a 8006 chip date coded 7146 instead the 8005 of mine.

His serial number: C7066953 Mine: 7054775.

And inside they look completely different, Peter's model seem to use a far cheaper keyboard:



Would you mind to shed some light on the two (or even more) versions of the ICC-804D.

Regards, Joerg

Re: Sanyo ICC-804D Version 1

*Message #10 Posted by **Frank Boehm (Germany)** on 7 Jan 2010, 5:08 p.m.,*
in response to message #9 by Joerg Woerner

The version 1 had reed relais (therefor little magnets attached to every key); the version 2 used spring contacts - way cheaper and far less reliable (the reed relais probably will work fine the next 5000 years <g>).
It's possible to distinguish between these two versions without openening them by listening to the keyboard, version 1 makes a very silent "bling" when a button is pressed, version 2 makes somewhat scratchy noises, followed by klick.
The chipset is the same, but some chips were replaced by bugfixed versions (postfixes like A B C...) or even a higher number. The chipset seems to have been prone to failure, I have seen plenty of Sanyo calcs (all using this chipset) with replaced chips.

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HEPAX VASM listing?

*Message #1 Posted by **Geir Isene** on 4 Jan 2010, 11:07 a.m.*

Has anyone seen the HEPAX VASM listings?

Re: HEPAX VASM listing?

*Message #2 Posted by **Meindert Kuipers** on 4 Jan 2010, 12:47 p.m.,*
in response to message #1 by Geir Isene

I do not think the commented sources exist, a disassembly listing is the best that can be done,

Meindert

And... (was: HEPAX VASM listing?)

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 4 Jan 2010, 12:59 p.m.,*
in response to message #1 by Geir Isene

... MLDL´s disassembling is fast and configurable. I also added some extra XROM names in the XROM.TXT file to help debugging lists with self references.

Cheers.

Luiz (Brazil)

Re: And... (was: HEPAX VASM listing?)

*Message #4 Posted by **Geir Isene** on 4 Jan 2010, 1:42 p.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

Could you send me?

Re: And... (was: HEPAX VASM listing?)

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 4 Jan 2010, 2:01 p.m.,*
in response to message #4 by Geir Isene

Hi, Geir;

if you see the ROM.TXT file that comes with the 1.50 and 1.51 versions of the mldl2k.exe you will see:

```
// File format:
// XROM 25,01 [FUNCTION] comment
// File must be in same directory as executable
// All lines not starting with  XROM  are ignored and treated as comments
// Single or double quotes can be used. lines may be empty
// Spaces are treated as delimiters, use quotes when there are spaces in the name
// otherwise the quotes may be ignored
// XROM numbers must be 2 digits!
```

```
// Anything after the function name is printed as coment in the disassembly listing
// A label starting with : will be treated as the title of the XROM and will be used
// as comment for functions that do not have their own comment. Do not use quotes
here
// This type of label may be repeated and will be used for XROM's after it


// for example for group headings
// the table is scanned sequentially
// Extended Functions, XROM 25
XROM 25,00        :Extended Functions ROM
XROM 25,00        "-EXT FCN 1C"
XROM 25,01    "ALENG"                    XFUN: Returns numbers of chars in ALPHA
XROM 25,02    ANUM
XROM 25,03    APPCHR
XROM 25,04    APPREC
....
```

The only thing you need to do is to add the listing with the XROM numbers and the names of the functions you need. Also, you can remove the list with the XROM you do not need. If you tell me which ones you need, I can add to the existing XROM.TXT and send it back to you. I actually added some XROM to the original and saved four different XROM.TXT files so far, each for an specific group of modules. The default comes with:

```
Extended Functions and CX Ext. Fcn (XROM 25)
TIME and CX TIME (XROM 26)
PRINTER 2E (XROM 29)
HPIL MASS ST and CTL FNS (XROM 28)
Extended IO Fcn (XROM 23)
PLOTTER (XROM 17 & XROM 18)
HP-IL DEV (XROM 22 & XROM 24)
WAND (XROM 27)
DAVID Assembler (XROM 02)
```

As you can see, there are no repeating XROM numbers, and I guess only the first occurrence would show up. I think these are Meindert´s first choices for a general purpose disassembling, but chances are that other XROM other than these ones appear, than I decided to modify the original XROM.TXT and suppress the ones I'd not use in some cases as I added others I would need. Let me know if you need a custom XROM.TXT and shich XROM functions you need listed.

Hope this helps.

Cheers.

Luiz (Brazil)

Edited: 4 Jan 2010, 2:03 p.m.

Re: And... (was: HEPAX VASM listing?)

*Message #6 Posted by **Meindert Kuipers** on 4 Jan 2010, 2:08 p.m.,*
in response to message #5 by Vieira, Luiz C. (Brazil)

The disassembler uses a simple text search, and returns the first XROM match found, unless the XROM number is found in its own ROM, or in the other ROM in case of an 8K ROM, this always takes preference (or at least that is how it should be, but I realize now that I have never actually tested this ...). Of course, this only makes sense when disassembling user code.

The new version of the disassembler is even more configureable, and it is nearly finished, apart from the option of disassembling according to SDK41 (useful for re-assembly ...)

Meindert

Re: And... (was: HEPAX VASM listing?)

*Message #7 Posted by **Geir Isene** on 4 Jan 2010, 4:14 p.m.,*
in response to message #6 by Meindert Kuipers

As I have awkward access to a Windows computer, and running MLDL2K.exe under Wine is funky) - anyone care to send a listing of the HEPAX module? (g@isene.com)

EDIT: Never mind - I got around the quirkiness and have a working program running under wine on my Linux laptop. I will traverse the HEPAX listings and see if I can make it do what I want it to :-)

Edited: 4 Jan 2010, 4:40 p.m.

(edited)You have mail... (was: HEPAX VASM listing?)

*Message #8 Posted by **Vieira, Luiz C. (Brazil)** on 4 Jan 2010, 5:01 p.m.,*
in response to message #7 by Geir Isene

Let me know if it suffices.

Cheers.

Luiz (Brazil)

Oops! It took me longer than it took you to edit the message... Anyway, the lists will be in good hands.

Edited: 4 Jan 2010, 5:08 p.m.

Re: (edited)You have mail... (was: HEPAX VASM listing?)

*Message #9 Posted by **Geir Isene** on 4 Jan 2010, 5:18 p.m.,*
in response to message #8 by Vieira, Luiz C. (Brazil)

You saved me some work nevertheless. Thanks :-)

My pleasure! (N.T.)

*Message #10 Posted by **Vieira, Luiz C. (Brazil)** on 4 Jan 2010, 5:37 p.m.,*
in response to message #9 by Geir Isene

...

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HP-01 stylus

*Message #1 Posted by **Alberto Fenini** on 4 Jan 2010, 10:23 a.m.*

ciao a tutti,

well, this could be of interest to someone. has anybody tried to convert a regular pen or pencil (Cross for example could be a nice candidate) into an HP-01 stylus replacing the internal with sone nylon stuff ?

Take care, and thanks in advance for the reply, Alberto

Re: HP-01 stylus (with pics)

*Message #2 Posted by **Alberto Fenini** on 4 Jan 2010, 2:24 p.m.,*
in response to message #1 by Alberto Fenini

And this the result (at least not a final one), I have found in a drawer a cheap copy of a Cross pen (it was an expo gadget). You can have a look at refill here

note that the writing point and the end have already gently been removed. Now depending on the budget you can use a real cross, but what the heck, this was just a try ....
The idea is to get a new refill usable with the HP-01.
I took a "cannula" from an empty compressed air can, and a very thick toothpick

Then with a Dremel I have thinned the wood until it could be gently but firmly pressed into the cannula. The cannula was cutted the same length the orignal refill was (remember some of the refill goes into the platic cap)

Now, all you need to do, is to put things together and back in the pen

and here you are : you can see the pen in closed position and in open position

The next step is to substitute the wood part (that was the only thing available at home now) with a piece of nylon, I think a 0.9 mm thick nylon rope would just do the job. Also the length of the wood/nylon point needs to be trimeered, but I'll do that later.... I'll keep you posted, any idea or comment always welcome !!

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HP97 restore project

*Message #1 Posted by **Alberto Fenini** on 4 Jan 2010, 10:21 a.m.*

Dear All, Happy New Year !

I know has been said over and over and over so forgive me, but, can I put a working ACT from an HP25 into a non working HP-97 ? The HP-97 is the version produced after the HP-97S was available.

as always, thanks for help, Alberto

Re: HP97 restore project

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 4 Jan 2010, 12:34 p.m.,*
in response to message #1 by Alberto Fenini

Ciao, Alberto;

As far as I know, the only ACT that is not compatible with the others is the one found in the HP27. The HP27 uses V-MOS IC´s, and its components cannot be used in other C-MOS circuitry.

Can you compare the printed code over the ACT you want to use and the one you want to replace? I have changed ACT chips from HP25 and HP21 units with no problems. I also red about an HP67 using an ACT from a HP25 donor.

Cheers.

Luiz (Brazil)

Edited: 5 Jan 2010, 5:14 a.m. after one or more responses were posted

Re: HP97 restore project

*Message #3 Posted by **Alberto Fenini** on 4 Jan 2010, 4:43 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

ciao Luis, the working ACT from HP25 is : 1820-1523, while the one I think has to be replaced is 1820-1596, what do you think ? Take care Alberto

Re: HP97 restore project

*Message #4 Posted by **Michael Meyer** on 4 Jan 2010, 7:35 p.m.,*
in response to message #3 by Alberto Fenini

I think it should work. I've transplanted several to 67's, and I think the 97 has the same ACT, but I'm not certain. You may have to be the one to let the rest of us know for sure....

Re: HP97 restore project

*Message #5 Posted by **Randy** on 4 Jan 2010, 8:36 p.m.,*
in response to message #4 by Michael Meyer

Yes, the 67, 97 and 29C use the same ACT. The ACT from a 25 *should* work.

The 21 ACT will not work as it lacks the I/O expansion signals.

Re: HP97 restore project

*Message #6 Posted by **Alberto Fenini** on 5 Jan 2010, 4:12 a.m.,*
in response to message #5 by Randy

Very good, I'll try later today or tomorrow and keep you posted, has anybody tried desoldering with hot air ? Cheers, Alberto

Re: HP97 restore project

*Message #7 Posted by **Randy** on 5 Jan 2010, 8:22 a.m.,*
in response to message #6 by Alberto Fenini

> Quote:
>
> Very good, I'll try later today or tomorrow and keep you posted, has anybody tried desoldering with hot air ? Cheers, Alberto

That will not work for through hole devices, way too much heat required, you'll destroy the board in the process. Solder wick or a vacuum desoldering station is the only way.

Re: HP97 restore project

*Message #8 Posted by **Eric Smith** on 5 Jan 2010, 12:46 p.m.,*
in response to message #5 by Randy

> Quote:
>
> The 21 ACT will not work as it lacks the I/O expansion signals.

That might be true of part number 1820-1396, though I've never tried it. All other ACTs that might be found in an HP-21 should work in most ACT-based calculators other than the 27.

There are some compatibility issues between certain ACT part numbers and old firmware in the 67/97, and possibly a few other models. The 1820-1596 ACT is known to have these issues.

Re: HP97 restore project

*Message #9 Posted by **Randy** on 5 Jan 2010, 1:21 p.m.,*
in response to message #8 by Eric Smith

> Quote:
>
> ...That might be true of part number 1820-1396, though I've never tried it.

I have, that's why I posted it. Your post also explains why there are other ACT's in early

67's and 97's. Thank you for the info!

BTW, are there DNS issues with brouhaha? Can't seem to load anything.

Re: HP97 restore project (mother board)

*Message #10 Posted by **Alberto Fenini** on 6 Jan 2010, 5:47 p.m.,*
in response to message #8 by Eric Smith

And here we go, that's what I did today ...

old ACT

ACT from HP25 soldered on HP97

how far I went .....

Since the result wasn't what exactly I had expected, I have re-soldered the original ACT chip, and surprise surprise, I'm now in the situation where a flickering and random bunch of zeroes will light up for a second when the switch goes from off to on ...too fast to take a picture...
I can also hear the printer making noise if this is of any importance.
However, since on both units (I'm using a working HP97 to test progresses)the printer gear needs to be replaced,I have to keep the printer switch in manual mode.

I have then decided to divide the project in two sections : **motherboard repair** and **display with keyboard repair**

At this point, I'd like to hear some suggestions from all of you. What can I do with the described behavior ? On the **motherboard** I have re-soldered most of the chips, and I could do it radically, if anyone would suggest that a bad contact could be the reason of this behavior.

As for the **display/keyboard unit**, when used with the working motherboard, it reamins completely off .... Would you suggest replacing the chips ? I have noticed that the transistor arrays (1858-0044)are exactly the same used on the printer card, so I could easily have a source for them. I know these to work since I have swapped the printer unit back and forth in the past.

Or would you suggest that the 1820-1629 could be responsible for the display remaining black ??

Any, and I mean any, suggestion will be of great help, and I'll be glad to try it out.
Take care, Alberto

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MCODE: Bright idea for executing an address instead of a GOTO ADR (h1E0)?

*Message #1 Posted by **Geir Isene** on 4 Jan 2010, 9:18 a.m.*

I need to execute an address in C[6:3] instead of simply jump to it like I would with a GOTO ADR (h1E0) instruction. Håkan, Angel or any other MCODE wiz have any idea of how to best accomplish this?

I could perhaps push the next address onto the return stack before I execute a GOTO ADR, but how do I get that address?

Edited: 4 Jan 2010, 9:23 a.m.

Re: MCODE: Bright idea for executing an address instead of a GOTO ADR (h1E0)?

*Message #2 Posted by **Monte Dalrymple** on 4 Jan 2010, 11:22 a.m.,*
in response to message #1 by Geir Isene

GOSUB 0097

This mainframe location (0097) contains GOTOC. So the subroutine call to this location will jump to the address in C[6:3] and the return at the end of the function will return to the instruction after the GOSUB?

Monte

Edited: 4 Jan 2010, 2:17 p.m. after one or more responses were posted

Re: MCODE: Bright idea for executing an address instead of a GOTO ADR (h1E0)?

*Message #3 Posted by **Geir Isene** on 4 Jan 2010, 2:00 p.m.,*
in response to message #2 by Monte Dalrymple

Yes. The hex word for GOTO ADR is 1E0, there is no GOSUB ADR.

Re: MCODE: Bright idea for executing an address instead of a GOTO ADR (h1E0)?

*Message #4 Posted by **Meindert Kuipers** on 4 Jan 2010, 12:46 p.m.,*
in response to message #1 by Geir Isene

Geir,

This is really simple as you thought. Just build the address and do the GOTO ADR. The create a return address, first do a ?NC XQ PCTOC [00D7]. I will leave it to you to study the VASM listings as an exercise how this works ;) Add a bit to this address you have been given, and then use PUSHADR to get this on the return stack, get the target address back and do your GOTO ADR.

Meindert

Re: MCODE: Bright idea for executing an address instead of a GOTO ADR (h1E0)?

*Message #5 Posted by **Geir Isene** on 4 Jan 2010, 1:46 p.m.,*
in response to message #4 by Meindert Kuipers

Excellent! Just what I needed.

Re: MCODE: Bright idea for executing an address instead of a GOTO ADR (h1E0)?

*Message #6 Posted by **J-F Garnier** on 4 Jan 2010, 2:28 p.m.,*
in response to message #5 by Geir Isene

The method given by Monte in his (edited) post is much simpler. I used a similar trick on several microprocessors that do not have indirect gosub or call.

J-F

Re: MCODE: Bright idea for executing an address instead of a GOTO ADR (h1E0)?

*Message #7 Posted by **Meindert Kuipers** on 4 Jan 2010, 2:57 p.m.,*
in response to message #6 by J-F Garnier

I made it too complex, I must admit that I did not read Monte's first reply in too much detail, the instruction is indeed a ?NC XQ 0097 after putting the needed address in C. The GOSUB that Monte mentioned took me off guard, as I use this mnemonic typically for a 3-byte relocatable call.

Meindert

Re: MCODE: Bright idea for executing an address instead of a GOTO ADR (h1E0)?

*Message #8 Posted by **Geir Isene** on 4 Jan 2010, 4:03 p.m.,*
in response to message #7 by Meindert Kuipers

0097? That's one address before the function RSTKB... Makes little sense. Sure about the address?

Re: MCODE: Bright idea for executing an address instead of a GOTO ADR (h1E0)?

*Message #9 Posted by **Meindert Kuipers** on 4 Jan 2010, 4:15 p.m.,*
in response to message #8 by Geir Isene

The trick is that you are calling this address as a subroutine, so the return address is pushed on the stack when executing ?NC XG 0097. With the target address in C, your program jumps to the GOTO ADR function it finds at 0097, and will then immediately jump to your desired address, with the stack loaded with your return address (the line after your ?NC XQ 0097)

Meindert

Re: MCODE: Bright idea for executing an address instead of a GOTO ADR (h1E0)?

*Message #10 Posted by **Monte Dalrymple** on 4 Jan 2010, 4:18 p.m.,*
in response to message #8 by Geir Isene

The address is correct. The GOTOC at this address immediately jumps to C[6:3], which is the entry to your subroutine. The fact that the next in-line instruction is the first in the RSTKB routine has nothing to do with anything. This is just a convenient, known address that contains a GOTOC. Think of it as a waypoint that you have to go through to get to your final destination. Getting to the waypoint via a subroutine call takes care of getting the return address on the stack.

Monte

Re: MCODE: Bright idea for executing an address instead of a GOTO ADR (h1E0)?

*Message #11 Posted by **Geir Isene** on 5 Jan 2010, 1:07 a.m.,*
in response to message #10 by Monte Dalrymple

Ah, get it. Cool.

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HP12C - SST in RUN-Mode doesn't work correctly

*Message #1 Posted by **twanke** on 4 Jan 2010, 6:45 a.m.*

A week ago I bought a new HP12C. Everything is working fine except SST-function in RUN-Mode. When the SST-button is holded down the program line should be shown, and on release of the button this line should be excecuted. But when I press down the button the line is not shown and the instruction is excecuted even before releasing the button.

Does anybody had this problem before? Can I resolve this problem by my own or do have to send the calculator for repair?

Thanks in advance for Your help.

Thomas.

Re: HP12C - SST in RUN-Mode doesn't work correctly

*Message #2 Posted by **Don Shepherd** on 4 Jan 2010, 7:45 a.m.,*
in response to message #1 by twanke

I think Katie Wasserman reported this problem before. It is a bug in the new ARM-based 12c+. I believe Cyrille fixed it with a new version of the firmware, but you would need a special cable for your PC in order to install it. I'd call HP support and see if they can maybe send you a new unit.

Re: HP12C - SST in RUN-Mode doesn't work correctly

*Message #3 Posted by **twanke** on 4 Jan 2010, 9:56 a.m.,*
in response to message #2 by Don Shepherd

Thanks a lot. I will contact HP. Let's see if they've a good customer support in the handheld, calculator devision.

Thomas.

Re: HP12C - SST in RUN-Mode doesn't work correctly

*Message #4 Posted by **Katie Wasserman** on 4 Jan 2010, 11:49 a.m.,*
in response to message #3 by twanke

It is indeed fixed in a later release along with a few related bugs and the self tests are now working like they should be (for the most part). I don't know if this release has yet made it into production, but you can check the version date by holding down [ENTER} + [g] when you turn on the calculator. Then press [2] followed by any other key and you'll see the version date. The last release that I have is 2009-11-19, but there might be something newer than that. See this thread for a discussion of the SST bug, it was fixed in a version dated 2009-07-24.

-Katie

Re: HP12C - SST in RUN-Mode doesn't work correctly

*Message #5 Posted by **twanke** on 5 Jan 2010, 5:49 a.m.,*
in response to message #4 by Katie Wasserman

Thanks a lot as well.

I'm new to HP Calculators and this forum and I'm surprised how helpful you are (and how deep you are all in this topic).

I really like the 12C a lot from the first minutes I used it. I hope I can solve the bug-problem fast.

By the way I read something about a 15C. Is this model in development? I really would buy one imediately!

Thomas.

Re: HP12C - SST in RUN-Mode doesn't work correctly

*Message #6 Posted by **Dan Grelinger** on 5 Jan 2010, 9:29 a.m.,*
in response to message #5 by twanke

'The' HP-15C was released in about 1981, and produced until about 1989. They command a premium on the primary internet auction site, and there are rumors that HP is going to release an updated version of this model.

Re: HP12C - SST in RUN-Mode doesn't work correctly

*Message #7 Posted by **twanke** on 5 Jan 2010, 9:58 a.m.,*
in response to message #6 by Dan Grelinger

Thank's Dan, for the information. As soon as they release the new version of the 15C I will buy one. The 12C has such a nice form factor, quality keyboard and simple, ergonomic user interface.

Have a nice day

Thomas.

Re: HP12C - SST in RUN-Mode doesn't work correctly

*Message #8 Posted by **Mike Morrow** on 6 Jan 2010, 8:29 a.m.,*
in response to message #7 by twanke

> Quote:
>
> The 12C has such a nice form factor, quality keyboard and simple, ergonomic user interface.

Unfortunately, it has the "landscape" keyboard layout which has proved to be less than optimal for a **handheld** calculator. I've used the HP-15C and HP-12C both for 24 years. The layout is cute, but it definitely "bites the big one" for real, actual, practical use as a **handheld**, regardless of two-handed or one-handed keyboard use.

Doubtless, HP learned from the Voyager landscape experiment that keyboards in that configuration should not be utilized on later machines (other than the never ending legacy of HP-12C mutants).

I doubt that HP will make the mistake of bringing back the HP-15C. Such a model would likely use the original HP-15C ROM image, which would be a tremendous step backward from its 1988 replacement, the excellent HP 42S. That is still the finest RPN calculator ever made (by very large margin over the HP-15C), now more than 22 years later.

Re: HP12C - SST in RUN-Mode doesn't work correctly

*Message #9 Posted by **Katie Wasserman** on 6 Jan 2010, 12:01 p.m.,*
in response to message #8 by Mike Morrow

I too like the 42S more than the 15C, but I don't think it would be a mistake to bring back the 15c with the original firmware but with a much, much faster processor. There are a lot of people here and elsewhere that would love to buy one or two 15C+ calculators. It would cost HP very little to manufacture given the 12C+ and would almost certainly sell 100K+ units easily (bring back the 15c). There's a good bit of money in this.

Re: HP12C - SST in RUN-Mode doesn't work correctly

*Message #10 Posted by **Michael de Estrada** on 6 Jan 2010, 12:37 p.m.,*
in response to message #9 by Katie Wasserman

I keep hearing this arguement as to which was best; the 15c or 42s. They are very different machines and should not be compared. The 15c was simple to use with all its capabilities accessible directly from the keyboard without the need to run through endless menus and had a large clear numeric display. The 42s is a small computer with almost limitless capabilities, but as a daily user it is cumbersome just like the 28s, 48S and 50g. As far as which is best as a hand-held calc, I'd say neither; Woodstocks rule in this regard.

Re: HP12C - SST in RUN-Mode doesn't work correctly

*Message #11 Posted by **twanke** on 6 Jan 2010, 1:19 p.m.,*
in response to message #10 by Michael de Estrada

I've got a 50g but I don't use it every day. So it is a bit more difficult in use with the endless capabilities and menus and flags etc. The 15C would be the perfect machine for me. All the functions it has are just written on the keyboard which is for me also part of the UI. So there is no need in running and search in menus or even looking in the manual. It has enough functions and capabilities and is simple enough as a daily driver. I might buy two as well.

Have a nice day

Thomas.

Re: HP12C - SST in RUN-Mode doesn't work correctly

*Message #12 Posted by **twanke** on 6 Jan 2010, 5:32 a.m.,*

in response to message #2 by Don Shepherd

Thank's a lot to everybody, especially to Cyrille who helped me out on this.

A nice day to everybody,

Thomas.

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Dropped HP41CX (carpeted floor), no longer working

*Message #1 Posted by **jim540** on 2 Jan 2010, 9:27 p.m.*

I dropped my HP41CX, and now it no longer works. Thankfully it was on a thick carpeted floor, and only from a height of 18" (I was sitting on the couch), but it will not turn on now. I took the back off, and all I could find wrong is 2 of the 4 "nibs" that hold the battery contact section in place were cracked, but still in place (but no longer straight-up). I carefully checked all contacts on the PWB's and the battery contact section and can find nothing else wrong. Any suggestions?

Re: Dropped HP41CX (carpeted floor), no longer working

*Message #2 Posted by **Allen** on 3 Jan 2010, 12:27 p.m.,*
in response to message #1 by jim540

If you firmly hold the two halves together (around the display), does the unit return to normal?

":Drop testing" a TI-59

*Message #3 Posted by **Palmer O. Hanson, Jr.** on 4 Jan 2010, 7:25 p.m.,*
in response to message #1 by jim540

As a long time TI guy I just have to offer the following quote from the Service Manual for the TI-58/59 which tells how to check for a faulty resonator:

> Quote:
>
> ... perform "drop test" by: starting the diagnostic program, dropping the calculator approximately 6 inches onto a hard surface while the program is still running. If calculator goes into preload or gets wrong answer to diagnostic program, replace resonator.

Back in the early 80's I wouldn't do that with MY TI-59. But a friend who had easier access to a replacement since he was an instructor in the TI Productivity Program did it and his calculator passed. He went ahead and did the test from 12 inches and 18 inches and the calculator still passed. He didn't try a higher drop. He was dropping the calculator on his desk top. Maybe that wasn't a hard enough surface to really stress a TI-59.

Re: ":Drop testing" a TI-59

*Message #4 Posted by **Michael Meyer** on 4 Jan 2010, 7:44 p.m.,*
in response to message #3 by Palmer O. Hanson, Jr.

O.K.... I've collected about a dozen TI-59's, some from parts from several calculators. I've rebuilt keyboards, card readers, etc.

What's a "resonator"? (Or am I going to feel stupid for asking?...)

Re: ":Drop testing" a TI-59

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 4 Jan 2010, 9:32 p.m.,*
in response to message #4 by Michael Meyer

Hi, Doc;

although general, this may help.

Cheers.

Luiz (Brazil)

Re: ":Drop testing" a TI-59

*Message #6 Posted by **Mike Morrow** on 4 Jan 2010, 10:47 p.m.,*
in response to message #4 by Michael Meyer

It's a little circular two-lead device that controls the clocking of the digital circuitry of the TI-58/59 series. It's a type of primitive quartz crystal, though I'm not sure quartz was actually used.

TI keyboard repair

*Message #7 Posted by **Marcus von Cube, Germany** on 5 Jan 2010, 2:36 a.m.,*
in response to message #4 by Michael Meyer

Michael, how did you rebuild the TI keyboards? Is there a way to "debounce" them?

Re: TI keyboard repair

*Message #8 Posted by **Michael Meyer** on 5 Jan 2010, 12:01 p.m.,*
in response to message #7 by Marcus von Cube, Germany

Gosh... it's been awhile. I was never able to strip one apart... if I recall correctly, they're held together with adhesive tape. I have transplanted working keyboards to non-working logic boards. I've removed the keys from the calculator to wash them and the cases and returned them one-by-one to their original locations. (Usually) Then I've replaced the deteriorated foam with a sheet of very thin foam of the type that people wrap items in for shipping. Generally, they have worked well.

Fortunately, these calcs are still pretty cheap. I bought a working one with manuals, a printer, and lots of modules just a few weeks ago for $5 from that auction site....

Re: ":Drop testing" a TI-59

*Message #9 Posted by **Garth Wilson** on 5 Jan 2010, 3:48 a.m.,*
in response to message #4 by Michael Meyer

Ceramic resonators are much more accurate than an RC-governed oscillator, but not nearly as accurate as a crystal. The cost is much lower than that of a crystal too. See for example http://dkc3.digikey.com/PDF/US2010/P1490.pdf . I can't think of any reason the TI-59's clock source would need to be more accurate than an RC would make it though. Does anyone know what the approximate clock frequency was?

Re: ":Drop testing" a TI-59

*Message #10 Posted by **Bart (UK)** on 5 Jan 2010, 5:25 a.m.,*
in response to message #9 by Garth Wilson

From a document by Spike de Wal:

> Quote:
>
> Phi_1 & Phi_2 Clocksignals:
>
> This is a 2-phase (non-overlapping) clock that switches between Vss and Vgg. It is derived from a 455KHZ MF filter through the TMC0301-chip but some models of the TI59 have deviating ratings like 462KHZ. The Clock operates in two modes:
> • Calculating (fullspeed)
> • Display or IDLE-mode (lowspeed)

TI-58/59 Resonator (was: Re: ":Drop testing" a TI-59)

*Message #11 Posted by **Bart (UK)** on 6 Jan 2010, 5:09 a.m.,*
in response to message #10 by Bart (UK)

Looked at my TI-58 last night (currently open for repair), it has "384" marked on it, implying 384kHz.

Edited: 6 Jan 2010, 6:06 a.m.

Re: ":Drop testing" a TI-59

*Message #12 Posted by **Bart (UK)** on 5 Jan 2010, 5:16 a.m.,*
in response to message #4 by Michael Meyer

Resonator is often used as a synonym for oscillator. As I see it the TI58/59 has two: the clock generator and the power supply. I don't know if the 59's card reader circuit has a resonant circuit. I would guess the "drop test" as described by Palmer refers to the clock generator.

Re: ":Drop testing" a TI-59

*Message #13 Posted by **Michael Meyer** on 5 Jan 2010, 12:07 p.m.,*
in response to message #12 by Bart (UK)

But why would any of those components be more succeptible to impact? I would think that, other than literally breaking a component, the only thing that would shut the calculator down would be a mechanical interruption of the circuit such as bouncing the contacts off the battery, interrupting the switch, etc.

I guess I'm not understanding why the clock circuit would be any more likely to fail than knocking a pin from an IC or breaking a diode or something...

Or am I just taking all of this too literally?

Re: ":Drop testing" a TI-59

*Message #14 Posted by **Vieira, Luiz C. (Brazil)** on 5 Jan 2010, 12:38 p.m.,*
in response to message #13 by Michael Meyer

Hi, Doc;

most (if not all current) components are actually sealed, meaning no 'empty spaces', like the ones found in vacuum tubes, are left inside of them. In fact, solid state 'everything' is a tendency, as we saw mechanics being continuously replaced by electronics (see CD´s, MPwhatever, etc.). Even solid state relays are replacing the mechanical ones.

The picture below shows the HP21 oscillating circuit (I am not sure if this is a resonator; does not look like a crystal, though)

As you can see, the little thing is composed by a conductive piece inside of a glass tube and 'touched' by the opposed contact terminals. The inside of the glass tube has vacuum (or is filled with some inert gas), and it is somehow easy to break or get loose after some time. Soldering by itself may damage the component if not controlled accordingly.

Hope this helps (and is accurate...)

Lui z(Brazil)

Edited: 5 Jan 2010, 12:42 p.m.

Correction (I decided not to edit...)

*Message #15 Posted by **Vieira, Luiz C. (Brazil)** on 5 Jan 2010, 2:31 p.m.,*
in response to message #14 by Vieira, Luiz C. (Brazil)

Please, read 'solid state' instead of 'sealed' in the first sentence:

> Quote:
>
> most (if not all current) components are actually sealed(...)

Thanks!

Luiz (Brazil)

Re: ":Drop testing" a TI-59

*Message #16 Posted by **Bart (UK)** on 6 Jan 2010, 6:02 a.m.,*
in response to message #14 by Vieira, Luiz C. (Brazil)

Hi,

I looked at my TI-58 last night (it's open for repair), and the resonator is a platic cube similar to this:

Except it's blue and marked "384" which I'm guessing implies 384kHz.

Bart.

Edited: 6 Jan 2010, 6:06 a.m.

Re: ":Drop testing" a TI-59

*Message #17 Posted by **Vieira, Luiz C. (Brazil)** on 6 Jan 2010, 10:10 a.m.,*
in response to message #16 by Bart (UK)

Hi, Bart;

the one I found in my TI59 is different, but I have a TI59 carcass that has a resonator that looks like this one pretty much. Please, see the pictures below.

This is the resonator present in my working TI59

This is the resonator present in a TI59 carcass

This is just to compare the two calcs (click to enlarge)

As I could not find a similar component, either the TI58C has another oscillating circuit or the resonator has a different body. I did not even find a component with a color scheme of the kind orange-gray-yellow (384)

Cheers.

Luiz (Brazil)

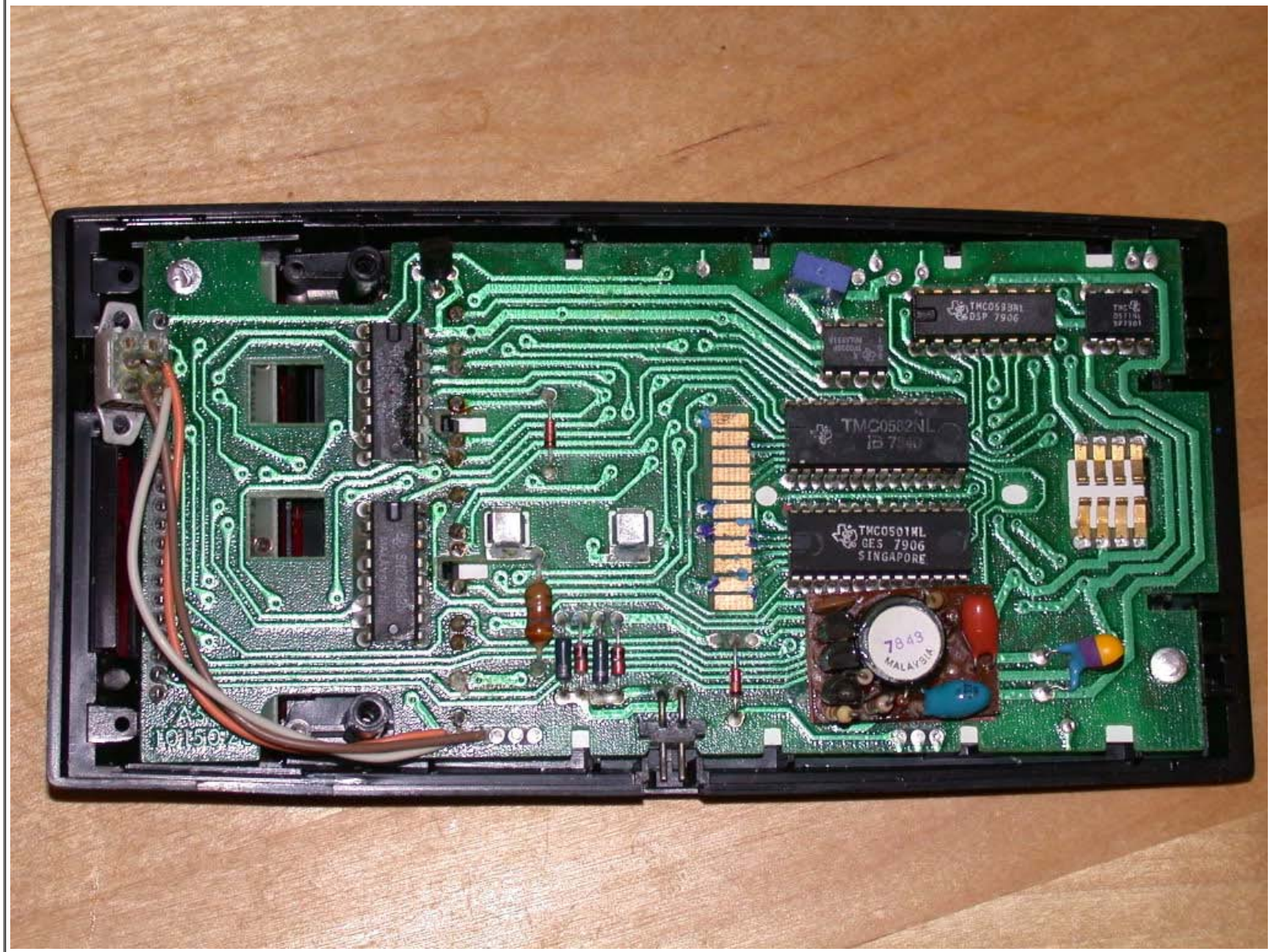
Edited: 6 Jan 2010, 10:11 a.m.

Re: ":Drop testing" a TI-59

*Message #18 Posted by **Bart (UK)** on 6 Jan 2010, 12:42 p.m.,*
in response to message #17 by Vieira, Luiz C. (Brazil)

Hi Luiz,

Interesting to see different versions of a machine. Here's a picture of my 58:



The blue "box" next to the 8-pin DIP is the resonator.

And yes, the blue stuff you see on the tracks is from corrosion due to battery leakage - the reason I have it apart. Whether I'll be successful at repairing it only time will tell - it's one of the "as and when I have the time for it" projects. So I follow and learn much from these threads.

Thanks,
Bart

Re: ":Drop testing" a TI-59

*Message #19 Posted by **Vieira, Luiz C. (Brazil)** on 6 Jan 2010, 1:45 p.m.,*
in response to message #18 by Bart (UK)

Hi, Bart;

The one you see in the picture is a TI58C (is yours a 'C', too?), and it also had some blue powder (seems to be copper oxide, is that so?). Now, please, have a look at the picture pointed by this link.

TI58C and TI59 corrosion compare(Big pic: about 1.9 Mbytes)

The TI59 board (right side) has a lot of oxidation, and the TI58C board (left) seems cleaner, right? They had both about the same oxidation level before I left the TI58C resting for about 20 hours in a solution of 30 to 40% alcohol vinegar with hot water (could touch it without feeling pain...). You can see some of the copper oxide in the TI58C´s PC100A contacts, and also notice the missing copper (parts totally destroyed).

Battery leakage is mainly basic (PH), and the alcohol vinegar is acid, so they react with each other and the remains of the reaction (a salt, right?) is easily removed with a paint brush, current water and neutral detergent. As you can see, I removed the LED display, power supply and some components (transistors, elect. caps, "SSS" module contacts, etc.) prior to clean it up.

I have been doing this for some time (woodstocks and these TI's, mostly) and have successfully removed copper oxide from them. In one particular case, a TI59 board with extensive oxidation damage, had the remains of many copper tracks being dissolved or popped out of the mainboard.

The hot water accelerates the reaction, but after some time its temperature raises down and the reaction decelerates as well. Anyway, I always keep my eyes over the board during the process and never let it stays for more than 20-22 hours.

Hope this helps.

Cheers.

Luiz (Brazil)

Re: ":Drop testing" a TI-59

*Message #20 Posted by **Bart (UK)** on 7 Jan 2010, 5:28 a.m.,*
in response to message #19 by Vieira, Luiz C. (Brazil)

Thanks Luiz for the good advice! Mine is not a 'C'. The casing and keyboard assembly are in very good condition, so I hope I can get it to work again.

Bart

There is also the 'deoxit'...

*Message #21 Posted by **Vieira, Luiz C. (Brazil)** on 7 Jan 2010, 6:02 a.m.,*
in response to message #20 by Bart (UK)

... but I never used it (actually, I´ve never even saw a bottle of it...). Chances are that it is locally applicable.

About the TI58 and TI58C: as you surely know, the constant memory implies another power supply design and low-power RAM chips, hence a

different PC board layout at least to accommodate the 'new guys'. I read (at Joerg or Viktor site, cannot be sure about it) that current through these RAM in low-power state ('resting') is almost in the same range as the one observed in internal, natural battery discharge. I also see that the TI58 has the ON/OFF switch connected to the same position as the ON/OFF switch of the TI59; the TI58C has it connected to the opposed side of the PCB.

Cheers.

Luiz (Brazil)

Edited: 7 Jan 2010, 6:37 a.m.

Re: ":Drop testing" a TI-59

*Message #22 Posted by **Bart (UK)** on 5 Jan 2010, 12:44 p.m.,*
in response to message #13 by Michael Meyer

Although the ceramic resonator relies on mechanical piezo-electric properties [ref], I would assume that the resonator would be relatively immune to the shock from the described drop test. Perhaps the TI part had a known failure mode that made it susceptible to such shocks?

I agree that contact bounce from the battery terminals could also be a likely cause of errors in such drop tests.

Re: ":Drop testing" a TI-59

*Message #23 Posted by **Michael Meyer** on 5 Jan 2010, 2:06 p.m.,*
in response to message #22 by Bart (UK)

I get it now... thanks.

Palmer's post didn't actually say that dropping the calculator would break the resonator. It said that the drop test could detect a faulty one:

"Quote: ... perform "drop test" by: starting the diagnostic program, dropping the calculator approximately 6 inches onto a hard surface while the program is still running. If calculator goes into preload or gets wrong answer to diagnostic program, replace resonator."

THAT makes sense to me, now that I understand the principal of the ceramic resonator. If it were mechanically faulty, which I can see happening from the "right" kind of impact, this test would DETECT it.

O.K... and I was just about to sacrifce a TI-59 to see how far I'd have to drop it and what would break first.....

Re: ":Drop testing" a TI-59

*Message #24 Posted by **Vieira, Luiz C. (Brazil)** on 5 Jan 2010, 2:35 p.m.,*
in response to message #23 by Michael Meyer

Hi, doc;

if the resonator has a bad contact inside of it, chances are that operating the calculator after a while might heat it up enough to disconnect the resonating part of it and cause a malfunction. By dropping the calculator, it would misplace it for good, I guess.

Cheers.

Luiz (Brazil)

More information fro0m the Service Manual

*Message #25 Posted by **Palmer O. Hanson, Jr.** on 7 Jan 2010, 9:58 a.m.,*
in response to message #22 by Bart (UK)

Quote:

Perhaps the TI part had a known failure mode that made it susceptible to such shocks?

I agree that contact bounce from the battery terminals could also be a likely cause of errors in such drop tests.

I think that you are correct about a "known failure mode". The quoe that startd all of this was part of a larger section devoted to repair and modification of existing boards. A more complete quote is:

```
If the calculator has a -3 thru -6 board, the following modifications must be performed:
*  Add a 10 Meg resistor across pins 3 and 5 of the clock chip.
*  Check CR7- must be two PG 1992 diodes in series
*  Check resonator:  Replace if yellow, uncoatd resonator is found.  If rectangular resonator is used, perform "drop test" by:
starting diagnostic program, dropping calculator approximately 6 inches onto a hard surface while program is still running.  If
calculator goes into pre-load or gets wrong answer to diagnostic program, replace resonator.
*  Check Pot - must be 1.0K, 1.5K or 2.5K with a 1.21K resistor in parallel.
*  Check C7 - add 22 uf 15v capacitor if missing.
*  Check for proper capacitor(s) for each clock chip. for
     240 - 75pf between pins 4&5 of clock chip.
         - 75pf between pins 3&5 of clock chip.
     300 - 75pf between pins 3&5 of clock chip.
     301 - 33pf between pins 3&5 of clock chip.
*  And on and on with change affecting card reading and display.
```

When I first saw all of this back in the early 1980's my first thought was that those were the kind of instructions which can be generated when working with a large production run

On resonator frequencies from page 4 of the Service Manual

Quote:

The ceramic resonator Z1 resonates at a frequency of 455 Khz +/- 1%, which establishes a stable frequency source for the clock circuit. U11 divides the 455 kHz by two to produce a 227.5 kHz +/- 1% two-phase clock with a 20% "active" time. (The TI-58 can use a 384 kHz reonator which is the preferred part.)

Back in the 1980's when I was the editor of TI PPC Notes I received a letter from a Canadian who had what he called a "5/6 speed TI-59". It turned out that he had a TI-59 in which a TI-58 resonator had somehow been installed. As a result of looking into that we were told that the TI-58C uses a resonator with a frequency of about 404 kHz.

Re: More information fro0m the Service Manual

*Message #26 Posted by **Mike Morrow** on 7 Jan 2010, 9:31 p.m.,*
in response to message #25 by Palmer O. Hanson, Jr.

My first HP was an HP-67 that I bought in 1977. Later in 1977 I also bought a TI-59 and PC-100A. The TI-59 was in fact a much more advanced, sophisticated, and capable machine than the HP-67, especially with the solid-state software modules and the PC-100A. However, I went through five TI-59s and three PC-100s (ending up with a PC-100C) between 1977 and 1980. The TI hardware was just too "iffy" to trust for any critical application. The programs I wrote for use on my nuclear submarine had to be on the much more reliable HP hardware of my personal HP-67, and a Navy-purchased HP-97.

There were some significant differences between the PCBs of all of the five TI-59 units that I used. That seemed to indicate to me that there were many continuing problems with the TI hardware. Still, I'm fond of the TI-59.

Re: More information fro0m the Service Manual

*Message #27 Posted by **Garth Wilson** on 7 Jan 2010, 11:59 p.m.,*
in response to message #26 by Mike Morrow

Quote:

> I went through five TI-59s and three PC-100s (ending up with a PC-100C) between 1977 and 1980.

Interesting. They must have gotten the problems worked out. I got my 58c at the end of '81 and 59 a little later and never had any trouble with either one. I used them a ton.

Edited: 8 Jan 2010, 12:00 a.m.

Re: More information from the Service Manual

*Message #28 Posted by **Mike Morrow** on 8 Jan 2010, 9:00 a.m.,*
in response to message #27 by Garth Wilson

After the fourth TI-59 failure (and my unit just past the warrantee for the last replacement), I wrote directly to the TI CEO (Mark Shepard, IIRC) describing the history of failures. I'm sure he never saw my letter, but I received a call from a TI engineer. TI covered the cost of shipping the TI-59 and PC-100A back to them while they sent new units that the engineer claimed had been thoroughly run thru testing and burn-in. The replacements were still working 18 months later when I "loaned" it to my brother in college (never to be seen again). :-(

Reliability

*Message #29 Posted by **Michael Meyer** on 8 Jan 2010, 10:51 a.m.,*
in response to message #27 by Garth Wilson

I, too, must have been lucky. I bought mine in high school in 1978 and it lasted flawlessly through college. It was "babied", however, and always kept in a padded case. I had ended up with one of those wonderfully padded SR-52 cases with two inside pockets.

I'm still considering a "drop testing" one of my now many 59's just for fun... I mean, study, to see what kind of physical tolerance they really have. I doubt they could go through snow blowers like the HP-25's....

Re: More information from the Service Manual

*Message #30 Posted by **Mike Morrow** on 8 Jan 2010, 8:43 a.m.,*
in response to message #26 by Mike Morrow

I bought a TI-58 before the TI-59. Shortly after, I traded the TI-58 to a shipyard engineer for his old obsolete HP-35. I still have it, an early red-dot 1143A version. It was in used condition but complete with the manual and all accessories.

I didn't know then that there was anything special about the red-dot version. I'm happy with that trade that I made 33 years (one-third of a century!) ago. I suspect that the TI-58 has been in a landfill somewhere for most of that time.

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The 20s is apparently faster than the 32sii

*Message #1 Posted by **Dave Britten** on 2 Jan 2010, 11:19 p.m.*

I wrote a small program for calculating prime factors of a given number, based loosely on the one found here:

http://www.hpmuseum.org/software/67pacs/67factor.htm

For kicks, I made a version for both the 32sii, and the 20s. Despite the 20s being algebraic, there was actually very little that needed to be adapted for this particular program. Both are available here:

http://dave.brittens.org/HP20s/PrimeFactors.txt
http://dave.brittens.org/HP32sii/PrimeFactors.txt

For both programs, enter a positive integer, then XEQ F. Execution pauses when a factor is found. Press R/S to find the next factor. When 0 is displayed, there are no more factors.

Interestingly enough, the 20s seems to produce results noticeably faster. Using the input 869,103,111, the 32sii finds the last factor (4,561) in about 1:20 total. The 20s takes just under 1:00.

Anybody have an original 32s lying around and care to see how it clocks in? I'm assuming a 21s will have the same speed as a 20s.

Re: The 20s is apparently faster than the 32sii (but not the 32s)

*Message #2 Posted by **Karl Schneider** on 3 Jan 2010, 4:22 a.m.,*
in response to message #1 by Dave Britten

Dave --

My HP-32S (1990 model with recessed display) takes 56 seconds to obtain all four factors.

Since it lacks the "<=" and ">=" tests, a small workaround was necessary:

```
   32SII:              32S:


Z24      x<=y?      Z24      x>y?
Z25      GTO Z      Z25      GTO V
Z26      RCL X      Z26      GTO Z
Z27      STO F      V01      LBL V
Z28      XEQ X      V02      RCL X
Z29      CLx        V03      STO F
Z30      RTN        V04      XEQ X
                    V05      CLx
                    V06      RTN
```

Here are my checksums on the HP-32S, which are not the same as those on the HP-32SII for the same instructions:

```
LBL F   714D   10.5
LBL Y   0116   19.5
LBL Z   E93C   39.0
```

```
LBL V   721A    9.0
LBL W   63E1   15.0
LBL X   5878   15.0
```

Between two models having the same microprocessor, why does the more-advanced one tend to run somewhat slower? For example, it has also been claimed that the HP-11C is marginally faster than the HP-15C. I speculate that the lengthier microcode of the more-advanced models causes machine-level instructions to take a bit longer to be found from op-codes. However, more-knowledgeable folks might have a better answer.

Addendum:

Thinking about this a bit more, I'd assume that the ROM contents include some kind of index -- an address lookup table that points to where the instructions for a given op-code reside in ROM. That would speed things up, but access is probably still a bit slowed by larger ROM contents.

Another factor is overloading of operations. Consider the HP-11C versus the HP-15C:

On the HP-11C, "*" only multiplies two real-valued scalars.

On the HP-15C, "*" can multiply two real-valued scalars, two complex-valued scalars, two matrices, or a real scalar and a matrix. Under the microcode for "*" (hex op-code FC), conditional tests for the types of both arguments and status of flag 8 must be performed before the multiplication is done.

Regarding the HP-32S and HP-32SII, the display and memory management are almost the same. The difference in functionality is mostly the HP-32SII's equations and fractions -- not nearly as substantial as the difference between the HP-11C and the HP-15C. Thus, the difference in execution time between 76-80 seconds (HP-32SII) and 56 seconds (HP-32S) is surprising to me. I had 207 bytes of other programming in the HP-32S at the time of the test, so I can't necessarily credit fast GOTO's.

-- KS

Edited: 4 Jan 2010, 1:12 a.m. after one or more responses were posted

Re: The 20s is apparently faster than the 32sii (but not the 32s)

*Message #3 Posted by **Dave Britten** on 3 Jan 2010, 8:55 a.m.,*
in response to message #2 by Karl Schneider

> Quote:
>
> Between two models having the same microprocessor, why does the more-advanced one tend to run somewhat slower? For example, it has also been claimed that the HP-11C is marginally faster than the HP-15C. I speculate that the lengthier microcode of the more-advanced models causes machine-level instructions to take a bit longer to be found from op-codes. However, more-knowledgeable folks might have a better answer.
>
> -- KS

It's actually not a huge surprise, since the two machines - according to Wikipedia, at least - both run a 640 KHz CPU. The 32sii has a more complicated display system and memory management, plus more opcodes as you mentioned. That translates to more overhead to lug around - overhead which is evidently more expensive than managing the AOS input of the 20s.

I was under the impression that the segmented-display Pioneers had a slower CPU than the dot-matrix ones, which is why I initially found the results unexpected. But given the hardware details, things seem to

fall into place.

And a similar algorithm on my 48GX executes in under half a minute, despite the machine "feeling" slower than the Pioneers. Must be just an illusion caused by the overhead of drawing to that huge bitmapped display!

Re: The 20s is apparently faster than the 32sii (but not the 32s)

*Message #4 Posted by **bill platt** on 3 Jan 2010, 9:52 a.m.,*
in response to message #3 by Dave Britten

Instead of Wiccanpedia, you can always check Craig Finseth's site:

http://www.finseth.com/hpdata/hp20s.php

http://www.finseth.com/hpdata/hp32sii.php

Edited: 3 Jan 2010, 9:53 a.m.

Re: The 20s is apparently faster than the 32sii (but not the 32s)

*Message #5 Posted by **Dave Britten** on 3 Jan 2010, 11:19 a.m.,*
in response to message #4 by bill platt

Yeah, normally I'd check there, but it seems like his site's been acting up a bit lately. Anybody else having trouble connecting, or is it just me?

Now OT: The 20s is apparently faster than the 32sii (but not the 32s)

*Message #6 Posted by **Martin Pinckney** on 3 Jan 2010, 6:00 p.m.,*
in response to message #4 by bill platt

I'm curious, Bill, is your reference meant to disparage Wikipedia, or just a humorous intentional misstatement?

It is a serious question, since I myself am not sure what to make of Wikipedia.

Re: Now OT: The 20s is apparently faster than the 32sii (but not the 32s)

*Message #7 Posted by **Ed Look** on 3 Jan 2010, 6:31 p.m.,*
in response to message #6 by Martin Pinckney

While I may use Wikipedia myself for a few things, I do not like to recommend it to students. It is true I have never seen any scientific or mathematical pages incorrect... though there may have been some incomplete ones... this is not true for other subjects. Until someone has the ability, or more properly, the maturity, to judge the correctly the content, one should be circumspect in recommending Wikipedia.

Besides, it is an open system, allowing for frequent modification. Except maybe for the Ten Commandments and Boltzmann's original formulation of the second law of thermodynamics, nothing is set in stone... but electronic ether flux is too far toward the other extreme.

I am personally careful about anything I see in Wikipedia. This extends even to scientific and technical pages.

Re: Now OT: The 20s is apparently faster than the 32sii (but not the 32s)

*Message #8 Posted by **Dave Britten** on 3 Jan 2010, 7:38 p.m.,*
in response to message #7 by Ed Look

That's kind of my sentiment as well. There's a good body of knowledge there, but it should be treated as a starting point before branching out to more reputable sources. I refer to it a lot, but I've never once used it as a source for an academic paper. I have done some minor article writing and editing, though.

Re: Now OT: The 20s is apparently faster than the 32sii (but not the 32s)

*Message #9 Posted by **bill platt** on 3 Jan 2010, 7:41 p.m.,*
in response to message #8 by Dave Britten

Hi Dave,

I would make the following small comment regarding Wikipedia:

> Quote:
>
> There's a good body of knowledge there

changes to:

There's a good body of information there,

...as knowledge requires understanding and human insight. Wikipedia is full of information, the veracity of which is by the definition of Wikipedia always open to question to a greater degree than is the case with reputable sources.

Or to put it another way: if you need to calculate the strength of something that life depends on, do you go to Wikipedia, or Timoshenko?

Edited: 3 Jan 2010, 7:46 p.m.

Re: Now OT: The 20s is apparently faster than the 32sii (but not the 32s)

*Message #10 Posted by **Les Bell** on 3 Jan 2010, 10:28 p.m.,*
in response to message #7 by Ed Look

> Quote:
>
> Except maybe for the Ten Commandments ... nothing is set in stone

Good thing you said "maybe" there. The Ten Commandments are more commonly set in type these days, a process which is prone to human fallibility. Witness the "Wicked Bible" or "Adulterous Bible", a 1631 reprint of the King James Bible, which included the memorable injunction:

Thou shalt commit adultery.

Oops. (See http://en.wikipedia.org/wiki/Wicked_Bible for the full story.)

Best,

--- Les
[http://www.lesbell.com.au]

Re: Now OT: The 20s is apparently faster than the 32sii (but not the 32s)

*Message #11 Posted by **Martin Pinckney** on 4 Jan 2010, 9:22 a.m.,*
in response to message #10 by Les Bell

It would appear that this version is the one taken to heart these days.

Re: The 20s is apparently faster than the 32sii

*Message #12 Posted by **Hiawatha Wheelwright** on 3 Jan 2010, 8:23 p.m.,*
in response to message #1 by Dave Britten

Dave, thanks for posting this. I don't have a 32S, but I wanted to see how my 35S would perform. Your program found all factors in 1:17 on my 32sii, and in 1:27 on my 35S.

On the 32Sii, it ran in 1:16 if I started the program with R/S instead of with XEQ F.

Re: The 20s is apparently faster than the 32sii

*Message #13 Posted by **Ed Look** on 4 Jan 2010, 4:01 p.m.,*
in response to message #12 by Hiawatha Wheelwright

Yeah, it's good to get back on topic.

I have both the 20S and the 32SII. Maybe I should try timing them, too, though I've never ever tried to program my 20S.

But I have tried some simple addition algorithm that's supposed to lead to convergence on the 32SII, 33S, 35S, and 50g. Yeah, the 32SII is the slowest, and the 33S is surprisingly fast, though significantly slower than the 50g (why did I even bother testing against this one??). I did not make it a scientific test; I started the program and went off somewhere, checking them only intermittently, so I have no absolute numbers, but what the 50g may take about an hour will take very many hours on the smaller calculators, especially the 32SII.

How about 4 seconds?

*Message #14 Posted by **Gene Wright** on 6 Jan 2010, 10:20 p.m.,*
in response to message #12 by Hiawatha Wheelwright

Not bad huh?

Was not using a 50g, no C programming.

Sound interesting?

Re: How about 4 seconds?

*Message #15 Posted by **David Hayden** on 7 Jan 2010, 2:58 p.m.,*
in response to message #14 by Gene Wright

Okay, I'll bite. How did you do it, Gene?

Dave

Re: How about 4 seconds?

*Message #16 Posted by **Gene Wright** on 8 Jan 2010, 11:17 a.m.,*
in response to message #15 by David Hayden

The truth is out there. Either no one is looking or no one has found it yet. Soon as someone does, I'll talk.

The old PPC Journal had a 10 digit prime number "worst case" test they used. The number was 9,999,999,967, the largest 10 digit prime, I believe.

What did this in 4 seconds determines this to be prime in less than 50 seconds.

Edited: 8 Jan 2010, 11:19 a.m.

Re: How about 4 seconds?

*Message #17 Posted by **Jeff O.** on 8 Jan 2010, 1:43 p.m.,*
in response to message #16 by Gene Wright

Perhaps the truth is here?

Jeff, no one follows links any longer

*Message #18 Posted by **Gene Wright** on 9 Jan 2010, 1:02 p.m.,*
in response to message #17 by Jeff O.

:-(

but then... :-)

HP 30b

*Message #19 Posted by **Walter B** on 9 Jan 2010, 4:14 p.m.,*
in response to message #18 by Gene Wright

Ok, that's good news, though a scientific calc with similar features would have been even better. But one could bring forward the argument that after all financial people caused the world economic crisis, not scientists, thus financial people need a proper calc more urgently.

I want to repeat a question I asked here weeks earlier, but didn't get an answer then: Does the 30b feature the same interface the 20b does, allowing some customization?

Since you mentioned the improved keyboard in the linked articles, one could think of mating a 30b keyboard with 20b electronics else.

(Edited to include the link.)

Edited: 9 Jan 2010, 4:28 p.m. after one or more responses were posted

Re: HP 30b

*Message #20 Posted by **Gene Wright** on 9 Jan 2010, 4:27 p.m.,*
in response to message #19 by Walter B

Yes. Same interface. No need to mate a 30b keyboard with 20b electronics. Just use a 30b.

Prime factor routine factors 9,999,999,967 as prime in a bit over 50 seconds. Try that with the 32s, 32s2, or even the 35s.

Not bad for a business calculator.

P.S. I assume HP made a business calculator because more people buy them. So, let's say 12 man months of effort to sell tons of calculators or for something much much smaller. Easy choice, but I'm guessing.

Re: HP 30b

*Message #21 Posted by **Jeff O.** on 10 Jan 2010, 4:54 p.m.,*
in response to message #20 by Gene Wright

I guess I can admit now that my 20b repurposing proposal was really intended as a 30b repurposing proposal. I had considered concepts for the 20b, but with its relatively poor keyboard, it did not seem worth the trouble. With its metal-dome keyboard, the 30b would be a worthwhile candidate, I think.

Re: HP 30b - 9,999,999,967 returned prime in 40 seconds now...

*Message #22 Posted by **Gene Wright** on 10 Jan 2010, 5:00 p.m.,*
in response to message #21 by Jeff O.

How long does the 20s, 35s take on that?

I'm surprised so far such a small amount of interest. ;-)

Business machine, yes. RPN programmable with many scientific functions? yes.

Re: HP 30b - 9,999,999,967 returned prime in 40 seconds now...

*Message #23 Posted by **Norman Dziedzic** on 10 Jan 2010, 5:56 p.m.,*
in response to message #22 by Gene Wright

I'm at 33 Minutes and counting on a 35s

Re: HP 35s t<51 minutes

*Message #24 Posted by **Norman Dziedzic** on 10 Jan 2010, 6:16 p.m.,*
in response to message #23 by Norman Dziedzic

I had to step away, it was done when I got back. Time is something less than 51 minutes on the 35s

Re: HP 35s t<51 minutes

*Message #25 Posted by **Gene Wright** on 10 Jan 2010, 6:21 p.m.,*
in response to message #24 by Norman Dziedzic

So, the new model is maybe 70-80 times faster.

Interesting. ;-)

Re: HP 30b

*Message #26 Posted by **Walter B** on 10 Jan 2010, 5:15 p.m.,*
in response to message #21 by Jeff O.

For sure the 30b will approach good ol' HP quality better than the 20b does. If we extrapolate this series of 2 (a bit keen ;) I admit), then we'd get a model with this keyboard and a better, i.e. more versatile display next. Already the 30b, however, shall be sufficient to demonstrate successfully where repurposing may lead us to.

Ceterum censeo: HP, launch a 43S (you still have the chance to be the first).

Walter

Re: How about 4 seconds?

*Message #27 Posted by **David Hayden** on 11 Jan 2010, 6:49 a.m.,*
in response to message #17 by Jeff O.

Does anyone know (and can they say) anything about the reason for the 30b's speed improvements? Faster processor? Native (i.e., not Saturn) code?

I'm hoping, and assuming, that HP is porting their Saturn assembly code to ARM so they can get rid of the Saturnator emulator. That would greatly speed up the calculators. A 32-bit address space would simplify them greatly and allow for much more memory too.

Dave

Re: How about 4 seconds?

*Message #28 Posted by **Tim Wessman** on 11 Jan 2010, 10:28 a.m.,*
in response to message #27 by David Hayden

Yes people could talk about the 30b, it has been announced. It is running native code also. No emulation.

I'm actually pretty sure the 4 second time would be cut in half if it wasn't being dropped down from 30MHz to 15MHz. Somewhere in there is a trigger to drop speed to save power when a program is taking a long time. I haven't checked to see what that threshold is.

The math library in the 20/30b isn't so much "ported" (which I will interpret here as rewriting it from one system to another) but rather was remade in platform independent C using the original math library as a base.

You wouldn't want to attempt to recreate all the saturn code in something like a 50g in C

or ARM either. There are a lot of things that are very much keyed to the old processor, and frankly, there are better ways to do things in a lot of ways. Those systems were generally limited by technology and memory in a way modern systems aren't. It is much more important to have platform independence and maintainability than saving a few nibbles here or there.

TW

Ok, 30b review link...

*Message #29 Posted by **Gene Wright** on 11 Jan 2010, 10:50 a.m.,*
in response to message #28 by Tim Wessman

30b review at hpcc.org ... join and get Datafile!

This review lays out the differences and improvements to the 30b compared to the 20b.

There will (eventually) be 40 learning modules online, 6 of which are dedicated to programming.

So, read the review and ask questions.

30b prime factor program...

*Message #30 Posted by **Gene Wright** on 11 Jan 2010, 12:48 p.m.,*
in response to message #29 by Gene Wright

Here is the program that now determines 9,999,999,967 to be prime in about 40 seconds. Must be run in RPN mode, of course.

Byte count: 141 bytes (1/2 of total available) Checksum: 232

Usage: Enter program catalog by pressing shift Prgm. With this program selected / displayed, key number to factor and press = =. (Yes, that's twice). Displays running while checking factors. If number is prime, displays "Prime" and shows original number. If a factor is found, displays the factor. Press R/S to continue displaying factors. Zero is displayed when all factors have been found.

Sadly, this is faster than the prime factor program that will be in the learning modules. Of course, it is much newer than that one.

FYI...This is not my code.

```
goto 06
lbl 02
rcl + 3
sto 3
rcl 1
swap
/
math
up
=           // performs a FP instruction
gf 03       // goto if false i.e. 0
rtn
lbl 00
4
call02      // subroutine call. 4 levels available.
2
call02
```

```
4
call02
2
call02
4
call02
6
call02
2
call02
6
call02
rcl 1
LN
gt 01    // goto if true i.e. non-zero
on       // if non zero, this clears to zero
stop     // This is equivalent to KILL on the RPL machines.
lbl 01
rcl 2
rcl 3
?>=      // note: this compares rcl 2 >= rcl 3. RPL conditional
order
gt 00
rcl 1
sto 3
call03
on
stop     // This is not R/S but KILL
lbl 03
rcl 1
rcl / 3
sto 1
sqrt
math
up
up
=           // performs an IP instruction
sto 2
rcl 4
rcl 3
?=/=        // rcl 4 not equal to rcl 3 ?
gt 05       // if non-zero i.e. true go to 05.
msg Prime   // displays word Prime on level 2 of display.
lbl 05
r/s
on
goto 02
lbl 06
sto 1
sto 4
sqrt
math
up
up
=           // performs IP instruction
sto 2
0
sto 3
2
call02
1
call02
2
call02
2
call02
rcl 1
LN
gt 00      // if non-zero, go back. If LN is = zero, value was 1
on
stop
```

Edited: 11 Jan 2010, 1:48 p.m. after one or more responses were posted

Re: 30b prime factor program...

*Message #31 Posted by **Katie Wasserman** on 11 Jan 2010, 1:18 p.m.,*
in response to message #30 by Gene Wright

I didn't write this either, but will just mention a few things that might make it more understandable to those of us who haven't programmed on a 30b yet.

- There are no line numbers in the editor but there is a checksum and byte count (Gene you should include that.)

- This is a keystroke macro language not a typical RPN language so to get the IP fucntion on the Math menu, for example, you'd press: Math, Up, Up, =. The = essentially means to execute that function and put the result in the X register.

- Comparison functions like, ?>=, push a 1 if true on to the stack or a 0 if false. Almost always these are followed by a GT or GF function, Go-if-True or Go-if-False. These functions pop the stack and branch if the value is non-zero or zero, respectively.

- Label searches start at the beginning of memory. If you have a lot of code prior to the branch target this will substantially increase execution time for programs that do a lot of looping. To minimize this the code starting at Lbl 02, in this example, has been put at the beginning of memory and that's why you see the funky goto 06 at the top of the code, it branches to the start of the main code.

- you see "on" in a couple of places in the code, this is a CLx. The shared button reads ON/CE.

-Katie

Re: 30b prime factor program...

*Message #32 Posted by **Tim Wessman** on 11 Jan 2010, 1:33 p.m.,*
in response to message #31 by Katie Wasserman

There is a line/step counter in the editor. It is in the exponential area.

TW

Re: 30b prime factor program...

*Message #33 Posted by **Katie Wasserman** on 11 Jan 2010, 2:01 p.m.,*
in response to message #32 by Tim Wessman

There is indeed but since it's not on the left margin, program listings typed in by users typically do not show the line number.

-Katie

Edited: 11 Jan 2010, 2:02 p.m.

Re: 30b prime factor program...

*Message #34 Posted by **Tim Wessman** on 11 Jan 2010, 3:01 p.m.,*
in response to message #33 by Katie Wasserman

Ah. Got it. Makes more sense now. :-)

TW

Re: 30b prime factor program...

*Message #35 Posted by **Don Shepherd** on 11 Jan 2010, 2:03 p.m.,*
in response to message #30 by Gene Wright

I didn't write this code either! Actually, that honor goes to Dave Britten at the beginning of this thread, who adapted his code from the original code on the HP-67 math pak. From Dave's code, Tim Wessman wrote this code for the 30b, which I then modified (at Katie's suggestion) to move the most used subroutines to the top of the code so it would execute faster on the 30b. Whew.

Here is a hand-written annotation of the algorithm, before I rearranged the order of subroutines to make it run faster. The version that Gene listed above in this thread finds the primality of 9,999,999,967 in 40 seconds on the 30b. The annotated one in my link takes about 54 seconds.

I also wrote a version that eliminates all multiples of 7 from the pool of potential factors, but that did not reduce the execution time on the 30b, unfortunately, because most multiples of 7 are also multiples of either 2 or 3 or 5, which are already excluded.

Edited: 11 Jan 2010, 2:55 p.m.

Re: Ok, 30b review link...

*Message #36 Posted by **Walter B** on 14 Jan 2010, 2:21 a.m.,*
in response to message #29 by Gene Wright

Gene,

you wrote:

> Quote:
>
> So, read the review and ask questions.

Well, I take this invitation d;-). I found in your review:

> Quote:
>
> The mode menu settings can now be stored and recalled by pressing store or recall and then <SHIFT><MODE>. This key sequence brings up a 12 digit number with each position corresponding to a mode menu item and its setting. ... This is described and a table of these values shown in the Programming Reference learning module.

Where is this information about mode storing and recalling available already? I'd be very interested d:-)

TIA for your help.

Re: Ok, 30b review link...

*Message #37 Posted by **Don Shepherd** on 14 Jan 2010, 9:36 a.m.,*
in response to message #36 by Walter B

Walter, here is the lowdown on the mode settings. When you RCL Mode, you get a 12-digit number. Lets call it: abc,def,ghi,jkl.

- a = 1 for Standard TVM mode, 2 for Canadian TVM mode
- b = 1 for Semi-annual mode, 2 for Annual mode
- c = 1 for Actual day count mode, 2 for 360 day count mode
- d = 1 for thousands separators not visible, 2 are visible
- e = 1 for decimal separator ., 2 for decimal separator ,
- f = 1 for mm.ddyyyy mode, 2 for dd.mmyyyy mode
- g = regression type, 1-7 for: ax+b, a*ln(x)+b, b*e^(ax), b*x^a, b*a^x, a/x+b, and ax^2+bx+c
- h = 1 for 2 variable stats, 2 for 1 variable stats, 3 for 1 variable frequency
- i = 1 for radian mode, 2 for degree mode
- j = 1 for Chain mode, 2 for Algebraic mode, 3 for RPN
- kl = Fix setting, 00-11, 13=Fix -1

Re: Ok, 30b review link...

*Message #38 Posted by **Gene Wright** on 14 Jan 2010, 10:20 a.m.,*
in response to message #37 by Don Shepherd

Good job, Don! :-) Walter, ask anything you like about the 30b. More...more!

Note on the MODE stuff.

As the review says (or tries to say), you don't have to key the entire 12 digits to change a setting and a value that is outside the valid range is ignored.

So, 302 shift sto shift mode will change to fix 2 and RPN mode.

114 shift sto shift mode would change to chain mode and leave the display setting unchanged since 14 is an invalid value.

And, yes, I too want an unshifted store key.

Re: Ok, 30b review link...

*Message #39 Posted by **Thomas Radtke** on 14 Jan 2010, 10:37 a.m.,*
in response to message #38 by Gene Wright

> Quote:
>
> Good job, Don! :-) Walter, ask anything you like about the 30b. More...more!

May I ask also? :^)

- Is the bottom half of the case beveled the way the 20b is?

- How flexible is this Canadian Mortgage mode? Say, can I specify monthly payments with annual compounding? Does it mean the first payment gets full interest, the last one 1/12 of the interest when in Begin mode?

30b Canadian Mortgages...

*Message #40 Posted by **Gene Wright** on 14 Jan 2010, 12:04 p.m.,*
in response to message #39 by Thomas Radtke

The external case / shape is the same.

Canadian mortgage mode allows you to specify a value for P/YR and a value for C/YR. These can be set to a combination of any valid individual values.

I don't know exactly how amortizing a Canadian mortgage works, but the computations work and match what I expect.

From the PPC ROM manual description of FI routine:

Canadian Mortgage: Find the monthly end-of-period payment necessary to fully amortize a 25 year, $85,000 loan at 11% compounded semiannually.

Steps on the 30b:

Shift MODE up. INPUT. .... Changes to TVM Canada Shift P/YR ... displays P/YR of 12 Down...displays C/YR default of 12. 2 INPUT...changes C/YR to 2. ON/CE 300 N 11 I/YR 85000 PV 0 FV PMT

Displays -818.15.

Full precision is -818.149794116

Agrees with PPC ROM. ;-) And, yes, I really do check HP financial calculations against the 12c first :-) and then the PPC ROM FI routine. Too much trouble pulling out my HP 92.

Edited: 14 Jan 2010, 12:10 p.m.

Re: Ok, 30b review link...

*Message #41 Posted by **cyrille de Brébisson** on 14 Jan 2010, 8:52 p.m.,*
in response to message #39 by Thomas Radtke

hello,

Internally, all calcualtions are done using a per period interest rate.

in normal mode, the per period interest rate is calculated by

dividing the rate by the number of periods.

in canadian mode, the periodic interest rate is calculated using the following formula: I=(i/c/100+1)^(c/p)-1 (actually, to be more precise: exp-1((c/p)*lnp1(i/c/100)) but who cares...)

therefore, you can have any valid combinaison of ppyr and cpyr...

after that, it's TVM as usuall...

regards, cyrille

Re: Ok, 30b review link...

*Message #42 Posted by **Thomas Radtke** on 15 Jan 2010, 6:10 a.m.,*
in response to message #41 by cyrille de Brébisson

Thanks Gene and Cyrille for enlighten me about Canadian Mortgage. I got that conpect apparently wrong :-/.

Fulfilling your request, Gene d:-)

*Message #43 Posted by **Walter B** on 15 Jan 2010, 8:14 a.m.,*
in response to message #29 by Gene Wright

You wrote:

> Quote:
>
> There will (eventually) be 40 learning modules online, 6 of which are dedicated to programming.

I ask: When?

Re: Fulfilling your request...

*Message #44 Posted by **Gene Wright** on 15 Jan 2010, 9:52 a.m.,*
in response to message #43 by Walter B

I don't know, but of course, the 30b isn't for sale yet, so ...

Edited: 15 Jan 2010, 9:52 a.m.

Re: The 20s is apparently faster than the 32sii

*Message #45 Posted by **Bart (UK)** on 5 Jan 2010, 6:33 a.m.,*
in response to message #1 by Dave Britten

I don't have a 32sii, but in this thead I noted that the 20S was faster than the 35s, for that particular implementation. I quite like the 20S, it was a nice machine for it's price/size, and the 99 merged program steps is about right to briefly implement repetative or iterative formulas. There seems to be nothing like it on the market today. For programability it's either a 35s or an overkill graphics calculator. (The Sharp EL-5250 is the only other non-graphics programmable that I know of, but is not available in much of Europe).

Re: The 20s is apparently faster than the 32sii

*Message #46 Posted by **Thomas Radtke** on 5 Jan 2010, 8:40 a.m.,*
in response to message #45 by Bart (UK)

Casio has some programmables of which the fx-4500pa is an evergreen for good reasons. Not a bad calculator if you don't mind the entry system and hard to read keyboard legends.

Programmable non-graphic scientifics (Was: Re: The 20s is apparently faster than the 32sii)

*Message #47 Posted by **Bart (UK)** on 5 Jan 2010, 10:02 a.m.,*
in response to message #46 by Thomas Radtke

Thanks, doing some more research I found Casio have more programmable models. the FX-50F+ which I've found on UK online stores and the FX-5800P which is not available in the UK, but in Germany and Switzerland for about the same price as a 35s (on the plus side it does seem to have connectivity options).

Edited: 5 Jan 2010, 10:04 a.m.

Re: Programmable non-graphic scientifics (Was: Re: The 20s is apparently faster than the 32sii)

*Message #48 Posted by **Marcus von Cube, Germany** on 5 Jan 2010, 2:53 p.m.,*
in response to message #47 by Bart (UK)

I have a fx-5800P in front of me. The connectivity is only between identical machines. The cable is a standard Casio connectivity cable but that does not mean that you can mix and match devices.

Still better than no connectivity at all.

Re: Programmable non-graphic scientifics (Was: Re: The 20s is apparently faster than the 32sii)

*Message #49 Posted by **Bart (UK)** on 5 Jan 2010, 6:20 p.m.,*
in response to message #48 by Marcus von Cube, Germany

Oh, I thought it might connect to a PC using a special cable like the 9850g. Too bad.

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Old brochure from 1982

*Message #1 Posted by **Johnny Bjoern Rasmussen** on 2 Jan 2010, 12:08 p.m.*

Hi
If you want to have a look, I have just published a scan of an old brochure describing various HP equipment including HP-41, HP-87 and HP-125. The brochure language is danish but it may be fun reading even if you're unable to understand danish.

Data/Bog '82
The PDF is about 16MB.

Have fun!

Johnny Bjoern Rasmussen
hpmuseum.dk

Edited: 2 Jan 2010, 12:17 p.m.

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I got jinxed: Need help from an Mcode/NoV pro

*Message #1 Posted by **Geir Isene** on 1 Jan 2010, 6:52 p.m.*

So, the newly released ICEBOX.ROM version 1G works nicely under M41. When I try to burn it into my NoV-64, it simply doesn't show up. Nothing is in the specified page (checking with Hexedit, there are only zeros - but the rom file is verifiably not empty as I checked it in a text editor). No errors when running ClonixCfgWin.exe and assembling the HEX image. I have tried to burn my NoV-64 with only the ICEBOX1G in page #C or page #D in either flash block. I tried to burn it together with other rom images. Still the same.

Here is where it's good to have a community like this - I hope there are someone here who can try the new image into their own NoV-32/64 (or MLDL) and check if they get a similar result and if possible give me a pointer to what is wrong with the rom. The rom and the source code are on the ICEBOX page.

Any help is highly appreciated.

Re: I got jinxed: Need help from an Mcode/NoV pro

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 1 Jan 2010, 9:04 p.m.,*
in response to message #1 by Geir Isene

HI, Geir;

I have already downloaded it from your homepage but I have not uploaded it to the MLDL yet. Will do that and post about it ASAP!

In time: I do not have a NoV64, but I would like to know in which page did you load the ICEBOX1G ROM image. Didi you try loading it in lower addresses (8 or 9)? Just a guess. Some modules who access inner functionality seem to work better when first seen by the system.

Cheers.

Luiz (Brazil)

Edited: 1 Jan 2010, 9:08 p.m.

Re: I got jinxed: Need help from an Mcode/NoV pro

*Message #3 Posted by **Geir Isene** on 2 Jan 2010, 1:09 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

I tried the same pages as the ICEBOX version 1F...

Seriously weird.

Works with MLDL2000: config listed

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 2 Jan 2010, 1:00 a.m.,*

in response to message #1 by Geir Isene

Hi, Geir;

I loaded the ICEBOX1G.ROM (MLDL2018A, firmware updated) and it listed OK in the HP41. The ROM mapping is like this:

```
Page#  image
  5    HEPAX 1D (4 banks)
  8    SRAM (dir empty)
  9    SRAM (dir empty)
  A    Advantage 1D (bank #1
  B    Advantage 1D (banks #1 & #2)
  C    CCD OSX
  D    ICEBOX 1G
  E    DAVID ASSM
  F    MNFR LBLS (David Assembler labels)
```

The ICEBOX 1G appears accordingly and its functions are listed as well. Because I prefer the block catalog feature, I usually leave regular CCD or the reduced CCD-OSX configured somewhere, and in this particular case, ICEBOX 1G header and its functions show perfectly well.

I tested just two functions for functionality and both worked fine: BLNG? and KALNG?. In time: BLNG? emits a very brief tone that can be suppressed with CF 26. Is it normal? There is no mention to such tone in the manual.

Again, I do not own a NoV64, but I'd ask you to confirm if the NoV64 accepts a functionality available with MLDL2000 configuration: to enable or disable a particular image. Again, I do not know if it is possible in the NoV64.

Hope this helps.

Cheers.

Luiz

Edited: 2 Jan 2010, 1:01 a.m.

Re: Works with MLDL2000: config listed

*Message #5 Posted by **Geir Isene** on 2 Jan 2010, 1:12 a.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

On the BLENG? tone, I will look into it - it's an ineritance from the TOOLBOX.ROM.

Re: I got jinxed: Need help from an Mcode/NoV pro (why: faulty USB stick... duh)

*Message #6 Posted by **Geir Isene** on 2 Jan 2010, 5:46 a.m.,*
in response to message #1 by Geir Isene

I have to chalk this up to a faulty USB stick... :-(

Extensive testing shows this to be the most likely reason.

Re: I got jinxed: Need help from an Mcode/NoV pro (why: faulty USB stick... duh)

*Message #7 Posted by **Diego Diaz** on 4 Jan 2010, 8:29 p.m.,*
in response to message #6 by Geir Isene

Hi Geir,

First, Happy New Year and congrats on your ICEBOX job! ;-)

I've checked it on my NoV-64, and runs as expected. (just the functions relative to block swapping within the NoV-64 memory).

It's certainly wierd that the USB connector leads you to such misfunction... eventually it either shouldn'n be able to perform the programming of the module, or failed the verification process.

Good you have it fixed :-) keep on enjoying your toys!!

Cheers

Diego.

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Happy 2010

*Message #1 Posted by **Walter B** on 31 Dec 2009, 4:40 p.m.*

Though our Australian friends are already in for some hours, it's still in time for the Western Hemisphere:

Happy New Year to all HP-freaks, collectors, forumers, scientists and hobbyists!

Und ein Frohes Neues Jahr für die deutschsprachige Abteilung!

Ceterum censeo: HP, launch a 43S (remember A. C. Clarke: "2010 - the year we returned").

Walter

Edited: 31 Dec 2009, 4:43 p.m.

Re: Happy 2010

*Message #2 Posted by **Martin Pinckney** on 31 Dec 2009, 5:12 p.m.,*
in response to message #1 by Walter B

> Quote:
>
> (remember A. C. Clarke: "2010 - the year we returned")

I am fond of calling the original "A Space Oddity".

The sequel was even odder.

Hopefully not so with HP's new launches.

Re: Happy 2010

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 31 Dec 2009, 5:37 p.m.,*
in response to message #1 by Walter B

Hi, all;

Feliz Ano Novo (Happy New Year, in Portuguese)

How could we miss A. C. Clarke's future prediction that much...

Luiz (Brazil)

Edited: 31 Dec 2009, 5:38 p.m.

Happy New Year:-)

*Message #4 Posted by **Raymond Del Tondo** on 31 Dec 2009, 5:51 p.m.,*
in response to message #1 by Walter B

Happy New Year to all !

Re: Happy 2010

*Message #5 Posted by **Geir Isene** on 31 Dec 2009, 6:27 p.m.,*
in response to message #1 by Walter B

Godt Nytt År!

Re: Happy 2010

*Message #6 Posted by **Sancerre (Phoenix)** on 31 Dec 2009, 6:56 p.m.,*
in response to message #1 by Walter B

Happy new year to you all, I am not a frequent contributor, but I read this forum at least once a day. You all have given many hours of pleasure and intellectual stimulation - I thank you for that and wish you all a prosperous 2010.

-- Tod (sancerre)

Re: Happy 2010

*Message #7 Posted by **Steve Simpkin** on 31 Dec 2009, 6:56 p.m.,*
in response to message #1 by Walter B

Happy New Year!! And may 2010 bring you success, happiness and maybe even a new model HP calculator ;-)

Re: Happy 2010

*Message #8 Posted by **Massimo Gnerucci (Italy)** on 31 Dec 2009, 6:58 p.m.,*
in response to message #1 by Walter B

Buon Anno a tutti!

Greetings,
Massimo

Re: Happy 2010

*Message #9 Posted by **Lyuka** on 1 Jan 2010, 12:15 a.m.,*
in response to message #1 by Walter B

Hatsu-haru no o-yorokobi wo moushi age masu. (A Happy New Year. in romanized Japanese)

Greetings,
Lyuka (JAPAN)

Re: Happy MMX

*Message #10 Posted by **Pascal** on 1 Jan 2010, 2:37 a.m.,*
in response to message #1 by Walter B

Bonne année à vous tous !

Pascal (Switzerland)

Edited: 1 Jan 2010, 2:38 a.m.

Re: Happy 2010

*Message #11 Posted by **Thomas Radtke** on 1 Jan 2010, 3:48 a.m.,*
in response to message #1 by Walter B

Ein erfolgreiches und frohes neues Jahr aus Osnabrueck, Germany!

This is where I live, day and night:

Re: Happy 2010

*Message #12 Posted by **Marcus von Cube, Germany** on 1 Jan 2010, 7:28 a.m.,*
in response to message #1 by Walter B

Frohes Neues Jahr! This time from the black forest (Waldkirch near Freiburg).

Re: Happy 2010

*Message #13 Posted by **Peter Geiser** on 1 Jan 2010, 9:27 a.m.,*
in response to message #12 by Marcus von Cube, Germany

Happy New Year to you all!
Glückliches und erfolgreiches 2010.

Greetings from Meilen near Zurich.

Peter

P.S.: Waldkirch ist ein sehr schönes Städchen; da war ich vor kurzem in den Ferien.

Re: Happy 2010

*Message #14 Posted by **Marcus von Cube, Germany** on 1 Jan 2010, 2:34 p.m.,*
in response to message #13 by Peter Geiser

Peter, that's why I'm here. :)

Slightly OT: Germany's Black Forest (song)

*Message #15 Posted by **Karl Schneider** on 2 Jan 2010, 1:23 a.m.,*
in response to message #12 by Marcus von Cube, Germany

> Quote:
>
> ...this time from the Black Forest (Waldkirch near Freiburg).

A certain upbeat and infectious tune has stuck with me ever since hearing it in the 1970's on "easy-listening" radio or music service. However, I did not learn until very recently that its title was "Eine Schwarzwaldfahrt" (A Walk in the Black Forest).

It was an international instrumental hit in 1965 for Horst Jankowski, so I'm sure that many others of a certain age who populate this readership will also remember it. Links to a recorded track or performance are readily available on the various YouTube sites.

-- KS

Edited: 3 Jan 2010, 4:26 a.m.

Re: Happy 2010

*Message #16 Posted by **Quan** on 1 Jan 2010, 10:06 a.m.,*
in response to message #1 by Walter B

Happy New Year!

Re: Happy 2010

*Message #17 Posted by **Meindert Kuipers** on 1 Jan 2010, 10:08 a.m.,*
in response to message #1 by Walter B

And Happy New year from Holland as well (where most of the snow is now gone)!

Re: Happy 2010

*Message #18 Posted by **Matthias Wehrli** on 1 Jan 2010, 4:53 p.m.,*
in response to message #17 by Meindert Kuipers

Swiss people are a bit slower: Happy new year to all of you ;)

Re: Happy 2010

*Message #19 Posted by **Alberto Fenini** on 1 Jan 2010, 5:02 p.m.,*
in response to message #17 by Meindert Kuipers

Buon Anno a tutti !!! (Happy New Year from Italy) Alberto

Re: Happy 2010

*Message #20 Posted by **Bernard Rochlin** on 1 Jan 2010, 5:35 p.m.,*
in response to message #19 by Alberto Fenini

Welcome to MMX aka 2*3*5*67 Cheers from Australia

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ICEBOX.ROM version 1G released + Happy New Year

*Message #1 Posted by **Geir Isene** on 31 Dec 2009, 10:59 a.m.*

Here's the release notes:

In version 1G, I added the functions N200, N201, N202 and N203 to complete the direct bank switching for the NoV-64. A function NXXX was also added to take a number in X and write it directly to address 4100 - in this way, the user doesn't have to go via HEX>NNN and WROM to write a new setting to 4100 (makes for easier bank switching in FOCAL programs). I also added the functions SAVEN and GETN to save and restore main memory to HEPAX RAM (using the file name "N", these functions call HSAVEA and HGETA respectively). They make it possible to assign the saving and restoring ov main memory to keys.

Go to the ICEBOX page to get the rom image, the source code and the updated user manual.

And; Have an excellent 2010!

Re: ICEBOX.ROM version 1G released + Happy New Year

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 31 Dec 2009, 11:18 a.m.,*
in response to message #1 by Geir Isene

Hi, Geir;

already downloaded, will add ICEBOX1G.ROM to my MLDL2000 banks later.

Thanks a mil! (time for me to start scratching my own ROM...)

Best wishes to all!

Luiz (Brazil)

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The best way to save a HEPAX block to mass storage?

*Message #1 Posted by **Geir Isene** on 30 Dec 2009, 3:15 p.m.*

The purpose is to save 4K blocks of a NoV-64 to mass storage.

There are several modules and ways to accomplish this. Which is the easiest and best way?

Re: The best way to save a HEPAX block to mass storage?

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 30 Dec 2009, 7:24 p.m.,*
in response to message #1 by Geir Isene

Hi, Geir;

when I want it fast, I use the 9114A (needs HPIL) with HEPAX WRTROM (READROM to retrieve) to save a copy of a complete ROM 4K block in a floppy disk. This is also reliable.

In time: I found some problems using WRTROM with a 82242 IR module connected to the HP41. Many data were altered in the NoVRAM module and I had to completely erase and program it again, including the NoVolatile RAM. I am investigating possible causes.

If you have a MLDL2000, you can also configure the NoV64 to leave one or two pages unused (free addresses) and configure the MLDL2000 to use the free addresses with two SRAM 4K blocks in the MLDL2000 itself. Then, use HEPAX COPYROM to make a copy of the 4K page in NoV64 (source) to one of the available MLDL2000 SRAM (I suggested two because most modules use two pages at the same time). Then connect it to the computer and save it as a .rom file.

These are the two ways I have been using.

Cheers.

Luiz (Brazil)

Edited: 30 Dec 2009, 11:15 p.m.

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50g easter eggs

*Message #1 Posted by **Glenn Shields** on 30 Dec 2009, 12:46 p.m.*

Here is something on a lighter note, regarding hidden surprises:

In some on-line HP50g review, someone mentioned an easter egg in the fast 3D area, but that the reader was invited to discover this for himself. Is anyone aware of this? The easter egg site only mentions "RULES" and "MINEISBETTER" is getting old.

Happy New Year to all, Glenn in West LA

Re: 50g easter eggs

*Message #2 Posted by **Glenn Shields** on 2 Jan 2010, 2:30 a.m.,*
in response to message #1 by Glenn Shields

Ok, I figured out that "HpMad" is listed for the 49g. Trying this on the 50g produced an "unplayable" Tetris game, moving so fast that is a blur. Is this because it is not adapted to the processing speed of the 50g? Just curious because of so many functions listed in the AUR which are holdovers from the 49 and 48. Thanks in advance! a last minute Cheers on 1/1/10 - Glenn in West LA

Re: 50g easter eggs

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 2 Jan 2010, 3:55 a.m.,*
in response to message #2 by Glenn Shields

Hi;

I was aware of the existence of some easter eggs, but I never knew any. Thanks!

Luiz (Brazil)

Re: 50g easter eggs

*Message #4 Posted by **Glenn Shields** on 2 Jan 2010, 5:17 a.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

Thanks, Luiz. I know these games are just small entertainment, a break from some "real" work or serious play, but fun anyway. There is an old 2003 post in the archives which dealt with this fast Tetris game already. The speed is mentioned, the question is just why? I was able to get 1. (a real number) point! What was Cyrille thinking? Happy Jan 2nd

Re: 50g easter eggs

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 2 Jan 2010, 5:22 a.m.,*
in response to message #4 by Glenn Shields

Hi, Glenn;

if we consider that the designers had the calculator´s bare hardware at hand, they could slow it down enough to play a little bit... Why not?

Cheers.

Luiz (Brazil)

Re: 50g easter eggs

*Message #6 Posted by **Bill Zimmerly** on 6 Jan 2010, 4:03 a.m.,*
in response to message #1 by Glenn Shields

Hi Glen!

Here is more detailed information on how to run it...

WBZ Amazon Review of the HP=50G

Enjoy. :)

- Bill

Re: 50g easter eggs

*Message #7 Posted by **Glenn Shields** on 6 Jan 2010, 2:02 p.m.,*
in response to message #6 by Bill Zimmerly

Thank you Bill, I remember seeing your review when I was considering getting the 50g. All the posts and reviews have been so helpful in getting up to speed with this machine, in addition to the (printed) user guide and AUR. You just can't get enough tips and tricks.

One tricky thing about RPL programming is knowing when stack items will get "consumed" by tests etc. I have come up from older calcs (32s, 20s) and the 33s and 35s now, and after delving into the 50g, a little refresher is needed now and then on rpn line programming.

To the point, I found a reference in hpcalc.org about the HpMad game for the 49g, along with the cryptic reference to other hidden eggs in the fast 3D area. So whatever this is, does it apply to the 50g? And the other thing is, do you need the reflexes of a fly (a la Jeff Goldblum) to play the HpMad game?

Cheers, Glenn

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HP nut CPU and illegal instruction sequences

*Message #1 Posted by **Håkan Thörngren** on 30 Dec 2009, 5:19 a.m.*

Does anyone know how the 41 nut cpu behaves when it comes to instruction sequences that should be avoided?

The David assembler manual basically says that AND and OR should not follow an arithmetic instruction that can have a carry out of the highest bit of the register.

The HP internal doc states that various instructions, most flag instructions (plus AND and OR) should not follow an arithmetic class 2 instruction. What is an arithmetic class 2 instruction here? Is it any class 2 instruction, even such as C=0 which does not even affect carry? Are relational compare instructions such as A<C affected as well (it probably does an internal subtraction)? What about C#0?

The HP description does not feel right, I have done things that should be avoided in the past without getting any ill effects I could see. I feel a little bit puzzled by this.

In short, what should I look out for? Should I trust David, HP or are there other interpretations on what should be avoided?

I have no answer but I am following...

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 30 Dec 2009, 6:50 a.m.,*
in response to message #1 by Håkan Thörngren

Hi, Håkan;

I am sorry not having an answer to your question, but I am surely following the thread.

Cheers.

Luiz

Re: HP nut CPU and illegal instruction sequences

*Message #3 Posted by **Eric Smith** on 30 Dec 2009, 1:34 p.m.,*
in response to message #1 by Håkan Thörngren

Note that HP had three generations of Nut CPU chips, 1LA5, 1LE3, and 1LF5 (and more if you count some of the later Voyager variants), so it is remotely possible that bugs might have been fixed in the later ones. On the other hand, they probably didn't have any significant justification for investing the engineering effort to fix the bugs, so it is more likely that they kept the logic design of the core the same.

I think this clarifies some points...

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 30 Dec 2009, 9:22 p.m.,*
in response to message #1 by Håkan Thörngren

Hi, Håkan;

A recent addition to T.O.S. (Doug Wilder´s QuinTable.pdf) brings the following relevant notes:

> Quote:
>
> ```
> 3. NOT (C=-C-1) always sets carry.
> 4. AND and OR misbehave if carry is set.
> 5. POP misbehave in DEC mode: increments msd if in the range A-F.
> 6. G register misbehave if PT=13
> Copyright 1987, 2005 STC, W.D.Wilder
> ```

No specific explanation about the reasons or internal structure, but it gives some extra info.

Cheers.

Luiz (Brazil)

Edited: 30 Dec 2009, 9:49 p.m.

Re: HP nut CPU and illegal instruction sequences

*Message #5 Posted by **Doug** on 31 Dec 2009, 10:34 a.m.,*
in response to message #1 by Håkan Thörngren

Guess what, you get to test! get your head out of your ass and test your surmise, don't be stupid, test your premise: Sorry,

It ain't that hard to test your code, don't be afraid, just try it, it can only crash your calc and you can revive via MEMORY LOST.

don't be afraid, i love 41c. Don't be afraid.

Doug

PS: JUST TRY IT

Edited: 31 Dec 2009, 10:56 a.m.

Re: HP nut CPU and illegal instruction sequences

*Message #6 Posted by **Håkan Thörngren** on 4 Jan 2010, 1:13 a.m.,*
in response to message #5 by Doug

I hoped there were some deeper insights available in this issue. In that case I will need to fire up my MLDL and HP41 and try some stuff out myself.

I am not afraid, I had far fewer MEMORY LOST messages doing MCODEing than I did with synthetics... :)

It is just that I do not have my MLDL anywhere close to me at the moment, so it will have to wait. Anyway, I have some good starting points what to look at when I get around to it.

Re: HP nut CPU and illegal instruction sequences

*Message #7 Posted by **Ángel Martin** on 4 Jan 2010, 2:47 a.m.,*
in response to message #6 by Håkan Thörngren

I know nothing beats the real thing but V41 does an excelent job as surrogate of a HW MLDL. It supports the Hepax module quite flawlessly (others maybe too but I haven't tried them).

Bad news if you're not using Windoze, though - but maybe you've got another system available fot these purposes.

Best wishes, AM

Re: HP nut CPU and illegal instruction sequences

*Message #8 Posted by **Monte Dalrymple** on 4 Jan 2010, 11:04 a.m.,*
in response to message #6 by Håkan Thörngren

My paper "Inside the NUT CPU" over on the unmentionable site may provide some insights.

I was never able to figure out the "not after class 2" restriction. If I had to guess, I would say that it has something to do with a carry affecting the instruction similar to how it is used for the conditional jumps... but that is just a guess.

I do not consider the G=13 case to be a bug. As I explain in the aforementioned paper, the results are exaclty what falls out of a straigtforward bit-serial implementation of the normal case.

In all cases, it is important to remember that this design is from an era when every single transistor counted, so a designer would spend time minimizing the number of transistors. Add to this the bit-serial operation, and most of the "bugs" that have been documented can be easily explained.

Because emulators typically do not atempt to mimic this bit-serial operation, it is unlikely that they will duplicate out-of-the-norm cases. Even with my NEWT design, which retains the bit-serial operation, I didn't ever try to verify all of the abnormal cases. For example, arithmetic operations, in decimal mode, when the register contents are not valid decimal numbers. Odds are that the results will be the same, because the arithmetic functions are the same, but I never bothered simulating these cases.

Monte

Re: HP nut CPU and illegal instruction sequences

*Message #9 Posted by **Håkan Thörngren** on 5 Jan 2010, 1:56 a.m.,*
in response to message #8 by Monte Dalrymple

I have so far studied old HP documentation, Doug Wilder´s QuinTable.pdf, David's assembler manual, the Monte Dalrymple's "Inside the NUT CPU" and "NEWT Microprocessor Technical Manual".

The G register and pt=13 thing I have stumbled over myself by accident way back before I even

saw it documented. It is well explained in the Newt paper as well as David's assembler manual.

David also explains the C=C|A and C=C&A bugs, but the description is not the same as I saw in QuinTable.pdf. I will need to experiment with it myself a bit on real hardware.

Non-BCD numbers in decimal mode arithmetics behavior is tested by the service module. I found this out when I tried the service module on my emulator. (I did it wrong initially).

Anyway, I feel there is a reasonable complete understanding of many of the things going on. The darkest corner seems related to the class 2 (arithmetic) instructions being followed by certain other instructions mystery.

Many thanks, I will keep the information I have collected so far in mind when I can power up my MLDL later for some experiments.

Re: HP nut CPU and illegal instruction sequences

*Message #10 Posted by **Eric Smith** on 5 Jan 2010, 12:50 p.m.,*
in response to message #9 by Håkan Thörngren

On the Saturn CPU, decimal arithmetic with non-BCD digits is non-commutative. I haven't tested this with the Nut or earlier CPUs, but it's on my todo list.

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HP50g switch between USB to SERIAL

*Message #1 Posted by **fabrice** on 30 Dec 2009, 5:09 a.m.*

Hi all, i need a little help, i have an HP50G. in the menu APPS -> I/0 functions its possible to change the communication way between 3 choices : -USB -IRDA -SERIAL i need to do it by program, if possible in RPL or to have an utility that take as entry my choice and do the job. can someone help me ? i have ever look in the FLAGS

fabrice

Re: HP50g switch between USB to SERIAL

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 30 Dec 2009, 6:36 a.m.,*
in response to message #1 by fabrice

Hi;

have you compared flags contents (RCLF) before and after setting one of the two port comm modes? IIRC one of the flags controls it but is not listed in the Flags Mode, Choose list...

I am not with an HP50G in hands right now, sorry...

Luiz (Brazil)

Edited: 30 Dec 2009, 6:52 a.m.

Re: HP50g switch between USB to SERIAL

*Message #3 Posted by **Tim Wessman** on 30 Dec 2009, 4:40 p.m.,*
in response to message #1 by fabrice

System flag 78.

TW

Re: HP50g switch between USB to SERIAL

*Message #4 Posted by **fabrice** on 31 Dec 2009, 2:05 a.m.,*
in response to message #3 by Tim Wessman

thank's for your precious help fab

Re: HP50g switch between USB to SERIAL

*Message #5 Posted by **C.Ret** on 31 Dec 2009, 2:35 a.m.,*
in response to message #3 by Tim Wessman

HI,

Sorry for my naïve remark, I have never touch a HP50g.

How can a single (binary) flag be the director of a three-state positon (USB - IRDa - SERIAL) ? Is this flag more than binary (set or down) or is there samewhere another trick I am missing ?

Thank to elucidate this and bring me the light of understanding.

Re: HP50g switch between USB to SERIAL

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 31 Dec 2009, 5:37 a.m.,*
in response to message #5 by C.Ret

Hi;

flag 78 controls only cable selection (USB or Serial).

Cheers,

Luiz (Brazil)

Edited: 31 Dec 2009, 6:48 a.m.

Re: HP50g switch between USB to SERIAL

*Message #7 Posted by **Don Shepherd** on 31 Dec 2009, 6:56 a.m.,*
in response to message #5 by C.Ret

I am not familiar with how the 50g works, but perhaps the flag is not binary. Perhaps it can be 1, 2, or 3.

Re: HP50g switch between USB to SERIAL

*Message #8 Posted by **Vieira, Luiz C. (Brazil)** on 31 Dec 2009, 7:45 a.m.,*
in response to message #7 by Don Shepherd

Hi;

all flags in the HP50G (all-purpose, user flags or system flags) are binary: cleared (0) or set (1). They can be tested with one of two possible answers: true (1) or false (0). One single bit only.

Cheers.

Luiz (Brazil)

Re: HP50g switch between USB to SERIAL

*Message #9 Posted by **Tim Wessman** on 31 Dec 2009, 10:04 a.m.,*
in response to message #5 by C.Ret

Sorry about that.

The only problem with setting it problematically is that flag 78 doesn't show up in the flag list. Flag 33 sets either IR or wire, and then if 33 is clear so wire is active, 78 set means serial instead of USB.

TW

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NiCd Lady Company Review (battery rebuild)

*Message #1 Posted by **Egan Ford** on 29 Dec 2009, 7:22 p.m.*

Following a tip from this forum I sent in my 82161A battery to NiCd Lady Company (http://www.nicdlady.com/) to be rebuilt.

The process was fairly straightforward:

1. Check their list for your battery (http://www.nicdladyonline.com/rebuilding/photo-power.html). BTW, the prices are either outdated or updated. The chart indicates that I should have paid $28.
2. Blindly send in your battery with a letter requesting that they rebuild your battery. Put in the letter your return address, phone number, and email address.
3. Pray it does not disappear.

A few days after I did this I got an email stating that they were backlogged and to expect an email or call in 6-8 weeks.

8 weeks later I was informed via email that my battery was rebuilt. I was asked to call to make arrangements for payment.

I called, handed over a VISA number, and was charged a total of $19.95 for the rebuild and return shipping.

A few days later it arrived. Clearly all the batteries were replaced and the case looks like it was opened and closed by a surgeon. Excellent workmanship.

I just tested the battery in my cassette drive. Finally NEWM 100 does not fail.

$19.95 was the cheapest price I could find (unless I wanted to do it myself), and the return shipping was included. If you do not mind waiting (I was in no hurry), then give NiCd Lady a go.

Edited: 29 Dec 2009, 7:27 p.m.

Re: NiCd Lady Company Review (battery rebuild)

*Message #2 Posted by **designnut** on 29 Dec 2009, 11:53 p.m.,*
in response to message #1 by Egan Ford

Most people do not renew Nicad cells, rather they opt for NiMh cells. I have had such good experience with Sanyo Eneloop low discharge rate cells. I used to keep 2 4 cell chargers busy trying to keep up with self discharge, now a dozen AA and AAA cells suffice and seldom need recharge. I have shells that allow AA to fill the need for D cells, handy. We use few primary cells any more. You can reliably take a camera that has set around for months and expect it to perform. Sam

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HP 42S simulators on ipod touch--I answered my own question

*Message #1 Posted by **bill platt** on 28 Dec 2009, 1:46 p.m.*

I have read this thread:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv019.cgi?read=159080#159080

and so I think I understand that basically:

1. Thomas Okken wrote a stand-alone simulator of the 42S functionality (as distinct from an emulator which requires a ROM image) and compiled it to run on the iPod and iPhone, naming it "Free42". (also compiled to run on Palm, WinCE, and Windows under separate releases)

2. Byron Foster ported Thomas' Free42 to create an extension of Thomas' tool, adding some new ideas which are not strictly compatible in every case with an original HP 42S. He named it "42s RPN Calculator."

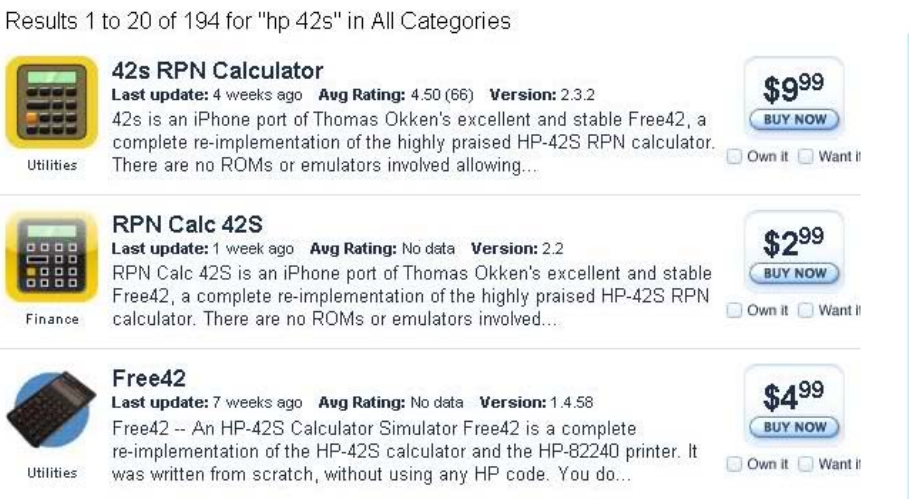
3. Another port of Thomas' Free42 appears on the ipod apps page: "RPN Calc 42S."

This last app seems to use text in the description which is mostly identical to Byron's version. Does anyone have any background on this? I now see that Thomas describes this at his own web-page, as being a release of one of Byron's earlier edits, by a third party. I guess this is something that can happen with GNU licensing?

Here is what the descriptions are:

http://appshopper.com/search/?cat=&search=hp+42s

and here is a screen capture if the link changes (what I saw):



As far as emulators go, I know Thomas knows all about emulators--and I though he had made some of them, but perhaps most of them all come from Christophe. 42S emulation: http://hp.giesselink.com/emu42.htm

Edited: 28 Dec 2009, 2:03 p.m.

Re: HP 42S simulators on ipod touch--I answered my own question

*Message #2 Posted by **Egan Ford** on 28 Dec 2009, 5:16 p.m.,*
in response to message #1 by bill platt

> Quote:
>
> As far as emulators go, I know Thomas knows all about emulators--and I though he had made some of them, but perhaps most of them all come from Christophe. 42S emulation: http://hp.giesselink.com/emu42.htm

Free42 is not based on Emu42. Emu42 emulates the Pioneer platform and requires the 42S ROM. Free42 is a cleanroom implementation of the 42S.

BTW, RPN Calc 42S is just a ripoff of 42s RPN Calculator. 42s (iPhone version) is GPL (open source). Any can take the source, compile, and publish. It's legal, however sleazy.

Thomas could grant Byron a different license to avoid this type of sleaziness.

Re: HP 42S simulators on ipod touch--I answered my own question

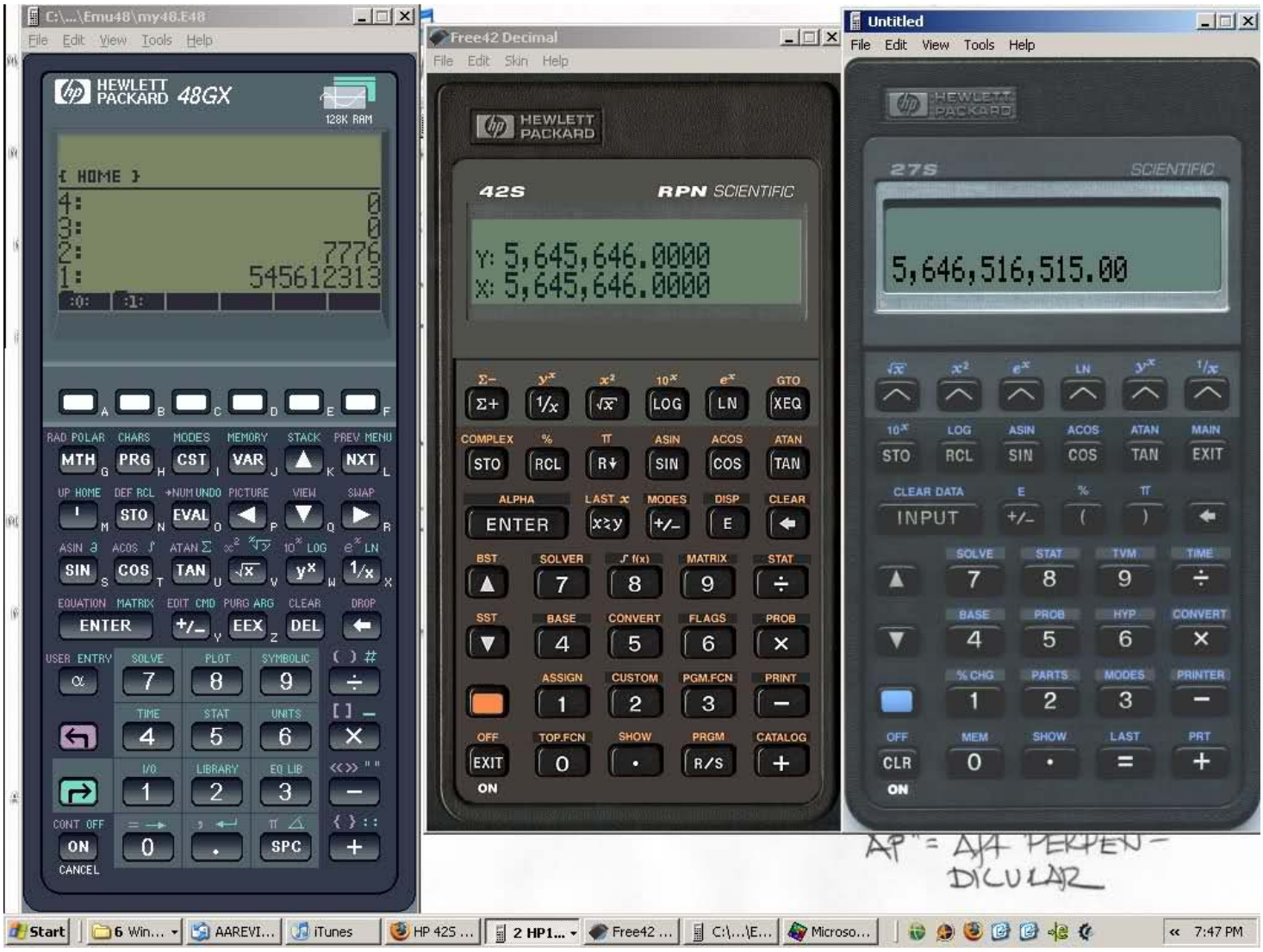
*Message #3 Posted by **bill platt** on 28 Dec 2009, 7:46 p.m.,*
in response to message #2 by Egan Ford

Hi Egan,

Thanks for the clarification. I know about the emulators being different from the simulators. I have the 27S and the 48GX emulated on my computer, and I run the light version of Hrastprogrammer's 41E on my 48GX.

This 42S simulator is the first simulator I have run. It is really amazing to be able to finally explore the 42S without having to buy one!

Very interesting about the licensing.



Edited: 28 Dec 2009, 7:50 p.m.

Re: HP 42S simulators on ipod touch--I answered my own question

*Message #4 Posted by **Andreas Grund** on 29 Dec 2009, 11:00 a.m.,*
in response to message #3 by bill platt

Certainly all these emulations, whether on a PC or Ipod/Iphone are nice toys - I enjoy them as well - but they are no substitute for the real thing...

greetings,

Andreas

Re: HP 42S simulators on ipod touch--I answered my own question

*Message #5 Posted by **Walter B** on 29 Dec 2009, 11:28 a.m.,*
in response to message #4 by Andreas Grund

> Quote:
>
> Certainly all these emulations, whether on a PC or Ipod/Iphone are nice toys - I enjoy them as well - but they are no substitute for the real thing...

For sure. They are, however, significantly faster, and often you may edit programs in a more comfortable environment than on the "real thing". And you may save your programs on a mass storage device easily (ola Luiz ;). The best of both worlds would be a 43S with an SD or passive USB interface and real keys with tactile feedback.

Item ceterum censeo: HP, launch a 43S.

Walter

(Edited to correct a typo)

Edited: 29 Dec 2009, 11:29 a.m.

Re: HP 42S simulators on ipod touch--I answered my own question

*Message #6 Posted by **Jake Schwartz** on 29 Dec 2009, 4:58 p.m.,*
in response to message #5 by Walter B

> Quote:
>
> The best of both worlds would be a 43S with an SD or passive USB interface and real keys with tactile feedback.

Hi Walter,

Perhaps some enterprising and talented individuals who frequent this forum might wish to attempt to implement your 43S in an emulator as an experiment. I certainly would be one of the first to seek or purchase a copy. Perhaps HP could be shown how it should be done :-)

Jake

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HP-41CX motherboard

*Message #1 Posted by **Michel Beaulieu** on 28 Dec 2009, 11:00 a.m.*

A simple one : if i find/buy a Halfnut board from a broken calculator screen, can i put it in a Fullnut case that i have "lost" the board?

Thanks

Michel

Re: HP-41CX motherboard

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 28 Dec 2009, 12:58 p.m.,*
in response to message #1 by Michel Beaulieu

Michel! I am trying to contact you!

Please, send me an e-mail! lc_vieira [at] quantica dot com . br

Did you read this post? I completely lost all of the e-mails at IG (lcvig001 at ig dot com punto br).

I have some good news... I was not able to perform such a test before, now I can give your CX mainboard a try.

If you read this post too, chances are we can establish our previous conversations... please?

Cheers.

Luiz (and yes, your CX case will work fine with a CV mainboard... but now I think I can provide your CX mainboard back)

Re: HP-41CX motherboard

*Message #3 Posted by **Michel Beaulieu** on 7 Jan 2010, 6:44 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Did you take time to test the board?

Michel

Re: HP-41CX motherboard

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 7 Jan 2010, 8:40 p.m.,*
in response to message #3 by Michel Beaulieu

Hi, Michel;

I am finishing my 'homework' till this very weekend related to the end of the school semester (final

grades and all related paperwork, as you probably know...) then I'll get back to the board.

A few days ago I bought an HP41CV with a single ROM chip. It is a ILG9xxx (cannot see the rest of the code) and I will inspect your CX board to see if there is such kind of ROM chip. Anyway, the idea is to remove the three (or the single) system ROM (0, 1 and 2) then emulate them in the MLDL2000. If the problem persists, I'll remove the other three (X-FCN, Time and CX FCN/TIME) and do what I did with my own CV. If the calculator goes OK in any case, I'll put one ROM at a time back to the board and see which of them causes the problem. If I have a replacement, then I´ll proceed with the change.

My very concerns are related to removing and placing back any MOS chips, mostly when they are so exclusive. All care we have each time it is done is never enough... Grounding ourselves, grounding the devices (soldering iron), discharging electrolytic capacitors, grounding the power lines (BATT+ and BATT-) and using a hairdryer to 'blow' the air around and reduce active ions (works fine, just do not point it to the components too very often) must be performed calmly and sequentially. Takes time, but compensates. These are the main reasons I did not do it so far: everything must be dedicated to that. A CX motherboard demands to be treated like that!

Cheers.

Luiz (Brazil)

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O.T. What kind of math?

*Message #1 Posted by **designnut** on 27 Dec 2009, 12:29 a.m.*

A car GPS navigator has coordinates for our location and our destination. It has spatial map of streets. How does it find an optimal path so quickly? If we blunder or choose not to follow the suggested direction it plans a new route before the next corner. It was a gift, a MIO 300. It has been used for a year and once it sent us in a wrong direction, we knew better and went our way, It quickly corrected. It has a 400 Mhz processor. What is it doing? Sam

Re: O.T. What kind of math?

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 27 Dec 2009, 3:31 a.m.,*
in response to message #1 by designnut

GRAPH analysis, most certainly. It probably uses a modified Dijkstra´s algorithm, by suppressing unavailable path (congestion, void access, etc.) anytime it happens and giving the best route in no time.

Cheers.

Luiz (Brazil)

(In time: are you the same Sam who sent me some very interesting texts, about three years ago? If so, please, let´s get in contact again. I had been 'off line' for some reasons, health-related mostly, but *it seems to me I'm back, now*. e-mail: lc_vieira (at) quantica [.] com dot br)

Edited: 27 Dec 2009, 4:30 a.m.

Re: O.T. What kind of math?

*Message #3 Posted by **hpnut** on 27 Dec 2009, 4:50 a.m.,*
in response to message #1 by designnut

Sam,

a lot depends on the accuracy of the map data itself. I was in Australia last year, just couldn't find a restaurant in Melbourne that was supposed to be listed in the map. Turned out that the restaurant had closed ;-)

hpnut in Malaysia

Re: O.T. What kind of math?

*Message #4 Posted by **C.Ret** on 27 Dec 2009, 7:08 p.m.,*
in response to message #1 by designnut

Hi,

Yes, the GPS has the latitude and longitude coordinates of your position acquired nearly every seconds and the latitude/longitude coordinates of your destination.

The road navigation GPS also have now on board map with the most detail of roads, intersections and a large bunch of points of interest. These maps are vectorial maps since they are draw using latitude/longitude coordinate, length and heading of road leg, as well as coordinate of intersection, town, point of interest, also contain street name, the road nomenclature, road categories and same other data concerning one-way roads and other circulation constrains.

This makes a lot of digital data, making that the full country maps are weighting several Go now. All this stuff is present in the map to allow precise drawing in the very probable case you decide to zoom in. But all these data are not used to compute a route.

One may be surprise that route computation is so quick at initial full trip computation as well as on road computation, as soon as the driver leave the planned route. Even with low speed processor (which generally share time with several internal functions concerning GPS signal processing, display and other user interface touch screen, etc… a GPS with 400 Mhz processor seems to be a power full one) and huge among of data in the vetorial map. These amazing little boxes still use a fraction of second to compute or re-compute the route !

The algorithm's performance and the math involved there are of secondary importance. The high computation speed is mainly due to pre-compute link tables stored in the maps, which make that the GPS have not to carry the full process of a complete Drijska's method, not to run all the heuristic, nor to evaluate a mountain of combinations. The GPS is mainly using a pre-computed look-up table that summarizes and regroups directions of the map at the appropriate scale.

This make that the computation of a trip following main roads or highways even on a long distance is much more fast than the computation of a short trip of a few tens of miles in a map's region were no pre-computed table exist (or only incompletely).

The same, when the driver leave the planned route. The GPS rapidly compute a new partial route to the next node present in the already scanned pre-computed links table, never (or rarely) the GPS have to compute a full new route from crash. Sometime, depending of the region where you are travelling in, the GPS propose strange route on the fly with illogic or unnecessary detours.

Of course, the exact process vary from one model or brand of GPS. As well, the efficiency greatly relies of the data organization into the map and how well is all the system organizes altogether. For sure, the pre-compute links table are build up during map compilation using the Dijstra method or one dedicated method deduce from it.

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HP 12-C on the Android

*Message #1 Posted by **Dale Wyckoff** on 26 Dec 2009, 11:01 p.m.*

In October palmheads asked about HP-15c/12c for the Android. Bruce Bergman responded with "Coming. Stand by." Does anyone have an idea as to the status of this app? I'd love to have a 12-C on my Droid!

Re: HP 12-C on the Android

*Message #2 Posted by **Bruce Bergman** on 27 Dec 2009, 1:54 a.m.,*
in response to message #1 by Dale Wyckoff

Ha! That goes to show that I should keep my big mouth shut! ;-)

Actually, I haven't heard anything on it since October either. I suspect there have either been some issues or higher priorities. I, for one, have been working to put something RPN-ish on the Palm Pre, but getting into their developer program is like pulling teeth. It's almost like some of these companies don't want you to create apps for their phones.

Anyhow, hopefully someone will produce something for the Android platform soon. Maybe the rumors of the Nexus One going on sale next week will spur some interest. I'm just as interested as y'all.

thanks, bruce

Re: HP 12-C on the Android

*Message #3 Posted by **palmheads** on 4 Jan 2010, 9:09 p.m.,*
in response to message #2 by Bruce Bergman

Hey Bruce - can you give us a hint who was working on another 12c calc for the Android? Be interesting to see what stage they are at.

cheers Daryn

Re: HP 12-C on the Android

*Message #4 Posted by **palmheads** on 27 Dec 2009, 10:52 p.m.,*
in response to message #1 by Dale Wyckoff

RPNCalcPro in the Android Market now has a HP-12c lookalike financial mode (updated today) in landscape view. Looks pretty good to me! It also has a scientific calculator & a basic RPN calc mode.

It doesn't have the programmable abilities of a real 12c, but for most people who cares. The key layout & functionality looks the same to me.

It doesn't looks exactly the same aesthetically (ie exactly the same look as a 12c), but still looks like a HP calc thanks to the natural look of RPNCalcPro. Key layout is the same which is important!

Very happy to see it!

Edited: 28 Dec 2009, 2:30 a.m.

Re: HP 12-C on the Android

*Message #5 Posted by **palmheads** on 30 Dec 2009, 4:10 p.m.,*
in response to message #1 by Dale Wyckoff

Been working thru some examples from the HP-12c manual using the new HP-12c mode in RPNCalc Pro - works great!!! So far havnen't found any issues.

Here is a screenshot of the new layout

Go here for more info

Edited: 30 Dec 2009, 4:15 p.m.

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Series 80 site disruption

*Message #1 Posted by **Vassilis Prevelakis** on 25 Dec 2009, 4:46 p.m.*

Hi,

I am back. After some time off for family reasons.

The SUN Ultra1 that was hosting Series80.org has given up the ghost, so I have moved to a commercial hosting service. I am also in the process of moving DNS registrars, so further hiccups are likely.

Please be patient, the new provider has much better connectivity and (hopefully) uptime than the old SUN.

Happy holidays to all.

**vp

Re: Series 80 site disruption

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 25 Dec 2009, 8:12 p.m.,*
in response to message #1 by Vassilis Prevelakis

Hi, Vassilis;

good to 'read' from you!

I have been 'off line' for a while (almost two years!) and got back recently, too.

Welcome back! I hope everything is fine with you, now.

Cheers.

Luiz (Brazil)

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Back to MLDL2000: I did it again...

*Message #1 Posted by **Vieira, Luiz C. (Brazil)** on 24 Dec 2009, 2:13 p.m.*

Hi, guys;

after a couple of hours of labor (a lot of criteria involved), I finally got to this:

Now I can set the CPLD power as I wish. The externally-accessible jumper connects to J7. In the above picture, the CPLD is powered in RUN and STANDBY mode (pins 2-3 connected). In order to run a CX configuration in a CV with no ROM installed, the jumper must be positioned to the right (pins 1-2 connected).

Well, it works! I always liked the CX functionality, did not care too much for the clock, but I miss the X-memory. I configured HEPAX 1D to page #6 and it worked fine so far, so I still have all four ports (eight pages) to work with and left address for the HPIL. The HEPAX RAM offers all X-memory functionality and some more, so I'll stick to it so far. The CX functionality now goes for the main memory extras. One of them I did not find anywhere but in the CX (I intend to add it somehow in a future ROM module) is showing the amount of bytes accupied by a program in the display while CAT 1 is running.

I documented all of the MLDL2000 operations (pictures). I'll add them to my photobucket later and then share them. I also took the time to add the small jumper which allows USB power line to charge the goldcap while the MLDL2000 is connected. Now I need no longer to open the MLDL2018A again (hope so...).

Cheers.

Luiz (Brazil)

Edited: 24 Dec 2009, 2:27 p.m.

***&*%$%#@#@...**
*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 24 Dec 2009, 3:41 p.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

I forgot to save about 3000 lines of hand-written, old-timer programs already keyed in and stored in the SRAM through HEPAX... Lost them all <:-C

At least I'll leave it as a strong advice: SAVE WHATEVER IS STORED IN SRAM PRIOR TO MAINTAIN THE MLDL2000. Connect it to the computer and download the SRAM contents first.

Cheers...

Luiz (Brazil)

Edited: 24 Dec 2009, 3:43 p.m.

Re: *&*%$%#@#@...
*Message #3 Posted by **Sancerre (Phoenix)** on 24 Dec 2009, 9:55 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

ouch!, sorry to hear that.

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Where can one get new three-pronged plugs for Classic series chargers? >>

*Message #1 Posted by **tim m.** on 24 Dec 2009, 1:02 a.m.*

Mine's a bit dodgy, having been inexpertly repaired by the prior owner many moons ago. I'd like to splice a new plug onto the cable, if possible.

-Tim

Re: Where can one get new three-pronged plugs for Classic series chargers? >>

*Message #2 Posted by **Mark Henderson** on 24 Dec 2009, 2:14 p.m.,*
in response to message #1 by tim m.

Do you mean the calculator end of the adapter wire?

Re: Where can one get new three-pronged plugs for Classic series chargers? >>

*Message #3 Posted by **tim m.** on 24 Dec 2009, 4:59 p.m.,*
in response to message #2 by Mark Henderson

Yep. NOS or gently used.

Re: Where can one get new three-pronged plugs for Classic series chargers? >>

*Message #4 Posted by **Randy** on 24 Dec 2009, 5:34 p.m.,*
in response to message #3 by tim m.

> Quote:
>
> Yep. NOS or gently used.

Gently used would be the best you could hope for... and they usually come attached to the rest of a standard 82002 charger...

Re: Where can one get new three-pronged plugs for Classic series chargers? >>

*Message #5 Posted by **Mark Henderson** on 26 Dec 2009, 4:51 p.m.,*
in response to message #4 by Randy

I just bought some old chargers and plugs but don't have them in my hands yet. Depending on the state of the parts I might have a connector spare. Definitely not NOS, I'll let you know more hopefully this next week.

Re: Where can one get new three-pronged plugs for Classic series

chargers? >>
*Message #6 Posted by **tim m.** on 26 Dec 2009, 10:27 p.m.,*
in response to message #5 by Mark Henderson

Thanks! I'd definitely be interested. The one I currently have is held together with epoxy and electrical tape...so not the best option. ;)

Re: Where can one get new three-pronged plugs for Classic series chargers? >>
*Message #7 Posted by **Mark Henderson** on 5 Jan 2010, 4:27 p.m.,*
in response to message #6 by tim m.

Well I've now got some connectors but at least one has internal conductor fractures and hence is intermittent... I'm not too hopeful that these are usable. Sorry to get your hopes up, I'll let you know if I find anything...

Re: Where can one get new three-pronged plugs for Classic series chargers? >>
*Message #8 Posted by **Randy** on 5 Jan 2010, 5:21 p.m.,*
in response to message #7 by Mark Henderson

Molded connectors are repairable with some skill, patience and a very sharp razor blade... done correctly, you'll never know it was opened.

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OT

*Message #1 Posted by **Mad Dog eBaycalcnut** on 24 Dec 2009, 12:57 a.m.*

Hope everyone here has a happy holiday season!

Not OT at all!!!!

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 24 Dec 2009, 2:13 a.m.,*
in response to message #1 by Mad Dog eBaycalcnut

In fact, it is kinda tradition, as you can see here. Chances are that new ones are added this time, again.

Thanks for calling it first!

Luiz (Brazil)

(sometimes I miss those days...)

Edited: 24 Dec 2009, 2:37 a.m.

Merry Z-XMass !

*Message #3 Posted by **Ángel Martin** on 24 Dec 2009, 2:47 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

In keeping with the season's spirit, here's a friendly wish for all of us!

Felices Navidades...

Edited: 25 Dec 2009, 2:59 a.m. after one or more responses were posted

Re: Merry Z-XMass !

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 24 Dec 2009, 2:54 a.m.,*
in response to message #3 by Ángel Martin

If I send my address, will Santa deliver? <]8^D

Saludos, amigo!

Luiz (Brazil)

Re: Merry Z-XMass !

*Message #5 Posted by **Walter B** on 24 Dec 2009, 4:35 a.m.,*
in response to message #3 by Ángel Martin

Dear Santa,

may I modestly request the model on the right side? There must be some special addition at this. Watch the red ribbon running around the top <];-)

Frohe Weihnachten!

Walter

Re: OT

*Message #6 Posted by **Massimo Gnerucci (Italy)** on 24 Dec 2009, 4:16 a.m.,*
in response to message #1 by Mad Dog eBaycalcnut

My best wishes to you all

Massimo

Re: OT

*Message #7 Posted by **Thomas Radtke** on 24 Dec 2009, 5:08 a.m.,*
in response to message #1 by Mad Dog eBaycalcnut

Ich wünsche allen Mitgliedern dieses freundlichsten und informativsten Forums, das ich kennenlernen durfte, angenehme Feiertage :-).

Re: OT

*Message #8 Posted by **Xavier A. (Brazil)** on 24 Dec 2009, 10:13 a.m.,*
in response to message #7 by Thomas Radtke

With a particular thought for mother "Earth", I wish to everyone, and more, the best for the year to come.

Re: OT

*Message #9 Posted by **Norman Dziedzic** on 24 Dec 2009, 10:53 a.m.,*
in response to message #1 by Mad Dog eBaycalcnut

From the tongue of my Father's parents (Polish).

Wesolych Swiat Bozego Narodzenia

and my best to all. Merry Christmas!

Re: OT

*Message #10 Posted by **Alberto Fenini** on 24 Dec 2009, 12:44 p.m.,*
in response to message #1 by Mad Dog eBaycalcnut

Italian : Buon Natale a tutti !!

Merry Christmas to all of you, HPaholic extremely nice people !

from :

Little Edward
(my not yet 3 years son, one of the best HP & TI calcs destroyer)
Nancy
(my wife, whom I have to thank for giving me every day a bigger space for my toys)
Alberto
(myself, an enthusiastic about led)

(deleted post)

*Message #11 Posted by **deleted** on 1 Jan 2010, 2:56 p.m.,*
in response to message #10 by Alberto Fenini

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: OT

*Message #12 Posted by **aurelio** on 1 Jan 2010, 2:57 p.m.,*
in response to message #11 by deleted

Quote:

HAPPY NEW YEAR!!!! Alberto hai per favore ancora quelle foto della 38? ho provato a cliccare sul link che mi aveva postato Luiz, ma non funge. Ho appena aperto una 38 come la tua e rispetto alla 38E ho trovato che vi sono solo 2 piccoli Ic anzichè 2, ma è giusto?

Excuse me Luiz excuse me all for my italian post, just I got throuble opening a 38c spice like the one which Alberto showed recently. I've tried to reach that link but something is wrong, maybe the pictures have been removed, maybe I miss something....

Have you seen the pics of my 34c?

again HAPPY 2010 YEAR TO EVERYBODY!!!!!!!!!!

Re: OT

*Message #13 Posted by **Vieira, Luiz C. (Brazil)** on 1 Jan 2010, 9:02 p.m.,*
in response to message #12 by aurelio

Hi, Aurélio;

I am sorry to hear that! I did not remove any pictures myself, but I'd like to know what happened. Could you, please, 'copy and paste' the address to the pictures that is not working? I'll investigate and post an answer ASAP!

Cheers.

Luiz (Brazil)

Re: OT

*Message #14 Posted by **aurelio** on 2 Jan 2010, 5:09 a.m.,*
in response to message #13 by Vieira, Luiz C. (Brazil)

Quote:

Hi, Aurélio;

I am sorry to hear that! I did not remove any pictures myself, but I'd like to know

what happened. Could you, please, 'copy and paste' the address to the pictures that is not working? I'll investigate and post an answer ASAP!

Cheers.

Luiz (Brazil)

Excuse me but I just wrong,....simply your link was not to the hosting place of those pictures, but to the message of Alberto, now archived! I forgot that!!I so searched in the archive #19 an d found all!!! I'm confused, excuse me for that Regards

Edited: 2 Jan 2010, 5:10 a.m.

Re: OT

*Message #15 Posted by **Alberto Fenini** on 2 Jan 2010, 1:12 p.m.,*
in response to message #14 by aurelio

ciao Aurelio,

I'm happy you found the images, if you need anything else, or want some advice email me, or post here in the forum, take care Alberto

---

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How to get a txt file on the stack (50g)

*Message #1 Posted by **ferroburak** on 22 Dec 2009, 6:48 p.m.*

Hi, How to get a txt file on the stack (50g)? Thanks.

Re: How to get a txt file on the stack (50g)

*Message #2 Posted by **Gerson W. Barbosa** on 22 Dec 2009, 7:02 p.m.,*
in response to message #1 by ferroburak

hpcalc.org is a good source for anything HP-48/49/50g related, in case you don't know it yet.

You can find a text editor/viewer suitable to your needs here:

http://www.hpcalc.org/hp49/apps/editors/

Regards,

Gerson.

For the records: just to show we care...

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 24 Dec 2009, 3:36 p.m.,*
in response to message #1 by ferroburak

Hi, Gerson;

I cannot help answering Ferroburack. I know you (and many others) completely know the 'how to' in order to answer him, but... what'a heck, it´s Xmas...

- start with a " ([right-shift][×])
- press [ALPHA] twice (dafault to lock the keyboard in ALPHA mode)
- key in the string you want
- press [ALPHA] again (to deactivate ALPHA mode) and press [ENTER]

Merry X-mas.

Luiz (Brazil)

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MCODE: Using the HP-16C as a tool

*Message #1 Posted by **Geir Isene** on 22 Dec 2009, 8:37 a.m.*

As a calculator nerd, my little beauties are solutions in search of a problem. It's not that I have an external need for calculators - at least not to the level I use them. I love using them and are in constant lookout for new ways of putting them to use.

I used to have an HP-16C. It burned to ashes along with some 90 other calcs. But I never got around to really using this cool little chap. Not until I acquired another recently.

My first and foremost passion is the 41. I love MCODE-ing it and finally figured out a good use for the 16C: To calculate jump codes for the 41 MCODE.

I imagine this must be one of the things I have done in life that has the least audience. Few people program any MCODE and I guess few of those have an HP-16C - and of those two or three left, there just might be one person interested in this program. But what the heck - I did it because I enjoyed it.

In case you care, go here: My HP-41 page.

Re: MCODE: Using the HP-16C as a tool

*Message #2 Posted by **Mark Storkamp** on 22 Dec 2009, 9:09 a.m.,*
in response to message #1 by Geir Isene

I have a 16C, and I've had a 41 of one type or another since they first came out. But I've never had the hardware needed to do MCODE programming. Now that I've got the i41CX+ on my iPod, is it possible to do MCODE programming on that? Are there any good sources for learning how to?

Re: MCODE: Using the HP-16C as a tool

*Message #3 Posted by **Ángel Martin** on 22 Dec 2009, 11:19 a.m.,*
in response to message #2 by Mark Storkamp

Programming MCODE does not require any hardware these days... I don't know about the iPhone emulator but on Windows you can use V41 loaded with the HEPAX Module (all virtual, of course).

It's just a matter of getting started, then the adiction takes on ;-)

MCODE: Using the HP-16C as a tool (Thanks!)

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 22 Dec 2009, 9:14 a.m.,*
in response to message #1 by Geir Isene

Hi, Geir;

I am one of these few...

Thanks! Helps a lot.

Cheers.

Luiz (Brazil)

Re: MCODE: Using the HP-16C as a tool

*Message #5 Posted by **PeterP** on 22 Dec 2009, 11:47 p.m.,*
in response to message #1 by Geir Isene

:-) I'm also one of the few - when I wrote the 4096 digits of Pi MCODE program I used 16C to get the Hex-Dec conversions right. What a wonderful calc that is!

Re: MCODE: Using the HP-16C as a tool

*Message #6 Posted by **Geir Isene** on 24 Dec 2009, 3:31 a.m.,*
in response to message #5 by PeterP

How fast is the PI program?

Re: MCODE: Using the HP-16C as a tool

*Message #7 Posted by **PeterP** on 24 Dec 2009, 10:45 p.m.,*
in response to message #6 by Geir Isene

See here for the full post. I believe it is 2x the prior best time and has more digits

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Meindert, guys: I think you´re gonna like this!

*Message #1 Posted by **Vieira, Luiz C. (Brazil)** on 22 Dec 2009, 5:45 a.m.*

Hi, all;

I must confess I had some 'second thoughts' when asking information about the HP41 system ROM versions. With no further ado:

- I took a coconut mainboard and removed the three ROM IC's; everything else was kept in place
- The HP41CV was assembled and the MLDL2000 was set in place;
- Then I programed the MLDL2000 with a CX configuration: NFL ROM set + X-FCN + Time + CX time/FCN accordingly.

It worked flawlessly: an HP41CV with a CX configuration. Of course, no clock activity and no X-Memory present.

The key point is to keep the CPLD continuously powered. In fact, for as long as the USB is plugged and active (connected), the calculator goes OK. If it is simply disconnected by the software, the calculator no longer works because the CPLD is fed according to MLDL´s J7 set (CPLD power control) or continuously through the USB port. I did not test yet, but if the CPLD is fed continuously through the HP41 batteries (J7: 1-2), the coconut may work with the MLDL2000 and without any ROM in the mainboard.

The good news is that you can use this arrangement to test your calculator and identify faulty ROM´s. And you can use the MLDL2000 to emulate the faulty ROM. In any case, this is another way to have a faulty HP41CX coconut back to life if a ROM is missing.

Now I'll try a 41CV with no RAM IC´s and point the first block address to a MLDL2000 SRAM 4K bank. I know that by simply pointing the first block address to a SRAM will cause address conflict, so I´ll program the MLDL2000 to consider the SRAM as ROM. Yep, I´ll check if the HP41 can 'see' a contiguous 4K-RAM bank, and if goes OK, then we will have all main and extended RAM at once through the MLDL2000.

Unfortunately there is no way to emulate both ROM and RAM at the same time in one single MLDL2000. The possible solutions are:

- keep ROM 0 chip in place and emulate the others;
- use two MLDL2000 (with a port extension, of course; not practical at all)
- convince either Meindert or Diego to provide such configuration trough either an MLDL2000 or a NoVRAM; this way one could run a 41CX (without a clock so far...) with external ROM/RAM.

Not a X-mas gift, instead some news to work with.

Cheers.

Luiz (Brazil)

Edited: 22 Dec 2009, 5:52 a.m.

Re: Meindert, guys: I think you´re gonna like this!

*Message #2 Posted by **Meindert Kuipers** on 22 Dec 2009, 11:56 a.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

Luiz,

You are the best! This is a configuration that I have thought of as a theoretical option, and now it becomes reality!

Replacing RAM IC's with the MLDL2000 will not work, as the MLDL2000 does not know how to emulate the RAM chips. This is not impossible to implement, and it is on my list of todo's and requires some pretty tricky coding of the CPLD, especially when it is mixed with ROM emulation. Also a second MLDL2000 will not help here.

The CPLD must be powered when the HP41 starts. The reason is that the CPLD cells must be loaded from internal EEPROM cells, and that takes up to 200 microseconds after powerup. During this time the CPLD will not respond to any HP41 cycles. I have new CPLD firmware with reduced the power that could be used for this. A possibility could be a modified ROM 0 to compensate for the fact that the CPLD starts slower than the HP41. Replacing the first two words in ROM 0 with NOP should actually do it, but then the HP41 would always do a DSWKUP, which would probably mess up the partila key sequencing. More work to try out for you Luiz!

I have some time during the Christmas holidays to play with this myself, although I will not remove any ROMs form any of my precious 41's.

Meindert

Re: Meindert, guys: I think you´re gonna like this!

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 22 Dec 2009, 12:30 p.m.,*
in response to message #2 by Meindert Kuipers

Hi, Meindert;

thanks for your feedback. I aprreciate it! (being called the best by the best... 8^) I'm flattered!)

For the records: this HP41 mainboard had some issues, and I was almost sure they were related to a faulty ROM. It seems to me I was right...

Now for the mistakes. Please, replace the text:

> Quote:
>
> Now I'll try a 41CV with no RAM IC´s and point the first block address to a MLDL2000 SRAM 4K bank. I know that by simply pointing the first block address to a SRAM will cause address conflict, so I´ll program the MLDL2000 to consider the SRAM as ROM.

for the text:

> Quote:
>
> Now I'll try a 41CV with no RAM IC´s and point **its** first **I/O** block address to a MLDL2000 SRAM 4K bank. I know that by simply pointing the first block address to a SRAM will cause address conflict, so I´ll program the MLDL2000 to consider the SRAM as **I/O**.

I messed up terminology and components big time! I wrote that text at 5:45AM after being working all night with many subjects. I tested the MLDL2000 configuration at 5:00 AM because I needed a break, so this was my 'relaxing activity'. Sorry!

Now let´s see: if the HP41 uses I/O addressing to access RAM chips, and the I/O uses an 8-bit wide data pattern (one byte), this is the very organization you provided the MLDL2000 with, right? Why not to address one of the MLDL2000 SRAM blocks as I/O in the first I/O address range? This is were the main RAM is addressed in the HP41, right?

I surely need to read and reason a lot more prior to jump into conclusions, but I'll do that carefully. No rush...

Cheers.

Luiz (Brazil)

Edited: 22 Dec 2009, 12:53 p.m.

Re: Meindert, guys: I think you´re gonna like this!

*Message #4 Posted by **Meindert Kuipers** on 22 Dec 2009, 2:21 p.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

I will not comment on the other remarks ;) Today is my wife's birthday, so I will be signing off and have a glass of wine.

To be precise,the HP41 RAM registers are addressed not as I/O but as a peripheral with RAMSLCT, so it will respond to READ and WRIT instructions. The MLDL2000 ignores these instructions, and this is not to be confused with the I/O as defined in the MLDL2000, which is simply a set of I/O registers mapped in ROM space. The HP41 RAM registers use a 56 bit serial datapath, and the information is transferred through the DATA line. The MLDL2000 can read the DATA line, but not write to it, although hardware circuitry is there to support it, the functionality is simply not implemented in the CPLD. Again, this type of useage is anticipated, but not (yet) implemented.

Keep up the good work!

Meindert

OK, then!

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 22 Dec 2009, 3:44 p.m.,*
in response to message #4 by Meindert Kuipers

Thanks again, Meindert. You have already mentioned these facts at the MLDL2000 Specifications, I mean, the ability of reading but writing to the DATA line. I forgot about that.

Time to put the system ROM images in SRAM and picking on them. Now we can go ahead messing up with the HP41 O.S. and hacking it from the core... Does it make the HP41 a 'repurposeable' development platform?

Cheers.

Luiz (Brazil). 'Roger and out'!

Oops! Forgot to wish your wife my best!

Edited: 22 Dec 2009, 3:48 p.m.

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Woodstock Security Cradle - Keys lost

*Message #1 Posted by **Alberto Fenini** on 21 Dec 2009, 3:31 p.m.*

Hi Everybody, this time I'm trying to open a security cradle that came with an HP-25 (the calculator wasn't in the security cradle) without having the keys. Does anybody has ever succeded in this ? Thanks for your precious help, Alberto

Re: Woodstock Security Cradle - Keys lost

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 21 Dec 2009, 4:00 p.m.,*
in response to message #1 by Alberto Fenini

Hi, Alberto;

I remember quite well, back in the 80's, when a key maker gave up trying to open an HP29C security cradle without the original key. He claimed never seeing such 'key bay' (is that correct?) in his 30+ years as a key maker, and he was afraid that it had an extra safety mechanism (kind of a pin in the end of the key cursor) to release the whole system.

I wish you success, and if you actually find such mechanism, please let us know.

Luiz (Brazil)

Edited: 21 Dec 2009, 4:00 p.m.

Re: Woodstock Security Cradle - Keys lost

*Message #3 Posted by **Eric Smith** on 21 Dec 2009, 4:01 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Probably "keyway", the slot the key goes into.

Re: Woodstock Security Cradle - Keys lost

*Message #4 Posted by **Alberto Fenini** on 21 Dec 2009, 4:22 p.m.,*
in response to message #3 by Eric Smith

You mean drilling and then finding a replacement ? I was thinking of that, but I would keep it as the last resort ...

Re: Woodstock Security Cradle - Keys lost

*Message #5 Posted by **Maximilian Hohmann** on 21 Dec 2009, 4:42 p.m.,*
in response to message #1 by Alberto Fenini

Hi Alberto,

I know a guy who has been German and European champion in lockpicking several times, if you wish, I can establish contact between you two. He might even do it for a good bottle of Italian wine...

Greetings, Max

Edited: 21 Dec 2009, 4:43 p.m.

Re: Woodstock Security Cradle - Keys lost

*Message #6 Posted by **Dave Johnson** on 21 Dec 2009, 9:43 p.m.,*
in response to message #1 by Alberto Fenini

I have had good luck with file cabinet or small keys and jiggling. Just have to find one that can be inserted.

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knockoffs

*Message #1 Posted by **JDonley** on 20 Dec 2009, 7:11 p.m.*

Have there been any knockoffs of the classic HP calcs? I cannot imagine wasting time and money counterfeiting old calculators, but it certainly wouldn't be much of a technological challenge. I bought a batch of counterfeit high end tools 5 or so years ago that not one person in a thousand could tell they weren't the real thing. They were bought on E-***.

don

Re: knockoffs

*Message #2 Posted by **IQBAL** on 21 Dec 2009, 8:53 a.m.,*
in response to message #1 by JDonley

I was wondering the same thing. I recently visited Saudi Arabia, and the amount of knock-off ipods, iphones and other tech gadgets they had selling there was amazing.

Re: knockoffs

*Message #3 Posted by **Namir** on 21 Dec 2009, 9:05 a.m.,*
in response to message #1 by JDonley

The closest knockoffs that I have seen are imitation of the HP-45 and HP12C by other vendors selling machines with identical functionality to the 45 and 12 but under different names. I have seen at least 3 non-hp models imitating the 45 and 2 models (by Victor and Aurora) for the 12C. Only HP has full knowledge whether or not these vendors violated any patent or copyright. I don't get the impression that these quasi-knockoffs were hot sellers.

Namir

Edited: 21 Dec 2009, 9:06 a.m.

Re: knockoffs

*Message #4 Posted by **Gene Wright** on 21 Dec 2009, 11:41 a.m.,*
in response to message #3 by Namir

Hey Namir...what knockoff of the HP-45 are you talking about?

Pictures please! :-)

Re: knockoffs

*Message #5 Posted by **Namir** on 21 Dec 2009, 11:55 a.m.,*
in response to message #4 by Gene Wright

I remember in 1978 I bought in Baghdad a Sanyo calculator that was a replica of the HP-45 and I bought one. I don't remember the model number cause I left the country soon after. Sanyo was selling a set of scientific calculator models at the government run electronics outlet stores. I was at one of these stores by accident when I saw the new models and recognized the model with the ENTER key and other stack operation keys. I bought one right there and then!

Namir

Re: knockoffs

*Message #6 Posted by **db (martinez, ca.)** on 21 Dec 2009, 9:53 p.m.,*
in response to message #5 by Namir

Namir & Gene;
Is/was it this?

Re: knockoffs

*Message #7 Posted by **Namir** on 21 Dec 2009, 11:16 p.m.,*
in response to message #6 by db (martinez, ca.)

Yes it is :-)

Namir

Re: knockoffs

*Message #8 Posted by **Namir** on 22 Dec 2009, 8:38 a.m.,*
in response to message #7 by Namir

Your link reveals quite the collection of RPN calculators. Very impressive!!!

Namir

Re: knockoffs

*Message #9 Posted by **Walter B** on 22 Dec 2009, 2:05 a.m.,*
in response to message #6 by db (martinez, ca.)

Ok, it's RPN and it shares many functions with the HP45. I would neither call it a knockoff nor a clone, however. Else one may call many many scientific calculators clones of others, since they share their function set.

Re: knockoffs

*Message #10 Posted by **db (martinez, ca.)** on 22 Dec 2009, 10:01 p.m.,*
in response to message #9 by Walter B

Walter;
Very true. If the Sanyo RPN and the whole Corvus class of calculators is a "knockoff" of the hp45, then the hp32e is nothing more than a knockoff of a non-hp RPN made in Texas. From what i've heard; the scene was really a bunch of guys who all knew each other, who traded jobs, outsourced parts and even borrowed tools among hp, Fairchild, National Semiconductor, Mostek and others - and were just paid to one-up each other. Was a great time and place to be in, i think.

Re: knockoffs

*Message #11 Posted by **Bruce Bergman** on 21 Dec 2009, 10:01 a.m.,*
in response to message #1 by JDonley

TI has a knock-off competitor: Sentry. They make TI-83/84 clones and put stickers on them saying "compares to xxx" model. I've been curious as to exactly how similar, so I just picked one up recently. I'll let you know if it's truly a "clone" or not.

thanks, bruce

Re: knockoffs

*Message #12 Posted by **Don Shepherd** on 21 Dec 2009, 3:49 p.m.,*
in response to message #11 by Bruce Bergman

Hey Bruce, I've seen a few TI-83 Plus wannabe's too. I think Meijer carries the Sentry, and Walgreens had a pathetic 83 wannabe too that was just miserable. I know lots of folks here hate TI's, but the 83 Plus is the gold standard of school graphing calcs, like the 12c is the gold standard of financial calcs. There is no capable substitute for the gold standard in either case.

Re: knockoffs

*Message #13 Posted by **Dave Boyd** on 22 Dec 2009, 2:25 a.m.,*
in response to message #11 by Bruce Bergman

If you are referring to this, then a close inspection reveals that, far from being a clone of the TI-93 (which it does claim to "compare to"), it appears to be a clone of the venerable Casio FX-7000G or one of its derivatives, at least from the pics -- I haven't seen one in the flesh. Here's a pic of the Casio for comparison: http://mycalcdb.free.fr/merci/casio_fx-7000G_20090128.jpg

And for good measure, here's a review (and pic) of the Durabrand 828, which looks like another clone of the Casio, and therefore almost identical to the Sentry... but is in fact a clone of the Citizen SRP-320G... which was a clone of the Casio. I have one (a Durabrand, that is), and a more cheaply-made feeling and appearing calculator I have never held. So little attention was paid to the ergonomics that the shift key colors do not correspond to the shifted function legend colors.

After looking a bit further, I'm tempted to replace this entire post with a link to this page where all this information and more can easily be found. Pity I found it after typing all this.

I suppose that in the Far East, where these units are made, neither TI nor HP are common enough to clone, whereas Casio rules the roost and is therefore the clone fodder of choice. Odd that I've never seen a clone of a Sharp...

Re: knockoffs

*Message #14 Posted by **Bruce Bergman** on 22 Dec 2009, 10:22 a.m.,*
in response to message #13 by Dave Boyd

Yup, you are indeed right. My purchase arrived last night and I was playing with it here and there for a couple of hours. It's definitely not a TI-clone; not even a basic TI-83 clone. It is extremely light and cheap feeling, but surprisingly not too bad in terms of quality. The keys work good and have some feedback, the screen is easy to read, and they actually include a perfect-bound manual with 136 pages in it. On the bad side, the printing on the face of the keyboard is really poor and crammed in there. In some cases, I can't even tell what key does what function. They printed a legend on the top of the calc,

but even that is a bit confusing.

I'll take your word about it being a Casio clone (it looks like the keyboard layout is the same, for sure), but it doesn't even seem like a true Casio clone. I've got about a half dozen Casio units here, and none of them have this rather unusual programming function that the Sentry has. It's really kind of a strange unit.

But, definitely not a TI clone, no matter what sticker they put on the outside. ;-)

thanks, bruce

Re: knockoffs

*Message #15 Posted by **Bart (UK)** on 1 Jan 2010, 8:31 a.m.,*
in response to message #13 by Dave Boyd

> Quote:
>
> Odd that I've never seen a clone of a Sharp...

Sharp EL-506P. Copied verbatim, cloned, knocked-off etc. Appears in all shapes, forms and sizes. Recognizeable by the ->BIN, ->OCT, ->HEX, ->DEC above the /, *, -, + keys and the single variable stats mode entered with 2ndF-ON/C. I wrote a manual for such a clone here.

Re: knockoffs

*Message #16 Posted by **Steve Simpkin** on 21 Dec 2009, 2:47 p.m.,*
in response to message #1 by JDonley

Well I sort-of consider the current production HP-12C to be a very good quality Chinese knockoff of the original HP-12C. It just happens to be sold by HP :)

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HP30b - leapfrogging the competition ...

*Message #1 Posted by **Peter A. Gebhardt** on 20 Dec 2009, 6:04 p.m.*

Just received notice (via HP support forum) that the HP30b Business Professional shall become available soon.

After looking at the specs here

http://www.despec.biz/index2.php?option=com_sobi2&sobi2Task=dd_download&fid=6505&no_html=1

it seems to me, that HP ist again taking the lead position in the most versatile financial calculators category.

It's the combination of features that would eventually make it the best HP financial calculator to date.

Being able to combine the latest in stochastic finance with long asked for capital budgeting functions, gives us in the finance industry "real options" and more ...

I suppose some of the forists took part in product development by adding knowledgeable advice - if and when you are already freed fom non-disclosure agreements conc. this product (now that it is common knowledge), we certainly would be interested in hearing some background and "inside knowledge" from you ;-))

Best regards & Thanks to the HP calculator team!

Peter A. Gebhardt

Re: HP30b - leapfrogging the competition ...

*Message #2 Posted by **DaveJ** on 20 Dec 2009, 6:43 p.m.,*
in response to message #1 by Peter A. Gebhardt

What is the "rotate-and-click" key technology?

I wonder what speed calcs are done at this time?

Already on sale?:
http://calculatoren-toebehoren.centralpoint.nl/hp/nw238aa%2523aba/hp-calculator-30b-financial-english-st/

Dave.

Re: HP30b - leapfrogging the competition ...

*Message #3 Posted by **DaveJ** on 20 Dec 2009, 8:27 p.m.,*
in response to message #2 by DaveJ

> Quote:
>
> What is the "rotate-and-click" key technology?

From LINK

"HP calculators HP 39G+, HP 39GS, HP 40 GS, HP 48GII, HP 49G+, HP 10BII, HP 12c, HP 12c Platinum, HP 12c Presentation, HP 17BII+, HP 33S have special keyboard contacts that give positive "tactile feedback" so you know the button has been depressed. The rotating design ensures contact even when pressed off-center, which prevents missed input strokes."

Dave.

Re: HP30b - leapfrogging the competition ...

*Message #4 Posted by **Walter B** on 20 Dec 2009, 7:16 p.m.,*
in response to message #1 by Peter A. Gebhardt

Hmmh, the LCD, the keys and their labels look *identical* to those of the 20b :-/ Of course, menu contents may differ. Scanning the datasheet, the only significant technical difference seems to be the improved tactile feedback. That's an advantage for sure compared with the 20b, but is this all? They claim the 30b being programmable, but I don't find any label for this on the keyboard :-(

Does anybody know more? And is allowed to speak?

Re: HP30b - leapfrogging the competition ...

*Message #5 Posted by **Silvio A. Bensi** on 20 Dec 2009, 7:32 p.m.,*
in response to message #4 by Walter B

> Quote:
>
> but I don't find any label for this on the keyboard :-(

It is possible do see the label PRGM in blue. And in the 20b manual there is an unexplained reference to macros

Re: HP30b - leapfrogging the competition ...

*Message #6 Posted by **Katie Wasserman** on 20 Dec 2009, 8:16 p.m.,*
in response to message #5 by Silvio A. Bensi

Silvio,

> Quote:
>
> in the 20b manual there is an unexplained reference to macros

I don't recall any reference nor does a find on 'macro' in the 20b user manual PDF return anything. Can you be more specific?

Thanks, Katie

Edited: 21 Dec 2009, 1:06 a.m. after one or more responses were posted

Re: HP30b - leapfrogging the competition ...

*Message #7 Posted by **Jon S Canale** on 20 Dec 2009, 9:42 p.m.,*

in response to message #6 by Katie Wasserman

There was a reference to macros on page 17 of the Quick Start Guide.

"Memory The Cash Flow and Statistics menus share the same memory and are limited to a combined total of 50 memory slots.

Macros can record up to 120 keys."

Re: HP30b - leapfrogging the competition ...

*Message #8 Posted by **Silvio A. Bensi** on 20 Dec 2009, 10:10 p.m.,*
in response to message #6 by Katie Wasserman

Katie

Unfortunately I had not read this thread until today :(

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv018.cgi?read=138052

Re: HP30b - leapfrogging the competition ...

*Message #9 Posted by **Walter B** on 21 Dec 2009, 2:51 a.m.,*
in response to message #5 by Silvio A. Bensi

> Quote:
>
> It is possible do see the label PRGM in blue.

You're right. It is even indicated. Blind me :(

Re: HP30b - leapfrogging the competition ...

*Message #10 Posted by **Gene Wright** on 20 Dec 2009, 10:08 p.m.,*
in response to message #1 by Peter A. Gebhardt

For the record, there is a mistake in the specs on that PDF file that should have been corrected long ago. The amount of memory is not 32K, but a good bit less.

Everything else is correct.

Re: HP30b - leapfrogging the competition ...

*Message #11 Posted by **Walter B** on 21 Dec 2009, 2:53 a.m.,*
in response to message #10 by Gene Wright

Does the 30b feature a similar interface like the 20b?

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O.T. planned obsolescence

*Message #1 Posted by **db (martinez, ca.)** on 19 Dec 2009, 10:01 p.m.*

This has nothing to do with calculators but it has got to be one of the most meticulously crafted cases of planned obsolescence in history. My history anyway. Maybe someone here (Juan Demin or Katie) will appreciate it.

I went cross country skiing at Ebbits pass yesterday. Was beautiful. But: There were two of us. During the day, both of Eric's new Asolo boot tops started separating from the soles. We used my duct tape to keep them together. I lorded it over him a bit that MY 23 year old Asolo "Extremes" had been across the Sierra a couple of times, up and down Shasta, over the White mountains, into the Cascade and Sweetwater ranges, and down countless ski lift runs, not to mention being used with crampons and as climbing boots - with no problems. OK, I really rubbed it in that my boots, which are older than him, were still in fine shape even after breaking two of my precious bones. Then at the end of the day, less than 100 meters from the road, i felt something funny and looked down. My right foot wasn't attached to my ski. Then i noticed that between my foot and ski was a separate sole. It had just come completely un-done. I shrugged, strapped the skis to my pack and started slogging downhill to the road on foot. Less than 20 meters later i felt something strange on my left foot. The same thing had happened to it! With hundreds, or maybe thousands of kilometers on them; they both self destruct within about 50 feet of each other. Those crafty Italians: they must have planned it that way.

Re: O.T. planned obsolescence

*Message #2 Posted by **Garth Wilson** on 19 Dec 2009, 10:20 p.m.,*
in response to message #1 by db (martinez, ca.)

In my very first EE class in school, the teacher warned against making things so well that the customer would never have to come back and buy another from you. I would have put up an argument but didn't feel like I was in a position to. I usually give a supplier only **one** chance. If the product doesn't last as I think it should, I'll buy from a different company the next time. The same company won't get my business twice. OTOH, if it does last, I'll buy from them again when I need to supplement (not replace, unless it's to take advantage of improved technology), and I'll recommend it to others.

Edited: 19 Dec 2009, 10:22 p.m.

Re: O.T. planned obsolescence

*Message #3 Posted by **Peter A. Gebhardt** on 20 Dec 2009, 6:08 a.m.,*
in response to message #2 by Garth Wilson

Garth,

I 2nd your emotions:

"Fool me once, shame on you; fool me twice, shame on me"

Or: Always remember, what grandma' told (& teached) you!

Best regards,

Peter A. Gebhardt

Edited: 20 Dec 2009, 6:09 a.m.

Re: O.T. planned obsolescence

*Message #4 Posted by **bill platt** on 19 Dec 2009, 10:25 p.m.,*
in response to message #1 by db (martinez, ca.)

My Asolo Snowfield have vibram soles which both started to come off the midsole at exactly the came time. This happened a few years ago, after 20 years of skiing on them, and one good Sierra trip but nothing like your history. Fortunately all it took was a good cobbler, and the original vibrams were bonded back onto the midsole good as new.

I will feel like a part of me is missing if these boots ever actually wear out irreparably.

Re: O.T. planned obsolescence

*Message #5 Posted by **David Hayden** on 20 Dec 2009, 8:50 a.m.,*
in response to message #1 by db (martinez, ca.)

db,

The fact that three of the four boots failed in the same way yesterday forces me to wonder if there was something about the conditions on that particular day that caused the adhesive (or whichever component it was) to fail. I know this sounds odd since, as you point out, your boots survived 23 years of use, but the fact remains that both of your boots and one of your son's failed within hours in the same way.

So here's a thought exercise: assume the failure wasn't a coincidence, but the result of some unusual condition. What was it?

Returning to calculators, I think we assume that they will become obsolete, but not because of the materials failing. Rather, we assume that technology will march forward and a new model will be so superior to the old one that we'll retire the old one. This is the opposite of other durable goods like ovens and toasters. I expect them to wear out over time and the replacement will be very much like the old one. I'd never dream thinking "hey look at the features of the new Maytag freezer, we should get rid of this tired old one and buy a new one!".

It seems to me that automobiles are a toss-up. Some people regularly buy new models because of the features or looks or prestige. Others own them until they break down (me included - my current car has 284,000 miles on it (457,000 km, thanks to the trustee UNITS menu of my HP calculator which is within arms reach :)).

An extreme example of "replace before it's worn out" is clothing. Most people get new clothes in the latest styles long before the old ones show any sign of physical wear. Again, I'm the opposite here, preferring to wear clothes until the tears are so obvious that they must be replaced.

Dave

Re: O.T. planned obsolescence

*Message #6 Posted by **Thomas Okken** on 20 Dec 2009, 12:32 p.m.,*
in response to message #5 by David Hayden

Quote:

> So here's a thought exercise: assume the failure wasn't a coincidence, but the result of some unusual condition. What was it?

Modern de-icing agents perhaps? You'd expect winter boots to be made to withstand exposure to regular salt, but how do old boots stand up to calcium chloride, potassium chloride, magnesium chloride, diethylene glycol, etc.? I could imagine that walking through slush containing such substances, somewhere on the way from your hotel to the trail head, is what did the damage.
Or maybe three boots failing in one day was just coincidence. I'm not really into logical jargon, but I'm sure there is a fancy-sounding term for this, "anecdotal evidence fallacy" or something. :-)

- Thomas

Re: O.T. planned obsolescence

*Message #7 Posted by **Mike Morrow** on 20 Dec 2009, 1:07 p.m.,*
in response to message #5 by David Hayden

> Quote:
>
> > Returning to calculators, I think we assume that they will become obsolete, but not because of the materials failing.

That's true for everything electronic. How many of us do NOT have ancient personal computers towed away that work as well today as they did when they were made, some nearly 30 years ago? I've still got Radio Shack TRS-80 Model III, IV, and 100 units, a couple of TI-99/4 complete sets, a 1986 Tandy PC (with Deskmate), a couple of old lap tops, etc. etc., plus various other electronic marvels like old DVD and CD players that I just can't seem to put in the trash.

I'd feel better trashing some of that stuff if only it was failed or otherwise a little bit worn out! But it's not.

Re: O.T. planned obsolescence

*Message #8 Posted by **bill platt** on 20 Dec 2009, 2:22 p.m.,*
in response to message #7 by Mike Morrow

I finally threw out my 486 P50 a few years back before moving. I though, "why move this, I'll never use it again!"

Re: O.T. planned obsolescence

*Message #9 Posted by **juan demin** on 20 Dec 2009, 12:01 p.m.,*
in response to message #1 by db (martinez, ca.)

Thank you Dennis…!!! For sure I appreciated this tale very much!!! And it also let me to know about the place you've been in the internet...Wow great!!!! You know, I am still thinking of Yosemite for next season...Are you in? Back to your story, even though I am sure you've always traveled the world wearing both boots at the same time, there are many things that affected them in different way…starting from manufacturing… I would say that this is rather a coincidence than a programmed obsolescence…and probably the coincidence woke up with your "lord it over" attitude…jaja My interest in HP calculators started once with those navigation cards and modules. My collection is small: programmable top of the line with navigation software (from 65 to 50g) and I enjoy doing some navigation planning or celestial navigation with them (even in the GPS age) in my 21 years old sailboat...which, I hope, has no planned obsolescence for the next 10 years... Regards, juan

Re: O.T. planned obsolescence

*Message #10 Posted by **db (martinez, ca.)** on 22 Dec 2009, 12:47 a.m.,*
in response to message #1 by db (martinez, ca.)

Thanks guys, for the education on a very off topic. It's really amazing, the breadth of knowledge one finds here - both technical and experiential.
And Juan; i'm in.

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Mathematician of the day

*Message #1 Posted by **Bill Zimmerly** on 19 Dec 2009, 3:38 a.m.*

One of my favourite websites that I check on a daily basis is...

Mathematician of the day

...and on this particular day (December 19) I saw that Mitchell Jay Feigenbaum was born in 1944. Here is his direct Bio no matter what day "today" is...

Feigenbaum

I found his Bio to be significant for this forum because it mentions his work on HP calculators - with the HP-65 being mentioned in particular.

Enjoy!

Re: Mathematician of the day

*Message #2 Posted by **hpnut** on 19 Dec 2009, 8:57 p.m.,*
in response to message #1 by Bill Zimmerly

Thanks! it's great to know eminent users of HP calculators. Does the professor know this forum exists? :-)

Re: Mathematician of the day

*Message #3 Posted by **Bill Zimmerly** on 20 Dec 2009, 4:57 a.m.,*
in response to message #2 by hpnut

> Quote:
>
> Thanks! it's great to know eminent users of HP calculators. Does the professor know this forum exists? :-)

I don't know. It was a great read, wasn't it? I've never heard of the Feigenbaum Number before, and it was neat learning about it.

Re: Mathematician of the day

*Message #4 Posted by **hpnut** on 20 Dec 2009, 9:34 a.m.,*
in response to message #3 by Bill Zimmerly

Done. I invited the professor to visit us at the Museum :-)

Re: Mathematician of the day

*Message #5 Posted by **Mark Hardman** on 20 Dec 2009, 8:05 p.m.,*

in response to message #1 by Bill Zimmerly

Checkout this past MoHPC thread that discusses programming methods that Feigenbaum might have used.

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=57727

and

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=57914

Edited: 20 Dec 2009, 8:33 p.m.

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To Luiz Vieira

*Message #1 Posted by **R Lion (Spain)** on 18 Dec 2009, 11:25 a.m.*

I mailed you yesterday but the account ****@quantica**** seems to be out of work. I'd like you mail me using MoHPC when you can

Thank you in advance

Raul

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SmartCalc 300s

*Message #1 Posted by **Matthias Wehrli** on 18 Dec 2009, 7:56 a.m.*

Any specifications?

Processor: RAM: ROM: Produced in:

Re: SmartCalc 300s

*Message #2 Posted by **Martin Pinckney** on 18 Dec 2009, 10:01 a.m.,*
in response to message #1 by Matthias Wehrli

There are many threads on this model. One of the first is here.

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HP Classic with new electronics (a la uCalc/uWatch?)

*Message #1 Posted by **Mark Henderson** on 16 Dec 2009, 5:34 p.m.*

I love the uCalc and will certainly order one when it's ready (my inner geek wants the uWatch, too, but I know I wouldn't wear it...).

I'm in a frenzy of HP Classic restoration right now and it occurred to me that it would be *quite* easy to make a uCalc/uWatch PCB that replaces a Classic CPU board and then it would be possible to have a fully custom/open source calc that used the incomparable Classic keyboard, form-factor and, yes, warm LED glow - for desktop use mainly.

(I'm back to using Classics for all my daily calc-ing and just loving the user interface...).

Is that too abhorrent to the HP faithful? Or kinda cool? Who wants one? Which classic to base it on?

Re: HP Classic with new electronics (a la uCalc/uWatch?)

*Message #2 Posted by **Thomas Radtke** on 16 Dec 2009, 5:40 p.m.,*
in response to message #1 by Mark Henderson

There are lots of dead Woodstocks, one of them not far away from me ;-(. If anyone sells a repairing kit, I'll certainly buy one.

Edited: 16 Dec 2009, 5:40 p.m.

Re: HP Classic with new electronics (a la uCalc/uWatch?)

*Message #3 Posted by **DaveJ** on 16 Dec 2009, 6:13 p.m.,*
in response to message #1 by Mark Henderson

This was discussed this some time back in terms of using a new platform HP, like the 35S or 12C casing. With a drop-in PCB and LCD replacement, or possibly even a 7 segment LED display.

Just like the uWatch and uCalc, I like something novel, so for me it would be a nice LED display :)

I don't know about using an old casing that aren't readily available, as you'd be painting yourself into a supply corner there.

But for me such a project is down the list, uCalc first as a warm-up, then the perpetual uWatch2.

Dave.

Re: HP Classic with new electronics (a la uCalc/uWatch?)

*Message #4 Posted by **Mark Henderson** on 16 Dec 2009, 6:54 p.m.,*
in response to message #3 by DaveJ

Yes, I agree your efforts should ideally be focused on uCalc right now!

And good point about the supply issue - I'm sitting on multiple 45s and could easily see myself converting one :-)

I'm also an electronics buff, so possibility of me and others helping with a hardware port in the future is not out of the question...

But first things first! Keep up the great effort. Let us know if we can help.

Cheers

Mark

Re: HP Classic with new electronics (a la uCalc/uWatch?)

*Message #5 Posted by **Marcus von Cube, Germany** on 17 Dec 2009, 7:13 a.m.,*
in response to message #4 by Mark Henderson

There used to be site discussing a project to recreate the HP-41C CPU board with modern electronics. I can't find the link. Someone else?

Re: HP Classic with new electronics (a la uCalc/uWatch?)

*Message #6 Posted by **Didier Lachieze** on 17 Dec 2009, 8:43 a.m.,*
in response to message #5 by Marcus von Cube, Germany

In this thread, starting with message #3: Board for Newt CPU

Re: HP Classic with new electronics (a la uCalc/uWatch?)

*Message #7 Posted by **Mark Henderson** on 17 Dec 2009, 10:07 a.m.,*
in response to message #6 by Didier Lachieze

I was musing more on why to do this, occurred to me that a 55C might be very nice ;-)

HP-15 with the following mod 8-) for night time

*Message #8 Posted by **geoff quickfall** on 17 Dec 2009, 7:37 p.m.,*
in response to message #7 by Mark Henderson

HP 15C with LED display :

Re: HP-15 with the following mod 8-) for night time

*Message #9 Posted by **Garth Wilson** on 17 Dec 2009, 11:35 p.m.,*
in response to message #8 by geoff quickfall

> Quote:
>
> HP 15C with LED display :

That will take a big battery. Where does it go? A coin cell definitely won't do it.

Re: HP-15 with the following mod 8-) for night time

*Message #10 Posted by **Mark Henderson** on 18 Dec 2009, 12:47 a.m.,*
in response to message #9 by Garth Wilson

I"m finding that having a lovely red LED glow from my Classics works just fine on my desk since plugging in is just not a problem, well worth it! And my office gets dark in the evenings, so the LEDs are much more visible.

I see some modern watches that have an LCD display and a bright backlight (red) that actually looks almost like LEDs - so I suppose it might be possible to have an LCD that is low power in good light, and brightly back-lit in poor light, and with the visual appeal of LEDs??

Re: HP-15 with the following mod 8-) for night time

*Message #11 Posted by **Walter B** on 18 Dec 2009, 1:51 a.m.,*
in response to message #9 by Garth Wilson

> Quote:
>
> > Quote:
> >
> > HP 15C with LED display :
>
> That will take a big battery. Where does it go? A coin cell definitely won't do it.

Geoff doesn't show us his prototype is 5"x3"x1" ;)

Most "pocket" calculator images are taken under an angle you can't see its extension in the third dimension properly. Think of the conical shapes of the Classics etc. Compare an ad of the 19C with the original shape: Such pictures have a long tradition.

For Walter.B, side by side comparison to an unmodified HP-15C 8-)

*Message #12 Posted by **geoff quickfall** on 18 Dec 2009, 3:12 a.m.,*
in response to message #11 by Walter B

Re: For Walter.B, side by side comparison to an unmodified HP-15C 8-)

Message #13 Posted by ***Vieira, Luiz C. (Brazil)*** *on 18 Dec 2009, 6:37 a.m.,*
in response to message #12 by geoff quickfall

Hey!

Where are the so necessary indicators? USER, GRAD/RAD, C, f & g...

It is really good looking, but I still like LCD´s. People claim that one can read LED-based displays in the dark easily... OK, and what else? Memorize the keyboard? I´m sorry again, but... what then? Would you take a note, look at something else, use the

information, locate yourself... in the dark?

I never found any significant use for a calculator in the dark. A torch, perhaps... maybe to lighten up the place so the calculator can be used accordingly. But then... LED´s are no longer necessary.

I remember how hard it was to use LED-based instrumentation in the field. Batteries discharging too fast, the need of creating a shadow with the hand to see the numbers, heavier/larger equipments to hold high-capacity batteries... LCD´s removed these three problems at once.

And let´s face it: Voyager´s digits shape is one of the best.: good looking, easy to use.

My points, only.

Cheers!

Luiz

Edited: 18 Dec 2009, 6:39 a.m.

Re: For Walter.B, side by side comparison to an unmodified HP-15C 8-)

*Message #14 Posted by **Michael Meyer** on 18 Dec 2009, 10:59 a.m.,*
in response to message #13 by Vieira, Luiz C. (Brazil)

Luiz,

You're missing the point. It's LLLLEEEEEDDDDDDDDDD's, baby! Have a great weekend!!!

Re: For Walter.B, side by side comparison to an unmodified HP-15C 8-)

*Message #15 Posted by **Mark Henderson** on 18 Dec 2009, 12:24 p.m.,*
in response to message #14 by Michael Meyer

LOL, yes it's all about the LEDs! Yesterday a 20-something kid in my office spotted my 1972 HP-80 on my desk and couldn't believe an LED calc! He loved it! Some things are just meant to be...

Here's an example of the LCD/fake LED tech being put into some watches (note all the little flags etc. so that HP-15C-types display can work, too...

LEDS!!!!! and night time viewing...

*Message #16 Posted by **Geoff Quickfall** on 18 Dec 2009, 3:09 p.m.,*
in response to message #15 by Mark Henderson

Well for watches the true LED for me; versus OLED as pictured above, although I did purchase the First Fossil OLED watch. I find the display rather disappointing.

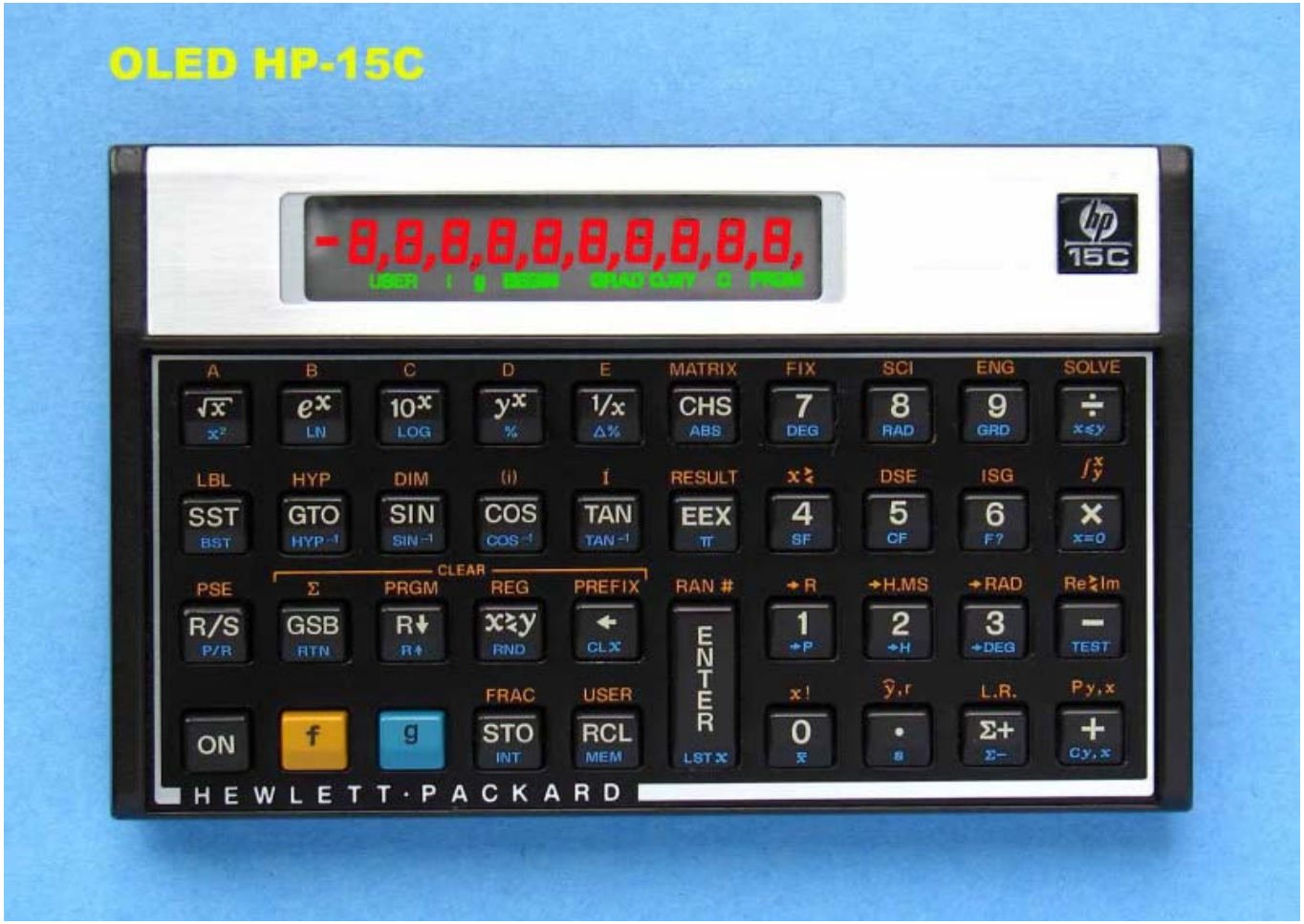
The collection has grown as these get restored but I do like the LED watch:

As far as night viewing goes, the HP-01 is my cockpits, lowlight environment (actually daytime and nightime). Especially with the raised tactile buttons that allow a simple memorization of key mapping. The display is bright and RED allowing for no disruption of night vision adaptation; a requirement in the South Pacific flights with no full moon. Radar returns do not show icing or ice crystals so running with the cockpit lights off and the background lighting on low is imperative at night for cloud avoidance.

I use the HP42S for my cockpit as it is slimmer then the 41CX (my favourite LCD calculator) but at night I need to shine a map light on the display. The HP-67 however does not need a map light and with my programs mapped to the top 5 buttons I have access again to a simple memorization of key mapping.

As far as the HP-15C LED version, well using an alpha/numeric display such as in the 9825a, increased memory, a timer/clock function it was done for fun 8-)

However, my favourite creation would be an OLED backlit:




```
-  a colored alpha numeric two line OLED display (backlit ability)
-  increased memory and speed
-  a dynamic timer/clock/beep(alarm) function
-  15C physical format
-  USB facility
```

Excuse the colour choices, but a two line HP42S display with alpha on a similar menu type would be good.

Enjoy but don't stare at the OLED display too long

8-)

Geoff

Re: LEDS!!!!! and night time viewing...

*Message #17 Posted by **Vieira, Luiz C. (Brazil)** on 18 Dec 2009, 3:50 p.m.,*
in response to message #16 by Geoff Quickfall

Nobody remembers my fonts... <8^(

Looks great to me... If you allow me to, I tried this look, with lower brightness.

Cheers.

Luiz (Brazil)

Edited: 18 Dec 2009, 4:06 p.m.

Re: LEDS!!!!! and night time viewing...

*Message #18 Posted by **geoff quickfall** on 18 Dec 2009, 4:09 p.m.,*
in response to message #17 by Vieira, Luiz C. (Brazil)

thats better and the fonts are excellent.

Now residing on my computer!

Cheers, Geoff

Thanks! 8^) (N.T.)

*Message #19 Posted by **Vieira, Luiz C. (Brazil)** on 18 Dec 2009, 4:18 p.m.,*
in response to message #18 by geoff quickfall

Fonts: forgot about this one... And a note about Voyagers

*Message #20 Posted by **Vieira, Luiz C. (Brazil)** on 18 Dec 2009, 5:56 p.m.,*
in response to message #18 by geoff quickfall

Hi Geoff, guys;

a couple of years ago I also draw this HP50G keyboard TTF. There is also this PDF file with explanations.

I was invited then to talk about the HP50G at a state university and I could not find a suitable, publicly available font for the HP50G keyboard. So I draw it and used with the other ones to build a presentation about it. I think it looked OK, will find it and post a link about it.

In time: have you, the lucky 'MoHPC DVD set' buyers, had a look at the 'Voyagers in Brief'? I know that there are some corrections to be made, mostly noted in the small, 12-page PDF I posted about it a couple of months ago. Since nobody mentioned anything about it, neither through e-mail, I decided to ask. Please, feel free telling me anything about it. I intend going ahead with the 2nd. Edition and fill the gaps that were left there.

Cheers.

Luiz (Brazil)

Re: LEDS!!!!! and night time viewing...

*Message #21 Posted by **Walter B** on 18 Dec 2009, 4:50 p.m.,*
in response to message #16 by Geoff Quickfall

Seems that's exactly the display for Segal's Love Story, isn't it?

For Geoff Q., take the other side d8-)

*Message #22 Posted by **Walter B** on 18 Dec 2009, 4:48 p.m.,*
in response to message #12 by geoff quickfall

Hi Geoff,

I doubt I'm worth a subject ;) Anyway, you're missing the point for you're still not showing the 3rd dimension. I bet your LED 15C carries a 1" rucksack for the batteries, though needing a swap every 2 hours of operation. You should call it a 15SC since it will feature a semi-continuous memory with the LEDs taking all the energy. But you're right, it will serve well as short-time flash light in a cockpit a 2 a.m. over Tuvalu ;) Enjoy!

Re: For Geoff Q., take the other side d8-)

*Message #23 Posted by **Michael Meyer** on 18 Dec 2009, 5:36 p.m.,*
in response to message #22 by Walter B

Killjoy. Maybe one of those super-thin rechargeable lithium cells could fit in the back, like the ones in cell phones. With mAH ratings that they get these days, I'll bet it'd run the led's for 10-12 hours on a charge!

Re: For Geoff Q., take the other side d8-)

*Message #24 Posted by **Bart (UK)** on 19 Dec 2009, 4:35 a.m.,*
in response to message #23 by Michael Meyer

I was comparing my cell phone battery to a TI-58 battery recently, and noted it had the same voltage, about twice the capacity and was about 1/4 of the volume.

Re: For Geoff Q., take the other side d8-)

*Message #25 Posted by **Thomas Radtke** on 20 Dec 2009, 5:11 a.m.,*
in response to message #24 by Bart (UK)

Unfortunately, a different charger would be necessary.

I wonder why HP never had a 'standby' function that simply switches off the LEDs. Would have been great in non-'C' programmable models.

Re: For Geoff Q., take the other side d8-)

*Message #26 Posted by **Dave Shaffer (Arizona)** on 20 Dec 2009, 1:15 p.m.,*
in response to message #25 by Thomas Radtke

> Quote:
>
> I wonder why HP never had a 'standby' function that simply switches off the LEDs

The closest that I (and I suspect, many others here) came was to start a number entry with just a period - and leave it that way while we figured out what to do next.

Oh, I got the point ;-) I was just hiding the third dimension again!

*Message #27 Posted by **geoff quickfall** on 18 Dec 2009, 5:54 p.m.,*
in response to message #22 by Walter B

Turns out I don't have any 3 demensional views of the voyagers!

Cheers, Geoff

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The best and faster and more sophisticated calculator of the world :-)

*Message #1 Posted by **Saile (Brazil)** on 16 Dec 2009, 2:14 p.m.*

The best and faster and more sophisticated calculator of the world Link

Re: The best and faster and more sophisticated calculator of the world :-)

*Message #2 Posted by **Marcus von Cube, Germany** on 16 Dec 2009, 3:38 p.m.,*
in response to message #1 by Saile (Brazil)

I'm waiting for the WII remote lookalike. ;) It will help shaking the digits.

Re: The best and faster and more sophisticated calculator of the world :-)

*Message #3 Posted by **Bart (UK)** on 17 Dec 2009, 4:39 a.m.,*
in response to message #2 by Marcus von Cube, Germany

> Quote:
>
> It will help shaking the digits.

Ah, something for those financial "guru's" to shake until they get a "cloud cuckooland" answer that looks good on paper but has absolutely no connection with reality.

Re: The best and faster and more sophisticated calculator of the world :-)

*Message #4 Posted by **Thomas Radtke** on 17 Dec 2009, 5:13 a.m.,*
in response to message #3 by Bart (UK)

No matter what they did, there always has been a connection to reality: The reality of their pockets. The latest breakdown has shown how well it works to deal with random numbers.

I guess that's why RAND ist directly available on the 20b's keyboard.

Ditto! (N.T.)

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 18 Dec 2009, 7:21 a.m.,*
in response to message #4 by Thomas Radtke

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OT: Holes in Stainless

*Message #1 Posted by **Paul Brogger** on 16 Dec 2009, 1:09 p.m.*

Someone here should be able to help . . .

I'm trying to drill a small hole in the blade of a (Victorinox) Swiss Army Knife. That stuff is *tough!* Can someone suggest the right kind of drill bit to use?

The backstory:

My favorite pocket knife has been a SAK "Tinker", and lately a slightly enhanced model (the name of which escapes me) that's basically a Tinker with a saw. I'm using that thing ALL the time. (No, I don't want a multi-tool -- tried 'em and never made the switch.)

Anyway, the one missing feature on Swiss Army Knives until lately has been one-hand opening. It seems I'm always wanting to open a blade while holding something else in my left hand. So I took to carrying a simple, one-blade pocket knife with a locking, one-hand-opening blade.

So then I had *two* knives in my pocket. But just lately I looked, and lo & behold, Victorinox now offers one-hand blades. So I bought a "One Hand Trekker". Way cool, but a bit larger than I'd like.

Only *then* does it occur to me that I could probably add a lug (or whatever it's called) to the large blade on my old Tinker and open it with one hand. So, I've ground out an opening in the side edge (aluminum & plastic) next to the large blade on my Tinker, and started to drill a ~1/16" hole for some sort of projecting lug with which to deploy the blade.

Buuuuut, none of my drill bits will *touch* the blade. My pseudo-Dremel tool's cutting disk grinds nicely into it, so I made two shallow cross-cuts in the surface to locate the drill bit. But despite that, I can't get a bit to bite. It's pretty amazing stuff!

Anyway, if anyone's got any ideas, I'm all eyes.

Re: OT: Holes in Stainless

*Message #2 Posted by **Marcus von Cube, Germany** on 16 Dec 2009, 1:33 p.m.,*
in response to message #1 by Paul Brogger

Ask a dentist!

Re: OT: Holes in Stainless

*Message #3 Posted by **Eric Smith** on 16 Dec 2009, 1:42 p.m.,*
in response to message #1 by Paul Brogger

Yes, it's very difficult to machine hardened steel. It's normally machine first then hardened. You probably need a diamond drill bit, or cubic boron nitride, and it still won't be easy.

Re: OT: Holes in Stainless

*Message #4 Posted by **bill platt** on 16 Dec 2009, 1:44 p.m.,*
in response to message #1 by Paul Brogger

You also risk cracking the whole blade.

Re: OT: Holes in Stainless

*Message #5 Posted by **Michael** on 16 Dec 2009, 5:21 p.m.,*
in response to message #4 by bill platt

No, thats (nearly) not possible. Michael

Re: OT: Holes in Stainless

*Message #6 Posted by **bill platt** on 16 Dec 2009, 7:30 p.m.,*
in response to message #5 by Michael

And how is it that you think that? I have a cracked Spyderco. Cracked at the thumb hole.

What is the ductility of hardened tool steel? Not much. What is the difference between brittle ceramics and tough metal? Ductility--of which tool steel is closer to ceramics. What causes ceramics or any brittle material to fail? Cracks. What causes cracks? Well, drilling holes for one.

Re: OT: Holes in Stainless

*Message #7 Posted by **bill platt** on 16 Dec 2009, 1:45 p.m.,*
in response to message #1 by Paul Brogger

Why not etch the surface, and then adhesively bond a lug? There are super adhesives for metal bonding. Used in aerospace.

Re: OT: Holes in Stainless

*Message #8 Posted by **Jeff Brower** on 16 Dec 2009, 2:03 p.m.,*
in response to message #1 by Paul Brogger

As you've discovered grinding is almost the only way to get through hard steel. Depending on how hard it is carbide drills might work but an EDM machine will "burn" it's way through hard material with ease.

If you have a buddy with a machine shop and an EDM that would be the way to go.

Re: OT: Holes in Stainless

*Message #9 Posted by **Maximilian Hohmann** on 16 Dec 2009, 2:54 p.m.,*
in response to message #1 by Paul Brogger

Hi!

Superglue or laser drilling. Or both.

Greetings, Max

Re: OT: Holes in Stainless

*Message #10 Posted by **Hugh Evans** on 26 Dec 2009, 4:06 p.m.,*
in response to message #9 by Maximilian Hohmann

Laser would be okay. The CA (Superglue) is a very poor choice as it is excellent in tension but its' sheer strength is a joke. If you're going to use an adhesive use some form of epoxy.

Re: OT: Holes in Stainless

*Message #11 Posted by **Eric Smith** on 26 Dec 2009, 7:52 p.m.,*
in response to message #10 by Hugh Evans

For laser you probably need a "fiber laser". The more common CO2 laser doesn't work well on metals, though it can be used to etch the surface of anodized metals.

Re: OT: Holes in Stainless

*Message #12 Posted by **Martin Pinckney** on 16 Dec 2009, 3:07 p.m.,*
in response to message #1 by Paul Brogger

Harbor Freight Tools sells sets of diamond-coated bits to work in Dremel-like tools. They are cheap, and I suspect they might wear out pretty quick. Real diamond bits probably cost more than the knife.

You could keep wearing out the regular reddish-brown Dremel grinding bits until you get through.

Have you tried solid carbide bits?

Re: OT: Holes in Stainless

*Message #13 Posted by **tim m.** on 16 Dec 2009, 3:57 p.m.,*
in response to message #12 by Martin Pinckney

Solid carbide bits would be my suggestion. Buy a few of them, though, in case you wear them out.

-Tim

Re: OT: Holes in Stainless

*Message #14 Posted by **Norman Dziedzic** on 16 Dec 2009, 11:32 p.m.,*
in response to message #13 by tim m.

I used to be a machine tool designer. Solid Carbide is generally the best but I suspect that your hole will be small and so the drill will be small as well and break very easily if not used properly. If you try to use a small solid carbide bit in a hand tool you will likely break at least a few getting through the blade.

For the best chance of success, everything should be fixtured and as rigid as possible. You should use a real drill press or at least the Dremel version. If possible, the drill should be guided by a bushing and a continuous stream of coolant should be used. See this page for more information on drilling with a bushing. This may be overkill but definitely helps.

Having the proper drill RPM and feed rate is also important for doing the least damage to the metal. If I am right that the hole is small, then faster will be better. **Wear Eye Protection!** That is so important, I'm going to say it again **Wear Eye Protection!**

If you know someone with a machine shop, they will know the right RPM and feed rate. A high speed steel (HSS) drill could also be used but you will get a better hole with the solid carbide if used right.

Safety when drilling (esp. into metal)

*Message #15 Posted by **Karl Schneider** on 17 Dec 2009, 1:08 a.m.,*
in response to message #14 by Norman Dziedzic

> Quote:
>
> Having the proper drill RPM and feed rate is also important for doing the least damage to the metal. If I am right that the hole is small, then faster will be better. **Wear Eye Protection!** That is so important, I'm going to say it again **Wear Eye Protection!**

Good advice, there. Recently, I bought a pair of safety goggles for drilling a 3mm hole in a dense metal assembly to remove an ignition-key cylinder. I ended up breaking the bit in two places, but nothing hit me. Later, I decided to wear those goggles while pushing a sharp-edged lockwasher onto a steering shaft against a strong spring. The washer shot out and hit my lips once, without injury.

-- KS

[OT] Don't get caught ;-)

*Message #16 Posted by **Matt Kernal** on 17 Dec 2009, 1:39 p.m.,*
in response to message #15 by Karl Schneider

> Quote:
>
> I bought a pair of safety goggles for drilling a 3mm hole in a dense metal assembly to remove an ignition-key cylinder

Just remember Karl: Crime doesn't pay!! But while you're at it, I'd suggest making yourself less visible by wearing dark safety googles to match your dark clothes (please don't tell me you're doing these jobs in the daytime). 8-)

Edited: 17 Dec 2009, 1:43 p.m.

LOL!

*Message #17 Posted by **Vieira, Luiz C. (Brazil)** on 17 Dec 2009, 2:30 p.m.,*
in response to message #16 by Matt Kernal

...

Re: [OT] Don't get caught ;-)

*Message #18 Posted by **Walter B** on 17 Dec 2009, 4:22 p.m.,*
in response to message #16 by Matt Kernal

One learns something new everyday here. Some forum members seem to have even stranger hobbies / jobs (please check) than I imagined d;-)

Re: [OT] Don't get caught ;-)

*Message #19 Posted by **Michael Meyer** on 17 Dec 2009, 5:58 p.m.,*

in response to message #18 by Walter B

How do you think he can pay for those @#%$ calculators?!

Re: [OT] Don't get caught ;-)

*Message #20 Posted by **Karl Schneider** on 18 Dec 2009, 1:50 a.m.,*
in response to message #16 by Matt Kernal

Hi, Matt --

Ha, ha! I was going to leave the OT post for several days, then remove it, not really expecting any responses. I hadn't even considered the car-theft angle...

The "dense metal assembly" in one of my 1980's cars had three stripped holes for the screws that hold switches in place, and had to be replaced. The attempt to remove the lock cylinder by drilling was prescribed procedure, as no accessible release pin was provided. My objective to transfer the cylinder to the new assembly was not met, and I had to buy another cylinder, as well. The lockwasher and spring had to be removed in order to remove the assembly.

The price of parts wasn't too bad, and all's well that ends well -- successful repair with no injuries. However, it took a fair amount of time and trouble that would not have been necessary with better quality and design of several parts -- something Spice-series restorers can certainly relate to.

As for "those @#%$ *(mostly-1980's)* calculators", I've spent more acquiring much of my limited collection than that car is worth now. But, 1980's stuff is generally good stuff; that's why I still have it, or bought it later...

-- KS

Edited: 18 Dec 2009, 2:00 a.m.

Re: [OT] Don't get caught ;-)

*Message #21 Posted by **Bill (Smithville, NJ)** on 18 Dec 2009, 8:02 a.m.,*
in response to message #16 by Matt Kernal

Matt & Karl,

Ignition key problems reminds me of my solution a few years ago. I had bought a car that had a really bad ignition key cylinder. For a few weeks I just hot-wired it. Then I found a complete steering wheel assembly from a junk yard that had a good cylinder but no key for it. To get a new key made, I just hot wired the car drove it to a lock smith, took the junk yard steering wheel assembly in and requested that a key be made. They made a couple of keys for me, and then in front of the shop, I swapped out the steering columns, connected the ignition wires to the cylinder, used my new key to start the car and drove away. During all of this, several people walked by and never questioned what I was doing. Amazing!

Bill

Re: OT: Holes in Stainless

*Message #22 Posted by **Michael** on 16 Dec 2009, 5:37 p.m.,*
in response to message #1 by Paul Brogger

Hello, my english is verry bad - so please ask!!

When i remember back to my time at University.... Usually a knife blade has HRC(Rockwell) of 55-60. Your Schweizer Taschenmesser has HRC 56.(http://en.wikipedia.org/wiki/Swiss_Army_knife) You need something to drill over the HRC of your blade, in Germany this material is standard for drilling and its called HSS(High Speed Steel (EN ISO 4957 HS)). You have to be careful because the blade would not look nice when the heat raises too high!

Michael W

Re: OT: Holes in Stainless

*Message #23 Posted by **bill platt** on 16 Dec 2009, 7:32 p.m.,*
in response to message #22 by Michael

...and the heat destroys the temper of the steel.

Re: OT: Holes in Stainless

*Message #24 Posted by **tim m.** on 16 Dec 2009, 11:31 p.m.,*
in response to message #23 by bill platt

Maybe quench it with a continuous flow of water while drilling?

-Tim

Re: OT: Holes in Stainless

*Message #25 Posted by **Martin Pinckney** on 16 Dec 2009, 9:35 p.m.,*
in response to message #22 by Michael

I don't know if U.S. HSS is the same as German, but it would be way too soft for this task.

Re: OT: Holes in Stainless -- Thanks!

*Message #26 Posted by **Paul Brogger** on 20 Dec 2009, 12:21 a.m.,*
in response to message #1 by Paul Brogger

I'm a bit late getting back.

"Case hardened", eh? I thought the dig on Swiss Army Knives is that it's hard to get a good edge on stainless. I'm certainly a babe in the woods re: metallurgy, but it never had occurred to me that stainless steel could be tempered. It's obviously plenty hard, alright -- certainly harder than the "316" stainless used for the deck fastenings on my sailboat! (I guess that's what I'd been expecting -- what a surprise!)

The Super Glue suggestion isn't realistic, is it? I'd say that Super Glue stuff has never lived up to its hype, as far as I'm concerned -- but perhaps I've misused it.

I trust there are metal bonding adhesives that would work with proper etching, etc., but I'm not sure I'm up to that. I may look around some more.

Carbide bits sure are spendy, and the cautions re: eye protection are well taken.

Actually, I'm liking my "One Hand Trekker" so much, I doubt I'll be following through on this little idea. But a big thanks to all who contributed. One can always count on the MoHPC Forum for an informed discussion of

. . . whatever!

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hp motherboard

*Message #1 Posted by **Karen Smearsoll** on 15 Dec 2009, 11:35 p.m.*

My laptop is a dv2000 motherboard. It failed in September because of a faulty Nvidia graphics card, but HP says it does not qualify for their replacement program. I have just now received contact from the higher up support crew saying that because i have complained I could get a new motherboard for half off the original price. I already bought a new laptop. Do you think that I should take the offer, or will my computer just crap out on me like it did last time? I'd appreciate some honest feedback.

Thanks

Re: hp motherboard

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 16 Dec 2009, 12:27 a.m.,*
in response to message #1 by Karen Smearsoll

Hi, Karen;

This is not actually a pure technical nor a finacially-oriented suggestion, instead an honest feedback, as you asked for.

I am a university teacher in Brazil and, apart of what happens here (and you have probably read in newspapers), there are many local initiatives regarding environment protection. I for one keep anyhting that works at home, I consider 'waste' only things I cannot work with, or others cannot use in anyway. So, my point is: don´t you know anyone (student, researcher, teacher, etc.) that could use this laptop with a replacement motherboard? As you have already bought a new one, it is probably worth for someone else to pay for the replacement motherboard and set an arrangement with you. OR... you may simply allow yourself to make it a gift. A Xmas gift, why not? <]8^)

Please, read this as an honest suggestion. I'd do that in a heart beat. (some folks here know I have already done some things close to this one)

Best regards.

Luiz (Brazil)

Edited: 16 Dec 2009, 12:29 a.m.

OT!: hp motherboard

*Message #3 Posted by **Dan Grelinger** on 16 Dec 2009, 12:53 p.m.,*
in response to message #1 by Karen Smearsoll

This problem affected some Dell models as well. The replacement motherboard offered by Dell included a fix for the problem. I would assume that the HP model would as well. Conversely, I recently read the results of an extensive survey on laptop reliability, and HP was at, or near, the worst for all manufacurers included in the survey. (Someone told me it was the Compaq influence). If I had to make the decision, I would do it based on

cost. Is the cost of the repair less than the unit can be sold, like on ebay? If so, I'd do it. If not, there is little reason to do so.

Re: OT!: hp motherboard

*Message #4 Posted by **Marcus von Cube, Germany** on 16 Dec 2009, 1:30 p.m.,*
in response to message #3 by Dan Grelinger

Dan, even if the repair cost is close to the value of repaired laptop, Luiz' argumentation still holds. I second his opinion.

Re: OT!: hp motherboard

*Message #5 Posted by **Gerry Schultz** on 16 Dec 2009, 4:58 p.m.,*
in response to message #4 by Marcus von Cube, Germany

Here's some more information about problems with HP's laptops. Good luck with your decision.

http://www.infoworld.com/d/adventures-in-it/hp-unhinged-more-laptop-troubles-958

Gerry

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OT: uCalc proto

*Message #1 Posted by **DaveJ** on 15 Dec 2009, 2:42 a.m.*

Here is the latest uCalc prototype design.

Almost laid out, just a few more things to take care of and then it's prototype time :-D

Final specs have turned out to be:

- PIC24FJ256GA106 processor, 256KB/16KB
- 3 Axis Tilt Sensor
- Piezo transducer
- 24 key touch panel with on/off switch on back
- 8KB EEPROM
- Micro SD Card
- Dual CR1620 battery
- IR LED
- 128 x 32 dot matrix reflective display
- 3.3mm thick for the first proto run to save cost, production should be 3mm.

Was hoping to have it in time for xmas, but I've been slack.

The front panel will look exactly as shown (but black), unless I change something at the last minute.

I'm using a more risky touch panel approach to lower cost and complexity, don't know if it's going to work reliably. Guess the prototype will answer that. In fact the whole thing has now been optimised for the lowest cost. With this new approach I'm actually not limited to 24 keys, but 24 works nicer for technical reasons.

Comments before I push the GO button?

Dave.

Edited: 15 Dec 2009, 2:46 a.m.

Re: OT: uCalc proto

*Message #2 Posted by **Saile (Brazil)** on 15 Dec 2009, 3:18 a.m.,*
in response to message #1 by DaveJ

```
How would the keyboard alpha be only the letters of A up to Z?
Change Roll up e Roll Down to STO and RCL.
```

Edited: 15 Dec 2009, 3:23 a.m.

Re: OT: uCalc proto

*Message #3 Posted by **Katie Wasserman** on 15 Dec 2009, 3:34 a.m.,*
in response to message #1 by DaveJ

Awesome!

Is there a matching IR photo transistor, or is the IR LED for use as a remote control only? Why is there tilt sensor, do you have any specific ideas in mind -- or is it just for potential use in gaming?

-Katie

Re: OT: uCalc proto

*Message #4 Posted by **DaveJ** on 15 Dec 2009, 3:41 a.m.,*
in response to message #3 by Katie Wasserman

> Quote:
>
> Is there a matching IR photo transistor, or is the IR LED for use as a remote control only? Why is there tilt sensor, do you have any specific ideas in mind -- or is it just for potential use in gaming?

Originally I had a full IRDA transceiver, but that got trimmed back for cost reasons.

No real idea in mind for the tilt sensor, although might be fun for games or menu navigation.

I contemplated being brutal and leaving both the features out, but I caved in :)

Dave.

Re: OT: uCalc proto

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 15 Dec 2009, 3:56 a.m.,*
in response to message #1 by DaveJ

Hi, Dave;

looks great to me!

Please, let us know as soon as you are accepting orders!

Congrats!

Luiz (Brazil)

Re: OT: uCalc proto

*Message #6 Posted by **Walter B** on 15 Dec 2009, 4:18 a.m.,*
in response to message #1 by DaveJ

Great looking!

Assume shifted x-y is ARC or ^-1 ?

I'd also vote for STO and RCL replacing the ROLLs as unshifted operations, like Saile did.

Will be interested as soon as you take orders, though your uWatch lies still in my shelf to be assembled ;)

Edited: 15 Dec 2009, 4:21 a.m.

Re: OT: uCalc proto

*Message #7 Posted by **DaveJ** on 15 Dec 2009, 7:09 a.m.,*
in response to message #1 by DaveJ

Oh what the heck, 4 extra function buttons actually fits.
Expanded alpha layout, and STO/RCL as primary (doubles as menu arrows).

W/X/Y/Z on the top because it just "feels right".

Dave.

Edited: 15 Dec 2009, 7:11 a.m.

Re: OT: uCalc proto

*Message #8 Posted by **Jeff O.** on 15 Dec 2009, 7:23 a.m.,*
in response to message #7 by DaveJ

Please press GO!

Re: OT: uCalc proto

*Message #9 Posted by **Walter B** on 15 Dec 2009, 7:29 a.m.,*
in response to message #8 by Jeff O.

@Jeff,

Why do you want to divide first and subtract then? ;)

Re: OT: uCalc proto

*Message #10 Posted by **Bart (UK)** on 15 Dec 2009, 8:13 a.m.,*
in response to message #9 by Walter B

Operator precedence.

Re: OT: uCalc proto

*Message #11 Posted by **Bart (UK)** on 15 Dec 2009, 8:13 a.m.,*
in response to message #7 by DaveJ

Looks good to me. Freeze the baseline & go.

Re: OT: uCalc proto

*Message #12 Posted by **Katie Wasserman** on 15 Dec 2009, 10:22 a.m.,*
in response to message #7 by DaveJ

Dave,

Function buttons are great as is expending the alphabetical keys, but having the buttons above the display makes little sense since your fingers will block the display when you press them. Is it hard to change the PCB layout in order to put the keys below the display?

-Katie

Re: OT: uCalc proto

*Message #13 Posted by **DaveJ** on 15 Dec 2009, 3:38 p.m.,*
in response to message #12 by Katie Wasserman

> Quote:
>
> Function buttons are great as is expending the alphabetical keys, but having the buttons above the display makes little sense since your fingers will block the display when you press them. Is it hard to change the PCB layout in order to put the keys below the display?

Not just hard, impossible I'm afraid.
It has to do with the physical size of the LCD behind the panel.

Dave.

Re: OT: uCalc proto

*Message #14 Posted by **George Bailey (Bedford Falls)** on 15 Dec 2009, 11:26 a.m.,*
in response to message #7 by DaveJ

Would it make sense to have the W, X, Y, Z keys access diretly to the corresponding stack registers? (Well W standing in for T...)

Re: OT: uCalc proto

*Message #15 Posted by **DaveJ** on 15 Dec 2009, 6:43 p.m.,*
in response to message #14 by George Bailey (Bedford Falls)

> Quote:
>
> Would it make sense to have the W, X, Y, Z keys access diretly to the corresponding stack registers? (Well W standing in for T...)

That is a nice possible benefit if you have a big font. But the screen is capable of displaying 4 lines of at least 16 characters anyway.

Dave.

Re: OT: uCalc proto

*Message #16 Posted by **BruceH** on 15 Dec 2009, 11:57 a.m.,*
in response to message #7 by DaveJ

The only thing that I would suggest is to swap plus and divide over since addition and subtraction are likely to be used more often and having them on the edge of the keypad means less chance of getting something else by mistake.

Re: OT: uCalc proto

*Message #17 Posted by **Juergen Keller** on 15 Dec 2009, 2:02 p.m.,*
in response to message #16 by BruceH

I second this suggestion. What are the dimensions of the front panel?

Re: OT: uCalc proto

*Message #18 Posted by **DaveJ** on 15 Dec 2009, 3:50 p.m.,*
in response to message #17 by Juergen Keller

> Quote:
>
> I second this suggestion. What are the dimensions of the front panel?

Exactly the same as a credit card. That's the entire goal of the project. Why?, just because I can :)

Sorry, the operator keys stay where they are, that's the Casio format I like.

Dave.

Re: OT: uCalc proto

*Message #19 Posted by **Chuck** on 15 Dec 2009, 12:53 p.m.,*
in response to message #7 by DaveJ

Having forgotten most of the previous discussions, I'm assuming this will have complex number capabilities. Does it have an imaginary "i" key, or will that be obtained from the MENU? It'd be nice to have it next to pi instead of the // (but I'm not a programmer.)

CHUCK

Re: OT: uCalc proto

*Message #20 Posted by **hugh steers** on 15 Dec 2009, 2:16 p.m.,*
in response to message #19 by Chuck

i suggest we use the "double point" (pressing "." twice) solution used in the uWatch. this saves a key and keeps complex out of your face if you dont want them.

Re: OT: uCalc proto

*Message #21 Posted by **Steve Simpkin** on 15 Dec 2009, 3:30 p.m.,*
in response to message #20 by hugh steers

> Quote:
>
> i suggest we use the "double point" (pressing "." twice) solution used in the uWatch.
> this saves a key and keeps complex out of your face if you dont want them.

A very good suggestion.

I would also request that pressing the point twice between numbers could be used to implement a fraction input as used on the HP-33S and HP-35S models.

From the HP-35S User's Guide: To enter a fraction, press "." twice: once after the integer part of a mixed number and again between the numerator and denominator of the fractional part of the number. To enter 2 3/8, press 2.3.8 . To enter 5/8, press either .5.8 or 0.5.8 .

This should not interfere with your suggested use of pressing "." twice (without numbers between the presses) to enter "i".

Re: OT: uCalc proto

*Message #22 Posted by **DaveJ** on 15 Dec 2009, 3:53 p.m.,*
in response to message #19 by Chuck

> Quote:
>
> Having forgotten most of the previous discussions, I'm assuming this will have complex number capabilities. Does it have an imaginary "i" key, or will that be obtained from the MENU? It'd be nice to have it next to pi instead of the // (but I'm not a programmer.)
>
> CHUCK

It will have anything someone programs into it, just like the uWatch. It will be open source, so will evolve into whatever the community wants.

It already has an "I" alpha key.

Dave.

Re: OT: uCalc proto

*Message #23 Posted by **Walter B** on 15 Dec 2009, 7:17 p.m.,*
in response to message #7 by DaveJ

One more remark: I dunno how you did program the hyperbolics - it looks like you have to press SHIFT ARC COS HYP for ACOSH. That would deviate from the expected sequence SHIFT ARC HYP COS. If I got this right, some label rearrangement may be favourable to take care of this.

Re: OT: uCalc proto

*Message #24 Posted by **DaveJ** on 15 Dec 2009, 7:31 p.m.,*
in response to message #23 by Walter B

The labels don't imply any actual entry order. That's up to what you want to do in software.

Dave.

Re: OT: uCalc proto

*Message #25 Posted by **Walter B** on 15 Dec 2009, 7:47 p.m.,*
in response to message #24 by DaveJ

So how shall ACOSH be entered?

Re: OT: uCalc proto

*Message #26 Posted by **Paul Dale** on 15 Dec 2009, 8:01 p.m.,*
in response to message #24 by DaveJ

I think Walter is suggesting that HYP should be on the 0 key and SIN, COS and TAN on the 1, 2 & 3 keys.

Or better, HYP on X-Y, ARC on 0 and SIN, COS and TAN on 1, 2 & 3.

Makes the entry order more natural.

So to enter ACOSH, you press these keys:

```
SHIFT X-Y 0 2
```

- Pauli

Re: OT: uCalc proto

*Message #27 Posted by **DaveJ** on 15 Dec 2009, 9:06 p.m.,*
in response to message #26 by Paul Dale

Fixed!, as per your suggestion.

Dave.

Re: OT: uCalc proto

*Message #28 Posted by **Walter B** on 16 Dec 2009, 2:35 a.m.,*
in response to message #26 by Paul Dale

Thanks for your understanding d:-)

Re: OT: uCalc proto

*Message #29 Posted by **Michael de Estrada** on 15 Dec 2009, 10:31 p.m.,*
in response to message #1 by DaveJ

How do you control the display decimal digits? Is fix vs scientific notation automatic?

Re: OT: uCalc proto

*Message #30 Posted by **DaveJ** on 15 Dec 2009, 11:36 p.m.,*
in response to message #29 by Michael de Estrada

Anything not directly available on the keypad gets done in the menus.

I decided to add base number stuff on the 2nd shift, so no room left for FIX, SCI and other stuff I'm afraid.

Dave.

Re: OT: uCalc proto

*Message #31 Posted by **Bart (UK)** on 16 Dec 2009, 4:37 a.m.,*
in response to message #30 by DaveJ

Even though I'm an engineer (electronics), I'd rather have SCI than <ENG & ENG>, I never use them. I

take the value as per SCI setting and mentally convert to milli, micro, pico or units, Kilo, Mega.

And the only time I've used FIX is on the 35s because of the stupid scrolling display.

Just my opinion.

Re: OT: uCalc proto

*Message #32 Posted by **DaveJ** on 16 Dec 2009, 5:10 a.m.,*
in response to message #31 by Bart (UK)

I find it abhorrent to have to do a mental calculation or conversion after a calculator has given you a result, kind of defeats the purpose of having a calculator I think. If I'm using a calculator then I expect it to give me the result I expect. So I use the ENG key daily, although I hate calcs with those fixed ENG modes, I want the choice of when to convert to ENG display and when not.

SCI and FIX are more "mode" like than ENG in this instance, so don't deserve a primary key IMO.

But each to their own!

Also remember, it's trivial to make a stick on overlay to have any key layout you like.

Dave.

Re: OT: uCalc proto

*Message #33 Posted by **Bart (UK)** on 16 Dec 2009, 7:03 a.m.,*
in response to message #32 by DaveJ

If you do the mental calc daily it becomes trivial, order of magnitude convertion is soooo easy anyway :).

As I said it's my opinion, I don't mind if SCI is a menu item, it's not as if I change it for every calculation (like you said, more a mode change)- unlike those that use ENG.

As you say, it's easily reconfigurable and that's what I like most about it. Even though it's not "programmable" like traditional programmable calcs, I assume I can put in my own routines (that I would normally have programmed into the RAM of a programmable calc) and assign them to keys I don't normally use, or the F keys or add them to the menu.

Re: OT: uCalc proto

*Message #34 Posted by **hugh steers** on 16 Dec 2009, 9:24 a.m.,*
in response to message #33 by Bart (UK)

maybe you shake it and it changes the result display format!

Re: OT: uCalc proto

*Message #35 Posted by **Bart (UK)** on 16 Dec 2009, 9:57 a.m.,*
in response to message #34 by hugh steers

Brilliant idea - 6 extra inputs on the tilt sensor!! :)

Re: OT: uCalc proto

*Message #36 Posted by **Dave Shaffer (Arizona)** on 16 Dec 2009, 10:43 a.m.,*
in response to message #34 by hugh steers

Turn it over and it turns itself off?! All sorts of possibilities here.

Re: OT: uCalc proto

*Message #37 Posted by **Bart (UK)** on 16 Dec 2009, 11:10 a.m.,*
in response to message #36 by Dave Shaffer (Arizona)

More like right side down does ENG> and lefgt side down does <ENG. :)

Re: OT: uCalc proto

*Message #38 Posted by **DaveJ** on 16 Dec 2009, 3:52 p.m.,*
in response to message #36 by Dave Shaffer (Arizona)

> Quote:
>
> Turn it over and it turns itself off?! All sorts of possibilities here.

It's mainly in there for those reasons you *can't* think of right now!

Random number generator for starters. Menu scrolling, mode switching, games, a crude spirit level sensor...

Dave.

Re: OT: uCalc proto

*Message #39 Posted by **Mark Henderson** on 16 Dec 2009, 5:27 p.m.,*
in response to message #38 by DaveJ

I have an HP-21 emulator on iPhone (GO-21) which uses shake to CLx the machine - kinda cool!

Re: OT: uCalc proto

*Message #40 Posted by **BruceH** on 18 Dec 2009, 7:51 a.m.,*
in response to message #39 by Mark Henderson

> Quote:
>
> I have an HP-21 emulator on iPhone (GO-21) which uses shake to CLx the machine - kinda cool!

Noooooo!!!

Imagine: a long calculation, put the calc down on the desktop a bit too hastily and the answer gone before you can write it down. :-(

Re: OT: uCalc proto

*Message #41 Posted by **DaveJ** on 16 Dec 2009, 3:47 p.m.,*
in response to message #33 by Bart (UK)

> Quote:
>
> If you do the mental calc daily it becomes trivial, order of magnitude convertion is soooo easy anyway :)

Yes, it's trivial, but that doesn't help you on those bad days when your mind goes, err, wonky. Before you know it your Mars probe crashes into the planet :->

Dave.

Re: OT: uCalc proto

*Message #42 Posted by **Walter B** on 16 Dec 2009, 5:12 p.m.,*
in response to message #41 by DaveJ

> Quote:
>
> but that doesn't help you on those bad days when your mind goes, err, wonky. Before you know it your Mars probe crashes into the planet

IIRC, that wasn't due to wonky minds but due to stubborn minds keeping wonky units, wasn't it? d;-)

Re: OT: uCalc proto

*Message #43 Posted by **Bart (UK)** on 17 Dec 2009, 5:18 a.m.,*
in response to message #42 by Walter B

Mistakes I've come across in aerospace equipment (which although not fully certified, were in advanced stages of development, delivered for fitment to flight test aircraft):

Multiplying instead of dividing by 1.94 when converting from knots to m/s.
Using the wrong sign for ascending/descending.
Swapping the reference axes around.

And these are just some that I can recall off hand.

Re: OT: uCalc proto

*Message #44 Posted by **Martin Pinckney** on 16 Dec 2009, 10:57 a.m.,*
in response to message #32 by DaveJ

> Quote:
>
> I find it abhorrent to have to do a mental calculation or conversion after a calculator has given you a result, kind of defeats the purpose of having a calculator I think.

Well said!

That is one reason I am so drawn to the 48 series - the units management, at least in theory, makes mental checking of the result less necessary. If only it weren't so difficult to learn ...

Re: OT: uCalc proto

*Message #45 Posted by **Bart (UK)** on 17 Dec 2009, 5:25 a.m.,*
in response to message #44 by Martin Pinckney

So you believe everything your calculator spits out, not even caring to do a quick mental check as to the order of magnitude? (That's what you seem to be saying).

By the way, all I was saying was it's easy enough to mentally go from say 1E-8 to 0.01E-6 or 10E-9 without pressing buttons.

Edit: but I caved in: keep the <ENG and ENG> buttons, I'll leave them as unused as on all my other calcs that have them :)

Edited: 17 Dec 2009, 5:27 a.m.

Re: OT: uCalc proto

*Message #46 Posted by **DaveJ** on 17 Dec 2009, 6:21 a.m.,*
in response to message #45 by Bart (UK)

> Quote:
>
> So you believe everything your calculator spits out, not even caring to do a quick mental check as to the order of magnitude? (That's what you seem to be saying).

That's what everyone says when this subject is bought up, but it always misses the point.

The calculator is a calculating tool, if it doesn't easily give you the result you expect from it, formatted the way you want it, then it's not as good a tool as it could be.

If you have to do extra conversion in your head then your chance of error is greater, regardless of how easy it is. Mentally checking your result and knowing what to expect etc, is really a separate issue.

> Quote:
>
> By the way, all I was saying was it's easy enough to mentally go from say 1E-8 to 0.01E-6 or 10E-9 without pressing buttons.

Sure, but that's not the point.
I bet you'd get a tad annoyed if your scientific calculator gave you "0.0000000123" all the time instead of scientific notation, or engineering notation all the time when you wanted scientific etc. There is nothing wrong with wanting your tool to give you the exact result you expect.

BTW, a good engineering calc will have a primary ENG key, so it's only one key press. And when you get used to hitting it subconsciously it really is a valuable function you

don't want to live without. But YMMV.

> Quote:
>
> Edit: but I caved in: keep the <ENG and ENG> buttons, I'll leave them as unused as on all my other calcs that have them :)

I will keep the ENG keys, thanks, the joy of being the product designer :-P
And that weird parallel key stays too, ain't I just evil!

Dave.

Edited: 17 Dec 2009, 6:30 a.m.

Re: OT: uCalc proto

*Message #47 Posted by **Bart (UK)** on 17 Dec 2009, 7:21 a.m.,*
in response to message #46 by DaveJ

> Quote:
>
> formatted the way you want it,

And this part of the thread started because I merely said ENG format is not MY kind of format. (The mental thinking bit was only a justification, not the point in itself). But I concede because I understand there is a large contingent out there that does use it. That's the reason you should keep it on there - not just because you're the product designer. As I said early on in this thread, I'm happy with what I see, let's see some hardware.

> Quote:
>
> That's what everyone says when this subject is bought up, but it always misses the point.

A statement which you negate by:

> Quote:
>
> if it doesn't easily give you the result you *expect* from it,

How can you expect anything if you haven't done some mental reasoning?

By the way, in another post in this thread I mention errors in equipment, I found those errors because whilst doing on-aircraft checking (on ground of course) other equipment dependent on the information were reacting, and whilst seemingly correct, I was always asking myself "is this more or less what I was expecting?". Some were obvious (wrong direction) others more subtle (over or under reaction).

Re: OT: uCalc proto

*Message #48 Posted by **DaveJ** on 17 Dec 2009, 4:11 p.m.,*

in response to message #47 by Bart (UK)

> Quote:
>
> How can you expect anything if you haven't done some mental reasoning?

Not the actual quantitative number but the *formatting* of the number.

Like I said, as an example you might get pretty annoyed if your calc always gave you 0.000000123 instead of scientific notation.

Just like as an engineer I get annoyed sometimes when I don't get my result in engineering notation, because that's the *formatting* I've come to expect and work more naturally with, even if it is a small difference I can easily convert mentally. But note that I don't always want engineering notation, which is why I like my ENG key and having the choice, instead of an ENG mode which forces it down my throat when I don't want it.

Dave.

Re: OT: uCalc proto

*Message #49 Posted by **PatrickR** on 16 Dec 2009, 5:53 p.m.,*
in response to message #1 by DaveJ

How do the buttons work? Clicky membranes? If so, they should be easily swapable. I have had such clicky membraned break after not so much wear, and that mostly means tossing the object in the bin.

Re: OT: uCalc proto

*Message #50 Posted by **DaveJ** on 16 Dec 2009, 6:18 p.m.,*
in response to message #49 by PatrickR

> Quote:
>
> How do the buttons work? Clicky membranes? If so, they should be easily swapable. I have had such clicky membraned break after not so much wear, and that mostly means tossing the object in the bin.

They are capacitive touch sensors, so nothing to wear out apart from the silkscreen PCB overlay. It's the only risky part of the design, it actually may not work reliably or at all, that's what the first prototype is designed to suss out. If I'm lucky it'll work first go and I should have something close to a finished product, if not then it's tweaking time, or on to plan B.

Dave.

Re: OT: uCalc proto

*Message #51 Posted by **DaveJ** on 16 Dec 2009, 8:21 p.m.,*
in response to message #1 by DaveJ

Thunderbirds are GO!

I should have a physical proto just after new year.

If it doesn't work as intended then I'll quietly slither away... :->

Dave.

Re: OT: uCalc proto

*Message #52 Posted by **Frank Rottgardt** on 17 Dec 2009, 6:21 a.m.,*
in response to message #51 by DaveJ

Will there be an additional protection for the display to reinforce the calculator and making it more dust-proof and scratch-resistant?

Re: OT: uCalc proto

*Message #53 Posted by **DaveJ** on 17 Dec 2009, 6:34 a.m.,*
in response to message #52 by Frank Rottgardt

> Quote:
>
> Will there be an additional protection for the display to reinforce the calculator and making it more dust-proof and scratch-resistant?

I'm afraid not. Unless you know someone who can custom cut quality thin (0.5mm) scratch resistant mineral glass cheaply? I'd be very interested to know of anyone who does.

Dave.

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630 USD for a 15c on Ebay!

*Message #1 Posted by **Jose Gonzalez Divasson** on 14 Dec 2009, 3:49 p.m.*

No matter how much I like the 15c...

http://cgi.ebay.es/ws/eBayISAPI.dll?ViewItem&item=280434256713&ssPageName=STRK:MEWAX:IT#ht_500wt_1182

Re: 630 USD for a 15c on Ebay!

*Message #2 Posted by **DaveJ** on 14 Dec 2009, 6:13 p.m.,*
in response to message #1 by Jose Gonzalez Divasson

Watch the prices tumble when HP reintroduce the 15C!

Dave.

Re: 630 USD for a 15c on Ebay!

*Message #3 Posted by **Paul Dale** on 14 Dec 2009, 6:20 p.m.,*
in response to message #2 by DaveJ

That's the main reason I've not been out looking for a replacement 15c.

- Pauli

Re: 630 USD for a 15c on Ebay!

*Message #4 Posted by **Walter B** on 14 Dec 2009, 6:54 p.m.,*
in response to message #3 by Paul Dale

... especially at this time of the year d8)

Re: 630 USD for a 15c on Ebay!

*Message #5 Posted by **Lyuka** on 20 Dec 2009, 12:40 a.m.,*
in response to message #4 by Walter B

> Quote:
>
> ... especially at this time of the year d8)

Really. JPY80500 for a 15C in mint condition on Yahoo auction, yesterday.

JPY80500 =~ USD890 (JPY/USD=90.495)

Re: 630 USD for a 15c on Ebay!

*Message #6 Posted by **Ángel Martin** on 20 Dec 2009, 2:30 a.m.,*
in response to message #2 by DaveJ

When or if? I'm not so optimistic about such a re-introduction... albeit I remain hopeful.

Edited: 20 Dec 2009, 2:30 a.m.

Re: 630 USD for a 15c on Ebay!

*Message #7 Posted by **DaveJ** on 20 Dec 2009, 3:46 p.m.,*
in response to message #6 by Ángel Martin

> Quote:
>
> When or if? I'm not so optimistic about such a re-introduction... albeit I remain hopeful.

Well, given all the signs, and almost everything is in place to enable such a product. It is more likely than not it will come out eventually. But internal politics is a funny business.

I think if HP don't take the opportunity that is staring them in the face and go ahead with the 15C then they should get out of the calculator business altogether.

Dave.

Re: 630 USD for a 15c on Ebay!

*Message #8 Posted by **Vieira, Luiz C. (Brazil)** on 14 Dec 2009, 6:56 p.m.,*
in response to message #1 by Jose Gonzalez Divasson

Hi;

In Brazil it is not that different! (No, I am not the seller.)

R$720.00 =~ US$415.00

Not sold yet... Just as a comparison, Brazilian 'minimum' salary runs about R$460.00 a month (about R$5,520.00 or US$3,163.00 a year). A regular worker would need to work about a month and a half to buy it. The package includes the calculator, protective cover and three batteries (no manual).

Cheers.

Luiz (Brazil)

Edited: 14 Dec 2009, 7:01 p.m.

Re: 630 USD for a 15c on Ebay!

*Message #9 Posted by **Lyuka** on 15 Dec 2009, 12:50 a.m.,*
in response to message #8 by Vieira, Luiz C. (Brazil)

Hi,

It's not so different also in JAPAN.

It was new-in-a-box condition with warranty card (of course invalid), and made for a successful bid for JPY50000.

JPY50000 =~ USD562 =~ EUR386 (today's rate)

Cheers,
Lyuka

Re: 630 USD for a 15c on Ebay!

*Message #10 Posted by **DaveJ** on 15 Dec 2009, 1:28 a.m.,*
in response to message #9 by Lyuka

Cheaper in Australia:
LINK

AU$255, or slightly more in US$

Dave.

606 USD for a 41CX on Ebay 6 days left

*Message #11 Posted by **Saile (Brazil)** on 20 Dec 2009, 4:14 p.m.,*
in response to message #1 by Jose Gonzalez Divasson

41cx 606 USD and go

Re: 606 USD for a 41CX on Ebay 6 days left

*Message #12 Posted by **db (martinez, ca.)** on 21 Dec 2009, 9:56 p.m.,*
in response to message #11 by Saile (Brazil)

41CX? cheap at any price.

When you have the bux...

*Message #13 Posted by **Vieira, Luiz C. (Brazil)** on 21 Dec 2009, 10:36 p.m.,*
in response to message #12 by db (martinez, ca.)

...the world is cheap! >B^D

Check this out!

Edited: 21 Dec 2009, 10:42 p.m.

Re: When you have the bux...

*Message #14 Posted by **db (martinez, ca.)** on 21 Dec 2009, 11:51 p.m.,*
in response to message #13 by Vieira, Luiz C. (Brazil)

Hey Luiz;
Yes; the world *would be* cheap..... we should tell those folks that the ipac isn't the most expensive - the ebay 41 is.
but some good music is available free
http://www.archive.org/search.php?
query=title%3A%28phil%20lesh%29%20AND%20description%3A%28soundboard%29&sort=-

publicdate
that and about 10,000 times more is stored in san francisco and mirrored somewhere in europe too, just to be safe. What a coincidence: I heard Yo-Yo Ma on our public radio last week talking about the box set in your link. They were teasing him about the 399 CD retrospective of his work. He took it well.

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Use of Armor-All?

*Message #1 Posted by **tim m.** on 13 Dec 2009, 6:20 p.m.*

I saw this mentioned in another thread discussing proper cleaning of screen-printed keypad surrounds. I was wondering if anyone has used Armor-All on the cases of their Classic series calculators and could tell what effect--if any--the product had. Outside of my car, I've used Armor-All on plastics with good results and was thinking of using a smidge on my 35.

-Tim

Re: Use of Armor-All?

*Message #2 Posted by **Michael Meyer** on 13 Dec 2009, 6:31 p.m.,*
in response to message #1 by tim m.

Tim, I think you'll be pleased with the results. I spray a very light amount on a clean, non-abrasive rag and wipe lightly over the entire machine-- display, case, between keys, etc. Then lightly buff off any excess. I began to do this many years ago, and none of the calculators I've cleaned/polished with this method have had any problems. I've even used heavier amounts to removed the discoloration resulting from harsher cleaners or alcohol when they've hurt the finish on calcs I've bought.

Let us know how it turns out! Michael

Re: Use of Armor-All?

*Message #3 Posted by **Hal Bitton in Boise** on 13 Dec 2009, 9:28 p.m.,*
in response to message #1 by tim m.

Ditto...
I used it on a 67 a while back, with beautiful results.
best, hal

Re: Use of Armor-All?

*Message #4 Posted by **tim m.** on 13 Dec 2009, 11:11 p.m.,*
in response to message #3 by Hal Bitton in Boise

Thanks for the suggestions, all.

I just applied a light coat of Armor-All to the case and keyboard (which I had previously cleaned); both are much shinier and nicer-looking now. I avoided applying to the display crystal, as I was worried that transparent plastics would be clouded by the product. I had previously polished the crystal with Poly-Watch and it looks good now as-is.

-Tim

Re: Use of Armor-All?

*Message #5 Posted by **db (martinez, ca.)** on 14 Dec 2009, 1:19 a.m.,*
in response to message #4 by tim m.

Tim;
Keep us posted on the condition of the case please. I've had universally bad feedback, and bad results the time i tried it, using armor all on old padded dashboards. For that type of soft plastic in a hot sunny place; armor all seems to make it look like new, then it shrinks and cracks. The case may be a different plastic and it sure gets less sun but I'd like to know how your experiment turns out in a year - before i try it with mine ;-)

Re: Use of Armor-All?

*Message #6 Posted by **tim m.** on 14 Dec 2009, 3:42 a.m.,*
in response to message #5 by db (martinez, ca.)

Check Message #2. Seems at least one member here has had good results over many years. Perhaps the trick is only the lightest of applications.

I've also used the stuff in my car, which is now five years old with vinyl and plastic un-cracked.

-Tim

Re: Use of Armor-All?

*Message #7 Posted by **Katie Wasserman** on 14 Dec 2009, 3:45 a.m.,*
in response to message #5 by db (martinez, ca.)

Den-

I've been using Novus #1 plastic polish/cleaner for years -- it's never damaged anything. The perfect thing to clean and restore that "new look" to calculators. It's cheap and easy to find (online at least).

-Katie

Re: Use of Armor-All?

*Message #8 Posted by **db (martinez, ca.)** on 14 Dec 2009, 9:58 p.m.,*
in response to message #7 by Katie Wasserman

Hey KT;
Yes; that Novus polish is great. I got a pack with the coarse, medium and fine and it is - fine. I even used it on the screen for a.....Novus.

Tim;
The bad results with armor all that i had was on sun baked plastic, not new or newish stuff. It's treated Dr. Mike OK. I'll figure then that it'll work well on a relatively pampered calculator case for me too.

Re: Use of Armor-All?

*Message #9 Posted by **bill platt** on 14 Dec 2009, 10:44 p.m.,*
in response to message #7 by Katie Wasserman

Hi Katie,

Maybe the Novus would be good for scratched automobile speedometer screens. Mine is all scratched from people wiping dust off...can never understand why they don't make the screen vertical!

Plastic cleaners and polish

*Message #10 Posted by **Karl Schneider** on 14 Dec 2009, 11:21 p.m.,*
in response to message #9 by bill platt

> Quote:
>
> Maybe the Novus would be good for scratched automobile speedometer screens. Mine is all scratched from people wiping dust off...can never understand why they don't make the screen vertical!

Bill --

The mounting of gauges on older cars tended to be more plain and strightforward in that respect, but modern cars have recessed clusters behind a curved screen for the same reason we discussed in a very recent thread: to prevent reflective glare -- from sunlight or headlights behind, passing through the rear windshield.

I recently used Meguiar's Clear Plastic Cleaner to remove fine scratches from an instrument cluster screen. They also sell separate Clear Plastic Polish and Clear Plastic Detailer.

-- KS

Re: Plastic cleaners and polish

*Message #11 Posted by **tim m.** on 14 Dec 2009, 11:46 p.m.,*
in response to message #10 by Karl Schneider

Another option would be Poly-Watch, which is designed for polishing acrylic (not celluloid) watch crystals. The stuff works very well for removing light surface scratches with a few minutes' worth of elbow grease.

-Tim

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hp50g grobs

*Message #1 Posted by **Glenn Shields** on 13 Dec 2009, 1:35 p.m.*

I'm a new member and HP50g "trainee," got the printed manuals from hpcalc, noticed a few examples with a long hex number for a graphic (20-4 in user guide or 2-39 in AUR). Tried to relate the pixels with the hex digits, but can't figure out the connection; tried putting rows of pixels as 0's and 1's and going to hex, but still a mystery. Any help would be greatly appreciated.

Re: hp50g grobs

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 13 Dec 2009, 2:58 p.m.,*
in response to message #1 by Glenn Shields

Hi, Glenn;

Please, have a look at page 22-30 (HP50G UserÂ´s Manual). Chances are that the example there elucidates better.

Cheers.

Luiz (Brazil)

Edited: 13 Dec 2009, 2:58 p.m.

Re: hp50g grobs

*Message #3 Posted by **Glenn Shields** on 13 Dec 2009, 5:39 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Thanks for the quick response, Luiz, I need to read that part again, slowly. In the AUR "walker" example, it states that the programmer first compiles the image interactively in the Graphics environment, then returns it to the command line. Even if I could do this, I am still wondering, for example, what part of "E3001400...2800" represents his eye, or if this long number was recorded "after the fact". Meanwhile I will be hitting the books!

It is an honor to be a part of this forum. I am more of a hobbyist, though I do have a BA in math. One of my tests of the new calc was to have it cycle through the rand.# generator given with the 15C (7 digit decimal x 997, FP) and do this 500,000 times to complete the cycle. My old 20s took a day and a half, but the 50g did it in hours! Looking forward to more interesting posts.

Cheers!

Re: hp50g grobs

*Message #4 Posted by **Dave Britten** on 13 Dec 2009, 6:23 p.m.,*
in response to message #3 by Glenn Shields

Check out comp.sys.hp48 sometime. You'll find more technical discussion about the 48/49/50 series there. Which isn't to say that you shouldn't stick around here too!

Re: hp50g grobs

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 13 Dec 2009, 6:51 p.m.,*
in response to message #3 by Glenn Shields

Hi again, Glenn;

Thanks for your very welcome words. Although I'm also a guest (and also honored to be) here, I think I know exactly what you mean. So, if you folks allow me, 'Welcome!'.

About GROBs: James Donnelly's 'The HP48 Handbook' is one of the must concise and serious source of basic information about the HP48 and its 'daughters'. From his book, p.34:

> Quote:
>
> ---
>
> ### Graphics Object Structure
>
> A graphics object is structured as follows:
>
> `<header><length><height><width><data....>`
>
> <header> This is a five nibble (1/2 byte) field that distinguishes a graphics object from any other object type, and has a fixed value of #02B1Eh.
>
> <length> This field is a five-nibble quantity that contains the distance in nibbles from the start of the length field to the nibble past the end of the object. This length is #Fh + the number of data nibbles.
>
> <height> This field is a five-nibble quantity that specifies the height of the graphics image in pixels.
>
> <width> This field is a five-nibble quantity that specifies the width of the graphics image in pixels.
>
> <data> The data nibbles begin at the upper-left corner of the graphics object and proceed left-to-right, top-to-bottom. Each row must contain an integral number of bytes, so the data may be padded with garbage bits. The bits in each nibble are written in reverse order, so the leftmost displayed pixel in a nibble is represented by the least-significant bit of the nibble.
>
> If you are preparing a graphics object on a personal computer, remember that the HP 48 CPU reads data from memory into registers in reverse order, so the first four fields are written backwards. For example, the header is written ElB20.
>
> Graphics objects may be entered into the command line on the HP 48. To enter a blank graphics object, type GROB *width height*, where *width* and *height* specify the size in pixels.
>
> ---

I hope this is a bit more helpful.

Cheers.

Luiz (Brazil)

Edited: 13 Dec 2009, 6:54 p.m.

I forgot to mention...

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 13 Dec 2009, 7:40 p.m.,*
in response to message #3 by Glenn Shields

... three of the most important publications: Willian C. WickesÂ´ 'HP48 Insights'. It has three volumes, the two first ones about the HP48S and the third one about the HP48G.

These three books are available at the MoHPC DVD set.

Cheers.

Luiz (Brazil)

Another example from DonnellyÂ´s book

*Message #7 Posted by **Vieira, Luiz C. (Brazil)** on 14 Dec 2009, 1:06 a.m.,*
in response to message #3 by Glenn Shields

From DonnelyÂ´s 'The HP48 Handbook' we can also pic the following example (p. 35).

To enter a graphics object which represents the letter "G" in the small font, type:

```
GROB 4 5 E010D090E0
```

The bit-mapped representation of the resulting graphic can be understood like this:

On a personal computer, the graphics object looks like this:

```
E1B20   B1000   50000   40000   E010D090E0
header  length  width   height  data
```

Now, consider a blank graphics object the size of the HP50G display with the "G" from above in the upper-left corner. The graphics object looks like this on a personal computer:

```
E1B20                                 header
FAA00                                 length (changed for the HP50G)
38000                                 width
05000                                 height (changed for the HP50G)
E0000000000000000000000000000000000   row 1
1000000000000000000000000000000000    row 2
D0000000000000000000000000000000000   row 3
9000000000000000000000000000000000    row 4
E0000000000000000000000000000000000   row 5
0000000000000000000000000000000000    row 6
........
2720 total data nibbles (HP50G LCD) ...
........
0000000000000000000000000000000000    row 80
```

I think that these examples are much better to actually 'see' how the GROB is built.

Cheers.

Luiz (Brazil)

Edited: 14 Dec 2009, 1:24 a.m.

Re: Another example from DonnellyÂ´s book

*Message #8 Posted by **Glenn Shields** on 15 Dec 2009, 5:16 p.m.,*
in response to message #7 by Vieira, Luiz C. (Brazil)

You guys are amazing, thanks for your collective generosity and encouragement. I got my answer (the little walker's eye is in the digits 0015) but more importantly, you opened my eyes to a lot more. Happy Holidays Glenn in West LA (the city)

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41Z Keyboard Overlay - The Final Cut

*Message #1 Posted by **Ángel Martin** on 13 Dec 2009, 12:30 p.m.*

Here it is, intuitively obvious and easy to use :-)

Don't miss revision 9, already posted at TOS.

Enjoy.

Edited: 13 Dec 2009, 12:39 p.m.

Re: 41Z Keyboard Overlay

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 13 Dec 2009, 12:39 p.m.,*
in response to message #1 by Ángel Martin

I have just downloaded it and will try it out tonight.

Congrats again, Ãngel.

Luiz (Brazil)

P.S. - Will the new 41Z have its own User Manual? The one available there is the same one from previous 41Z, with no mention to the new features and keeping the initial remark that the pack offers a humble two-level complex stack, etc...

Edited: 13 Dec 2009, 12:43 p.m.

Re: 41Z Keyboard Overlay

*Message #3 Posted by **Ángel Martin** on 13 Dec 2009, 1:16 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Manuals are always the last component, right?

I actually plan on updating the older one (re-doing it really) - let's see if the xmas break allows some spare time for the task.

Until then... use your intuition!

:)

Hint: to access the RED functions... press "Z" twice.

Edited: 13 Dec 2009, 1:17 p.m.

Re: 41Z Keyboard Overlay - The Final Cut

*Message #4 Posted by **Egan Ford** on 14 Dec 2009, 2:38 p.m.,*
in response to message #1 by Ángel Martin

> Quote:
>
> Here it is, intuitively obvious and easy to use :-)

Here is the iPhone version for i41CX+ courtesy of Antonio (Al Software):

You can snag it here: http://alsoftiphone.com/i41CXplus/Overlays/

Thanks Ángel and Antonio!

Re: 41Z Keyboard Overlay - The Final Cut

*Message #5 Posted by **Egan Ford** on 14 Dec 2009, 3:05 p.m.,*
in response to message #1 by Ángel Martin

I am not having any luck with the new 41Z on i41CX+. On startup I get a complex number printed on the printer. Varies based on the stack and registers would be my guess.

The blue Z does nothing but Sigma+. Is there something I need to execute to get started?

Thanks.

Re: 41Z Keyboard Overlay - The Final Cut

*Message #6 Posted by **Ángel Martin** on 15 Dec 2009, 9:27 a.m.,*
in response to message #5 by Egan Ford

Hi Egan, yes you need to assign the function ZKBRD to the Sigma+ key - that enables the complex keyboard as per the overlay.

Printing the Z complex stack level is done by default on start-up. I don't have a printer and obviously neither does V41 but the behavior should be consistent. The rom works well in the real machine as well.

four complex stack levels are: U, V, W, Z (from top to bottom). Complex level Z corresponds with the real stack Y (Imaginary part) and X (real part). Note that real Z, T are just scratch, as they're not "reliable". All is done in the complex stach, in a dedicated memory buffer.

Best wishes

Edited: 16 Dec 2009, 12:41 a.m.

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Display technology

*Message #1 Posted by **David Hayden** on 13 Dec 2009, 1:17 a.m.*

I was at a bookstore recently and marvelled at an electronic book reader that used e-ink technology. This is a low power, high resolution, highly reflective display technology.

It got me thinking how wonderful such a thing would be on a calculator. Does anyone know of any other interesting display technologies?

Re: Display technology

*Message #2 Posted by **DaveJ** on 13 Dec 2009, 2:06 a.m.,*
in response to message #1 by David Hayden

Yes, the contrast ratio of eINK is much better than normal LCD's.

There are several eINK type display technologies becoming available, unfortunately all of them are extremely pricey for DIY designs.

Dave.

Re: Display technology

*Message #3 Posted by **Eric Smith** on 13 Dec 2009, 2:22 p.m.,*
in response to message #2 by DaveJ

I own several e-ink devices, and while the stuff does have a power advantage over LCDs (under some circumstances), and possibly other advantages, contrast ratio is NOT one of them. The best you can currently get with the stuff is black on medium grey. It's fine under bright illumination, but I find that under typical room lighting that a good reflective LCD (e.g., hp 50g) is more readable than e-ink.

It is also extremely slow to update. Even the newer e-ink that is supposed to be faster than the previous generation is still extremely slow. I think if people had a calculator using e-ink they'd be very likely to complain about it. I'm not talking about animation, which would be impossible. Just pressing a number button or ENTER^ would take a noticeable fraction of a second for the display to update, vs. the nearly instantaneous update everyone is used to having with LCD (and with LED before that).

I expect that eventually e-ink technology will improve to where it has a good contrast ratio and fast refresh, but it ain't there yet.

Re: Display technology

*Message #4 Posted by **DaveJ** on 13 Dec 2009, 4:39 p.m.,*
in response to message #3 by Eric Smith

How did you get'em?
Dev kits are thousands of dollars.

Dave.

Re: Display technology

*Message #5 Posted by **Eric Smith** on 13 Dec 2009, 7:38 p.m.,*
in response to message #4 by DaveJ

Built into e-book readers. They use the same panels as the dev kits. The early Sony readers used the earlier technology panel. The newer Sony readers and the Kindle use the current technology, which has slightly better contrast ratio, and is slightly faster, but still nowhere near as good as LCD.

Re: Display technology

*Message #6 Posted by **BruceH** on 15 Dec 2009, 7:25 a.m.,*
in response to message #3 by Eric Smith

Agreed with Eric here.

Previous discussions around this topic have concluded that the most likely use for e-ink displays in calculators would be to provide keycaps or menu labels that can be changed on the fly when the calculator goes from one mode into another, for example. Mode changes are much less frequent than display updates so would make sense from a power consumption point of view.

Putting the e-ink display into the keycaps would be tricky and expensive, I suspect. However, if the front bezel were made from transparent perspex then the menu labels could all be generated via an e-ink display attached to the underside, which would be a lot simpler from a technical point of view.

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Really really OT

*Message #1 Posted by **Don Shepherd** on 12 Dec 2009, 8:45 p.m.*

Since we've been talking about the good old days lately, look at this.

Love song at it's finest!

Re: Really really OT

*Message #2 Posted by **Michael Meyer** on 12 Dec 2009, 11:00 p.m.,*
in response to message #1 by Don Shepherd

May not be ENTIRELY off topic. I was spending some time just looking at an HP-25 that I restored. Admiring its subtle curves and beautiful case design. This seemed as good a thread to make these comments as I've seen.

I've been trying to explain to people what it was like when I was in junior high and high school. They just see a calculator when I show them an HP-25 or TI-59. (My HP-25 was stolen. Probably why I have...several...of them now. Well, quite a few.)

I (we, I assume for many of us) didn't have access to a personal computer back then. And though there were lots of calculators in the late 70's, there were few programmables. Looking at an HP catalog was, for me, sort of like looking at a Playboy magazine... except I didn't have to hide it. Great passion for and longing for these amazing devices. And what I saw on the pages and in office machine stores was still out of reach, but maybe slightly more obtainable. Every model was uniquely amazing... spiritual. I saved lawn money for months.

When I bought my HP-25, it was instantly my most prized possession. I knew the keys so well that I could operate it in the dark (thanks to the LED's). I carried it everywhere, sharing programs with good teachers. My best friend had an HP-19C, and we wrote wonderful programs and games together. Another had an SR-52 that I could borrow for days at at time. Later, with a TI-59, I could write every FORTRAN assignment (done on punch cards) for my own, "personal", computer. Later, in college, I re-wrote every computer assignment for my own machine. It had enough program space to allow structured programming. I was lucky... I treated my 59 well, and it still works perfectly today. (Along with guite a few others I've restored).

I suspect most people, even those from my "era" cannot understand this relationship, but I try to explain it folks in these terms.

My wife probably wouldn't be pleased if I pursued anything from Playboy today. But she tolerates my calculators, and pretends to be interested.

You guys (and gals) "get it". Sort of like a beautiful old love song. A love song from an era gone by, but one that conveys a passion from that era that still applies to my collection. I know that there are simulators and emulators available... just as there are pictures of pretty girls. But being able to hold them in my hands and admire their beauty in real life... is the better love story than a fantasy...though the fantasy is not forgotten.

Re: Really really OT

*Message #3 Posted by **Don Shepherd** on 12 Dec 2009, 11:18 p.m.,*
in response to message #2 by Michael Meyer

Wonderful post, Michael. HP calculators in their heyday were indeed things of beauty. To be able to actually write a program to perform something meaningful on a handheld device, at a time when programming computers meant using hardware worth hundreds of thousands of dollars--and, thus, unavailable to the common man--was something special. No calculator today, from any manufacturer, can come close to that experience. That's why members of this forum constantly hearken back to the HP of old. It was special, and it will not return.

Likewise, Kris Kristofferson and Rita Coolidge were the HP-25's of their day. Beautiful, talented, almost magical. Watching their performance from 1972 today, I am reminded of how pure and sweet love can be. Today's "music" cannot compare. Whenever I hear a car go by with its amplifier turned up so the whole world must hear the speakers rap noise (I can't honestly call it music), I just want to listen to Kris and Rita again.

Re: Really really OT

*Message #4 Posted by **Earl Kubaskie** on 13 Dec 2009, 11:09 p.m.,*
in response to message #3 by Don Shepherd

You hear the rap over the sound of the (flatulence)-muffler?

I have to laugh & sigh at the same time about the "era-gone-by".

We did things with our programmable HP-65s (and models on up the line) that are still difficult to do on a computer without software that costs, in today's dollars, as much or more than our HPs did back then.

Even our calculator games would fail today. They required imagination.

(ps. I CAN do some of those things on computers with inexpensive software - HP calculator emulators!)

Re: Really really OT

*Message #5 Posted by **Walter B** on 14 Dec 2009, 2:19 a.m.,*
in response to message #4 by Earl Kubaskie

> Quote:
>
> Even our calculator games would fail today. They required imagination.

Seems each time and its technical possibilities educate its generation. As long as we had text-only computer games (like "maze" or "dungeon", don't remember the exact name), imagination was inevitably required for the fun. The better the graphics became the less imagination was necessary. It's like what happened to brains after the transition from slide rule to electronic calculators: reduced capability for order-of-magnitude estimations since it is not required anymore. Instead, the next generation is able to sms at speed of light d:-)

Can I borrow your words and thoughts?

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 12 Dec 2009, 11:37 p.m.,*
in response to message #2 by Michael Meyer

Hi, Doc;

I would never find a better way to express my own feelings... I wonder why you've chosen to be a shrink!

Thanks!

Luiz (Brazil)

Re: Can I borrow your words and thoughts?

*Message #7 Posted by **Michael Meyer** on 13 Dec 2009, 12:02 p.m.,*
in response to message #6 by Vieira, Luiz C. (Brazil)

So, I read my post to my wife. She laughed at me. She said that I can have any of the women from Playboy that I want. She suggested that I send my post to them and that would probably do the trick. She said something about me wanting HP catalogs to read the articles, not to look at the pictures.....

No comments on this one...

*Message #8 Posted by **Vieira, Luiz C. (Brazil)** on 13 Dec 2009, 12:38 p.m.,*
in response to message #7 by Michael Meyer

Edited: 13 Dec 2009, 12:45 p.m.

Re: Can I borrow your words and thoughts?

*Message #9 Posted by **Sancerre (Phoenix)** on 13 Dec 2009, 12:42 p.m.,*
in response to message #7 by Michael Meyer

LOL

Re: Really really OT

*Message #10 Posted by **JDonley** on 15 Dec 2009, 12:16 a.m.,*
in response to message #1 by Don Shepherd

thanks Don....we were young once

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Regarding MLDL2000 'cosmetics' & more

*Message #1 Posted by **Jeff Davis** on 12 Dec 2009, 9:52 a.m.*

I was wondering if these plastic cards might be available for purchase. Please let me know.

Re: Regarding MLDL2000 'cosmetics' & more

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 12 Dec 2009, 6:44 p.m.,*
in response to message #1 by Jeff Davis

Hi, Jeff;

I was wondering about that when I started that thread: would someone try a 'form factor' cut and printing layout? Anyway, when I bought the two MLDL2000 units, I remember Meindert announced just a few complete units (less than 100 with the 82104A case), so I am not quite sure if these cards will be produced somehow. That's why I described how they were made.

Cheers.

Luiz (Brazil)

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HP 85B tape drive

*Message #1 Posted by **Leonard Adcock** on 11 Dec 2009, 3:11 p.m.*

I am trying to revive an HP85B to use as a controller for an old V curve tracer. The tape drive seems to be OK and has a good capstan roller, but it gives a STALL error 74 every time I issue a CAT, CTAPE or ERASETAPE command. I managed to find a second tape drive and that one gives the same error. The tape indicator light comes on (briefly) and the tape give a little jump and then the error occurs. Anybody got any ideas about what is going on and how to fix it?

Re: HP 85B tape drive

*Message #2 Posted by **Rik Bos** on 12 Dec 2009, 3:42 p.m.,*
in response to message #1 by Leonard Adcock

Hi,

The stall error is problably caused by a hanging tape, or due to loosing magnetic coating from the mylar carrier. Check your tape for blank spots wher the coating is removed. This is a problem for a lot of original HP tapes, #M tapes lasts longer.

-Rik

Re: HP 85B tape drive

*Message #3 Posted by **Leonard Adcock** on 14 Dec 2009, 4:02 p.m.,*
in response to message #2 by Rik Bos

I am using some new tapes I got from Athana. They are supposed to be direct replacements for the original. There seems to be a bit of drag when I move the drive wheel with a finger.

Which 3M tape do you have in mind? Is it the DC1000?

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OT: basic arithmetic functions

*Message #1 Posted by **Thomas Klemm** on 10 Dec 2009, 8:44 p.m.*

Recently I purchased a new mobile phone (SAMSUNG SGH-C180) and as always I was curious about the features of the calculator. The manual was short with the description:

> Quote:
>
> Perform basic arithmetic functions.

Here's the menu:

```
*    .
#    + - x / % ( )
```

Just an ordinary four-banger, I was thinking first. But then I realized it conforms to algebraic notation:

```
2+3*4 = 14
(2+3)*4 = 20
```

Up to 16 places can be displayed, however at most 6 places after the decimal point:

```
1000*1000*1000*1000*1000 = Out of range
1000*1000*1000*1000*1000-1 = 999999999999999
(1000*1000*1000*1000*1000*1000-1000)/1000 = 999999999999999
(1000*1000*1000*1000*1000-1)/1000 = 999999999999.999


355/113 = 3.141593
355000000000/113 = 3141592920.353982


1234567890+0.123456 = 1234567890.123456
12345678901+0.123456 = 12345678901.1235
123456789012+0.123456 = 123456789012.123


9876543210+0.123456 = 9876543210.123455
98765432109+0.123456 = 98765432109.1235
987654321098+0.123456 = 987654321098.123
```

Extracting the square root can be done iteratively since you can edit the last computation:

```
(3/1+1)/2 = 2
(3/2+2)/2 = 1.75
(3/1.75+1.75)/2 = 1.732143
(3/1.732143+1.732143)/2 = 1.732051
(3/1.732051+1.732051)/2 = 1.732051
```

Error messages are nice:

```
1/0 = Can't divide by zero
```

But then I stumbled over the following:

```
23+17% = Syntax Error
```

Only after a while I found out how to use the *percentage* operation:

```
23%17 = 6
355%113 = 16
```

- Who'd consider *modulo* a basic arithmetic function?
- Have you ever noticed the use of **%** for this operation in a calculator? (I know it's common in many computer languages.)

Kind regards
Thomas

Edited: 10 Dec 2009, 8:54 p.m.

Re: OT: basic arithmetic functions

*Message #2 Posted by **hugh steers** on 10 Dec 2009, 9:03 p.m.,*
in response to message #1 by Thomas Klemm

im thinking the calculator in your phone is working in binary IEEE754 and compiled with the usual runtime mathlib.

you could check by calculating, say 1/17 and then multiplying and subtracting the significant figures. if it's binary, the numbers will go on and on and you will get garbage after 16 digits. if it's decimal, you will hit the zeros.

Re: OT: basic arithmetic functions

*Message #3 Posted by **Thomas Klemm** on 15 Dec 2009, 4:35 p.m.,*
in response to message #2 by hugh steers

First I was in doubt since e.g. 1/17*17-1 would just result in 0 as expected. Only after a while I came up with the following expression:

```
(1-(1000000-999999.999999)*1000000)*10000000000000
```

Using Python results in:

```
-76144933.700561523
```

While the calculator of my phone would yield:

```
-76144933.700562
```

I couldn't get any more places since the input field is limited to 50 characters.

So it seems intermediate results are calculated using binary while the result is rounded to 6 places after the decimal point.

Of course HP-calculators using BCD don't encounter problems with this expression.

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OT: basic arithmetic functions

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Restoring Classics: 409 removed some lettering!

*Message #1 Posted by **Mark Henderson** on 10 Dec 2009, 3:36 p.m.*

I'm a long-time HP calcaholic and just getting started now buying and restoring Classic series calcs. Befroe starting my first project (a pretty sad HP-55) I read up everything on this site and elsewhere. I was able to get the dead 55 running in just a few minutes (a broken trace - I am an EE so this is my area of expertise), much to my delight. The keyboard and display work perfectly, so "all" that was left was the cosmetic restoration. In the mean time I'm using it as my daily calc and LOVING it.

After complete disassembly I prepared to wash the case halves in a diluted 409 solution. After soaking in the solution for just a few minutes, I pulled out the case top and to my HORROR several of the pad-printed legends (gold/blue) were dissolving away!!! I've not read this anywhere? Previously the letters were in GOOD shape. not all of them dissolved, but now it looks really shabby :-(My long term intent is to create a new overlay (if successful I will post here).

Has anyone else seen this problem? I'm getting 3-4 other Classics ready for restoration, but I'm really nervous about this step.

Mark

Re: Restoring Classics: 409 removed some lettering!

*Message #2 Posted by **Michael Meyer** on 10 Dec 2009, 4:43 p.m.,*
in response to message #1 by Mark Henderson

Mark,

Just now collecting or just now getting to the classics? I'm sure you've read about the "dangers" of being "bit" by this "bug".....

How horrible about the lettering! I've never tried 409... and won't ever, now.

I've had great luck with just dishwashing liquid and gentle rubbing under water with my fingers. Afterwards, I polish with Armor-All car vinyl spray... a very light coat, wiped nearly completely off with a clean rag. Restores the shine and, actually, when rubbed hard, removes grime and restores the finish. I've never seen the painted letters removed with this.

I've had no luck trying to restore the letters :(An overlay would be fantastic. I've replaced some model number face-plates with scans printed onto self-sticking paper. You might be able to replace the lettering in this manner, though it will never be perfect....

You know what this means... you have to find another HP-55, one for show, and one to use.

Happy Programming, Michael

Re: Restoring Classics: 409 removed some lettering!

*Message #3 Posted by **Marcus von Cube, Germany** on 10 Dec 2009, 5:09 p.m.,*
in response to message #2 by Michael Meyer

Mark, if CDs can be printed on by ink jet printers, why not the faceplate of your calc (or a replacement?)

Re: Restoring Classics: do and do-not:

*Message #4 Posted by **geoff quickfall** on 10 Dec 2009, 5:18 p.m.,*
in response to message #2 by Michael Meyer

Actually, and unfortunately that you have not seen it, it has been mentioned.

first the nevers:

```
-  Never, never use a harsh cleaner, (409, Fantastic, etc).
-  Never rub the or brush the silk screening.
-  Never use an abrasive.
```

secondly the how too:

```
-  use an extremely dilute soap solution.  A drop or two of dish
   detergent in a gallon of luke warm water.
-  if a brush is required let soak and use an artists brush or
   makeup brush (wifes with permission)
-  dab the area to be cleaned, never brush it
-  rinse
-  when drying, dab the area, do not rub or
-  let airdry
-  mask off the keyboard and apply a matte laqueur finish.
```

the why it happens:

```
-  solvents in the air (lab environment, alchohol based etc) and
   UV light slowly destroy the in house fixing agent used on the
   silkscreen.
-  although the silkscreening looks good, it is extremely
   compromised.
-  Using the matte spray will consolidate the silkscreen material.
-  the matte spray is optional
```

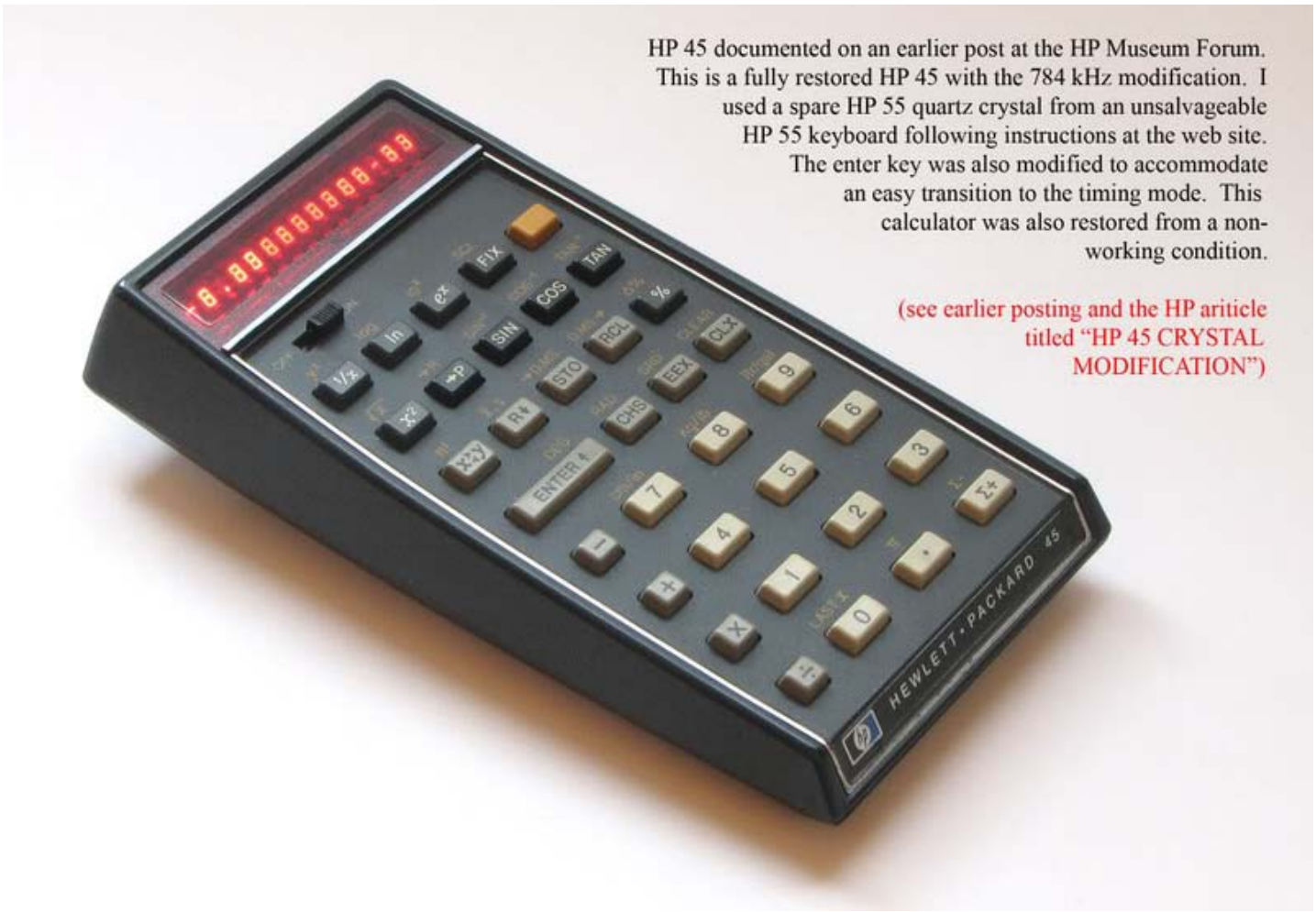
Many restorers here have used armoral (vinyl and plastic reconditioner, but I do not as I don't know the long term affect it will have. Also it does nothing to stabilize the silk screen from futher decomposition under UV. Of course if you have cleaned it and are not using it except for display then the matte spray is not required.

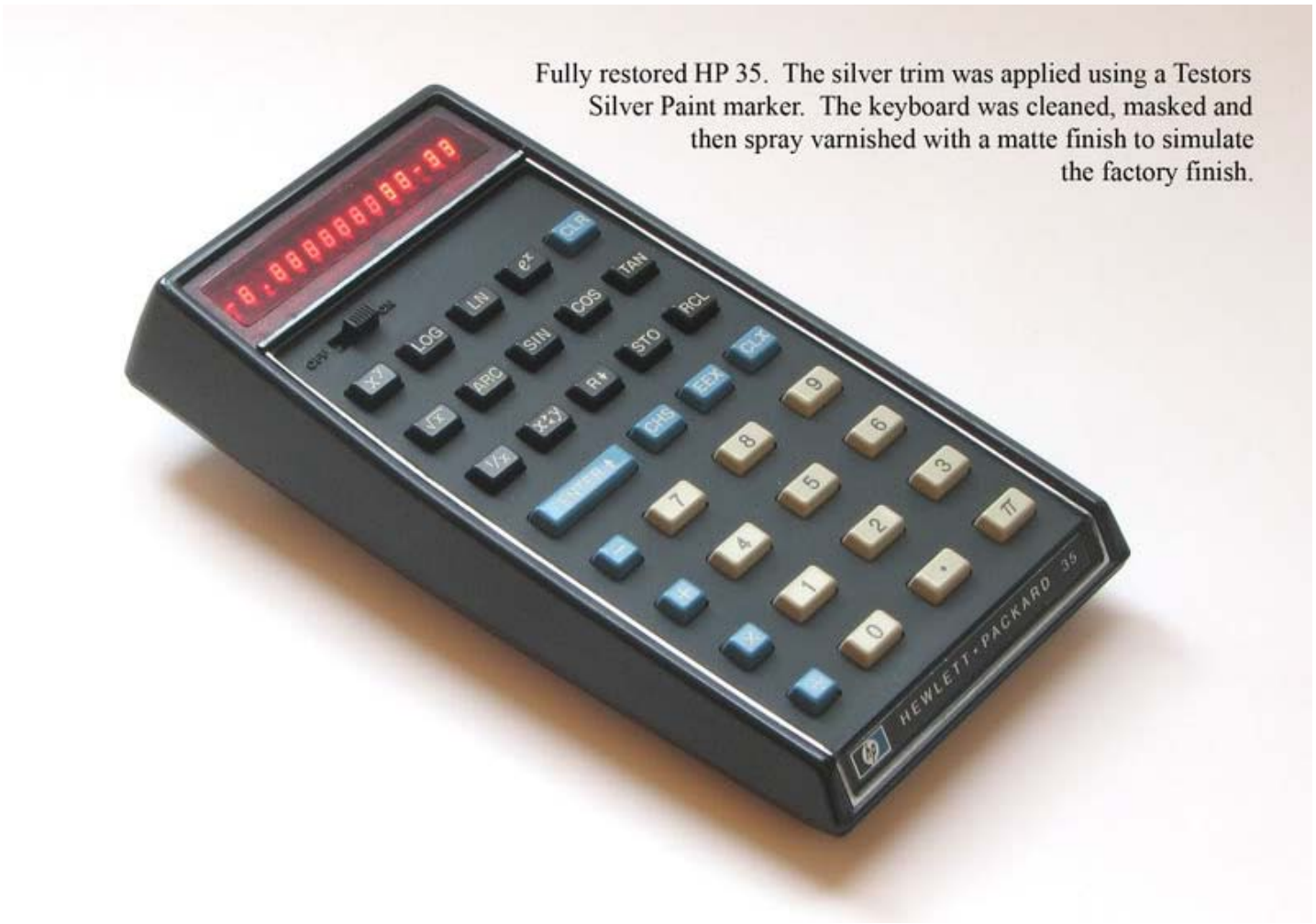
It is interesting to note that even my HP-55 was faded looking after treating its keyboard with kid gloves. The following have all been restored and stabilized with matte laqueur.

The Woodstocks are notorious for faded and washed out silkscreening!

Cheers, Geoff

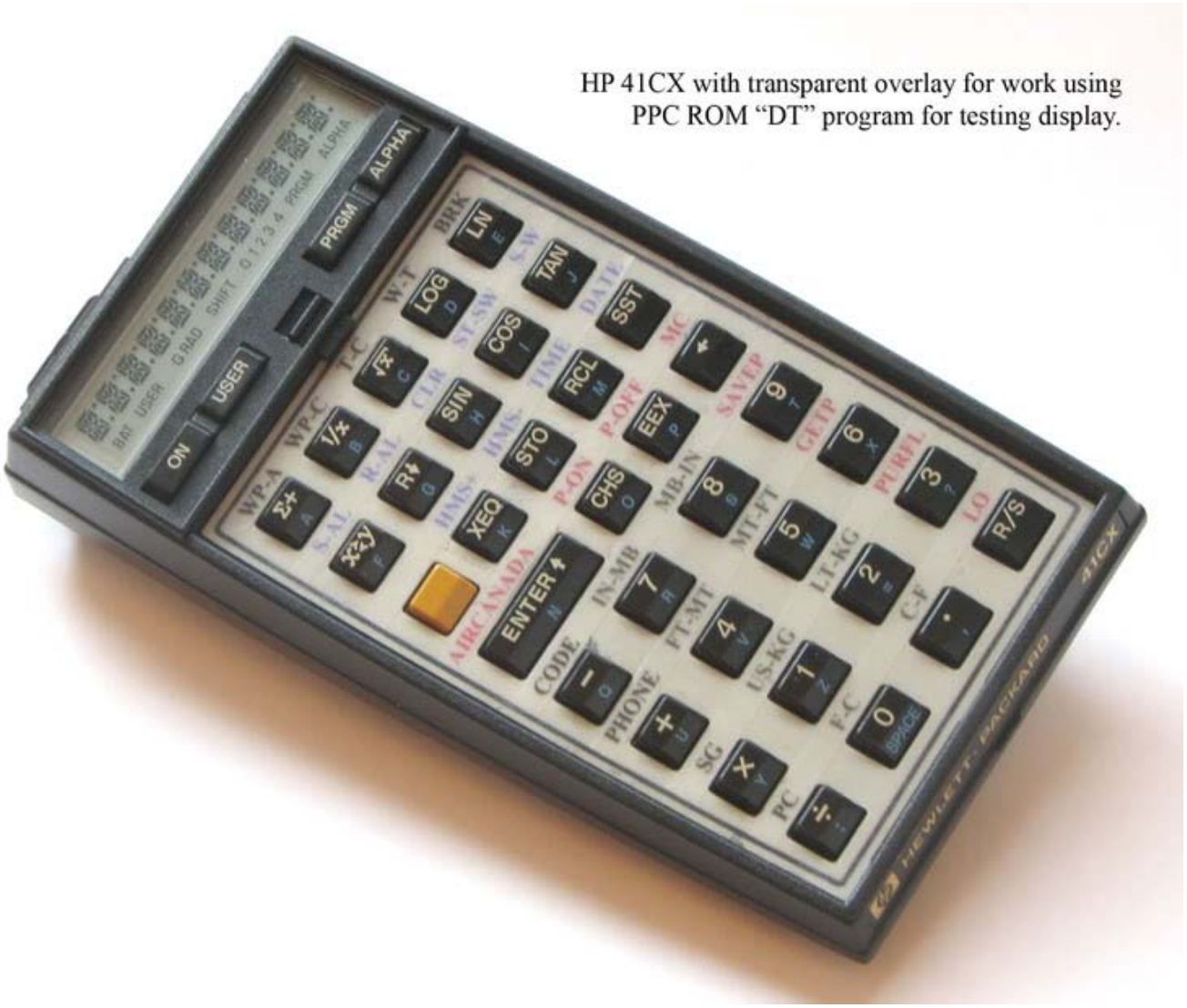
Fully restored HP 55. Outer keyboard cover removed, cleaned masked and then spray varnished flat. The original had major white bloom damage on the keyboard original finish. The silver trim was missing and restored with a Testors Silver paint marker. The lens cover was polished using Polywatch to remove scratches. The electronics were washed in vinegar and alcohol to remove vertigre and dirt.
HEWLETT • PACKARD 55


HP 45 documented on an earlier post at the HP Museum Forum. This is a fully restored HP 45 with the 784 kHz modification. I used a spare HP 55 quartz crystal from an unsalvageable HP 55 keyboard following instructions at the web site. The enter key was also modified to accommodate an easy transition to the timing mode. This calculator was also restored from a non-working condition.
(see earlier posting and the HP ariticle titled "HP 45 CRYSTAL MODIFICATION")
HEWLETT-PACKARD 45


Fully restored HP 35. The silver trim was applied using a Testors Silver Paint marker. The keyboard was cleaned, masked and then spray varnished with a matte finish to simulate the factory finish.
HEWLETT-PACKARD 35

CLR
tan
RCL
CLx
ex
cos
STO
EEX
ln
sin
R↓
CHS
log
arc
x≷y
OFF
ON
x²
√x
1/x
ENTER↑
9
6
3
π
8
5
2
.
7
4
1
0
−
+
×
÷
HEWLETT-PACKARD

Here is an overlay for the HP-41CX done on clear sticky backed lable film and run through the inkjet. Also works with Laser printer:



HP 41CX with transparent overlay for work using PPC ROM "DT" program for testing display.

GRATUITOUS DOG PHOTO:

Edited: 10 Dec 2009, 5:34 p.m.

Re: Restoring Classics: do and do-not:

*Message #5 Posted by **Michael Meyer** on 10 Dec 2009, 7:03 p.m.,*
in response to message #4 by geoff quickfall

Geoff,

My restorations are pretty, but not that pretty!!! Nice job! I especially like the furry model in the last photo... must have been a prototype.

I think there's a spot on that HP-55 that you missed... you'll have to do the whole thing over again. Just kidding.

Thanks for the great information and photos. I've been reluctant to spray the keyboards, not trusting my own skill with such a permanant sealant. It looks like a superior method, though, from your photos...

Michael

Re: Restoring Classics: do and do-not:

*Message #6 Posted by **Katie Wasserman** on 10 Dec 2009, 10:02 p.m.,*
in response to message #4 by geoff quickfall

Geoff,

Cute dog!

I've been using Novus #1 for cleaning old calculators for years and never had a problem. Before I learned my lesson I used to use isopropyl alcohol and while it's great and removing ink marks it can and will take off the paint on old HP calculators.

-Katie

Re: Restoring Classics: do and do-not:

*Message #7 Posted by **Michael Plant** on 10 Dec 2009, 10:43 p.m.,*
in response to message #6 by Katie Wasserman

> Quote:
>
> Before I learned my lesson I used to use isopropyl alcohol and while it's great and removing ink marks it can and will take off the paint on old HP calculators.

This is a lesson that I learned earlier this year as well - took the print right off the "Alpha" key on an old Casio (fx-4000p). Fortunately, I "got away with" using it on the HP's that I had already cleaned with it.

Mike

Re: Restoring Classics: do and do-not:

*Message #8 Posted by **Mark Henderson** on 11 Dec 2009, 2:36 p.m.,*
in response to message #4 by geoff quickfall

Geoff (and others) -

Thanks for the detailed response and incredible restoration photos - gives me great hope and inspiration!

In the post-mortem I came to the conclusion you stated - some of the keyboard areas appear to have been exposed to different contaminants (e.g. top row, lots of finger-borne contaminants) which have weakened the printing in various ways. Some of the legends were completely unaffected, some were almost removed... I will be much more careful in future... I do see that some of your 55 legends are faded, mine look very similar now, too.

I may just spray it and live with the "faded" look, however I've had some early success in creating an overlay artwork that looks much better than I expected, so next experiment will be to see if I can use inkjet dry transfer materials to put this artwork onto plastic.. If it works I can see creating artworks for all the Classics as required...

Meanwhile I've accumulated a few 45s and 80s to also restore - this is fun!

Cheers

Mark

Re: Restoring Classics: do and do-not:

*Message #9 Posted by **Michael Meyer** on 11 Dec 2009, 5:40 p.m.,*
in response to message #8 by Mark Henderson

Too much fun.

Re: Restoring Classics: do and do-not:

*Message #10 Posted by **Etienne Victoria** on 12 Dec 2009, 12:19 p.m.,*
in response to message #4 by geoff quickfall

Congratulations!

As usual, beautiful restorations!

However, for the restoration of the dog, I thing the eyes are missing...or maybe LEDs :-)

Cheers

Etienne

Re: Restoring Classics: do and do-not:

*Message #11 Posted by **Michael de Estrada** on 12 Dec 2009, 12:55 p.m.,*
in response to message #10 by Etienne Victoria

> Quote:
>
> However, for the restoration of the dog, I thing the eyes are missing...or maybe LEDs

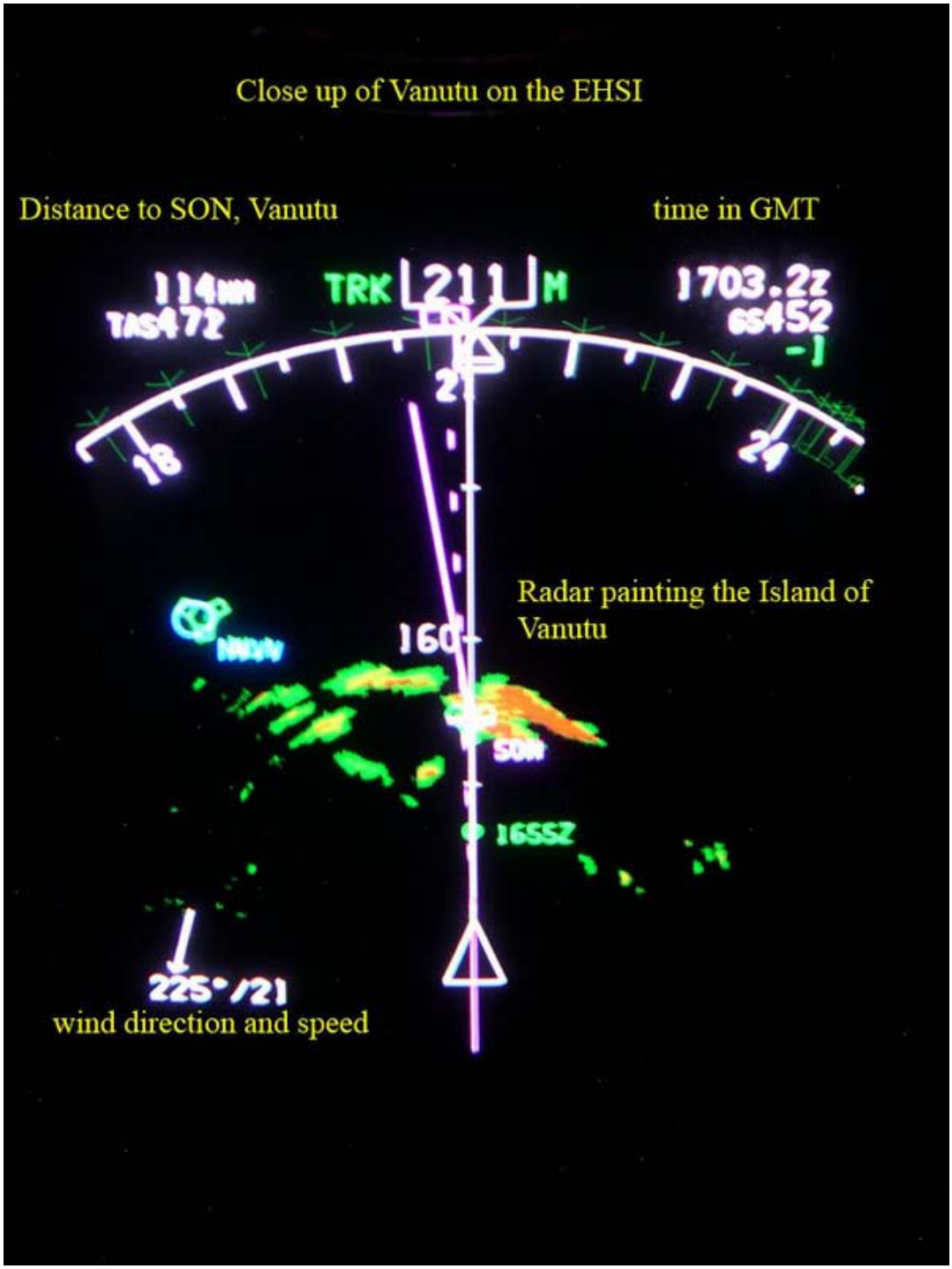
I think his dog navigates by radar ;)

Re: Restoring Classics: do and do-not:

*Message #12 Posted by **geoff quickfall** on 12 Dec 2009, 7:32 p.m.,*
in response to message #11 by Michael de Estrada

Whats all the fuss, who needs eyes?

I use this!



Thanks for the comments on the restorations!

cheers, Geoff

Re: Restoring Classics: do and do-not:

*Message #13 Posted by **Marcus von Cube, Germany** on 12 Dec 2009, 7:35 p.m.,*
in response to message #12 by geoff quickfall

This dog has a radar nose.

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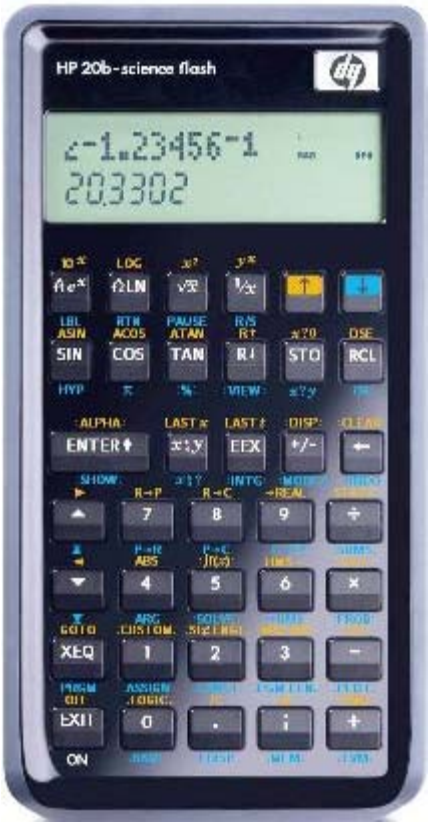
My concept for a 20b repurposing project

*Message #1 Posted by **Jeff O.** on 10 Dec 2009, 12:33 p.m.*

There hasn't been much discussion lately regarding concepts for repurposing the 20b. But I started thinking about it a while back and put some time and effort into developing my concept for such a project, so I figured I'd go ahead and present it for review and comment. Here's my concept for what it might look like:



(Sorry for the illegibility of some of the legends. The gold legends above the x, - and + keys are :CFIT:, :I/O: and :TIME:, respectively.

Salient points:

- command set, programming paradigm, etc. are intended to be basically the same as the 42S with maybe some 35s features thrown in. Alpha capabilities for program and variable names would be included if at all possible, but that capability will likely depend on memory constraints.
- on the keyboard, legends which represent menus are surrounded by colons and legends not surrounded by colons are direct functions. (I'm pretty sure that this was originally proposed by Pavneet Arora, and I like the idea so I used it, but full credit goes to Pavneet.)
- commands in menus would be displayed in the 6 x 43 dot-matrix area, two commands per "page". The two leftmost keys in the top row would be the soft keys used to access the commands. (Note that the 6 x 43 grid provides two 6 x 21 arrays, with one "blank" column of pixels between them. The 42S utilizes 7 x 21 pixel arrays to display its soft-key labels, but the characters are only 5 pixels high. So 6 x 21 ought to work.) Might look something like this:

- menus would be limited to at most 6 commands if possible, to enable all of their functions to be accessed either directly after calling up the menu or by scrolling up or down only one time.
- Complex number entry would be as on the 35s, i.e. key in real component or magnitude, press “i” or the angle symbol, then key in the imaginary component or angle.
- Complex number display: My preferred plan would be to display the real (or magnitude) in the 7-segment display area and the imaginary part (or angle) in the dot-matrix area. I believe that it would be possible to display at least four significant figures of any number in this area. Based on the display simulations I did, and tests using the ability of the 20b to display a message when it is first turned on, I think it might look okay. I tried to simulate this as best I could in the above large image. If numbers just don’t look right displayed in dot-matrix area, I would propose the method used by the 15C: a parallel, unseen stack that would hold the imaginary component or angle. In this case I would work in the Re<>Im and (i) commands of the 15C to either swap the real and imaginary parts or temporarily display the imaginary, respectively.
- there would be no polar or rectangular display mode. Complex numbers would be entered in either form and would be stored and displayed in whatever form they were entered. Two numbers in different display modes could be used in functions using two arguments. (The form of the result in such cases would be a selectable option by the user.) This leads to a new suite of polar/rectangular/complex/real conversion functions, as follows:
    - R->P: Rectangular to Polar conversion. If stack x and stack y both contain real numbers, treats stack x as real and stack y as imaginary components and returns the magnitude and angle (in current angular mode) to stack x and stack y, respectively. If stack x contains a complex value in rectangular form, converts it to a complex value in polar form. Otherwise takes no action.
    - P->R: Polar to Rectangular conversion. If stack x and stack y both contain real numbers, treats stack x as magnitude and stack y as angle (in current angular mode) and returns the real and imaginary components to stack x and stack y, respectively. If stack x contains a complex value in polar form, converts it to a complex value in rectangular form. Otherwise takes no action.
    - R->C: Rectangular to Complex conversion. If stack x and stack y both contain real numbers, treats stack x as real and stack y as imaginary components and assembles a rectangular-form complex value in stack x. Otherwise takes no action.
    - P->C: Polar to Complex conversion. If stack x and stack y both contain real numbers, treats stack x as magnitude and stack y as angle and assembles a polar-form complex value in stack x. Otherwise takes no action.
    - ->REAL: Complex to real. If stack x contains a complex value, places the imaginary component (if rectangular-form) or angle (if polar-form) in stack y, and real component or magnitude in stack x. Otherwise takes no action.
    - C->C*: Complex Conjugate. If stack x contains a complex value, replaces that value with its complex conjugate. Otherwise takes no action.
- Assuming numeric display looks okay, when a real value is in the x register, the dot-matrix area would be used to display the y, z, t or Last x register (or other stack levels if a different stack height is selected), or perhaps the time of day as I would hope to include time functions.

The biggest question I have concerns available memory. If I understand correctly, the 20b has 128 KB of flash for the calculator firmware, which I presume (hope) would be adequate for the functionality I am proposing. But there is only 6 KB of RAM, of which only 2 KB is battery backed. The other 4 KB goes away every time the processor shuts down, which happens after every operation. So the stack, storage registers, program data and various status flags all have to fit in the 2 KB battery-backed memory, which does not sound like nearly enough to me. The 20b

offers several “access points” into its system. Could external RAM be accessed via any of those? If not, would 2 KB be enough for just data and status? If so, could programs be developed on a PC, and get flashed into the flash memory with the calculator firmware? (I have no clue how feasible that would be; it is just the only way around the memory limitations of which I can conceive if it is not possible to somehow expand the 2 KB of continuous RAM.)

I did consult with Paul Dale regarding his scientific 20b firmware project. Paul kindly provided details on his work (actually his and Walter B’s), and we communicated back and forth a few times. The work is very impressive, and would produce a very capable device. But I thought that there could be room for something with a little less capability. I did not thoroughly study Walter's documentation for his and Paul’s project, so I probably copied many of the ideas or concepts. If so, I give full credit to Paul and Walter.

Conceptualization and visualization is as far as I can go with this project as I have no skills related to the development of the code or loading and running it on a 20b. To those who do possess those skills, would it be possible to repurpose the 20b as described above? If so, does anybody care to take a crack at it? I started fleshing out some of the other details regarding menu structure, etc. which I would be happy to share. But I thought it might be wise to see if it is even possible before completing that and presenting it.

Best regards,
Jeff

.

Re: My concept for a 20b repurposing project

*Message #2 Posted by **David Hayden** on 10 Dec 2009, 3:18 p.m.,*
in response to message #1 by Jeff O.

> Quote:
>
> on the keyboard, legends which represent menus are surrounded by colons

I saw those, wondered what they were, and eventually guessed correctly, so the cue worked for me. I wonder however if a right-facing arrow or triangle or elipsis might be better since these are all used in window applications to indicate another menu.

> Quote:
>
> commands in menus would be displayed in the 6 x 43 dot-matrix area, two commands per “page”.

Rather than having separate pages that you have to scroll through with the navigation keys, consider two dedicated soft keys. Combined with the two shift keys, you have 6 soft functions. If you add the shift-and-hold, you get 10 functions.

To make this useable, you'd have to display the shifted function when the shift key is pressed (or pressed and held), but that should be easy. This would simplify entry and might let you free up some functionality in the navigation keys.

> Quote:
>
> there would be no polar or rectangular display mode. Complex numbers would be entered in either form and would be stored and displayed in whatever form they were entered.

This is a very interesting idea and I'd love to see it. Way to think outside of the box.

Re: My concept for a 20b repurposing project

*Message #3 Posted by **DaveJ** on 10 Dec 2009, 6:34 p.m.,*
in response to message #1 by Jeff O.

The sticking point unfortunately remains the key top legends.
The rest can be fixed with a nice template overlay, but the key tops still show those weird financial thingos...

Dave.

Re: My concept for a 20b repurposing project

*Message #4 Posted by **Paul Dale** on 10 Dec 2009, 6:43 p.m.,*
in response to message #3 by DaveJ

> Quote:
>
> The sticking point unfortunately remains the key top legends.
> The rest can be fixed with a nice template overlay, but the key tops still show those weird financial thingos...

No overlay is required. I've successfully removed the legends from a set of 20b keys. I'll get my wife to engrave legends which I'll paint by hand to finish things.

Sadly, no time for non-essentials at this time of year so the project is stalled at least until January :-(

- Pauli

Re: My concept for a 20b repurposing project

*Message #5 Posted by **Walter B** on 10 Dec 2009, 6:50 p.m.,*
in response to message #4 by Paul Dale

> Quote:
>
> Sadly, no time for non-essentials at this time of year so the project is stalled at least until January

... then, however, we expect a lift-off d:)

Ceterum censeo: HP, launch a 43S (but if you stubbornly refuse to do so, we'll tickle you a bit with a 34S)

Walter

Re: My concept for a 20b repurposing project

*Message #6 Posted by **DaveJ** on 10 Dec 2009, 7:12 p.m.,*
in response to message #4 by Paul Dale

> Quote:
>
> No overlay is required. I've successfully removed the legends from a set of 20b keys. I'll get my wife to engrave legends which I'll paint by hand to finish things.

You still need an overlay for the secondary functions that aren't on the key tops. But that's not nearly as hard as the keys themselves.

Removing existing legends and hand painting is so medieval! Someone needs to model the key and produce a blank duplicate.

Dave.

Re: My concept for a 20b repurposing project

*Message #7 Posted by **Paul Dale** on 10 Dec 2009, 7:24 p.m.,*
in response to message #6 by DaveJ

> Quote:
>
> You still need an overlay for the secondary functions that aren't on the key tops. But that's not nearly as hard as the keys themselves.

Actually, I'm planning on engraving the face plate too. Again, no overlay.

> Quote:
>
> Removing existing legends and hand painting is so medieval! Someone needs to model the key and produce a blank duplicate.

I agree but it was a heap faster than making moulds for the three different keys and casting some blanks.

- Pauli

Re: My concept for a 20b repurposing project

*Message #8 Posted by **hugh steers** on 10 Dec 2009, 9:47 p.m.,*
in response to message #7 by Paul Dale

Hello Jeff,

That would be a nice feature set. Your design made me wonder whether anyone could make light plastic overlays that could rest on the surface within the lip.

What im thinking is, overlays could accommodate an evolutionary product. Let’s say there was a repurposing project. It’s highly likely that elements of the layout would change from one release to the next (sadly inevitable!). So, each major release would come with its own function overlay. Could these be made at low cost? I don’t know.

Now, if it happened that the project layout was stable, you could just glue your overlay to the unit and be done with it!

?

Re: My concept for a 20b repurposing project

*Message #9 Posted by **Katie Wasserman** on 10 Dec 2009, 10:11 p.m.,*

in response to message #7 by Paul Dale

In the SDK for the 20b the readme.doc file says:

> Quote:
>
> If you represent a company that has a need for large volumes, please contact cyrille@hp.com as HP might be able (depending on the cases) to make a special manufacturing run with your program pre-loaded and/or modification to the calculator color and artwork.

I suppose that means that if enough of us wanted your design you could ask HP to customize the keys and faceplate. I wonder how much a "large volume" is?

-Katie

Re: My concept for a 20b repurposing project

*Message #10 Posted by **Paul Dale** on 10 Dec 2009, 10:22 p.m.,*
in response to message #9 by Katie Wasserman

I have a vague recollection that it was of the order of 2k units for a custom screen printing and over 10k for a different LCD. No idea what the per unit price would be for either in these quantities.

I cannot imagine hitting either of these marks or even getting close.

- Pauli

Re: My concept for a 20b repurposing project

*Message #11 Posted by **Katie Wasserman** on 10 Dec 2009, 10:38 p.m.,*
in response to message #10 by Paul Dale

2000, that's less than 4 percent of the promised-to-purchase units on the "bring back the HP 15C" site. Since HP has so far not brought back the 15C (even though it would be easy given the 12C+ architecture), you might easily get the minimum number of units. I think there is a lot of pent-up demand for a small, inexpensive calculator that does a good job with complex numbers, etc..

-Katie

Edited: 10 Dec 2009, 10:40 p.m.

Re: My concept for a 20b repurposing project

*Message #12 Posted by **Reth** on 11 Dec 2009, 1:42 a.m.,*
in response to message #11 by Katie Wasserman

IMHO the number of potential orders at "bring back the HP 15C" site is heavily exaggerated, not up-to-date and unreliable. I'd bet if the HP 15C is re-realized it won't sell even 10% of what the site claims. Cheers

Re: My concept for a 20b repurposing project

*Message #13 Posted by **DaveJ** on 11 Dec 2009, 4:13 p.m.,*
in response to message #12 by Reth

I disagree.
Demand for products like this is usually under stated until the product is actually available, and then all the buyers come out of the woodwork.

If the price point is right they'll sell in the 6 figure range, easily.

Dave.

Re: My concept for a 20b repurposing project

*Message #14 Posted by **Reth** on 11 Dec 2009, 9:22 p.m.,*
in response to message #13 by DaveJ

I'll be glad to be proven wrong. I'd buy what I promised just to support the project. That is if the new HP-15C is only quicker than the original. If it has IO, more memory and mnemonics it's another story.
Cheers,
Reth

Re: My concept for a 20b repurposing project

*Message #15 Posted by **Jeff O.** on 11 Dec 2009, 7:30 a.m.,*
in response to message #1 by Jeff O.

Jeff

Thanks to all for your kind comments.

I considered adding discussion of the keyboard and keytop labelling issue, but was trying to keep my post as short as possible. Too bad that such a relatively low-tech issue should be the one that generates the most discussion and may be the biggest stumbling block. For the record, my concept for the keyboard is typical, a sticker or overlay with the labels and holes for the keys. At the HHC 2009 conference, Cyrille mentioned a company called “Skinit”. They make decorative custom skins for lots of electronic devices. They ignored me when I inquired about a custom skin for the 20b, but maybe Cyrille could get their attention. If “Skinit” can’t do it, I believe Tim Wessman produced stickers for the 50g (prior to his joining HP), so there must be a way. For the keys, first I would not try to put the blue legends on the slanted fronts of the keys; that looks too hard. Those legends would go on the keyboard below the keys. For the key tops, I tried to keep as many stock legends as possible, but my design would require 16 keys to have new legends on the top of the key. As Paul mentioned, he successfully removed the legends from his keys. To put them back (without custom engraving), the only ideas I have are either small stickers or custom rub-on transfers sealed with clear lacquer.

-edited to correct !@#**! typos

Edited: 11 Dec 2009, 1:09 p.m. after one or more responses were posted

Re: My concept for a 20b repurposing project

*Message #16 Posted by **Thomas Radtke** on 11 Dec 2009, 8:11 a.m.,*
in response to message #15 by Jeff O.

Hi Jeff!

Looks great, but do you really think any serious effort towards the 20b pays off? While I like the LCD and

keytops, the fact that the keys are not hinged and do not register reliably along with the case being quite wobbly at pressing outer keys is a show stopper here.

A final product would probably cost more than a 32SII oder even 42S on TAS.

Maybe I got you completely wrong.

Thomas

Re: My concept for a 20b repurposing project

*Message #17 Posted by **Jeff O.** on 11 Dec 2009, 12:46 p.m.,*
in response to message #16 by Thomas Radtke

Hi Thomas,

I guess my goal is to create something that fixes the one major shortcoming of the 42S (lack of I/O) plus improves its complex number capabilities by adding the "i" key from the 35s. In the past, I have developed concepts that were basically complete flights of fancy which would have required complete new hardware development or major hacking of the 35s hardware. I'm not crazy about the key-press feel of the 20b, but it does offer a complete package with keyboard, display and reconfigurable processor.

As for cost, if everyone who wanted to repurpose their 20b had to get all of the hardware and software tools, the cost would likely exceed the cost of a 32sii or 42S at TAS. But if it is some sort of community effort, I'd think the cost could be kept reasonable.

Jeff

Re: My concept for a 20b repurposing project

*Message #18 Posted by **Massimo Gnerucci (Italy)** on 11 Dec 2009, 1:00 p.m.,*
in response to message #15 by Jeff O.

> Quote:
>
> Cyrille mentioned a company called "Skinit".

Looks like they have already targeted some models: nice!

Greetings,
Massimo

Re: My concept for a 20b repurposing project

*Message #19 Posted by **hpnut** on 12 Dec 2009, 8:29 a.m.,*
in response to message #18 by Massimo Gnerucci (Italy)

> Quote:
>
> Looks like they have already targeted some models: nice!
>
> Greetings,
> Massimo

> these are only cosmetic changes to the body.

Re: My concept for a 20b repurposing project

*Message #20 Posted by **Massimo Gnerucci (Italy)** on 12 Dec 2009, 10:42 a.m.,*
in response to message #19 by hpnut

> Quote:
>
> these are only cosmetic changes to the body.

Yeah, I know... but I find it amazing that such a market does exist: I mean, how many of these will they ever sell?

Now, if we can find more interesting uses for those skins, and if they will market the front bezel too...

Greetings,
Massimo

Re: My concept for a 20b repurposing project

*Message #21 Posted by **Martin pinckney** on 11 Dec 2009, 3:15 p.m.,*
in response to message #1 by Jeff O.

A modest suggestion:

Since the 20B already has many "scientific" functions printed on the sloping key faces, and no functions at all printed in the spaces above the keys, why not design the repurposing project to retain all the keycap legends, then only an overlay is needed. So you would have both scientific and business capabilities in the same calculator, like the 27S. (Maybe call it a 20BS?)*

I know this approach limits the number of function possible, but it makes the project much more easily doable.

*Insert tongue-in-cheek emoticon here

Edited: 11 Dec 2009, 3:16 p.m.

Re: My concept for a 20b repurposing project

*Message #22 Posted by **hugh steers** on 11 Dec 2009, 3:29 p.m.,*
in response to message #21 by Martin pinckney

this would be my pitch too - keep the keycaps the same. i know it could be better with new caps, but it would make the overlay project feasible.

on 15C functionality; it would take quite a while to replicate all that. however comprehensive complex support is very possible.

one of the big drawbacks of this unit is that the "customers" cannot flash their units without special connectors. this would make it a serious problem for people to load up the latest firmware. furthermore, there is no easy way to get user programs on or off the machine (assuming it could support programming).

Re: My concept for a 20b repurposing project

*Message #23 Posted by **Martin Pinckney** on 11 Dec 2009, 5:48 p.m.,*
in response to message #21 by Martin pinckney

Before anyone else points it out, I just realized one problem with my approach - the one shift key is already used for the sloped faces - so some way would have to be devised to get another shift function.

Re: My concept for a 20b repurposing project

*Message #24 Posted by **Jeff O.** on 12 Dec 2009, 11:58 a.m.,*
in response to message #21 by Martin pinckney

Hi Martin,
One of my goals was to create a "scientific four-banger," with as many the most used scientific functions as possible being primary key functions, and the rest only one shift away. I don't think I can "waste" a bunch of primary functions on financial functions :-)

Re: My concept for a 20b repurposing project

*Message #25 Posted by **db (martinez, ca.)** on 11 Dec 2009, 10:22 p.m.,*
in response to message #1 by Jeff O.

Jeff;
Looks like a good general purpose layout you came up with. It should please most folks. DO IT!

The only suggestion/request you'll get from me is; to make it available in a normal, readable-by-my-computer format that can be downloaded by mere mortals. I think that the 20b is a nice (and cheap) little platform but i don't have time to sink hours into some comp-u-nerd's proof that he is smarter than me. I just want to load it and use it.

Re: My concept for a 20b repurposing project

*Message #26 Posted by **Jeff O.** on 12 Dec 2009, 11:44 a.m.,*
in response to message #25 by db (martinez, ca.)

db,
Thanks for your comments. Rest assured, I want it to be simple. I wish I was a comp-u-nerd!

Re: My concept for a 20b repurposing project

*Message #27 Posted by **John B. Smitherman** on 12 Dec 2009, 10:27 a.m.,*
in response to message #1 by Jeff O.

Hi Jeff. This looks like an ambitious project and I wish you good luck.

Did you consider moving the +,-,x,/ keys over to the left in order to group them with the Enter key? That is where HP placed them with their original designs. I'm not sure when HP changed the placement but they were on the left on the 34c and then on the right with the 32sii. I prefer having them grouped with the Enter key.

Regards,

John

Re: My concept for a 20b repurposing project

*Message #28 Posted by **Jeff O.** on 12 Dec 2009, 11:49 a.m.,*
in response to message #27 by John B. Smitherman

Hi John,
No I did not consider moving the +,-,x,/ keys over to the left. I actually like the idea, but it would add even more complexity to the key labelling problem.

Re: My concept for a 20b repurposing project

*Message #29 Posted by **Thomas Radtke** on 12 Dec 2009, 12:13 p.m.,*
in response to message #28 by Jeff O.

You would just have to swap the keytops due to labelling and the half-height ON key :^).

Re: My concept for a 20b repurposing project

*Message #30 Posted by **Andrew H.** on 13 Dec 2009, 3:49 a.m.,*
in response to message #1 by Jeff O.

This might be wandering slightly off topic, but it was triggered by the positioning of the i-key where the = was previously. This is one of those small things that just works (and it immediately makes it apparent that this calculator handles complex numbers).

One of the reasons it appealed to me is that I've recently been contemplating the 20b's keypad layout. While I think that its functionality is outstanding (particularly the inclusion of the probability distributions), I find its keypad layout to be underwhelming. Like Jake Schwartz (http://www.pahhc.org/2008/Improving%20Keystroke%20Efficiency.pdf), I'd like to see all a calculator's mathematical functions on its keypad (where one can find them) rather than in menus. After all, they're a calculator's raison d'etre.

The trouble with this approach is that the keypad can quickly become a dog's breakfast: it becomes very important to group like keys with like so that users can actually find them.

Rather than try to design the keypad of an entirely new 20b-based calculator as Jeff has, as an exercise I have rearranged the 20b's keypad with this in mind. The result is as follows.

```
  P/YR     |IRR|    |NPV|   |Amort| |Bond|   |CshFl|
    N       I/YR      PV       PMT      FV       up
 x P/YR   |IConv| |BrkEv| |Depr|   |Date|    |INS|


                    y^x      e^x    (10^x)   |Data|
    f        g     sqrt     1/x       %      down
                    x^2      LN       LOG      DEL


     |Reset|     |Memory| |Mode|   |%calc| |Stats|
      INPUT          (        )      EEX      +/-
        ANS        (R up)     BEG      END      ABS


      HYP       SIN       COS       TAN        F
      STO        7         8         9         /
     AHYP      ASIN      ACOS      ATAN      INV F


  (-> H.MS) [TOTAL -- PART -- %TOTAL]    chi2
     RCL        4         5         6         *
   (-> H)       !        nCr       nPr    INV chi2


  (-> RAD)    [OLD ---- NEW -- DELTA%]      t
     <-         1         2         3        -
  (-> DEG)     RND      RAND       pi      INV t
```

```
          [CST ---- PRC ---- MAR]       n
ON/CE       0          .          =       +
 OFF    (INTG)    (FRAC)    (SHOW)     INV n
```

Notes

1. All the functions in the Math menu now appear on the keypad, and the Math menu itself has been eliminated.
2. HYP and AHYP would work as for the 11C and 15C.
3. For clarity, menus are enlosed in vertical lines || rather than colons ::.
4. Functions in brackets () are not found on the 20b: they are potential additions.
5. -> H.MS and -> H are very useful on a business calculator for summing times in hours and minutes.
6. The 3-variable solver equations enclosed in square brackets on the bottom 3 rows are suggestions; other possibilities are P -- NOM% -- EFF% (from the IConv menu) and DATE1 -- DATE2 -- DELTADAYS (from the Date menu).
7. Almost all the keys of a standard 4-banger calculator (including STO and RCL but except for %) are found in the bottom 5 rows.
8. Pi belongs on the 3 key - where else?
9. The back space and CE keys are grouped together.
10. Factorial-based functions are grouped together.
11. The display of the 20b only has one secondary-function-active indicator, which would be displayed whenever either the gold (f) or the blue (g) keys was active.
12. It might be worth considering DF1 and DF2 registers and associated keypad short-cuts (e.g. STO . 1 to set DF1) for repetitive calculations of the chi2-, t-, and F-distributions.

My questions are:

1. Is this an improvement; and
2. Is HP paying enough attention to keypad layout?

Re: My concept for a 20b repurposing project

*Message #31 Posted by **Walter B** on 13 Dec 2009, 4:51 a.m.,*
in response to message #30 by Andrew H.

Hi Andrew,

Short answers: 1. Yes, in some parts. 2. Not always.

More feelings: Nice layout carrying some new ideas. Your layout reminds me of the 22S, though its function set aims to the 27S. - I miss some (for me) vital keyboard operations like Sigma+ and its relatives. Your mileage varies obviously. - Keyboard layout is often influenced, if not governed by personal preferences and applications used frequently by the designers. Layouting a math-bussiness calc is even harder than a pure scientific or pure business calc.

How do you browse menus without the up and down arrows?

All this is my opinion only. YMMV

Edited: 13 Dec 2009, 4:53 a.m.

Re: My concept for a 20b repurposing project

*Message #32 Posted by **Andrew H.** on 13 Dec 2009, 6:46 p.m.,*

in response to message #31 by Walter B

Walter,

I'd replace = with SIGMA+ if I were to include it, but I didn't consider doing so because I didn't want to deviate from the approach that the designers of the 20b had taken. Part of the reason for undertaking the exercise was to see whether just rearranging the keypad layout without necessarily adding any additional functionality might significantly improve the 20b. In doing so, it became apparent that the keypad could naturally accommodate additional functions (e.g. 10^x).

The up- and down-arrow keys are at the top right of the keypad. This is consistent with the position of the cursor keys on the 35s and the 50g. You might have noticed that I have erroneously indicated that INS is a menu.

You're quite right about the influence of personal preferences, which is why I've tried to be guided by the principle of grouping like with like, even if it has resulted in a deviation from what has been common practice in the past. An example of this is placing the <- key above the ON/CE key.

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SpeedUI - Important update to v. 9.08

*Message #1 Posted by **Raymond Del Tondo** on 9 Dec 2009, 5:46 p.m.*

Hello all,

thank you for your patience.

SpeedUI 9.08 is a bugfix release only,
but it's strongly recommended to update
from an older version, since the v 9.08
fixes some display and keyboard related bugs,
as well as one serious bug in the MsgBox library,
which caused a crash.

Many thanks to the users who submitted the bug reports:-)

The new SpeedUI 9.08 package has just been uploaded to
www.hpcalc.org
and
www.hpmuseum.org

It may take some time until hpcalc.org will be updated,
so the alternative route is to download SpeedUI 9.08
from the HP Museum of calculators.
Here's the direct link:
http://www.hpmuseum.org/guest/deltondo/sui_908.zip

For those who don't know SpeedUI,
please take a look into the overview PDF:
http://www.hpmuseum.org/guest/deltondo/speedui.pdf

Have fun:-)

Raymond

Re: SpeedUI - Important update to v. 9.08

*Message #2 Posted by **Gerry Schultz** on 9 Dec 2009, 7:43 p.m.,*
in response to message #1 by Raymond Del Tondo

Raymond:

I have a couple of 48Gxes and I've never used your SpeedUI, but after reviewing the overview PDF, I am impressed! This is a great improvement to the 48GX UI. I am curious though, with a 128K GX, how much RAM is consumed by SpeedUI? Do you have any plans to migrate it to a 49G+ or 50G?

I haven't researched the HP Museum archives or searched the web about SpeedUI as I got excited by reading

the PDF. So, if my questions have been answered before, please forgive my enthusiasm.

I like it! Great Job, Raymond. VERY IMPRESSIVE!

Gerry

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HP Forum Archive 19

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Advice on HP-25 repair, please.

*Message #1 Posted by **Michael Meyer** on 9 Dec 2009, 5:29 p.m.*

I have a beautiful HP-25 (aren't they all?) with problems. It turns on and will accept numbers fine and actually programs fine. It pauses briefly and shows 0.000000000 and freezes if I try to do anything with the stack: enter, operators, etc.

I have replaced the ACT and tried Katie's 20K resistor fix with no luck.

What's next? It seems as if it would be a chip problem, and there's only two main chips left to swap...

Thank you, smart people!

Re: Advice on HP-25 repair, please.

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 9 Dec 2009, 6:26 p.m.,*
in response to message #1 by Michael Meyer

Hi, doc;

I have one wit exactly the same problem.

It turns out that the basic stuff - display/keyboard scan, number and program input - seem to be native ACT resources. The heavy-duty performance seems to be related to the external ROM, and if I am not wrong, it is one of the IC´s that go under the LED display assembly.

I tried with another HP25 with a bad RAM IC and it worked fine. At least I was able to identify the problem...

Not too much of a help, I know...

Success!

Luiz (Brazil)

Re: Advice on HP-25 repair, please.

*Message #3 Posted by **Michael Meyer** on 9 Dec 2009, 7:44 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Well, I replaced the ROM(0) chip under the display. Then, the calculator would go blank with the execution of any function!

Running out of de-soldering wick and hope, I replaced the vertical ROM chip from a dead board.

To my pleasant surprise... it works!!!! Programs, runs, etc.!!!

SUCCESS!!!

Thanks, as always, for the hints!!!

Re: Advice on HP-25 repair, please.

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 9 Dec 2009, 8:28 p.m.,*
in response to message #3 by Michael Meyer

Hi, Doc;

good news are always welcome!

Now that you mentioned the ROM(0) chip, together with the ACT it provides the basic operation, not the ACT alone as I mentioned... my fault! The HP21 has just this single ROM with all it does, but in the HP25 its features must be shared with both ROM's. When anything goes wrong with ROM(0), almost nothing works. And when the calls for the functions stored in the other ROM are triggered, a display full of zeros is the sign that there is no answer from the (absent) routine.

Congrats again.

Luiz (Brazil)

Edited: 9 Dec 2009, 10:34 p.m.

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HP Forum Archive 19

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TVM bug in HP 20b?

*Message #1 Posted by **Daniel Castro** on 9 Dec 2009, 2:36 p.m.*

Hello all,

This is my first post in this forum though I have been following it for some time. I have detected a strange behavior on the HP 20b doing a NPV calculation when the I/YR is 0%. As an example see the following scenario:

P/YR:12

PV:-1000

PMT:500

FV:0

I/YR:0

In this case the resulting N on my calculator is –1000 ??

Repeating the scenario with I/YR: 0.0000000001 gets the right solution N=2 (the same result obtained with the 50g or the 17BII in the first scenario, i.e. I/YR=0)

My firmware is an old one (6.24.2008). Could someone here check if this error is also present with newer firmware versions?

Thank you in advance

Re: TVM bug in HP 20b?

*Message #2 Posted by **Thomas Radtke** on 10 Dec 2009, 3:42 a.m.,*
in response to message #1 by Daniel Castro

Same on the 8.01.2008 version.

Re: TVM bug in HP 20b?

*Message #3 Posted by **Tim Wessman** on 10 Dec 2009, 11:16 a.m.,*
in response to message #2 by Thomas Radtke

Oops.

TW

Re: TVM bug in HP 20b?

*Message #4 Posted by **Gene Wright** on 10 Dec 2009, 12:27 p.m.,*
in response to message #3 by Tim Wessman

Good news:

1) Solving for N when the interest rate is zero is a division problem: PV divided by PMT = N. That's a lot less work than keying in the information into the TVM registers. It DOES require recognizing the I% is zero and changing how you operate, but I've taught my students for years to do just that.

2) The NPV function itself works FINE with a 0% interest rate. This is confined to the TVM functions / registers (N, I%/YR, PV, PMT, and FV) only.

Bad news:

1) Yes, it does give the wrong answer to N when the interest rate is zero.

As Tim said, Oops.

Re: TVM bug in HP 20b?

*Message #5 Posted by **Daniel Castro** on 11 Dec 2009, 4:05 p.m.,*
in response to message #4 by Gene Wright

> Quote:
>
> Solving for N when the interest rate is zero is a division problem: PV divided by PMT = N.

Yes, maths are amazing :D

Obviously I don't think many people ever use the financial functions for such calculation on real life (I myself found it while playing with the calculator). That might also be a reason about why nobody has informed about the error before (or at least I couldn't find anything on Google before posting here). All in all, this is not a problem that will cause a probe to crash on Mars surface, but a bug is a bug ;).

> Quote:
>
> 2) The NPV function itself works FINE with a 0% interest rate.

Yes, NPV calculation in cash flow analysis works fine, as it does any other TVM analysis with I%=0. As a matter of fact the buggy scenario is a particularization of a payback analysis on a cash flow with an initial investment, constant inflows and no interests (or flows increasing evenly at I% rate). Luckily the payback function on the Cash Flow works fine AFAIK.

My intention was to check with others if this bug was still present on the new firmware version, as I have the old one (including the logarithm bug) and wanted to know if it worth the time to build a serial cable to upgrade it... now I see I can live without the cable unless HP decides to correct this and release the new firmware on their SDK.

Anyway, thank you to you all for taking the time to check this. I will contact HP's customer support to let them know about the bug.

Re: TVM bug in HP 20b?

*Message #6 Posted by **Gene Wright** on 11 Dec 2009, 4:40 p.m.,*

in response to message #5 by Daniel Castro

Actually, HP knows about it by now. They search this forum often. I **know** they know about the error. :-)

And, please don't take anything I said OR how I said it as indicating that some bugs don't matter. They do and this is certainly a bug that should be fixed. Quite!

I wanted to make sure that anyone finding this thread later through a google search also saw that this is a very special case error which, although it should be fixed, occurs in a very easily recognized circumstance AND that can be avoided by a procedure that is MUCH easier to do anyway.

No worries! Good catch! Now, find something else! :-)

Re: TVM bug in HP 20b?

*Message #7 Posted by **Daniel Castro** on 16 Dec 2009, 3:46 p.m.,*
in response to message #6 by Gene Wright

> Quote:
>
> And, please don't take anything I said OR how I said it as indicating that some bugs don't matter. They do and this is certainly a bug that should be fixed. Quite! I wanted to make sure that anyone finding this thread later through a google search also saw that this is a very special case error which, although it should be fixed, occurs in a very easily recognized circumstance AND that can be avoided by a procedure that is MUCH easier to do anyway.

Seems that by then the error will be fixed by HP. Luckily this is easily detectable, so as you say I do not think this bug will cause too much trouble. All in all, calculators are a wonderful tool but nothing substitutes common sense...

To be fair with the 20b, even after this it is still my preferred calculator for work as it covers 90% of my daily needs, it's easy to carry and work with, pretty fast, can switch from RPN to algebraic in case someone borrows it, and it is cheap enough to not committing suicide in case it is stolen. Sure, the keys are not up to the quality of vintage models or even modern ones as 50g (hope to see this improved in future revisions…) but I suppose HP had to reach a compromise to get a certain price point on retail.

> Quote:
>
> Now, find something else! :-)

Hope not :D. In any case, HP had a great idea about adding a serial interface for updating the firmware. Good move! Let's see if HP can keep it on future mid-range models.

Re: TVM bug in HP 20b?

*Message #8 Posted by **Tim Wessman** on 11 Dec 2009, 7:40 p.m.,*
in response to message #5 by Daniel Castro

Yes, we know about it now. Thanks for the report! We much prefer people reporting on it here to be fixed rather than calling support. Makes it much easier to just get it done. :-)

At first glance, it looks like there is code to detect an I of zero, but it should be returning (pv+fv)/(i*FV-PMT*(1+i)*beg) but is returning the wrong variable so it is actually pv+fv coming back.

I'll investigate why this is happening to make sure it doesn't break something else, and give it a thorough testing next week.

TW

Edited: 11 Dec 2009, 8:21 p.m.

Re: TVM bug in HP 20b?

*Message #9 Posted by **Daniel Castro** on 16 Dec 2009, 3:53 p.m.,*
in response to message #8 by Tim Wessman

Thank you Tim, it seems that I will have to build my serial cable to reflash the firmware sooner than I thought ! ;) This is what I call super technical service.

Talking about the serial cable, does someone in this forum know where in Europe can I get the 6 pin pogo connector for interfacing with the 20b? It is proving to be more difficult to find than I expected.

Re: TVM bug in HP 20b?

*Message #10 Posted by **Eric Smith** on 16 Dec 2009, 4:36 p.m.,*
in response to message #9 by Daniel Castro

It's custom made, not a standard connector. Perhaps you could make your own with six pogo pins and some low-melting-point plastic (e.g., Shapelock).

Re: TVM bug in HP 20b?

*Message #11 Posted by **Daniel Castro** on 18 Dec 2009, 1:37 p.m.,*
in response to message #10 by Eric Smith

> Quote:
>
> It's custom made, not a standard connector. Perhaps you could make your own with six pogo pins and some low-melting-point plastic (e.g., Shapelock).

Thank you very much Eric, will take a look at it. These plastics could be pretty useful for some of my projects.

Re: TVM bug in HP 20b?

*Message #12 Posted by **Tim Wessman** on 17 Dec 2009, 4:07 p.m.,*
in response to message #9 by Daniel Castro

Send me an email at myname at hp.com and I'll see what I can do. May be after the new year though. . .

The issue is fixed now BTW.

TW

Edited: 17 Dec 2009, 4:07 p.m.

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hp 35s Odd Behaviour: Fractions in Complex Numbers

*Message #1 Posted by **Mohammed Hadi** on 9 Dec 2009, 7:16 a.m.*

Yesterday was a good hp day for me. My first hp calc since I lost my 15c 21 years ago arrived (35s) along with a 12c for my wife (an economics professor, this would be her first brush with RPN). To top it all, the broken 41CV that I got for free from a friend the other day sprang to life after some battery corrosion cleaning and an unconventional workaround the broken bottom screw posts.

Anyway, I was playing with the 35s and noticed the following odd behaviour: I tried to input -1/3 i -1/3 by typing ". 1 . 3 CHS i . 1 . 3 CHS ENTER". What I got back was "0.3333i-0.3333" instead of "-0.3333i-0.3333"!

What gives?

Has this been discussed before?

Re: hp 35s Odd Behaviour: Fractions in Complex Numbers

*Message #2 Posted by **Bart (UK)** on 9 Dec 2009, 7:27 a.m.,*
in response to message #1 by Mohammed Hadi

Interesting. It works correctly when entering "0.3333333 CHS i 0.3333333 CHS ENTER". You've discoverd another bug?

Re: hp 35s Odd Behaviour: Fractions in Complex Numbers

*Message #3 Posted by **Paul Dale** on 9 Dec 2009, 4:28 p.m.,*
in response to message #1 by Mohammed Hadi

Added to the HP-35s bug list.

- Pauli

Re: hp 35s Odd Behaviour: Fractions in Complex Numbers

*Message #4 Posted by **John B. Smitherman** on 14 Dec 2009, 11:45 p.m.,*
in response to message #3 by Paul Dale

Hi Paul. after some testing it appears that this bug exists in both RPN and algebraic modes.

Thanks for maintaining the 35s bug list. I wish that we had organized something similar for the 33s. Would you consider adding the 33s bug list to that of the 35s?

Regards,

John

Re: hp 35s Odd Behaviour: Fractions in Complex Numbers

*Message #5 Posted by **Paul Dale** on 15 Dec 2009, 4:56 p.m.,*
in response to message #4 by John B. Smitherman

Sorry, but I'm not going to do a 33s bug list. It is a discontinued model which means there aren't going to ever be fixes.

Also, I don't have a 33s, and I am not planning on getting one...

- Pauli

Re: hp 35s Odd Behaviour: Fractions in Complex Numbers

*Message #6 Posted by **John B. Smitherman** on 15 Dec 2009, 5:25 p.m.,*
in response to message #5 by Paul Dale

Thanks Paul. I thought that it wouldn't hurt to ask. You are probably correct that the 33s won't get any more updates but it is still for sale at hp.com.

Regards,

John

Re: hp 35s Odd Behaviour: Fractions in Complex Numbers

*Message #7 Posted by **Bart (UK)** on 16 Dec 2009, 4:42 a.m.,*
in response to message #6 by John B. Smitherman

In the US maybe, but in the UK for instance it is no longer available. (Except on TAS)

Re: hp 35s Odd Behaviour: Fractions in Complex Numbers

*Message #8 Posted by **Mohammed Hadi** on 15 Dec 2009, 10:13 p.m.,*
in response to message #5 by Paul Dale

Why does everyone shun and hate me so? It's not my fault I was born deformed! Blame my parents (designers) for "experimenting" and leading an unhealthy life style...

---a bitter 33s

Re: hp 35s Odd Behaviour: Fractions in Complex Numbers

*Message #9 Posted by **Don Shepherd** on 16 Dec 2009, 6:07 a.m.,*
in response to message #8 by Mohammed Hadi

> Quote:
>
> Why does everyone shun and hate me so?

Although many are apparently putoff by the chevron key layout and lack of a big ENTER key, I consider those complaints to be trivial. Even the tiny decimal point doesn't bother me. If speed of program execution and number base support are important to you--and they are to me--the 33s beats the 35s hands down.

Re: hp 35s Odd Behaviour: Fractions in Complex Numbers

*Message #10 Posted by **Ángel Martin** on 10 Dec 2009, 7:19 a.m.,*
in response to message #1 by Mohammed Hadi

maybe some things are not meant to be combined, like fraction input on complex numbers... but of course that should be clearly mentioned.

As much as I like it, the "i" functionality isn't as rugged as one would expect. Try for instance entering real and imaginary parts both with more than 9 decimal places (or mantissa length) and you'll also see it doing strange things.

Cheers, ÁM

Re: hp 35s Odd Behaviour: Fractions in Complex Numbers

*Message #11 Posted by **Thomas Radtke** on 10 Dec 2009, 7:22 a.m.,*
in response to message #10 by Ángel Martin

> Quote:
>
> maybe some things are not meant to be combined, like fraction input on complex numbers...
> but of course that should be clearly mentioned.

There's one thing that really should have been clearly mentioned: Beta testers being the target audience for new HP calculators.

Sorry.

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OT: Do 12 yrs old kids need graphing calcs?

*Message #1 Posted by **Frank Rottgardt** on 8 Dec 2009, 5:06 p.m.*

Interesting and funny article.

Funny article about TI graphing calcs

Re: OT: Do 12 yrs old kids need graphing calcs?

*Message #2 Posted by **Dan Grelinger** on 8 Dec 2009, 5:41 p.m.,*
in response to message #1 by Frank Rottgardt

The article was amusing, but the comments were the most significant highlight (lowlight?).

In the early '80s (the day of the TI-58/59 and HP-41), while a student in a large university's engineering program, I listened to a professor suggest that it was a shame that the school did not require the purchase of programmable calculators by its students. "10 years ago, students wouldn't have thought of completing an engineering degree without the help of a well-made $100 slide rule. It is not too big of a burden to expect them to spend $100 today on a programmable calculator."

I certainly did not need such a tool my freshman year (My TI-30 worked just fine), but I attempted to complete my sophomore year without one, with poor results. I had a tough time justifying $80 for my TI-58C in the fall of 1982, but when my parents (a CPA father and a math major mother) found out I was planning on getting through my junior year engineering classes with a "$10 calculator", they encouraged me to spend my money on something better.

It made a big difference in my academic performance, and I enjoyed my engineering classes all the more. Is this article a corollary? Maybe not. But the tongue-in-cheek arguments sound familiar.

Dan

Re: OT: Do 12 yrs old kids need graphing calcs?

*Message #3 Posted by **Joerg Woerner** on 8 Dec 2009, 9:18 p.m.,*
in response to message #2 by Dan Grelinger

I bought my first Texas Instruments SR-50A at age 15 and the TI-58 at age 17 (couldn't afford the TI-59) and used them heavy.

We are now a family of six (49, 49, 20, 18, 15 and 14) and use SIX Texas Instruments TI-84 Plus S.E.!

Guess what, the two youngest know more about the Graphing calculators than we parents and/or even the two elder brothers.

Our daughter started age 12 to use her TI-84 and she knows every hidden functions in the dozens of menus.

Regards, Joerg

Re: OT: Do 12 yrs old kids need graphing calcs?

*Message #4 Posted by **Don Shepherd** on 8 Dec 2009, 9:29 p.m.,*
in response to message #3 by Joerg Woerner

Sounds like an educated family, Joerg.

There seems to be a bias on this forum against kids using calculators in school, particularly graphing calculators. My experience as a math teacher is that the kids who lack what we would call the basic arithmetic and math skills are NOT the ones using the graphing (or other) calculators. No, the graphing calcualtors are, by and large, used by the kids with excellent math and arithmetic skills who want to explore more sophisticated math concepts, and the TI-84+SE is an excellent tool to do just that.

Here in the US, most kids in the middle grades (kids aged 11 to 14) do not use graphing calculators very much, it's the older kids (16-17) who benefit most from them, I'd say.

I've always known that some kids do use calculators as a crutch for not knowing the basics, but those kids are in the minority. By the way, I rarely take my TI-Nspire CAS to school, I find my trusty TI-83+ a tool that just works well.

Re: OT: Do 12 yrs old kids need graphing calcs?

*Message #5 Posted by **Bart (UK)** on 9 Dec 2009, 5:41 a.m.,*
in response to message #4 by Don Shepherd

Hi Don,

It's good to hear from you that kids that use graphing calcs are generally good at arithmatic and maths skills. I know that technology is very much part of our world these days so I let my 8yr old check her maths on a 20S (don't worry, I'll make sure she can use "real" HPs too - she can do basic 4-banger RPN on the 35s). But I try to make sure she understands what she is calculating.

But when they start using calculators in class at primary school level I do worry that there's the potential for them to become button pushers without undertanding the underlying maths.

Re: OT: Do 12 yrs old kids need graphing calcs?

*Message #6 Posted by **Don Shepherd** on 9 Dec 2009, 9:39 a.m.,*
in response to message #5 by Bart (UK)

> Quote:
>
> But when they start using calculators in class at primary school level I do worry that there's the potential for them to become button pushers without undertanding the underlying maths.

Agreed, Bart. I haven't spent any time in the primary school (grades 1-5 locally) classroom, but I suspect calculators are rarely, if ever, seen there. The early grades are where the kids are supposed to learn the basics. By middle school, most kids know how to do the basic operations with pencil and paper, and these kids can sometimes benefit by using calculators to explore more advanced concepts.

I think it is the responsibility and duty of the teacher to know when and how to use calculators, or any tool for that matter, in the classroom. Many older teachers don't want anything to do with electronic calculators or computers; they don't understand them and will not use them. And they really do a disservice to the kids who might, like Seth, get really motivated by them and want to explore advanced concepts.

Re: OT: Do 12 yrs old kids need graphing calcs?

*Message #7 Posted by **Chris Haltiner** on 9 Dec 2009, 9:13 a.m.,*
in response to message #4 by Don Shepherd

My son's 7th grade GT math class requires a TI-84+ SE. If you don't have one, they are provided, but only for classroom use. I was surprised to see how comfortable he was with the calculator while we were waiting for him to take the SAT. (They allow these things now on the SAT!)

For him, the calculator is a tool for a specific use--he doesn't give it anywhere the thought (or respect) that I gave my HP-41CV back in high school. Adding to what Don mentioned, these kids are using the calculators, much like computer software like Excel, as just another tool to turn to when solving a problem. Knowing when and how to apply the tool is the skill being acquired.

Re: OT: Do 12 yrs old kids need graphing calcs?

*Message #8 Posted by **Palmer O. Hanson, Jr.** on 8 Dec 2009, 9:54 p.m.,*
in response to message #2 by Dan Grelinger

> Quote:
>
> 10 years ago, students wouldn't have thought of completing an engineering degree without the help of a well-made $100 slide rule.

Was there really ever a time when a top of the line slde rule cost $100.00?

Palmer

Re: OT: Price of slide rules. (was Do 12 yrs old kids need graphing calcs?)

*Message #9 Posted by **Bart (UK)** on 9 Dec 2009, 5:20 a.m.,*
in response to message #8 by Palmer O. Hanson, Jr.

There must have been a time they were expensive. My dad never let me touch his slide rule, but I could play with the first Sharp LED scientific he owned - even though they were pricey at the time too.

Anyone on the forum able to recall what actual prices of good slide rules were?

Re: OT: Price of slide rules. (was Do 12 yrs old kids need graphing calcs?)

*Message #10 Posted by **John Noble** on 9 Dec 2009, 9:49 a.m.,*
in response to message #9 by Bart (UK)

I have a late '40s vintage K&E 4081-3 (10" log log duplex decitrig in their parlance). It's probably the most common general purpose "high end" model. The same slipstick in the 1962 catalog is (I think) the 68-1210, and the list price was $28.50.

According to an inflation calculator I found online, that works out to about $200.00 in today's dollars. ISTR Pickett's prices for an equivalent model in that late '60s was in the $15-20 range.

Their metal rules aren't as luxurious as a bamboo Hemmi or a mahogany K&E, but they were cheaper to produce.

You can find a bunch of vintage K&E documents here.

FWIW, I bought a cute little NIB "As Used on the Apollo Missions!" Pickett N600ES 5" rule (new old stock) for about $50.00 a couple of years ago, along with several NOS (but not retail packaged) N500ES 10" rules for $15/each.

Re: OT: Price of slide rules. (was Do 12 yrs old kids need graphing calcs?)

*Message #11 Posted by **Palmer O. Hanson, Jr.** on 10 Dec 2009, 3:26 a.m.,*
in response to message #9 by Bart (UK)

> Quote:
>
> Anyone on the forum able to recall what actual prices of good slide rules were?

I purchased my K&E Log Log Dplex Decitrig <4081-3> in early 1947 for twenty dollars. I never found it necessary to get anything else.

I remember that sometime in the 1960's I saw my first Sterling all plastic log log slide rule but I can't remember the price. Peter Hopp's book describes the Sterling's as "... cheap plastic slide rules ..." I have several Sterling No. 594 Decimal Trig Log Log slide rules in my collection which carry a copyright 1965 nomenclature. The Pickett Microline 140 was another all plastic slide rule which must have carried a lower price. It seems to me that one nice thing about the all plastic slide rules was that the user wouldn't have to mess around with the adjusting screws.

Palmer

Re: OT: Price of slide rules. (was Do 12 yrs old kids need graphing calcs?)

*Message #12 Posted by **Garth Wilson** on 10 Dec 2009, 10:27 p.m.,*
in response to message #9 by Bart (UK)

> Quote:
>
> Anyone on the forum able to recall what actual prices of good slide rules were?

My grandfather gave me his K&E N4080-3 log log duplex trig slide rule with a leather case that is still in beautiful condition, and said it was a $50 slide rule. I think it's made of mahogany. I wonder how much of that number, if it was accurate, was for that outstanding leather case. You don't find many things made to that level of quality anymore. That was near the end of my years of using a slide rule, somewhere close to 1980.

Before that I used a less-prestigious metal Pickett N902-ES. I think I got it at a supermarket, but it did have a very smooth viscous sliding motion as long as I periodically put a tiny amount of Tri-Flow lubricant on it. I think I paid about $4.50 for it. The case was imitation leather and required care in handling to keep it from delaminating and shredding.

I also got a bamboo pocket slide rule, a Scientific Instruments Company (SIC) model 4500, whose less-expensive leather case had a clip and it fit in your shirt pocket, taking the space of maybe three pens. I think I paid closer to $10 for that one after it was somewhat yellowed on part of one side from having sat in the display case for many years with the sun shining on it in the afternoons.

Can anyone tell us if there was a push to get slide rules into schools after President Kennedy presented his vision to put a man on the moon by the end of the decade, and there was more push for engineering?

I was on the board of a private K-8 school for six years in the 1990's, one where my wife has taught for about 19 years. It was kind of funny to see the ideas about computers as they were becoming somewhat common. Schools wanted to look modern, so computers were perceived as a necessity even when they weren't very useful to students-- at least *yet*, and especially for lower grades.

< to be continued possibly in another more-relevant thread about misapplications of technology >

Re: OT: Price of slide rules. (was Do 12 yrs old kids need graphing calcs?)

*Message #13 Posted by **Don Shepherd** on 11 Dec 2009, 5:21 a.m.,*
in response to message #12 by Garth Wilson

> Quote:
>
> Schools wanted to look modern, so computers were perceived as a necessity even when they weren't very useful to students-- at least yet, and especially for lower grades.

And 30 years after the birth of the PC, they are still not very useful to students. We're still waiting for the "killer app" that will revolutionize education. We'll still be waiting in another 30 years.

Re: OT: Price of slide rules. (was Do 12 yrs old kids need graphing calcs?)

*Message #14 Posted by **Palmer O. Hanson, Jr.** on 11 Dec 2009, 9:40 p.m.,*
in response to message #13 by Don Shepherd

> Quote:
>
> And 30 years after the birth of the PC, they are still not very useful to students. We're still waiting for the "killer app" that will revolutionize education. We'll still be waiting in another 30 years.

I don't know that it is a "killer app" but the word processing capability has been widely used in classes in English composition and in writing term papers for many years. That certainly is a big improvement over the handwritten and typewitten (not even electric in most cases) methodology which was commonplace when I was in high school and college. But, I admit that one doesn't need a full up PC to do those tasks. Furthermore, I admit that too many word processor users don't seem to undersatand that a spell checker in not a context checker.

Palmer

Re: OT: Price of slide rules. (was Do 12 yrs old kids need graphing calcs?)

*Message #15 Posted by **bill platt** on 11 Dec 2009, 10:11 p.m.,*
in response to message #14 by Palmer O. Hanson, Jr.

Hi Palmer,

"users don't seem to undersatand that a spell checker in not a context checker [sic].

You have me laughing at that gaffe!

Re: OT: Do 12 yrs old kids need graphing calcs?

*Message #16 Posted by **Mike Morrow** on 9 Dec 2009, 10:27 p.m.,*
in response to message #8 by Palmer O. Hanson, Jr.

> Quote:
>
> Was there really ever a time when a top of the line slde rule cost $100.00?

Not in raw dollars uncorrected for inflation.

IMHO, the best (in quality and capability) and most expensive engineering slide rule ever made is the Dietzgen N1725. I bought one new in 1969 for $35. That equates to $206 in 2009. I still have it, but the last time I used it for actual professional work was 1974. That's when it was replaced by a TI SR-50 ($150 in 1974, or $658 in 2009!).

Re: OT: Do 12 yrs old kids need graphing calcs?

*Message #17 Posted by **tim m.** on 9 Dec 2009, 12:51 a.m.,*
in response to message #2 by Dan Grelinger

I had a TI-86 that I used junior and senior year of high school. I also used it a bit in my freshman year of college, but for the rest of college (and graduate school), my poison of choice was MATLAB. My TI graphing calc has been used for basic arithmetic only and has now been supplanted by the HP-35 I picked up a few weeks ago. :)

-Tim

Not MY kids...

*Message #18 Posted by **John Noble** on 8 Dec 2009, 6:27 p.m.,*
in response to message #1 by Frank Rottgardt

This is just another reason my wife (a pubic school teacher) and I plan to educate our children ourselves.

My kids won't get anywhere near a calculator while they're learning math, though I do have a couple of "new old stock" Pickett slide rules stashed away for when the time is right. :-)

But I wear a wind-up mechanical watch, listen to vinyl records, and still work out problems with pencil and paper. If anyone finds out, I'll be kicked out of GenX for sure...

Re: Not MY kids...

*Message #19 Posted by **bill platt** on 8 Dec 2009, 8:01 p.m.,*
in response to message #18 by John Noble

I don't know your definition of GenX (1970 and later?) but for me, from the Generation that Has No Name (between Boom and X) I hear you. There seem to be many who bought into the tech world hook line

sinker. Then there is me, with no cable, no cell, no laptop (yet) yes, record-player, yes tape recorder, yes HP-15c. No Graphing calculators for the kids just yet.

Maybe we won't get kicked out after all. At least there are two of us.

Re: Not MY kids...

*Message #20 Posted by **John Noble** on 9 Dec 2009, 12:28 a.m.,*
in response to message #19 by bill platt

Well, I predate the first Moon landing by a couple of years, but my parents were definitely Boomers ('45 and '48) so I must be GenX. 1970 places you right at the beginning, by the common definition.

But we are *old* GenX. The world of our youth was more like our parents' than that of those just a few years younger. When I was a kid, we rode in the backs of pickup trucks without anyone getting arrested, had three TV networks, played records, **dialed** phones, watched Cronkite, were annoyed by Guy Lombardo on New Year's Eve, laughed at little Japanese cars, and read about (but were never allowed to approach) computers that filled rooms.

Just a few years later, everything was different.

And so our approach to technology is different. In my case, I wind my watch every morning (and get a time hack from my NTP-synced computer about once a week), look stuff up in a paper dictionary (but have several hundred ebooks sourced from the Gutenberg Project and compiled/formatted with my own custom software), play vinyl records from my large collection (but was a very early employee of an Internet-connected, MP3-playing jukebox company), and tend to work out problems on paper (but I own a HP-12C, 33S, and 35S--and program all of them ... or write a program on my Linux-running, wireless-having, always-on submini Netbook).

Having learned things the hard way through necessity (like when I used to do speaker enclosure designs with a sheet of log/log paper, a pencil, and a simple scientific calculator), I find I have a much better grasp of what's going on under the hood than a lot of the younger people I've worked with. It has been a big advantage for me, and I'd like to pass it on to my kids.

But I do wonder if this isn't wrong-headed since technology is rapidly getting so complex that it takes lots of automation, not to mention blind faith, to do anything with all these neat toys. Maybe I shouldn't worry about it. After all, if we figured it out so will our kids.

Re: Not MY kids...

*Message #21 Posted by **bill platt** on 9 Dec 2009, 9:33 a.m.,*
in response to message #20 by John Noble

Hi John,

My experience is a lot like yours. I feel last the Last Victorian sometimes. (I remember the children I baby-sat making the "wrong noises" when playing cowboys and indians--they used the "eeeoow" sound from Star Wars with a six-shooter toy! We of course new what a six sounded like:0).

To the younger generation's credit, the young 20s who have come out of good colleges, (and that doesn't mean only Harvard -- can mean all sorts of "third tier" schools) whom I have worked with, are just as sharp as a tack can ever be. They carry TI-84s but rarely use them. They write databases instead. And they conceptualize very well, just with different tools.

The "good old days"

*Message #22 Posted by **Palmer O. Hanson, Jr.** on 10 Dec 2009, 4:07 a.m.,*
in response to message #20 by John Noble

> Quote:
>
> When I was a kid, we ... ... read about (but were never allowed to approach) computers that filled rooms.

That's the way it was when I wrote my first digital program for a RemRand 1103 at the University of Minnesota in 1960. The 1103 didn't just fill a room, it filled a building. Users punched their programs onto paper tape using a Flexowriter. They submitted their paper tapes (very respectfully, I might add) to a computer operator. When the program was completed the output was another paper tape which the users printed out with the Flexowriter.

We were required to estimate the run time of our programs. If the run time exceeded our estimate by very much the operator aborted our program.

I carry no fondness for thos so-called "good old days".

Palmer

Re: The "good old days"

*Message #23 Posted by **Don Shepherd** on 10 Dec 2009, 7:40 a.m.,*
in response to message #22 by Palmer O. Hanson, Jr.

Palmer, I suppose the ENIAC programmers would tell you that you had it easy. They had to enter their programs as ones and zeroes!

Re: The "good old days"

*Message #24 Posted by **Marcus von Cube, Germany** on 10 Dec 2009, 7:43 a.m.,*
in response to message #22 by Palmer O. Hanson, Jr.

I agree! Waiting a whole day for a 3 second job that was canceled just before it could print its results wasn't fun. I'm talking about the late seventies.

Re: The "good old days"

*Message #25 Posted by **John Noble** on 10 Dec 2009, 12:55 p.m.,*
in response to message #22 by Palmer O. Hanson, Jr.

> Quote:
>
> We were required to estimate the run time of our programs. If the run time exceeded our estimate by very much the operator aborted our program.
>
> I carry no fondness for thos so-called "good old days".
>
> Palmer

You may not miss those days just like I don't miss dealing with cassette tape "mass" storage for the TRS-80 Model 1 circa 1978, but I'll bet your experiences had a profound effect on your

approach to technology just as mine did for me.

I run into this when working with younger programmers. They seem to be happy to grab whatever libraries they can find on the 'net, abstract them to death under umpteen layers of OOP, and assume the whole thing will run fine since they can just throw more hardware at it if necessary.

Having been scarred by my suffering with machines with 4k of RAM and 500kHz processors (and more recently, microcontrollers with 1k or less), I run screaming from this approach even though it works acceptably as often as not. In some ways this mirrors the mindset of Depression era survivors who hoard even in times of plenty.

But my project success rate is a **lot** better than the industry standard 50% so I think I'll keep petrifying my opinions until I reach curmudgeon Nirvana.

And I still don't think graphing calculators (or computers, mostly) have a place in primary or early secondary education. Now get off my lawn!

:-)

Re: The "good old days"

*Message #26 Posted by **Ed Look** on 10 Dec 2009, 2:19 p.m.,*
in response to message #22 by Palmer O. Hanson, Jr.

> Quote:
>
> That's the way it was when I wrote my first digital program for a RemRand 1103 at the University of Minnesota in 1960. The 1103 didn't just fill a room, it filled a building. Users punched their programs onto paper tape using a Flexowriter. They submitted their paper tapes (very respectfully, I might add) to a computer operator. When the program was completed the output was another paper tape which the users printed out with the Flexowriter.
>
> We were required to estimate the run time of our programs. If the run time exceeded our estimate by very much the operator aborted our program.
>
> I carry no fondness for thos so-called "good old days".
>
> Palmer

Yipes. I feel like a newborn! My first programming experience was a high school assignment to program either (I forget, I'm either really or not really a newborn) an income tax or a 3D tic tac toe game using punch cards on an IBM 1130. Needless to say, I found the DEC 20, PDP 11, and various VAXs a couple of years later in college to be almost infinitely more easy to program... even if my programs actually stunk. (I sure got used to debugging, even if I STILL hate it!)

Shortly after that, or during that time, I discovered my beloved HP-34C and that as a real JOY to program, and in addition, easier than any computer. It might have helped my health, as it enabled me to get some sleep on nights I had calculation-intensive assignments. (Unfortunately, I don't remember it being allowed for exams...)

Re: Not MY kids...

*Message #27 Posted by **Seth Morabito** on 8 Dec 2009, 10:20 p.m.,*
in response to message #18 by John Noble

Please don't go overboard! Moderation in all things...

I speak from a great deal of personal experience. In grade school, I detested mathematics. I hated it because it was inflicted upon me, and I never developed a knack for mental arithmetic, no matter what tricks I tried. The fact was, I was quite slow with numbers. In fifth grade, speed of mental calculation was valued over everything else, and I simply crossed my arms and said "No, I refuse. If this is what math is, I want no part of it." So, while I excelled at every other topic, I declared that math was dead to me.

It wasn't until a year later in remedial math that I discovered that a calculator could relieve me of the burden of simple arithmetic, and I saw how wrong I was about math. It wasn't mathematics I hated: it was rote memorization and drills and mindless nonsense. The calculator literally opened up the world of math to me, and I found that I took to geometry, algebra, trigonometry, and calculus like a fish takes to water. It was night and day!

To this very day I hate arithmetic. It is mindless, and I still use a pocket calculator for everything but the most basic addition. It wasn't until I really got to use a calculating tool that I had the freedom that I needed to see that math could really be enjoyable.

Re: Not MY kids...

*Message #28 Posted by **Don Shepherd** on 8 Dec 2009, 10:33 p.m.,*
in response to message #27 by Seth Morabito

Great point of view, Seth (I think I met you at HCC 2007).

As a math teacher, I frequently look out at my students and the look on their faces is something like "what in the world are you talking about....this is all nonsense that we won't possibly use in real life." And I try to be honest with them and tell them they are right about that much of the time (especially box and whiskers plots and stem and leaf graphs, which I despise). But I do know, from experience in the real world, that there are math principles that you will need to know about, and so I stress those.

Capturing the attention of today's electronic generation is always a challenge. The Pythagorean theorem is just much less interesting than the latest Nintendo DS game. The trick is to find ways to make it interesting to the kids. For most public school teachers, with 150 kids per day, it is almost impossible to do that. For me, with 13 students per day, spread across three classes, it is much easier. I love my job. The only catch is, it is a volunteer position!

Don

Re: Not MY kids...

*Message #29 Posted by **bill platt** on 8 Dec 2009, 10:34 p.m.,*
in response to message #27 by Seth Morabito

Seth, your experience is something we should all pay attention to. Indeed, why slash about with a buggy when when you can ride a bicycle or fly a plane instead.

At some point, maybe in freshmen college, one of us (was it me? was it Brian? Judy? Craig? can't remember) made the quip, "biology is actually chemistry, chemistry is actually physics, physics is definitely maths, and maths, well, that's philosophy for sure."

To your point, arithmetic, while it contains all the fundamental building blocks of Algebra and ultimately all of mathematics, yet is not, in its rote form, anything like the beauty, the utter beauty, of higher maths.

(Ironically, I think that while the "new maths" approach to arithmetic may be inefficient, there is something to be said for the obverse which sadly, is not used much even now: that is exactly what I said above; namely, that Algebra (distributive, associative, commutative etc) are already learned in 3rd grade, but without fancy names. I often wonder if there would be many more successful Algebraists (and fewer MacIntosh worshippers ;0) if only this disconnect were dealt with more effectively.

Edited: 8 Dec 2009, 10:35 p.m.

Re: Not MY kids...

*Message #30 Posted by **Garth Wilson** on 9 Dec 2009, 12:06 a.m.,*
in response to message #27 by Seth Morabito

> Quote:
>
> It wasn't until a year later in remedial math that I discovered that a calculator could relieve me of the burden of simple arithmetic, and I saw how wrong I was about math. It wasn't mathematics I hated: it was rote memorization and drills and mindless nonsense. The calculator literally opened up the world of math to me

That sounds dangerous. If you can't get a reasonably close estimate in your head, you won't know when the answers the calculator gives you are garbage resulting from human error.

When our boys were in high school and a graphing calculator was supposedly required, they said the only real graphics that went on in class were games played in such a way so as to make the student appear to be hard at work. I'd say if the kid needs help to visualize the function graphed, then he probably doesn't understand what the graph is telling him anyway, so no learning has taken place.

Re: OT: Do 12 yrs old kids need graphing calcs?

*Message #31 Posted by **Dave Britten** on 8 Dec 2009, 6:30 p.m.,*
in response to message #1 by Frank Rottgardt

As someone who was equipped with various scientific and graphing calculators throughout school, I can see both sides of this one. On the one hand, if the teacher is doing no more than making them crunch numbers like automatons, then there's no real value.

Now, instruct a student how to REALLY use a calculator, and they'll gain an advantage. I was the type that had no trouble writing programs in class to simplify my work. If the students in class can make inferences and use the machine in novel ways without constant handholding, all the better. But if your lectures sound like, "Now, press Y=, enter this equation, press Window, enter this range, and press Graph," then you're doing it wrong.

I say, tell them to buy whatever calculator they like, and they can read the manual for themselves if they want to learn how to apply the tool.

...And then use a 48GX for all your classroom demos, of course. ;)

Re: OT: Do 12 yrs old kids need graphing calcs?

*Message #32 Posted by **Mike Morrow** on 8 Dec 2009, 10:14 p.m.,*
in response to message #1 by Frank Rottgardt

I think the answer to the question that is the title of this thread is NO. I base that on my ancient experience. When I entered Georgia Tech as a freshman in electrical engineering, the only required "calculator/computer" was a decent slide rule. The year was 1970.

I bought my first scientific calculator (a TI SR-50) six months after graduation in 1974. Many, many of my professional peers in the engineering world did not have their own electronic calculator then, or for several years afterwards.

Yet, somehow we survived in our profession, and managed to produce some useful output. That leads me to have little doubt that advanced calculators are not *needed* by 12 year olds.

A completely different question is "Are graphing calculators useful in the mathematical education of a 12 year old?" I suspect that the answer is YES...such calculators certainly can be an educational asset. Every generation uses tools that were not available to earlier generations.

Re: OT: Do 12 yrs old kids need graphing calcs?

*Message #33 Posted by **Crawl** on 8 Dec 2009, 11:28 p.m.,*
in response to message #1 by Frank Rottgardt

The real tragedy is that these kids who are buying Ti84's will just eventually have to buy a TI89 later. They might as well just buy those first instead.

Re: OT: Do 12 yrs old kids need graphing calcs?

*Message #34 Posted by **designnut** on 8 Dec 2009, 11:53 p.m.,*
in response to message #33 by Crawl

Do you drive a horse and buggy? Don't feel that what was good enough for you is fine for your kids. You are forming their matrix of beliefs, let them form their own. One writer above in this thread showed the younger the kid the faster he was at using the new gadgets. TI has an integrated teaching system that is easier for teachers so they will use it. It is so sad that HP lost all advantage at a critical period, forever lost. Now they are doomed to algebraic. Sam

Re: OT: Do 12 yrs old kids need graphing calcs?

*Message #35 Posted by **John Noble** on 9 Dec 2009, 12:53 a.m.,*
in response to message #34 by designnut

> Quote:
>
> TI has an integrated teaching system that is easier for teachers so they will use it.

Bingo.

The "easier" part, that is.

Do keep in mind that teachers don't determine curriculum in any meaningful way. TI sells their system to the powers that be as a pre-packaged course that even mediocre teachers can walk the kids through.

Re: OT: Do 12 yrs old kids need graphing calcs?

*Message #36 Posted by **Thomas Radtke** on 9 Dec 2009, 5:44 a.m.,*
in response to message #1 by Frank Rottgardt

Sort of a coming out: Without my Casio fx-81p, I probably never had developed any interest in math due to a dyscalculia. A calculator helps you to experiment with numbers, which is essential for people like me to understand them.

What I really don't understand is the goal of this textbook style entry method. Intermediate results are hidden when entering long expressions, and thus your insights are reduced to the final result.

I'm quite sure I'd have gained a lot more of improvement with a PRN calculator.

Re: OT: Do 12 yrs old kids need graphing calcs?

*Message #37 Posted by **designnut** on 9 Dec 2009, 10:03 a.m.,*
in response to message #36 by Thomas Radtke

Tom, exactly my experience with RPN. You are able to pause in mid problem and change units or correct yourself, not easy at all in algebraic. I learned relations I would not have known with algebraic. Algebraic hides the nuts and bolts to pursue one number. A friend said his calculations seldom result in one number. I know how to do repeated calculations using the repeating register, I edon't know how in algebraic, it may ne possible. I find RPN faster and more versatile. I rewrote all the teextbook formulas for easier use in the calculator. Sam

Re: OT: Do 12 yrs old kids need graphing calcs?

*Message #38 Posted by **Palmer O. Hanson, Jr.** on 10 Dec 2009, 3:42 a.m.,*
in response to message #37 by designnut

> Quote:
>
> Algebraic hides the nuts and bolts to pursue one number.

The idea that "Algebraic hides the nuts and bolts ..." is really not true for the so-called A.O.S. machines but is a persistent myth in the RPN community.

> Quote:
>
> I know how to do repeated calculations using the repeating register, I don't know how in algebraic, it may be possible. I find RPN faster and more versatile. I rewrote all the teextbook formulas for easier use in the calculator. Sam

For real versatility in repeated calculations I find that it is difficult to do better than the playback modes in the graphing calculators where the user isn't limited to only repeating the value from the t register.

Palmer

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OT: uCalc Processor

*Message #1 Posted by **DaveJ** on 8 Dec 2009, 1:27 a.m.*

For those not interested in credit card calc design, please tune out now.

Working on my uCalc project and am still stuck on what processor to use.

I was all set to have a big fat 512K/32K+ PIC32 in there (layout half done already), but realised I ultimately won't be happy with the battery life. 2 months at best stand-by from a single CR1620 cell.

The AT91SAM7L128 as used on the new HP platforms is an option, but it's only 128K/6K (less SRAM than the uWatch), and requires an external RTCC, and it's not cheap. Could gets years standby out of that option though.

The 64KB/8KB PIC24FJ64GA104 is looking good. It's cheap, got an RTCC, and is the same as used in the uWatch. It's an XLP chip, so standby power would be the shelf life of the battery. Only problem is the current uWatch firmware already maxes out this chip, and the uCalc will need bitmap fonts for the 132x32 display.

The MSP430F5437 has 256KB/16KB, RTC, and around 3 years standby.

Other options looks fairly miserable.

I guess it comes down to what's most valuable, computing power or standby battery life?

Battery life for continuous operation is looking to be around several hundred hours.

(No, rechargable and/or solar is a miserable option IMO)

Opinions?

Dave.

Edited: 8 Dec 2009, 1:37 a.m.

Re: OT: uCalc Processor

*Message #2 Posted by **Walter B** on 8 Dec 2009, 2:14 a.m.,*
in response to message #1 by DaveJ

I'd vote for battery life.

HTH

Re: OT: uCalc Processor

*Message #3 Posted by **Katie Wasserman** on 8 Dec 2009, 2:45 a.m.,*
in response to message #1 by DaveJ

How about a PIC with more memory like the PIC24FJ128GA106, it's 128KB/16KB. According to the spec

with the RTCC running it's only draws 7uA -- 10 times more than the XLP -- but that's still more than a year of power down clocking with a CR1620. How many i/o pins do you need for your design?

-Katie

Edited: 8 Dec 2009, 2:46 a.m.

Re: OT: uCalc Processor

*Message #4 Posted by **DaveJ** on 8 Dec 2009, 3:03 a.m.,*
in response to message #3 by Katie Wasserman

Typical is under 4uA for that part which isn't that bad actually.

Don't need that many I/O, a 44pin job will do nicely.

But silly me just realised an obvious way I can have my cake (PIC32) and eat it too (shelf life), just needs some more parts...

Dave.

Re: OT: uCalc Processor

*Message #5 Posted by **Marcus von Cube, Germany** on 8 Dec 2009, 3:10 a.m.,*
in response to message #4 by DaveJ

Just connect an external car battery? ;)

Re: OT: uCalc Processor

*Message #6 Posted by **Bart (UK)** on 8 Dec 2009, 6:05 a.m.,*
in response to message #4 by DaveJ

Otherwise the MSP430 seems like a reasonable compromise.

Re: OT: uCalc Processor

*Message #7 Posted by **Nelson M. Sicuro (Brazil)** on 8 Dec 2009, 7:51 a.m.,*
in response to message #1 by DaveJ

My option is the MSP430 version (I like them very much) and they can use BCD math directly (IIRC)

Best regards

Nelson

How about a Norwegian ARM uC?

*Message #8 Posted by **Steve Leibson** on 8 Dec 2009, 7:00 p.m.,*
in response to message #1 by DaveJ

Nope, not an oxymoron. check out Energy Micro at EnergyMicro.com and see if their low-power story tickles your engineering bone. Don't know the costs. Flash currently limited to 128K but they've got big plans.

-Steve-

Re: How about a Norwegian ARM uC?

*Message #9 Posted by **DaveJ** on 8 Dec 2009, 10:04 p.m.,*
in response to message #8 by Steve Leibson

> Quote:
>
> Nope, not an oxymoron. check out Energy Micro at EnergyMicro.com and see if their low-power story tickles your engineering bone. Don't know the costs. Flash currently limited to 128K but they've got big plans.

Cute video.

They are starting out right being on Digikey, but no parts yet...
If I can buy the demo board with a part on it, why can't I buy the parts?

Perhaps explains why the datsheet is Rev 0.82

Dave.

Re: How about a Norwegian ARM uC?

*Message #10 Posted by **Steve Leibson** on 9 Dec 2009, 12:51 a.m.,*
in response to message #9 by DaveJ

Yep, they're very, very new. Growing pains.

- Steve -

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Not Clueless

*Message #1 Posted by **Doug** on 7 Dec 2009, 11:55 p.m.*

-DISASM- 4D with -LBLAPP 1A now on TOS, advanced disassembler including user code and global lables in microcode native implemented. Load BLDROM and you get full control. enjoy. D

PS: there is no way to release roms here, so they must be on TOS. Can we implement 41C publish here? Web-master? Sure, I can publish in Articles section but roms are too many to publish there.

Check out FS? and FC? in -DISASM- 4D .... tiny soln to bug 0 using several guys ideas, i don't think this is clueless. It involves the basic undocumented flags of the 41c os. Then again, maybe after the fire "i am clueless".

Before the fire i was ready to release a new Math rom, unfortunately it was all done in hardcopy, not digital form and thus was lost via melting of everything past, present and future. 30 yr of research down the drain so please bear w me in this hard time. I have lost 50K in 41c equipment but that dont mean i no longer care about 41c. I am still "crazy about 41C" and will continue to program and publish new stuff for this machine as others are doing (Angel, etc.). I also happen to loose 30 yr physics reasearch as that what i do.

Edited: 8 Dec 2009, 12:43 a.m.

Re: Not Clueless

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 8 Dec 2009, 1:20 a.m.,*
in response to message #1 by Doug

Hey, Doug;

I was not aware of this fire and your loss, sorry!

Is there anything that can be done? Let me (us) know.

I have been using both DISASSM 4D with labels and BLDROM. They are really great M.Code tools, congratulations! And thanks!

Best regards.

Luiz (Brazil)

Re: Not Clueless

*Message #3 Posted by **Ángel Martin** on 9 Dec 2009, 7:44 a.m.,*
in response to message #1 by Doug

You're not "clueless' at all Doug - and have amply demonstrated that more times than it's possible to count!

What a loss to us all that your new module never saw the daylight - your programming is amongst the best examples of what can be done with MCODE, a continuous learning opportunity for me.

But that of course is perhaps nothing when compared to the dreadful impact and consequences the fire has for sure had. Very sorry, and like Luiz, I would like to help if such a thing is possible.

Best wishes, Ángel

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Wristwatch Gadget [OT ish]

*Message #1 Posted by **MikeT.** on 7 Dec 2009, 3:05 p.m.*

Anybody who thought that the HP01 was a technological masterpiece might be interested in this wristwatch phone. The two way radio has been superseded by a video phone but it still looks like looks like the perfect accessory for any budding Dick Tracy...

Even though I've become rather used to the advances in technology these days, and despite the fact that it is a bit on the large side, this is still an impressive bit of kit. I find the number of features that the manufacturer has managed to cram into such a small device amazing and rather like the way that you change the display and select the mode by dragging you finger sideways over the display. (I wonder if it will be possible to load your own applications..?)

Mike T.

Re: Wristwatch Gadget [OT ish]

*Message #2 Posted by **Anders Peterson** on 7 Dec 2009, 5:24 p.m.,*
in response to message #1 by MikeT.

Very cool. I wonder if they will be releasing a shoe next :)

I honestly saw this already in some list of gadget gifts for the holidays last week, and it did not phase me (or interest me). However, giving it proper consideration, it is a pretty impressive accomplishment. This is part of the future we were supposed to have seen already. Will flying cars and intelligent housekeeping robots be next? I think this thing missed its chance to make a splash by not being released before the end of the 20th century (or at least before the proliferation of bluetooth headsets). Phones are already tiny, and can do a zillion different things (email, internet browsing, run 42s simulators, etc.). People probably don't want to give all that up for a wrist strap.

Re: Wristwatch Gadget [OT ish]

*Message #3 Posted by **Martin Pinckney** on 7 Dec 2009, 10:06 p.m.,*
in response to message #1 by MikeT.

I found it listed for $1000 - $1300.

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HP ALERT for HP49G+/HP50

*Message #1 Posted by **Mike Reed** on 7 Dec 2009, 10:31 a.m.*

Just received this alert from HP:

Recommended Driver Alert Dec 04 2009

HP Graphing Calculators - USB Setup (ver 1.3) Products: HP Graphing Calculators OS: Microsoft Windows 7 (32-bit), Microsoft Windows Vista (64-bit), Microsoft Windows 7 (64-bit), Microsoft Windows XP x64, Microsoft Windows Vista, Microsoft Windows XP

Description: This installer package installs the operating system drivers for all HP Graphing calculators that support USB connectivity. These drivers are required to use the connectivity kit software with the graphing calculators.

Re: HP ALERT for HP49G+/HP50

*Message #2 Posted by **Tim Wessman** on 7 Dec 2009, 10:44 a.m.,*
in response to message #1 by Mike Reed

This is the same package that has been up at hpcalc.org for a while now. So if anyone had installed that already no need to download again.

TW

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Faulty disk drive in 9114B ?

*Message #1 Posted by **inaki** on 7 Dec 2009, 10:23 a.m.*

Hi. I have been checking an old 9114B disk drive with a 71B. The 9114B unit seems to work, but it fails when I send any command.

I have noticed that the disk drive makes the usual seek when the unit is started but does not perform any test at all when I put a disk on it. The manual claims the unit should perform a 5 seconds extra test when the disk drive is loaded with a disk. By the way, the test light is ON for a couple of seconds only, not the claimed 6 seconds.

When I send de command DEVICEID I get back the string 'HP9114B'. So it looks like the logic in the unit is working.

However, when I use the command INITIALIZE I can see the unit trying to do something but the head does not move at all. The led on the front of the disk drive is off all the time. It never lights up. If I remove the diskette and send the INITIALIZE command I get the expected 'No media' error so it seems that it is working to some extents.

I have checked that the heads are able to move up and down smoothly when the disk drive is first powered up.

I have even tried with preformated 720KB diskette. But all commands fail.

By the way, I have been using HD diskettes with the hole taped, not true DD diskettes. May this be a problem?

The unit has some dirt on it but I have seen much more dirty disk drives units working.

Any guess ?

Re: Faulty disk drive in 9114B ?

*Message #2 Posted by **Eric Smith** on 7 Dec 2009, 3:22 p.m.,*
in response to message #1 by inaki

I don't remember whether the 9114B uses a mechanical or opto switch to sense disk presence. Is your tape over the hole opaque?

Re: Faulty disk drive in 9114B ?

*Message #3 Posted by **Gerry Schultz** on 7 Dec 2009, 4:25 p.m.,*
in response to message #1 by inaki

inaki:

I recently bought a 9114B drive and ended up removing the diskette drive to fix sticky ejecting so I remember some of the actions my unit took at power up. With the top cover of the 9114B removed, if you turn the unit off and put in a disk and then power up, does the diskette platter spin and the head move back and forth? If the floppy is not spinning and the heads aren't moving and the disk access disk is off, then I suggest you remove and re-connect the the ribbon cable connectors at the drive and on the circuit board ends just in case there is a

dirty connector.

It would be interesting to hook my 9114B to my 71B, disconnect the floppy drive ribbon cable and see what the 71B reports when I try an INITIALIZE command. In the meantime, check that there aren't any broken wires around the head position motor. How clean is the diskette drive itself? Is a floppy disk hard to insert or eject from the diskette drive mechanism? I'm trying to get an idea of the condition of the drive itself.

There are a couple of good articles at this website covering 9114B repair, like #78 by Steve of Australia and #876 by PeterP. These may not cover your specific issue but it can help you get an idea of what can go wrong with the 9114.

At this point, I wouldn't worry about double verses hi-density floppies as right now you just need the drive to work. After it's working then should worry about selecting the proper media.

I'll play with mine tonight and get back to you.

Gerry

Edited: 7 Dec 2009, 4:30 p.m.

Re: Faulty disk drive in 9114B ?

*Message #4 Posted by **Eric Smith** on 7 Dec 2009, 4:53 p.m.,*
in response to message #3 by Gerry Schultz

> Quote:
>
> At this point, I wouldn't worry about double verses hi-density floppies as right now you just need the drive to work. After it's working then should worry about selecting the proper media.

DD drives often won't recognize HD media at all, because the presence detect sensor expects the rigid shell of a disk to be present exactly where the HD sense hole is found on an HD disk.

If the drive isn't sensing the presence of the disk, it will exhibit exactly the symptoms that were described.

That's why you can't just "worry about selecting the proper media" later.

Re: Faulty disk drive in 9114B ?

*Message #5 Posted by **Gerry Schultz** on 7 Dec 2009, 7:35 p.m.,*
in response to message #4 by Eric Smith

Eric, your right, I had forgotten about that. And, as I remember, the diskette presence sensor in the drive is where the double density, hi-density hole is in the floppy. So, inaki, if you only have hi-density floppies available to you, be sure to cover the right-side hole. Then see if you still get a 'no media' error when you try to initialize a diskette.

Thanks Eric for keeping me straight. Inaki, let us know how it goes.

Gerry

Re: Faulty disk drive in 9114B ?

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 7 Dec 2009, 6:20 p.m.,*
in response to message #1 by inaki

Hi, inaki;

I have a 9114B unit (a gift) and after not being used for some time (about half a year) without charging the battery, it came up with many faults related to the disk drive itself. Battery charged OK, all 4 LED´s lit (battery charge and power), but when I tried any operation that would power the disk drive, all LED´s went down and I got some error message (cannot remember which one).

For shortening the text: it was the battery. It charged OK but had some internal problem (high internal impedance) so it could no longer maintain high current (or current peaks). Hence, with no power to activate the driver, the unit either reset or sent an error condition back to the IL controller (the HP41, in this case). This is the non-definitive battery I used at that time. Now it has a 2800mAh instead

After that, I always keep the battery charged because it is a sealed lead-acid, and the main recommendation is to keep them always at maximum charge; if discharged, charge them ASAP.

Success!

Luiz (Brazil)

Edited: 7 Dec 2009, 6:22 p.m.

Re: Faulty disk drive in 9114B ?

*Message #7 Posted by **inaki** on 8 Dec 2009, 6:06 a.m.,*
in response to message #6 by Vieira, Luiz C. (Brazil)

Thanks for your thoughts guys!

After checking everything I checked the power by measuring the current the unit takes when in standby mode, when using logic commands without resource to disk, and finally when using commands that involve the disk.

When the 9114B is in standby mode or receiving commands that do not involve the disk it takes a small amount of current. But when the disk drive is involved the current taken raises a lot, up to 1,5A (in my measurements, but probably is higher than this).

After reading the Luiz message I decided to replace the battery with a regulable lab power supply. I started with 7.3V and 1A, just not enough to feed up the disk drive. The symptoms were exactly the ones mentioned in my first message. Then I raised the lab power supply limit to 2A.

And voila, the disk drive started to work! The initial startup test was performed as expected with the heads moving up and down. The led on the front of the disk drive was alive!.

It was the time to test commands from my 71B. Bingo! I was able to initialize the diskette!

So my guess is that Luiz put the hammer in the nail here. The battery may be good enough to feed the logic but not enough to feed the disk drive in every work, even when the 3 leds in the front show full battery.

As a side comment. If ones tries to use a power supply that bypasses the battery as I did for the tests, it must be a power supply able to raise current to about 2A (for about 7.5V). I tried to use some higer voltage, up to 9V, without problem. However it would be mandatory to check the power regulators specifications to see whether it is wise to use a higher voltage power supply.

As I could see for this case, and others related to 9114B in this forum, it seems a bad battery can cause a lot of trouble.

Thanks for your help!

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Broken Rom/Ram switch on RAMCARD

*Message #1 Posted by **bill platt** on 7 Dec 2009, 12:07 a.m.*

I just broke the switch on my Klotz 128k card.

Has anyone ever successfully repaired something like this?

Re: Broken Rom/Ram switch on RAMCARD

*Message #2 Posted by **Doug** on 7 Dec 2009, 4:49 a.m.,*
in response to message #1 by bill platt

geeze bill, don't you have microscopic waldows yet?

Re: Broken Rom/Ram switch on RAMCARD

*Message #3 Posted by **Han** on 7 Dec 2009, 7:27 p.m.,*
in response to message #1 by bill platt

Aren't there several types of 128K Klotz cards? Anyway, you should be able to repair it. None of the Klotz cards I have ever come across were ever covered (i.e. the card was literally a PCB board with SMD chips mounted; nothing for shielding). I am sure you can find the part from companies like Digikey and Mouser.

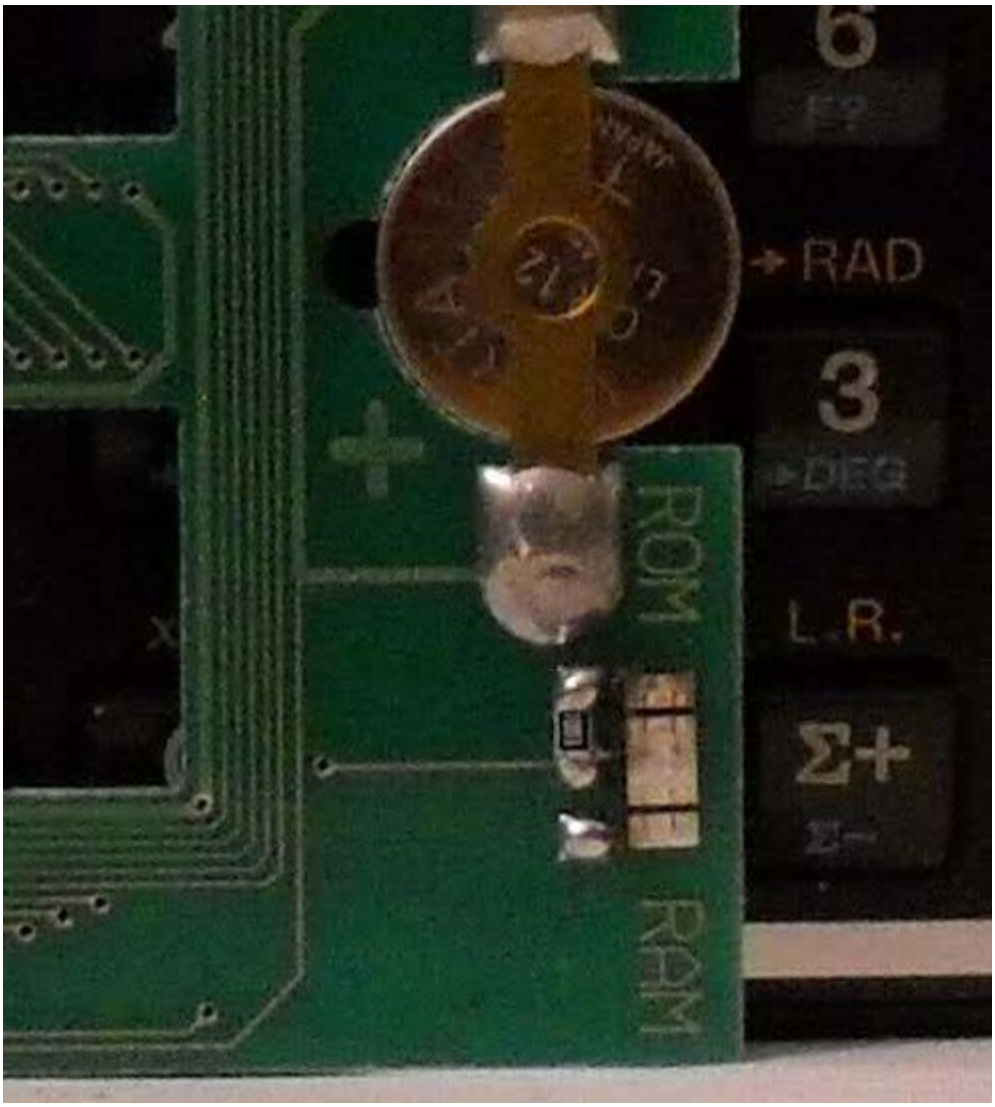
Do you have a photo of your card?

Re: Broken Rom/Ram switch on RAMCARD

*Message #4 Posted by **Bill Platt** on 7 Dec 2009, 8:10 p.m.,*
in response to message #3 by Han

Hi Han,

Here it is:



Re: Broken Rom/Ram switch on RAMCARD

*Message #5 Posted by **Han** on 8 Dec 2009, 4:38 p.m.,*
in response to message #4 by Bill Platt

Bill,

Stuff you may already know:

Looks like a surface-mount toggle or switch. I do not know if there are standard packagings, or if that particular component is still even manufactured. I will see if I can dig up any Klotz cards I own and check if there is any packaging markings on the toggle. Do you still have the original toggle? It may indicate what type of packaging it is.

Worst case scenario is that you will have a RAM card that cannot be write-protected as long as you make sure to resolder the circuit for RAM mode.

Re: Broken Rom/Ram switch on RAMCARD

*Message #6 Posted by **Thomas Chrapkiewicz** on 9 Dec 2009, 12:49 a.m.,*
in response to message #1 by bill platt

I can send a pic of my Klotz card switch if anyone's interested.

TomC

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OT: Objectified

*Message #1 Posted by **Egan Ford** on 6 Dec 2009, 11:36 a.m.*

PBS (US) recently broadcast the documentary film below:

http://www.pbs.org/independentlens/objectified/film.html

I found that some of the statements could easily be echoed here, e.g. "wear-in not wear-out". I also found it interesting that consumer electronics are on a 11 month refresh cycle. There is a much talk of consumerism.

Perfect timing for the holiday shopping season.

Re: OT: Objectified

*Message #2 Posted by **Thomas Radtke** on 6 Dec 2009, 11:46 a.m.,*
in response to message #1 by Egan Ford

> Quote:
>
> I also found it interesting that consumer electronics are on a 11 month refresh cycle.

Who's buying all that stuff in place of me? I mean, someone has to buy everything every few month!

Re: OT: Objectified

*Message #3 Posted by **Maximilian Hohmann** on 6 Dec 2009, 12:35 p.m.,*
in response to message #2 by Thomas Radtke

Hello!

> Quote:
>
> Who's buying all that stuff in place of me? I mean, someone has to buy everything every few month!

I don't buy it either, so for the two of us alone, somebody has replace _all_ his electronic stuff every four month! But I rather think, someone does not know how to properly operate the statistics functions of his calculator...

Greetings, Max

Re: OT: Objectified

*Message #4 Posted by **Egan Ford** on 6 Dec 2009, 1:41 p.m.,*
in response to message #3 by Maximilian Hohmann

IIRC, it's a design refresh cycle.

However, I do know many including myself that refresh their phones, laptops, and pocket digital cameras every 12 months. I recycle all my old tech through eBay if I cannot get friends or family to take it.

Re: OT: Objectified

*Message #5 Posted by **Steve Simpkin** on 6 Dec 2009, 9:41 p.m.,*
in response to message #4 by Egan Ford

> Quote:
>
> However, I do know many including myself that refresh their phones, laptops, and pocket digital cameras every 12 months.

LOL! My cell phone is 4 years old, my laptop is 7, my desktop is 9 and my TV is 12 years old. I fell so.... un-fresh. :-) P. S. And don't even ask how old my HP calculator is!I

Old products

*Message #6 Posted by **Karl Schneider** on 12 Dec 2009, 2:11 a.m.,*
in response to message #5 by Steve Simpkin

> Quote:
>
> LOL! My cell phone is 4 years old, my laptop is 7, my desktop is 9 and my TV is 12 years old. I fell so.... un-fresh. :-) P. S. And don't even ask how old my HP calculator is!

My TV is 21 years old; two cars 20 and 23 years old; a wristwatch 28 years old -- all everyday equipment better in certain ways that modern products. Wouldn't replace with new ones unless I were forced to...

-- KS

Edited: 24 Dec 2009, 10:18 p.m.

Re: OT: Objectified

*Message #7 Posted by **bill platt** on 6 Dec 2009, 8:26 p.m.,*
in response to message #1 by Egan Ford

That's very interesting.

I like the last film, where the one guy talks about what is essentially the moral imperative of good design. Then the later guy points out (via GPS tom-tom or whathaveyou) that bad design is ubiquitous, yet we don't make a big fight about it.

But I am a cynic about product design. Too much of it is about looks or change for change's sake, rather than for design. My new Toyota has bad reflections in the windshield, the seats are too high, I bang my head on the A-pillar even though the car is larger than the old Corolla in my driveway, the cupholders are sitting on a huge empty box that simply takes up space, the little doors on the storage bins get jammed easily and won't open,

and on and on. I like my Toyota, the engineering is good, but the design sucks, if you know what I mean. It is too American for my tastes, ironically enough.

Bad design: Like why are VCR/DVD players unusable without an easily lost or misplaced remote control? Why can't you page the damn thing like a portable phone? Why can't *all* the functions be accessed from the front panel for when the remote is lost? I asked these questions over a decade ago--nothing changes for the better.

Like portable phones. 5.8 Ghz or some nonsense like that is somehow "progress" when in fact it makes them almost unusable. They are static all the time, and you cannot "peak" the signal by walking just a half step, as you could when the frequency was 49 MHz.

DTV broadcast, when 90% of television is distributed by cable, why waste untold millions switching the last of the broadcast world to a whole new technology that is finicky and impossible to use with weak signals? Utterly stupid.

Cell phones. Don't get me started. How many %#$#^ing flip phones have you broken because of that stupid 28S hinge?

Texting. There's a moron's fantasy for you. Let's pay more, to get less baud rate, and waste our time looking like OCD button-pushers all damn day. Talk about useless user interface design! You can send Morse code on a Bug faster than texting--heck, you don't even need a paddle key to beat the stupid cell phone text!

Design has no hope of changing the world. Never has, never will. We design good stuff, and the bad stuff wins out. Thank you, Bill Gates.

And Apple Mac is the solution? Oh, it's so clean, so fresh, so cool, so modern, but it can't do a damn thing. Nothing useful will run on it. Brilliant!

Linux, Ha! Great for servers but again, what good is it for real work?

In computing especially, design is a total hodgepodge Shamopedia 10,000 monkeys writing Shakespeare kind of fractured absurdity.

I like my 18th century furniture. Still works after a quarter of a millennium. Sort of like the Skin Horse. He may be shabby, but at least he ain't in the trash bin wit hall the mechanical toys.

Edited: 6 Dec 2009, 9:35 p.m. after one or more responses were posted

Re: OT: Objectified

*Message #8 Posted by **Martin Pinckney** on 6 Dec 2009, 8:51 p.m.,*
in response to message #7 by bill platt

Excellent rant, Bill. Well, there are many examples of good design still out there, but they are hard to find amongst the sea of bad design.

I'll bet, though, that you will get several posters who will argue that "good" design has to be realistically re-defined for the realities of the present. Including the short design cycle, and meeting the demands of marketing.

So this discussion might not be so Off Topic after all, given the many laments expressed here over HP's downhill slide from good design principles.

Re: OT: Objectified

*Message #9 Posted by **Thomas Okken** on 6 Dec 2009, 11:26 p.m.,*
in response to message #7 by bill platt

I agree with some of the points of Bill's rant, and I have no opinion on some others, but there are a few that I have a different take on...

> Quote:
>
> Why are VCR/DVD players unusable without an easily lost or misplaced remote control?

The first VCRs I used, in the early '80s, were completely usable without the remote, but I hated the fact that many functions were *only* available on the front panel. I thought it was a big improvement when VCRs started using on-screen menus, so you could do everything while comfortably seated on the couch, instead of having to squat on the floor in front of all that equipment. Also, I've never, ever lost or misplaced a remote... where would they go? They're either in my hand or on the coffee table. I did used to worry about battery life, but I find that all the remotes I've had over the last 15 years or so will run 3 years or more on one set, so that's not a big concern, either. Bottom line: I, for one, am actually happy with the way modern TVs, VCRs, and DVD players work.

> Quote:
>
> Texting. There's a moron's fantasy for you. Let's pay more, to get less baud rate, and waste our time looking like OCD button-pushers all damn day.

If you just want to send someone a brief message, without interrupting whatever they're doing, texting is perfect, and I'm pretty sure most people can type two or three lines of text using T9 text entry *much* faster than they'd ever be able to using a morse key. One could argue that texting is obsolete because you can use full-blown email on iPhones and the like, but still, I've used text messaging, and I thought it was useful, and pretty well designed, too, not to mention cheap.

> Quote:
>
> And Apple Mac is the solution? Oh, it's so clean, so fresh, so cool, so modern, but it can't do a damn thing. Nothing useful will run on it. Brilliant!
>
> Linux, Ha! Great for servers but again, what good is it for real work?

I use Macs and Linux boxes at work, and when I need to use something that will run only on Windows, I use VMware or Parallels -- and that isn't often. Not that I have anything against Windows, mind you; I do use it at home, and if I feel I need it at work, I'll get an admin to install it on one of my machines there, but for the most part, I find that all of Windows, Mac, and Linux, are very good for getting work done. I also find that, with each passing year, it makes less and less of a difference which OS I use; they keep on borrowing good ideas from each other, and in the long run, they all improve.

- Thomas

Edited: 6 Dec 2009, 11:29 p.m.

Re: OT: Objectified

*Message #10 Posted by **Martin Pinckney** on 7 Dec 2009, 6:14 a.m.,*
in response to message #9 by Thomas Okken

> Quote:
>
> I've never, ever lost or misplaced a remote... where would they go?
>
> Do you have children at home? A wife? Why do think there are so many after-market remotes for sale?

Re: OT: Objectified

*Message #11 Posted by **Thomas Okken** on 8 Dec 2009, 11:05 p.m.,*
in response to message #10 by Martin Pinckney

> Quote:
>
> > Quote:
> >
> > I've never, ever lost or misplaced a remote... where would they go?
> >
> > Do you have children at home? A wife? Why do think there are so many after-market remotes for sale?
>
> No, and no, but I'm not a shut-in, and do have a lot of friends who are married and/or do have children, so I'm not completely unfamiliar with the chaos factor that is inherent in a multi-person household... and even said friends don't have this problem of disappearing remotes. The most common strategy appears to be to put the remotes on top of the TV when not in use, where the little tykes can't reach them.
> To answer your third question: a lot of people get annoyed at the clutter and find themselves wishing they had just one remote that could control *all* of their audio/visual equipment, and then they get a fancy universal remote. Me, I've studied the offerings and found them wanting; if it weren't such an incredibly minor issue to begin with, I'd download some software and try using my HP-48G, but something tells me that that would get annoying, too. ;-)

Re: OT: Objectified

*Message #12 Posted by **Bill Platt** on 7 Dec 2009, 10:03 a.m.,*
in response to message #9 by Thomas Okken

Hi Thomas,

Well at least we do agree completely on one thing: the 27s is a very cool machine. Almost 18th century ;-)

Best regards,

Bill

Re: OT: Objectified

*Message #13 Posted by **Thomas Okken** on 8 Dec 2009, 11:17 p.m.,*
in response to message #12 by Bill Platt

Hi Bill,

I'm sure we agree on quite a few things, like the silliness of cell phone design, digital broadcast TV,

or the tragedy of a great car manufacturer putting out a poorly designed product. (I'm pretty pleased with my 2007 Yaris BTW, but it sounded like you were complaining about a different model.)
I don't know why you'd think I'm a 27S fan, though -- I barely know the thing and if I ever sang its praises in public, it must have slipped my aging mind. Being a 42S fan takes up too much of my free time already. :-)

Best regards,

- Thomas

Re: OT: Objectified

*Message #14 Posted by **Bart (UK)** on 7 Dec 2009, 7:15 a.m.,*
in response to message #7 by bill platt

Quote:

Don't get me started. How many %#$#^ing flip phones have you broken because of that stupid 28S hinge?

I've never had a flip-phone (or slide), because I could forsee problems - generally they cannot fold all the way back (I have not seen one that can) and thus someday they will be pushed to breaking point. BTW, I have a had a 28S for around 20 years with no problems on the hinge! I like the fact it folds closed and thanks to that it's probably about the only calculator I have, which I have used extensively, without a single scratch on the screen. But don't get me started on the battery compartment....

Quote:

Linux, Ha! Great for servers but again, what good is it for real work?

I have it on my home PC and it works fine. OpenOffice 3 does everything I do on MS Office at work.

Quote:

I like my Toyota, the engineering is good...

Yes, my first car was a 1966 Corona Mk 1. Best car I ever had.

Quote:

I like my 18th century furniture. Still works after a quarter of a millennium

Yes, good solid stuff. So throw away your all your modern gadgets and live in 18th century style - blissful ignorance of the world around you what with no TV, cell phone or computer informing you of the ills of the world :)))

Re: OT: Objectified

*Message #15 Posted by **bill platt** on 7 Dec 2009, 10:23 a.m.,*
in response to message #14 by Bart (UK)

Quote:

Quote: Linux, Ha! Great for servers but again, what good is it for real work?

I have it on my home PC and it works fine. Open Office 3 does everything I do on MS Office at work.

Yes, but word processing and spreadsheets are commodity items. That isn't what matters. It is the real software, whether for graphic design, or industrial design, or engineering etc that matters.

Word processors stopped gaining meaningful improvements in the late 1980s--or maybe early 1990s. Spreadsheets don't improve in a good way either--they just get dorked up from bad coding (as happened a few years back to excel when it did completely faulty maths for certain particular combinations.)

I know generally what specialized software is written for the Mac (not much) and most everything else is written for Windows. While one of my specialized programs is being upgraded to Mac, none are written to run on a unix or linux platform. Too bad, too. I liked old unix best of all for platform stability.

Re: OT: Objectified

*Message #16 Posted by **Bart (UK)** on 7 Dec 2009, 11:27 a.m.,*
in response to message #15 by bill platt

It depends on your definition of "real work" then. For me, sometimes real work can be done without a PC, e.g. design verification testing, equipment intergration etc. Tabulating results, writing reports, making quotes etc. may not be seen as real work, but all forms part of it. the work is not complete without it.

Quote:

and most everything else is written for Windows

The problem is that software vendors are reluctant to spend money developing on platforms with fewer users, and this lack of software in turn discourages users to move to other platforms. Instead software vendors just invent new features for the sake of new features.

Quote:

Word processors stopped gaining meaningful improvements in the late 1980s

True, there's not much I can do on Word-2003 that I couldn't do on WP 5.1. Perhaps just that windows interface makes it a bit easier - although sometimes not.

Quote:

(as happened a few years back to excel when it did completely faulty maths for certain particular combinations.)

Has happened to calculators too. I always attempt to check answers via an independent means (e.g. is it in the order of what I expect and check with a few widespread datapoints. For real critical stuff, actually thoroughly check the results). I do find VBA quite handy in Excel though.

edit: for clarity: WP5.1 = WordPerfect 5.1, a word processor from the early nineties where everything just "works as it should" - like old HP calcs.

Edited: 8 Dec 2009, 4:42 a.m. after one or more responses were posted

Re: OT: Objectified

*Message #17 Posted by **Dave Shaffer (Arizona)** on 7 Dec 2009, 9:10 p.m.,*
in response to message #16 by Bart (UK)

> Quote:
>
> True, there's not much I can do on Word-2003 that I couldn't do on WP 5.1.
> Perhaps just that windows interface makes it a bit easier - although sometimes not.

I STILL use WP 5.1 (in a "command prompt" window; used to be a DOS window!) if I want to do simple things quickly with a word processor: column handling, in particular - with my PC AT keyboard, which has the function keys on the left (where they belong for WP 5.1!). Find and replace for formatting codes is also FAR superior in old WP 5.1.

Re: OT: Objectified

*Message #18 Posted by **bill platt** on 7 Dec 2009, 9:35 p.m.,*
in response to message #17 by Dave Shaffer (Arizona)

I would LOVE to have a copy of the old WP 5.1!

Re: OT: Objectified

*Message #19 Posted by **bill platt** on 7 Dec 2009, 9:37 p.m.,*
in response to message #18 by bill platt

How weird: my command prompt window shows Microsoft Windows XP [Version 5.1]!

Re: OT: Objectified

*Message #20 Posted by **John McCormick** on 7 Dec 2009, 9:06 p.m.,*
in response to message #7 by bill platt

Agreed. Most people seem to live to buy any shiny thing their friends have with no regard to any real value. I do have to mention though that Intel Macs are pretty adaptable. I run WinXP Pro on Bootcamp currently. I've run AutoCAD, ArcGIS ArcView, and MathCAD, as well as applications for older devices using serial connections which work just fine through an serial/usb adapter. It's not a bad way to learn some basic UNIX either. It's also my entertainment center, and the whole thing fits in a carrier should I need it somewhere other than my desk where it takes up very little room. Did I mention that it was nice to look at too? :)

Re: OT: Objectified

*Message #21 Posted by **db (martinez, ca.)** on 11 Dec 2009, 11:00 p.m.,*
in response to message #7 by bill platt

Bill;
I almost always agree with your posts. No exception here.
IMHO, technology is not improving as a whole. I think that everything is getting over-computerized. Now, with the crutch of handhelds that have the power of PCs; anyone can get a job doing math. I believe nearly all the art has left the sciences. We are far enough into this downward spiral that the middle managers don't even know the difference between thought and just pressing enter. Surveying used to take a three man field crew and one man in the office to do good work. It now takes one or two men in the field with two or three in the office to generate regular mistakes. And no one even notices that we have slid backwards.
Glad i made my stack when the making was good.
Anyway; keep posting. You 'splain it better than i do. - d

Re: OT: Objectified

*Message #22 Posted by **Karl Schneider** on 12 Dec 2009, 2:30 a.m.,*
in response to message #7 by bill platt

Hi, Bill --

> Quote:
>
> But I am a cynic about product design. Too much of it is about looks or change for change's sake, rather than for design.

You're absolutely right about that...

> Quote:
>
> My new Toyota has bad reflections in the windshield,

The reason for this is likely the rakish slope of the windshield that improves aerodynamics for fuel efficiency, and also helps prevent damage from rocks. Cars of the 1980's and prior had very upright windshields.

> Quote:
>
> Bad design: Like why are VCR/DVD players unusable without an easily lost or misplaced remote control?

My complaint is with modern remote controls themselves -- wobbly buttons of every shape, size, and orientation, often failing to respond because they weren't pressed on-center.

> Quote:
>
> DTV broadcast, when 90% of television is distributed by cable, why waste untold millions switching the last of the broadcast world to a whole new technology that is finicky and impossible to use with weak signals? Utterly stupid.

Here's a more fundamental problem -- The US' transitioning of broadcast channels to digital, when US manufacturers don't even make their own digital television sets -- forcing purchase of more imported

goods. Sure, we essentially quit making analog sets years ago, too, but at least there's still a basis of tried-and-true design and know-how.

Edited: 12 Dec 2009, 2:33 a.m.

Re: OT: Objectified

*Message #23 Posted by **bill platt** on 12 Dec 2009, 8:57 a.m.,*
in response to message #22 by Karl Schneider

Hi Karl,

> Quote:
>
> "My new Toyota has bad reflections in the windshield, "
>
> The reason for this is likely the rakish slope of the windshield that improves aerodynamics for fuel efficiency, and also helps prevent damage from rocks. Cars of the 1980's and prior had very upright windshields.

I like the Porsche 911 windshield (not the 996), and the original Saab 900. Both are very streamlined and yet the windshields are reasonable.

The glare is exacerbated because of this nonsense fancy interior designer "feature"--a stupid cut-out to tuck the clock into!

"Designers" (actually product marketers) feel the need to reinvent the wheel and call it progress. I'd rather invent something new.

Edited: 12 Dec 2009, 8:58 a.m.

Re: OT: Objectified

*Message #24 Posted by **Thomas Okken** on 14 Dec 2009, 2:54 a.m.,*
in response to message #23 by bill platt

> Quote:
>
> > Quote:
> >
> > > Quote:
> > >
> > > My new Toyota has bad reflections in the windshield
> >
> > The reason for this is likely the rakish slope of the windshield that improves aerodynamics for fuel efficiency, and also helps prevent damage from rocks. Cars of the 1980's and prior had very upright windshields.
>
> I like the Porsche 911 windshield (not the 996), and the original Saab 900. Both are very streamlined and yet the windshields are reasonable.
>
> The glare is exacerbated because of this nonsense fancy interior designer "feature"--a stupid cut-out to tuck the clock into!

Judging by that photograph, I'd say that the main problem with Bill's new Toyota seems to be the light-colored plastic that the dash is made of.
I've owned cars with pretty straight (vertical) windshields, like the first generation VW Golf, and with rather flat (horizontal) windshields, like the Toyota Yaris, and several models somewhere in between. I never had a problem with reflections in the windshield in any of them, other than when I left maps or other pieces of paper on top of the dash... But every single car that I've ever owned has had dashboards made of *black* plastic.

Edited: 14 Dec 2009, 3:00 a.m.

Re: OT: Objectified

*Message #25 Posted by **Garth Wilson** on 12 Dec 2009, 3:21 a.m.,*
in response to message #7 by bill platt

> Quote:
>
> Like why are VCR/DVD players unusable without an easily lost or misplaced remote control?

Our first one had a cord. You could always find it.

> Quote:
>
> My new Toyota has bad reflections in the windshield

Someone else mentioned aerodynamics to improve mileage; but the problem with the flatter modern windshields is that they increase your need for air conditioning, which takes gas. I had a couple of deceptively large diesel Peugeot 504's however, a '75 sedan that got 30 & 37 mpg and an '81 station wagon

that got 28 & 35mph with nearly 200,000 miles and never even a tune-up. When we moved, even the queen-size sofa-sleeper went all the way in, not hanging over the rear bumper. Can you get anything like that anymore? BTW, the well designed sunroof meant we seldom needed the air conditioning.

> Quote:
>
> DTV broadcast, when 90% of television is distributed by cable, why waste untold millions switching the last of the broadcast world to a whole new technology that is finicky and impossible to use with weak signals?

So we would get fed up with the poorer picture quality and the long time required to change channels, and quit watching TV.

> Quote:
>
> You can send Morse code on a Bug faster than texting

That was demonstrated on the Jay Leno show. Morse won, and the guys operating it weren't super fast either. I'd like phones to be made big enough to use though (and with a decent earphone speaker!), and then a QWERTY keyboard would be a little more practical.

> Quote:
>
> Linux, Ha! Great for servers but again, what good is it for real work?

I use it all the time, except for a couple of things I still do in DOS. 90% of my computer problems vanished when I dumped Windows. I won't use Windows again. It's not worth my health. I was always angry with the computer when I had Windows.

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42s Statistics Problem

*Message #1 Posted by **Norman Dziedzic** on 6 Dec 2009, 10:59 a.m.*

I recently got an old 42s from a colleague and am having blast playing around with it but now it cannot seem to do any statistical functions.

All Statistics functions as well as trying to clear the statistics registers gives me an "Invalid Type" response.

Unfortunately, I did not get a manual with this. Could I have inadvertently erased the statistics registers themselves?

Thanks

Re: 42s Statistics Problem

*Message #2 Posted by **Randy** on 6 Dec 2009, 11:21 a.m.,*
in response to message #1 by Norman Dziedzic

You're most likely in complex mode. Try shift-STO to toggle out of complex.

Re: 42s Statistics Problem

*Message #3 Posted by **Michael de Estrada** on 6 Dec 2009, 11:35 a.m.,*
in response to message #1 by Norman Dziedzic

Try MODES SIZE 25 and see if that fixes it. You should now have 25 storage registers (R00 thru R24). Registers R11 thru R23 are used for statistics summations, unless they have been relocated by the "summation registers" command. I'd strongly recommend that you buy the MoHPC CD with the HP 42s manual on it (CD #1).

Re: 42s Statistics Problem

*Message #4 Posted by **Norman Dziedzic** on 6 Dec 2009, 12:54 p.m.,*
in response to message #3 by Michael de Estrada

Thanks,

It was a combination of SIZE and the variable (Sum)Reg being messed up. I used to have a 41CX so a lot is similar but that was like 15 years ago so I can't remember it all.

Stat summation registers

*Message #5 Posted by **Karl Schneider** on 6 Dec 2009, 3:19 p.m.,*
in response to message #4 by Norman Dziedzic

Norman --

It seems that you've got it figured out, but here's some background for everyone:

For those HP's that do statistics using the summation method (instead of maintaining all input data, such as the RPL-based models, HP-17B/BII, HP-27S, and HP-71B), a set of six numbered storage registers was utilized for summation.

Most legacy models use a fixed set of registers. The HP-11C and HP-34C used R0-R5, as those would be the last to be deallocated for programming storage. The HP-15C uses R2-R7, because R0 and R1 must be preserved for matrix indices.

The HP-41 utilizes a set of six consecutive registers, user-selectable by the (Sigma)REG function. The HP-41CX added (Sigma)REG? -- which is not available in the X-Functions module -- to allow the user to identify the first summation register. The user is responsible for allocating a sufficient number of registers for numerical storage (SIZE), and that the selected value of (Sigma)REG allows for six summation registers.

The HP-42S, for compatibility with the HP-41, did the same. Both (Sigma)REG and (Sigma)REG? are standard in the HP-42S.

The HP-32S and its descendants do this better than all the others: They use the pool of unallocated RAM for the statistical registers. Each summation value can be recalled individually, but values are set and updated only via CLEAR(Sigma), (Sigma)+, and (Sigma)-.

-- KS

Edited: 6 Dec 2009, 5:31 p.m. after one or more responses were posted

Re: Stat summation registers

*Message #6 Posted by **Katie Wasserman** on 6 Dec 2009, 5:21 p.m.,*
in response to message #5 by Karl Schneider

> Quote:
>
> The HP-32S and its descendants do this better than all the others:

I agree, completely!

> Quote:
>
> Each summation value can be recalled individually, but values are set and updated only via CLEAR(Sigma), (Sigma)+, and (Sigma)-

Not quite, on the the 32sii they are writable via indirect data access. Registers A-Z are indirectly accessible as 1 thru 26, 27 is the "i" register itself and 28 thru 33 are the statistics registers. This turns out to be extremely useful in some programs. I believe that this feature was new on the 32sii and was not on the 32S, but it continued with the 33s and 35s. The 35s skips the "i" register because it has the "I" and "J" indirect registers. It also requires negative numbers to indirectly address the fixed location registers (A thru Z corresponds to -1 thru -26) and the statistics registers correspond to indirect -27 thru -32.

-Katie

Edited: 6 Dec 2009, 5:31 p.m. after one or more responses were posted

Re: Stat summation registers

*Message #7 Posted by **Karl Schneider** on 6 Dec 2009, 5:29 p.m.,*
in response to message #6 by Katie Wasserman

> Quote:
>
> Not quite, they are writable via indirect data access. Registers A-Z are indirectly accessible as 1 thru 26, 27 is the "i" register itself and 28 thru 33 are the statistics registers. This turns out to be extremely useful in some programs.

Mea culpa -- forgot about the indirect addressing.

Yes, having six easily-clearable "scratch" registers available for intermediate results without using lettered registers is helpful, but the required indirect-access storage could be a nuisance.

> Quote:
>
> I believe that this feature was new on the 32sii and was not on the 32S, but it continued with the 33s and 35s.

You are right! I didn't know that one; add it to this list of 32S vs. 32SII differences I posted several years ago.

-- KS

Edited: 7 Dec 2009, 12:19 a.m. after one or more responses were posted

Re: Stat summation registers

*Message #8 Posted by **Katie Wasserman** on 6 Dec 2009, 5:37 p.m.,*
in response to message #7 by Karl Schneider

> Quote:
>
> but the required indirect-access storage could be a nuisance

It could be but sometimes it's a big help when you use Sigma+ and Sigma- along with them. Take a look at how I use these registers here.. This program has nothing to do with statistics but makes use of the the extra memory to store processing variables and leaves the registers (1) - (26) available for results.

-Katie

Edited: 6 Dec 2009, 5:38 p.m.

Re: Stat summation registers

*Message #9 Posted by **Palmer O. Hanson, Jr.** on 7 Dec 2009, 10:19 p.m.,*
in response to message #7 by Karl Schneider

> Quote:

> Yes, having six easily-clearable "scratch" registers available for intermediate results without using lettered registers is helpful, but the required indirect-access storage could be a nuisance.

It would have been a better design if the statistics registers had been 27 through 32 and the i register had been 33.

Palmer

Re: Stat summation registers

*Message #10 Posted by **Katie Wasserman** on 8 Dec 2009, 12:12 a.m.,*
in response to message #9 by Palmer O. Hanson, Jr.

> Quote:
>
> It would have been a better design if the statistics registers had been 27 through 32 and the i register had been 33.

I agree. HP put a lot of thought, planning and engineering into the 32sii (complex numbers excluded) and this seems to have been a bad decision. However it may have been a deliberate attempt to semi-isolate the statistics registers so that users wouldn't overwrite them so easily when programming.

-Katie

HP-32S/SII Stat summation registers

*Message #11 Posted by **Karl Schneider** on 9 Dec 2009, 2:59 a.m.,*
in response to message #9 by Palmer O. Hanson, Jr.

> Quote:
>
> It would have been a better design if the statistics registers had been 27 through 32 and the i register had been 33.

Maybe so, but the more fundamental shortcoming is the insufficient RAM. 2 kB -- the amount provided on the original HP-28C -- was too stingy on that model with matrix functions and symbolic algebra, but would have been ideal on the HP-32S/SII. The 390 bytes on the HP-32S and 384 bytes on the HP-32SII do not allow the user to store a library of useful programs and equations, even though the paradigm is well-suited for that purpose. It's as though H-P deliberately "de-contented" the HP-32S/SII to prevent it from siphoning additional sales from the HP-42S.

It makes little sense that storage space for a variable is "deallocated" by setting its value to zero. This means that functions such as SOLVE and INTEG can cease to work for no apparent reason simply because the user had stored a non-zero value in a register. This can't happen on an HP-42S or a pre-Saturn model, where, if space for a register is allocated, it can be used; if it isn't, it can't.

With 2 kB of RAM, the 26 letter variables and the indirect register should have been allocated permanent space of 27 * 8 = 216 bytes. The remaining 2048 - 216 = 1832 bytes for statistical summation (48 bytes), programs, and equations would have been more

than enough for most users.

This isn't an issue on the HP-33s and HP-35s, now that RAM is so cheap that quantities beyond what is practical can be provided. Unfortunately, those newer models don't measure up to the HP-32SII in many ways.

-- KS

Edited: 10 Dec 2009, 1:31 a.m.

Re: 42s Statistics Problem

*Message #12 Posted by **Thomas Okken** on 6 Dec 2009, 11:43 p.m.,*
in response to message #1 by Norman Dziedzic

It sounds like REGS was made complex. The numbered storage registers on the HP-42S are actually elements of a matrix variable named "REGS", and that matrix can be either real or complex. When it is complex, the statistics functions won't work, giving you the "Invalid Type" message, but you can fix that quickly by doing CLV "REGS", followed by SIZE 0025 to re-create REGS as a real matrix.
If REGS is a real matrix, but one of the summation registers contains an ALPHA string, trying to use the statistics functions will give the "Alpha Data Is Invalid" message, but CLSigma will fix that problem.

- Thomas

Edited: 7 Dec 2009, 12:05 a.m.

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[O.T.] A collector's question

*Message #1 Posted by **Palmer O. Hanson, Jr.** on 5 Dec 2009, 10:15 p.m.*

In November I purchased a calculator which had no manufacturer or model number on the front. The label on the back was BASIC SLIDE RULE with a serial number and the statement "Assembled in Mexico of U.S. and Foreign Parts". I could not find a similar calculator in the Ball/Flamm "Collector's Guide to Pocket Calculators".

On return to Florida I found that the calculator was mechanically very similar to my Sears Electronic Slide Rule. The Sears Electronic Slide Rule has more second functions for the keys and uses the right hand switch to select degrees or radians for the trig functions, while the BASIC SLIDE RULE offers fewer second functions and uses the right hand switch to select the display format. The Ball/Flamm book notes that the Sears Electronic Slide Rule was "... probably made by Rockwell, has interesting case and key style, similar case to the [Sears] M8". The Rockwell idea makes sense because both my BASIC SLIDE RULE and my Sears Electronic Slide Rule use a blue fluor display for the numerical value but use a red LED dot in the upper right hand corner of the display to indicate a negative value, and use a red LED dot in the upper left hand corner of the display to indicate overflow. That characteristic appeared in several early Rockwell calculators. I cannot read the label on the Sears Electronic Slide Rule but the Ball/Flamm book states that it was made in Mexico.

Does anyone know what entity marketed the BASIC SLIDE RULE ?

Re: [O.T.] A collector's question

*Message #2 Posted by **Katie Wasserman** on 6 Dec 2009, 3:35 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

Philippe's calculator site says that the BASIC SLIDE RULE was indeed marketed by Sears.

Re: [O.T.] A collector's question

*Message #3 Posted by **Palmer O. Hanson, Jr.** on 7 Dec 2009, 8:54 p.m.,*
in response to message #2 by Katie Wasserman

> Quote:
>
> Philippe's calculator site says that the BASIC SLIDE RULE was indeed marketed by Sears.

I went to that site hoping to find a picture but one wasn't available there. But using your idea I searched "Sears BASIC SLIDE RULE" which lead to http://www.eepcworld.de/Taschenrechner/s/SEARS%20BASIC%20SLIDE%20RULE.jpg which does have a picture which shows no nomenclature on the front. That seems curious since the Sears Electronic Slide Rule and the Sears M8 which use a very similar case have the nomenclature embossed on the front.

Thank you for your help.

Palmer

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HP97 restore project

*Message #1 Posted by **Alberto Fenini** on 5 Dec 2009, 6:37 p.m.*

Hello everybody, this time I'm dealing with an HP97. It is in very good cosmetic condition, but it doesn't work ... I have already taken apart all the main components, which I will restore later (the printer group, the card reader) and I'm concentrating on the two main boards. I have already re-soldered all the points, and the only thing I have on the display is a faint (very faint) zero in different positions whan I press some of the keys like the SST, BST . I have tried with the power supply only, the battery only and the combination of both power sources. Does anybody have a good idea ? Take care,and thanks in advance for your replies, Alberto

Re: HP97 restore project

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 5 Dec 2009, 8:29 p.m.,*
in response to message #1 by Alberto Fenini

Ciao, Alçberto;

I do not have much experience with Topcats, but I have an HP97 and it had a nonworking card reader(/writer). The rest of it works fine, so I never had to deal with its internals. About the card reader, I had to adjust the many contact lids (three, IIRC), and it is not that hard.

Again, be careful when using the charger. The HP97 has a different power circuit when compared to the HP67. In the HP67, the charger has three wires (unregulated Vcc, regulated Vcc and common), but the HP97 uses a two-wire AC adapter. So, it depends on batteries installed to work safely. In the 80's, I once had my first HP82143A (HP41 peripheral printer) damaged just for plugging the AC adapter and turning it ON without batteries. I did not have to wait for a 'twice in a lifetime' to remember it for good!

The behavior you describe actually leads to a bad ACT (main processor), but as you have a good experience with the HP25, go ahead. And keep in mind that the Woodstocks and Topcats share the same ACT processor (except for the HP27, which uses V-MOS technology). In most cases a 'transplantation' is feasible.

Success!

Luiz (Brazil)

Re: HP97 restore project

*Message #3 Posted by **Alberto Fenini** on 9 Dec 2009, 11:07 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Unfortunately not much of a success till now.
Since I have a working HP97, I tried mixing the pieces, and that's how it went.
The keyboard/diplay of the faulty unit is not working, even when installed on the knowing working base.
I have soldered the display flat cable directly to the pcb, but with no improvements at all.
The base unit (of the supposed faulty machine) with the known working display units has some life in it ... the display says 0.00 for a second or two, than shuts off ...
I went for the IC replacement, but to my surprise the IC used on the HP97 (mine is an HP97 post release of

the HP 97/S production)do not share the same ACT then Woodstock's one, I'll post the list later today.
It must be said that the faulty unit was in nice cosmetic condition, with no corrosion at all, but both motherboards shows some opaque areas, like some solvent was dropped over ... I have ordered some deoxidation spray and I'll test it.
If anyone has a suggestion, meanwhile my soldering stuff has got broken and I have ordered a new low power one, I'll be happy to read them. Take care Alberto

---

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A little gem in the DVD 7

*Message #1 Posted by **J-F Garnier** on 5 Dec 2009, 8:17 a.m.*

I received the new DVD 7 of the Museum, and was very pleased to find a set of documents I was looking for since a long time: *the HP-75C Source Code Listings.*

These source code files are particularly famous because they are commented from place to place with dialogs between Roo-man the Expert and Joey the Novice. Thanks to the OCR'ed files, you can search for 'Joey' for instance to find these dialogs.

Thanks to Janick Taillandier for providing the scan files to the Museum! BTW Janick was a great contributor to the JPC Rom for the HP-71B at the time. [Janick, si tu lis ce forum, je te salue!]

J-F

Edited: 5 Dec 2009, 2:37 p.m.

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Cosine for fun

*Message #1 Posted by **Chuck** on 4 Dec 2009, 12:35 a.m.*

A fellow colleague of mine asked her calculus class what the graph of y=Cos(x)^Cos(x) might look like (for real valued results). A TI84 didn't show any of the "interesting" part. A TI89 showed a little of it. With Mathematica I was able to show "almost all" of it (with some effort), but unfortunately I haven't tried it on an HP yet (I'll have to dig out my HP50 from storage this weekend).

What was interesting is that for expressions like (-1/3)^(-1/3) [hint] the TI84 gave the real valued root, but the Casio fx9860g gave the first complex valued root, agreeing with Mathematica (which is why it took some effort with Mathematica to graph the real parts).

For a "fun" weekend time waster see if you can get a "mostly complete" graph from 0 to 2pi.

Edit: don't trust Wolfram Alpha entirely on this one.

Edited: 4 Dec 2009, 12:40 a.m.

Re: Cosine for fun

*Message #2 Posted by **Bart (UK)** on 4 Dec 2009, 5:56 a.m.,*
in response to message #1 by Chuck

If it's plotting the real values of the results of Y=Cos(x)^Cos(x) for x=0 to 2pi, then on the 48G:
PLOT menu:
Equation = 'RE(Cos(x)^Cos(x))' *edit#2:* should read EQ: 'Y=RE(Cos(x)^Cos(x))' [does not seem to make a difference though]
Independent variable = X
X-scale =0, 360
Y-scale automatic
Output graph:
click here.

Edit: the above was in DEG mode, similar results are obtained in RAD mode for X=0 to 6.2832 (2pi).

If the absolute value of the eqution is used ('Y=ABS(Cos(x)^Cos(x)'), the following is obtained:
ABS(Cos(x)^Cos(x).

Edited: 4 Dec 2009, 8:10 a.m. after one or more responses were posted

Re: Cosine for fun

*Message #3 Posted by **Marcelo Vanti (Brasil)** on 4 Dec 2009, 7:53 a.m.,*
in response to message #2 by Bart (UK)

Hello, I don't know why my hp 50g can't plot the middle part of the graph.I used the same settings that Bart. The table function results in indefinite values for the corresponding x, but if I evaluate the function in

the stack it gives the correct result. So I had to plot the following program: << x cos dup ^ RE >>. That's works.

Re: Cosine for fun

*Message #4 Posted by **Marcelo Vanti (Brasil)** on 4 Dec 2009, 8:16 a.m.,*
in response to message #3 by Marcelo Vanti (Brasil)

Hello again ,
Finally, I did the plot using on the Plot Setup of the 50g
EQ: << RE(cos(x)^cos(x))>>.
But, if I try without the markers program, then it doesn't work.
Anybody know why?
Marcelo

Re: Cosine for fun

*Message #5 Posted by **Chuck** on 4 Dec 2009, 7:30 p.m.,*
in response to message #2 by Bart (UK)

The interesting part is where pi/2 < cos(x) < 3pi/2 because here the values of cos(x) are negative (between -1 and 0), causing negative numbers to be raised to negative number.

This can cause complex or imaginary results: such as (-.5)^(-.5) = -1.414i, which can not be graphed on the real coordinates system (don't just graph the real part of the solution)

....or negative results such as (-1/3)^(-1/3) = -1.4422
....or positive results such as (-2/3)^(-2/3) = 1.3104

It all depends on the numerator and denominator being odd or even, and the irrationality of the numerator and denominator.

So, depending on the value of cos(x) in this region the graph should bounce from positive and negatives, but not be connected anywhere due to the complex results.

The trick was to get a graph to show this behavior. Some calculators will only show the complex values (or roots), and others give the real valued roots.

For instance, the value of (-2/3)^(-2/3) will either be real or complex depending on the calculator or math software: Hp's and TI's give the real root, while Mathematica and the Casio Fx9860g will only give the complex root.

The trick was to find the values of x that produces real roots (both positive and negative). After some trial and error, this is what I came up with:

The middle portion is the non continuous positive-negative-complex behavior. It should be filled-in completely, but I only used fractions as large as -38/39 (i.e. (-38/39)^(-38/39) which gives a positive value) and this will occur for radians of about 2.91 and 3.368, hence the large gap. Had I used values closer to 1, i.e., 257/259 the gap would have been smaller.

Anyway, fun problem, but I think I spent way to much time kicking it around. :)

Have great weekend.

CHUCK

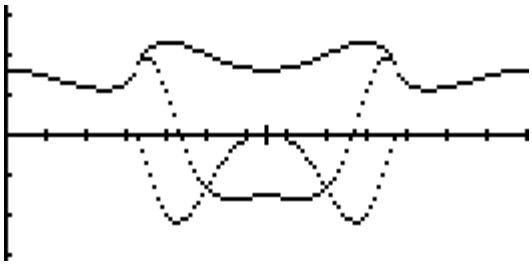
Edited: 4 Dec 2009, 7:52 p.m.

Re: Cosine for fun

*Message #6 Posted by **Dave Britten** on 4 Dec 2009, 2:09 p.m.,*
in response to message #1 by Chuck

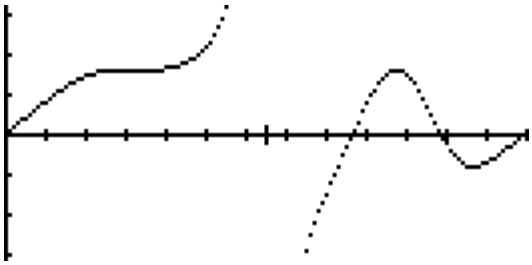
Here's a screen grab of three superimposed graphs:

RE(COS(X)^COS(X))
IM(COS(X)^COS(X))
ABS(COX(X)^COS(X))



XRNG: (0, 2*PI), YRNG: (-2, 2)

And here's a graph of RE(SIN(X)^COS(X)), which happens to be discontinuous at x=PI:



XRNG: (0, 2*PI), YRNG: (-2, 2)

Re: Cosine for fun

*Message #7 Posted by **Chuck** on 4 Dec 2009, 7:39 p.m.,*
in response to message #6 by Dave Britten

Dave, your graphs are similar to what Wolfram|Alpha gives: individual graphs of the real part a the first root, or the imaginary part of the first root. However, I'm looking for the graph for just the entire real roots, not just the real portion.

That is...there are three cube roots of (-3) or three values (-1/3)^(-1/3). Two are complex, one is real: graph the real one. The problem is, some CAS give only the first complex value making graphing the real root impossible (and other values have no real root). I hope I make sense. :(

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HP-38E chips layout

*Message #1 Posted by **Alberto Fenini** on 3 Dec 2009, 1:57 p.m.*

Dear all,

I have received an HP38E which may be worth to restore, but it was in pieces when it came to me, and it is a "non soldered" one, does any one of you have a picture where I can see the chips layout ? Particulary, I need to see the orientation of the three small ICs, again, thanks in advance to everybody, take care all of you, Alberto

Re: HP-38E chips layout

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 3 Dec 2009, 2:50 p.m.,*
in response to message #1 by Alberto Fenini

Ciao, Alberto;

I hope this picture helps you:

Details of the HP38E chips alignment

Although the unit is of the soldered type, position and alignment is the same. Because it is the E-series, the three 8-pin DIL chips (ROM and RAM) have all pins in common, meaning that there is no specific order for them. If it is a 38C, the upper-leftmost chip should be the RAM (continuous power supply).

Please, let us know if you succeed.

Luiz (Brazil)

Edited: 3 Dec 2009, 2:51 p.m.

Re: HP-38E restore project

*Message #3 Posted by **Alberto Fenini** on 5 Dec 2009, 8:22 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Thank you very much for the picture, it has been really useful, and may be could be of interest what I have done : as first step I have completely dissambled the unit, and with a soft iron brush (dremel) cleaned the pcb

to avoid any possible bad contact.
Then, with a light solution of warm water and Marseille soap the I have washed, rinsed and brushed (this time with a plastic brush) the keys and the skeleton

All the plastic items have been then polished with a teflon polisher

At this point, feeding power with cables, I have performed a self test, which proved that the contatc problems beetween pcb and ICs were fixed. However, the display has been soldered to the PCB, using a 16W solder wich has not melted the plastic foil.Display RED plastic was removed for separate polishing

Now comes the interestegin part, I have tried to restore the battery contacts at best, and your suggestion will be very helpful at this point.
I have drilled the old rivets, and separate the foil that hold the contacs, this has been cleaned till bringing the copper at view, and lightly soldered. Then, using some NICD Battery terminals (which I usually remove) I have cutted something close to old battery contacts, and I have soldered them from the battery caveau side. One more step, I have inserted a very small screew and soldered the backside. Finally, I have soldered the plastic foil for best contact

Last but not least, assembled back the unit, inserted a pack of fresh batteries and re-executed the self test.

How does it look ? Again, thank you very much to everybody and in this case to Vieira, Luiz C. (Brazil)!
Take care Alberto

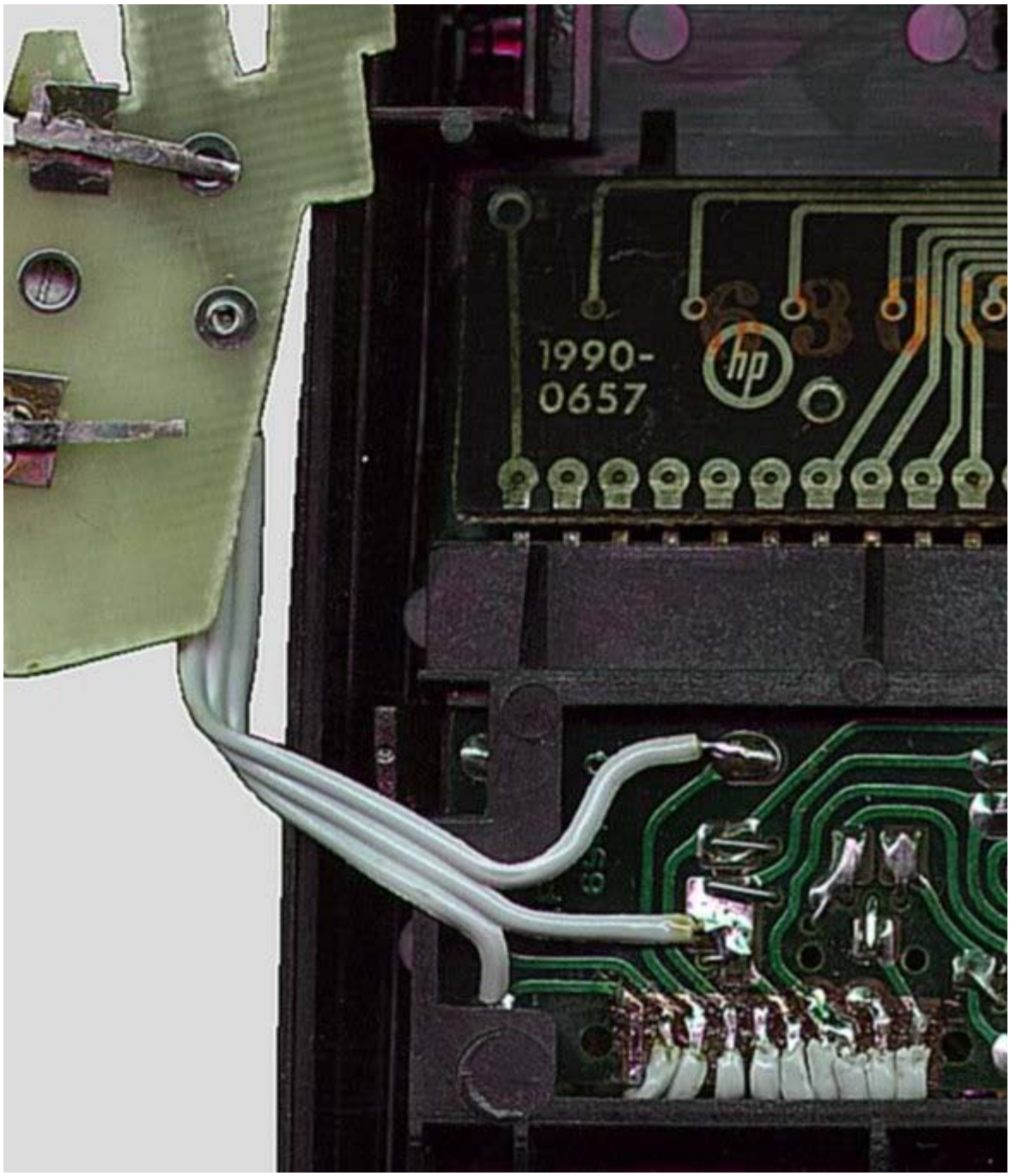
HP-38E restore project: CONGRATULATIONS!

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 5 Dec 2009, 8:51 a.m.,*
in response to message #3 by Alberto Fenini

Beautiful! That's the least I can tell about!

I'm glad to know that your HP38E is working. This is the HP12C's platform, and if you actually know them both, the HP38E/C misses Bond and Depreciation. The HP38E/C actually offers storage arithmetic to registers R0 to R6 while the HP12C restricts it to R0 to R4. Some features are added, others are suppressed...

The solution for batteries' contacts is, at least, fancy! Both functional and brainy. In the picture below you can see I soldered two metal stripes in order to replace the original contacts (broken). Your solution is perfect.



The steel used in NiCad packs seems to be a very good solution because it is oxide resistant and is flexible enough. It's a pity it is not shaped accordingly, should be bent as you did.

What else to say? Just 'Thank you for allowing my posts to be useful'.

Best regards.

Luiz (Brazil)

Edited: 5 Dec 2009, 8:59 a.m.

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HP50G SD card is popping out

*Message #1 Posted by **Patrick Rendulic** on 2 Dec 2009, 1:01 p.m.*

Am I the only one who owns a HP50G where the SD card is popping out all the time (after transporting the calculator)?

Why didn't HP provide a free roll of duct tape?

If HP is reading this: please fix this in a future update!

Re: HP50G SD card is popping out

*Message #2 Posted by **Michael Plant** on 2 Dec 2009, 1:25 p.m.,*
in response to message #1 by Patrick Rendulic

I don't know if you are the only one, but I don't have this problem. My HP50G travels just fine with an SD card in the calculator. Have you tried different SD cards? With luck you'll find that you've got a dodgy card... Having said that, my notebook computer has an SD card reader that REFUSES to lock the SD cards in place. This means that in order to use it I have to hold the card in place while transferring files. Doesn't matter what card I use, either.

Re: HP50G SD card is popping out

*Message #3 Posted by **Patrick Rendulic** on 2 Dec 2009, 1:34 p.m.,*
in response to message #2 by Michael Plant

The card I am using is a 512MB from Toshiba. I got it with a used MP3 player. I will copy the content to a different card and will see whether this solves the problem.

Re: HP50G SD card is popping out

*Message #4 Posted by **Ed Look** on 2 Dec 2009, 1:29 p.m.,*
in response to message #1 by Patrick Rendulic

Mine stays in unless I take it out. In fact, the card appears to be just ever-so-slightly higher than flush with the bottom contour of the calculator, so that it should NOT be easy to accidentally pop it out.

You may have a faulty holding mechanism in your calculator's slot.

Re: HP50G SD card is popping out

*Message #5 Posted by **Patrick Rendulic** on 2 Dec 2009, 1:38 p.m.,*
in response to message #4 by Ed Look

I suppose that the mechanism releases the card when the calculator gets a shock along its long side. That's how I carry it in my bag, in a vertical position. So it is possible that when putting the bag on the ground the shock is sufficient to release the card. I will try with a different card. The only problem is that it is getting

harder to find "pure SD" cards ;).

Re: HP50G SD card is popping out

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 2 Dec 2009, 1:35 p.m.,*
in response to message #1 by Patrick Rendulic

Hi;

I have two HP5G's and one HP49G+, and it never happened with any of them. I'd quote Ed Lock:

> Quote:
>
> (...) the card appears to be just ever-so-slightly higher than flush with the bottom contour of the calculator, so that it should NOT be easy to accidentally pop it out.

Same for me.

About the duct tape: I want mine, too! Not necessarily to fix the card in place... B^)

Cheers.

Luiz (Brazil)

Edited: 2 Dec 2009, 1:36 p.m.

Re: HP50G SD card is popping out

*Message #7 Posted by **designnut** on 2 Dec 2009, 5:02 p.m.,*
in response to message #6 by Vieira, Luiz C. (Brazil)

I have used SD cards hundreds of times, cameras,readers, HP50's. Never had a flaw. Press it in past what you think is enough and it locks on release. Press again and it releases. Are you pressing it in far enough? Sam

Re: HP50G SD card is popping out

*Message #8 Posted by **Mike Morrow** on 2 Dec 2009, 4:59 p.m.,*
in response to message #1 by Patrick Rendulic

SD cards don't physically lock or latch in any way into the inserted position. The card is held in only by friction in the slot...a fully inserted SD card can be removed by simply grasping the card edge with fingernails, tweezers, etc. and pulling outward.

Inserting a card compresses a sort of spring wire in the slot that catches upon full card insertion. Later, pressing the card releases the spring wire, which then pushes the card out of its slot.

Something in your HP50G is allowing that spring wire to release without the normal inward card push. And no, that's not normal for the HP50G or the similar HP49g+. I've never experienced it with my two well-travelled machines, the oldest being more than six years old.

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HP17b & it's offsprings - Random Number Generator - How?

*Message #1 Posted by **Peter A. Gebhardt** on 2 Dec 2009, 12:30 p.m.*

Loooking into the "HP-17B Business Finance and Accounting (Step-by-Step Solutions)" on the new v7 DVD set which arrived today here in Germany (Thx. to Dave & all contributors!), I realized for the first time, that neither the keyboard nor the solver do offer a "Random Number" function.

One might argue: "If you didn't know it by now, you even might never need it ..." ;-)

Anyway. Could anybody recommend a good solver equation to generate random numbers?

Best regards,

Peter A. Gebhardt

Edited: 2 Dec 2009, 12:31 p.m.

Re: HP17b & it's offsprings - Random Number Generator - How?

*Message #2 Posted by **Don Shepherd** on 2 Dec 2009, 12:54 p.m.,*
in response to message #1 by Peter A. Gebhardt

Peter, this may not be exactly random, but in the absence of any timer function, I prompted the user to enter any old multi-digit number, then took LN of that and used FP and IP to get the first 2 digits after the decimal point. That gave me a number between 00 and 99, and that's what I wanted. Like I said, it may not be "purely" random, but I got what I needed.

Re: HP17b & it's offsprings - Random Number Generator - How?

*Message #3 Posted by **Peter A. Gebhardt** on 2 Dec 2009, 1:32 p.m.,*
in response to message #2 by Don Shepherd

Don,

Thx. for your quick response.

Best regards,

Peter A. Gebhardt

Re: HP17b & it's offsprings - Random Number Generator - How?

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 2 Dec 2009, 1:14 p.m.,*
in response to message #1 by Peter A. Gebhardt

Halo, Peter; wie geht´s?

I was interrupted while writing my followup so I did not see Shepherd´s wise and practical suggestion.

Anyway, you can search the MoHPC set and, under HP25 Applications or HP33/34 Applications and some others, you'll find many pseudo Random number generators. They mainly use an updated seed (which happens to be the last generated random number) to compute a new one. Although the HP28S has a RAND function (also a pseudo-number generator), it offered a way to enhance the randomizing process because it allowed the internal clock to be read and placed in the stack as a number, hence you could use this value as a seed to change the Random number. I am not sure if the HP17B has a time function which returns current clock as a number, but I know that it has a clock. If possible, you could use the current clock as a seed to generate a asynchronous pseudo Random series.

Hope this helps.

Luiz (Brazil)

Edited: 2 Dec 2009, 1:16 p.m.

Re: HP17b & it's offsprings - Random Number Generator - How?

*Message #5 Posted by **Peter A. Gebhardt** on 2 Dec 2009, 1:30 p.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

Luiz,

Muito bom! Graças à sua ajuda.

Thank you. That's a good starting point.

Peter A. Gebhardt

PS: I must confess, I've cheated by using Google translate. Hopefully the translated sentence doesn't only **look** like Portuguese ... ;-)

Re: HP17b & it's offsprings - Random Number Generator - How?

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 2 Dec 2009, 1:48 p.m.,*
in response to message #5 by Peter A. Gebhardt

Keine Problem, mein Freund.

I use AltaVista's Babel Fish Translator as a spell checker, but sometimes knowledge is not enough... So I have my non-English sentences corrected (the ones in English should need advise, though...)

If I could, I'd actually learn as many idioms as possible, because this is one of the main interests of mine since I was about 20 YO: communication with anyone with no language concerns. Did not have the chance then, trying to fulfill this 'need' of mine lately.

And here is one of the best places ever to find people from many places with a common interest and eager for sharing and learning.

Cheers.

Luiz (Brazilie)

PS: Yes, the sentence looks like Portuguese and can be understood.

Edited: 4 Dec 2009, 6:47 a.m.

Re: HP17b & it's offsprings - Random Number Generator - How?

*Message #7 Posted by **Ángel Martin** on 2 Dec 2009, 1:42 p.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

slightly off-topic but pls. bear with me. On the SandMath I added a couple of functions written by Häkan Thörgren that make effective use of the 41C Time Module to create a true random seed, and a series of random numbers based on such.

Cheers, AM

Re: HP17b & it's offsprings - Random Number Generator - How?

*Message #8 Posted by **Peter A. Gebhardt** on 8 Dec 2009, 2:22 p.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

Following up on the sources Luiz already named, James Soules for the HP Business Forums pointed me to the implementation of RAND within the HP-48:

http://forums11.itrc.hp.com/service/forums/bizsupport/questionanswer.do?threadId=1391505

http://www.hpcalc.org/hp48/docs/misc/rand.txt

> Quote:
>
> R(n+1) = R(n) * 2851130928467 (mod 10^15)

Best regards,

Peter A. Gebhardt

Re: HP17b & it's offsprings - Random Number Generator - How?

*Message #9 Posted by **Don Shepherd** on 2 Dec 2009, 8:14 p.m.,*
in response to message #1 by Peter A. Gebhardt

Peter, Luis is right, the 17bii+ does have a clock and the solver has a CTIME function that returns the current time. For instance, at PM 9:13:28, if you enter equation A=CTIME and solve for A, A will be 21.1328, so you could probably use that number in some way to generate a random number rather than prompting the user to enter some number, which is never elegant.

RNDU & RAND for HP17b & it's offsprings - Random Number Generator

*Message #10 Posted by **Peter A. Gebhardt** on 3 Dec 2009, 4:11 a.m.,*
in response to message #1 by Peter A. Gebhardt

With a little help from my friends (from this forum) ... :-)

(Example) Pseudorandom Generator for 17b

```
Uniform Distribution with Seed: RNDU = FP(9821*G(RNDU)+.211327) *) **) ***)
"True" Distribution w/o Seed: RAND = FP(9821*G(RAND)*CTIME+.211327)
```

Other approaches can be found by looking at

http://en.wikipedia.org/wiki/Random_number_generation

Best regards,

Peter A. Gebhardt

PS(2009, Dec 4th 23:49 MEZ): Or look here for indepth research on potentially useful algorithms

http://en.wikipedia.org/wiki/Linear_congruential_generator

*) Credit for using these values goes to A.C.Rodríguez and his posting here on 11 Aug 2007 conc. 35s seed (Just found it by scanning the Forums Archive PDFs)

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv017.cgi?read=121217

**) and it's original Author Jean-Marc Baillard here:

http://www.hpmuseum.org/software/41/41ranjm.htm

***) And even Microsoft EXCEL **did** use it - claiming it's good up to a million "draws", but failing statistical tests:

http://support.microsoft.com/kb/86523

Edited: 8 Dec 2009, 5:08 p.m. after one or more responses were posted

Re: RNDU & RAND for HP17b & it's offsprings - Random Number Generator

*Message #11 Posted by **John B. Smitherman** on 3 Dec 2009, 6:33 p.m.,*
in response to message #10 by Peter A. Gebhardt

Hi Peter. I entered your equations into my yellow / gold 17bii+ (s/n 61801536) and it doesn't seem to work. When I run either equation they return 0.211327. Either I have done something wrong or there is a difference between the 17b and 17bii+. Any ideas?

Regards,

John

Re: RNDU & RAND for HP17b & it's offsprings - Random Number Generator

*Message #12 Posted by **Peter A. Gebhardt** on 3 Dec 2009, 7:45 p.m.,*
in response to message #11 by John B. Smitherman

John,

I've tested on a 17bII (s/n: 3610M00859) and a 17bII+ (gold, s/n: CNA42903649).

The only difference: the 17bII when started with seed == 0 in RNDU or RAND respectively, does return 0 at the first key press.

After pressing CALC do a CLR DATA first.

Best regards,

Peter A. Gebhardt

Re: RNDU & RAND for HP17b & it's offsprings - Random Number Generator

*Message #13 Posted by **Don Shepherd** on 3 Dec 2009, 10:41 p.m.,*
in response to message #12 by Peter A. Gebhardt

Peter, are you sure you tested on a 17bii+ unit? I got the same results as John, running on both the old 17bii+ (gold) and newer 17bii+ (retro silver). I haven't tested on my 17b or 17bii yet, but I have no doubt it will work on those because their solver works differently (that is, better) than the solver in the plusses. The plus solver has that problem with an extra pass at the beginning of the equation evaluation, and I'd bet that that is the reason your equations don't work, at least on John and my plus units.

Don Shepherd

Re: RNDU & RAND for HP17b & it's offsprings - Random Number Generator

*Message #14 Posted by **Vieira, Luiz C. (Brazil)** on 4 Dec 2009, 6:44 a.m.,*
in response to message #13 by Don Shepherd

Hi;

in my HP17BII+ (gold, SN CN33015xxx), after pressing [CALC] the calculator returns [INVALID EQUATION] and the cursor stops at R in G(RAND). I checked the equation many times, added separators in all arithmetic operations, and the error is marked in the same place.

I´ll try with the HP17BII later.

Cheers.

Luiz (Brazil)

Re: RNDU & RAND for HP17b & it's offsprings - Random Number Generator

*Message #15 Posted by **Peter A. Gebhardt** on 4 Dec 2009, 7:13 a.m.,*
in response to message #14 by Vieira, Luiz C. (Brazil)

Luiz,

try to use a different variable name instead of RAND on both sides of the equation. If the error persists then you might have a problem because of the L() & G() issues with the early 17bII+'sses.

Checked s/n definition @Graig Finseth's site (http://www.finseth.com/hpdata/serial.php): ccywwnnnnn - your unit is apparently from 2003 and contains an older ROM version which was already reported of having problems in this area. Pls. scan the archives for more information.

There is another obvious problem with the 2nd formula which was pointed out by John already, but somewhat misinterpreted by me:

The uninitialized G(RAND) as long as it evaluates to 0 (zero) returns a fix SEED of .211327 for RAND ...

After you've entered the equations (or after an Error with L() & (G) as encountered here),

pls. make sure that you CLR ALL variables while in SOLVE but not in CALC mode (clearing variables for ALL equations!)

BUT BE CAREFUL NOT TO DELETE ALL YOUR EQUATIONS !!!

Best regards,

Peter A. Gebhardt

Edited: 4 Dec 2009, 12:16 p.m.

Re: RNDU & RAND for HP17b & it's offsprings - Random Number Generator

*Message #16 Posted by **John B. Smitherman** on 7 Dec 2009, 11:46 a.m.,*
in response to message #15 by Peter A. Gebhardt

Thanks Peter. It's still a "no-go" after trying different sequences using the CLR DATA function. I've decided that there must be differences in ROM's that keeps this from working correctly. :-(

Thanks and regards,

John

Re: RNDU & RAND for HP17b & it's offsprings - Random Number Generator - 17bii+ Version

*Message #17 Posted by **Marcus von Cube, Germany** on 7 Dec 2009, 12:52 p.m.,*
in response to message #10 by Peter A. Gebhardt

Here is a version that works on my 17bii+ (silver):

```
RNDU = L(SEED:FP(9821*SEED+.211327))
```

Solve for RNDU! Problem: RCL SEED should return the same value as RCL RNDU but it doesn't. Is the equation evaluated more than once?

Re: RNDU & RAND for HP17b & it's offsprings - Random Number Generator - 17bii+ Version

*Message #18 Posted by **John B. Smitherman** on 7 Dec 2009, 1:58 p.m.,*
in response to message #17 by Marcus von Cube, Germany

Thanks Marcus, it works. I agree, I'm not sure what's going on with RCL SEED and RCL RNDU.

Regards,

John

Re: RNDU & RAND for HP17b & it's offsprings - Random Number Generator - 17bii+ Version

*Message #19 Posted by **Don Shepherd** on 7 Dec 2009, 2:34 p.m.,*
in response to message #17 by Marcus von Cube, Germany

> Quote:
>
> Is the equation evaluated more than once?

Yes, a minimum of two times, and more if it iterates, which it frequently does on the 17bii+'s. See article 830. The solver in the plusses does not work like the solver in the 17b or 17bii. It is illogical, and my attempts to ask HP to clarify exactly how it does work have not been successful. I'm convinced there is no one currently within HP who knows how the plus solver currently works.

Re: RNDU & RAND for HP17b & it's offsprings - Random Number Generator - 17bii+ Version

*Message #20 Posted by **Marcus von Cube, Germany** on 7 Dec 2009, 3:45 p.m.,*
in response to message #19 by Don Shepherd

But this still doesn't explain, why SEED and RNDU differ in value. If I set SEED to 0 and solve for RNDU, then RNDU is set to 0.2113... (the last constant in the expression) which I do expect, but SEED is set to a different value: 0,6538. I'm puzzled.

Re: RNDU & RAND for HP17b & it's offsprings - Random Number Generator - 17bii+ Version

*Message #21 Posted by **Don Shepherd** on 7 Dec 2009, 4:18 p.m.,*
in response to message #20 by Marcus von Cube, Germany

Marcus, you are right to be puzzled. If anyone at HP can diagnose this and is listening, we'd love to hear from you.

Re: RNDU & RAND for HP17b & it's offsprings - Random Number Generator - 17bii+ Version

*Message #22 Posted by **John B. Smitherman** on 7 Dec 2009, 4:30 p.m.,*
in response to message #21 by Don Shepherd

I tried running the self-test to see if it would report the ROM version at the end of the test but no luck. Are you aware of any sequence of button pushes that would provide this?

John

Re: RNDU & RAND for HP17b & it's offsprings - Random Number Generator - 17bii+ Version

*Message #23 Posted by **Don Shepherd** on 7 Dec 2009, 5:17 p.m.,*
in response to message #22 by John B. Smitherman

John, I just went through by 17bii+ "file" and I could not find any reference to a key sequence that will give you a version number or ROM number. If there is such a sequence, I'm not aware of it.

Don

Re: RNDU & RAND for HP17b & it's offsprings - Random Number

Generator - 17bii+ Version

*Message #24 Posted by **Peter A. Gebhardt** on 8 Dec 2009, 6:33 p.m.,*
in response to message #22 by John B. Smitherman

John,

be careful using the selftest! It could clear your calc's memory and all your stored equations.

Look here for a description of keypresses:

http://www.educalc.net/1757088.page

Best regards,

Peter A. Gebhardt

Edited: 9 Dec 2009, 4:02 a.m.

Re: RNDU & RAND for HP17b & it's offsprings - Random Number Generator - 17bii+ Version

*Message #25 Posted by **Peter A. Gebhardt** on 9 Dec 2009, 10:42 a.m.,*
in response to message #20 by Marcus von Cube, Germany

Marcus,

> Quote:
>
> But this still doesn't explain, why SEED and RNDU differ in value. If I set SEED to 0 and solve for RNDU, then RNDU is set to 0.2113... (the last constant in the expression) which I do expect, but SEED is set to a different value: 0,6538. I'm puzzled.

as expected above findings could not be reproduced on my 17bII+. My results:

```
Keys       Display
----------------------
0 SEED     SEED=0.0000
RNDU       RNDU=0.2113
RCL SEED   SEED=0.2113
RNDU       RNDU=0.6538
RCL SEED   SEED=0.6538
RNDU       RNDU=0.1212
RCL SEED   SEED=0.1212
...
```

Best regards,

Peter A. Gebhardt

Re: RNDU & RAND for HP17b & it's offsprings - Random Number Generator - 17bii+ Version

*Message #26 Posted by **Marcus von Cube, Germany** on 9 Dec 2009, 10:56 a.m.,*
in response to message #25 by Peter A. Gebhardt

So you must have a different version of the solver in your machine. Mine is a silver

(newer?) release.

Peter, your results look fine. You can simply use the formula and you will get the desired pseudo random sequence on your machine.

Re: RNDU & RAND for HP17b & it's offsprings - Random Number Generator - 17bii+ Version

*Message #27 Posted by **Peter A. Gebhardt** on 8 Dec 2009, 1:36 p.m.,*
in response to message #17 by Marcus von Cube, Germany

Marcus,

your solution does work only for a single SEED / RNDU combination. (On my Gold 17bII+)

Pressing RNDU a 2nd time shows a value outside 0 ... 1

Best regards,

Peter A. Gebhardt

Re: RNDU & RAND for HP17b & it's offsprings - Random Number Generator - 17bii+ Version

*Message #28 Posted by **Marcus von Cube, Germany** on 8 Dec 2009, 5:47 p.m.,*
in response to message #27 by Peter A. Gebhardt

I tested it with my silver 17bii+ and it looked correct. Can you set SEED to 0 and post the first few RNDU results here?

```
Keys      Display
--------------------
0 SEED    SEED=0.0000
RNDU      RNDU=0.2113
RCL SEED  SEED=0.6538
RNDU      RNDU=0.1222
RCL SEED  SEED=0.3473
RNDU      RNDU=0.5160
RCL SEED  SEED=0.1911
```

Marcus

Re: RNDU & RAND for HP17b & it's offsprings - Random Number Generator - 17bii+ Version

*Message #29 Posted by **Peter A. Gebhardt** on 8 Dec 2009, 6:16 p.m.,*
in response to message #28 by Marcus von Cube, Germany

Marcus,

Now I understand - you are using a 2-step process.

What I'm after is, storing the 'seed' (or even none) into RNDU once and then proceed (by only pressing RNDU again) to get the next value in sequence - and so on ...

```
Keys      Display
--------------------
0 RNDU
RNDU=0.2113
```

```
RNDU=0.6538
RNDU=0.1222
RNDU=0.3473
RNDU=0.5160
...
```

That's the way the formula in Message #10 works on both units of mine. It does even work, if you use an initial RNDU outside { 0 ... 1 }

Best regards,

Peter A. Gebhardt

Edited: 8 Dec 2009, 6:19 p.m.

Re: RNDU & RAND for HP17b & it's offsprings - Random Number Generator - 17bii+ Version

*Message #30 Posted by **Marcus von Cube, Germany** on 9 Dec 2009, 2:18 a.m.,*
in response to message #29 by Peter A. Gebhardt

This is how it *should* work, but it doesn't do on the 17bii+. I tried to overcome the situation by adding the seed variable. Normally, the modified sequence should be identical to the original formula if you only set SEED once and press RNDU multiple times. Because of reasons yet to determine, this isn't the case on the "+". The formula gets evaluated twice with each step but returns the RNDU result of the first step. Therefore, SEED (checked with RCL SEED) and RNDU differ. If you can live with the fact that the formula returns every other result of the pseudo random sequence, just press RNDU in each step.

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Deoxit: now that I have it, how do I use it?

*Message #1 Posted by **Michael Meyer** on 1 Dec 2009, 6:31 p.m.*

I just got a bottle of Deoxit D100L (100% solution). I also picked up some small syringes, so I can drop small amounts on pinpoint areas.

Let's say that I drop a small amount into an HP-25 keyboard hole for a misbehaving key. Do I need to rinse the stuff out, or is it safe to just drip a tiny bit into the holes?

If I clean a whole circuit board, what is the best way to do this? (The stuff is so expensive). I was thinking about using a zip-lock bag (not supposed to hurt plastic) so that I can re-use the bag to clean many boards.

If I choose to dilute the solution, what solvent should I use-- just water?

Thanks... I couldn't find the answers to this, even on the Deoxit site and forum.

Re: Deoxit: now that I have it, how do I use it?

*Message #2 Posted by **Allen** on 1 Dec 2009, 7:09 p.m.,*
in response to message #1 by Michael Meyer

IIRC, the deoxit gold is better for cleaning. The standard RED solution is good for prevention/treating. I have many battery terminals of my calculators (in my collection) treated with Deoxit.

IMHO, The best application is with a lint-free brush.

You don't need much- literally only a few hundred atoms thick will suffice for treating surfaces. Any more and it just becomes a dust magnet. Although, I've never used it as a "bluk" cleaning solution to dip boards in....

Re: Deoxit: some early success

*Message #3 Posted by **Michael Meyer** on 1 Dec 2009, 10:49 p.m.,*
in response to message #2 by Allen

Well, the HP-25 with a couple of poor keys works perfectly now. I used a syringe and put a micro-drop in the holes of the failing keys, let it soak a few hours, then flushed them with a little contact cleaner.

I also used the syringe to coat the board of a badly corroded HP-10. I'll report on it in a few days.

Still wondering what solvent I could use to soak a whole board...

Re: Deoxit: some early success

*Message #4 Posted by **Katie Wasserman** on 1 Dec 2009, 11:18 p.m.,*
in response to message #3 by Michael Meyer

MCM Electronics sells the full line (I think) of this stuff. I use it in the pen and the 25ml needle tip

bottle for all the cleaning/repairing that I do. They also have it in a spray can of various concentrations. Often it's on sale for half price, nothing now but keep checking: here

-Katie

Edited: 1 Dec 2009, 11:19 p.m.

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Upgrade to HP Museum DVD Set Version 7.0

*Message #1 Posted by **Gerry Schultz** on 1 Dec 2009, 6:04 p.m.*

I just got my upgrade copy of the HP Museum DVD 7.0 and am loving it! You guys did a great job and am very happy with the results.

One question though, what's the difference between the upgrade and full version of the DVD disks? I compared it to my copy of version 6.0 and it appears that this upgrade version is complete. Is this correct?

Thank you all for all the hard work to produce such a great set of discs.

Gerry

Re: Upgrade to HP Museum DVD Set Version 7.0

*Message #2 Posted by **Walter B** on 1 Dec 2009, 6:31 p.m.,*
in response to message #1 by Gerry Schultz

Please see paragraph 3 of this. Oh see, good things are not too far away ;)

HTH

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HP 42S - intermittent rows nonfunctional

*Message #1 Posted by **Rob Welch** on 1 Dec 2009, 2:24 p.m.*

I've been a heavy user of my 42S for over 20 years now. To my dismay, I'm starting to see a chronic problem. Most of the time, I lose a row or column of keys. I'll lose the 123 row or the 963 column. The calculator has always been either in the old leather case HP used to sell or in use, so it's clean. Is there a way to fix this without having to crack open the case? I've already sprayed contact cleaner in the case and that had no effect other than to make the calculator greasy for a day or so. I sure am jonesing for RPN. I'm tired of getting a result of zero.

Re: HP 42S - intermittent rows nonfunctional

*Message #2 Posted by **Steve Simpkin** on 1 Dec 2009, 3:11 p.m.,*
in response to message #1 by Rob Welch

This is likely a problem with deformed rubber at the keyboard connector contacts. This is usually repairable without removing the keyboard overlay.

See the recent thread: http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/forum.cgi?read=160128#160128

Also see http://www.hpmuseum.org/guest/brogpion.htm

Re: HP 42S - intermittent rows nonfunctional

*Message #3 Posted by **geoff quickfall** on 1 Dec 2009, 3:49 p.m.,*
in response to message #1 by Rob Welch

Hello Rob,

Take a look at this posting. It will show you the foam rubber keyboard to logic PCA contact failure. This is the rubber that needs replacing.

I have done 5 42S upgrades to 32 K as well as restoring about 10 other pioneer models all suffering the degraded foam problem. I use a foam mouse pad as a donor.

opening a 42S

The method I use is credited to Tony Duell and I find the easiest way to enter the calculator. Others prefer to use a credit card inserted between the shells and used to pry the shells apart.

Good luck, and it is an easy fix in the scheme of things.

Cheers, Geoff

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An HP-42S fix success, and a contrast problem

*Message #1 Posted by **DavidShenk** on 1 Dec 2009, 2:15 a.m.*

I bought a "dead" 42s from TAS for $20 USD with shipping, so I was happy with that. After putting batteries in it, I got a constant on and off beeping. I looked that up and most opinions pointed to a bad RAM chip. I've now done a few upgrades on these, so I decided to upgrade this one. After taking it apart, I put the batteries in it one last time and it now wouldn't even beep. I finished the upgrade and it now works! Very happy with that. (Side note: It had a Toshiba RAM chip in it, the only one of those I've seen so far)

Now I notice that I can only see the display if I'm looking at the screen from a very low angle. If you look at it straight on, it literally looks off. No problem I thought, but when I went to adjust the contrast, nothing. The contrast will not change at all, and seems to be stuck in low :(

This is a version A with the flush display, S/N 2942S30206 and it passes it's self test.

Has anyone else run into this, or have any ideas?

Dave

Re: An HP-42S fix success, and a contrast problem

*Message #2 Posted by **Lyuka** on 1 Dec 2009, 7:48 a.m.,*
in response to message #1 by DavidShenk

Hi Dave

LCD drive voltage is made by on-board step-up converter and it should be 7.0V(light) ~ 8.3V(dark) normally. How much is the voltage at the 10u/16V tantalum capacitor near the crystal resonator?

My first guess is a broken solid-tantalum capacitor.

Regards, Lyuka

Re: An HP-42S fix success, and a contrast problem

*Message #3 Posted by **DavidShenk** on 1 Dec 2009, 11:26 a.m.,*
in response to message #2 by Lyuka

Thanks, I'll check that when I get back from work.

I neglected to mention that batteries had leaked in it at one point. It doesn't look too bad as only a few copper traces were green. I cleaned those some, but could probably do a better job. I've only taken the back off of the calculator, so I don't know if there could be some hidden damage on the other side of the board due to that.

Dave

Re: An HP-42S fix success, and a contrast problem

*Message #4 Posted by **DavidShenk** on 1 Dec 2009, 9:31 p.m.,*
in response to message #2 by Lyuka

I'm getting 4.52V across the 10uF capacitor. That looks to be quite a bit lower than the "light" voltage of 7.0 and that seems about right as you can barely see the display.

Replace the 10uF cap then?

Dave

Re: An HP-42S fix success, and a contrast problem

*Message #5 Posted by **Lyuka** on 1 Dec 2009, 10:36 p.m.,*
in response to message #4 by DavidShenk

Hi Dave

It seems that 4.52V is just below the battery voltage. It implies that
1) the inductor is not in open-mode failure.
2) the Ta capacitor is not in short-mode but may be in high-leakage state that is just before short-mode failure.
3) the SiSB diode may be in short-mode failure.
4) the FET switch in the processor may not working or in open-mode failure.

Replacing both capacitor and diode would be better.

Regards, Lyuka

Re: An HP-42S fix success, and a contrast problem

*Message #6 Posted by **DavidShenk** on 2 Dec 2009, 12:19 p.m.,*
in response to message #5 by Lyuka

Lyuka,

Thank you so much for your help. I have already ordered some of the capacitors, but am having a little trouble getting the right diode. Does this look like one that would work?:

LL4148 Fast Switching Diode, SMD 1N4148

Dave

Re: An HP-42S fix success, and a contrast problem

*Message #7 Posted by **Lyuka** on 2 Dec 2009, 2:34 p.m.,*
in response to message #6 by DavidShenk

Hi Dave

1S4148 is a Si-switching diode and is not suitable for this purpose.
I recommend to use one of small signal Si-Schottky diode with main characteristics of

```
Vrrm >= 30V, If >= 0.1A, Vf <= 0.4V (@If=10mA, Tj=25C), SOT-23 package
```

such as, for instance, STMicroelectronics's BAR42FILM or BAR43FILM. (You may be able to

purchase it at Digi-Key.)

Regards, Lyuka

Re: An HP-42S fix success, and a contrast problem

*Message #8 Posted by **DavidShenk** on 2 Dec 2009, 3:36 p.m.,*
in response to message #7 by Lyuka

I think I found what you are referring to here. Unless I'm looking at the wrong component on the board, this doesn't look anything like the diode just under the 10uF Ta capacitor. But I see a place where something like this could fit, just to the left of the diode, still under that capacitor. There is currently nothing there now. You're suggesting that I remove the other diode and replace it with this sot-23 package in that other spot?

Dave

Re: An HP-42S fix success, and a contrast problem

*Message #9 Posted by **Lyuka** on 2 Dec 2009, 4:33 p.m.,*
in response to message #8 by DavidShenk

Dave

> Quote:
>
> You're suggesting that I remove the other diode and replace it with this sot-23 package in that other spot?

Exactly. Just as I've replaced both capacitor and diode of one of my HP-42S.

Lyuka

Re: An HP-42S fix success, and a contrast problem

*Message #10 Posted by **DavidShenk** on 2 Dec 2009, 5:05 p.m.,*
in response to message #9 by Lyuka

Thank you so much. Actually, I've been referring to one of your photos while talking to you back and forth because my 42s is at home. I didn't realize that was your site until you sent the link.

Your website has been a great help to me and I'm sure many others. Thank you for taking the time to document what you're doing, and with nice, clear photos!

Dave

Re: An HP-42S fix success, and a contrast problem

*Message #11 Posted by **Lyuka** on 3 Dec 2009, 12:05 a.m.,*
in response to message #10 by DavidShenk

My pleasure.

Cheers.

Lyuka

Contrast problem continues...

*Message #12 Posted by **DavidShenk** on 4 Dec 2009, 9:10 p.m.,*
in response to message #5 by Lyuka

I have just replaced both the cap and the diode without any effect on the display. I get 4.49V across the cap, similar to before.

Maybe there is something else I could try, but I'm wondering if it's possible to change the value of the cap or other component so that at least the display is "stuck" in a usable contrast setting.

Dave

Re: Contrast problem continues...

*Message #13 Posted by **Lyuka** on 5 Dec 2009, 2:35 a.m.,*
in response to message #12 by DavidShenk

Dave,

That's too bad.
There seems to be a problem of the switching regulator in the processor, or PCB traces between the diode and the processor.

The last hope is that the factor of the problem is outside of the processor. Let us check the PCB again.
Remove the battery and make both contacts connected for several seconds and remove the connection, then check the continuity by an ohmmeter of a DMM.

```
 1) D1(-), U1-116(Vcc)(+) should be near the value of 27 Ohm (series
resistance of the inductor L1)
 2) D1-A(-), U1-117(+)    should be less than 0.1 Ohm
 3) D1-K(-), U1-119(+)    should be less than 0.1 Ohm
```

Note: (+) : positive measurement voltage side, generally red lead of the DMM, (-) : negative measurement voltage side, generally black lead of the DMM

1) possible problem is short circuit between U1-116 and U1-117 which will make the voltage stacked to Vcc.
2) possible problem is breakage of the trace which will make the voltage stacked to just below the Vcc by loss of switching.
3) possible problem is braakage of the trace which may cause loss of voltage control but I'm not sure.

Good luck.

Lyuka

similar problem

*Message #14 Posted by **geoff quickfall** on 3 Dec 2009, 1:08 p.m.,*
in response to message #1 by DavidShenk

Hello David and Lyuka,

I have a similar problem, I just upgraded the Toshiba RAM to 32 K on an HP42S #3012Sxxxxx with the flush display and version A.

The contrast does work but the display itself is weak. Unlike yours David, the contrast works but when it is backed off to allow the digits to display the display is noticeably lighter then my newer models.

Was this a function of the older displays (less inherent contrast between digits and background) or could this also be remedied by the diode and capacitor change?

My calculator also resided in the case and was in pristine condition and fully functional (no bad foam contact).

Cheers, Geoff

P.S. Lyuka, could you provide the part number for the capacitor that you used. Thanks

some added specs:

```
the capacitor:


-  calculator off gives 4.6 volts
-  calculator on with low contrast 6.3 volts
-  calculator on with high contrast 7.6 volts
```

Edited: 3 Dec 2009, 1:20 p.m.

Re: similar problem

*Message #15 Posted by **DavidShenk** on 3 Dec 2009, 1:28 p.m.,*
in response to message #14 by geoff quickfall

Here is the link to the capacitor that I ordered. I believe (hope) this is the right one, but maybe Lyuka could confirm that.

I'll report my results here when I've replaced the cap and diode. I think I'll get them in 3-4 days.

Dave

Re: similar problem

*Message #16 Posted by **Geoff Quickfall** on 3 Dec 2009, 1:36 p.m.,*
in response to message #15 by DavidShenk

OOPs,

just sent you an email and you posted the answer here!

so I have ordered the TA and the diodes also.

Cheers, Geoff

Re: similar problem

*Message #17 Posted by **Lyuka** on 3 Dec 2009, 3:17 p.m.,*
in response to message #14 by geoff quickfall

Hi,

The contrast of the LCD of my HP-42S #3005Sxxxxx with flash display and version A is relatively weak than that of #3242Sxxxxx with matte display.

Voltage at the 10uF capacitor at Ta=25C, Vbattery=4.70V

```
  Serial#/revision  : light  usual  dark
  #3005Sxxxxx/Rev.A : 6.27   7.40   7.71  [V]
  #3242Sxxxxx/Rev.C : 6.39   7.52   7.58  [V]
```

The capacitor that I used was TDK C3225JB1C106M (EIA X5R characteristic), but TDK C3225X7R1C106M that Dave mentioned has wider temperature range and is good enough.
Please take care not to make short circuit by the shield plate at the back of the housing, though there is a bumper near the diode and capacitor,

Cheers.
Lyuka

Re: similar problem

*Message #18 Posted by **Geoff Quickfall** on 3 Dec 2009, 3:56 p.m.,*
in response to message #17 by Lyuka

Mine sounds very close to yours vis a vis the voltage. This is probably typical for the early displays.

It is readable, just not as contrasting. So the upgrade will probably not help. Still I will order the parts for backup.

I agree with David, your site is fantastic, as are your descriptions.

Many thanks

Done

*Message #19 Posted by **Geoff Quickfall** on 5 Dec 2009, 2:00 p.m.,*
in response to message #18 by Geoff Quickfall

Well I ordered the following parts from DigiKey and recieved them the next day (yesterday).

So, I swapped out the diode and the capacitor for the following as per Lyukas instructions. Although the 42S was in specs for the voltage across the original capacitor the swap out did improve the contrast between the alpha/numeric display and the background and boosted the overall ability for the display to contrast to dark.

I did this to include it in the book with photos as I am trying everything I see posted.

Here are the parts I ordered including the capacitor using the X5R characteristic:

```
497-2518-1-ND
DIODE SCHOTTKY 30V 100MA SOT-23
SCHED B: 854110 ECCN: EAR99
LEAD: LEAD FREE ROHS: ROHS COMP
COUNTRY/ORIGIN: MALAYSIA


445-1400-1-ND
CAP CER 10UF 16V X5R 20% 1210
SCHED B: 853224 ECCN: EAR99
LEAD: LEAD FREE ROHS: ROHS COMP
COUNTRY/ORIGIN: JAPAN
BOX 1 SHIPPED USAV WEIGHT
```

Thanks Lyuka, and Dave (hope your trace tracking works out for you)

Cheers, Geoff

Re: Done

*Message #20 Posted by **Lyuka** on 5 Dec 2009, 10:17 p.m.,*
in response to message #19 by Geoff Quickfall

Hi Geoff,

That's good :-)

The swap out you did also improved the long term reliability and reduced the power supply current, I think.
In my case I_idle reduced from 440uA to 380uA, I_standby reduced from 14.0uA to 13.5uA.
(Ta=24, V_battery=4.73V, f_osc=65.536kHz, Serial#=3005S0xxxx)

Note:
The recommended parts for this replacement (which Geoff used) are

```
SiSB diode : STMicroelectronics, BAR42FILM
10uF  MLCC : TDK, C3225X5R1C106M
```

It's also recommended to add 1uF MLCC (TDK C3216X7R1E105K) as a bypassing capacitor, on to the pad between the RAM and the processor, to improve the stability.

Cheers, Lyuka

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In Praise of Dirty Calculators

*Message #1 Posted by **Michael Meyer** on 30 Nov 2009, 3:03 p.m.*

I'm not sure I've seen anyone post this, but I am a fan of dirty calculators.

I just bought a "heavily used" HP-35 for $32 USD. It turned out not to be heavily used, just heavily dirty. It cleaned up to one of the nicest in my collection.

It's been my experience that some of the dirtiest calculators were also the least used, so the key action is still excellent. The corrosion damage is a gamble on any machine, even ones that look clean in the pictures. I, personally, would rather take my chances on 3 unknowns for the same price as 1 advertised as working. Especially if they're dirty.

Re: In Praise of Dirty Calculators

*Message #2 Posted by **Dave Britten** on 30 Nov 2009, 4:25 p.m.,*
in response to message #1 by Michael Meyer

Definitely. A cosmetically flawed calculator can be a great advantage for the buyer (within reason, of course). My 17bii was an excellent deal, as it was missing the case, and had some minor paint flaking on the face plate. It works just as good as new, though. The 48SX I keep on my desk at work has a couple minor scuffs on the screen, but everything else cleaned up great with a little alcohol, and it feels sturdier than any 48G/GX I own. Recently, I bought a heavily discounted 12c from a local office supply store that was closing down. All they had left was the display model (manufactured some 7 years ago), but with a few minutes' cleaning, it looked - and worked - like it had just come out of the box.

Now I just need to score a similar deal on a 32sii!

Re: In Praise of Dirty Calculators

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 30 Nov 2009, 11:45 p.m.,*
in response to message #1 by Michael Meyer

Hi, Doc;

I bought a Commodore N60 clone a few months ago. Check this out:

Click to enlarge

Now it looks like this (did not complete the electronics so far):

Click to enlarge

Yep, the [x^2] key is sideways... and there are two [DIR1] keys, no [SPD1]. Some of the keys were retouched with fine-tip pen marker (will provide a better finishing later).

I also like the 'heavy duty' appearance, but not always I see 'good guts'...

Cheers.

Luiz (Brazil)

Edited: 1 Dec 2009, 6:56 a.m.

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HP41 system ROM related - versions and compatibility

*Message #1 Posted by **Vieira, Luiz C. (Brazil)** on 30 Nov 2009, 9:53 a.m.*

Hi, all HP41 addicted!

After causing many (very good) reactions after bringing the ROM-images subject up, I would like to know about the many HP41 system ROM versions and their compatibilities. Most of the discussion lies on the coconut, because the halfnut series do not allow 'mixing' the system ROM´s as they are not accessible separately. I confess I did not research the Forum archives, but I actually do not remember reading about this specific subject.

The system ROM versions I'm aware of (thanks to W. Furlow) are:

```
ROM 0   1   2
    D   D   E
    F   E   F
    G   F   L
    H
    N
```

Each system ROM is stored in one single chip (coconut series), so they could possibly be mixed with each other. My questions to those who have already dealt with these ROM´s are:

- what are the valid combinations?
- which of them are specifically for the CX?
- which, if any, can be used with either the C/CV and the CX?

This would depend both in observing actual configurations or in official documentation. I have some 41C/CV I could check for a few samples, and also three CX, but these would be just a few samples. The possible combinations are in vaster number than the actual working combinations, so I decided to ask.

Thanks again!

Luiz (Brazil)

Re: HP41 system ROM related - versions and compatibility

*Message #2 Posted by **Bill Zimmerly** on 30 Nov 2009, 10:20 a.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

Is there a command that will return this information?

Re: HP41 system ROM related - versions and compatibility

*Message #3 Posted by **Raymond Del Tondo** on 30 Nov 2009, 10:35 a.m.,*
in response to message #2 by Bill Zimmerly

REVX? will return the appriorate info;-)

Actually the revision is at the end of each system ROM page.

HTH

Raymond

Re: HP41 system ROM related - versions and compatibility

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 30 Nov 2009, 11:04 a.m.,*
in response to message #2 by Bill Zimmerly

Not in a command available at the basic system ROM (C/CV or CX). Ángel´s Toolbox has OSREV? command, and as Raymond mentioned, HEPAX, David Assembler and many other specialized ROM offer editors and viewers that allow inspecting the ROM addresses with this information (xFFB to xFFE, x being the block # from 0h to Fh).

Cheers.

Luiz (Brazil)

Edited: 30 Nov 2009, 11:06 a.m.

Re: HP41 system ROM related - versions and compatibility

*Message #5 Posted by **Bill Zimmerly** on 30 Nov 2009, 11:24 a.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

Thanks Luiz and Raymond.

Re: HP41 system ROM related - versions and compatibility

*Message #6 Posted by **Allen** on 30 Nov 2009, 7:43 p.m.,*
in response to message #5 by Bill Zimmerly

FYI, the Service ROMs All have the ROM command (press the [-] key).

Per above discussion, the later editions of "Extend your HP 41" that Wlodek wrote has all of this information already captured in nice list format. (See the table of contents on the Version 7 DVD)

Also, on the latest 41CX rom, there are 2 sets of ROM characters: NFL and DCC.

Re: HP41 system ROM related - versions and compatibility

*Message #7 Posted by **Eric Smith** on 30 Nov 2009, 2:15 p.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

HP-41C, HP-41CV: DDE, FDE, GFF, HFF

HP-41CX: NFL

Combinations other than these probably won't work properly. When versions of two of the ROMs changed at the same time (FDE->GFF, and GFF->NFL to produce the CX), there were patches that included jumps from one ROM to another.

Re: HP41 system ROM related - versions and compatibility

*Message #8 Posted by **Vieira, Luiz C. (Brazil)** on 30 Nov 2009, 2:52 p.m.,*
in response to message #7 by Eric Smith

Hi, Eric;

thanks for your (so necessary) answer. I found an HFF version set in a halfnut. Will any of these combinations be found in one of the both types and not in the other (coconut and halfnut)?

One extra question. Although it leads to a logical conclusion, chances are that the answer is 'NO': is the CX 'F-version' ROM1 the same CV 'F-version' ROM1? I mean, do these carry the same code and are interchangeable?

Cheers and thanks again.

Luiz (Brazil)

Re: HP41 system ROM related - versions and compatibility

*Message #9 Posted by **Eric Smith** on 30 Nov 2009, 10:19 p.m.,*
in response to message #8 by Vieira, Luiz C. (Brazil)

The halfnut was only manufactured with the final ROM revision for each model (HFF, NFL). I haven't seen HFF in a non-halfnut, but it may have existed. The vast majority of 41C and 41CV units have GFF or HFF.

I'm moderately certain that mainframe ROM 1F contains the same code in the C/CV and CX.

Note that the CX mainframe has a total of 24K of ROM using two 1LG9 chips. Beyond the hard-addressed "mainframe" ROM, there are three more 4K ROM blocks in pages 3 and 5, for the CX time and extended functions. The CX mainframe ROM won't work correctly without these.

What is it that you're trying to do?

Re: HP41 system ROM related - versions and compatibility

*Message #10 Posted by **Vieira, Luiz C. (Brazil)** on 30 Nov 2009, 11:13 p.m.,*
in response to message #9 by Eric Smith

Hi, Eric;

I am almost sure you were around here when I posted this message (long time ago... that HP15C is still working fine!). I actually have some related ideas because I have two 41 MBoards behaving strangely and I would like to mix their ROM IC´s so I could test one with each other´s. But I needed to know what was I doing prior to go ahead mixing ROM´s without coherent information. These babes beep, show garbage and freeze randomly. Sometimes they accept one or other key, then I loose them again.

I tried their RAM chips in other coconuts, and they work fine. Then I tested their capacitors (value) and diodes, and they are also fine. Now I would like to identify their ROM and try changing one with the other. In fact, I have a 41 MBoard with connectors for all RAM and ROM (six 8-pin DIL) so I can build a 41C anytime and test RAM and ROM chips. RAM chips are easy to test, but for testing ROM chips I needed this kind of information.

Now the last part of info is: IC's ID# for each version, so I can test them accordingly.

Cheers.

Luiz (Brazil)

Edited: 30 Nov 2009, 11:16 p.m.

Re: HP41 system ROM related - versions and compatibility

*Message #11 Posted by **Eric Smith** on 1 Dec 2009, 12:00 a.m.,*
in response to message #10 by Vieira, Luiz C. (Brazil)

> Quote:
>
> Now the last part of info is: IC's ID# for each version, so I can test them accordingly.

I've found very little information on part number vs. ROM ID. Some is on this page. I'd certainly like to add more (and corrected) information.

Re: HP41 system ROM related - versions and compatibility

*Message #12 Posted by **Vieira, Luiz C. (Brazil)** on 1 Dec 2009, 7:03 a.m.,*
in response to message #11 by Eric Smith

Hi, Eric;

I'll do the following, then: take notes of whatever I find and, if there is anything not in your indeed very complete and comprehensive lists, I´ll post again and let you know. This is the least I MUST do to thank you for your support 8^)

Best regards.

Luiz (Brazil)

Additional question

*Message #13 Posted by **Vieira, Luiz C. (Brazil)** on 2 Dec 2009, 6:59 a.m.,*
in response to message #7 by Eric Smith

Hi, Eric;

I was building a document with the information you passed us and found that ROM1-E.ROM does not appear in any of the possible combinations. Do you know if this ROM is used in any particular model?

Cheers.

Luiz (Brazil)

Edited: 2 Dec 2009, 11:23 a.m.

Re: HP41 system ROM related - versions and compatibility

*Message #14 Posted by **Saile (Brazil)** on 1 Dec 2009, 5:30 a.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

```
Which would the purpose of this topic?
Can we change ROM's of HP41 or that is only a waste of time or Luiz would be building a
super HP41LV to give a present us in Christmas? :-)
```

Edited: 1 Dec 2009, 10:52 a.m.

It is not a waste of time.

*Message #15 Posted by **Vieira, Luiz C. (Brazil)** on 1 Dec 2009, 5:30 p.m.,*
in response to message #14 by Saile (Brazil)

For sure.

I searched the archives to see if this kind of subject was previously mentioned amongst others or not, so I decided to bring it up mostly to shed some vintage subjects in the air. Good to see that calculators like the HP97 and other vintage ones are still in use and serving people well. They also call for follow-ups.

I am sure that some people found purpose in this topic.

Luiz

Edited: 1 Dec 2009, 5:32 p.m.

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HP-25 erratic behaviour

*Message #1 Posted by **Alberto Fenini** on 30 Nov 2009, 6:38 a.m.*

ciao a tutti ! (greetings to everybody), one of my HP25 is actually behaving quite funny. When turned on, random "0"s are shown on the display, keyboard is insensitive at all and there is no way to get further than that.

It can be the first led, the last, occasionally two zero's show up, but the unit stays like that until switched off. When switched on again the digit that turns on change position, but that's totally randomic.

It has been cleaned, the three bottom ICs have been desoldered and resoldered, and the mother board has undergone a cleaning process with vinegar and water, but no improvements ....

Has anybody ever experienced something like this ? As always, thanks in advance for advice and help, take Alberto

Re: HP-25 erratic behaviour

*Message #2 Posted by **Ignazio Cara (Italy)** on 30 Nov 2009, 7:15 a.m.,*
in response to message #1 by Alberto Fenini

Ciao Alberto, The CPU of your beloved calculator is dead! You could only replace it with one from a donor machine (all the Woodstock except 21 and 27).

Take care.

Ignazio

Re: HP-25 erratic behaviour

*Message #3 Posted by **Alberto Fenini** on 30 Nov 2009, 8:00 a.m.,*
in response to message #2 by Ignazio Cara (Italy)

ciao Ignazio, how are you ?

Thanks for the reply, in your opinion, can I use a old CPU (the one with the gold plate on top) to replace what looks like a newer one (the IC body is all in gray plastic), is the pin-out the same ?

Take care and thanks again, Alberto

I once had... (was: HP-25 erratic behaviour)

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 30 Nov 2009, 9:21 a.m.,*
in response to message #1 by Alberto Fenini

(Ciao, Alberto!)... an HP27 (not mine) behaving almost like your HP25, except that I could make it work when the battery pack was almost at the complete insertion point, I mean, with just a fraction of the pressure it makes when completely inserted. After being totally inside the compartment, the HP27 simply 'lost its e-mind'.

I checked all solder points and tracks and found one broken track in the lower part of the PCB, between the CPU and the ROM (the HP27 PCB layout closely matches the HP25´s). Eventually the broken track had its edges in touch depending on the battery position and pressure. It worked pretty fine after restoring the copper track.

Success!

Luiz (Brazil)

Edited: 30 Nov 2009, 9:26 a.m.

Re: HP-25 erratic behaviour

*Message #5 Posted by **Hal Bitton in Boise** on 30 Nov 2009, 10:41 a.m.,*
in response to message #1 by Alberto Fenini

Hi Alberto,
Perhaps this is not the problem in your case (or perhaps you have already checked it), but when my 29C was exhibiting the exact symptoms you describe, poor electrical contact within the battery pack was the culprit (causing under-voltage to the calc). If you have re-celled the battery pack and no longer have that soldered strip between the cells, the spring in the far end of the pack must be kept really clean (I use a pencil eraser and alcohol swab) for good electrical contact. I give likewise treatment to the button contacts on the calculator, and the ends of the cells they contact. Lastly, after I insert the battery pack, I sometimes have to "set" it by pushing it as if to remove it, but stopping just shy of the release point, then easing off the pressure.
It's worth a try.
Best regards, Hal

Re: HP-25 erratic behaviour

*Message #6 Posted by **Alberto Fenini** on 2 Dec 2009, 10:30 a.m.,*
in response to message #1 by Alberto Fenini

First of all I'd like to thank everybody for the suggested tricks, that's what I ve done meanwhile : I have desoldered all the ICs and brushed the PCB to reveal the copper, I have then checked for broken traces, but found none. Resoldered the ICs recovered from a spare HP25 e cleaned with a soft brush and some alchool (isoprop...) to remove the soldering stuff. At this point, if power supply was attached with wires from a Woodstock battery packs, the unit didn't even light up,while if the board was mounted back in the shell and the battery pack inserted it worked !!! Then ... I did the most stupind thing I could have ever done ... I have attached an external charger (with the battery pack still inserted) and numbers have began to show randomly on the display. Since then, the unit looks like dead ..... shame on me .... However, I do have learned a lesson, and I'd like to thank everybody for the hints received. Take care Alberto

Re: HP-25 erratic behaviour

*Message #7 Posted by **Steve Simpkin** on 2 Dec 2009, 2:06 p.m.,*
in response to message #6 by Alberto Fenini

Once again, shame on HP for allowing such a marginal charging power supply design to be released with their otherwise outstanding product. The term penny wise, pound foolish comes to mind.

Aaaaaaargh 8-(

*Message #8 Posted by **Geoff Quickfall** on 2 Dec 2009, 2:45 p.m.,*
in response to message #7 by Steve Simpkin

Well, a functional keyboard, good case, spare battery pack and toss the charger. Wait for a functional, cosmetically crippled machine and replace.

TOSS THE CHARGER or keep it for posterity and your collection but never use it again!

Cut the battery pack central spine and insert fully charged NiCds using an external battery charger. Thats how I keep mine running. The 29C has been running for over a year that way and all my programs are still intact.

Cheers, Geoff

Re: Aaaaaaargh 8-(
*Message #9 Posted by **Alberto Fenini** on 2 Dec 2009, 3:14 p.m.,*
in response to message #8 by Geoff Quickfall

eeheheh, I had replaced the battery pack with NicD batteries, wich I usually recharge with the external battery charger, I admit it, it was a foolish thing, but it was also 2 AM in the morning, not that this excuse me in any way....

Re: Aaaaaaargh 8-(
*Message #10 Posted by **Michael de Estrada** on 2 Dec 2009, 3:18 p.m.,*
in response to message #8 by Geoff Quickfall

My approach is to use a duplicate model Woodstock as a charger for all my battery packs that I use in the other calcs. I never turn this calc on and only plug the charger into a live electrical outlet when I'm using it to charge a pack. Worst case I will eventually damage this calc in which case I will still have another one in perfect cosmetic and functional condition. I leave charged packs in my 25c and 29c, and swap them out when they get low. I have also found that flat top AA NiCads work better than high tops, apparently providing more consistent continuity with the calc's contacts and the springs.

Re: Aaaaaaargh 8-(

*Message #11 Posted by **Alberto Fenini** on 2 Dec 2009, 3:28 p.m.,*
in response to message #10 by Michael de Estrada

to be very honest with you all, I did it twice (attaching the charger to the calculator) and the first time I have recovered the unit by resoldering (or at least re-passing) all the soldering points, I'll try later on and I'll keep you posted)

Re: it worked out !!!

*Message #12 Posted by **Alberto Fenini** on 3 Dec 2009, 2:01 p.m.,*
in response to message #8 by Geoff Quickfall

Hello everyone, the resoldering operation has worked out, and the unit is back to life !! I believe (but that's just my opinion) the most of the problems were due to a broken (even if not totally) link between the two points of contact for the baterries and the main pcb !!! Anyway, lesson learned, I'll toss all the chargers ! Take care and thank you very much to all of you, Alberto

Re: it worked out !!! (one tip...)

*Message #13 Posted by **Vieira, Luiz C. (Brazil)** on 3 Dec 2009, 2:56 p.m.,*
in response to message #12 by Alberto Fenini

Ciao, Alberto;

I only connect the charger when I turn the calculator ON and it gives at least one single flash in the display, meaning that the batteries are in contact. If I see no sign of life, I remove the batt pack, charge it briefly, place it back and try again. If then I see no sign of life, I charge it with an external charger while trying to find the problem.

Laporte´s analysis is complete and perfect, should follow it with no remarks. Anyway, I prefer counting on the original calculator charger. Even if it is a Woodstock. I do not like too much to remove and reinsert battery packs, something may end up broken...

Cheers.

Luiz (Brazil)

Edited: 3 Dec 2009, 3:02 p.m.

Yahooooooo!

*Message #14 Posted by **Geoff Quickfall** on 4 Dec 2009, 8:43 p.m.,*
in response to message #13 by Vieira, Luiz C. (Brazil)

My HP-29C exhibited the same problem, an intermittent contact between the battery contact rivet and the trace to the PCA.

Even after resoldering I had to desolder and soak the contact in some dilute acid to allow for a non-contaminated solder connection.

Great job, Cheers, Geoff

Somehow late, but... (edited for credits)

*Message #15 Posted by **Vieira, Luiz C. (Brazil)** on 2 Dec 2009, 3:27 p.m.,*
in response to message #1 by Alberto Fenini

Hi, all;

most of you have already seen this, and I actually never thought of posting it based on the thread subject. Anyway, here it goes: HP21 power supply schematics and a suggestion for operation without batteries. NOTICE THAT THE POWER SUPPLY IS DIFFERENT OF THE ONE USED IN THE C-SERIES! (before editing: *Not mine, do not remember who is the author, will post credits as soon as I find.*)

Credits go to 'bh' (?); see below, please.

('head' extracted from original drawing, no changes)

Cheers.

Luiz (Brazil)

Edited: 2 Dec 2009, 4:57 p.m.

Re: Somehow late, but... (edited for credits)

*Message #16 Posted by **Thomas Okken** on 2 Dec 2009, 8:57 p.m.,*
in response to message #15 by Vieira, Luiz C. (Brazil)

Hi Luiz,

How is the power supply in the C series different from the one for the regular Woodstocks?
I'm asking because I used to own an HP-25, which was transformed into an HP-25C during a just-out-of-warranty repair... I kept on using the same charger as before, and never had a problem.

- Thomas

Re: Somehow late, but... (edited for credits)

*Message #17 Posted by **Vieira, Luiz C. (Brazil)** on 2 Dec 2009, 9:10 p.m.,*
in response to message #16 by Thomas Okken

Hi, Thomas;

the C-series must provide a continuous supply for the C-MOS RAM, and as we can see in the original HP21, all lines are down when the switch is OFF. The C-series must have something connected straight to the batteries, something like a diode + capacitor, that is not disconnected when the calculator is OFF (the capacitor should maintain the RAM data while changing batteries, for example). The same happens with the Spices: the power supply of the C-series is not the same as the E-series.

I know that the HP29C has a totally different power supply (separated board), and I guess the same with the HP19C (extra current for printing).

Cheers.

Luiz (Brazil)

Edited: 2 Dec 2009, 9:30 p.m.

Re: Somehow late, but... (edited for credits)

*Message #18 Posted by **Lyuka** on 2 Dec 2009, 11:32 p.m.,*
in response to message #15 by Vieira, Luiz C. (Brazil)

Hi.

At first glance, the schematic has some at least three mistakes of drawing around the output oscillator. Be careful when you utilize the schematic.

Cheers.
Lyuka

Re: Somehow late, but... (edited for credits)

*Message #19 Posted by **Vieira, Luiz C. (Brazil)** on 3 Dec 2009, 12:19 a.m.,*
in response to message #18 by Lyuka

Hi, Lyuka;

thank you!

Would you, please, point them out? I never needed to repair Woodstock´s power supply, so I never checked if it matches the actual circuit. In fact, I once noticed that the toroidal input and load coils were shorted in the circuit (forgot about that...), and I failed to remove the connection.

Thanks again!

Luiz (Brazil)

Edited: 3 Dec 2009, 12:23 a.m.

Re: Somehow late, but... (edited for credits)

*Message #20 Posted by **Tony Duell** on 3 Dec 2009, 4:27 a.m.,*
in response to message #19 by Vieira, Luiz C. (Brazil)

Off the top of my head, there are at least the following errors :

1) The oscillator and regulator transistors should be NPN not PNP. The part number 4-xxx is a shortened form of 1854-0xxx which indicates an NPN transistor. Not to mention the fact that a PNP transistor with its emitter connected to the -ve supply rail (ground in this case) is unusual to say the least. The circuit couldn't work with PNP transistors here. As an aside, the 6xx part of the transistor number is almost certainly a data code (1976), and is not important.

2) Both transformer windings are shown as shorted (this has already been mentioned).

3) But actually the transformer is either 1 tapped winding (autotransformer) or 3 windings with a common connection. If you desolder the transformer from the PCB you'll find DC continuity between all the pins.

4) The diode connected to the base of the regulator transistor is a zener diode (not suprisingly).

Is this the place to put in a plug for the HPCC schematics CD-ROM? It contains schematics of all woodstocks (and then some...)

Re: Somehow late, but... (edited for credits)

*Message #21 Posted by **Tony Duell** on 3 Dec 2009, 4:29 a.m.,*
in response to message #20 by Tony Duell

And another one...

5) He specifies 'Capacitors in microfarads' and then labels the oscillator feedback capactior '2000K'. I can assure you that capacitor is not 2000uF, or 2000KuF (=2F!). It might well be 2000pF (2nF), but I would have to check.

Re: Somehow late, but... (edited for credits)

*Message #22 Posted by **Lyuka** on 3 Dec 2009, 5:23 a.m.,*
in response to message #20 by Tony Duell

Tony

Thanks Tony. What you mentioned are what I thought as errors.

Regards,
Lyuka

Re: Somehow late, but... (edited for credits)

*Message #23 Posted by **Jacques Laporte** on 3 Dec 2009, 8:07 a.m.,*
in response to message #20 by Tony Duell

Right, this circuit won't work at all.

The oscillator on the HP-25 uses a NPN 4-550 and the regulator (Zener at its base) uses another NPN 4-071 (HP parts 1854-0550 etc).

The cap is a 2nf in series with a 56 ohm resistor.

Re: Somehow late, but... (edited for credits)

*Message #24 Posted by **Bart (UK)** on 3 Dec 2009, 10:06 a.m.,*
in response to message #20 by Tony Duell

Jacques Laporte has drawn out the PSU of the HP25 and posted it on his website here, see Fig. 10 about halfway down.

Thank you Jaques for sharing your knowledge! :-)

Edited: 4 Dec 2009, 6:51 a.m.

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Machine accuracy behaviour of the hp-35s and other models

*Message #1 Posted by **Mohammed Hadi** on 30 Nov 2009, 2:16 a.m.*

I wonder how the 35s handles round-off errors due to number truncation. I tried the following keystrokes on an hp-15c(*) emulator (by Torsten Manz) to calculate (1/3 * 3 - 1) ^ (1/3)^3 :

3 1/x 3 x 1 - 3 1/x 3 y^x y^x

and it gave 0.3570 instead of 0.

Could someone please try this sequence on a 35s and report the result? I'm curious to know what results are produced by other hp models and which models avoided this "error".

(*) My hp-15c was stolen 22 years ago. An hp-35s is on its way to me now and would be my second hp calculator ever! I've been lost in a Casio-infested wilderness for those past 2 decades!

Re: Machine accuracy behaviour of the hp-35s and other models

*Message #2 Posted by **Javier Goizueta** on 30 Nov 2009, 4:15 a.m.,*
in response to message #1 by Mohammed Hadi

Hi Mohammed:

Your sequence of operations, 3 1/x 3 x 1 - 3 1/x 3 y^x y^x, will produce an "INVALID y^x" error in a 35s, but will give a valid (complex) result on a 42S, 50G etc. which have more consistent complex numbers support than the HP35-S.

My real 15C, in complex mode, gives 0.4233339636 + 0.04948064389i.

If we change the test to avoid complex numbers to (1 - 1/3 * 3) ^ ((1/3)^3) :

1 3 1/x 3 * - 3 1/x 3 y^x y^x

For this, the 35S gives 0.359381366382 which is the best possible result when each step is computed to 12 digits of precision; the same result can be obtained with a 42S, 50G, etc.

The 15C yields 0.4262158830 which again is the best result to 10 digits.

Note these calculators do not have hidden digits and each operation uses the previous 12/10-digit result. e.g. after the second operation the number is 0.999999999999, not 1/3 so we should not expect a final result of 0. (but you could get it with a 50G in exact mode)

The 35S has the good arithmetic of the RPL 12 digits models, some functions, e.g. trinogometric, have worse precision.

Maybe you intended to compute ((1 - 1/3 * 3) ^ (1/3))^3

1 3 1/x 3 * - 3 1/x y^x 3 y^x

Which is 1.00000000003E-12 on the 35S and other 12-digit models and 1.000000002E-10 on the 15C.

Re: Machine accuracy behaviour of the hp-35s and other models

*Message #3 Posted by **Bart (UK)** on 30 Nov 2009, 4:23 a.m.,*
in response to message #1 by Mohammed Hadi

Hi Mohammed,

I just tried this on my 35s and got an "Invalid y^x" for the last y^x as the numbers are (-1e-12)^(3.70370370369e-2).

However, doing a complex y^x, I get
3.56951358148e-1 ***i*** 4.17216301054e-2

Bart

edit: to do a complex y^x on the 35s, add 0i0 to both no.'s

Edited: 30 Nov 2009, 4:24 a.m.

Re: Machine accuracy behaviour of the hp-35s and other models

*Message #4 Posted by **Mohammed Hadi** on 30 Nov 2009, 5:37 a.m.,*
in response to message #3 by Bart (UK)

Thank you all for your quick responses. By the way, Bart, it was my unsubstantiated guess that 0i0 addition or simply starting with 3i0 1/x ... will do to avoid the eventual INVALID y^x response. You seem to suggest that explicit complex"ing" is needed throughout the sequence.

In any case, my whole point was how to protect an unsuspecting student who's not well-versed in limited precision pitfalls from blindly accepting totally erroneous results when using hp calculators. In contrast, my Casio fx-991ES will give a correct zero result for the original expression above.

Maybe I should prepare a one-hour lecture about the dark side of calculators for my Introduction to Engineering course.

Re: Machine accuracy behaviour of the hp-35s and other models
*Message #5 Posted by **Bart (UK)** on 30 Nov 2009, 6:28 a.m.,*
in response to message #4 by Mohammed Hadi

And therein lies the fallacy of calculators like the fx-991es in that they artificially correct for rounding errors. What else is it "correcting" for that we *don't* know about? I think there are many of us here (older generation I guess) that are aware of the fact that calculators and computers cannot completely represent some numbers, and prefer calculators not to lie about rounding errors.

There have been threads about the fact that students seem to blindly accept calculator results nowadays. Some even referencing the use of slide rules where one has to figure out the order of the result oneself.

I think it is a good idea that all users of calculators (and computers used for calculating) have such a lecture that you're suggesting.

Re: Machine accuracy behaviour of the hp-35s and other models
*Message #6 Posted by **Mohammed Hadi** on 30 Nov 2009, 6:49 a.m.,*
in response to message #5 by Bart (UK)

Wouldn't it be nice if along with the final result, a calculator would actually tell you (say, via a horizontal bar chart at the display bottom) to how many digits the result is accurate? "Hmmm... 3.176334798 but only 1 significant digit preserved... maybe I should rearrange my expression."

Re: Machine accuracy behaviour of the hp-35s and other models
*Message #7 Posted by **Gerson W. Barbosa** on 30 Nov 2009, 8:08 a.m.,*
in response to message #5 by Bart (UK)

> Quote:
>
> And therein lies the fallacy of calculators like the fx-991es in that they artificially correct for rounding errors. What else is it "correcting" for that we *don't* know about?

How would CASIO *fx-991 ES* evaluate ln ln(1618 + 10^{-7}**.** e^{e}8/3)? I hope it doesn't try to correct the "rounding error". The HP-15C gives the correct 10-digit answer: 1.999999998.

Some interesting threads on calculator accuracy started by Rodger Rosenbaum:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=85973#85973

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=103151

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=103356

Re: Machine accuracy behaviour of the hp-35s and other models
*Message #8 Posted by **Mohammed Hadi** on 30 Nov 2009, 8:35 a.m.,*
in response to message #7 by Gerson W. Barbosa

Thank you Gerson for the links. I'll have a look at them later. My fx-991ES by the way got the same 10-digit answer.

I really dislike the 991ES now. After going through the 35s manual, I realized that calculating the equivalent of two parallel complex impedances will take twice the keystrokes on the Casio compared to the 35s (20 keystrokes vs. 10!).

Re: Machine accuracy behaviour of the hp-35s and other models
*Message #9 Posted by **Mike Morrow** on 30 Nov 2009, 10:21 a.m.,*
in response to message #8 by Mohammed Hadi

I don't understand completely the process by which the Casio fx-991ES (a.k.a. fx-115ES) usually displays such impressive numerical accuracy, but in the example problem cited by Gerson, the actual 14-digit result produced by the Casio, displayed only to 10 significant digits, (1.999999998), can readily be determined (by subtracting 1.99999) to be 1.9999999975828.

The HP Saturn series and later all yield (at 12 digits) 1.99999999758.

Whatever tricks the Casio folks are using, they seem pretty impressive for a US$17.48 calculator that also has rudimentary numerical integration, differentiation, and SOLVE functions and a pretty decent LCD for a calculator of this class.

I see no reason to dislike the fx-991ES/115ES at all. It has outstanding features for a non-programable, non-graphing machine of its class and cost. I carry one to work along with my HP42S and HP50G.

Re: Machine accuracy behaviour of the hp-35s and other models
*Message #10 Posted by **hugh steers** on 30 Nov 2009, 10:40 a.m.,*
in response to message #9 by Mike Morrow

Hi,

I think casio work to about 14 or 15 places and round to display. this is standard with most of their modern model. actually, i'd like to see HP extend their working precision too. issues regards guard digits etc are separate.

i did a write up of the casio 991es a while back here, http://www.voidware.com/calcs/fx991es.htm

as i said in the article, it's pretty good for the money, although i didnt like the lack of key buffering on long expressions. i wonder if anyone else had the same problem.

Re: Machine accuracy behaviour of the hp-35s and other models

*Message #11 Posted by **Gerson W. Barbosa** on 30 Nov 2009, 2:05 p.m.,*
in response to message #9 by Mike Morrow

> Quote:
>
> ...the actual 14-digit result produced by the Casio, displayed only to 10 significant digits, (1.999999998), can readily be determined (by subtracting 1.99999) to be 1.9999999975828.

That's remarkably correct: on the HP-200LX I get 1.999999997582797. So, if ln ln(1618 + 10^{-7}. **(**e^e8/3+ 289)) returns 2 exactly that will be just the correct 10 digit-result (internally it should be 1.99999999999983). On the other hand, if 3/(7/10 - 307/439) returns 4390 exactly it is possible the calculator performs an algebraic simplification prior to giving the final answer. None of my HP calculators returns an exact numerical answer for this example. The HP-200LX, for instance, returns 4,389.999999999788 and the HP-50g returns 4390.0000026. However '3/(7/10 - 307/439)' EXPAN will return 4390.

> Quote:
>
> I see no reason to dislike the fx-991ES/115ES at all. It has outstanding features for a non-programable, non-graphing machine of its class and cost.

It looks really nice, judging by this picture. Of course, the displayed result, which is equivalent to 1/2*(1 + e^{pi}), is correct:

http://www.wolframalpha.com/input/?i=12.07034632

Edited: 30 Nov 2009, 3:00 p.m.

Re: Machine accuracy behaviour of the hp-35s and other models
*Message #12 Posted by **Mike Morrow** on 30 Nov 2009, 10:50 p.m.,*
in response to message #11 by Gerson W. Barbosa

> Quote:
>
> ...if ln ln(1618 + 10-7(exp(exp(8/3))+289) returns 2 exactly that will be just the correct 10 digit-result (internally it should be 1.99999999999983).

The fx-991ES/115ES gives 2 exactly, to the 14 digits of precision that it is capable.

My HP-25 also gives 2, fwiw.

> Quote:
>
> On the other hand, if 3/(7/10 - 307/439) returns 4390 exactly it is possible the calculator performs an algebraic simplification prior to giving the final answer. None of my HP calculators returns an exact numerical answer for this example.

The fx-991ES/115ES gives 4390 at 10 digits. It gives 4389.9999999966 to the 14 digits of precision that it is capable.

My HP-25 gives 4389.999990, fwiw.

I'm pretty impressed with the accuracy of this inexpensive machine. As someone who paid the 2009 equivalent of US$670 in 1972 for a four-function Bomar 901, I'm simple-minded enough to be impressed by what today's machines can do at almost give-away cost!

Edited: 30 Nov 2009, 11:14 p.m.

Re: Machine accuracy behaviour of the hp-35s and other models
*Message #13 Posted by **Gerson W. Barbosa** on 1 Dec 2009, 1:49 p.m.,*
in response to message #12 by Mike Morrow

> Quote:
>
> My HP-25 gives 4389.999990, fwiw.

Same on my HP-15C. That's because intermediate results are rounded to 10 digits:

```
              10-digit    guard
keystrokes    mantissa    digits  exponent
.7
ENTER
307
ENTER
439
/             6.993166287    015    E-01   ;307/439
              6.993166287           E-01   ;rounded to 10 digits
-             6.833713000    000    E-04   ;0.7-6.993166287E-01
              6.833713000           E-04   ;rounded to 10 digits
3
x<>y
/             4.389999990    000    E+03   ;3/6.833713000E-04
              4.389999990           E+03   ;rounded to 10 digits
```

If a 10-digit RPN calculator had *five* guard digits and *did not* round intermediate results to ten digits the final answer would be the same as those on CASIO fx-991ES/11ES:

```
              10-digit    guard
keystrokes    mantissa    digits  exponent


.7
ENTER
307
```

```
ENTER
439
/             6.993166287    01594    E-01   ;307/439
              6.993166287             E-01   ;displayed result
-             6.833712984    06000    E-04   ;0.7-6.99316628701594E-01
              6.833712984             E-04   ;displayed result
3
x<>y
/             4.389999999    99657    E+03   ;3/6.83371298406000E-04
              4.390000000             E+03   ;displayed result
```

On one hand the HP method is consistent to what actually is on the display (considering the digits of the mantissa the user always has access to). On the other hand, CASIO's approach allows for greater accuracy during chain calculations, even though the displayed result sometimes is not what it appears to be (4389.9999999966 is different than 4890 albeit closer to it than 4389.999990).

> Quote:
>
> I'm pretty impressed with the accuracy of this inexpensive machine.

It performs quite well in the so-called Forensic Test. It passes Hugh Steer's Torture Test - Trigs *magna cum laude* and does very well on the other Torture Tests. Another problem I would put to it would be Kahan's Integral, that is, integrate sqrt(x)/(x-1)-1/ln(x) between 0 and 1:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=83262 (messages #3 to #8)

The exact result is 2 - ln(4) - EulerGamma or, numerically,

```
2 - ln(4) - 0.577215664901533 = 0.036489973978576
```

According to Hugh Steer's review, the fx-991es is slow on integration, so this might not be a good idea...

> Quote:
>
> I'm simple-minded enough to be impressed by what today's machines can do at almost give-away cost!

Same here. Perhaps because as late as 1979, soon after I had finished high-school, I still used a logarithm table to do my calculations :-)

Re: Machine accuracy behaviour of the hp-35s and other models

*Message #14 Posted by **Nigel J Dowrick** on 1 Dec 2009, 2:16 p.m.,*
in response to message #13 by Gerson W. Barbosa

On a Casio FX-9860G (slim): 0.0364899739857718 in 5 seconds: right to 9 sf. Not bad!

Nigel

Re: Machine accuracy behaviour of the hp-35s and other models

*Message #15 Posted by **Mike Morrow** on 1 Dec 2009, 8:47 p.m.,*
in response to message #13 by Gerson W. Barbosa

> Quote:
>
> Another problem I would put to it would be Kahan's Integral, that is, integrate sqrt(x)/(x-1)-1/ln(x) between 0 and 1:
>
> The exact result is 2 - ln(4) - EulerGamma or, numerically,
>
> 2 - ln(4) - 0.577215664901533 = 0.036489973978576
>
> According to Hugh Steer's review, the fx-991es is slow on integration, so this might not be a good idea...

On the fx-991ES/115ES, naturally the expression sqrt(x)/(x-1)-1/ln(x) causes a "Math ERROR" at the boundaries of integration (0, 1). And apparently, the method of numerical integration used (Gauss-Kronrod) evaluates the expression at the boundaries.

Integrating instead from 10^-10 to 1+10^-10, with the default integration tolerance of 10^-5, the displayed 10-digit result is entirely correct: 0.03648997398.

But, the full 15-digit result is 0.0364899739808399.

It took 140 seconds to produce that result.

All things considered, that performance is not too bad for a US$17.48 machine.

Note: This post was edited to add the name of the integration method that the manual cites, and report a re-calculation with slightly changed limits of integration, using the default integration tolerance value. A slightly shorter execution time resulted.

Edited: 2 Dec 2009, 12:32 a.m. after one or more responses were posted

Re: Machine accuracy behaviour of the hp-35s and other models

*Message #16 Posted by **Anders Peterson** on 1 Dec 2009, 11:12 p.m.,*
in response to message #15 by Mike Morrow

> Quote:

> Integrating instead from 10^-6 to 1+10^-6, with an integration tolerance of 10^-10, the displayed 10-digit result is entirely correct: 0.03648997398.
>
> But, the full 15-digit result is 0.0364899739808399.
>
> It took 157 seconds to produce that result.
>
> All things considered, that performance is not too bad for a US$17.48 machine.

That is impressive! I read that post thinking that the 33s (only slightly pricier) would be able to best that, but not even close. I tried with display set to "All", but I had to give up after about 20 minutes of integrating (can't risk the batteries with a physics final next week).

Thee 33s matched the Casio's time almost exactly when I set the display Fix6, but with far less accuracy. Sure the display result was fine - 0.036490 But the 12 digit answer was poor - 0.0364899763890

I wonder how the TI-36X II would fare with this. I always though of it as the best bang for-your-buck calculator, but to be fair, I never really gave Casio a chance.

Re: Machine accuracy behaviour of the hp-35s and other models

*Message #17 Posted by **Gerson W. Barbosa** on 2 Dec 2009, 11:55 a.m.,*
in response to message #16 by Anders Peterson

> Quote:
>
> I tried with display set to "All", but I had to give up after about 20 minutes of integrating (can't risk the batteries with a physics final next week).

That was the best thing to do. It takes about 2 hours and 45 minutes for the 33s to return 0.0364899739831 in level X and 3.64899739885e-13 in level Y. This places the answer between 0.0364899739827 and 0.0364899739835, however the correct 12-digit answer, 0.0364899739786, is out of these bounds. In this article Prof. Kahan explains why this one is a difficult integral for numerical integrators. At page 30 he suggests a variable change:

Consider the original expression

```
(sqrt(x)/(x-1)-1/ln(x))*dx
```

by substituting x = y^2, the integrand becomes

```
(y/(y^2-1)-1/ln(y^2))*2ydy =

(y/((y-1)*(y+1))-1/(2*ln(y)))*2ydy =

(2*y^2/((y-1)*(y+1))-y/ln(y))*dy
```

This improves the accuracy but it still takes too long when the calculator is set to FIX 10 and higher:

When integrating 2*SQ(Y)/((Y-1)*(Y+1))-Y/LN(Y) between 0 and 1 on the HP-33s retuns 0.0364899739768 in 1 minute and 34 seconds (FIX 9), which is correct to 10 significant digits. If the display is set to FIX 10 it will take about 50 minutes before the calculators shows a worse answer: 0.0364899739936.

Edited: 2 Dec 2009, 12:06 p.m.

Re: Machine accuracy behaviour of the hp-35s and other models

*Message #18 Posted by **Mike Morrow** on 2 Dec 2009, 1:38 p.m.,*
in response to message #17 by Gerson W. Barbosa

> Quote:
>
> Consider the original expression
>
> ```
> (sqrt(x)/(x-1)-1/ln(x))*dx
> ```
>
> by substituting x = y^2, the integrand becomes
>
> ```
> (2*y^2/((y-1)*(y+1))-y/ln(y))*dy
> ```
>
> This improves the accuracy...:
>
> When integrating 2*SQ(Y)/((Y-1)*(Y+1))-Y/LN(Y) between 0 and 1 on the HP-33s retuns 0.0364899739768 in 1 minute and 34 seconds (FIX 9), which is correct to 10 significant digits. If the display is set to FIX 10 it will take about 50 minutes before the calculators shows a worse answer: 0.0364899739936.

On the fx-991ES/115ES, there is a significant speed-up in results from integrating g(x)=2*x^2/((x-1)*(x+1))-x/ln(x) compared to integrating f(x)=(sqrt(x)/(x-1)-1/ln(x)).

Integrating g(x)=2*x^2/((x-1)*(x+1))-x/ln(x) from 10^-10 to 1+10^-10, with the default integration tolerance of 10^-5, the displayed 10-digit result is entirely correct: 0.03648997398.

The full 15-digit result is 0.0364899739779277.

It took 66 seconds to produce that result.

Re: Machine accuracy behaviour of the hp-35s and other models

*Message #19 Posted by **Gerson W. Barbosa** on 2 Dec 2009, 3:43 p.m.,*
in response to message #18 by Mike Morrow

> Quote:
>
> Integrating g(x)=2*x^2/((x-1)*(x+1))-x/ln(x) from 10^-10 to 1+10^-10, with the default integration tolerance of 10^-5, the displayed 10-digit result is entirely correct: 0.03648997398. ... It took 66 seconds to produce that result.

43m14.25s for my HP-50g to return 3.64899739837E-2... It appears the Gauss-Kronrod integration method you have mentioned, which are used on many modern calculators, is faster and more accurate than the Romberg method that have been being used on HP calculators since 1979, starting with the HP-34C, if I am not wrong. That was the best option then given the HP-34C memory constraints.

Re: Machine accuracy behaviour of the hp-35s and other models

*Message #20 Posted by **Steve Keeley** on 2 Dec 2009, 8:47 p.m.,*
in response to message #19 by Gerson W. Barbosa

I didn't bother trying to integrate this on any of my calculators.

I went to WolframAlpha and pasted "integrate sqrt(x)/(x-1)-1/ln(x) between 0 and 1" into the box and it returned:

2-gamma-log(4) ~0.036489973978576520559023667001244432806840395339565892952872746128345029282945897851326282715415875401...

Plus a graph of the integral.

Instantly.

But I suppose that's cheating.

Re: Machine accuracy behaviour of the hp-35s and other models

*Message #21 Posted by **Gerson W. Barbosa** on 2 Dec 2009, 10:08 p.m.,*
in response to message #20 by Steve Keeley

> Quote:
>
> 2-gamma-log(4) ~0.036489973978576520559023667001244432806840395339565892952872746128345029282945897851326282715415875401...
>
> Plus a graph of the integral.

The first 16 digits match the answer I got on my HP-200LX, therefore chances are the WolframAlpha result is correct :-)

The graph is somewhat misleading though, as you can see by copying and pasting "plot sqrt(x)/(x-1)-1/ln(x) between 0 and 0.015" to WolframAlpha.

A real XXIst century calculator would be able to solve this integral symbolically but it has yet to be released...

Wolfram Alpha, was: Re: Machine accuracy behaviour of the hp-35s and other models

*Message #22 Posted by **bill platt** on 2 Dec 2009, 10:24 p.m.,*
in response to message #21 by Gerson W. Barbosa

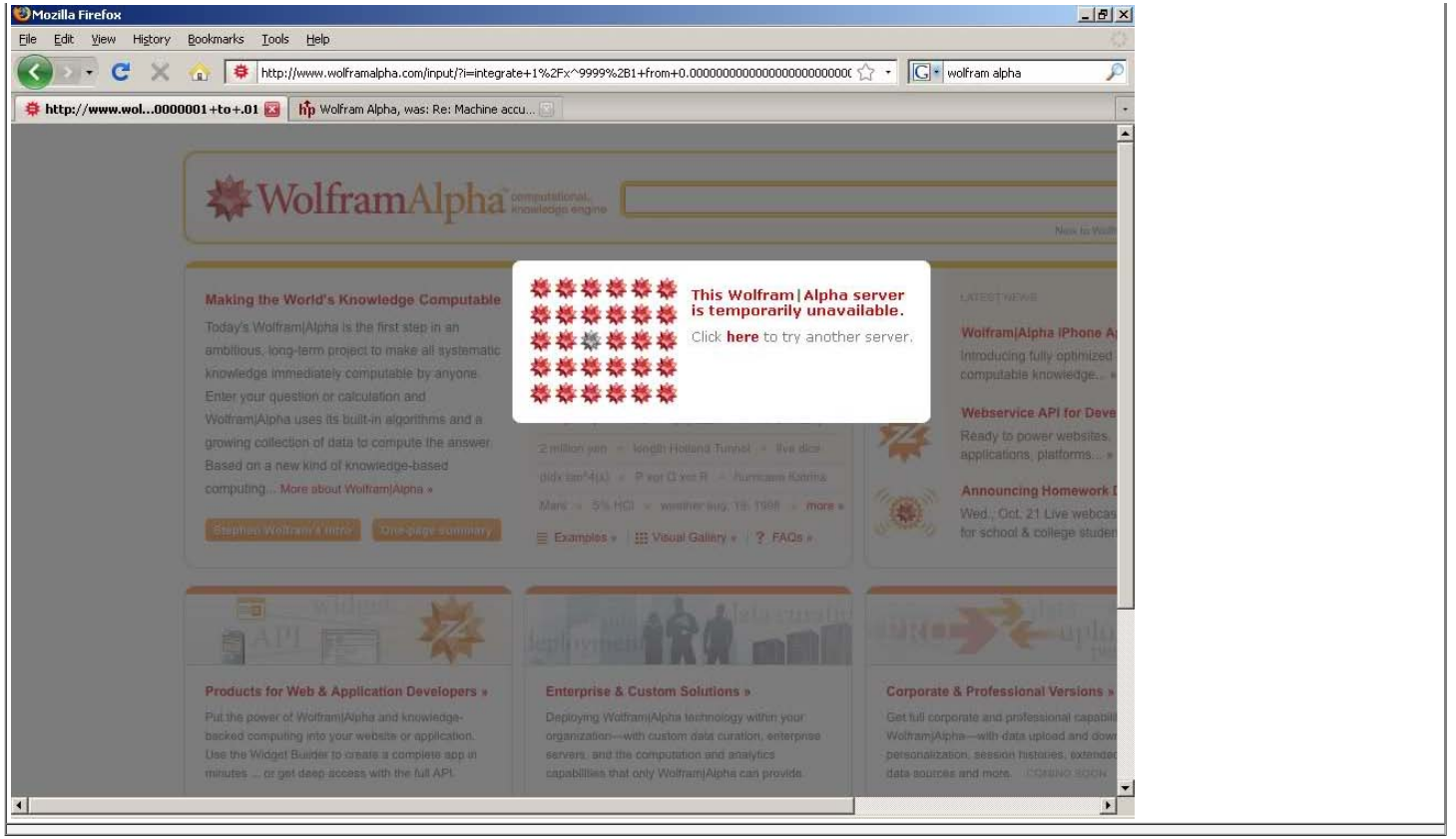
That is a holy mackerel project.

It is so big in its potential!

It also is rather amazing how many digits they accept into the buffer.

I tried this one for fun:

```
integrate 1/x+1 from
0.00000000000
```



Re: Wolfram Alpha, was: Re: Machine accuracy behaviour of the hp-35s and other models
*Message #24 Posted by **Gerson W. Barbosa** on 2 Dec 2009, 10:53 p.m.,*
in response to message #23 by bill platt

Just for fun, I asked "What is the meaning of life" and got this:

Perhaps I should have asked that BEFORE you ruined it :-)

Re: Wolfram Alpha, was: Re: Machine accuracy behaviour of the hp-35s and other models
*Message #25 Posted by **bill platt** on 3 Dec 2009, 12:05 a.m.,*
in response to message #24 by Gerson W. Barbosa

Haha!

42

Re: Machine accuracy behaviour of the hp-35s and other models
*Message #26 Posted by **Mike Morrow** on 3 Dec 2009, 9:09 a.m.,*
in response to message #19 by Gerson W. Barbosa

After adjusting the expression I used in the fx-115ES to replace a multiplication by a reciprocal with a simple division, the speed was further improved to only 57.5 seconds. The full 15-digit result very minimally changed to 0.0364899739779289. I also found in another experiment that the result was the same and the execution time only minimally increased after setting the "integration tolerance" to 10^-10, compared to using the default value of 10^-5.

I tried to get a 10-digit result for integration of the original function f(x)=(sqrt(x)/(x-1)-1/ln(x)) on my HP42S with ACC set to 10^-10. After more than two hours of run time, I gave up.

Although Hugh's review said that integration was slow in this Casio model, I believe that must be a comparison only to other Casio models. The evidence shows that fx-991ES/115ES quadrature is blazingly fast (more than two orders of magnitude for this example!) compared to that of any HP handheld.

I don't know much about the Gauss-Kronrod quadrature method, but it would be a most welcome replacement (or better, a selectable option) for the methodolgy traditionally implemented for the last third of a century on HP calculators.

Re: Machine accuracy behaviour of the hp-35s and other models

*Message #27 Posted by **Gerson W. Barbosa** on 3 Dec 2009, 7:14 p.m.,*
in response to message #26 by Mike Morrow

Have you seen Hugh Steer's torture test: integration? The 48G overall score was 100% while fx-991es got 92%. It appears the problem with HP calculators for this particular integral is not the integration method but the loss of accuracy at the extremes of the integration interval (because they round intermediate results to the number of digit of the display, as we know). This might explain why the performance of the 33s dramatically decreases when the display mode is changed from FIX 9 to FIX 10 (I would guess the HP-42S would have no problem for ACC=1e-9 but I haven't checked this yet).

Numerical integration: Casio fx-115ES, TI-82, HP-42S, and HP-32SII

*Message #28 Posted by **Karl Schneider** on 4 Dec 2009, 3:03 a.m.,*
in response to message #26 by Mike Morrow

> Quote:
>
> The evidence shows that fx-991ES/115ES quadrature is blazingly fast (more than two orders of magnitude for this example!) compared to that of any HP handheld.
>
> I don't know much about the Gauss-Kronrod quadrature method, but it would be a most welcome replacement (or better, a selectable option) for the methodolgy traditionally implemented for the last third of a century on HP calculators.

Ya learn something every day! I was puzzled about what you were doing in this thread, because I have the predecessor fx-115**M**S, which looks almost identical. It uses Simpson's Rule for integration, just like the 1981 Casio fx-3600P of mine.

A on-line review for the fx-115ES confirms that the new model upgraded to Gauss-Kronrod. Maybe there was more to the fx-115 replacement than met the eye.

Upscale TI models have used Gauss-Kronrod for many years. My 1993 TI-82 generally outperforms my HP models on integration, other than that the user must ensure that the integrand function is defined at the endpoints:

```
fnInt(sqrt(X)/(X-1)-1/ln(X),X,1E-12,1-1E-12,1E-12)

.036489974 (displayed in 54 seconds)
0.036489973978679 (revealed)
```

> Quote:
>
> I tried to get a 10-digit result for integration of the original function f(x)=(sqrt(x)/(x-1)-1/ln(x)) *(for 0 <= x <= 1)* on my HP42S with ACC set to 10^-10. After more than two hours of run time, I gave up.

It should be noted that the ACC parameter on the HP-42S is not the same as FIX on the "lesser" RPN models (prior to the HP-33s) -- or even the accuracy factor on non-HP calcuators using Gauss-Kronrod. ACC is a *multiplicative* (not absolute) uncertainty factor applied to the integrand function. With the value of the function f(x) well below 0.1 for 0 < x < 1, the uncertainty of the function at almost all points for ACC = 1E-10 is well below 1E-11. This tight tolerance drives a large number of function evalulations, in order to achieve calculated estimates of the integral that do not change by more than the small total-integral uncertainty as ever-more evaluations are taken.

On my -- er, perhaps *loathsome* -- HP-32SII, I got 0.0364899740909 in 605 seconds with a FIX 9 setting. The deviation from the correct answer of 0.036489973978576 is 1.123E-10 -- well within the maximum error of 0.5 * 1E-9 * (1-0) = 5E-10 estimated for FIX 9.

In order to get a corresponding answer on the HP-42S, I set ACC to a value such that the mean value of the function times ACC approximately equaled the FIX 9 uncertainty: ACC = 5.00E-10 / 0.0365 = 1.37E-08. This yielded an integral of 0.036489974091, with an estimated error of 4.99963E-10, in about 1000 seconds.

Please see my sole contribution to the HP Articles Forum (#556) for more information.

-- KS

Edited: 5 Dec 2009, 11:54 p.m. after one or more responses were posted

Re: Numerical integration: Casio fx-115ES, TI-82, HP-42S, and HP-32SII

*Message #29 Posted by **Gerson W. Barbosa** on 4 Dec 2009, 10:16 a.m.,*
in response to message #28 by Karl Schneider

Hello Karl,

> Quote:
>
> I was puzzled about what you were doing in this thread, because I have the predecessor fx-115**M**S, which looks almost identical. It uses Simpson's Rule for integration, just like the 1981 Casio fx-3600P of mine.

Have you checked that on your fx-115MS? Simpson 3/8 is slightly better than the ordinary Simpson's Rule and yet the results are not good on TurboPascal:

```
Program Simpson_3_8;
var a, b, h, s1, s2, x: real;
                     n: integer;


function f(x: real): real;
begin
  f:=Sqrt(x)/(x-1)-1/Ln(x)
end;


begin
```

```
  ClrScr;
  Write('A, B, N: ');
  ReadLn(a, b, n);
  n:=3*n;
  h:=(b-a)/n;
  s1:=0;
  s2:=0;
  x:=a+h;
  repeat
    s1:=s1+f(x+2*h);
    s2:=s2+f(x)+f(x+h);
    x:=x+3*h
  until x>a+(n-3)*h;
  s2:=s2+f(x)+f(x+h);
  WriteLn(3*h/8*(f(a)+f(b)+2*s1+3*s2))
end.


A, B, N: 1e-11 0.9999999 10000
  3.6495766224E-02
```

The second function doesn't give a better result:

```
f:=2*x*x/((x-1)*(x+1))-x/Ln(x)


A, B, N: 1e-11 0.9999999 10000
  3.6496234630E-02
```

> Quote:
>
> Please see my HP Articles Forum contribution (#556) for more information.

That's an excellent reference! I looked it up when I was checking wheter the integrating methods were the same on all HP calculators. I ought to have provided the link myself as it might be useful to those who didn't know it yet.

Regards,

Gerson.

Re: Numerical integration: Casio fx-115ES, TI-82, HP-42S, and HP-32SII

*Message #30 Posted by **Karl Schneider** on 5 Dec 2009, 2:16 a.m.,*
in response to message #29 by Gerson W. Barbosa

Hi, Gerson --

> Quote:
>
> Have you checked that on your fx-115MS? Simpson 3/8 is slightly better than the ordinary Simpson's Rule

For the few estimations I did, the fx-3600P result matched the fx-115MS result, although the latter computed much faster. Basic Simpson's Rule requires that the number of subdivisions be even; both models allow the user to specify the number of subdivisions as 2 raised to an integer power *k* from 1 to 9.

> Quote:
>
> That's an excellent reference! I looked it up when I was checking wheter the integrating methods were the same on all HP calculators

Thanks. It may end up as my one and only article, as I have no topic in mind for another.

-- KS

Edited: 5 Dec 2009, 2:15 p.m.

Re: Machine accuracy behaviour of the hp-35s and other models

*Message #31 Posted by **Thomas Okken** on 7 Dec 2009, 12:34 a.m.,*
in response to message #26 by Mike Morrow

> Quote:
>
> I tried to get a 10-digit result for integration of the original function f(x)=(sqrt(x)/(x-1)-1/ln(x)) on my HP42S with ACC set to 10^-10. After more than two hours of run time, I gave up.

I tried this with Emu42 (with the "Authentic Calculator Speed" option turned off!), and it returned 3.64899740064e-2, after evaluating the function 16383 times. Free42 returned 3.64899740835e-2 after 4095 evaluations.

Running Emu42 with "Authentic Calculator Speed" turned on, I observed 224 evaluations in one minute, which suggests that the complete integral should take 73 minutes, but I didn't actually wait for it to finish, nor did I try this on my real 42S.

I wonder how many evaluations this takes with Gauss-Kronrod quadrature. Is the Casio faster because of its quadrature algorithm, or because of faster hardware?

- Thomas

Edited: 7 Dec 2009, 12:41 a.m.

Re: Machine accuracy behaviour of the hp-35s and other models
*Message #32 Posted by **Mike Morrow** on 8 Dec 2009, 10:58 a.m.,*
in response to message #31 by Thomas Okken

> Quote:
>
> I wonder how many evaluations this takes with Gauss-Kronrod quadrature. Is the Casio faster because of its quadrature algorithm, or because of faster hardware?

I won't let ignorance keep me from speculating. I firmly believe the speed (and accuracy) of numerical integration on the Casio fx-115ES/991ES stems from the G-K algortithm.

The best HP hardware (HP50G) has been reported in this thread as requiring about fourty times longer than this cheap Casio for the problems we've been playing with in this thread.

Who, outside Casio, knows anything about the Casio hardware? Physically it appears to be just a single IC under goop (powered by a solar cell or one LR44). I've found no discussions of it anywhere on the web. It is an excellent performer for US$18, and it's the first non-RPN calculator in 35 years that I could use regularly if I had to.

Edited: 8 Dec 2009, 12:16 p.m.

Re: Machine accuracy behaviour of the hp-35s and other models
*Message #33 Posted by **Bart (UK)** on 30 Nov 2009, 8:00 a.m.,*
in response to message #4 by Mohammed Hadi

> Quote:
>
> You seem to suggest that explicit complex"ing" is needed throughout the sequence.

Yes, I think that if it had the capability to automatically look for complex results upon real result error, it would have slowed down the processing of the 35s even more. It is already heavily criticised for being one of the slowest HPs in recent years (most Pioneers & even Voyagers beat it).

Although the same processor as the 33S, it is slower I guess due to more features and broader data type handling. From information gleaned on the web and processor data sheet, it seems HP is already running it at ~6MHz - 33% above recommended for 3V (assuming the 2 batteries are in //). (I have NOT verified this with my own measurements, e.g. oscilloscope).

I would only hope HP sees enough of a market to release an updated HP35s with a faster processor (perhaps emulated on an ARM like the new 12C) and fix a few more serious bugs (e.g. keyboard buffering, program size/checksum etc.).

Re: Machine accuracy behaviour of the hp-35s and other models
*Message #34 Posted by **Dave Shaffer (Arizona)** on 30 Nov 2009, 11:59 a.m.,*
in response to message #4 by Mohammed Hadi

> Quote:
>
> Maybe I should prepare a one-hour lecture about the dark side of calculators for my Introduction to Engineering course.

Can't hurt!

Other things to point out to your classes (you probably do already, but some students need to be beaten over the head several times to get important points): significant figures (as others have already mentioned, some students tend to believe EVERY digit that the calculator produces). Also, the sensibility of answers (i.e. do they make sense). I once had a student in physics class determine that the stopping distance of a car going 50 mph was 0.3 mm! I asked him if he had ever stopped his car in so short a distance, and he had to agree that his answer didn't seem quite right.

Re: Machine accuracy behaviour of the hp-35s and other models
*Message #35 Posted by **Mohammed Hadi** on 30 Nov 2009, 12:31 p.m.,*
in response to message #34 by Dave Shaffer (Arizona)

Actually I do spend a fair amount of time on the topic in my Numerical Analysis course (300 level). Recently, however, my examples are becoming less and less relevant, what with MATLAB defaulting to double precision and Windows/Mac OS's now firmly moving into 64-bit. It never occured to me to use calculators to highlight truncation effects, most probably due to my Casio's "You Can't Handle the Truth" attitude. This thread has pointed me to a treasure trove of intriguing examples for my students. Who knows... I might even be able to win a few of them over to the RPN camp.

Re: Machine accuracy behaviour of the hp-35s and other models
*Message #36 Posted by **Gerson W. Barbosa** on 30 Nov 2009, 2:26 p.m.,*
in response to message #34 by Dave Shaffer (Arizona)

> Quote:
>
> I asked him if he had ever stopped his car in so short a distance, and he had to agree that his answer didn't seem quite right.

If he had calculated the corresponding negative acceleration he'd be quite amazed at the result...

Re: Machine accuracy behaviour of the hp-35s and other models
*Message #37 Posted by **Dave Shaffer (Arizona)** on 30 Nov 2009, 3:13 p.m.,*
in response to message #36 by Gerson W. Barbosa

Yeah - probably 10^4 or 10^5 g - you'd be flatter than the proverbial pancake!

Re: Machine accuracy behaviour of the hp-35s and other models
*Message #38 Posted by **Gerson W. Barbosa** on 30 Nov 2009, 3:22 p.m.,*
in response to message #37 by Dave Shaffer (Arizona)

Yes, about 8.5*10^4 g, if I haven't made any mistake. Great magnitude estimation!

Re: Machine accuracy behaviour of the hp-35s and other models
*Message #39 Posted by **Bart (UK)** on 8 Dec 2009, 11:39 a.m.,*
in response to message #38 by Gerson W. Barbosa

> Quote:
>
> Yes, about 8.5*10^4 g, if I haven't made any mistake. Great magnitude estimation!
>
> Quote:
>
> If he had calculated the corresponding negative acceleration he'd be quite amazed at the result...

Would this even be meaningful to the student if he didn't even catch on that 0.3mm was a miraculously short stopping distance for even just a person (let alone a car) travelling at 50mph?

Re: Machine accuracy behaviour of the hp-35s and other models
*Message #40 Posted by **Dave Shaffer (Arizona)** on 9 Dec 2009, 9:39 a.m.,*
in response to message #39 by Bart (UK)

Bart,

Your last sentence was my original point - the student hadn't bothered to think/realize that 0.3 mm was indeed awful short!

Re: Machine accuracy behaviour of the hp-35s and other models
*Message #41 Posted by **Herbert Crepaz (UK)** on 30 Nov 2009, 4:30 a.m.,*
in response to message #1 by Mohammed Hadi

Hi Mohammed,

```
The first term ( 1/3 * 3 - 1 ) calculates on my HP 35s to -1*10^-12.
So if this term is raised to the power of (1/3)^3 it results in INVALID y^x
(it seems there is no complex number support for y^x)


On my HP 42s the end result is 0.356951358148 + i 0.0417216301054


You can find a test of calculator functions accuracy on this website:
http://www.voidware.com/calcs/torturetest.htm


Cheers,
Herbert
```

Re: Machine accuracy behaviour of the hp-35s and other models
*Message #42 Posted by **Bart (UK)** on 30 Nov 2009, 4:40 a.m.,*
in response to message #41 by Herbert Crepaz (UK)

Hi Herbert,

> Quote:
>
> (it seems there is no complex number support for y^x)

See my psot just before yours. Although not as good as the 42S and the RPL (28/48/49/50) models, it does have some complex support. It's better than the 32S/SII/33S in my opnion and with some manipulation, the 35S can do quite a bit of complex stuff.

Regards, Bart

edit: by the way: y^x is the way to get a sqrt for a neg number on the 35s

Edited: 30 Nov 2009, 4:41 a.m.

Re: Machine accuracy behaviour of the hp-35s and other models
*Message #43 Posted by **Herbert Crepaz (UK)** on 30 Nov 2009, 5:00 a.m.,*
in response to message #42 by Bart (UK)

Hi Bart,

Thanks for the neat trick with adding 0i0.

I sent my post before I updated the messages page just to see that there were already 2 similar comments. I saw your comment only after I had posted mine already.

But I agree, the HP 35s is in good hands a capable machine.

Herbert

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Dosbox + EMU41 problem

*Message #1 Posted by **Geir Isene** on 29 Nov 2009, 5:18 p.m.*

Running EMU41 in Dosbox under Ubuntu 09.04:

It starts and after about two seconds, on top of the bottom part (the f1 - f12 buttons) it prints out the content of the Mcode registers and on the last line it prompts "Cmd: " and with a blinking cursor.

Any takers?

Re: Dosbox + EMU41 problem

*Message #2 Posted by **Marcus von Cube, Germany** on 29 Nov 2009, 5:40 p.m.,*
in response to message #1 by Geir Isene

A "secret" debugger?

Re: Dosbox + EMU41 problem

*Message #3 Posted by **Egan Ford** on 29 Nov 2009, 8:20 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Nothing secret about it. It's in the EMU41 docs. Run 'emu41 /d' to get to the debugger. The prompt is 'Cmd:'. CTRL-Z from EMU41 will also dump you into the debugger. Perhaps you pressed CTRL-Z to background DOSBox but had the focus on DOSBox.

This is unrelated to DOSBox. IIRC, corrupt ROM images can also dump you into the EMU41 debugger. Try a fresh install of EMU41.

Edited: 29 Nov 2009, 8:21 p.m.

Re: Dosbox + EMU41 problem

*Message #4 Posted by **Geir Isene** on 30 Nov 2009, 5:57 a.m.,*
in response to message #3 by Egan Ford

> Quote:
>
> This is unrelated to DOSBox. IIRC, corrupt ROM images can also dump you into the EMU41 debugger. Try a fresh install of EMU41.

That fixed it. Thanks.

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HP 34C repair

*Message #1 Posted by **aurelio** on 29 Nov 2009, 3:21 p.m.*

Hello! i'm trying to repair a hp34c with the flat connection cable broken 'cause of the corrosion (battery leakage) I tried to repair it witha flat cable but maybe I wrong something (it still doesn't work, and I hope to have no done more damages) Anyhow I've found a previous topic and a reply by Jon where he told to have picture showing theconnections. I ask him, please, or anybody knows the pictures or istructions to identify the connections, where are the three points to connect. Thank-you

here's the topic link http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=65902

Re: HP 34C repair

*Message #2 Posted by **Gerson W. Barbosa** on 29 Nov 2009, 4:49 p.m.,*
in response to message #1 by aurelio

Please take a look at the pictures in this photobucket album (courtesy of Luiz C. Vieira, a contributor to this forum).

Re: HP 34C repair

*Message #3 Posted by **aurelio** on 29 Nov 2009, 5:04 p.m.,*
in response to message #2 by Gerson W. Barbosa

Thank-you Gerson, and thank-you Luiz, great picture! I'll keep you informed of the repair, thank-you a lot!

Edited: 29 Nov 2009, 5:05 p.m.

Re: HP 34C repair

*Message #4 Posted by **aurelio** on 29 Nov 2009, 5:50 p.m.,*
in response to message #3 by aurelio

conections restored, but calculator still not shows signs of life, maybe corrosion has created other problems. by a first wiev, nothing appears.....

Re: HP 34C repair

*Message #5 Posted by **Gerson W. Barbosa** on 29 Nov 2009, 6:21 p.m.,*
in response to message #4 by aurelio

Perhaps this article may help you. *In bocca al lupo!* :-)

Re: HP 34C repair

*Message #6 Posted by **aurelio** on 29 Nov 2009, 7:01 p.m.,*
in response to message #5 by Gerson W. Barbosa

Thank-you Gerson, now I go to sleep (1 o'clock in the mornig, today I'll read it carefully, Stay tuned an THANK YOU AGAIN GRAZIE MILLE

Re: HP 34C repair

*Message #7 Posted by **Paul Dale** on 29 Nov 2009, 5:31 p.m.,*
in response to message #2 by Gerson W. Barbosa

I repaired my 34c using following these instructions with great success.

- Pauli

Re: HP 34C repair

*Message #8 Posted by **Vieira, Luiz C. (Brazil)** on 30 Nov 2009, 8:59 a.m.,*
in response to message #2 by Gerson W. Barbosa

Hey, Gerson; thank you for your reminding! I appreciate! Nothing else pays better than the satisfaction of helping someone in need. Unfortunately not all people think this way...

I would like to add another link, to this picture, because chances are that Aurélio will have to replace the flex circuit. I have already done this replacement successfully at least two times.

Best regards and success, Aurelio!

Cheers.

Re: HP 34C repair

*Message #9 Posted by **aurelio** on 30 Nov 2009, 3:30 p.m.,*
in response to message #8 by Vieira, Luiz C. (Brazil)

Thank you Luiz for your help! I have quite a good new: now the calculator at least wake up! When I switch on on power up and shows me something in the display: most of the segments don't light (Don't know if it is a problem of display) but it try tho show: "program error" , the message which usually appears after you replace the battery pacK, I tried to key each number of the keyboad to get something, but what the display shows is irregular and nosense, partial characcers, blanks...I don't know if this dipends on the display, ton he flat cable, on the other components, or on the blue oxidation on the pin of the ICs. If Iwould like to replace the flex circuit, do you have a picture of the other side? I mean the other end of the flat THANK YOU Luiz

Re: HP 34C repair

*Message #10 Posted by **Vieira, Luiz C. (Brazil)** on 30 Nov 2009, 7:27 p.m.,*
in response to message #9 by aurelio

Hi, Aurélio;

of course I can provide other pictures, just gimme a couple of hours (if I do not find the pictures, I'll take new ones...).

One question: can you tell if your calculator has the IC´s soldered in place or if they are just assembled over a flex-circuit surface (solderless-type). These solderelss units usually have this problem with the LED display, and it is just bad contact.

If you need further info or images, just let me know. And as soon as I have the picture I´ll post again (have no Spice opened now, and I do not remember which HP38 is the one with the flat cable...)

Cheers.

Luiz (Brazil)

Re: HP 34C repair

*Message #11 Posted by **aurelio** on 1 Dec 2009, 5:34 a.m.,*
in response to message #10 by Vieira, Luiz C. (Brazil)

Hi Luiz, now I'm quite far from my home and I'll be away from the calculator till to friday, anyway as I can remember the ICs the BIG one and the three small, ROMS I think, are soldered on the printed circuits (I have to check it better). I don't undrstand why the spices have only one board (circuits+keyboard toghether) I could not see the rear of the ICs (when usually the pin are soldered'cause of that)

Pictures and all your tips and help are welcome, of course, THANK-YOU a lot Aurelio

Edited: 1 Dec 2009, 7:30 a.m.

Re: HP 34C repair

*Message #12 Posted by **aurelio** on 5 Dec 2009, 11:39 a.m.,*
in response to message #11 by aurelio

Hi Luiz! Just reopened the calculator and seen that the ICs are mountend on a board, but the pins don't pass though the board (I don't se any hole. It seems anyhow that somebody (maybe the previous owner) made any soldering point 'cause I see that some pin have been touched. There is a sign o The big IC It seems that somebody touched it with a soldering iron. The rear of the board have the keyboard contacts. This is not separated as in the woodstocks.....On this surface there is a plastic sheet with the other side of the contact.....

Edited: 5 Dec 2009, 11:40 a.m.

Re: HP 34C repair

*Message #13 Posted by **Vieira, Luiz C. (Brazil)** on 5 Dec 2009, 1:04 p.m.,*
in response to message #12 by aurelio

Hi, Aurélio;

please, see if your calculator looks like this one:

Details of the HP38E chips alignment

Although it is an HP38E, the HP34C has the same arrangement. The IC´s are soldered directly over the conductive tracks (a bit thicker there) so they do not pass through the PCB.

I'll take a picture (the one I promised I would... sorry!) showing the contacts and post it here later, OK? In the meantime, I tnink you'd like to have a look here, because Alberto Fenini took great pictures of his HP38E, and the last ones show the battery contacts. The

same for the HP34C.

'I'll be back!'

Luiz (Brazil)

Re: HP 34C repair

*Message #14 Posted by **aurelio** on 5 Dec 2009, 2:18 p.m.,*
in response to message #13 by Vieira, Luiz C. (Brazil)

Thank-you Luiz the picture matches, it's the same kind of PCB. Compliments to alberto for the picture and the work he has done!

Re: HP 34C repair

*Message #15 Posted by **aurelio** on 20 Dec 2009, 2:35 p.m.,*
in response to message #14 by aurelio

Hello! Any news about the connections to replace? More I look at this calculator and more I understand that somebody tried to repair already it, I see infact a lot of remade soldering points 8expecially on the pins of the ICs, I don'nt know if this is a good or a bad detail.....

Re: HP 34C repair

*Message #16 Posted by **Vieira, Luiz C. (Brazil)** on 20 Dec 2009, 2:51 p.m.,*
in response to message #15 by aurelio

Hello, Aurelio;

I completely missed the picture I promised... Sorry!

In the meantime, can you add a picture of yours? Just for us to see what you see.

Cheers.

Luiz (Brasil)

Re: HP 34C repair

*Message #17 Posted by **aurelio** on 25 Dec 2009, 3:04 p.m.,*
in response to message #16 by Vieira, Luiz C. (Brazil)

Hello and merry Christmas! here pics of my 34c

Re: HP 34C repair

*Message #18 Posted by **aurelio** on 11 Jan 2010, 4:32 p.m.,*
in response to message #16 by Vieira, Luiz C. (Brazil)

> Quote:
>
> Hello, Aurelio;

I completely missed the picture I promised... Sorry!

In the meantime, can you add a picture of yours? Just for us to see what you see.

Cheers.

Luiz (Brasil)

Hi Luiz, Hi all, any news for me? thankyou

Re: HP 34C repair

*Message #19 Posted by **Vieira, Luiz C. (Brazil)** on 12 Jan 2010, 6:32 a.m.,*
in response to message #18 by aurelio

Hi, Aurelio;

I sent you an e-mail; did you get it?

Luiz (Brazil)

Re: HP 34C repair

*Message #20 Posted by **aurelio** on 12 Jan 2010, 4:40 p.m.,*
in response to message #19 by Vieira, Luiz C. (Brazil)

HI Luiz, just now I've replayed, thank-you

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Meeting held yesterday in western Denmark

*Message #1 Posted by **Johnny Bjoern Rasmussen** on 29 Nov 2009, 6:45 a.m.*

I held a meeting yesterday at my work. I had promoted the meeting one month ago with a number of posters in my town, at my work and at the local libraries but no one turned up. A borring way to spend a saturday afternoon. I didn't want to promote the meeting here as I think there are very few danish readers but mabye I should have done so anyway? Have anyone here tried the same? Does anyone have some good advices for next time...

Cheers!

Johnny Bjoern Rasmussen, Denmark

Edited: 29 Nov 2009, 10:08 a.m.

Re: Meeting held yesterday in western Denmark

*Message #2 Posted by **David Hayden** on 29 Nov 2009, 10:09 a.m.,*
in response to message #1 by Johnny Bjoern Rasmussen

You might try to setup a table at a computer show that has a wider audience, especially if there is a show about older computers. One disadvantage of this is security. If you have a lot of people walking past your table, some of your things might grow legs and jump into somebody's pocket.

Another idea is to try to target your advertisement to people who are more directly interested, such as local antique computer clubs etc.

Good luck! I would have enjoyed it. :)

Dave

Re: Meeting held yesterday in western Denmark

*Message #3 Posted by **Sören Nilsson** on 29 Nov 2009, 3:12 p.m.,*
in response to message #1 by Johnny Bjoern Rasmussen

Hi Johnny,

I'm quite new collector of old calculators (and other old electronics) and I might have showed up if I had got the chance to know about your meeting. Denmark is just a few hours away (I live 3km north of Gothenburg in Sweden).

Maybe I show up next time.

Best regards, /Sören

Re: Meeting held yesterday in western Denmark

*Message #4 Posted by **Johnny Bjoern Rasmussen** on 1 Dec 2009, 1:54 p.m.,*
in response to message #3 by Sören Nilsson

Thanks for your advice and your wishes to attend. It seems that there are few people with the intrest for old computers in Denmark at least in my local area. Mabye I should focus on the larger provinces.

Regards

Johnny

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Why the theta choice for complex number display in polar form on the HP35s ?

*Message #1 Posted by **Mohammed Hadi** on 29 Nov 2009, 12:19 a.m.*

This is regarding the theta symbol used which is barely distinguishable from numeral 8. I'm wondering why hp chose this symbol instead of the more useful symbol used in the Casio fx-991ES (fx-115ES in the US).

If you look-up any introductory electrical circuits textbook for example, you'll find that complex numbers in polar form are written as

magnitude (angle symbol) phase

where the angle symbol is similar to a numeral 7 rotated (not flipped) by 180 degrees.

Now, this symbol should be easily reproducable by the 35s display and clearly distinguishable as a phase/angle separator.

Re: Why the theta choice for complex number display in polar form on the HP35s ?

*Message #2 Posted by **Thomas Radtke** on 29 Nov 2009, 4:14 a.m.,*
in response to message #1 by Mohammed Hadi

Several inconveniences indicate that this calculator has not been made by people who would acually use it.

Re: Why the theta choice for complex number display in polar form on the HP35s ?

*Message #3 Posted by **Walter B** on 29 Nov 2009, 6:20 a.m.,*
in response to message #2 by Thomas Radtke

It's a real pity HP falls back behind previous better solutions. Compare with the 42S.

Ceterum censeo: Hp, launch a 43S.

Re: Why the theta choice for complex number display in polar form on the HP35s ?

*Message #4 Posted by **Thomas Radtke** on 29 Nov 2009, 9:00 a.m.,*
in response to message #3 by Walter B

> Quote:
>
> Compare with the 42S.

You can't. It's a different concept. I might be unfair since I never had the original 42S in my hands, but from what I know, there's a lot of stuff hidden in menus, while the 3x concept makes most functions available straight from the keyboard. HP even went (mostly) back from menus when issuing the 32SII.

But ... I know your mileage differs significantly ;-).

Re: Why the theta choice for complex number display in polar form on the HP35s ?

*Message #5 Posted by **Walter B** on 30 Nov 2009, 4:32 p.m.,*
in response to message #4 by Thomas Radtke

Hallo Thomas, ich hab' da garnicht über Rechnerleistung gesprochen sondern ausschließlich über ein Anzeigeformat ;) Und da finde ich es halt einfach traurig, dass die Kollegen gegenüber HP-eigenen, besseren Lösungen deutlich abfallen. Man muss da eigentlich das Rad nicht mehr neu erfinden ...

(Explaining my previous post)

HTH

Re: Why the theta choice for complex number display in polar form on the HP35s ?

*Message #6 Posted by **John B. Smitherman** on 1 Dec 2009, 12:23 a.m.,*
in response to message #5 by Walter B

> Quote:
>
> Man muss da eigentlich das Rad nicht mehr neu erfinden ...

Hi Walter. Why indeed did HP feel the need to reinvent the 32sii? When I look at the 32sii, 33s and 35s I'm really baffled.

Regards,

John

Re: Why the theta choice for complex number display in polar form on the HP35s ?

*Message #7 Posted by **Walter B** on 1 Dec 2009, 2:04 a.m.,*
in response to message #6 by John B. Smitherman

Hi John (und hallo),

> Quote:
>
> Why indeed did HP feel the need to reinvent the 32sii? When I look at the 32sii, 33s and 35s I'm really baffled.

Now I need an explanation from your side ;)

Re: Why the theta choice for complex number display in polar form on the HP35s ?

*Message #8 Posted by **Vieira, Luiz C. (Brazil)** on 30 Nov 2009, 10:11 a.m.,*
in response to message #2 by Thomas Radtke

> Quote:
>
> (...)this calculator has not been made by people who would actually use it.

I´d go further and say that *this calculator has not been made by people who actually* ***understand what is it for*** (perhaps *making money* is what they had in mind...).

Again, Gene Kranz, former NASA´s operation director, said that engineers, mathematicians and scientists (same order of importance each) must exist to provide the technology and its products that financial market needs to survive. China and Japan alone put about half a million engineers and scientists in the market each year. This is about the rest of the occidental world engineers in the same period of time (USA alone goes about 60.000 a year).

I totally agree with him. We need more people who understand about the things instead of people who 'understand' how to sale things.

Cheers.

Luiz (Brazil)

Edited: 30 Nov 2009, 10:42 a.m.

Re: Why the theta choice for complex number display in polar form on the HP35s ?

Message #9 Posted by ***David Hayden*** *on 29 Nov 2009, 10:17 a.m.,*
in response to message #1 by Mohammed Hadi

> Quote:
>
> If you look-up any introductory electrical circuits textbook for example, you'll find that complex numbers in polar form are written as
>
> magnitude (angle symbol) phase
>
> where the angle symbol is similar to a numeral 7 rotated (not flipped) by 180 degrees.

Unfortunately, math books use the theta symbol for angles, and many of the calculators are aimed right at the high school education market (HP consulted with a group of math teachers on the 48G/GX). So even though I agree that it would make more sense, I suspect that familiarity won out.

Kind of like the way familiarity with the TI 83 seems to make it so hard for HP to gain market share in the education market today. :(

Re: Why the theta choice for complex number display in polar form on the HP35s ?

Message #10 Posted by ***Karl Schneider*** *on 30 Nov 2009, 3:45 a.m.,*
in response to message #9 by David Hayden

It's just plain incorrect to use theta (or alpha, beta, gamma, or phi) as an angle symbol. All of the above Greek letters are commonly used to represent *variables containing the numerical value of an angle*, not to indicate that an angular value follows.

I included this point in a document I prepared about the HP-35s, which I sent to HP's calculator division.

-- KS

Re: Why the theta choice for complex number display in polar form on the HP35s ?

*Message #11 Posted by **Gerson W. Barbosa** on 29 Nov 2009, 11:00 a.m.,*
in response to message #1 by Mohammed Hadi

I wish this was the only issue regarding the HP-35s. It is item #17.3 in this comprehensive bug/annoying features list.

Besides getting rid of all bugs a new version should round the mantissa so that the exponent is always visible, the way it is done on the HP-33s (Item #10 in Paul Dale's list).

It would also be great if keyboard layouts followed a pattern on all HP scientific calculators like they used to (at least for arithmetic operators, +/-, EEX and the ENTER keys). Anyone who often switches from the HP-50G to the HP-33s or HP-35s know what I mean.

Regards,

Gerson.

Re: Why the theta choice for complex number display in polar form on the HP35s ?

*Message #12 Posted by **designnut** on 29 Nov 2009, 3:11 p.m.,*
in response to message #11 by Gerson W. Barbosa

I am in favor of clarity even at the expense of departing from convention a bit. I favor a taller period so it shows up better. I suggest a little creativity in symbol formation to fit the small readout with emphasis on visibility. It would be a minor adaptation for the user, but more clarity forever. Sam

---

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Topcat HP-97 with very dim LEDs

*Message #1 Posted by **Michael de Estrada** on 27 Nov 2009, 9:32 p.m.*

I just bought the HP-97 in very nice physical condition but with the usual card reader gummy wheel and printer gear problems. I can fix those issues, but am stumped by something I've never seen before. The entire LED array is extremely dim. I tried boosting the voltage at the battery contacts with my DC power supply but it doesn't brighten the way it does on other calcs. All the segments are there and all work properly. All are exactly the same low level of brightness. I have two other Topcats, and the displays are much brighter. Is there some part of the circuitry that is at fault, and how can I fix this? Thanks.

Michael

Re: Topcat HP-97 with very dim LEDs

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 27 Nov 2009, 9:48 p.m.,*
in response to message #1 by Michael de Estrada

Hi;

I do not remember quite well the LED circuit, but it surely is multiplexed. Is there a way to compare (oscilloscope) the sweep waveform, mainly the cyclic relation? I cannot see another possibility, given that the voltage levels are OK.

Have you checked the HP97 Service Manual (MoHPC CD#11)?

Success!

Luiz (Brazil)

Edited: 27 Nov 2009, 9:49 p.m.

Re: Topcat HP-97 with very dim LEDs

*Message #3 Posted by **Katie Wasserman** on 27 Nov 2009, 10:34 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

The display multiplexer (aka cathode driver)is essentially a one-of-15 decoder. It wouldn't' matter what rate you ran this at, each display would still be on for 1/15 of the time -- if it were too slow you'd see flicker. A dim display means that you have:

1) a bad cathode driver chip (likely) 2) a bad ground connection going to the cathode driver chip (very unlikely) 3) a bad resistor (R2) on the display board that limits the current draw through the display (this is epced to be either 200K or 330K). I'd try changing this first because it's easy.

-Katie

Re: Topcat HP-97 with very dim LEDs

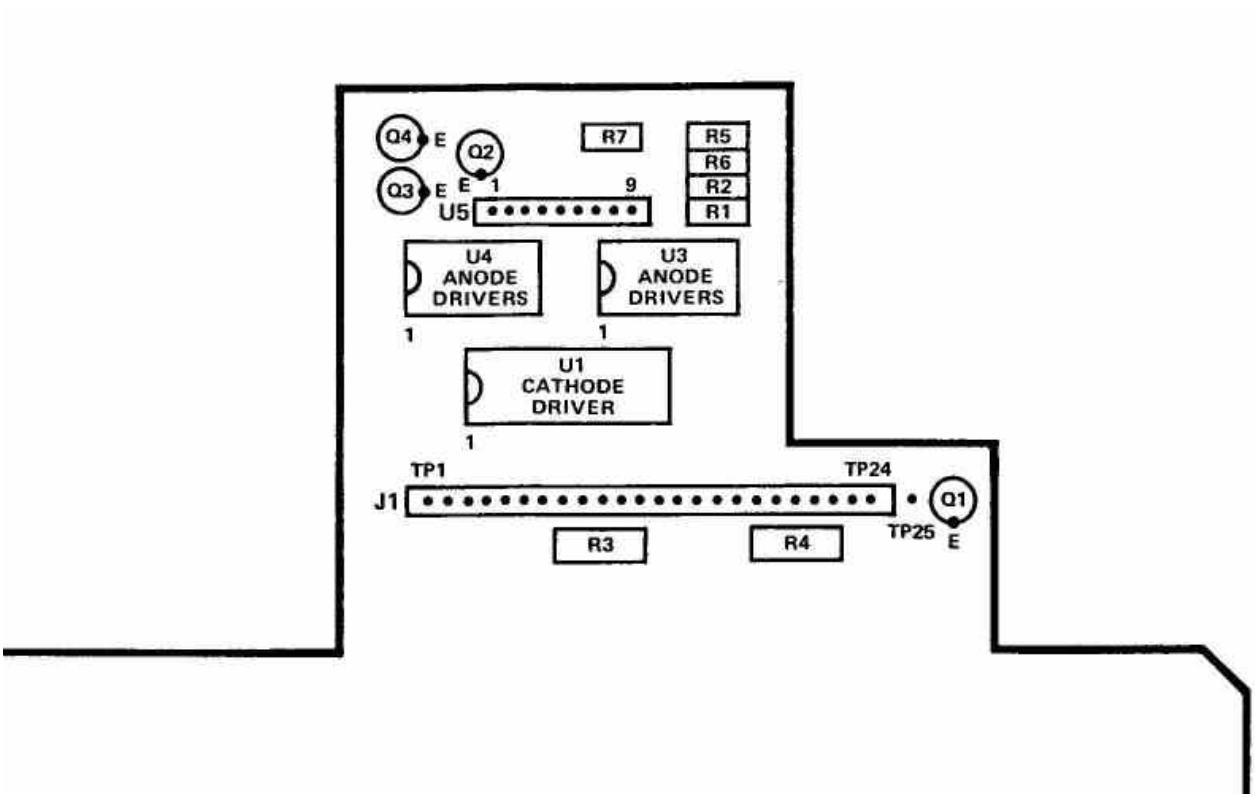
*Message #4 Posted by **Michael de Estrada** on 28 Nov 2009, 12:12 a.m.,*
in response to message #3 by Katie Wasserman

I don't see a 200K or 330K resistor, the largest I see is an 18K in a cluster of 3 near the top of the PCB that is part of the keyboard. Which is the cathode driver chip? The resistors checked out to their values, so I don't see any point in changing them.

Re: Topcat HP-97 with very dim LEDs

*Message #5 Posted by **Katie Wasserman** on 28 Nov 2009, 9:39 a.m.,*
in response to message #4 by Michael de Estrada

Here's the layout from the 97 service manual, it sounds like you might have a somewhat different layout. I know that they changed the main PCB layout in the 97 over time, but I have no idea if the display PCB layout changed too.



Edited: 28 Nov 2009, 9:42 a.m.

Re: Topcat HP-97 with very dim LEDs

*Message #6 Posted by **Michael de Estrada** on 28 Nov 2009, 11:05 a.m.,*
in response to message #5 by Katie Wasserman

My layout matches the layout in the service manual, except that there are only 3 resistors on the top right side, instead of 4 and there is a small cap (?) just below the right side of U4. The S/N is 1909Axxxxx, 4th year of production, so HP may very well have made some changes.

Update: I just got the Museum DVD set V7 and looked at the HP-97 Service Manual. It is now clear that my PCB version has all the resistors except R2, however, the P/N on the cathode driver U1 is the same. Also, the manual troubleshooting guide makes no mention of my condition, namely, all LED segments/digits working correctly but just very dim. So maybe there is something else at work here? I do know that on my other Topcats if I increase the voltage at the battery terminals, the display will get brighter, but on this one it seems to have no effect. Anyway, I'm waiting for a replacement printer idler gear replacement to arrive, so I can run the diagnostic program to see if it reveals anything.

Edited: 28 Nov 2009, 7:44 p.m.

Re: Topcat HP-97 with very dim LEDs

*Message #7 Posted by **Bart (UK)** on 29 Nov 2009, 1:25 p.m.,*
in response to message #3 by Katie Wasserman

> Quote:
>
> It wouldn't' matter what rate you ran this at,

But it could be the pulse width that's the problem, again only visible with an oscilloscope.

Edit: perhaps R2 is missing since production but the original owner may not have realised the display was dimmer than it was supposed to be.

Edited: 29 Nov 2009, 1:27 p.m.

Re: Topcat HP-97 with very dim LEDs

*Message #8 Posted by **Michael de Estrada** on 4 Dec 2009, 3:47 p.m.,*
in response to message #7 by Bart (UK)

I have since acquired another HP-97, and the keyboard PCB layout matches the one with the dim display LEDs, namely, no R2 and other configuration differences from the design shown in the HP service manual. However, the LED display on this unit operates with normal brightness, so I can only assume some component is faulty on the first unit. I swapped keyboards and now have one complete fully functional unit. Upon further examination, I've determined that there are many other differences between the service manual and the units I've been working on. The logic boards are arranged very differently; in many cases the ICs are rotated 180 degrees such that pin 1 is on the opposite side, resistor/transistor differences etc. I wonder if anyone else has noticed these differences, and if there are other circuit diagrams and component lists for these revisions.

Re: Topcat HP-97 with very dim LEDs

*Message #9 Posted by **Katie Wasserman** on 4 Dec 2009, 4:14 p.m.,*
in response to message #8 by Michael de Estrada

There was a substantial redesign on the main PCB when the 97S was released. This was done to accommodate the 16-pin DIP header that connects to the pod, but the same board was used in all subsequent basic 97 calculators as well. There's more about this here..

Re: Topcat HP-97 with very dim LEDs

*Message #10 Posted by **Michael de Estrada** on 4 Dec 2009, 5:25 p.m.,*
in response to message #9 by Katie Wasserman

Yes, both of my units are like the 97S main PCB. For now I'm done messing with these units. The unit that inherited the dim display, is missing the battery door and printer tear-off bar and won't write cards, so it's a spare parts unit for now. Thanks for the info.

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All rightmost keys on HP 22s not working.

*Message #1 Posted by **gerry martinez** on 27 Nov 2009, 5:44 p.m.*

Very strange, all the keys from "E+" down to the "+" sign do not work. Every other key works. This calculator has been with me since I started highschool in 1986 so I'd like to repair it if possible? Any ideas? Many thanks.

Re: All rightmost keys on HP 22s not working.

*Message #2 Posted by **Lyuka** on 27 Nov 2009, 9:48 p.m.,*
in response to message #1 by gerry martinez

Hi.

Most key-problem of the Pioneer-series are caused by deformed rubber at the contacts. Please take a look at this very recent thread.

ON key worn out on an HP32S2 - is there still hope?

Regards, Lyuka

Re: All rightmost keys on HP 22s not working.

*Message #3 Posted by **Lincoln R.** on 30 Nov 2009, 11:59 p.m.,*
in response to message #1 by gerry martinez

Try pressing down on the faceplate (firmly but not so hard as to dent it or break the plastic) below the LCD but above the keys, and see if that makes the offending keys work again. If it does, you need to disassemble the calculator, and add some extra padding behind the keyboard contacts. Refer to the excellent instructions here on how to open the unit, and what you need to do to make the keys work again:
http://www.hpmuseum.org/guest/brogpion.htm

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17bII german manual?

*Message #1 Posted by **Tim Wessman** on 27 Nov 2009, 12:06 p.m.*

17bII german manual? (not 17bII+)

Anyone have a pdf they can send me (or better yet a link)? Thanks.

TW

myname @ hp.com

Edited: 27 Nov 2009, 12:07 p.m.

Re: 17bII german manual?

*Message #2 Posted by **Marcus von Cube, Germany** on 27 Nov 2009, 12:17 p.m.,*
in response to message #1 by Tim Wessman

Tim,

I have a spiral bound paper copy of the manual. Are you located in Germany? I may lend it to you for a while.

Marcus

Re: 17bII german manual?

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 27 Nov 2009, 12:24 p.m.,*
in response to message #1 by Tim Wessman

Interesting;

the HP site has only English, Portuguese, Spanish and Chinese versions. Some years ago I downloaded many HP manuals from the HP site, but I am not sure if I have it, should check. If I have anything I´ll let you know.

Cheers.

Luiz (Brazil)

Re: 17bII german manual?

*Message #4 Posted by **Eric Rechlin** on 27 Nov 2009, 6:30 p.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

Japanese, not Chinese.

Re: 17bII german manual?

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 27 Nov 2009, 7:11 p.m.,*

in response to message #4 by Eric Rechlin

Oops, 'my bad'!

I saw so many Kanji´s I thought it was Chinese. I should have downloaded the manual and checked prior to affirm.

Thanks!

Luiz (Brazil)

Re: 17bII german manual?

*Message #6 Posted by **Peter A. Gebhardt** on 27 Nov 2009, 5:55 p.m.,*
in response to message #1 by Tim Wessman

Tim,

if you are trying to help solving my request here - Thx a lot:

http://forums11.itrc.hp.com/service/forums/bizsupport/questionanswer.do?threadId=1389632

I'm located in Germany & Marcus could possibly send a copy of the requested pages to me w/o problems via email - at least if I ask kindly ;-)

Nevertheless: Maybe there is someone, who could scan the manual to be enclosed into Dave's next DVD set to avoid confusing requests as mine for the future.

Best regards,

Peter A. Gebhardt

PS: ... and allow HP to update/correct the HP 17bII+ manuals accordingly

PPS: A huge public "Thank You!" to Marcus - who although on holidays, kindly spent some spare time to scan & send me the required page of the manual.

Edited: 28 Nov 2009, 4:38 p.m.

Re: 17bII german manual?

*Message #7 Posted by **BruceH** on 29 Nov 2009, 2:05 p.m.,*
in response to message #6 by Peter A. Gebhardt

Peter,

Have you found a bug related to the additional 'German' financial functions?

Regards,

Re: 17bII german manual?

*Message #8 Posted by **Marcus von Cube, Germany** on 29 Nov 2009, 5:35 p.m.,*
in response to message #7 by BruceH

I've sent him the page from my German 17bii manual, so he will be able to report about his findings. I

assume, that there are errors in the latest incarnation of the manual (17bii+).

Re: 17bII german manual?

*Message #9 Posted by **Peter A. Gebhardt** on 29 Nov 2009, 9:21 p.m.,*
in response to message #7 by BruceH

Bruce,

apparently HP (Kinpro China?)OCRed the old 17bII manual as a base for the new 17bII+ manual.

One of the apparent errors in (re)printing is showing up in the equation for the added "STAFF" menu (in FINANCE only for the German Version ROM). I'm currently checking the equation with sample calculations on the 200LX (against the one derived from the "broken 17bII+ version" which I'm using since about one year now), because I ran in some rare discrepancies of results. Therefore my request for the "real one" to verify.

I trust Tim Wessman to provide a PDF of the 17bII manual on the HP website, once he has a copy at hand.

As soon as I can be sure of my findings, I'll report here again.

Best regards,

Peter A. Gebhardt

Edited: 30 Nov 2009, 3:32 p.m.

Re: 17bII german manual?

*Message #10 Posted by **Peter A. Gebhardt** on 30 Nov 2009, 12:45 p.m.,*
in response to message #7 by BruceH

Bruce,

looking at p.297 (German manual for 17bII+ 1st printing, June 2003), solving for ENDW (FV) results in 179.895,65 - which is wrong, as one could easily prove with a 17bII (s/n: 3610M00859) or a 17bII+ (gold, s/n: CNA42903649)

The correct result should be 179.085,65 instead.

If you now try to use the corrected equation from said manual on p.237 (or the one from the 17b page Marcus sent to me) on the 200LX (BIOS 1.02A), one of the subterms used is described as being:

```
#PP = 1 - T * R/J div 360 + FP(N) mult R/J div #I/J
```

The 200LX then produces 180.397,71 (being even more off the correct result)

I fixed this by using:

```
#PP = RND( 1 - T * R/J div 360 + FP(N) mult R/J div #I/J : 3 )
```

Because I didn't encounter a similar discrepancy yet, independent tests & verification of my fix are appreciated.

Best regards,

Peter A. Gebhardt

PS: In the description on p.276 of said manual, it refers to "international usances" in adding the last RATE (PMT) to the ENDW (FV) in case T=0. That in turn does mean, that if you are in BEG mode (because of making/receiving payments on the first day already), then in fact you make/receive **one more** payment then calculated by #J mult R/J.

To correct for this, you have to add the following line to the end of the equation:

```
IF(T=0:-RATE:0)
```

Edited: 2 Dec 2009, 1:17 p.m.

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Are HP and TI cables interchangeable

*Message #1 Posted by **ferroburak** on 26 Nov 2009, 7:11 p.m.*

Are HP and TI cables interchangeable? Thanks.

Re: Are HP and TI cables interchangeable

*Message #2 Posted by **Tim Wessman** on 26 Nov 2009, 7:21 p.m.,*
in response to message #1 by ferroburak

No. The 50 uses a standard mini-USB, a propriatary serial, an IrDA port, and an SD card.

TW

Re: Are HP and TI cables interchangeable

*Message #3 Posted by **Crawl** on 26 Nov 2009, 9:46 p.m.,*
in response to message #2 by Tim Wessman

And while you might wonder if at least the USB cables are interchangable, they are not.

Re: Are HP and TI cables interchangeable

*Message #4 Posted by **Marcus von Cube, Germany** on 27 Nov 2009, 4:51 a.m.,*
in response to message #3 by Crawl

The standard mini-USB cables are interchangeable. I keep one mini USB cable plugged into a USB hub all the time and just change the equipment on the far end of the cable, be it a TI or an HP or whatever fits the plug.

IIRC, modern TI graphic calcs come with a mini-USB to mini-USB cable. This is special because USB is meant to be master (PC) to slave (calc) only. They must have done some magic here. Here is an article about this "USB-on-the-go": http://www.usb.org/developers/onthego/

Edited: 27 Nov 2009, 4:55 a.m.

Re: Are HP and TI cables interchangeable

*Message #5 Posted by **Crawl** on 27 Nov 2009, 9:34 a.m.,*
in response to message #4 by Marcus von Cube, Germany

Ah, you're right. The last time I tried using a generic USB cable with a TI it didn't seem to fit, but I tried again and it did.

Re: Are HP and TI cables interchangeable

*Message #6 Posted by **Bart (UK)** on 27 Nov 2009, 4:43 a.m.,*

in response to message #2 by Tim Wessman

And if you thought you could slap a standard RS-232 with modified connector onto the 50G, you can't. Read this.

If you wish to use a serial cable, Eric Rechlin sells one on his commercial site, HP50G RS-232 cable. I have one and it works.

edited for spelling & clarity

Edited: 27 Nov 2009, 4:49 a.m.

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HP42S battery failure

*Message #1 Posted by **Colin McKenzie** on 26 Nov 2009, 4:47 p.m.*

For some time my 42S refused to operate more than a few seconds and checking with a ohmeter showed the battery terminals resistance around 38 ohms. I used the forum to find out how to open it (had to drill out the plastic pillars)and soon found the pcb mounted electro was the culprit. I think the value is around 100uF. replaced with two 68uF in parallel and it has now come to life.Also explains why the battery change over caused loss of memory.

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Happy Thanksgiving

*Message #1 Posted by **David Hayden** on 26 Nov 2009, 12:20 p.m.*

I just wanted to wish everyone a very happy Thanksgiving. I've found this to be the most helpful, patient, and kindest online community and I really appreciate what I've learned here.

For the members outside the USA, see this wikipedia article for a description of the Thanksgiving holiday.

Re: Happy Thanksgiving

*Message #2 Posted by **Bart (UK)** on 26 Nov 2009, 12:32 p.m.,*
in response to message #1 by David Hayden

This explains why it's been so quiet on the forum today :-). Hope you all had a great day.

Re: Happy Thanksgiving

*Message #3 Posted by **Alain Mellan** on 27 Nov 2009, 1:27 a.m.,*
in response to message #2 by Bart (UK)

And this is why tomorrow should be quiet too: Black Friday (Wikipedia) :-)

Happy Shopping (was: Re: Happy Thanksgiving)

*Message #4 Posted by **Bart (UK)** on 27 Nov 2009, 4:50 a.m.,*
in response to message #3 by Alain Mellan

.....while I sit quietly in my office :-)

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Max degree of polynomial a hp 50g can solve?

*Message #1 Posted by **ferroburak** on 25 Nov 2009, 4:59 p.m.*

Hi, I wonder maximum degree of polynomial a hp 50g can solve.

For example can it solve a 4th degree equation? Will this calculation have significant error?

Re: Max degree of polynomial a hp 50g can solve?

*Message #2 Posted by **Arnaud Amiel** on 26 Nov 2009, 3:50 a.m.,*
in response to message #1 by ferroburak

Numerically, you can get all the digits for most polynomials up to a very high order. Symbolically, you will need to use programs to solve above order 2. In that case, there is no error.

Arnaud

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HP-25 battery pack

*Message #1 Posted by **Steven Green** on 24 Nov 2009, 5:27 p.m.*

I recently acquired another HP-25, actually in working condition, minus the battery pack. Does anyone know where I could buy a replacement battery holder? I don't need the batteries as AA NiMH batteries work just fine.

Failing that has anyone built one from scratch?

Re: HP-25 battery pack

*Message #2 Posted by **Paul Dale** on 24 Nov 2009, 5:51 p.m.,*
in response to message #1 by Steven Green

I've thought about trying to cast these in polyethylene resin for my use. Would there be a wider interest? I've only got two woodstocks & one battery holder. However one of the calculators isn't 100% reliable so my motivation isn't high.

Prices at auction for obviously broken calculators with intact battery holders seem insane.

- Pauli

Re: HP-25 battery pack

*Message #3 Posted by **Steven Green** on 27 Nov 2009, 4:56 a.m.,*
in response to message #2 by Paul Dale

Good idea Paul!

I thought of making some kinda mold and casting my own, but didn't know what plastic to use. So if you make some I'd be happy to buy one or two off you!

Another idea I was toying with was to make one out of hardwood. It'd be slow, but with patience I reckon you could to it. Wood would be strong enough for the job easy. I'd make for a special looking battery pack too!

Re: HP-25 battery pack

*Message #4 Posted by **Paul Dale** on 27 Nov 2009, 5:35 a.m.,*
in response to message #3 by Steven Green

I'd use Easycast if I ever do do some. It should be strong enough and it is quick and (relatively) painless to use. If it isn't up to the task, at least the moulds would be ready for experimentation with other casting compounds.

Wood sounds like a very interesting idea. It would be very slow and painful I expect. I've done plenty of woodworking but not any wood carving so I'd rate it beyond my current skill set.

- Pauli

Re: HP-25 battery pack

*Message #5 Posted by **db (martinez, ca.)** on 27 Nov 2009, 11:34 a.m.,*
in response to message #4 by Paul Dale

This could be a solution; if only we could get Jay into old calculators. If not; my suggestion would be to wait a couple of years till this technology is at every street corner. When 3d printing becomes available at affordable prices it will change **everything**.

Re: HP-25 battery pack

*Message #6 Posted by **Michael de Estrada** on 27 Nov 2009, 12:31 p.m.,*
in response to message #5 by db (martinez, ca.)

I believe this works only with solid pieces, as you must scan the exterior surfaces on all sides. In the case of the battery pack, as a minimum you would have to split it into 2 separate parts. Also, you would have to fabricate a spring to maintain pressure on the electrical connection with the fixed contacts on the calculator and to provide continuity with the two battery cells. Quite complicated, actually.

Re: HP-25 battery pack

*Message #7 Posted by **Paul Dale** on 27 Nov 2009, 3:34 p.m.,*
in response to message #6 by Michael de Estrada

Casting the battery pack will require two pieces and the spring too.

- Pauli

Re: HP-25 battery pack

*Message #8 Posted by **Steven Green** on 27 Nov 2009, 8:12 p.m.,*
in response to message #4 by Paul Dale

Wood it is then!

It'll be fun even if it doesn't work out. Everyone needs a summer pastime. This one is mine. Too hot outside for much else.

Re: HP-25 battery pack

*Message #9 Posted by **Michael de Estrada** on 24 Nov 2009, 9:59 p.m.,*
in response to message #1 by Steven Green

The thing about Woodstocks is that swapping out a battery pack is super easy, so I simply share among the various models, except the HP-25c and HP-29c so that I don't lose the programs.

Re: HP-25 battery pack

*Message #10 Posted by **Andreas Grund** on 28 Nov 2009, 7:26 a.m.,*
in response to message #9 by Michael de Estrada

Would be great to get Woodstock battery cases, however, I am afraid, tooling for plastic injection is pretty expensive. Since I am in the same situation - more Woodstocks than battery cases - I help myself with

handmade cases from standard AAA battery cases, which are cheap. With basic tools they can be converted into a Woodstock battery case, not so beautiful, but functional.

Andreas

Edited: 28 Nov 2009, 8:33 a.m.

Re: HP-25 battery pack

*Message #11 Posted by **Paul Dale** on 28 Nov 2009, 4:56 p.m.,*
in response to message #10 by Andreas Grund

Do these stay in without tape?

I wouldn't injection mould - way too expensive. Making a mould out of silicon rubber is pretty straightforward and casting in polyethylene resin also.

- Pauli

Re: HP-25 battery pack

*Message #12 Posted by **Andreas Grund** on 29 Nov 2009, 5:04 a.m.,*
in response to message #11 by Paul Dale

Paul,

No tape, the battery cases are just kept in place by the spring force. A mechanical lock as with the original ones would be better of course, some day I try.

Andreas

Edited: 29 Nov 2009, 5:05 a.m.

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How to work Hp50g programs on computer?

*Message #1 Posted by **ferroburak** on 24 Nov 2009, 2:15 p.m.*

Hi, Is there any way to work Hp50g programs on computer?(By means of a simulator or any other things)

I need this for my numerical analysis homework. Thanks.

Re: How to work Hp50g programs on computer?

*Message #2 Posted by **Tim Wessman** on 24 Nov 2009, 2:48 p.m.,*
in response to message #1 by ferroburak

Install debug4x. You're welcome.

TW

Re: How to work Hp50g programs on computer?

*Message #3 Posted by **Egan Ford** on 24 Nov 2009, 3:00 p.m.,*
in response to message #1 by ferroburak

If you are running Linux or OS/X then try x49gp (http://x49gp.svn.sourceforge.net/viewvc/x49gp/README.QUICKSTART). debug4x also works with Wine on both OS/X and Linux.

Re: How to work Hp50g programs on computer?

*Message #4 Posted by **ferroburak** on 24 Nov 2009, 3:06 p.m.,*
in response to message #3 by Egan Ford

I want to try Calcolo Numerico 1.2

But couldn't undersand how to use debugger. Can you elaborate on this matter? Thanks.

the question I try to solve

*Message #5 Posted by **ferroburak** on 24 Nov 2009, 4:37 p.m.,*
in response to message #4 by ferroburak

Here's my question

f(x)= 1 +5x - cos(0.3x^1/2)^-1

Find it's root between 2.5 and 3.5 by bisection and regula falsi methods.

Actually I would appreciate any tool to do this.

Thanks.

Edited: 24 Nov 2009, 4:42 p.m.

Re: the question I try to solve

*Message #6 Posted by **Crawl** on 24 Nov 2009, 5:12 p.m.,*
in response to message #5 by ferroburak

Now, you're not trying to get us to do your homework for you, are you?

It doesn't matter, I guess, since the problem as given has no solution. The first root is at x=0 and the next one isn't until x=27.161003... (when 0.3*sqrt(x) is close to pi/2).

NO!

*Message #7 Posted by **ferroburak** on 25 Nov 2009, 4:29 a.m.,*
in response to message #6 by Crawl

> Quote:
>
> Now, you're not trying to get us to do your homework for you, are you?
>
> It doesn't matter, I guess, since the problem as given has no solution. The first root is at x=0 and the next one isn't until x=27.161003... (when 0.3*sqrt(x) is close to pi/2).

Hi,

I didnt say I wanted a solution for my hw. I just wanted to be more precise about what I'm asking. (I also think there is a mistake in the question but that's not the issue..)

I want to learn how to solve such an equation with debugxx or any other program that is available on pc. (better be hp 50g since I will start using it in a week!)

Thanks.

Re: NO!

*Message #8 Posted by **Crawl** on 25 Nov 2009, 8:49 a.m.,*
in response to message #7 by ferroburak

There are a lot of ways to solve problems like that with the HP50g.

One document to help with that is here.

For the problem you gave, you might need to divide the given function by x to prevent a solver from simply finding the x=0 root.

I found the x=27.161... root by graphing. Using common sense, I knew the zero had to be close to (pi/(2*.3))^2=27.4. For most values of x, the function you gave is close to 5x, but when cos(...) is near zero, 1/cos(...) can take on any value, so that's when there will be a root. I set the window x range from 0 to 30 (25 to 30 gives a zoomed in view) and the y range from -5 to 150 (again based on y~5x). You move the cursor near to the zero you want, hit FCN, then ROOT.

If your class requires you to use specific methods (like method of false position) then I assume they might want you to write a program yourself.

Re: NO!

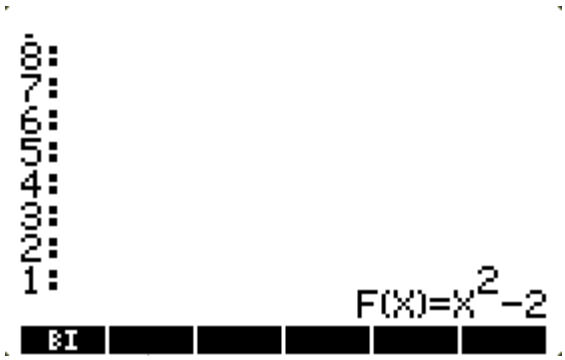
*Message #9 Posted by **Crawl** on 25 Nov 2009, 2:32 p.m.,*
in response to message #8 by Crawl

Well, it turns out I had time today to write a quick HP50g bisection program. Of course, you can do this easily on this calculator.

This is the program.

I saved it as BI.

It assumes a function saved to variable F has been defined. Let's assume we want to find the square root of 2 with the function x^2-2. You enter it on the stack like so.



Then hit DEF (left shift on the 2 button)

Then you need to have the root bracketed. Put the limits on levels 1 and 2 of the stack. It doesn't matter which is which. 1 and 2 bracket the root in this case.

With the variable menu open (press the VAR key), every time you press the BI softkey, a bisection is performed. If you press it repeatedly, it (slowly) converges.

Of course, you could also write a program to iterate automatically.

Programming a method of false position solver could be an exercise for you.

By the way, while the HP50g is a great calculator, it has a learning curve. The sooner you start to use it, the better. Going through the manual can help, of course, but a fun way to gain experience with it is to do challenges posted to the board, like the recent University calculator challenge, or Valentin's challenges.

Re: NO!

*Message #10 Posted by **C.Ret** on 26 Nov 2009, 4:30 a.m.,*
in response to message #9 by Crawl

Thank you for your contribution and great animated GIFs.

It seems to me too that no debugger or compilater is required for this roots seeking problem.

With great interest, I was comparing your bisection program BI with one of my own HP28'S' program library. I found a very close looking program there.

I still have two questions about your code; why are you storing the mean value in 'N' , is there any purpose anywhere for further use?

Why not arranging the use of local variables A B and N in a more comprehensive way without using any STO command such as :

```
« -> A B
       «  A B + 2 /  ->  N
            « A F SIGN N F SIGN ==
              « N B » « A N »
              IFTE
            »
       »
»
```

In your original code, 0 is affected to N with no further use

The second question; Why are you putting the IF statement at the end of the test, just before the THEN instruction, not at the beginning of it ? I already notice this way used by a lot of HP49 and HP50 code writers! Is there a technical issue there, not to follow the original and more comprehensive syntax structure: « IF test THEN clause1 ELSE clause2 END »

There is my an alternative bisjection program peek out of my aged private library, which will run on HP50g as well has it hat does on HP28S so many times:

```
« -> a b                        @ pickup a & b from stack
    «  a b + 2 /                @ compute mid point (n)
       IF
          DUP                   @ leave a copy of n in the stack
          F                     @ compute sign of F(n)
          a F                   @ compute sign of F(a)
          * 0 >                 @ indirectly compare signs
       THEN b                   @ leave n & b in stack
       ELSE a SWAP              @ leave a & n in stack
       END
    »
»
'BIJ' STO
```

OR whith out any local variable structure (only stack manipulations):

```
« DUP2 + 2 / DUP F 4 PICK F * 0 > «ROT» «SWAP» IFTE DROP »
```

An alternative to write down an automatic iterative program, would be to use the SOLVER environment and pressing a key during for-looker's loops, the HP will display intermediate A and B values in the run!

These programs remembers me a lot of fun stuff from high school age!

Edited: 26 Nov 2009, 5:20 a.m. after one or more responses were posted

Re: NO!

*Message #11 Posted by **Bart (UK)** on 26 Nov 2009, 4:57 a.m.,*
in response to message #10 by C.Ret

> Quote:
>
> The second question; Why are you putting the IF statement at the end of the test, just before the THEN instruction, not at the beginning of it ? I already notice this way used by a lot of HP49 and HP50 code writers! Is there a technical issue there, not to follow the original and more comprehensive syntax structure: « IF test THEN clause1 ELSE clause2 END »

Perhaps they are keeping in line with the RPN idea of arguments first then operation?

Re: NO!

*Message #12 Posted by **Crawl** on 26 Nov 2009, 12:53 p.m.,*
in response to message #11 by Bart (UK)

> Quote:
>
> Perhaps they are keeping in line with the RPN idea of arguments first then operation?

Yeah, that's all it is. When I'm "thinking in RPL", that's the syntax that makes the most sense to me.

As for storing 0 in N, that's just how I declare local variables. It seems to me that having all local variables allocated up front is the easiest way to do it.

Given a choice between various programming philosophies -- ease of writing, ease of reading, "elegance" -- I'll choose ease of writing.

Re: NO!

*Message #13 Posted by **Egan Ford** on 26 Nov 2009, 1:30 p.m.,*
in response to message #10 by C.Ret

> Quote:
>
> Why are you putting the IF statement at the end of the test, just before the THEN instruction, not at the beginning of it ? I already notice this way used by a lot of HP49 and HP50 code writers! Is there a technical issue there, not to follow the original and more comprehensive syntax structure: « IF test THEN clause1 ELSE clause2 END »

It may be historical. One of the roots of RPL is Forth, so it makes perfect sense. Forth does not give you an option, its always 'test' IF. Of course, Lisp is also a root of RPL and Lisp uses the more conventional 'IF' syntax, i.e. IF 'test'. However, neither Lisp nor Forth 'test' syntax matches the conventional a opr b (Forth: a b opr, Lisp: opr a b).

I've written a few identical programs in Forth and Lisp so that I could compare them to RPL. No question RPL is more Forthy and less Lispy. I'd prefer that RPL was more Forthy. Sometimes rigidness makes it easier for groups to collaborate. And, it would be more consistent with the rest of RPL that does not have multiple ways to do some function.

Perl is a great example of flexibility taken to extreme. "There's more than one way to do it." is a Perl motto. I'm fairly certain that no two Perl programmers will truly ever understand each other. I believe this because I lead a team of Perl programmers. I often hear, "why did he do it this way?", "what does this do?", "perhaps we should have used Python...", etc... I was once accused of my Perl code looking like it had come from a C programmer. Well it did. I took the statement as a complement.

If you have not taken a look at Forth, then give it a go. Forth is freely available for just about every platform from the late 70's until today.

Edited: 26 Nov 2009, 1:33 p.m.

Re: NO!

*Message #14 Posted by **Pal G.** on 26 Nov 2009, 11:08 p.m.,*
in response to message #10 by C.Ret

I am busy learning UserRPL, and am intrigued by your two quite different bisection programs, which produce identical results. Did you write it structurally first, then later decide to write it again in "stack manipulation" form, or does a "stack manipulation" decompiler exist?

Re: NO!

*Message #15 Posted by **C.Ret** on 27 Nov 2009, 3:50 a.m.,*
in response to message #14 by Pal G.

@ Crawl

You are right in your programming philosophy and nothing is wrong with your code or style.

Allocated all the variables at beginning of the program/function makes sense to me too. I use to make it systematically in the old style BASIC line program such as the one on my Commodore C128D computer, this greatly help organize data and memory. It si also sparing running -time or the bad behavior when "out of memory error" runs, which is quite easy to occur on simplest 8-bits computer.

It is true that the IF…THEN…ELSE...END statements are not as Reverse Polish notation as the IFT or IFTE are. These two last are much more real post-pone operators like the majority of RPL instructions.

Egan points out similarity between UserRPL and FORTH which indeed have IF/ELSE/THEN/ whith a much more “Reverse Polisch” behaviour.

@ Egan Ford

Thank you for our interesting input and thoughts. I was not aware that userRPL and FORTH have so much in common. Again, you indicate me a good subject of studies and I will certainly past my for-coming weekend in learning a lot of new stuff by reading and experimenting of few bits in FORTH.

At first, the IF/ELSE.THEN syntax in FORTH pulzze me. FORTH have so much common syntax and stack operation (i.e. DUP DROP, etc…) . That’s perhaps why the syntax of IF/ELSE/THEN misleads me at first before I realize that the END statement was “missing”. It is fact it is not a lack in FORTH, it is RPL which have one extra statement, making the IF statement useless.

In FORTH

```
  DUP 6 < IF DROP 5 ELSE 1 - THEN ;
```

In UserRPL

```
 IF DUP 6 < THEN  DROP 5 ELSE 1 – END
```

These two lines have the same effet on the top value in the stack. Oppositely to FORTH the IF statement in RPL have no effect and the following variation of the code are equivalent: (changing position of IF/ELSE/THEN statements in FORTH will lead to a catastrophe)

```
IF DUP 6 < THEN DROP 5 ELSE 1 - END
DUP IF 6 < THEN DROP 5 ELSE 1 - END
DUP 6 IF  < THEN DROP 5 ELSE 1 - END
DUP 6 <  IF THEN DROP 5 ELSE 1 - END
```

Amazing ! I never realize that.

@ Pal G.

Exactly, I generally first wrote first version of code using local variable or algebraic expression or what ever format is convenient depending of source of information. It this first phase, the function/programs are generally like prototypes and the first effort is to avoid any mistake or wrong transcription from the sources. Then after playing with it and using this 'first generation' of code, I sometime rewrite most useful section of code in a more compact manner.

This is not systematic the great majority of code stay in the 'easy to write it' format. Only portion of code I use often will be 'compilated' into more 'compact' format. It is also copy to another part of the memory (I greatly use sub-directory to organize multiple project on my HP28S and share code have to be move to the top of the sub-directory tree.

Since HP28S lacks any export/import capabilities with external PC, printing and saving 'compact code' documentation will help re-typing it into the calculator. This appends time to time.

As far as I know, there is no "stack manipulation" decompiler on the HP28S, perhaps it may be one develop by the HP48/49/50 active community on these calculators or PC (since these are much more connected than old style HP28C/S).

Re: NO!

*Message #16 Posted by **Tim Wessman** on 25 Nov 2009, 10:31 a.m.,*
in response to message #7 by ferroburak

If you are on windows, debug4x includes an emulator for SW development purposes. Thus you can emulate a 48gx, 48gII, 49g+ or 50g by just clicking on the icon in the menu.

TW

real newbie..

*Message #17 Posted by **ferroburak** on 25 Nov 2009, 4:54 p.m.,*
in response to message #16 by Tim Wessman

On debug4x 50g emulator screen I have:

So what should I do to clear the screen. (I'm real newbie..)

Re: real newbie..

*Message #18 Posted by **Crawl** on 25 Nov 2009, 5:07 p.m.,*
in response to message #17 by ferroburak

Okay, you seriously need to read the manual. Especially before you ask any more questions.

They even have the manual available in multiple languages.

Re: real newbie..

*Message #19 Posted by **Tim Wessman** on 25 Nov 2009, 5:13 p.m.,*
in response to message #17 by ferroburak

Download and go through this quickstart guide first before going into the larger manual. It will help you out and probably be more useful.

ftp://hpcalclm:Builder2@ftp.usa.hp.com/

TW

Re: real newbie..

*Message #20 Posted by **John B. Smitherman** on 25 Nov 2009, 5:20 p.m.,*
in response to message #17 by ferroburak

Here's a link to some very good training modules for the 50G:

HP 50G Training Modules

I hope this helps.

Regards,

John

Re: check out the price on the link page

*Message #21 Posted by **Ken Shaw** on 25 Nov 2009, 6:17 p.m.,*
in response to message #20 by John B. Smitherman

HP50g for US$99.99

Must be a mistake??

Re: check out the price on the link page

*Message #22 Posted by **Bart (UK)** on 25 Nov 2009, 6:49 p.m.,*
in response to message #21 by Ken Shaw

However, the picture is of a 40gs, which is listed as $99.99 (on the "small/medium business -> handhelds" section). Clicking on the "buy online" link it comes up with a 50g for $149.99. "Pech"

A few weeks ago...

*Message #23 Posted by **Vieira, Luiz C. (Brazil)** on 25 Nov 2009, 5:49 p.m.,*
in response to message #17 by ferroburak

... we had this thread. Now we seem to face a very distinctive circumstance.

Anyway, both posts relate to very new models, and contributors at MoHPC (keep in mind it is a MUSEUM, not a BRAND_NEW forum) have always been very friendly accepting and answering such questions. I for one prefer to stick with Pioneers, Voyagers, Spices and Nuts (Coconuts, Halfnuts, any nuts...). I feel as if I've been out for too long...

Sorry, folks; could not help mentioning.

Cheers.

Luiz (Brazil)

Edited: 25 Nov 2009, 5:49 p.m.

sorry..

*Message #24 Posted by **ferroburak** on 25 Nov 2009, 7:00 p.m.,*
in response to message #23 by Vieira, Luiz C. (Brazil)

Imho poor online support Hp gives for its products..

Hp help forum for calculators is dead so I ask all my question here..

Thanks for your help again.

Edited: 25 Nov 2009, 7:10 p.m.

Re: sorry..

*Message #25 Posted by **BruceH** on 25 Nov 2009, 7:30 p.m.,*
in response to message #24 by ferroburak

The HP Help Forum is dead because the calcs are so easy to use no one actually need go there. What other reason could there be? ;-)

Try asking your questions in comp.sys.hp48 on Usenet. You will get friendly help there.

Re: sorry..

*Message #26 Posted by **Bart (UK)** on 25 Nov 2009, 8:20 p.m.,*
in response to message #25 by BruceH

I pointed him to comp.sys.hp48 in a previous thread, including a link to it on Google groups if he doesn't have a news reader.

Missing the point?????

*Message #27 Posted by **Vieira, Luiz C. (Brazil)** on 25 Nov 2009, 7:32 p.m.,*
in response to message #24 by ferroburak

Hi, ferroburak;

by no means I intended to patronize a discussion about who can or cannot post about this or that subject. I actually was trying to make sense of things, since I was not following discussions here for about a couple of years (I started posting here in 2001). I tracked some subjects related to the old models that are of my own interest at the forum archives so I could get closer to what is going on, but I found just a few references (MCODE programming, maintenance, etc.). Then I saw many entries about subjects I am not much interested about, but you see, a forum is a place where people share subjects of common interest, and I just miss the ones I like most.

About your request: I see no problems posting here about the new models, what I see is that there are many follow-ups. And once again, I am just another contributor.

Have you tried this HP48-dedicated group? I found some HP50G-related discussions. And please, this link is just another possibility of having your questions being answered, I am not pointing you there, OK? Since the first time I posted here, anybody is welcome sharing whatever knowledge one has about HP calculators. And this has not been changed.

Cheers.

Luiz (Brazil)

Re: Missing the point?????

*Message #28 Posted by **Martin Pinckney** on 27 Nov 2009, 4:21 p.m.,*
in response to message #27 by Vieira, Luiz C. (Brazil)

From the heading at the top of this Forum:

> Quote:
>
> This forum is for discussion of HP calculators including usage, repairs, sources of replacement parts, general information etc.

Says nothing about being limited to older models. In point of fact, there have been *many* threads about using current models, participated in by lots of members. It seems to me that this complaint comes up primarily

when the OP is a newcomer. Am I wrong?

Re: Missing the point?????

*Message #29 Posted by **Bart (UK)** on 27 Nov 2009, 5:41 p.m.,*
in response to message #28 by Martin Pinckney

> Quote:
>
> It seems to me that this complaint comes up primarily when the OP is a newcomer. Am I wrong?

Martin, my personal experience is that you are indeed wrong (said as a straight answer to your question, no malice intended). I joined this forum less than a year ago and have always received friendly replies.

What gets peoples backs up is when someone uses the forum instead of the manual (ferroburak did not even bother to read up how to clear the screen) or to get instant answers to homework tasks.

The answers that have been posted in this thread actually testify of the willingness of this forum's members to help. Many other forums would have ignored or flamed him/her long ago.

To ferroburak: please feel free to use the forum as a supplement to the manual, not a substition (easy way out). Many enjoy a challenge (hence the posting of mini-challenges and the numerous replies) but are wary when they see questions that they know are answered in the manual - yes we have read them, that's what helped us on the road to becoming proficient users in the first place!!

Re: Missing the point?????

*Message #30 Posted by **Vieira, Luiz C. (Brazil)** on 27 Nov 2009, 6:11 p.m.,*
in response to message #28 by Martin Pinckney

> Quote:
>
> Says nothing about being limited to older models.

Neither did I. In fact, quoting myself:

> Quote:
>
> I see no problems posting here about the new models, what I see is that there are many follow-ups.

Once again, quoting myself:

> Quote:
>
> Anyway, both posts relate to very new models, and

> contributors at MoHPC (keep in mind it is a MUSEUM, not a BRAND_NEW forum) have always been very friendly accepting and answering such questions. I for one prefer to stick with Pioneers, Voyagers, Spices and Nuts (Coconuts, Halfnuts, any nuts...).

Except for Dave Hicks, I cannot think of anyone else here that had not, at least once, been a newcomer at the MoHPC forum. I hope you do not take it wrongly, but I cannot agree with you.

As a matter of fact, I decided to post for clarifying (as I always try to do), not disturbing. Am I wrong?

Cheers.

Luiz (Brazil)

Edited: 27 Nov 2009, 6:16 p.m.

Re: sorry..

*Message #31 Posted by **Matt Kernal** on 25 Nov 2009, 7:43 p.m.,*
in response to message #24 by ferroburak

> Quote:
>
> Hp help forum for calculators is dead

Is this the dead one? http://tinyurl.com/yf4ku7f. If so, Tim Wessman (HP) checks in there (and here) quite often.

Edited: 25 Nov 2009, 7:52 p.m.

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ON key worn out on an HP32S2 - is there still hope?

*Message #1 Posted by **Mike (Stgt)** on 24 Nov 2009, 10:06 a.m.*

Just got an HP32S2 with an ON key not responding in 19 of 20 hits, anything else seems OK. Is there a chance to restore this key?

Ciao.....Mike

Re: ON key worn out on an HP32S2 - is there still hope?

*Message #2 Posted by **Dallas Osborne** on 24 Nov 2009, 11:03 a.m.,*
in response to message #1 by Mike (Stgt)

Does the key still 'click' like normal? How clean do you keep the calculator (i.e., is there significant detritus around the keys in general)?

EDIT: [best to source the experts]

Best case: Simple cleaning as per Randy of "Fix That Calc"

Worst case: Surgery (per Paul Brogger)

Edited: 24 Nov 2009, 11:22 a.m.

Re: ON key worn out on an HP32S2 - is there still hope?

*Message #3 Posted by **Lyuka** on 24 Nov 2009, 11:52 a.m.,*
in response to message #1 by Mike (Stgt)

Hi, Mike

If you can turn on the 32sII by pressing ON key while gently pressing the frame between LCD and the LN key,
the deformed rubber in the calculator may be the cause. And it could be fixed by the procedure as follows.

Repairing the HP 32sII with faulty keypad

Regards, Lyuka

Re: ON key worn out on an HP32S2 - is there still hope?

*Message #4 Posted by **Sören Nilsson** on 24 Nov 2009, 4:17 p.m.,*
in response to message #3 by Lyuka

I had this problem two years ago. So I followd Lyuka instruction how to repair it. The most tricky part was to open the calculator. But if you look on Lyuka site how to open a HP42S you can do the same on your HP32SII.

When you unmount the CPU-board you have to twist back some (6?) metal "ears". These are not made to be twisted to many times. When you mount the CPU-board back, you can press the board down a little when twisting the ears back in position.

Best regards, /Sören

Re: ON key worn out on an HP32S2 - is there still hope?

*Message #5 Posted by **Mike (Stgt)** on 25 Nov 2009, 3:13 a.m.,*
in response to message #3 by Lyuka

Tnx everybody for the reply, yes - the ON key still has the "klick", nearly not to hear but remarkable in the finger tips. It _is_ used for years but at least on the outside it may be cleaned. So I will try with your hints to fix it inside too.

I am quite astonished by the "press genly near the LN key" trick. Works 100%.

Ciao.....Mike

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2012 - Is this the End?

*Message #1 Posted by **Joerg Woerner** on 24 Nov 2009, 7:56 a.m.*

HP Aficionados,

I expected these two calculators not before 2012:

HP CalcPad 200

and

HP CalcPad 100

Will you trash now your iPhones???

Regards, Joerg

BTW:

This is the latest TI calculator - just for reference:

Edited: 24 Nov 2009, 7:58 a.m.

I think I'll pass (out) on these.

*Message #2 Posted by **Frank Boehm (Germany)** on 24 Nov 2009, 9:20 a.m.,*
in response to message #1 by Joerg Woerner

I wonder how much engineering time went into the TI calculator, probably gazillions of hours were spent by the marketing guys whether to use *this* colour or something completely different (like baby blue)...
Concerning the HPs: they could have at least implemented Bluetooth. nd I'm not sure what they are good for. Extended keyboard replacement for laptops?

Re: I think I'll pass (out) on these.

*Message #3 Posted by **Bart (UK)** on 24 Nov 2009, 9:44 a.m.,*
in response to message #2 by Frank Boehm (Germany)

> Quote:
>
> Extended keyboard replacement for laptops?

Yes, I believe they are meant as numeric keypad extensions for laptops lacking a dedicated numeric pad. Comes with calculator software apparently (four banger stuff I think). See pdf specs.

Actually, I was looking for sometning like this about 15 years ago. I was entering lots of numbers into spreadsheets on a laptop.

Edited: 24 Nov 2009, 9:46 a.m.

Expect Armageddon looking different

*Message #4 Posted by **Walter B** on 24 Nov 2009, 9:24 a.m.,*
in response to message #1 by Joerg Woerner

I've seen a model 200 this morning on TAS, but had no specs at that time. After checking them now, however, it's just a most simple algebraic 4-banger even lacking SQRT or exponential notation - as they write: ideal for the mobile professional in business, finance, retail - that's all, besides the function as keyboard extension, of course.

No real reason to get rid of real tools d:-)

Ceterum censeo: HP, launch a 43S.

Edited: 24 Nov 2009, 9:28 a.m.

Re: 2012 - Is this the End?

*Message #5 Posted by **Martin Pinckney** on 24 Nov 2009, 9:54 a.m.,*
in response to message #1 by Joerg Woerner

I've had a CalcPad 200 for several weeks now. Got it off eB** for $8.99 with free shipping! HP lists them for $30, I think.

It's definitely a cheapo product, but it serves the purpose. And at that price, why not get one?

Re: 2012 - Is this the End?

*Message #6 Posted by **Bart (UK)** on 24 Nov 2009, 10:27 a.m.,*
in response to message #5 by Martin Pinckney

> Quote:
>
> And at that price, why not get one?

Because I haven't found it in the UK yet.

Re: 2012 - Is this the End?

*Message #7 Posted by **Brian Walsh** on 24 Nov 2009, 10:41 a.m.,*
in response to message #1 by Joerg Woerner

I like the idea! But here's what HP must provide:
- RPN logic
- scientific functions (32/42/etc.)
- TVM functions (12C)

I also hope the Word and Excel buttons will be changed to more generic names and hope they also work with OpenOffice, which I use.

Down the road wish list:
- Flash memory so different feature sets can be downloaded from the PC. I want my 41 or 42! Some will want a full 12C. Others will want a 15C or 16C.
- Provide soft keys with function labels on the display, to accommodate different personalities.
- Keystroke programming
- User defined keys

Edited: 24 Nov 2009, 10:43 a.m.

Re: 2012 - Is this the End?

*Message #8 Posted by **Tim Wessman** on 24 Nov 2009, 6:26 p.m.,*
in response to message #7 by Brian Walsh

Why the "must provide"? You can't really have a keyboard with a bunch of specialized functions not supported by any OS. This really is just a keyboard keypad with a few extra features. You seem to be wanting a completely reprogrammable keypad ala iphone or something.

As for the buttons, they are not generic because they are hardcoded to spit out "Win-R excel.exe" and so on. Kind of a silly decision, but someone decided having it work on any computer (granted, windows only) with no drivers or needing to install custom software was a higher priority.

To get it to work with openoffice, you'd have to make a link from excel.exe to your software of choice.

Will it change in a future revision? No idea. Kind of depends on how these ones are received I think.

TW

Re: 2012 - Is this the End?

*Message #9 Posted by **David Hayden** on 24 Nov 2009, 4:16 p.m.,*
in response to message #1 by Joerg Woerner

TI really made a calculator called the e-coli'er?? Comes with free e-coli? Send in the coupon for a bonus bag of salmonella?

Re: 2012 - Is this the End?

*Message #10 Posted by **Joerg Woerner** on 24 Nov 2009, 4:39 p.m.,*
in response to message #9 by David Hayden

French market only ;-))

Translates to schoolboy or something like this (I'm neither a native French nor a native English speaker).

Regards, Joerg

Edited: 24 Nov 2009, 4:40 p.m.

Re: 2012 - Is this the End?

*Message #11 Posted by **Walter B** on 24 Nov 2009, 5:13 p.m.,*
in response to message #9 by David Hayden

Learning a second language may help.

Re: 2012 - Is this the End?

*Message #12 Posted by **Maximilian Hohmann** on 24 Nov 2009, 5:17 p.m.,*
in response to message #11 by Walter B

> Quote:
>
> Learning a second language may help.

Like Forth or RPL ;-) ?

Re: 2012 - Is this the End?

*Message #13 Posted by **David Hayden** on 25 Nov 2009, 10:24 a.m.,*
in response to message #11 by Walter B

> Quote:
>
> Learning a second language may help.

Sorry, I should have made it clear that I was making a big joke. I remember enough French to know that it meant something like "schoolboy".

It reminded me of the infamous Chevy Nova automobile. The name sounds great in English, but it means "doesn't go" in Spanish.

For non-native English speakers on the forum who might not know the word, e-coli is a bacteria. There are several forms, but some contaminate food and then cause great "abdominal distress" when eaten. Add the "er" suffix and an "e-colier" is something that makes, creates or produces e-coli.

Re: 2012 - Is this the End?

*Message #14 Posted by **Peter A. Gebhardt** on 24 Nov 2009, 5:20 p.m.,*
in response to message #1 by Joerg Woerner

Since Apple landed a huge success with it's iPod (and colorful iMac) line of products, it seems to me, that anybody else in the marketing of electronics prefers to market gadgets instead of usefulness ...

Steve Jobs would certainly have rejected such a product during it's first presentation to him - with one and only one question:

"Where do you put it while working with your laptop on an airplane?"

'nuff said ...

Best regards,

Peter A. Gebhardt

Edited: 24 Nov 2009, 5:21 p.m.

Re: 2012 - Is this the End?

*Message #15 Posted by **Tim Wessman** on 24 Nov 2009, 6:19 p.m.,*
in response to message #14 by Peter A. Gebhardt

I'm the first to admit this isn't something that will be useful for everyone, and most likely not the vast majority of the people in the world, but if you need to enter a lot of numbers in on a laptop it works quite well.

It is mainly targeted towards people needing a number pad on a laptop. Also has 2 USB ports for expansion, a few hotkeys to launch common MS applications, and to launch the hp calculator manager software which allows you to run whichever default calculator you'd like. . .

Mainly, its just a new category HP has never played in and there isn't much risk of trying to expand, is there?

I never thought I'd use it, but I've found myself using it a few times, and there is a person on my row who loves it.

TW

Edited: 24 Nov 2009, 6:20 p.m.

Re: 2012 - Is this the End?

*Message #16 Posted by **Peter A. Gebhardt** on 24 Nov 2009, 6:47 p.m.,*
in response to message #15 by Tim Wessman

Tim,

this HP-gadget competes with already available cheap SE Asia pads - but does neither deliver a Wow! effect, nor does it "evangelize" for a new "grassroot movement" fostering future HP calculator business - as a relaunch of the (say) HP-42s with (at least!) USB would do.

That's what makes me sorry about HP spending engineering time and other resources for it. Maybe even putting the SKU in HPs Database and/or updating it's website cost more than it's expected net profit ...

Best regards,

Peter A. Gebhardt

Re: 2012 - Is this the End?

*Message #17 Posted by **Martin Pinckney** on 24 Nov 2009, 8:00 p.m.,*
in response to message #16 by Peter A. Gebhardt

Do the cheap SE Asia pads have the hot keys to launch popular applications or

> Quote:
>
> Crunch numbers in standalone calculator mode, or simply attach it to a USB port on your laptop. You can even send your last calculation to the PC, instead of re-entering it. Launch Word®, Excel®, HP CalcPad calculator, or the PC desktop, with a single button. And the built-in 2-port USB 2.0 hub extends the number of devices you can connect to your PC.

?

I don't know; I'm asking. If not, this is the "wow" effect for me, albeit without the exclamation point.

Re: 2012 - Is this the End?

*Message #18 Posted by **Tim Wessman** on 24 Nov 2009, 10:09 p.m.,*
in response to message #17 by Martin Pinckney

As far as I know, it is unusual to have them. I doubt it is a first though. Very few HP engineers

were harmed (used?) in the making of this product. . .

:-)

The only first would be a quick launch button that launches your favorite HP emulator software I think. That part is actually kind of neat. I have it set to launch my HP-??? emulator.

TW

Re: 2012 - Is this the End?

*Message #19 Posted by **Bart (UK)** on 25 Nov 2009, 4:59 a.m.,*
in response to message #18 by Tim Wessman

> Quote:
>
> I have it set to launch my HP-??? emulator.

Perhaps with keyboard overlays for your fav emulator?

Re: 2012 - Is this the End?

*Message #20 Posted by **Bart (UK)** on 25 Nov 2009, 5:04 a.m.,*
in response to message #14 by Peter A. Gebhardt

Then he may have lost out on an opportunity. Very limited vision if one thinks laptops are only used on airplanes. As I mentioned previously, there was a time in my life when it would have been useful, sitting in remote locations on a little fold-out table entering lots of numbers on a laptop. There wasn't enough space for a full keyboard, but such a keypad would've been ideal.

Re: 2012 - Is this the End?

*Message #21 Posted by **Thomas Radtke** on 25 Nov 2009, 5:52 a.m.,*
in response to message #20 by Bart (UK)

> Quote:
>
> Very limited vision [...]

Apparently people with such a limited vision are most successful. Think about Microsoft being way behind other companies regarding GUI or the Internet several years ago. To fix your number 1 position, finally deny all standards in favor of your own system (OpenGL and Java are good examples).

Re: 2012 - Is this the End?

*Message #22 Posted by **Bart (UK)** on 25 Nov 2009, 6:38 a.m.,*
in response to message #21 by Thomas Radtke

Actually, I think Steve Jobs did not have limited vision. Xerox did. That's why Xerox dumped the GUI idea while Apple and others took the idea over from them.

He may not have seen opportunity in a keypad - it probably won't be near as good a seller as the iPod - but I also cannot believe that he would think laptops are used mosly on airplanes.

The only reason Microsoft is successful is Bill Gates' marketing strategy of the Borg :-).

Edited: 25 Nov 2009, 6:42 a.m.

Re: 2012 - Is this the End?

*Message #23 Posted by **David Hayden** on 25 Nov 2009, 10:42 a.m.,*
in response to message #22 by Bart (UK)

> Quote:
>
> Actually, I think Steve Jobs did not have limited vision. Xerox did. That's why Xerox dumped the GUI idea while Apple and others took the idea over from them.

I was at Stanford in the early 80's and we had a lot of the goodies that Xerox's Palo Alto Research Center (PARC) came out with. I'm simply stunned at the number of billion dollar ideas PARC created and XEROX let get away. In addition to the GUI, they created laser printers, the mouse, ethernet, a really cool LISP workstation, etc. They are even generally credited with with inventing the personal computer

In other words, picture a world where one company invented the IBM PC, networking the HP laserjet, the Apple Mac and Microsoft Windows, oh, and the Xerox copier of course. If Xerox had decent management, they probably would have gotten so big that the government would have broken them up. Isn't it amazing how bad management can ruin a good idea.

Re: 2012 - Is this the End?

*Message #24 Posted by **Peter A. Gebhardt** on 25 Nov 2009, 11:13 a.m.,*
in response to message #20 by Bart (UK)

Bart,

> Quote:
>
> Very limited vision if one thinks laptops are only used on airplanes.

Maybe he envisioned you using a 102-keyboard with your laptop once being back in your office? ;-))

Best regards,

Peter A. Gebhardt

Disclaimer: I'm a former Apple employee

Re: 2012 - Is this the End?

*Message #25 Posted by **Bart (UK)** on 25 Nov 2009, 11:54 a.m.,*
in response to message #24 by Peter A. Gebhardt

Which would mean writing out sheets and sheets of data only to have to type it in again? I don't think so!! I'm much too lazy for that :-).

I soon found a better alternative, a specialised data logger that would store 99 points of data and download via RS232. Much better.

A stand alone numeric keypad still has its uses though. At times I have thought about hacking up a 102-keyboard to make my own.

Re: 2012 - Is this the End?

*Message #26 Posted by **Michele Signorini** on 25 Nov 2009, 6:14 a.m.,*
in response to message #1 by Joerg Woerner

Looking on internet, you may find other manufacturers of USB keypad with LCD (I found Canon, Kensington and Targus).
All of the products with similar (limited) functions, the Kensington K72273US being even wireless.
The Targus seems to be the only one to have at least a square root function...
Would anybody guess if any of these calculator/keypads are in some way reprogrammable?

canon link

kensington link

targus link

Re: 2012 - Is this the End?

*Message #27 Posted by **Martin Pinckney** on 25 Nov 2009, 3:46 p.m.,*
in response to message #26 by Michele Signorini

I noticed the Kensington K7227XUS models even have a wedge shape vaguely reminiscent of the HP 41c.

Re: 2012 - Is this the End?

*Message #28 Posted by **Chuck** on 25 Nov 2009, 5:04 p.m.,*
in response to message #26 by Michele Signorini

My wireless keypad is my ipod

numpad for iphone

Re: 2012 - Is this the End?

*Message #29 Posted by **Doug** on 7 Dec 2009, 5:39 a.m.,*
in response to message #1 by Joerg Woerner

Thanks Joerg but remember they must "change" every 4 months.

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HP calculator electrical engineering

*Message #1 Posted by **Frank Boehm (Germany)** on 24 Nov 2009, 5:34 a.m.*

http://thereifixedit.com/2009/11/23/economic-battery/

Re: HP calculator electrical engineering

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 24 Nov 2009, 6:51 a.m.,*
in response to message #1 by Frank Boehm (Germany)

What the h...k are those comments talking about? Gee...

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OT: Texas eZ430-Chronos WiFi

*Message #1 Posted by **Saile (Brazil)** on 23 Nov 2009, 3:22 p.m.*

```
The eZ430-Chronos is a highly integrated,
wireless development system based for the
CC430 in a sports watch.
It may be used as a reference platform for
watch systems, a personal display for personal
area networks, or as a wireless sensor node
for remote data collection.
```

TI Link

eZ430 Development Link

PDF Specs Link

Thank's

Edited: 23 Nov 2009, 3:44 p.m.

Re: OT: Texas eZ430-Chronos WiFi

*Message #2 Posted by **hugh steers** on 23 Nov 2009, 8:11 p.m.,*
in response to message #1 by Saile (Brazil)

do you get the code studio with it? ti.com/ccs ?

looks like fun!

Re: OT: Texas eZ430-Chronos WiFi

*Message #3 Posted by **Eric Smith** on 24 Nov 2009, 3:05 a.m.,*
in response to message #1 by Saile (Brazil)

If TI can reenter the digital watch business after a 27 year hiatus, maybe HP can too! :-)

Re: OT: Texas eZ430-Chronos WiFi

*Message #4 Posted by **DaveJ** on 24 Nov 2009, 3:53 a.m.,*
in response to message #1 by Saile (Brazil)

> Quote:
>
> eZ430 Development Link

$3300 euro for the development system?
Even at the discounted $1500 it's still an order of magnitude too expensive.

Dave.

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MLDL2000 'cosmetics' & more

*Message #1 Posted by **Vieira, Luiz C. (Brazil)** on 22 Nov 2009, 5:16 p.m.*

Hi, all;

right after building my first MLDL2000 (some years ago) I found it tricky to change the µswitches (select SR settings), and I was afraid of using the wrong tool and wear the little things out after a while. As a test, I cut a small piece of transparent acetate (normally used in custom wirebound printings) and it proved a very good choice, given that sharp edges are kept so you can use the edges to safely push the small switches. Then I decided to cut another piece of the same acetate with the dimensions of a regular magnetic card. Needles to say it was intended to fit in the tracks designed to hold an actual magnetic card. The results were unexpectedly good, given that the little acetate card actually composed a good-looking MLDL2000. In time: I tested with another acetate card with a smooth edge (the edgy tip was cut out) and I was not able to use it for pushing the µswitches.

Now that I built the second unit, I did the same and remembered I did not share this particular information. Please, check the pictures (click in any picture to enlarge).

The acetate card in place

The acetate card slides sideways

Using the acetate card

Sorry taking too long to disclose it... And I hope it is of use.

Cheers.

Luiz (Brazil)

Edited: 22 Nov 2009, 10:39 p.m.

Re: MLDL2000 'cosmetics' & more

*Message #2 Posted by **Meindert Kuipers** on 23 Nov 2009, 11:41 a.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

Excellent idea! Maybe you could make it even better by printing a short explanation of the switches on the card!

Meindert

Re: MLDL2000 'cosmetics' & more

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 23 Nov 2009, 12:40 p.m.,*
in response to message #2 by Meindert Kuipers

Hi. Meindert;

thanks for your follow up.

Please tell me: how about this?

Is this what you had in mind?

Cheers.

Luiz (Brazil)

Edited: 23 Nov 2009, 12:41 p.m.

Re: MLDL2000 'cosmetics' & more

*Message #4 Posted by **Marcus von Cube, Germany** on 23 Nov 2009, 1:32 p.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

The image http://www.lcvdata.kinghost.net/hewpack/mldl_card_layout.jpg looks ok if viewed separately but it does not appear in the post.

Looks nice! :)

Re: MLDL2000 'cosmetics' & more

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 23 Nov 2009, 2:44 p.m.,*
in response to message #4 by Marcus von Cube, Germany

HI, Marcus;

thanks for your feedback.

I can see it in my browser (Mozilla´s Firefox 3.5.5); which browser/system are you using?

I will change the name of the image file (remove the underscores and use common '-' instead) and see if it works in your case and any others.

Cheers.

Luiz (Brazil)

Re: MLDL2000 'cosmetics' & more

*Message #6 Posted by **Ángel Martin** on 23 Nov 2009, 2:47 p.m.,*
in response to message #5 by Vieira, Luiz C. (Brazil)

I want mine!!

:)

Re: MLDL2000 'cosmetics' & more

*Message #7 Posted by **Vieira, Luiz C. (Brazil)** on 23 Nov 2009, 6:18 p.m.,*
in response to message #6 by Ángel Martin

Hola, Ángel; thanks for your follow-up.

I am wondering about how to print it...

The final layout might be easily drawn with any currently available, vector-based drawing software (CorelDRAW! being one of the well known Windows-based, not sure about its Linux/Mac counterpart). After that, the printer should be able to print over acetate, and I guess this would not be the problem. Ink could be silver, gold or even white, printed over transparent acetate. I thought about asking Diego what did he use to print Clonix and NoV-series labels; any ideas?

If I find a non expensive way to produce a bunch if them, I'd gladly pack and send them to the ones that are interested.

Cheers.

Luiz

Re: MLDL2000 'cosmetics' & more

*Message #8 Posted by **Marcus von Cube, Germany** on 23 Nov 2009, 5:15 p.m.,*
in response to message #5 by Vieira, Luiz C. (Brazil)

Still no image. :(

I'm running Firefox on Mac OS. Interestingly, the images in your original post are all fine.

Re: MLDL2000 'cosmetics' & more

*Message #9 Posted by **Vieira, Luiz C. (Brazil)** on 23 Nov 2009, 5:17 p.m.,*
in response to message #8 by Marcus von Cube, Germany

Hi, Marcus;

I'll place it at photobucket and change the link, them. Gimme a couple of minutes...

Cheers.

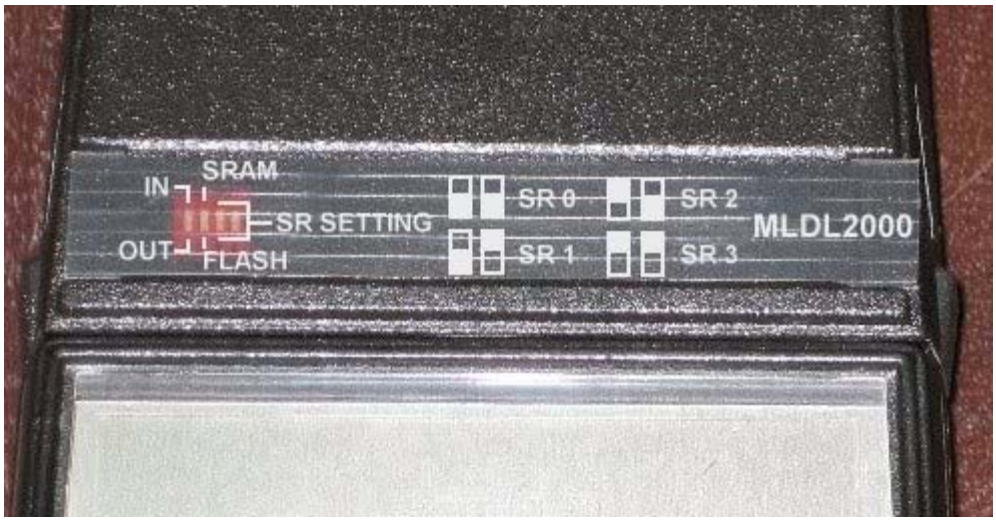
Luiz (Brazil)

Re: MLDL2000 'cosmetics' & more

*Message #10 Posted by **Vieira, Luiz C. (Brazil)** on 23 Nov 2009, 5:24 p.m.,*
in response to message #8 by Marcus von Cube, Germany

Hi, Marcus;

Please, let us know if you can see this one. New link.



Best regards.

Luiz (Brazil)

Edited: 23 Nov 2009, 6:09 p.m.

Re: MLDL2000 'cosmetics' & more

*Message #11 Posted by **Marcus von Cube, Germany** on 24 Nov 2009, 4:34 p.m.,*
in response to message #10 by Vieira, Luiz C. (Brazil)

Looks as intended.

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Will a micro sd card fit Hp 50g?

*Message #1 Posted by **ferroburak** on 22 Nov 2009, 4:18 p.m.*

Hi,

Will a micro sd card fit Hp 50g?

Thanks.

Edited: 22 Nov 2009, 4:19 p.m.

Re: Will a micro sd card fit Hp 50g?

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 22 Nov 2009, 4:23 p.m.,*
in response to message #1 by ferroburak

HI;

I use 1GB micro SD with adaptor in mine. Works pretty fine.

Luiz (Brazil)

Re: Will a micro sd card fit Hp 50g?

*Message #3 Posted by **Mike Reed** on 23 Nov 2009, 10:15 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Yep - it will. I use a micro SD with an adapter in my HP-50 all the time. good prices can be found on micro SD's with the adapters at buy.com

Very inexpensive SD cards

*Message #4 Posted by **David Hayden** on 23 Nov 2009, 11:01 p.m.,*
in response to message #3 by Mike Reed

You can get very inexpensive SD cards from Staples this Friday morning. For example, 4GB microSD card for $10. Go to Staples.com and click on the "weekly ad" for the details.

Staples tends to have wonderful deals for us nerds on Black Friday. I've been there at 6AM for several years running. :)

Re: Very inexpensive SD cards

*Message #5 Posted by **Paul Dale** on 23 Nov 2009, 11:05 p.m.,*
in response to message #4 by David Hayden

Another good place to get micro SD cards is dealextreme.

- Pauli

Re: Very inexpensive SD cards

*Message #6 Posted by **Egan Ford** on 23 Nov 2009, 11:24 p.m.,*
in response to message #4 by David Hayden

> Quote:
>
> For example, 4GB microSD card for $10.

Caution. The 50g does not support >2GB cards.

Re: Very inexpensive SD cards

*Message #7 Posted by **Brian Walsh** on 24 Nov 2009, 10:17 a.m.,*
in response to message #6 by Egan Ford

> Quote:
>
> Caution. The 50g does not support >2GB cards.

Yes, but my G1 phone does :) The Staples deal looks very attractive.

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50G bug in SEQ command?

*Message #1 Posted by **David Hayden** on 22 Nov 2009, 3:34 p.m.*

On my 50G with ROM 2.09, there seems to be a bug with the SEQ command. If interrupted, it leaves intermediate results on the stack. It's my understanding that all user level commands are supposed to clean up if interrupted.

To reproduce in RPN mode: 'X' 'X' 1. 1000. 1. SEQ (wait about 1 second) ON

Is this a bug or a feature?

Dave

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#2 key problem, china mfr, hp12c, and/or others

*Message #1 Posted by **stephen levine** on 22 Nov 2009, 12:35 p.m.*

#2 key clicks, but does not register unless pushed aggressively. Before trying to maybe fix the problem I thought I would ask here. I have a suspicion that this might not be amenable to repair. The serial number: CN31506945, China.

This belongs to my wife only 2/3 years old. I have an old 10c - more than 20 years old - which has a nice feel to it which the new ones lack.

Stephen

Re: #2 key problem, china mfr, hp12c, and/or others

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 22 Nov 2009, 4:21 p.m.,*
in response to message #1 by stephen levine

Hi;

is it a regular HP12C or a Platinum? The regular model has keys that are separated pieces, while the Platinum models (including Prestige) have the keys integrated to the upper half case, except for the [f] and [g] prefix keys which are still separated pieces. I have seen many Platinum with loose keys after breaking the two plastic tags in their base, making it hard to get it working normally again.

Cheers.

Luiz (Brazil)

Edited: 22 Nov 2009, 4:22 p.m.

Re: #2 key problem, china mfr, hp12c, and/or others

*Message #3 Posted by **stephen levine** on 22 Nov 2009, 6:12 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Just checked - Platinum, but I do not know if I understand the difference that you discuss. I have not had the thing apart - yet. I am trying to find out if the click mechanism and switch are integrated into a tiny sealed unit that not possible to repair with my fat fingers.

Re: #2 key problem, china mfr, hp12c, and/or others

*Message #4 Posted by **Marcus von Cube, Germany** on 22 Nov 2009, 4:30 p.m.,*
in response to message #1 by stephen levine

You should probably ask HP for a replacement.

Re: #2 key problem, china mfr, hp12c, and/or others

*Message #5 Posted by **Randy** on 22 Nov 2009, 5:46 p.m.,*
in response to message #1 by stephen levine

Since the internal construction of the 12C has changed so many times in the last several years, I don't know what is inside. It might be salvageable but you'll need to open it to find out. Here's how:

Place the unit face down on a soft surface. Remove the battery door and battery. Remove the the two small Phillips screws found there. Carefully lift up/peel off the four rubber feet. Remove the four screws. Lift the back off. Looking carefully at the right side of the unit, look for two small springs standing on end inside black vertical tubes. Remove them and set aside noting that the longer one goes in the tube nearest the display.

Now, have a look at the circuit board. If the unit has a small hole in the board behind each key location, great, you should be able to repair it. If it is a solid board with no openings, it's toast.

If you find the small holes behind each key, you'll need a method to get a few drops of isopropyl alcohol or contact cleaner (no silicone!) inside the hole then press the key a few times to flush out the key contacts. An eyedropper or pipette of some sort will do in a pinch. Repeat at least 2-3 times.

Install the springs and reattach the back with the six screws and reinstall the feet. Should be okay. Repeat the process if needed.

Re: #2 key problem, china mfr, hp12c, and/or others

*Message #6 Posted by **stephen levine** on 22 Nov 2009, 6:14 p.m.,*
in response to message #5 by Randy

Okay. I will operate tomorrow or the next day. Thanks for the heads-up.

Re: #2 key problem, china mfr, hp12c, and/or others

*Message #7 Posted by **Randy** on 22 Nov 2009, 9:08 p.m.,*
in response to message #6 by stephen levine

The Platinum is not easily repaired, not what I described above as that only applied to the gold 12C, sorry I did not clarify.

Repair is possible but you have to trim off heat stakes and then glue it back together or possibly suitable screws. Not sure about it though since I've only had one or two of them apart and the results ended up in the circular file.

Re: #2 key problem, china mfr, hp12c, and/or others

*Message #8 Posted by **stephen levine** on 25 Nov 2009, 11:09 a.m.,*
in response to message #7 by Randy

> Quote:
>
> The Platinum is not easily repaired, not what I described above as that only applied to the gold 12C, sorry I did not clarify.
>
> Repair is possible but you have to trim off heat stakes and then glue it back together or possibly suitable screws. Not sure about it though since I've only had one or two of them apart and the results ended up in the circular file.

This AM I operated. I think the #2 key works (better?) now. I am not sure exactly, what, if anything I did, made this happen. The keys are more or less sealed and not repairable by normal humanoids. I did clean out some minor pieces of dust and unrecognizable schmutz.

In case anyone else has occasion to open the Platinum HP12c up I offer these additional comments:

I used a 5/32" drill bit to take off the (thermo)plastic flanges on the stakes - by rotating the bit in my fingers. That was simple and easy. One caution is that one of these (upper left looking at the opened unit) holds the Reset clip to the board. Don't lose the clip. And do not forget to put back during reassembly. I refastened the clip by using ABS primer to dissolve the shavings from the flanges - using that as a glue/welding material. I used (this is slightly obscure) 1/8" foam glazing tape stuck to the back cover to hold the pcb in place when reassembled. I think I voided the warranty. But it has worked for going on 15 minutes now.

Thanks everyone for giving enough information to overcome initial trepidation. A little learning is a dangerous thing. . .

Stephen

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Another University of Houston calculator contest

*Message #1 Posted by **David Hayden** on 22 Nov 2009, 10:45 a.m.*

If you're looking for something to do over Thanksgiving while trying to avoid the in-laws and Crazy Cousin Harry, here's another calculator contest from the university of Houston: University of Houston 2008 calculator contest for TI 89/92

I'll post my answers and comments in reply.

Enjoy! Dave

Re: Another University of Houston calculator contest

*Message #2 Posted by **David Hayden** on 22 Nov 2009, 12:34 p.m.,*
in response to message #1 by David Hayden

Here are my answers, done on a 48gii. Corrections, comments and improvements are gratefully accepted.

1. Plugging in the numbers leads to [[4 -2 1] [9 3 1] [196 14 1]] * [a b c] = [6 3.5 29]. Since the calculator lets you "divide" matrices, I did this: [6 3.5 29] [[4 -2 1] [9 3 1] [196 14 1] / OBJ-> DROP + + EVAL

Answer: 3.443181

2. 20931601446 FACTOR Result is 347*227*37*19*7*3^3*2

3. 21456326 ENTER 3241157 GCD yields 1 So no common factors.

If the GCD were greater than 1, then applying FACTORS to it would yield the common prime factors.

4. Of course this depends on the current date, but the TIME menu makes quick work of it.

DATE 2.162097 DDAYS 24 * 3600 *

5. Graph the the function y=x+cos(30x)-1 from .9 to 2.1. There are 8 solutions that are clearly within the region and 2 (or is it 3?) that are near the boundaries.

Closer investigation with ROOT and ZOOM shows that the root near 1 is too small. Using ZOOM, BOX2 shows that there are two roots just slightly less than 2.

Answer is 10.

6. 37* (sum of digits) + 8 * (product of digits) > 45742. The sum of the digits given is 24 and the product is 960, so if you have a digit x, then the formula become 37(24+2x+1) + 8(960x(x+1)) > 45742.

I programmed the formula and ran through the digits 0-8. Smallest result that's less than 45742 occurs with 2.

Answer: 2

7. The formula for each term is (-1^(x+1)) / x. So program it as
0. 1. 1000. FOR X -1 x 1 + ^ X / + NEXT

8. << DUP INV SWAP 2 / + >>
'P8' STO
1. ENTER P8 P8 P8 P8

Result is 1.4142135... So answer to problem is 3.

9. If I remember my math right, the sum is approximately ln(n-0.5), so n is about 148. Armed with this I wrote a program to compute the sum, flubbed it with an off-by-one error and tried again. I ended up with this:

```
%%HP: T(3)A(R)F(.);
\<< 0. 1. \-> S X
  \<<
    DO X INV 'S' STO+ 1. 'X' STO+
    UNTIL S 5.5 >
    END X 1. -
  \>>
\>>
```

Plugging numbers in yielded 137 as the answer.

10. 11201 ENTER NEXTPRIME NEXTPRIME NEXTPRIME etc.

11. Solve 2x-sin(x)-10 = 0. Answer 4.5102

12. Starting with $5, each time she talks to someone, she adds $4, so the sums are 5, 9, 13, etc. Each value mod 4 = 1. So the first value that she'll have in the range is 2,134,565 and they continue to 2,134/585. Now when the problem says "strictly between" do they mean that the end points are not included? That determines whether the last one is included or not.

13. f(x) = cos(1/x)
g(x) = f(f(f(f(x))))

I graphed 10*g(x)+9 and found 4 roots in the range. From the graph window, From the graph window, Press FCN, move the cursor near a root and press ROOT. When it gets the value, press ENTER to copy the root the stack. Repeat for the other roots. Exit he graph window, press "+" 3 times and you have the sum of the roots. I got 0.3183757

14. Ratio of cicumference to area is 4/D.

To compute the sum of the ratios I wrote this program:

```
%%HP: T(3)A(R)F(.);
\<< { 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. } ADD INV \GSLIST 4. *
\>>
```

Plugging in values until I narrowed it down to the one closest to 1/100, I got a program input of 5992, which means the max circumference was 6007.

15. Enter the polynomial and press FACTOR. The hardest part of this one was avoiding typo's.

16. If everyone turned in their money then 43 + 81X + 22Y + 630 = 2887. Where X > 20 and Y < 5. Simplifying gives 81X + 22Y = 2214. There are no integer solutions to this.

The total money in the room is the money collected plus the money m still in their pockets, so 81X+22Y = 2214+m. Recast this as 2214-22Y = 81X-m. Modulo 81 gives (I think) (2214-22Y) mod 81 = 81-m. I wrote this program to generate the m for each value of Y (1-5)>

```
%%HP: T(3)A(R)F(.);
\<< 1 5
  FOR X 2214 X 22 * - 81 MOD 81 SWAP -
  NEXT
\>>
```

Running it showed m=2 when Y=5.

17. Divide by 19 to get 7140766 factors of 19. Divide it by 31 to get 4376598 factors of 31. Now you've double counted the factors of 31*19 = 589. There are 230347 of those. So there are 11287017 unique factors of 19 and 31 between 1 and 135674561. 135674561-11287017 = 124387544.

But that isn't the right answer, because they want value of x between 1 and 135674561 EXCLUSIVE, so you have to remove 1 and 135674561. Therefore the answer is 124387542.

18. Here is a brute force program that works, but it's ugly. It tries every combination of adding and subtracting the numbers:

```
%%HP: T(3)A(R)F(.);
\<< -54 54
  FOR X54 -74 74
    FOR X74 -112 112
      FOR X112 -131 131
        FOR X131 -172 172
          FOR X172 -191 191
            FOR X191 -213 213
              FOR X213 -261 261
                FOR X261 -436 436
                  FOR X436
                    IF X54 X74 + X112 + X131 + X172 + X191 + X213 + X261 + X436 + 406 ==
                    THEN X54 X74 X112 X131 X172 X191 X213 X261 X436 9 \->LIST
                    END
                  872 STEP
                522 STEP
              426 STEP
            382 STEP
          344 STEP
        262 STEP
      224 STEP
    148 STEP
  108 STEP
\>>
```

There is one solution: 54-74-112+131-172+191+213-261+436

19. The general question of how many ways to form an amount from specific coins was the subject of a previous thread. Running my program, which took forever even on an emulator, gave an answer of 28050. There must be an easier way for to have been given on a test for high school kids.

20. Three stacks to the moon would stand 384402*3 km high, which is 1.153206E12 mm. At 0.11mm per dollar bill, that's 1.04836909E13 bills. The debt would have to grow by a factor of 1.13337199 to reach that value.

1.00016^n = 1.1333719. n = 782.55, so the smallest number of full days is 783.

Re: Another University of Houston calculator contest

*Message #3 Posted by **Crawl** on 23 Nov 2009, 3:11 p.m.,*
in response to message #2 by David Hayden

> Quote:
>
> 19. The general question of how many ways to form an amount from specific coins was the subject of a previous thread. Running my program, which took forever even on an emulator, gave an answer of 28050. There must be an easier way for to have been given on a test for

high school kids.

There is.

You could do it with 149 quarters.

Or 148 quarters. The missing quarter could be made up with 5 nickels, or 3, or 1 (and the difference in dimes).

Or 147 quarters. And the 2 missing quarters could be made up with 10 nickels, or 8, 6, 4, 2, or 0.

There is 1 way to do it with 149 quarters.

3 ways to do it with 148 quarters.

6 ways with 147.

8 with 146.

11 with 145.

13 with 144.

16 with 143.

And so on, down to 371 ways for 1 quarter, and 373 ways for 0.

Every other one adds 2 ways, while the alternate add 3 ways (which is due to the nickels being even or odd).

So you just add 1+3+6+8+11+13+16+...+371+373.

You could think of this as two separate series, each adding 5 each time.

1+6+11+16+...+371=75+5*(1+2+...+74) = 75 + 5 * (74^2+74)/2 = 13950

And

3+8+13+...+373=3*75+5*(74^2+74)/2==13950+2*75=14100

And the total =4*75+5*(74^2+74)=28050.

Re: Another University of Houston calculator contest

*Message #4 Posted by **Gerson W. Barbosa** on 23 Nov 2009, 4:05 p.m.,*
in response to message #3 by Crawl

Very nice!

I am ashamed to tell it took 2h26m49s for my pure brute force Pascal program to find the solution on the HP-200LX... I couldn't help remembering these verses:

"Why to think, to imagine? The machine will do it for us." ("Por que pensar, imaginar? A máquina o fará por nós." in the original Portuguese)

Re: Another University of Houston calculator contest

*Message #5 Posted by **Gerson W. Barbosa** on 23 Nov 2009, 4:22 p.m.,*
in response to message #2 by David Hayden

"Houston, we have *too many* problems here!". Fortunately all of them are solved :-)

A small suggestion to number 9:

A better approximation for the sum is ln(n)+0.5772 (where 0.5772 is the Euler-Mascheroni constant). So you can try $e^{5.5-0.5772}$ ~ 137. Summation, instead of a program, might be an option:

```
'SIGMA(n=1,137,1/n)' EVAL --> 5.50084178581
```

Gerson.

Re: Another University of Houston calculator contest

*Message #6 Posted by **David Hayden** on 23 Nov 2009, 11:05 p.m.,*
in response to message #5 by Gerson W. Barbosa

Thank you Gerson and Crawl for your excellent suggestions.

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HP41 ROM images related: I didn´t see that comming...

*Message #1 Posted by **Vieira, Luiz C. (Brazil)** on 21 Nov 2009, 9:55 p.m.*

Hi, all;

I was checking the ROM images that are stored in my computer when I also decided to check the ROM versions of three different 82143A printers' interfaces. One of the printers is complete, the other two may be combined to assemble one working unit (there is only one mechanics).

I loaded the three images, one at a time, in three MLDL2000 SRAM addresses: 08, 09 and 0A. Then I listed the ROM images and saw that they were of the same 1E version. But then I decided to upload each one of them to the computer, and after opening the three images I found this:

```
ROM Filename    : D:\HP41-related\HP41_ROM_images\printer_1E_0.rom
-----------------hex---dec---------------
  XROM          : $01D  029
  # Functions   : $019  025
  ROM Name      : -PRINTER-
  Pause Entry   : $28B
  Program Entry : $000
  Sleep Entry   : $000
  OFF Entry     : $000
  Service Entry : $26B
  ON Entry      : $23B
  MemLost Entry : $233
  ROM Revision  : PR-@@
  Checksum      : $36E  CHECKSUM NOT GOOD, should be $3BA
  NOPs Counted  : 77


ROM Filename    : D:\HP41-related\HP41_ROM_images\printer_1E_1.rom
-----------------hex---dec---------------
  XROM          : $01D  029
  # Functions   : $019  025
  ROM Name      : -PRINTER-
  Pause Entry   : $28B
  Program Entry : $000
  Sleep Entry   : $000
  OFF Entry     : $000
  Service Entry : $26B
  ON Entry      : $23B
  MemLost Entry : $233
  ROM Revision  : P@-@@
  Checksum      : $36E  CHECKSUM NOT GOOD, should be $067
  NOPs Counted  : 93


ROM Filename    : D:\HP41-related\HP41_ROM_images\printer_1E_2.rom
-----------------hex---dec---------------
  XROM          : $01D  029
  # Functions   : $019  025
  ROM Name      : -PRINTER-
  Pause Entry   : $28B
  Program Entry : $000
  Sleep Entry   : $000
  OFF Entry     : $000
  Service Entry : $26B
  ON Entry      : $23B
  MemLost Entry : $233
  ROM Revision  : PR-1E
  Checksum      : $36E  CHECKSUM NOT GOOD, should be $06A
  NOPs Counted  : 251
```

Three different NOP counts, three different checksum (the three of them not good), three different ROM versions, and they are reported Printer 1E.

Now I'm stuck! I'm willing to check all ROM images that share the same ROM version # because now I see that they may be different inside... Any other related event?

It seems that the rabbit took a deeper warren...

Cheers.

Luiz (Brazil)

Re: HP41 ROM images related: I didn´t see that comming...

*Message #2 Posted by **Eric Smith** on 21 Nov 2009, 10:45 p.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

It appears that whatever process you used to transfer the ROMs from the printer modules to the MLDL is not reading them correctly. The '@' signs in the module name/version are indicative of reading zeros instead of valid data, which is consistent with the varying NOP count. I suspect that if you read the same module multiple times, you will not get consistent data.

Re: HP41 ROM images related: I didn´t see that comming...

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 22 Nov 2009, 2:11 a.m.,*
in response to message #2 by Eric Smith

Hi, Eric;

good point, indeed. I am using an HP41 halfnut with both an MLDL2000 (configured with HEPAX in page #5) and one printer module connected to it. I'll repeat the process and copy the same printer ROM to other different SRAM blocks and see what happens.

Cheers.

Luiz (Brazil)

Re: HP41 ROM images related: I didn´t see that comming...

*Message #4 Posted by **Meindert Kuipers** on 22 Nov 2009, 6:00 a.m.,*
in response to message #2 by Eric Smith

Up and downloading may not always be reliable, be sure to check the process with Verifym (or use autoverify), or use the data only when opening the ROM file from disk. If this happens more often, you should reduce the communication speed in the Preferences dialog, or tweak the other communications parameters.

Meindert

HP41 ROM images related: started it all over again

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 22 Nov 2009, 8:03 p.m.,*
in response to message #4 by Meindert Kuipers

Hi, Meindert;

thanks again for your (always necessary and welcome) advise.

I transferred all HP41 related data I have about the HP41 (>4GB) to a laptop (Acer, could not afford an HP) and then I started it all over: I set comm speed to 181.82kbps (32), JTAG speed to 146.3kbps (40, half of the default speed), USB Timeout to 1000 msecs, FLASH prgm and Sector erase timeout to 2000 msecs. Then I uploaded the 1.51 firmware version to the MLDL2018A again and erased all its memory. Now I am (slowwwwly) uploading all ROM images again. Well, now I think I am eliminating some, if not all, future issues.

In time: I used HEXEDIT to inspect the interrupt locations and ROM versions of the three printer ROM I mentioned in the beginning of this thread, from within the interfaces themselves, i.e., their original ROM data, not their images, and found out they have identical values stored on them. The discrepancies I found were not from the ROM modules. Lotta work to do, then...

Best regards.

Luiz (Brazil)

Edited: 22 Nov 2009, 8:07 p.m.

Re: HP41 ROM images related: started it all over again

*Message #6 Posted by **Meindert Kuipers** on 23 Nov 2009, 11:39 a.m.,*
in response to message #5 by Vieira, Luiz C. (Brazil)

Do not make the settings too slow, especially be careful with the JTAG speed, as some of the programmed delays depend on it. I usually run eveything on the highets speed, but if your USB port is a bit slow, or if you hav emany other active devices on a USB hub, sometimes data is missed.

For up and downloading: there is a backup function in M2kM. A saved backup can be edited like any MOD file, and then restored, so you do not have to handle each ROM image individually.

Meindert

Re: HP41 ROM images related: I didn´t see that comming...

*Message #7 Posted by **Doug** on 7 Dec 2009, 7:02 a.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

Luiz, Could you send me your modifications to preliminary 43A study? I like to share advancements in thinking. Maybe you can add some notes to the prelim study? I haven't had much time lately to study 43A as they all got melted but i do love this device. Do you remember when the big thing was to grind down the return cam so that we could get full graphic image dump on 2" wide paper? Good machine that can do startling images on thermal paper. Oops, i just drove up the price of old 43A printers. Doug

Re: HP41 ROM images related: I didn´t see that comming...

*Message #8 Posted by **Vieira, Luiz C. (Brazil)** on 7 Dec 2009, 11:38 a.m.,*
in response to message #7 by Doug

HI, Doug;

thanks for your reply.

(un)fortunately the differences in the ROM images happened to be caused by a comms glitch, and after the problem was solved all three ROM images downloaded perfectly identical to each other.

And yes, I remember the 'Hanukkahs' (at least I remember people using this names) shown in some club publications. One of them called my attention: it was a boat in the sunrise, in one of the HP Key Notes.

As I mentioned, I have a fully working and two-to-build-one 82143A´s. They have some differences in their PCB layout, will take pictures and, as I have them taken, I'll share them at photobucket. In the meantime, if you want to have a look at some of the other pics, be my guest:

Gentle beasts they are, these HP82143A...

Cheers.

Luiz (Brazil)

Edited: 7 Dec 2009, 11:39 a.m.

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7470A Plotter Pens/Paper?

*Message #1 Posted by **Egan Ford** on 21 Nov 2009, 8:21 p.m.*

The HP manual says to use HP pens and paper, but all HP printers I have owned have always said "HP Ink and Paper".

So, what are my options? It is possible to still get HP pens? Are there other pens that work?

Thanks.

Re: 7470A Plotter Pens/Paper?

*Message #2 Posted by **Thomas Chrapkiewicz** on 21 Nov 2009, 10:10 p.m.,*
in response to message #1 by Egan Ford

These pens are long out of production (by HP), however, there are usually some of these available on 'the auction site'. Many times, the foil envelopes are still sealed, and the pens seem to perform well (even though they are often over 15 years old). There are other brands, and the 'name brand' ones seem to work well.

The plotter paper is very, very smooth - I presume this helps prolong the life of the fiber tipped pens. There may be modern equivalents available, although I don't think paper smoothness is rated. .

TomC

Re: 7470A Plotter Pens/Paper?

*Message #3 Posted by **Martin Pinckney** on 22 Nov 2009, 12:15 a.m.,*
in response to message #1 by Egan Ford

They are available here.

Re: 7470A Plotter Pens/Paper?

*Message #4 Posted by **Dan Grelinger** on 2 Dec 2009, 2:28 p.m.,*
in response to message #3 by Martin Pinckney

There are different widths available as well (3 mm and 7 mm are common sizes, I believe).

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HP 17BII+ Financial Calculator simulator available for iPhone

*Message #1 Posted by **Steve Simpkin** on 21 Nov 2009, 1:24 p.m.*

http://appshopper.com/finance/17bii-financial-calculator

Current summary of HP calculator simulator/emulators available for iPhone:

HP-10bii, HP-11C, HP-12C, HP-12C Platinum, HP-15C, HP-16C, HP-17bii+, HP-21, HP-41C/CX, HP-42S, HP-48GX, HP-28C (partial simulation)

Many of the above are available in several versions from multiple software authors (including HP!). There are also many non-HP RPN calculators available.

Please add any to the list that I may have missed.

Re: HP 17BII+ Financial Calculator simulator available for iPhone

*Message #2 Posted by **Anders Peterson** on 21 Nov 2009, 6:50 p.m.,*
in response to message #1 by Steve Simpkin

You got them all as far as I can tell. I have seen all of them except the 28c, and the strange "b"-type calculators you mentioned :) What is the name of that app that partial simulates a 28c?

My favorite part of browsing the appstore's selection of RPN calculators, especially the free ones, is the reviews by people who think they aren't operating correctly. An excerpt from a great recent review written for the SCI-15C app (an emulator): "You should add an update that runs this calculator in a way similar to all other calculators (Making sense)."

Re: HP 17BII+ Financial Calculator simulator available for iPhone

*Message #3 Posted by **Steve Simpkin** on 21 Nov 2009, 7:19 p.m.,*
in response to message #2 by Anders Peterson

The HP-28-like App is called "Halcyon Calc".

There is also an obscure, partially implemented HP-32Sii simulation Web App. It is at http://www.kronenberg.org/rpn/

> Quote:
>
> "You should add an update that runs this calculator in a way similar to all other calculators (Making sense)."

I agree with them. Why most of these HP calculators for the iPhone don't even have a proper "=" key. Now what good is a calculator without a "=" key?

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Rounding errors

*Message #1 Posted by **BruceH** on 21 Nov 2009, 11:08 a.m.*

Just to emphasise that rounding errors aren't just limited to calculators here's something culled from the Interweb...

> Quote:
>
> There are mutterings about Motorola doing an unannounced, covert update on their Droid camera because so many people are reporting that the autofocus, which has been a bit rubbish, is now suddenly working.
>
> The actual situation is (I think) quite funny.
>
> Android Engineer, Dan Morrill said: There's a rounding-error bug in the camera driver's autofocus routine (which uses a timestamp) that causes autofocus to behave poorly on a 24.5-day cycle. That is, it'll work for 24.5 days, then have poor performance for 24.5 days, then work again. The 17th is the start of a new "works correctly" cycle, so the devices will be fine for a while. A permanent fix is in the works.

Re: Rounding errors

*Message #2 Posted by **Lyuka** on 21 Nov 2009, 12:00 p.m.,*
in response to message #1 by BruceH

24.5 days means 2^31 [ms]

It is probably an old singed and unsigned or wrap-round bug but not rounding errors.

The source or related article is Slashdot IT Story

Re: Rounding errors

*Message #3 Posted by **Paul Dale** on 21 Nov 2009, 5:27 p.m.,*
in response to message #2 by Lyuka

So it isn't so much a rounding error as an integer overflow.

Still, I cannot fathom a reason why the autofocus code would care about the time. Especially at this level of accuracy -- maybe at the hour mark to attempt to judge day and night but not at the ms level.

- Pauli

Re: Rounding errors

*Message #4 Posted by **David Hayden** on 22 Nov 2009, 10:41 a.m.,*

in response to message #3 by Paul Dale

> Quote:
>
> Still, I cannot fathom a reason why the autofocus code would care about the time. Especially at this level of accuracy -- maybe at the hour mark to attempt to judge day and night but not at the ms level.

I have minimal knowledge of how autofocus works, but that never stopped me from speculating before.... :)

The routine might do something like this:

```
- Check to focus
- Move the focus knob for a little while.
- Recheck the focus.
- If you've passed the focus point, then interpolate based on how
  long you were turning the knob and go back accordingly.
```

Now if you get the time from a millisecond counter and mistakenly interpret it as a signed value, you'll think that the time interval was negative and all hell breaks loose.

Again, this is purely speculation, but I think it illustrates how time might factor into their calculations.

Re: Rounding errors

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 22 Nov 2009, 11:24 a.m.,*
in response to message #4 by David Hayden

> Quote:
>
> Now if you get the time from a millisecond counter and mistakenly interpret it as a signed value, you'll think that the time interval was negative and all hell breaks loose.

In this case, we actually have an algorithmic error.

Luiz (Brazil)

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The new DVD Set Version 7

*Message #1 Posted by **Namir** on 21 Nov 2009, 9:12 a.m.*

Hello All,

The main page for this site caught my eyes yesterday, as I caught a glimpse of the announcement that there is a new DVD set (version 7.0) out!! Of course not significant time passed by before I ordered the double DVD.

Just wanted to remind fellow site members/visitors that the new DVD set is out. It is worthwhile documentation to have.

I want to thank the site curator and any other person who helped scan new (and previous) documents for their efforts and label of love.

Namir

Edited: 21 Nov 2009, 9:14 a.m.

Re: The new DVD Set Version 7

*Message #2 Posted by **Michael de Estrada** on 21 Nov 2009, 11:45 a.m.,*
in response to message #1 by Namir

Thanks for the heads up, just ordered mine.

Re: The new DVD Set Version 7

*Message #3 Posted by **Walter B** on 21 Nov 2009, 5:04 p.m.,*
in response to message #1 by Namir

Thanks for the alert. Another order placed d:)

Re: The new DVD Set Version 7

*Message #4 Posted by **Paul Dale** on 21 Nov 2009, 5:24 p.m.,*
in response to message #1 by Namir

Ordered mine too.

I'm a bit disappointed that the main site hasn't been updated for this. I submitted a couple of HP-35s programs ages ago (well over a year) and they're still not up :-(

- Pauli

Re: The new DVD Set Version 7

*Message #5 Posted by **DavidShenk** on 22 Nov 2009, 8:07 p.m.,*

in response to message #1 by Namir

I hadn't gotten around to ordering these yet, but looks like now is the time. It also looks like the whole collection will be easier to search because most of it has been OCR'd.

Can't wait!

Re: The new DVD Set Version 7

*Message #6 Posted by **Marcus von Cube, Germany** on 7 Dec 2009, 11:58 a.m.,*
in response to message #1 by Namir

Mine has arrived. :)

Re: The new DVD Set Version 7

*Message #7 Posted by **Gerson W. Barbosa** on 7 Dec 2009, 3:38 p.m.,*
in response to message #6 by Marcus von Cube, Germany

Mine has *just* arrived! :-)

Re: The new DVD Set Version 7

*Message #8 Posted by **Walter B** on 7 Dec 2009, 4:20 p.m.,*
in response to message #7 by Gerson W. Barbosa

Me ... mine, too d:-)

Re: The new DVD Set Version 7

*Message #9 Posted by **Paul Dale** on 7 Dec 2009, 6:18 p.m.,*
in response to message #8 by Walter B

Mine arrived yesterday. Haven't tried them yet :-(

- Pauli

Re: The new DVD Set Version 7

*Message #10 Posted by **Saile (Brazil)** on 7 Dec 2009, 6:30 p.m.,*
in response to message #6 by Marcus von Cube, Germany

```
That more beautiful answers!
Mine still didn't arrive because I still didn't buy.
That waste of time
```

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Wrist-PDA for Dave

*Message #1 Posted by **bill platt** on 19 Nov 2009, 10:18 p.m.*

A badly written old article, but topical natheless:

http://ezinearticles.com/?The-Death-of-the-Wrist-Watch?&id=302792

Re: Wrist-PDA for Dave

*Message #2 Posted by **Johnny Bjoern Rasmussen** on 20 Nov 2009, 3:31 p.m.,*
in response to message #1 by bill platt

Quite OT: I found the Ruputer OnHand PC very interesting but the size of the thing made it fit a gorilla arm much better than a human arm. I never got the watch/computer/pda/whatever never the less... I have had an Timex Data Link USB which was okay. I really liked it and used it as my PDA. Sadly it became faulty after 6 months so I sent it to Timex HQ in the US for warranty repair. They kept the watch though and I never heard a single beep from Timex or the watch again :-(

Ruputer OnHand PC

Cheers!

Johnny

Edited: 20 Nov 2009, 3:53 p.m.

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HP 71B Zenwand Manual Prease

*Message #1 Posted by **Saile (Brazil)** on 19 Nov 2009, 2:45 p.m.*

I am looking for a copy of the HP 71B Zenwand manual. Can anyone help me?

Re: HP 71B Zenwand Manual Prease

*Message #2 Posted by **Klaus** on 20 Nov 2009, 1:37 a.m.,*
in response to message #1 by Saile (Brazil)

I think it will be on the next update of the DVD set. I have a paper copy, but no possibility to scan it. But if you have any questions, other members and me can help you.

Re: HP 71B Zenwand Manual Prease

*Message #3 Posted by **Prabhu Bhooplapur** on 24 Nov 2009, 1:28 a.m.,*
in response to message #1 by Saile (Brazil)

Let me know your email address. Prabhu

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HP Forum Archive 19

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HP41 ROM module versions: anyone?

*Message #1 Posted by **Vieira, Luiz C. (Brazil)** on 19 Nov 2009, 6:30 a.m.*

Hi, all HP41 users and addicts! ;-)

Just to add a time reference: do you remember this?

Those of you who deal with ROM images (MLDL, Clonix and related stuff) know that there are different versions for the same application/program set. I am trying to locate and store these different versions with the sole purpose of studying and learning (35YO+ technology and still going!). I have some different versions of some common ROM images and I still need to download a few ones (stored in actual hardware), but there are some 'gaps' in some version sequences I do not know if were filled with actual, commercial versions or if they never left the labs. There is also the OS ROM versions, and based on what I saw, each of the three basic ROM has its own version flag, which leads to another question (coconut related): is there any information regarding compatibility and/or restrictions or these three OS 'packs' (one IC each) can live together in any possible combination?

Because Meindert´s MLDL2000 has room enough to store up to 253 4K-word ROM images (FLASH ROM), I think most of these images may find their place over there at the same time. I checked TOS and found only one version of most available ROM (did not check all of them), but it does not mean it is the only one stored there. I will send an e-mail to TOS webmaster and ask about this.

Most of us here know of one single place where many HP41 ROM modules found shelter, but this particular source is void, no ROM image will be disclosed from there. Anyway, I believe that the ones that were lucky enough being out here are in hands that might be interested on sharing such data base, mostly because it is 35YO and will serve no commercial purpose. As an example, I have a working Extended IO module with a checksum value that does not match, but I also have a ROM image of another Extended IO, same version, with a valid checksum value. Well, it is somehow easy to change the checksum value, but what if the ROM contents are actually faulty? Only with another version or an original blueprint to check for possible errors.

We surely know that the MoHPC is not the place to exchange ROM images because of also very well known reasons, and I (as all of you, I guess) completely agree with Dave´s thoughts about that. Some of the ROM images I have stored here with me were downloaded from actual hardware, but I also happen to have ROM images I downloaded from the www. I took into consideration that if they are publicly available, chances are that they are public. So, if anyone wants to share this sort of information in an off-line fashion, I'd also gladly share the ROM images I have. Please, use the following e-mail address:

lc_vieira (aT) QUANTICA punto Com [dot] br

In time: I had some issues trying to download a card reader ROM image by using a NoVRAM and a MLDL2000 and did not get the results I wanted to. Because of evident physical issues, I used the NoVRAM to capture the card reader ROM image first, then I tried to copy it to a single SRAM block in the MLDL2000, but somehow the card reader image disturbed the HP41 operation. I happen to have 1E ROM version already stored (the one with that interesting bug already mentioned here some years ago), but I want to keep a copy of the 1G version. Anyone wishing to discuss this as well?

Cheers.

Luiz (Brazil)

Edited: 19 Nov 2009, 6:36 a.m.

Re: HP41 ROM module versions: anyone?

*Message #2 Posted by **Ángel Martin** on 19 Nov 2009, 9:53 a.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

Hi Luiz, quite a complex subject you raise here... I have enough problems keeping track of the revision for the few modules I have done, so let alone getting into the vast universe!

Seriously though, this is quite a daunting activity. And which one is that site you refer to as the "shelter of all ROM modules"? Not sure I follow that either. Do you mean those copies each one of us has got along the years? If so, we can contribute them to a 'central library' but who'll be the "librarian"?

Sorry, more questions than answers...

Edited: 19 Nov 2009, 9:54 a.m.

Re: HP41 ROM module versions: anyone?

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 19 Nov 2009, 10:36 a.m.,*
in response to message #2 by Ángel Martin

Ola, Ángel; ¿que tal?

I agree with you that it would be somehow an extensive, time-consuming activity, but I think it's worth gathering all of these images together. At least the ones with common interest from known sources that have already disclosed such information so there is no copyright infringement. I already have my homepage but it needs both completion and refinement, as you can see. It is mainly intended to be used by my students, but I'll get it finished and enlarged soon. I see no problems holding either the images or links to the publicly available ROM, provided that it is not an infringement.

Cheers.

Luiz (Brazil)

Edited: 19 Nov 2009, 11:51 a.m.

Re: HP41 ROM module versions: anyone?

*Message #4 Posted by **Diego Diaz** on 19 Nov 2009, 12:36 p.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

Hi Luiz, Ángel,

Rom images have been of my concern since I started my first Clonix development and I keep a nice bunch of'em some of which (the most common) are bundled with the Clonix/NoV software for the users to play with.

The ROM pacs listing from M. Wherli at www.hp-collection.com might be a good starting point to start filling up the gaps which eventually will turn narrower as time goes by... ;-)

I for one keep several copies of the ROM images I've collected, in different places and media. However, I never took the task of classifying them by version nr. (nor by any other concept...) just

"dropped them into the bag".

The easiest method I can think of to check out differences between ROM images is an HEX editor. WinHEX.exe is the one I use.

I'm not sure I quite understand the issue you mentioned regarding Card Reader ROM. What sort of "interaction" with the HP-41 may interfere with the ROM extraction process?

Will keep in contact and mail you back with a detailed list of the images I've got as I get back home.

Cheers.

Diego.

Re: HP41 ROM module versions: anyone?

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 19 Nov 2009, 1:11 p.m.,*
in response to message #4 by Diego Diaz

Hi, Diego;

first of all, I think that the NoV32 decided to behave accordingly after some clearing and writing. I erased the RAM by loading NovClr32.HEX at least three times, then I erased the PIC18LF252 (it needed some extra erasure to be considered cleaned by ICProg Blank check...), then I loaded HEPAX plus David Assembler with Labels by using the last update you offered at www.clonix41.org instead of the one you sent me. I loaded the module with NoV32-H0.HEX and it behave as a dummy module,i.e., CAT 2 showed nothing after plugging it in three HP41 (one halfnut, two coconut). Is that OK?

I´ll try loading the card reader 1G image today later after having the NoV32 behaving accordingly. What I did before updating the NoV32 as it is now was:

- load NoV32 with HEPAX and David Assembler (was unstable);
- separate page B from HEPAX chain (following HEPAX manual instructions: BFE7, BFE8 and AFE8 = 000, etc...)
- copy card reder ROM to page B with COPYROM;

At this point the HP41 behaves erratically and I had to remove the NoV32 and write a program to copy the card reader image from page B to page E or F. Then:

- configure MLDL2000 with one SRAM address at page E (or F), or any other one that is not in use by NoV32 mapping;
- plug both NoV32 and MLDL2000;
- copy the card reader image from page B (NoV32) to page E (MLDL2000);
- connect the MLDL2000 to the computer and download the card reader image.

I think RAM2ROM.HEX allows copying NoV32 nonvolatile RAM contents to the computer without the need of such maneuver, but I have never used it. Is that what it is for? Sorry to ask, it came to my mind right now.

The erratic behavior of the Hp41 was mainly activating ALPHA mode instead of ALPHA entry after [XEQ][ALPHA] after the card reader image was copied. I simply could not enter any key with [XEQ _] in the display, but I could erase it character by character with the backarrow instead of clearing the hole LCD contents. Also, after executing the program to copy the card reader image from page B to page E, I found it in SRAM 63 of the MLDL2000. I pointed page E to SRAM 00

by programing the MLDL2000, and it ended up in SRAM 63... The program I wrote was:

```
LBL 00
00B000BFFFE000
CODE
COPYROM
```

I simply pressed [R/S] and saw no error message until it finished itself. Please, if there is an easier, safer way to transfer the card reader image to the computer, let me know.

Cheers.

Luiz (Brazil)

Edited: 19 Nov 2009, 1:17 p.m.

Re: HP41 ROM module versions: anyone?

*Message #6 Posted by **Meindert Kuipers** on 19 Nov 2009, 2:10 p.m.,*
in response to message #5 by Vieira, Luiz C. (Brazil)

Hi Luiz,

I have both a cardreader 1D and 1E and thus the ROM images you want ;)

I have experienced the same issue. Problem is that when coying the CR rom to a lower page, the entry points become active, and this calls for strange behavior. My setup is a bit different, as I have an external MLDL2000 (my breadboard setup) and can combine a physical CR with the MLDL2000, and copying works, until you have both images active.

I copied the CR image from page E to page B, using the MOVE routine in M2K ROM. Note that the SRAM page you need in B can be mapped but disabled (so it can not be read by the '41, but still accepts WROM's).

I will transfer the images to your computer in a few minutes ...

Meindert

Re: HP41 ROM module versions: anyone?

*Message #7 Posted by **Meindert Kuipers** on 19 Nov 2009, 2:22 p.m.,*
in response to message #6 by Meindert Kuipers

Forgot to mention: keep in mind that the CR code is very hardcoded to page E, and any active CR image in another page than E will cause very strange behavior ....

Meindert

Re: HP41 ROM module versions: anyone?

*Message #8 Posted by **Vieira, Luiz C. (Brazil)** on 19 Nov 2009, 9:09 p.m.,*
in response to message #6 by Meindert Kuipers

Hey, Meindert; dankje!

I actually thought of building a kind of port extender (just connectors and cable) so I could connect MLDL2000 into port 3 and do exactly what you mention: set a disable SRAM page

prior to copy it. Then I would just transfer it to the computer and copy it back to MLDL2000 in a FLASH position. I´d keep both copies in the computer and in the MLDL2000.

Thanks for clarifying about the weird behavior. I considered that if the card reader could only be placed in port #4, why not to write its code already hardwired? I am not sure about this, but in this case, even internal jumps could point to physical, actual positions instead of relative addressed. I do not know if, in this case, the mcode is simpler or smaller.

Thank you very much, both for the explanation and for the ROM images... 8^)

Cheers.

Luiz (Brazil)

Re: HP41 ROM module versions: anyone?

*Message #9 Posted by **Ángel Martin** on 20 Nov 2009, 1:13 a.m.,*
in response to message #8 by Vieira, Luiz C. (Brazil)

I haven't checked this for sure but I'd assume that the card reader code is indeed had-wired to page E. Any MCODE programmmer will do that to save space and achieve faster response from the system, and HP had the best MCODErs for sure :)

As per obtaining the CardReader image, I did it using COPYROM in the HEPAX, of course. Although this wouldn't work if your HEPAX emulation isn't functional?

Best, 'AM

Edited: 20 Nov 2009, 1:14 a.m.

Re: HP41 ROM module versions: anyone?

*Message #10 Posted by **Vieira, Luiz C. (Brazil)** on 20 Nov 2009, 2:25 p.m.,*
in response to message #9 by Ángel Martin

Hi, Ángel;

thank you for your follow-up.

I have the NoV32 working fine so far and I'll give it a shot this weekend. We are having some issues in my town because of a possible meningitis surge. At least three fatal victims so far, two of them being students at the univerity I teach in. All teachers were called for some meetings in order to define actions, but this weekend will be a little more easy, I guess.

Cheers.

Luiz (Brazil)

Edited: 20 Nov 2009, 5:56 p.m.

Re: HP41 ROM module versions: anyone?

*Message #11 Posted by **Diego Diaz** on 21 Nov 2009, 5:33 p.m.,*
in response to message #10 by Vieira, Luiz C. (Brazil)

Hi again,

Good to know you got your NoV-32 operative again. :-)

Regarding RAM2ROM it's certainly intended to dump ROM images from any RAM page into a NoVRAM (or the upper 16k in a NoV-32) to a .ROM file in your PC.

The details can be found here.

This utility was considered somehow "experimental" so it never was properly documented, anyhow, if it shows to be useful I'll add some detailed procedures in the next update.

Hope this helps.

Diego.

PS: Please note, the related .HEX file referred to as RAM2ROM.HEX in the thread above was later renamed to RAM2ROM1.HEX in the update archive.

Edited: 21 Nov 2009, 5:41 p.m.

From a time I was 'off duty'...

*Message #12 Posted by **Vieira, Luiz C. (Brazil)** on 21 Nov 2009, 6:15 p.m., in response to message #11 by Diego Diaz*

Hey, Diego; ¡muchas gracias!

I was searching for this very piece of info! Did not cross my mind having it as a post at the archives...

You see, in such cases when an image has been successfuly copied into any NoVRAM RAM page and disturbs calculator operation (like the Card Reader ROM), RAM2ROM seems to be the only way to copy such image to the computer.

Thanks again!

Luiz (Brazil)

Edited: 21 Nov 2009, 9:22 p.m.

Re: HP41 ROM module versions: anyone?

*Message #13 Posted by **Meindert Kuipers** on 22 Nov 2009, 5:56 a.m., in response to message #11 by Diego Diaz*

Do not forget that M2kM will read the resulting HEX file (and save it a ROM or MOD)

Meindert

Re: HP41 ROM module versions: anyone?

*Message #14 Posted by **Juergen Keller** on 19 Nov 2009, 5:35 p.m.,*
in response to message #4 by Diego Diaz

> Quote:
>
> The ROM pacs listing from M. Wehrli at www.hp-collection.com might be a good starting point to start filling up the gaps which eventually will turn narrower as time goes by... ;-)

There is also an online version of this listing: HP-41 Module Database

Might be a good place for ROM images, too!

Cheers, Juergen

Re: HP41 ROM module versions: anyone?

*Message #15 Posted by **Ángel Martin** on 20 Nov 2009, 1:19 a.m.,*
in response to message #14 by Juergen Keller

Hi Juergen, your on-line DB is an excellent place to get this done. Do you have the capability to also store the images there? If so, this can be the answer to Luiz' request.

I also have dozens of images lying around in different directories across several computers (some of them quite rare)... and wouldn't mind getting them all tidily stored once and for all. Should compile a list during the week-end...

Best, 'AM

Edited: 20 Nov 2009, 2:33 p.m. after one or more responses were posted

HP41 ROM module versions: that would be great!

*Message #16 Posted by **Vieira, Luiz C. (Brazil)** on 20 Nov 2009, 8:02 a.m.,*
in response to message #15 by Ángel Martin

Hi Ángel;

this would really be great! I am not sure if the images I was able to collect would not be amongst the ones you have. In any case, I´ll save a copy of the ones I find amongst the actual modules I have with me and list them here, too. A few weeks ago I bought two 82242A (IR module) and their ROM versions are the same of the other IR module I already have: three IR modules, same ROM version in all of them...

In time: I downloaded a small MCODE from TOS that allows copying ROM images stored in any of the four different banks. Is there any other resource that allows such copies?

Cheers.

Luiz (Brazil)

Re: HP41 ROM module versions: anyone?

*Message #17 Posted by **Vieira, Luiz C. (Brazil)** on 20 Nov 2009, 8:04 a.m.,*
in response to message #14 by Juergen Keller

Hi;

just to second Ángel´s words: if it is possible to save ROM images, even if there are no direct links for them instead of a regular directory list, that would be great.

And congratulations! The data base is really impressive.

Cheers.

Luiz (Brazil)

Edited: 20 Nov 2009, 8:05 a.m.

Re: HP41 ROM module versions: anyone?

*Message #18 Posted by **Juergen Keller** on 20 Nov 2009, 2:23 p.m.,*
in response to message #17 by Vieira, Luiz C. (Brazil)

I already thought about storing pictures there. Technically this should not be a problem, but time-wise I have to delay these project to end of December. I'm just too busy now. Angel already has my mail address. Contact me and we can work out the details.

Cheers, Juergen

You have mail, too!! 8^) (N.T.)

*Message #19 Posted by **Vieira, Luiz C. (Brazil)** on 20 Nov 2009, 2:37 p.m.,*
in response to message #18 by Juergen Keller

...

Re: HP41 ROM module versions: anyone?

*Message #20 Posted by **Doug** on 7 Dec 2009, 7:40 a.m.,*
in response to message #2 by Ángel Martin

I don't see Luiz preocupation with copyright, i have been writing roms for years all copyrighted to me but always give them away for free because there is no money in this endevor, we just crazy love it! Thus free unless money involved.

Edited: 7 Dec 2009, 7:42 a.m.

Re: HP41 ROM module versions: anyone?

*Message #21 Posted by **Vieira, Luiz C. (Brazil)** on 7 Dec 2009, 11:28 a.m.,*
in response to message #20 by Doug

Hi, Doug;

thanks again for your thoughts! I also believe that after 30 years, being worried about copyrights over a 30YO development is almost (if not total) nonsense. Anyway, who knows what goes on someone else's mind...

My worries go to the possibility of someone tells that this or that ROM images should not be publicly available and then take legal actions. Not that it would be harmful, only boring... and time wasting.

And, o'course, I also crazy love the HP41 and related stuff!

Thanks!

Luiz (Brazil)

Re: HP41 ROM module versions: anyone?

*Message #22 Posted by **Doug** on 7 Dec 2009, 11:42 p.m.,*
in response to message #20 by Doug

I did not start this thread. Dave? Also, have you noticed Warrens contribution to .rom docs? It is pretty grand plan to document 41c.

Edited: 7 Dec 2009, 11:51 p.m.

Re: HP41 ROM module versions: anyone?

*Message #23 Posted by **Vieira, Luiz C. (Brazil)** on 8 Dec 2009, 1:07 a.m.,*
in response to message #22 by Doug

Hi, Doug;

I started this post some days ago, and now it is in the archives, so it has been broken. Never mind. And yep, W. Furlow has written very good stuff, indeed.

My idea is just to locate and put together all possible/available ROM images from HP41 modules and allow them to be downloaded freely (that´s why I was concerned about copyrights). A timeline may arise from this, and also many research material. Although it is a 35 YO technology, it still has its many possibilities. Ángel Martin rewrote his own 4K-wide 41Z a couple of months ago and added many extra functionalities plus an improved 4-level complex stack. Now we count on a new 8K-wide 41Z ROM image. I still have one idea or two about MCoded ROM modules, but I need to study a bit more so I can show some results prior to ask for help too soon.

If we only could bag all HP41's known and publicly available ROM's I believe we'd actually bag a hole chapter in technology history.

Cheers.

Luiz (Brazil)

Edited: 8 Dec 2009, 1:10 a.m.

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HP Forum Archive 19

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Heft

*Message #1 Posted by **Palmer O. Hanson, Jr.** on 18 Nov 2009, 10:06 p.m.*

I have been working with Joerg Woerner on an SR-52 issue and visited the SR-52 site in his DataMath Museum. Among other things I found statements such as

> Quote:
>
> If you call the SR-52 a pocket calculator you need really huge pockets.
>
> By the way, the SR-52 was the thickest calculator ever with a whooping 1.8".
>
> If you are interested in "huge pocket calculators" you should view the Canon Palmtronic F-7.

While looking through my collection for other large pocket calculators I stumbled on the the Sanyo ICC 807D which has about the same volume as the SR-52 but which feels much heavier in my hand. There have been frequent threads in this forum discussing things such as form factors, how the calculator feels in one's hand, etc., but I don't recall any that addressed the density of the calculator which is, I think, what heft is all about. So here is my challenge:

The Sanyo ICC 807D has a weight of about 15 ounces and a volume of about 23 cubic inches yielding a density of about 0.652 ounces per cubic inch. Does anyone know of a more dense handheld calculator?

Later in this thread Katie noted that my weight seemed low and asked if my unit had batteries installed. Oops!

Edited: 20 Nov 2009, 1:02 a.m. after one or more responses were posted

Re: Heft

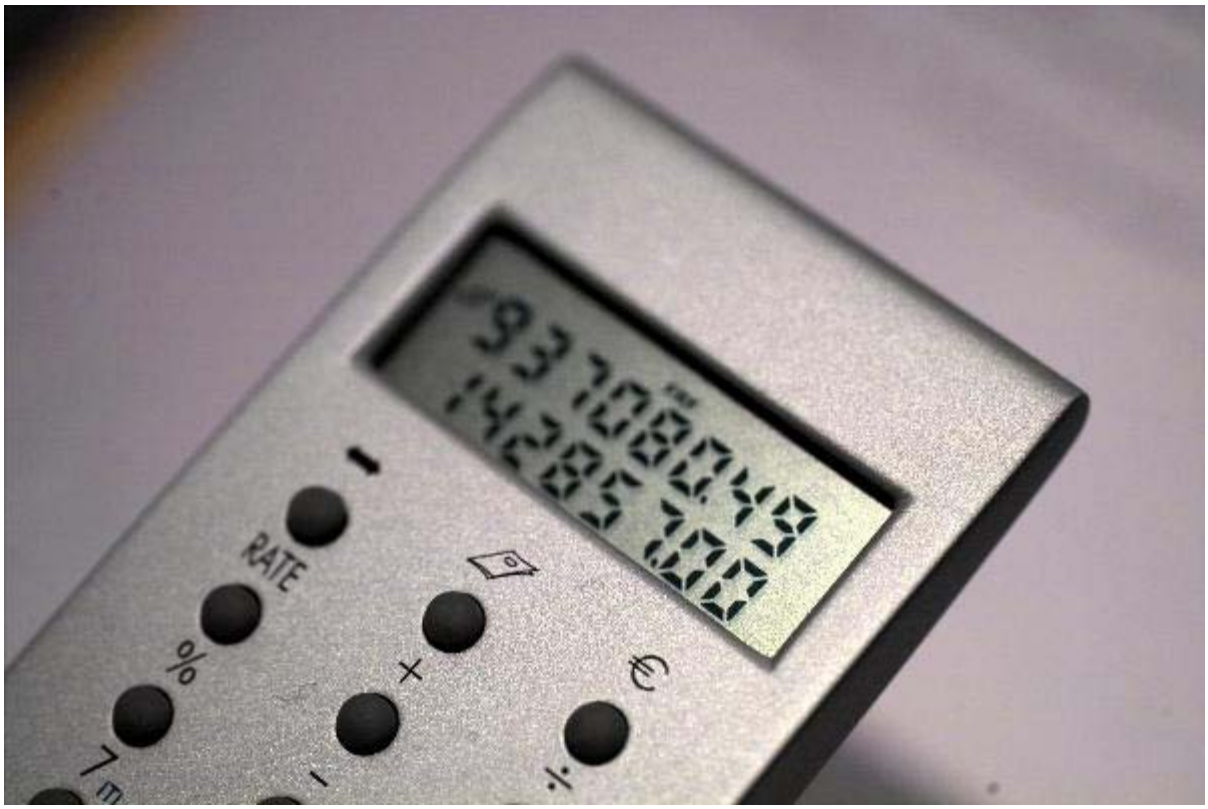
*Message #2 Posted by **Maximilian Hohmann** on 19 Nov 2009, 2:25 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

Good morning!

> Quote:
>
> Does anyone know of a more dense handheld calculator?

I have no scales and rulers that measure in "oz." an "in." (and have so far been unable to figure out how the "units" function of the HP48 works), therefore I cannot provide any numbers for comparison, but I can offer a few candidates.

This little no-name titanium coloured currency converter must be the most dense calculator in my collection:



Subjectively, it feels like a piece of matter ejected from a neutron star. Mass and dimensions (the thickness is difficult to measure because it has an airfoil shape) are 200g 11,5 x 4,7 x 0,8 cm^3. This results in a density of 4,65 g/cm^3 which is almost equal to that of the titanium that it mimicks.

Two other calculators with above-average density are the Aristo M27 (one of my three top favorites, it is bareley larger than the five AA batteries that it holds and feels very solid, but figures from the internet give a density of only 1,5 g/cm^3) and the silver-plated Sinclair Sovereign.

And the most likely candidate from HP would be the HP-01 although I do not want to immerge mine in water to determine its volume.

Greetings, Max

Re: Heft

*Message #3 Posted by **Bart (UK)** on 19 Nov 2009, 4:59 a.m.,*
in response to message #2 by Maximilian Hohmann

Hi Max,

> Quote:
>
> I have no scales and rulers that measure in "oz." an "in." (and have so far been unable to figure out how the "units" function of the HP48 works), therefore I cannot provide any numbers for comparison, but I can offer a few candidates.

The HP48G does not have density conversion (that I can find anyway). However, it has mass & volume conversions: 1 oz = 28.3495 g and 1 in^3 = 16.387 cm^3.
this gives a conversion of 1 oz/in^3 = 1.73 g/cm^3.

As you have given many measurements in g/cm^3 it is easier to convert Palmer's 1 measurement:

0.652 oz/in^3 = 1.128 g/cm^3

Re: Heft

*Message #4 Posted by **Thomas Radtke** on 19 Nov 2009, 5:23 a.m.,*
in response to message #2 by Maximilian Hohmann

left shift UNITS > CONV or UBASE

The 48 does a great job here.

Re: Heft

*Message #5 Posted by **George Bailey (Bedford Falls)** on 19 Nov 2009, 10:42 a.m.,*
in response to message #2 by Maximilian Hohmann

> Quote:
>
> And the most likely candidate from HP would be the HP-01 although I do not want to immerge mine in water to determine its volume.

Put it in oil then ;-)

I have approximated density of a metal slide rule ;-) and the Casio fx-190 (a ruler shaped programmable) and both only go up to 1.9g/cm^3 and 1.6 g/cm^3 respectively.

Re: Heft

*Message #6 Posted by **Palmer O. Hanson, Jr.** on 20 Nov 2009, 1:15 a.m.,*
in response to message #5 by George Bailey (Bedford Falls)

> Quote:
>
> I have approximated density of a metal slide rule ;-) and the Casio fx-190 (a ruler shaped programmable) and both only go up to 1.9g/cm^3 and 1.6 g/cm^3 respectively.

If we go past metal slide rules to mechanical calculators I note that the Friden's we used in the early sixties really had a lot of heft -- backbreaking, if you had to move them -- but of course no one considered them to be portable.

A fairly heavy portable calculator is the Addometer made by the Reliable Typewriter and Adding machine Co. and that was for onnly addition and subtraction. One of my three has the right hand wheel working with eighths not tenths.

Re: Heft

*Message #7 Posted by **Charles Oxford** on 19 Nov 2009, 11:06 p.m.,*
in response to message #2 by Maximilian Hohmann

I don't see a difference between "density" and volume/weight.

Being of low math status would someone kindly explain?

Thanks

Charlie - Phoenix,AZ USA

Re: Heft

*Message #8 Posted by **John B. Smitherman** on 19 Nov 2009, 11:57 p.m.,*
in response to message #7 by Charles Oxford

Hi Charlie. Density = mass / volume. I hope that this helps.

Regards,

John

Re: Heft

*Message #9 Posted by **Katie Wasserman** on 19 Nov 2009, 3:31 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

The ICC-807D and it's identical cousin the ICC-810 sure have a lot of heft. Although I haven't calculated it, I'll bet that the Sinclair Sovereigns come close in density. The Canon Pocketronic is no slouch in this area either. If you want to talk "big" and "heavy" battery powered monsters (no pocket I know will hold them) what about all the Compucorp/Monroe 300 series beasts. I think that the only possible candidate from HP would be the '01' watch.

-Katie

Re: Heft

*Message #10 Posted by **Maximilian Hohmann** on 19 Nov 2009, 3:53 a.m.,*
in response to message #9 by Katie Wasserman

Hi!

I'm on standby today and have the time to take some measurements...

> Quote:
>
> I'll bet that the Sinclair Sovereigns come close in density.

Black Sovereign (unfortunately, I don't have a silver plated one (yet...)): mass=88g (with batteries), volume=62cm^3, density=1,41 g/cm^3

> Quote:
>
> If you want to talk "big" and "heavy" battery powered monsters (no pocket I know will hold them) what about all the Compucorp/Monroe 300 series beasts

Size and weight are misleading here: I just took the measurements of a Compucorp 324G Scientinst. Mass=1674g (including the four original NiCd D-size cells!), volume=1552cm^3, density=1,07g/cm^3. It almost swims on water!

So my heavy-metal calculator from the post above still "outperforms" the closest competitor by a factor of three.

Greetings, Max

Re: Heft

*Message #11 Posted by **Bart (UK)** on 19 Nov 2009, 5:38 a.m.,*
in response to message #10 by Maximilian Hohmann

So would density be the only measurement of "hefty"? A lead ingot of 8cmx3cmx3cm (~800g) could be described as hefty, but a small lead fishing weight (10 - 50g) probably not. So perhaps there's a minimum size and/or weight? Perhaps from "bigger than Voyager size" and "1/4 kg and up"? Max's titanium calculator being an exception, as although still less than half the weight of Palmer's Sanyo ICC 807D, the small size belies it's weight and will surprise many an unwary person picking it up for the first time!

Re: Heft

*Message #12 Posted by **Maximilian Hohmann** on 20 Nov 2009, 3:42 a.m.,*
in response to message #11 by Bart (UK)

Good morning!

> Quote:
>
> So would density be the only measurement of "hefty"?

Difficult to say (and even more difficult for me, because in german there is no exact translation for "hefty"). I think the whole topic is about subjective expectation based on experience. After years or decades of handling calculators, one expects a certain sensory feedback when touching/picking up such an object. A pleasant surprise, if it is "heftier" than expected and an unpleasant one, if it gives a "plasticky" sensation (like the awful HP Quick Calc that looks like a solid metal object, but feels like hollow plastic with a keyboard, that even Ti would be ashamed of...).

So probaly the objectively measurable physical property "density" comes closest to the subjective "heftiness". And as we have seen, calculators with a density of 0.652 ounces per cubic inch or about 1,5g/cm^3 (=1 1/2 times the density of water) produce a sensation of heftiness. Others like the Compucorpses are not very dense (they would float on salt water!), but they are heavy objects - heavy enough for the designers to have given them a carrying handle - and therefore also cosidered "hefty".

Greetings, Max

NB: If DaveJ follows this thread: I would very much wish that his uCalc be a "hefty" calculator :-)

NNB: Another candidate for the group of hefty calculators might be the Berkey Keystone 350 (I only got mine this week from "typenkorb" and have not taken measurements yet). It feels very hefty, probably due to the large voltage converter needed to drive the Panaplex display (ah! Panaplex - the best display ever made!).

Re: Heft

*Message #13 Posted by **Quan** on 19 Nov 2009, 8:45 a.m.,*
in response to message #10 by Maximilian Hohmann

So, does it mean that the calculation results from high desity calculators carry more weight than the low density calculators?

Only kidding :)

Re: Heft

*Message #14 Posted by **Katie Wasserman** on 19 Nov 2009, 10:47 a.m.,*
in response to message #10 by Maximilian Hohmann

Max,

I took some measurements too.....

> Quote:
>
> Black Sovereign (unfortunately, I don't have a silver plated one (yet...)): mass=88g (with batteries), volume=62cm^3, density=1,41 g/cm^3

The gold one weights in at 92.7 g batteries included and I measure it at 65 cm^3 --> a slightly different density of 1.426 g/cm^3

My Sanyo ICC-807D is 430cm^3 and weights 531g (18.7 oz are the batteries in yours Palmer?) --> 1.221g/cm^3

So the Sovereign is the winner.

-Katie

Re: Heft

*Message #15 Posted by **Palmer O. Hanson, Jr.** on 20 Nov 2009, 12:56 a.m.,*
in response to message #14 by Katie Wasserman

> Quote:
>
> My Sanyo ICC-807D is 430cm^3 and weights 531g (18.7 oz are the batteries in yours Palmer?) --> 1.221g/cm^3

Oops!

I don't have my collection here but my recollection is that the Cybernet 6PD has a lot of heft. But it has a printer. I have three of them but haven't been able to get one to work.

Re: Heft

*Message #16 Posted by **Hal Bitton in Boise** on 19 Nov 2009, 11:46 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

How about a 19C with a full roll of paper!!? :)

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Heft

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41Z Red Shift taking shape.

*Message #1 Posted by **Ángel Martin** on 18 Nov 2009, 1:31 a.m.*

After a few iterations on the same theme here's the alternative solution to the Complex Keyboard implementation for the 41Z module.

http://picasaweb.google.com/nowake92/V41#5404573563260808114

The "Z" key is the only function assigned from the 41Z module, leaving all other available for your favorite ones. So no more need to get in and out of USER mode to toggle between complex or real functions... This uses less memory and expedites the function access as well.

After it's pressed the display shows "CMP: Z_", and the keyboard is redefined to allow for the appropriate key to be pressed. Obvious mapping applies, like SIN will complete the prompt to "ZSIN", etc. Prompting functions will ask for the suffixes as appropriate, i.e. "ZRCL _ _".

Use the yellow shift to access shifted functions, like ASIN as follows: "Z", SHIFT, SIN.

Pressing "Z" twice will display "HYP Z_", to give you access to the complex hyperbolics - using SIN, COS, TAN and SHIFT appropriately. Watch the function name being built as you choose the keys...

The function name will be displayed upon key entry - and NULLed if the key is kept depressed over the time-out period.

The bitmap image will be included in the posted documentation at TOS in a few days.

Enjoy, ÁM

Edited: 20 Nov 2009, 8:35 a.m. after one or more responses were posted

Red Shift turning into Green!

*Message #2 Posted by **Ángel Martin** on 19 Nov 2009, 4:01 a.m.,*
in response to message #1 by Ángel Martin

This is what happens when a good idea gets in the hands of a great graphic designer :-)

HP-41Z Keyboard

Edited: 20 Nov 2009, 8:35 a.m. after one or more responses were posted

Re: Red Shift turning into Green!

*Message #3 Posted by **Garth Wilson** on 19 Nov 2009, 5:59 a.m.,*
in response to message #2 by Ángel Martin

I think my colorblind friends would have a hard time distinguishing the mustard color from light green. I wonder if blue would be better.

Re: Red Shift turning into Green!

*Message #4 Posted by **Ángel Martin** on 19 Nov 2009, 7:12 a.m.,*
in response to message #3 by Garth Wilson

Colorblindness is a serious handicap for calculator usage, no doubt about it - but this green is quite different from the original yellow-gold used on the 41.

I considered using light blue, but that's already taken by the alpha letters. One choice is to swap the green and the blue, will do it to sse the effect.

BTW, I can't get the imaged displayed on the message - I tried GIF and JPG formats, using the [image:] syntax guidelines but to no avail... any ideas?

Edited: 19 Nov 2009, 7:15 a.m.

Re: Red Shift turning into Green!

*Message #5 Posted by **Marcus von Cube, Germany** on 20 Nov 2009, 3:50 a.m.,*
in response to message #4 by Ángel Martin

The link in the image tag doesn't point to a proper graphic image. Put your file on a different platform and it will work.

Re: Red Shift turning into Green!

*Message #6 Posted by **Ángel Martin** on 20 Nov 2009, 8:25 a.m.,*
in response to message #5 by Marcus von Cube, Germany

Thanx, already fixed.-

Edited: 20 Nov 2009, 8:35 a.m.

Re: Red Shift turning into Green!

*Message #7 Posted by **Raymond Del Tondo** on 20 Nov 2009, 7:12 p.m.,*
in response to message #3 by Garth Wilson

After all the color is not really important, since you can derive the shift plane from the position

above the specific key, or, the other way round, pressing the one or other shift key always means the upper left _or_ upper right position above the key, respectively.

It's a similar thing with the key legend colors of the HP-48G series.
Many people complained they couldn't distinguish the colors
under certain conditions, which may be even true;-)

But, there's a relation behind the position of the key legends and the shift plane.
The left shift key relates to the key legends printed on the upper left of the key, or the menu mode where applicable.
The right shift key relates to the key legends printed on the upper right of the key, or choose/input form mode where applicable.

Not too difficult IMHO;-)

HTH

Raymond

Re: Red Shift turning into Green!

*Message #8 Posted by **Ángel Martin** on 21 Nov 2009, 2:12 a.m.,*
in response to message #7 by Raymond Del Tondo

Well said Raymond. It's hard to believe that with such a logical and simple scheme people found issues to complain about on the 48 series design, but I guess that's what people do best - finding issues LOL >)

Here on the 41Z there are a couple of compromises made, as the "Z" key isn't a real SHIFT function, but it doubles up as one. The guiding idea is that the 41Z uses the same keys as the " real" 41C, thus there's no real need to use the USER mode with multiple key assignments.

So on the 41Z keyboard, those keys without green shifted legend indicate the complex function is exactly the same as the real one. X=0? will invoke Z=0?, x=y? will call Z=W?, and so forth. Same with the "white legends" (on the key face) - which will call the complex counterpart function: SIN, COS, TAN, LN, LOG, SQRT, 1/x, x<>y, STO, RCL, ENTER^, etc.)

But it goes beyond that. For instance, pressing "Z" and any numeric key produces a complex number with the digit as real part and zero as imaginary. This is just a shortcut, and arguably not very useful (although it comes handy to do quick complex arithmetic) but it doesn't require any assignment on the digit keys, which remain used as real numbers if "Z" doesn't precede them.

The real missed opportunity is with the emulators, though. All these arrangements refer to the basic design, static on the physical machine - but on a modern emulator the key assignments (and the legends after pressing the "Z" key) should dynamically change, making absolutely obvious what functions are available when. Or maybe not, it's after all a matter of opinion :-)

Cheers, 'AM

PS, Here's the rub of a design exceeding its purpose: make the yellow SHIFT key turn green when presssed TWICE - as well as the shifted legends on all the other keys would change color and text ... so SHIFT-SHIFT means "Z". How's that for a complex keyboard? But IT WORKS!

Edited: 21 Nov 2009, 2:23 a.m.

Re: 41Z Red Shift taking shape.

*Message #9 Posted by **Garth Wilson** on 19 Nov 2009, 5:57 a.m.,*
in response to message #1 by Ángel Martin

This sounds great!

By any remote chance, would it also increase the number of user key assignment possibilities?

Re: 41Z Red Shift taking shape.

*Message #10 Posted by **Ángel Martin** on 19 Nov 2009, 7:14 a.m.,*
in response to message #9 by Garth Wilson

It does indeed: the "Z" key enables a second USER keyboard to all effects, so you can have all your normal key assignments undisturbed. That's exactly the beauty of this design :)

Re: 41Z Red Shift taking shape.

*Message #11 Posted by **Andrés C. Rodríguez (Argentina)** on 21 Nov 2009, 1:33 p.m.,*
in response to message #1 by Ángel Martin

Hi!

I suggest you to keep "red shift" red, as it allows for a wordplay for the doppler shift of light from stars, which helps to calculate their speed.

I'm far from being an astronomer, so please disregard missing details, the words "red shift" just rang a bell on me, and "green shift" don't. Blue shift (or violet shift) may be OK.

Just my 0.0002 $

Re: 41Z Red Shift taking shape.

*Message #12 Posted by **Ángel Martin** on 22 Nov 2009, 2:39 a.m.,*
in response to message #11 by Andrés C. Rodríguez (Argentina)

Hola Andrés, yes I´m aware of the Red Shift term as it´s used in astronomy (and other fields), and in fact it was a subliminal nod to that what made me use it initially ;-)

Unfortunately the red-over-black combination has a very poor contrast and becomes very hard to read, so I jettisoned the idea after a couple of initial attempts (I could read the ¨complaints¨ from a mile long...). I used green instead of blue to ¨respect¨ the blue alphabet on the Alpha keyboard, but I also think blue is a better fit for the ¨second shift¨ - maybe it´s all these years seeing the other models, although there must be a reason why they chose it to begin with.

So I´ll try the blue when I can get more ¨graphic designer¨time (she´s a very busy person). The alpha letters should be changed to another color for consistency sake, maybe green so effectivelt swapping the scheme.

Eventually we´ll call it the ¨Blue Shift¨, which also has connotations in jazz music (anyone out there also plays sax?)

Saludos, ÁM

Edited: 22 Nov 2009, 2:47 a.m.

Re: 41Z Red Shift taking shape.

*Message #13 Posted by **Doug** on 7 Dec 2009, 7:15 a.m.,*
in response to message #12 by Ángel Martin

Damn, i wish i could use the KB to make those astroflects over characters, how do you remember all those codes Angel? Doug

Re: 41Z Red Shift taking shape.

*Message #14 Posted by **Ángel Martin** on 23 Nov 2009, 11:53 a.m.,*
in response to message #11 by Andrés C. Rodríguez (Argentina)

The BLUE Shift is coming... stay tuned!

PS. Does that mean we're in a compressing universe?

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TI calculator collection

*Message #1 Posted by **Michael Meyer** on 17 Nov 2009, 4:28 p.m.*

Wannabe!!!

(For non-English speakers: wan·na·be also wan·na·bee (wn-b, wôn-) Informal n. 1. One who aspires to a role or position. 2. One who imitates the behavior, customs, or dress of an admired person or group. 3. A product designed to imitate the qualities or characteristics of something. adj. Wishing or aspiring to be; would-be.

http://online.wsj.com/article/SB125832581224549493.html#mod=todays_us_page_one

Re: TI calculator collection (Hacking)

*Message #2 Posted by **Paul Brogger** on 18 Nov 2009, 12:06 p.m.,*
in response to message #1 by Michael Meyer

The article's subject -- TI's angst over teenage hackers "repurposing" their TI-83's -- gives a good indication of how capable and well-supported is that platform for customization.

It would be great if HP supported enhancement of the HP-10bII (is that the new one with the reprogramming capability?) as well as TI has the TI-83/84. (Excepting TI's apps signature requirements, that is.)

Heck, I haven't paid any attention of late -- maybe HP *does* support development well?

Re: TI calculator collection (Hacking)

*Message #3 Posted by **Tim Wessman** on 18 Nov 2009, 12:33 p.m.,*
in response to message #2 by Paul Brogger

I think you mean the 20b.

You can download a toolchain, source, compiler and documentation for creating your own system on the 20b.

http://h20000.www2.hp.com/bizsupport/TechSupport/SoftwareDescription.jsp?lang=en&cc=us&prodTypeId=215348&prodSeriesId=3732534&prodNameId=3732535&swEnvOID=54&swLang=8&mode=2&taskId=135&swItem=ca-62901-2

TW

Re: TI calculator collection (apology)

*Message #4 Posted by **Michael Meyer** on 18 Nov 2009, 2:21 p.m.,*
in response to message #3 by Tim Wessman

Sorry... I hadn't even read the article when I posted the link... my bad. I was referring to a modern TI calculator collection as compared to a "real" collection of calculators.

I didn't mean to disparage their repurposing efforts.

BTW: Life is good today. Finally added an HP-10 to my collection.

Re: TI calculator collection (apology)

*Message #5 Posted by **bill platt** on 18 Nov 2009, 5:52 p.m.,*
in response to message #4 by Michael Meyer

No apology required. It was interesting and on topic anyway!

But where does this "my bad" expression come from, anyway? I see that more and more and it isn't coming from non-native writers--it seems to be a "thing."

Re: TI calculator collection (apology)

*Message #6 Posted by **Don Shepherd** on 18 Nov 2009, 6:01 p.m.,*
in response to message #5 by bill platt

Bill, that's been around for several years now. It's short for "am I bad!". One uses it after one has goofed up somehow. I personally don't like it, but many people use it.

Re: TI calculator collection (apology)
*Message #7 Posted by **DavidShenk** on 18 Nov 2009, 6:32 p.m.,*
in response to message #5 by bill platt

Apparently, the phrase has been around a while, but became popularized in the 1995 movie *Clueless* with Alicia Silverstone.

I must be clueless
*Message #8 Posted by **bill platt** on 18 Nov 2009, 6:43 p.m.,*
in response to message #7 by DavidShenk

I don't think I've seen that movie....

Silverstone...is she the one from "Married with Children?"

You don't have to answer. I am truly clueless:-)

Re: I must be clueless
*Message #9 Posted by **Vieira, Luiz C. (Brazil)** on 18 Nov 2009, 7:24 p.m.,*
in response to message #8 by bill platt

Hi, Bill;

The actress from Married with Children may be Applegate; Silverstone (Alicia) is probably well remembered from this movie or this other one.

Cheers.

Luiz (Brazil)

Edited: 18 Nov 2009, 7:25 p.m.

Re: I must be clueless
*Message #10 Posted by **bill platt** on 18 Nov 2009, 9:56 p.m.,*
in response to message #9 by Vieira, Luiz C. (Brazil)

APPLE GATE, SILVER STONE.

No wonder I got 'em confused. They are both compounds of good stuff with ordinary stuff:

Apple of mine eye Silver bells...

Re: I must be clueless
*Message #11 Posted by **Don Shepherd** on 18 Nov 2009, 7:57 p.m.,*
in response to message #8 by bill platt

Bill, anyone over the age of 50 is clueless these days. If you consider the first name Carly, who do you think of? Me, it's Carly Simon. My tutor students, it's "iCarly." This forum, I guess it's Ms. Fiorina.

Re: I must be clueless
*Message #12 Posted by **Michael Meyer** on 18 Nov 2009, 8:58 p.m.,*
in response to message #11 by Don Shepherd

Can you tell I have an 18-year-old daughter? I've "learned" all sorts of expressions.

Last weekend, I was visiting my son for the KU/Nebraska (American) football game. I asked some of his friends what they call students who work extra hard and even study ahead. They were unaware of any term for them! "Nerd" was the best they could do.

In "my day", those students were called "gunners". It was a very useful description, since I was competing with pre-med, and then other medical students. Sometimes, even I was a "gunner"....

Re: I must be clueless
*Message #13 Posted by **Mike Morrow** on 18 Nov 2009, 9:11 p.m.,*
in response to message #12 by Michael Meyer

I've never heard "gunner" used with that meaning. I was an EE undergrad from 1970 to 74, and an EE grad student in 1980. Maybe I predate that, or maybe it never was used at Georgia Tech.

Re: I must be clueless

*Message #14 Posted by **bill platt** on 18 Nov 2009, 9:54 p.m.,*
in response to message #13 by Mike Morrow

I've heard "gunner" for that.

And the participial phrase, "he's gunning for Summa Cum Laude" or such.

Re: I must be clueless

*Message #15 Posted by **Kiyoshi Akima** on 19 Nov 2009, 4:00 p.m.,*
in response to message #13 by Mike Morrow

When I was working with EEs they tended to divide themselves into two camps: analog or digital. Except for some of the older ones, who considered themselves either "Wave Heads" or "60-cycle Boys." And the latter was not a sexist term, since there were almost no female engineers back then.

One of the wave heads used to go around saying "All you need to be a digital engineer is two toes." I could never quite get him to understand that you only need one... toe.

Re: I must be clueless

*Message #16 Posted by **Palmer O. Hanson, Jr.** on 20 Nov 2009, 12:44 a.m.,*
in response to message #15 by Kiyoshi Akima

> Quote:
>
> When I was working with EEs they tended to divide themselves into two camps: analog or digital. Except for some of the older ones, who considered themselves either "Wave Heads" or "60-cycle Boys." And the latter was not a sexist term, since there were almost no female engineers back then..

I was an AeroE working with both analog and digital EE's. I grouped them all together as "twidgets".

Re: I must be clueless

*Message #17 Posted by **Don Shepherd** on 18 Nov 2009, 9:43 p.m.,*
in response to message #12 by Michael Meyer

Americans seem to go through phases where we seize upon certain words and use them to death. Two current examples: awesome and sweet.

Re: I must be clueless

*Message #18 Posted by **Martin Pinckney** on 18 Nov 2009, 10:01 p.m.,*
in response to message #17 by Don Shepherd

And usually what is being thusly described is neither truly awesome nor literally sweet.

Re: I must be clueless

*Message #19 Posted by **Don Shepherd** on 18 Nov 2009, 10:13 p.m.,*
in response to message #18 by Martin Pinckney

Right!

Of course, it's a generational thing. In my day, things were "far out" and "groovy." I'm sure my parents felt the same way about those words as I feel about awesome and sweet!

Re: I must be clueless

*Message #20 Posted by **Mike Morrow** on 18 Nov 2009, 10:26 p.m.,*
in response to message #19 by Don Shepherd

I hate "kewl".

Re: I must be clueless

*Message #21 Posted by **Chuck** on 18 Nov 2009, 11:09 p.m.,*
in response to message #19 by Don Shepherd

Growing up in the 60's and 70's everything was "far out". I hated it when mom would mock us and say "cool in". I can still hear her today. ;)

Re: I must be clueless

*Message #22 Posted by **Doug** on 7 Dec 2009, 8:19 a.m.,*
in response to message #21 by Chuck

odd, my mom thought "cool" was pretty cool in 1958, groovy was never cool but "surfs up" could survive for surfers and other idiots. We greesers in LA just did "runs" to parties at far reaches. difference between West and East coast kids.

Re: I must be clueless

*Message #23 Posted by **Gerry Schultz** on 7 Dec 2009, 4:43 p.m.,*
in response to message #22 by Doug

Am I missing something here? Did I drop into the middle of a conversation?

Re: I must be clueless

*Message #24 Posted by **Eric Smith** on 7 Dec 2009, 4:57 p.m.,*
in response to message #23 by Gerry Schultz

Cold are the hands of time that creep along relentlessly, destroying slowly but without pity that which yesterday was young. Alone our memories resist this disintegration and grow more lovely with the passing years.

Edited: 7 Dec 2009, 4:58 p.m.

Re: I must be clueless

*Message #25 Posted by **Doug** on 7 Dec 2009, 11:37 p.m.,*
in response to message #24 by Eric Smith

Thanks Eric Your prose is magnamous, yet this was a continuation of another thread, guess Dave wants to headline me although i did not start this clueless thread or make up it's title, yet it is appropo.

Re: I must be clueless

*Message #26 Posted by **Eric Smith** on 8 Dec 2009, 12:23 a.m.,*
in response to message #25 by Doug

Alas, I can't take credit for the prose. It's from the 1942 film "Palm Beach Story", written and directed by Preston Sturges, and considered to by one of the best of the classic screwball comedies. The line is uttered by the "Wienie King" (Robert Dudley), who immediately follows it with "Hah! That's hard to say with false teeth!"

Re: I must be clueless

*Message #27 Posted by **Vieira, Luiz C. (Brazil)** on 7 Dec 2009, 5:12 p.m.,*
in response to message #23 by Gerry Schultz

If you are a native English speaker and feels like this, guess what's going on our poor foreign, non-native English perceiving brain cells...

Luiz (somewhere else)

Re: I must be clueless

*Message #28 Posted by **Martin Pinckney** on 7 Dec 2009, 5:13 p.m.,*
in response to message #23 by Gerry Schultz

> Quote:
>
> Am I missing something here? Did I drop into the middle of a conversation?

I think so.

Re: I must be clueless

*Message #29 Posted by **John B. Smitherman** on 7 Dec 2009, 5:23 p.m.,*
in response to message #28 by Martin Pinckney

I believe that this is the continuation of a previous thread:

Link

John

Re: I must be clueless

*Message #30 Posted by **John Noble** on 19 Nov 2009, 12:43 a.m.,*
in response to message #17 by Don Shepherd

"Awesome" migrated from SoCal surfer slang to the mainstream at least 25 years ago, along with "gnarly", "tubular" (via Valley-speak, if memory serves), and a bunch of other fun words ("egregious" was a favorite for some reason).

If "awesome" is "new", you guys are older than I thought. :-)

Re: I must be clueless

*Message #31 Posted by **Michael Meyer** on 19 Nov 2009, 11:14 a.m.,*
in response to message #30 by John Noble

Most noticed last weekend while visiting college: "That's sick." (Meaning "great".) Was a bit confusing to me, but I get it now. "That calculator is sick!".... I don't think I'm going to use that one.

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Must be my lucky day.

*Message #1 Posted by **Stuart Sprott** on 17 Nov 2009, 5:44 a.m.*

I have owned a HP42 since 1990. Being a surveyor it has had some heavy use. It has never failed me.

Eventually I moved onto the HP48 and then progressed right up to the HP50. In the mean time the HP42 has always been a sort of reserve calculator. Now that I have a HP50, I find that it has been ages since I have used the HP42. In fact about 18 months. That is when I found that the batteries were flat.

I made a mental note to get batteries but being slack I did not follow up. To day I did get some batteries and installed them. Much to my surprise I found that all my old programs were still there!!!

So you can get lucky sometimes.

Re: Must be my lucky day.

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 17 Nov 2009, 5:57 a.m.,*
in response to message #1 by Stuart Sprott

Low power C-MOS RAM... World would be a sad place without them.

Cheers.

Luiz (Brazil)

HP-42S: "Glueck", dann "Unglueck/Pech".

*Message #3 Posted by **Karl Schneider** on 18 Nov 2009, 12:13 a.m.,*
in response to message #1 by Stuart Sprott

Glueck = Good Luck
Unglueck or Pech = Bad Luck (to varying degrees)

I've had the same situation twice recently, when switching on an HP-42S for the first time in many months.

The first one was a pre-1990 flat-display model showing a low-battery indicator, and retaining a fair amount of stored programming. I replaced all three cells quickly, knowing that some HP-42S have been known to lose contents of Continuous Memory during routine battery changes. All my CM was retained. It was the second successful battery replacement of that unit.

Then, one of my post-1990 recessed-display models would not even turn on after many months. It had many of the same stored programs, I believe. After quickly replacing the battery, no such luck: "Machine Reset" displayed upon power-up with the new battery, and all my CM was lost.

One can't let the battery get too discharged, or the capacitor that helps to retain CM will also get discharged.

Battery life can be extended on Pioneer-series models with time clocks (HP-17B, HP-17BII, HP-27S) by

putting them into "coma" mode when not in use, shutting off the clock: Turn off by simultaneously pressing the keys in the upper and lower right corner positions along with the on/off key in the lower left corner.

The HP-42S can also be put into coma mode, but I doubt that doing so has much effect.

The HP-41 tends to preserve CM well. If the battery is low ("BAT" indicator on), the CX/Time Module clock will not operate, and trying to do so will turn the unit off. However, the CM is fairly safe. Needless to say, electronic backup is possible with the HP-41.

-- KS

Edited: 18 Nov 2009, 1:13 a.m. after one or more responses were posted

Re: HP-42S: erst "Glück", dann "Pech".

*Message #4 Posted by **Walter B** on 18 Nov 2009, 12:44 a.m.,*
in response to message #3 by Karl Schneider

Karl,

I wouldn't call the second case an "Unglück" - that's a too big word IMHO for such a memory loss though it may have caused you a lot of work reentering these routines. But since you had them all documented properly, ... d;)

Re: HP-42S: erst "Glück", dann "Pech".

*Message #5 Posted by **Bart (UK)** on 18 Nov 2009, 7:17 a.m.,*
in response to message #4 by Walter B

From my Dutch background, I would have interpreted "Pech" as "bad luck" and "Unglück" more as "accident", i.e. something heavy fell on your 42S and destroyed it.

Edit: perhaps if one first connected a 4.5V source in parallel to the battery before removal. Terminals of Pioneers are reasonably accessible with small crocodile clips, I think.

Edited: 18 Nov 2009, 7:21 a.m.

Re: HP-42S: erst "Glück", dann "Pech".

*Message #6 Posted by **Thomas Radtke** on 18 Nov 2009, 7:22 a.m.,*
in response to message #5 by Bart (UK)

That's exactly how these terms are commonly used.

Re: HP-42S: erst "Glück", dann "Pech".

*Message #7 Posted by **Martin Pinckney** on 18 Nov 2009, 10:47 a.m.,*
in response to message #5 by Bart (UK)

> Quote:
>
> Terminals of Pioneers are reasonably accessible with small crocodile clips, I think.

This is amusing. Here in the US we call them "alligator clips". Stands to reason they would be

"crocodiles" everywhere else.

Re: HP-42S: erst "Glück", dann "Pech".

*Message #8 Posted by **Karl Schneider** on 19 Nov 2009, 9:42 p.m.,*
in response to message #4 by Walter B

> Quote:
>
> Karl,
>
> I wouldn't call the second case an "Unglück" - that's a too big word IMHO for such a memory loss though it may have caused you a lot of work reentering these routines. But since you had them all documented properly...

Hi, Walter --

Yes, there is indeed a difference in severity indicated by the two words, but I forgot offhand which was the 'minor setback' and which was the 'major misfortune'. 'Unglück' is too strong a word in this case. It's all coming back to me now...

I ought to back up the code to a Free42 *.raw file before I lose the program on the other HP-42S.

-- KS

Pech brings opportunity

*Message #9 Posted by **Bart (UK)** on 24 Nov 2009, 7:03 a.m.,*
in response to message #3 by Karl Schneider

I had Pech with my car today, it did not start due to a dead battery.

However, I had the opportunity to play with my recently TAS aquired 99p Casio fx-7000GB while on the bus. Entering the m-of-n reliability formula, I discovered it did not have nCr (or nPr) - no big problem as it does have x!. Even so, it is still faster than the 35s.

The advantage of the 35s though is high values of n. The fx-7000G is limited to n<=69 (as n! < 10e99). The 35s happily calculates ${}_{285}C_{283}$ (even though n>253 results in n! > 10e499).

Re: Pech brings opportunity

*Message #10 Posted by **Gerson W. Barbosa** on 24 Nov 2009, 7:46 a.m.,*
in response to message #9 by Bart (UK)

> Quote:
>
> The 35s happily calculates ${}_{285}C_{283}$ (even though n>253 results in n! > 10e499).

You can find RPN programs for combination and permutation in this old thread. Perhaps they can be converted to Casio fx-7000GB.

Re: nCr program for fx-7000G (GA/GB) (Corrected)

*Message #11 Posted by **Bart (UK)** on 24 Nov 2009, 5:42 p.m.,*
in response to message #10 by Gerson W. Barbosa

Hi Gerson,

Thanks for that link. I took Eamonn's (well commented) 31-line HP-25 program and converted it for the fx-7000G.

```
"N"?->N:"R"?->R
R<(N-R)=>R->X:(N-R)->X
1->D:1E-3->C
Lbl 1
X=0=>Goto 2
C*N->C:C/D->C
N-1->N:D+1->D
Dsz X:Goto 1
Lbl 2:C*1E3
```

I've tested it for a few datapoints (including C(90,7)) and it seems to give the correct answers.

EDIT:
Errata:

It seems that the comparison R<(N-R) doesn't work and (N-R) is always put to X. So I have modified it:

```
"N"?->N:"R"?->R
N-R->X:R<X=>R->X
1->D:1E-3->C
Lbl 1
X=0=>Goto 2
C*N->C:C/D->C
N-1->N:D+1->D
Dsz X:Goto 1
Lbl 2:C*1E3
```

This has also saved me 6 steps. Also I thank you all for thought provoking discussions.

Edited: 30 Nov 2009, 10:15 a.m. after one or more responses were posted

Re: nCr program - MCODE

*Message #12 Posted by **Ángel Martin** on 25 Nov 2009, 7:32 a.m.,*
in response to message #11 by Bart (UK)

Reading this tread I realized the same error was present in the MCODE function I wrote to calculate nCr on the 41 - so I corrected it, here's the code below in case you're interested.

The corrected code will be added to the SandMath_6 module.

Cheers, ÁM

```
092     "R"
003     "C"             nCr = PROD{(n-k)/(r-k)} ,
00E     "N"             k=0,1,…,(r-2),(r-1)
108     SETF 8          Ángel Martin
02B     JNC +05
092     "R"
010     "P"             nPr = PROD{n-k} ,
00E     "N"             k=0,1,…,(r-2),(r-1)
104     CLRF 8          Ángel Martin
04E     C=0 ALL
```

Must be my lucky day.

```
35C     PT= 12          builds "1" in C
050     LD@PT- 1
268     WRIT 9(Q)       initial product
0B8     READ 2(Y)       n
2EE     ?C#0 ALL        Carry set if NOT Zero
04B     JNC +09
10E     A=C ALL
0F8     READ 3(X)       r
351     ?NC XQ          (includes SETDEC)
050     ->14D4          [CHK_NO_S1]
088     SETF 5          Take Integer part
0ED     ?NC XQ
064     ->193B          [INTFRC]
2EE     ?C#0 ALL        Carry set if NOT Zero
30D     ?NC GO
062     ->18C3          [ERR0]
05E     C=0 MS          make it positive >0
0E8     WRIT 3(X)       r (integer, >0)
10E     A=C ALL         r
04E     C=0 ALL
2DC     PT= 13          Build "-1" in C
250     LD@PT- 9        -
050     LD@PT- 1        1
01D     ?NC XQ          Adds normalized A and C
060     ->1807          [AD2_10]
070     N=C ALL         (r-k), index counter
2BE     C=-C-1 MS       -(r-k)
3C4     ST=0            Clears Carry if set
128     WRIT 4(L)       -(r-k)
10E     A=C ALL         -(r-k)
0B8     READ 2(Y)       n
01D     ?NC XQ          Adds normalized A and C
060     ->1807          [AD2_10]
10C     ?FSET 8         skip if nPr case
063     JNC +12d
228     WRIT 8(P)       save [n-(r-k)] it in M
0F8     READ 3(X)       r
10E     A=C ALL
138     READ 4(L)       -(r-k)
01D     ?NC XQ          Adds normalized A and C
060     ->1807          [AD2_10]
10E     A=C ALL         r-(r-k)=k
238     READ 8(P)
0AE     A<>C ALL
261     ?NC XQ          Divides A over C
060     ->1898          [DV2_10]
10E     A=C ALL         n-[(r-k)-1]
278     READ 9(Q)       partial product PP
135     ?NC XQ          it *uses* M !!
060     ->184D          [MP2_10]
2F6     ?C#0 XS         See if we overflow?
289     ?C GO           "Out of Range"
003     ->00A2          [ERROF]
268     WRIT 9(Q)       PP*{n-[(r-k)-1)]}
0B0     C=N ALL         (r-k)-1
2EE     ?C#0 ALL
2D7     JC -38d         loop back
278     READ 9(Q)
0EE     B<>C ALL        final solution
391     ?NC GO          (REQUIRES Value in B)
002     ->00E4          [DROPST]
```

Edited: 26 Nov 2009, 1:29 a.m. after one or more responses were posted

Re: nCr program

*Message #13 Posted by **Vieira, Luiz C. (Brazil)** on 25 Nov 2009, 10:26 a.m.,*
in response to message #12 by Ángel Martin

Hi, Ángel;

I did not check for this, so I decided to ask first: can this code replace current SandMath-5 nCr code, I mean, enough room and compatible structure? This way, updating current

SandMath-5 would be possible... or not?

Thanks.

Luiz (Brazil)

Re: nCr program

*Message #14 Posted by **Ángel Martin** on 25 Nov 2009, 2:32 p.m.,*
in response to message #13 by Vieira, Luiz C. (Brazil)

Hi Luiz,

Yep, same place, same FAT entry, and compatible with everything else in the module. In fact, this rewrite has one less word of code so we also gained some space :)

It wasn't too difficult, I guess I lucked out this time...

Best wishes, AM

Re: nCr program

*Message #15 Posted by **Vieira, Luiz C. (Brazil)** on 25 Nov 2009, 2:46 p.m.,*
in response to message #14 by Ángel Martin

OK, Thanks!

I'll update mine and save it with a different revision code (next letter in the current version)... If you have a different code for it, please, let me know.

That´s the first ROM image I update myself! <=^) (and another one to the collection)

Cheers!

Luiz (Brazil)

Edited: 25 Nov 2009, 3:05 p.m.

Re: nCr program

*Message #16 Posted by **Bart (UK)** on 25 Nov 2009, 6:39 p.m.,*
in response to message #12 by Ángel Martin

Ángel,

Thank you for sharing your code. Unfortunately I am not a 41-er or MCODE-er, but I see the Museum CD has "M-Code for beginners" book on it. Your code has both nCr and nPr with error trapping, so I may well come back to this in the future.

Regards,
Bart

Re: nCr program - MCODE

*Message #17 Posted by **Karl Schneider** on 27 Nov 2009, 5:23 a.m.,*
in response to message #12 by Ángel Martin

Hi, Angel --

I've been interested in your HP-41 Sandbox product, but never took the initiative.

Combination and permutation (nCr, nPr) are a good illustation of all that goes into a rigorous implementation of a straightforward calculation:

1. Check that both n and r are verifiable non-negative integers
2. Check that n >= r
3. Design the algorithm such that any answer within the range of displayable values (inlcuding exponents) will be provided.
4. Overflow results should be identified as quickly as possible.

I can't interpret your MCODE comments well enough to tell if the program will compute combination (nCr) by the shortest method possible -- namely, using the greater of r or (n-r) to cancel the largest number of multiplicands within n!.

Example:

```
10C7 =  10! / [7!(10-7)!]    7 > 10-7, so
     =  (10*9*8) / (3*2*1)   using 7! for cancellation
     =  10/3 * 9/2 * 8/1
     =  120


        Longer way, using 3! for cancellation:


     =  (10*9*8*7*6*5*4) / (7*6*5*4*3*2*1)
     =  10/7 * 9/6 * 8/5 * 7/4 * 6/3 * 5/2 * 4/1
     =  120


10C2 =  10! / [2!(10-2)!]    10-2 > 2, so
     =  10*9 / 2*1           using 8! for cancellation
     =  10/2 * 9/1
     =  72
```

The chain of multiplication should proceed right-to-left, with the largest quotients, so that overflow conditions are identified sooner.

HP calc's take this approach, I believe, because statistical combination or n and r always seems to take longest when r = n/2 -- doesn't matter whether r! or (n-r)! is used for cancellation, so more quotients are multiplied than if r is near either zero or n.

-- KS

Edited: 27 Nov 2009, 6:09 a.m.

Re: nCr program - MCODE

*Message #18 Posted by **Marcus von Cube, Germany** on 27 Nov 2009, 10:05 a.m.,*
in response to message #17 by Karl Schneider

Karl, since we know that nCr and nPr are integers, it seems like a good idea to round the result to the nearest integer at the end of the calculation. Through the divides, rounding errors might have crept in.

Re: nCr program - MCODE

*Message #19 Posted by **Ángel Martin** on 27 Nov 2009, 10:22 a.m.,*
in response to message #17 by Karl Schneider

Hi Karl, glad to see you posting on this topic.

Good points indeed about the rigor that should be used when writing this type of functions, be that MCODE or not. It's just good programming practices (GPP) but frequently get overlooked or abandoned for different reasons (not enough available space, being tricky or simply lazyness).

I have made a few improvements to the posted code that didn't get done precisely for lack of space. The SandMath is packed to its seams so I had to re-arrange some blocks to make it fit.

It now *uses the minimum of {r, {n-r}} to expedite the calculation time*. It also checks that n>r, and that neither one of them is zero. This last requirement is admitedly not universally accepted but I decided to do it this way to follow a more purist approach. Finally, The program would take the integer parts, and will force them to be positive.

The "Out of Range" condition is checked at every multiplication, so it's determined as soon as possible. The algorithm works within the nummeric range of the 41. (like it'll calculate 335C167 without problems). The chain of multiplication proceeds right-to-left, with the largest quotients first.

I'm not doing any rounding as I'm not completely in agreement with such an action - probably my own apprehension but I'm yet to find any result with fractional part.

Will post the listing in a new article in the corresponding section of this forum.

Best wishes, ÁM

Edited: 27 Nov 2009, 11:00 a.m.

Re: nCr program - MCODE

*Message #20 Posted by **Marcus von Cube, Germany** on 27 Nov 2009, 11:42 a.m.,*
in response to message #19 by Ángel Martin

> Quote:
>
> I'm not doing any rounding as I'm not completely in agreement with such an action - probably my own apprehension but I'm yet to find any result with fractional part.

What about C(7,3) = (7/1) * (6/2) * (5/3) ?

On my 15C, I get 35.00000001 as a result. The built-in function returns 35 as an integer.

Re: nCr program - MCODE

*Message #21 Posted by **Ángel Martin** on 27 Nov 2009, 4:12 p.m.,*
in response to message #20 by Marcus von Cube, Germany

Heres's straight (copy - pasted) from my V41:

35,00000000

my MCODE function calculates it as:

5/1 * 6/2 * 7/3

Cheers, AM

Edited: 27 Nov 2009, 4:23 p.m.

Re: nCr program - MCODE

*Message #22 Posted by **Marcus von Cube, Germany** on 28 Nov 2009, 4:22 a.m.,*
in response to message #21 by Ángel Martin

AM, you're lucky. :) It depends on the arrangement of the numbers. I'm pretty sure there will be combinations that lead to non integer results.

Re: nCr program - MCODE

*Message #23 Posted by **Ángel Martin** on 28 Nov 2009, 8:01 a.m.,*
in response to message #22 by Marcus von Cube, Germany

You're quite right Marcus... here's one that suffers from the non-integer illness:

C(33,7)=4.272.047,999

whereas the result should be of course 4.272.048,00

So I guess some rounding is in order after all?

Always fascinating this calculator world...

Re: nCr program - MCODE

*Message #24 Posted by **Marcus von Cube, Germany** on 28 Nov 2009, 8:06 a.m.,*
in response to message #23 by Ángel Martin

I'm asking myself what will happen for larger results? Due to the limited precision there might creep in quite reasonable errors. Have you (or anybody else) checked with a symbolic calc like the 50g? This cannot be overcome with rounding to the next integer because these errors might occur at numbers >= 10^10.

Re: nCr program - MCODE

*Message #25 Posted by **David Hayden** on 28 Nov 2009, 12:33 p.m.,*
in response to message #23 by Ángel Martin

> Quote:
>
> You're quite right Marcus... here's one that suffers from

> the non-integer illness:
>
> C(33,7)=4.272.047,999
>
> whereas the result should be of course 4.272.048,00
>
> So I guess some rounding is in order after all?
>
> Always fascinating this calculator world...

You can avoid the rounding error by doing two multiplications before you start dividing. So C(33,7) is computed as:
27*28/2*29/3*30/4*31/5*32/6*33/7

where the operations are performed from left to right. The result of each step is guaranteed to be an integer (I think!). You start by multiplying two consecutive integers k*(k+1). One of these is odd, so dividing by 2 gives an integer. Multiply again by (k+2) and you're guaranteed to now have a factor of 3 in the numerator, etc.

Re: nCr program - MCODE

*Message #26 Posted by **Marcus von Cube, Germany** on 28 Nov 2009, 12:57 p.m.,*
in response to message #25 by David Hayden

Looks like a perfect solution to me. What about the huge number accuracy issue? Any ideas?

Re: nCr program - MCODE

*Message #27 Posted by **Ángel Martin** on 28 Nov 2009, 1:05 p.m.,*
in response to message #25 by David Hayden

Good lateral thinking (actually not so lateral but very much to the point). I'm however weary of the prime numbers in the sequence, won't that throw the whole idea to the drawing board again?

Maybe my intuition isn't what it should though...

Re: nCr program - MCODE

*Message #28 Posted by **David Hayden** on 28 Nov 2009, 1:30 p.m.,*
in response to message #27 by Ángel Martin

> Quote:
>
> Good lateral thinking (actually not so lateral but very much to the point). I'm however weary of the prime numbers in the sequence, won't that throw the whole idea to the drawing board again?
>
> Maybe my intuition isn't what it should though...

I think it's still okay. Basically it computes C(28,2), then C(29,3) then C(30,4) ... to C(33,7). Each of these is an integer and since each one results from a single multiplication followed by a division, the results must be integral also.

Not exactly a PhD proof I suppose.... :)

Dave

Re: nCr program - MCODE

*Message #29 Posted by **Egan Ford** on 28 Nov 2009, 3:04 p.m., in response to message #27 by Ángel Martin*

> Quote:
>
> Maybe my intuition isn't what it should though...

This may or may not help. But...

Take, say, 7 consecutive integers. Now take the set of all integers. Since every 7th integer is divisible by 7, and every 6th by 6, etc..., then if you have 7 consecutive integers then somewhere you overlap with the sequence of one in every 7 numbers. Same for 6, 5, etc...

E.g. take the sequence:

29, 30, 31

Two prime numbers. Based on the argument above at least one of the three must be divisible by 2. Same for the number 3. In this case its 30 for both.

As you continue to multiply the next number in the sequence you can be certain that the product will be divisible by the number of elements in your sequence, e.g.:

29, 30, 31, 32

4 must divide one of them. 32 in this case.

29, 30, 31, 32, 33

5 must divide one of them. Again 30.

It gets interesting with the 6th number:

29, 30, 31, 32, 33, 34

6 must divide one of them. Again 30, but 30 is all used up with 2*3*5. No worries. 1 divides 29, 2 divides 32, 3 divides 33, 4 divides 32, 5 divides 30, 6 divides 30. As you continue to multiply numbers you gain more factors and once multiplied

you lose any memory of what number provided what factor.

Edited: 28 Nov 2009, 3:23 p.m.

Re: nCr program - MCODE

*Message #30 Posted by **Werner** on 29 Nov 2009, 7:39 a.m.,*
in response to message #23 by Ángel Martin

```
I'm totally unfamiliar with MCODE, but I think your code
performs the division, then the multiplication.
If you were to calculate C(33,7) as
33/1*32/2*31/3*30/4*29/5*28/6*27/7,
all intermediate results are integers (and they would
always be, except when they grow larger than 1e13)


A link somewhere above lead to an RPN program I posted
for the 41,
that will return integer results if the result < 1e10
(without the need to rounding),
and will not overflow if the final result < 1e99 even if
an intermediate result is larger,
as is the case with C(336,168).  That trick is probably
not necessary in MCODE.


01*LBL"COMB"
02 ST- Y
03 X>Y?
04 X<>Y
05 +
06 1 E-3
07 ST* L
08 X<>Y
09 ISG L
10 X=0?
11 GTO 00
12*LBL 02
13 ST* Y
14 LASTX
15 INT
16 ST/ Z
17 RDN
18 DSE X
19 ISG L
20 GTO 02
21*LBL 00
22 RDN
23 1 E3
24 *
25 END
```

OT: fx-7000G (was: nCr program)

*Message #31 Posted by **Vieira, Luiz C. (Brazil)** on 25 Nov 2009, 10:22 a.m.,*
in response to message #11 by Bart (UK)

Hi, Bart;

could not help noticing you mentioned the FX-7000G. I was lucky enough buying an FX-7000GA about five years ago, and I still have no complete information about it, just bits and pieces. Do you know if there is any on-line information about it (manuals, guides, any) I can download? I found a custom manual in French some years ago, but I would like to know if there is anything else.

Thanks.

Luiz (Brazil)

Re: OT: fx-7000G (was: nCr program)

*Message #32 Posted by **Didier Lachieze** on 25 Nov 2009, 11:06 a.m.,*
in response to message #31 by Vieira, Luiz C. (Brazil)

Hi Luiz, take a look here: Casio FX-7000GA user manual

Re: OT: fx-7000G (was: nCr program)

*Message #33 Posted by **Vieira, Luiz C. (Brazil)** on 25 Nov 2009, 1:45 p.m.,*
in response to message #32 by Didier Lachieze

Thanks, Didier;

It´s been downloaded at this very moment.

Cheers!

Luiz (Brazil)

Re: OT: fx-7000G (was: nCr program)

*Message #34 Posted by **Bart (UK)** on 25 Nov 2009, 12:05 p.m.,*
in response to message #31 by Vieira, Luiz C. (Brazil)

Hi Luiz,

Hugh also has it available on his site, here .

Regards,
Bart

Re: OT: fx-7000G (was: nCr program)

*Message #35 Posted by **Vieira, Luiz C. (Brazil)** on 25 Nov 2009, 1:47 p.m.,*
in response to message #34 by Bart (UK)

Thanks, Bart;

I appreciate it! I´ll keep both links as a reference.

Cheers.

Luiz (Brazil)

Didier & Bart: Thanks! (fx-7000G)

*Message #36 Posted by **Vieira, Luiz C. (Brazil)** on 25 Nov 2009, 8:36 p.m.,*
in response to message #31 by Vieira, Luiz C. (Brazil)

Guys;

that´s the manual I was searching for (although I was not aware of its existence...)

Thank you!

Luiz (Brazil)

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HP Forum Archive 19

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Hoping my 41CX Found a good home

*Message #1 Posted by **Norman Dziedzic** on 16 Nov 2009, 9:59 p.m.*

I think it was about 10 years ago, after serving me well through college and grad school, I auctioned my 41CX thinking not much of it.

Shortly thereafter, I realized I could not live without RPN and bought a 32SII on auction and a manual for it.

Now years later after playing with some online emulators I get a 35s and have the hp bug again. Kicking myself for selling the 41CX. I had a Memory Card, the Math/Stat Card, the original box and even the receipt from the original computer nerd store (at least around Chicago): Elek-Tek. Everything in Mint condition.

I nearly hit a co-worker when he casually told me his sister lent him a 15C and he lost it. <ARGH!>

Glad I found this site and some others to bring back the memories and hoping my old 41CX is in a good spot.

nOrM

Re: Hoping my 41CX Found a good home

*Message #2 Posted by **Martin Pinckney** on 16 Nov 2009, 10:11 p.m.,*
in response to message #1 by Norman Dziedzic

Well, just get another one.

Re: Hoping my 41CX Found a good home

*Message #3 Posted by **Norman Dziedzic** on 16 Nov 2009, 11:37 p.m.,*
in response to message #2 by Martin Pinckney

Not sure I could afford it back now ;-)... and it wouldn't be "mine."

I'm starting out asking friends for unused hp calculators to see what I get. Maybe pick up some of the currently available models that are more affordable.

Re: Hoping my 41CX Found a good home

*Message #4 Posted by **Egan Ford** on 17 Nov 2009, 2:04 a.m.,*
in response to message #3 by Norman Dziedzic

There are some great 41CX emulators for phones, PDAs, and computers. I know its not the same as touching an actual 41CX. But its still a 41CX and they usually come with all the modules.

Re: Hoping my 41CX Found a good home

*Message #5 Posted by **Dan W** on 18 Nov 2009, 6:43 p.m.,*
in response to message #4 by Egan Ford

Do you have a record of the serial number? Who knows, maybe someone here has it.

Re: Hoping my 41CX Found a good home

*Message #6 Posted by **Norman Dziedzic** on 19 Nov 2009, 7:32 p.m.,*
in response to message #5 by Dan W

That was sort of my hope.

Alas, I do not have the serial number. I do remember I included the Sales Receipt from Elek-Tek in the box when I shipped it (not sure if I mentioned that in the auction or not).

I'm slowly starting my own collection with more affordable and recent models. So far I have 32SII, 35s, 38g, as well as a 12c and 10BII on the way.

My luckiest find so far is a friend overseas with a 42s sitting a drawer that he didn't want and will ship to me without cost. He will be getting some Chicago professional Sports Team wear for him and his kids :-).

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For those that did the NIST tour at HHC2009

*Message #1 Posted by **BruceH** on 16 Nov 2009, 6:58 p.m.*

http://www.theregister.co.uk/2009/11/16/quantum_processor/

Re: For those that did the NIST tour at HHC2009

*Message #2 Posted by **hugh steers** on 16 Nov 2009, 7:42 p.m.,*
in response to message #1 by BruceH

2 qubits and still only 79% accurate. hmm.

Re: For those that did the NIST tour at HHC2009

*Message #3 Posted by **BruceH** on 17 Nov 2009, 5:23 p.m.,*
in response to message #2 by hugh steers

> Quote:
>
> 2 qubits and still only 79% accurate. hmm.

It just needs connecting-up to a fresh cup of really hot tea.

Re: For those that did the NIST tour at HHC2009

*Message #4 Posted by **Tim Wessman** on 17 Nov 2009, 6:18 p.m.,*
in response to message #3 by BruceH

Out of cheese error?

TW

Re: For those that did the NIST tour at HHC2009

*Message #5 Posted by **Eric Smith** on 17 Nov 2009, 6:53 p.m.,*
in response to message #4 by Tim Wessman

Everyone knows the moon is made of cheese...

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Pioneer series internal photo (17BII, 27S, 42S)

*Message #1 Posted by **Lyuka** on 16 Nov 2009, 3:56 p.m.*

Hi, there.

Just now, I repaired my 42S which had dead '+' key by transplanting the membrane switch from broken 17BII.

Some photo had been taken while repairing. Please take a look on

HP-42S membrane switch transplantation and also HP Pioneer series calculator internals

Regards,
Lyuka

Re: Pioneer series internal photo (17BII, 27S, 42S)

*Message #2 Posted by **geoff quickfall** on 16 Nov 2009, 4:59 p.m.,*
in response to message #1 by Lyuka

Absolutely fantastic!

How did you restore the bond now that the heat stakes were cut. Glue, screws, ...

Thanks, Geoff

Re: Pioneer series internal photo (17BII, 27S, 42S)

*Message #3 Posted by **Lyuka** on 16 Nov 2009, 5:17 p.m.,*
in response to message #2 by geoff quickfall

Geoff

I used a 15W miniature soldering iron to re-melt the heat stakes, though there may be a better method.

Regards, Lyuka

Re: Pioneer series internal photo (17BII, 27S, 42S)

*Message #4 Posted by **Nacho** on 16 Nov 2009, 5:46 p.m.,*
in response to message #3 by Lyuka

Hello Lyuka,

very nice pics!

I had a trouble with a very bad 32SII 3 years ago and I went that way (disassembling all the Keyboard) I did it very careful...

But after that the 32SII never worked OK again...

Regards!

Nacho

Re: Pioneer series internal photo (17BII, 27S, 42S)

*Message #5 Posted by **geoff quickfall** on 16 Nov 2009, 6:26 p.m.,*
in response to message #3 by Lyuka

I should have included that option! It is the one I use the most, sometimes adding a lump of donor plastic.

I also filed my iron to a fine point with a convex shape to push the melted rivet up and out.

Cheers, Geoff

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[OT] A couple Casio "Slim" calcs available (for RPN apps)

*Message #1 Posted by **Matt Kernal** on 16 Nov 2009, 3:36 p.m.*

This is an FYI post, so please take it for what its worth (or not). :-) I have nothing to gain from this financially, or otherwise.

I was intrigued with last week's thread "Is the HP33S the only game in town", in which the Casio FX-9860G Slim calculators came up again. Between the good endorsements (fast, nice display, etc..) and Hugh and Nigel's RPN implementations (Reckon, CasioRPN), I thought it was time to find one for myself for the RPN fun of it.

After seeing them go for around $100 at Amazon, Walmart, etc.. I end up at the the "auction sight". It turns out there is a guy in Indiana, a machinist by trade, that writes and sells Casio FX-7400G calcs with his own preloaded Machine Shop Calculations program(s). Apparently, he's tried out his programs on the hi-end FX-9860G and Slim models and for whatever reason, decided against going that direction.

So.. he has a couple Slim models available for $65 and an "upright" FX-9860G for $55. All are Buy-It-Now sales including shipping (inside the US). The downfall is none include manuals or USB cables, so it makes for a so-so deal overall.

I am expecting mine to arrive in a couple days, so I can't say yet if it is really in "like new" condition. But if you want to take a chance on a Slim model, look for "fx-9860", leaving off the "G" suffix.

<We now return you to your regular scheduled programs>.

Re: [OT] A couple Casio "Slim" calcs available (for RPN apps)

*Message #2 Posted by **Bruce Bergman** on 17 Nov 2009, 1:52 p.m.,*
in response to message #1 by Matt Kernal

Geeks (wwww.geeks.com) occasionally has them for about $50-$60, new in box. You just have to check their site frequently. Once they get up there, they only last for a few days or a week at most.

Great calc, BTW.

thanks, bruce

Re: [OT] A couple Casio "Slim" calcs available (for RPN apps)

*Message #3 Posted by **Matt Kernal** on 17 Nov 2009, 5:23 p.m.,*
in response to message #2 by Bruce Bergman

Yeah, a couple days ago, I clicked on their "Alert Me" icon to notify me when they are in stock again (but I couldn't wait :-).

Did you update your Slim OS from ver. 1.xx to 2? Version 2 for the Slim isn't available from Casio any more, but luckily Hugh put a copy of it on his voidware site. Apparently, it brings it up to fx-9860GII level, less the "surds" functionality. If you need surds, I've also read there is modded version of the

9860GII OS that will install on the Slim, but you'll give up the Slim's Help functionality (maybe because the 9860GII doesn't have Help?).

Back in June, Katie posted here about updating the OS to 2.00, but I'm not sure which version she used.

If you update to ver. 2, I understand you then need to also use their ver. 2 FA-124 PC comm. software.

The important thing for me is to install install one/both of the RPN apps :-)

Re: [OT] A couple Casio "Slim" calcs available (for RPN apps)

*Message #4 Posted by **Katie Wasserman** on 17 Nov 2009, 5:34 p.m.,*
in response to message #3 by Matt Kernal

> Quote:
>
> Back in June, Katie posted here about updating the OS to 2.00, but I'm not sure which version she used.

Casio had the upgrade to version 2.00 for the "slim" model on their website for free download. Some weeks later they changed their mind and took it off. 2.00 runs considerably slower than version 1.xx but adds a lot of functionality like: complex valued matrices and strings.

For reference, here's Casio's Upgrade Site

-Katie

Re: [OT] A couple Casio "Slim" calcs available (for RPN apps)

*Message #5 Posted by **John B. Smitherman** on 17 Nov 2009, 9:25 p.m.,*
in response to message #4 by Katie Wasserman

Having worked around software developers you should probably wait for version 2.03 ;-)

Regards,

John

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HP 42s Stack Save/Restore Tool

*Message #1 Posted by **Dave Britten** on 16 Nov 2009, 1:51 p.m.*

After using 42s on my iPod for a while now, I was getting sick of having to code stack save/restore routines at the beginning and end of every program. So I decided to do something about it!

http://dave.brittens.org/HP42s/StackSave.html

Without repeating myself too much, there are two programs: SAVE and RESTORE. You only have to set a few options before calling either. For example, suppose I were writing a program to calculate a logarithm to any base, which uses two values from the stack and returns one. (An overly simple, contrived example, I know.) At the beginning of the program, I would do this:

```
"LOG"
CF 91
CF 92
XEQ "SAVE"
```

Then at the end of the program, these steps:

```
2
STO "_A"
RDown
1
STO "_O"
RDOWN
"LOG"
CF 91
XEQ "RESTORE"
```

The result would be the T and Z registers from before the program was run being rolled down to Z and Y, with the T register being copied as is the norm for built in functions.

There are some run-time options to control the number of arguments your program takes from the stack, the number of outputs it returns, how to deal with LAST X, and whether or not to save and restore REGS.

Anyway, try it out, see if you can break it, and hopefully my quick and dirty writeup will make a little bit of sense. :)

-Dave

Re: HP 42s Stack Save/Restore Tool

*Message #2 Posted by **Byron Foster** on 17 Nov 2009, 11:39 p.m.,*
in response to message #1 by Dave Britten

> Quote:
>
> After using 42s on my iPod for a while now, I was getting sick of having to code stack save/restore routines at the beginning and end of every program. So I decided to do something about it!

The next feature to implement in the 42s is Undo and Redo. Will probably be out in time for a stocking stuffer.

However, the functionality is not the same as your program, so may not provide the same utility.

Re: HP 42s Stack Save/Restore Tool

*Message #3 Posted by **Dave Britten** on 18 Nov 2009, 9:26 a.m.,*
in response to message #2 by Byron Foster

Very cool. I've always liked the Last Stack/Undo feature on the 48. It comes in quite handy when I fat-finger something during a lengthy calculation!

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41 MCODE: RCL Math Summarized

*Message #1 Posted by **Ángel Martin** on 16 Nov 2009, 3:56 a.m.*

Greetings

Just to let you know that the RCL extensions are complete now, and implemented in the SandMath module (where else...)

Here's a recap of the extended functionality:

1. RCL Math operation includes +, -, *, /, and ^(Power)
2. Operation can be changed during data entry (i.e. change from + to *)
3. Can revert to standard RCL (no math) by pressing the radix key
4. Supports RUN and PRGM modes (suffix is taken from next prgm line)
5. Supports INDirect addressing (RUN mode only)
6. Supports field lengh extender (EEX key) for register over 99 (RUN mode only)
7. Supports shortcut access for address 01 to 10 (top two rows, A-J)
8. Allows NULLing the entry if the last key is kept depressed over the time-out period - same as standard functions.

All in all an interesting usage of partial data entry routines, and a few of other mainframe routines to make the operation intuitive and friendly to use.

Hope you enjoy it as much as I do...

Best, ÁM

Re: 41 MCODE: RCL Math Summarized

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 16 Nov 2009, 4:13 a.m.,*
in response to message #1 by Ángel Martin

Ola, Ángel; ¿que tal?

Congratulations again! You are doing so many things with MCode and I can only envy you... 8^) the best possible, if any! Wishing you always the best achievements, my friend!

Just to ask: although obvious, based on all of your previous publications 'where' we all know it happens, will you also disclose the blueprints with these new implementations? In time: is it still being called SandMath5 or was it re-baptized?

Thanks for sharing your MCode with us.

Cheers.

Luiz (Brazil)

Re: 41 MCODE: RCL Math Summarized

*Message #3 Posted by **Ángel Martin** on 16 Nov 2009, 4:17 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Howdy Luiz, thanks for your kind feedback :).

I think I should rev the module to keep a clean tab of which version has what. So SandMath_5.5 it will be.

And sure enough I'll include the commented source code - believe me, I have no intention to keep it to myself after all the pain to get it done!

Best, Ángel

Re: 41 MCODE: RCL Math Summarized

*Message #4 Posted by **Massimo Gnerucci (Italy)** on 16 Nov 2009, 1:16 p.m.,*
in response to message #1 by Ángel Martin

Thanks for all your excellent work Ángel!

Greetings,
Massimo

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An idea for repairing Spice series machines with keyboard problems

*Message #1 Posted by **Lincoln R.** on 14 Nov 2009, 11:24 p.m.*

I have an idea on how to solve the issue of erratic behavior and keys not working on the Spice series calcuators. To me it seems the problem with these older solderless models is that the foam between the keyboard PCB and the metal plate is getting old and flattening out, not making good contact between the 2 layers. It might be possible to get rid of this sticky foam, using some kind of adhesive remover, and replace it with a sheet of rubber, maybe adhesive stuff like the bottom foot on the new HP-35s. This wouldn't flatten out as badly as the foam would, and if it was the correct thickness, should give the pressure needed to make good contact.

I'll try this out on my spotty 33E and let people know how it works out.

I tried something else...

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 15 Nov 2009, 5:32 a.m.,*
in response to message #1 by Lincoln R.

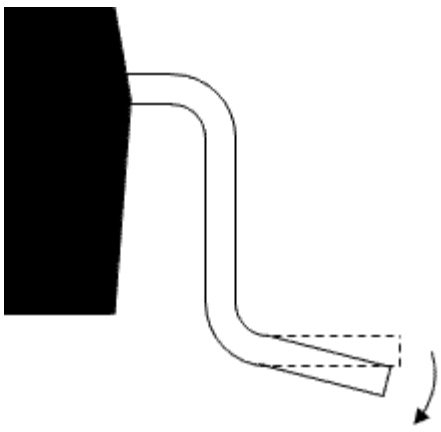
... and had some good results.

Hi, Lincoln;

because of both the HP38C and the HP34C, I devoted some time trying to maintain Spices the best way possible. I have some solderless and other soldered units, and all of the solderless have bad contact in the LED display from time to time.

I once reasoned about the three following procedures which significantly reduced bad contact behavior in the IC´s. In fact, I never saw 'Pr Error' anymore since then.

- polish the contacts of the flex circuit - I use metal polisher and a cotton swab;
- apply a thin coat of any micro oil over the contacts - I use a very thin coat of WD40 spread with a clean cotton swab; it does not avoid the IC´s terminals to touch the surface of the flex circuit and also protects the remaining surface of the tracks against oxidation (not highly efficient, just a reasonable protection)
- slightly bent the tip of the IC´s terminals; look at the drawing below.



With these three basic procedures you may achieve so many good results you´ll probably not need to replace the foam. My four solderless Spices work pretty fine, but sometimes one segment or a whole digit misses. I simply tap it gently in my hand sideways and up/downways and it gets back to normal. The LED display contacts are in the edge and I also slightly bent them, one in the opposed direction of the other (as experts do with saw teeth).

Hope this helps.

Success!

Luiz (Brazil)

Re: An idea for repairing Spice series machines with keyboard problems

*Message #3 Posted by **Randy** on 15 Nov 2009, 10:12 a.m.,*
in response to message #1 by Lincoln R.

The foam is one aspect of the problem, a bigger one is the oxidation of the IC leads from battery outgassing.

So I clean the leads of the IC's and LED array then solder the thing together. End of all problems.

Until the keyboard starts to fail... which it will with continued use.

Re: An idea for repairing Spice series machines with keyboard problems

*Message #4 Posted by **Lincoln R.** on 15 Nov 2009, 11:11 a.m.,*
in response to message #3 by Randy

Ah, OK. Yeah, this entire thing got blasted with Deoxit when I got it, which probably took care of the IC lead corrosion, as well as fixing the problem with some of the LEDs being dim.

Re: An idea for repairing Spice series machines with keyboard problems

*Message #5 Posted by **geoff quickfall** on 15 Nov 2009, 6:50 p.m.,*
in response to message #4 by Lincoln R.

Hello Lincoln,

Sometimes the oxidation actually affects the metal contacts. That is, it is not always a residue that prevents contact but also a surface oxidation of the metal on the contact.

This may require a mechanical removal. Using a fiber glass pen has always worked. It is a mild abrasive, that is very controlable, vis-a-vis how much surface you would like to remove. A clean with denatured alcohol and brush and away you go.

I have restored 6 spice versions this way, all solderless and with depressed foam. The same technique has resurected strange LED dropouts and displays.

Cheers, Geoff

Re: An idea for repairing Spice series machines with keyboard problems

*Message #6 Posted by **Randy** on 15 Nov 2009, 6:51 p.m.,*
in response to message #4 by Lincoln R.

DeOxit: Best thing you can do for a Spice. Great stuff that really works.

WD40: Worst thing you can do for anything calculator related. The only thing it does well is to displace water. Every other aspect of the stuff is a disaster. Had a 42S once that got wet... rather than just take the batteries out and let it dry for a day, the owner sprayed WD40 into the keyboard. End of story and no, it was not a happy ending.

Re: An idea for repairing Spice series machines with keyboard problems

*Message #7 Posted by **Paul Dale** on 15 Nov 2009, 7:07 p.m.,*
in response to message #6 by Randy

I agree WD40 should never ever ever be used for anything. If you think you should use some, don't. Wretched stuff.

Well, it is good for its intended purpose but nobody uses it for just that.

- Pauli

Re: An idea for repairing Spice series machines with keyboard problems

*Message #8 Posted by **Randy** on 15 Nov 2009, 7:11 p.m.,*
in response to message #7 by Paul Dale

Tony Duell refers to the stuff as Wanton Destruction 40...

Re: An idea for repairing Spice series machines with keyboard problems

*Message #9 Posted by **Paul Dale** on 15 Nov 2009, 7:13 p.m.,*
in response to message #8 by Randy

Yeah, I've seen lots of mechanical things utter ruined by this stuff. Vile stuff. I never really though about using it on electrical stuff but I'm sure it would ruin that as well.

- Pauli

Re: An idea for repairing Spice series machines with keyboard problems

*Message #10 Posted by **Paul Dale** on 15 Nov 2009, 7:12 p.m.,*
in response to message #6 by Randy

> Quote:
>
> DeOxit: Best thing you can do for a Spice. Great stuff that really works.

Never heard of this stuff. How do you use it on a Spice keyboard?

- Pauli

Re: An idea for repairing Spice series machines with keyboard problems

*Message #11 Posted by **Randy** on 15 Nov 2009, 7:38 p.m.,*
in response to message #10 by Paul Dale

Remove the IC's from the unit and soak overnight in a puddle of the stuff, it dissolves the oxidation. Reassemble.

Caig Website

PS: I initially thought the stuff was right up there with snake oil. I was wrong, it really does work. That's not to say I agree with all the claims they make but it does play well with calculators.

Edited: 15 Nov 2009, 7:42 p.m.

Re: An idea for repairing Spice series machines with keyboard problems

*Message #12 Posted by **Paul Dale** on 15 Nov 2009, 7:46 p.m.,*
in response to message #11 by Randy

Thanks for that Randy. I didn't realise you were talking about the chips not the keyboard.

- Pauli

Re: An idea for repairing Spice series machines with keyboard problems

*Message #13 Posted by **Randy** on 15 Nov 2009, 8:22 p.m.,*
in response to message #12 by Paul Dale

I misunderstood... sorry. Not much you can do for a plastic dome Spice keyboard that is intermittent. The problem is always a cracked metal trace that runs through the flex dome. With use, they fracture. Not something that is repairable.

This is why HP later redesigned the Spice keyboard with the metal snap dome design of the 41 - as it was a known reliability problem.

Re: An idea for repairing Spice series machines with keyboard problems

*Message #14 Posted by **Michael de Estrada** on 16 Nov 2009, 1:02 p.m.,*
in response to message #11 by Randy

I have been using white distilled vinegar to disolve the green crud. It seems to work very well and not damage the circuit board or ICs. Does this stuff work better/safer/cleaner?

Re: An idea for repairing Spice series machines with keyboard problems

*Message #15 Posted by **Randy** on 16 Nov 2009, 4:51 p.m.,*
in response to message #14 by Michael de Estrada

The only difference would be that it would not oxidize solder the way vinegar does. Oh, one other difference, a 25 ml bottle costs about $35 US...

Re: An idea for repairing Spice series machines with keyboard problems

*Message #16 Posted by **geoff quickfall** on 15 Nov 2009, 9:28 p.m.,*
in response to message #6 by Randy

YEP

WD-40, only good for displacing water! Had a friend "oil" a 200 year old Georgian Bracket clock with it! It stopped 5 days later. $560 dollars later I had it running.

DeOxit, must try it, does it preclude a mechanical cleaning and how harsh is it on the traces?

Cheers, Geoff

WD-40 in small (a drop) amounts is great for volume control knobs in vintage transistor radios though. Stops all scratchy volumes dead, a real fix!

Re: An idea for repairing Spice series machines with keyboard problems

*Message #17 Posted by **Randy** on 16 Nov 2009, 7:32 a.m.,*
in response to message #16 by geoff quickfall

DeOxit attacks oxidation. It's plastic safe and non-hazardous, non-flammable. Among other things, it's very good at dissolving/softening green corrosion on classic battery contacts without resorting to abrasion.

Re: An idea for repairing Spice series machines with keyboard problems

*Message #18 Posted by **geoff quickfall** on 16 Nov 2009, 12:32 p.m.,*
in response to message #17 by Randy

Thanks Randy,

I shall pick some up.

Geoff

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New (Cheap!) Voyager Emulators For iPhone

*Message #1 Posted by **Anders Peterson** on 14 Nov 2009, 9:22 p.m.*

I just found a newly released 15c emulator, called RPN-15C, in the appstore. The previously available ones seemed nice, but I was waiting for RLM's simulator to come out. However, when I saw this one and its 4 dollar price tag, I had to download it.

I don't have either of the other iPhone 15c emulators, so I can't compare, but this app works great (key clicks even work on my 1st gen iPod Touch). It has a semi-classic skin (with some additions like visible stack and portrait version), and a fully customizable skin as well.

My biggest complaint would be that the keys are somewhat small and that can't be customized. There are also some small cosmetic flaws, like a couple of the gold-shifted labels run down over the top of the key which looks weird.

The same company, ameloconsulting, also has released versions of the 11c, 12c, and 16c, all between 2 and 4 dollars US. Worth checking out in my opinion.

Re: New (Cheap!) Voyager Emulators For iPhone

*Message #2 Posted by **Egan Ford** on 14 Nov 2009, 11:59 p.m.,*
in response to message #1 by Anders Peterson

> Quote:
>
> My biggest complaint would be that the keys are somewhat small and that can't be customized. There are also some small cosmetic flaws, like a couple of the gold-shifted labels run down over the top of the key which looks weird.

Click on the medallion. Click "User Defined". Click the right arrow next to User Defined. Use the slider to increase the size of the keys.

I find SCI-15C a bit more snappy and accurate with the keys. I keep missing 'g'. However I like all the features of RPN-15C. E.g. the stack view and the portrait view.

Re: New (Cheap!) Voyager Emulators For iPhone

*Message #3 Posted by **Anders Peterson** on 15 Nov 2009, 12:08 a.m.,*
in response to message #2 by Egan Ford

> Quote:
>
> Click on the medallion. Click "User Defined". Click the right arrow next to User Defined. Use the slider to increase the size of the keys.

Thank you. I completely missed that.

I also just discovered there is also some sort of a macro function. Seems like overkill on an already programmable calculator, but I haven't tried it out yet.

Re: New (Cheap!) Voyager Emulators For iPhone

*Message #4 Posted by **Anders Peterson** on 15 Nov 2009, 3:45 p.m.,*
in response to message #1 by Anders Peterson

Just another note of interest. It appears that this company has one more trick up their sleeves. Their 11c, 12c, 15c, and 16c emulators are out, but there is one app still awaiting approval, an app that combines all four emulators into one!

Here is the website: http://sites.google.com/site/ameloconsulting/

Re: New (Cheap!) Voyager Emulators For iPhone

*Message #5 Posted by **Nigel Bamber** on 17 Nov 2009, 5:11 p.m.,*
in response to message #4 by Anders Peterson

Just downloaded the 15c from the App store to my Itouch whilst flying 30000 ft in the air on a Delta flight. Technology is amazing these days.

Seems a cool implementation. I like the portrait view as well as the fact you can customise the colours of the keyboard AND it's cheap . Still to try out the macro feature.

Nigel (posted from the clouds) !

Re: New (Cheap!) Voyager Emulators For iPhone

*Message #6 Posted by **Anders Peterson** on 17 Nov 2009, 5:58 p.m.,*
in response to message #5 by Nigel Bamber

There is a bug with the programming and macros. If you use STO in either of them, it will result in an Error 3 being returned from all registers from 1 to .0. I contacted the developer, and he said that he believes it should be an easy. Apparently, it is only present in the 15c emulator.

Anyway, I am otherwise really enjoying the app.

UPDATE:

I just heard from the developer. He has found and fixed the bug, and will be submitting an update to Apple shortly.

Edited: 18 Nov 2009, 8:24 a.m.

Re: New (Cheap!) Voyager Emulators For iPhone

*Message #7 Posted by **Anders Peterson** on 17 Nov 2009, 6:00 p.m.,*
in response to message #5 by Nigel Bamber

The macro function is great by the way. It works exactly like the programming, except it is much easier to read the lines of symbols and numbers rather than keycodes. Plus you can give your macros actual alphanumeric names.

Re: New (Cheap!) Voyager Emulators For iPhone

*Message #8 Posted by **Dave Britten** on 23 Nov 2009, 3:05 p.m.,*
in response to message #4 by Anders Peterson

ClassicRPN is available as of today. Curiously, the price of the individual simulators has increased a few dollars. However, at $9.99, ClassicRPN is still cheaper than all four individual simulators' original prices combined.

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uCalc

*Message #1 Posted by **DaveJ** on 14 Nov 2009, 6:19 p.m.*

I thought I'd start a new thread on this design. So those who don't want to talk about credit card calc design, please ignore.

Two basic design options are presenting themselves:

1) Less powerful design (say PIC18) with high contrast 8 digit 14 segment LCD display window 45mm x 8mm. Thickness can be no less than 4mm.

2) More powerful design (say PIC24 or PIC32) with lower contrast 35mm x 9mm 128x32 dot matrix display window. This would allow 4 lines of 16 characters with an 8x8 font. Bigger fronts are of course possible to compensate for the lower contrast. This is the same display as for the uWatch MK2. Thickness can be no less than 3mm. More expensive by at least $10 in parts cost.

Both designs would be standard credit card dimensions, entirely solar powered (need to get samples and test, but looks possible), possibly have super cap power backup, a standard ICSP programming header on the edge, and a Micro SD card is also possible. And other edge mounted stuff is also possible, like a rocker switch, IR LED etc.

Micro USB connector is only possible on the 4mm 14sgement LCD design.

I see backlight as being pointless on both.

Either design could of course have a powerful processor and Micro SD card etc, but I think all that power is kinda pointless on the limited 8 digit 14segment display design.

Either design can have either a membrane overlay or capacitive touch sense keypad. As many keys as can fit.

The membrane option adds some thickness due to the material and the domes (say 0.5mm minimum), but is possibly much cheaper once NRE is taken out, and people could in theory design their own own to have whatever key overlay they like (it just sticks on the panel).

The cap touch sense is the thinnest option, and no NRE for the overlay. But it does use more power (likely not an issue), and would not have any tactile or key "feel". A flat stick-on adhesive graphic overlay would be an option, allowing users to add their own stick-on custom overlay.

So, a few questions:
1) Who would buy such a thing? (cost say $60-70 approx)
2) What display/thickness option and why?

My initial thought is that thickness should be the main criteria, as much as I love high contrast 7 segment displays. So the more expensive 128x32 dot matrix and cap touch panel seems the best option.

Case is entirely resin fibreglass with a choice of funky colours top/bottom.

I've got all the parts bar the solar cell and am getting rather excited! :->

Discussion please...

Dave.

Edited: 14 Nov 2009, 6:31 p.m.

Re: uCalc

*Message #2 Posted by **Eric Smith** on 14 Nov 2009, 6:53 p.m.,*
in response to message #1 by DaveJ

What is the thickness (3mm or 4mm) you are describing? Surely not the thickness of the entire watch?

I'd buy either one, but I think I'd rather have the dot matrix display and more powerful processor. On the other hand, I do also want the USB interface. Why can't the micro-USB connector be put on the dot matrix version? If that would make it slightly larger (in any dimension), I think I'd still want it.

Re: uCalc

*Message #3 Posted by **DaveJ** on 15 Nov 2009, 2:58 a.m.,*
in response to message #2 by Eric Smith

> Quote:
>
> What is the thickness (3mm or 4mm) you are describing? Surely not the thickness of the entire watch?

Yes, it's the thickness of the entire calculator, no protruding bits. It's not a calc watch, it's a credit card calculator, two different projects.

[quote] I'd buy either one, but I think I'd rather have the dot matrix display and more powerful processor. On the other hand, I do also want the USB interface. Why can't the micro-USB connector be put on the dot matrix version? If that would make it slightly larger (in any dimension), I think I'd still want it. /quote]

The Micro USB connector could be added to the 3mm dot matrix version, but it would require a rather ugly cut-out, and not sandwiched neatly between the top and bottom panels.
The dot matrix version could of course be thicker to accommodate just the USB connector. But given that this is a credit card calc, you have to weight up the trade-off.

Dave.

Re: uCalc

*Message #4 Posted by **Eric Smith** on 15 Nov 2009, 1:19 p.m.,*
in response to message #3 by DaveJ

Rather than adding a micro-USB connector, just put four conductive pads at one corner, and route out a slot, so that the corner of the calculator plugs into a USB connector (on a USB extension cable) directly. Some thin "USB key" flash memory devices work this way. 3-4mm may be too thin, though.

Re: uCalc

*Message #5 Posted by **DaveJ** on 15 Nov 2009, 2:56 p.m.,*
in response to message #4 by Eric Smith

> Quote:

> Rather than adding a micro-USB connector, just put four conductive pads at one corner, and route out a slot, so that the corner of the calculator plugs into a USB connector (on a USB extension cable) directly. Some thin "USB key" flash memory devices work this way. 3-4mm may be too thin, though.

Ah, neat idea!

Dave.

Re: uCalc

*Message #6 Posted by **Katie Wasserman** on 14 Nov 2009, 7:08 p.m.,*
in response to message #1 by DaveJ

I'm sure I'm in the minority here, but I'd much prefer the higher contrast larger digit display. I don't really want to play chess on a calculator just calculate (and maybe program) so all those pixels and higher speed aren't needed. Besides

> Quote:
>
> 35mm x 9mm 128x32

means each pixel is roughly 270um square (40% smaller than the uWatch LCD) you're going to need a magnifying glass -- if not a microscope -- to play chess on this display.

4mm would make it about one half the thickness of the humble HP 6S solar -- which I think is the thinnest "HP labeled" calculator ever made. Not to mention the only solar powered one.

$60 would be a great price for this!

Re: uCalc

*Message #7 Posted by **DaveJ** on 15 Nov 2009, 3:29 a.m.,*
in response to message #6 by Katie Wasserman

> Quote:
>
> means each pixel is roughly 270um square (40% smaller than the uWatch LCD) you're going to need a magnifying glass -- if not a microscope -- to play chess on this display.

I've found another option, a 44mm x 12mm display window that has a 16 character x 2 line character based only display. Just like the uWatch, but only bigger. It is also only 2mm thick, so the 3mm calc is possible with this option.

Dave.

Edited: 15 Nov 2009, 3:41 a.m.

Re: uCalc

*Message #8 Posted by **Mike T.** on 15 Nov 2009, 6:05 p.m.,*
in response to message #7 by DaveJ

Prefer this option as this allows the X and Y reg to be displayed at the same time.

Any idea of the key layout - a credit card is a bit small for a voyager look alike!

Mike T.

Re: uCalc

*Message #9 Posted by **Paul Dale** on 14 Nov 2009, 7:51 p.m.,*
in response to message #1 by DaveJ

I'd buy either. Probably more than one.

I'm in a real bind over which I'd prefer. I view a credit card sized calculator as being something to carry around for spur of the moment calculations. It needs to be thin to fit comfortably into wallets etc. It will also need a decent display because these calculations get done in all manner of places & I like segmented displays. The more I think about this point the more I'm leaning towards the thinner with dot matrix display -- an eight digit display is pretty small after all. Still I like contrast.

Either CPU would be fine. I'm not going to be playing chess on it :-) Although it could be the first solar powered chess computer to my knowledge.

Much as I'd like a thinner keyboard, tactile response is more important to me. The power use is moot since there is no battery and the solar panel is adequate. However, I'm not super fussed over this point -- i.e. either is good.

I don't see a huge need for USB connectivity if a micro SD card is present. Without the card, then USB becomes important. So put in a micro SD card.

And RPN only ;-)

- Pauli

Re: uCalc

*Message #10 Posted by **DaveJ** on 15 Nov 2009, 3:07 a.m.,*
in response to message #9 by Paul Dale

> Quote:
>
> I'm in a real bind over which I'd prefer. I view a credit card sized calculator as being something to carry around for spur of the moment calculations. It needs to be thin to fit comfortably into wallets etc. It will also need a decent display because these calculations get done in all manner of places & I like segmented displays. The more I think about this point the more I'm leaning towards the thinner with dot matrix display -- an eight digit display is pretty small after all. Still I like contrast.

The dot matrix display can of course be turned into a large readable 8 digit display, it's a just a firmware thing.

The full 4 lines by 16 characters will be incredibly small, I've a got prototype running and you really have to concentrate to see it.

> Quote:
>
> I don't see a huge need for USB connectivity if a micro SD card is present. Without the card, then USB becomes important. So put in a micro SD card.

The USB is useful for firmware updates. Without a USB port, the user has to have a PICkit programmer to change the firmware.

You could you could have a Micro SD bootloader to do firmware updates from the SD card without the USB port, but I don't think Microchip provide such a thing, so it would have to be written.

Apart from firmware upgrade, I agree, I don't see the point is you have a Micro SD card.

> Quote:
>
> And RPN only ;-)

Not in any calc I design, I ain't no RPN fanboy, so you get selectable!
But of course it's open source, so do as you please :)

Dave.

Re: uCalc

*Message #11 Posted by **Paul Dale** on 15 Nov 2009, 4:09 a.m.,*
in response to message #10 by DaveJ

> Quote:
>
> Not in any calc I design, I ain't no RPN fanboy, so you get selectable!

Heathen! Just wait for the revolution ... you'll be lined up against the wall ...

Funnily enough when I started high school, the students were separated based on the language they had decided to study. Needless to say the teacher in charge of things said: *"All those studying Russian line up against the wall"*. Much merriment and mirth followed :-)

- Pauli

Re: uCalc

*Message #12 Posted by **DaveJ** on 15 Nov 2009, 8:08 p.m.,*
in response to message #11 by Paul Dale

> Quote:
>
> Heathen! Just wait for the revolution ... you'll be lined up against the wall ...

I prefer to start my own revolutions, it's much more fun being a heathen!

Dave.

Re: uCalc

*Message #13 Posted by **db (martinez, ca.)** on 14 Nov 2009, 8:46 p.m.,*
in response to message #1 by DaveJ

Dave;
*The 14 segment high contrast/larger display, dome keyboard, thicker but with usb for updates is my choice but

i'm just buying it - you're the one building it.
*I'd never want to put this in my wallet and sit on it. If it turns out to be possible; could you provide it with a lanyard hole for attachment to a key ring, a surveyor's vest, or necklace (RPN BLING!)?
*The price is ok as is the color choice. Put me in for a tie died one.

Re: uCalc

*Message #14 Posted by **DaveJ** on 15 Nov 2009, 3:18 a.m.,*
in response to message #13 by db (martinez, ca.)

> Quote:
>
> If it turns out to be possible; could you provide it with a lanyard hole for attachment to a key ring, a surveyor's vest, or necklace (RPN BLING!)

That's easy, consider it done!

Dave.

Re: uCalc

*Message #15 Posted by **Gerson W. Barbosa** on 14 Nov 2009, 9:31 p.m.,*
in response to message #1 by DaveJ

What I've always wanted is a credit card-sized RPN basic scientific calculator (no programmibility, no I/O). Something like that - except for the awful layout:

Solar-powered and high-contrast 7-segment display, as thin as possible.

Re: uCalc

*Message #16 Posted by **Paul Dale** on 14 Nov 2009, 9:51 p.m.,*
in response to message #15 by Gerson W. Barbosa

But with this design, there is no space for the solar cell :-(I also think there are too many keys for fat fingers to press.

BTW, the segmented display is 8 digits total & you're showing a ten digit number.

I think I've fully convinced myself that the dot matrix is the only way to go. I really don't think 8 digits is enough. Sign, two exponent digits and an exponent sign leaves four digits for the mantissa :-(

- Pauli

Re: uCalc

*Message #17 Posted by **Gerson W. Barbosa** on 15 Nov 2009, 9:29 a.m.,*
in response to message #16 by Paul Dale

> Quote:
>
> But with this design, there is no space for the solar cell :-(

This comes from my own RPN calculator, written in Delphi (don't need it anymore, as nice emulators/simulators became available). Of course, on the real thing the display need not be that wide.

> Quote:
>
> BTW, the segmented display is 8 digits total & you're showing a ten digit number.

I was thinking of a display capable of showing numbers like

$-1.234567890_{x10}{}^{-34}$

the **x10** annunciator and exponent digits being lit when needed. I am not sure whether such display is commercially available though. BTW, the 10-digit number I showed previously was carefully chosen: when divided by pi it is a near integer and each two-digit group is the number of a fine HP calculator, the HP-01 watch in the center :-)

Regards,

Gerson.

Edited: 15 Nov 2009, 9:49 a.m.

Re: uCalc

*Message #18 Posted by **Egan Ford** on 15 Nov 2009, 12:08 a.m.,*
in response to message #1 by DaveJ

> Quote:
>
> 2) More powerful design (say PIC24 or PIC32) with lower contrast 35mm x 9mm 128x32 dot matrix display window. This would allow 4 lines of 16 characters with an 8x8 font. Bigger fronts are of course possible to compensate for the lower contrast. This is the same display as for the uWatch MK2. Thickness can be no less than 3mm. More expensive by at least $10 in parts cost.

#2 would be more interesting and offer more flexibility. e.g. multiline stack, easier to program, etc... #1 is just an RPN version of many existing credit card calcs. I guess we all have different needs. I have a calc on my phone (many of them). I'm looking for a gadget--something to repurpose.

However...

If the layout is going to be a mini Voyager, well then #1.

> Quote:
>
> 1) Who would buy such a thing? (cost say $60-70 approx)

I would.

Edited: 15 Nov 2009, 12:10 a.m.

Re: uCalc

*Message #19 Posted by **tim m.** on 15 Nov 2009, 12:18 a.m.,*
in response to message #18 by Egan Ford

I'd be interested in whichever model offers the thinnest design.

Re: uCalc

*Message #20 Posted by **DaveJ** on 15 Nov 2009, 3:16 a.m.,*
in response to message #18 by Egan Ford

> Quote:
>
> #2 would be more interesting and offer more flexibility. e.g. multiline stack, easier to program, etc... #1 is just an RPN version of many existing credit card calcs. I guess we all have different needs. I have a calc on my phone (many of them). I'm looking for a gadget--something to repurpose.

That might just be the most important aspect.
If it's going to be popular with people of all sorts, then I think it needs to be more versatile than a 8 digit display. Something people might want to repurpose. Otherwise it's just going to be yet another credit card calculator (albeit the worlds first(?) scientific one). I think it does need to be "gadget" like.

If I was designing it just for myself, then I don't care about programmability and gadget factor, so I'd want just want a high contrast display and scientific functionality.

Dave.

Re: uCalc

*Message #21 Posted by **DaveJ** on 15 Nov 2009, 7:32 a.m.,*
in response to message #1 by DaveJ

First dreary eyed rough draft of what the uCalc will look like before I head to bed and actually think about it...

This is with the bigger 16x2 line character based LCD.

No thought what so ever put into shift functions or menu/program stuff yet.

Picture this credit card size and 3mm thick.

Dave.

Edited: 15 Nov 2009, 7:33 a.m.

Re: uCalc

*Message #22 Posted by **Paul Dale** on 15 Nov 2009, 8:02 a.m.,*
in response to message #21 by DaveJ

Lovely!

- Pauli

Re: uCalc

*Message #23 Posted by **Gerson W. Barbosa** on 15 Nov 2009, 9:45 a.m.,*
in response to message #21 by DaveJ

Not bad considering it is a first draft. However, I think the hardware designer and the industrial designer should NOT be the same person :-) I would certainly buy one, better if it cost under US$ 50.00 (so that I don't have to pay an infamous 60% import tax...) I am quite sure there is a market for a credit card-sized RPN calculator.

Looking forward to the real product.

Gerson.

Re: uCalc

*Message #24 Posted by **DaveJ** on 15 Nov 2009, 3:26 p.m.,*
in response to message #23 by Gerson W. Barbosa

> Quote:
>
> I am quite sure there is a market for a credit card-sized RPN calculator.

RPN would not be the main feature, the fact it's a credit card sized *scientific* calculator would be the novel thing. I doubt too many people would get too excited about a credit card RPN 4-Banger. And it's open source and reconfigurable too.

Dave.

Re: uCalc

*Message #25 Posted by **Bart (UK)** on 15 Nov 2009, 4:17 p.m.,*
in response to message #24 by DaveJ

> Quote:
>
> the fact it's a credit card sized *scientific* calculator would be the novel thing

I thought the fx-98 was that already.

For me a ***programmable*** credit card sized scientific would be the novel thing (ALG or RPN, but prefer an RPN option). Why else have the memory card/IO?

Now if you're counting votes: I'd be happy with the micro SD without USB connector (can use a multicard reader USB pen). As long as I can save/restore programmes, I'm happy.I prefer the dome keypad and think a dot-matrix display would be better for alpha characters.

Re: uCalc

*Message #26 Posted by **DaveJ** on 15 Nov 2009, 4:44 p.m.,*
in response to message #25 by Bart (UK)

> Quote:
>
> I thought the fx-98 was that already.

Close, but no cigar. It is 90mm x 59mm x 6mm
And of course, discontinued maybe 20 years ago? Fairly rare even on eBay.

Dave.

Re: uCalc

*Message #27 Posted by **Katie Wasserman** on 15 Nov 2009, 10:55 a.m.,*
in response to message #21 by DaveJ

It looks great, but please, please make the STO and RCL separate buttons. This was a big mistake on the 20b, IMHO.

Re: uCalc

*Message #28 Posted by **Egan Ford** on 15 Nov 2009, 1:16 p.m.,*
in response to message #21 by DaveJ

Can you shift the numbers over one position. Place the basic operations vertically. Put ENTER vertically between the numbers and the sci funcs. Put X<>Y and +/- above the ENTER.

Please?

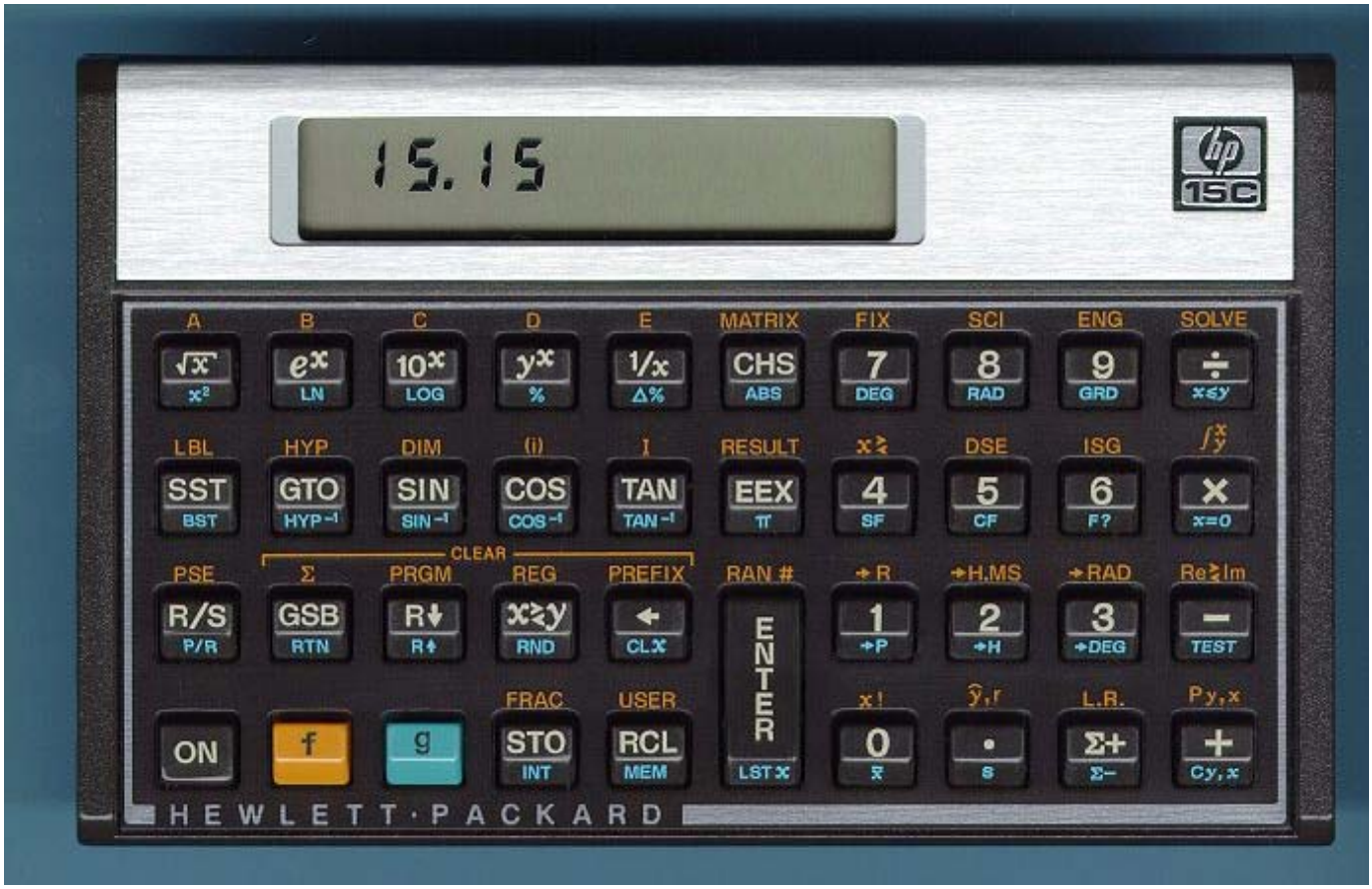
I like the old school typewriter looking keyboard.

Re: uCalc

*Message #29 Posted by **DaveJ** on 15 Nov 2009, 3:18 p.m.,*
in response to message #28 by Egan Ford

> Quote:
>
> Can you shift the numbers over one position. Place the basic operations vertically. Put ENTER vertically between the numbers and the sci funcs. Put X<>Y and +/- above the ENTER. Please?

Oh, you mean something like this:



rolling eyes
I guess that's what I get when I show this on a HP forum!

The good thing about a touch panel design is if you don't like what's on offer you can put a new sticky front label over it, with silver highlights and everything!

Dave.

Re: uCalc

*Message #30 Posted by **Bart (UK)** on 15 Nov 2009, 4:20 p.m.,*
in response to message #29 by DaveJ

> Quote:
>
> *rolling eyes*
> I guess that's what I get when I show this on a HP forum!

Of course :))))

Re: uCalc

*Message #31 Posted by **Mike T.** on 15 Nov 2009, 6:34 p.m.,*
in response to message #29 by DaveJ

The voyager layout couldn't have been all that bad - after all the HP12C is still going strong!

Obviously an exact copy of a voyager keyboard isn't possible (or desirable) - but the key layout needs to work and be 'logical' with similar functions grouped together vertically or horizontally.

For example -
sin,cos,tan / sin-1,cos-1,tan-1
deg,rad,grd
fix,sci,eng
ln,log,yX / eX,10X,1/x
int,frac,abs
enter,chs,eex,clX
+,-,/,* (obviously!)
gto,gsb,rtn
sto,rcl (defiantly unshifted!)
sst,bst

Fitting that in, and more importantly deciding what to leave out, is probably going to be the hardest part of this project...

Just my 2c worth.

Mike T.

Re: uCalc

*Message #32 Posted by **Paul Guertin** on 15 Nov 2009, 2:29 p.m.,*
in response to message #21 by DaveJ

Hello Dave,

A credit-card RPN calculator is a good idea. I'd buy one.

The current prototype picture seems to be missing a y^x key, unless I'm mistaken.

Re: uCalc

*Message #33 Posted by **Walter B** on 15 Nov 2009, 5:33 p.m.,*
in response to message #32 by Paul Guertin

Attractive design for a first draft.

Proposal: replace 10^x with y^x.

Remarks:

- Don't understand yet how you differentiate between STO and RCL. Same for E and PI. Some prefix keys may be inevitable.
- Please use math symbols wherever possible, e.g. for SQRT.
- Credit card scientific is a nice idea. With its RPN option it's even nicer. A nice toy. Maybe a bit too small to be really useful.
- IMHO tactile feedback is a must.
- I'll definitively not play chess with this.

Too early to make a purchasing decision. I know some projects progressing well for quite long time but not showing up with a functional prototype yet. I'd rather see one finished than many dreams started.

HTH

Walter

Re: uCalc

*Message #34 Posted by **db (martinez, ca.)** on 15 Nov 2009, 9:37 p.m.,*
in response to message #21 by DaveJ

Dave;
I've got a neck ready to hang it from all ready. I only want to re-assign three keys and that'll be a good first thing to learn on it.
A clock function would be nice but i guess it would only be practical at the poles near summer solstice.

Re: uCalc

*Message #35 Posted by **Steve Leibson** on 15 Nov 2009, 1:29 p.m.,*
in response to message #1 by DaveJ

Sure seller... reproduce the key layout of the 15c or 16c, call it the 15dj or 16dj.

Re: uCalc

*Message #36 Posted by **Egan Ford** on 15 Nov 2009, 2:46 p.m.,*
in response to message #35 by Steve Leibson

> Quote:
>
> Sure seller... reproduce the key layout of the 15c or 16c, call it the 15dj or 16dj.

Yes. Please. I'd take my 15dj and my 16dj and glue them back to back.

Re: uCalc

*Message #37 Posted by **George Bailey (Bedford Falls)** on 15 Nov 2009, 3:27 p.m.,*
in response to message #1 by DaveJ

I don't want to spoil all the fun you have, but considering I can get a credit card sized calc off ebay for $1, I would not pay $60 - rather $10 for an RPN version.

Secondly, a true credit card calc would have to stay alive in a wallet in my back pocket. Can that even be done?

Anyway, cheers to this great idea!

Re: uCalc

*Message #38 Posted by **DaveJ** on 15 Nov 2009, 3:47 p.m.,*
in response to message #37 by George Bailey (Bedford Falls)

> Quote:
>
> I don't want to spoil all the fun you have, but considering I can get a credit card sized calc off ebay for $1, I would not pay $60 - rather $10 for an RPN version.

Every other credit card calc on the market is a 4-Banger.
This has nothing to do with it being RPN, it's the fact that it's a full *scientific* calc, and it'll probably play chess too :->

If there is a scientific credit card calc on the market then let let me know and I'll stop all this foolishness!

> Quote:
>
> Secondly, a true credit card calc would have to stay alive in a wallet in my back pocket. Can that even be done?

No idea, that needs to be tested.
Gotta think outside the square too, credit card calcs don't necessarily have to go in your wallet...

Dave.

Re: uCalc

*Message #39 Posted by **Paul Dale** on 15 Nov 2009, 4:16 p.m.,*
in response to message #38 by DaveJ

> Quote:
>
> Every other credit card calc on the market is a 4-Banger.

And earlier:

> Quote:
>
> albeit the worlds first(?) scientific one

While it is true that there are no scientific credit card sized calculators on the market, it isn't true that there haven't been any. The Casio fx-98 for example -- a photograph was posted in the recent form factor thread.

It will be the first RPN capable credit card sized calculator and likely the first in this form factor to play chess and the first solar powered chess computer.

- Pauli

Re: uCalc

*Message #40 Posted by **Maximilian Hohmann** on 15 Nov 2009, 4:45 p.m.,*
in response to message #39 by Paul Dale

Hello!

> Quote:
>
> The Casio fx-98 for example...

... or the Soviet Elorg 38 (stat/math with two shift keys). Unfortunately, those were of very poor build quality. Mine has a leaking LCD, very unresponsive keys and intermittent battery contacts.

Regarding the original idea: Yes and no... Yes, because a small RPN programmable would be appealing, no, because credit card size is too small, a membrane keyboard is a no-no-item for me (learnt to hate it with the Sinclair ZX-81) and most importantly: If it dosen't glow in the dark, I don't want it :-)

Greetings, Max

Re: uCalc

*Message #41 Posted by **DaveJ** on 15 Nov 2009, 4:48 p.m.,*
in response to message #40 by Maximilian Hohmann

> Quote:
>
> Regarding the original idea: Yes and no... Yes, because a small RPN programmable would be appealing, no, because credit card size is too small, a membrane keyboard is a no-no-item for me (learnt to hate it with the Sinclair ZX-81) and most importantly: If it dosen't glow in the dark, I don't want it :-)

I'll ship a free head torch with every unit!

Dave.

Re: uCalc

*Message #42 Posted by **Maximilian Hohmann** on 15 Nov 2009, 5:08 p.m.,*
in response to message #41 by DaveJ

Hello!

> Quote:
>
> I'll ship a free head torch with every unit!

:-)

I'll get one then... but only if the head torch has a red led in it!

Greeting, Max

Re: uCalc

*Message #43 Posted by **Paul Dale** on 15 Nov 2009, 5:19 p.m.,*
in response to message #42 by Maximilian Hohmann

You can convert the torch to red in several ways. A piece of red plastic works well but better is finding two pairs of red/green 3D glasses and taking one lens from each.

- Pauli

Re: uCalc

*Message #44 Posted by **Mike Morrow** on 15 Nov 2009, 7:22 p.m.,*
in response to message #39 by Paul Dale

> Quote:
>
> While it is true that there are no scientific credit card sized calculators on the market, it isn't true that there haven't been any. The Casio fx-98 for example ...

The Casio fx-98 is from 1985. The Casio fx-48 is from 1978, and is even smaller than the fx-98, but has no solar cell. The Radio Shack EC-4009 is an enhanced fx-98.

Both my 31-year old fx-48 and 24-year old EC-4009 still function perfectly, and show no LCD deterioration.

As far as having a micro-SD capability, how would that be possible (especially write operations) in a calculator that is solar-cell-powered only?

Re: uCalc

*Message #45 Posted by **DaveJ** on 15 Nov 2009, 7:57 p.m.,*
in response to message #44 by Mike Morrow

> Quote:
>
> As far as having a micro-SD capability, how would that be possible (especially write operations) in a calculator that is solar-cell-powered only?

You are likely right, I'll only have a few mA available. Maybe enough for a very slow read cycle, but probably not enough for writing. I've haven't looked into low power SD card operation though.

Same with the USB interface which has to run at 8MHz primary and faster internally. Probably not possible with just the one small solar cell.

Dave.

Re: uCalc

*Message #46 Posted by **Paul Dale** on 15 Nov 2009, 8:02 p.m.,*
in response to message #45 by DaveJ

> Quote:
>
> Same with the USB interface which has to run at 8MHz primary and faster internally. Probably not possible with just the one small solar cell.

USB supplies copious amounts of power, so there shouldn't be a problem.

A non-writable micro SD card isn't a lot of use but still allows importing things. Could the supercap be used to allow slow writes?

- Pauli

Re: uCalc

*Message #47 Posted by **George Bailey (Bedford Falls)** on 16 Nov 2009, 4:59 a.m.,*
in response to message #38 by DaveJ

> Quote:
>
> Gotta think outside the square too, credit card calcs don't necessarily have to go in your

wallet...

For me, a credit card sized calculator definitely would have to fit in a wallet. Otherwise it would have no appeal to me whatsoever. I would grab a 15C if I only needed a rather small one - or use my phone that I already carry around. So, not-for-wallet-use would be an absolute show stopper.

BTW, the Kadio KD-1005 credit card sized calc was a door prize at this year's conference. Maybe Gene Wright knows where to buy them...

Edited: 16 Nov 2009, 5:19 a.m. after one or more responses were posted

Re: uCalc

*Message #48 Posted by **DaveJ** on 16 Nov 2009, 5:17 a.m.,*
in response to message #47 by George Bailey (Bedford Falls)

Yes, that Kadio costs $0.50ea in 5K volume, I got a quote a year or two back. Almost certainly the smallest scientific calc on the market today.

Dave.

Re: uCalc

*Message #49 Posted by **Paul Dale** on 16 Nov 2009, 5:28 a.m.,*
in response to message #48 by DaveJ

Interestingly, the same width and height as the long gone Casio fx-98. 4mm thicker though.

I've thought about trying to get half a dozen of these on a couple of occasions.

- Pauli

Edited: 16 Nov 2009, 5:29 a.m.

Re: uCalc, my two cents ;-)

*Message #50 Posted by **geoff quickfall** on 15 Nov 2009, 6:54 p.m.,*
in response to message #1 by DaveJ

HP 15C style as described above but with a clock (dynamic functions similar to the HP 41C) and alarm. At least 32kb of memory, with the standard RPN like keystroke programming.

Sort of like a supercharged HP-15C (HP41C cross HP 42S hybrid) in a 15C package for the shirt pocket, not my back pocket wallet. 8-)

UWatch is working perfectly!

Cheers, Geoff

Re: uCalc, my two cents with spam

*Message #51 Posted by **hugh steers** on 15 Nov 2009, 7:10 p.m.,*
in response to message #50 by geoff quickfall

here is my take on this idea,

firstly, although cc ucalc would be cool, it certainly wouldn't be anything new or indeed have much going for it against historical offerings.

having something as small as a credit card is, i think, not totally necessary. for example, something the size of a voyager is small enough already. In the past i have owned two calculators the size of credit cards. one was a casio (4 banger) and i can't even find a picture of it on the internet. it was literally the dimensions of a real cc, about 1mm thick. i put it in my wallet with my actual cards. after a while it snapped.

the other one was a very beautiful all metal design by sharp. about 2mm thick. i can't find any reference to it on the internet either. it was solar and very, very elegant. i used to carry it in my back pocket and eventually it took on the curvature of my bum - but it still worked perfectly. to this day, i do not know what happened to it. i would like to advance the proposition that what we want here is something not already done; a calculator the size of a voyager (ie pocket sized) with a powerful programming language. a scientific is not enough. we have that already.

as Geoff says, a supercharged 15c!

Re: uCalc, my two cents with spam

*Message #52 Posted by **DaveJ** on 15 Nov 2009, 7:34 p.m.,*
in response to message #51 by hugh steers

To me the Voyager is NOT pocket size, never has been, never will be. Yet many seem to see it as the "ideal" pocket size, I'm not sure why...

The Casio FX-98 is more what I think a true pocket calc should be. The only one that comes close to this these days is that cheap no-name asian one discussed some time back.

The credit card size fixation is only because, well, it's something to shoot for. I could go smaller or I could go bigger. Same for the thickness. To me the project is just an exercise in clever product design which is what I enjoy doing.

IMO a voyager size calc HAS been done before, and you can still buy them, but a credit card size scientific programmable calc hasn't, so I think the CC is actually the more novel idea. Not as practical maybe, depending upon your viewpoint, but it's the more novel.

I don't anticipate anyone actually putting it in their wallet and bending the thing, obviously it won't survive as the LCD glass will likely just crack.
So what's the point?, I dunno, it's just cool. I like someone's idea of hanging it around your neck as nerd bling!

The problem is, if you ask a hundred different people you'll get a hundred different answers about what they want :->

Then of course, if you say do a Voyager size calc then there is not as much point making it so thin, so you make it thicker and start adding features, and then you decide you might as well have batteries and a nice alloy case, and then people will want proper tactile keys again, and... etc...

Dave.

Edited: 15 Nov 2009, 7:42 p.m.

Re: uCalc, my two cents with spam

*Message #53 Posted by **Sancerre (Phoenix)** on 15 Nov 2009, 8:24 p.m.,*
in response to message #52 by DaveJ

If it is truly credit card size, then you can package together one of those hard plastic case/covers that have been used to protect credit cards. I remember seeing some of these plastic cases a number of years ago in Europe.

--Sancerre

Re: uCalc, my two cents with spam

*Message #54 Posted by **Don Shepherd** on 15 Nov 2009, 8:42 p.m.,*
in response to message #52 by DaveJ

> Quote:
>
> To me the Voyager is NOT pocket size, never has been, never will be. Yet many seem to see it as the "ideal" pocket size, I'm not sure why...

Dave, if it fits in my shirt pocket without extending a few inches above the pocket, it's pocket size. The Voyager's are pocket size. The 35s, 33s, 17bii+, all those are not pocket size.

12c going in my pocket.

12c already in my pocket.

I'm intrigued by what you are doing, and I commend you for it, but the thought of a calculator the size of a credit card with 8 buttons going across it, I don't know, these old fingers probably can't do that. The few credit card sized calcs I have seen and used I eventually threw away because (a) the buttons were too close to each other for these old fingers, and (b) the LCD display was generally so tiny that I had trouble reading it. They were just impractical, from a usability perspective. The Voyager buttons are easy to press and the display is, to me, just right. And the 12c, while a financial calculator, is RPN keystroke programming at it's simplest and is the finest made today.

But I'll follow your project because I am intrigued and you know what you're doing!

Don

Re: uCalc, my two cents with spam

*Message #55 Posted by **DaveJ** on 15 Nov 2009, 9:20 p.m.,*
in response to message #54 by Don Shepherd

> Quote:
>
> Dave, if it fits in my shirt pocket without extending a few inches above the pocket, it's pocket size. The Voyager's are pocket size. The 35s, 33s, 17bii+, all those are not pocket size.

The actual fact it can fit in someones pocket is, to me, moot.

"Pocket size" to me isn't just about fitting in some shirt pocket, it's about being generally as small as can be so it doesn't take up as much room wherever you put it. In a pocket, on the desk, sitting on a catalog or datasheet etc

The voyager just isn't small enough IME. The Casio FX-260 solar is smaller than a voyager for example, and that ain't the only one on the market.

> Quote:
>
> I'm intrigued by what you are doing, and I commend you for it, but the thought of a calculator the size of a credit card with 8 buttons going across it, I don't know, these old fingers probably can't do that.

The current design is 10mm key spacing horizontal, and 8mm spacing vertical.

Dave.

Re: uCalc, my two cents with spam

*Message #56 Posted by **Paul Dale** on 15 Nov 2009, 9:32 p.m.,*
in response to message #55 by DaveJ

> Quote:
>
> The current design is 10mm key spacing horizontal, and 8mm spacing vertical.

Which is about 2mm less than my poking finger in both directions :-(

- Pauli

Re: uCalc, my two cents with spam

*Message #57 Posted by **Bart (UK)** on 16 Nov 2009, 7:03 p.m.,*
in response to message #54 by Don Shepherd

> Quote:
>
> 12c already in my pocket

and see how it pulls the shirt down.

I'm with Dave on this one. Although the Voyagers and Pioneers are probably the most pocketable HPs, they are still bulky to always have with you everywhere (and no, I don't carry my 48/50 like a Smith & Wesson).

That's why I like the CC uCalc idea, it can be put in the pocket and all but forgotton about (until needed of course!). Now for me to whip it out and do some k-of-n reliabilty calc or other useful stuff in my field (whilst in a meeting / at a customer), I'd like keystroke programmability. 8K would probably suffice. No RTC needed for me.

Re: uCalc

*Message #58 Posted by **Paul Dale** on 16 Nov 2009, 5:52 a.m.,*
in response to message #1 by DaveJ

Dave might be able to answer this (at least in time anyway).

How much headroom is there in the power supplied by the solar cell? I.e. will this be usable indoors? I've found a 4mm thick one but there are complaints about the solar cell not powering it unless there is lots of light. Interestingly, the 7mm thick one doesn't have these complaints.

- Pauli

Re: uCalc

*Message #59 Posted by **DaveJ** on 16 Nov 2009, 6:03 a.m.,*
in response to message #58 by Paul Dale

The one I'm looking at is rated at 12mA @ 1.5V
22mm x 7mm x 1.6mm
The price of the solar cell alone is twice the price of those entire calcs!

Claims to work indoors, but I'll have to get samples to actually test it.

I'd be surprised if I don't have enough juice to run any size processor at 32KHz/250KHz, plus the LCD under any light. If it doesn't work indoors in poor light then the project is probably the tube. I've gone off batteries now!

An RTC might be possible with a supercap just running a seperate RTC chip.

Dave.

Edited: 16 Nov 2009, 6:08 a.m.

Re: uCalc

*Message #60 Posted by **Paul Dale** on 16 Nov 2009, 6:35 a.m.,*
in response to message #59 by DaveJ

> Quote:
>
> An RTC might be possible with a supercap just running a seperate RTC chip.

Is it going to last a week or three without light? If not, I don't see the point... Even if it does I still don't see the point :-)

- Pauli

Re: uCalc

*Message #61 Posted by **DaveJ** on 16 Nov 2009, 7:13 a.m.,*
in response to message #60 by Paul Dale

> Quote:
>
> Is it going to last a week or three without light? If not, I don't see the point... Even if it does I still don't see the point :-)

Dunno, have to do some calcs and maybe some measurements.

Might be handy for those that leave it on their desk all day, or stick it on their fridge, or whatever... But I won't lose any sleep over not having an RTC.

Dave.

Re: uCalc

*Message #62 Posted by **DaveJ** on 16 Nov 2009, 7:20 a.m.,*
in response to message #1 by DaveJ

Crotch moistening stuff for the fanboys: :->

Well, what do you know...
Change the horizontal key spacing to 8.5mm and the dimensions look perfect for a Voyager style key layout, with extras. Almost as if it was destined to be in a credit card size (this is a true credit card size, not the bigger FX-98/Kadio size)

Yes, complain all you like about the key assignments, it's an example, albeit one I don't mind...

Dave.

Edited: 16 Nov 2009, 7:30 a.m.

Re: uCalc

*Message #63 Posted by **Don Shepherd** on 16 Nov 2009, 7:38 a.m.,*
in response to message #62 by DaveJ

You forgot the stylus holder, which you will need with keys that small.

:)

Re: uCalc

*Message #64 Posted by **DaveJ** on 16 Nov 2009, 3:28 p.m.,*
in response to message #63 by Don Shepherd

> Quote:
>
> You forgot the stylus holder, which you will need with keys that small.

It's bigger than the uWatch key spacing which had 8mm x 5mm, and I find that perfectly usable, considering the size of course.

I can go back to a bigger layout, but then bye-bye voyager compatability. A more standard 11-12mm layout would give 21 keys in the bank. That's 4-banger territory. Functions can be in menus of course, just like the uWatch, but that kinda sucks.

It's the size of a credit card remember, there are trade-offs...

Dave.

Re: uCalc

*Message #65 Posted by **Egan Ford** on 16 Nov 2009, 12:30 p.m.,*
in response to message #62 by DaveJ

Wow! Thanks.

Re: uCalc

*Message #66 Posted by **geoff quickfall** on 16 Nov 2009, 3:01 p.m.,*
in response to message #62 by DaveJ

It has probably been brought up before, but, why the alpha assignment starting at the bottom with A and working upwards.

Not refering to HP (although they all follow the same standard), but my Aircraft FMS and the ACARS keypad are:

```
A   B   C   D   E
F   G   H   I   J
K   L   M...
```

This would be the first keypad I have seen with the alphabet starting with Z (zee or zed) first and working towards A.

Cheers, Geoff

Re: uCalc

*Message #67 Posted by **DaveJ** on 16 Nov 2009, 3:30 p.m.,*
in response to message #66 by geoff quickfall

> Quote:
>
> It has probably been brought up before, but, why the alpha assignment starting at the bottom with A and working upwards.

Because I'm a PCB designer, and hence naturally think of bottom left as the origin of everything :->

Dave.

8-)

*Message #68 Posted by **geoff quickfall** on 16 Nov 2009, 3:44 p.m.,*
in response to message #67 by DaveJ

You are a rare breed!

Any chance of *CORRECTING* it!

```
8-0   8-)   ;-)
```

Edited: 16 Nov 2009, 3:46 p.m.

Re: 8-)

*Message #69 Posted by **DaveJ** on 16 Nov 2009, 7:09 p.m.,*
in response to message #68 by geoff quickfall

> Quote:
>
> You are a rare breed! Any chance of *CORRECTING* it!

If I must!

Hey, I just realised that with 10 keys wide it could be in QWERTY format!

Dave.

Re: 8-)

*Message #70 Posted by **Paul Dale** on 16 Nov 2009, 7:18 p.m.,*
in response to message #69 by DaveJ

I think Walter has done a Voyager layout with a QWERTY alpha mode.

- Pauli

Really old stuff (Was: Re: 8-))

*Message #71 Posted by **Walter B** on 17 Nov 2009, 2:13 a.m.,*
in response to message #70 by Paul Dale

That goes back to 2005. I found the links in the archives being broken, however, so I dug through my old files and excavated this from the summer of 2006. FWIW it shows a way to do it.

Re: Really old stuff (Was: Re: 8-))

*Message #72 Posted by **Paul Dale** on 17 Nov 2009, 2:43 a.m.,*
in response to message #71 by Walter B

FWIW is right. Ten columns of keys is too many on a credit card ;-)

- Pauli

Re: Really old stuff (Was: Re: 8-))

*Message #73 Posted by **DaveJ** on 17 Nov 2009, 3:52 a.m.,*
in response to message #72 by Paul Dale

> Quote:
>
> FWIW is right. Ten columns of keys is too many on a credit card ;-)

The membrane makers agree. They couldn't give me a quote, said the 8.5mm spacing was too close.

So it's bigger spacing and/or back to cap touch sense.

I think reality should probably kick in here. Such a spacing is fine on a calc watch, but with the relative luxury of credit card size, a bigger spacing should be aimed for. After all, 25 keys works on the uWatch with all it's powerful features.

My cap touch sense chip supports 24 keys...

Dave.

Re: Really old stuff (Was: Re: 8-))

*Message #74 Posted by **Paul Guertin** on 17 Nov 2009, 8:25 a.m.,*
in response to message #73 by DaveJ

> Quote:
>
> I think reality should probably kick in here. Such a spacing is fine on a calc watch, but with the relative luxury of credit card size, a bigger spacing should be aimed for. After all, 25 keys works on the uWatch with all it's powerful features.

I believe it is possible to design a usable layout for a non-programmable, RPN scientific calculator with as few as 20 keys. I uploaded an "HP4S" design to this forum a while ago, but I cannot find it at the moment. I think I still have the picture at home, and will upload it again tonight.

Re: Really old stuff (Was: Re: 8-))

*Message #75 Posted by **Massimo Gnerucci (Italy)** on 17 Nov 2009, 12:55 p.m.,*
in response to message #74 by Paul Guertin

> Quote:
>
> I uploaded an "HP4S" design to this forum a while ago

Here is the thread

Massimo

Re: Really old stuff (Was: Re: 8-))

*Message #76 Posted by **Katie Wasserman** on 17 Nov 2009, 11:51 a.m.,*
in response to message #73 by DaveJ

Dave,

Your original layout had 4 rows x 8 columns. If you drop the 'F' keys above the display (a silly place for keys, IMO) you'll have roughly a 10mm x 10mm space for each key. That's approximately the same spacing that HP uses on the top rows of the 20b -- which is quite usable aside form the lack of key clicks.

Assuming a double height ENTER, that leaves 31 keys, more than enough for a programmable scientific calculator especially if you use 2 shift keys.

-Katie

executive market

*Message #77 Posted by **hugh steers** on 16 Nov 2009, 5:22 p.m.,*
in response to message #1 by DaveJ

half joking observation, for amusement.

Ok Dave, the shocking truth is that you are turning into a calculator manufacturer!

Indeed! But not mass market like HP, TI, Casio, Sharp etc, what you want to address is the exclusive market, the executive market, the celebrity market and the specialist market; the kind of market segment also occupied by designer labels in the fashion industry.

Someone noticed that the head of RBS UK uses a 12C (from photo). But hey, that's not going to impress nowadays. He needs an upgrade. What about city finance types. What do they use when not at their PCs? Their iphones maybe? Surely they'd prefer a more executive device, with buttons on it.

Suppose im an architect, out in the field talking to my clients about a multi billion development. do I pull out a TI or one of the new, low end, HPs when they ask about cost alternatives. No! Either I have to juggle a clumsy laptop or maybe, just maybe, use an old style HP. Those days are numbered. this guy is your customer!

What im talking about is a definite but small market segment of high quality and expensive, executive calculators. Think Hi-Fi, where you get all these little companies, of just a few people, but they're making a business in the expensive but exclusive high end.

Forget low end. You've no chance. You're only route is expensive high end, but superb quality hand held calculators. These must excel in screen, keyboard and build materials. We're talking stainless steel or titanium case construction. Proper metal domed keys and hi-res greyscale screen, that's also good in sunlight and retailing around $500. Really that's still cheap in comparison to smart phone prices, which people seem happy to spend.

Synopsys: Blinged up, supercharged 15c+12c+16c with bigger screen, alpha, usb interface and two programming languages; voyager classic and modern procedural.

… the hard part is dreaming up the model numbers :-)

Would anyone buy one?

yeah, what Hugh said!

*Message #78 Posted by **geoff quickfall** on 16 Nov 2009, 6:29 p.m.,*
in response to message #77 by hugh steers

I would given a clock, alarm, no graphing and oodles of program in simple RPN keycode format.

Cheers. Geoff

Hugh, I might make it to London without the airplane. Wife wants to install hardwood floors and wants me to get lost. I will let you know!

Re: yeah, what Hugh said!

*Message #79 Posted by **Bart (UK)** on 16 Nov 2009, 7:18 p.m.,*
in response to message #78 by geoff quickfall

Geoff, I can understand why you want RTC functions, given your flight calculations. But how many others really need it in a credit card calulator? I agree with the keystroke RPN programming without graphics capability.

Then again $500 is a bit much for me.

Re: yeah, what Hugh said!

*Message #80 Posted by **hugh steers** on 16 Nov 2009, 7:43 p.m.,*

in response to message #78 by geoff quickfall

what. you get to party whilst the wife does the DIY. excellent!

Re: executive market

*Message #81 Posted by **DaveJ** on 16 Nov 2009, 6:55 p.m.,*
in response to message #77 by hugh steers

Careful Hugh, you are starting to sound like another Hugh I know! :->

To answer your question first, who'd buy one? Well, not me, nor anyone else on this forum I'm fairly sure. This has actually been discussed a bit not too long ago.

What does that mean? Well, several things are guaranteed with such an approach:
1) Lots of NRE cost
2) No short or mid term return on any investment
3) High risk
4) A very unhappy wife!

Something like what you propose is getting into the steampunk/designer/art category, and really that's something I am not ashamed to say I suck at.
I do really like that sort of stuff, and I'd love to design such a "designer" calculator, but believe I really lack to skills to do so even if I wanted to. I could probably learn, but those kinds of designs take lots of time and NRE.

Don't get me started on high end Hi-Fi stuff, please!

I can't see my calculator designs ever being "commodity" low end designs sold in stores, they will always be niche market higher priced calcs. And the key to getting a niche market is to make something novel.

The reality is that the risk/reward for the high priced high end market is astronomical compared to my current "good enough" calculators for a (much) bigger niche market (e.g. geek toys, uWatch, uCalc) where I am practically guaranteed to get my money back and then some.

Dave.

Edited: 16 Nov 2009, 6:57 p.m.

Re: executive market

*Message #82 Posted by **Paul Dale** on 16 Nov 2009, 6:57 p.m.,*
in response to message #81 by DaveJ

Can't we have go faster iridium strips and oxygen free copper directional battery contacts? :)

- Pauli

Re: executive market

*Message #83 Posted by **DaveJ** on 16 Nov 2009, 7:00 p.m.,*
in response to message #82 by Paul Dale

> Quote:
>
> Can't we have go faster iridium strips and oxygen free copper directional battery contacts? :)

Sure, and they can be manufactured by nude virgins in utopialand!
Cryogenic freezing is optional.

Dave.

Re: executive market

*Message #84 Posted by **Walter B** on 17 Nov 2009, 4:47 a.m.,*
in response to message #83 by DaveJ

> Quote:
>
> Sure, and they can be manufactured by nude virgins in utopialand! Cryogenic freezing is optional.

I vote for superconductive Niobium strips - really cool d8)

Re: uCalc

*Message #85 Posted by **DaveJ** on 17 Nov 2009, 3:32 p.m.,*
in response to message #1 by DaveJ

Here is another go, this time with 24 keys which fits my cheap and low power touch sensor chip.

10mm key spacing.

3 more keys could be added if the membrane idea is possible again.

I rather like this one.
Two shift functions (press once or twice), with the 1st shift your most common functions, and the 2nd shift mostly base conversion stuff.

6 menu keys like the uWatch, but not directly under.

Dave.

Re: uCalc

*Message #86 Posted by **Marcus von Cube, Germany** on 17 Nov 2009, 4:11 p.m.,*
in response to message #85 by DaveJ

Why isn't F1=1, F2=2, ... ?

Re: uCalc

*Message #87 Posted by **DaveJ** on 17 Nov 2009, 4:21 p.m.,*
in response to message #86 by Marcus von Cube, Germany

> Quote:
>
> Why isn't F1=1, F2=2, ... ?

No other reason than the match the uWatch.
Doesn't quite look right though does it...

Dave.

Re: uCalc

*Message #88 Posted by **Anders Peterson** on 17 Nov 2009, 6:11 p.m.,*
in response to message #85 by DaveJ

This looks awesome, and I would definitely buy one, but why no built-in stats? :(

Re: uCalc

*Message #89 Posted by **Paul Dale** on 17 Nov 2009, 6:15 p.m.,*
in response to message #88 by Anders Peterson

The menu button caters for all requirements :-)

Pauli

Re: uCalc

*Message #90 Posted by **DaveJ** on 17 Nov 2009, 8:30 p.m.,*
in response to message #89 by Paul Dale

> Quote:
>
> The menu button caters for all requirements :-)
>
> Pauli

Yeah, unfortunately you can't have everything on the dedicated keys. So I was selfish and chose what is most useful to me :->
All the other stuff gets booted to the menu system, which actually worked quite well on the uWatch.

Of course, depending upon what key topology I eventually use, if you want to change the overlay you might be able to. There could ultimately be multiple versions on offer.

The solar cell is on it's way, so I can see what's possible...

Dave.

Edited: 17 Nov 2009, 8:32 p.m.

Re: uCalc

*Message #91 Posted by **Byron Foster** on 18 Nov 2009, 12:32 a.m.,*
in response to message #90 by DaveJ

> Quote:
>
> Of course, depending upon what key topology I eventually use, if you want to change the overlay you might be able to. There could ultimately be multiple versions on offer.

The two line display lends itself to Free42, I'd be interested in playing with a port if the key configuration is compatible, or can be made to be compatible with a different overlay.

Re: uCalc

*Message #92 Posted by **Anders Peterson** on 18 Nov 2009, 8:28 a.m.,*
in response to message #90 by DaveJ

I can understand the limitations of such a small piece of hardware. Still it is always nice to have a "E+" (pretend the E is a sigma) key, and dedicated stats registers. I suppose I could be asking too much, and maybe I am spoiled, but all my RPN calcs have had that :)

Anyway, very cool project, and I'm sure it will be a fantastic calculator one way or another.

Re: uCalc

*Message #93 Posted by **Katie Wasserman** on 18 Nov 2009, 9:59 a.m.,*
in response to message #92 by Anders Peterson

> Quote:
>
> all my RPN calcs have had that

I wish that were the case for all the RPN calculators that I have, I'm referring to the 17Bii, 20b in particular. Unfortunately, the ones with list-based stats don't have Sigma+ and dedicated stats registers and are harder to use for simple statistics. List-base stats are really only useful on larger data sets and I doubt that anyone would work with those on a calculator.

-Katie

Re: uCalc

*Message #94 Posted by **Ken Shaw** on 18 Nov 2009, 5:51 p.m.,*
in response to message #93 by Katie Wasserman

Absolutely. Major design goof, IMHO.

Re: Stat input

*Message #95 Posted by **Martin Pinckney** on 18 Nov 2009, 10:08 p.m.,*
in response to message #93 by Katie Wasserman

I don't quite get this. It's just as easy for me to press INPUT after each data point as it is to press Sigma+.

Re: uCalc

*Message #96 Posted by **Walter B** on 18 Nov 2009, 3:56 p.m.,*
in response to message #92 by Anders Peterson

> Quote:
>
> all my RPN calcs have had that

Presumably Anders was talking about scientific calcs. All of them have had Sigma+, except

the 65 and the lowest models of the first 3 families.

Re: uCalc

*Message #97 Posted by **Anders Peterson** on 19 Nov 2009, 12:29 a.m.,*
in response to message #96 by Walter B

What other kind is there?

Re: uCalc

*Message #98 Posted by **Walter B** on 19 Nov 2009, 1:17 a.m.,*
in response to message #97 by Anders Peterson

:D Hmmh, you're right. Those other folks don't need transcendental functions at all, do they? So they shall be fed with 4-bangers d;)

Re: uCalc

*Message #99 Posted by **Artur - Brazil** on 18 Nov 2009, 7:53 p.m.,*
in response to message #85 by DaveJ

Hi, Dave. Sometime ago I reached at your incredible watch! It was a great surprise to me see that someone could have done such work! After the surprise, I think about your project and could only complain about it hasn't programm capabilities and, of course, the R/S key. As you are a geneous in this area, I believe, in my opnion, that two models: one with chess and other games and another programmable, with other great functions, like timestop, watch and calendar, as in your watch. A usb connection is great, as you say, in the case of firmware upgrades and to receive programs (somthing like the 41C modules, but only the files being transfered to calc). I would just try do not crow the keyboard and use some function keys and a soft menu associated to them... of course, in programs I could use such capability too (like 48 series). Any way, even it was done of wood, I would by one, as it is a piece of human inteligence, fitting or not into my wallet (in my college time, I was very proud of carrying my 15C in a special wallet). Put me in you your list! Artur

Re: uCalc

*Message #100 Posted by **BobVA** on 18 Nov 2009, 9:04 p.m.,*
in response to message #99 by Artur - Brazil

+1 for simple keystroke programming (e.g. HP-25'ish). That'd make it about perfect for 90% of my requirements.

Thanks for posting your ideas - this is just fun to think about!

Cheers, Bob

Re: uCalc

*Message #101 Posted by **DaveJ** on 18 Nov 2009, 9:24 p.m.,*
in response to message #100 by BobVA

> Quote:
>
> +1 for simple keystroke programming (e.g. HP-25'ish). That'd make it about perfect for 90% of my requirements.
>
> Thanks for posting your ideas - this is just fun to think about!

> Cheers, Bob

Everyone is going to have quite different requirements, that is why it's almost certainly not possible to please a majority with the layout and functionality.

The good thing is that it is open source, so if you don't like the way it works then you can change it to suit your needs.

And hopefully you'll just be able to stick on an overlay to get any look or key layout you like.

This should be interesting, I'm looking forward to getting the solar cells in the next day or so and playing around. Then hopefully some prototypes will emerge that should be pretty close to the final product.

Dave.

Re: uCalc

*Message #102 Posted by **Pal G.** on 19 Nov 2009, 9:36 a.m.,*
in response to message #101 by DaveJ

Dave,

Do you have a manufacturer & part number or link to a data sheet for the enclosure? I'm curious to see what it looks like or what you have in mind.

Thanks, mate.

Re: uCalc

*Message #103 Posted by **DaveJ** on 19 Nov 2009, 2:25 p.m.,*
in response to message #102 by Pal G.

> Quote:
>
> Do you have a manufacturer & part number or link to a data sheet for the enclosure? I'm curious to see what it looks like or what you have in mind.

There effectively is no enclosure, the board itself becomes the case. It should actually look like a credit card, this isn't just what the font panel will look like, it what the entire calculator will look lke:

3mm thick if my plan works.

Dave.

Edited: 19 Nov 2009, 2:27 p.m.

Re: uCalc

*Message #104 Posted by **Saile (Brazil)** on 19 Nov 2009, 2:50 p.m.,*
in response to message #103 by DaveJ

```
exchange:


F1 4 to F 4
F2 5 to F 5
F3 6 to F 6
F4 1 to F 1
F5 2 to F 2
F6 3 to F 3


:-)
```

Re: uCalc

*Message #105 Posted by **DaveJ** on 18 Nov 2009, 11:41 p.m.,*
in response to message #1 by DaveJ

I've now found a suitable 132x32 full graphic display, with a large 51mm x 15mm display window. This will allow all sorts of display options, like 2x16 (8x16 font), or even 4x22.

Dave.

Re: uCalc

*Message #106 Posted by **Walter B** on 19 Nov 2009, 1:34 a.m.,*
in response to message #105 by DaveJ

Here we go! All the fun starts with a proper display. If you need some small fonts (6 or 7 pixels high) there are proposals also beyond Luiz' work.

Well, so much for solar power

*Message #107 Posted by **DaveJ** on 19 Nov 2009, 8:30 p.m.,*
in response to message #1 by DaveJ

I just tried my solar cells, and well, it was pretty disappointing. These are supposed to be primo parts, with the cost to boot. But all I could manage, even with 5 of them in parallel was 170uA short circuit current at my work desk (which is surrounded by big windows).

My 132x32 graphic display alone needs 140uA @ 3V.

In full sun and outside in the shade or near a window they are fantastic, I could run a LED torch direct, but that doesn't help much.

Could possibly work with some form of storage like lithium ion, but if it's flat you have to wait for it to charge up first. Not exactly a good practical solution though.

So it's looking like solar is only fully practical with maybe the 14 segment display and a flea power processor. And then you'd have to scrap the touch chip anyway.

sigh

Dave.

Edited: 19 Nov 2009, 8:42 p.m. after one or more responses were posted

Re: Well, so much for solar power

*Message #108 Posted by **Paul Dale** on 19 Nov 2009, 8:40 p.m.,*

in response to message #107 by DaveJ

:-(

Are two 14 segment displays and a tiny processor possible?

8 characters are really marginal.

I guess this also writes off the micro SD card.

- Pauli

Re: Well, so much for solar power

*Message #109 Posted by **DaveJ** on 19 Nov 2009, 8:43 p.m.,*
in response to message #108 by Paul Dale

> Quote:
>
> Are two 14 segment displays and a tiny processor possible?
>
> 8 characters are really marginal.
>
> I guess this also writes off the micro SD card.

Not possible in a credit card size.

Looks like battery power is the only viable option.

Dave.

Re: Well, so much for solar power

*Message #110 Posted by **Katie Wasserman** on 19 Nov 2009, 9:25 p.m.,*
in response to message #109 by DaveJ

Since you need to use a battery, how about an EL back light on whatever display you end up using? Their must be a cheap, tiny 3V to 90V inverter for all those watches that that have back lights.

-Katie

Re: Well, so much for solar power

*Message #111 Posted by **DaveJ** on 19 Nov 2009, 10:17 p.m.,*
in response to message #110 by Katie Wasserman

No room, sorry.

Dave.

Re: Well, so much for solar power

*Message #112 Posted by **db (martinez, ca.)** on 20 Nov 2009, 1:32 a.m.,*
in response to message #107 by DaveJ

dave;

those solar cells are getting better all the time. i hope you build us a new toy now. in a year or two you will have the power you need, or more miserly processors and can make make your dream - a.k.a. our next-next toy. - db

Re: Well, so much for solar power

*Message #113 Posted by **Walter B** on 20 Nov 2009, 1:44 a.m.,*
in response to message #112 by db (martinez, ca.)

> Quote:
>
> in a year or two you will have the power you need, or more miserly processors and can make make your dream - a.k.a. our next-next toy.

... a.k.a. the toy after the next toy. It's playtime :)

Re: Well, so much for solar power

*Message #114 Posted by **Marcus von Cube, Germany** on 20 Nov 2009, 3:30 a.m.,*
in response to message #107 by DaveJ

Dave, is ePaper (electronic ink) available in CC size? The whole thing could just consist of of a touch sensitive display and a solar cell. epaper only consumes power when updated not for the display itself.

Re: Well, so much for solar power

*Message #115 Posted by **DaveJ** on 20 Nov 2009, 6:12 a.m.,*
in response to message #114 by Marcus von Cube, Germany

> Quote:
>
> Dave, is ePaper (electronic ink) available in CC size? The whole thing could just consist of of a touch sensitive display and a solar cell. epaper only consumes power when updated not for the display itself.

Yes, they are available in small sizes, but are all custom by the looks of it. The dev kit alone is $1500 8-(

Dave.

Re: Well, so much for solar power

*Message #116 Posted by **Norman Dziedzic** on 20 Nov 2009, 10:49 a.m.,*
in response to message #107 by DaveJ

How about a supercapacitor that charges all the time from the solar sells. These guys seem to make some pretty low profile ones: http://www.tecategroup.com/ultracapacitors/cap-xx.php

Not sure if you can get enough storage to power the screen but might be worth looking at.

Re: Well, so much for solar power

*Message #117 Posted by **DaveJ** on 20 Nov 2009, 3:49 p.m.,*
in response to message #116 by Norman Dziedzic

> Quote:

> How about a supercapacitor that charges all the time from the solar sells. These guys seem to make some pretty low profile ones: http://www.tecategroup.com/ultracapacitors/cap-xx.php
>
> Not sure if you can get enough storage to power the screen but might be worth looking at.

I already have some, but it would be pretty silly to take your calc out of a dark place (shirt, draw, pocket, wallet etc) and have to wait for it to charge up before you could use it.

Dave.

Re: Well, so much for solar power

*Message #118 Posted by **Norman Dziedzic** on 20 Nov 2009, 4:55 p.m.,*
in response to message #117 by DaveJ

Alright I'm new here but I was searching for different small power sources and came across this article from Slate and got a pretty good chuckle: http://www.slate.com/id/2193827/

If I'm out of line here, please let me know.

Re: Well, so much for solar power

*Message #119 Posted by **Crawl** on 20 Nov 2009, 1:42 p.m.,*
in response to message #107 by DaveJ

Can I ask how big your solar cells are? It doesn't sound right. If you only need 140 micro-Amps, then there are cells that should be able to deliver that that are only 1mm on a side. You'd then have to hook up about 4 (probably 5 to be on the safe side) in series to get over 3 volts.

Re: Well, so much for solar power

*Message #120 Posted by **John Noble** on 20 Nov 2009, 3:05 p.m.,*
in response to message #119 by Crawl

In full sunlight with 16% efficiency monocrystalline solar cells, the theoretical output should be around 160uW/mm^2 ... but under typical domestic indoor lighting, a quick guesstimate (based on photographic exposure values) tells me that you might get 160nW/mm^2 (in photo parlance, 10EV difference or about 1/2^10). This ignores the cell's spectral response and possible non-linear output vs. illumination level.

From this I'd expect a 5 X 20mm panel to put out c. 16uW or less in your living room and up to 16mW at noon in your front yard.

This all reminds me of when I used to wait tables in a coffee shop (late shift). We had a lot of college students who came in for late night cramming sessions, and one night one of them kept lighting his butane lighter and holding it over his work. Finally, I came over to see what he was doing. He said he couldn't get a square root on his solar powered calculator unless he flicked his Bic. Good thing he didn't try any big factorials--he would have had to burn the place down...

Re: Well, so much for solar power

*Message #121 Posted by **DaveJ** on 20 Nov 2009, 3:43 p.m.,*
in response to message #119 by Crawl

DATASHEET

These were the best ones I could find on the market.

I need say 200uA @ 3V (600uW) to run the LCD and processor. At least double and maybe more for the touch chip.

Like I've said, it may be possible with the 8 character 14 segment display, a flea power micro, and membrane keypad that takes no power. But the usefulness is limited, and the membrane keypad requires $400+ NRE.

Dave.

Edited: 20 Nov 2009, 3:52 p.m.

Re: Well, so much for solar power

*Message #122 Posted by **BobVA** on 20 Nov 2009, 4:45 p.m.,*
in response to message #121 by DaveJ

Yeah, the incredible dynamic range of your eyes can be misleading when trying to estimate where/when PV cells will work.

Lithium primary cells store a lot of power, but you'd have to make arrangements for removal/replacement and that might add bulk.

Maybe a Li-poly, or Li-Ion coin cell, with USB charging? They'll hold a charge for quite a while and there's plenty of single chip battery management solutions.

Cheers, Bob

Edited: 20 Nov 2009, 4:45 p.m.

Re: Well, so much for solar power

*Message #123 Posted by **Paul Dale** on 20 Nov 2009, 5:42 p.m.,*
in response to message #107 by DaveJ

Another thought, the 14 segment display and a second smaller 7 segment display in the two and a half digits to four digits range. This would solve the lack of digits nicely.

- Pauli

Re: Well, so much for solar power

*Message #124 Posted by **DaveJ** on 20 Nov 2009, 6:38 p.m.,*
in response to message #123 by Paul Dale

> Quote:
>
> Another thought, the 14 segment display and a second smaller 7 segment display in the two and a half digits to four digits range. This would solve the lack of digits nicely.

Not a bad idea at all.
I like separate exponent displays.
I took a quick shot of some segments I was able to light up with static charge on the 14segment display to show the contrast:

It's darker than the image shows, very nice contrast.

Disadvantages of a 14 segment display version, apart from only 8 digits + exponent, are increased thickness (4mm + membrane/domes), lower power processor (say MSP430 or PIC nanowatt), plus significant NRE cost for the membrane metal dome keypad. But complete solar power would be possible I think.

Dave.

Re: Well, so much for solar power

*Message #125 Posted by **Paul Dale** on 20 Nov 2009, 9:00 p.m.,*
in response to message #124 by DaveJ

> Quote:
>
> I like separate exponent displays.

Me too, ever since I first got my now long dead Casio FX-602P. Are 2.5 - 4 digit LCD displays available in a size that will fit?

> Quote:
>
> Disadvantages of a 14 segment display version ...

These aren't really disadvantages if the alternative is something that cannot work :-)

If the keypad NRE is going to be too bad, I'm sure some donations would be possible. I certainly would be willing too.

- Pauli

Re: Well, so much for solar power

*Message #126 Posted by **Marcus von Cube, Germany** on 21 Nov 2009, 11:30 a.m.,*
in response to message #125 by Paul Dale

I'll opt for the battery (or even dual) powered version, especially if programming or list based operations are involved. A low profile Li cell with a slot-in mechanism would be fine for me.

solar power plus rechargeable coin cell?

*Message #127 Posted by **designnut** on 21 Nov 2009, 11:12 p.m.,*
in response to message #126 by Marcus von Cube, Germany

I have a watch that uses a coin lithium solar rechargeable cell. it shuts off in the dark, keeps time and resets from WWWB time signals. I see coin rechargeables seem available, even to the CR2032 size used by HP calculators. Even a small rechargeable might suffice. sam

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HP41 Coconut: LCD blanks in Standby mode

*Message #1 Posted by **Vieira, Luiz C. (Brazil)** on 14 Nov 2009, 9:05 a.m.*

Hi, all;

as you may have noticed, I am struggling to get back as a regular contributor, but I'm still trying to find balance while remembering how to ride the bike... Takes some time, though.

Well, now for the question: does anyone remember (or know) which capacitor in the HP41 coconut (fullnut) acts as timer for the LCD module while the calculator is in standby mode? I have an HP41C that suddenly decided to behave like this: LCD contents flashes briefly when contents change, otherwise it is blank. I remember reading about this some years ago, but I did not find the posts about this (it´s been a long time not riding the bike...). The mainboard can be seen here

Thanks!

Luiz (Brazil)

Re: HP41 Coconut: LCD blanks in Standby mode

*Message #2 Posted by **Randy** on 14 Nov 2009, 10:09 a.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

It's the small red 470 pf cap on the lower left side of the board.

Older display drivers with the square caps, not the later epoxy blob covers, use a 0.01 uf capacitor in this position. Using the wrong cap will cause problems. There is more info about this in 41C service manual available from TAS. Look for page 41C-13 dated 11/21/79.

Re: HP41 Coconut: LCD blanks in Standby mode

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 14 Nov 2009, 10:55 a.m.,*
in response to message #2 by Randy

Thanks a mil, Randy!

I´ll soon grab the soldering iron and transplant a new one ;-)

Cheers!

Luiz (Brazil)

HP41C Coconut: OK, now! 8^)

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 14 Nov 2009, 12:36 p.m.,*
in response to message #2 by Randy

Hi Randy, guys;

before going ahead with the replacement, I decided to inspect the mainboard and found some remaining varnish covering part of the contact related to the 470pF capacitor. It was probably OK but I consider that the PCB shifted sideways enough to isolate the contact. After cleaning and polishing, I rebuilt it and it is working fine.

Thanks, Randy!

Cheers.

Luiz (Brazil)

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HEPAX chain broken - and fixed

*Message #1 Posted by **Geir Isene** on 14 Nov 2009, 7:22 a.m.*

Equipment = HP41CX with NoV-64 and HEPAX file system in blocks 8, 9, A and B. ICEBOX in C and CCD OS/X in D. Blocks E and F open for plugin modules in port 4.

I discovered two days ago that although I could do Cat 9 and Cat A and run the programs in that part of HEPAX memory, these programs would not show up in HEPDIR. I discovered this as I was trying to purge one program residing in HEPAX memory in block 9 and the operation errored and told me it could not find the file. HEPDIR would show programs in block 8 and B only. Blocks 9 and A was left out of the chain.

I consulted the HEPAX manual and found the way to remove a block from the HEPAX chain. It says to write h300 to address xFF3 and h000 to xFE7 and xFE8. If the block is part of the HEPAX file system, the address xFF3 should contain h200. In my broken chain of HEPAX blocks all these addresses (8FF3, 9FF3, AFF3 and BFF3) contained h200 as it should - presumably to indicate the block is a HEPAX block.

This must be known somewhere, but I just couldn't find it: The addresses xFE7 and xFE8 does the actual chaining of the HEPAX file system. The address xFE7 shows the previous block in the HEPAX chain while xFE8 shows the next block. The first block in the chain will have xFE7 contain h000 and the last block will have h000 in the address xFE8.

In my HEPAX file chain, the addresses would be like this:

8FE7 = h000
8FE8 = h009

9FE7 = h008
9FE8 = h00A

AFE7 = h009
AFE8 = h00B

BFE7 = h00A
BFE8 = h000

Needless to say my broken HEPAX chain had different values at these addresse, stringing blocks 8 and B together while leaving blocks 9 and A in limbo. Block 8 had h000 and h00B while block B had h008 and h000. How this happened I don't know. I would suspect a HEPAX bug.

This also shows how it is possible to use blocks in the middle of the HEPAX chain for other purposes. It also show how you can protect a HEPAX block from having programs in there deleted - simply by leaving that block out of the chain.

Don't know if this is redundant or valuable to anyone. Just wanted to write it down somewhere.

HEPAX chain broken: I have a closer problem

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 14 Nov 2009, 8:40 a.m.,*
in response to message #1 by Geir Isene

Hi, Geir;

I have a NoV-32 that has some weird behavior, too. It installs in block 8 everytime I turn the HP41CV ON, and this breaks the chain in a different way:

```
8FE7 = h00B
8FE8 = h009


9FE7 = h008
9FE8 = h00A


AFE7 = h009
AFE8 = h00B


BFE7 = h00A
BFE8 = h008
```

It seems to create an endless loop, but it keeps blocks 9 and A in the chain. Both HEPROOM and HEPDIR return

```
H:NO FILE SYS
```

Even though, CAT 2 shows HEPAX RAM contents, and the programs stored there run with no problems, as if they are stored in regular ROM modules in normal operation.

HEXEDIT allows to edit their contents and system gets back to normal operation after correcting 8FE7 and BFE8 to 000. It goes OK up until the calculator is turned OFF and back ON. In fact, it never turns back ON regularly, I need to press and hold [CLx] while pressing and releasing [ON] at least three times. The display then shows:

```
[CLX       ]
```

and the calculator is back ON, but the chain is broken again (same 8FE7/BFE8 loop). I loaded NoVRAM and NoV32 firmware with no success.

Any suggestions?

Cheers.

Luiz (Brazil)

Re: HEPAX chain broken: I have a closer problem

*Message #3 Posted by **Geir Isene** on 14 Nov 2009, 8:50 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Try starting the HEPAX file system at block 9 with 9FE7 = h000 and end it at B with BFE8 = h000 and see what happens.

Re: HEPAX chain broken: I have a closer problem

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 14 Nov 2009, 9:11 a.m.,*
in response to message #3 by Geir Isene

OK, Geir, thanks; I got it. I'll try it right now.

But what about block 8? Should add 300 to disable it? You see, I once 'found' that HEPAX installed itself in block F... I happened to have CCD-OSX installed and tried CAT all blocks after block B. Surprise! CAT F brought -HEPAX 1D- instead of expected NO ROM!

I´ll post a followup ASAP. Thanks again.

Luiz (Brazil)

HEPAX chain broken: did not succeed!

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 14 Nov 2009, 12:42 p.m.,*
in response to message #3 by Geir Isene

Hi, Geir;

I finally managed to have my HP41C back to work and I tried the suppress block #8 from the HEPAX chain. Because of a simple fact I cannot change the contents of the block #8: HEPAX refuses to go to a lower block, so if I try HEXEDIT 8000 I get

```
HEPAX ROM
```

as expected.

I had the NoV32 reloaded this morning but I´ll try again in another computer. I saw some updates at Diego´s CLONIX homepage and I'll see if there is anything new to try.

Best regards.

Luiz (Brazil)

Edited: 14 Nov 2009, 12:45 p.m.

Re: HEPAX chain broken: did not succeed!

*Message #6 Posted by **Diego Diaz** on 16 Nov 2009, 6:16 p.m.,*
in response to message #5 by Vieira, Luiz C. (Brazil)

Hi Geir, Luiz,

Good to see your posting back... ;-)

And sorry to join this thread somewhat late but I've got no daily access to the net here.

Most weird behavious like these described inhere are due to "garbage" left behind into any RAM page.

Erasing RAM contents usually turns things back to normal... and then re-progam with latest update.

Let us know the results.

Best wishes from Caribbean Sea.

Diego.

Re: HEPAX chain broken: did not succeed!

*Message #7 Posted by **Vieira, Luiz C. (Brazil)** on 16 Nov 2009, 8:38 p.m.,*

in response to message #6 by Diego Diaz

Hi, Diego;

thanks for your answer. And yep, I´m trying to keep the status quo as a regular contributor again... Thanks! 8^)

I actually loaded the module with novclr32.hex and tried to check RAM contents after that, but HEPAX was setting itself again at page #8, so when I tried to use CLRAM (with the 'OK' in the ALPHA register) for page #8 I got [HEPAX ROM] instead of having it cleared.

I have already done some extra 'housekeeping', and my NoV32 unit seems to feel better now after being configured with the Novram-H.exe instead of being configured with the (expected) nov-32-h.exe In fact, I actually opened the module and made a soldering cleanup, because a couple of years ago I found a broken tag after trying to use it with no success (weird behavior at that time). Anyway, it is not totally stable. I programmed it with David Assembler and related labels in pages E and F, but everytime I turn the calculator ON it sees only David Assembler (CAT 2), and I have to turn it off, remove and reinsert the module, turn it on, try CAT 2 again, up until it sees HEPAX. I tried it in all four ports and different calculators (halfnut and coconut), but it happens the same. This NoV32 is the same one that had never accepted the second RAM bank, remember? Is there any chance that a faulty RAM IC does that? I thought about removing it and have the NoV32 reduced to a NoVRAM, but I am not sure about which RAM holds the second bank. To be honest, I opened the NoV32 case so many times that I think it will not survive another 'surgery', but I am worried about the need to remove and reinsert it so HEPAX comes to life.

I will load it with the new SW available (dated 2007) at your site and let you know, OK?

Best regards and thanks again.

Luiz (Brazil)

Re: HEPAX chain broken: did not succeed!

*Message #8 Posted by **Diego Diaz** on 16 Nov 2009, 11:55 p.m.,*
in response to message #7 by Vieira, Luiz C. (Brazil)

Hi,

Certainly a SW version update is advisable. I cannot remember how old is your NoV-32 but I'm pretty sure it's from the very early batch. Some improvements in the RAM chips swaping were introduced after that.

If NoVRAM-H.HEX is working as expected then the RAM chip #0 is definitely OK. However, chip #0 turns to be chip #1 in the NoV-32 implementation; therefore, we cannot yet discard a HW malfunction on the other RAM chip.

I can mail you a modified NoVRAM.HEX for testing purposes if you think it can be any help.

Just in case you cannot manage to get your NoV-32 back to fully operating condition, I'll gladly repair/replace it when I get back to the Canary Islands.

Cheers.

Diego.

Re: HEPAX chain broken: did not succeed!

*Message #9 Posted by **Vieira, Luiz C. (Brazil)** on 17 Nov 2009, 4:54 a.m.,*
in response to message #8 by Diego Diaz

Hi, Diego;

I´m worried about the fact that I extended a surely private conversation to a public domain. Sorry... It was about midnight and I was tired, I should have asked to go ahead with e-mails. Well, let´s do it, then...

linux_lcv [AT] yahoo [punto] com [period] br

Please, send the modified NoVRAM.HEX to this e-mail as well.

About replacing or repairing this NoV32: please, do not worry about this. I would rather buy a new unit and keep this one for testing purposes. It´s been a way of testing calculators as well, so it´s worth having a programmable, all-purpose module. It usually works fine when programmed with common ROM´s (applications) or other controlling ROM´s: CCD, AECROM, M2KROM, David Assembler... But if I want non-volatille RAM i must load HEPAX, and then... And I also have a NoVRAM that works flawlessly, a perfect gem, and two MLDL2000 also fully working.

Cheers!

Luiz (Brasil)

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RPN-like STO/RCL on RPL calculator

*Message #1 Posted by **David Hayden** on 13 Nov 2009, 10:07 p.m.*

One thing I missed when moving from a 41CV to a 50G was the ease of storing and recalling variables. To store 123 in register 01 on the 41CV you just type "123 STO 01" (6 keystrokes). You can even use the top two rows of keys as shortcuts for registers 01-10 so the keystroke count is really 5 (1 2 3 STO SIGMA+). On the 50G, the variables are named and they have to be quoted, so the same thing would be something like 1 2 3 ' alpha R 0 1 STO - a whopping 9 keys.

Now it's true that once you've defined a variable, it's accessible from the VAR menu with one key to recall it and 2 keys to store into it (LS followed by the key for the variable), but if you aren't actually IN the VAR menu, then you add 3 keystrokes to get to the VAR menu and back (VAR to get there, LS (hold) PREV to get back).

To get around this, I created the following UserRPL programs STOn and RCLn. If you type "123 1 STOn" then it stores 123 into variable R1. Similarly "1 RCLn" will recall variable R1. If you type "123 'myvar' STOn" then it behaves just like STO, storing 123 in 'myvar'.

More specifically, STOn/RCLn examine the value on level 1 of the stack. If it's a positive integer or a real number greater than zero with no fractional part, then STOn/RCLn will store/recall the variable Rn where "n" is the value on level 1. If there are fewer than 2 values on the stack or if the conditions above aren't met, then STOn/RCLn just call STO/RCL.

With this behavior, you can assign the programs to the STO and RCL keys and your calculator will behave the way I want it to... :)

Here are the programs:

```
«
@ STOn/RCLn RPN-like STO and RCL functions
@ If the stack depth is 2 or more
@ and level 1 is a positive integer or real
@ with no fractional part, then store
@ level 2 in variable Rn where "n" is the
@ integer on level 1.  Pop 2 levels
@
@ If the conditions aren't as mentioned above, then
@ call STO. C-like pseudo code is:


@ if (depth > 1 &&
@     (type == 0. && fractionalPart == 0 && value >= 0||
@      type == 028&& value >= 0) {
@   construct string "Rn";
@   convert it to an identifier
@   store it.
@ } else {
@   STO
@ }


@ The pseudo code relies on C's short-circuit
@ "and" operation. I'll do short-circuit AND
@ like this (for 'A == 0 && B == 1"):
@ A 0 ==
@ IF DUP THEN
@    B 1 == AND
```

```
@ END


DEPTH 1 >
IF DUP THEN
  OVER TYPE 0. ==   @ Is it REAL?
  IF DUP THEN
    3. PICK FP 0. == AND
    3. PICK 0. Š AND
  END
  IF DUP NOT THEN
    DROP
    OVER TYPE 28. ==
    IF DUP THEN
      3. PICK 0 Š AND
    END
  END
END
AND


IF THEN
  RI STR
  "'R" SWAP + "'" +
  OBJ
END
STO
»
'STOn' STO



@ Here is RCLn
«
DEPTH 0. >
IF DUP THEN
  OVER TYPE 0. ==   @ Is it REAL?
  IF DUP THEN
    3. PICK FP 0. == AND
    3. PICK 0. Š AND
  END
  IF DUP NOT THEN
    DROP
    OVER TYPE 28. ==
    IF DUP THEN
      3. PICK 0 Š AND
    END
  END
END
AND


IF THEN
  RI STR
  "'R" SWAP + "'" +
  OBJ
END
RCL
»


'RCLn' STO
```

Re: RPN-like STO/RCL on RPL calculator

*Message #2 Posted by **Stuart Sprott** on 14 Nov 2009, 6:15 a.m.,*
in response to message #1 by David Hayden

David,

I have done much the same thing. I created a matrix called "Regs", it is a 32*1 matrix. That means there are 32 registers. You can make it whatever you like. When created it was full of zeros.

Then I wrote two programs, STOi and RCLi. If you want to say store 2.5 into register 6, then key in 2.5 then

enter 6 and run program STOi. If you want to recall the number in register 9, enter 9 press RCLi. These two programs are assigned to to keys I normally dont use. The two programs are listed below.

STOi << > a b << Regs b a PUT 'Regs' STO >> >>

RCLi << > a << Regs a GET >> >>

Re: RPN-like STO/RCL on RPL calculator

*Message #3 Posted by **Gerson W. Barbosa** on 14 Nov 2009, 7:17 a.m.,*
in response to message #2 by Stuart Sprott

A similar approach, from the *HP-28S Owner's Manual*, page 300:

Registers Versus Variables

Fixed-stack calculators can deal efficiently only with real, floating-point numbers for which the fixed, seven-byte register structure of the stack and numbered data register memory is suitable (the HP-41 introduced a primitive alpha data object constrained to seven-byte format). The HP-28S replaces numbered data registers with named variables. Variables, in addition to having a flexible structure so that they can accomodate different object types, have names that can help you remember their contents more readily than can register numbers.

If you want to duplicate numbered registers on the HP-28S, you can use a vector:

```
{ 50 } 0 CON 'REG' STO
```

creates a vector with 50 elements initialized to 0;

```
<< 'REG' SWAP GET >> 'NRCL' STO
```

creates a program NRCL that recalls the *n*th element from the vector, where *n* is a number in level 1;

```
<< 'REG' SWAP ROT PUT >> 'NSTO' STO
```

creates the analogous store program NSTO.

Re: RPN-like STO/RCL on RPL calculator

*Message #4 Posted by **David Hayden** on 14 Nov 2009, 9:24 a.m.,*
in response to message #2 by Stuart Sprott

> Quote:
>
> I have done much the same thing. I created a matrix called "Regs", it is a 32*1 matrix. That means there are 32 registers. You can make it whatever you like. When created it was full of zeros.

Stuart,

I considered this approach, but the values in a matrix must all be the same type, so you can't, for example, store a list in one position and a program in another. I could have gotten around this by using a list, but I thought that would be somewhat slower if the list was very large. Also, if you wanted to store in R100-

R120, you'd have to create items 1-99 in the list anyway.

> Quote:
>
> Then I wrote two programs, STOi and RCLi. ... These two programs are assigned to to keys I normally don't use.

I did something similar in an earlier version, but then it occurred to me that with a little extra code, the program could determine if it should do its thing or just call STO/RCL. Then I could assign it to the STO and RCL keys

Obviously a lot of the code is in this functionality, so removing it will greatly reduce the size of the program.

Re: RPN-like STO/RCL on RPL calculator

*Message #5 Posted by **Paul Dale** on 14 Nov 2009, 6:29 p.m.,*
in response to message #1 by David Hayden

How about a sysRPL version that takes the number as a postfix argument to STO & RCL?

I.e. 123 STO 0 will store 123 in register 0.

Then allow programs and algebraics after the STO & RCL :-)

- Pauli

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HP Forum Archive 19

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Is the HP33S is the only game in town?

*Message #1 Posted by **John Noble** on 13 Nov 2009, 9:24 p.m.*

So, I've been working on some amateur astronomy programs with my HP33S and while it gets the job done I'm getting a little tired of jumping through hoops due to (among other things) lack of numbered GOTOs.

But when I look around for alternatives, all I see is the HP35S (a step backward, by many accounts, though it would scratch my GOTO itch), and Casio's fx-5800P. The latter looks like a pretty cool machine, but it's costly to get in the USA. There don't seem to be *any* other programmable scientific calculators on the market. Given my intended use (at night, outside in the damp), a nice old vintage HP isn't my idea of a wise investment.

I really don't want a graphing calculator. I had a HP49G+, but learning RPL just wasn't on the agenda so I sold it to a fellow forum poster. A trip through the manuals for TI's and Casio's graphing calcs was interesting, but it's just so much simpler to XEQ A and get on with my life than to mess around with menus.

I can't be the only one who needs to crunch a few numbers and display a result or two when out in the field, can I? I'd kill for a HP35S that had firmware I could trust, a real time clock, and the ability to save and load programs--heck, I'd even deal with magnetic strips if I had to. A (dimmable!) red backlight would be a bit much to ask, right? :-)

I suppose I'm just bellyaching, but I hold some hope that I'm wrong about the alternatives.

Re: Is the HP33S is the only game in town?

*Message #2 Posted by **Katie Wasserman** on 14 Nov 2009, 12:35 a.m.,*
in response to message #1 by John Noble

You said that you looked at TI's and Casio's graphics calculators, but I'd like to suggest that you re-examine Casio's fx-9860gii or the fx-9860g slim. Both have a fantastic back light which would be great outdoors at night, are pretty easy to program in their BASIC-like language and there are even a couple of (non-programmable) RPN calculators that people on this forum have programmed using Casio's SDK in C++:

from Nigel J Dowrick

from Hugh Steers

-Katie

Edited: 14 Nov 2009, 2:37 a.m. after one or more responses were posted

Re: Is the HP33S is the only game in town?

*Message #3 Posted by **Bruce Bergman** on 14 Nov 2009, 1:23 a.m.,*
in response to message #2 by Katie Wasserman

Casio fx-9860 slim. One of the best (if not THE best) non-HP calculators out there. And you can download one of the several RPN implementations for it too. Don't argue; just get it. ;-)

thanks, bruce

Re: Is the HP33S is the only game in town?

*Message #4 Posted by **John Noble** on 14 Nov 2009, 10:53 a.m.,*
in response to message #3 by Bruce Bergman

Katie, Bruce--thanks for the suggestions.

Yes, I have looked hard at Casio's various fx-9860 models. I actually have the PDF manual up in another window as I write this, and I looked at a fx-9860GII (and its little brother fx-9750GII) in person at Best Buy yesterday. They are very appealing, and the price (c. $65.00 for the fx-9860GII at Fry's) is nice.

After mulling it over, however, I decided that my 33S probably serves my needs better. It's smaller, lighter, has greater battery life, is cheaper, and requires the bare minimum of fiddling in the dark.

My math requirements are fairly lightweight: for example, the main program I use computes the altitude and azimuth of a target given the target's right ascension and declination and the observer's latitude, longitude, date, local time, and time zone. The math is limited to HR<->HMS, trig functions and their inverses, IP/FP, and basic arithmetic. My first cut at it runs to c. 200 instructions and uses 6 labels; only two of the labels are executed directly by the user (setup and main program). In use, I just hit XEQ A, enter no more than three numbers, and get my alt/az coordinates in the display.

If I want something more powerful, I have a couple of excellent planetarium applications for my iPod Touch that do everything but look through the scope for me. But I'm getting tired of dropping my nice $300 iPod in the dirt, and if I forget to look away when turning it on I trash my carefully acquired night vision--there's no way to suppress the "Slide to Unlock" screen.

I've gone on at some length to describe my peculiar needs, but I think there are a lot of people with similar demands: a small, rugged, and not too expensive device that can automate numerical solutions in the field with a minimum of fuss.

I still might grab a fx-9860 just to play with it, though. :-)

Re: Is the HP33S is the only game in town?

*Message #5 Posted by **marais** on 14 Nov 2009, 12:24 p.m.,*
in response to message #4 by John Noble

What is it exactly that turns you off about the HP-35s? I cannot see a single point where it lacks behind the 33s, but a great deal of improvements. And the pouch makes it a reliable travel companion. I used to travel with a 28S or 15C, but trusting vintage collectibles to airline companies is probably not a very good idea. So, what stinks about the 35s?

Re: Is the HP33S is the only game in town?

*Message #6 Posted by **Don Shepherd** on 14 Nov 2009, 1:29 p.m.,*
in response to message #5 by marais

Get ready for an onslaught!

Just for starters, it is MUCH SLOWER than the 33s at executing programs, and its handling of different bases is horrendous.

Re: Is the HP33S is the only game in town?

*Message #7 Posted by **John Noble** on 14 Nov 2009, 1:32 p.m.,*
in response to message #5 by marais

I'm relying on what seems to be the consensus take here on MoHPC: slower than a 33S, some math bugs--the usual well-known list.

Is the consensus mistaken? I'd love to be wrong about this.

Re: Is the HP33S is the only game in town?

*Message #8 Posted by **Steve Simpkin** on 14 Nov 2009, 1:58 p.m.,*
in response to message #5 by marais

> Quote:
>
> So, what stinks about the 35s?

I think "stinks" is probably too harsh (but maybe not).

Here is the un-official HP-35s bug list posted by Paul Dale http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=735

Re: Is the HP33S is the only game in town?

*Message #9 Posted by **Thomas Radtke** on 14 Nov 2009, 2:25 p.m.,*
in response to message #5 by marais

Add missing keystrokes (a hardware, not a software problem) to the list.

missing keystrokes

*Message #10 Posted by **marais** on 14 Nov 2009, 6:00 p.m.,*
in response to message #9 by Thomas Radtke

Missing keystrokes are almost always a software problem that can be remedied. What's so peculiar about the 35s keys? Mine doesn't show that behaviour, but it's a late model.

Re: missing keystrokes

*Message #11 Posted by **Bart (UK)** on 15 Nov 2009, 3:59 p.m.,*
in response to message #10 by marais

One broken key has been reported (up arrow if I'm not mistaken). The more commonly known missing keystroke problem is the lack of an input buffer (S/W). I have confirmed this by typing when the calculator is busy, e.g. 253!. Other HPs come up with the typed numbers in the display. The 35s doesn't.

Re: missing keystrokes

*Message #12 Posted by **Thomas Radtke** on 15 Nov 2009, 6:03 p.m.,*
in response to message #11 by Bart (UK)

> Quote:

> One broken key has been reported (up arrow if I'm not mistaken).

Your memory serves you well, that was me.

Edited: 15 Nov 2009, 6:04 p.m.

Re: missing keystrokes

*Message #13 Posted by **Thomas Radtke** on 15 Nov 2009, 6:01 p.m.,*
in response to message #10 by marais

Marais,

one key of my 35s (CNA72102360) stopped beeing registered despite an audible click. This has nothing to do with software. It's a matter of how hard the key is pushed.

Thomas

Re: Is the HP33S is the only game in town?

*Message #14 Posted by **Paul Dale** on 14 Nov 2009, 6:24 p.m.,*
in response to message #5 by marais

Nothing stinks about the 35s.

I find it is pleasant enough to use (except for base stuff which really is dismal). Speed is okay and much faster than the classic HPs, I don't own a 33s so I cannot compare with that.

Yes there are some bugs, but they are easy enough to avoid. I've never encountered the lock up the calculator ones.

- Pauli

OT: magnetic cards

*Message #15 Posted by **Thomas Radtke** on 14 Nov 2009, 7:33 a.m.,*
in response to message #1 by John Noble

> Quote:
>
> [...] heck, I'd even deal with magnetic strips if I had to.

Recently I fed some of them to my TI-59. They have been written somewhere early 80th and could still be read. Not a bad choice, except for the need to maintain the card reader and the current it draws ;^).

Re: Is the HP33S is the only game in town?

*Message #16 Posted by **bill platt** on 14 Nov 2009, 1:15 p.m.,*
in response to message #1 by John Noble

The calculator is the wrong piece of equipment.

Use a PC or a miniature computer, with software. You can get compilers and GUI interfaces for all sorts of programs, from Basic to C etc etc.

I like my calculators, but for doing anything other than trivial stuff or simple stuff for portable use, I go to the computer.

If portability is key, then a small machine is key. Maybe an Ipod or Iphone even.

I haven't had a need to do any non-trivial work on a compact device lately. Is the Iphone the only small device any more? What happened to Windows CE and Palm OS? Maybe they are already obsolete and you should use the Iphone platform.

Maybe the best thing s the tiny sub-laptops with ATOM processors. You have a real computer, only small. Put the BASIC< C++ or whatever on there and write your programs and never look back.

Just my silly ideas. I'd like to hear what you decide.

Re: Is the HP33S is the only game in town?

*Message #17 Posted by **John Noble** on 14 Nov 2009, 2:04 p.m.,*
in response to message #16 by bill platt

Thanks for the comments, Bill. Not to pick a fight with you, but your comments are a good representation of the direction things seem to be going so I'll post a little counterpoint. :-)

> Quote:
>
> The calculator is the wrong piece of equipment.
>
> Use a PC or a miniature computer, with software. You can get compilers and GUI interfaces for all sorts of programs, from Basic to C etc etc.

With respect, a calculator is the *perfect* piece of equipment since you don't have to pay the price in size, weight, cost, battery life, durability, or ergonomics to get a bunch of unnecessary power for the task at hand. My 33S spits out an answer in about two seconds, and the result is both accurate and easy to read. I can hold it in one hand, battery life is measured in months rather than hours, and I'm pretty sure it will survive field use. If I kill it, I'm only out $40 for a new one.

As for software, I don't have to muck around with compilers and a bunch of UI overhead if I want to add features to my keystroke programs. I do this sort of thing for a living, and I'm happy to avoid it when dealing with my hobbies.

> Quote:
>
> I like my calculators, but for doing anything other than trivial stuff or simple stuff for portable use, I go to the computer.
>
> If portability is key, then a small machine is key. Maybe an Ipod or Iphone even.

I have an iPod Touch, and I referred to some shortcomings above. To add to those shortcomings, winter is fast approaching and I don't think the iPod's touchscreen will work very well at all with gloves.

> Quote:
>
> I haven't had a need to do any non-trivial work on a compact device lately. Is the Iphone the only small device any more? What happened to Windows CE and Palm OS? Maybe they are

> already obsolete and you should use the Iphone platform.

I was a longtime Palm/WinCE user and used them pretty heavily. Both were (and are) terrible platforms compared to Apple's Touch/iPhone. Apple got a lot of things right with their OS X port for small devices.

> Quote:
>
> Maybe the best thing s the tiny sub-laptops with ATOM processors. You have a real computer, only small. Put the BASIC< C++ or whatever on there and write your programs and never look back.

I'm actually typing this on a Atom-powered ASUS eeePC running Ubuntu's excellent Netbook Remix Edition 9.10 Linux distribution. It's a terrific subnotebook, and it's a wonderful platform for my favorite planetarium application (Stellarium). It's a lousy choice for a night under the stars, however: battery life is too short, it's too fragile, and unless I want to drag a table along with me I don't know where I'd put it. In a mud puddle, maybe? :-)

> Quote:
>
> Just my silly ideas. I'd like to hear what you decide.

Not silly at all! We all have different applications and expectations for our equipment. It appears that I'm in the minority, that's all.

Re: Is the HP33S is the only game in town?

*Message #18 Posted by **MartinPinckney** on 14 Nov 2009, 7:17 p.m.,*
in response to message #17 by John Noble

> Quote:
>
> We all have different applications and expectations for our equipment. It appears that I'm in the minority, that's all.

Are you kidding? this forum has plenty of users that, well, *use* their HP calculators on a daily basis for "non trivial" work.

> Quote:
>
> Given my intended use (at night, outside in the damp), a nice old vintage HP isn't my idea of a wise investment.

This sentiment is expressed often on here. I admit I do not quite understand it, since *all* my HP calculators are out of production (Pioneers 38g and 48sx), and all of them are for me to use, not collect. Perhaps I wouldn't subject a mint 29c or 15c to such use (if I had one), but my point is I would not rule out an older calc if it otherwise meets my requirements. That's just me.

Re: Is the HP33S is the only game in town?

*Message #19 Posted by **John Noble** on 15 Nov 2009, 1:36 a.m.,*
in response to message #18 by MartinPinckney

> Quote:
>
> Are you kidding? this forum has plenty of users that, well, use their HP calculators on a daily basis for "non trivial" work.

I don't doubt it. But the fact that, as far as I can determine, there are exactly three "real" programmable scientific calculators on the world market speaks for itself.

Of those three, Casio doesn't even bother to market their seemingly excellent fx-5800P in the USA. HP really has one and a half models, and we probably owe the existence of *those* to the various PE exams' requirements.

Re: Is the HP33S is the only game in town?

*Message #20 Posted by **Palmer O. Hanson, Jr.** on 15 Nov 2009, 9:12 p.m.,*
in response to message #19 by John Noble

You wrote:

"But the fact that, as far as I can determine, there are exactly three "real" programmable scientific calculators on the world market speaks for itself."

Have you considered the Corner Office ATC-139 which seems to be a repackaged version of the Durabrand 828 which was a repackaged version of the Casio fx-7000G which was the first graphing calculator?

It's not much of a graphing calculator since it only uses a small portion of the screen for graphing, but it can serve as a respectable scientific calculator with some interesting attributes:

16 digits- what other machine can do that?

26 memories

400 program steps

10 program areas

Hyperbolics and base changes

Shirt pocket size - about the same size as the Voyagers - slightly longer, slightly narrower and slightly thinner.

A sturdy slip on cover

Really low price

Re: Is the HP33S is the only game in town?

*Message #21 Posted by **Don Shepherd** on 15 Nov 2009, 9:26 p.m.,*
in response to message #20 by Palmer O. Hanson, Jr.

Oh God, Palmer, I bought one of those about a year ago when Walgreens had them on sale for like $5 or something. It was horrible! I couldn't figure out how the programming language worked because the "manual" that described it was a fold-out sheet with a font so tiny I couldn't even begin to make it out. I even tried enlarging it on my copy machine and it

was still too small.

I took it back. Even $5 was too much to pay for that nightmare.

The packaging said something like "just like a TI-83." Believe me, it was nothing like a TI-83.

Don

Re: Is the HP33S is the only game in town?

*Message #22 Posted by **Palmer O. Hanson, Jr.** on 16 Nov 2009, 10:42 p.m.,*
in response to message #21 by Don Shepherd

Don:

You wrote:

> Quote:
>
> The packaging said something like "just like a TI-83." Believe me, it was nothing like a TI-83. Don

Of course it isn't "just like a TI-83" because it is really a repackaged fx-7000G. Among other things that illustrates how great the fx-7000G was for its time.

The manual I received was NOT a fold-out sheet but the printing was certainly small. But so is the printing for the manuals for all the low cost machines, unless you happened to get one of the 33s machines when they were on fire sale a couple of years ago.

I admit that I had an advantage in using it since I quickly remembered how to program the old Casios and I still had my old fx-7000G manual.

But if one wants a low cost programmable scientific calculator which is truly shirt-pocket size then a Durabrand 828 (no longer available at Wal-mart) or a Corner Office ATC-139 (to my surprise not available at the Wallgreen's here in Brevard) may be the right machine. The only pockets that the 33s, the 35s or any of the TI graphics will fit into are those on the overcoats we saw on Russian infantrymen back in the big war.

Palmer

Re: Is the HP33S is the only game in town?

*Message #23 Posted by **Don Shepherd** on 16 Nov 2009, 11:17 p.m.,*
in response to message #22 by Palmer O. Hanson, Jr.

Yeah, Palmer, after I wrote that I went rummaging through my closet and, lo and behold, I found that calc. Turns out I didn't return it after all, and it cost about $21, not $5, and you are right, the manual was a little booklet, not a fold out sheet, but the printing was tiny.

One of the problems I had with that calc, as I reminded myself as I was trying to figure out how to turn it on, was that the color of the shift keys did not correspond to the color of the keycap legends. That was maddening, trying to figure out which shift key went with which function in a different color. After about 3 minutes, I

finally figured out how to turn it on. It had some mode settings at the top in which the font was the tiniest I have ever seen. The display was OK once I figured out how to turn it on, but between the unreadable mode text and the shift key color discrepancy and the manual with the font so tiny I couldn't read it, I lost interest in that calc very quickly. It made me appreciate my HP's and my TI's.

The most interesting calc I have come across in the past few months has been the Canon FN-600, which I think Joerg posted a picture of a few months ago. It is a clamshell and when folded is a tad bigger than a credit card, and is about .5 inch thick. The 2-line display is huge, with big lcd numbers and text. It is designed for the person who wants to figure out what his mortgage payment will be but doesn't want to have to remember all the funky sign rules associated with standard TVM. It is a neat shirt pocket size calc. If it were RPN and programmable I would be in hog heaven, but alas.

Don

Re: Is the HP33S is the only game in town?

*Message #24 Posted by **Michael Plant** on 14 Nov 2009, 1:15 p.m.,*
in response to message #1 by John Noble

> Quote:
>
> ...Casio's fx-5800P. The latter looks like a pretty cool machine, but it's costly to get in the USA.

I picked one up on eBay, from a seller in Korea, for about $62.50, shipping included. His current BIN price is $79.50 (shipping included) and he offers a Best Offer option as well. Another programmable is the Sharp EL-5250, also available out of Korea via eBay.

I have both and find the Casio easier to use and more powerful (it's also got much, much greater memory than the Sharp - 28.5KB vs 4KB). It also features Natural Text display whereas the Sharp does not.

Edited: 14 Nov 2009, 1:16 p.m.

Re: Is the HP33S is the only game in town?

*Message #25 Posted by **John Noble** on 14 Nov 2009, 2:56 p.m.,*
in response to message #24 by Michael Plant

> Quote:
>
> I picked one up on eBay, from a seller in Korea, for about $62.50, shipping included. His current BIN price is $79.50 (shipping included) and he offers a Best Offer option as well. Another programmable is the Sharp EL-5250, also available out of Korea via eBay.

Thanks for the tip. I tracked down the seller and will keep him(?) in mind.

$70-80 would get me one of Casio's graphing models with change left over, and from my quick gloss of the fx-5800P's manual, it doesn't seem that much different in either programming or operation (aside from graphing). Actually, a fx-7400GII is only $35 or so from Office Depot and, again, it doesn't seem that much different from the fx-5800P in actual use (i.e. amount of menu hunting to get stuff done). The fx-7400GII is about the same size as a scientific but suffers by comparison in battery life, I think.

Feel free to set me straight if I'm drawing too many parallels between these models.

Re: Is the HP33S is the only game in town?

*Message #26 Posted by **Nigel J Dowrick** on 14 Nov 2009, 4:19 p.m.,*
in response to message #1 by John Noble

Like many others here, I'm sure you'll enjoy the Casio 9860G Slim. The batteries in mine have lasted ages, even with lots of uploading of successive versions of my RPN program! It's also enormously fast compared to the HP-33S or HP-35S. However, don't dismiss out of hand the TI-8x series of machines (I'll get flamed for this!). A TI-83 came into my hands recently. It has a lovely clear display (not as good as the Casio) and a powerful programming language (better than the Casio) which is well integrated with the main calculator screen. The TI-8Xes are impressive. Their main disadvantage for you is probably their size and weight.

Nigel

Re: Is the HP33S is the only game in town?

*Message #27 Posted by **John Noble** on 16 Nov 2009, 12:52 a.m.,*
in response to message #1 by John Noble

I'm now the proud owner of a shiny new HP35S. I had to see for myself why this calculator has been such a source of controversy around here, and I had a pretty bad GOTO itch that needed scratching.

Now that I've played with it for an afternoon while porting and entering my astrogeek program, I think I can live with it.

On the plus side, GOTO is even more helpful than I expected: I was able to build in some bounds checking tests with nice user friendly error messages without eating up any labels or doing a million flag checks. Nice! Program space is effectively doubled (or more) without undue programming contortions--I can now foresee running out of memory before I run out of labels. Otherwise, it's just like programming a 33S with legible keys. Both give identical answers when running my program.

The case is interesting. I don't know if I like it yet, but I appreciate the pocket for program cheat sheets, etc.

My wife thinks it's the best looking calculator she's ever seen. That's gotta count for something, even if it's coming from the owner of 3 graphing TIs (yes, I married a woman who owns a TI-92+). My uncle's HP97 is *my* standard for beauty, but I was young and impressionable when I first played Lunar Lander on it back in the late '70s.

On the minus side, the 35S runs my program a little more than half as fast as my 33S. Execution times are at the edge of "acceptable", while the 33S almost feels snappy. I'm not happy about the inoperative program checksums, of course.

In the "neutral" category are things like shifted STO (mildly annoying), and XEQ __ ENTER vs. XEQ __ (rather more irritating but I'm already getting used to it).

Thanks for the suggestions, everyone. I very nearly bought a fx-9860GII along with the 35S, but I really have too many electronic toys as it is. I know I'm unique in the MoHPC community in this respect, so have pity on me.

;-)

Re: Is the HP33S is the only game in town?

*Message #28 Posted by **Mike Morrow** on 16 Nov 2009, 9:15 a.m.,*
in response to message #27 by John Noble

Compromise, and buy an $18 Casio fx-115ES (a.k.a. fx-991ES) at the local Walmart, just for its "toy" value. It's not programmable, it's not RPN. Still it's an amazing scientific non-graphing calculator for its price. It's surprisingly well built, has an excellent two-line LCD, has outstanding numerical precision, has numerical integration and differentiation, elementary SOLVE, complex, and matrix functions, has 40 conversion factors and 40 physical constants, is solar/battery-powered, etc.

It's interesting to see what's going on outside the HP arena. I'd love to see an RPN equivalent at a comparable price.

Edited: 16 Nov 2009, 9:22 a.m.

Re: Is the HP33S is the only game in town?

*Message #29 Posted by **John Noble** on 16 Nov 2009, 10:18 a.m.,*
in response to message #28 by Mike Morrow

That looks like a cool little calc, but what's the "=" key for?

:-)

A cheaper/smaller RPN calc would be most welcome, but I simply won't buy a non-programmable calculator. I don't write programs very often on my daily driver (HP-12C), but a short little program can save a lot of labor.

Edited: 16 Nov 2009, 10:27 a.m.

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32s problems

*Message #1 Posted by **Lincoln R.** on 13 Nov 2009, 3:46 p.m.*

So, I've obtained a rather well-worn HP 32s (case isn't scratched up, but there's definite wear in the texturing on the edges, and the paint is worn off the metal faceplate around the display bezel and in a few other places). This one was made in the USA in 1988, and all the keys still click properly, but the top row and right column don't register unless you press down below the LCD (I understand the keyboard contacts are located here). I can probably fix this, I've read old posts on here where people have gotten success by adding some paper/tape/whatever behind the rubber strip that presses the keyboard connector onto the PCB, but I'm wondering:

Is the process described in "Pioneer Internals" involving drilling the top 4 heat stakes the best way to disassemble it?

Can I possibly repaint the damaged areas of the faceplate without it looking cheesy?

I don't care *that* much about the cosmetics, I bought it to use, as I need something smaller than my 48G to carry with me.

Re: 32s problems

*Message #2 Posted by **Paul Brogger** on 13 Nov 2009, 5:36 p.m.,*
in response to message #1 by Lincoln R.

The drill-the-heat-stakes-and-pry-it-apart method has worked for me a number of times. You'll want to experiment, drilling only as much material as necessary to start prying the thing apart a the top. Done right, when you stick it back together, you won't see a thing.

I found a permanent marker at an art supply store -- a sort of taupe color -- which worked *pretty* well on scratches on my old brown Pioneers. (Better than paint, at least.)

I suppose a person with an air brush could match the color and finish, and spray through a custom mask, with holes only showing the scratched parts through. (Easy for me to say!)

Good luck. The plain-vanilla 32s has always been my favorite from a design standpoint. What a clean machine!

Re: 32s problems

*Message #3 Posted by **Lincoln R.** on 14 Nov 2009, 12:42 a.m.,*
in response to message #2 by Paul Brogger

Paul,

Thanks for the advice, I was able to open the unit without a problem. I may have slightly bent the metal backing of the keyboard in convincing the bottom heat stakes to let go, but it fits together fairly well. The top didn't want to stay together, but I found a couple of appropriately sized screws to solve that issue. The calculator now works fine (also, on this model, the pad behind the keyboard connector is not a rubber strip

(which would have worked well), but gray stuff that looks like closed-cell poly foam. I put some rolled up double-sided tape behind it.

Now I just have to ask myself... is it worth buying an old 10b just to get the cover to keep a fairly rough-looking machine from getting more battered. At the moment, 10b's seem fairly worthless, so it might be a good idea just for the extra battery door, etc.

Re: 32s problems

*Message #4 Posted by **Randy** on 14 Nov 2009, 8:32 a.m.,*
in response to message #3 by Lincoln R.

You most likely did not bend the plate. The early Pioneers had stamped recesses in the plate for each key and the plates were not flat so I would not be concerned.

The original series of Pioneers, which included the 32S, had cases that received a redesign about a year into production. The way to tell the difference is to look.

Does the keyboard has six .062" pins extending from the keyboard side (at the four corners and two mid case) that engage in corresponding holes in the case back? These pins help to hold the case halves together at the edges. If so, this is the *later* design and any 10B will have a compatible case back. If you don't see pins, the case used a latching detent design which is the original design and trying to exchange the back with the later design will result in a loose back that is only held in place by the eight heat stakes.

HTH...

Re: 32s problems

*Message #5 Posted by **Lincoln R.** on 14 Nov 2009, 10:36 a.m.,*
in response to message #4 by Randy

I have 8 plastic pins, 2 up at the top, 2 on the 2nd row down of heat stakes that's visible with the PCB on, and 4 on the very bottom row of heat stakes, but I don't see anything they engage into on the back, and there are 2 plastic latches about 2/3 of the way down on the sides of the back cover.

I wasn't actually talking about exchanging backs because mine's in good shape, I was more talking about the vinyl slipcover these came with, and stuff like the battery door. Not sure what's up with those pins, this calculator had never been opened before I opened it, unless HP or someone did it and actually replaced/re-heatstaked the covers, but I don't think HP ever serviced Pioneers like that, and

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A happy buyer :-)

*Message #1 Posted by **Saile (Brazil)** on 13 Nov 2009, 11:30 a.m.*

```
Who said that the calculators of the hp have the high prices?

A happy buyer link

Now you look at the value of this computer:

General LBC-1100
```

Re: A happy buyer :-)

*Message #2 Posted by **Marcus von Cube, Germany** on 13 Nov 2009, 2:51 p.m.,*
in response to message #1 by Saile (Brazil)

The General LBC seems to be quite rare and the unit on auction is in very good shape and rather complete. Think of a 41 with HP-IL module, Printer and tape drive...

If you're the "lucky buyer", will you try to fix the broken display?

Re: A happy buyer :-)

*Message #3 Posted by **Juergen Keller** on 13 Nov 2009, 3:52 p.m.,*
in response to message #2 by Marcus von Cube, Germany

There are even the service manuals included, so you have all the information to keep this thing running in the future ...

Saile, congratulation to this great buy! The orange keys and the light grey case look rather unique compared to other HP calculators. Your collection has a new eye-catcher :-)

Re: A happy buyer :-)

*Message #4 Posted by **Saile (Brazil)** on 13 Nov 2009, 5:39 p.m.,*
in response to message #2 by Marcus von Cube, Germany

```
Does a lot of difference exist among General LBC and Sharp PC-1600?
Thanks
```

Re: A happy buyer :-)

*Message #5 Posted by **Juergen Keller** on 13 Nov 2009, 5:43 p.m.,*
in response to message #4 by Saile (Brazil)

The Sharp PC-1600 is by far more powerful than the General LBC which is a quiet simple machine.

Re: A happy buyer :-)

*Message #6 Posted by **jotne** on 15 Nov 2009, 3:40 a.m.,*
in response to message #5 by Juergen Keller

If the owner of the HP 70 had shipped would wide, he may have got more for his calculator.

Users in USA sees to forget that there is a global market for old HP calculators.

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alternate documentation for 50G

*Message #1 Posted by **Glenn Becker** on 13 Nov 2009, 9:59 a.m.*

Hi all -

I was wondering if there are alternatives to the HP documentation for the 50G ... something a little more lively, like the Grapevine books for the 48GX, etc.

If anyone knows of any and can recommend (or not), I'd be interested in hearing about it.

Thanks,

Glenn

Re: alternate documentation for 50G

*Message #2 Posted by **P.Hart** on 14 Nov 2009, 2:47 p.m.,*
in response to message #1 by Glenn Becker

I am very pleased with "The Definitive User's Guide to the HP 48g/49g/50g Calculators" by Thomas Barber which I bought from Samson Cables at a cost of $29.95 + $10.00 shipping to UK. P.Hart.

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Forth Day

*Message #1 Posted by **Eric Smith** on 13 Nov 2009, 12:27 a.m.*

RPN aficionados in or near the SF bay area may be interested in SVFIG's Forth Day, on the Stanford campus on Saturday, November 21.

Re: Forth Day

*Message #2 Posted by **Egan Ford** on 13 Nov 2009, 9:45 a.m.,*
in response to message #1 by Eric Smith

Wow. I would have liked to attend and possibly present on "The Joy of FORTH on the 71B". But, I'll just be finishing up at SC09--where we talk about calculators that require megawatts of power.

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Update to m48 HP48GX emulator for the iPhone

*Message #1 Posted by **Steve Simpkin** on 12 Nov 2009, 2:27 p.m.*

A new update (V1.1) is available for the "m48" HP48GX emulator for the iPhone/iPod Touch. Markus Gonser's iPhone port of Emu48 now includes 15 new skins (some are variations of the same theme) and a number of new options. The previous skin was very nice but I couldn't read the small lettering for the secondary functions of each key. The new Emu48 Real48 skin fixes that for me. One big advantage of this App over the other two HP48GX emulators available for the iPhone is that the active key press area covers a larger area than just the small key button graphic. There is no "dead area" between keys. If you touch anywhere on the keyboard section of the the screen you will *always* get a key press of the closest button. This makes the keyboard much more reliable for a touch screen calculator. Try entering 1234567890 quickly on all three emulators and you will see what I mean.

Now when the update that allows programs and libraries to be imported and exported (similar to i41CX+ and 42s) is available, this will truly be a complete and powerful tool.

Changes noted by the author: - Skins are now changeable and I already have added some new skins to the app. - More skins can be downloaded from within the app (Make sure to check out the "m48 Starship" after downloading the "m48 Multiskin Standard" package. I have probably watched to much Start Trek during programming that skin :-) Also check out the skin from Staffan Sevón, which he kindly provided! - Added sound support. - New interpolation method for the LCD. Even for non integer ratios of lcd re-size, the result should look acceptable now. - Added more information sections, some of them are online and will be updated frequently: News, Tips'n'tricks, FAQ - Added settings pane, including many settings regarding Emulation, Graphics and Audio. - bugfix: permanent lowercase mode should behave now properly - bugfix: "static" which sometimes appeared should be removed

See more information at his website: http://www.mksg.de/

Re: Update to m48 HP48GX emulator for the iPhone

*Message #2 Posted by **Alain Mellan** on 13 Nov 2009, 9:28 a.m.,*
in response to message #1 by Steve Simpkin

I especially like the "m48 Starship" skin and the sound effects! It makes using the calculator even more fun.

Re: Update to m48 HP48GX emulator for the iPhone

*Message #3 Posted by **Reth** on 13 Nov 2009, 3:54 p.m.,*
in response to message #1 by Steve Simpkin

m48 Minimal skin makes it usable, which is a big step ahead. LS & RS need to be made visible - probably the arrows should be made white. I like the "alpha" solution. Can't wait for the I/O support. Congratulations for the author.

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A useful HP-50G program to keep the DIRs clean...

*Message #1 Posted by **Bill Zimmerly** on 12 Nov 2009, 2:17 p.m.*

Everyone has their personal preferences for organizing their homes, rooms, offices, etc. - even the directories and files on personal computers. I am a neat freak and like things to be highly organized. The way in which the directories and objects on my HP-50G are organized makes it easy for me to locate important things.

I like every directory from HOME on down to be organized like this: alphabetically with directories first and all other objects afterwards.

I like programs to clean up after they are run by making sure that the flags are restored to their pre-run state and I want the VAR menu to always be displayed.

I'm also an automation freak. On my Linux workstations, I have a collection of useful scripts that I wrote that make working with the system very easy. Likewise so for my HP-50G, I have written a series of useful programs that keep things organized the way I like them.

Here is a program I wrote (that resides in HOME) to relist all directories and objects to my liking. I'm posting it here so others may find usefulness with it too...

<< "Relisting the Directory..." 1. DISP {} DUP 'xA' STO 'xB' STO VARS OBJ-> 1. SWAP START DUP 1. ->LIST SWAP VTYPE IF 15. == THEN xA + 'xA' STO ELSE xB + 'xB' STO END NEXT xA SORT xB SORT + ORDER {xA xB} PURGE 2. MENU >> 'ReList' STO

I have it in the HOME's CST list, so it can run in any subdirectory and clean up whatever is the "current" directory.

P.S. Nobody is perfect, so I welcome suggestions for improvement.

Edited: 12 Nov 2009, 2:20 p.m.

Re: A useful HP-50G program to keep the DIRs clean...

*Message #2 Posted by **Dave Britten** on 12 Nov 2009, 3:19 p.m.,*
in response to message #1 by Bill Zimmerly

I use a very similar program on my 48GX. It's actually multiple programs - one of them to do the actual sorting, and one to recursively traverse the whole directory structure.

SORTALL: This is the program that sorts all directories beneath the current directory. It works by stepping through each directory in the current directory, and then running itself from within those directories. After that, it sorts the current directory, and goes back up one level. Run it in HOME to sort everything (except the hidden directory).

```
<< 0 { } \-> P DIRS
  << 15 TVARS 'DIRS'
STO DIRS SIZE
    IF
    THEN 1 DIRS
SIZE
```

```
      FOR P DIRS P
GET EVAL SORTALL
      NEXT
    END PATH 1 DISP
SORTDIR UPDIR
  >>
>>
```

SORTDIR: This is the program that actually does the sorting. The main version lives in HOME, and sorts into an alphabetical list of directories, followed by programs, followed by everything else. The "everything else" isn't alphabetized, to save time.

```
<< 8 TVARS DUP
  IF SIZE 1 >=
  THEN SORT ORDER
  ELSE DROP
  END 15 TVARS DUP
  IF SIZE 1 >=
  THEN SORT ORDER
  ELSE DROP
  END
>>
```

The reason this is a separate program is because I have a different version of SORTDIR stored in some directories where I want special sorting rules. For example, I have a directory with some custom units, and a CST menu. I hide all the actual unit variables by sorting them after an object with a null name, since CST provides better functionality than VAR does for unit menus, where it's rather easy to accidentally overwrite them. Then I have another directory where I only sort a couple program names to the front, and leave everything else as-is.

Re: A useful HP-50G program to keep the DIRs clean...

*Message #3 Posted by **Bill Zimmerly** on 13 Nov 2009, 12:19 a.m.,*
in response to message #2 by Dave Britten

Thanks Dave! I have Droid48 on my T-Mobile G1 cell-phone, so I'll add your code to the emulator and see how it works out. :)

Re: A useful HP-50G program to keep the DIRs clean...

*Message #4 Posted by **David Hayden** on 12 Nov 2009, 4:52 p.m.,*
in response to message #1 by Bill Zimmerly

> Quote:
>
> [...]
> << "Relisting the Directory..." 1. DISP {} DUP 'xA' STO 'xB' STO VARS OBJ-> 1. SWAP START DUP 1. ->LIST SWAP VTYPE IF 15. == THEN xA + 'xA' STO ELSE xB + 'xB' STO END NEXT xA SORT xB SORT + ORDER {xA xB} PURGE 2. MENU >> 'ReList' STO
>
> P.S. Nobody is perfect, so I welcome suggestions for improvement.

Bill,
You can replace "xA + 'xA' STO" with "'xA' STO+"

On the non-programming side, here's a trick for sorting things when the sort order isn't alphabetic. Prefix the name with a number. For example, sometimes I need one subdirectory for each month, so I call them 01Jan 02Feb 03Mar etc.

Thanks for sharing this utility.

Dave

Re: A useful HP-50G program to keep the DIRs clean...

*Message #5 Posted by **Bill Zimmerly** on 13 Nov 2009, 12:17 a.m.,*
in response to message #4 by David Hayden

You're welcome, Dave - and thanks for improving it! :)

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HP17b Solver Function

*Message #1 Posted by **Roland Storz** on 12 Nov 2009, 10:08 a.m.*

Hi all,

does anybody know whether the functionality of the HP17b Equation Solver is available for the iphone / ipod touch?

Both the i41cx+ and the 42s emulation are unquestionably excellent, however, me personelly I do miss the easy to use solver function of the 17b. In my eyes specifically the solver function of the 42s is not that efficient compared to the 17b.

Any advice?

Cheers, Roland

Re: HP17b Solver Function

*Message #2 Posted by **Dave Britten** on 12 Nov 2009, 3:45 p.m.,*
in response to message #1 by Roland Storz

I would like having this myself, but I've not seen any 17bii simulators, unfortunately.

There were, however, a number of devices produced by HP that feature the same HP Solve:

17b - Probably the cheapest option, but missing L() and G(). (...and RPN!)
17bii - Same as the 17b, with L() and G() added.
17bii+ - Same as the 17bii, but there were some changes that cause L() and G() to behave differently. I'd stay away from this one.
18c - No L(), G(), or looping.
19b/19bii - Includes trig functions, I believe.
22s - Has trig and scientific functions, but no finance, and missing L(), G(), and looping.
27s - Same as 17bii, but no cash flow lists, and it apparently only uses iteration, not algebraic simplification.
95LX - About the same as the 19bii, plus you can back-solve in Lotus 1-2-3. Can be found cheaply from time to time.
100LX - About the same as the 95LX, but some ROM versions have a bug with reading cash-flow lists.
200LX - About the same as the 95LX, but no bugs that I'm aware of. Most feature complete, but can be pricey.
OmniGo - Pretty sure it had the same solver, but was missing some features.

There was also a Windows (3.1) version for some older models of OmniBook, I believe.

You might also consider downloading one of the 48GX emulators for iPhone/iPod. The 48 has an algebraic solver that's somewhat similar to HP Solve, but without L(), G(), and looping.

Re: HP17b Solver Function

*Message #3 Posted by **Don Shepherd** on 12 Nov 2009, 4:23 p.m.,*

in response to message #2 by Dave Britten

> Quote:
>
> 17b - Probably the cheapest option, but missing L() and G(). (...and RPN!)

Dave, the 17b does have L() and G(). At least mine does. The manual was missing a description of those functions, but they were in the ROM.

> Quote:
>
> 17bii+ - Same as the 17bii, but there were some changes that cause L() and G() to behave differently. I'd stay away from this one.

The + has a whole different solver, and it does not work like the solver in the original 17b and bii. See this articlefor a discussion of the differences in these solvers.

Re: HP17b Solver Function

*Message #4 Posted by **Martin Pinckney** on 12 Nov 2009, 4:32 p.m.,*
in response to message #3 by Don Shepherd

Also, I would point out that the 22s solver is quite different from the others in many ways, not the least of which is having no alpha capability, other than single letter variables.

Re: HP17b Solver Function

*Message #5 Posted by **Dave Britten** on 12 Nov 2009, 4:47 p.m.,*
in response to message #4 by Martin Pinckney

Yeah, looks like it's more akin to the 32sii, 33s, and 35s solvers, i.e. nothing terribly remarkable.

Re: HP17b Solver Function

*Message #6 Posted by **Bruce Bergman** on 12 Nov 2009, 9:59 p.m.,*
in response to message #2 by Dave Britten

The 19bii was one of the nicest of this family. As a close second, I would recommend the most recent 17bii+.

thanks, bruce

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16 segment Led display would mimic a HP-41 display?

*Message #1 Posted by **Giuseppe Marullo** on 11 Nov 2009, 6:03 p.m.*

Hi all, just out of curiosity, is there anyone that tried to mimic HP-41 display "feeling" using LED displays?

I need some form of output, since I have to mess with led display anyway and I would like something more cool that the expensive serial 5x7 matrices you see today.

It seems somewhat easier to find 16 segment instead of 14 segment that should be the most similar used on the 41.

Any advice?

Giuseppe Marullo

PS: no, I don't plan to emulate a 41 on a fpga, even if...

Re: 16 segment Led display would mimic a HP-41 display?

*Message #2 Posted by **Lyuka** on 12 Nov 2009, 2:06 a.m.,*
in response to message #1 by Giuseppe Marullo

Hi.

How about using LiteOn's LTP-4323G (Alphanumeric 16seg. LED display) or LTP-3784G (14seg.) and Maxim's MAX6945 (LED-driver/Key-scanner) ?

However, if its cost won't be a matter, I'd like to use Avago's HDSP-2503 or HDSP-0962 for industrial application,
for the feel of former HP's reliable instruments :-)
(I like VFD display of HP|Agilents's 34401A or 53131A and so on by the way.)

Regards, Lyuka

Edited: 12 Nov 2009, 5:31 a.m.

Re: 16 segment Led display would mimic a HP-41 display?

*Message #3 Posted by **Giuseppe Marullo** on 12 Nov 2009, 4:24 p.m.,*
in response to message #2 by Lyuka

Hi.

>How about using LiteOn's LTP-4323G (Alphanumeric 16seg. LED display) >or LTP-3784G (14seg.) and Maxim's MAX6945 (LED-driver/Key-scanner) ? Exactly, I wanted to know if 16 segment would make a difference compared to 14 segment. I think there is another nuisance, no 14 or 16 digit display I am able to find has the comma, just the dot.

>However, if its cost won't be a matter, I'd like to use Avago's >HDSP-2503 or HDSP-0962 for industrial application,

Nice, but expensive as you said and while easy to interface you need to have a char rom anyway, so they are not straightforward as it seems at first glance.

>for the feel of former HP's reliable instruments :-) >(I like VFD display of HP|Agilents's 34401A or 53131A and so on by >the way.)

I prefer Leds, but just because of their tolerance to mechanical abuse, VFDs are great.

Giuseppe Marullo

Re: 16 segment Led display would mimic a HP-41 display?

*Message #4 Posted by **db (martinez, ca.)** on 12 Nov 2009, 8:08 p.m.,*
in response to message #1 by Giuseppe Marullo

Or; there's the form over function approach to LED usage. I think there is enough LED light here to keep even Norm content. Yet i wonder if it will have bugs. And what if i find i want a landscape format or later wish for a "memory lost"?

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Form factor for calculators

*Message #1 Posted by **David Hayden** on 11 Nov 2009, 3:45 p.m.*

In another thread, Mike Morrow wrote:

> Quote:
>
> The HP 42S is not the answer to everything, I suspect.
>
> But...after 21 years, nothing in its form factor has appeared that is an advance, an improvement, or even a simple equal in capability.
>
> One has to resort to larger, heavier, RPL machines. :-(
>
> At least those are inexpensive!

Looking at HP's current lineup of scientific calculators there is very little variety in the form factor. What form factor do you like? Would you buy multiple calculators in different form factors for different needs?

One of my favorites was the 29C because you could hold it in one hand and reach all the buttons with your thumb. The hinged design of the 28C looks like it was very handy too.

Re: Form factor for calculators

*Message #2 Posted by **Andrés C. Rodríguez (Argentina)** on 11 Nov 2009, 3:54 p.m.,*
in response to message #1 by David Hayden

Woodstocks (21,22,25,27,29C) were very good in form factor, however today's tren would be a slimmer body, to be carried in a shirt pocket (not in Mr. Hewlett legendary pocket, I mean).

HP41: very good too; Voyagers and Pioneers almost optimal.

Today models: 17B II silver (almost equal to HP42 and other Pioneers). HP 48/49/50 and HP35S are too large.

Re: Form factor for calculators

*Message #3 Posted by **Walter B** on 11 Nov 2009, 4:28 p.m.,*
in response to message #2 by Andrés C. Rodríguez (Argentina)

I concur. Just want to add the 20b to today's models being handy. Could be even handier without the double shell on its back.

Re: Form factor for calculators

*Message #4 Posted by **Dave Britten** on 11 Nov 2009, 4:15 p.m.,*
in response to message #1 by David Hayden

> Quote:
>
> The hinged design of the 28C looks like it was very handy too.

Spoken like somebody who's never used a 28C! ;)

In fairness, it's pretty nice when you've got a big, flat surface to work on, but anything else becomes a huge pain. Handheld operation is awkward at best.

And don't get me started on broken battery doors...

Re: Form factor for calculators

*Message #5 Posted by **Bart (UK)** on 11 Nov 2009, 5:26 p.m.,*
in response to message #4 by Dave Britten

I've had a 28S for 20 years. It is fine to use as a handheld with the second keyboard folded all the back. All keys were not quite accessible using one handed thumb method though (but I daresay that neither are the 48/49/50). I did make sure that I'd pre-programmed all the formulas that I would need to avoid having to use the second keyboard though.

Indeed the battery door was probably the most stupid design to come out of HP. I have had to repair mine with an extra strip over the door. I still enjoy using it.

Re: Form factor for calculators

*Message #6 Posted by **Dave Britten** on 11 Nov 2009, 5:31 p.m.,*
in response to message #5 by Bart (UK)

Yes, software-wise, the 28C and 28S are very good. Having loads of keys greatly speeds typing, though I find the form factor is sub-optimal for anything but a desk or table. I like 'em, but I'd rather just use my 48SX or 48GX. Wouldn't mind getting ahold of a 19BII with the improved battery door, though.

Re: Form factor for calculators

*Message #7 Posted by **Bart (UK)** on 12 Nov 2009, 10:09 a.m.,*
in response to message #6 by Dave Britten

I wonder if one could swap out the insides, not minding the darker plastic of the 19BII (obviously I'm not in the finance sector and don't care much for financial calcs). I remember reading a historic HPCC article about using a drill to open the 28C - a bit destructive.

Re: Form factor for calculators

*Message #8 Posted by **Ron Ross** on 12 Nov 2009, 12:40 p.m.,*
in response to message #7 by Bart (UK)

Ah, but that is the bueaty of an Hp 19Bii. It has trig functions and units conversions. And it is both RPN and Algebraic selectable. Many Hp19Bii owners gripe about this calculator no longer being available and that the Hp17Bii being a poor substitute.

For my own preference, I like the Voyager format in size but accept the Hp42s due to its superiority over the Hp 15c in most areas.

My dream calculator would be to take the existing NEW Hp 17Bii and stuff the Hp50G rom into it minus the Graphing abilities. Power it with three button cells and provide an external power jack, USB port and SD card slot. Let the market and Hackers develop the rest. The power jack would drive the external periphials. Hp has the case and would only need to modify I/O points to stuff this technology into an existing line. I would pay $150, probably more for such a POCKET CALCULATOR!!!!

Notice """HP""""", that I suggest a pocket calculator ie TW and Cryille!!!!!

Hp's present Hp17Bii is an existing platform that is the closest match to what I would want. Admittedly, if Hp releases an Hp15c for sake of vintiage appeal, I will indeed buy one also, if it is at a similar price to the existing Hp12c line (ie don't rob me for being an engineer, HP).

Re: Form factor for calculators

*Message #9 Posted by **Walter B** on 12 Nov 2009, 1:00 p.m.,*
in response to message #8 by Ron Ross

Way back in February, I had such a 17bii-based proposal posted here. To save search time, here it is again.

HTH

Re: Form factor for calculators

*Message #10 Posted by **Bart (UK)** on 12 Nov 2009, 6:54 p.m.,*
in response to message #9 by Walter B

I like that, but let me guess not RPL. Or does (could) it have a choice (like the current RPN/ALG)?

Re: Form factor for calculators

*Message #11 Posted by **Walter B** on 13 Nov 2009, 1:50 a.m.,*
in response to message #10 by Bart (UK)

It's designed to work for RPN and ALG like the 17bii and the 35s. Not for RPL, however, because I think that's overkill. The 44s is meant to be a small keystroke programmable scientific without graphics. It's a member of a set of 4 drafts I designed based on a Voyager, a Pioneer, the 17bii, and the 35s.

BTW, I looked up the old files and found these drafts are older than I wrote: they were published in two articles in DATAFILE V27, including a complete menu system for the command set of the 44s.

Ceterum censeo: HP, launch a 43s (please check the files and you'll know why).

Walter

Re: Form factor for calculators

*Message #12 Posted by **Bart (UK)** on 12 Nov 2009, 6:49 p.m.,*
in response to message #8 by Ron Ross

> Quote:
>
> My dream calculator would be to take the existing NEW Hp 17Bii and stuff the Hp50G rom into it minus the Graphing abilities.

I've had the same in mind: graphics is best done on a PC. A powerful compact RPL calc would be ideal in my mind.

I looked at the financial calc details: 17BII+ lots of program memory, basic math (LN EXP etc) but no trig functions. 20B has trig/hyp trig functions but no program memory. Nothing that has the "best of both"!!

Re: Form factor for calculators

*Message #13 Posted by **Walter B** on 13 Nov 2009, 1:55 a.m.,*
in response to message #12 by Bart (UK)

OK, but what needs to be done is "only software", as my late boss used to say. Plus a proper layout, but that's no witchcraft d8-)

Edited for this P.S.: The presence of an interface allowing the input of this "software" is a necessary requirement, of course. That puts the 20b and 12c+ on the list.

Edited: 13 Nov 2009, 6:39 a.m.

Re: Form factor for calculators

*Message #14 Posted by **David Hayden** on 11 Nov 2009, 9:44 p.m.,*
in response to message #4 by Dave Britten

> Quote:
>
> Spoken like somebody who's never used a 28C! ;)
>
> In fairness, it's pretty nice when you've got a big, flat surface to work on, but anything else becomes a huge pain. Handheld operation is awkward at best.
>
> And don't get me started on broken battery doors...

> It's true! I've never used one. Thanks for pointing out the pitfalls of this design.

Re: Form factor for calculators

*Message #15 Posted by **Paul Dale** on 11 Nov 2009, 5:31 p.m.,*
in response to message #1 by David Hayden

A credit card scientific would be my ideal form factor (RPN of course). Something I could carry unobtrusively anyway.

- Pauli

Re: Form factor for calculators

*Message #16 Posted by **DaveJ** on 11 Nov 2009, 7:16 p.m.,*
in response to message #15 by Paul Dale

> Quote:
>
> A credit card scientific would be my ideal form factor (RPN of course). Something I could carry unobtrusively anyway.

Yep, that's my holy grail calc format too.

Of course, I could always just design my own if I needed to.
Such a thing would be much easier than the Mk2 uWatch, that's for sure.

A thin alloy box (smaller than a Voyager) design with a PCB touch panel keypad, and maybe changeable key overlays, running from a couple of CR2032's would be pretty easy. No one else would probably want one though, so it wouldn't exactly set the world on fire.

Dave.

Re: Form factor for calculators

*Message #17 Posted by **Paul Dale** on 11 Nov 2009, 7:22 p.m.,*
in response to message #16 by DaveJ

I'd want one if it was thin enough....

- Pauli

Re: Form factor for calculators

*Message #18 Posted by **Egan Ford** on 11 Nov 2009, 10:17 p.m.,*
in response to message #16 by DaveJ

Take a Voyager. Any Voyager. Put it in your left shirt pocket with the near bulletproof metal back facing out and the medallion up.

To use, simply reach in with your right hand, thumb on the medallion, index finger on the back and slide out. In parallel raise your left hand to greet your number crunching companion. When they meet, place the Voyager on your curved left index and middle fingers, and then with purpose press the ON button with your left thumb. Proceed to thumb-board your way through your most challenging problems. When complete, reverse the process until your Voyager rests against your left breast.

That my friends is the perfect form-factor. Now if Dave will make me a credit-card size version of the 15C, well then I may find a new traveling companion.

Re: Form factor for calculators

*Message #19 Posted by **Paul Dale** on 11 Nov 2009, 10:21 p.m.,*
in response to message #18 by Egan Ford

Doesn't work for me. I pretty much never wear a shirt with a pocket :-)

- Pauli

Re: Form factor for calculators

*Message #20 Posted by **Egan Ford** on 11 Nov 2009, 10:41 p.m.,*
in response to message #19 by Paul Dale

You know, I was thinking about that the other day. None of my calculators have a hole to use with a lanyard. If they did, then I could wear it around my neck. Just in case.

I do not think my wife would let me out of the house with such a rig. May be an idea to get out of holiday shopping that I must explore.

I guess holsters are still a possibility for the shirt pocket free crowd. I remember my first HHC, Richard had a 50g strapped to his waste like a sixshooter. I chuckled and hoped the programming challenge would be quick-draw style. I am fairly certain that Darth Vader had at least 2 RPNs on his utility belt--he had no shirt pocket either.

Re: Form factor for calculators

*Message #21 Posted by **Palmer O. Hanson, Jr.** on 12 Nov 2009, 2:45 a.m.,*
in response to message #20 by Egan Ford

> Quote:
>
> I guess holsters are still a possibility for the shirt pocket free crowd. I remember my first HHC, Richard had a 50g strapped to his waste like a sixshooter. I chuckled and hoped the programming challenge would be quick-draw style. I am fairly certain that Darth Vader had at least 2 RPNs on his utility belt--he had no shirt pocket either.

That's similar to the way we carried our slide rules in the olden days. The only thing that identified us as engineering students more than that was carrying a drawing board and T-square.

Re: Form factor for calculators

*Message #22 Posted by **DaveJ** on 12 Nov 2009, 4:37 a.m.,*
in response to message #18 by Egan Ford

> Quote:
>
> Now if Dave will make me a credit-card size version of the 15C, well then I may find a new traveling companion.

After some quick thought, how does 5mm thick sound?
That's for an all alloy or stainless steel case, your choice of W x D.

Sounds easily do-able on first thought, unless feature creep takes over.

Could be made thinner, but I'm factoring in use of standard CR2032 batteries.

Dave.

Re: Form factor for calculators

*Message #23 Posted by **Didier Lachieze** on 12 Nov 2009, 5:22 a.m.,*
in response to message #22 by DaveJ

Count me in for a programmable scientific RPN calc in credit card format. 5mm thickness is fine. 15C emulation would be great !

Re: Form factor for calculators

*Message #24 Posted by **Egan Ford** on 12 Nov 2009, 9:25 a.m.,*
in response to message #23 by Didier Lachieze

Count me in as well.

Re: Form factor for calculators

*Message #25 Posted by **Paul Dale** on 12 Nov 2009, 5:25 a.m.,*
in response to message #22 by DaveJ

> Quote:
>
> After some quick thought, how does 5mm thick sound?

That would be the upper limit I suspect and thinner would be better. My ideal would be to fit into my wallet beside or in place of a credit card or three.

> Quote:
>
> Could be made thinner, but I'm factoring in use of standard CR2032 batteries.

Unless the battery isn't directly adding to the thickness, using CR2016 batteries would pull it down to 3.4mm thick which would be a lot better.

Would solar be an option instead of a battery? Yeah, I know feature creep which must be avoided especially in a small volume like this.

- Pauli

Re: Form factor for calculators

*Message #26 Posted by **DaveJ** on 12 Nov 2009, 7:47 a.m.,*
in response to message #25 by Paul Dale

> Quote:
>
> Unless the battery isn't directly adding to the thickness, using CR2016 batteries would pull it down to 3.4mm thick which would be a lot better.
>
> Would solar be an option instead of a battery? Yeah, I know feature creep which must be avoided especially in a small volume like this.

I've already got what might be a suitable LCD, but it's only 8 digits. It is however the 14 segment type with apostrophe. 52mm x 22m x 3mm. That makes credit card DxW doable.
That would result in say a 4.8mm thick calc, but it would have a big (7mm high) readable 14 segment display and suck almost no juice. Two displays could be joined for a landscape calc, with a bit of a gap in the middle.

Biggest power consumer would be the the touch panel solution.

Solar power chews up panel space that could otherwise have buttons.

I've got a tiny sub 2mm thick graphic LCD on hand, but the contrast is really lousy. 7-segment high contrast is the go IMO.

Dave.

Edited: 12 Nov 2009, 8:18 a.m.

Re: Form factor for calculators

*Message #27 Posted by **Lyuka** on 12 Nov 2009, 10:20 a.m.,*
in response to message #26 by DaveJ

Hi.

I own such a thin one - Sharp's EL586 water-proof, dual-powered 10digits, scientific calculator.

Its geometry is 141.5x73.8x3.5[mm] (5.6x2.9x0.14 [inch]).

I have used the calculator putting it on the moving-arm of the drafter, in the late 80's.
I wish it had been an RPN programmable.

Regards, Lyuka

Re: Form factor for calculators

*Message #28 Posted by **Paul Dale** on 12 Nov 2009, 5:00 p.m.,*
in response to message #26 by DaveJ

I don't think I've seen a credit card calculator in portrait form factor (i.e. they are always landscape).

24 "buttons" seems fairly standard and I'm sure would be sufficient. The 4-banger designs of couple of years back were all based on 20 buttons and they got pretty complex (as in scientific and programmable). The buttons are often laid out in a 6x4 grid (but not always e.g. the Citizen W11S).

Most (all) include a small solar cell beside the display as well.

Thicknesses range from 2mm up and the suggested 4.8mm should be okay.

- Pauli

Re: Form factor for calculators

*Message #29 Posted by **DaveJ** on 12 Nov 2009, 9:31 p.m.,*
in response to message #28 by Paul Dale

> Quote:
>
> I don't think I've seen a credit card calculator in portrait form factor (i.e. they are always landscape).
>
> 24 "buttons" seems fairly standard and I'm sure would be sufficient. The 4-banger designs of couple of years back were all based on 20 buttons and they got pretty complex (as in scientific and programmable). The buttons are often laid out in a 6x4 grid (but not always e.g. the Citizen W11S).
>
> Most (all) include a small solar cell beside the display as well.
>
> Thicknesses range from 2mm up and the suggested 4.8mm should be okay.

I think I've come up with a way to make this thing cheaply, using the off-the-shelf LCD I've got, and 4.1mm thick or maybe less.

So picture a credit card size (WxH) calc (actually slightly wider for a portrait calc), just over 4mm thick, with a high contrast 8 digit 14segment display running from a single CR2016 battery replaceable as a "slot in" on the bottom end, along with a standard 0.1" header connector for programming on the bottom edge as well.

No need for an expensive case, it will be an entire sandwich FR4 fiberglass design, with your chose of color on the bottom.

The only major choice is whether to go for a stick-on membrane keypad which would increase the height a bit, possibly afford some extra protection for the glass LCD, but does not add to the power consumption. Or a touch panel interface that does not increase the thickness, but does chew the battery more.

It's actually looking quite easy and cheap, there must be a catch...

Dave.

Re: Form factor for calculators

*Message #30 Posted by **Paul Dale** on 12 Nov 2009, 10:34 p.m.,*
in response to message #29 by DaveJ

> Quote:
>
> So picture a credit card size (WxH) calc (actually slightly wider for a portrait calc), just over 4mm thick, with a high contrast 8 digit 14segment display running from a single CR2016 battery replaceable as a "slot in" on the bottom end, along with a standard 0.1" header connector for programming on the bottom edge as well.

Sounds ideal., wider is probably livable, taller wouldn't be. Why the portrait fixation? I've never seen a credit card calculator that wasn't landscape...

> Quote:
>
> The only major choice is whether to go for a stick-on membrane keypad which would increase the height a bit, possibly afford some extra protection for the glass LCD, but does not add to the power consumption. Or a touch panel interface that does not increase the thickness, but does chew the battery more.

How much thicker? The feel would be slightly better with a membrane. To avoid the power consumption of the keyboard, would it be possible to have a separate off/on switch?

- Pauli

Re: Form factor for calculators

*Message #31 Posted by **DaveJ** on 12 Nov 2009, 11:59 p.m.,*
in response to message #30 by Paul Dale

> Quote:
>
> Sounds ideal., wider is probably livable, taller wouldn't be. Why the portrait fixation? I've never seen a credit card calculator that wasn't landscape...

No real reason, it's just that the display I have is almost the exact width of a credit card.

I'll need to try a few actual PCB variations to see what works best.

> Quote:
>
> How much thicker? The feel would be slightly better with a membrane. To avoid the power consumption of the keyboard, would it be possible to have a separate off/on switch?

Not much. Sample membranes I have are around the 0.5mm mark or so, depends on the dome size really.

Separate on-off switch should be easy. In fact my current design thinking makes it easy to add buttons all around the outside edge!

Dave.

Re: Form factor for calculators

*Message #32 Posted by **Paul Dale** on 13 Nov 2009, 2:22 a.m.,*

in response to message #31 by DaveJ

> Quote:
>
> No real reason, it's just that the display I have is almost the exact width of a credit card.

All the credit card calculators I've ever seen have a small display in the top right, solar panel in the top left and keys below. The display you mentioned would suite this style well. Is the display backlit?

> Quote:
>
> In fact my current design thinking makes it easy to add buttons all around the outside edge!

Please don't do that :-) A couple of buttons or slide switches would be more than adequate.

I did try to see how a SafeWord token could be repurposed into a calculator (see the Gold 3000 on https://www.snapgear.com/index.cfm?skey=1106). Fourteen buttons, eight character 14 segment display and a not very capable processor.

- Pauli

Re: Form factor for calculators

*Message #33 Posted by **DaveJ** on 13 Nov 2009, 4:43 a.m.,*
in response to message #32 by Paul Dale

> Quote:
>
> All the credit card calculators I've ever seen have a small display in the top right, solar panel in the top left and keys below. The display you mentioned would suite this style well. Is the display backlit?

Here is the LCD

No backlight, although a side LED could be added.
Although if you do solar power then there won't be enough light to light the LED when you need it :->

I'm actually liking the solar power thing, I've found a suitable solar cell, although at present it would be the most expensive part of the calc. Plenty of juice in a 22mm x 7mm solar cell

After playing with the screen on a credit card, it's obvious the landscape format is the best. with as you say solar cell in the top right.

No need for side switches if solar powered. Perhaps a super cap to maintain charge when the light dims.

Total thickness could be as small as 4mm now.

This is getting rather exciting, I shall christen the idea, surprise surprise, the uCalc!

Dave.

Re: Form factor for calculators

*Message #34 Posted by **Paul Dale** on 13 Nov 2009, 5:19 a.m.,*
in response to message #33 by DaveJ

I agree no LED if solar powered. I'm assuming that a solar cell will replace the battery

completely.

A super cap sounds like a good idea to cover the odd shadowing etc. Some non-volatile memory ought to be possible too -- quite a few PICs have EEPROM on board. Will there be enough juice to program this?

A slide switch might still be useful -- program/run mode or deg/rad/grad. Not vital of course.

Can the keyboard be squeezed out to 28 keys (4 rows of 7)? There ought to be space and having more than 26 keys is good for letters.

How about the uCCC for a name? Or uCCCalc?

- Pauli

Re: Form factor for calculators

*Message #35 Posted by **DaveJ** on 13 Nov 2009, 5:36 a.m.,*
in response to message #34 by Paul Dale

> Quote:
>
> I agree no LED if solar powered. I'm assuming that a solar cell will replace the battery completely.

Yes, no battery.

> Quote:
>
> A super cap sounds like a good idea to cover the odd shadowing etc. Some non-volatile memory ought to be possible too -- quite a few PICs have EEPROM on board. Will there be enough juice to program this?

Yep, should be plenty. Or external EEPROM like the uWatch maybe, oodles of PCB space available.

> Quote:
>
> A slide switch might still be useful -- program/run mode or deg/rad/grad. Not vital of course.
>
> Can the keyboard be squeezed out to 28 keys (4 rows of 7)? There ought to be space and having more than 26 keys is good for letters.

The cheapest touch chip is the 24key one, the 32key one is triple the price.

Will have to see how the PCB layout works. Recommended key spacing is 8mm

Membrane might ultimately be the cheapest and simplest option here, although requires some NRE, but not required for getting a full prototype running though. In that case, as many keys as will sensibly fit, and the user could more easily change it to alter the key layout and look.

> Quote:
>
> How about the uCCC for a name? Or uCCCalc?

Nice try, but I like uCalc!

Dave.

Re: Form factor for calculators

*Message #36 Posted by **DaveJ** on 13 Nov 2009, 6:01 a.m.,*
in response to message #35 by DaveJ

Damn, now I'm feature creeping...
I can make it thinner by 1mm by using the same LCD as my uWatch MK2, but without the backlight assembly.

That's a 128x32 graphic display about 35mm x 10mm window.

Much lower contrast than the 7 segment display, and 5 times the cost, but you get full dot matrix flexibility and 1mm thinner as compensation.

I could in theory now make this 3mm thick (+membrane), but a membrane keypad would probably need a thicker front panel, so say 3.3mm. Although you could pot it for extra rigidity and maintain 3mm perhaps.

Dave.

Re: Form factor for calculators

*Message #37 Posted by **Paul Dale** on 13 Nov 2009, 6:23 a.m.,*
in response to message #36 by DaveJ

I much prefer the look of non-dot matrix displays and the higher contrast. Still, thinner is better.

Is contrast a big issue for a solar powered calculator? How much light will be required to power the device? WIll that offset the lower contrast?

- Pauli

Re: Form factor for calculators

*Message #38 Posted by **Paul Dale** on 13 Nov 2009, 11:04 p.m.,*
in response to message #36 by DaveJ

If we're allowed to feature creep would a micro SDHC slot fit along one edge? No need for much EEPROM then.

That or a USB port to interface externally.

- Pauli

Re: Form factor for calculators

*Message #39 Posted by **Richard Ottosen** on 13 Nov 2009, 1:55 p.m.,*
in response to message #35 by DaveJ

Dave:

> Quote:
>
> Membrane might ultimately be the cheapest and simplest option here, although requires some NRE, but not required for getting a full prototype running though.

How about this switch ? It is 3.7mm square and only 0.35mm thick. A little expensive -- about US$0.16 each.

You would have to add your own overlay adding a little thickness.

-- Rich

Re: Form factor for calculators

*Message #40 Posted by **DaveJ** on 14 Nov 2009, 5:41 p.m.,*
in response to message #39 by Richard Ottosen

> Quote:
>
> How about this switch ? It is 3.7mm square and only 0.35mm thick. A little expensive -- about US$0.16 each.

Yeah, the problem with these sorts of switches is the cost adds up. Considering you need a custom overlay anyway, you might as well pay a bit more and get a tactile dome overlay and have the contacts on the PCB. I need actually get a quote for that option.

Dave.

Re: Form factor for calculators

*Message #41 Posted by **Egan Ford** on 13 Nov 2009, 9:30 a.m.,*
in response to message #34 by Paul Dale

> Quote:
>
> How about the uCCC for a name? Or uCCCalc?

Voyager II?

Re: Form factor for calculators

*Message #42 Posted by **Didier Lachieze** on 13 Nov 2009, 5:30 a.m.,*
in response to message #32 by Paul Dale

> Quote:
>
> All the credit card calculators I've ever seen have a small display in the top right, solar panel in the top left and keys below.

Well, some have the display and the solar panel the opposite way:

Re: Form factor for calculators

*Message #43 Posted by **Paul Dale** on 13 Nov 2009, 5:50 a.m.,*
in response to message #42 by Didier Lachieze

Bummer, I got the display and solar panel backwards. Solar panel top right, display top left is what I meant.

This one sure has a lot of buttons on it.

- Pauli

Re: Form factor for calculators

*Message #44 Posted by **Mike Morrow** on 13 Nov 2009, 1:00 p.m.,*
in response to message #42 by Didier Lachieze

I'd be happy to have something just like that fx-98 pictured above in RPN. Casio made a slightly smaller and thinner credit card scientific in 1978, the fx-48. It was not solar powered, and although it has only 22 keys (compared to the fx-98's 38 keys), it provides most of the functions found on the later fx-98.

In 1985, Radio Shack sold the EC-4009, a slightly enhanced version of the fx-98 that included permutaion and combination functions above the parenthesis keys.

I still have my EC-4009 and my fx-48, both still working. I wish I had a few of the EC-4009 units that I gave away as gifts 25 years ago.

Credit card sized calculators are the only hand-held calculators whose usability is *not* significantly degraded by having a landscape layout. In fact, I believe that it's quite helpful.

Re: Form factor for calculators

*Message #45 Posted by **Katie Wasserman** on 12 Nov 2009, 10:38 p.m.,*
in response to message #29 by DaveJ

Dave,

It sounds like you're onto something easier and potentially more attractive to calculator enthusiasts than a uWatch II. Why don't you EEVBlog your ruminations and trials of this. It might be interesting to follow your progress and I'll bet that you get some good feedback as well.

-Katie

Re: Form factor for calculators

*Message #46 Posted by **DaveJ** on 13 Nov 2009, 12:09 a.m.,*
in response to message #45 by Katie Wasserman

> Quote:
>
> It sounds like you're onto something easier and potentially more attractive to calculator enthusiasts than a uWatch II.

Easier, yes, more attractive, I doubt it. Based on the exposure of my previous uWatch, a sexier looking Mk2 would no doubt make front page of every geek blog on the planet. Can't see the same thing happening for a credit card calc though. Even if it would probably be the worlds first credit card size scientific/programmable/RPN/open source calc.

But, oh... this has just given me a possible idea for the design of the MK2 uWatch! guess that'll make it iteration #50 or so...

> Quote:

> Why don't you EEVBlog your ruminations and trials of this. It might be interesting to follow your progress and I'll bet that you get some good feedback as well.

I thought about that way back, but I go through so many thought processes and iterations that it would turn into an endless blog, and people would probably come to conclusion that I'm nuts :-> I can picture the complaints now "20 bloody blog episodes on this damn watch and you still haven't done the first prototype!"

Dave.

Re: Form factor for calculators

*Message #47 Posted by **Walter B** on 13 Nov 2009, 2:08 a.m.,*
in response to message #46 by DaveJ

In a way, some of us are "burned childs" of the OpenRPN project way back: a lot of blogging, but no tangible results after many months. So I can understand why people prefer developments on their own now, and want to show up no earlier than a prototype is present.

Re: Form factor for calculators

*Message #48 Posted by **DaveJ** on 14 Nov 2009, 6:26 p.m.,*
in response to message #47 by Walter B

> Quote:
>
> In a way, some of us are "burned childs" of the OpenRPN project way back: a lot of blogging, but no tangible results after many months. So I can understand why people prefer developments on their own now, and want to show up no earlier than a prototype is present.

I don't blame them.

That is why no one gave my uWatch a second thought until I actually produced a real prototype, and then people went ballistic.

The same is happening to the uWatch MK2, no prototype yet, so little interest. Not easy or cheap to prototype such a thing though, so it's harder to get off the ground.

The uCalc on the other hand would be cheaper and easier to prototype, so hopefully will come off much sooner than the uWatch. I've actually got all the parts except the solar cell, so all I need is some PCBs and a working prototype that looks like the real thing is complete.

Dave.

Re: Form factor for calculators

*Message #49 Posted by **Katie Wasserman** on 13 Nov 2009, 6:06 a.m.,*
in response to message #46 by DaveJ

> Quote:
>
> more attractive to calculator enthusiasts than a uWatch II

I meant "attractive" as in "attracting more buyers/users". A small credit card style RPN calculator would be a lot more usable (IMHO) than wearing one on your wrist. Besides, some of us have wrists that your uWatch have no chance of fitting on.

-Katie

Re: Form factor for calculators

*Message #50 Posted by **Paul Dale** on 13 Nov 2009, 6:16 a.m.,*
in response to message #49 by Katie Wasserman

Wear it on your ankle then :-) Or upper arm.

- Pauli

Credit card calculator in Portrait format

*Message #51 Posted by **Joerg Woerner** on 13 Nov 2009, 12:30 p.m.,*
in response to message #28 by Paul Dale

If a square root is scientific enough:

Regards,

Joerg

Re: Form factor for calculators

*Message #52 Posted by **Dave Shaffer (Arizona)** on 13 Nov 2009, 10:50 p.m.,*
in response to message #25 by Paul Dale

> Quote:
>
> My ideal would be to fit into my wallet beside or in place of a credit card or three.

All you need to do is make a programmable magnetic stripe that your new calc will program for whatever credit card you want to use at any given instant (and have this new calc be thin enough that it will fit through the swipe machine at the checkout stand).

Seriously, though, in this day and age of everything programmable and portable, I am surprised that nobody has invented the universal credit card replacement - the only thing that the checkout stand needs is the info in the magnetic strip. There should be any number of ways to read your choice of MasterCard, VISA, Discover, AmEx info into the cash register when you check out - maybe a mini USB connector from the store that plugs into your

"credit card calc" [the calc would even keep a running track of your balance(s)]. Then you could get rid of all of that plastic in your wallet and replace it with something more useful.

In fact, years ago, I had a dongle not much bigger than a pencil eraser that I could use at Mobil gas stations for charging a fillup - it was "connected" to my AmEx account. Nowadays, you'd use bluetooth, I guess.

With a sharp enough graphics display, I suppose you could display a barcode that the store checkout laser reader would scan for your account info.

Re: Form factor for calculators

*Message #53 Posted by **Marcus von Cube, Germany** on 16 Nov 2009, 7:35 a.m.,*
in response to message #52 by Dave Shaffer (Arizona)

Interesting idea but where would you put the golden credit card company logo on? :)

In fact, that's the reasoning behind the chips in modern bank cards: They contain multiple "applications" and are, as a benefit, much more secure because everything that goes into and out of the chip is encrypted. A useful CC sized device would be able to talk to such a chip and return the stored info about your recent transactions.

Edited: 16 Nov 2009, 7:36 a.m.

Re: Form factor for calculators

*Message #54 Posted by **JDonley** on 13 Nov 2009, 12:05 p.m.,*
in response to message #18 by Egan Ford

I too carry a calc in my shirt pocket every day and use it many times daily. A 60 page spiral memo-pad, pens, glasses and an Aurora N1000, which is a hinged case calc (clamshell). Form factor.....<1/2 inches thick. It has to use RPN, which the FN1000 does. The battery compartment cover is secured by a small Phillips screw, therefore none of the 19B case problems. The clamshell is the selling point to me, as I work in a less than pristine environment. If I worked in an office environment, a 17BII or a 10B would be the calc I would carry. Clamshell, RPN, fits in shirt pocket and a keypad similar to 17B11, which unfortunately the FN1000 does not have.....would be perfect for me.

don

Re: Form factor for calculators

*Message #55 Posted by **bt_schmidt** on 11 Nov 2009, 6:20 p.m.,*
in response to message #1 by David Hayden

> Quote:
>
> One of my favorites was the 29C because you could hold it in one hand and reach all the buttons with your thumb.

Thank you for posting that. I thought I was the only one using their calculator 1-handed. Now if only my HP 29C's red LED display didn't seem tinier to my older eyes then it did when i bought my 29C new, from my local Eaton's Business Machines' counter, 33 years ago.

...bt

Re: Form factor for calculators

*Message #56 Posted by **Alain Mellan** on 12 Nov 2009, 12:42 a.m.,*
in response to message #55 by bt_schmidt

That's exactly why iPhone + 42s (or i41CX+) is the best combination for me. I use it with left hand/thumb, it works great!

The size/shape of an iPhone looks like a great form factor for calculators. Fits in a jeans' pocket easily too.

Edited: 12 Nov 2009, 12:42 a.m.

Re: Form factor for calculators

*Message #57 Posted by **Jim Horn** on 12 Nov 2009, 8:58 p.m.,*
in response to message #1 by David Hayden

I'm almost certainly a minority here but I've often wondered whether it would be possible to get Casio to OEM its databank calculator watches with the minor firmware change to make them scientific and RPN. If so there would be a modern equivalent to the (in)famous HP-01 but without the tremendous development costs as it would be essentially an existing off-the-shelf product save for that bit of customization (the firmware plus key overlay and manual/packaging).

Too bad HP hasn't done that. They *have* done so for decades with other products - Epson and Canon printers sold as HP with custom firmware, for example.

Just dreaming...

Jim Horn (my HP-01 is too limited and my Casio scientific watch lost its "8" key)

Re: Form factor for calculators

*Message #58 Posted by **DaveJ** on 12 Nov 2009, 9:56 p.m.,*
in response to message #57 by Jim Horn

> Quote:
>
> I'm almost certainly a minority here but I've often wondered whether it would be possible to get Casio to OEM its databank calculator watches with the minor firmware change to make them scientific and RPN. If so there would be a modern equivalent to the (in)famous HP-01 but without the tremendous development costs as it would be essentially an existing off-the-shelf product save for that bit of customization (the firmware plus key overlay and manual/packaging).

You aren't the only one, in fact there are countless people who want the Casio CFX-400 scientific calc watch re-introduced.

Casio still sell the databank version that has the exact same case and keys as the original, all it needs as you say if the firmware, LCD,and key overlay.

For those that aren't aware, the Casio CFX-400 is one of the most highly sort after retro watches, they regularly go for over $1000 on ebay. Even dead ones fetch many hundreds. And this is for a watch that you could originally buy for $20.

Hmm, perhaps it's video blog time! Casio might listen like Microchip did!

Dave.

Re: Form factor for calculators

*Message #59 Posted by **Patrick Rendulic** on 13 Nov 2009, 9:15 a.m.,*
in response to message #58 by DaveJ

Casio has already released many older watches in their retro-series. Maybe we could convince them to do so with an (improved) calculator watch.

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[Completely OT] Capeesh

*Message #1 Posted by **Antonio Maschio (Italy)** on 11 Nov 2009, 12:27 p.m.*

Hi,

I'm Italian, and today I learned that you Americans (and possibly you British) people sometime do use the word "capeesh?" for "did you understand?". Since it comes from the Italian "capisci" [Ka'peeshee] that means the very same thing, I'd like to know how frequently do you use such word, or if you don't use it at all.

For the curious, I found it here.

-- Antonio

Re: [Completely OT] Capeesh

*Message #2 Posted by **Brent Hillebrenner** on 11 Nov 2009, 12:38 p.m.,*
in response to message #1 by Antonio Maschio (Italy)

In my opinion, most Americans learned of the word watching mafia movies like the Godfather. As for how often it's used... I live in Texas and it isn't uncommon to hear it but it's not part of the everyday vocabulary. Now on the east coast (New York, New Jersey, etc.) it is probably fairly common.

Regards,

Brent

Re: [Completely OT] Capeesh

*Message #3 Posted by **Don Shepherd** on 11 Nov 2009, 2:02 p.m.,*
in response to message #1 by Antonio Maschio (Italy)

In the midwest (Kentucky), it's not something you hear every day, but most folks would understand what it means if they heard it, I think.

Re: [Completely OT] Capeesh

*Message #4 Posted by **Martin Pinckney** on 11 Nov 2009, 2:08 p.m.,*
in response to message #1 by Antonio Maschio (Italy)

I use it fairly often. As you may know, the English language frequently adopts words and expressions from other languages, more so than any other language does. Always has; someday we will probably be using Klingon expressions...

Re: [Completely OT] Capeesh

*Message #5 Posted by **bill platt** on 11 Nov 2009, 2:14 p.m.,*
in response to message #4 by Martin Pinckney

buy' ngop Heghlu'meH QaQ jajvam

Re: [Completely OT] Capeesh

*Message #6 Posted by **Martin Pinckney** on 11 Nov 2009, 2:22 p.m.,*
in response to message #5 by bill platt

> Quote:
>
> Heghlu'meH QaQ jajvam

Not for me, I hope! (Too much unfinished hobby work).

Re: [Completely OT] Capeesh

*Message #7 Posted by **Ken Shaw** on 11 Nov 2009, 2:18 p.m.,*
in response to message #1 by Antonio Maschio (Italy)

Widely used in the past. I don't think it's used much today.

See Wiktionary (link)

Re: [Completely OT] Capeesh

*Message #8 Posted by **Norris** on 11 Nov 2009, 5:25 p.m.,*
in response to message #7 by Ken Shaw

"Capeesh?" is clearly a recognized word used in spoken American English, and is included in at least some standard dictionaries. It is probably most commonly used in urban areas in the northeastern US, which have the largest Italian-American communities. I agree with Wictionary that it often (though not always) has threatening overtones.

I would not expect the word to be widely used or recognized in British English, Australian English, Indian English, etc. But I could be wrong; sometimes American movies and TV shows (which definitely use this word) are powerful vectors of American English (for better or worse).

Re: [Completely OT] Capeesh

*Message #9 Posted by **Matt Kernal** on 11 Nov 2009, 2:18 p.m.,*
in response to message #1 by Antonio Maschio (Italy)

Like Capeesh, another commonly used word that sounds completely foreign to everyday spoken English is "Gesundheit", the German response to someone that just sneezed. It means something like "may God grant you health". I know it surprised some some German friends when they heard one of us Yanks say it to them :-). Same response with "Kindergarten" (German for childrens school).

Ciao Antionio (as Walter B. would say :-)

p.s. Here is a free online text-to-speech synthesizer, if you want to hear (an attempt at) how a word is pronounced: http://cepstral.com/demos/ Try it using difference "voices" (gender and accents). I tried Antonio's "capisci" using Itailian. Note: I haven't tried Bill's Klingon sentence above yet ;-)

Edited: 11 Nov 2009, 2:44 p.m.

Re: [Completely OT] Capeesh

*Message #10 Posted by **Marcus von Cube, Germany** on 11 Nov 2009, 6:48 p.m.,*
in response to message #9 by Matt Kernal

Another intruder from German to (American?) English is "kaput". In German, "kaputt" means broken.

Re: [Completely OT] Capeesh

*Message #11 Posted by **Norris** on 11 Nov 2009, 7:33 p.m.,*
in response to message #10 by Marcus von Cube, Germany

American English includes many colorful words of German origin, which often became known in the US via Yiddish. Kaput may be one of these.

Other examples include words like dreck, gelt, klutz, kvetch, lox, mensch, nosh, shtick, and shpiel.

Edited: 11 Nov 2009, 7:49 p.m.

Re: [Completely OT] Capeesh

*Message #12 Posted by **Don Shepherd** on 11 Nov 2009, 8:35 p.m.,*
in response to message #11 by Norris

American English is full of gems. Here's one of my favorites: I'd rather have a free bottle in front of me than a pre-frontal lobotomy.

Re: [Completely OT] Capeesh

*Message #13 Posted by **Matt Kernal** on 11 Nov 2009, 7:46 p.m.,*
in response to message #10 by Marcus von Cube, Germany

Good one Marcus! I hear it all the time: "Das ist kaput!!" from co-workers telling me my software quit again. Then when I find the bug, you can hear me shouting at the screen: "Schweinehund!" (Pig Dog!). (Joking, but I do love saying them :-)

Re: [Completely OT] Capeesh

*Message #14 Posted by **Brent Hillebrenner** on 11 Nov 2009, 7:59 p.m.,*
in response to message #10 by Marcus von Cube, Germany

On Topic

Mensch!!! Meine 15c ist kaput! Nach zwanzig jahren!!!

Ist das richtig? Capeesh?

Re: [Completely OT] Capeesh

*Message #15 Posted by **Marcus von Cube, Germany** on 12 Nov 2009, 10:29 a.m.,*
in response to message #14 by Brent Hillebrenner

Not bad! Except that the 15c is not a girl. ;)

The word 'kaput' itself is kaput, at least for a German reader: We write it with a double 't': "kaputt".

We use the word sometimes for ourselves: "Mann, bin ich kaputt!" is the proper phrase after a

marathon run.

Re: [Completely OT] Capeesh

*Message #16 Posted by **George Bailey (Bedford Falls)** on 13 Nov 2009, 8:00 a.m.,*
in response to message #9 by Matt Kernal

> Quote:
>
> "Gesundheit"...It means something like "may God grant you health".

Thankfully, there's no god in "Gesundheit". It just translates as "health".

I'm not sure that American English is the language with the most adopted words. German is strong in that regard, too. Plus, they make their own new "English" words, that sound English but really are not: "Handy" for cell phone.

I once read a story from an American who visited a gynecologist in Italy. Sitting in the waiting room, she discovered some sign in English with many mistakes in it. When she kindly tried to point out the mistakes to the physician, he replied: "You may be expert for American English, I'm expert for Italian English!"

Edited: 13 Nov 2009, 8:03 a.m.

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HP 75

*Message #1 Posted by **Charles Oxford** on 11 Nov 2009, 3:44 a.m.*

There is next to nothing discussed about this small computer. Can it be programmed for calulating? Where can I find more info?

Thanks

ceo

Re: HP 75

*Message #2 Posted by **Ken Shaw** on 11 Nov 2009, 12:25 p.m.,*
in response to message #1 by Charles Oxford

The museum DVD set contains numerous documents for the HP-75.

See list here (link).

Re: HP 75

*Message #3 Posted by **Martin Pinckney** on 11 Nov 2009, 2:15 p.m.,*
in response to message #1 by Charles Oxford

> Quote:
>
> There is next to nothing discussed about this small computer.

Because it was eclipsed by the 71 system?

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HP-200lx

*Message #1 Posted by **Geoff Quickfall** on 10 Nov 2009, 8:52 p.m.*

Hello,

I aquired a 4MB 200LX with a 440mb PCMIA card at HCC2009.

Now here's the rub. I have the following:

```
-  connectivety kit with the 3.25 disks and books.
-  PC with Windows XP and 3.25 drive.
-  PC with Windows 98 and 3.25 drive.
-  4MB 200LX with a 440mb PCMIA card.
```

Questions:

```
-  Will the DOS prompt through Windows XP work with the 3.25 (I
   know I should try this myself and I will but I thought I would
   ask first ;-)
-  Would it work better on the Windows 98 machine (it's in the
   garage).
-  Has anyone used the 200LX with Windows XP and the connectivety
   kit.
```

I think the last question says it all. Thanks for your input ahead of time!!

Cheers, Geoff

Re: HP-200lx

*Message #2 Posted by **Dave Britten** on 10 Nov 2009, 10:10 p.m.,*
in response to message #1 by Geoff Quickfall

I've never tried the connectivity pack on XP, so I'm not sure how it'll handle DOS serial I/O. It will likely run it, at least. You might want to use 98 for that.

If you want the easiest approach, get a compact flash card (the 200LX will use most cards up to 256MB without a special driver) and use a PCMCIA slot adapter. Then find a cheap USB CF reader for your PC. It'll be loads faster than serial I/O too.

Re: HP-200lx

*Message #3 Posted by **Chan Tran** on 10 Nov 2009, 10:36 p.m.,*
in response to message #2 by Dave Britten

I should work in the dos box of the XP machine. If not take the win98 out of the garage, reformat it and run real DOS on it.

Re: HP-200lx

*Message #4 Posted by **Egan Ford** on 10 Nov 2009, 10:54 p.m.,*

in response to message #3 by Chan Tran

> Quote:
>
> I should work in the dos box of the XP machine. If not take the win98 out of the garage, reformat it and run real DOS on it.

Or try DOSBox. DOSBox for Windows can use your Windows COM ports as DOS COM ports. You may need to install and run bnu.com first.

Re: HP-200lx

*Message #5 Posted by **Bill (Smithville, NJ)** on 11 Nov 2009, 8:20 a.m.,*
in response to message #1 by Geoff Quickfall

Hi Geoff,

Great new toy - and the 4mb version is nice. As to your question - do you want to use the connectivity pack to actually transfer files between the PC and the HP-200LX or do you just want to make use of the HP-200lx Emulator (APP200) to use the HP-200lx applications on the PC?

If transfer files, then like Dave said, most of the smaller CF and Memory Sticks will work just fine with the appropriate addaper. I've used up to 256mb with no problem. Makes transferring to/from PC very easy.

As to the emulator, I just tested the APP200 on my XP, and it works fine from the command line - with only one small quirk. The program switches to full screen only. So no running it and another program, but it does run fine. I've used it this way in the past to program/debug some very long equations that I then loaded onto a HP-17Bii or HP-19Bii. A lot easier to edit them on the PC.

There are a ton of info on the WEB about the HP-200LX, and most standard DOS programs run fine on it.

Since I know you are very skillful at HP Calculator repairs, you may want to try the backlight modification for the 200LX screen. See following link:

HP-200LX Backlight

If you do the backlight, I;d like to know how it turns out.

Have fun with your new toy.

Bill

Re: HP-200lx

*Message #6 Posted by **Peter A. Gebhardt** on 11 Nov 2009, 9:24 a.m.,*
in response to message #5 by Bill (Smithville, NJ)

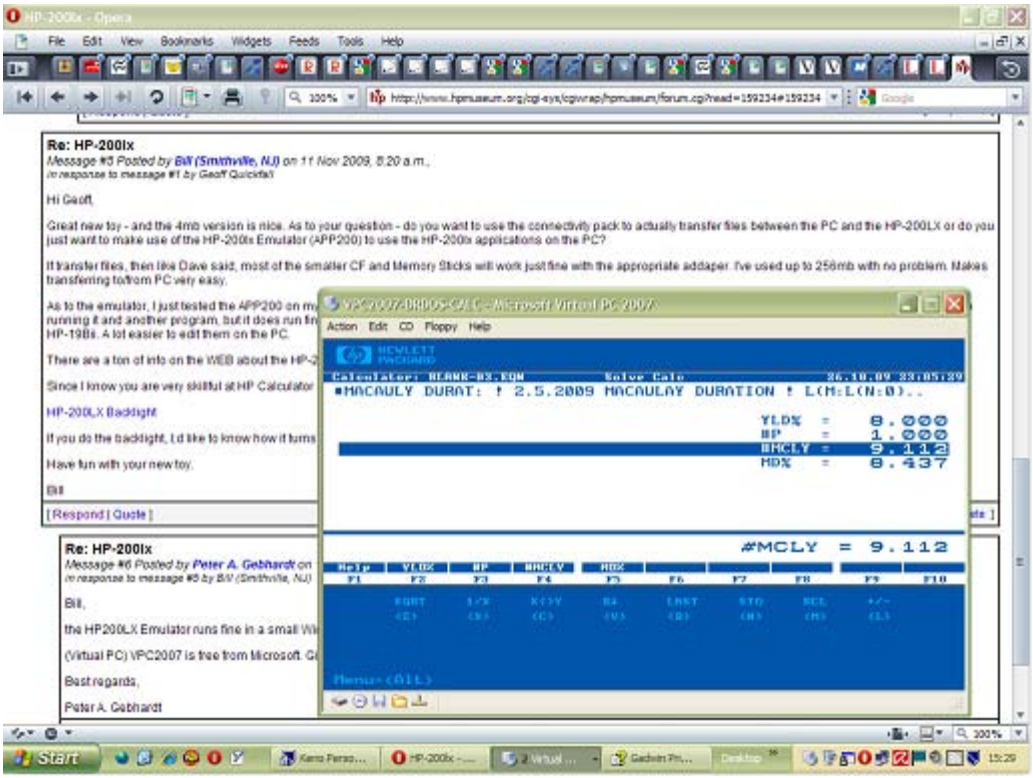
Bill,

the HP200LX Emulator runs fine in a small Window under VPC2007 & XP Home SP3.

(Virtual PC) VPC2007 is free from Microsoft. Give it a try.

Best regards,

Peter A. Gebhardt



Edited: 11 Nov 2009, 9:39 a.m.

Re: HP-200lx

*Message #7 Posted by **Bill (Smithville, NJ)** on 11 Nov 2009, 10:51 a.m.,*
in response to message #6 by Peter A. Gebhardt

Peter,

Thanks for info on VPC2007. I'll have to download it and try it out. I usually just use a true dos machine for the emulator - my favorite being the HP Omnibook 430.

Bill

Thanks all, boy does DOSbox bring back memories!

*Message #8 Posted by **geoff quickfall** on 12 Nov 2009, 3:26 a.m.,*
in response to message #1 by Geoff Quickfall

While I am waiting for my PCMCIA adapter card I thought I would try Egan's suggestion.

After loading DOSbox and the calling it I tried to install the three original disks. After succesfully mounting A: drive and then calling "INSTALL" I kept getting:

The files must be decompressed before installing, please .....

So I thought I would try the Windows XP command prompt. I called up drive A: and then "INSTALL". The application installed correctly to the point where it gives you the option of identifying the correct com port or closing and then manually configuring the com ports. I chose the latter.

Back to Windows by typing exit on the Windows command prompt. I then called up DOSbox and mounted the

correct C: directory with the connectivity applications APP200. The program ran perfectly under DOSbox and emulates the 200lx applications.

Serial RS232 cable and attached to the PC and the 200Lx. I have tried all the comm ports (1 and 2) with all variations and the two machines will not talk.

Now it has been awhile since I had to play with coms, serial cables and etc.

Any simple suggestions dealing with the first message:

```
Unable to decompress the files....
which was not a problem on the Windows command prompt
but was a problem on the DOSbox command prompt.


Will not connect ...
```

Signed; learning DOS again, ;-)

Edited: 12 Nov 2009, 3:26 a.m.

Re: Thanks all, boy does DOSbox bring back memories!

*Message #9 Posted by **Egan Ford** on 12 Nov 2009, 9:28 a.m.,*
in response to message #8 by geoff quickfall

Google for bnu.com, install and run that in DOSBox. Make sure you have your Windows COM port as DOSBox COM1 (its in the prefs file toward the end.)

Re: Thanks all, boy does DOSbox bring back memories!

*Message #10 Posted by **Massimo Gnerucci (Italy)** on 12 Nov 2009, 1:56 p.m.,*
in response to message #9 by Egan Ford

Back to FOSSIL drivers! ;-)

Greetings,
Massimo

Re: HP-200lx

*Message #11 Posted by **Thomas Chrapkiewicz** on 13 Nov 2009, 12:33 a.m.,*
in response to message #1 by Geoff Quickfall

Hello Geoff:

As we'd discussed; a fine machine.

FWIW, the way I use mine is via the PCMCIA card slot - one can purchase a PCMCIA-CcompactFlash card adapter and copy files to/from your pc via the CF card. I've only used up to a 256MB card; not sure what the size limitation of the card in this machine is. Regards, TomC

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OT -- Ulimate Calculator Design Artcile

*Message #1 Posted by **Katie Wasserman** on 10 Nov 2009, 6:42 p.m.*

For those of you in the IEEE Computer Society, the November 2009 issue of "Computer" has as its end page an article by Neville Holmes. He describes the follow-on to the pocket calculator calling it a "forumulator". It seems like he's suggesting implementing something close to APL on a iPhone-like device and gives some specifics that would make it a good learning tool.

If nothing else it's interesting to read an opinion of what the ultimate calculator should be from someone who doens't (I think) frequent this forum.

-Katie

Re: OT -- Ulimate Calculator Design Artcile

*Message #2 Posted by **Andrés C. Rodríguez (Argentina)** on 10 Nov 2009, 7:19 p.m.,*
in response to message #1 by Katie Wasserman

Neville Holmes columns in Computer are usually very good; I will look at this particular one for sure!

BTW, I miss Ted G. Lewis "Binary Critic" column, it used to be very, very good...

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Why not 49g+?

*Message #1 Posted by **ferroburak** on 10 Nov 2009, 12:38 p.m.*

Hi

I'm using casio 9750g but due to its inability to perform Laplace transform I will buy a hp calculator.

I'm adivised to buy a 50g but I found 49g+ much cheaper. (Series no CN3xxxx)

Considering I'm a student, will I face a lot of problems if I opt for 49g+? Thanks.

Re: Why not 49g+?

*Message #2 Posted by **Tim Wessman** on 10 Nov 2009, 12:48 p.m.,*
in response to message #1 by ferroburak

What is the serial number on the unit?

The early models had keyboard that would break after a while, and the black plastic strip around the edge would crack.

TW

49g+

*Message #3 Posted by **ferroburak** on 10 Nov 2009, 1:14 p.m.,*
in response to message #2 by Tim Wessman

CN33305379 is the serial number.

Re: 49g+

*Message #4 Posted by **Tim Wessman** on 10 Nov 2009, 4:05 p.m.,*
in response to message #3 by ferroburak

I think that will be one of the bad keyboard ones. I wouldn't buy it to save money. . .

TW

Re: Why not 49g+?

*Message #5 Posted by **Bill Zimmerly** on 10 Nov 2009, 3:08 p.m.,*
in response to message #1 by ferroburak

Hi ferro! Do I get a "finder's fee"? (Just kidding.) Actually, you can get less expensive used HP-50Gs on Amazon and on EBay as well if cost is a big concern. (But whatever you pay, it is a better deal than the 49 because of the SD card and extra memory.)

Re: Why not 49g+?

*Message #6 Posted by **Marcus von Cube, Germany** on 10 Nov 2009, 4:09 p.m.,*
in response to message #5 by Bill Zimmerly

Bill, he is talking about a 49g+, not a 49. The former is technically almost and software wise totally identical to the 50g. The 50g adds a serial interface, more battery power a better look and a more solid feel. I'd opt for a used 50g.

Re: Why not 49g+?

*Message #7 Posted by **David Hayden** on 10 Nov 2009, 5:37 p.m.,*
in response to message #1 by ferroburak

If cost is a big concern, you might also consider a 48gii which is nearly identical to the 50g in terms of software. There are actually two different versions of this calculator, but the old version can be gotten new on ebay for under $50.

You can distinguish the old vs new 48gii by the packaging and the top edge of the calculator. The new ones have two connectors along the top edge (one for serial and one for USB) while the old ones have just one connector (serial only). The packaging on the new ones mention USB support on front while the old ones only mention serial. Also, the old ones use 3 batteries and the new ones use 4.

Differences between the old and new 48gii (off the top of my head) USB support, Equation library, 256k vs 80k memory

Differences between the new 48gii and the 50g: 1.5M flash memory, SD card support, Larger display, faster processor(?)

Re: Why not 49g+?

*Message #8 Posted by **Vieira, Luiz C. (Brazil)** on 10 Nov 2009, 8:10 p.m.,*
in response to message #7 by David Hayden

Hi, David;

> Quote:
>
> Differences between the new 48gii and the 50g: 1.5M flash memory, SD card support, Larger display, faster processor(?)

For me, one of the most important features in the HP50G is the upgradable O.S. and, as a consequence, the chance to add resources as part of it. Latest upgrade added SmartStream driver/applications, previously available only for the HP40G.

Cheers.

Luiz (Brazil)

Edited: 10 Nov 2009, 9:25 p.m.

Re: Why not 49g+?

*Message #9 Posted by **John B. Smitherman** on 10 Nov 2009, 10:18 p.m.,*
in response to message #1 by ferroburak

Here's an old note from Eric Rechlin on com regarding the 49G+ keypad: link

Per Eric's note you'll want to avoid the early versions of the 49G+. If you buy the 50G you are guaranteed to get the latest and best keypad.

Regards,

John

Re: Why not 49g+?

*Message #10 Posted by **Chan Tran** on 10 Nov 2009, 10:39 p.m.,*
in response to message #9 by John B. Smitherman

Since the 50g is better why not get the 50g. Brand new for $130-$150, lots cheaper than most text books and last a long time. Back when I was in school I wouldn't mind paying for the $200 25c, although I had a tough time paying for tuition and books.

Re: Why not 49g+?

*Message #11 Posted by **Crawl** on 11 Nov 2009, 12:22 a.m.,*
in response to message #10 by Chan Tran

That's the way I think of it. If you will be a technical professional, the 50g won't just be something to use for a class, it could be a tool that could last you for years of your career. And it's not like there's that much money to save by getting an older or inferior model. So why skimp?

thanks

*Message #12 Posted by **ferroburak** on 11 Nov 2009, 3:58 a.m.,*
in response to message #11 by Crawl

Thanks I ordered Hp 50g.

Re: thanks

*Message #13 Posted by **David Hayden** on 11 Nov 2009, 10:52 a.m.,*
in response to message #12 by ferroburak

If you aren't familiar with the HP48 and it's successors, then I suggest that you skip the printed manual that comes with the calculator and go right to the "Users Guide" that comes on the CD that accompanies the calculator. The Guide has much more detail. The printed Manual is more like a pocket guide - useful as a refresher when you already know most of what the calculator can do, but frustrating as a teaching tool to learn the calculator from scratch.

At least that was my experience having bought a 50G after using a 41CV since 1983 and having paid no attention to what had happened to calculators since then.

It's an amazing machine. You won't be disappointed.

Dave

Re: Why not 49g+?

*Message #14 Posted by **Mike Morrow** on 11 Nov 2009, 9:44 a.m.,*

in response to message #11 by Crawl

I agree completely with that outlook, but mostly on the basis of how extremely inexpensive for the capabilities provided such things as the HP 50G are.

But economic, "investment", or simple utility prospects in the long term for any particular computational device made in the last 50 years are not too good. Examples:

(1) In my senior year of high school (1969) I bought what I still consider to be the best slide rule ever made (Dietzgen N1725L), for $35. That's the equivalent of about $210 today. I justified that on upcoming engineering school. (It was the only "calculator/computer" required of engineering students at Georgia Tech in 1970.) My last real professional use of it was in 1974.

(2) In 1977, I spent about $600 on a new HP-67 and associated accessories. That's about $2200 today. I justified it based on assumed long-term professional use. That last real professional use occurred in 1980, after which it was replaced by an HP-41C.

Nothing computational or electronic keeps its value unless a cult following developes around it. Something better and cheaper will soon follow, with the only exception in the known universe being the HP 42S. :-)

I have been entertaining myself recently with a cheap device (Casio fx-115ES, a.k.a. fx-991ES) purchased at Wal-Mart for less than $18. It's amazing what computational capability is available for almost nothing now-a-days.

Re: Why not 49g+?

*Message #15 Posted by **Egan Ford** on 11 Nov 2009, 10:50 a.m.,*
in response to message #14 by Mike Morrow

> Quote:
>
> with the only exception in the known universe being the HP 42S. :-)

Adams would agree. 42 is the answer to everything.

Re: Why not 49g+?

*Message #16 Posted by **Mike Morrow** on 11 Nov 2009, 11:55 a.m.,*
in response to message #15 by Egan Ford

The HP 42S is not the answer to everything, I suspect.

But...after 21 years, nothing in its form factor has appeared that is an advance, an improvement, or even a simple equal in capability.

One has to resort to larger, heavier, RPL machines. :-(

At least those are inexpensive!

`42` is the answer to Life, the Universe and Everything

*Message #17 Posted by **Vieira, Luiz C. (Brazil)** on 12 Nov 2009, 5:16 a.m.,*
in response to message #16 by Mike Morrow

If any of you need further info, please see here...

This thread may, also, be a reference.

Cheers.

Luiz (Brazil)

Edited: 12 Nov 2009, 5:26 a.m.

Re: `42` is the answer to Life, the Universe and Everything

*Message #18 Posted by **Gerson W. Barbosa** on 12 Nov 2009, 5:56 a.m.,*
in response to message #17 by Vieira, Luiz C. (Brazil)

Hello Luiz,

> Quote:
>
> This thread may, also, be a reference.

Glad you still remember that :-)

Regards,

Gerson.

Re: Why not 49g+?

*Message #19 Posted by **Chan Tran** on 11 Nov 2009, 9:15 p.m.,*
in response to message #14 by Mike Morrow

But you would not trade either your slide rule or your 67 for my 50G right? If I were you they are as valuable to me now as then. They are useful now just as then. Very few things you can invest that retain their value that well.

Re: Why not 49g+?

*Message #20 Posted by **bill platt** on 12 Nov 2009, 8:23 a.m.,*
in response to message #19 by Chan Tran

I suspect if yo really think about it, these old machines are still valuable to us more for sentimental reasons. We all do the heavy lifting with our computers now.

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Direct current circuit analysis program

*Message #1 Posted by **ferroburak** on 9 Nov 2009, 7:20 p.m.*

Hi, I wonder if there is a DC circuit analysis program (like Circuit4) program for Hp calculators. Thanks in advance.

Re: Direct current circuit analysis program

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 9 Nov 2009, 8:49 p.m.,*
in response to message #1 by ferroburak

Hi, Ferroburak;

I do not know the Circuit4 program (any source of information?), but based on the fact that you are an aerospace engineering student, I would like to ask what sort of resource you would need in a DC analysis program. I mean, will you enter a circuit description based on nodes/mash, the kind of active(source)/passive(load) component and their location and solve for current/voltage unknowns? There are many programs that might fill your needs here, if you are searching for HP49/HP50 application programs. If you want to go ahead with Electrical Engineering for these calculators, try here, too.

Hope this helps.

Luiz (Brazil)

Edited: 9 Nov 2009, 8:49 p.m.

Re: Direct current circuit analysis program

*Message #3 Posted by **Crawl** on 10 Nov 2009, 10:17 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

One circuit analysis tool that's fun (and free) is the analog circuit simulator at Falstadt.com. It has trouble with extremely complex circuits, but I imagine a program running on a pocket calculator would, too. I can't directly compare it to circuit4 because I haven't used that (though it does look cool). It looks like they'd be similar in that you'd build the circuits graphically (rather than something like pSpice).

Edited: 10 Nov 2009, 10:20 a.m.

Thanks for the tip and the link! (N.T.)

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 10 Nov 2009, 10:46 a.m.,*
in response to message #3 by Crawl

...

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General Electric CE 93 RPN calculator - and more...

*Message #1 Posted by **Joerg Woerner** on 9 Nov 2009, 3:16 p.m.*

Short question:

While doing some research on a General Electric CE 93 RPN calculator Picture of CE 93 (rebadged Omron 12sr) before selling it on eBay, I found three matching websites with Google:

1) Serge Devidts - Only about 10 different calculator models were sold under the General Electric brand, most of them with the Genius logo.

2) Dennis Belillo - Sold in Australia among other places

3) Katie Wasserman - Manual in English and German languages

This makes to me no sense, maybe you can help me!

General Electric is a "huge" brand in the US, most auctions with GE calcs show up in Australia. I grew up in Germany and NEVER noticed a GE calculator there. Sure, my CE 93 has a Rosetta Stone manual, too - but WHY? ??

Any ideas about the GE calculators?

By the way - my other General Electric calculator, a CE 80 is clearly an OMRON design, too.

Thanks and Regards,

Joerg

www.datamath.org Link to auction

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Indefinite integral calculation with 49g+/ 50g

*Message #1 Posted by **ferroburak** on 9 Nov 2009, 6:11 a.m.*

Hi, Can these calculators perform indefinite integral calculation?(Integrals with no upper lower limits) Thanks in advance.

Edited: 9 Nov 2009, 6:12 a.m.

Re: Indefinite integral calculation with 49g+/ 50g

*Message #2 Posted by **Bart (UK)** on 9 Nov 2009, 7:36 a.m.,*
in response to message #1 by ferroburak

Yes. Whether it meets your requirements, please read the manuals here, or ask a more specific question which I'm sure forum members with more integration experience will be happy to answer.

Edit:
You can also try the newsgroup **news:comp.sys.hp48**. If you don't have a news reader or browser support for news, try access via Google groups.

Edited: 10 Nov 2009, 4:46 a.m. after one or more responses were posted

Re: Indefinite integral calculation with 49g+/ 50g

*Message #3 Posted by **Mike Morrow** on 9 Nov 2009, 9:09 a.m.,*
in response to message #2 by Bart (UK)

Better yet, get the most up-to-date version. The HP site referenced above has only the older AUR edition 1.1 (HP 49g+) from 20 March 2006. The latest is edition 2 (HP 50G) from 14 July 2009. AUR edition 2 has 40 more pages than edition 1.1.

From HPCALC.ORG, here is the latest HP 50G Advanced User's Reference (AUR). (693 pages)

You might as well get the other reference document, the HP 50G Advanced User's Guide (AUG). (887 pages)

At HPCALC.ORG, very nice spiral-bound two-sided copies of the AUR are available for $15, and the AUG is $25. Extremely reasonable!

All told, you'll have almost 1600 pages to browse. The AUR is more important and useful than is the AUG.

Edited: 9 Nov 2009, 9:45 a.m.

Re: Indefinite integral calculation with 49g+/ 50g

*Message #4 Posted by **Bart (UK)** on 10 Nov 2009, 4:48 a.m.,*
in response to message #3 by Mike Morrow

Thanks for the link Mike. Interesting that HPCALC always has the goodies before HP puts it up on their website :).

Re: Indefinite integral calculation with 49g+/ 50g

*Message #5 Posted by **Mike Morrow** on 10 Nov 2009, 7:13 a.m.,*
in response to message #4 by Bart (UK)

Yes, Bart, that's something I've never understood at all. I'm very thankful HPCALC.ORG is such a timely resource for this material.

It indicates a lack of interest on the part of HP that their official support sites often lack the latest documentation and ROM updates for many months.

Re: Indefinite integral calculation with 49g+/ 50g

*Message #6 Posted by **Tim Wessman** on 10 Nov 2009, 11:50 a.m.,*
in response to message #5 by Mike Morrow

It isn't lack of interest/desire, but rather the 10 layers/groups one has to go through to get things posted that is the problem. . .

TW

Re: release of HP updates

*Message #7 Posted by **Bart (UK)** on 10 Nov 2009, 12:15 p.m.,*
in response to message #6 by Tim Wessman

So I guess the authorization path to get things released to a third party site is shorter? Or does the HP-website route have people that are very busy?

edited to change title

Edited: 10 Nov 2009, 12:17 p.m.

Re: Indefinite integral calculation with 49g+/ 50g

*Message #8 Posted by **David Hayden** on 10 Nov 2009, 2:27 p.m.,*
in response to message #6 by Tim Wessman

> Quote:
>
> It isn't lack of interest/desire, but rather the 10 layers/groups one has to go through to get things posted that is the problem. . .

Tim,

You should push this up the management chain at HP. It's an embarrassment for the company and if someone high enough up the chain realizes it, they'll fix it.

I can understand that it might take a week to get something posted, but it shouldn't take

more than that if people are doing their jobs.

Welcome to the wonderful world of working for a big company. :) :)

Dave (who was at AT&T for about 10 years)

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42S on iPod Touch: OFF function behavior (bug?)

*Message #1 Posted by **Andrés C. Rodríguez (Argentina)** on 8 Nov 2009, 2:10 p.m.*

I bought this fine calculator simulator, the most important app in my iPod Touch yet. I am very satisfied with it. However, I have some checking to suggest.

The real HP-42 has (of course) a keyboard operation to turn it off. As this has little sense for a simulator, the respective position in the keyboard has been replaced with an "options" label, and it activates a configuration menu. This is acceptable, although I found myself "turning off" the calculator when a calculation has finished; only to see i'm now at such menu instead of leaving the application. Just a little annoying; but nothing serious.

The issue is worse when you execute XEQ "OFF" from the keyboard or even inside a program. Instead of leaving the application, or staying there in "off" state, or even doing no action at all; the "OFF" function does the same that the keypad operation now on its place: it goes to the configuration menu. This is not only annoying but plainly weird.

I don't think anything similar happens to Free42, although I had't tried it yet. It doesn't seem to have a configuration menu there.

[Disclaimer: I apologize in advance if my imperfect command of the English language prevents this message to convey its intended friendly meaning.]

Edited: 8 Nov 2009, 3:52 p.m.

Re: 42S on iPod Touch: OFF function behavior (bug?)

*Message #2 Posted by **Dave Britten** on 8 Nov 2009, 5:21 p.m.,*
in response to message #1 by Andrés C. Rodríguez (Argentina)

Yes, Free42 will close itself when pressing the Off key sequence, or executing the OFF command. One time, it just blanked the screen for a moment, then came right back, but it hasn't done it since.

In Free42, you just tap the calculator display to bring up the options, rather than pressing Off.

Re: 42S on iPod Touch: OFF function behavior (bug?)

*Message #3 Posted by **Reth** on 9 Nov 2009, 4:11 a.m.,*
in response to message #1 by Andrés C. Rodríguez (Argentina)

Why is the OFF command so important to you? Why would you turn a SIMULATOR off like you would with the real calculator? To save batteries?
OFF command is implemented differently on simulators, but it is generally meaningless on them.
42s is far more than "fine simulator" of the HP-42s. It is a giant leap ahead of its origin. Extremely fast, a lot more accurate, practically unlimited in memory, printer facilities independent or printer or paper, IO, brilliant, readable display etc. etc.
I'd suggest you go get reasonably familiar with the thing you are criticizing before you post. It's another thing if you have questions for things you don't understand. Then you should ask politely rather than using words like

"annoying", this community here is very helpful, the best one can get.

Re: 42S on iPod Touch: OFF function behavior (bug?)

*Message #4 Posted by **Dave Britten** on 9 Nov 2009, 10:22 a.m.,*
in response to message #3 by Reth

As they say, old habits die hard. I've often found myself reaching for Shift-Off as well, so having it do something reasonably similar to exiting or turning off is nice. The Palm version of Free42 handles it rather well, in that both the Off key and the OFF command actually turn off the Palm. As soon as you turn it back on, you're right where you were in Free42. Not sure if the Apple API allows programs to throw the device directly into sleep mode, though, so this might not be an option.

Having the OFF command not behave as expected isn't a big loss - I can't imagine the command is used all that much in programs. But it's hard to deny that having OFF open the preferences is at least a little bizarre.

Re: 42S on iPod Touch: OFF function behavior (bug?)

*Message #5 Posted by **Andrés C. Rodríguez (Argentina)** on 9 Nov 2009, 10:43 a.m.,*
in response to message #3 by Reth

Reth: Please read the disclaimer at the bottom of my message. I have been a member of this community for more than 10 years, and so do agree with your view about the excellent quality of most people here. Excuse me if I annoyed someone using a word that means "small inconvenience"; perhaps using my mother tongue can make me more precise with adjectives. I also apologize for not being polite enough for your high standards, whatever they are.

I paid the price for the application, I think it's excellent, I gave praise to it, I recommended it to many other persons. That said, I think a "quasi-bug" (even if it does not block normal use or cause errors in calculations) or a "behavior quirk" are to be commented, so the developers can take care of them.

It seems that the opcode for OFF was retained and linked to the simulated press for the respective key... only that the key function has changed. It's not unfair to mention the undeniable fact that the "OFF" function does something very different from expected. Just that.

This is not the same than asking a simulator to do, for instance, hardware diagnostic tests by pressing three "keys". That would be a different thing (even if it may have a nice, retro-looking efect).

Other parts of the answer deserve no comment.

Re: 42S on iPod Touch: OFF function behavior (bug?)

*Message #6 Posted by **bill platt** on 9 Nov 2009, 12:38 p.m.,*
in response to message #3 by Reth

Hi Reth,

Not to gang up on you too much, but I was thinking of pointing out that it seemed to me that you hadn't read Andrés' post very well. He made it clear that he was talking small refinements!

Furthermore, here is an example of the historical interest Andrés and others have about the 42 emulation and simulation:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv007.cgi?read=12920#12920

Edited: 9 Nov 2009, 12:39 p.m.

Re: 42S on iPod Touch: OFF function behavior (bug?)

*Message #7 Posted by **Andrés C. Rodríguez (Argentina)** on 9 Nov 2009, 1:08 p.m.,*
in response to message #6 by bill platt

Bill, thank you very much for your clarification. Best regards.

Re: 42S on iPod Touch: OFF function behavior (bug?)

*Message #8 Posted by **Matt Kernal** on 9 Nov 2009, 2:30 p.m.,*
in response to message #7 by Andrés C. Rodríguez (Argentina)

Andres,

There is/was no need for any kind of disclaimer. Your command of English puts a lot of native-English speaking people I know to shame. I had the privilege of sitting next to you at an HHC in San Diego and found your verbal English skills be very good as well (not to mention your excellent HP programming abilities!). You are a class act, Andres.

Re: 42S on iPod Touch: OFF function behavior (bug?)

*Message #9 Posted by **Andrés C. Rodríguez (Argentina)** on 9 Nov 2009, 2:55 p.m.,*
in response to message #8 by Matt Kernal

Hi Matt, nice to hear from you, and thanks for your positive comments (even as exaggerated and generous as they are).

I hope to make my point clear: 42S is an excellent product, I use it everyday. There was just a detail to mention, so it can be taken care of.

By the way, I don't have a clear use for OFF in a simulator, other than consistency with the simulated original. I know there are differencies ann improvements, so 42S is not supposed to be an emulator, running a HP 42 ROM image, or something similar. Dynamic range, for instance, is larger. Internal digits precision seems to be higher. Speed is much faster, undoubtedly. Import/export via browser is nothing short as genius work. Perhaps I will soon give a try to Free42, which I used on a PocketPC years ago; and see if I like it more or less... or just have both, I'm sure they are excellent!

Re: 42S on iPod Touch: OFF function behavior (bug?)

*Message #10 Posted by **Egan Ford** on 9 Nov 2009, 3:13 p.m.,*
in response to message #9 by Andrés C. Rodríguez (Argentina)

> Quote:
>
> I don't have a clear use for OFF in a simulator, other than consistency with the simulated original. I know there are differencies ann improvements, so 42S is not supposed to be an emulator, running a HP 42 ROM image, or something similar.

Based on following statement, I believe that the author of 42s has no plans to be consistent with the original:

> Quote:
>
> Thomas Okken will be releasing a Free42 port for the iPhone that will adhere much more strictly to the HP-42S, and will be more consistent with his other platform ports.
>
> While I want to preserve base HP-42S functionality. I would like to exercise a little license. I personally believe that the catalog listing not being exactly the same as the 42S is not a big deal, I know opinions will vary. There are potentially new commands to come given the time and the will such as UNDO, REDO, GPS, etc... All of these would need to be added to the catalog.

The source of this statement is from the 42s forums after I raised an issue about changing the catalog. IOW, 42s is no longer keystroke compatible with the 42S. The purest in me would like an option to choose. However, I've always felt that Free42 would be a great base for a new RPN. I wouldn't mind seeing a total departure from the 42S look to something like the 32SII or 35s, i.e. two shift keys.

Perhaps 42s should be renamed to 42s+ since it is an evolution of the 42S.

Re: 42S on iPod Touch: OFF function behavior (bug?)

*Message #11 Posted by **Andrés C. Rodríguez (Argentina)** on 9 Nov 2009, 3:48 p.m.,*
in response to message #10 by Egan Ford

Egan, if that's the 42S direction, which may of course be valid, then it may be appropriate to remove the ON and OFF functions altogether.

What called my attention was that the OFF function maps to the HP-42 keyboard place where OFF used to be; but since there is now an "options" menu in that place, the menu is called when OFF is intended. I found that confusing. Perhaps mapping OFF to STOP will do (at least in a first approach).

Best regards,

Andrés

Edited: 9 Nov 2009, 4:03 p.m.

Re: 42S on iPod Touch: OFF function behavior (bug?)

*Message #12 Posted by **Bart (UK)** on 9 Nov 2009, 6:07 p.m.,*
in response to message #3 by Reth

Well Reth, let me tell you...

I have a Nokia 5800 and have 2 calculator simulators on it, both without an OFF function implemented. I run them in full screen mode (otherwise I need a magnifying glass) and then there are no 'phone menus available. The only way to exit is to TERMINATE them using the red physical key. This not only exits in an un-elegant way, but also directly to the home screen - leaving the "applications menu" open in the background. I then have to go into the "applications menu" afterwards to close it. I do find it anoying, anoying, anoying :-)

I would really like to have Free42 complete with OFF function, for the 5800.

Re: 42S on iPod Touch: OFF function behavior (bug?)

*Message #13 Posted by **Byron Foster** on 9 Nov 2009, 6:22 p.m.,*
in response to message #1 by Andrés C. Rodríguez (Argentina)

> Quote:
>
> The real HP-42 has (of course) a keyboard operation to turn it off. As this has little sense for a simulator, the respective position in the keyboard has been replaced with an "options" label, and it activates a configuration menu. This is acceptable, although I found myself "turning off" the calculator when a calculation has finished; only to see i'm now at such menu instead of leaving the application. Just a little annoying; but nothing serious.

Hi Andres, I felt that the ON/OFF function was redundant given the standard operation of the iPhone/iPod with the button at the bottom of the device. Also, ON/OFF can only be half implemented at best sense the application can never actually turn the device off. And, it makes for a convenient mechanism to go to the options view. This is my thinking anyway.

> Quote:
>
> The issue is worse when you execute XEQ "OFF" from the keyboard or even inside a program. Instead of leaving the application, or staying there in "off" state, or even doing no action at all; the "OFF" function does the same that the keypad operation now on its place: it goes to the configuration menu. This is not only annoying but plainly weird.

Version 2.3.1 has some work in this area, but probably not to your satisfaction. There was a problem where if you performed XEQ "OFF" it would take you to the options view, then when you went back to the calc view, the keyboard was still active.

You're right though, the effect of running "OFF" is quirky. The current behavior was easy to implement, but has some sloppy side effects. Given time I'll revisit this, and probably do what you say and just have OFF do nothing.

This is all assuming Apple some day puts the application back up on iTunes...

Re: 42S on iPod Touch: OFF function behavior (bug?)

*Message #14 Posted by **Andrés C. Rodríguez (Argentina)** on 9 Nov 2009, 6:38 p.m.,*
in response to message #13 by Byron Foster

Byron:

Thank you for your answer and, in first place, let me congratulate you for a magnificent piece of software.

To the point:

a)I find the "options" location a little confusing for me, as I am very used to Pioneers and tend to finsh my work turning the calculator off. But it's just me; and if it is a good choice for others, it's all right.

b) I strongly feel that XEQ OFF (via the XEQ key) or a program step which reads "OFF" should not call the menu. I understand it may not be possible / desirable to turn off the device, or even to exit the application; so I suggest that it may just STOP or something similar.

Please take these as mere suggestions from a satisfied user, and please dsregard any idiomatic mistake.

Best regards

Re: 42S on iPod Touch: OFF function behavior (bug?)

*Message #15 Posted by **Byron Foster** on 10 Nov 2009, 1:03 a.m.,*
in response to message #14 by Andrés C. Rodríguez (Argentina)

> Quote:
>
> Thank you for your answer and, in first place, let me congratulate you for a magnificent piece of software.

Thanks, However Thomas Okken deserves the bulk of the credit for creating Free42.

> Quote:
>
> b) I strongly feel that XEQ OFF (via the XEQ key) or a program step which reads "OFF" should not call the menu. I understand it may not be possible / desirable to turn off the device, or even to exit the application; so I suggest that it may just STOP or something similar.

You're right, this really is a bug, and I filed it as such here:

http://code.google.com/p/free42iphone/issues/detail?id=37

Another possibility is that the OFF command does in fact quit the application. It's just that the OFF command isn't mapped to the standard key sequence of the HP-42S. Hmm, I think I like that solution.

42S back on App Store! Re: 42S on iPod Touch: OFF function behavior (bug?)

*Message #16 Posted by **bt_schmidt** on 10 Nov 2009, 10:40 p.m.,*
in response to message #13 by Byron Foster

> Quote:
>
> This is all assuming Apple some day puts the application back up on iTunes...

Yay! The latest version of Byron Foster's 42s RPN Calculator iPhone app has been returned to its rightful place in the App Store.

http://itunes.apple.com/WebObjects/MZStore.woa/wa/viewSoftware?id=301525577

v2.3.1 details : http://code.google.com/p/free42iphone/

Re: 42S on iPod Touch: OFF function behavior (bug?)

*Message #17 Posted by **Thomas Okken** on 10 Nov 2009, 12:42 a.m.,*
in response to message #1 by Andrés C. Rodríguez (Argentina)

Hi Andrés,

Handling OFF, whether the Shift-EXIT key sequence or the XEQ "OFF" command, is a tricky issue in an HP-42S simulator!

In Free42 for Windows, Linux, Mac, and Pocket PC, OFF simply exits the application. In Free42 for PalmOS, it turns the device off, but doesn't exit the simulator, so that when you turn it back on, you're still in Free42.
On the iPhone, the situation is a bit difficult, since iPhone applications aren't supposed to exit on their own initiative, and they also aren't able to turn the device off... so what *should* OFF do then?
Byron Foster's approach in his **42s** port of Free42 is to bring up the "Options" screen instead. That seems like an excellent choice to me, but of course it's not going to work so well if you're running a program that executes OFF, or if you're used to pressing Shift-EXIT to shut down the simulator.
In my own **Free42** for the iPhone, OFF exits the simulator, in flagrant defiance of iPhone user interface guidelines. I'm already steeling myself for the complaints from people that are used to Byron's **42s** and expect the Options screen to come up instead. :-)
I guess both **42s** and **Free42** should have a setting that allows users to decide how they want OFF to behave. In a perfect world, the available options would include all of: (1) turn off the device, (2) exit the simulator and return to the home screen, and (3) bring up the Options screen.

- Thomas

Re: 42S on iPod Touch: OFF function behavior (bug?)

*Message #18 Posted by **Egan Ford** on 10 Nov 2009, 1:43 a.m.,*
in response to message #17 by Thomas Okken

> Quote:
>
> On the iPhone, the situation is a bit difficult, since iPhone applications aren't supposed to exit on their own initiative, and they also aren't able to turn the device off... so what *should* OFF do then?

Same thing the 42S does. Display off, emulator app still running. i41CX+, 11C, 12C, 15C, 16C, and all the 48GX emulators behave this way.

Re: 42S on iPod Touch: OFF function behavior (bug?)

*Message #19 Posted by **Andrés C. Rodríguez (Argentina)** on 10 Nov 2009, 8:37 a.m.,*
in response to message #17 by Thomas Okken

Hi, Thomas. Of course, my congrats for Free42, i42S, and others are also (and in first term) for you. These applications were very important for me at the time I decided to buy my iPod Touch, and are very, very good.

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Decimal to octal conversion for the HP-12C

*Message #1 Posted by **Kalevipoeg** on 8 Nov 2009, 12:24 p.m.*

Probably some of you are interested in mechanical calculators too. Watch this: http://www.youtube.com/watch?v=LGQTocT0Xr4

Therefore I tried to write a short program for the HP-12C this morning. Here it is.

Decimal to octal conversion on the HP-12C

```
01  STO 0
02  8
03  STO 1
04  0
05  RCL 0
06  X=0?
07  GTO 22
08  8
09  /
10  ENTER
11  INTG
12  STO 0
13  -
14  RCL 1
15  *
16  1
17  0
18  STO*1
19  RDN
20  +
21  GTO 05
22  RDN
23  GTO 00
```

Usage: Integer decimal number [R/S]

On the other hand, the stack registers are enough.

Decimal to octal conversion for the HP-12C ver.2.

```
01  0
02  X<>Y
03  8
04  X<>Y
05  X=0?
06  GTO 28
07  8
08  /
09  INTG
10  ENTER
11  RDN
12  RDN
13  LST X
14  FRAC
15  X<>Y
16  *
17  LST X
18  RDN
19  +
20  X<>Y
21  1
```

```
22  0
23  RDN
24  RDN
25  RDN
26  *
27  GTO 04
28  RDN
29  RDN
30  GTO 00
```

Usage: Integer decimal number [R/S]

Edited: 11 Nov 2009, 10:14 a.m.

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Laplace transforms

*Message #1 Posted by **ferroburak** on 8 Nov 2009, 11:48 a.m.*

Hi, What is the best calculator/package for Laplace transforms in HP series? Thanks in advance.

Re: Laplace transforms

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 8 Nov 2009, 12:52 p.m.,*
in response to message #1 by ferroburak

Hi;

The ones that would help you right away are the HP49G+ and HP50G. Both offer Laplace transforms and their inverses as internal resources (should check OS and CAS version). If you want alternatives, there are some HP41 programs (a complete set, by Raymond D. Moore) that allow you to numerically evaluate Laplace transforms in expressions with up to seventh order polynomials .

Hope this helps.

Luiz (Brazil)

Edited: 8 Nov 2009, 12:54 p.m.

Re: Laplace transforms

*Message #3 Posted by **ferroburak** on 8 Nov 2009, 1:44 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

I have matlab on my computer but it's slow at showing Laplace results.(4 core pc..) I wonder how much it takes for Hp50g.

Note: I'm an aerospace engineering student. I consider buying a used Hp50g (around 90$). Do you think it's worth this price?

Thanks for your help.

Edited: 8 Nov 2009, 1:45 p.m.

Re: Laplace transforms

*Message #4 Posted by **ferroburak** on 8 Nov 2009, 2:35 p.m.,*
in response to message #3 by ferroburak

I also contacted casio about which of their calc. performs laplace answer was I don't know..

Re: Laplace transforms

*Message #5 Posted by **Michael Plant** on 8 Nov 2009, 6:03 p.m.,*
in response to message #4 by ferroburak

According to this document: http://www.casio-intl.com/calc/pdf/2008/08_all.pdf, the Classpad 330 does it!

Re: Laplace transforms

*Message #6 Posted by **Crawl** on 8 Nov 2009, 9:36 p.m.,*
in response to message #3 by ferroburak

> Quote:
>
> I have matlab on my computer but it's slow at showing Laplace results.(4 core pc..) I wonder how much it takes for Hp50g.
>
> Note: I'm an aerospace engineering student. I consider buying a used Hp50g (around 90$). Do you think it's worth this price?
>
> Thanks for your help.

Any examples of specific problems you're trying to do?

Re: Laplace transforms

*Message #7 Posted by **Martin Pinckney** on 9 Nov 2009, 10:55 a.m.,*
in response to message #1 by ferroburak

Also the 48 series with the addition of one of the Sparcom Mathematics Pacs cards. Then there's programs on HPCalc.org

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OT CASIO FX-5400P $$$

*Message #1 Posted by **Saile (Brazil)** on 8 Nov 2009, 11:42 a.m.*

```
This Casio has more value than a 71B !!!!
Could anybody explain?


Casio FX-5400P Link
```

Re: OT CASIO FX-5400P $$$

*Message #2 Posted by **Karl Schneider** on 8 Nov 2009, 12:21 p.m.,*
in response to message #1 by Saile (Brazil)

> Quote:
>
> This Casio has more value than a 71B !!!! Could anybody explain?

True rarity, perhaps? (I'd never seen or heard of the Casio fx-5400p).

Two particularly-interested bidders? One interested bidder and a shill?

Viktor Toth's site shows that it was produced in 1987 only, which conceivably pegs it as a short-lived HP-71B imitator:

http://www.rskey.org/detail.asp?manufacturer=Casio&model=fx-5400P

Don't confuse price with (practical) value or quality.

-- KS

Edited: 8 Nov 2009, 2:16 p.m.

Re: OT CASIO FX-5400P $$$

*Message #3 Posted by **Chuck** on 8 Nov 2009, 12:23 p.m.,*
in response to message #1 by Saile (Brazil)

```
It is for two reasons (and probably more):
1)  Maybe not many around, (71B's are much easier to find)
2)  It's worth that to at least one person on this fine planet.


This astonishment of what things are worth, and what people are
willing to pay is crazy.  Just be happy it wasn't your pocket change
(which is a third reason: some peoples pocket change is more than
others).
```

EDIT: Crud, Karl won the race. :)

Edited: 8 Nov 2009, 12:24 p.m.

Re: OT CASIO FX-5400P $$$

*Message #4 Posted by **Don Shepherd** on 8 Nov 2009, 12:25 p.m.,*
in response to message #1 by Saile (Brazil)

> Quote:
>
> Could anybody explain?

Yes. It's quite simple. It was worth $465 to one person.

HP's are not the only calculators out there.

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Lambert W (HP-12C+)

*Message #1 Posted by **Gerson W. Barbosa** on 7 Nov 2009, 11:50 p.m.*

I have found a way to compute the the Lambert W function without using the solver, but only in the range (-1/e, 1]. However, the method allows the second branch to be computed all through the valid range, as shown below:

```
--------------------


Lambert W (2nd branch), -1/e =< x < 0


01 CHS
02 1/x
03 STO 0
04 ENTER
05 ENTER
06 ENTER
07 STO 1
08 LN
09 *
10 RCL 1
11 x<>y
12 -
13 x=0
14 GTO 19
15 CLx
16 RCL 0
17 LST x
18 GTO 07
19 LST x
20 RCL 0
21 /
22 CHS
23 GTO 00
                          12C+            actual


-0.367879441 R/S ->  -1.000000000     -1.000030530
-0.367       R/S ->  -1.070791879     -1.070791887
-0.3         R/S ->  -1.781337023     -1.781337023
-0.000000001 R/S -> -23.897019580    -23.897019585


(actual results obtained with Egan Ford's LAMBERTWB function in his special functions library -
See message #6 in
  this thread).


W-1(-1/x) = -(...x*ln(x*ln(x*ln(x*ln(x))))...)/x     (yet to be proved)


--------------------
```

The principal branch, at least in the range (-1/e, 1], can be computed with the following program:

```
--------------------


Lambert W (principal branch), -1/e > x >= 1


24 STO 0
25 ENTER
```

```
26 ENTER
27 ENTER
28 STO 1
29 e^x
30 /
31 RCL 1
32 x<>y
33 -
34 x=0
35 GTO 40
36 CLx
37 RCL 0
38 LST x
39 GTO 28
40 LSX x
41 GTO 00


                                  12C+           actual


 0.999999999 GTO 24 R/S ->  0.567143290     0.567143290
 0.5         GTO 24 R/S ->  0.351733711     0.351733711
 0.000000000 GTO 24 R/S ->  0.000000000     0.000000000
-0.3         GTO 24 R/S -> -0.489402227    -0.489402227
-0.367       GTO 24 R/S -> -0.932399183    -0.932399185


(occasionally the program will loop for certain arguments, as for 1, due to rounding errors -
in this case stop the program, the answer should be in register 1)


--------------------
```

Except for arguments whose convergences are very slow, these should work on the 12C as well. Also, by filling the stack with the desired argument and iterating two keystrokes until convergence is reached, this should work even on a non-programmable RPN calculator. The method may not be so practical but is somewhat interesting.

Gerson.

Edited: 8 Nov 2009, 7:12 a.m.

Re: Lambert W (HP-12C+)

*Message #2 Posted by **Namir** on 8 Nov 2009, 8:23 a.m.,*
in response to message #1 by Gerson W. Barbosa

Gerson,

Thanks for the program and for the reference. I have often come across the Lambert function, but did not stop to read about it. Your program and the Wikipedia reference gave me the info I need to implement the Lambert function (if and when I feel like doing that). The approximations are interesting.

Namir

Re: Lambert W (HP-12C+)

*Message #3 Posted by **Gerson W. Barbosa** on 8 Nov 2009, 12:21 p.m.,*
in response to message #2 by Namir

Hello Namir,

Thanks for your interest!

> Quote:

> The approximations are interesting.

Actually these are supposed to be exact solutions (except for accumulated rounding errors, mainly at the extremes of the convergence intervals). I've just found this paper which sheds some light on the subject (Iteration, pages 18 and 19).

The programs have been rewritten:

```
-------------


01 CHS                20 STO 0
02 1/x                21 STO 1
03 STO 0              22 4
04 STO 1              23 EEX
05 LN                 24 CHS
06 RCL 0              25 1
07 *                  26 0
08 RCL 1              27 STO 2
09 x<>y               28 RCL 0
10 -                  29 RCL 1
11 x=0                30 e^x
12 GTO 15             31 /
13 LST x              32 RCL 1
14 GTO 04             33 x<>y
15 LST x              34 STO 1
16 RCL 0              35 -
17 /                  36 ENTER
18 CHS                37 *
19 GTO 00             38 SQRT
                      39 RCL 2
                      40 x<=y
                      41 GTO 28
                      42 RCL 1
                      43 GTO 00


                                                    actual
-0.3678794411          R/S ->  -1.0000000000  (-1.0000197080)
 1.0000000000 GTO 20   R/S ->   0.5671432905  ( 0.5671432904)


-------------
```

Regards,

Gerson.

Edited: 8 Nov 2009, 1:54 p.m.

Re: Lambert W (HP-12C+)

*Message #4 Posted by **Crawl** on 10 Nov 2009, 12:22 p.m.,*
in response to message #3 by Gerson W. Barbosa

I was playing with that a little.

It seems like

y(n+1)=x/exp(y(n))

converges to W(x) up to about 2.7 (probably supposed to be e). If you use

y(n+1)=(x/exp(y(n))+y(n))/2

it converges much faster in the previous range (because the oscillations are suppressed)(though it

doesn't necessarily speed the convergence for negative argument), and also extends the range substantially, to about 60 (probably supposed to be 3*exp(3)).

y(n+1)=(x/exp(y(n))+2*y(n))/3

converges all the way to 5*exp(5)~742.

It's probably possible to use this or a similar idea to get an arbitrarily wide range of convergence.

In fact

y(n+1) = (x/exp(y(n)) + (y(n))^2)/(1+y(n))

seems to converge over the entire range. You just need a good seed for y(0). Maybe x for x < 1, log(x) for x>1. Or just the natural log of x+1 for all x.

Edited: 10 Nov 2009, 12:26 p.m.

Re: Lambert W (HP-12C+)

*Message #5 Posted by **Gerson W. Barbosa** on 10 Nov 2009, 4:14 p.m.,*
in response to message #4 by Crawl

> Quote:
>
> In fact
>
> y(n+1) = (x/exp(y(n)) + (y(n))^2)/(1+y(n))
>
> seems to converge over the entire range. You just need a good seed for y(0). Maybe x for x < 1, log(x) for x>1. Or just the natural log of x+1 for all x.

That's great! A good estimate for x>1 might be ln-ln(ln(x)). Perhaps your first expression and another initial estimate should be used for x<1.01 so that only a few iterations are needed in that range.

Some examples (Excel 2007)

$$y_{n+1} = (x/\exp(y_n) + y_n^2)/(1+y_n)$$

x = 1.001

n	y_n
0	6.90925457110691
1	6.03581510741710
2	5.17828530065102
3	4.34105591640598
4	3.53072548897921
5	2.75791050589333
6	2.04091021461044
7	1.41252273893777
8	0.92807090671205
9	0.65196072145989
10	0.57301422876145
11	0.56752983893071
12	0.56750507994374
13	0.56750507944168
14	0.56750507944168

```
x =     2


0       1.05966010114161
1       0.88171184629193
2       0.85324579958077
3       0.85260581752487
4       0.85260550201380
5       0.85260550201373
6       0.85260550201373


x =     123456789012345


0       28.96730703740500
1       29.08342041664470
2       29.07698748392480
3       29.07696600979440
4       29.07696600955620
5       29.07696600955620


x =     2.E+100


0       225.50944807065200
1       225.53347447862600
2       225.53318919246000
3       225.53318915157900
4       225.53318915157900


------------------
Formulas


x =     2E+100


n       yn


0       =LN(D5)-LN(LN(D5))
1       =($D$5/EXP(D9)+D9^2)/(1+D9)
2       =($D$5/EXP(D10)+D10^2)/(1+D10)
------------------
```

Regards,

Gerson.

Edited: 10 Nov 2009, 4:38 p.m.

Re: Lambert W (HP-12C+)

*Message #6 Posted by **Crawl** on 10 Nov 2009, 9:00 p.m.,*
in response to message #5 by Gerson W. Barbosa

I notice y(n+1)=log(x/y(n)) converges to the second branch quickly if x is very small, but converges very, very slowly if y~-1. I thought a bit about speeding up the convergence, but am not quite there.

Incidentally, look at the end of this paper.

> Quote:

> Finally, in an eloge near the beginning of the two volumes of Lambert's mathematical papers (published in Zurich in 1946 and 1948) we find that Lambert had dreams of building a machine to do symbolic calculation (while Pascal's machine merely did arithmetic). Thus his wishes anticipated those of Lady Ada Lovelace by roughly one century, and the actuality of symbolic computation systems by roughly two.

I'd think Lambert would have to be impressed by the HP50g.

Re: Lambert W (HP-12C+)

*Message #7 Posted by **Crawl** on 10 Nov 2009, 11:11 p.m.,*
in response to message #6 by Crawl

Okay, I think I have a good improvement to

y(n+1)=log(x/y)

Try

y(n+1)=(log(x/y)+1)*y/(1+y)

And maybe y(0)=log(-x)

Small x test

x=-.000001

Converges to -16.6265089014 in only three iterations. Takes 10 iterations for the other method.

Medium x test

x=-0.18

Converges to -2.7127679118 in only four iterations. Takes about 27 iterations to converge with other method.

Large x test

x=-0.36787944

Converges to -1.00007980968 in 17 iterations. Using qbasic and 100,000 iterations with the other method, has only converged to -1.00007975...

Edited: 10 Nov 2009, 11:17 p.m.

Re: Lambert W (HP-12C+)

*Message #8 Posted by **Crawl** on 10 Nov 2009, 11:53 p.m.,*
in response to message #7 by Crawl

D'oh! That's just Newton's method to solve y-log(x/y)=0. Oh, well.

Re: Lambert W (HP-12C/C+)

*Message #9 Posted by **Gerson W. Barbosa** on 11 Nov 2009, 5:41 p.m.,*
in response to message #4 by Crawl

> Quote:
>
> y(n+1) = (x/exp(y(n)) + (y(n))^2)/(1+y(n))

The HP-12C program below uses your formula and y(0)=ln(x+2)-ln(ln(x+2)) for all x. It's very fast on the 12C+. Running times are acceptable on the original 12C.

```
Lambert W function (principal branch)


01 STO 0        16 1            31 +
02 2            17 0            32 x<>y
03 +            18 x<>y         33 /
04 LN           19 y^X          34 RCL 1
05 ENTER        20 STO 2        35 x<>y
06 LN           21 1            36 STO 1
07 -            22 RCL 1        37 -
08 STO 1        23 +            38 ENTER
09 LN           24 LST x        39 *
10 1            25 ENTER        40 SQRT
11 0            26 *            41 RCL 2
12 LN           27 RCL 0        42 x<=y
13 /            28 LST x        43 GTO 21
14 9            29 e^x          44 RCL 1
15 -            30 /            45 GTO 00


                              12C+           actual    time (12C)


 9.999999e99 R/S ->  224.8431063     224.8431064      09.5 s
99.999999990 R/S ->    3.385630139     3.385630140    13.9 s
 2.000000000 R/S ->    0.852605502     0.852605502    13.7 s
 1.000000000 R/S ->    0.567143290     0.567143290    16.4 s
 0.5          R/S ->    0.351733711     0.351733711    15.9 s
 0.000000000 R/S ->    5.765480-25     0.000000000    17.2 s
-0.3          R/S ->   -0.489402227    -0.489402227    22.4 s
-0.367        R/S ->   -0.932399184    -0.932399185    30.9 s
-0.000100000 R/S ->   -0.000100010    -0.000100010    17.8 s
```

Edited to include running times on the original HP-12C

Edited: 12 Nov 2009, 7:14 a.m.

Re: Lambert W (HP-12C/C+)

*Message #10 Posted by **Crawl** on 17 Nov 2009, 12:15 p.m.,*
in response to message #9 by Gerson W. Barbosa

I think this forum is the first place I've ever heard of the Lambert W. I've been reading up on it a bit. There's some interesting stuff about it.

Re: Lambert W (HP-12C/C+)

*Message #11 Posted by **Gerson W. Barbosa** on 17 Nov 2009, 2:29 p.m.,*
in response to message #10 by Crawl

> Quote:

> I think this forum is the first place I've ever heard of the Lambert W.

That's where I first heard of it too. I think it was Valentin Albillo who first mentioned it here.

I like its being capable of providing analytical solutions to some problems that would otherwise require a numerical solver, like the ridget hurler example in the HP-15C manual:

$h = 5000(1 - e^{-t/20}) - 200t$

The problem consists in solving the equation for t when $h = 0$. If Lambert W were used, the solution would be simply

$t = 20W(-5/4\ e^{-5/4}) + 25$

Or $t = 9.284255090$, when evaluated with the HP-12C program above.

Edit to correct a typo.

Edited: 21 Nov 2009, 9:25 a.m.

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Need help with HP 48sx file transfer

*Message #1 Posted by **Martin Pinckney** on 7 Nov 2009, 8:25 p.m.*

I am trying to install some libraries on my 48sx, and having some issues. The first time I try to upload a file to the 48, it works OK, but try another file, and I get a dialog box that says "There was insufficient memory to complete this operation." Not sure if this message is coming from HP48 Explorer or Windows.

If I close HP48 Explorer and reopen it, it works again the first time, then repeats the problem.

Restarting HP48 Explorer each time is a workaround, but this should not be necessary, Any suggestions? Thanks.

Re: Need help with HP 48sx file transfer

*Message #2 Posted by **Michael de Estrada** on 7 Nov 2009, 8:37 p.m.,*
in response to message #1 by Martin Pinckney

What exactly is "HP48 Explorer" ?

Re: Need help with HP 48sx file transfer

*Message #3 Posted by **Martin Pinckney** on 7 Nov 2009, 9:23 p.m.,*
in response to message #2 by Michael de Estrada

HP48 Explorer is the Windows file transfer utility by Chris Mumford available from HPCalc.org. An alternative to the HP software.

Re: Need help with HP 48sx file transfer

*Message #4 Posted by **Michael de Estrada** on 7 Nov 2009, 10:08 p.m.,*
in response to message #3 by Martin Pinckney

OK, I was not aware of this. I have always used a DOS computer and Kermit. Does it work with the serial RS232 port?

Re: Need help with HP 48sx file transfer

*Message #5 Posted by **Martin Pinckney** on 7 Nov 2009, 11:35 p.m.,*
in response to message #4 by Michael de Estrada

I am using a Belkin USB-RS232 converter, which is seen by HP48 Explorer as COM5. That part seems to work OK.

Re: Need help with HP 48sx file transfer

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 7 Nov 2009, 10:01 p.m.,*
in response to message #1 by Martin Pinckney

Hi, Martin;

what version of Windows are you using? I am not quite sure if the HP48 Explorer works fine under XP, but I remember testing it OK with W95 and W98. Do you have an old PC running one of these to try it out?

Sorry not being of much help... :^(

Luiz (Brazil)

Edited: 7 Nov 2009, 10:01 p.m.

Re: Need help with HP 48sx file transfer

*Message #7 Posted by **Chan Tran** on 7 Nov 2009, 10:50 p.m.,*
in response to message #6 by Vieira, Luiz C. (Brazil)

The 48sx doesn't have sufficient memory to do the transfer. Doing the transfer in binary mode instead of ACSII mode save some memory. But since the SX only has 32K RAM it could run out of memory.

Re: Need help with HP 48sx file transfer

*Message #8 Posted by **Vieira, Luiz C. (Brazil)** on 7 Nov 2009, 11:17 p.m.,*
in response to message #7 by Chan Tran

Hi, Chan Tran;

since he says the operation succeeds after closing and opening the HP48 Explorer, do you believe the message is genuinely related to the HP48SX being out of memory? It seems to me it is something else, related mostly to the computer's O.S.

Any ideas?

Cheers.

Luiz (Brazil)

Re: Need help with HP 48sx file transfer

*Message #9 Posted by **Martin Pinckney** on 7 Nov 2009, 11:31 p.m.,*
in response to message #8 by Vieira, Luiz C. (Brazil)

> Quote:
>
> do you believe the message is genuinely related to the HP48SX being out of memory?

You are right, I failed to mention I have 160k system RAM.

Re: Need help with HP 48sx file transfer

*Message #10 Posted by **Martin Pinckney** on 7 Nov 2009, 11:33 p.m.,*
in response to message #6 by Vieira, Luiz C. (Brazil)

I am running XP, and HP48 Explorer otherwise seems to work.

Re: Need help with HP 48sx file transfer

*Message #11 Posted by **ferroburak** on 8 Nov 2009, 3:48 a.m.,*
in response to message #10 by Martin Pinckney

I don't recommend Vista.

Re: Need help with HP 48sx file transfer

*Message #12 Posted by **Egan Ford** on 8 Nov 2009, 11:58 a.m.,*
in response to message #1 by Martin Pinckney

Martin,

I've never had any problems using Kermit with any 48/50 connected to any PC (Windows, Mac, Linux, UNIX). Have you considered using that?

Kermit HOWTO:

1. Get Kermit for your platform (Google it).
2. Put all your HP files in a single directory, start up Kermit from that directory.
3. Type the following commands (BTW, you can put this in the Kermit initialization file (read the docs)):

```
C-Kermit>set line COM5: (or whatever)
C-Kermit>set speed 9600
C-Kermit>set carrier off
C-Kermit>set parity none
C-Kermit>robust
C-Kermit>server
```

4. Setup the SX for binary or ASCII.
5. From the SX, enter the filename you want in single quotes, e.g. 'FOO', then KGET.
6. Repeat last two steps until you have all the files.
7. Ctrl-C Kermit server mode. 'exit' to exit.

Re: Need help with HP 48sx file transfer

*Message #13 Posted by **Martin Pinckney** on 10 Nov 2009, 1:10 p.m.,*
in response to message #12 by Egan Ford

Thanks, Egan, and everyone for your suggestions. I read the section in the Owner's Manual on Kermit, and it states "To transfer data to and from a computer, the computer must be running a program that implements Kermit protocol." My guess is, that's what HP48 Explorer does.

So the manual seems to say that Kermit is a protocol, but Egan, you seem to be suggesting that there are programs called Kermit.

Re: Need help with HP 48sx file transfer

*Message #14 Posted by **Vieira, Luiz C. (Brazil)** on 10 Nov 2009, 3:00 p.m.,*
in response to message #13 by Martin Pinckney

Hi, Martin;

Kermit is a protocol and also a set of programs. Please, have a brief intro here. It is also free.

From wikipedia:

Quote:

Naming and copyright

Kermit was named after Kermit the Frog from The Muppets. The program's icon in the Apple Macintosh version was a depiction of Kermit the Frog. A backronym was nevertheless created, perhaps to avoid trademark issues, KL10 Error-Free Reciprocal Microprocessor Interchange over TTY lines.

Kermit is an open protocol - anybody can base their own program on it, but some Kermit software and source code is copyright by Columbia University.

Sorry, I could not resist

Cheers.

Luiz (Brazil)

Edited: 10 Nov 2009, 3:01 p.m.

Re: Need help with HP 48sx file transfer

*Message #15 Posted by **Martin Pinckney** on 10 Nov 2009, 10:10 p.m.,*
in response to message #14 by Vieira, Luiz C. (Brazil)

Thanks, Luiz.

Well, I see Kermit sells for $50-$75, so I think I will stick to HP48 Explorer, and use my $50 for other purposes.

Re: Need help with HP 48sx file transfer

*Message #16 Posted by **Egan Ford** on 10 Nov 2009, 10:49 p.m.,*
in response to message #15 by Martin Pinckney

The free DOS version works fine in Windows, but you may be limited to COM1:-COM4:. I have not used it in a while.

For all non-Windows users C-kermit is free. I could not find C-kermit for Windows.

Re: Need help with HP 48sx file transfer

*Message #17 Posted by **Christoph Giesselink** on 11 Nov 2009, 4:08 p.m.,*
in response to message #15 by Martin Pinckney

I agree with Egan that the DOS Version works fine on XP.

I personally find that the Kermit protocol is too slow for many cases. In the early beginng of my SysRPL career it took me about 30 min. to restore the 100kB of my 48SX home directory. In the last 10 years I use a XModem Library on the SX. Now the restoring process takes about 2-3 min. over XModem.

Another way is to use Emu48 on the PC as Kermit program. I just load the file I want to send with "Load Object..." into Emu48, bound the COM port with the real 48SX in the Emu48 settings dialog to Wire. And then you have the choice, start the Kermit-server on real calculator

or on the emulated one. I prefer the server on the real calc and using the SEND command on the emulated one.

Christoph

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Do other brands also have buggy calcs?

*Message #1 Posted by **Jean-Michel** on 6 Nov 2009, 4:25 p.m.*

Hello all,

whereas I have the complete list of the bugs of the HP-35s, since it is well documented in this forum, I have no idea of the fact that programmable scientific calculators from other brands (TI and CASIO for the most well-known of them) could also have some bugs, and what kind of bugs they could be.
For instance, I wonder if the top of the range TI-89 and CASIO fx-9860g have bugs or not. I already hear some of you warning me that these calculators should not be compared to an HP-35s, but rather to an HP-50g, but I simply do not have informations of the bugs an HP-50g may have, that's why I mention the 35s.

Sorry for asking such a question here, but where else could I do it, and thank you advance for your answers.

Kind regards.
Jean-Michel.

Re: Do other brands also have buggy calcs?

*Message #2 Posted by **Michael Meyer** on 6 Nov 2009, 4:42 p.m.,*
in response to message #1 by Jean-Michel

Seems like a very fair question to post here. But the answer looks pretty clear: just search the internet and you'll find a lot of sites with bugs and bug lists for those models.

Re: Do other brands also have buggy calcs?

*Message #3 Posted by **Namir** on 6 Nov 2009, 11:33 p.m.,*
in response to message #1 by Jean-Michel

Last year my son called me from AZ and mentioned that his TI inspire failed to solve an Euler ODE!!! He mentioned that his TI-89 Titanium DID solve the same problem correctly. When he arrived for Xmas, I updated his OS for the nspire and we tried again. It failed again. We tried it on my TI nspire and that did not work too. We contacted TI and explained the problem. We heard nothing back from them.

It shows that even the best machines have bugs!

Namir

Re: Do other brands also have buggy calcs?

*Message #4 Posted by **Eric Smith** on 7 Nov 2009, 1:04 a.m.,*
in response to message #3 by Namir

I don't think I'd say that finding a bug in a TI necessarily shows that "even the best machines" have bugs.

:-)

Any complex system has bugs. This is not unique to software, but it most visible in software because we built software systems of greater complexity than most other kinds of systems.

Re: Do other brands also have buggy calcs?

*Message #5 Posted by **Namir** on 7 Nov 2009, 7:14 a.m.,*
in response to message #4 by Eric Smith

I agree with you Eric. That is why operating system and even browsers (also complex enough) have vulnerabilities which hackers exploit.

The interesting thing though is that the TI-89 Titanium was able to solve my son's problem, while the TI nspire failed. That is why the TI-89 has become inseparable from my son.

Namir

Edited: 7 Nov 2009, 7:16 a.m.

Re: Do other brands also have buggy calcs?

*Message #6 Posted by **Bart (UK)** on 7 Nov 2009, 8:09 a.m.,*
in response to message #4 by Eric Smith

> Quote:
>
> Any complex system has bugs.

It shouldn't have to be. This is just an excuse perpetuated by manufacturers to reduce NRE and maximise profit.
"It's not perfect but good enough" is being used as an excuse to release rubbish.

Aircraft have complex safety critical systems with complex software. Would we accept the kind of bugs there that we see in consumer equipment?

Of course it's more expensive, but producers are more concerned with quarterly profits than quality products. What is better - having to buy several calculators to get the correct answers in all circumstances or one more expensive one that does everything right?

Re: Do other brands also have buggy calcs?

*Message #7 Posted by **Thomas Radtke** on 7 Nov 2009, 8:42 a.m.,*
in response to message #6 by Bart (UK)

You would have to test a complex system by arranging for any possible state it might be in to make sure all bugs are found. Is that possible for a modern calculator?

Re: Do other brands also have buggy calcs?

*Message #8 Posted by **Bart (UK)** on 7 Nov 2009, 3:07 p.m.,*
in response to message #7 by Thomas Radtke

It is not about testing all possible states. That can take a lifetime, even for hardware - imagine

testing a modern high density FPGA for all possible input/ouput combinations!

It is about the development effort, properly executing the process of developing the system from requirements to testing and production. There is the idea that it's time consuming and expensive - but there always seems to be time & money go back and fix things a hundred times (or upsetting end users) rather than do it properly in the first place. I mentioned aircraft safety critical systems, but developing everything to that level would be "over the top". However, there are simpler processes to follow that could produce low bug-count systems for consumer use.

Coming back to testing, a properly thought out and executed test plan can ensure wide coverage without endless test effort. How difficult can it be to test the length/checksum function for programs on the HP35s?

Re: Do other brands also have buggy calcs?

*Message #9 Posted by **Eric Smith** on 7 Nov 2009, 6:01 p.m.,*
in response to message #8 by Bart (UK)

> Quote:
>
> It is not about testing all possible states. That can take a lifetime,

A lifetime? For an even moderately complex product it would take an astronomical number of times longer than the current age of the universe.

This is why code coverage analysis was invented. While it helps, it doesn't completely solve the problem.

Re: Do other brands also have buggy calcs?

*Message #10 Posted by **Richard Reed** on 7 Nov 2009, 9:12 a.m.,*
in response to message #6 by Bart (UK)

I have to agree with Bart, if I'm correct that he thinks it's a matter of expense.

Software and hardware QA are not new anymore, and there is no practical reason for the complexity of these systems to grow any faster than the methods available to test them.

The expense of testing has not become greater in proportion to other costs in the product life cycle, so if new products are actually more buggy, it's a result either of decisions not to test them as thoroughly as warranted by their complexity, or simply of being in an earlier stage of "incremental improvement" than other products in the comparison.

The decision not to test adequately would be a decision to cheapen the product.

Richard

Re: Do other brands also have buggy calcs?

*Message #11 Posted by **designnut** on 7 Nov 2009, 2:39 p.m.,*
in response to message #10 by Richard Reed

Aye there's the rub. I have no doubt they consider their tests adequate. Perfection takes a lot longer and time pressure doesn't permit perfection. I was reminded of the Mt. Palomar telescope, when the shop was asked how far short of perfection the mirror was, said about 100

years. Sam

Re: Do other brands also have buggy calcs?

*Message #12 Posted by **Bart (UK)** on 7 Nov 2009, 3:30 p.m.,*
in response to message #11 by designnut

> Quote:
>
> ...how far short of perfection the mirror was...

But how short of perfection did it need to be to meet the purpose of the telescope? *That* should be captured in the requirements. Once the requirements have been properly established, the design should endeavour to meet those requirements 100%. To use "it's not perfect, but good enough" as an excuse not to meet the requirements means wanting to release an inferior product.

Well defined requirements will also minimise requirement creep. Any "nice-to-have's" that pop up during design should be kept aside as new requirements for a possible product upgrade.

Re: Do other brands also have buggy calcs?

*Message #13 Posted by **Eric Smith** on 7 Nov 2009, 5:55 p.m.,*
in response to message #10 by Richard Reed

> Quote:
>
> Software and hardware QA are not new anymore, and there is no practical reason for the complexity of these systems to grow any faster than the methods available to test them.

The practical reason why the complexity of the systems is increasing rapidly (and faster than testing) is that customers always expect newer products or models to have more features.

If you take the previous model of a product which contained 200,000 lines of code, add some features, and the new model contains 250,000 lines of code, you have NOT increased the testing problem by 25%. The increase is exponential, but improvements to testing performance and even to testing methodology are on a much shallower curve.

Until customers stop demanding added features, or a breakthrough is made in software verification, software quality will continue to deteriorate.

Re: Do other brands also have buggy calcs?

*Message #14 Posted by **Martin Pinckney** on 7 Nov 2009, 6:59 p.m.,*
in response to message #13 by Eric Smith

> Quote:
>
> Until customers stop demanding added features, or a breakthrough is made in software verification, software quality will continue to deteriorate.

IMO customers don't "demand" new features, software companies invent new features to generate sales of "improved" versions.

Most customers I know would just be happy if the "old" versions could be made bug free.

Re: Do other brands also have buggy calcs?

*Message #15 Posted by **Eric Smith** on 8 Nov 2009, 2:30 a.m.,*
in response to message #14 by Martin Pinckney

Customers "demand" new features because they buy software that is marketed touting new features. If they stopped doing that, and instead complained to the software companies about how bug-ridden the software is, things would be different.

It's called "voting with your wallet".

The reality is that most people simply put up with the bugs.

Re: Do other brands also have buggy calcs?

*Message #16 Posted by **bill platt** on 8 Nov 2009, 12:52 p.m.,*
in response to message #14 by Martin Pinckney

In CAD software, there is a hugely important customer-driven evolution. Once you can do "a" with the software, you soon realize that if it could do "a + b" automatically, you'd save another 200 hours per year of modeling effort etc etc. Maybe word processors, spreadsheets, programmable toaster ovens and calculators suffer from "feature bloat," but in commercial CAD software, while there is "feature bloat" with respect to the parts of the package you don't use, there is always improvement (meaning, can it make the work go faster) to be done for your own use.

The packages that don't keep up with the customer demands, fall away and disappear. sometimes this is to the consternation of the customers, who have invested in knowing how to use the package. The CAD software market really depends on collaboration. Examples of what I am talking about would be Solidworks, Rhinoceros, Aerohydro, AutoCAD.

Edited: 8 Nov 2009, 12:52 p.m.

Re: Do other brands also have buggy calcs?

*Message #17 Posted by **Eric Smith** on 7 Nov 2009, 5:58 p.m.,*
in response to message #10 by Richard Reed

> Quote:
>
> The decision not to test adequately would be a decision to cheapen the product.

"Adequately" is a judgement call; there is no a priori objective standard for "adequate".

The amount and type of product testing done is a business decision, based on guesses as to how much the quality of the software will affect sales.

Re: Do other brands also have buggy calcs?

*Message #18 Posted by **Eric Smith** on 7 Nov 2009, 5:51 p.m.,*
in response to message #6 by Bart (UK)

Note that high-end automobiles now contain many times more lines of code than the latest aircraft avionics. This is because for the aircraft avionics they know that they will have to extensively test every feature and many combinations of features under a very large range of system conditions (both plausible and implausible), and they still won't catch all the bugs. For the automobile the testing requirements are much lower, with exceptions for only a few subsystems.

With regard to aircraft software you write:

> Quote:
>
> Of course it's more expensive,

I'm not sure from your post that you have any idea just how much more expensive it is. We're not talking about 50% more expensive, or even 200% more expensive. We're talking about at least two orders of magnitude more expensive. You will NEVER see that level of testing put into a consumer product, because there is no possible business justification for it.

Re: Do we have to believe buggy calcs are inevitable?

*Message #19 Posted by **Bart (UK)** on 7 Nov 2009, 10:56 p.m.,*
in response to message #18 by Eric Smith

There seems to be too much of a focus in this thread on testing. *My* argument is that planning receives too little attention. It is in the requirements capture and detailed software planning stages that the opportunity for "doing it right first time" exists. By the time testing is being done, it's at the point of "going back to fix it". So often I see programs where coding is done directly from poorly defined high level requirements because "there isn't money for that" or "there isn't time because we have to get something on the table". It's like having a big jellyfish on top of a thin pole, and with each test-and-fix iteration the jellyfish becomes bigger and more difficult to keep on the pole. Adequate high & low level requirements capture and detailed software planning & design can create the right size pole.

As to the effort and expense of aircraft software you are right when it comes to safety critical software. I did say in an earlier post that this was over the top for consumer products. Also, a big chunk of this added time and cost is due to the supporting documentation and independent verification required for safety critical systems. This is not needed for non safety critical software. Because of this, that type of aircraft software is considerably more complex than the safety critical stuff, but when developed well still has good performance - and is not that expensive. Some of those that complain about the expense usually under-estimated the cost at the bid stage and ended up paying several times what need have been, to fix it - i.e. it comes back to bad planning. Or didn't apply the process from the beginning and had to go back and re-do it.

On generic PC's I can understand problems exist because the software house has no control over the hardware platform that the software will be used on. However, calculator manufacturers have complete control over the whole platform.

Edited: 7 Nov 2009, 10:59 p.m.

Flawed calcs & consumer products vs. old HP's

*Message #20 Posted by **Karl Schneider** on 8 Nov 2009, 12:48 a.m.,*
in response to message #19 by Bart (UK)

Bart --

That's a fine "mini-essay" with some very good points.

Several explanations for bug-ridden, flawed, and poorly-designed calculators and other consumer gadgets have been discussed in this space:

- Relentless pace of advancing technology renders today's novelty tomorrow's obsolete relic. *Why spend the money, time, and effort to make a first-class product that would be replaced in only a few years?*
- Race-to-the-bottom price competition, enabled by low-cost microprocessors as well as the cheap labor of globalization, leaving little margin for quality engineering.
- Re-emphasis from "substance" (sensible, quality products) toward "style", gimmickry, and short-term profit.
- Today's cheap, expedient way to fix errors by releasing patches to software and firmware via the internet.

It didn't used to be that way:

Even by modern standards, there was nothing simple about the detailed functional specifications of the HP-15C and HP-42S in particular. Yet, these models are known for near-perfection in operation, and excellence of design. Both pioneered new territory in certain ways, but -- with only a few trivial exceptions -- every feature performs exactly as designed. The vast majority of their functional designs themselves are also excellent.

This could not have happened by accident: Not only was the functionality carefully thought through, but systematic, methodical procedures must have been employed to ensure that nothing would be overlooked. Rigorous and comprehensive testing ensured that the original product release did not require significant revision or re-design. I'm always astounded how well the HP-15C and HP-42S were executed in their basically-single incarnations.

I believe that certain methods and practices of the not-too-distant past have been forgotten or discontinued in the development of much of today's consumer technology.

-- KS

(Minor editing to wordsmith)

Edited: 8 Nov 2009, 2:13 p.m. after one or more responses were posted

Re: Flawed calcs & consumer products vs. old HP's

*Message #21 Posted by **Bart (UK)** on 8 Nov 2009, 12:56 p.m.,*
in response to message #20 by Karl Schneider

Your bullet points explain what I was getting at in my first post - manufacturers maximising profit at the expense of quality, and then trying to smooth the waters by saying "ooo, it's a complex system...it's not going to be perfect you know".

Were the sales figures of the Pioneers and 48 series so poor that HP calculator devision felt they had to stoop to inferior competitors low quality to stay profitable?

Re: Do we have to believe buggy calcs are inevitable?

*Message #22 Posted by **Don Shepherd** on 8 Nov 2009, 2:28 a.m.,*
in response to message #19 by Bart (UK)

Good points, Bart.

This kind of says it all.

When I became a programmer in 1974, a critical aspect of that job was "desk checking" the program, which meant going through it line-by-line and ensuring that it was logically correct, even before compiling. I'm afraid that is no longer done. In fact, testing is sometimes left for beta testers these days.

I agree that the requirements definition process is absolutely critical to the development of a succesful project. But that's just one phase. What is really needed is smart people and knowledgeable and supportive management at every phase of the life cycle, and that's always tough to get.

Re: Do we have to believe buggy calcs are inevitable?

*Message #23 Posted by **Bart (UK)** on 8 Nov 2009, 1:14 p.m.,*
in response to message #22 by Don Shepherd

> Quote:
>
> What is really needed is smart people and knowledgeable and supportive management at every phase of the life cycle, and that's always tough to get.

Yup, that's what my "mini-essay" was all about.

What also gets my back up though is that the users are then persuaded to accept serious bugs are inevitable. By serious I mean bugs that prevent the equipment from performing to a hard and fast requirement. i.e. a calculator not adequately (or not at all) performing a function that is part and parcel of the machine. Examples are Namir's TI-inspire problem and the program length / checksum function of the HP35s.

Re: Do we have to believe buggy calcs are inevitable?

*Message #24 Posted by **bill platt** on 8 Nov 2009, 1:22 p.m.,*
in response to message #23 by Bart (UK)

Remember when Excel did maths wrong a few years ago?

Nothing new can be trusted....

MS Excel mathematics

*Message #25 Posted by **Karl Schneider** on 8 Nov 2009, 2:54 p.m.,*
in response to message #24 by bill platt

Hi, Bill --

> Quote:

> Remember when Excel did maths wrong a few years ago?
>
> Nothing new can be trusted....

If you're referring to the long-standing floating-point math results provided by MS Excel 2000 and later versions, here's a thread from 2007 that links to an earlier lengthy one from 2002:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=107533#107533

A link is provided by Gunnar Degnbol to a 2006 draft paper by W. M. Kahan about Excel mathematics.

There was a well-publicized display bug in Excel 2007, which apparently was patched by KB943075.

-- KS

Edited: 8 Nov 2009, 5:18 p.m.

Re: Do we have to believe buggy calcs are inevitable?

*Message #26 Posted by **Eric Smith** on 8 Nov 2009, 2:33 a.m.,*
in response to message #19 by Bart (UK)

> Quote:
>
> There seems to be too much of a focus in this thread on testing.

No matter how well you design the software before you start writing it, you will still wind up with bugs in it that won't get caught until testing. That might be testing by your QA department, or testing by your customers.

If you start from a good design, you'll have fewer bugs, but not zero.

Re: Do we have to believe buggy calcs are inevitable?

*Message #27 Posted by **Bart (UK)** on 8 Nov 2009, 1:01 p.m.,*
in response to message #26 by Eric Smith

I did not mean to belittle the importance of testing, but if the aim is to use testing as the first real port-of-call to minimise bugs then the battle is lost before it has been started.

Edited: 8 Nov 2009, 1:01 p.m.

Re: Do we have to believe buggy calcs are inevitable?

*Message #28 Posted by **Eric Smith** on 8 Nov 2009, 6:06 p.m.,*
in response to message #27 by Bart (UK)

Sounds like we're in agreement.

Nearly all have a fatal bug

*Message #29 Posted by **db (martinez, ca.)** on 7 Nov 2009, 10:34 p.m.,*
in response to message #1 by Jean-Michel

the enter key is broken on most non-hp calcs.

Re: Nearly all have a fatal bug

*Message #30 Posted by **Bart (UK)** on 7 Nov 2009, 11:04 p.m.,*
in response to message #29 by db (martinez, ca.)

:)))

Re: Do other brands also have buggy calcs?

*Message #31 Posted by **DaveJ** on 8 Nov 2009, 6:35 p.m.,*
in response to message #1 by Jean-Michel

I recently got a Casio FX-3900PV that locks up all the time.

Casio's are usually bullet proof in terms of firmware, but this programmable model locks up all the time if you say pick up the calculator and accidentally press random buttons. You just see "busy" on the display and even the OFF button won't work.

No wonder is has a handy reset button on the back!

Dave.

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HP Forum Archive 19

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University of Houston Calculator Contest

*Message #1 Posted by **David Hayden** on 6 Nov 2009, 3:38 p.m.*

The following appeared on comp.sys.hp48 recently. I thought this community might enjoy it. Please note that I was not the orignal poster. ----------

I came across an interesting site for the annual University of Houston Mathematics Contest for high school students (http:// mathcontest.uh.edu/). One of the contests is a calculator test. I tried the 2009 test:

http://mathcontest.uh.edu/Exams09/calculator.pdf

It was interesting. The 20 questions range from reasonably easy to downright hard to completely ridiculously and confusing.

The contest is supposed to be one hour, but I took closer to two. Unfortunately, after I finished, I realized that there is no answer key given, so I couldn't check my results, but it was still a fun challenge.

Enjoy, -wes

Re: University of Houston Calculator Contest

*Message #2 Posted by **Paul Dale** on 6 Nov 2009, 5:12 p.m.,*
in response to message #1 by David Hayden

Eeek, that test would be quite a challenge in an hour.

A high end graphing calculator would help a lot evaluating the relatively long series.

- Pauli

Re: University of Houston Calculator Contest

*Message #3 Posted by **Marcus von Cube, Germany** on 6 Nov 2009, 5:24 p.m.,*
in response to message #2 by Paul Dale

If you look at the chapter names of the PDF (I viewed it with Preview on my Mac) a TI-83 is recommended.

Some of my answers

*Message #4 Posted by **Crawl** on 6 Nov 2009, 6:57 p.m.,*
in response to message #1 by David Hayden

I didn't do the whole thing, but here are most of them.

1. << 950774 DO 1 - DUP ISPRIME? UNTIL END>>

Gives

950753

2. 5*7^5+5*7^4+2*7^3+4*7^2+2*7+6=552426

Straight forward; I probably should have written a program to make it go a little faster.

3. This one is based on Euler's constant.

exp(7.2-0.577) = 752

You can then manually find the sum to 752 = 7.200616 to 751 = 7.19928

So the answer is 752

4 900/(pi/2) = 572.95

571 * pi/2 = 896.9247...

So the answer is 3.4287130x10-6

5. By graphing, we find they intersect at 1.2476143603 and -3.39730397 so -2.14968960968

6. Derivative has real roots -.707250032311, -4.29559733134, 4.61929258455

f has values -362.723, 104704.599751, 232366.502395

can be confirmed with graphing

So the answer is 232366.5023

7. 7351344 = 2^4 * 3 ^ 3 * 7 * 11 * 13 * 17

11 factors

You can include or not include any of them. (2^11 values of i)

so 2^22 points

Answer: 4194304

8. <<1 1 14 FOR X 3 X ^ INV 1 + X 1 + ^ * NEXT>>

Answer=3.12155183

9. Use DROITE, the line is Y = 1/3(x-7)+4

take the atan Answer=.321750554

10. -2689/890=-3 19/890

Might be slightly more difficult to get an exact answer if your calculator does not have a CAS; otherwise this is trivial.

11. 310,000.00 I must not get this one. It seems like a simple division problem. Maybe it's a trick question.

12. There are 47 years

<< 71 1 47 FOR X DUP .06 * FLOOR + NEXT >>

Gives 980 (would have been 1098 without the FLOOR), then subtract 39

Answer=941

14.

<< 1 0 0 -> X S J << 2 47 FOR J J ISPRIME? IF THEN X 1 + 'X' STO X 2 / DUP FLOOR == IF THEN X 1 + DUP 2 ^ + 2 / J * S + 'S' STO END END NEXT S >> >>

Answer=17610

15 << .5 2 51 FOR X DUP 1 SWAP - * 3 * NEXT >>

Answers= 0.634247256816, 0.6959330221, 0.634830753538

16 <<0 1 200 For X X ISPRIME? IF THEN X INV 2 ^ + END NEXT>>

Answer= 0.4514999600419

I also confirmed that there are as many primes as there were supposed to be.

17. Solve e(-x^2) = 10^-9 x=4.55228138815 Odds of being right for one = 1-4.55../9 = 0.494...

Odds of being right for all 10 is that to the 10th power.

8.6885627195x10-4

Re: Some of my answers

*Message #5 Posted by **Crawl** on 6 Nov 2009, 7:07 p.m.,*
in response to message #4 by Crawl

> Quote:
>
> 7. 7351344 = 2^4 * 3 ^ 3 * 7 * 11 * 13 * 17
>
> 11 factors
>
> You can include or not include any of them. (2^11 values of i)
>
> so 2^22 points
>
> Answer: 4194304

I already see that I did that totally wrong.

It's

5 * 4 * 2 * 2 * 2 * 2

(The prime exponent plus 1)

so 320 factors.

And 10240 points.

One more

*Message #6 Posted by **Crawl** on 6 Nov 2009, 8:26 p.m.,*
in response to message #5 by Crawl

19.

This is much easier than it first seems.

The square root of 1100 is 33.1...

The 25th prime is 98.

That means if any number less than 1100 is not divisible by the first 25 primes then it itself must be prime.

<< 0 -> X

<< 2 1100 FOR J

J ISPRIME? IF THEN X 1 + 'X' STO END NEXT X >> >>

That gives 184 primes less than 1100

So the answer is 159.

It would be harder if they asked if they weren't divisible by, say, the first 5 primes (up to 11). Then you'd have to include numbers like 13^2=169, 17^2=289, 13*17=221, etc.

Most of the rest

*Message #7 Posted by **Crawl** on 7 Nov 2009, 10:56 a.m.,*
in response to message #6 by Crawl

13. I really hated this one. It's not a math problem; it's a "can you penetrate our impenetrable writing" problem. Too bad those being judged can't sometimes turn around and judge the judges.

Anyway, I guess the idea is that to 6 pm she has gone 67 mph for 2 hours, so she's gone 134 miles. For the next 40 minutes she's able to drive the full 75 mph, so that gets her another 50 miles ahead, for 184 total. I presume that for 25 minutes she just drove in a big circle, so at 7:33 she's still 184 miles from Houston (and 55 from Dallas). Then for 20 minutes she drove for 64 mph, getting her another 21.333... miles ahead. So, it's now 7:53 and she has 33.666... miles to go. She can go that distance at 75 mph, so it takes her 0.448888... hours = 26.93333.... minutes to go the rest of the way.

She arrives at about 8:20.

17. I already answered this one, but just as a note, they never specified that the trial numbers would be chosen with *uniform* random distribution in the interval.

18. We could do this with a financial function trivially if not for the alternating deposits. There are 126 6-month periods in 21 years.

<< 0 1 126 FOR X 1 .04 12 / + * 600 + 1 .04 12 / + * 900 + NEXT >>

Gives 295356.71 as the answer.

A refinement could be to round down fractions of a penny.

If it wasn't for the compound interest, the total would have been 189000.

Re: One more

*Message #8 Posted by **David Hayden** on 9 Nov 2009, 1:39 p.m.,*
in response to message #6 by Crawl

There's an evil twist to problem 19, which is probably intentional:

> Quote:
>
> 19. Give the number of **positive integers** that are no larger than 1,100 and are not divisible by any of the first 25 prime numbers.

The number 1 is positive, less than 1,100 and not divisible by any of the first 25 primes, so it counts too. Therefore the correct answer is 160, not 159.

Re: Some of my answers

*Message #9 Posted by **David Hayden** on 6 Nov 2009, 10:36 p.m.,*
in response to message #5 by Crawl

> Quote:
>
> I already see that I did that totally wrong.
>
> It's
>
> 5 * 4 * 2 * 2 * 2 * 2
>
> (The prime exponent plus 1)
>
> so 320 factors.
>
> And 10240 points.

102400 actually. You missed a zero. But thanks for the solution. I did it completely wrong, in a complete different way from either your right answer or your wrong one. I thought they were plotting only the prime factors.

Re: 2009 UH calc test: Some "old-school" answers

*Message #10 Posted by **Karl Schneider** on 7 Nov 2009, 2:31 p.m.,*
in response to message #4 by Crawl

"Crawl" --

Thanks for your answers. Certainly, a modern calc with built-in graphing, fast processing, and mathematical functions such as prime number and maybe LCM, LCD, etc. would helpful for this exercise.

Still, even a venerable HP-34C, HP-11C, or HP-15C is useful for some of the problems requiring more than straightforward transcedental functions:

Question 3

Find the smallest natural number k so that 1 + 1/2 + 1/3 + 1/4 + ... + 1/k > 7.2

I'd forgotten all about the Euler-Mascheroni Constant, which had been discussed in the Forum, and was surely was intended to be utilized for analyzing this harmonic series. As "Crawl" pointed out, the "rate of divergence" equation will give a very accurate estimate of k. However, ignoring the error 'epsilon' in the equation will lead the user to assume that the correct answer is 753, not 752 (for which 'epsilon' is about 0.00072418).

Directly-calculated solution -- the sum is not too difficult to automate using ISG:

```
Program:          Execution:


LBL A             1.99901
RCL I             STO I
INT               7.2
1/x               GSB A
-                 ...
x < 0?            RCL I
RTN               INT
ISG (or ISG I)    (752.)
GTO A
RTN
```

Question 5

Give the sum of the x coordinates for the points of intersection of the graphs of

$f(x) = \sin(x) + 2x$
$g(x) = 5 - x^2$

SOLVE in the HP-34C and HP-15C will tackle this, but they will find only one root at a time, so the guesses that define initial search ranges must be selected intelligently. Don't forget RADian mode:

```
Program:    Execution:


LBL B            0
RAD            ENTER
2                2
+              SOLVE B
*           (1.247614363)
5              STO 0
-               -3
x<>y           ENTER
SIN             -4
+              SOLVE B
RTN         (-3.397303973)
              RCL+ 0
            (-2.149689610)
```

Question 6:

Approximate the largest value of $f(x) = -x^8 + 787x^4 + 673x^3 + 521x^2 + 840x + 12$.

$-x^8$ is a symmetrical term dominant for larger-magnitude values of x, reducing the sum of the remaining terms (except at x = 0). Since all the coefficients for the lower-order terms are positive, it's reasonably clear that, when x > 0, the lower-order terms all contribute positively in a monotonically-increasing sum, providing the maximum function value. Therefore, there is indeed only one root for the derivative of the complete function for x > 0, indicating a local maximum; the largest value is the function evaluated at that point.

Using SOLVE between 0 and 10 to find the root of the derivative yields 4.619292584, consistent with what "Crawl" found. Programming the derivative using Horner's Method will speed things up:

```
Program:     Execution:


LBL 0            0
*              ENTER
*               10
*             SOLVE 0
-8              ...
*            (4.619292584)
3148           ENTER
+              ENTER
*              ENTER
2019             *
+                *
*                *
1042            CHS
+               787
*                +
840              *
+               673
RTN              +
                 *
                521
                 +
                 *
                840
                 +
                 *
                 12
                 +
            (232,366.5024)

(coefficients merged for clarity)
```

Question 10

Give the y coordinate of the solution to the system

```
 31x - 29y = 43
-51x + 19y = 16
```

in reduced fraction form.

The approach, of course, is to utilize

$$\text{inv}\begin{bmatrix} a & b \\ c & d \end{bmatrix} = \frac{1}{ad - bc}\begin{bmatrix} d & -b \\ -c & a \end{bmatrix}$$

and multiply to solve for x and y.

Answers can be checked with the HP-15C determinant and matrix solutions.

-- KS

Edited: 9 Nov 2009, 1:17 a.m.

Re: Some of my answers

*Message #11 Posted by **David Hayden** on 8 Nov 2009, 12:22 p.m.,*
in response to message #4 by Crawl

Crawl,

Thank you for the excellent answers.

> Quote:
>
> 1. << 950774 DO 1 - DUP ISPRIME? UNTIL END>>
>
> Gives
>
> 950753

You can also get this one with 950774 PREVPRIME

> Quote:
>
> 2. 5*7^5+5*7^4+2*7^3+4*7^2+2*7+6=552426
>
> Straight forward; I probably should have written a program to make it go a little faster.

Specifically, you can this by hand by loading 96942 on the stack and then executing DUP 7 MOD - 7 / repeatedly. The digits appear after the MOD function, beginning with the least significant digit.

> Quote:
>
> 6. Derivative has real roots -.707250032311, -4.29559733134, 4.61929258455
>
> f has values -362.723, 104704.599751, 232366.502395
>
> can be confirmed with graphing
>
> So the answer is 232366.5023

You can also get the answer to this one directly with TABVAR

> Quote:
>
> 8. <<1 1 14 FOR X 3 X ^ INV 1 + X 1 + ^ * NEXT>>
>
> Answer=3.12155183

I think this is the most interesting problem on the test because it stresses the precision of the calculator in approximate mode, especially when you consider the last factor is (1+1/3^14)^15

Running Crawl's program in exact mode and then executing ->NUM gives 3.12155183809. Running it in

approximate mode gives the same value.

What if we do it with logarithms? First I rewrote the expression as (4/3)^2 *
(10/9)^3 *
... *
(3^(n-1)+1) n
(---------)
(3^(n-1)^n)
... *
((3^14+1)/3^14))^15

Taking the logarithm you get 2(ln(4)-ln(3)) +
3(ln(10)-2ln(3)) +
...
n(ln(3^(n-1)+1) - (n-1)ln(3)) +
15ln(3^14-1) - 14ln(3))

Evaluating this expression gives 1.138833025985 and takeing e^x gives the final answer of 3.12155183085

> Quote:
>
> 9. Use DROITE, the line is Y = 1/3(x-7)+4
>
> take the atan Answer=.321750554

You can also do this without DROITE. The slope of a line through two points is deltay/deltax, so the slope of the first line is 1/3. From there you can see that acute angle of the perpendicular with Y axis is the same as the angle of the original line with the X axis.

> Quote:
>
> 14.
>
> << 1 0 0 -> X S J << 2 47 FOR J J ISPRIME? IF THEN X 1 + 'X' STO X 2 / DUP FLOOR
> == IF THEN X 1 + DUP 2 ^ + 2 / J * S + 'S' STO END END NEXT S >> >>
>
> Answer=17610

Sometimes I can be very dense. I don't see the pattern in the numbers here so I had no hope of solving the problem. Can someone please explain the pattern to me?

> Quote:
>
> 18. We could do this with a financial function trivially if not for the alternating deposits. There are 126 6-month periods in 21 years.
>
> << 0 1 126 FOR X 1 .04 12 / + * 600 + 1 .04 12 / + * 900 + NEXT >>
>
> Gives 295356.71 as the answer.

I thought I was clever when I solved this as two financial calculations with payment and interest every 2 months at a rate of 4.006666662, one with a $600 payment and the other with a $900 payment, but the

$900 dollar account doesn't run for 126 periods, it only runs 125.5. Ooops...

> Quote:
>
> 19.
>
> This is much easier than it first seems.

Very nice catch. You can use NEXTPRIME to tighten up the code a little, but your insight is what makes the problem easy.

20. What the heck?!?! This looks downright impossible to me. The men choose 13 of the 25 primes. The women choose 18 of the 74 composites. The 32nd woman chooses a number larger than the largest composite chosen so far and the sum of ALL the numbers is a multiple of 103....

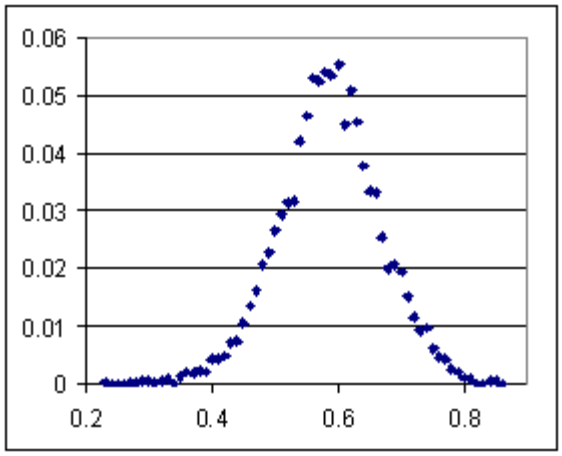
My guess is that the probability is zero because you can't get a multiple of 103, but I don't know why

Re: Some of my answers

*Message #12 Posted by **Crawl** on 8 Nov 2009, 7:23 p.m.,*
in response to message #11 by David Hayden

The pattern of the numbers for #14 is every other prime.

For number 20, I ran a monte carlo simulation, and the answer must be close to 0.6.



What I did there was run 100 trials, then counted how often the critera could be met (it could fail in different ways -- if the number needed to reach the next 103 multiple was a prime, if the number needed was smaller than another composite, if the number needed was greater than 100, etc.). Then I did that a few thousand times and made a histogram.

But I haven't solved it exactly.

Re: Some of my answers

*Message #13 Posted by **Crawl** on 9 Nov 2009, 1:12 p.m.,*
in response to message #12 by Crawl

To give an example of how this could be possible, assume the men just chose the first 13 primes in order, from 2 to 41. Those sum to 238. Then assume the 18 women chose the first 18 composites in order, from 4 to 28. Those sum to 305. The total sum is 543. The next multiple of 103 is 618. 618-

543=75. 75 is a composite number, within the range, and is larger than any other chosen composite. So in this case, it was possible.

Now imagine that the first 12 men chose the first 12 primes in order, 2-37. But the 13th man chose 43 instead of 41. And the 18 women chose the same composites as last time. Then the sum will be 545. And 618-545=73, which is prime, so it's not possible in this case.

But you can't check all possible combinations like this exhaustively. There are C(25,13)*C(74,18)=3.77x10^23 of them.

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Free42 for iPhone/iPod Touch just landed

*Message #1 Posted by **Dave Britten** on 6 Nov 2009, 2:12 p.m.*

Not to be confused with Byron Foster's port named "42s", Thomas Okken just released his own port, and it hit the iTunes store sometime yesterday ($4.99 USD). Seems to work very nice so far, though not all the printing and import/export functionality is there yet. The built in web server works great for importing and exporting programs in the .raw format.

Also, it looks like there's a good amount of dead space around the screen and keyboard that could be used to increase the size of the keys.

All in all, it's very solid for an initial release, and I haven't uncovered any bugs yet. Definitely a worthwhile addition to my iPod.

Re: Free42 for iPhone/iPod Touch just landed

*Message #2 Posted by **Egan Ford** on 6 Nov 2009, 3:35 p.m.,*
in response to message #1 by Dave Britten

*Free*42 for $4.99. Probably going to confuse a few people. :-) How about Fee42? Or Open42?

Re: Free42 for iPhone/iPod Touch just landed

*Message #3 Posted by **Reth** on 7 Nov 2009, 2:49 a.m.,*
in response to message #2 by Egan Ford

Free42 is a *very popular* name. So Thomas should keep it. Do you consider $5 adequate for such a brilliant work? I'll buy it right now as a token of my appreciation of Thomas' work even though I might never use it; I like 42S and the way Byron is going.

Re: Free42 for iPhone/iPod Touch just landed

*Message #4 Posted by **Egan Ford** on 7 Nov 2009, 1:02 p.m.,*
in response to message #3 by Reth

> Quote:
>
> Free42 is a *very popular* name.

Yes I know. Hence the :-) above. However, I'd argue *relatively popular*.

> Quote:
>
> Do you consider $5 adequate for such a brilliant work?

Yes, that is why I purchased it.

> Quote:
>
> I like 42S and the way Byron is going.

Same here.

Edited: 7 Nov 2009, 1:04 p.m.

Re: Free42 for iPhone/iPod Touch just landed

*Message #5 Posted by **Reth** on 7 Nov 2009, 11:00 p.m.,*
in response to message #4 by Egan Ford

I new all that, we're on the same boat ;)

Re: Free42 for iPhone/iPod Touch just landed

*Message #6 Posted by **Thomas Okken** on 10 Nov 2009, 12:59 a.m.,*
in response to message #2 by Egan Ford

> Quote:
>
> Free42 for $4.99. Probably going to confuse a few people. :-) How about Fee42? Or Open42?

I *knew* that this was going to come up, so I addressed the question in the new FAQ section on the Free42 home page. :-)
While I was first developing Free42, it was actually called **Fake42**. I changed the name to Free42 just before I published version 1.0 -- I thought the "Fake" part sounded a bit cheesy, and I also wanted to emphasize the GPL aspect. If I had anticipated the iTunes App Store business model back then, maybe I would have called it **Open42** instead!

- Thomas

Edited: 10 Nov 2009, 1:02 a.m.

Re: Free42 for iPhone/iPod Touch just landed

*Message #7 Posted by **Anders Peterson** on 7 Nov 2009, 3:14 p.m.,*
in response to message #1 by Dave Britten

Seems nice. I got the desktop software just a few weeks ago, and it is fantastic. Does anyone know why the previous iPhone app that was based on Free42 (42s) disappeared from the app store just a little while before the new one came out? Did the developers have a falling out perhaps?

Re: Free42 for iPhone/iPod Touch just landed

*Message #8 Posted by **Dave Britten** on 7 Nov 2009, 3:59 p.m.,*
in response to message #7 by Anders Peterson

No, it was just some silly red tape with Apple, as I understand it. Byron seemed to think it would be reappearing very soon.

Re: Free42 for iPhone/iPod Touch just landed

*Message #9 Posted by **Thomas Okken** on 10 Nov 2009, 2:00 a.m.,*
in response to message #1 by Dave Britten

> Quote:
>
> Also, it looks like there's a good amount of dead space around the screen and keyboard that could be used to increase the size of the keys.

Good point! Byron's version does a better job of using the screen real estate available on the iPhone.
My version does support skin switching, and if you download the free42.tgz source code package and install the Hofferth skin (it's in the iphoneskins directory), you'll get pretty much the same skin as in 42s, but I still have to implement non-integral display scaling, so the display looks a bit squished for now. Once I have that sorted out, I'll start offering a skins package specifically for the iPhone and iPod touch on my web site, and maybe also compile one or two additional skins into Free42 itself.

- Thomas

Re: Free42 for iPhone/iPod Touch just landed

*Message #10 Posted by **Anders Peterson** on 15 Nov 2009, 3:34 p.m.,*
in response to message #1 by Dave Britten

Does anyone know what's up with the new, third 42s app that's out there? It looks like a total rip off of the first one (42s), even the icon and description text is almost identical. At first I thought it was a "lite" version or something, but that appears not to be the case since it lists a different developer.

Re: Free42 for iPhone/iPod Touch just landed (UPDATED)

*Message #11 Posted by **Thomas Okken** on 15 Nov 2009, 10:49 p.m.,*
in response to message #10 by Anders Peterson

> Quote:
>
> Does anyone know what's up with the new, third 42s app that's out there? It looks like a total rip off of the first one (42s), even the icon and description text is almost identical. At first I thought it was a "lite" version or something, but that appears not to be the case since it lists a different developer.

It is a total rip-off of Byron Foster's 42s; it's a slightly older version, and the only other thing that's different is the name.
I wrote a review that explains the situation, but it hasn't showed up in iTunes yet. I guess that takes a few days.

UPDATE: My review just showed up on iTunes. I'm posting it here, too:

> Quote:
>
> This is an exact copy of a slightly older version of Byron Foster's 42s app. C. A. Vijayan charges less money for it than Mr. Foster, but he has contributed nothing to the project, and you won't get any support from him, either, even if he did provide an email address or a web site. If you want 42s on the cheap, by all means get this one, but if you want to support the developers that did the actual work, get Byron Foster's 42s (with the nifty UI features) or my Free42 (basic port of the Unix version) instead.

Of course I realize that releasing something under the GPL means that anyone can take your code and start selling it for himself.
But even so, *this* feels sleazy... and the part where he actually asserts "(C) 2009 Infowise" really gets my goat.
(For what it's worth, the *only* contribution of "C A VIJAYAN" is to change the title of the app.)

Edited: 16 Nov 2009, 10:07 p.m.

Re: Free42 for iPhone/iPod Touch just landed (UPDATED)

*Message #12 Posted by **Byron Foster** on 18 Nov 2009, 12:25 a.m.,*
in response to message #11 by Thomas Okken

> Quote:
>
> (For what it's worth, the *only* contribution of "C A VIJAYAN" is to change the title of the app.)

Yes, from "42s RPN Calculator" to "RPN Calc 42s" !. Even the website pointed to within the calculator points back to the 42s site, for support from either Thomas or myself. A parasite of the tape worm variety me thinks.

Re: Free42 for iPhone/iPod Touch just landed (UPDATED)

*Message #13 Posted by **Anders Peterson** on 18 Nov 2009, 8:22 a.m.,*
in response to message #12 by Byron Foster

That is absolutely terrible that someone can get away with that. I reported it to Apple, but I suppose they will not care if he is not breaking any rules. Still, there has to be some way to prevent someone from making an exact copy and going so far as to steal the icon and app description. Anyway, thanks for the information. I certainly won't be buying that app.

Re: Free42 for iPhone/iPod Touch just landed (UPDATED)

*Message #14 Posted by **John Collis (New Zealand)** on 18 Nov 2009, 3:17 a.m.,*
in response to message #11 by Thomas Okken

Thanks for updating us on this. This goes against the whole spirit of Open Source. Supporting the people that do the work is really important.

Personally, I've been a long time user of Byron's 42s and it's my number one calculator on the iPhone, used virtually every day.

I probably will also buy Thomas' version also to support him. It's simply obvious how much effort he has put into Free42.

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HP67 doesn't turn on without battery pack?

*Message #1 Posted by **Gabriele Zaverio** on 6 Nov 2009, 12:16 p.m.*

Hi there,

I have this HP67 I recently restored by changing the gummy wheel. The battery pack leaked acid, so I removed it.

I also have the original HP main charger.

The calculator won't turn on using the main charger.

Does she require the battery pack to turn on correctly?

It seem working by feeding the calc with a 4.5V source from the battery pack contacts.

Thank you all,

Gabriele Zaverio Freaknet Computer Museum http://museum.dyne.org asbesto (at) gmail (dot) c0m

Edited: 6 Nov 2009, 1:15 p.m.

Re: HP67 doesn't turn on without battery pack?

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 6 Nov 2009, 1:53 p.m.,*
in response to message #1 by Gabriele Zaverio

Hi, Gabriele;

in most HP calculators, the battery pack acts like a voltage reference for the power supply, so it is not recommended to power the calculator circuits without it. Anyway, if you did not succeed to make the HP67 to work with only the main charger but it works fine with a 4.5Vcc source directly, chances are you have either a bad main charger or a problem with the charger circuit inside the calculator.

Can you test the main charger to see if there is measurable voltage output? The value you should obtain is printed on it, in the same face you have the input AC connectors.

Success!

Luiz (Brazil)

Re: HP67 doesn't turn on without battery pack?

*Message #3 Posted by **Gabriele Zaverio** on 6 Nov 2009, 3:18 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Thank you for your answer!

I measure the voltage at the battery contacts inside the HP67; with the calculator OFF, I have about 5.5

Volt, and when I turn on the calculator, I have about 6.5-7 Volt. Very weird! :)

Re: HP67 doesn't turn on without battery pack?

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 6 Nov 2009, 3:49 p.m.,*
in response to message #3 by Gabriele Zaverio

Hi, Gabriele;

that´s the reason you should not use the charger without the batteries, the voltage raises to a value that is far superior than the regulated value the circuits need to work. This happens because there is no voltage reference from the batteries, and the current source increases its output voltage to a peak level if no current circulates in the circuit load (in this case, the batteries being charged). I was interested on knowing the output value of the charger without connecting it to the calculator to see if it was working. Based on your measurements, I believe it is working, but I would ask you again to measure its voltage output without charge. Remember that it has a low voltage AC output, not DC. Next you should have a way to regulate the voltage in the battery compartment, and a single ZENER DIODE IS NOT SUITABLE for the job. I am not even sure if you can momentarily test the charger with the calculator by using a zener diode (4V7), we should wait for some extra information from other, more experienced guys who have already repaired HP67 calculators. I do not have one my own, just have repaired one some years ago, and the problem was in the card reader (adjustments and gummy wheel replacement).

Success!

Luiz (Brazil)

Edited: 6 Nov 2009, 3:51 p.m.

Re: HP67 doesn't turn on without battery pack?

*Message #5 Posted by **Steve Perkins** on 6 Nov 2009, 7:57 p.m.,*
in response to message #1 by Gabriele Zaverio

You should NEVER hook up your HP-67 to the power supply without a battery pack inside. It gives too much voltage (or current?) to the card reader circuit and can cause significant damage.

I'm not sure how to test the transformer without doing so, but please don't plug it in to the calculator without a battery pack.

There are good sources of aftermarket batteries at that auction site. Start there.

Re: HP67 doesn't turn on without battery pack?

*Message #6 Posted by **Gabriele Zaverio** on 7 Nov 2009, 5:09 a.m.,*
in response to message #5 by Steve Perkins

Thank you all, I will rebuild a fresh battery pack using 3 Ni-MH 1.5V batteries, they fit perfectly inside the old battery pack shell. :)

Re: HP67 doesn't turn on without battery pack?

*Message #7 Posted by **Vieira, Luiz C. (Brazil)** on 7 Nov 2009, 5:27 a.m.,*
in response to message #6 by Gabriele Zaverio

Hi, Gabriele;

the NiMH batteries are usually rated 1.2Vcc instead of 1.5Vcc and the regular pack for this model is actually three NiCad cells (because of the charger characteristics), with a working voltage closer to 3.6 Vcc, which is the best choice. I built a pack from a cell phone rechargeable pack for my HP55, which uses the same type of the HP67. Their internal power circuits are very different, though.

Cheers.

Luiz (Brazil)

Re: HP67 doesn't turn on without battery pack?

*Message #8 Posted by **Michael de Estrada** on 7 Nov 2009, 9:40 a.m.,*
in response to message #1 by Gabriele Zaverio

I have read this thread and there are some confusing and I think incorrect assertions being made, so I'd like to try and clarify my own understandings:

1) The AC adapter/charger is a dual circuit combination adapter and battery charger that outputs DC on both circuits, not AC. The no load output of a properly functioning unit is approximately 17 Vdc on the battery charger side and 5 Vdc on the adapter side. You can check this by placing the unit in a live AC outlet, the negative (-) probe of your voltmeter in the center pole (-) of the plug and the positive (+) in the outer poles. The outer pole marked + should be ~17 Vdc and the unmarked pole should be ~5 Vdc. If any of these outputs are nil or significantly different values, then there is a problem with the AC adapter/charger. Many times the problem is in the cord and not the unit itself.

2) When the AC adapter/charger is plugged into the calculator, it depresses the bridge contact in the receptacle which opens the circuit from the battery to the main calculator circuitry (ICs, display, keyboard), such that the battery will no longer provide power to the calculator and is no longer a part of the circuit. At this point the calculator is receiving its power exclusively from the AC adapter (5 Vdc) circuit, and if the adapter is faulty or not plugged into a live wall outlet, the calculator will not work. This does not apply to the card reader, however, since it's on a separate circuit that is receiving power from both the battery and the charger side (17 Vdc) of the external power unit. So, it is quite safe to operate the basic calculator from the AC adapter/charger with the battery removed, provided you do not attempt to operate the card reader.

3) If the AC adapter/charger checks out OK, then you could have left a wire disconnected or reconnected incorrectly when you re-assembled the calculator. The HP-67 has some internal wires that are not soldered, but are plugged into receptacles and can easily come loose during disassembly.

I hope this helps and I have not mis-stated anything here.

Michael

Re: HP67 doesn't turn on without battery pack?

*Message #9 Posted by **Vieira, Luiz C. (Brazil)** on 7 Nov 2009, 10:09 a.m.,*
in response to message #8 by Michael de Estrada

Hi, Michael;

I have no HP67, but I have an HP55. I failed to consult the related documentation prior to answer the initial post because I was affraid the HP67 was dammaged if used without batteries. I also do not know if the HP55 can be used without batteries because it has a separated DC, regulated line, and the manual does not mention such possibility.

Now for the question: do both the HP67 and the HP55 share the same charging circuitry? If so, I was

wrong considering the H67 was closer to the HP97 than to the HP55.

Thanks.

Luiz (Brazil)

Edited: 7 Nov 2009, 10:12 a.m.

Re: HP67 doesn't turn on without battery pack?

*Message #10 Posted by **Gabriele Zaverio** on 7 Nov 2009, 10:43 a.m.,*
in response to message #9 by Vieira, Luiz C. (Brazil)

I checked my HP charger: with the ground on the center pin, the Voltage measured to the other poles is ... 0 V !!!

And measuring between the external poles I have about 8Vcc.

Very weird! :(

I mounted new batteries into the HP67, it works very well :D

Now I think I have to fix my charger. A nice surprise: I don't need to "crack open" the charger, there are 4 easy screws! It opens very well. Very simple circuit!

Also, under the charger I can read an interesting notice. Here's what is written:

---------- (there's a switch to select 110/220V) INPUT - 86 to 127V - 48-66 Hertz INPUT - 172 to 254V - 5VA

82010A BATTERY CHARGER AC ADAPTOR MADE IN SINGAPORE BY HEWLETT - PACKARD

USE WITH HP CALCULATORS ONLY

OUTPUT: 50mA 4.2V 4V 150mA

I will make and publish some detailed pictures of this charger very soon.

ps: checked with my tester, the center cable is interrupted. :)

Edited: 7 Nov 2009, 10:51 a.m.

Re: HP67 doesn't turn on without battery pack?

*Message #11 Posted by **Vieira, Luiz C. (Brazil)** on 7 Nov 2009, 11:01 a.m.,*
in response to message #10 by Gabriele Zaverio

Hi, Gabriele;

Data you wrote about your charger is:

```
----------
(there's a switch to select 110/220V)
INPUT - 86 to 127V - 48-66 Hertz
INPUT - 172 to 254V - 5VA
```

```
82010A BATTERY CHARGER AC ADAPTOR
MADE IN SINGAPORE BY
HEWLETT - PACKARD


USE WITH HP CALCULATORS ONLY


OUTPUT:
50mA 4.2V
4V 150mA


---------------------------------------
```

Right? The one I have for my HP55 is the HP82002A, it is not the same as yours. Anyway, finding a faulty (interrupted) cable is the very beginning... If you consider that the faulty cable is the common, that that´s OK to measure 0Volts with the other poles. And the 8Vcc you measure between poles is closer to what you could have, it seems not to be OK. The HP82002A connected to a 220Vac outlet, without any load in the output, measures 5.2Vcc (regulated) and 15.2Vcc (unregulated) related to the central pole, and ~10Vcc (9.98Vcc) between poles, which is the difference between them.

Cheers.

Luiz (Brazil)

Edited: 7 Nov 2009, 3:17 p.m.

Re: HP67 doesn't turn on without battery pack?

*Message #12 Posted by **Michael de Estrada** on 7 Nov 2009, 5:28 p.m.,*
in response to message #9 by Vieira, Luiz C. (Brazil)

Hi Luis,

I have copied the following information from the MoHPC:

> Quote:
>
> Classics (HP-35, 45, 55, 65, 67, 80) Battery HP 82001B, Chargers HP 00035-60008, HP 03502A, HP 82001A/B, HP 82002A/B/C, HP 82010A (120/240 VAC), HP 82022A(240 VAC), HP 82011A (240 VAC)
>
> Topcat (HP-91, 92, 95C, 97, 97S) Battery HP 82033A, Chargers HP 82040A, HP 82059A/B/C/D, (HP 82032, 82066B, 82068B 240 VAC only)

As you can see the HP-67 and HP-55 use the same type of external power unit, as I have described. Since the HP-55 does not have card reader circuitry, it is safe to operate it off the external adapter without there being a battery inside. However, as stated by Randy, damaged is possible to the card reader circuitry, even if it is not operating.

The HP-97 uses a totally different power unit, which outputs ~12 Vac no load on a single circuit (it is rated 8 Vac, 3W). This is a similar situation to Spices and Woodstocks, where power signal rectification and regulation occurs inside the calculator and which require that a good battery be present when operating the calculator. Basically, this type of power unit should be used as a battery charger only, and should not be considered an external adapter for operating the calculator in lieu of

batteries. In fact the Owner's Handbook for the HP-97 states that "Even though you are using the adapter/charger, the batteries must remain in the calculator whenever the calculator is used - Note: Attempting to operate the HP-97 from the ac line with the battery pack removed may result in wrong or improper displays."

Michael

Classic safety clairification

*Message #13 Posted by **Randy** on 7 Nov 2009, 1:26 p.m.,*
in response to message #8 by Michael de Estrada

1) Yes, a bad cord is very common followed by a bad 400uf filter cap.

2) It is *NOT* safe to operate a 65 or 67 from the AC adapter without a good battery in place. The battery is the only load on the constant current supply such that without the battery, you have 16 volts open circuit exactly as mentioned. But, there is a danger to the card reader sense amplifier/motor controller - as it is connected directly to the battery terminal and therefore sees that 16 volt source when there is no battery in place.

The original IC, 1826-0158 was used in the 65 and was susceptible to over-voltage damage. The part was redesigned as the 1826-0322 which appeared in the 67,97 and 41 readers. While it was supposedly better able to withstand the over-voltage stress, I wouldn't tempt fate.

Thanks to Tony Duell for explaining this quite clearly several years ago as it isn't obvious without seeing the schematics.

3) Not all 67's have the wire sockets, early units where soldered.

The 82002 Classic charger was well documented by Tony, details are available here

Re: Classic safety clairification

*Message #14 Posted by **Gabriele Zaverio** on 8 Nov 2009, 11:40 a.m.,*
in response to message #13 by Randy

Thank you everybody!

Now I'm using my HP-67 with three fresh AA batteries :) It's working very well. I will search now for an user manual :)

p.s. Does someone know a way to build magnetic strip cards, maybe reusing old telephone magnetic cards?

Re: Classic safety clairification

*Message #15 Posted by **Marcus von Cube, Germany** on 8 Nov 2009, 12:01 p.m.,*
in response to message #14 by Gabriele Zaverio

I don't know how to built yor own magnetic cards but since the 67 uses the same type of cards as the 41, you can find them on the famous action site.

Re: Classic safety clairification

*Message #16 Posted by **Steve Perkins** on 9 Nov 2009, 12:07 p.m.,*
in response to message #13 by Randy

Thanks for those more complete answers.

I wanted to post the warning as soon as I could, and I wasn't aware of all the specifics.

We appreciate the work you (Randy, Tony and others) do to keep us well informed about these technical questions.

Re: Classic safety clairification

*Message #17 Posted by **geoff quickfall** on 10 Nov 2009, 3:21 p.m.,*
in response to message #16 by Steve Perkins

Randy et. al. can correct me on this, but I would hesitate using 3 new alkaline batteries in a NiCd designed machine.

The 67 is up to 35 years old as are the voltage regulating circuits. I don't know if it makes a difference but 3 alkalines new at 1.6 each equals 4.8 volts whereas 3 NiCd at 1.22 volts each equals 3.66 volts.

Does this impact on the circuitry, which granted, probably has a fudge factor built in.

It would seem to me to be a better idea to purchase 3 NiCd and charge them externally then to place 3 alkalines in their place.

Also, I hope you don't intend to use the charger while the 3 alkalines are in place!

Cheers, Geoff

P.S. the 67 is a Woodstock electronically in a classic case. However the charging side does not suffer the same catastrophic failure when the battery pack is bad or not in place as the 20 series does (HP-21...) As you found out, it would not run the card reader but does run the calculator for reasons explained above.

Re: Classic safety clairification

*Message #18 Posted by **Marcus von Cube, Germany** on 10 Nov 2009, 4:16 p.m.,*
in response to message #17 by geoff quickfall

Geoff, the adapter outputs 5v dc directly to the circuits. So 4.5 to 4.8V from a pack of alcalines shouldn't be a problem.

Re: Classic safety clairification

*Message #19 Posted by **geoff quickfall** on 10 Nov 2009, 4:23 p.m.,*
in response to message #18 by Marcus von Cube, Germany

Thanks Marcus,

I also restore vintage watches and one of the types I have repaired are the old tuning fork watches (ACCUTRONS) by Bulova.

The original movements (214) were designed for mercury 1.33 volts and when replaced by the 1.55 Silver oxides the tuning fork can run at higher frequency which is not controllable by the fast slow mechanism.

Different system I know, but still the voltage is critical.

Cheers, Geoff

Re: Classic safety clairification

*Message #20 Posted by **Marcus von Cube, Germany** on 10 Nov 2009, 4:39 p.m.,*
in response to message #19 by geoff quickfall

Geoff, I agree. But the 67 is actually run at the higher voltage by the wall wart. So I think it's no problem.

Re: Classic safety clairification

*Message #21 Posted by **Michael Meyer** on 10 Nov 2009, 6:02 p.m.,*
in response to message #20 by Marcus von Cube, Germany

I don't know how scientific this is, but I know this debate has been going on for at least 8 years on the Forum, especially when it comes to AA Lithium batteries, which can run at even a bit higher voltage than the alkalines.

Nobody here has ever reported a failure that they thought was due to using primary cells in these calculators (that I know of-- PLEASE correct me if I'm wrong).

My guess is that time causes more circuit failures than battery voltage... in fact, the components that seem to fail the most (other than chips getting fried by bad charging circuits) are capacitors, which I believe work better over time when "excercised". I'd still rather have cells with (so far) little or no potential to leak than worry about the much rarer risk of over-voltage.

That's just my opinion on this matter, but it's one based on lots of years of experience with these wonderful antiques.

Re: Classic safety clairification

*Message #22 Posted by **Michael de Estrada** on 10 Nov 2009, 7:03 p.m.,*
in response to message #21 by Michael Meyer

Some time back I performed a overvoltage test on one of my many HP-45s to see what effect extended operation at 150% of its rated operating voltage (3.75 Vdc) might have on its circuitry. So, I hooked it up to my test bench regulated DC power supply, cranked it up to 5.6 Vdc, turned the calc ON, and left it running with -8888888888.-88 in the display for 7 days. The result of this particular test was that there were no observed failures. Now, I realize that this one sample test does not prove that operation at this level might not increase the chance of failure, however, it suggests to me that there is a significant margin of safety in the design, and that HP would not use an external adapter that outputs over 5 Vdc (no load) if that value was close to the safe limit for any components. Note that the 3.75 Vdc value is actually the minimum voltage at which the calculator will operate properly, and that a charged NiCad battery pack will exhibit a no load voltage well above that value.

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HP67 doesn't turn on without battery pack?

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HP 41CX release date?

*Message #1 Posted by **Egan Ford** on 5 Nov 2009, 7:04 p.m.*

I know the year (1983), but anybody got a month and day? Thanks.

Re: HP 41CX release date?

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 5 Nov 2009, 7:09 p.m.,*
in response to message #1 by Egan Ford

Hi, Egan;

according to Craig A. Finseth, October 1st., 1983.

Cheers.

Luiz (Brazil)

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Plugger challenge

*Message #1 Posted by **BruceH** on 5 Nov 2009, 5:54 p.m.*

Here's a challenge for all those that have identified themselves as pluggers...

At a recent HPCC meeting in London, Hugh Steers came up with two common calculations that are simpler to perform on a sliderule than on a modern calculator. Before I reveal them, what can you come up with?

Re: Plugger challenge

*Message #2 Posted by **Steve Keeley** on 5 Nov 2009, 8:17 p.m.,*
in response to message #1 by BruceH

"Simpler" would depend on the calculator, but I find it easier to do R -> P and P -> R calculations on a slide rule than on most calculators.

Re: Plugger challenge

*Message #3 Posted by **Palmer O. Hanson, Jr.** on 5 Nov 2009, 9:08 p.m.,*
in response to message #2 by Steve Keeley

Try a number raised to the 2/3 power. Set the cursor on the number on the K scale and read the result on the A scale. And, of course, do the opposite to raise a number to the 3/2 power.

A slide rule such as the K&E Log Log Duplex Decitrig that I used in college has additional scales folded at pi. So to multiply a number by pi simply set the cursor at the number on the D scale and read the result on the DF scale. Do the opposite to divide by pi.

On some of the simpler Mannheims which do not have an ST scale the S scale works with the A and B scales, e.g., a Sterling Precision. Align ends of the scales on the slide with the ends of the scales on the frame. To find the square root of the sine of an angle set the cursor on the angle and read the result on the D scale. And, of course, to find the 3/2 power of the sine of an angle ...

I can go on and on, but I'll stop there for now.

Edited: 5 Nov 2009, 9:38 p.m.

Re: Plugger challenge

*Message #4 Posted by **Walter B** on 6 Nov 2009, 12:35 a.m.,*
in response to message #3 by Palmer O. Hanson, Jr.

Starting at the grass roots, any set of proportions is easily and completely read on a slide rule, while it takes you repeated calculations with a calculator.

Re: Plugger challenge

*Message #5 Posted by **geoff quickfall** on 6 Nov 2009, 12:56 a.m.,*
in response to message #4 by Walter B

Walter scooped me!

My fuel flow versus time is a simple ratio. Once set on the C and D scale (or folded scales) all you do is move the cursor.

Same with money exchange rates. Set the rate and move the cursor only for each subsequent conversion.

It's just that easy.

Cheers, Geoff

Off to Sydney, Australia from Vancouver, British Columbia, Canada. Flight plan time 15 hours airborne non stop. Exchange rate is 85 cents Aussie to 1 Canadian. All set on my 1965 Breitling E6B slide rule watch!

8-)

Re: Plugger challenge

*Message #6 Posted by **Walter B** on 6 Nov 2009, 1:06 a.m.,*
in response to message #5 by geoff quickfall

Hi Geoff, wish you a happy landing d8-)

Re: Plugger challenge

*Message #7 Posted by **BruceH** on 9 Nov 2009, 6:36 p.m.,*
in response to message #1 by BruceH

Thanks for the answers - some interesting ones there. As for Hugh's, one you got, the other is more debatable as to whether the calc is easier or not...

Here are Hugh's suggestions:

1. comparators. if you want to figure out which washing powder is the best value and perform quantity/price * other-quantity, you only need to see if the slider moves greater or less than the start point and not the exact value.

2. figuring out the bill in Indian restaurants. usually there is a prime number of diners and it's dark.assuming you're not carrying a LED calculator, it's difficult to read the screen in the dark. also, slide rules are good for rounding up to include the tip - you just go to the next significant mark after the divide. furthermore, the 1/x scale is good for this calculation also and a pocket rule is plenty accurate which fits neatly in a jacket pocket.

Re: Plugger challenge

*Message #8 Posted by **Sancerre (Phoenix)** on 9 Nov 2009, 8:50 p.m.,*
in response to message #7 by BruceH

I love Hugh's input on the Indian restaurant. Thanks for the laugh, it has been one of those weeks (yes, week, even though it is Monday).

--Sancerre

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blowin' shite oop

*Message #1 Posted by **db (martinez, ca.)** on 4 Nov 2009, 11:56 p.m.*

Our own dave j is featured on boingboing.net tonight. Go to BANG and scroll down to the offending entry.
My only question is: how do the ausies end up being the only ones left alive in all those after the nuclear war stories?
Ya think they'd blow themselves up. With style, of course!

Re: blowin' shite oop

*Message #2 Posted by **Charles Oxford** on 5 Nov 2009, 12:14 a.m.,*
in response to message #1 by db (martinez, ca.)

My kind of fun! What a great and cheap detonating device. You could blow up a car with a cr2032.

ceo

Re: blowin' shite oop

*Message #3 Posted by **Paul Dale** on 5 Nov 2009, 12:17 a.m.,*
in response to message #1 by db (martinez, ca.)

Nice display.

We used to plug components into the mains and switch on at school ;-)

Pauli

Re: blowin' shite oop

*Message #4 Posted by **DaveJ** on 5 Nov 2009, 4:27 a.m.,*
in response to message #3 by Paul Dale

> Quote:
>
> We used to plug components into the mains and switch on at school ;-)

How crude! You can blow up almost any component with the mains. It's much more elegant to blow stuff up using low voltage :->

If I knew the video would have been this popular I would have put a bit more effort into it! I was just testing my new camcorder. Perhaps a second installment is in order...

Wish I had a second cam set up that showed the thing shoot 50ft into the air with a big trail behind it!

I still have no idea what BoingBoing is!, I take it it's a big deal or sorts?

Dave.

Edited: 5 Nov 2009, 6:04 a.m.

Re: blowin' shite oop

*Message #5 Posted by **db (martinez, ca.)** on 5 Nov 2009, 11:04 a.m.,*
in response to message #4 by DaveJ

Dave; It's a blog on steroids, more of a news site, with several +/- full time staffers. One of them is Cory Dockorow, the writer who also puts up each of his published books on Creative Commons for free download. They have a lot of overlap with the internet civil liberties group "Electronic Frontier Foundation". The banner says it's about Tech Gadgets Science Entertainment Biz Art+Design Culture Action News Weird Offworld. I think your stuff fits into several of those categories. - db

low voltage is fun

*Message #6 Posted by **Frank Boehm (Germany)** on 5 Nov 2009, 11:44 a.m.,*
in response to message #4 by DaveJ

My 0-30V PSU was good for a lot of fun "back then". - creating a lightning arc between 2 graphite tips of a pencil (this is great, you should try it) - use a graphite tip on a selenoid rectifier (I certainly wouldn't try that at home now <g>) and aluminium foil - blowing up various stuff 8)

So is high voltage.....

*Message #7 Posted by **Michael Meyer** on 6 Nov 2009, 8:10 p.m.,*
in response to message #6 by Frank Boehm (Germany)

I also have had great fun with my 18,000 volt neon sign transformer. Makes great Jacob's Ladders, just like the movies. In high school, I once taped off one terminal and connected the other side to a wire around my ankle. I could then roll pencils, scatter paper, and do other "telekinetic" tricks without touching with my fingers.

Unfortunately, as you know, you don't have to actually touch the other terminal to complete the circuit. I was reminded of that once at home when I accidentally reached too close to the other terminal, which was uninsulated at the time. It "reached out" to touch me and I yelled out.... I still have a lightning patterned scar on my arm.... I don't think I'll try that again.

Re: So is high voltage.....

*Message #8 Posted by **Walter B** on 7 Nov 2009, 10:42 a.m.,*
in response to message #7 by Michael Meyer

Hmmh, there was a pretty famous character with a similar scar but on his forehead, wasn't it? <:-)

Re: So is high voltage.....

*Message #9 Posted by **designnut** on 7 Nov 2009, 2:51 p.m.,*
in response to message #8 by Walter B

The 18,000 volt transformer reminded me of engineers week at Missouri University where I set up an 8 foot long 18 inch Tesla coil with rotary spark gap excitation. It threw sparks in the air and I used old fluorescent lamp bulbs to pull and arc to me. Such fun, sam

High voltage Tesla coil

*Message #10 Posted by **Karl Schneider** on 8 Nov 2009, 11:32 p.m.,*
in response to message #9 by designnut

> Quote:
>
> The 18,000 volt transformer reminded me of engineers week at Missouri University where I set up an 8 foot long 18 inch Tesla coil with rotary spark gap excitation. It threw sparks in the air and I used old fluorescent lamp bulbs to pull and arc to me. Such fun, sam

Let us not forget that the famous photo of Nikola Tesla underneath "lightning" from his coil as he reads nonchalantly is actually a double exposure...

http://en.wikipedia.org/wiki/File:Tesla_colorado_adjusted.jpg

And, yes, I had seen the photo and knew this fact prior to finding it on the Wikipedia entry for Nikola Tesla.

-- KS

Edited: 8 Nov 2009, 11:36 p.m.

Re: So is high voltage.....

*Message #11 Posted by **Michael Meyer** on 8 Nov 2009, 9:31 p.m.,*
in response to message #8 by Walter B

And I think I was just as lucky to survive...

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O.T. Are you a plugger?

*Message #1 Posted by **Palmer O. Hanson, Jr.** on 4 Nov 2009, 9:54 p.m.*

The "Pluggers" cartoon in yesterday's issue of the Asheville Citizen-Times shows a youngster holding a slide rule and asking his grandfather "So, grandpa... What is this? Some kind of ancient game?" The caption for the cartoon is "You're a plugger if you know not only what a slide rule is, but how to use it."

How many pluggers in this forum?

Re: O.T. Are you a plugger?

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 4 Nov 2009, 11:40 p.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

Hi, Palmer;

I must confess that I red a slide-rule manual and followed some examples with the little thing in my hands some years ago. I cannot remember the brand, but I was able to perform some extra calculations and compare with the results I obtained with an HP41. Just got tired of that too fast... Also, the owner allowed me to stay with it for one evening, but I returned it back to him a couple of hours later. If that makes me a plugger, so be it... But I must confess I would not like to USE it regularly.

Cheers.

Luiz (Brazil)

Re: O.T. Are you a plugger?

*Message #3 Posted by **Charles Oxford** on 5 Nov 2009, 12:16 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

I have 400 plus so I guess I'm one, whatever that is.

Re: O.T. Are you a plugger?

*Message #4 Posted by **Bart (UK)** on 5 Nov 2009, 7:14 a.m.,*
in response to message #3 by Charles Oxford

I had to look that one up. For the benefit of others that are unsure of the meaning as per the cartoon, see this article on Wikipedia.

Re: O.T. Are you a plugger?

*Message #5 Posted by **Garth Wilson** on 5 Nov 2009, 8:04 p.m.,*
in response to message #4 by Bart (UK)

Maybe slide-rule users should be called "slippers," and calculator users, "pokers."

Re: O.T. Are you a plugger?

*Message #6 Posted by **Garth Wilson** on 5 Nov 2009, 12:30 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

I got rather proficient at it when scientific non-programmable calculators were still expensive. A co-worker marvels at how I can do log conversions in my head in an instant. I tell him it's from having used a slide rule.

Re: O.T. Are you a plugger?

*Message #7 Posted by **Bill Zimmerly** on 5 Nov 2009, 12:33 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

I'm 52 and yes, I have some old slide-rules from my youth.

Edited: 5 Nov 2009, 12:36 a.m.

Re: O.T. Are you a plugger?

*Message #8 Posted by **Chuck** on 5 Nov 2009, 1:35 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

Not sure if I'm a bonafide plugger, but I just tried pi(sqrt(3.64)^4.15))/29, and got 1.575 on my trusty N600-ES (instead of 1.581). I can live with a 0.38% error (unless I'm flying to Mars and miss my target by 208000 km). C'est la vie.

Re: O.T. Are you a plugger?

*Message #9 Posted by **Richard Reed** on 5 Nov 2009, 4:25 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

I'm 61. I took my K&E to university with me.

Richard

Re: O.T. Are you a plugger?

*Message #10 Posted by **Bill (Smithville, NJ)** on 5 Nov 2009, 6:48 a.m.,*
in response to message #9 by Richard Reed

I used a sliderule at Purdue University in the late 1960's. I still credit my ability to do quick back of the envelope calculations to my early slide rule use.

What I really remember is taking mid-term and final exams, balancing a plywood lapboard on my lap, and trying to keep track of the test papers, erasers, pencils, and holding and using the sliderule at the same time. What great fun :)

Bill

Re: O.T. Are you a plugger?

*Message #11 Posted by **Lyuka** on 5 Nov 2009, 6:53 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

Hi, Palmer

Not sure if I'm but I recently used the Hemmi266 slide-rule for "Electronics" from some kind of nostalgia, while choosing the LC pair to speed-up my HP-15C, which had been obsoleted by the 15C long ago.

Re: O.T. Are you a plugger?

*Message #12 Posted by **designnut** on 5 Nov 2009, 10:02 a.m.,*
in response to message #11 by Lyuka

That is an astonishing slide rule. It dazzled me at first and then I saw the legends, remarkable. I learned to do those calculations with speed on the original HP35.Sam 81

Re: O.T. Are you a plugger?

*Message #13 Posted by **Andrés C. Rodríguez (Argentina)** on 5 Nov 2009, 10:22 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

I used some of them, not very frequently, many years ago (from 1970 to 1976), all before I had my HP25. I stil have one just to display it as a souvenir.

Re: O.T. Are you a plugger?

*Message #14 Posted by **Walter B** on 5 Nov 2009, 4:40 p.m.,*
in response to message #13 by Andrés C. Rodríguez (Argentina)

Almost the same story: I learned slide ruling at school still and used one until 1975 when I scraped a lot of money together to buy a TI SR50 to get rid of doing sums of squares manually in physics lab classes. I still have this old wooden slide rule and a few more I collected recently, topped by 2 Aristo 969.

Re: O.T. Are you a plugger?

*Message #15 Posted by **paolo** on 5 Nov 2009, 5:29 p.m.,*
in response to message #14 by Walter B

by chance, it happened me to use a slide rule just today in the lab as I hadn't my calculator with me. That rule (circular type) is on a shelf just for these "emergencies".

So I think I'm definitely a "plugger" (a word I didn't know up to now).

regards

Paolo

Re: O.T. Are you a plugger?

*Message #16 Posted by **RamLab** on 6 Nov 2009, 6:22 a.m.,*
in response to message #14 by Walter B

Ditto,

With the exception that in 1972 we learned how to calculate using Log Tables (5 digits), the next year we learned how to use a Slide ruler, a Sun Hemi if I remember well, it still is somewhere in the attic.

And than in 1974 I bought the Ti SR-50 for indeed a lot of money (an HP was unaffordable …)

RamLab

Re: O.T. Are you a plugger?

*Message #17 Posted by **Marcus von Cube, Germany** on 6 Nov 2009, 5:03 p.m.,*
in response to message #14 by Walter B

Walter, we're probably the same generation. I stopped using my sliderule (an Aristo Scholar IIRC) when I had enough money to buy an SR51A in 1975 or 76. I graduaded (Abitur) in 1977 at the end of class 12.

Re: O.T. Are you a plugger?

*Message #18 Posted by **Walter B** on 7 Nov 2009, 12:40 p.m.,*
in response to message #17 by Marcus von Cube, Germany

Marcus, you must be one of the little ones. I was in the class of 73 :-)

Re: O.T. Are you a plugger?

*Message #19 Posted by **geoff quickfall** on 5 Nov 2009, 12:33 p.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

Yep,

Post 1461 and 1460. Used them both for first year Statistics at University. The next year they allowed the HP 25 in the exam but ramped it to 20 questions up from 4 to accomodate the faster ability of the 25 including the Sigma functions.

Still have the 1461 in the cockpit for setting up time fuel ratio which is faster then punching the calculator. Once set you simply move the cursor for the diminishing fuel and read off the time.

Still have the Jeppessen circular CR4 in the cockpit for point ot point navigation as well as other simple conversions which are built into the scales.

Yes, these conversions and navigation abilities all have their corresponding HP41C/42S routines but it is still faster to line up the scales for a direct read versus punching the numbers to the appropriate prompts from the machines.

Cheers, Geoff

Edited: 5 Nov 2009, 12:33 p.m.

Re: O.T. Are you a plugger?

*Message #20 Posted by **Don Shepherd** on 5 Nov 2009, 12:56 p.m.,*
in response to message #19 by geoff quickfall

Hey Geoff, maybe you should teach slide rule usage to other pilots so they will have something meaningful to do in the cockpit and won't get distracted by their laptop computers and miss Minneapolis!

Don

Re: O.T. Are you a plugger?

*Message #21 Posted by **Geoff Quickfall** on 5 Nov 2009, 1:26 p.m.,*
in response to message #20 by Don Shepherd

Hello Don,

There is almost no excuse in the cockpit for distractions other then aircraft systems falilures.

Another exception is fatigue, which in itself is deadly, but has a set of standards and procedures designed to allow a rest period in the cockpit while the other pilot is alert.

These procedures include; aircraft system alerts, ATC radio calls, Emergency frequency monitoring, on board computer alerts from ATC or company via data links and CRT displays, Flight attendant calls (especially when close to destination ETA).

All in all, whether a slide rule, company aircraft manual, rest period or computer, SOMEONE should always be flying the aircraft!

Now I won't prejudge, as all the info is not out, except for the confession of the pilot. I can say that the swiss cheese model of management completely failed. At my company, that would mean 8 layers of built in electronic, ATC, Company, Flight attendant monitoring and Pilot duties vis-a-vis operating procedures, failed, were omitted or are not present at their company.

The terminolgy in the cockpit is PNF or PF which until last month, ironically (prior to the MSP incident) was changed to PF and PM.

```
Was:


1  PNF   pilot not flying
2  PF    pilot flying


changed to:


3  PM    pilot monitoring
4  PF    pilot flying
```

Cheers, Geoff

p.s. I will wait until the NTSB report in 8 months before commenting fully as all the info is not in yet. What happened to the datalinks, aircraft chimes, flight attendant monitoring and etc. designed to preclude the trouble two pilots can get into when they are distracted?

Edited: 5 Nov 2009, 1:32 p.m.

Re: O.T. Are you a plugger?

*Message #22 Posted by **Don Shepherd** on 5 Nov 2009, 2:02 p.m.,*
in response to message #21 by Geoff Quickfall

Thanks, Geoff.

Yes, I will also wait for the NTSB report and not second-guess what happened.

Situation awareness in the cockpit. I am reminded of that Eastern Airlines flight from about 20 or 30 years ago, it seems, where the flight crew was distracted by a landing gear light that indicated

the gear was not down, as I recall. The crew was so obsessed with trouble-shooting that problem that they forgot to fly the plane, which crashed into the Everglades. So I would have thought that situation awareness would be top priority for every crew these days. And I am sure it is, but we are all human beings.

Don

Re: O.T. Are you a plugger?

*Message #23 Posted by **Sean Connor** on 5 Nov 2009, 1:26 p.m.,*
in response to message #20 by Don Shepherd

Yup a Plugger am I

We were the last year in school to be taught how to use one. After the year finished we were able to take our slide rules home to keep.

I still have mine.

The rich guys bought their own . The biggest show offs as I remember had a telescopic version.

I have long since thrown out my log/trig tables !

Re: O.T. Are you a plugger?

*Message #24 Posted by **Steve Perkins** on 5 Nov 2009, 5:35 p.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

I am a plugger.

I had a slide rule in high school, and learned to use log/trig tables too.

I got my HP-25 my senior year. I still kept a slide rule handy in case the batteries failed all through college.

I've even recently collected a few of the nicer ones.

I still know how to use the basic functions, but not as well as I did. For instance they're very handy for comparing prices of different sized boxes at the grocery store. And you never have to worry about punching digits in wrong on a keyboard. Keeping track of the decimal point was a valuable skill I'm still grateful to have.

Re: O.T. Are you a plugger?

*Message #25 Posted by **John Garza** on 5 Nov 2009, 7:32 p.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

I was fortunate in high school; I bought a used HP-67 from a fellow PPC member (and worked all summer to pay for it!)

But I have since acquired several slide rules and learned how to use them. I even have one framed hanging over my PC. The inscription reads:

"In case of computer failure - break glass."

-J

Re: O.T. Are you a plugger?

*Message #26 Posted by **Steve Keeley** on 5 Nov 2009, 8:08 p.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

I learned to use a slide rule back in my junior year of HS back in 1970. It was a cheap Sterling I bought at the local stationary store.

By the time I entered college as an engineering student (after serving in the Navy) in 1977, scientific calculators were pretty cheap; a TI-30 could be had for under $20.

About a year ago I was practicing some engineering problems as a refresher using my HP-50g and wondered if I was too dependent on the calculator, so I started hunting around for slide rules and wound up with a small collection. (I use the Aristo 970 and Pickett N3T the most.) I worked my way through the excellent K&E manual that came with the Log-log Decitrig and was amazed at how much you could do with a good slide rule. It was also worthwhile learning how to keep track of the decimal point.

I still like to solve problems with the slide rule and then check with the calculator and see how close I came.

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HP 9810A - current value?

*Message #1 Posted by **DavidShenk** on 4 Nov 2009, 3:29 p.m.*

I may have an opportunity to buy a 9810A and can't seem to find a recent value. The two prices listed here are $185 and $500. They must not come up that often on TAS. I haven't seen a photo of it yet, but assuming it's in good condition, what would a fair offer be? Shipping these things around can't be cheap either!

Dave

Re: HP 9810A - current value?

*Message #2 Posted by **Eric v d Wateren** on 4 Nov 2009, 5:07 p.m.,*
in response to message #1 by DavidShenk

I paid about 260 Euros (plus 40 Euro shipping from Germany) for a very nice looking 9810 last year. It was in working condition electronically, but the printer roller was completely disintegrated and had turned into a black sticky 'tar' that had to be patiently removed from the machine's inside.

The printer roller, as well as the card reader rollers, needed to be replaced and now the machine works like a dream (thanks to Tony Duell's unique expertise and help!).

If you search on the web you should be able to find a few good articles related to repair for this type of machines.

Good luck with your purchase, they do indeed not come up very often.

Re: HP 9810A - current value?

*Message #3 Posted by **DavidShenk** on 4 Nov 2009, 7:08 p.m.,*
in response to message #2 by Eric v d Wateren

Thank you for that. Looking back in the archives here, it looks like they can have quite a bit of trouble and are not easy to troubleshoot. They look more like a computer than a calculator inside. Of course, you don't hear about the ones that work fine.

Dave

Re: HP 9810A - current value?

*Message #4 Posted by **marais** on 5 Nov 2009, 2:06 a.m.,*
in response to message #3 by DavidShenk

These are beautiful machines, well worth some effort. For an account of what might await you with a broken machine, have a look at this.

Re: HP 9810A - current value?

*Message #5 Posted by **Charles Oxford** on 5 Nov 2009, 2:59 a.m.,*
in response to message #4 by marais

I really like your library.

ceo

Re: HP 9810A - current value?

*Message #6 Posted by **DavidShenk** on 5 Nov 2009, 6:25 p.m.,*
in response to message #4 by marais

Thank you for documenting what you've done with yours. I have a feeling I'll be doing a lot more posting here if I end up getting it.

Dave

Re: HP 9810A - current value?

*Message #7 Posted by **Mike Morrow** on 6 Nov 2009, 3:07 p.m.,*
in response to message #4 by marais

I bought an HP-9820A, the next step up, ten years ago for $10.

Of course, it doesn't work. But it was worth the $10 just to disassemble and inspect. The 9820A that I used in 1972 at Georgia Tech I was never allowed (for understandable reasons) to take apart!

Edited: 6 Nov 2009, 3:08 p.m.

Re: HP 9810A - current value?

*Message #8 Posted by **marais** on 8 Nov 2009, 4:22 a.m.,*
in response to message #7 by Mike Morrow

That's a fine machine. You should give it a try! They're intimidating at first, but after all not that complicated, if you have the appropriate documentation. And there are many experts here on the forum. The machine shares many parts with the 9810; I have a complete memory cage as spare parts. If I had a 9820/30, I knew what I'd do over the christmas holiday.

Re: HP 9810A - current value?

*Message #9 Posted by **Tony Duell** on 8 Nov 2009, 5:48 a.m.,*
in response to message #8 by marais

I've repaired the 9810, 9820 (very similar machines, actually) and 9830 (same processor boards). I am happy to help anyone else do the same...

The main difficulty in faultfinding is that they're bit-serial machines, and almost all the signals are (or at least should be) changing all the time as bits are clocked into the shift registers. A logic analyser or storage 'scope is very useful for serious debugging, but it is often possible to manage without one.

Re: HP 9810A - current value?

*Message #10 Posted by **marais** on 8 Nov 2009, 10:42 a.m.,*
in response to message #9 by Tony Duell

Tony, since you know the entire family of machines: Given the similarity of the 9810 and the 9820, how far would one get with boardswapping between an operational 9810 and a defective 9820?

Andreas

Re: HP 9810A - current value?

*Message #11 Posted by **Eric Smith** on 8 Nov 2009, 6:07 p.m.,*
in response to message #10 by marais

[wait for it...]

Re: HP 9810A - current value?

*Message #12 Posted by **Tony Duell** on 9 Nov 2009, 8:44 a.m.,*
in response to message #11 by Eric Smith

With me you'll get nowhere!. I do not, and never have, approved of board-swapping as a way of finding faults. It's about the only thing I'll refuse to help you do.

The 98x0 series are well-made machines and deserve to be repaired properly! If you want to do that, I'll talk you through it.

Re: HP 9810A - current value?

*Message #13 Posted by **Tony Duell** on 13 Nov 2009, 9:34 a.m.,*
in response to message #10 by marais

A few thoughts...

Firstly, the sections that are different between the 9810 and 9820 are :

The memory box (the aluminium box at the left side of the machine) and all the boards in it

The display PCB

The keyboard and encoder PCB

The I/O backplane (the 9820 supports DMA IIRC, the 9810 does not)

The other sections are the same (processor, PSU, printer, card reader/controller, main backplane).

The machine will run with the I/O backplane removed and the keyboard disconnected (it plugs in on an edge connector under the front of the printer). So while I don't approve of board swapping, I will say that if you pull the I/O backplane and disconnect the keyboard, you could fit the 'wrong' memory box and display to either machine.

My diagnostic methods go roughly like this :

If I don't think the machine has been powered up recently, I remove all the boards

apart from the 3 PSU ones. I disconnect the keyboard from the main backplane, but leave the power swich cable connected. I remove the printer and memory box (in case that's not covered by 'all the boards' :-)). I then power up and check the PSU voltages. There are 6 of them (+5V, +12V, -12V, +24V, +19V, +16V). All but the first have labelled testpoints on the PSU PCBs. For the +5V, I know where to find it on the main backplane (and will tell you too :-)).

Then I fit just the CPU clock PCB (09810-66512). I check the 8MHz master clock and the 2 main CPU clocks (bitclock and muclk). If they're wrong, I find out why.

Then I fit the other 3 CPU boards, the memory box, and the display. If it was working correctly, the machine would run like this and give the right power-on display. Most of the time, if it's faulty, the display remains blank. The first thing I check is the dispstb line on the display connector. It should be pulsing if the CPU is trying to drive the display. It nearly always isn't (pointing to a problem in the CPU or memory areas) but I'd feel a right idiot if I spent time tracing the microcode only for the fault to be in the display driver.

At this point I use the fact that it's a bit-serial machine and that all signals should be changing. I quickly look at the M and T register outputs on the memory box test connector. All bits should be changing. If only the top <n> are, it points to a likely problem with that register. So I look into that.

At this point, alas, it's time to grab the logic analyser and the microcode listings and see what the CPU is doing. You can pick up the microcode program counter on the test connector on the CPU control PCB (09810-66513). I generally find one of 3 things now :

1) The microcode is going through a crazy sequence of states, pointing to a problem with the microcode program counter and/or ROMs. This is rare

2) The microcode seems to be going round the fetch-execute cycle. Maybe a problem in the memory box, or a the data path. Time to look at that

3) The microcode is stuck, often in the I/O loop. So I look as to why.

Electronically-good machines with mechanical problems are easy to fix in theory, but harder in practice (you really need a good workshop including a lathe to do card reader or printer repairs). There are some photos in my flickr account (tony_duell) showing both main mechanical repairs.

Electronic faults are harder to track down (but I assure you it's always possible) but fixing them is much easier. What you want to take on is up to you!

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CEO of Royal Bank of Scotland uses an HP

*Message #1 Posted by **Nigel Bamber** on 4 Nov 2009, 8:35 a.m.*

In yesterday's Lomdon Evening Standard , there was a picture of Stephen Hester at his desk at RBS on which there was a HP voyager calculator - no doubt a HP12C.

Nigel

Re: CEO of Royal Bank of Scotland uses an HP

*Message #2 Posted by **Richard Reed** on 4 Nov 2009, 9:41 a.m.,*
in response to message #1 by Nigel Bamber

Jewelry. I hope he never used it. Think of HP's reputation!

Richard

Re: CEO of Royal Bank of Scotland uses an HP

*Message #3 Posted by **Don Shepherd** on 4 Nov 2009, 9:49 a.m.,*
in response to message #1 by Nigel Bamber

Ah, the gold standard.

Re: CEO of Royal Bank of Scotland uses an HP

*Message #4 Posted by **John B. Smitherman** on 4 Nov 2009, 9:55 a.m.,*
in response to message #1 by Nigel Bamber

Does the 12c have enough digits to calculate his bonus? ;-)

Regards,

John

the *real* question is

*Message #5 Posted by **Frank Boehm (Germany)** on 4 Nov 2009, 10:09 a.m.,*
in response to message #4 by John B. Smitherman

Does it have enough digits to calculate the RBS losses?

Re: the *real* question is

*Message #6 Posted by **Nigel Bamber** on 4 Nov 2009, 10:17 a.m.,*
in response to message #5 by Frank Boehm (Germany)

> Quote:

> Does it have enough digits to calculate the RBS losses?

At 9,999,999,999 - the answer is no !

Re: the *real* question is

*Message #7 Posted by **Michael de Estrada** on 4 Nov 2009, 10:49 a.m.,*
in response to message #6 by Nigel Bamber

Sounds like you should re-open the Tower of London.

The 12C ist still useful then.

*Message #8 Posted by **Frank Boehm (Germany)** on 4 Nov 2009, 12:00 p.m.,*
in response to message #6 by Nigel Bamber

> Quote:
>
> At 9,999,999,999 - the answer is no !

At least the 12C can be used to display the number of Lehman Brothers options owned by RBS (approx.)

Re: The 12C ist still useful then.

*Message #9 Posted by **Chan Tran** on 5 Nov 2009, 7:50 p.m.,*
in response to message #8 by Frank Boehm (Germany)

Oh he used engineering notation.

Re: The 12C ist still useful then.

*Message #10 Posted by **Walter B** on 6 Nov 2009, 12:40 a.m.,*
in response to message #9 by Chan Tran

> Quote:
>
> Oh he used engineering notation.

... provided he knows the meaning of this.

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Question about how HP Math pacs calculate Bessel Functions!

*Message #1 Posted by **Namir** on 3 Nov 2009, 4:00 p.m.*

Hello All,

If you look in your HP-65 and HP-67 Math Pac manuals and the HP-41 High Level Math solution book, you may come across programs that calculate the Jn(x) and In(x) Bessel functions. These programs use recursive algorithms that calculate series of a specified number of terms m. The documentation calculates m using an interesting formula:

m = 2 * INT[(6 + max(n,z) + 9z/(z + 2))/2]

Where n is the order of the Bessel function and z = 3x/2.

My question, can anyone find the reference for HP's algorithms to calculate the Jn(x) and In(x) Bessel functions using the above equation?? The HP documentation mentions the "Handbook of Mathematical Functions" by Abramowitz et al. as a reference. I looked in that book and and the closest thing I found was at the bottom of page 385 (under the heading Numerical Methods). The handbook discusses informally the algorithm HP used but does not mention m and how it is calculated. Did I miss something? Or is the equation for m something HP came up with?

I guess you can say that this is a math challenge, with a new twist!

Namir

Edited: 3 Nov 2009, 4:20 p.m.

Re: Question about how HP Math pacs calculate Bessel Functions!

*Message #2 Posted by **Frank Rottgardt** on 3 Nov 2009, 5:08 p.m.,*
in response to message #1 by Namir

I don´t know which edition of Abramowitz you have excess to. This source cites the 1972 edition which would fit the HP-67 timewise.

MathWorld

Abramowitz, M. and Stegun, I. A. (Eds.). "Spherical Bessel Functions." §10.1 in Handbook of Mathematical Functions with Formulas, Graphs, and Mathematical Tables, 9th printing. New York: Dover, pp. 437-442, 1972.

Re: Question about how HP Math pacs calculate Bessel Functions!

*Message #3 Posted by **Namir** on 3 Nov 2009, 6:51 p.m.,*
in response to message #2 by Frank Rottgardt

I also have the blue-soft cover version. On page 385 (Bessel functions of integer orders) the book discusses

in general terms basically the same algorithm that HP uses, except there is no mention for of m and the equation to calculate it. The discussion does mention the use of recursive iteration to calculate non-normalized Bessel function values, and then briefly hints at how to normalize them.

The HP documentation is much clearer. I was able to implement the algorithm in Excel VBA in two versions: using arrays and without arrays. Both yield accurate results.

Namir

Re: Question about how HP Math pacs calculate Bessel Functions!

*Message #4 Posted by **Ángel Martin** on 4 Nov 2009, 1:43 a.m.,*
in response to message #3 by Namir

There's programs in the SandMath-5 module to calculate Jn, In, Kn, and Yn for both integer and non-integer indexes, and any real number. I used the usual approach given the relatively fast convergenge of the series.

Cheers, ÁM

Edited: 4 Nov 2009, 3:35 a.m.

Re: Question about how HP Math pacs calculate Bessel Functions!

*Message #5 Posted by **Namir** on 4 Nov 2009, 6:29 a.m.,*
in response to message #4 by Ángel Martin

Angel,

Your SandMath ROM looks **VERY** nice!!!

You calculate the Bessel functions Jn(x), In(x), Kn(x), and Yn(x) in your SandMath ROM. Do you base your calculations for ALL FOUR Bessel functions on an algorithm that is a similar one that HP uses? If yes, how do you calculate Kn(x) and Yn(x)? Sorry for being nosy.

Cheers,

Namir

Edited: 4 Nov 2009, 7:03 a.m.

Re: Question about how HP Math pacs calculate Bessel Functions!

*Message #6 Posted by **Ángel Martin** on 5 Nov 2009, 12:25 a.m.,*
in response to message #5 by Namir

Hi Namir,

No complex stuff: it's basically just about summing terms until there's no significant contribution to the sum value. The process is sped-up by using a couple of MCODE functions involved in the function term calculation (like obviously GAMMA for non-integer orders, HARMN for the harmonic number, X=YR? for rounded comparisons, CHSYX, etc.), and a couple of re-arranging tricks of the series syntax to optimize the efficiency. It still takes its time, but this is a non-issue if you use V41's TURBO mode of course - it feels instantaneous response.

I considered an ALL-MCODE implementation but so far had no time to implemented, maybe some day...

I'm on the road for a couple of weeks but can send you more details when I'm back if you give me an email address to send it to.

Best, ÁM.

Edited: 5 Nov 2009, 12:30 a.m.

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HP-41 Bar Code Printing

*Message #1 Posted by **Gerry Schultz** on 3 Nov 2009, 2:29 p.m.*

To All:

This all started when I was looking into whether or not I wanted to buy an HP-41 Plotter ROM from that unmentionable site. That got me interested in figuring out how to print HP-41 bar codes. After doing some googling (I love the "site:www.hpmuseum.org" option), there is a lot of old information on the subject. I am specifically interested in using either my PC's HP printer or a ThinkJet on the HP-IL loop. (Side thought, is fan-fold paper still available? Right now I'm feeding individual sheets through mine.) I found Gene's pages on bar code printing to a ThinkJet as well as Christoph's pages on printing bar code using EMU41.

This brings me to the SKWIDBC module for the 41 which I also ran across. It appears to be the perfect solution but it's designed specifically to drive the ThinkJet or LaserJet printers. The plus version only talks to the LaserJet Plus or the LaserJet Series II, according to the manual. Also, there is a warning in the manual that bar code generated with this module might not be able to be read by the 1E version of the Wand, but is fully compatible with with the 1F version.

So, my questions are: Does the SKWIDBC module work properly with EMU41 using the host PC's HP 990Cxi inkjet printer connected to a parallel port? How big a problem is SKWIDBC bar code compatibility between the 1E and 1F Wands? After 5 years, are there any easier, cleaner or better solutions to printing 41 bar codes under windows, or any other OS than has been discussed in the archives?

All comments and feedback is appreciated. This little detour into 41 bar code printing has been keeping my busy for the last two days, time permitting.

Thank you for your time,

Gerry

Re: HP-41 Bar Code Printing

*Message #2 Posted by **Allen** on 3 Nov 2009, 7:45 p.m.,*
in response to message #1 by Gerry Schultz

The Modules and PLOTTER ROM are one way to go. There are at least two other alternatives than the HP41 modules.

If you already have a HP-IL ISA card or PIL box, you can export to EMU41, then from EMU-> Text file -> then use 41uc.exe

Not sure if that will do exactly what you seek?

Re: HP-41 Bar Code Printing

*Message #3 Posted by **Gerry Schultz** on 4 Nov 2009, 3:44 p.m.,*
in response to message #2 by Allen

Thank you for your response, Allen. I do have EMU41, and an HP-IL ISA card. My PIL Box I/F doesn't allow EMU41 on my Laptop to talk directly to external HP-IL devices. J-F tells me he's working on a new version of EMU41. I can use the PIL Box to migrate files between my 41C and EMU41 using HDRIVE1 as he presently recommends.

I've never used EMU41 to generate a text file so I'm not sure how to do that. I assume you would use the DOSLINK device to send data to the emu41out.dat file; but what would you do then, open that file using Notepad to print it out to my system printer? This is where I get vague as I don't know specifically how to implement this workflow.

My interest is to backup my old 41C program cards to 3.5" floppies (I have 9114B drives) as well as back them up to paper as bar code. That's why when I was reading about SKWIDBC and saw the restrictions, I wondered if there were anyone who had experience with this software. I have looked at the 41uc.exe page on this website and to be honest, it's a bit overwhelming. I need to understand the workflow of getting from a program stored on an EMU41 HDRIVE to printout on either the local PC printer or one on the HP-IL loop. Even though I have hardware, I still have a lot to learn on how to use it.

Anyway, that's what I was thinking. Any more feedback or comments are appreciated.

Thanks,

Gerry

Re: HP-41 Bar Code Printing

*Message #4 Posted by **Egan Ford** on 4 Nov 2009, 5:13 p.m.,*
in response to message #3 by Gerry Schultz

If your program is in EMU41, then try this:

1. Edit EMU41.INI, and change HDRIVE1 to HDRIVE1 progname.lif, this specifies that you want to use progname.lif as your virtual floppy drive (the default is HDRIVE1.DAT).
2. In your EMU41 directory type >progname.lif, this creates a blank disk.
3. Start up EMU41
4. Type XEQ NEWM 001, this formats the blank disk with a single record. (NOTE: You may want to ; out HDRIVE2 in your .INI file so that you do not accidentally hose HDRIVE2.DAT).
5. Type ALPHA PROGNAME ALPHA, then XEQ WRTP. That should copy your program to the virtual floppy drive and thus to progname.lif
6. Exit EMU41
7. Type: hp41uc /l=progname.lif /r=progname.raw
8. Type: hp41uc /r=progname.raw /s=progname.ps PROGNAME
9. Use any freely available PS to PDF converter.

Now you have a PDF of your barcode that you can distribute or print on any printer with any PDF viewer. Example multipage barcode PDF: http://sense.net/~egan/41cx/cpi.pdf

I made an easy to follow step-by-step movie for you here: http://sense.net/~egan/emu41barcode.avi

If your program is on your 41CX, then:

1. In your ILPER directory type >progname.lif
2. Connect up your PIL-Box and 41CX.
3. Start up ILPER, and set it to use progname.lif as your HDRIVE.
4. Type XEQ NEWM 001

5. Type ALPHA PROGNAME ALPHA, then XEQ WRTP
6. Exit ILPER
7. Do 7-9 from above.

Sorry, no movie.

I should mention that if you want to do multiple files and save time then make the argument to NEWM equal to the number of files or greater. Then ALPHA PROGNAME ALPHA WRTP PROGNAME for each program. Then change:

```
hp41uc /l=progname.lif /r=progname.raw
```

to:

```
hp41uc /l=allprogs.lif /r=progname.raw PROGNAME
```

The later command will search the LIF image for PROGNAME and save it as progname.raw. Do that for each program.

Lastly use hp41uc to convert all your .raw programs to .bin and .txt. The .txts can be used as listing. The .bins can be loaded into V41 or your shiny new iPhone rendering your 41CX useless. Send your useless 41CX to me. :-)

Edited: 4 Nov 2009, 5:34 p.m.

Re: HP-41 Bar Code Printing

*Message #5 Posted by **Gerry Schultz** on 4 Nov 2009, 9:15 p.m.,*
in response to message #4 by Egan Ford

Egan:

Thanks for the step by step. I had been playing with HDRIVE2 in EMU71 to bring LIF files that I had downloaded from the internet into EMU71 and see what I could do with them. It's also teaching me about using BASIC commands as I just got the full version of EMU71 from J-F just a few days ago. I bought a real HP-71B a few months ago but I've done nothing with it to work on understanding HP-IL, EMU41, etc.

I was also going to try some LIF files from the internet for EMU41 and see how that worked this weekend, time permitting. So, using WRTP with HDRIVE1, I'm converting a native HP-41C program file to a LIF filetype. THAT'S AMAZING!! I didn't know you could do that. File conversion in an emulator, what a concept! But thinking about it, it does make sense. Thanks for sharing that. I get the feeling that I'm just seeing the tip of the iceberg when it comes to what these EMU41/71 emulators can do. What other file formats does EMU41 support when writing to HDRIVE1? If I specified a RAW or Postscript (PS) filetype, would EMU41 or 71 support that as well? What about PDF or is that too much?

I have been re-reading the 41uc user file and it appears that the bar code generation happens when you convert from RAW to PCL or PS so I doubt EMU41 supports that. Something for J-F to add given how busy he is right now? The poor man, I'm sure he must roll his eyes at all my suggestions.

Anyway, this is very exciting. I'll have to give that a try this weekend. Thanks again, Egan for explaining that. EMU41's docs only hint at this and I didn't pick it up. I wonder what else am I missing?

Thanks again, Gerry

Re: HP-41 Bar Code Printing

*Message #6 Posted by **Egan Ford** on 5 Nov 2009, 1:43 a.m.,*
in response to message #5 by Gerry Schultz

> Quote:
>
> [quote] What other file formats does EMU41 support when writing to HDRIVE1?

None--only LIF. It does not matter what filename or extension you use with HDRIVE1 or HDRIVE2 the format of the file will be LIF. i.e. HDRIVE1.DAT, FOO.BAR, BACKUP.LIF--all LIF. LIF is not a program format like BIN, DAT, RAW, or TXT (hp41uc supported types). LIF is more like an archive (a zip file without compression). You can have multiple files of various types in a LIF image. LIF images are simply dumps of tapes or disks. HDRIVE1 and HDRIVE2 in both EMU41/EMU71 are simulating 9114B drives. With the right tools you can create LIFs from diskettes and vv.

> Quote:
>
> I have been re-reading the 41uc user file and it appears that the bar code generation happens when you convert from RAW to PCL or PS

As outlined above you need RAW to convert to PS. It shouldn't take more than a few minutes to backup each EMU41 program to a single LIF image. From there you can write a dos batch program to take a program name as an argument and run all the hp41uc commands for you.

Re: HP-41 Bar Code Printing with EMU41

*Message #7 Posted by **Christoph Klug** on 6 Nov 2009, 3:43 a.m.,*
in response to message #6 by Egan Ford

Read IL2000 Interface System manual Page IX.46 : Easy and fast Barcode print directly from EMU41 with help of the Skwid BC-Rom...

Best regards - Christoph Klug

Re: HP-41 Bar Code Printing with EMU41

*Message #8 Posted by **Egan Ford** on 6 Nov 2009, 10:50 a.m.,*
in response to message #7 by Christoph Klug

> Quote:
>
> Read IL2000 Interface System manual Page IX.46 : Easy and fast Barcode print directly from EMU41 with help of the Skwid BC-Rom...

Thanks. IMHO, its a bit limiting and requires a Laser Jet. I find the above method I outlined a bit more complex, but I also end up with a PDF--something easy to share and print on any printer.

If I get time I'll try to find a PCL -> PDF converter and see if I can use that with DOSLINK.

Re: HP-41 Bar Code Printing with EMU41

*Message #9 Posted by **Egan Ford** on 6 Nov 2009, 11:26 a.m.,*
in response to message #7 by Christoph Klug

SKWIDBC.MOD just locks up EMU41. I tried various .INI setups. Same results. I guess SKWIDBC.MOD really wants a Laser Jet to be there.

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MLDL2000 update

*Message #1 Posted by **Meindert Kuipers** on 3 Nov 2009, 12:32 p.m.*

It has been a long time since my last update about the MLDL2000. It does not mean that I have not been busy, but unfortunately not with the MLDL2000. There has been some progres however:

Most important, the hardware design is done, expect for one small item, and I have done some trial layouts

Unfortunately the layout trials did not go very well. Due to the increased complexity I cannot manage to make a reliable design that fits in a cardreader. Added to that is the issue how to access the SD (micro) card in the cardreader, for which I could not find a good solution. Therefore the new MLDL2000 will be based on on a single PCB, that has to be mounted in an external housing. The good news is that the costs will be considerably lower. I will try to finalize the layout in the next month or so, if my spare time allows. More news to follow

I have been updating the specs of the MLDL2000V2, and should be able to publish a first draft within a few weeks

Work has been done on the software side as well. A new M2kM will be published with a completely overhauled disassembler, that allows for configurable disassembly listings. This will also take a few more weeks.

Finally I have upgraded my old PC and bought a new one. Of course it had to be an HP, this time with Windows 7. It runs really nice, and even the MLDL2000 runs good on it, but remember to download the latest FTDI drivers. No changes appear to be needed.

Also I am considering to make a version of M2kM for Linux. If you are interested in this let me know. I need to port the software (written in Delphi) to Lazarus, and I have no idea how much effort that might be. If nobody wnats this, then I will not do this of course.

Your feedback is appreciated,

Meindert

Re: MLDL2000 update

*Message #2 Posted by **Ángel Martin** on 5 Nov 2009, 12:15 a.m.,*
in response to message #1 by Meindert Kuipers

Hey Meindert, thanks for the update news. I personally don't think an external box represents any issues, well worth the admission price to have SD card support. Great news to hear you're improving the SW as well, can't wait to have a look at the new features. Let me know if you need beta testers :)

Best, ÁM

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Trying to contact Michel Beaulieu

*Message #1 Posted by **Vieira, Luiz C. (Brazil)** on 3 Nov 2009, 12:53 a.m.*

Hi, all (mostly old timers);

I´m in the need to contact Michell Beaulieu (Canada) and cannot find his e-mail in my 'data bank' nor at the MoHPC biographies. Because I did not access my account at IG (e-mail provider) for a while, I had its contents removed (shame on me...). If anyone has been in contact with him or has a 'last information' that could share, please, drop me a line:

linux_lcv [At] YAHOO dot com {.} br

Thanks in advance.

Cheers.

Luiz (Brazil)

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Opening a Woodstock external charger?

*Message #1 Posted by **John Garza** on 2 Nov 2009, 5:23 p.m.*

Does anyone have experience opening the woodstock series external charger (sometimes called a "reserve power pack")?

The thing is built into an attractive mini-woodstock case. But there are no screws on it (I checked under the rubber feet). I'd hate to pry it apart by force and crack the plastic.

-John

I'd like to know as well. >>

*Message #2 Posted by **tim m.** on 2 Nov 2009, 5:29 p.m.,*
in response to message #1 by John Garza

I have a classic series charger (03502A) that is sealed with no screws. I'd like to open it so that I may repair the strain relief and check the electronics. The constant-voltage supply reads 6.7 V no load; this seems a bit high, although my 35 chargers and functions fine off of the supply.

-Tim

Re: I'd like to know as well. >>

*Message #3 Posted by **Randy** on 2 Nov 2009, 5:55 p.m.,*
in response to message #2 by tim m.

The sealed, smaller chargers were ultrasonically welded as well. The circuity is totally different than the 82001 and the higher voltage is normal. Trying to open one will usually result in breakage... since the weld lines are not exposed.

Thanks! >>

*Message #4 Posted by **tim m.** on 2 Nov 2009, 6:37 p.m.,*
in response to message #3 by Randy

I didn't realize that the circuitry was different. Am I correct in assuming that these sealed chargers were supplanted by the more common four-screw classic chargers?

It's also good to know that the higher voltage is correct. I'll see to repairing the strain relief from the outside.

Re: I'd like to know as well. >>

*Message #5 Posted by **Charles Oxford** on 2 Nov 2009, 7:41 p.m.,*
in response to message #2 by tim m.

how do you check output voltage?

Re: I'd like to know as well. >>

*Message #6 Posted by **tim m.** on 2 Nov 2009, 7:53 p.m.,*
in response to message #5 by Charles Oxford

With the charger plug facing you, I measured between the center (common) and rightmost contacts. For a good picture, scroll about halfway down this page: http://www.jacques-laporte.org/HP35%20power%20unit.htm.

As for my HP-35 charger, some of the sealed plastic case is chipped away at the charger's strain relief. I used epoxy to fill in the missing parts. I also sliced a plastic strain relief off of an old in-line phono plug, cut it open, wrapped it around the charger cable where it emerges from the case, and secured it in place with more epoxy. This should reinforce the rather wimpy OEM strain relief.

Edited: 2 Nov 2009, 7:57 p.m.

Re: I'd like to know as well. >>

*Message #7 Posted by **Charles Oxford** on 2 Nov 2009, 11:18 p.m.,*
in response to message #6 by tim m.

Thank you Tim

Charlie

Re: Opening a Woodstock external charger?

*Message #8 Posted by **Randy** on 2 Nov 2009, 5:52 p.m.,*
in response to message #1 by John Garza

Like most HP calculator assemblies, it was ultrasonically welded. You're right, it will most likely crack if you attempt to part the pieces.

Nothing inside but a diode, resistor and LED. *Very* hi-tech ;^)

Re: Opening a Woodstock external charger?

*Message #9 Posted by **John Garza** on 3 Nov 2009, 1:28 a.m.,*
in response to message #1 by John Garza

Just to clarify...

I'm NOT talking about the AC adapter that plugs into the wall.

This is basically a box to hold the batteries. You then plug the AC adapter into this box instead of the calculator. It looks like a 2/3 size woodstock case complete with rubber feet, "hewlett packard" metal strip, and an LED to indicate charging. It serves the same function as the more common classic series little black hinge-top "reserve power packs".

Not sure I made that clear enough in my original post.

I've been using alkalines for years in my woodstocks. Now I feel the urge to switch to rechargables. I'm well aware of the hazards of in-machine battery charging, so I thought this little jewel would do the trick. It certainly looks better than anything I could construct. Only problem is I think the diode is blown. When I

connect my AC sdapter to it, the battery charging contacts show a little over 10 volts AC! I've never actually tried to use it until now. It's just been sitting in my "accessories box" with all the spare AC adapters, armored security cradles, field cases, etc. that I never really use.

-John (3665)

Re: Opening a Woodstock external charger?

*Message #10 Posted by **Katie Wasserman** on 3 Nov 2009, 1:59 a.m.,*
in response to message #9 by John Garza

I happen to have a few of these and one was badly corroded and in need of repair. It had also been previously opened as there was a chip in the front. The two pieces of the shell are held together by what appears by glue around the boarder of the center rectangle. Here's a picture:

I think that it might be possible to break the glue bond without damaging the case, but it's not going to be easy.

The circuit is just a diode in series with what seems to be an 11 ohm 2 Watt resistor for charging and an LED in series with a 22 ohm resistor to indicate that current is flowing into the battery.

-Katie

Edited: 3 Nov 2009, 2:00 a.m.

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HP 33S Advanced uses of logarithmic functions

*Message #1 Posted by **Naseer Norris** on 2 Nov 2009, 1:34 a.m.*

ME33S Advanced uses of logarithmic functions

Log and antilog functions

Before calculators like the ME33S became easily available, logarithms were commonly used to simply multiplication. They are still used in many subjects, to represent large numbers, as the results of integration, and even in number theory.

The ME33S has four functions for calculations with logarithms.

These are the “common” logarithm of “x”, $, its inverse, !, the “natural” logarithm of “x”, & and its inverse, #. Common logarithms are also called “log to base 10” and the common logarithm of a number “x” is written LOG10 x or just LOG x Natural logarithms are also called “log to base e” and the natural logarithm of a number “x” is written LOGe x or LN x

Logarithms can be calculated to other bases, for example the log to base two of x is written LOG2 x

Some problems need the logarithm of a number to a base n, other than 10 or e. On the ME33S these can be calculated using one of the formulae

LOGn x = LOG10 x ÷ LOG10 n LNn x = LNe x ÷ LNe n ! and # are also called “antilogarithms” or “antilogs”. # is also called the “exponential” function or “exp”. Apart from being the inverses of the log functions, they have their own uses. ! is very useful for entering powers of 10, especially in programs where the } key can not be used to enter a power that has been calculated. # is used in calculations where exponential growth is involved. 1# is a quick way to type the value of e. The) function can be seen as the base “n” antilog function. If 10x is the inverse of log10 x and ex is the inverse of loge x, then yx is the inverse of logy x.

Practice using log and antilog functions

Example 1: Find the common logarithm of 2. Solution: In RPN mode type 2¹$

Figure 1

In algebraic mode type 2¹$Ï MEcalculators - 2 - ME33S Advanced uses of logarithmic functions - Version 1.0 MEcalculators ME33S Advanced uses of logarithmic functions

Figure 2

Answer: The common logarithm of 2 is very nearly 0.3010.

Example 2: A rare species of tree has a trunk whose cross-section changes as 1/x with the height x. (Obviously this breaks down at ground level and at the tree top.) The cross section for any such tree is given by A/x, where A is the cross-section calculated at 1 meter above the ground. What is the volume of the trunk between 1 meter and 2 meters above ground? Solution: The volume is obtained by integrating the cross-section along the length, so it is given by

the integral:

Figure 3

It is possible to evaluate this integral using the ME33S integration function, but it is much quicker to note that the indefinite integral of 1/x is LN x. The result is therefore V = A (LN2 – LN1) Since LN 1 is 0, this simplifies to V=A LN2 In RPN or algebraic mode type 2&. In algebraic mode follow this with Ï No one is likely to measure tree heights to an accuracy of more than three significant digits, so set the ME33S to display the answer with just 3 digits after the decimal point, by pressing Þ13

Figure 4

Answer: Figure 4 shows that the log to base e of 2 is close to 0.693, so the volume is 0.693A cubic meters.

Example 3: What is the log to base 3 of 5? Confirm the result using the) function. Solution: Using the equations given above, the log to base 3 of 5 can be calculated as (log10 5)/(log10 3). In RPN mode, press: 5¹$3¹$¯ In algebraic mode, press: 5¹$¯3¹$Ï MEcalculators - 3 - ME33S Advanced uses of logarithmic functions - Version 1.0 MEcalculators *12* 33S Advanced uses of logarithmic functions

Figure 5

That this is correct can be confirmed if the following keys are pressed.

In RPN mode: 3w) In algebraic mode: 3)¹ÍÏ

Figure 6

Answer: The log to base 3 of 5 is 1.465 within the current accuracy setting of the calculator, as shown by Figure 5. Calculating 3 to this power gives 5.000 which confirms that the correct value for the log had been obtained. Example 4: An activity of 200 is measured for a standard of Cr51 (with a half-life of 667.20 hours). How much time will have passed when the activity measured in the sample is 170? The formula for half-life computations is shown in Figure 7.

Figure 7

Solution: Rearrange the equation to solve for t, as in Figure 8.

Figure 8 Now calculate t. In RPN mode: 667Ë2Ï170Ï200¯&¸Ë5&¯ In algebraic mode: 667Ë2¸º y170¯200º|&¯Ë5&Ï

Figure 9

Answer: 156.4352 hours. Figure 9 shows the result in RPN mode. Note: When you have finished this example, press Þ4 to return the display to Standard display mode.

Note: Please ignore the above information, in case it has been informed or circulated.

Edited: 10 Nov 2009, 2:53 p.m. after one or more responses were posted

Re: HP 33S Advanced uses of logarithmic functions

*Message #2 Posted by **Marcus von Cube, Germany** on 2 Nov 2009, 3:16 a.m.,*
in response to message #1 by Naseer Norris

Looking at the not really matching characterset, I presume that this article has been copied from the Net or some text book. Could you point us to the source of your information, please?

Re: HP 33S Advanced uses of logarithmic functions

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 2 Nov 2009, 3:23 a.m.,*
in response to message #1 by Naseer Norris

Hi, Nasser;

It seems to me that part of the information you posted was copied and pasted from this document, available at the HP Calculators homepage. I thought you would like to know about this, maybe you are not aware of it. The actual HP33S page has many other papers about other subjects. Hope you find them useful as well.

Cheers.

Luiz (Brazil)

Edited: 2 Nov 2009, 4:33 a.m.

Re: HP 33S Advanced uses of logarithmic functions

*Message #4 Posted by **Naseer Norris** on 2 Nov 2009, 11:38 p.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

Hi Luiz,

Thank you for pointing out.

I knew that this topic is already posted on HP homepage and I have copied it. Perhaps, as mentioned in the **NOTE**.

I gust wanted to give a little start in this forum.

Reminder : Please ignore it.

Thanks

Edited: 2 Nov 2009, 11:44 p.m.

So...

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 3 Nov 2009, 2:35 a.m.,*
in response to message #4 by Naseer Norris

... I think all others would like to know more about you. You see, your 'first appearance' was quite unusual, and I believe most 'old timers' agree with me. As a bare comparison, if this is an automotive-address museum you were introducing yourself by showing us the best way to change tires... by using data from a well known document with no regards mentioning the source. Can you understand why did you toke us by surprise?

Now I´d invite you to tell us about which calculators you use, program, etc... I began contributing here in 2001, and people are totally friendly. But as Namir mentioned, we are not babes in the woods. At least not the most of us... 8^)

Welcome!

Luiz (Brazil)

Edited: 3 Nov 2009, 3:57 a.m.

One other point:

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 3 Nov 2009, 8:24 a.m.,*
in response to message #4 by Naseer Norris

Naseer, you wrote above:

> Quote:
>
> I knew that this topic is already posted on HP homepage and I have copied it.

But then you answered Michael Meyers with:

> Quote:
>
> Please ignore it, if publicly available.

I do not want to go ahead discussing what seems to be already pointed out, but still, would you like to comment on that?

Luiz (Brazil)

Edited: 3 Nov 2009, 8:25 a.m.

HP 33S Advanced Use: the rest is here...

*Message #7 Posted by **Vieira, Luiz C. (Brazil)** on 2 Nov 2009, 4:40 a.m.,*
in response to message #1 by Naseer Norris

Hi, Nasser;

I see that the rest of the information you posted seems to be copied and pasted from this other document, available at the same HP Calculators homepage I pointed previously.

Cheers.

Luiz (Brazil)

Edited: 2 Nov 2009, 4:52 a.m.

Re: HP 33S Advanced uses of logarithmic functions

*Message #8 Posted by **Jeff Kearns** on 2 Nov 2009, 8:55 a.m.,*
in response to message #1 by Naseer Norris

This entire thread adds no value whatsoever and should be deleted. What's the point in pasting info readily available from the HP website? Jeff Kearns

Re: HP 33S Advanced uses of logarithmic functions

*Message #9 Posted by **Namir** on 2 Nov 2009, 12:02 p.m.,*
in response to message #8 by Jeff Kearns

I second your opinion Jeff. This thread is mega-useless!!!!

Namir

Re: HP 33S Advanced uses of logarithmic functions

*Message #10 Posted by **Michael Andersson** on 3 Nov 2009, 9:00 a.m.,*
in response to message #9 by Namir

There are people on this forum who more and more often comment on posts that they are useless or that the subject has already been discussed and should not be brought up again. I think such comments should be kept away from here since they add very little and may scare people of from the forum, stopping them from posting again. This does not mean that constructive critisism isn't sometimes in place, but that's something else.

There are often subjects here that do not interest me, but I have a simple solution to that - I don't read them. I hope this forum is not a place for a few elite HP-users, but rather a place where also beginners are welcome.

Re: HP 33S Advanced uses of logarithmic functions

*Message #11 Posted by **Ken Shaw** on 2 Nov 2009, 2:19 p.m.,*
in response to message #8 by Jeff Kearns

Perhaps one of these (link)

Well mentioned... We should ignore it. (N.T.)

*Message #12 Posted by **Vieira, Luiz C. (Brazil)** on 2 Nov 2009, 2:32 p.m.,*
in response to message #11 by Ken Shaw

...

Edited: 2 Nov 2009, 2:35 p.m.

Re: HP 33S Advanced uses of logarithmic functions

*Message #13 Posted by **Naseer Norris** on 2 Nov 2009, 11:46 p.m.,*
in response to message #8 by Jeff Kearns

Hi Jeff,

Its true...

Reminder: Please ignore it.

Re: HP 33S Advanced uses of logarithmic functions

*Message #14 Posted by **Namir** on 2 Nov 2009, 12:03 p.m.,*
in response to message #1 by Naseer Norris

Nasser,

We are not babes in the wood in need for trivial information like the one you posted.

Namir

Re: HP 33S Advanced uses of logarithmic functions

*Message #15 Posted by **Naseer Norris** on 2 Nov 2009, 11:56 p.m.,*
in response to message #14 by Namir

Final reply....

Reminder Note: Please ignore it.

Welcome to the Museum Forum

*Message #16 Posted by **Michael Meyer** on 2 Nov 2009, 7:14 p.m.,*
in response to message #1 by Naseer Norris

Could be some trolling, but maybe Naseer was just trying to dive in.*

If you're trying to meet people here and make friends, just tell us a bit about yourself and your interests. Do you collect or program any other HP calculators?

* "Naseer Norris is a registered user.

Date Registered: November 2009 Location: INDIA Interests: I like reading science fiction books and I love making friends"

Re: Welcome to the Museum Forum

*Message #17 Posted by **Naseer Norris** on 2 Nov 2009, 11:49 p.m.,*
in response to message #16 by Michael Meyer

Hi Michael,

Yes, I am a registered user on this forum and trust me, there is nothing like people called trolling.

Thank god, some is here to understand me. I really appreciate you, as i have recently registered with this forum and I wanted to give a start, by posting some information on this forum.

Hope everything is clear.

Reminder: Please ignore it, if publicly available.

Edited: 2 Nov 2009, 11:54 p.m.

Re: Welcome to the Museum Forum

*Message #18 Posted by **bill platt** on 3 Nov 2009, 8:08 a.m.,*
in response to message #17 by Naseer Norris

Hi Naseer,

The real point is that you could've done something like posting, say, "I found this on the hp website (link) and thought it rather curious, specifically (citation etc)."

By simply posting a copy, with no text of *your own*, it looks like clutter. It is clutter. There is no point to it.

Please see it from other people's perspective--that no, most people do not understand you.

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PIL-Box meet DOSBox

*Message #1 Posted by **Egan Ford** on 1 Nov 2009, 3:35 p.m.*

A new feature of the latest EMU41 (http://www.jeffcalc.hp41.eu/emu41) is support for the PIL-Box (http://www.jeffcalc.hp41.eu/hpil). This allows a modern Windows-based PC to access HP-IL devices in the same manor an ancient DOS-based PC accesses HP-IL devices via the HP-IL ISA adapter.

This is great--if you run Windows. Fortunately, many of us do not run Windows, and fortunately there are DOS alternatives for non-Windows platforms. DOSBox (http://www.dosbox.com) happens to be one of them. DOSBox is available for just about any platform (I use it on my Mac). Because DOSBox emulates DOS and the x86 instruction set it will be slower (but still much faster than necessary) than Windows/DOS or Linux/DOSEMU. However, the upside is that if you have a Power Mac or a low power portable ARM-based Linux machine, then you are still in luck. DOSBox like Windows/DOS and Linux/DOSEMU also utilizes a shared file system directory making it easy to use your native OS environment to setup and edit files.

Getting EMU41/DOSBox to talk to the PIL-Box is fairly straightforward. I'll be using my Mac as an example.

1. Install DOSBox from the URL above.

2. Define a directory for all your DOS needs. I will be using /Users/egan/dosbox.

3. Install EMU41 into your dosbox directory. E.g. /Users/egan/dosbox/EMU41.

4. Install BNU 1.70 (http://www.pcmicro.com/bnu) into your dosbox directory. E.g. /Users/egan/dosbox/BNU.

5. Edit your DOSBox Preferences. Read the DOSBox documentation to find the preferences file. E.g. on my OS/X machine I edit: /Users/egan/Library/Preferences/DOSBox\ 0.73\ Preferences (NOTE: the backslash space is because I edit files from the command line).

   Make the following edits:

   In the serial section:

   ```
   [serial]
   serial1=directserial realport:cu.usbserial-FTE03NXR
   serial2=disabled
   serial3=disabled
   serial4=disabled
   ```

   Where realport is the name of the PIL-Box. It will differ from platform to platform, the example above is for OS/X (NOTE: /dev/ is omitted).

   In the autoexec section:

   ```
   [autoexec]
   mount c: /Users/egan/dosbox
   c:
   cd bnu
   bnu
   cd ..
   ```

Save and exit your editor.

6. Edit EMU41.INI and add in the [DEVICES] section XIL COM1:. Follow the EMU41 documentation for more details on how to use the PIL-Box with EMU41.

7. Run DOSBox.

8. Start up EMU41:

```
cd emu41
emu41
```

That's it. Enjoy. Now when will see EMU71 with PIL-Box support?

Re: PIL-Box meet DOSBox

*Message #2 Posted by **J-F Garnier** on 8 Nov 2009, 4:02 p.m.,*
in response to message #1 by Egan Ford

Interesting that Emu41 works better with the PIL-Box in an DOS emulation environment than in Windows!

I just released an updated Emu41 version (2.48) with improved native support of the PIL-box. What I did basically is to increase the communication timeout values to take into account the very slow response time of serial communications in a DOS box inside Windows. On my dual-core system with Win2k, it works reasonably well, but on a small Centrino-based, XP tablet PC machine it is quite slow.

Still, the recommended solution for file exchange between Emu41 and HP-41 with the PIL-Box is to use the ILPer software.

J-F

Re: PIL-Box meet DOSBox

*Message #3 Posted by **Egan Ford** on 8 Nov 2009, 7:12 p.m.,*
in response to message #2 by J-F Garnier

> Quote:
>
> Interesting that Emu41 works better with the PIL-Box in an DOS emulation environment than in Windows!

For some reason with Windows/PIL-Box, EMU41 (2.47) intermittently does not see anything on the loop until I power on/off something on the loop. I did not have this problem with DOSBox/EMU41--works every time.

Re: PIL-Box meet DOSBox

*Message #4 Posted by **Gerry Schultz** on 10 Nov 2009, 1:06 p.m.,*
in response to message #2 by J-F Garnier

Jean-Francois:

Quick note, I downloaded EMU41 version 2.48 last night to my 5 year old laptop and tried it with my PIL Box and 9114B disk drive. Works great!

Thanks for the update. Gerry

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Need help with HP82164A HP-IL/RS232 Interface

*Message #1 Posted by **Ilyas B.** on 1 Nov 2009, 9:23 a.m.*

Hello! I'm new user of HP-71B. I'm student and I use it heavy for my studies.I've computer with RS232 interface. I lost many useful programs and need type it again. Somebody can help me found easy way how to save/load my programs to/from PC. I don't know with software and what a commands I've to use. With respect,

Re: Need help with HP82164A HP-IL/RS232 Interface

*Message #2 Posted by **Egan Ford** on 1 Nov 2009, 10:17 a.m.,*
in response to message #1 by Ilyas B.

> Quote:
>
> Hello! I'm new user of HP-71B. I'm student and I use it heavy for my studies.

Wow! Why? Of all the modern options why the 71B?

> Quote:
>
> I've computer with RS232 interface. I lost many useful programs and need type it again. Somebody can help me found easy way how to save/load my programs to/from PC. I don't know with software and what a commands I've to use. With respect,

IIRC, here is the general idea:

1. Install EMU71 (free version, http://www.jeffcalc.hp41.eu/emu71/index.html). Get all your programs running in there (you can cut/paste them in or use DOSLINK, read the EMU71 docs).
2. Make this cable: http://www.jeffcalc.hp41.eu/emu71/files/serialcable.pdf. Run the little 71B program at the end of the doc on your 71B. Then connect the IL-RS232 device to your PC.
3. Configure EMU71 to use the serial port the IL-RS232 is connected to.
4. From EMU71 type COPY PROGRAM TO SERIAL1:
5. From 71B type COPY :HP82164A TO PROGRAM

The above may or may not work, I think I have done it once. I have not had to rely on this method because I have an ISA HP-IL adapter in an old PC for this type of work. However, that recently changed with the introduction of the PIL-Box (USB to HP-IL, http://www.jeffcalc.hp41.eu/hpil/index.html).

Re: Need help with HP82164A HP-IL/RS232 Interface

*Message #3 Posted by **Garth Wilson** on 1 Nov 2009, 4:35 p.m.,*
in response to message #2 by Egan Ford

> Quote:
>
> Wow! Why? Of all the modern options why the 71B?

Quote:

There's a reason some of us keep asking that HP go back to what they used to have. Their newer offerings are **not** better than the old. My 71 with its modules, extra 160KB of RAM, many LEX files from the user groups, and better manuals is worth far more to me than my 50g. AFAIK, there are precisely zero modern handheld options that can act as a lab instumentation controller.

Re: Need help with HP82164A HP-IL/RS232 Interface

*Message #4 Posted by **Ángel Martin** on 2 Nov 2009, 4:20 a.m.,*
in response to message #3 by Garth Wilson

Quote:

Their newer offerings are not better than the old

Well said, I'm on the same track here.

Nevertheless it's quite interesting finding this to be the choice for today's students - if not for anything, consider how unknown the old systems are - or at least I thought so.

Re: Need help with HP82164A HP-IL/RS232 Interface

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 2 Nov 2009, 4:50 a.m.,*
in response to message #4 by Ángel Martin

Hola, Ángel; ¿que tal?

Quote:

(...)consider how unknown the old systems are (...)

If the old systems are actually unknown at a certain extent (and I agree with that), what can we say about the new ones, with billion times more system and virtual memory than the old ones? Who'd dare explaining, or even understanding, a source code generated by a sub-code from a builder after some newbie (wannabe?) 'explains' the system what he believes he wants the system to do in a dozen lines? The idea scares me!

Cheers.

Luiz (Brazil)

Re: Need help with HP82164A HP-IL/RS232 Interface

*Message #6 Posted by **Egan Ford** on 2 Nov 2009, 12:49 p.m.,*
in response to message #3 by Garth Wilson

Quote:

There's a reason some of us keep asking that HP go back to what they used to have. Their newer offerings are **not** better than the old.

You and I are biased having *been there, done that*. I'd like to know *why* a 20-something (assumed) student independently determined that the 71B in 2009 best fit his needs.

> Quote:
>
> My 71 with its modules, extra 160KB of RAM, many LEX files from the user groups, and better manuals is worth far more to me than my 50g.

The 50g AUR is actually quiet good and searchable. The size of the user contributed code for the 50g from hpcalc.org and other sources easily eclipses the 71B. The 50g has modern I/O options. And there is a very good 71B emulator for the 50g.

I am not trying to say the 50g is better or to argue that the 71B is not best for you, but someone making a comparison in 2009 would most likely select the 50g.

> Quote:
>
> AFAIK, there are precisely zero modern handheld options that can act as a lab instrumentation controller.

I know nothing of this space, but I'd wager that the percentage of people that care about such things rounds to zero. Simply because if a larger percentage cared then the market would (should) meet demand.

Re: Need help with HP82164A HP-IL/RS232 Interface

*Message #7 Posted by **Garth Wilson** on 2 Nov 2009, 9:04 p.m.,*
in response to message #6 by Egan Ford

> Quote:
>
> > Quote:
> >
> > AFAIK, there are precisely zero modern handheld options that can act as a lab instrumentation controller.
>
> I know nothing of this space, but I'd wager that the percentage of people that care about such things rounds to zero.

So I've sensed, at least from this forum; but it makes me wonder why anyone would want a ton of speed and memory if they can't get a ton of data into it quickly to operate on, by reading it over an interface from instrumentation, and can't do anything useful with the voluminous results except maybe view a little of it in a small built-in screen. So what gives?

Edited: 2 Nov 2009, 9:04 p.m.

Re: Need help with HP82164A HP-IL/RS232 Interface

*Message #8 Posted by **Ilyas B.** on 2 Nov 2009, 3:49 p.m.,*
in response to message #2 by Egan Ford

Hi Egan! Thank you for your answer. In our university forbidden use of modern graphical calculators on exams. Only non-graphical. We've a lot of matrix and others calculations. I wrote many programs in basic what help me very much. Usually I use Sharp PC-E500, but it has a graphical display and can't be used in exam. The HP-71B looks a great machine but save/load is much complicated. Regarding to EMU71, I tried

it and it not working. Don't know why. Could you advice another terminal program?

With respect,

ILYAS

Re: Need help with HP82164A HP-IL/RS232 Interface

*Message #9 Posted by **Egan Ford** on 2 Nov 2009, 4:01 p.m.,*
in response to message #8 by Ilyas B.

> Quote:
>
> Hi Egan! Thank you for your answer. In our university forbidden use of modern graphical calculators on exams. Only non-graphical. We've a lot of matrix and others calculations.

Too bad the 42S was not still around. It'd be perfect.

> Quote:
>
> I wrote many programs in basic what help me very much. Usually I use Sharp PC-E500, but it has a graphical display and can't be used in exam.

Wow! Another oldie.

> Quote:
>
> The HP-71B looks a great machine but save/load is much complicated. Regarding to EMU71, I tried it and it not working. Don't know why.

What OS are you running? What problem did you have with EMU71? Were you able to use EMU71 and run your programs? Was file xfer the only problem?

> Quote:
>
> Could you advice another terminal program?

I have used Hyperterminal. But I had to write a small program to capture the text.

If I have time this evening I'll build a custom cable and give it a go.

Re: Need help with HP82164A HP-IL/RS232 Interface

*Message #10 Posted by **Garth Wilson** on 2 Nov 2009, 6:15 p.m.,*
in response to message #8 by Ilyas B.

> Quote:
>
> We have a lot of matrix and others calculations. I wrote many programs in basic what help me very much.

Do you have the math ROM for the 71? It has all the matrix operations in assembly language so it's much, much faster than anything you'll write in BASIC.

The 71's display can do graphics but only 8 dots tall. I wrote Forth utilities for it to display two lines of 33 or 44 tiny characters per line. The graphics capabilities of modern calculators are of almost no value to me though.

Re: Need help with HP82164A HP-IL/RS232 Interface

*Message #11 Posted by **Egan Ford** on 3 Nov 2009, 11:54 a.m.,*
in response to message #8 by Ilyas B.

> Quote:
>
> Could you advice another terminal program?

I did not have a lot of time, but this worked for me.

Create the following programs:

T2S:

```
10 REMOTE @ OUTPUT :HP82164A ;"LI5;C0" @ LOCAL
20 ON ERROR GOTO 120
30 DESTROY ALL
40 DIM A$[100]
50 INPUT "FILENAME:";F$
60 TRANSFORM F$ INTO TEXT TMPFILE
70 ASSIGN #1 TO TMPFILE
80 READ #1;A$
90 DISP A$
100 OUTPUT :HP82164A ;A$
110 GOTO 80
120 OUTPUT :HP82164A ;"EOF"
130 PURGE TMPFILE
140 END
```

S2T:

```
10 REMOTE @ OUTPUT :HP82164A ;"LI5;C0;SL2" @ LOCAL
20 DESTROY ALL
30 DIM A$[100]
40 INPUT "FILENAME:";F$
50 PURGE F$
60 CREATE TEXT F$
70 ASSIGN #1 TO F$
80 ENTER :HP82164A ;A$
90 IF A$="EOF" THEN CLEAR :HP82164A @ GOTO 130
100 DISP A$
110 PRINT #1;A$
120 GOTO 80
130 ASSIGN #1 TO * @ TRANSFORM F$ INTO BASIC
140 END
```

Connect the 82164 to your PC with a standard null modem cable, do not use the custom cable (did not work for me).

Launch Hyperterminal, setup with 9600 BPS, 8N1, Hardware Flow, and terminate lines with LF (Hint: Properties/Settings/ASCII Setup/Send line ends with line feeds).

To backup a BASIC program run T2S, from HT just cut and paste the output into notepad.

To restore a BASIC program run S2T, from notepad cut and pasted into HT. NOTE: Your input must end with the line EOF<cr>. If not, just type EOF<cr> in HT.

There is a minor issue I did not have time to resolve, so after each transfer power off your 71B, press

reset on the 82164, power 71B back on.

Good luck.

P.S. Sell your 82164 and get a PIL-Box (USB to HP-IL). It will be easier.

Edited: 3 Nov 2009, 12:01 p.m.

Re: Need help with HP82164A HP-IL/RS232 Interface

*Message #12 Posted by **Ilyas.B.** on 13 Nov 2009, 2:28 a.m.,*
in response to message #11 by Egan Ford

Thank you for your great proffessional support! King regards, Ilyas

---

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DeSoldering SMD Components easily!!! - Chipquik

*Message #1 Posted by **Thomas Chrapkiewicz** on 31 Oct 2009, 10:49 p.m.*

I have not yet tried this stuff, but the videos show it makes removing even 4-sided SMD components very easy!!!

It's a low temperature - high heat retentivity solder that stays liquified while you can heat up all four sides of smd component to then slide it off!!!

http://www.chipquikinc.com/index.htm

R, TomC

Re: DeSoldering SMD Components easily!!! - Chipquik

*Message #2 Posted by **DavidShenk** on 1 Nov 2009, 1:14 a.m.,*
in response to message #1 by Thomas Chrapkiewicz

I think that stuff would be a "must have" if you need to save the components you remove. So far, I've only been upgrading the 42s so it is cheaper for me to just bend up one pin at a time to remove it. I'm just tossing the 8K chip I take out anyway.

Dave

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HP-15c/12c for google android?

*Message #1 Posted by **palmheads** on 31 Oct 2009, 7:43 p.m.*

With the various iphone emulators for the classic Voyager calcs like the 12c & 15c, does anyone know if a google android port is being done by anyone?

It could be an opportunity, as the Android Market (which is becoming huge) only has a few RPN calcs, including an excellent HP48 (Droid48) based upon the linux port x48.

With the google android touch screen, would make a perfect platform for more hp calcs like the 15c!

cheers Daryn

Re: HP-15c/12c for google android?

*Message #2 Posted by **Bruce Bergman** on 1 Nov 2009, 1:25 a.m.,*
in response to message #1 by palmheads

Coming. Stand by.

Re: HP-15c/12c for google android?

*Message #3 Posted by **palmheads** on 1 Nov 2009, 3:53 p.m.,*
in response to message #2 by Bruce Bergman

> Quote:
>
> Coming. Stand by.

That sounds promising!!!

Was forced to drag out my old Palm Tungsten T3 the other day, which has Free42, Power48 & KK-12c on it.

cheers Daryn

Re: HP-15c/12c for google android?

*Message #4 Posted by **Pal G.** on 1 Nov 2009, 9:38 p.m.,*
in response to message #1 by palmheads

I could not figure out where or how to download "droid48". (And I'm not exactly new to these internets toobs). Can anyone give me a direct link to a binary/package/zip??

Great to also read in this thread another version is coming soon. Hopefully in full 854x480 glory (motorola droid).

Edit: I did check the Android Market. I browsed each category ("featured", "top paid", "top free") and used the search function, but nada...

Edited: 1 Nov 2009, 9:42 p.m.

Re: HP-15c/12c for google android?

*Message #5 Posted by **palmheads** on 1 Nov 2009, 10:10 p.m.,*
in response to message #4 by Pal G.

> Quote:
>
> I could not figure out where or how to download "droid48". (And I'm not exactly new to these internets toobs). Can anyone give me a direct link to a binary/package/zip??
>
> Great to also read in this thread another version is coming soon. Hopefully in full 854x480 glory (motorola droid).
>
> Edit: I did check the Android Market. I browsed each category ("featured", "top paid", "top free") and used the search function, but nada...

I think its actually called "Droid48".

I actually found it by just searching for "rpn" in the Android Market.

cheers Daryn

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OT:Cronus 3-S

*Message #1 Posted by **Saile (Brazil)** on 31 Oct 2009, 3:26 p.m.*

Does exist other models?
A site that I can obtain more information?
Was this the only chronometer model using LED?
Would I like to have more models in my collection anybody could help?

Thank's

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My Collection has Reached the Century Mark

*Message #1 Posted by **Michael de Estrada** on 31 Oct 2009, 2:52 p.m.*

My calculator collection has reached the century mark, and it has done so in a very special way. First, the calculator is not a Hewlett-Packard, however, it uses RPN. The manufacturer is the company "fate" in Argentina, and the calculator is a microcifra 10, based on the same National Semiconductor ROM used in the Novus 4510. Details can be seen on Dennis Belillo's site:

microcifra 10

But this is not just the story of an unusual calculator marking a significant milestone in my collection, but also the special way I came to acquire it. Most of the calculators in my collection that I have acquired recently were obtained via TAS, often from sellers that were totally ignorant and unappreciative of these unique machines, and just looking to make a quick buck. I found this calculator on the Argentinian online site "mercado libre", which translates to "free market", and is similar to TAS. Since I am fluent in Spanish, I set up a user account on mercado libre, and found the microcifra 10, however, the seller would not ship outside Argentina (most of them won't). At this point Juan Demin, who is a member of this forum and lives in Argentina, offered to visit the seller, examine the calculator, send multiple photos, purchase it, bring it with him on a business trip to the USA, and then mail it to me. At no point was there any mention of money, although I hope he allows me to thank him in some material way for this. To me that makes this whole experience totally memorable and special. So, I'd like to publically thank Juan Demin and all the other fine human beings on this forum who have helped me and others in this and many other ways. Were it not for Dennis Belillo, I would remain totally ignorant of the existence of non-HP RPN calculators. Were it not for Luis Vieira, Randy et al, I would not know how to repair a Spice. The list goes on endlessly. People showing kindness and consideration to others without any consideration of monetary profit. Life is good.

Edited: 31 Oct 2009, 6:46 p.m. after one or more responses were posted

Re: My Collection has Reached the Century Mark

*Message #2 Posted by **Marcus von Cube, Germany** on 31 Oct 2009, 4:46 p.m.,*
in response to message #1 by Michael de Estrada

Does the machine really have two way keys? Does it depend on whether you press the key on the top or bottom edge? Or did I miss a shift key?

Re: My Collection has Reached the Century Mark

*Message #3 Posted by **Bruce Bergman** on 31 Oct 2009, 6:28 p.m.,*
in response to message #2 by Marcus von Cube, Germany

It's the little blue key. 2nd row down, 2nd key over.

Re: My Collection has Reached the Century Mark

*Message #4 Posted by **Walter B** on 31 Oct 2009, 10:49 p.m.,*
in response to message #3 by Bruce Bergman

What does the "V" key? 2nd key in top row ...

TIA for enlightenment

Re: My Collection has Reached the Century Mark

*Message #5 Posted by **Michael de Estrada** on 31 Oct 2009, 11:51 p.m.,*
in response to message #4 by Walter B

"V" stands for the Spanish word "Visor", which literally means viewer, but actually means display. The calculator has a power saving feature, which activates after 25 seconds of inactivity, and replaces the contents of the display with periods that consume less power. In order to turn the display back on without disturbing its contents the "V" button is pressed. If any other button is pressed, then that function will be performed, and the previous contents of the X register shown in the display will be modified.

Re: My Collection has Reached the Century Mark

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 31 Oct 2009, 5:22 p.m.,*
in response to message #1 by Michael de Estrada

Hi, Michael;

thank you very much for your kind words and, why not to say, your pleasant experience here.

> Quote:
>
> People showing kindness and consideration to others without any consideration of monetary profit. Life is good.

Believe you me, I know some people who do not believe this. Some guys can only measure what you do for the money you ask or are paid for. I prefer believing people.

A few days ago I bought this babe at 'Mercado Livre' (Brazilian version of Argentinian´s 'Mercado Libre'):

The seller mentioned that it is not working and I do not have it in hands yet, but I'm already searching for information. I know at least one of the MoHPC contributors has one of these, I'm just waiting for it to get here to inspect it and go ahead with the 'restoration' process.

Cheers and congratulations for your nice new 'fella'.

Luiz (Brazil)

Re: My Collection has Reached the Century Mark

*Message #7 Posted by **Katie Wasserman** on 31 Oct 2009, 5:41 p.m.,*
in response to message #6 by Vieira, Luiz C. (Brazil)

Hi Luiz,

This is pretty clearly a re-branded Commodore N60, I had no idea that Commodore did that with this machine. Here's the manual if you need it.

-Katie

Re: My Collection has Reached the Century Mark

*Message #8 Posted by **Vieira, Luiz C. (Brazil)** on 31 Oct 2009, 6:01 p.m.,*
in response to message #7 by Katie Wasserman

Hello, Katie;

thank you very much! I almost wrote your name as the possible owner (I suspected so), but I was afraid of relating it wrongly.

Thanks again. As soon as it get to my hands I'll post again with either good or bad news...

Cheers.

Luiz (Brazil)

Re: My Collection has Reached the Century Mark

*Message #9 Posted by **Thomas Radtke** on 31 Oct 2009, 7:28 p.m.,*
in response to message #6 by Vieira, Luiz C. (Brazil)

> Quote:
>
> The seller mentioned that it is not working [...]

I brought two different C= calculators back to life. Both just had bad capacitors. If yours isn't working, I'd try to replace them first.

Good luck!

Re: My Collection has Reached the Century Mark

*Message #10 Posted by **Vieira, Luiz C. (Brazil)** on 31 Oct 2009, 7:39 p.m.,*
in response to message #9 by Thomas Radtke

Hi, Thomas;

thanks for the tip 'in advance', I appreciate that. I'd guess they are electrolytic capacitors, right? Would that be easy to identify them (value, working voltage, polarity, etc.), if so? About the display, would it be cold-cathode?

Thanks again.

Luiz (Brazil)

Re: My Collection has Reached the Century Mark

*Message #11 Posted by **Thomas Radtke** on 1 Nov 2009, 5:01 a.m.,*
in response to message #10 by Vieira, Luiz C. (Brazil)

> Quote:
>
> I'd guess they are electrolytic capacitors, right?

Exactly.

> Quote:
>
> Would that be easy to identify them (value, working voltage, polarity, etc.), if so?

Very likely.

> Quote:
>
> About the display, would it be cold-cathode?

AFAIK no, it's an ordinary vfd.

Re: My Collection has Reached the Century Mark

*Message #12 Posted by **Paul Dale** on 31 Oct 2009, 8:07 p.m.,*
in response to message #1 by Michael de Estrada

That is about as close to the scientific four-banger tossed around here a while back as I've ever seen and probably will ever see.

Lovely little machine,

- Pauli

Re: My Collection has Reached the Century Mark

*Message #13 Posted by **Andrés C. Rodríguez (Argentina)** on 1 Nov 2009, 7:14 p.m.,*
in response to message #1 by Michael de Estrada

Only to add that the "Fate" company is a local maufacturer of vehicle tires. The name is an acronym for "Fabrica Argentina de Telas Engomadas", which translates to "Argentine Manufacturing Company for Rubberized Fabrics". It was a local startup in the post-WW II era, and is still one of the major tire manufacturers here.

So, what has this to do with calculators? Well, around 1973, Fate started an "electronics division", targeting digital electronics products. The most important was the "CIFRA" computer, programmed in the "CIFRAL" language, and a calculator line. It sported some desktop printing machines (the kind which prints on a paper strip by means of a rotating cylinder and two-colored inked ribbon), the "minicifra", which was a smaller, LED-display based desktop model, and the "microcifra", which were the pocketable models already discussed here.

It's interesting to note that some of the electronics engineers who worked on these projects, later started many electronics iniciatives here. One of them became Secretary of Industry around the mid-1980 period, and promoted electronics manufacturing, albeit with a strong supervision of the national state; a plan that was not successful (in my personal opinion; I may be wrong, and I mean no offense for people with different views).

Other engineers from the Cifra project started their own companies; I had been in contact with some of them and, strangely enough, I bought an HP 91/92/97 carrying case from them around 1984, and also received from them my HP 41 Wand by the same time.

About the Cifra brand, I think some other company bought the rights to the brand and nowadays you can find

Cifra products in Buenos Aires, but with no local design nor content; most are just products from China, just rebadged as Cifra.

About selling overseas from here: while I don't know particular cases, in general it's very difficult and expensive, due to customs paperwork, money transfer issues, etc.. Some fear of goods never arriving to the intended destination may also be part of it.

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Early HP-80 number keys and front label

*Message #1 Posted by **SteveC** on 31 Oct 2009, 10:30 a.m.*

I recently acquired an early HP-80 that has a raised nipple on the 5-key. The legends on the lower four rows of keys are also less bold than those on later models. The front HP label does not contain the '80' designation.

Does anyone know when the raised nipple and less-bold keys were discontinued? Also, when was the '80' designation added to the front label?

Thx for any info or leads.

Steve

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Repainting silver trim on a 35?

*Message #1 Posted by **tim m.** on 30 Oct 2009, 8:24 p.m.*

Hello all. I just bought an HP-35 from the original owner, complete with a horde of documentation. The only real sign of wear on the calc is some missing silver trim near the power switch. I was thinking of touching it up with some paint, but am not sure where to get something with enough of a metallic reflective sheen. Has anyone looked into this before?

Thanks,

Tim

Re: Repainting silver trim on a 35?

*Message #2 Posted by **Dan W** on 31 Oct 2009, 12:50 a.m.,*
in response to message #1 by tim m.

Here's a good discussion on it:

link to HP forum thread

Re: Repainting silver trim on a 35?

*Message #3 Posted by **tim m.** on 31 Oct 2009, 2:38 p.m.,*
in response to message #2 by Dan W

Thanks for that; I should've used the search function to uncover that link. However, it seems that none of the brush-on or spray silver paints exactly replicate what was used on the originals.

-Tim

Re: Repainting silver trim on a 35?

*Message #4 Posted by **Geoff quickfall** on 31 Oct 2009, 2:43 p.m.,*
in response to message #3 by tim m.

Hello Tim,

Unfortunately, unless you vacuum plate them as originally done at the HP facilities you can't get that extremely shiny metal look.

The process is the same as used on car dashes.

People here have experimented with:

```
1  spray paint.
2  brushed paint.
3  silver gilt which requires sizing first.
4  1 and 2 with a coating of gloss clear coat (for plastic).
```

Cheers, Geoff

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Cases for 38E/C

*Message #1 Posted by **Peabody** on 30 Oct 2009, 12:31 p.m.*

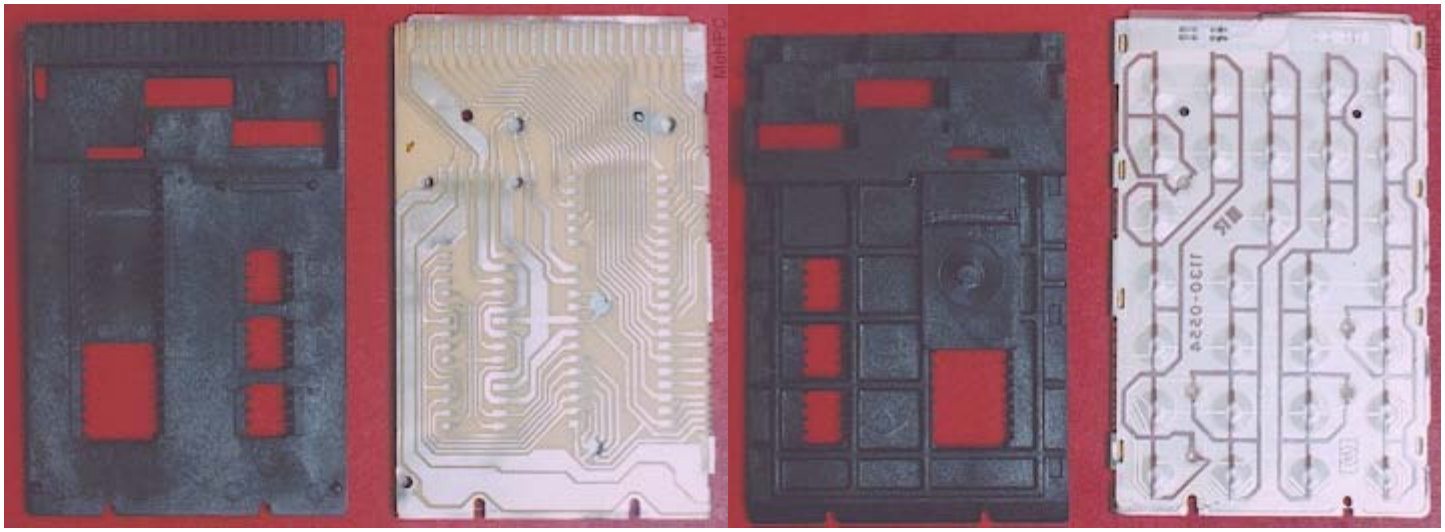
At some point I'm probably going to want to replace the case of my 38C - three of the six latch posts that hold the innards to the top case are broken. My 38C is one of the later versions where the ICs are soldered in. Did the case change when HP went to this new design, or could I use any 38C case (or even any 38E case) as a replacement?

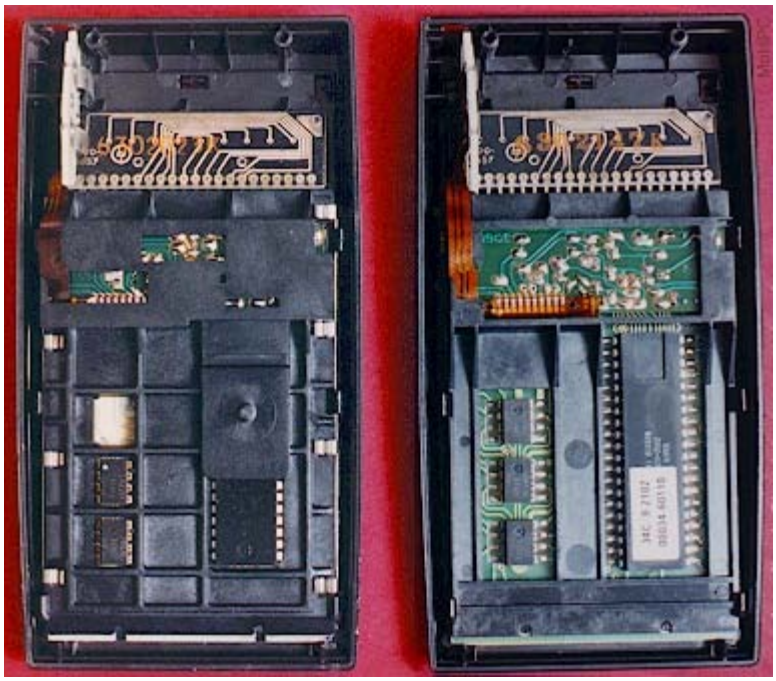
Re: Cases for 38E/C

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 30 Oct 2009, 12:55 p.m.,*
in response to message #1 by Peabody

Hi;

please, have a first look at this article and its pictures:





As you can see, there are two different cases because there are two different assemblies. One of them you already know, ant the other one is a solderless version: the IC´s, LED assembly and power supply unit are connected to each other through a flex circuit. As explained in the article above, their contacts are pressed with the flex circuit contacts through a metal plate locked by two clips in both left and right sides. This type of assembly is thicker than the one you have hence the posts being a bit taller. Their internals do not fit in each other cases.

I repaired an HP38E with two broken posts. First I used an acrylic solvent (must see the chemical composition) to set it in place. After fixed (one day drying out) I placed some acrylic in the outer part of the post, and that fixed it in place (one extra day for drying out). I'll add pics later, OK?

Success!

Luiz (Brazil)

Edited: 30 Oct 2009, 6:52 p.m. after one or more responses were posted

Re: Cases for 38E/C

*Message #3 Posted by **Peabody** on 30 Oct 2009, 4:49 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Thanks very much, Luiz. Well that means I would have to find another soldered-version 38C to replace the case. Can I use the serial number to make that distinction?

I can't use your glue method bacause I don't have the broken pieces. They must have been broken long ago, and weren't there when I opened the case.

If the serial number won't tell me which model it is, is there a measurement I can make that would tell me without having to open the case? Thickness perhaps? When my calculator is resting on the desk, it is 1.25 inches (31.5 mm) tall at the highest point. Are the unsoldered versions thicker than that?

Peabody

Re: Cases for 38E/C

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 30 Oct 2009, 6:19 p.m.,*
in response to message #3 by Peabody

Hi;

externally they have no visible (nor measurable, AFAIK) difference. I cannot be sure if the serial numbers would be of any help, because refurbished calculators may have a new interior with the same, previous serial #. The best approaches I can offer you without opening the calculator are:

1 - weight - the solderless version without batteries weight (almost) the same as the soldered version WITH batteries; this is due to the metal plate the solderless version have;
2 - key course - the solderless version use flex circuit for the keyboard, and their keys almost level the keyboard faceplate when pressed (they go deeper inside); the soldered version needs almost half the angle to close their contacts.

Apart of that, the only way is to open the calculator. I have a spare Spice upper case with a very faded keyboard faceplate, but I am not sure if it is from a soldered or a solderless unit, and I also have to find it. I'd gladly send it to you, but you'd have to replace the keyboard faceplate. If I find it I´ll let you know.

Success!

Luiz (Brazil)

Edited: 30 Oct 2009, 6:21 p.m.

Re: Cases for 38E/C

*Message #5 Posted by **Peabody** on 30 Oct 2009, 6:35 p.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

Thanks, but don't go to that trouble at this point. I may have found a dead one locally, and should know about that by next week.

Re: Cases for 38E/C: correction (please, read)

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 30 Oct 2009, 8:23 p.m.,*
in response to message #1 by Peabody

Hi;

I disassembled a solderless HP31E I have because it needs some work in the upper case (a small crack). So I decided to measure the difference between the posts in the upper case of a soldered HP38E that is already opened with the ones in the HP31E. I could not find any difference between them, the posts seem to have the same 'tallness'.

Interesting! I vividly recall building a soldered unit in a solderless case and noticing it was loose. Now I have no reason to keep that memory... What the h@#*!

Well, I apologize not checking it twice as I did now.

Cheers.

Luiz (Brazil)

Edited: 30 Oct 2009, 8:24 p.m.

Spice Ribbons

*Message #7 Posted by **Michael Meyer** on 1 Nov 2009, 9:26 p.m.,*
in response to message #6 by Vieira, Luiz C. (Brazil)

Hi Luiz! I sadly discovered today that several of the Spice's that I restored years ago no longer work. Batteries were fine (replaced with lithium cells). It was the %$#& ribbon cables. I guess that they continue to deteriorate if they have any corrosion on them. I fixed a 34C tonight, I have one 32E to go.

I hadn't though of restoration being an ongoing project!

Re: Spice Ribbons

*Message #8 Posted by **Vieira, Luiz C. (Brazil)** on 2 Nov 2009, 12:49 a.m.,*
in response to message #7 by Michael Meyer

Hi, Doc.;

could I say 'Good news, afterall!? Well, your HP34C is back to life, and this is always good news, right?

I have observed that the HP41 has the same problem, i.e., once the batteries contacts show corrosion, cleaning and/or replacing only the contact tips will not always stop corrosion to go inside the flex circuits. I have two unusable contacts+I/O assembly. If we consider the thickness of the copper tracks and the amount of chemicals that have already been in contact with them plus the atmosphere elements (mainly oxygen), it seems to me an additional neutralizing component is needed after cleaning the leakage so it does not go ahead 'eating' the cooper. I achieved some acceptable results with sodium bicarbonate solution (I hope this is the English term for that). It is normally used to wash recently corroded PCB to neutralize the ferric perchlorate (I also hope this is the correct term...) so the final PCB is not slowly corroded by the remaining perchlorate. BTY, did you use a computer flat cable to restore the HP34C? I have an HP38E waiting for a transplant that will happen today, if time is not against me, and I'll use it. Luckily I'll replace only the three-track part of the ribbon, not the whole flex circuit.

Hope you succeed bringing the HP32E back to life. It is a fine statistics-addressed Spice.

Cheers.

Luiz (Brazil)

Edited: 2 Nov 2009, 12:51 a.m.

Re: Spice Ribbons

*Message #9 Posted by **Charles Oxford** on 2 Nov 2009, 2:16 a.m.,*
in response to message #8 by Vieira, Luiz C. (Brazil)

"bicarbonate solution (I hope this is the English term for that)"

"sodium bicarbonate"

Here in America we call it baking soda. Is readily available in any grocery store and is useful for absorbing odors and neutralizing acids on car batteries, in swimming pools and many more uses including enhancing shampoo so as not to use as much.

Charlie - Phoenix USA

Re: Spice Ribbons

*Message #10 Posted by **Michael Meyer** on 2 Nov 2009, 1:54 p.m.,*
in response to message #8 by Vieira, Luiz C. (Brazil)

Thank you Luiz and Charles! I have repaired these by cutting the ribbon cable and super-gluing the remaining cable down and baring the copper with a grinding wheel. Then just two wires soldered to the remaining cable and then directly to the back of the battery terminals. (I haven't tried to retain rechargeability).

Can sodium bicarbonate solution be applied with a brush to the cable so the whole machine doesn't have to be disassembled when not needed?

The problem I see there is that the cable is "sandwiched" in plastic and the corrosion seems to find its way between the plastic layers....

Re: Spice Ribbons

*Message #11 Posted by **Vieira, Luiz C. (Brazil)** on 2 Nov 2009, 2:26 p.m.,*
in response to message #10 by Michael Meyer

Hi, doc;

> Quote:
>
> (...) the corrosion seems to find its way between the plastic layers...

This is the main problem, as I see. I do not apply the sodium bicarbonate solution directly, I use it (in a 10% volumetric relation with the water, maybe less) to dip the corroded parts in it for a while, then I press them from time to time to allow the solution to reach the deepest possible. After that I wash the parts in current water, dry them out then I apply a thin coat of some micro oil, like WD40 or any other, with a small brush. This is to reduce contact with the atmosphere and to protect a little bit in case of leakage. The micro oil does not cause bad contact when the surfaces are well cleaned and pressed accordingly.

The HP41 demands some extra care because of the rubber foam used to press the battery+I/O assembly contacts. It should not be dipped in the sodium bicarbonate solution.

Success!

Luiz (Brazil)

Edited: 2 Nov 2009, 2:26 p.m.

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a hammer is only a tool

*Message #1 Posted by **Don Shepherd** on 29 Oct 2009, 7:06 p.m.*

Imagine what this guy could do with an HP calculator!

link

Re: a hammer is only a tool

*Message #2 Posted by **Walter B** on 29 Oct 2009, 7:50 p.m.,*
in response to message #1 by Don Shepherd

:-D Great movie! Something for handy men :-)

viral marketing

*Message #3 Posted by **Frank Boehm (Germany)** on 30 Oct 2009, 9:01 a.m.,*
in response to message #1 by Don Shepherd

This is a commercial for german retailer OBI. Very nice idea though :)

Re: viral marketing

*Message #4 Posted by **Gerson W. Barbosa** on 30 Oct 2009, 9:28 a.m.,*
in response to message #3 by Frank Boehm (Germany)

If people don't like TAS they won't like TBAS either (B standing for Brazilian). At least the ad is funny, well it was funny the first time I saw it (it shows up in every History Channel commercial break here...)

http://www.youtube.com/watch?v=kAvoDz3V-N4

Re: viral marketing

*Message #5 Posted by **Marcus von Cube, Germany** on 30 Oct 2009, 12:27 p.m.,*
in response to message #4 by Gerson W. Barbosa

Gerson, I don't understand the message in the video. Can you explain?

Re: viral marketing

*Message #6 Posted by **Gerson W. Barbosa** on 30 Oct 2009, 6:48 p.m.,*
in response to message #5 by Marcus von Cube, Germany

Hello Marcus,

The guy in red shirt is a guest to a Greek party. At first he doesn't understant the breaking of dishes and is loathe to participate in it. Eventually he gets into the spirit of the thing... too deep! After

breaking some dishes and everything that was at hand he is introduced by his host to TBAS, where "you can buy and sell everything". Quite a surreal situation!

Regards,

Gerson.

Re: viral marketing

*Message #7 Posted by **Marcus von Cube, Germany** on 31 Oct 2009, 12:52 p.m.,*
in response to message #6 by Gerson W. Barbosa

Thanks for the clarification. :)

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OT: I wish all companies listened and responded like this!

*Message #1 Posted by **DaveJ** on 29 Oct 2009, 4:48 p.m.*

Sorry for the OT stuff, but I know some here might be interested in this:

I recently reviewed the new Microchip PICkit3 compared to the old PICkit2 and pretty much hammered the people responsible on behalf of those who have found the PICkit3 upgrade rather lacking:
http://www.eevblog.com/2009/10/21/eevblog-39-pickit-3-programmerdebugger-review/

At it turns out, not surprisingly the video made it's way all around the Microchip offices, even to the desk of their CEO. As with any multi billion dollar corporation, I expected either deathly silence or a nasty letter from their lawyers.

But it turns out Microchip really do care about their products and customers, and really do listen, so they seriously took it as constructive criticism.

So not only was my blog well received at Microchip, I got a lengthy call from none other than the Microchip CEO Steve Sanghi, thanking me for the blog and raising the issues. He pointed out a few factual errors which was fair enough, but admitted they could have done the PICkit 3 better and most importantly are working to fix the issues and give customers what they expect.

They have even posted this hillarious video response in record time:
http://www.youtube.com/watch?v=3YUvlrVlNao

I am absolutely blown away by their honesty and responsiveness, and it starts from their CEO down. Two thumbs up to Steve Sanghi and the guys and gals at Microchip!

Goes to show the power of the video blog. I doubt the impact and response would have been the same from a simple text blog.

Dave.

Re: OT: I wish all companies listened and responded like this!

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 29 Oct 2009, 5:47 p.m.,*
in response to message #1 by DaveJ

Hi, Dave;

thanks for sharing these 'good news' with us. You see, less than one week ago I bought a BeeProg+ from a Brazilian distributor. It cost me some bux, but the little thing seemed to be the best local choice, and it came with a 3 year warranty. Based on reviews and technical articles I assumed I made the best choice, though.

I am more a hardware guy and I like to know that many companies still take care of their hardware-addressed products. Thanks for pointing this out.

Cheers.

Luiz (Brazil)

Have just seen the video... LOVED IT, MAN!

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 29 Oct 2009, 6:44 p.m.,*
in response to message #1 by DaveJ

Hi, Dave;

I simply LOVED the d*** h*** reference (PicIt 3) for the project managers against the engineers brilliant design (PicIt 2) with no resources. Believe me, that´s exactly what I tell my students every single day. A few days ago I saw a documentary about Apollo 11 and Gene Krantz mentions that at that time things were done because they could be done. Somehow, managers cut funds to finance whatsoever (wars, mostly) and he (Gene) also mentions that we need more mathematicians, scientists and engineers to create what is needed to support financial management.

Brilliant.

Cheers and congrats.

Luiz (Brazil)

Edited: 29 Oct 2009, 10:30 p.m.

Re: OT: I wish all companies listened and responded like this!

*Message #4 Posted by **Sancerre (Phoenix)** on 29 Oct 2009, 7:53 p.m.,*
in response to message #1 by DaveJ

I am still laughing out loud - thx for sharing. The follow-up video is almost better.

Re: OT: I wish all companies listened and responded like this!

*Message #5 Posted by **Bruce Bergman** on 30 Oct 2009, 1:29 a.m.,*
in response to message #1 by DaveJ

So, awesome for Microchip, and it IS good that they are listening and trying to address customer concerns. I truly appreciate that.

That being said, what did they say the would DO about this? I was one of the folks who bought the Pickit-3, to work with the uWatch, and it has been nothing but problem after problem. I finally just gave up out of frustration a month or two ago. I had been thinking of buying a Pickit-2, but with the $50 already spent on the -3, I wasn't all that keen on paying more.

So, what was their remedy, if any?

thanks! bruce

Re: OT: I wish all companies listened and responded like this!

*Message #6 Posted by **Garth Wilson** on 30 Oct 2009, 7:33 a.m.,*
in response to message #5 by Bruce Bergman

I've used the PIC16's for quite a few products we've brought to market because of the nice set of I/O, on-chip support, low cost, and the fact that they're in stock in so many versions at so many distributors. The

part I hate about the PIC microcontrollers is their decrepit microprocessor core which they apparently got from General Instrument eons ago.

I've used support.microchip.com at various times when there has been a deficiency in the documentation. The problem there is that they tend to glance through your description of your problem and, without making sure they know what they've read, they carelessly shoot out a generic answer that's hardly relevant, and then mark the web ticket "resolved," when it's not. Then when I try to follow it up and show them why it's not, they don't respond and you have to start another web ticket for the same thing and waste more time describing what went on earlier and where we need to pick up now.

Re: OT: I wish all companies listened and responded like this!

*Message #7 Posted by **DaveJ** on 30 Oct 2009, 5:30 p.m.,*
in response to message #6 by Garth Wilson

> Quote:
>
> I've used the PIC16's for quite a few products we've brought to market because of the nice set of I/O, on-chip support, low cost, and the fact that they're in stock in so many versions at so many distributors. The part I hate about the PIC microcontrollers is their decrepit microprocessor core which they apparently got from General Instrument eons ago.

Then why not use the better PIC18 series, or even the PIC24 or PIC32 series?

The processor architecture is really only an issue if you program in assembler where you have to worry about that stuff. If you program in C then you hardly ever see or have to worry about that stuff.

Dave.

Re: OT: I wish all companies listened and responded like this!

*Message #8 Posted by **Eric Smith** on 30 Oct 2009, 6:52 p.m.,*
in response to message #6 by Garth Wilson

It's not "got from". Microchip *IS* GI's semiconductor division, spun off as an independent entity.

Re: OT: I wish all companies listened and responded like this!

*Message #9 Posted by **DaveJ** on 30 Oct 2009, 5:27 p.m.,*
in response to message #5 by Bruce Bergman

> Quote:
>
> So, awesome for Microchip, and it IS good that they are listening and trying to address customer concerns. I truly appreciate that.
>
> That being said, what did they say the would DO about this? I was one of the folks who bought the Pickit-3, to work with the uWatch, and it has been nothing but problem after problem. I finally just gave up out of frustration a month or two ago. I had been thinking of buying a Pickit-2, but with the $50 already spent on the -3, I wasn't all that keen on paying more.
>
> So, what was their remedy, if any?

Their only stated claims are that they will re-release the external programmer software and make it and the firmware open source. Optimise the programming speed of the 16F parts, and look in to the LEDs (they took that very seriously!).

Plus improve the "out of box" experience for the user (i.e. better communication about changes from the PICkit2)

If you had or still have any other problem likes bugs and instability, then I don't know about that, they didn't mention it at all. I guess they'll they fix those things in time as the product matures. Of course you could argue it's been out for 6 months so should be fairly mature by now, or should have been from day 1 if they didn't change everything!

Dave.

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HP42s / HP35s Schematics

*Message #1 Posted by **Thomas Chrapkiewicz** on 29 Oct 2009, 2:13 p.m.*

Has anyone compiled (at least partial) schematics of the HP42s or the HP35s?

Thanks, TomC

Re: HP42s / HP35s Schematics

*Message #2 Posted by **Thomas Chrapkiewicz** on 30 Oct 2009, 11:40 a.m.,*
in response to message #1 by Thomas Chrapkiewicz

I take it (by the lack or response) that these schematics do not exist. I will start on the HP35S.

Is there any interest out there?

TomC

Re: HP42s / HP35s Schematics

*Message #3 Posted by **Geoff Quickfall** on 30 Oct 2009, 12:39 p.m.,*
in response to message #2 by Thomas Chrapkiewicz

I think that they are not readily available, however, that master of retro-engineering, Tony Duell might have created the circuit diagrams as well as analyzed the logic of the system.

He has done this on many machines that lack any available original diagrams.

Try emailing Tony directly.

Cheers, Geoff

You will find his address here:

hacker in residence

Edited: 30 Oct 2009, 12:40 p.m.

Re: HP42s / HP35s Schematics

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 30 Oct 2009, 12:42 p.m.,*
in response to message #2 by Thomas Chrapkiewicz

Hi, Tom;

It is not a lack of interest, I´d guess it is more a lack of possibilities. I opening at least ten HP42S and saw some pictures of opened HP35S´, like this one (by Lyuka). The HP42S has both a controller and a RAM plus a few SMD components, and also provides room for another SMD chip (RAM/ROM?) right? Because

of the type of chip it uses, the HP42S is, somehow, 'serviceable'.

The HP35S has some more SMD´s and two chips under resin bubble (not directly identifiable) plus any LCD controller, if any, as we can see. I remember that the HP42S layout was easier to figure out by inspecting, but the HP35S seems to be somehow harder. Because the HP35S has not been what we could call a successful product (at least amongst us here), I see no reason to hack it and try something more than what it already has. On the other hand, the HP42S could only offer a way to add an I/O port, but some guys have been trying to do that for some time. It does not mean some more research is not desired... 8^)

I would go for the hP42S schematics, if I may. And if there is anything I can do for helping you, just let me know.

Cheers and thanks.

Luiz (Brazil)

Re: HP42s / HP35s Schematics

*Message #5 Posted by **Thomas Chrapkiewicz** on 30 Oct 2009, 1:02 p.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

Thank you all. I haven't contacted Tony (yet), but to my knowledge (via the 'Schematics Disk') these do not exist. I have opened both and am not (yet!) intimidated.

Thanks for your interest. I hope this rises on my priority list.

TomC

Re: HP42s / HP35s Schematics

*Message #6 Posted by **Diego Diaz** on 31 Oct 2009, 5:24 p.m.,*
in response to message #5 by Thomas Chrapkiewicz

Hi,

I do have the reverse-engineered 42s schematics.

I'm currently out, and not sure if the drawing is in one of the CD's/Flash cards I carry with me...

It'll take a while to check out, but will mail back either case.

Cheers from the Caribbean Sea.

Diego.

Re: HP42s / HP35s Schematics

*Message #7 Posted by **Thomas Chrapkiewicz** on 31 Oct 2009, 6:19 p.m.,*
in response to message #6 by Diego Diaz

Thank you Diego:

Looking forward to it!

Regards, TomC

Re: HP42s / HP35s Schematics

*Message #8 Posted by **Diego Diaz** on 4 Nov 2009, 2:50 p.m.,*
in response to message #7 by Thomas Chrapkiewicz

Hi there,

Regrettably I have not a copy of the 42S schematics with me. However, if you're not in a big rush, I'll mail you the file as I get back home about Xmas.

Sorry for the bad news.

Regards from Dominican Republic.

Diego.

Re: HP42s / HP35s Schematics

*Message #9 Posted by **Randy** on 4 Nov 2009, 6:00 p.m.,*
in response to message #8 by Diego Diaz

FWIW, there are 42S block diagrams in the patent application. They can be found on Eric's site. It doesn't take much to go from there to actual schematic. Once you have one, I really have no idea what you'd do with it... Let's see. One processor, one static ram, a voltage doubler, an IR LED, a capacitor and and LCD. Yep, that's a 42S.

I detailed the keyboard years ago...

Re: HP42s / HP35s Schematics

*Message #10 Posted by **Mike Morrow** on 4 Nov 2009, 7:14 p.m.,*
in response to message #9 by Randy

That would be a very interesting patent to read, but the patent page at Eric's site seems to have no entries for the HP42S. There's lots of HP32S (not 32SII) entries.

Edited: 4 Nov 2009, 7:17 p.m.

Re: HP42s / HP35s Schematics

*Message #11 Posted by **Charles Oxford** on 4 Nov 2009, 9:05 p.m.,*
in response to message #10 by Mike Morrow

Some of the patent docs appear useful to those who like to take calcs apart or to fix.

Re: HP42s / HP35s Schematics

*Message #12 Posted by **Randy** on 5 Nov 2009, 7:29 a.m.,*
in response to message #10 by Mike Morrow

The one I had in mind had no model listed. It applies to the original Pioneer keyboard design and the block diagram is of the 42S/17B format hardware.

http://www.brouhaha.com/~eric/hpcalc/patents/5065356.pdf

Re: HP42s / HP35s Schematics

*Message #13 Posted by **Mike Morrow** on 5 Nov 2009, 8:17 a.m.,*
in response to message #12 by Randy

Thanks, Randy! I just printed it out after seeing your citation.

I'm going to start looking through all the patents. Eric has assembled an impressive collection (Thanks, Eric).

Re: HP42s / HP35s Schematics

*Message #14 Posted by **Diego Diaz** on 7 Nov 2009, 12:14 p.m.,*
in response to message #13 by Mike Morrow

Hi all,

I've checked the patent .PDF and seems to have mayor differences with the actual schematic.

I'm speaking from my mind, but I do not remember any DATA line connected to the keyboard matrix and there are no resistors either.

On the other hand, Randy's diagram and description of the keyboard is (as usual) impecable. :-)

One of the relevant points regarding the 42 ans 17 schematic is that the extra ROM Data and Address wirings are not "alligned" with the ones on the RAM chip. So you can find, for example, that D1 in the RAM is connected to D2 in the ROM...

This is of the main importance if you're planning to write some Saturn code to place in such extra ROM.

I built the 42S-MLDL box in such way that the addresses and data are conveniently arranged to overcome that "disorder".

If there is a general interest in these issues I'll place the documents and pictures in a dedicated page at www.clonix41.org as I get back home.

Best wishes.

Diego.

Re: HP42s / HP35s Schematics

*Message #15 Posted by **Eric Smith** on 8 Nov 2009, 2:36 a.m.,*
in response to message #14 by Diego Diaz

Information in patents doesn't necessarily match the details of any given product. The "preferred embodiment" in a patent is a description of how the inventor (or patent attorney) thought the invention could best be recognized at the time the patent application was written.

The fact that some of the patents match actual products exactly, or

nearly exactly, might lead one to expect that, but it is the exception, not the rule.

The wiring of the data and address busses of static RAM chips are arbitrary. Unlike a masked ROM, there is no functional difference between any two data pins of a SRAM chip, or between any two address pins. This is true to a lesser extent of dynamic RAM as well. It is typically not true of flash memory due to the protocol used to control writing to the chip.

Edited: 8 Nov 2009, 2:39 a.m.

HP-42S partial schematic

*Message #16 Posted by **Lyuka** on 9 Nov 2009, 9:26 a.m.,*
in response to message #1 by Thomas Chrapkiewicz

Hi, there.

I drew an 'HP 42S partial schematic' just now. The original schematics have drawn previously while making some modification to my 42S.

HP 42S partial schematic

Note that some connectors are ignored and connections to the LCD are omitted. Though this is incomplete, I hope this helps you.

have fun!

Lyuka

P.S.
When you found a typo or an incorrect part in it, please inform me.

Re: HP-42S partial schematic

*Message #17 Posted by **Thomas Chrapkiewicz** on 9 Nov 2009, 9:15 p.m.,*
in response to message #16 by Lyuka

Hello Lyuka:

That is most helpful!

As I am considering interfacing to the keyboard, the information on your schematic is most useful to me.

However, as I recall, this circuit relies on specific resistance(s) between the column and row circuits.

Have you by any chance measured the resistance for each key in the keyboard?

Thank you, TomC

Re: HP-42S partial schematic

*Message #18 Posted by **Lyuka** on 9 Nov 2009, 11:35 p.m.,*
in response to message #17 by Thomas Chrapkiewicz

Hello TomC

The contact resistance of the key matrix had been measured to be 10k~12kOhm(11kOhm typ., Ta=25C)

Regards, Lyuka

Re: HP-42S partial schematic

*Message #19 Posted by **Diego Diaz** on 10 Nov 2009, 12:02 a.m.,*
in response to message #16 by Lyuka

Hi Lyuka, all...

Excelent job! (to say the least) :-)

One thing that calls my attention was the numbering order of the Saturn CPU pins. After looking at your pictures I realized that the plastic protective frame aroud it has a number "1" stamped in the location you choose to start numbering.

However a closer look to the PCB denotes the "PIN 1" indicator dot just in the corner between VSS and VDD (probably not visible in the pictures but I remember that since I removed said protective frame in the unit I took the schematic from... ;-)

Also some of the not-connected pins are tied together on the PCB... certainly this is irrelevant for technical use; just for the sake of accuracy.

Again my congrats for a nice and clean work.

Regarding the question on the keyboard contact resistance. This is just a design characteristic of the keyboard construction itself and not a functional requirement.

The Pioneer's KB is made of carbon traces, this causes some resistance to be present when a key is pressed; but a clean contact (0 Ohms) is also perfect for operation.

One of the most annoying troubles with heavily used Pionners is the referred CPU lock-up due to carbon dust between frequently used key contacts. Dissasembling, cleaning and reassembling the keyboard is, though possible, not trivial.

Hope this helps.

Best from the middle of the Atlantic Ocean.

Diego.

Re: HP-42S partial schematic

*Message #20 Posted by **Walter B** on 10 Nov 2009, 12:55 a.m.,*
in response to message #19 by Diego Diaz

Bom dia Diego!

Voçês moram em os Açores? Debe ser uma locação muito linda.

Com os melhores cumprimentos,

Walter

(Recommendation to our monolingual readers: try to learn a 2nd language ;) It's fun :)

Re: HP-42S partial schematic

*Message #21 Posted by **Diego Diaz** on 10 Nov 2009, 5:18 p.m.,*
in response to message #20 by Walter B

Hi Walter,

Currently I'm in the "other side" of the Atlantic Ocean, in the Dominican Republic. I spent roughly half of my time here and the other half in the Canary Islands... (again in the middle of the ocean... ;-)

Yo no hablo portugués, pero se parece lo suficiente al Español para poder entenderlo o leerlo fácilmente.

(I don't speak Portuguese myself, but its close enough to Spanish as to understand or read it easily)

Cheers.

Edited: 10 Nov 2009, 5:21 p.m.

Re: HP-42S partial schematic

*Message #22 Posted by **Lyuka** on 10 Nov 2009, 1:12 a.m.,*
in response to message #19 by Diego Diaz

Hi Diago

IMHO the small dot mark on the PCB might be the orientation indicator for the automated parts mounter. Each parts which have polarity such as diode or solid tantalum capacitor, or specific pin allocation such as RAM, also have the dot mark nearby.

Regarding the key contact resistance, it should be not less than several Kilo Ohm, to avoid signal conflict, since each signal have multiple purpose such as address line to the RAM. Take a look on the patents page at Eric's site.

On the other hand, the contact resistance of the [ON] key-switch need to be less than several kilo Ohm by my experiment. The PWR-ON input of the processor seems to have some pull-down or require some power, and have threshold to activate the processor.

Regards, Lyuka

Re: HP-42S partial schematic

*Message #23 Posted by **Bart (UK)** on 10 Nov 2009, 5:07 a.m.,*
in response to message #19 by Diego Diaz

> Quote:
>
> Also some of the not-connected pins are tied together on the PCB... certainly this is irrelevant for technical use; just for the sake of accuracy.

Good design practice. Many a design has produced errors in high EMC environments due to pins left unconnected or floating ... even if the IC datasheet names them as N/C (no internal connection).

HP-42S/27S partial schematic

*Message #24 Posted by **Lyuka** on 14 Nov 2009, 10:01 a.m.,*
in response to message #16 by Lyuka

The schematic was updated. It was found that the PCB of HP-27S and HP-17BII are almost identical to that of HP-42S.

Left:HP-17BII(original), Center:HP-27S(original), Right:HP-42S(modified)

Regards, Lyuka

Edited: 14 Nov 2009, 11:17 a.m.

Re: HP-42S/27S partial schematic

*Message #25 Posted by **Thomas Chrapkiewicz** on 14 Nov 2009, 12:32 p.m.,*
in response to message #24 by Lyuka

Lyuka:

Thank you for your fine work! It is most helpful.

What I am considering is bringing out the row and column signals to the outside world to implement program input to the 42s.

The empty socket pcb pattern makes a tempting access to the address lines to bring the keyboard signals to the outside. I do notice though, that K14(R0) does not seem to be connected to this socket pattern.

I wonder if anyone has tried anything like this before. (?)

TomC

Re: HP-42S/27S partial schematic

*Message #26 Posted by **Randy** on 14 Nov 2009, 12:54 p.m.,*
in response to message #25 by Thomas Chrapkiewicz

> Quote:
>
> I wonder if anyone has tried anything like this before(?)

The 42S Input Project

Search archive 6 for more threads on the subject, the one above was the starting point.

Edited: 14 Nov 2009, 12:55 p.m.

Re: HP-42S/27S partial schematic

*Message #27 Posted by **Katie Wasserman** on 15 Nov 2009, 1:08 a.m.,*

in response to message #26 by Randy

On a realted note.....

I did this project a few months ago. A USB interface would be simple to add and it would work on any Classic or Woodstock calculator.

-Katie

Re: HP-42S/27S partial schematic

*Message #28 Posted by **Lyuka** on 14 Nov 2009, 2:52 p.m.,*
in response to message #25 by Thomas Chrapkiewicz

Hi, TomC

> Quote:
>
> K14(R0) does not seem to be connected to this socket pattern.

However, there is a via hole near the processor.

Please notice that the wiring for the key switch are used as the address bus lines of the memory as well.
Additional wiring to the bus might cause some harm such as increased possibility of data error, or decreased EMI tolerance. Take care.

Cheers,
Lyuka

Re: HP-42S/27S partial schematic

*Message #29 Posted by **Thomas Chrapkiewicz** on 14 Nov 2009, 9:04 p.m.,*
in response to message #28 by Lyuka

Lyuka / Randy:

Thank you for your responses. I've followed all of the threads (I could find), and it appears that some were close to this, but did not ever complete it. I'm not yet totally confident that I can complete it either!

I am aware of the sensitivity of these lines; certainly keeping the switching matrix within the calculator package would be ideal.

R, TomC

Re: HP-42S/27S partial schematic

*Message #30 Posted by **Lyuka** on 15 Nov 2009, 12:20 a.m.,*
in response to message #29 by Thomas Chrapkiewicz

TomC

Then, if you really want to switch the key-switch matrix electrically, how about using two 8:1 analog multiplexers such as

ADG708, MAX4617 or MAX4638 to make cross-point switch matrix?
(A resistor of 10KOhm is needed between its common pin to common pin as the contact resistance.)

Regards,
Lyuka

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41 "Second Shift"

*Message #1 Posted by **Ángel Martin** on 29 Oct 2009, 3:14 a.m.*

I've come up with an idea for a "second shift" key on the 41. If you're like me, you rarely use the SIGMA+/- functions, so would appreciate using that key for something else instead (replace it with your most hated key if that's not the case).

Using the partial data entry routines it's relatively simple to make any key a launcher for other functions, as though they were assigned to the keys. Let's call it the RED shift key - blue is obviously taken by the Alpha keyboard). Its response is based on the pressed key codes, and it supports both shifted and unshifted selections (yellow shift).

Using other mainframe routines the behavior is identical to that of the native functions: the function name is read from the rom's FAT table and displayed while the key is depressed, and the NULL message is shown if maintained for the timeout time. A real charm, if you ask me.

On an emulator this scheme is easily completed by coloring the key and changing its face legend. I've got my 41V changed to that effect, and the legend is "Z" - as I use my red shift key to launch all the complex equivalent functions. Note that this only requires ONE key assignment, the function assigned to the RED key will do the selection work. Saves memory, your USER keyboard is free, and it's faster. You need to see it... will be added to the posted 41Z in a few days.

Now the finishing touches. I've been trying to use the "G" annunciator to flag this RED shift key usage. The idea is to have it come up while the key selection sequence is going on, and come off upon completion. Unfortunately so far I haven't managed - it's intimately linked to the RAD / GRAD selection, and it appears to have a life of its own despite my attempts to command its individual action.

In theory one can use WRITDATA with bit 9 set on C(S&X) - see Ken Emery's book - but that doesn't cut it. Not even the service ROM makes use of the "G" annunciator alone - I'm beginning to wonder whether it's possible at all?

Here's the routine I use to toggle its status - not working- , maybe you can spot the faulty bits: (the display is enabled when calling it)

> Quote:
>
> 178 READ 5(M)
> 23C RCR 2
> 3D8 C<>ST
> 30C ?FSET 1
> 01F JC +03
> 308 SETF 1
> 013 JNC +02
> 304 CLRF 1
> 3D8 C<>ST
> 37C RCR 12
> 2F0 WRIT DATA

3E0 RTN

Any ideas please?

Best, ÁM

Edited: 29 Oct 2009, 4:33 a.m.

Re: 41 "Second Shift"

*Message #2 Posted by **Eric Smith** on 29 Oct 2009, 7:40 a.m.,*
in response to message #1 by Ángel Martin

Turning the G annunciator on isn't a problem. There's just no way to prevent the mainframe ROM from updating it as soon as it gets control back. The "message" flag prevents an update of the character data and punctuation, but it doesn't prevent the annunciators from being updated.

Re: 41 "Second Shift"

*Message #3 Posted by **Ángel Martin** on 29 Oct 2009, 8:10 a.m.,*
in response to message #2 by Eric Smith

The mainframe roms make frequent use of the [ANN_14] routine to "refresh" the status of the annunciators, and I suspect that must also happen when the NEXT1 routine yields to go ligh sleep...

Yet routines like DSPTEST manage to light them all up at once, and they aren't overridden by the mainframe. That's the intriguing part, won't you think"?

Well, so be it. The RED shift works regardless of that little cosmetic detail, so it really doesn't matter much.

Edited: 29 Oct 2009, 8:11 a.m.

Re: 41 "Second Shift"

*Message #4 Posted by **Garth Wilson** on 29 Oct 2009, 2:08 p.m.,*
in response to message #3 by Ángel Martin

How about using two different pitches of very short chirp of the beeper to indicate the red shift going on and off. It's not ideal, but might help.

Re: 41 "Second Shift"

*Message #5 Posted by **Ángel Martin** on 30 Oct 2009, 2:29 a.m.,*
in response to message #4 by Garth Wilson

it's an idea, and can be controlled with user flag 26 of course. For visual feedback I use the text "CMP: Z_" on the display, so it's quite clear as well. It gets completed with the function name once the corresponding key is pressed.

For instance, pressing RED_Shift, SIN will display: "CPM: ZSIN"
and pressing RED_Shift, SHIFT, SIN shows "CMP: ZASIN".

Other interesting keystrokes, including hyperbolics, are:

RED_Shift, RED_Shift, TAN -> "CMP: HYP ZTANH"
RED_Shift, RED_Shift, SHIFT, TAN -> "CMP: HYP ZATANH"

RED_Shift, RCL -> "CMP: ZRCL _ _" (yes, prompting and with IND support)

Cheers,

Edited: 30 Oct 2009, 2:33 a.m.

Re: 41 "Second Shift"

*Message #6 Posted by **Garth Wilson** on 30 Oct 2009, 7:40 a.m.,*
in response to message #5 by Ángel Martin

It sounds excellent, since, if you get confused or change your mind and don't remember where you left it in the toggling after pressing RED_shift a few times, it still lets you know when you press the final key and hold it to see what the function will be, possibly long enough to get the "NULL" if it's not what you wanted.

Re: 41 "Second Shift"

*Message #7 Posted by **Eric Smith** on 30 Oct 2009, 7:21 a.m.,*
in response to message #3 by Ángel Martin

I'm not familiar with DSPTEST. Does it yield control back to the mainframe ROMs?

Re: 41 "Second Shift"

*Message #8 Posted by **Ángel Martin** on 30 Oct 2009, 1:36 p.m.,*
in response to message #7 by Eric Smith

No, it doesnt - that's how it achieves the feat, by going light sleep forced with POWOFF - and it also sets the msg flag right before doing so. So you were right, as usual. Many thanks for your insight.

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The perfect HP for the kitchen?!

*Message #1 Posted by **Mark Edmonds** on 28 Oct 2009, 11:09 p.m.*

This might sound like a crazy question but there are plenty of reasons for keeping a calc handy in the kitchen, even better if you have a slightly scruffy spare model that wouldn't be hurt if damaged.

Things that wuold be needed:

Converting units both US and European (I recently came across a need for 2 8oz cups!!! What on earth is an 8oz cup??),

Converting cooking times for different microwave wattages,

Cooking timers,

Cooking notes,

and so on...

There probably isn't a perfect match but if any of you have found yourself taking an HP into the kitchen for something, which did you use?

I was initially thinking of a scruffy 17B I have but then it doesn't do units so any better ideas please?

Thanks,

Mark the amateur chef

Re: The perfect HP for the kitchen?!

*Message #2 Posted by **Chan Tran** on 28 Oct 2009, 11:23 p.m.,*
in response to message #1 by Mark Edmonds

For your purpose, the HP50G. It's easy to get, not too expensive, highly programmable, better suited to run program than the older calc like the 41. It's not too bad to accidentally flour, grease or dunk the 50g. Not as bad as if you dunk a 41 or 67 or 34c etc.... You can develop a suit of program that you think you would use in the kitchen and then basically when you use it you just run programs rather than doing calculations manually.

Re: The perfect HP for the kitchen?!

*Message #3 Posted by **David Hayden** on 29 Oct 2009, 12:11 p.m.,*
in response to message #2 by Chan Tran

If you want to save money and don't mind a slightly smaller display, consider a 48gii instead of a 50g. You can pick up the older version (less memory, serial port, but no USB) on ebay for $50.

Re: The perfect HP for the kitchen?!

*Message #4 Posted by **Charles Oxford** on 29 Oct 2009, 2:07 a.m.,*
in response to message #1 by Mark Edmonds

8oz=1cup 2 cups = 16oz = 1 pint 2 pint = 32oz =1quart, etc

Keep your calc clean and dry in a ziploc bag.

charlie

Re: The perfect HP for the kitchen?!

*Message #5 Posted by **Walter B** on 29 Oct 2009, 2:53 a.m.,*
in response to message #4 by Charles Oxford

> Quote:
>
> 8oz=1cup 2 cups = 16oz = 1 pint 2 pint = 32oz =1quart, etc

etc?? d;-)

Re: The perfect HP for the kitchen?!

*Message #6 Posted by **Herbert Crepaz (UK)** on 29 Oct 2009, 4:35 a.m.,*
in response to message #1 by Mark Edmonds

The idea of a kitchen computer lead to one of the most curious electronic machines ever built “Honeywell H316”.

http://www.old-computers.com/museum/computer.asp?c=927&st=1

It even had a built in cutting board, and came with cookbook and apron :-)
A 16C might come handy though to make sense of the binary display.

Re: The perfect HP for the kitchen?!

*Message #7 Posted by **Thomas Radtke** on 29 Oct 2009, 5:52 a.m.,*
in response to message #1 by Mark Edmonds

I'd prefer a HW instead of a HP. Another option would be that new Elektronika calculator.

The perfect HP for the kitchen?!

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HP9835 system

*Message #1 Posted by **Bo in Lund (SE)** on 28 Oct 2009, 7:02 a.m.*

Hi! I have extensively of HP9835A manuals and info. The 9835 is not exactly a calculator, but it is listed here. I also have some standard pack software backed up on floppy. Would likely be possible to write new cassettes from the backup!

Re: HP9835 system

*Message #2 Posted by **Steve Leibson** on 1 Nov 2009, 9:59 p.m.,*
in response to message #1 by Bo in Lund (SE)

Bo, your HP 9835 came from HP in Colorado, where I used to work. The minicartridge drive likely has suffered "gummy capstan" aging, where the rubber on the capstan has turned to goo. In addition, any old tapes you have likely have died as the adhesion is lost between the mylar backing and the oxide coating that stores the magnetic bits. That said, you can get the drive revived if you want. Take a look here if you're interested.

Edited: 1 Nov 2009, 10:00 p.m.

Re: HP9835 system

*Message #3 Posted by **Andrés C. Rodríguez (Argentina)** on 2 Nov 2009, 8:54 a.m.,*
in response to message #2 by Steve Leibson

IIRC, those cartridges use a clever mechanism with a belt that works in contact with the external surface of each tape reel; I would check if such belts had not turned themselves into goo or something similar....

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HP38C "6" key repair

*Message #1 Posted by **Peabody** on 27 Oct 2009, 11:39 p.m.*

I have a 38C Spice-series calculator, and have begun to have problems with the "6" key. Sometimes when I hit the key I get a 6, and sometimes I get nothing. The harder I hit the key, the more likely it is that I get a 6, but hitting it with the same force I use on all the other keys is kinda iffy. So I always have to be looking to make sure it took.

After much wailing and gnashing of teeth, I managed to get the back cover off in one piece, and took everything out and cleaned it. But I didn't disturb the actual key pad - you know, the back of the circuit board with the round metal domes that go click. It appeared to be sealed with a plastic sheet on top, and I was reluctant to disturb it.

Well, everything is back together, and I still have the 6 key problem. If I open it all up again and peel back the sealed plastic, am I going to find anything underneath that I can clean or fix and solve this problem? Or am I basically SOL? It does appear that the problem is under that metal dome over the 6 key, but I can't tell whether I would even be able to get under it to clean it.

What advice would the experts have on this? I would really rather use this than a 12C if I can get this one working again.

Thanks very much.

Re: HP38C "6" key repair

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 28 Oct 2009, 1:46 a.m.,*
in response to message #1 by Peabody

PLEASE NOTICE THAT THE TECHNIQUES DESCRIBED HERE DEMAND SKILL ON HANDLING THE EQUIPMENT MENTIONED AND ARE NOT GUARANTEED. FOLLOW THEM AT YOUR OWN RISK (looks like copyright warning...)

Hi;

Based on your description, I concluded that the IC´s are soldered in the PCB, right? I'm asking about this because there is a solderless series of spices, and the flex circuit used in these models allow contact cleaning.

If you look carefully at the component side, you´ll see that under each metal key cap there is a small, metalized hole. And we are lucky for the '6' key has an accessible hole, close to the memory IC's.

I succeeded many times (NOT ALL) carefully inserting a small amount of isopropyl alcohol through these holes with the aid of a thin brush in order to clean dirty, bad contacts. Use the thin brush soaked with a small amount of alcohol only to touch the hole in order to allow the alcohol to slide into the key cap. It should be done carefully not to spread it so it does not reach the sealing plastic you mentioned in the top of the keyboard. If you use an excessive amount, the alcohol may also dissolve the glue in the sealing plastic.

I usually insert some brush bristles (2 or 3 fair ones) through the small holes and gently move, rotate them inside of the key contact. Luckily the bristles will scrap the surface of the contact both in the key cap and the PCB surface. Please, make sure you choose bristles that would not leave small chunks inside the key contact (I

prefer using bristles from synthetic brushes). From time to time, with the bristles inside the key caps and steady (do not moving them), press and release the key cap a few times, then move the bristles, hold them steady, press the key cap again and so. This will enhance the efficiency of the cleaning process by forcing the dust to move out.

It is possible that the bad contact persists for a while,. but chances are that after rebuilding the calculator and using it for a while the '6' key becomes more and more reliable.

Please, understand the I added the warning in the beginning of the post for the sake of preserving your HP38C. I've done it many times already, and in some of them I did not get the best results.

Success!

Luiz (Brazil)

Edited: 28 Oct 2009, 1:51 a.m.

Re: HP38C "6" key repair

*Message #3 Posted by **Peabody** on 28 Oct 2009, 8:37 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Thanks very much for the suggestions.

Yes, I have the soldered version of the 38C. I didn't really study it carefully when it was opened up, but I would like to know more about how the metal domes work and are attached.

Does the dome just connect two contact points on the PC board, or is the dome itself one of the contacts? If the latter, then the dome must be soldered to the board in some way. Is it possible to remove (desolder?) the dome and replace it afer cleaning?

Of course removing the dome would require peeling back the plastic sealer. I assume that could be reattached in some way.

Thanks again, Luiz. Also, if I remember correctly I have you to thank for the dental floss. :-)

Peabody

Re: HP38C "6" key repair

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 28 Oct 2009, 9:16 a.m.,*
in response to message #3 by Peabody

HI;

thank you but credit for the dental floss is not mine, and I'm ashamed not remembering the name of the very well known contributor who posted about it some years ago... Shame on me!

I hope my explanations make sense for you.

I would not solder the domes (I called them 'caps'...) because when they are pressed down, they change shape and their edges move out a little bit. Soldering them would cause metal stress and future cracks in both metal and solder. And their edges touch the PCB in one of the contacts while their center, when pressed, touches the other part of it.

Earlier models had key contacts being soldered in the PCB or used some injected polymer (plastic)

domes with conductive dots inside of them and copper tracks printed on it, and they tend to break after some time. After the Spices we find the metal domes in the HP41 and Voyager series. The clamshells, Pioneers and the hP48 series brought back the injected polymer domes with a single conductive spot in the inner middle of them, so they actually close contacts in the keyboard flex circuit.

Cheers.

Luiz (Brazil)

Edited: 28 Oct 2009, 11:14 a.m.

Re: HP38C "6" key repair

*Message #5 Posted by **Peabody** on 28 Oct 2009, 11:22 a.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

Yes, the dental floss idea was offered by Karl Schneider. Thanks Karl.

Well, Luiz, then what holds the metal caps in place? Are they just stuck to plastic sheet, and just resting against the circuit board contacts without being physically attached in some way?

If that's the case, it should be possible to lift up the plastic, with the cap attached to it, and clean underneath, then lay it back down again. Have you ever tried that?

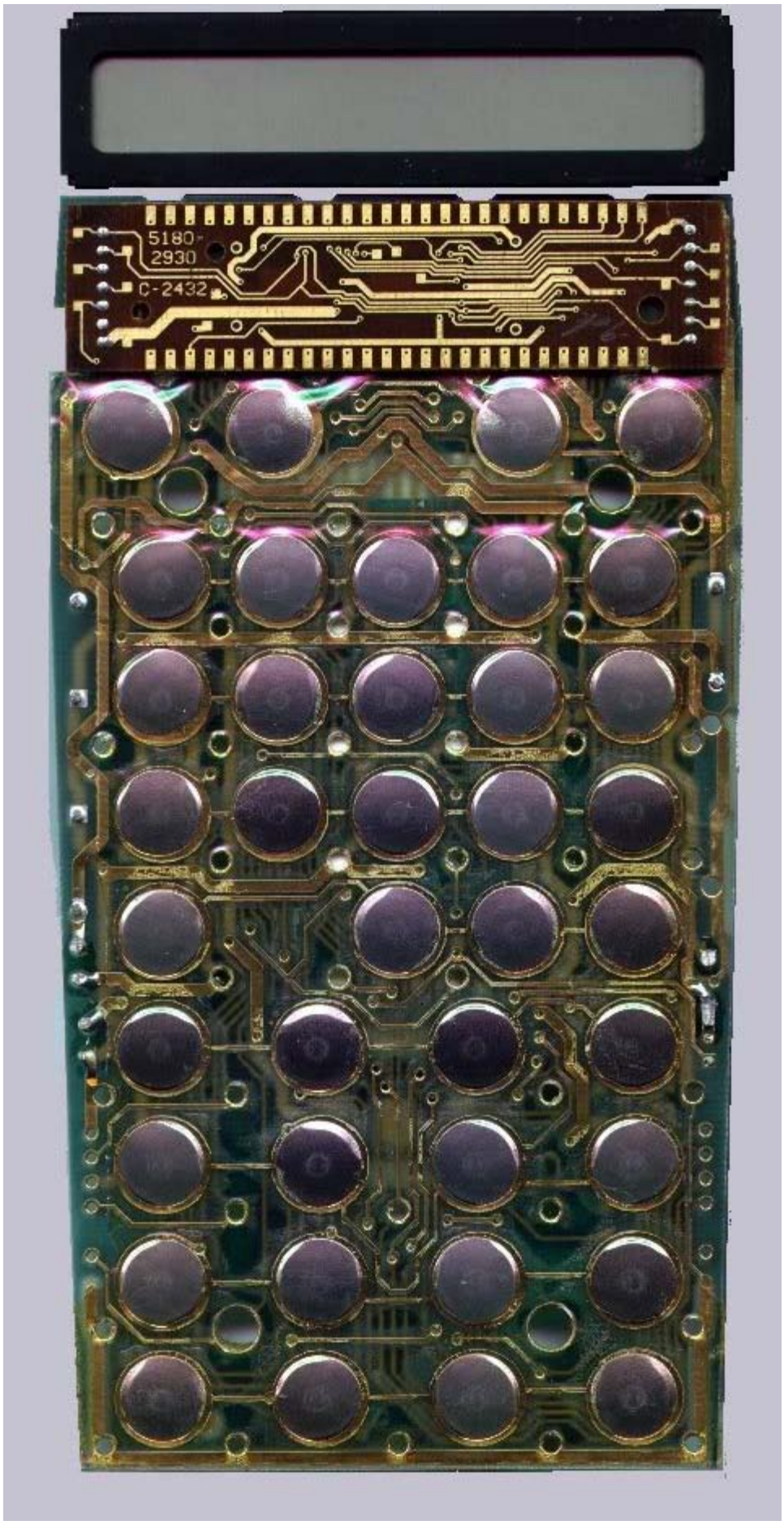
Re: HP38C "6" key repair

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 28 Oct 2009, 12:54 p.m.,*
in response to message #5 by Peabody

Hi;

> Quote:
>
> Are they just stuck to plastic sheet, and just resting against the circuit board contacts without being physically attached in some way?

AFAIK, it seems to be like this. I forgot to mention that Voyagers have the domes grouped in five units, forming half a row of contacts in the keyboard. This makes a more stable arrangement. In the HP41 (earlier than the Voyagers design) the domes are arranged in single units. Check the picture bellow (HP41 halfnut).



I have never tried to remove the protective plastic because of two reasons:

1 - centering the domes back in place - after 'pealing' the keyboard contact, chances are that the plastic never returns back to its original shape and position, and the key´s domes may slip away after some time

2- neutral atmosphere - surely the final assembly of the keyboard´s PCB, when the protective plastic is fixed in place, is performed in a neutral, dust-free environment. I am not quite sure about that, but by simply opening the plastic we will also allow more dust to get in and later we may face other keys with contact issues.

Please, understand that these are my own concerns. I do not like to think I'd find a solution for an emerged problem when I'm performing a technical task, I prefer to predict all possible scenarios (not possible, I know, I just go as far as I can). If you have a place where you could try opening the keyboard and removing the plastic with a confidence degree, I see no problem. You do not need sterilized environment, only dust free. And also you should find a way to make sure the dome will not slip out of the original place after settling it back.

Success!

Luiz (Brazil)

Edited: 28 Oct 2009, 12:55 p.m.

Re: HP38C "6" key repair

*Message #7 Posted by **Peabody** on 28 Oct 2009, 6:01 p.m.,*
in response to message #1 by Peabody

I wanted to report the results of my key repair. I ended up just cutting and removing a rectangle of the plastic which covered just the bad key, cleaned the contacts, and replaced the cap and plastic. And it appears to work fine. For now. Time will tell. It looks like the plastic is just like the very thin clear shipping tape.

And I took pictures showing the rectangle and cap removed, and more details of the infamous Spice bottom latch. The pictures are posted here:

http://drop.io/HP38C_KeyRepair

On close inspection, it's clear that the "9" key had already been repaired in this way. That must have been done by HP long ago. The original calculator was sent back shortly after purchase because it didn't work right, and I assumed they had sent me a new one in its place. But apparently not.

I also found that three of the six latches that hold the board to the case had been broken,but not by me - the top two on one side, and the top one on the other side. It has been that way for 25 years, and I never noticed anything amiss. So it appears these latches are not critical, at least in the soldered version of this calculator. Of course it does put more pressure on the two screws that hold the case together because the bottom case now also has to keep the innards in place.

One other thing I did was to put a thin coat of Vaseline on the bottom latch parts in the hope they will come apart more easily next time. Hopefully it will not migrate. I used the dental floss method, but I hope in the future I can just side the bottom cover rearward with respect to the top cover.

Thanks again to Luiz for his help.

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the future of programmable calculators?

*Message #1 Posted by **Herbert Crepaz (UK)** on 27 Oct 2009, 12:44 p.m.*

Lets have a look into the crystal ball and speculate a bit.
What will be the future of programmable handheld calculators?
From discussions in this forum it seems that many are quite happy with offerings from times gone by.
The recent trend to use emulators or simulators on pda's and smartphones will probably increase but they are not(yet) a substitute for dedicated calculators(reliability,cost,longetivety, power consumption..).
So will we see 600Mhz processors(current iphone standard) in high end HP calculators and how about oled displays or electronic paper type ones? Maybe also embedded virtual machines or micropower multicore cpus in graphing calculators.

your thoughts please!
Cheers,
Herbert

Re: the future of programmable calculators?

*Message #2 Posted by **Walter B** on 27 Oct 2009, 1:02 p.m.,*
in response to message #1 by Herbert Crepaz (UK)

Hello Herbert,

We had this particular topic quite often already. Frankly, I don't really expect new arguments. If you don't mind, I'd recommend you check the archives first. Then feel free to return with the questions you think are not covered there sufficiently.

Ceterum censeo: HP, launch a 43S.

Walter

Re: the future of programmable calculators?

*Message #3 Posted by **Chuck** on 27 Oct 2009, 9:58 p.m.,*
in response to message #2 by Walter B

Hopefully this forum is dynamic with new users and new thoughtful comments, ideas and discussions. Referring to archived comments and threads is inhumane and does not promote intellectual discourse.

"Everything that has ever been thought, written, and said has been recorded. Look it up." Earth 2103

Re: the future of programmable calculators?

*Message #4 Posted by **Walter B** on 28 Oct 2009, 4:09 a.m.,*
in response to message #3 by Chuck

Hi Chuck,

> Quote:
>
> Hopefully this forum is dynamic with new users and new thoughtful comments, ideas and discussions. Referring to archived comments and threads is inhumane and does not promote intellectual discourse.

You got me wrong. Nothing against *new* ideas at all. Ruminating old stuff, however, isn't real fun to watch. Thus, my modest recommendation to look into the archives.

"Advantage to those who are able to read." German saying.

Re: the future of programmable calculators?

*Message #5 Posted by **David Hayden** on 27 Oct 2009, 5:35 p.m.,*
in response to message #1 by Herbert Crepaz (UK)

I looked through the archives going back to 2002 and didn't see much when searching for "future." I apologize if this has been covered earlier than that or under different topics.

I think there are (at least) two type of programmers that HP needs to think about: end users who are writing quick programs of a few lines, and more experienced programmers who are writing applications and such. End users need the development environment on the calculator, but for more serious code, I think you can offload all the development onto a PC.

In other words, I wouldn't put the development library in flash memory on the calculator. Let all complex development occur on PCs. Most of it probably occurs there now anyway.

Regarding speed, if I was HP, I'd be working hard to convert the 48/49/50 Saturn assembly code to native ARM and port the RPL to a 32 bit address, byte addressable environment (vs the 20 bit address, nibble addressable environment of the Saturn). This would give a huge speed boost over the TI's. As an aside, does anyone know how much of the ROMs are Saturn assembly code and how much is RPL?

Finally, I wish someone would create an RPL optimizer. I believe that most user RPL code could be greatly sped up by static analysis of the stack. For example, if you know that levels 1 and 2 of the stack contain real numbers and the next instruction is "+", then you can replace it with %+, thus avoiding lots of error checking. Really, I wish I had the time to do this myself.

Although not specifically related to programmable calculators, I think HP should offer some of the calculators in a different form factor. Nearly all of their calculators today are about 7"x3"x0.5". The 12C's form factor is quite popular and it fits your pocket. I personally liked by 29C because you could hold it in one hand and easily reach all the keys with your thumb, making for very handy one-handed operation.

Dave

Re: the future of programmable calculators?

*Message #6 Posted by **Chuck** on 27 Oct 2009, 9:49 p.m.,*
in response to message #1 by Herbert Crepaz (UK)

Personally, I've moved beyond calculators for programming; even though I have somewhere close to 30 HP's, 40 non-HP's, a multitude of other calculating paraphernalia, mechanical, "electronical", and programmable, I'm smitten with Mathematica. There is absolutely no comparison to the computing ability, graphical output, and programmability of Mathematica. I firmly believe I will never write another program for a calculator. Not that

I can't appreciate the extensive calculator programs I've written in the past, and won't appreciate programs written by others to come. It's just seems trivial program a calculator nowadays. HP may make a Turbo X 43g++ XJR HD calculator, and I'd be the first to buy one, but I can't say I'd spend more than an hour programming it. Ditto with the iPhone apps. Cute, (and I have 6 calculator apps) but.....

This could be why calculator manufacturers aren't overly hip on producing high-end expensive programmable machines. It's time to leave the past in the past, along with the manual typewriters without a "1" key (although I have 6 of those, as well.) Doesn't mean they need to make them again.

Re: the future of programmable calculators?

*Message #7 Posted by **Don Shepherd** on 27 Oct 2009, 10:45 p.m.,*
in response to message #6 by Chuck

Chuck, it takes all kinds to make the world go 'round. Just because you see no point in programmable calculators, there are people who enjoy writing programs on them. Personally, I like the challenge of developing algorithms for machines with limited resources, like the HP-65 and HP-12c. As I've said before, it's just fun. Of course these machines do not have anywhere near the capabilities that Mathematica has; that's the point.

I expect HP (and TI, Casio, Sharp, etc.) to continue to make programmable models for years to come. Time will tell.

Re: the future of programmable calculators?

*Message #8 Posted by **Alain Mellan** on 28 Oct 2009, 1:15 a.m.,*
in response to message #6 by Chuck

I still have my beloved 15C at home, a 41C, a 48G and a new 35S. I use them from time to time at home, but what I use the most at work is Free42 on the iPhone.

- An iPhone still has a smaller form factor than any of these calcs, and I always have it in my pocket.

- the portrait display is easier to use with one hand than, say SCI-15C's landscape mode

- I care more for an simple efficient RPN than the feel of the buttons

- When I need something involving programming, I use Python + numpy + matplotlib

For me, devices like iPhone are the future of handheld calcs, except maybe for exams where they will want non-programmable machines and no WiFi/3G :-)

Re: the future of programmable calculators?

*Message #9 Posted by **Reth** on 28 Oct 2009, 6:24 a.m.,*
in response to message #1 by Herbert Crepaz (UK)

See "It's come to this..." parallel thread...

Re: the future of programmable calculators?

*Message #10 Posted by **Thomas Radtke** on 28 Oct 2009, 6:54 a.m.,*
in response to message #1 by Herbert Crepaz (UK)

For a couple of years I have been working in a biolab. My 32SII did more or less trivial calculations for which

I wrote programs or used the equation solver. It wouldn't have been practical to use a computer. That's just a matter of space and speed. At that time there were no smartphones, but I think I wouldn't have brought an iPhone into that lab.

There is a target audience for small programmables. Unfortunately, this group is quite small and most members of it refuse to use any of them. I've seen colleagues typing their formulas into 4-bangers, over and over.

However, I'm happy to own a couple of programmables, sufficient to serve me for the rest of my life.

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It's come to this . . .

*Message #1 Posted by **Martin Pinckney** on 27 Oct 2009, 10:30 a.m.*

Walmart - We Sell for Less!

Re: It's come to this . . .

*Message #2 Posted by **Namir** on 27 Oct 2009, 11:08 a.m.,*
in response to message #1 by Martin Pinckney

Where is that Walmart?

Re: It's come to this . . .

*Message #3 Posted by **Thomas Radtke** on 27 Oct 2009, 11:10 a.m.,*
in response to message #1 by Martin Pinckney

Walmart isn't exactly the right place to sell a business calculator, I conclude. Staples still sells the 10BII for $36,99?

Re: It's come to this . . .

*Message #4 Posted by **Bruce Bergman** on 27 Oct 2009, 11:13 a.m.,*
in response to message #1 by Martin Pinckney

Too bad it is not true. You could make a killing on eBay!

thanks, Bruce

Re: It's come to this . . .

*Message #5 Posted by **Martin Pinckney** on 27 Oct 2009, 2:47 p.m.,*
in response to message #4 by Bruce Bergman

Yes, it is true. I bought 33 at this price. And no, you can't make a killing on eB**. Just look at how many are offered there right now. I did sell enough on eB** to recover my costs. Then my wife asked for some to give to her students as rewards (she teaches high school).

Re: It's come to this . . .

*Message #6 Posted by **Mike Morrow** on 27 Oct 2009, 11:40 a.m.,*
in response to message #1 by Martin Pinckney

I was unable to open the photo site with the pictures (I'm temporarily on dial-up).

I posted a couple of months ago about HP10BII calcs being sold at various Walmarts, in the US South, at least, at cut rate prices. I bought one in Athens, AL, for $17, and another in Blytheville, AR, for $11. For the

money, they're quite nice.

I keep hoping for them to do likewise for the TI-89, which they sell for $160. One-third price is about all I'd pay for a TI.

Re: It's come to this . . .

*Message #7 Posted by **Martin Pinckney** on 27 Oct 2009, 2:50 p.m.,*
in response to message #6 by Mike Morrow

Mike, the sign over the 10bII's said $2.

Re: It's come to this . . .

*Message #8 Posted by **Mike Morrow** on 28 Oct 2009, 1:15 a.m.,*
in response to message #7 by Martin Pinckney

Now I feel silly thinking $11 was a great price! :-)

Re: It's come to this . . .

*Message #9 Posted by **George Bailey (Bedford Falls)** on 27 Oct 2009, 1:25 p.m.,*
in response to message #1 by Martin Pinckney

I particularly like the notion that it's sold as "Party Supply"!

Re: It's come to this . . .

*Message #10 Posted by **Reth** on 28 Oct 2009, 5:50 a.m.,*
in response to message #1 by Martin Pinckney

I wander when we'll see the HP35S and HP50 in similar situation. And wouldn't be surprised.

Re: It's come to this . . .

*Message #11 Posted by **DaveJ** on 28 Oct 2009, 7:01 a.m.,*
in response to message #1 by Martin Pinckney

I wonder how much Walmart actually paid for them?

Dave.

Re: It's come to this . . .

*Message #12 Posted by **Chan Tran** on 28 Oct 2009, 10:38 p.m.,*
in response to message #11 by DaveJ

That kind of thing happened at Walmart quite often. They put the price wrong but you won't get your calc for that price. I ran into that problem many times.

Re: It's come to this . . .

*Message #13 Posted by **Reth** on 29 Oct 2009, 1:42 a.m.,*
in response to message #12 by Chan Tran

Did you read the thread above? The guy GOT 33 of them at this price.

Re: It's come to this . . .

*Message #14 Posted by **Patrick Rendulic** on 30 Oct 2009, 10:47 a.m.,*
in response to message #1 by Martin Pinckney

Three years ago, I got ten 12C, those with the 3 button cells, for 20$ apiece. They were being sold out as the shop replaced them with Platinums ... .

I then asked 100$ per unit on ebay and they were gone quite rapidly ;).

A strange world.

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HP-20S Manual?

*Message #1 Posted by **Tom McCaffrey** on 26 Oct 2009, 10:02 p.m.*

Does anyone know where to get a manual for an HP 20S?

Thanks

Re: HP-20S Manual?

*Message #2 Posted by **Katie Wasserman** on 26 Oct 2009, 10:25 p.m.,*
in response to message #1 by Tom McCaffrey

HP has essentially all the information about this here.

or you can by a DVD with scans of virtually all the HP manuals gere.

Edited: 26 Oct 2009, 10:25 p.m.

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hp 9815a/s program tapes

*Message #1 Posted by **frankabc** on 26 Oct 2009, 8:10 p.m.*

Hi, we're still trying to get our hp 9815a and 9815s going. The "s" is intermittent now. Sometimes the memory is 904 steps; other times it is the full 3720. But now we are wondering if the old program cassette tapes are still working.

Does anyone have a 100% known-to-be-working hp 9815a or 9815s? If so, would you be willing to run our DC 100 cassette tapes on your calculator? We need to learn whether anything is on these tapes. If there are still programs on the tapes, we would like to list the programs in hard copy via the printer, and we also want to make backup tapes. We have a roll of themal paper, and some new DC 100 tapes.

Thank you. Frank

Re: hp 9815a/s program tapes

*Message #2 Posted by **Joel Setton (France)** on 27 Oct 2009, 5:31 p.m.,*
in response to message #1 by frankabc

Hi Frank,

There seems to be limited interest for the 9815 in this forum, but I think it's a fascinating machine, almost in a class of its own because it runs on a commercial microprocessor.

I have a 9815s which is in great condition, although I have never been able to test or run its tape drive because I have not been able to find any suitable tapes. Of course I'll be glad to help if I can.

Joel Setton

Re: hp 9815a/s program tapes

*Message #3 Posted by **frankabc** on 27 Oct 2009, 9:10 p.m.,*
in response to message #2 by Joel Setton (France)

Joel, I was hoping that you would say yes. My email is franksimpson4@gmail.com, and I presently am living in Wisconsin, USA. Please let me know via my email how to reach you directly, so that we can make arrangements to run these program tapes on your machine. We might want to try programming some of our new tapes first on your machine with perhaps, 2 enter 2 +, to insure that your tape drive actually works. Is the tape drive spindle on your machine gummy? I also am wondering if a 9825 can read DC 100 tapes that have been pre-programmed on a 9815? We have all of the hp 9815a books, but some of our original tapes, such as the Utilities and Test tape, are missing. Thank you, Thank you!! Frank

Re: hp 9815a/s program tapes

*Message #4 Posted by **Joel Setton (France)** on 28 Oct 2009, 9:46 a.m.,*
in response to message #3 by frankabc

Hi Frank, I just sent you an e-mail. We're in touch!

Joel Setton

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What calc for my 7 years old son?

*Message #1 Posted by **Jose Gonzalez Divasson** on 26 Oct 2009, 6:03 p.m.*

He's just started to do additions, and he finds nice playing with numbers.

We all know RPN's better, but... would you have your son endure all you have endured? (unability to properly use other calculators, he cannot lend his to other lads, freak factor...)

And if so, which one? (I have gone from 33c to 17bII, 19bII, 41 (cv & cx), 42s, 48gx...where I am keeping all except the 33c - which broke 28 years ago...)

Re: What calc for my 7 years old son?

*Message #2 Posted by **Don Shepherd** on 26 Oct 2009, 6:19 p.m.,*
in response to message #1 by Jose Gonzalez Divasson

Jose, there is no better topic guarateed to raise a ruckus on this forum than this one!

For a kid just starting first or second grade (7 years old), as a teacher, I would recommend NO calculator. Let him learn the basics with pencil and paper and understand the principles behind the math first. By the time he hits middle school, if he knows these basics, and if he has supportive parents and good teachers, he will do just fine without a calculator at all. But there are good calculators to enhace the middle school math student's experience, such as the TI34 Multiview (or HP SmartCalc 300s). I teach middle school math, and after my students demonstrate that they can do the calculations with pencil and paper, I let them use a calculator. And they frequently discover insights they didn't know before by doing that, so I think it is valuable.

Don Shepherd

Re: What calc for my 7 years old son?

*Message #3 Posted by **Garth Wilson** on 26 Oct 2009, 6:35 p.m.,*
in response to message #2 by Don Shepherd

> Quote:
>
> For a kid just starting first or second grade (7 years old), as a teacher, I would recommend NO calculator. Let him learn the basics with pencil and paper and understand the principles behind the math first.

+1. It would be a big disservice to him to give him a calculator.

Re: What calc for my 7 years old son?

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 26 Oct 2009, 7:21 p.m.,*
in response to message #2 by Don Shepherd

Hi;

I am a teacher for more than 15 years, and although being a university teacher, I had some experiences with the equivalent to the US high school here in Brazil. We call it Medium or Secondary Teaching (9 years, now) because it is between the Fundamental Teaching (first 4 years) and the University. I also have a daughter that has not a single interest in math nor in calculators (I do that for both of us...).

Fact is that I second Don´s and Garth´s thoughts. Calculators should not be used to build math skills because they are actually the next step after the abstract math reasoning has already been built. I tell my students that math has many related areas, and calculating is just one of them that actually permeates almost all of the others. It is only a tool for the means of giving reason its magnitude. It is such that way that even a machine can do that. But most of all, understanding the meaning of the numbers is more important than getting to the numbers (calculators get to any numbers, we must be the ones to know what to do with them). When a calculator is a curiosity, people just press the buttons for the sake of the 'what...if's. When it becomes a tool, it will be used only when needed. Nobody messes up with tools, whichever they are.

Consider the following: allow your kid the access to a calculator when his reasoning looses track while he is crunching the numbers.

Cheers.

Luiz (Brazil)

Edited: 26 Oct 2009, 7:23 p.m.

Re: What calc for my 7 years old son?

*Message #5 Posted by **Lyuka** on 27 Oct 2009, 12:27 a.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

Hi.

I basically agree with Luis, however, how about my son's case?

My four years old sun likes numbers, especially the series number of a car, a motorcycle or a train, for instance 2000GT or GSX-R1000.

On one day while he's playing with a toy-like HP10s, pressing '1' '0' '0' '0' and saying

"One, Ten, Hundred, Thousand!, Oh, thousand + thousand makes two thousand!'

he began to learn about what digit is, and what does '+' means. Then asked me

"Does adding '0' (by pressing '0' key) mean multiply by 10? Does 'multiply by 10' means 10 bunch of something? right?"

A calculator with arithmetic display, like HP10S, seems to help him to begin learning about number and simple math visually.

Regards, Lyuka

Re: What calc for my 7 years old son?

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 27 Oct 2009, 8:25 a.m.,*
in response to message #5 by Lyuka

Hi, Lyuka;

you see, based on your text, your sun was adding and multiplying by simply reasoning with zeroes (powers of ten, as we know already and he will know soon, as I see...). No mention to the '=' key so far... That is actually an abstract construction of reasoning for measurement and magnitude. I sincerely think that instead of using the '=' sign we should use the expression 'is equal to' as many times as needed until the kids use it implicitly, or ask for something to replace the expression. Then we show them how to write 'is equal to' with a signal, like the signals for add, multiply, etc. But I'd actually avoid it till they are studying variables and expressions. I remember once my younger brother asking me 'Why did the teacher write X=2, if X is not equal to 2? X is a letter, 2 is a number, how can they be equal?' The abstraction was missed, i.e., in a math expression X is not understood as a letter, it is a reference to an unknown quantity. It is a whole new set of meanings and a different use of known symbols. Abstraction is the key.

Cheers.

Luiz (Brazil)

Edited: 27 Oct 2009, 8:31 a.m.

Re: What calc for my 7 years old son?

*Message #7 Posted by **DaveJ** on 26 Oct 2009, 7:59 p.m.,*
in response to message #1 by Jose Gonzalez Divasson

Apart from the "should he even have a calculator" debate, the answer is simple, RPN is just silly and archaic.

They learn and write "1 + 1 =" so a calculator should be expected to work the same way.

Forcing him to use a calculator that requires "1 ENTER 2 +" is just silly IMO. Show him RPN at a later date by all means, but don't start him off on it, there are more important things to be confronted with with and investigate at their age.

Flame away :-P

Dave.

Re: What calc for my 7 years old son?

*Message #8 Posted by **Don Shepherd** on 26 Oct 2009, 8:09 p.m.,*
in response to message #7 by DaveJ

Agree, Dave.

RPN might be a good topic in a graduate course in arithmetic entry systems in general, for those who might be interested in its capabilities, but apart from exceptional circumstances, I can't recommend its use in elementary or secondary education.

Re: What calc for my 7 years old son?

*Message #9 Posted by **Vieira, Luiz C. (Brazil)** on 26 Oct 2009, 8:34 p.m.,*
in response to message #7 by DaveJ

Quote:

> Forcing him to use a calculator that requires "1 ENTER 2 +" is just silly IMO.

It is well known that Algebraic Notation and Reverse Polish Notation are, as their names say, notations, and not expressions. When one reads

```
1 + 2
```

and thinks of

```
3
```

it does not mean a sign of 'equal to' is demanded somehow, somewhere. And when one writes

```
  1
+ 2
---
  3
```

it does not mean a '=' is missing somewhere to finish the calculation. If we write '1 + 2' and say 'is equal to', then we do not need to add a '=' sign.

Considering RPN a silly notation is considering the closest notation to what one writes in a paper to perform a handwritten calculation silly, too. When we add, multiply, divide, compute a square root or whatever calculus that can be performed with paper and pencil, not one single time a '=' is needed. It can be used, mostly to indicate an answer, but it is not needed to perform calculations.

When we are writing down equations then it is another story, '=' is used to separate left and right sides of it. But we are talking about calculators, number crunching, not expression evaluation. RPN and Algebraic Notation live together in many new HP calculators, it is just a matter of what one wants to do.

And yes, Hewlett-Packard designers took advantage of the natural assembly language coding, which is closer to the actual calculations themselves, where adding A to B is expressed with the mnemonics

```
add A,B
```

and again, no '=' is demanded. Allowing A and B to be available and located prior to add them is the key for RPN operation, so [+] means

```
add Y,X.
```

Maybe my point is too focused, but I actually began reasoning and solving problems better after reasoning in RPN-fashion. I still do today, and this is due to RPN existence and a notation. I never dealt well with Algebraic Notation and I believe because it is not too close to the actual calculations, and my first calculator was a TI57 (1980, still with me). My second one, an HP41C (1982, still with me, too) actually helped me a lot more.

Cheers.

Luiz

Edited: 26 Oct 2009, 8:40 p.m.

Re: What calc for my 7 years old son?

*Message #10 Posted by **Garth Wilson** on 26 Oct 2009, 10:22 p.m.,*
in response to message #9 by Vieira, Luiz C. (Brazil)

About a year ago I was telling another engineer in our company about RPN when he asked. I told him algebraic tells you what you get, whereas RPN tells how you get there. He picked up and ran with that,

got an HP calc, and told me a few days ago that now he could never go back to algebraic, that his mind just doesn't think that way anymore. He's adicted to RPN.

Re: What calc for my 7 years old son?

*Message #11 Posted by **Vieira, Luiz C. (Brazil)** on 26 Oct 2009, 10:32 p.m.,*
in response to message #10 by Garth Wilson

He knows what I mean... BTW, I'm an Electrical Engineer.

Luiz (Brazil)

Re: What calc for my 7 years old son?

*Message #12 Posted by **Frank Rottgardt** on 27 Oct 2009, 3:35 p.m.,*
in response to message #10 by Garth Wilson

Are you crazy Garth!

Again one more guy in the bay looking for old HP calculators! Now I know why prices increases ;-)

Re: What calc for my 7 years old son?

*Message #13 Posted by **Vieira, Luiz C. (Brazil)** on 27 Oct 2009, 3:49 p.m.,*
in response to message #12 by Frank Rottgardt

Hi, Frank;

prices do not increase because of users, prices increase because of speculators... The MoHPC Classified Adds is a proof of that.

Cheers.

Luiz (Brazil)

Edited: 27 Oct 2009, 6:36 p.m.

Re: What calc for my 7 years old son?

*Message #14 Posted by **Martin Pinckney** on 27 Oct 2009, 4:36 p.m.,*
in response to message #9 by Vieira, Luiz C. (Brazil)

This debate will never end. Try as I might, I just cannot "get" why some like RPN so much. So I gave up trying. To each his own.

Re: What calc for my 7 years old son?

*Message #15 Posted by **Don Shepherd** on 27 Oct 2009, 4:56 p.m.,*
in response to message #14 by Martin Pinckney

Martin, I like RPN calculators because of their programmability. Keystroke programming is, in many ways, similar to assembler programming of the olden days. It is simple, has few rules and commands, executes pretty quickly on some of the current RPN calcs, and I enjoy the challenge of implementing an algorithm on a machine with a limited resource base, like the 12c. It's just fun!

Why some people like RPL amazes me. I like programming languages with 20 commands, not 2000.

Don

Re: What calc for my 7 years old son?

*Message #16 Posted by **Egan Ford** on 26 Oct 2009, 8:06 p.m.,*
in response to message #1 by Jose Gonzalez Divasson

> Quote:
>
> He's just started to do additions, and he finds nice playing with numbers.

Get him an abacus. No joke. Learn it together.

Other things to consider: A bag of dice, dominos, etc... stuff you can count. Then move to probability. Everybody loves probability.

Agreed! (N.T.)

*Message #17 Posted by **Vieira, Luiz C. (Brazil)** on 26 Oct 2009, 8:38 p.m.,*
in response to message #16 by Egan Ford

...

Re: What calc for my 7 years old son?

*Message #18 Posted by **Fred Lusk** on 26 Oct 2009, 9:41 p.m.,*
in response to message #16 by Egan Ford

In a few years, when he gets to algebra and starts learning about logarithms, get him a slide rule. Seriously. It's a great way to "see" how logs work.

With my kids, they didn't get a calculator until it was required for a particular class....about age 13 or so IIRC. However, starting about age 9, when they had finished their arithmetic homework, I would let them use one of my calculators to check their work. It was a reward for doing the pencil and paper excercise. All three kids learned enough RPN to work my calculators, but only my son (now 22) actually prefers RPN. His two older sisters don't have much use for calculators these days.

I was in 9th grade (age 14) when the HP-35 came out. My dad bought one immediately. At the same time, my geometry teacher had a simple 4-banger with an equals sign. I learned both at the same time and almost instantly found that RPN was more logical and easier to understand, as well as more flexible and forgiving.

Fred

Re: What calc for my 7 years old son?

*Message #19 Posted by **Walter B** on 27 Oct 2009, 1:57 a.m.,*
in response to message #16 by Egan Ford

Fully agreed!

[rant]What a world we're in with parents pondering about a calculator for a 7-year-old?!? Teach'em to use

their brains -- all of them! The time when they believe in everything a machine spits out will arrive earlier than you want it.[/rant]

Re: What calc for my 7 years old son?

*Message #20 Posted by **David Hayden** on 26 Oct 2009, 9:51 p.m.,*
in response to message #1 by Jose Gonzalez Divasson

Rather than a calculator, I'd play number games with him. At dinner, we'd play "High/Low" where one person thinks of a number and the others take turns guessing. After each guess, the person with the number would say whether their number is higher or lower than the guess. Pretty quickly the kids figure out how to divide the unknown space in two. Even if they divide it roughly, if gives them a good sense of numbers.

Also around the same age, I taught my daughter how to calculate a 20% tip (move the decimal place and then double the result). Any time we're out, she grabs the check and computes a tip to the penny.

Basically, at this stage, you just want to them to have a sense of how numbers and math work.

Re: What calc for my 7 years old son?

*Message #21 Posted by **Charles Oxford** on 26 Oct 2009, 10:36 p.m.,*
in response to message #1 by Jose Gonzalez Divasson

In my sophmore year I took physics because I was queasy about cutting up animals even though they were pickled. In this class we learned slide rule but I always used pencil and paper because it was more natural for me.

I didn't even know calculators existed.

12 years after hifg school I was working for a civil engineer in Tucson when the HP 35 arrived in the hands of a part time employee U of A architect student. All the engineers and surveyors were going nuts over it.

ceo

Re: What calc for my 7 years old son?

*Message #22 Posted by **designnut** on 27 Oct 2009, 12:19 a.m.,*
in response to message #21 by Charles Oxford

I bought the 33S at auction and give it to children. I thought they could have fun with it, never mind solving problems. Kids adapt readily, they have no fear of computers or calculators. I thought the 33S was a good RPN calculator with scientific functions for keyboard use. Further advanced was the formula solver and finally RPN programming which is less complex than the RPL. Sam

Re: What calc for my 7 years old son?

*Message #23 Posted by **designnut** on 27 Oct 2009, 1:33 a.m.,*
in response to message #22 by designnut

I forgot the fractional math capability of the 33S for kids that are faced with pages of fraction problems. I see little use for fractions but I think kids still have to endure it. I admit i played with my original 35S for amusement and discovered solutions I would never have found with algebraic logic. The 33S switches to algebraic if "Johnny" has to keep in step with the class full of TI and Casio.

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uBASIC

*Message #1 Posted by **Thomas Chrapkiewicz** on 25 Oct 2009, 9:47 p.m.*

Many of you may be aware, but just in case:

uBASIC is a most interesting / capable 'dialect' of BASIC which supports precision up to 2600 digits, rational and complex datatypes, list handling capabilities...

It is an older DOS era program, runs quite quickly and consequently very small.

http://archives.math.utk.edu/software/msdos/number.theory/ubasic/.html

TomC

Re: uBASIC

*Message #2 Posted by **hugh steers** on 26 Oct 2009, 11:59 a.m.,*
in response to message #1 by Thomas Chrapkiewicz

it's a pity it's not in C. there are bits of 16bit assembler in there too. was a source code ever released?

Re: uBASIC

*Message #3 Posted by **marais** on 26 Oct 2009, 5:22 p.m.,*
in response to message #2 by hugh steers

If uBasic sounds interesting to you, you may want to have a look at the old Tiny Basic

http://en.wikipedia.org/wiki/Li-Chen_Wang

which easily portable on almost any platform. I remember doing a 68k port myself back in the 90s.

marais

Re: uBASIC

*Message #4 Posted by **Patrice** on 26 Oct 2009, 9:10 p.m.,*
in response to message #3 by marais

What is perticular with UBasic is the native high precision numbers.

you can write a factorization program and provide an input in the form of 2^300-1 and expect to obtain the right factors.

You can display the factorial of 200 to the last digit.

and so on without having to deal with memory management.

Re: uBASIC

*Message #5 Posted by **Namir** on 26 Oct 2009, 10:28 p.m.,*
in response to message #1 by Thomas Chrapkiewicz

There are many BASIC implementations that have surfaced then AND now. Most of them are freeware.

Namir

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Score one more for the 33s

*Message #1 Posted by **Palmer O. Hanson, Jr.** on 25 Oct 2009, 9:32 p.m.*

Message #1 Posted by Mike T. on 20 Oct 2009, 5:19 p.m. started a recent thread on calculation of the Fibonacci sequence with the following:

> Quote:
>
> Following an interesting discussion earlier this evening I thought it might be fun to see just how few keystrokes you would need to calculate successive terms of the Fibonacci Sequence, preferably without using any storage registers...
>
> I doubt it I have the best solution but thought the answer I came up with demonstrated really nicely why I like my old RPN calculator so much and that it would be interesting so see what other people came up with.
>
> Start with a one in 'x' - all other registers zero.

The HP-33s in algebraic mode wins for ease from the keyboard with the following procedure:

With a one in "x' and zero in 'y' press + x<>y repeatedly and read the lower display after each + to see the sequence

1 1 2 3 5 8 13 and so on

and also notice that the sequence builds as a sum in the upper display as well but with a unwanted leading 1 + 0.

Edited: 25 Oct 2009, 9:36 p.m.

The HP12C Platinum follows it...

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 25 Oct 2009, 10:43 p.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

I am not quite sure if this... 'breed' can be mentioned here...

Cheers.

Luiz (Brazil)

Edited: 25 Oct 2009, 10:43 p.m.

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Score one more for the 33s

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In Need of Calculator Advice

*Message #1 Posted by **Anders Peterson** on 24 Oct 2009, 4:18 p.m.*

My beloved 15c is well past its prime, and I feel it may be time to retire her from daily to occasional use. So I need to get another calculator. I have been investigating my options. While I would love to get another 15c, it is a very old calculator, and I don't want to risk picking one up that is not in very good shape. Unfortunately the ones in nice condition seem to sell for more than I can pay. I am currently considering the following options, and would really appreciate any advice.

Should I?

1) Try to pick up a used 32sii
I know and like this calculator. Though they sell high, I believe I could manage to acquire a decent one. I don't know anything about the original 32s, but it might also be an option.

2) Try to pick up a used 42s
I don't know this model as well, but it seems like a great machine. Also pretty pricey, but again, I believe I could get one with some patience.

3) Just get the 35s
No need to seek deals and auctions, and relatively cheap. I have read mixed reviews, some saying it is a return to real quality for HP, others saying the buttons are mushy and the design is poor. So I'm not sure what to think.

4) Something else
Is there any good option I am missing? There are a couple others I have been looking into. I discovered the 28s, for instance, when I found this great website, and it looks like a fantastic calculator. It also seems to sell for a good bit less than the 32sii and the 42s. However, the design bothers me, and seems less sturdy than other models and a bit too bulky.

Thank you in advance for any thoughts, experiences, or advice.

Re: In Need of Calculator Advice

*Message #2 Posted by **designnut** on 24 Oct 2009, 9:49 p.m.,*
in response to message #1 by Anders Peterson

I favor the 33s as being straightforward and affordable. If you can get by the clunky case and the strange keys it is a good value. First as a simple RPN scientific calc, then a good formula solver and then a RPN programmable with lots of space. You should be used to 26 storage registers. It is uncomplicated to use. Sam

Re: In Need of Calculator Advice

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 24 Oct 2009, 9:57 p.m.,*
in response to message #1 by Anders Peterson

Hi;

what resources you must have in the other calculator? Which ones you never needed to use in your HP15C? The 'evolution' in terms of available resources is the HP42S: all you need in the HP15C plus a lot more. And an extra challenge: find one for sale with an affordable price. Any other choice would either lead to a 48/49/50 series or to a calculator with less resources. Neither the HP33S nor the HP35S have matrix capabilities, and the amount of extra memory does not imply an improvement, instead an enhancement. I think that the HP32SII would suffice in terms of usage, but it still lacks matrices and complex number resources.

I´d go for an HP42S, but it surely depends on what you actually need from the replacement.

Cheers.

Luiz (Brazil)

Edited: 24 Oct 2009, 9:58 p.m.

Re: In Need of Calculator Advice

*Message #4 Posted by **Garth Wilson** on 24 Oct 2009, 10:48 p.m.,*
in response to message #1 by Anders Peterson

If you're having trouble with your 15c, I suspect, from all I've heard, that fixthatcalc.com can breathe at least another decade of life into it.

Re: In Need of Calculator Advice

*Message #5 Posted by **Michael de Estrada** on 24 Oct 2009, 11:01 p.m.,*
in response to message #1 by Anders Peterson

I think you'll get as many different opinions as you get responses. In my case, I've never replaced my HP-15c, but instead supplemented it with a series of RPL calculators (HP-28S, 48SX, 50g) for programming tasks, and retained the HP-15c for straight keyboard function work. The HP-32SII and HP-35s are no match for the HP-15c and the HP-42s, while it has all the great capabilities of the HP-15c and more, it has no communication capabilities to save data and programs on a PC or develop/edit programs in a PC and transfer them to the calculator. I just cannot comprehend having 7200 bytes of storage and no way to remote load or store programs and data. Of course, the HP-42s does have an IR printer port, but so do the RPL calculators. So, if it were my decision and I were making it today, I'd just keep using the HP-15c for non-programming tasks, and buy a HP-50g, which includes a USB port and cable for between $100 and $150. If you're afraid the HP-15c will wear out or break, don't. It will probably outlive you.

Re: In Need of Calculator Advice

*Message #6 Posted by **BobVA** on 24 Oct 2009, 11:28 p.m.,*
in response to message #1 by Anders Peterson

Not knowing exactly how you're using the 15c, this may or may not help, but:

- Keep scouring auction sites for a 15c or 11c daily driver. I've picked up a cosmetically rough 15c for $40 and a broken but repairable 11c for $35. You just have to be patient.

- If you've got an iPhone or iPod touch, there are some great 15c emulators. Also there are generic RPN calculator apps available for the old Palm platform (including Treo/Centro phones) and I believe for Windows Mobile as well.

- I like the 35S but, as noted in the posts above, it depends on how you're using the 15c as to whether it would be a good fit for your use. I switched out my 32SII for it. (Of course I just switched the 35S out for a

refurbished 55, but that's just me!)

Good luck! Bob

Edited: 24 Oct 2009, 11:29 p.m.

Re: In Need of Calculator Advice

*Message #7 Posted by **Reth** on 25 Oct 2009, 12:17 a.m.,*
in response to message #1 by Anders Peterson

Get an iPod Touch and 42S, i41CX+ and m48 plus any 15C emulator, sit down, fasten your seat belt and enjoy the flight ;)
Cheers

Re: In Need of Calculator Advice

*Message #8 Posted by **Chan Tran** on 25 Oct 2009, 12:51 a.m.,*
in response to message #7 by Reth

Is there something wrong with you 15c? If there is something wrong with it then you should try to get another one in good condition. If there is nothing wrong with it but you simply want to retire it then get the 35s. It's not as good as the older calculator in many respect but it brings lots of new stuff too. It would be an interesting calculator to have, just for the change of pace. You may not like it very much but it's not expensive, brand new and easy to get.

Re: In Need of Calculator Advice

*Message #9 Posted by **Vieira, Luiz C. (Brazil)** on 25 Oct 2009, 12:54 a.m.,*
in response to message #8 by Chan Tran

Hi, Chan Tran;

just to ask you if you succeed testing the IR module (HP82242) with the digital camera.

Cheers.

Luiz (Brazil)

Re: In Need of Calculator Advice

*Message #10 Posted by **Chan Tran** on 25 Oct 2009, 10:07 p.m.,*
in response to message #9 by Vieira, Luiz C. (Brazil)

Thanks Luis for asking. I tried and it works but it wasn't what I had in mind. I want to analyze the data (not so much from the 41c but from the TV remote control) so I can replicate it.

Re: In Need of Calculator Advice

*Message #11 Posted by **Thomas Radtke** on 25 Oct 2009, 5:25 a.m.,*
in response to message #1 by Anders Peterson

> Quote:
>
> **3) Just get the 35s**
> No need to seek deals and auctions, and relatively cheap. I have read mixed reviews, some saying

> it is a return to real quality for HP, others saying the buttons are mushy and the design is poor. So I'm not sure what to think.

The keys are quite good, the firmware is the problem. It's buggy. Another problem might be the glossy display.

If you like the 32SII, get one. I very much prefer it over the 35s due to its better display. Try to get a late Singapore model without the fraction bug. There's another bug with this calculator, but you will probably never find it.

Re: In Need of Calculator Advice

*Message #12 Posted by **bill platt** on 25 Oct 2009, 8:44 p.m.,*
in response to message #11 by Thomas Radtke

If you use the "equation" feature of the 32sii you most certainly will find the bug, and it will drive you nuts! It messed me up a few times.

Correction [was: Re: In Need of Calculator Advice]

*Message #13 Posted by **Thomas Radtke** on 2 Nov 2009, 4:37 a.m.,*
in response to message #11 by Thomas Radtke

> Quote:
>
> The keys are quite good, the firmware is the problem.

I have to correct myself. The "arrow up" key on my 35s isn't recognised anymore despite its audible key click. I have to push it real hard. If I had some doubts about this calculator being completely unsuable for any professional task, this is history now.

Dear HP, you lost another customer.

Re: In Need of Calculator Advice

*Message #14 Posted by **Walter B** on 25 Oct 2009, 7:20 a.m.,*
in response to message #1 by Anders Peterson

My recommendations, to be executed top down: IF:

- your 15C is developing some defects, THEN contact Randy at FixThatCalc,
- your 15C displays an asterisk, THEN replace the batteries,
- ELSE continue using it.
- IF you like to see something more powerful, with a better programming interface (commands instead of keycodes), more space, better complex support, etc., THEN look out for a 42S. It may cost some money, but it's the best RPN calc you can get nowadays still, though 20 years old.
- IF you are afraid your 15C may get lost / stolen / destroyed THEN check what you really need and use every day: IF matrices and complex numbers are not in THEN buy a 35S, ELSE take even better care of your 15C. The 35S is a nice straightforward affordable calc, but you may be disappointed since you know a better tool already.

HTH,

Walter

Re: In Need of Calculator Advice

*Message #15 Posted by **Anders Peterson** on 25 Oct 2009, 10:43 a.m.,*
in response to message #14 by Walter B

Thank you everyone for your great input. What an awesome forum community you have here!

I have decided to put all my responses together to keep this thread from becoming a mess.

I suppose I should have provided more information on my calculator needs, but I did not want to make my post so long that no one would want to read it. I am a college student, and am also involved in biological research. Basic scientific functions, and ease of their use is a major factor for me. Statistical capabilities are also very important (this is also what I write programs for much of the time).

I don't think the 33s will work for me. It could be that the reviews I have read blasting the keyboard responsiveness of that model are incorrect, but in the end I want a calculator that I can really enjoy using, and though cost is a major consideration for me, the 33s is just so hideous that I have pretty much ruled it out.

Thanks for the tip about matrix support. I did not realize the 42s is the only one of those models that has matrices. They are not essential for me (I do have a TI grapher), but they are important, and that really bumps the 42s up on my list. Complex numbers are not as big of a deal for me.

I checked out the fixmycalc website, and they are not taking new repair orders due to overwhelming demand. That is not really an ideal option anyway. I would like to get my 15c fixed up at some point, but I need a calculator daily so I would have to get another one anyway if I send my 15c out. The truth is I could be overly paranoid about my 15c. It is functioning pretty well. The biggest issue is that the "f" (gold shift) key does not register about a third to a half of the times I hit it. There are a couple of more minor key issues, but nothing is completely broken. Furthermore, no matter what I get to replace it, I will definitely miss the "landscape" keyboard layout. I find it so much better than typical calculator layouts. That is actually the main reason I was interested in the 28s, but I'm not sure it would really be the same since it has the hinge. It seems like it would have to be laid on a surface to use.

I enjoy programming features, and consider them a necessity, but don't really require anything more than my 15c can do (though I expect I might come to enjoy additional capabilities). I really have no need for a grapher, and want something compact (I actually do like to stick my calculator in my shirt pocket from time to time).

As for hunting down a deal on a rough but functional 15c, that is basically what I already have (I should have been more clear about its condition in my original post). My issue is also that it is hard to tell if rough looking calculators are really going to be fully functional, and I can't really afford to take the risk and get a loser.

The 35s is looking like a good option, but the bugs mentioned by Thomas Radtke concern me. I will have to see if I can find any information about what functions are affected. The only other issue I have with the 35s is that it looks like it is a bit larger than the Pioneer models (and of course the fact that I now know it does not do matrices).

At this point, I am thinking my strategy will be as follows. I may be overreacting to small issues with my 15c, but I still think it's a good idea to get another calculator for a variety of reasons. It seems like the 42s might be the way to go if I can find a deal (I have downloaded a program called free42 to check out how it works, and the menu system would take some getting used to, but the 2 line display is nice, and it definitely seems to more than meet my needs). However, if I can't find a deal on a 42s, I may just pick up a 35s if I can find out whether those bugs will be an issue for me (obviously only if I find that they will not be). Once I have another solid calculator, I will be free to send my 15c into the shop if I feel it is

necessary. So I have all but ruled out the 32sii (it was my number one option coming in so this information has really helped me out).

Anyway, thank you to everyone, and please feel free to give me more feedback as I am still not certain what I will do.

Thanks,

Anders

Re: In Need of Calculator Advice

*Message #16 Posted by **Walter B** on 25 Oct 2009, 10:57 a.m.,*
in response to message #15 by Anders Peterson

God dag Anders,

For a list of the bugs of the 35S, please check here.

HTH,

Walter

Re: In Need of Calculator Advice

*Message #17 Posted by **Anders Peterson** on 25 Oct 2009, 11:05 a.m.,*
in response to message #16 by Walter B

Wow, that is a troubling list. How on earth can HP's current top scientific model be so buggy?! Anyway, thanks for the link (is there any information that is not somewhere on this website?). I have some more thinking to do now.

Re: In Need of Calculator Advice

*Message #18 Posted by **Michael Plant** on 25 Oct 2009, 11:42 a.m.,*
in response to message #15 by Anders Peterson

> Quote:
>
> I don't think the 33s will work for me. It could be that the reviews I have read blasting the keyboard responsiveness of that model are incorrect, but in the end I want a calculator that I can really enjoy using, and though cost is a major consideration for me, the 33s is just so hideous that I have pretty much ruled it out.

I thought that this would be the case as well. However, having picked up an absolutely mint one on eBay for under $20, I have to say that in many ways I prefer it to my 35s. My main complaint is the legibility of the second and third key functions scripts - the purple and green are pretty washed out on the keyboard in most lighting conditions so that ALL text looks black. Other than that, I like it a lot.

YMMV

Re: In Need of Calculator Advice

*Message #19 Posted by **Mark Edmonds** on 25 Oct 2009, 12:24 p.m.,*
in response to message #15 by Anders Peterson

> Quote:
>
> So I have all but ruled out the 32sii (it was my number one option coming in so this information has really helped me out).

Personally, I wouldn't rule out the 32sII that quickly. It is arguably one of HP's finest in many respects - ease and speed of use, superb Pioneer form factor, construction and so on. The 35S doesn't do much more than the 32sII already does but the 35S is really a rather horrible affair in my book.

I know the 32sII doesn't do matrices or complex like the 15C but you've already said you don't need complex. I've never found matrices especially fun on any calc anyway but I don't use them much.

Unless there has been a surge on 32sII prices recently, I didn't think they go for much different than a new 35S and as a really well-balanced general purpose calc which is a lot of fun, the 32sII is a good solid buy. I really like it a lot and the older 32s is pretty good as well (but goes for higher prices).

So my advice would be - don't discount the 32sII totally as it has a lot to offer and even if you need more specialised functions in a different calc, having a 32sII for quickly bashing out calculations on a keyboard where everything is to hand is satisfying. I understand there is a speed-calculator competition somewhere and the calc of choice for people taking part is the 32sII because it is so quick and easy. That should tell you something about it, especially if you consider navigating your way round the maze of menus in a 42s (arrrggh!!!!).

Mark

Re: In Need of Calculator Advice

*Message #20 Posted by **Lutz Jacob** on 25 Oct 2009, 2:05 p.m.,*
in response to message #15 by Anders Peterson

A while ago I bought a new 35s as a light replacement for the 48SX and 48GII. But some of those bugs, especialy the display of floating point numbers and the handling of hexadecimal and binary, made it unusable in my job. So I went for a 33s and got a refurbished one from ebay at a very resonable price. No problems with the keyboard, and everything works as expected, so I'm very happy with it. I even got used to the Enter key in the lower right and meanwhile I find this a real improvement in usability.

Re: In Need of Calculator Advice

*Message #21 Posted by **John B. Smitherman** on 25 Oct 2009, 7:33 p.m.,*
in response to message #20 by Lutz Jacob

I agree. The Enter key should be grouped with the +,-,x,/. On the 34c the Enter key and +,-,x,/ are on the left side of the keypad but on the 32sii the Enter key is on the left and the +,-,x,/ are on the right. At some point these important functions were separated. I prefer to have them grouped together as on the 34c or the 33s and not like the 32sii and 35s.

Regards,

John

Re: In Need of Calculator Advice

*Message #22 Posted by **vq** on 25 Oct 2009, 7:54 p.m.,*

in response to message #20 by Lutz Jacob

Similar with me, only I went through 33s (found the 26 storage places a limitation), bought 35S (found some terrible problems like not showing the Exx portion!!, shifted STO, having to press XEQ A AND ENTER etc.). I also have a 50g which is fine but rather large for quite simple tasks I use it for. Now, my 35S is totally unused, 33S and 50g in use. Conclusion: 33S got extremely harsh response from tradition-loving users (what a keyboard layout! - in fact it's probably better than 35S keyboard layout), but it works much better than the (at first) praised 35S. Very good value for money.

Re: In Need of Calculator Advice

*Message #23 Posted by **Jeff Kearns** on 26 Oct 2009, 2:26 p.m.,*
in response to message #22 by vq

I also find the 33s to have gotten a bad wrap. Sure, at first glance it looks a little funky and un-traditional, but it is a great little calculator nonetheless.

I have the 15C, 32sii, 42s, 35s, and several graphing calcs (11 different HP models in all). I strongly recommend, based on your intended use of the calculator, getting the 33s as your replacement calculator. You will be pleasantly surprised with its rather well thought-out keyboard. It truly is the evolution of the 32sii (just not as aesthetically pleasing).

Jeff Kearns

Re: In Need of Calculator Advice

*Message #24 Posted by **Don Shepherd** on 26 Oct 2009, 5:42 p.m.,*
in response to message #23 by Jeff Kearns

> Quote:
>
> the 33s is a great little calculator nonetheless.

That's right. And if you are into programming, it is very FAST, much faster than its successor the 35s.

Don

Re: In Need of Calculator Advice

*Message #25 Posted by **Herbert Crepaz (UK)** on 25 Oct 2009, 3:33 p.m.,*
in response to message #15 by Anders Peterson

```
Hi Anders,
Luckily I own both the 35S and 42S :-), so I may add some comments for comparison.


The 35S:
* no matrix capabilities but a built in solver for 2x2 and 3x3 linear equations and
a unique vector data type.
* Complex number support is only partially implemented (fully in the 42S) but still
quite usable.
* Linear regression and interpolation is available in the 35S. The automatic
selection of the best model among various nonlinear regression modes can be
programmed (built in in the 42S).
* a useful and timesaving equation mode; No need to write a program to use the
solver or numeric integration but only single letter variables! This makes things
quite confusing when you have lots of equations stored.
* a built in constants library and mode to calculate with fractions
```

```
* a superb carrying case
* some quirqs: bugs in trig functions for large arguments,shifted sto key, hex mode,
polar->rect, ...


The 42S
* state of the art pocket sized RPN calculator
* top notch build quality
* full matrix and complex number support
* clean keyboard layout, many functions hidden in menus
* multiletter alphanumeric variable names -> meaningfull names
* loads of programs available (HP41 compatible)


At the end, both are useful tools. The 42S is still at the top of the RPN model
range but you have to pay the price accordingly.


Ps.) For a pack of HP35S statistic programs have a look at Namir Shammas webpage.
http://www.namirshammas.com/index.htm
He is a frequent and esteemed contributor to this forum.


Cheers,
Herbert
```

Re: In Need of Calculator Advice

*Message #26 Posted by **John B. Smitherman** on 25 Oct 2009, 7:22 p.m.,*
in response to message #15 by Anders Peterson

You should consider supplementing your 15c use with a 12c. Depending on your needs for arithmetic (+,-,x,/), scientific functions, programming and portability the 12c could possibly be sufficient and extend the life of your 15c.

Good Luck!

John

Re: In Need of Calculator Advice

*Message #27 Posted by **bill platt** on 25 Oct 2009, 8:49 p.m.,*
in response to message #15 by Anders Peterson

Well, Anders, your experience is a perfect capture of what has bothered countless thousands of HP users for over a decade: Nothing exists in their lineup to properly pick up where the 15c left off. Nothing. Only the big graphing calcs, and they are big. They are not in the same league. They are sledgehammers where a pair of tweezers is desired. And that, is the reality.

Edited: 25 Oct 2009, 8:50 p.m.

Re: In Need of Calculator Advice

*Message #28 Posted by **Nigel J Dowrick** on 26 Oct 2009, 4:54 a.m.,*
in response to message #15 by Anders Peterson

Have you considered a non-HP calculator? Given your need for statistical functions and your desire for something small, perhaps you should look at the Casio FX-9860G Slim. It supports matrices; it has a built-in spreadsheet useful for handling experimental data; it will draw graphs if you want it to. The number of built-in statistical functions is quite extraordinary. It's not RPN, but two (at least) RPN calculator programs are available to run on it. One of these (Reckon) has matrix support: you can find information about it on this forum.

I really like this calculator. It isn't drop-dead gorgeous like the HP-15C, but it's well-made, well-designed, and very usable. It is definitely worth thinking about!

Nigel

Re: In Need of Calculator Advice

*Message #29 Posted by **Martin Pinckney** on 26 Oct 2009, 7:48 a.m.,*
in response to message #28 by Nigel J Dowrick

Sacrilege!

Re: In Need of Calculator Advice

*Message #30 Posted by **Ron Ross** on 26 Oct 2009, 8:58 a.m.,*
in response to message #29 by Martin Pinckney

I agree!!! Burn the Heritic!!!

Sadly, I also agree with the Heritic, the Casio is a great choice. (But I didn't say it first AND I learn by example!!!) 8^)

Another good selection (IF you don't need trig) is the Hp17Bii. You can get the older Hp17Bii for NOT a lot of money and the newest one also looks pretty good.

While it doesn't have formal programming, its solver is capable of implementing Cramer's Rule for matrix solutions. The older one of renown quality has 7K of RAM available which is actually plenty since you have no I/O ability aside from an IR printer. The newer one has 32K of RAM and same I/O as earlier model.

But the main reason I suggest it, is that it is one of the best pocket calculators for Statistics available. It has list based stats with a strong function set in stats. And what it doesn't have can easily be remedied with its built in solver.

As anyone here with a 32K model Hp42s or newer Hp17Bii, THAT extra RAM is really useless, unless you have extreme persaverance. One MEMORY LOST on you LCD display will re-adjust your love of the 32K of ram you have installed. Yes, my Hp42s will never be short on memory and I actually have added ram to a few calculators (I like the pry and peel method as if it is done right, leaves NO idication of work). However, without anyway to save programs, any large amount of programming is LOST and that can be very annoying. That is the reason I switched over to a 48G model.

Edited: 26 Oct 2009, 9:54 a.m.

Re: In Need of Calculator Advice

*Message #31 Posted by **Nigel J Dowrick** on 26 Oct 2009, 10:44 a.m.,*
in response to message #30 by Ron Ross

Thank you for the relatively mild reactions to my heretical suggestion! I had expected to be hung, drawn, and quartered at the very least. Seriously, the FX-9860G is a nice machine for which Casio provides firmware updates and a SDK for writing C/C++ programs. The only modern machine which HP supports in a similar way is the HP-50g, a machine that I admire but find too unwieldy in every sense for regular use.

One further point in the Casio's favour is its USB port allowing programs and data to be easily backed up. It can also be linked to datalogging equipment, although I haven't tried this myself.

This calculator should be on the shortlist of anyone looking for a small but powerful scientific calculator. It is powerful and a lot of fun!

Nigel the Heretic (who does actually own and enjoy a lot of HP calculators too!)

Re: In Need of Calculator Advice

*Message #32 Posted by **Bill Zimmerly** on 26 Oct 2009, 1:42 p.m.,*
in response to message #1 by Anders Peterson

I think the 50G is the very best, offering the most options for all calculating problems. Great display, great keyboard, great software, file manager, SD card backup, inexpensive, new, etc. How could you go wrong with that? I can only think of two ways that the 15C is better - battery life and portability.

Re: In Need of Calculator Advice

*Message #33 Posted by **Anders Peterson** on 7 Nov 2009, 3:24 p.m.,*
in response to message #1 by Anders Peterson

I just wanted to say thanks a bunch to everyone again. I got a lot out of this feedback, and ended up going with an option that I had not even been considering at first, the 33s.

I still find it somewhat lacking in appearance, and find the keyboard labeling somewhat crowded, and the unusual angles make a little more difficult to get used to. However, I really like this calculator, and its appearance does not bother me as much as I had thought it would. It serves my needs very well, and I saved a ton of money by getting it rather than an older model (I picked up a new 33s for $30!). Overall, I am very pleased with it.

Edited: 7 Nov 2009, 3:25 p.m.

Re: In Need of Calculator Advice

*Message #34 Posted by **db (martinez, ca.)** on 8 Nov 2009, 1:50 a.m.,*
in response to message #33 by Anders Peterson

one thing that's still bad about it is the small decimal point, even on the second generation one that i have. if that bothers you; try switching it to the euro display where the radix is a (larger) comma and the separator is a decimal.
as you said: not a bad unit for the price.

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IR link for HP 28s

*Message #1 Posted by **Frank Rottgardt** on 24 Oct 2009, 10:24 a.m.*

Found this on Hpcalc.org

HP Read 1.3

"DOS program which reads data sent by infrared pulses from an HP calculator (such as an HP-28S) to a Radio Shack GP1U52X Infrared Receiver"

How well does this program work with a 28s and can it be used to save programs on a PC? Have not yet had a closer look on this Radio Shack IR receiver and if it still is available. What PC-hardware is required to be able to run this type of receiver (drivers, adapters etc.)?

Is there anybody out there having tried this program together with an 28s?

Re: IR link for HP 28s

*Message #2 Posted by **sylvandb** on 24 Oct 2009, 1:06 p.m.,*
in response to message #1 by Frank Rottgardt

I don't recall anything special about the GP1U52X. It is a simple three-terminal (+5v, data, common) IR demodulator. I'm skeptical how well it would work with the 28s (was the 28s IR modulated or simple data burst?), but it sounds like it works sufficiently.

There are many modern equivalent IR demodulators and they probably would work about the same. However all of them are designed to work with consumer IR (remote control) and/or Serial Infrared (SIR) modulated signals, not necessarily the calculator IR.

The "DOS program" was the driver.

Hardware required is a power supply and a data input, both with the required voltage level (the old devices were all 5v, modern stuff is usually lower voltage).

The LIRC project has many plans for connecting IR demodulators to a serial port, using the handshaking outputs for power and data input and software to decode the binary pulses. However LIRC is intended for consumer IR (remote control) signals, not the calculator IR and not SIR.

sdb

Re: IR link for HP 28s

*Message #3 Posted by **Frank Rottgardt** on 25 Oct 2009, 9:59 a.m.,*
in response to message #2 by sylvandb

Thanks everybody for the technical input.

However, it seems to be easier to establish the link to the 28s with help of a 48GX I also own and software provided from Christoph G. To get the data later from the 48 to my laptop should not be a problem. However, I am not talking about a ROM image, rather User RPL programs I would like to "save" in digital form.

So I wonder in what format the 28s is sending data to the standard HP printers resp. 48 (plain ASCII code? ?)

I think there also exists a HP printer emulator that can be used together with EMU48? Maybe the raw data transfered from the HP28 to the 48 can be loaded into EMU48 and send to the printer emulator in order to make User-RPL "visible" again? In the end I only want to make a print out of my RPL programs which is much more comfortable that writing them down.

Re: IR link for HP 28s

*Message #4 Posted by **Eric Smith** on 24 Oct 2009, 5:12 p.m.,*
in response to message #1 by Frank Rottgardt

I've used it in the past with the 28 and 48. It worked fine on MS-DOS 6.22. I don't know if it will work properly under any version of Windows.

The GP1U52X had the advantage of being available from Radio Shack (is it still?), but an IR receiver/demodulator with a 32.768 kHz center frequency will work better than the 42 kHz of the Sharp GP1U52X.

The GP1U52X requires that its metal shield be grounded well, or it will not work well. The IR receivers from Vishay don't have this issue. You might try the Vishay TSOP4838, which is available from Mouser. It has a center frequency of 38 kHz, reasonably close to the calculator's 32.768 kHz. The TSOP4833 would be even better, with a 33 kHz center frequency, but Mouser does not stock it.

Re: IR link for HP 28s

*Message #5 Posted by **Eric Smith** on 24 Oct 2009, 5:52 p.m.,*
in response to message #4 by Eric Smith

Newark Electronics has the Vishay TSOP4833 in stock. The Newark web site incorrectly refers to it as an IR emitter, but the Vishay data sheet confirms that it is a receiver.

I've used the Vishay parts for other IR receive applications. I have not yet used one to receive from HP calculators, though I expect it should work quite well.

If you use the Vishay part rather than the Sharp, make sure you check the pinout and wire it correctly. Both parts have three pins, power, ground, and logic output, but they might not be in the same order.

Edited: 24 Oct 2009, 5:54 p.m.

Re: IR link for HP 28s

*Message #6 Posted by **Christoph Giesselink** on 25 Oct 2009, 6:04 p.m.,*
in response to message #5 by Eric Smith

Hello Eric,

from own tests the Vishay TSOP4833 isn't working in connection with the HP Redeye protocol. The earlier, but sold out, TSOP1833 does.

In every article you see that the TSOP4833 is the successor of the TSOP1833, but different TSOP4833 don't work where TSOP1833 work without problems.

Where's the difference in the data sheet?

After several hours I found a difference:

TSOP1833: Suitable burst length >=6 cycles/burst

TSOP4833: Suitable burst length >=10 cycles/burst

The HP-Redeye protocol defines 6-8 cylces (7 at the HP28 and HP42) for one IR burst and that seem too less for the TSOP4833.

Cheers

Christoph

Re: IR link for HP 28s

*Message #7 Posted by **Eric Smith** on 25 Oct 2009, 10:49 p.m.,*
in response to message #6 by Christoph Giesselink

Good detective work! I hadn't noticed the minimum burst spec. It's a shame that the new part won't work. It appears that they phased out all of the old parts that were specified for 5.0V +/- 10% operation, in favor of new parts that work over a wider supply range.

The Vishay web site lists some parts designed for "fast" IR protocols. Perhaps the TSOP4133 might work. The burst and gap specs seem similar to those of the old TSOP1833.

Re: IR link for HP 28s

*Message #8 Posted by **Christoph Giesselink** on 25 Oct 2009, 6:47 p.m.,*
in response to message #1 by Frank Rottgardt

Hello Frank,

using such receivers is quite a problem today. Solutions like HP Read need a native DOS operating system. At end of the 80'ies there where a commercial product called PrintHP sold in Germany. This product used a control line of the serial port for input. But a 486DX2 66 was too fast for this solution. I personally wrote a DOS receiver program for the PrintHP hardware in the early 90'ies (latest change in 1993) which worked also on faster PC's.

My latest try with my own written receiver was some years ago was on a P3/850MHz on MSDOS 6.2. It worked, but was very critical to get a proper result. With this program I captured all my UserRPL programs on the HP28S in 1993. After removing the checksum bits, the HP28S output is ASCII in Roman8 character set. About 10 year later I used the captured data to transfer them to an emulated HP28S. :)

My personal solution today for capturing data from the Redeye port is a self made hardware with a TSOP1833 receiver, a 8052 compatible MC decoding the data and sending them over RS232C to the PC.

Drop an email if you want to have a sample of a HP28S printer output.

Cheers

Christoph

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MLDL2000, Clonix/NoVRAM/NoV32, PILBox ... Users/Owners? New stuff?

*Message #1 Posted by **Vieira, Luiz C. (Brazil)** on 23 Oct 2009, 11:54 p.m.*

Hi, all;

I have two MLDL2000 (building the second one these days), one NoVRAM and one NoV32. I think these are some of the (if not THE) best devices available to the HP41, mostly because we can emulate almost every module available to it. Some 'weird breed', like the X-Functions, Time Module and any other with something more than ROM data, have not yet been cloned. But it seems to be a matter of time and dedicated people. So far, HEPAX with additional RAM are two major features these two marvelous hardware can emulate. Now we have the PILBox which bridges the HPIL to the rest of the USB world.

These 'guys' share the use of new technology to emulate ancient (30 Y.O.!) technology, and if we stop to think of what HP was doing at that time, we just reason about the fact that many of us still use this ancient technology with a bit of pleasant surprise when we find out that these old dogs still can learn new tricks. And I mean, for example, Ángel Martin having fun and amusing us all with a double ROM dedicated to complex arithmetic and stack manipulation. I stand amused!

Well, the best places to test Ángel are these new devices or the original ones who served as models (lucky you who has any...). So, which of us here are doing something more than storing ROM images in their MLDL2000 or Clonix/NovRAM/NoV32, etc? I have an idea but I must acquire additional background to start thinking of a feasible design.

And what about the existing ROM images? TOS has many, many of us know that some rare images exist somewhere, but are there anything new apart Ángel´s 'Complex with Stack ROM' (Sandmath 5, right?) I found two or three recent, new ROM´s at TOS, and also some listings to initialize HEPAX RAM, but I am not aware of any other sources nor news. Any new info about these, too?

I do not intend to start a deep thread, but I would actually like to be updated in relation to these subjects.

Thanks.

Cheers.

Luiz (Brazil)

Edited: 23 Oct 2009, 11:59 p.m.

Re: MLDL2000, Clonix/NoVRAM/NoV32, PILBox ... Users/Owners? New stuff?

*Message #2 Posted by **Ángel Martin** on 24 Oct 2009, 2:13 a.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

Hi Luiz,

As you well say the new devices are instrumental (and the only real way) to put the new software to work on real 41's. I have sound copies of both the 41Z and the SandMath modules running on my MLDL2k and

NoV32, as well on the V41 PC emulator. I don't have an iPhone but I must admit having been tempted to get one just to run them on it as well :)

There are other new modules, with fantastic features and intriguing possibilities. Peter Platzer's Multi Precision Library is a good example, and Doug Wilder's DISASM and BLDROM roms are a must-have on every serious 41 user. And there are many others I'm not using or just forget about right now... even a TCPIC rom! (How about " Control your fridge over the internet with your 41" ?? :)

In fact this is perhaps the success of the 41 platform, being an open environment where people can extend and expand things as they need or just feel like. By releasing the VASM to the open public HP allowed this sustained loyalty to the system, and was the trigger to establish the 41 as something worthwhile using 30 years later... a remarkable move, bold and not exempt of risk those days.

Unfortunately that was also the end to the hope for "revival editions" of the 41. I've been reflecting on this lately, and have come to the conclusion that we'll never see a 45S machine similar to the 35S building on the 35. Besides, what's to be revived? Certainly not the HP-IL bus, which remains as one of the finest examples of clever and ingenious engineering from HP. Not the SW either, as the programming examples amply demonstrate. But the speed of a new CPU of course that'll be a superb gift, not to mention a more capable display... Beyond that, I'm not sure.

And this is letting aside all the other real-world considerations about what companies are like these days, compared to how things (the world, really) was 30 years ago. I don't mean to sound nostalgic (hey, I'm the one programming MCODE versions of NPR and NCR on the 41, remember?) but let's face it: HP is not a philantropic organization, and arguably they shouldn't be!

But (and this is the saddest part of all) even if they were, I very much doubt they could do it nowadays. I know this will sound foolish but I'm convinced they've lost the capability to reproduce something like the 41 system in all its splendor. I don't even believe there are archived copies of the source documents anywhere to be found anymore... let alone people left who could do anything with them. Of course you could run emulations over simulators over replicators over... you get my point, but would that be consider a feat? Let's face it: a quantum leap occurred from the 67 to the 41, but that's just impossible to replicate.

Enough said, of course just my own opinion and probably not valid to anyone else. Sorry it's kinda long - hope it strikes some good discussion as your message has already.

Best wishes, 'AM

Edited: 24 Oct 2009, 2:25 a.m.

Re: MLDL2000, Clonix/NoVRAM/NoV32, PILBox ... Users/Owners? New stuff?

*Message #3 Posted by **Monte Dalrymple** on 24 Oct 2009, 6:57 p.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

http://www.systemyde.com/images/photo_2.jpg

... be aware that it's a large (~3MB) file

OK, now you have my attention...

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 24 Oct 2009, 8:28 p.m.,*
in response to message #3 by Monte Dalrymple

Hi, Monte;

thank you for causing me some catatonic moments... I loved it! c]8^D

I remember reading about the Newt processor some years ago, and I also asked about it (don´t remember if it was in a post or an e-mail), and I tried to relate the 41CL (3MB picture) to it. Also, I remember the layout of the Systemyde homepage as somehow familiar.

Can I (we) have a few words about the picture?I found no specific links to anything I thought was related to the picture. I also tried a hotlink (http://www.systemyde.com/images/) but apart of the 3.3MB picture you showed us, all others are small GIF´s.

Cheers!

Luiz (Brazil)

Re: OK, now you have my attention...

*Message #5 Posted by **Monte Dalrymple** on 25 Oct 2009, 12:21 a.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

Hello Luiz,

The home page for the project is at http://www.systemyde.com/hp41

You'll find the manual there... the last few pages of which have some more details about what's in the photo.

I'll start populating and debugging the board this week. I'm hoping the bring-up of the board goes smoothly, as I've just realized that it's going to be a pain to reprogram the flash memory if there's anything wrong with the cpu. We'll see.

I've had a magazine article about the project accepted, so I'll post a notice when that appears in print.

Thanks, Monte

Re: OK, now you have my attention...

*Message #6 Posted by **Paul Dale** on 25 Oct 2009, 1:18 a.m.,*
in response to message #5 by Monte Dalrymple

Awesome, thanks for the pointer.

Looks like a very interesting project.

- Pauli

Re: OK, now you have my attention...

*Message #7 Posted by **Ángel Martin** on 26 Oct 2009, 2:11 a.m.,*
in response to message #5 by Monte Dalrymple

A new ray of hope has just crossed the obscurity :)

It looks quite under way, hope it sees the daylight soon!

"AM

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How you know you're getting older...

*Message #1 Posted by **Michael Meyer** on 23 Oct 2009, 9:51 p.m.*

So, I was somehow the only bidder for a TI-59 with printer, multiple modules, lots of books, etc. ($5)

I haven't repaired a TI-59 card reader for awhile, so I did an internet search for advice.

I found an old posting on the HP Museum site describing how to do it. It wasn't until I read the posting that I realized that I had written it...almost 7 years ago.

You know you're getting older when you end up finding your own advice on the internet!

Re: How you know you're getting older...

*Message #2 Posted by **Bruce Bergman** on 23 Oct 2009, 9:59 p.m.,*
in response to message #1 by Michael Meyer

LOL! You gave me my first full belly laugh today. Hilarious!

thanks!

bruce

Re: How you know you're getting older...

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 23 Oct 2009, 10:05 p.m.,*
in response to message #1 by Michael Meyer

Hi, Doc;

I´d suggest you some therapy, but...

Cheers.

Luiz (Brazil)

Re: How you know you're getting older...

*Message #4 Posted by **DavidShenk** on 24 Oct 2009, 12:33 a.m.,*
in response to message #1 by Michael Meyer

Thank you for that! Who knew reading through the HP forum could be so entertaining.

Dave

Re: How you know you're getting older...

*Message #5 Posted by **Walter B** on 24 Oct 2009, 5:56 a.m.,*
in response to message #1 by Michael Meyer

It will start becoming severe when you find yourself *surprised* finding your own advice in the net - or you can't remember Mr. Alzheimer's first name anymore ;)

Take care!

Re: How you know you're getting older...

*Message #6 Posted by **Paul Dale** on 24 Oct 2009, 6:01 a.m.,*
in response to message #5 by Walter B

He had a first name? What a surprise. Was it even a he???

- Pauli

Re: How you know you're getting older...

*Message #7 Posted by **Michael Meyer** on 25 Oct 2009, 12:36 a.m.,*
in response to message #6 by Paul Dale

I was trying to come up with a "vanity plate" for the car a few years ago. My final 2 were:

MEM LOST and RTN2RPN

I guess I'll stick with MEM LOST.

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Totally off-topic but still calculator related

*Message #1 Posted by **hecube** on 23 Oct 2009, 4:24 p.m.*

I just received a Sharp EL-5100.

What an incredible machine. Wow. It looks like a jewel. It looks and feels way better than anything on the market right now.

Re: Totally off-topic but still calculator related

*Message #2 Posted by **Eric Smith** on 23 Oct 2009, 6:33 p.m.,*
in response to message #1 by hecube

I bought a Sharp EL-5100 when they first came out. It's a nice calculator, but if I needed an algebraic calculator today, I'd much rather have something like the Casio fx-115ES (or fx-991ES).

Re: Totally off-topic but still calculator related

*Message #3 Posted by **Mark Edmonds** on 23 Oct 2009, 6:38 p.m.,*
in response to message #1 by hecube

Yes, it is an amazingly svelte and thin machine. It makes the Voyagers look like elephants! Did you get the 5100 or 5100S? The 5100 have the old style LCD which bleeds badly so most of those type are probably doomed to die with a black LCD. Sad fate for such a lovely calc.

Mark

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David Shenk´s 'Soldering Upgrades in my 42s': any success?

*Message #1 Posted by **Vieira, Luiz C. (Brazil)** on 23 Oct 2009, 12:46 p.m.*

Hi, David;

just to ask if you succeeded soldering the 32KRAM IC.

Best regards.

Luiz (Brazil)

Edited: 23 Oct 2009, 12:54 p.m.

Success!

*Message #2 Posted by **DavidShenk** on 24 Oct 2009, 12:21 a.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

Luiz,

Yes! I just finished tonight and it works! Well, it didn't work initially. I had trouble getting the 42S to turn back on, then finally it said "memory reset" but then froze up. I took the batteries back out and found a few places that needed some touch up. I also went back over the jumper that is removed to make sure it wasn't making any contact. That seemed to do the trick and it is now working properly and reporting it's newly found memory.

I had ordered some new soldering tips as well as a fine solder wire, 0.020 inch. I ended up doing it your way and used the fine wire and the tip I was having trouble with. That method worked great for me. I also have a magnifying hood that is a must.

Thank you for all of the help and hand-holding. Thanks also to the others that had ideas. I am looking forward to doing some testing with the other soldering methods.

Dave

Re: Success! And good luck!

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 24 Oct 2009, 1:32 a.m.,*
in response to message #2 by DavidShenk

Hi, David;

I guess I speak in the name of all others when I say that the best 'reward' (if I can say so) is the success of all our friends and contributors, here. I feel sincerely happy for you as I felt the many times I succeeded bringing calculators back to life or after an upgrade. For these days I´m building my second MLDL2000, and it´s been actually fun. If you have not seen any of these yet, please, have a look at the official site and be my guest here (my MLDL2000 assembly) I added three new pics showing the internal connector with

some more details.

As you have any news or needs, please, let us know.

Cheers!

Luiz (Brazil)

Edited: 24 Oct 2009, 1:33 a.m.

Re: Success! And good luck!

*Message #4 Posted by **DavidShenk** on 25 Oct 2009, 12:00 a.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

Luiz,

I appreciate the friendly atmosphere here. It is obvious that everyone is dedicated to their machines and getting the most out of them.

Thank you for the link to the MLDL2000. I hadn't seen any of that before. The next 2 calculators I really want to get are a 41CX and a 67. I have done some machine language programming in the past, so this might be a fun extension of my 41. I finished a program for the 42S a while back, but have been lazy and have not submitted it here yet.

Dave

Jumper and HP42S "Memory Clear" versus "Machine Reset"

*Message #5 Posted by **geoff quickfall** on 24 Oct 2009, 2:44 p.m.,*
in response to message #2 by DavidShenk

Yes, I just did my three and each one had a power up problem:

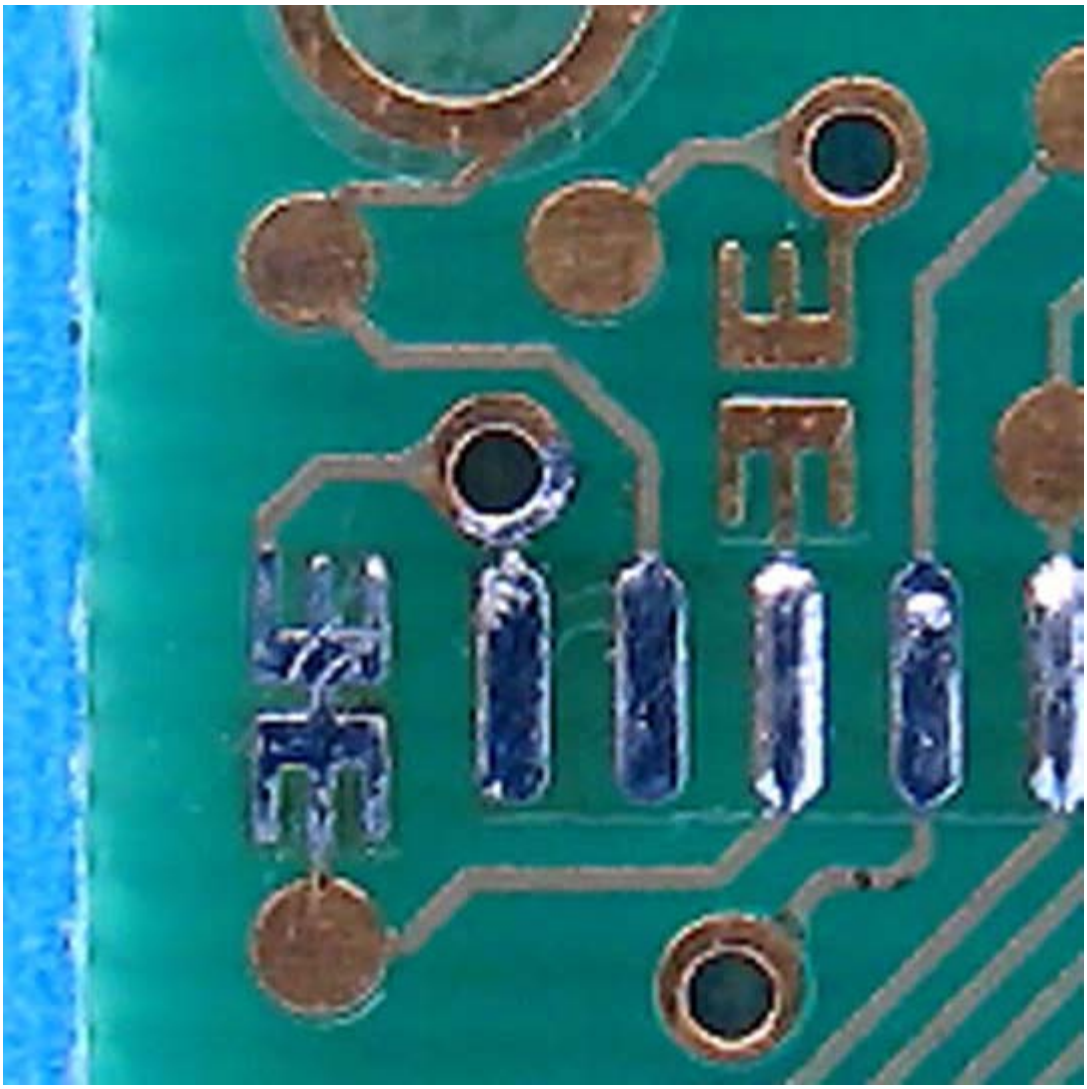
```
one machine said "memory clear" and froze.
Turned out to be a cold solder joint on the
just installed 32K chip.


the other two needed "time outs".
Both had the batteries removed and then the
battery contacts shorted.  This resulted in
"memory clear" followed by "machine reset".
```

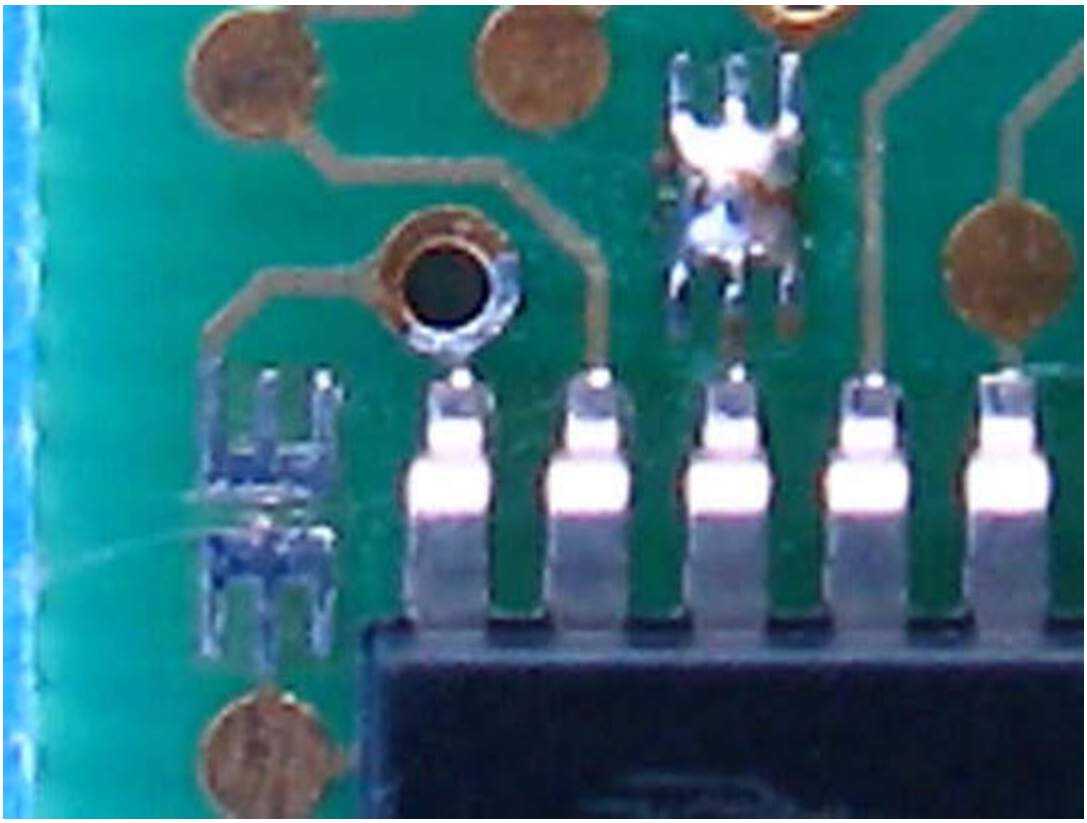
All three pass the diagnostics.

An interesting note about the jumper you remove. It actually did not need the solder to complete the circuit as there is a bridge trace joining the two sides. Contrast this with the jumper that you have to make. It has no bridge. So it is not enough to remove the solder but you have to physically remove the bridge trace.

The jumper with solder removed and the bridge trace apparent while the jumper to be soldered has no bridge trace:



New jumper soldered and the bridge trace physically removed from the old jumper:



Edited: 24 Oct 2009, 2:46 p.m.

Re: Jumper and HP42S "Memory Clear" versus "Machine Reset"

*Message #6 Posted by **DavidShenk** on 24 Oct 2009, 11:52 p.m.,*
in response to message #5 by geoff quickfall

Geoff,

I wasn't expecting the power up problem, but it looks like I'm not the only one. After I went back over everything to make sure it was soldered correctly, I did short the battery terminals as well. So I'm not exactly sure what corrected the problem, but at this point I don't care.

It's interesting that the jumper is permanently connected on the board like that. I wonder why they bother to blob solder on it during production since it's already connected.

I may do the crystal mod as well, but I didn't order any of those when I got the 32K chip. Apparently you can have both crystals in and switch between them. That seems like a very cool idea. I don't yet have a printer, but I would like to get one and would like the calculator to still work with it.

Dave

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Circuit Cellar: HP20B, repurposing a development platform

*Message #1 Posted by **Hubert Weikert** on 23 Oct 2009, 12:04 p.m.*

The November 2009 issue of Circuit Cellar magazine has an article by Cyrille de Brebisson with the title "How to Repurpose a Development Platform".

This forum, the repurposing project's wiki and other references are mentioned ;-)

Hubert

Re: Circuit Cellar: HP20B, repurposing a development platform

*Message #2 Posted by **DaveJ** on 25 Oct 2009, 8:00 p.m.,*
in response to message #1 by Hubert Weikert

Excellent article, great work Cyrille!

And thumbs up to HP for letting him publish it.

Dave.

Edited: 25 Oct 2009, 8:01 p.m.

Re: Circuit Cellar: HP20B, repurposing a development platform

*Message #3 Posted by **Don Shepherd** on 25 Oct 2009, 9:25 p.m.,*
in response to message #2 by DaveJ

Is there any way to see this article without actually subscribing to the magazine?

Re: Circuit Cellar: HP20B, repurposing a development platform

*Message #4 Posted by **DaveJ** on 25 Oct 2009, 10:25 p.m.,*
in response to message #3 by Don Shepherd

You have mail.

Dave.

I want mail too! :-)

*Message #5 Posted by **Gene Wright** on 26 Oct 2009, 7:34 a.m.,*
in response to message #4 by DaveJ

Thanks Dave!

Re: I want mail too! :-)

*Message #6 Posted by **Olivier (Wa)** on 27 Oct 2009, 1:10 a.m.,*
in response to message #5 by Gene Wright

+1!!! Thanks, guys!

Re: Circuit Cellar: HP20B, repurposing a development platform

*Message #7 Posted by **Vieira, Luiz C. (Brazil)** on 25 Oct 2009, 10:44 p.m.,*
in response to message #3 by Don Shepherd

Hi;

I second Don´s wishes... and if I am about to receive an e-mail, the one at the MoHPC no longer works... It should be

linux_lcv At yahoo dOt com DOt br

Cheers.

Luiz (Brazil)

Edited: 25 Oct 2009, 10:46 p.m.

Re: Circuit Cellar: HP20B, repurposing a development platform

*Message #8 Posted by **Walter B** on 26 Oct 2009, 1:45 a.m.,*
in response to message #3 by Don Shepherd

I concur. AFAIK, my MoHPC mail address works.

Thanks in advance,

Walter

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OT: Tutorials for R statistical language

*Message #1 Posted by **Namir** on 23 Oct 2009, 11:46 a.m.*

Hi All,

During the HHC2009 the subject of the open source statistical language R came up. I was surprised that a few attendees were as gong ho about R as I was.

I have posted several tutorials for R on my website (namirshammas[[[dot]]]com). Click on the bottom most link in the main page and you will see the R Master Page with the list of tutorials. All but one link will let you download pdf files.

One of the tutorial deals with automatic best linearized regression model selection for two variables and multiple variables. In the tutorial I mention that the concept of best-model search is inspired by vintage programmable HP calculators. If you tinker in R, I recommend that you check that one and of course the other tutorials too.

Namir

Edited: 23 Oct 2009, 4:11 p.m.

Re: OT: Tutorials for R statistical language

*Message #2 Posted by **Les Bell** on 23 Oct 2009, 9:43 p.m.,*
in response to message #1 by Namir

You are a gentleman and a scholar, Sir!

I'm a moderate R user and have been having some problems with plotting, so I'll be starting straight away with your R 102 Plotting Tutorial.

Thanks for the link!

Best,

--- Les
[http://www.lesbell.com.au]

Re: OT: Tutorials for R statistical language

*Message #3 Posted by **Namir** on 24 Oct 2009, 12:29 a.m.,*
in response to message #2 by Les Bell

You are most welcome Les!

Namir

New Approximations for Inverse PDF

*Message #4 Posted by **Namir** on 24 Oct 2009, 12:37 a.m.,*
in response to message #1 by Namir

I also posted a short PDF file on my web site that has new approximations I was able to obtain for the inverse Normal, Student-t, Chi-square, and F probability distributions. You can find the pdf file when you click here to get to the New Algorithms page and then click on the related link.

The approximations for the inverse probability distributions are shorter than the legacy ones you find in the Handbook of Mathematical Functions and can easily be programmed on your calculators.

Namir

Re: New Approximations for Inverse PDF

*Message #5 Posted by **Paul Dale** on 24 Oct 2009, 1:04 a.m.,*
in response to message #4 by Namir

Thanks for this. Very interesting. No error estimate though :-(I only recently did the 20b scientific probability distributions and the inverses were a major pain. I ended up using the solver code and the cumulative distributions for all the hard cases. Since these functions are relatively well behaved, convergence seems to be fairly quick but I might look into your estimates as better starters...

- Pauli

Re: New Approximations for Inverse PDF

*Message #6 Posted by **Namir** on 24 Oct 2009, 8:55 a.m.,*
in response to message #5 by Paul Dale

I remember I was demanding on these equations. I would be very curious as to what your test comes up with.

Cheers,

Namir

Re: New Approximations for Inverse PDF

*Message #7 Posted by **Tim Wessman** on 24 Oct 2009, 11:20 p.m.,*
in response to message #6 by Namir

You don't happen to have any good, simple approximations for binomial and Poisson cumulative do you? I am aware of the incomplete beta method, which is actually the method used to calculate most of the stat distros and inverses in the 20b, but nothing that is really simple and quick for general usage. I've seen several that do a good job over specific ranges, but I haven't seen one the works decently over the whole range.

TW

Re: New Approximations for Inverse PDF

*Message #8 Posted by **Paul Dale** on 24 Oct 2009, 11:54 p.m.,*
in response to message #7 by Tim Wessman

For Binomial and Poisson you could also sum the individual probabilities directly.

However, I'd go with the regularised incomplete beta and gamma functions for most of the common probability distributions. There are relatively short and quickly converging iterative methods for both.

The inverses aren't so nice :-(

- Pauli

Re: New Approximations for Inverse PDF

*Message #9 Posted by **Tim Wessman** on 29 Oct 2009, 1:37 p.m.,*
in response to message #8 by Paul Dale

Yeah, summing directly works great until you start getting large Ns. Of course you can just use an approximated normal at that point. . .

TW

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How about a poll to liven things up (some more!)

*Message #1 Posted by **Martin Pinckney** on 23 Oct 2009, 9:52 a.m.*

The recent thread innocently started by Jonathan Eisch (Hecube, move over!) about Koss headphones and manufacturer responsiveness here has been so interesting, I propose a poll to see which general viewpoint about re-introduced 15c or improved 42s is shared by the most members on here, DaveJ's or Mike Morrow's.

Keep it simple. Just state "DaveJ", "Mike Morrow" or "none of the above" in your post.

I don't mean which calculator would be your preference, I mean who is more correct about the issues raised.

Not trying to inflame, I just think it would be fun. If either of the two of you object, let me know.

Anyone game?

Edited to add third choice.

Edited: 23 Oct 2009, 12:20 p.m. after one or more responses were posted

Re: How about a poll to liven things up (some more!)

*Message #2 Posted by **Michael Plant** on 23 Oct 2009, 10:35 a.m.,*
in response to message #1 by Martin Pinckney

Dave J.

Sadly, I'm with Dave J. on this one (I WANT to be with Michael Morrow, though!).

A point I haven't yet seen raised is that programmable calcs are virtually extinct in the NA market - how else to explain the Casio fx-5800p and Sharp EL5250 not being available here? I think this is due to TI's amazing marketing of their graphing calcs... Of course, this overlooks the fact that OUTSIDE NA non-graphing scientific programmables are still popular.

Re: How about a poll to liven things up (some more!)

*Message #3 Posted by **Egan Ford** on 23 Oct 2009, 12:05 p.m.,*
in response to message #1 by Martin Pinckney

> Quote:
>
> Keep it simple. Just state "DaveJ" or "Mike Morrow" in your post.

It's not that simple. You should add a 3rd option. None of the above. And there is my vote.

In January 2006 I was still using my 15C and 48GX. I used them as programmables for work, and not just simple calculators. While in a customer meeting (where no electronics could enter and then leave the building) I was forced to do calculations with pen and paper. I made a mental note to learn the abacus and find a $10

disposable RPN. I assumed that they existed--I was wrong.

I'd never visited HP's or any other calculator site until January 2006. I was shocked. RPN was clearly on the way out. And the 49g+ and 33s were abysmal and not $10.

Martin, if you had asked this 3 years ago I would have answered different, but after witnessing the evolution and convergence of many consumer electronics I feel different. The 41CX, 15C, and 48GX were all home runs in their own right. Each offered something critical and relevant and bleeding edge at the time. I'd like to see HP spend their resources on that next home run.

Re: How about a poll to liven things up (some more!)

*Message #4 Posted by **George Bailey (Bedford Falls)** on 24 Oct 2009, 1:38 a.m.,*
in response to message #3 by Egan Ford

> Quote:
>
> a customer meeting (where no electronics could enter and then leave the building)

Wow, would you care to elaborate on what kind of customer that was - without all readers being obligated to never leave this forum and the Internet afterwards? ;-) I don't want you to reveal anything secret here, just a hint on the reason behind this policy.

Edited: 24 Oct 2009, 1:40 a.m.

Re: How about a poll to liven things up (some more!)

*Message #5 Posted by **Bart (UK)** on 24 Oct 2009, 4:04 a.m.,*
in response to message #4 by George Bailey (Bedford Falls)

You have never experienced this? Lucky you.

My response to your question might be: ask no questions, hear no lies.

And don't assume it's government/military, many companies are edgy about their IP. Any electronic device is seen as possibly recording/collecting data. Just think what you could store on an 8GB micro-sd...

One of the most secure places I've been was the national control centre of an electricity transmission/distribution network.

Re: How about a poll to liven things up (some more!)

*Message #6 Posted by **Egan Ford** on 24 Oct 2009, 12:24 p.m.,*
in response to message #5 by Bart (UK)

> Quote:
>
> Any electronic device is seen as possibly recording/collecting data.

Yep, that's the policy.

Re: How about a poll to liven things up (some more!)

*Message #7 Posted by **George Bailey (Bedford Falls)** on 25 Oct 2009, 4:27 a.m.,*
in response to message #6 by Egan Ford

> Quote:
>
> You have never experienced this?

No, I'm not in a profession that involves the possibility of that kind of theft.

> Quote:
>
> Any electronic device is seen as possibly recording/collecting data.
>
> Quote:
>
> Yep, that's the policy.

Meaning you can't take your watches in? Cellphones must obviously be banned. And guys with pacemakers or even hearing aids?

Re: Security and electronic devices

*Message #8 Posted by **Bart (UK)** on 25 Oct 2009, 9:35 a.m.,*
in response to message #7 by George Bailey (Bedford Falls)

I don't have a hearing aid or pacemaker and haven't worn a watch for 15 years, because I use my cellphone clock anyway.

I've had to hand in my car keys with remote though.

Re: How about a poll to liven things up (some more!)

*Message #9 Posted by **Egan Ford** on 25 Oct 2009, 11:49 p.m.,*
in response to message #7 by George Bailey (Bedford Falls)

> Quote:
>
> Meaning you can't take your watches in? Cellphones must obviously be banned. And guys with pacemakers or even hearing aids?

Watches, pacemakers, etc... are fine. Consumer electronics that have the ability to record are generally not allowed (computers, phones, camera, PDAs, etc...). A scientific calculator should not be an issue, but when judge, jury, and executioner is a security guard, why take the chance?

Re: How about a poll to liven things up (some more!)

*Message #10 Posted by **bill platt** on 25 Oct 2009, 10:50 a.m.,*
in response to message #3 by Egan Ford

Sounds like you need to find a new customer. Then again, if the pay is good...

Re: How about a poll to liven things up (some more!)

*Message #11 Posted by **Ken Shaw** on 23 Oct 2009, 12:12 p.m.,*
in response to message #1 by Martin Pinckney

Neither one, although if forced to choose, I would go with Dave J.

The problem with this question is that the 42S is a programmer's calculator. Too many important functions are buried in menus for it to be a successful daily-use calc. That may be why the 32SII was more successful.

OTOH, the 15C is reasonably okay for daily use since everything is there on the keyboard.

So, IMHO, those who prefer the 42S are systematically different in the way they use calculators, and the ongoing contest we see here between champions of one over the other is a question that can never be resolved. As somebody said in the earlier thread, it's comparing chalk and cheese.

Edited: 23 Oct 2009, 12:13 p.m.

Re: How about a poll to liven things up (some more!)

*Message #12 Posted by **Richard Reed** on 23 Oct 2009, 4:18 p.m.,*
in response to message #11 by Ken Shaw

I'm for Mike Morrow, and I think he was arguing for a next home run:

- shirt-pocket size,
- maximum utility (includes ergonomics) without programming,
- programming as a secondary option, but seriously implemented,
- could have a better display and some graphical (don't have to be big) educational features (on-board help?), although I think 42s is great for anyone with trigonometry,
- rudimentary I/O - although programming is secondary, the large basic feature set will always need customisation, and making this aspect more robust is just part of current practice.

Richard

Re: How about a poll to liven things up (some more!)

*Message #13 Posted by **Steve Perkins** on 23 Oct 2009, 4:19 p.m.,*
in response to message #1 by Martin Pinckney

None of the above.

Or rather both of the above.

DaveJ is probably right that HP is closer (easier path) to bringing a HP-15C+ to market, and so they should.

Hopefully they will find out this is economically viable and THEN proceed to bring out an HP-42S+ as well! It should also sell and be profitable for HP if done correctly. Maybe that's just wishfull thinking, but there you have it.

Re: How about a poll to liven things up (some more!)

*Message #14 Posted by **Thomas Radtke** on 24 Oct 2009, 5:15 a.m.,*
in response to message #13 by Steve Perkins

> Quote:

> DaveJ is probably right that HP is closer (easier path) to bringing a HP-15C+ to market, and so they should.

An emulated 15C ist more like a 15C-. After so many years of professional use without encountering a single bug, reliablility is a key feature of this calculator. A new 15C has to start from zero in this respect.

A completely new scientific programmable is even more of a problem. The 35s has shown that HP doesn't have the menpower to write such firmware anymore. They are not even able to debug it! Yep, here it is, the successor to one of the most popular RPN machines, the 32S*, and it carries severe bugs since 2007. Unbelieveable.

Re: How about a poll to liven things up (some more!)

*Message #15 Posted by **Eric Smith** on 24 Oct 2009, 5:34 p.m.,*
in response to message #14 by Thomas Radtke

This is why when HP needed to reengineer the 12C (not the Platinum), to use a new processor, I strongly encouraged them to do it by simulation. Any other method of doing it with their limited resources would have introduced a lot of new bugs, some of which would have been critical. As it turns out, the new 12C did introduce a few bugs, but none of them are critical or affect the numerical results of calculations.

If they introduce a new 15C, it will almost certainly be using the same simulation approach as they've used for the 12C.

Some people here in the forums have said that they won't buy a 15C unless it has a lot of new features compared to the original. HP could do that if they really wanted to, but they would have to engineer this hypothetical enhanced 15C from scratch.

Re: How about a poll to liven things up (some more!)

*Message #16 Posted by **Crawl** on 23 Oct 2009, 11:25 p.m.,*
in response to message #1 by Martin Pinckney

It seemed like they were arguing over matters of fact -- Which would sell more? Which would be easier to rerelease?

But as for my personal opinion, I think I'd rather see the 15C rereleased.

The 42S would fill a narrow, almost pointless niche. It would be more powerful than the 35s. But it would not be the most powerful HP calculator. That would still be the 50g. Over the 42S, the 50g has: A CAS, virtually unlimited storage space for variables and programs (with an SD card), easy connection to PC with USB... Heck, you can even power it with an AC adapter.

If I ever would be tempted to write an ambitious program for the 42S, I'd have to think, "Well, gee, will I just lose this someday, maybe when batteries die?"

On the other hand, for a basic number-cruncher, when the HP50g would be too much or not as convenient, it seems like the 15C would be a better choice. Like other people have said, to get at the 42s's functions, you have to go through menus, while the 15C is all on the keyboard. That's something I think is important for a number cruncher. (I kind of like "cluttered" keyboards -- even aesthetically. I like being able to just look at a calculator and tell how powerful it is.)

Re: How about a poll to liven things up (some more!)

*Message #17 Posted by **Reth** on 23 Oct 2009, 9:35 p.m.,*
in response to message #1 by Martin Pinckney

I see no contradicting views but guess work which one will make it to the market earlier if at all. I'd rather see both calculators on the market again soon. I'd buy both.

Re: How about a poll to liven things up (some more!)

*Message #18 Posted by **DaveJ** on 24 Oct 2009, 6:10 p.m.,*
in response to message #1 by Martin Pinckney

> Quote:
>
> The recent thread innocently started by Jonathan Eisch (Hecube, move over!) about Koss headphones and manufacturer responsiveness here has been so interesting, I propose a poll to see which general viewpoint about re-introduced 15c or improved 42s is shared by the most members on here, DaveJ's or Mike Morrow's.
>
> Keep it simple. Just state "DaveJ", "Mike Morrow" or "none of the above" in your post.
>
> I don't mean which calculator would be your preference, I mean who is more correct about the issues raised.

Dave J! :->

We are mostly talking different things though. Mike is a 42S fanboy so wants to see the 42S reintroduced because it's the most powerful RPN calc ever made. Fair enough.

I'm arguing that the 42S is impractical to bring to market due to the development involved, and therefore the 15C is the only logical choice for HP with their limited resources, like it or not.

I guess the only point on which we are really arguing is over which would be most successful in the non-fanboy consumer market. On this point my argument is the lower price point, novel form factor, and more retro appeal of the 15C would trump the 42S in terms of number of units sold.

Actual margin and actual profit is harder to know, so I'm staying away from that one.

I deliberately did not mention functionality, because I think both have their silly old-style quirks that don't make them a good choice compared to modern machines. Good luck to HP if they try to sell a super-powerful programmable RPN machine with no way to save/store your programs, or a quirky limited 10 digit display scientific landscape calc.

Dave.

Re: How about a poll to liven things up (some more!)

*Message #19 Posted by **Bill Zimmerly** on 26 Oct 2009, 1:50 p.m.,*
in response to message #1 by Martin Pinckney

Why either one? I would like to see something with the form factor of a 15C, the programability of the 41C, and a megabyte or so of storage.

Re: How about a poll to liven things up (some more!)

*Message #20 Posted by **DaveJ** on 26 Oct 2009, 8:08 p.m.,*
in response to message #19 by Bill Zimmerly

> Quote:
>
> Why either one?

Because, realistically, with HP's dwindling calculator resources, ROM simulated machines are quite a viable option in terms of time-to-market and development costs. Not to mention that HP have done market research in this areas and have started to release machines.

The 10C series platform exists in production with the new 12C, and the 42S platform exists in LCD and case design in 17BII+, all they need is a new hardware platform.

It's possible they may release both in due course.

Dave.

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Very OT, but calculator anyway

*Message #1 Posted by **Johnny Bjoern Rasmussen** on 22 Oct 2009, 4:24 p.m.*

Not HP nor RPN, but a little interesting anyway. A very strange looking calculator: KYD-2811

Cheers!

Johnny

Re: Very OT, but calculator anyway

*Message #2 Posted by **Don Shepherd** on 22 Oct 2009, 4:27 p.m.,*
in response to message #1 by Johnny Bjoern Rasmussen

Kinda looks like an electronic abacus!

(edited: wrong link) Very OT, but calculator anyway

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 22 Oct 2009, 4:32 p.m.,*
in response to message #1 by Johnny Bjoern Rasmussen

Hi;

I tried further research and found this link. Seems to me some people are trying news ways to do old tricks...

Cheers.

Luiz (Brazil)

Edited: 22 Oct 2009, 4:37 p.m.

Re: (edited: wrong link) Very OT, but calculator anyway

*Message #4 Posted by **Don Shepherd** on 22 Oct 2009, 5:18 p.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

> Quote:
>
> some people are trying news ways to do old tricks

That may be, but they're going to have to explain things a lot better than this link currently does. I have no ideal what the point of this calculator is. Where are the number keys?

Re: (edited: wrong link) Very OT, but calculator anyway

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 22 Oct 2009, 5:36 p.m.,*
in response to message #4 by Don Shepherd

Hi, Don;

I also tried to find this answers out, but nope! Found nothing but these pages. And you see, it is priced 0.00 (consult vendor, I guess), no PDF available... If it is like an Abacus, then the 'lever-like' middle keys may be the answer: numbers are probably entered in a abacus-fashion... <]8^O

Cheers.

Luiz (Brazil)

Edited: 22 Oct 2009, 5:37 p.m.

Re: (edited: wrong link) Very OT, but calculator anyway

*Message #6 Posted by **Don Shepherd** on 22 Oct 2009, 5:41 p.m.,*
in response to message #5 by Vieira, Luiz C. (Brazil)

Hey, here's a thought, it's a brand new system from HP. None of the keys are labelled, so you program it yourself and define your own keys. Just what we have wanted for years!!

:)

Don

Re: (edited: wrong link) Very OT, but calculator anyway

*Message #7 Posted by **Paul Brogger** on 22 Oct 2009, 6:51 p.m.,*
in response to message #4 by Don Shepherd

I think "electronic abacus" is correct.

I don't see how it's even "1 times faster" than a regular calculator, let alone 8x. (An abacus can certainly be faster than pencil & paper, but faster than the typical modern calculator?)

But I'd like to play with one.

Edited: 22 Oct 2009, 6:53 p.m.

Re: (edited: wrong link) Very OT, but calculator anyway

*Message #8 Posted by **Michael Meyer** on 22 Oct 2009, 7:59 p.m.,*
in response to message #7 by Paul Brogger

Definitely different than anything I've ever seen. Thanks!! If anyone finds out how to get one, let us know. I like calculators that are "different".

Re: (edited: wrong link) Very OT, but calculator anyway

*Message #9 Posted by **Bart (UK)** on 23 Oct 2009, 5:19 a.m.,*
in response to message #7 by Paul Brogger

> Quote:
>
> (An abacus can certainly be faster than pencil & paper, but faster than the typical modern calculator?)

It seems the abacus may be faster - for addition and subtraction anyway. Link

Re: (edited: wrong link) Very OT, but calculator anyway

*Message #10 Posted by **Michael Plant** on 23 Oct 2009, 6:01 p.m.,*
in response to message #9 by Bart (UK)

Surely computers and calculators have come a long way WRT speed since 1946!

EDIT: Oh bother! Scratch the above - I need to learn to read! Of course an abacus is faster than pencil and paper. I misread the previous post and thought the argument was that an abacus is faster than a computer. Doh!

Edited: 23 Oct 2009, 6:03 p.m.

Re: (edited: wrong link) Very OT, but calculator anyway

*Message #11 Posted by **Bart (UK)** on 24 Oct 2009, 4:15 a.m.,*
in response to message #10 by Michael Plant

Hi,

Actually my focus was on:

> Quote:
>
> undocumented tests still show that an expert can add and subtract faster on an abacus than someone using an electronic calculator

and I did say "it *seems*"

.... just to plant that seed of doubt on the perceived superiority of modern technology... ;)

Re: (edited: wrong link) Very OT, but calculator anyway

*Message #12 Posted by **Allen** on 22 Oct 2009, 8:24 p.m.,*
in response to message #4 by Don Shepherd

Don, The top "10-key" keypad on this one contains a translation of the characters on the top row of the electronic abacus.

Re: (edited: wrong link) Very OT, but calculator anyway

*Message #13 Posted by **Don Shepherd** on 22 Oct 2009, 9:02 p.m.,*
in response to message #12 by Allen

I wonder what all that 0x1 0x2 0x3 stuff means? I don't think I'm going to spend time with this calc.

Re: (edited: wrong link) Very OT, but calculator anyway

*Message #14 Posted by **Vieira, Luiz C. (Brazil)** on 22 Oct 2009, 9:20 p.m.,*
in response to message #13 by Don Shepherd

Hi, Don;

they are "zero character times 1, 2 or 3". [0x2], for instance, adds 2 zeroes to the number in the display.

2 [0x2] = 200 (Wow! Same as using [EEX][2])

New ways to do old tricks, I'd say...

Cheers.

Luiz (Brazil)

Edited: 22 Oct 2009, 9:22 p.m.

Re: (edited: wrong link) Very OT, but calculator anyway

*Message #15 Posted by **Don Shepherd** on 22 Oct 2009, 10:00 p.m.,*
in response to message #14 by Vieira, Luiz C. (Brazil)

OK, that makes sense. How many times would you need a key devoted to 9 zeroes, though?

Re: (edited: wrong link) Very OT, but calculator anyway

*Message #16 Posted by **Vieira, Luiz C. (Brazil)** on 22 Oct 2009, 10:18 p.m.,*
in response to message #15 by Don Shepherd

Hi, Don;

> Quote:
>
> How many times would you need a key devoted to 9 zeroes, though?

Good question. In fact, I´d rather stay with the self-explained, intuitive [EEX]. You see, it seems to me people are loosing track of how to deal with numbers. When I see a calculator with a key to enter a number o zeroes and I associate it to the exponent of ten, I wonder 'Why didn´t they simply add a enter exponent key, instead?" I'm not afraid of changes neither to the new, I just want them to be better and with the aid of enhancing. If one does not understand numbers, [0x2] and [0x4] may easily be associated with 'add 2 zeroes' and 'add four zeroes'. I still prefer to understand 'times ten raised to 2' and 'times ten raised to four'. I must treasure the knowledge I had access to, and the ones who devoted their lives to conclude and share that knowledge with the rest of us. I understand [0x2] because I see it as 10^2, but I still see [EEX] with better, scientific eyes.

What about the HP22? It has no [EEX] neither a [10^{10}] key, but once you key in as many digits in the integer part as they fit in the display, the next number keys you press simply add 1 to exponent of ten that appears in the right of the display. That is ingenious!

Cheers.

Luiz (Brazil)

Edited: 22 Oct 2009, 10:21 p.m.

Why these keys are looking this way

*Message #17 Posted by **Walter B** on 23 Oct 2009, 1:03 a.m.,*
in response to message #16 by Vieira, Luiz C. (Brazil)

Ola Luiz!

> Quote:
>
> > Quote:
> >
> > How many times would you need a key devoted to 9 zeroes, though?
> >
> > Good question. In fact, I´d rather stay with the self-explained, intuitive [EEX]. You see, it seems to me people are loosing track of how to deal with numbers.

IMHO the opposite is true: these people use number systems older than the scientific number scheme. As you can recognize easily, there are dedicated characters (and thus words) for 10, 100, 1000, and 10000. Then, it goes on with 10 x 10000, 100 x 10000, 1000 x 10000. 10000 x 10000 has a dedicated character (and word) again, etc. BTW, apparently correction works from left to right, starting with the most significant digit. Fascinating!

You find another such number system in India, with its Lakh (= E5) and Crore (= E7). It's a little less consistent, since it works the conventional way as we know it up to 1000, then transits to an older system based on the number 100.

And for Don's question: I think the E9-key is used frequently in setting up the national budget and losses on Wall Street, for example :(

Summing up, to me it seems this is a financial calculator. Personally, I prefer the scientific number system, but there are more businesspeople than scientists on this planet, like it or not.

HTH

Walter

Edited to adapt the title

Edited: 24 Oct 2009, 5:50 a.m.

Re: (edited: wrong link) Very OT, but calculator anyway

*Message #18 Posted by **Ren** on 27 Oct 2009, 11:24 a.m.,*
in response to message #15 by Don Shepherd

> Quote:
>
> OK, that makes sense. How many times would you need a key devoted to 9 zeroes, though?

I'm sure the CBO ((U.S.)Congressional Budget Office)is getting a lot of use with theirs!

B^)

Ren

dona nobis pacem

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New book on HP published by Chuck House

*Message #1 Posted by **Steve Leibson** on 22 Oct 2009, 10:20 a.m.*

Chuck House worked for HP for many years and eventually found his way to Intel management. Now he's a professor at Standord and he's a friend of mine. He's spent years writing a book about how and why HP became successful and that book has just been publixhed by the Stanford University Press. Here are summary reviews from Amazon.com:

"At last! The 'HP Way', that most famous of all corporate philosophies, has taken on an almost mythical status. But how did it really work? How did it make Hewlett-Packard the fastest growing, most admired, large company of the last half-century? Now, two important figures in HP's history, Chuck House and Raymond Price, have finally given us the whole story. The HP Phenomenon is the book we've been waiting for: the definitive treatise on how Bill and Dave ran their legendary company, day to day and year to year. It should be a core text for generations of young entrepreneurs and managers, a roadmap to building a great enterprise." —Michael S. Malone, author of Bill & Dave: How Hewlett and Packard Built the World's Greatest Company

"This is important history, compellingly told. House gives us a rare look into how Silicon Valley innovates, making this book a must-read for historian and entrepreneur alike." —Paul Saffo, Technology Forecaster

"This book is exceptional in its content, research, and strategic depth. The authors have lived the HP Culture, and the insights they bring to the super complex matter of product and business strategies in the late 1900s is amazing. The period of John Young had some of the most elusive decisions on computer operating systems one could ever imagine. They all become clear in this book." —John Minck, HP retired 1995 and author of Inside HP: A Narrative History of Hewlett-Packard from 1939-1990

The best price for the book is from Amason: http://www.amazon.com/HP-Phenomenon-Innovation-Business-Transformation/dp/0804752869/ref=sr_1_1?ie=UTF8&s=books&qid=1256220785&sr=8-1

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41: All that HYPe about...

*Message #1 Posted by **Ángel Martin** on 22 Oct 2009, 8:22 a.m.*

Much has been written and discussed about keyboard layout and convenience of the different design choices for keystroke selection. In particular referred to the seldom-used hyperbolic functions (some more seldom than others, arguably).

Here's a simple, elegant and well-though out solution to the problem:

1. have a HYP "prefix" key that supports direct and inverse functions - like in the SANDMATH module
2. assign it to SHIFT-SHIFT - so it doesn't take any extra key and still maintains the global keyboard logic.

Examples:

SHIFT, SHIFT, SIN = SINH
SHIFT, SHIFT, SHIFT, SIN = ASINH

Did I hear too many shifts? You can't have it all - it's rather fast once you get the hung of it.

Tag. You're on :)

Re: 41: All that HYPe about...

*Message #2 Posted by **Mark Storkamp** on 22 Oct 2009, 10:00 a.m.,*
in response to message #1 by Ángel Martin

There would have to be very clear annunciators in the display to show what state you're in, particularly with the recent quality of keyboards.

Personally, I think it is too counter intuitive to be widely accepted.

How about having a second shift key that can be used independently or in combination with the primary shift key. e.g.:

```
Primary key [sin] is sin
[Shift 1] & [sin} is asin
[Shift 2] & [sin] is sinh
[Shift 1] & [Shift 2] & [sin] is asinh


or


Primary key [ln] is ln
[Shift 1] & [ln} is e^x
[Shift 2] & [ln] is log
[Shift 1] & [Shift 2] & [ln] is 10^x
```

Somewhat less intuitive would be grouping 1/x, sqrt, y^x and x^2 on a single key as well

Re: 41: All that HYPe about...

*Message #3 Posted by **Martin Pinckney** on 22 Oct 2009, 10:38 a.m.,*
in response to message #2 by Mark Storkamp

There is something to be said for the old TI way of doing things ... with the INV key that worked with any other key sequence where it made sense.

Re: 41: All that HYPe about...

*Message #4 Posted by **Walter B** on 22 Oct 2009, 12:24 p.m.,*
in response to message #3 by Martin Pinckney

> Quote:
>
> There is something to be said for the old TI way of doing things ... with the INV key that worked with any other key sequence where it made sense.

HP had f^-1 on the 65 once. But it was dropped in later models. Maybe too challenging? Or a waste of key space? General shift keys are more versatile, since they may be used for inversions, but they don't have to be used for this. See e.g. the 34C.

Re: 41: All that HYPe about...

*Message #5 Posted by **Mark Storkamp** on 22 Oct 2009, 3:06 p.m.,*
in response to message #4 by Walter B

My first HP was a 34C and I was amazed at the number of functions it had. My second (and still favorite) was my 41C(x) (and one of the main reasons for getting an iPod). If you would take away the 'h' key on the 34C and use the combination of both 'f' and 'g' to enable the black characters on the bottom edge of the key (the 'h' functions), you would free up one more key, giving you 4 more functions available right on the keyboard.

Of course, pressing [user] and having an overlay magically appear (i41CX+) does nearly the same thing.

Re: 41: All that HYPe about...

*Message #6 Posted by **Walter B** on 22 Oct 2009, 3:10 p.m.,*
in response to message #5 by Mark Storkamp

Of course, some magic helps a lot in keyboard design. Pull out your wands! <;-)

Re: 41: All that HYPe about...

*Message #7 Posted by **Mike T.** on 22 Oct 2009, 4:31 p.m.,*
in response to message #5 by Mark Storkamp

I found the HP34C very very powerful but never quite got to grips with the key layout - you can have too much of a good thing.

Interestingly you can accomodate all the HP34's functions with just two function keys using the same keyboard layout as the new HP20B

Re: 41: All that HYPe about...

*Message #8 Posted by **Paul Dale** on 22 Oct 2009, 5:41 p.m.,*
in response to message #7 by Mike T.

> Quote:
>
> I found the HP34C very very powerful but never quite got to grips with the key layout - you can have too much of a good thing.

Interesting, my first HP was a 34c in 1979/1980 and that died after a couple of years -- it was the solder less model and I attempted to *fix* it without really having a clue. Anyway, I just recently got a replacement for this and I find that I still have some finger memory for most of the functions. Amazing after all these years and different models in the meantime.

- Pauli

Re: 41: All that HYPe about...

*Message #9 Posted by **Ángel Martin** on 22 Oct 2009, 2:37 p.m.,*
in response to message #2 by Mark Storkamp

> Quote:
>
> Somewhat less intuitive would be grouping 1/x, sqrt, y^x and x^2 on a single key as well

Indeed less intuitive but somehow related, that's true. The hyperbolics have the advantage of being "almost" the same as the circular trigonometry, and thus much simpler to remember.

I remember getting all over the THREE shift keys on the HP-67.. until the 41 came out and I marveled at the elegance of its design - to me still unparalelled (sorry, I'm definitely a 41 inconditional).

The 35S has a HYP prefix key, akin to the shift2 in your example.

Best, AM.

Re: 41: All that HYPe about...

*Message #10 Posted by **Ángel Martin** on 22 Oct 2009, 2:51 p.m.,*
in response to message #9 by Ángel Martin

that reminds me of this FIVE (no less) SHIFT-key design that, thank goodness, is only an April 1st joke :)

http://209.197.117.170/item/product2.htm

Re: 41: All that HYPe about...

*Message #11 Posted by **Raymond Del Tondo** on 23 Oct 2009, 2:52 a.m.,*
in response to message #1 by Ángel Martin

> Quote:
>
> SHIFT, SHIFT, SIN = SINH

> SHIFT, SHIFT, SHIFT, SIN = ASINH
>
> Did I hear too many shifts?

Not too many, but SHIFT, then SHIFT again simply turns it off;-)
Changing that standard behaviour doesn't seem to be the way to go IMHO.

> Quote:
>
> You can't have it all - it's rather fast once you get the hung of it.

Why not? There are other ways to get a HYP keyboard.
The easiest way is to use a HYP user keyboard.

However another approach could be SHIFThold.
If you manage to catch multiple key presses,
you could assign the HYP fcns to the SHIFThold level;-)

HTH

Raymond

Re: 41: All that HYPe about...

*Message #12 Posted by **Ángel Martin** on 23 Oct 2009, 6:31 a.m.,*
in response to message #11 by Raymond Del Tondo

Hi Raymond, long time no speak - hope you're doing well.

Actually SHIFT SHIFT works like a charm, the second one does not turn the first one off... assigning the function to the "10B" keycode does the trick.

Sure there's multiple ways to implement it and everybody has his preferred one :-) Using a HYP user keyboard is good as well but it conflicts with an existing User keyboard (not enough real state).

The SHIFT-Hold requires some operator skills, afraid it wouldn't pass the test of easiness for some :-O

Best, ÁM

Re: 41: All that HYPe about...

*Message #13 Posted by **Gerry Schultz** on 23 Oct 2009, 2:57 p.m.,*
in response to message #12 by Ángel Martin

I remember back in the PPC days a way to assign functions synthetically to the shifted-shift button on a 41C. I used it for the packing command but any function could be assigned.

Gerry

Re: 41: All that HYPe about...

*Message #14 Posted by **Ángel Martin** on 23 Oct 2009, 3:40 p.m.,*
in response to message #13 by Gerry Schultz

> Exactly. The SandMath uses a MCODE form of the same technique, no more no less.

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HP Forum Archive 19

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HP 17BII+ BUG

*Message #1 Posted by **Nacho** on 22 Oct 2009, 3:47 a.m.*

Dears,

If Appointment selected for example APPT1 (entered DATE & TIME).

Then If an ERROR appears when calculating, eg ERROR: /0

Then Appointment is executed and ALARM Sounds.

This doesn't happen with a normal 17BII.

Regards.

Re: HP 17BII+ BUG

*Message #2 Posted by **Don Shepherd** on 22 Oct 2009, 7:34 a.m.,*
in response to message #1 by Nacho

I tried this on both my brown/gold + and the new gray + and did not see any problems. It did beep when I divided by 0, but I think that is normal and has nothing to do with appointments. What do you mean by "the appointment is executed?"

Re: HP 17BII+ BUG

*Message #3 Posted by **nacho** on 22 Oct 2009, 8:12 a.m.,*
in response to message #2 by Don Shepherd

Hello Don,

try that:

Go to Time menu.

Select APPT Menu.

Select for example APT1: then enter a date (must be the same day for example today 22 and an hour)

Then You will see SET:1

OK, go to main menu...no ERROR answer when 1 INPUT 0 / done...

Go to Math menu and Press PI key and then N! to create an error...

It will return N! N<0 or N NONINTEGER

Then press 1 or 2 or one number KEY... it will activate the appointment and alarm will sound...

Hope it is better explained

nacho

Re: HP 17BII+ BUG

*Message #4 Posted by **Don Shepherd** on 22 Oct 2009, 8:35 a.m.,*
in response to message #3 by nacho

OK, I see what you are saying.

Don

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The solution to the quartic equation on the HP50g (long)

*Message #1 Posted by **Crawl** on 21 Oct 2009, 10:56 p.m.*

The HP50g has a nice CAS, but it cannot (automatically) symbolically solve cubic and quartic equations, though the solutions to those equations have been known for hundreds of years.

I recently got a 1GB SD card just for my calculator, and my (unrealistic) goal is to eventually fill it with calculator stuff. So, this seemed like a good project.

I learned a bit about the calculator on the way. In my first attempts, the quartic solution defeated the calculator -- it was just too long, it seemed.

But I figured out what the problem was. The calculator can deal with an *expression* that big -- it just has a hard time *evaluating* it. It seemed like the solution was to use stack commands. After all, if you have X on rows 1 and 2, and hit *, it displays X*X -- it does not simplify to X^2. That should make things easier on the CPU.

But I learned that *sometimes* the calculator does evaluate stack commands on symbolic input. I noticed this when I was just working on the simple quadratic equation. I noticed it returned

(-b-sqrt(b^2-4ca))/(2a)

even though I entered it b^2-4ac, with a and c in reverse order. So, every time you take a squareroot, the CAS tries to evaluate it. This was what was slowing the program down.

I tried several approaches. What finally worked was when I realized the calculator does not automatically evaluate after a substitution.

This is the solution to the quadratic equation. It is the shortest and easiest to see how I take squareroots. The other programs call it and assume it has name QUART3 (the 3 is just because I tried different versions before I got the squareroot to work)

%%HP: T(3)A(R)F(.); \<< ROT DUP ROT * 4 SWAP * ROT DUP 2 ^ ROT - '\v/SQUAREROOT' SWAP 'SQUAREROOT' SWAP = SUBST SWAP NEG SWAP - SWAP 2 SWAP * / \>>

I didn't want to just have the solution to the cubic and quartic equation -- I also wanted to show the method. But the programs don't really clearly demonstrate what the method is. So, I put the steps in row matrix form so they can be read. I was originally planning on having notes, but matrices can't have string entries. So, they might work more as a refresher if you once kind of knew how they were solved than a teacher. This is the method for solving cubics.

```
%%HP: T(3)A(R)F(.);
[[ 'A*X^3+B*X^2+C*X+D' ]
[ 'X=Y+T' ]
[ 'Y^3+(3*A*T+B)/A*Y^2+((3*(A*T^2)+2*(B*T)+C)/A*Y+(A*T^3+B*T^2+C*T+D)/A)' ]
[ 'T=-(B/(3*A))' ]
[ 'Y^3+P*Y+Q' ]
[ 'P=(3*A*C-B^2)/(3*A^2)' ]
[ 'Q=(27*A^2*D-9*(A*B*C)+2*B^3)/(27*A^3)' ]
[ 'Y=Z-M/Z' ]
[ '(Z^6-(3*M-P)*Z^4+Q*Z^3+M*(3*M-P)*Z^2-M^3)/Z^3' ]
[ 'M=P/3' ]
[ 'Z^6+Q*Z^3-P^3/27' ]]
```

And this program solves cubics. The quartic program assumes it has the name CUBIC.

%%HP: T(3)A(R)F(.); \<< 27 5 PICK 2 ^ * SWAP * 9 5 PICK * 4 PICK * 3 PICK * - 2 4 PICK 3 ^ * + 27 5 PICK 3 ^ * / 3 5 PICK * 3 PICK * 4 PICK 2 ^ - 3 6 PICK 2 ^ * / DUP UNROT 3 ^ 27 / NEG 1 UNROT QUAD3 3 INV ^ DUP UNROT 3 SWAP * / - 4 ROLLD DROP SWAP 3 SWAP * / - \>>

This is the method for solving quartics.

```
%%HP: T(3)A(R)F(.);
[[ 'A*X^4+B*X^3+C*X^2+D*X+E' ]
[ 'X=Y+T' ]
[
'Y^4+(4*A*T+B)/A*Y^3+(6*A*T^2+3*B*T+C)/A*Y^2+(4*A*T^3+3*B*T^2+2*C*T+D)/A*Y+(A*T^4+B*T^3+C*T^2+D*T+E)/A'
]
[ 'T=-(B/(4*A))' ]
[ 'Y^4+P*Y^2+Q*Y+R' ]
[ 'P=(8*A*C-3*B^2)/(8*A^2)' ]
[ 'Q=(8*A^2*D-4*A*B*C+B^3)/(8*A^3)' ]
[ 'R=(256*A^3*E-64*A^2*B*D+16*A*B^2*C-3*B^4)/(256*A^4)' ]
[ 'Y^4+P*Y^2+Q*Y+R=(Y^2+J*Y+K)*(Y^2+M*Y+N)' ]
[ 'J+M=0' ]
[ 'J=-M' ]
[ 'P=KM^2' ]
[ 'Q=M*(K-N)' ]
[ 'R=K*N' ]
[ 'K^2+N^2+2*K*N=(P+M^2)^2' ]
[ 'K^2+N^2-2*K*N=(Q/M)^2' ]
[ '4*K*N=(4*R=(P+M^2)^2-(Q/M)^2)' ]
[ 'M^6+2*P*M^4+(P^2-4*R)*M^2-Q^2=0' ]
[ 'N=(P+M^2-Q/M)/2' ]]
```

And this program does it

%%HP: T(3)A(R)F(.); \<< 8 6 PICK * 4 PICK * 3 6 PICK 2 ^ * - 8 7 PICK 2 ^ * / 8 7 PICK 2 ^ * 4 PICK * 4 8 PICK * 7 PICK * 6 PICK * - 6 PICK 3 ^ + 8 8 PICK 3 ^ * / 256 8 PICK 3 ^ * 4 PICK * 64 9 PICK 2 ^ * 8 PICK * 6 PICK * - 16 9 PICK * 8 PICK 2 ^ * 7 PICK * + 3 8 PICK 4 ^ * - 256 9 PICK 4 ^ * / 2 4 PICK * 4 PICK 2 ^ 4 4 PICK * - 4 PICK 2 ^ NEG 1 4 ROLLD CUBIC DUP '\v/SQUAREROOT' SWAP 'SQUAREROOT' SWAP = SUBST 5 PICK 3 PICK + 5 PICK 3 PICK / - 2 / 1 UNROT QUAD3 10 ROLLD 7 DROPN SWAP 4 SWAP * / - \>>

In all cases, it assumes the coefficient of the highest x power is entered first on the stack, and so on until the constant term is in level 1 of the stack. The programs work with both numeric or symbolic inputs. If you want a numeric result, however, you should be in approximate mode at the beginning. Otherwise, you might not be able to evaluate the result. The calculator has a quirk: It acts like it can't take cube roots of imaginary numbers.

If you're in numeric mode the whole time, though, it will do it.

I've noticed a few other quirks. Sometimes it doesn't simplify the cube root of zero. There are some cubic equation where you'd divide zero by the cube root of zero -- really, you should take a limit, and it would work. But the CAS evaluates zero divided by an unevaluated cube root of zero AS zero, even if a proper limit would give a different answer. In fact, this is specifically why I choose the sign of the squareroot in the quadratic solution the way I did. Otherwise, it leads to x^3+1=0 having solution ? (in exact mode) or 0.^(1/3) (in approx. mode). (The resolvent quadratic is x^2+x=0, and you want the -1 solution, not the 0 solution). There may be cases for which even the current solution might be numerically unstable, but I haven't checked everything.

Anyway, what happens if you try to solve the general quartic symbolically? You get this

%%HP: T(3)A(R)F(.); '(-\v/(XROOT(3,(-((-(27*((8*A^2*D-4*A*B*C+B^3)/(8*A^3))^2)-9*(2*((8*A*C-3*B^2)/(8*A^2)))*(((8*A*C-3*B^2)/(8*A^2))^2-4*((256*A^3*E-64*A^2*B*D+16*A*B^2*C-3*B^4)/(256*A^4)))+2*(2*((8*A*C-3*B^2)/(8*A^2)))^3)/27)-\v/(((-(27*((8*A^2*D-4*A*B*C+B^3)/(8*A^3))^2)-9*(2*((8*A*C-3*B^2)/(8*A^2)))*(((8*A*C-3*B^2)/(8*A^2))^2-4*((256*A^3*E-64*A^2*B*D+16*A*B^2*C-

3*B^4)/(256*A^4)))+2*(2*((8*A*C-3*B^2)/(8*A^2)))^3)/27)^2+4*(((3*(((8*A*C-3*B^2)/(8*A^2))^2-4*((256*A^3*E-64*A^2*B*D+16*A*B^2*C-3*B^4)/(256*A^4)))-(2*((8*A*C-3*B^2)/(8*A^2)))^2)/3)^3/27)))/2)-(3*(((8*A*C-3*B^2)/(8*A^2))^2-4*((256*A^3*E-64*A^2*B*D+16*A*B^2*C-3*B^4)/(256*A^4)))-(2*((8*A*C-3*B^2)/(8*A^2)))^2)/3/(3*XROOT(3,(-((-(27*((8*A^2*D-4*A*B*C+B^3)/(8*A^3))^2)-9*(2*((8*A*C-3*B^2)/(8*A^2)))*(((8*A*C-3*B^2)/(8*A^2))^2-4*((256*A^3*E-64*A^2*B*D+16*A*B^2*C-3*B^4)/(256*A^4)))+2*(2*((8*A*C-3*B^2)/(8*A^2)))^3)/27)-\v/(((-(27*((8*A^2*D-4*A*B*C+B^3)/(8*A^3))^2)-9*(2*((8*A*C-3*B^2)/(8*A^2)))*(((8*A*C-3*B^2)/(8*A^2))^2-4*((256*A^3*E-64*A^2*B*D+16*A*B^2*C-3*B^4)/(256*A^4)))+2*(2*((8*A*C-3*B^2)/(8*A^2)))^3)/27)^2+4*(((3*(((8*A*C-3*B^2)/(8*A^2))^2-4*((256*A^3*E-64*A^2*B*D+16*A*B^2*C-3*B^4)/(256*A^4)))-(2*((8*A*C-3*B^2)/(8*A^2)))^2)/3)^3/27)))/2))-2*((8*A*C-3*B^2)/(8*A^2))/3)-\v/(\v/(XROOT(3,(-((-(27*((8*A^2*D-4*A*B*C+B^3)/(8*A^3))^2)-9*(2*((8*A*C-3*B^2)/(8*A^2)))*(((8*A*C-3*B^2)/(8*A^2))^2-4*((256*A^3*E-64*A^2*B*D+16*A*B^2*C-3*B^4)/(256*A^4)))+2*(2*((8*A*C-3*B^2)/(8*A^2)))^3)/27)-\v/(((-(27*((8*A^2*D-4*A*B*C+B^3)/(8*A^3))^2)-9*(2*((8*A*C-3*B^2)/(8*A^2)))*(((8*A*C-3*B^2)/(8*A^2))^2-4*((256*A^3*E-64*A^2*B*D+16*A*B^2*C-3*B^4)/(256*A^4)))+2*(2*((8*A*C-3*B^2)/(8*A^2)))^3)/27)^2+4*(((3*(((8*A*C-3*B^2)/(8*A^2))^2-4*((256*A^3*E-64*A^2*B*D+16*A*B^2*C-3*B^4)/(256*A^4)))-(2*((8*A*C-3*B^2)/(8*A^2)))^2)/3)^3/27)))/2)-(3*(((8*A*C-3*B^2)/(8*A^2))^2-4*((256*A^3*E-64*A^2*B*D+16*A*B^2*C-3*B^4)/(256*A^4)))-(2*((8*A*C-3*B^2)/(8*A^2)))^2)/3/(3*XROOT(3,(-((-(27*((8*A^2*D-4*A*B*C+B^3)/(8*A^3))^2)-9*(2*((8*A*C-3*B^2)/(8*A^2)))*(((8*A*C-3*B^2)/(8*A^2))^2-4*((256*A^3*E-64*A^2*B*D+16*A*B^2*C-3*B^4)/(256*A^4)))+2*(2*((8*A*C-3*B^2)/(8*A^2)))^3)/27)-\v/(((-(27*((8*A^2*D-4*A*B*C+B^3)/(8*A^3))^2)-9*(2*((8*A*C-3*B^2)/(8*A^2)))*(((8*A*C-3*B^2)/(8*A^2))^2-4*((256*A^3*E-64*A^2*B*D+16*A*B^2*C-3*B^4)/(256*A^4)))+2*(2*((8*A*C-3*B^2)/(8*A^2)))^3)/27)^2+4*(((3*(((8*A*C-3*B^2)/(8*A^2))^2-4*((256*A^3*E-64*A^2*B*D+16*A*B^2*C-3*B^4)/(256*A^4)))-(2*((8*A*C-3*B^2)/(8*A^2)))^2)/3)^3/27)))/2))-2*((8*A*C-3*B^2)/(8*A^2))/3)^2-4*(((8*A*C-3*B^2)/(8*A^2)+(XROOT(3,(-((-(27*((8*A^2*D-4*A*B*C+B^3)/(8*A^3))^2)-9*(2*((8*A*C-3*B^2)/(8*A^2)))*(((8*A*C-3*B^2)/(8*A^2))^2-4*((256*A^3*E-64*A^2*B*D+16*A*B^2*C-3*B^4)/(256*A^4)))+2*(2*((8*A*C-3*B^2)/(8*A^2)))^3)/27)-\v/(((-(27*((8*A^2*D-4*A*B*C+B^3)/(8*A^3))^2)-9*(2*((8*A*C-3*B^2)/(8*A^2)))*(((8*A*C-3*B^2)/(8*A^2))^2-4*((256*A^3*E-64*A^2*B*D+16*A*B^2*C-3*B^4)/(256*A^4)))+2*(2*((8*A*C-3*B^2)/(8*A^2)))^3)/27)^2+4*(((3*(((8*A*C-3*B^2)/(8*A^2))^2-4*((256*A^3*E-64*A^2*B*D+16*A*B^2*C-3*B^4)/(256*A^4)))-(2*((8*A*C-3*B^2)/(8*A^2)))^2)/3)^3/27)))/2))-2*((8*A*C-3*B^2)/(8*A^2))/3)^2-4*(((8*A*C-3*B^2)/(8*A^2))^2-4*((256*A^3*E-64*A^2*B*D+16*A*B^2*C-3*B^4)/(256*A^4)))-(2*((8*A*C-3*B^2)/(8*A^2)))^2)/3/(3*XROOT(3,(-((-(27*((8*A^2*D-4*A*B*C+B^3)/(8*A^3))^2)-9*(2*((8*A*C-3*B^2)/(8*A^2)))*(((8*A*C-3*B^2)/(8*A^2))^2-4*((256*A^3*E-64*A^2*B*D+16*A*B^2*C-3*B^4)/(256*A^4)))+2*(2*((8*A*C-3*B^2)/(8*A^2)))^3)/27)-\v/(((-(27*((8*A^2*D-4*A*B*C+B^3)/(8*A^3))^2)-9*(2*((8*A*C-3*B^2)/(8*A^2)))*(((8*A*C-3*B^2)/(8*A^2))^2-4*((256*A^3*E-64*A^2*B*D+16*A*B^2*C-3*B^4)/(256*A^4)))+2*(2*((8*A*C-3*B^2)/(8*A^2)))^3)/27)^2+4*(((3*(((8*A*C-3*B^2)/(8*A^2))^2-4*((256*A^3*E-64*A^2*B*D+16*A*B^2*C-3*B^4)/(256*A^4)))-(2*((8*A*C-3*B^2)/(8*A^2)))^2)/3)^3/27)))/2))-2*((8*A*C-3*B^2)/(8*A^2))/3)-(8*A^2*D-4*A*B*C+B^3)/(8*A^3)/\v/(XROOT(3,(-((-(27*((8*A^2*D-4*A*B*C+B^3)/(8*A^3))^2)-9*(2*((8*A*C-3*B^2)/(8*A^2)))*(((8*A*C-3*B^2)/(8*A^2))^2-4*((256*A^3*E-64*A^2*B*D+16*A*B^2*C-3*B^4)/(256*A^4)))+2*(2*((8*A*C-3*B^2)/(8*A^2)))^3)/27)-\v/(((-(27*((8*A^2*D-4*A*B*C+B^3)/(8*A^3))^2)-9*(2*((8*A*C-3*B^2)/(8*A^2)))*(((8*A*C-3*B^2)/(8*A^2))^2-4*((256*A^3*E-64*A^2*B*D+16*A*B^2*C-3*B^4)/(256*A^4)))+2*(2*((8*A*C-3*B^2)/(8*A^2)))^3)/27)^2+4*(((3*(((8*A*C-3*B^2)/(8*A^2))^2-4*((256*A^3*E-64*A^2*B*D+16*A*B^2*C-3*B^4)/(256*A^4)))-(2*((8*A*C-3*B^2)/(8*A^2)))^2)/3)^3/27)))/2))-2*((8*A*C-3*B^2)/(8*A^2))/3)-(3*(((8*A*C-3*B^2)/(8*A^2))^2-4*((256*A^3*E-64*A^2*B*D+16*A*B^2*C-3*B^4)/(256*A^4)))-(2*((8*A*C-3*B^2)/(8*A^2)))^2)/3/(3*XROOT(3,(-((-(27*((8*A^2*D-4*A*B*C+B^3)/(8*A^3))^2)-9*(2*((8*A*C-3*B^2)/(8*A^2)))*(((8*A*C-3*B^2)/(8*A^2))^2-4*((256*A^3*E-64*A^2*B*D+16*A*B^2*C-3*B^4)/(256*A^4)))+2*(2*((8*A*C-3*B^2)/(8*A^2)))^3)/27)-\v/(((-(27*((8*A^2*D-4*A*B*C+B^3)/(8*A^3))^2)-9*(2*((8*A*C-3*B^2)/(8*A^2)))*(((8*A*C-3*B^2)/(8*A^2))^2-4*((256*A^3*E-64*A^2*B*D+16*A*B^2*C-3*B^4)/(256*A^4)))+2*(2*((8*A*C-3*B^2)/(8*A^2)))^3)/27)^2+4*(((3*(((8*A*C-3*B^2)/(8*A^2))^2-4*((256*A^3*E-64*A^2*B*D+16*A*B^2*C-3*B^4)/(256*A^4)))-(2*((8*A*C-3*B^2)/(8*A^2)))^2)/3)^3/27)))/2))-2*((8*A*C-3*B^2)/(8*A^2))/3))/2)))/2-B/(4*A)'

It takes a couple of minutes to get that. I haven't timed it, but I believe it takes much less than 15 minutes (and on a real calculator, not an emulator). It seems the expression is too big to view in "pretty print". It displays fine as text, but when I select "graph", it just displays garbled nonsense.

It's still an impressively large expression for the calculator to handle.

Re: The solution to the quartic equation on the HP50g (long)

*Message #2 Posted by **Crawl** on 21 Oct 2009, 11:08 p.m.,*
in response to message #1 by Crawl

I see there is at least one mistake there

The quartic method matrix shows

P=KM^2

when it should be

P=K+N-M^2

It is correct on my calculator; an HTML formatting bug must have messed it up on the post. I'll have to check later if there are other errors.

Re: The solution to the quartic equation on the HP50g (long)

*Message #3 Posted by **Bruce Bergman** on 22 Oct 2009, 12:28 a.m.,*
in response to message #1 by Crawl

Goodness, how EVER did you type that in? Who cares about the equation! I just want to know how long it took you to type that.

:-)

Re: The solution to the quartic equation on the HP50g (long)

*Message #4 Posted by **Crawl** on 22 Oct 2009, 6:08 a.m.,*
in response to message #3 by Bruce Bergman

That's why I needed the calculator to do the solution -- I didn't want to type it in. After the calculator got the solution, I saved it as a variable, then transferred it to PC with the USB cable, then just copy pasted. So, it actually was fairly quick and easy.

Re: The solution to the quartic equation on the HP50g (long)

*Message #5 Posted by **C.Ret** on 23 Oct 2009, 3:58 a.m.,*
in response to message #3 by Bruce Bergman

> Quote:
>
> Who cares about the equation!

It is always a good idea to give a minimum of documentation. Any reader of this forum may be interesting in such documentation and any educated people may have recognized the Cardan's method of resolution.

Fortunately, this is also the method I used to solve 3rd degree equation.

Despite Crawl's code, which is using a lot of obscure PICK command, my solution use local variables, which make it a bit more readable. But still, in my production the exhaustive list of intermediate equations is missing.

As Crawl's code, the EQU3 function takes equation the coefficients from the stack (the coefficient of the highest x power is entered first on the stack) and uses the EQU2 to solve the intermediate quadratic equation.

This code is originally for HP28C/S, assuming that LAST command is enable. But, it may be easily ported to any HP48/49 or 50, as it only simples RPL commands:

```
« -> a b c                              @  a.x2+b.x+c=0  where a<>0
     « b NEG 2 / a /                    @  term1: -b/2a
       b SQ 4 a c * * - SQRT 2 / a /    @  term2: SQRT(4ac-b^2)/2a
       -                                @    x2 : term1-term2
       LAST                             @  recover term1 and term2
       +                                @    x1 : term1+term2
»
'EQUA2' STO


Usage
3:          a      ---- EQUA2 ---->   2:            x2
2:          b                         1:            x1
1:          c
```

a,b,c coefficients of the quadratic equation (real, complex or symbolic) x1,x2 two roots of the equation (real, complex or symbolic).

Example: 4 1 CHS 1 CHS EQUA2 returns 2: –0.3904 and 1: 0.6404 (assuming 4 FIX display mode)

1 –2 1 EQUA2 returns 2: 1.0000 1: 1.0000 (double roots are simply repeated)

```
« -> a b c d                            @ a.x3 + b.x2 + c.x +d = 0
     «   c a / 3 / b SQ a SQ / 9 / -     @  p :  B/3–A^2/27      where B=c/a and A=b/a
         d a / b c * a / 3 / -
         2 b 3 ^ * a 3 ^ / 27 / +       @  q :  C-A.B/3+2A^3/27 where C=d/a
       -> p q
          «                             @ quadratic equation t^2+q.t-p^3=0
            1                           @  first  coefficient (t^2)
            q                           @  second coefficient (t^1)
            p 3 ^ NEG                   @  third  coefficient (t^0)
            EQUA2                       @  compute the two roots  u3 and v3
            3 INV ^                     @  extract v from v3
            SWAP
            3 INV ^                     @  extract u from u3
            b a / 3                     @  dx : B/3 for future usage (translation)
            -> v u dx
               « u v +                  @
                 DUP dx -               @   x1  : u+v – dx
                 SWAP –2 /              @  term1: -(u+v)/2
                 -3 SQRT 2 /u v - *     @  term2: i.SQRT(3).(u-v)/2
                 +                      @  x2+dx: term1+term2
                 LAST -                 @  x3+dx: term1-term2
                 dx – SWAP dx -
                »
          »
      »
»
'EQUA3' STO


Usage
4:          a
3:          b      ---- EQUA3 ---->   3:            x1
2:          c                         2:            x2
1:          d                         1:            x3
```

Exemple 1 –3 3 –1 EQUA3 returns 1.0000 (1.0000,0.0000) (1.0000,0.0000)

Most of the time x1 is expressed as a real,and, x2 & x3 are express as complex.

[/code]

Re: The solution to the quartic equation on the HP50g (long)

*Message #6 Posted by **Crawl** on 23 Oct 2009, 6:44 p.m.,*
in response to message #5 by C.Ret

Thanks for the interest in my program.

After I noticed that error in the quartic method, I decided to upload the files to an online directory. So those should all be error free. I also uploaded C. Ret's Equa2, Equa3, as well as Equa4, which is my quartic code, but which calls his quadratic and cubic routines rather than my own.

You should be able to upload either the text files or binary (.hp) files to a calculator. The advantage of the text files is you can read the source code; the advantage of the .hp files is they can be loaded directly into EMU48.

Yes, the PICK commands are difficult to read, but there was a good reason for it. The goal was to be able to even solve the general quartic, and in reasonable time. You can be lackadaisical with the quadratic, and even the cubic to some degree. But the quartic is MUCH harder.

Here are some timed tests (using a stopwatch).

For my programs... The general quartic: 3 minutes, 21 seconds. In my humble opinion, this is very fast for a pocket calculator.

The depressed quartic. That is, x^4+p.x^2+q.x+r=0.: 11 seconds. That's really fast! Plus, it can be viewed in pretty print through the equation editor.

The general cubic: Less than 2 seconds.

For C. Ret's programs.

The general cubic: About 23 seconds.

The depressed quartic with Equa4: Don't know. I let it run for over 15 minutes on a real calculator, in which time it didn't finish. I verified that it does work on EMU48, and pretty quickly (probably less than a minute).

The general quartic: Tried it on EMU48. Eventually got the message "INSUFFICIENT MEMORY"

I'm skeptical that the TI89's CAS can be used to solve the general quartic at all. This page has a quartic solver for the TI89, but it doesn't work sometimes even with numeric input (I think x^4-4.x^3+6.x^2-4.x+1=0 led to undefined). I ran it on VTI, which seems to be at least 10 times faster than a real TI89. For the general quartic, it ran for over an hour with no solution, and I believe it eventually caused the PC to crash.

Oh, but the TI89 has one thing that saved its honor during this challenge. I discovered another quirk with the HP50: When I tried making the substitution x=y+t into x^4+(b/a).x^3+...+(e/a), and then taking the taylor series, for some reason the HP50 just hung. It didn't finish in even 10 minutes. The TI89 does it almost instantly.

HOWEVER, if you have a=1, the HP50 also does it almost instantly. Maybe it gets caught up by worrying that a=0 or something?

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Testing an HP82242 IR Module with a digital camera (or...)

*Message #1 Posted by **Vieira, Luiz C. (Brazil)** on 21 Oct 2009, 6:37 p.m.*

Hi, all;

maybe this is yesterday´s news, but it´s worth mentioning.

I was wondering about how to test an HP82242 without either an HP82240A/B or an HP48/49 with INPRT running. I remembered that I saw someone testing an IR control through a cell phone with a camera, and I decided to do the same with the HP82242. Needless to say it worked OK, the flashing IR emission was captured and shown.

Hope this is of help. And if this has already been mentioned here, sorry and disregard the post...

Cheers.

Luiz (Brazil)

Edited: 21 Oct 2009, 6:39 p.m.

Re: Testing an HP82242 IR Module with a digital camera (or...)

*Message #2 Posted by **Allen** on 21 Oct 2009, 9:22 p.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

Good tip.

I use one of these Radio Shack Radio Shack 276-1099 IR Sensors for the working/not working test and the Service Module to check the ROM.

Re: Testing an HP82242 IR Module with a digital camera (or...)

*Message #3 Posted by **Chan Tran** on 22 Oct 2009, 7:53 p.m.,*
in response to message #2 by Allen

How do you do it Luiz?

Re: Testing an HP82242 IR Module with a digital camera (or...)

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 22 Oct 2009, 9:42 p.m.,*
in response to message #3 by Chan Tran

Hi, Chan Tran.

I set 0 DELAY, put the IR module in TRACE, take a digital camera and turn it ON, execute CAT 2 in the HP41 and point the camera lens to the IR output, as if your camera is the IR printer (HP82242A/B). You´ll see the flashes of the IR LED in the display of the camera as if it is a white LED. You can use a cell phone with a camera, too; works the same. I also tested with a MP5 with a camera. You just need

to point the camera straight to the IR output.

This test only lets you know if the IR output is emitting anything, not if the data is valid. In this case, you´d need an HP82240A/B or something else to analyze the output data, right?

If you do not succeed let me know and I´ll try to capture it in a short movie.

Success!

Luiz (Brazil)

Edited: 22 Oct 2009, 9:48 p.m.

Re: Testing an HP82242 IR Module with a digital camera (or...)

*Message #5 Posted by **Saile (Brazil)** on 23 Oct 2009, 6:59 a.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

Luiz

Were you that won in the auction of the modules in the M.L.?

Re: Testing an HP82242 IR Module with a digital camera (or...)

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 23 Oct 2009, 8:23 a.m.,*
in response to message #5 by Saile (Brazil)

If you are talking about this one, then yes.

Edited: 23 Oct 2009, 9:15 a.m.

Re: Testing an HP82242 IR Module with a digital camera (or...)

*Message #7 Posted by **Saile (Brazil)** on 23 Oct 2009, 9:22 a.m.,*
in response to message #6 by Vieira, Luiz C. (Brazil)

Which is your email?

Re: Testing an HP82242 IR Module with a digital camera (or...)

*Message #8 Posted by **Vieira, Luiz C. (Brazil)** on 23 Oct 2009, 9:38 a.m.,*
in response to message #7 by Saile (Brazil)

linux_lcv |at| yahoo {dot} com [dot] br

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GTO Go back to the main exhibit hall

HP Forum Archive 19

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At least some companies listen (or check the auctions)

*Message #1 Posted by **Jonathan Eisch** on 21 Oct 2009, 2:30 p.m.*

I like listening to music throughout the day, and I've had my fair share of lousy headphones. I had a recommendation once that Koss makes some great sounding clip on earphones, the KSC-35. However, by that time, the KSC-35 had been discontinued and replaced by a futuristic looking KSC-75 (with the same speaker element). KSC-35s were going for over five times the original price on the auction site. I recently checked Koss' site, and saw that they had the KSC-35 back again, along side the -75. I clicked on the live chat and the person at customer service told me that they were back by popular demand, and were now made with higher quality materials for the target market. So, at least one company notices when a discontinued product is popular and selling for a premium and takes that as an opportunity to give the market exactly what it wants.

-Jonathan

Re: At least some companies listen (or check the auctions)

*Message #2 Posted by **Don Shepherd** on 21 Oct 2009, 3:28 p.m.,*
in response to message #1 by Jonathan Eisch

Jonathon, not to dispute what you said about Koss (I had one of their headphones years ago, and it was great until the material that fit over your ear started disintegrating), if you are suggesting that HP should reissue the 15c or 42s or even the 41, consider the size of the market. In this age of ipods, iphones and what have you, the market for a quality headset is huge, probably in the millions. The market for a 15c reissue, I would guess, is pretty tiny, probably in the thousands. I think if HP really thought they could make some bucks, they'd do it in a minute. The bottom line drives most companies, HP included.

Re: At least some companies listen (or check the auctions)

*Message #3 Posted by **DaveJ** on 21 Oct 2009, 6:13 p.m.,*
in response to message #2 by Don Shepherd

> Quote:
>
> Jonathon, not to dispute what you said about Koss (I had one of their headphones years ago, and it was great until the material that fit over your ear started disintegrating), if you are suggesting that HP should reissue the 15c or 42s or even the 41, consider the size of the market. In this age of ipods, iphones and what have you, the market for a quality headset is huge, probably in the millions. The market for a 15c reissue, I would guess, is pretty tiny, probably in the thousands. I think if HP really thought they could make some bucks, they'd do it in a minute. The bottom line drives most companies, HP included.

According to THIS website they can sell at least 53,870 of them. The changes required from the 12C are simply new key tops and badging and stick in the original 15C ROM, they have already done all the engineering. If they couldn't sell 100K of them then they would have to have seriously goofed it up, like chose the wrong price point or something.

I'll bet serious money Cryrille already has a prototype on his desk. I'm surprised it hasn't been released already, it's a complete no-brainer. Even marketing people know that niche retro products can sell very well.

And it actually makes sense from a marketing point of view given they have revived the retro look with the 35S and updated the 12C. The market almost expect this from HP now.

The 42S is massively harder to do, so forget that.

Dave.

Re: At least some companies listen (or check the auctions)

*Message #4 Posted by **Eric Smith** on 21 Oct 2009, 7:30 p.m.,*
in response to message #3 by DaveJ

A prototype of an ARM-based 15c was seen at a previous HHC conference. There is no question that HP has the technical expertise to produce a new 15c if they choose to do so.

From a business perspective, though, if they only expected to sell 50-100K units, it would be somewhat questionable as to whether it would make sense to introduce it as a product.

Edited: 21 Oct 2009, 7:31 p.m.

Re: At least some companies listen (or check the auctions)

*Message #5 Posted by **DaveJ** on 22 Oct 2009, 3:09 a.m.,*
in response to message #4 by Eric Smith

> Quote:

> From a business perspective, though, if they only expected to sell 50-100K units, it would be somewhat questionable as to whether it would make sense to introduce it as a product.

Perhaps, depends more on corporate attitude than economics. At the current 12C price point of $70, that's $3.5M to $7M in retail sales, not spectacular, but not bad either for a niche (struggling?) division of the company. If you couldn't crack a reasonable margin on 50-100K units then you probably shouldn't be in business. And if you are in the business, then STAY IN the business.

And considering that a good lot of the engineering has already been amortised on the 12C, the risk is fairly small and margins potentially wider.

And then there is the potential upside, if you market it right it could go through the roof. People love retro toys.

Dave.

Re: At least some companies listen (or check the auctions)
*Message #6 Posted by **Reth** on 21 Oct 2009, 7:48 p.m.,*
in response to message #3 by DaveJ

I'm not sure how accurate those statistics are today. 11,120 people buying 53,870 units? Sounds strange. I've signed that petition some years ago promising to buy at least 2. People change their minds though. If the suggested new edition of the 15C is identical to the original I won't buy it. A must-have things are I/O, mnemonics and more memory.
Cheers

Re: At least some companies listen (or check the auctions)
*Message #7 Posted by **Eric Smith** on 21 Oct 2009, 8:07 p.m.,*
in response to message #6 by Reth

There is no serious proposal for a 15c with your "must-have" enhancements. Doing that would require HP to completely reengineer the 15c from scratch, which is extremely unlikely. The plausible scenario is for HP to introduce a new 15c based on the new 12c platform. It would be functionally identical to the original 15C but significantly faster.

Re: At least some companies listen (or check the auctions)
*Message #8 Posted by **Reth** on 21 Oct 2009, 8:21 p.m.,*
in response to message #7 by Eric Smith

In this case they would sell 5,000 max - my guess. Needles to say, I'd withdraw my offer.

On a second thought I'll still buy a couple of those retro style machines - but that's me, ;)

Edited: 22 Oct 2009, 5:41 a.m.

Re: At least some companies listen (or check the auctions)
*Message #9 Posted by **Mike Morrow** on 22 Oct 2009, 10:13 a.m.,*
in response to message #7 by Eric Smith

Making a version of the HP42S, perhaps a long-awaited HP42SII, would be the only winning strategy for re-issue of an older scientific calculator.

The HP-15C, as beloved as it has been, is a throw-back of more than a quarter century. The HP42S, OTOH, after 21 years is still the 2009 state-of-the-art in its RPN feature set and ease of use. But 2009 hardware could greatly enhance the speed, display, memory, and I/O that serve that outstanding feature set. (Let's choose a decent new color scheme too, something classic like that of the HP-15C.)

Edited: 22 Oct 2009, 4:28 p.m. after one or more responses were posted

Re: At least some companies listen (or check the auctions)
*Message #10 Posted by **Martin Pinckney** on 22 Oct 2009, 10:30 a.m.,*
in response to message #9 by Mike Morrow

> Quote:
>
> Making a version of the HP42S, perhaps a long-awaited HP42SII, would be the only winning strategy for re-issue of an old scientific calculator.
>
> The HP-15C, as beloved as it has been, is a throw-back of more than a quarter century.

If by winning strategy, you mean greatest appeal as a functional RPN calculator for the working professional, then you are right.

But this misses the point, IMO. A re-issue of the 15c using the new 12c+ platform, by comparison has such trivial developmental costs (easy for me to say!), that it is more likely to happen first. So as an armchair (office chair?) expert, the 15c appears to be a sounder business decision, even if the market is smaller.

Re: At least some companies listen (or check the auctions)

*Message #11 Posted by **Marcus von Cube, Germany** on 22 Oct 2009, 10:45 a.m.,*
in response to message #10 by Martin Pinckney

The question is: Why is the 12C so successful, despite of lacking all the bells and whistles of more modern constructs like the 20b or the 17bii+ ?

Because it hasn't changed for decades. It's a dependable tool!

This might work for a scientific calculator, too.

Re: At least some companies listen (or check the auctions)

*Message #12 Posted by **Mike Morrow** on 22 Oct 2009, 3:32 p.m.,*
in response to message #11 by Marcus von Cube, Germany

The HP42S would have been, I suspect, a continuous success had it continued to be marketed after 1995, especially if the rather weak HP32S/HP32SII RPN scientific had been dropped instead. Few of us, myself included, ever dreamed that the best RPN scientific calculator ever made would be discontinued without replacement by something equivalent or better. Very shortly after the discontinuance of the HP42S was announced, it sold out everywhere and became very hard to get. It has remained so. It isn't because of collector appeal...it's because it is such a masterpiece of really really useful RPN features.

I also don't understand why a modernized HP-15C would require significantly less effort than would a modernized HP42S. The firmware of each of the originals would need to be translated to the new hardware...it's not as if a ROM image of the HP-15C could easily be translated, but that of the HP42S could not.

Re: At least some companies listen (or check the auctions)

*Message #13 Posted by **Eric Smith** on 22 Oct 2009, 4:02 p.m.,*
in response to message #12 by Mike Morrow

Neither a modernized 15C nor a modernized 42S is easy. Either would need a large investment in new software development by HP. In the "good old days", HP had a fair number of software engineers to develop calculators. Today they have two engineers, who have many demands on their time. HP has to carefully decide what product development efforts are the most effective use of their available resources, including the time of those two engineers, and designing a modernized version of either the 15C or 42S is unlikely to make the cut, because neither is likely to be a huge hit. As much as we like the 42S, it is safe to assume that it was NOT selling nearly as well as the 32SII, or it wouldn't have been discontinued.

I don't have any special insight into what goes on inside HP; I'm just writing on the basis of how business and engineering resource allocation decisions are normally made.

Re: At least some companies listen (or check the auctions)

*Message #14 Posted by **DaveJ** on 22 Oct 2009, 5:56 p.m.,*
in response to message #12 by Mike Morrow

> Quote:
>
> The HP42S would have been, I suspect, a continuous success had it continued to be marketed after 1995, especially if the rather weak HP32S/HP32SII RPN scientific had been dropped instead. Few of us, myself included, ever dreamed that the best RPN scientific calculator ever made would be discontinued without replacement by something equivalent or better. Very shortly after the discontinuance of the HP42S was announced, it sold out everywhere and became very hard to get. It has remained so. It isn't because of collector appeal...it's because it is such a masterpiece of really really useful RPN features.
>
> I also don't understand why a modernized HP-15C would require significantly less effort than would a modernized HP42S. The firmware of each of the originals would need to be translated to the new hardware...it's not as if a ROM image of the HP-15C could easily be translated, but that of the HP42S could not.

The 15C is much easier because they already have the platform in place with the 12C. It's simply a matter of using the 15C ROM instead of the 12C ROM, and probably some housekeeping code. The software side would have to be an order of magnitude less complicated than a new 42S, of which they have no basic hardware platform to work from. i.e. no LCD driver, no keyboard driver etc. The 12C platform already has those drivers in place, as the LCD and keypad is the exactly same between the calcs.

The 42S would have been dropped for one reason, and one reason alone - it wasn't selling enough.
Remember, the fanboy and general purpose scientific markets are trivial, and HP know this, which why they market their calcs to target markets like education and finance.

If a new 15C or 42S comes out, it will because it's easy for them to do, has as little risk as possible, and can be marketed with retro appeal. The 15C is the only sensible choice here.

Dave.

Re: At least some companies listen (or check the auctions)

*Message #15 Posted by **NACHO** on 22 Oct 2009, 6:07 p.m.,*
in response to message #14 by DaveJ

they also have a great platform for the 42S.

See 17BII+.

a different overlay, great KB and a 42SII can be achived.

regards

Re: At least some companies listen (or check the auctions)

*Message #16 Posted by **Tim Wessman** on 22 Oct 2009, 7:07 p.m.,*
in response to message #15 by NACHO

Do you know how wonderfully amazing the 6502 chip inside that is? If you did, that statement would be a little different. . .

TW

Edited: 22 Oct 2009, 7:07 p.m.

Re: At least some companies listen (or check the auctions)

*Message #17 Posted by **Charles Oxford** on 22 Oct 2009, 10:13 p.m.,*
in response to message #16 by Tim Wessman

Isn't that what was in the Commodore Vic 20?

Re: At least some companies listen (or check the auctions)

*Message #18 Posted by **Egan Ford** on 23 Oct 2009, 11:39 a.m.,*
in response to message #17 by Charles Oxford

> Quote:
>
> Isn't that what was in the Commodore Vic 20?

And the following:

1. Commodore C64
2. Commodore C128
3. Commodore C16, C116 and Plus/4
4. Commodore P500
5. Commodore 600/700 family of computers
6. Apple][family
7. Atari 8bit machines (e.g. 2600)
8. Oric Atmos
9. Nintendo Entertainment System (NES)
10. Supervision Game Console
11. Atari Lynx Console

The 6502 is a very capable processor. Last weekend I computed pi to 1000 digits in just a bit over 25 minutes on my Apple //c (6502 @ 1.023 MHz). I used cc65 (cc65.org) to compile my C program.

Now emulating a different platform is a different story and I'll guess that the 17BII+ is not running at 1 MHz (or is it?).

However if the 17BII+ was a 17BII clean room edition, then a 42S clean room ed. should also be possible. And, all the work is already done in Free42. Ah, but then there is that large company with many lawyers "Not Invented Here" attitude.

Re: At least some companies listen (or check the auctions)

*Message #19 Posted by **Gerson W. Barbosa** on 24 Oct 2009, 1:44 p.m.,*
in response to message #18 by Egan Ford

> Quote:
>
> Last weekend I computed pi to 1000 digits in just a bit over 25 minutes on my Apple //c (6502 @ 1.023 MHz).

Bob Bishop's Apple Pi (Integer BASIC) is about 100 times slower:

http://bob-bishop.awardspace.com/ApplePi/index.html

Listing in text format available at

http://groups.google.com/group/comp.sys.apple2/browse_thread/thread/110c648eaf9a4ebf/b5857de668f04adb?lnk=raot

Re: At least some companies listen (or check the auctions)

*Message #20 Posted by **Garth Wilson** on 24 Oct 2009, 3:35 p.m.,*
in response to message #19 by Gerson W. Barbosa

> Quote:
>
> Last weekend I computed pi to 1000 digits in just a bit over 25 minutes on my Apple //c (6502 @ 1.023 MHz).

6502 cores in custom ICs for embedded control have exceeded 200MHz. (Dig that sub-50ns interrupt latency!) They have more instructions and addressing modes, have all the old NMOS 6502 bugs fixed, and several other benefits. My 5MHz 65c02 workbench computer does a 2,048-point complex FFT in fixed-point in 5 seconds-- in high-level Forth, not even assembly.

Re: At least some companies listen (or check the auctions)

*Message #21 Posted by **Eric Smith** on 24 Oct 2009, 5:39 p.m.,*
in response to message #20 by Garth Wilson

Sure, but these 6502-compatible cores don't achieve anywhere near the uA/MIPS power stinginess of low-power microcontollers, because people building ASICs generally don't have access to the extremely low power processes developed for those microcontrollers. And in general, a 6502 is going to have less than 1/10 of the equivalent MIPS of an ARM at the same clock frequency.

The 6502 core in the GeneralPlus (formerly SunPlus) microcontrollers being used in calculators only runs at a few MHz maximum, but is fairly low power.

Don't get me wrong, I actually like the 6502, and have written a huge amount of 6502 assembly language over the years, but it's NOT the best choice for an advanced calculator.

Re: At least some companies listen (or check the auctions)

*Message #22 Posted by **Garth Wilson** on 24 Oct 2009, 10:39 p.m.,*
in response to message #21 by Eric Smith

> Quote:
>
> Sure, but these 6502-compatible cores don't achieve anywhere near the uA/MIPS power stinginess of low-power microcontollers, because people building ASICs generally don't have access to the extremely low power processes developed for those microcontrollers. And in general, a 6502 is going to have less than 1/10 of the equivalent MIPS of an ARM at the same clock frequency.

While it may not be the most suitable for a modern calculator (primarily because of its 16-bit data bus), it is nevertheless being sold at a rate of hundreds of millions of units per year today, mostly rather invisibly because it's going into custom ICs (ASICs) used in embedded control for products ranging from consumer to automotive to medical. Western Design Center, its owner, sells mostly IP licenses, not hardware. Of the little hardware they do sell however, their 65c02 takes a guaranteed maximum of 150µA per MHz at 1.8V for the core itself, and a guaranteed maximum of 500µA per MHz at 5V. 6502 MIPS is roughly 1/4 of the MHz speed, meaning the aforementioned 200MHz is worth about 50 MIPS. A PIC16, which I also have put in many products we've brought to market, would have to go about 400MHz to get comparable performance (regarding time to get a job done), if the PIC's poor instruction set doesn't keep it from doing the job altogether. I will estimate that a 65c02's performance gain over the 41, at comparable power, would be over two orders of magnitude. If I had to redesign the 41 and had to use a 65-family processor though, I would use the 65816 which is more powerful and even easier to program. In the Sieve benchmark, it performs approximately on par with the 68000, even though the 65816 is a much simpler processor.

Edited: 24 Oct 2009, 10:46 p.m.

Re: At least some companies listen (or check the auctions), and an MCODE challenge

*Message #23 Posted by **Egan Ford** on 24 Oct 2009, 5:01 p.m.,*
in response to message #19 by Gerson W. Barbosa

> Quote:
>
> Bob Bishop's Apple Pi (Integer BASIC) is about 100 times slower:
>
> http://bob-bishop.awardspace.com/ApplePi/index.html

I was cleaning my office a while back and stumble onto an article by Ron Knapp about how he bested an Apple II with a 41C when computing Pi to 1000 digits. I think the times were 40 hours vs 8.5 hours.

Being an Apple II fan that didn't sit right with me, so I decided to see for myself. I benchmarked both and also got 40 and 8.5 hours. Ron was right.

So, I decided I'd figure out what the Apple could do. I wrote 3 programs to compute Pi to 1000 digits--Forth, K&R C (Aztec), and ANSI C (cc65). The Forth and K&R C were available at the time of the Apple and the 41CX. The ANSI C compiler is very modern.

Times:

	Apple				HP
	INT	MAF	Aztec	cc65	41CX
Benchmark	BASIC	Forth	C 3.2	2.13	RPN
pi (atan)	~40 hr	24.93 min	36.33 min	25.23 min	~8.5 hr

Ron's HP time (1981) wasn't bested until 1985 when someone posted a USENET C program for the Apple. The author claimed 40 minutes, but I timed it at closer to 2 hours. I contacted the author to see if he could remember the exact compiler and system used, but he could not. Our algorithms were similar, but he computed with base 10 whereas I used base 2^{16}. My code needed much fewer operations. My guess is that he created a base 2^{16} version and benchmarked that, but posted an older base 10 version. He acknowledged that may be the case and said he'd search his backup tapes.

Not that it matters. 40 min or 1:52 hours. In any case Ron's HP was bested after a 4 year rein.

Challenge: Can a 41C MCODEr best the Apple II?

Edited: 24 Oct 2009, 5:56 p.m.

Re: At least some companies listen (or check the auctions)

*Message #24 Posted by **Charles Oxford** on 24 Oct 2009, 7:29 p.m.,*
in response to message #18 by Egan Ford

I don't know about the other computers but the c64 used a 6510 which was an upgraded 6502 and subsequent commodores also used upgraded versions.

Re: At least some companies listen (or check the auctions)

*Message #25 Posted by **Egan Ford** on 25 Oct 2009, 10:50 p.m.,*
in response to message #24 by Charles Oxford

I should have said, "6502 family". The 6502 has many permutations, e.g. the Atari 2600 used a slimmer 6507 that only had 8KB of addressable space.

Re: At least some companies listen (or check the auctions)

*Message #26 Posted by **Marcus von Cube, Germany** on 25 Oct 2009, 2:20 p.m.,*
in response to message #18 by Egan Ford

> Quote:
>
> And the following:

Don't forget the Commodore PET, the predecessor of all the Commodore machines in your list.

Re: At least some companies listen (or check the auctions)

*Message #27 Posted by **NACHO** on 23 Oct 2009, 8:19 a.m.,*
in response to message #16 by Tim Wessman

I know it, look at my post with an hp17BII+ disassembled.

If you see my post you will see...changing overlay and keeping the keyboard, nothing about inside hardware is related in my post.

regards,

nacho

Re: At least some companies listen (or check the auctions)

*Message #28 Posted by **DaveJ** on 22 Oct 2009, 5:45 p.m.,*
in response to message #9 by Mike Morrow

> Quote:
>
> Making a version of the HP42S, perhaps a long-awaited HP42SII, would be the only winning strategy for re-issue of an older scientific calculator.
>
> The HP-15C, as beloved as it has been, is a throw-back of more than a quarter century. The HP42S, OTOH, after 21 years is still the 2009 state-of-the-art in its RPN feature set and ease of use. But 2009 hardware could greatly enhance the speed, display, memory, and I/O that serve that outstanding feature set. (Let's choose a decent new color scheme too, something classic like that of the HP-15C.)

I think you are missing the point.
Either calculator will sell based mostly on it's retro appeal and perceived coolness, it's got little to do with its functionality.
The majority of buyers will NOT be HP fanboys.
It is quite possible (most likely IMO) that a retro 15C as-is would outsell the pants off a new super-duper 42S for a few reasons.

The first of which is the NRE which is extremely low for the 15C. The 42S would be a complete redesign from the group up using a new platform. This means the 42S would need a large development cost amortisation which would increase the price point and make it even less appealing to buyers. Not to mention hardware wise it's going to cost more than the 15C to begin with. It anything it would likely be based on the new 20B platform.

And a 42S would look like regular modern calcs, so it's not going to capture the imagination of retro geeks the same way a small landscape 15C with it's retro minimalistic 7 segment display would. You can bet your bottom dollar the 15C will make every geek blog on the planet, and that turns into serious sales if the price point is low enough. A new higher priced 42S would barely make a whimper outside of the HP fanboys.

And given that neither would find a niche educational market where you get big numbers, you have to market it based on other factors as I've mentioned. The 15C would be the most sensible choice in this respect.

Dave.

Re: At least some companies listen (or check the auctions)

*Message #29 Posted by **Paul Dale** on 22 Oct 2009, 6:03 p.m.,*
in response to message #28 by DaveJ

> Quote:
>
> It anything it would likely be based on the new 20B platform.

No it wouldn't. Not enough RAM on the CPU to emulate the 42s without adding an extra chip.

- Pauli

Re: At least some companies listen (or check the auctions)

*Message #30 Posted by **Mike Morrow** on 22 Oct 2009, 8:23 p.m.,*
in response to message #28 by DaveJ

> Quote:
>
> I think you are missing the point.
> Either calculator will sell based mostly on it's retro appeal and perceived coolness, it's got little to do with its functionality.

I'm not the one missing the point. The point is to sell calculators. The advantage that results from functionality is demonstrable. Any supposed advantage from "retro appeal" and "coolness" is in the realm of religion.

Calculators do not sell in any great numbers based upon any kind of retro appeal. I'd be curious to know what anchors that in your mind as the principal product characteristic that would dominate and dictate sales. If retro appeal is all that can be achieved in sales by some re-issue, I hope HP has sense enough to abort immediately.

Calculators sell in great numbers to a general audience based principally on price, functionality, and ease of use. The HP-15C fails the HP42S in the last two of those. I doubt that many of the people who for almost 15 years have paid high auction prices for the HP42S did so because of any retro or even any collector appeal. I suspect they do so because the HP42S is (somewhat unfortunately) **STILL** 2009 State-Of-The-Art in RPN calculator functionality. No other RPN calculator has been produced that can take its honored spot. Had there been such a later machine, it would currently be the most sought after, not the HP42S or the HP-15C. For functionality. Not for retro appeal.

> Quote:
>
> It is quite possible (most likely IMO) that a retro 15C as-is would outsell the pants off a new super-duper 42S for a few reasons.

That is MOST unlikely. The exact opposite will happen if an HP-15C is re-issued.

> Quote:
>
> The first of which is the NRE which is extremely low for the 15C. The 42S would be a complete redesign from the group up using a new platform.

It's my understanding that current HP-12C models are based on completely different processor hardware and firmware than were the units of the same vintage as the HP-15C. The original HP-15C firmware translation to the new hardware would be almost as much an effort, for very little return, as it would be to translate HP42S firmware to the new hardware, with potential for much greater return for the effort.

> Quote:
>
> And a 42S would look like regular modern calcs, so it's not going to capture the imagination of retro geeks the same way a small landscape 15C with it's retro minimalistic 7 segment display would. You can bet your bottom dollar the 15C will make every geek blog on the planet, and that turns into serious sales if the price point is low enough. A new higher priced 42S would barely make a whimper outside of the HP fanboys.

I don't understand this obsession with some mythological and purely hypothetical mass retro geek appeal. It doubtless does NOT exist in enough quantity to make it worth even a week's development costs.

OTOH, the HP42S design appeals to those seeking the highest development of an RPN calculator for actual day-to-day use. I've used mine in work capacity almost daily for 12 years, and it's held up far better than the HP-15C that I used for eleven years before that. I suspect most HP42S users do likewise. I suspect these people far far outnumber any who would purchase a cryptic cyber-cipher like the HP-15C, were they given the choice.

> Quote:
>
> And given that neither would find a niche educational market where you get big numbers, you have to market it based on other factors as I've mentioned.

Other factors yes, but not the *ONE* upon which you hang *ALL* your hopes. More reasonable would be the really radical approach of producing an instrument that provides a significant advance in capability over the proposed alternative, one that equals or advances what has been available, one that will see actual daily use in a work environment, by workers (not students, not retro geeks).

Edited: 22 Oct 2009, 8:34 p.m.

Re: At least some companies listen (or check the auctions)

*Message #31 Posted by **Eric Smith** on 22 Oct 2009, 8:36 p.m.,*
in response to message #30 by Mike Morrow

It's true that the current 12C (but not the 12c Platinum) is running on an ARM processor. However, it is running almost exactly the same firmware as the original 12C from 1981. The same could be done for the 15C, and in fact a prototype of that has been demonstrated at a previous HHC conference.

Re: At least some companies listen (or check the auctions)

*Message #32 Posted by **Mike Morrow** on 22 Oct 2009, 10:44 p.m.,*
in response to message #31 by Eric Smith

> Quote:
>
> It's true that the current 12C (but not the 12c Platinum) is running on an ARM processor. However, it is running almost exactly the same firmware as the original 12C from 1981.

Is there some sort of emulator of the original hardware between the almost original firmware and the ARM processor? If so, wouldn't something similar be possible for a "new" HP42S-type of machine?

I'm frankly tired of HP taking the half-assed approach to scientific RPN calculators since the HP42S was discontinued 14 years ago. Everything in RPN-land since then has been extremely disappointing: The HP32SII, the HP33S, the HP35S...all these are fundamentally and substantially inferior to the functionality of the 1988 HP42S. The HP49G+ and HP50G are highly capable, but much larger and RPL-based. If HP continues down the path of mediocrity and issues its next RPN scientific calculator without features that one of their products carried more than 21 years ago, it would be evidence of lack of capability and commitment to produce useful and innovative products that were routine two decades ago. Very sad.

If HP-China burps out a pointless and unnecessary HP-15C clone, expect poor sales after the initial load of HP-15C freaks buy

one. I won't be a customer. "Landscape" calculators are testiments to eccentric style over logical functionality.

Re: At least some companies listen (or check the auctions)

*Message #33 Posted by **DaveJ** on 23 Oct 2009, 2:03 a.m.,*
in response to message #32 by Mike Morrow

> Quote:
>
> Is there some sort of emulator of the original hardware between the almost original firmware and the ARM processor? If so, wouldn't something similar be possible for a "new" HP42S-type of machine?

I'm sure Eric or others will correct me if any of this in inaccurate:

Yes, HP bought rights to use Eric's Nonpareil simulator/emulator software and ported it to their new ARM platform they use on the current production model 12C.

HP also reaffirmed(?) their right to the original 10 series (11C/12C/15C/16C) calc ROMs, that is why Eric is now not allowed to supply these ROM's with with Nonpareil software like he used to:

http://nonpareil.brouhaha.com/

Yes, in theory you can do the same with the 42S, but it requires more memory and screen resources than HP's current 20B/12C ARM hardware platform can provide. So that means HP have to develop not only the suitable hardware base, but also the emulator/driver base as well. This is a lot of work, good luck selling that internally when they have just spent their time and effort on the current ARM platform.

And then of course with ROM simulation you don't get any of the fanboy desired 42SII extras. Exact 42S functionality, take it or leave it.

Dave.

Edited: 23 Oct 2009, 2:14 a.m.

Re: At least some companies listen (or check the auctions)

*Message #34 Posted by **Tim Wessman** on 23 Oct 2009, 10:51 a.m.,*
in response to message #33 by DaveJ

There is no 3rd party code in the 12c emulator. Eric was very helpful, but it is all cyrille's code.

As for the ROMs, it is much simpler than that. There is no copyright notice built into the ROM at all.

TW

Re: At least some companies listen (or check the auctions)

*Message #35 Posted by **Egan Ford** on 23 Oct 2009, 11:14 a.m.,*
in response to message #34 by Tim Wessman

> Quote:
>
> As for the ROMs, it is much simpler than that. There is no copyright notice built into the ROM at all.

So are you saying that if I have the ROM dumps I can do whatever I like with them? Redistribute them? Create my own 12C and complete with HP?

You say *built into*. Given how sparse the space is I'd wager that there would be no space for a copyright and that copyright is implied. Or is it? Can HP give permission to someone to post the ROMs for public use like the 48GX and 48SX ROMs were published?

This is a very gray area.

Thanks.

Re: At least some companies listen (or check the auctions)

*Message #36 Posted by **Eric Smith** on 23 Oct 2009, 6:43 p.m.,*
in response to message #33 by DaveJ

As Tim said, the new 12C is NOT running my Nonpareil simulation code. I offered to license my code to HP under non-GPL terms, but they were not willing to do that unless I also ceased to make it available to others under the GPL.

Cyrille has done an excellent job on the simulation code he developed for the 12C (and which I assume is also used in HP's iPhone 12C app, etc.). His simulation code is much more focused on achieving maximum performance then mine was, although I've done some work on speeding up Nonpareil and shared some high-performance BCD arithmetic C

code with him. Cyrille hand-translated that code to very highly optimized ARM assembly language, and posted that here in the forum some time back.

Re: At least some companies listen (or check the auctions)

*Message #37 Posted by **Reth** on 23 Oct 2009, 6:02 a.m.,*
in response to message #32 by Mike Morrow

You nailed it, Mike, that was my point too:

> Quote:
>
> If HP-China burps out a pointless and unnecessary HP-15C clone, expect poor sales after the initial load of HP-15C freaks buy one. I won't be a customer. "Landscape" calculators are testiments to eccentric style over logical functionality.

Re: At least some companies listen (or check the auctions)

*Message #38 Posted by **DaveJ** on 23 Oct 2009, 8:31 a.m.,*
in response to message #37 by Reth

> Quote:
>
> You nailed it, Mike, that was my point too:
>
> > Quote:
> >
> > If HP-China burps out a pointless and unnecessary HP-15C clone, expect poor sales after the initial load of HP-15C freaks buy one. I won't be a customer. "Landscape" calculators are testiments to eccentric style over logical functionality.

But surely a re-issue of the 15C is better than HP bringing out nothing at all, or another fluoro colour $10 rebaged toy instead...?

The 15C was just as popular as the 42S in it's own way, so why any HP fan would boo-hoo over it's reintroduction is beyond me.

One could also argue that a re-issue of an all-mighty super-powerful programmable 42S you can't save or download programs into would be equally as silly...

Dave.

Re: At least some companies listen (or check the auctions)

*Message #39 Posted by **DaveJ** on 23 Oct 2009, 1:47 a.m.,*
in response to message #30 by Mike Morrow

> Quote:
>
> I'm not the one missing the point. The point is to sell calculators. The advantage that results from functionality is demonstrable. Any supposed advantage from "retro appeal" and "coolness" is in the realm of religion.

When comparing two products of the same type, yes. The 15C and 42S have always will be fairly different beasts.

> Quote:
>
> Calculators do not sell in any great numbers based upon any kind of retro appeal. I'd be curious to know what anchors that in your mind as the principal product characteristic that would dominate and dictate sales.

I'm not saying it's the principle appeal, but it's an additional appeal that will not be lost on modern forms of social marketing such as tech blogs.

> Quote:
>
> Calculators sell in great numbers to a general audience based principally on price, functionality, and ease of use. The HP-15C fails the HP42S in the last two of those. I doubt that many of the people who for almost 15 years have paid high auction prices for the HP42S did so because of any retro or even any collector appeal. I suspect they do so because the HP42S is (somewhat unfortunately) **STILL** 2009 State-Of-The-Art in RPN calculator functionality. No other RPN calculator has been produced that can take its honored spot. Had there been such a later machine, it would currently be the most sought after, not the HP42S or the HP-15C. For functionality. Not for retro appeal.

It's silly to compare the 15C and 42S in functionality, it's chalk and cheese.

> Quote:
>
> It's my understanding that current HP-12C models are based on completely different processor hardware and firmware than were the units of the same vintage as the HP-15C. The original HP-15C firmware translation to the new hardware would be almost as much an effort, for very little return, as it would be to translate HP42S firmware to the new hardware, with potential for much greater return for the effort.

Not so. The new 12C uses the original 12C ROM via an emulator, so all the real hard work has been done, HP recalled rights to the original 15C ROM for just this purpose. Just drop the 15C ROM into the current 12C emulator and you should be good to go.

Not so with the 42S where no current hardware/firmware platform exists to emulate that I am aware of.

As someone else said, a new 15C has already been demonstrated, so a 42S is nothing but pie in the sky. If HP are going to re-release either the 15C or 42S, smart money is on the 15C, by far.

> Quote:
>
> I don't understand this obsession with some mythological and purely hypothetical mass retro geek appeal. It doubtless does NOT exist in enough quantity to make it worth even a week's development costs.

Yet HP chose to push the retro angle when it marketed the 35S, and has also continued a retro angle with the 12C.

> Quote:
>
> OTOH, the HP42S design appeals to those seeking the highest development of an RPN calculator for actual day-to-day use.

Which is an audience bordering on almost ZERO in terms of the current market!

Do you really think Joe-Public gives a toss about having the most powerful RPN calculator ever made? Hint, it's down about the same level as your perceived level of retro appeal.

The 15C at least has a novel form factor compared to other scientific calcs currently on the market, which *might* give it an edge in marketability over the 42S in today's market. Especially when it's going to come in at a much lower price point.

The 42S has neither, all it has going for it is its (hidden) power.

But once again, we are not comparing apples to apples here, so the point is bit moot.

I'm not in marketing, but if I was I think I'd prefer the low price point limited functionality retro form factor 15C than the ordinary looking but powerful 42S at a higher price point.

Any marketing people here who want to share their views?

> Quote:
>
> I've used mine in work capacity almost daily for 12 years, and it's held up far better than the HP-15C that I used for eleven years before that. I suspect most HP42S users do likewise. I suspect these people far far outnumber any who would purchase a cryptic cyber-cipher like the HP-15C, were they given the choice.

The point is not about HP fanboys and what they want/like, it's about the general market and what will appeal to them more.

I wager the 15C will generate more market excitement than the 42S, at much lower development cost and risk to HP. Will that translate into good sales?, only time will tell.

> Quote:
>
> Other factors yes, but not the *ONE* upon which you hang *ALL* your hopes. More reasonable would be the really radical approach of producing an instrument that provides a significant advance in capability over the proposed alternative, one that equals or advances what has been available, one that will see actual daily use in a work environment, by workers (not students, not retro geeks).

It's all about what HP can actually bring to market with their limited resources.

A few almost certain facts are in order:
- A new 15C has already been demonstrated
- A new 15C requires comparatively little NRE
- A new 15C can leverage off existing 12C production to lower the cost (the hardware is identical to the current production 12C)
- A 15C will be easier to sell internally to management
- A new 42S requires much more development and NRE
- No current platform exists to emulate the 42S, it must be developed(?) - A new 42S will be at a more expensive price point
- A new 42S will be tougher to sell internally to management.

Based on that the odds of HP bringing a new 42S to market are pretty darn low. Sorry to all you 42S fanboys!

Dave.

Re: At least some companies listen (or check the auctions)
*Message #40 Posted by **Walter B** on 23 Oct 2009, 5:37 a.m.,*
in response to message #39 by DaveJ

... but never give up hope!

Ceterum censeo: HP, launch a 43S!

Walter

Re: At least some companies listen (or check the auctions)
*Message #41 Posted by **DaveJ** on 23 Oct 2009, 8:22 a.m.,*
in response to message #40 by Walter B

> Quote:
>
> ... but never give up hope!

Of course, the odds of anything are never zero, quantum theory and all that!

Dave.

Re: At least some companies listen (or check the auctions)
*Message #42 Posted by **Walter B** on 23 Oct 2009, 9:09 a.m.,*
in response to message #41 by DaveJ

> Quote:
>
> Of course, the odds of anything are never zero, quantum theory and all that!

Well, I don't really want to wait 1E9 years ...

Re: At least some companies listen (or check the auctions)
*Message #43 Posted by **Mike Morrow** on 24 Oct 2009, 9:03 a.m.,*
in response to message #39 by DaveJ

PART 1: Here are just a few other items.

Ease of Use - The HP42S is fully alphanumeric. It is far easier to program, edit, debug, and produce meaningful prompts and displays than it is on the HP-15C. A program step looks like a program step..."LBL B" instead of "42,21,12".

Accuracy/Precision of Results - The HP42S firmware/Saturn combination produces far better results than does the old HP-35 type of processor/firmware in the HP-15C. (I know the HP-15C is closer to the HP-34C, but still all pre-Saturn calculators harken back to 1971.)

I/O - Though limited, the HP42S swamps the HP-15C. It has IR printer output, and audible tone output. I find both to be great assets. (I only wish it had a clock with time/date function.)

Safety of Programs and Data - I've had a 370-step Runge-Kutta routine for solving systems of differential equations in my HP42S since I entered it in 1997 from a HP-41CX listing. I have carried and used the HP42S almost daily at a nuclear generating station where it must pass through high-performance security x-ray screening. In the entire time I've used the HP42S I have suffered no losses of any sort, no data corruption even with very routine x-ray exposure (not to mention the several battery changes and other routine threats like drops and other impacts).

PART 2: If HP re-issues an HP-15C clone would HP also re-issue the HP-15C manual set, spiral bound like the original? IMHO, the one area in which the HP-15C indisputably *still* sets the world standard is the quality of its basic user manual AND advanced user manual. It would be a shame to re-issue the calculator, then fail to provide its greatest asset.

PART 3: The following is for the next generation small pocket-sized successor, and not part of the HP-15C vs. HP42S re-issue argument.

a. Incorporate ALL the features now existing on thr HP42S, coded natively on the ARM processor for optimal run-time results (no emulation of firmware coding that was written decades ago for the Saturn processor). (I'd also like to see that on the successor to the HP50g, if there ever is one.)
b. Incorporate the features of the HP17Bii.
c. Add bigger, clearer display.
d. (Only if battery resources make it practical) Add micro-SD card I/O...maybe USB support could power the SD card write process when connected to a PC.

Edited: 24 Oct 2009, 9:13 a.m.

Re: At least some companies listen (or check the auctions)

*Message #44 Posted by **DaveJ** on 24 Oct 2009, 5:54 p.m.,*
in response to message #43 by Mike Morrow

I don't disagree with any or your points.

But all that doesn't mean a new 42S would:

1) Sell as well as a 15C which would be at a lower price point

2) Be easy or cheap to bring to market

It's all about market/business/internal politics practicality, risk, development cost, and what HP can and are likely to actually do.

I'm sure we'd all like to see both released, plus Walters 43S etc, plus my much dreamed after true pocket calc or scientific calc watch etc. Out of all those, the 15C is the only likely winner.

Dave.

Re: At least some companies listen (or check the auctions)

*Message #45 Posted by **Steve Perkins** on 23 Oct 2009, 3:38 p.m.,*
in response to message #30 by Mike Morrow

I for one would buy a HP-42S+ for approximately twice what I'd pay for a HP-15C+.

Of course, I'm probably in the fan-boy category.

I like the more flexible two line display with alpha capability and HP-41C compatibility of the HP-42S.

And my fond wish for either would be more memory, speed, and I/O possibilities.

All for a reasonable price, of course.

Re: At least some companies listen (or check the auctions)

*Message #46 Posted by **DaveJ** on 23 Oct 2009, 8:57 p.m.,*
in response to message #45 by Steve Perkins

> Quote:
>
> And my fond wish for either would be more memory, speed, and I/O possibilities.

If the 42S ever comes out again and they decide to do a ROM simulator like the 12C/15C, that guarantees no extra features, just speed.

Dave.

Re: At least some companies listen (or check the auctions)

*Message #47 Posted by **Nico Tak** on 28 Oct 2009, 8:00 p.m.,*
in response to message #46 by DaveJ

Hallo,

I have some notes, and I wonder or it is useful for HP to write it down. This are no complains, just compare notes.

In 1987 i bought the HP27s, and in 1989 i bought the HP42s. That¡¦s 20 years ago, and for 20 years i am a unpaid salesman for HP calculators. But I have never seen a follow up for both calculators. I wonder, if you don¡¦t have a follow up, why don¡¦t you keep them in production? (too expensive?).

I bought the HP35s this year, in theory must be better than HP27S. I also know that I have to compare with today¡¦s calculator the finical calculator HP17II. But as far I can remember, the HP17 in that time, and probably still, is not so powerful as the HP27s.

For example, comparing HP27S with HP35s :

„« if you want to solve a formula you have to tell first witch variable you want to solve. Instead the menu bar, than you can solve all variable, and in any direction. „« if you write a program you can only store it as LBL A or LBL B not a real functional name. When you have 30kb memory, you must have a good memory by your self. „« You have to write all programs down each other. Not separate. If you press in the solving mode, (a equation) one time to much on R/S he start the next program.

Comparing HP42S with HP35s.

„« Much more functions then HP35s „« Better program labels, you can assign a word to each program. „« You can programming every lcd dot. „« Store and recall a alpha string „« Smaller and thinner than HP35s „« HP42S CLST? 3 operations, max 4 to clear somthing. HP35 CLST? 6 operation. max 7x button downs for clearing something.

Strong points HP35s.

„« RPN and algebraic „« Beautiful design and beautiful button shape. „« Fractions. „« Enough memory. „« Making a HP35s program is much easer, than programming the HP27S. „« Lucky HP, that they made the HP35s so beautiful ;-)

Of cause you can say why don¡¦t take the HP50g? I like the HP50g for the office, but it¡¦s to big to ware in you suite. And for students,.. the teachers don¡¦t accept a graphic calculator. In the time I went to university, there was no teacher that recognised my calculator as an programmable calculator..and still nobody recognised it today. That¡¦s a good, thing, everybody thinks that you can calculate very quick. And that¡¦s nice isn¡¦t is? Thank You!

Kind regards,

Nico Tak

Holland

The lucky owner of: HP27s HP35s HP42s HP48sx HP48gx HP50g„» (Enter button wrong place, isn¡¦t? ;-))

Re: At least some companies listen (or check the auctions)

*Message #48 Posted by **Thomas Radtke** on 29 Oct 2009, 4:36 a.m.,*
in response to message #47 by Nico Tak

> Quote:
>
> I wonder, if you don't have a follow up, why don't you keep them in production?

Only reason: Because they don't sell anymore.

Re: At least some companies listen (or check the auctions)

*Message #49 Posted by **Garth Wilson** on 29 Oct 2009, 5:32 a.m.,*
in response to message #48 by Thomas Radtke

> Quote:
>
> Only reason: Because they don't sell anymore.

Once it's in production, I expect that the only reason they wouldn't be able to afford to *keep* it in production is if the production space is needed for a *more*-profitable model. If they don't have that, it's probably foolish to quit making the model they've already been making. HP has made some very foolish decisions though.

Re: At least some companies listen (or check the auctions)

*Message #50 Posted by **Marcus von Cube, Germany** on 29 Oct 2009, 1:32 p.m.,*
in response to message #49 by Garth Wilson

Sometimes, it's not just the space needed for a more profitable model. It's shareholder value business: What? The profit is below 10% while with product XYZ, produced far far away, we can get much more profit! Just lay off the much too expensive workers an ditch the whole division!

Re: At least some companies listen (or check the auctions)

*Message #51 Posted by **Egan Ford** on 29 Oct 2009, 1:33 p.m.,*
in response to message #49 by Garth Wilson

> Quote:
>
> Once it's in production, I expect that the only reason they wouldn't be able to afford to *keep* it in production is if the production space is needed for a *more*-profitable model.

Even if the initial costs have been recouped, there are still ongoing manufacturing, marketing, distribution, support, personnel, etc... costs that require a minimum number of units sold to justify continuation.

Re: At least some companies listen (or check the auctions)

*Message #52 Posted by **Garth Wilson** on 29 Oct 2009, 2:50 p.m.,*
in response to message #51 by Egan Ford

> Quote:
>
> Even if the initial costs have been recouped, there are still ongoing manufacturing, marketing, distribution, support, personnel, etc... costs that require a minimum number of units sold to justify continuation.

You guys act as if there were no such thing as a niche market, or any viable companies in niche markets. If the market it tiny, those post-development costs are too. I myself have been in a niche-market electronics company since 1992 that has never grossed more than a few hundred thousand dollars a year and yet we've done most of our electronic assembly by hand in the U.S., our most complex product having nearly 1500 parts, which makes it far more complex productionwise than a calculator. If you look in the tiny ads in the back of hobby electronics magazines you'll find advertisements for products made by individuals in their garages, sometimes even moonlightling. One person or family does everything-- design, purchasing, assembling, advertising, shipping, technical support, sweeping, the works. A one-man company can still get a custom LCD made, custom keyboard, etc.. If I personally had what it takes to run a business, I'd like to make the calculator.

Re: At least some companies listen (or check the auctions)

*Message #53 Posted by **Egan Ford** on 29 Oct 2009, 5:02 p.m.,*
in response to message #52 by Garth Wilson

> Quote:
>
> You guys act as if there were no such thing as a niche market, or any viable companies in niche markets.

That's completely different. I thought we were talking about HP.

The setup for a manufacturing capacity of 1,000/year is different than 1,000,000/year. If you initially setup for 1,000,000/year and then reduced that to 1000/year with the same facility you would most likely be losing money.

Its moot anyway since HP outsources all consumer electronics. Like any other large consumer electronics company you send out a spec with an estimated quantity and then you get back a price. Smaller quantity, higher/unit price.

As for niche calculator market some recent examples of this would be the PIL-Box, NoVRAM/Clonix, uWatch, and MLDL2000. I paid 100 Euros for my PIL-Box that contains a single digit Euros of parts. But I am sure the cost just get started including custom circuit boards makes up the rest of the cost and I expect the volumes of all four to never get to a point where the cost will drop. And that's OK. I am fine with $100 Euros. Now I imagine that a calculator would be significantly more complicated with more upfront cost. However the volumes should also increase, but if we are talking about bringing back the 42S or something like it, I fear the volumes will be just the people on message board. Furthermore the price would have to be less than a used 42S on eBay.

Now I know that this changes everyday. Its possible to print your own circuit boards, there is an abundance of cheap LCDs, and even the cost to use automated 3D mills is getting cheaper. So who knows perhaps it is possible today to pull it off. But I'd defer to DaveJ and Eric Smith for the final word on that since they have actually done it.

> Quote:
>
> If I personally had what it takes to run a business, I'd like to make the calculator.

I'll be your first customer. :-)

Re: At least some companies listen (or check the auctions)

*Message #54 Posted by **Nico Tak** on 29 Oct 2009, 9:06 p.m.,*
in response to message #53 by Egan Ford

Ok guys, I know you need a market to sell these things. But there is a market for a more complex calculator the HP50g too.. 1000 pages user's guide… (HP27s 256 pages. HP42S 350 pages)

But if you launce a new calculator like the HP35s.. - And there is no menu bar down the screen, a thing they developed 20 years ago…it sounds to me like Back to the future. - If you like to solve V= HxRxBxTxP and your calculator ask: What x to solve? Uh sorry,.. I forgot the names of the variables..

If you use a HP17II, HP27S or HP42S you can see the variables |V|H|R|B|T|P| down the menu bar. And enter them any direction, and solve them any direction. Much easer I guess.

A HP35S should be better than a HP27S isn't it? One of HP strongest points is the Solve menu bar.

HP invent it, use it!!

- HP35S program name you can only mark it with LBL A,B,C,D..Z. Do you think you can remember the program LBL K after three weeks?

Uak,.. I am boring,.. think positive… ebay. Kind regards,

Nico Tak

Re: At least some companies listen (or check the auctions)
*Message #55 Posted by **Thomas Radtke** on 30 Oct 2009, 4:55 a.m.,*
in response to message #54 by Nico Tak

Nico,

the 35s has a feature the 50g misses: Ease of use. Despite its memory, it is not intended to keep large programs or sets of equations. Instead, it hepls you to automate some calculations when you need it. And you don't have to mess with an alpha key, typing long variable names. The basic concepts of the 32S and all its successors are just brilliant, there's nothing to improve.

Thomas

Re: At least some companies listen (or check the auctions)
*Message #56 Posted by **Nico Tak** on 2 Nov 2009, 5:15 p.m.,*
in response to message #55 by Thomas Radtke

Hi Thomas,

Your right there is nothing to improve, I forgot the word “did”, HP did invent it, use it. I took up the 35S to see or I am wrong. But now two days later I still not convinced, that they make it very much easer. If it’s developed for easy use, why do you give the calculator so much memory? Use the memory for the menu bar,in the solve menu. Isn’t it? Programming is ok. Did you ever used a HP27S of HP42S? Because you must have the same problems, with the HP35S. And if you don’t have the same problems, you may be solved these problems. Please tell me your solutions..

Kind regards,

Nico

Re: At least some companies listen (or check the auctions)
*Message #57 Posted by **Walter B** on 2 Nov 2009, 5:44 p.m.,*
in response to message #56 by Nico Tak

Hi Nico,

you're right: one of the most annoying features of the 35S (and the 20b, BTW) is the outdated display and the missing row of soft keys. Of recent calculator models, we have this row in the 17bII+ Silver, however, so HP seems to know it still ;) OTOH, the display of this calc has the same visible specs as the old 27S and 42S, so no progress in 20 years.

With a state-of-the-art display, a lot of opportunities open.

Ceterum censeo: HP, launch a 43S.

Walter

Re: At least some companies listen (or check the auctions)
*Message #58 Posted by **Thomas Radtke** on 2 Nov 2009, 6:12 p.m.,*
in response to message #56 by Nico Tak

> Quote:
>
> If it’s developed for easy use, why do you give the calculator so much memory?

To never run out of it :-).

Re: At least some companies listen (or check the auctions)
*Message #59 Posted by **DaveJ** on 3 Nov 2009, 8:29 p.m.,*
in response to message #53 by Egan Ford

> Quote:
>
> Its possible to print your own circuit boards, there is an abundance of cheap LCDs, and even the cost to use automated 3D mills is getting cheaper. So who knows perhaps it is possible today to pull it off. But I'd defer to DaveJ and Eric Smith for the final word on that since they have actually done it.

It's easily possible to pull it off, you just need to:
a) want to do it
b) have the time and some money to do it
c) do it reasonably well enough so people want it

My uWatch is an interesting example.
I've now discontinued the original Mk1 watch, not because it wasn't selling, but because I've lost interest in it. I still have 300+ people on the email waiting list, so I could probably sell another 50 or 100 at least at the current $99 price, that's practically guaranteed. And the profit is rather large now that the NRE has been absorbed. So I could be continuing to make money, but I just couldn't be bothered any more, it's just too much hassle.

Perhaps I need to outsource the hassle to someone!

Dave.

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HP-12C mini-challenge (e^pi)

*Message #1 Posted by **Gerson W. Barbosa** on 21 Oct 2009, 8:32 a.m.*

Try to write a 10-step program on the HP-12C (final GTO 00 doesn't count) that displays, and *keeps displaying*, the so-called Gelfond's Constant, that is, $\mathbf{e}^{pi}$ = 23.14069264 (the value we get on all scientific Voyagers) or 23.14069263 (better 10-digit result).

Paul Dale has already two solutions based on his 9-step sequences for pi in a former thread, so the challenge will consist in finding as many 10-step sequences as possible. Besides Paul Dale's solutions below, there are at least **five** other 10-step solutions for 23.14069264 . Of course *one single* 9-step (or less) solution will supersede them all.

```
8 e^x 1 4 8 - 8 9 %T e^x

8 e^x 5 e^x INTG - 8 9 %T e^x
```

Gerson.

Re: HP-12C mini-challenge (e^pi)

*Message #2 Posted by **Valentin Albillo** on 22 Oct 2009, 6:50 a.m.,*
in response to message #1 by Gerson W. Barbosa

Hi, Gerson:

> Related to your HP-12C mini-challenge, there's a way to get $\mathbf{e}^{Pi}$ in an HP-15C *without using neither* $\boldsymbol{e}^{x}$ *nor* ***Pi***, in just 6 steps.
>
> As for your HP-12C challenge, the extremely simple:
>
> ```
> 10691
> ENTER
>  462
>   /
> ```
>
> courtesy of my IDENTIFY HP-71B program is just 10 steps long and returns 23.14069264, as required.

Best regards from V.

Edited: 22 Oct 2009, 7:01 a.m.

Re: HP-12C mini-challenge (e^pi)

*Message #3 Posted by **Gerson W. Barbosa** on 22 Oct 2009, 7:33 a.m.,*
in response to message #2 by Valentin Albillo

Hi Valentin,

> Quote:

As for your HP-12C challenge, the extremely simple:

```
10691
ENTER
 462
  /
```

Yes, you have found one of them. There are at least three more variants of this one which fit in ten steps, and a very different one I came up with.

Thanks for your participation!

Best regards,

Gerson.

Re: HP-12C mini-challenge (e^pi)

*Message #4 Posted by **Lyuka** on 25 Oct 2009, 5:51 p.m.,*
in response to message #3 by Gerson W. Barbosa

Hello

BTW, I wrote "fractional approximation program for the HP 15C", and it returns '10691 / 462' for '23.14069263' .

Re: HP-12C mini-challenge (e^pi)

*Message #5 Posted by **Gerson W. Barbosa** on 22 Oct 2009, 8:07 a.m.,*
in response to message #2 by Valentin Albillo

Quote:

Related to your HP-12C mini-challenge, there's a way to get $\mathbf{e^{Pi}}$ in an HP-15C *without using neither* $\boldsymbol{e^x}$ *nor* ***Pi***, in just 6 steps.

If $\mathbf{e^x}$ is allowed, it can be done in 5 steps:

```
1
CHS
ENTER
Re<>Im
y^x
```

Best regards,

Gerson.

Edited: 22 Oct 2009, 8:10 a.m.

Re: HP-12C mini-challenge (e^pi)

*Message #6 Posted by **Gerson W. Barbosa** on 25 Oct 2009, 2:40 p.m.,*
in response to message #5 by Gerson W. Barbosa

Quote:

> If $\mathbf{e^x}$ is allowed,

Somehow I mistook y^x for e^x. So it was already there, in just 5 steps!

Re: HP-12C mini-challenge (e^pi)

*Message #7 Posted by **Steve Perkins** on 22 Oct 2009, 6:12 p.m.,*
in response to message #2 by Valentin Albillo

Trivially from Valentin's solution:

```
21382
ENTER
 924
  /
```

Re: HP-12C mini-challenge (e^pi)

*Message #8 Posted by **Gerson W. Barbosa** on 22 Oct 2009, 7:37 p.m.,*
in response to message #7 by Steve Perkins

I had missed that one, but it should count, so now we have **eight** 10-steps solutions. If we multiply e^{pi} by 14 we get 323.**969696**859, which is surprisingly close to $323\ ^{32}/_{33}$ (32.96969696...) or 10691/14, which divided by 14 is equivalent to Valentin's solution, 10691/462 (and your trivial solution, of course :-)

This rational approximation allows for solutions like

```
3 2 4 ENTER 3 3 1/x - 1 4 /
```

but it is not short enough for our purpose (but you can try one of your trivial solutions on this one ;-)

Edited: 22 Oct 2009, 7:55 p.m.

Re: HP-12C mini-challenge (e^pi)

*Message #9 Posted by **Steve Perkins** on 23 Oct 2009, 3:45 p.m.,*
in response to message #7 by Steve Perkins

Trivially from my solution from Valentin's solution:

```
21382
ENTER
 77
  /
 12/   (the single function under the "i" key)
```

Re: HP-12C mini-challenge (e^pi)

*Message #10 Posted by **Steve Perkins** on 23 Oct 2009, 3:51 p.m.,*
in response to message #7 by Steve Perkins

And another realization:

```
21382
 12/   (the single function under the "i" key)
 77
```

```
      /
```

Giving the solution in 9 steps.

Edited: I just realized that on the original HP-12C the "12/" function does NOT fix the resulting number on the stack (enable stack lift?) ready for the 77 above. So it doesn't work without the extra ENTER.

On my HP-12C platinum it DOES enable stack lift and works as I expected it to. Interesting. So just an unsatisfying solution that works for some models.

Edited: 23 Oct 2009, 3:58 p.m.

Re: HP-12C mini-challenge (e^pi)

*Message #11 Posted by **Gerson W. Barbosa** on 23 Oct 2009, 4:31 p.m.,*
in response to message #10 by Steve Perkins

> Quote:
>
> I just realized that on the original HP-12C the "12/" function does NOT fix the resulting number on the stack (enable stack lift?) ready for the 77 above. So it doesn't work without the extra ENTER.

I had noticed this too but I didn't know it would work on the 12C Platinum because I don't have one. Looks like this is an old bug that has been corrected on the 12C Platinum. Both my 12C (CN04808261) and 12C+ (CNA 83816873) have the same behavior. Anyway, your 9-step solution is a record, albeit it works only on the Platinum. The solution in your previous post was on my list, so we have now **eight** 10-step solutions that work on any 12C plus **one** 9-step solution that works only on the 12C Platinum. The list is growing...

Gerson.

Edited to correct a typo

Edited: 23 Oct 2009, 4:47 p.m.

Re: HP-12C mini-challenge (e^pi)

*Message #12 Posted by **Gerson W. Barbosa** on 25 Oct 2009, 1:05 p.m.,*
in response to message #2 by Valentin Albillo

Hi Valentin,

> Quote:
>
> Related to your HP-12C mini-challenge, there's a way to get $\mathbf{e^{Pi}}$ in an HP-15C *without using neither* $\boldsymbol{e^x}$ *nor* ***Pi***, in just 6 steps.

Indeed:

```
  1
Re<>Im
ENTER
  yˣ
 1/x
```

x^2

If at least **pi** were allowed it would have been possible in 5 steps:

```
 pi
SINH
LSTx
COSH
 +
```

Regards,

Gerson.

Re: HP-12C mini-challenge (e^pi)

*Message #13 Posted by **Karl Schneider** on 22 Oct 2009, 9:52 p.m.,*
in response to message #1 by Gerson W. Barbosa

> Quote:
>
> ... Gelfond's Constant, that is, e^{pi} = 23.14069264 (the value we get on all scientific Voyagers) or 23.14069263 (better 10-digit result)

Ah, but this minor flaw need *not* be accepted. It is possible to honestly calculate Gelfond's Constant to full 10-digit accuracy on any scientific Voyager without resorting to elaborate multiprecision methods or unorthodox techniques. It is, um, "E-Z".

The problem, of course, is that pi is returned to only 10 digits, compromising the accuracy of the exponential calculation. Utilizing

```
sin (pi - x) = sin x ~= x (for very small x)

e^(x + y) = e^x * e^y
```

First, obtain several extra digits of pi that are correct after rounding, and incorporate them into the latter of two parts of the input argument for the exponential, which is then evaluated separately and recombined:

```
FIX 9
RAD
pi
1E-9
-
ENTER
SIN
x<>y
3.1
-
LASTx
e^x
R_down
+
e^x
R_up  (or three R_down on the HP-10C)
*


answer = 23.14069263
```

Subtracting 1E-9 yields the first 10 correct digits of pi, so that the two calculated digits are the correct rounded digits of pi. This subtraction is not absolutely necessary.

OK, I didn't say that it was *worth doing*, just that it was *possible*...

BTW, clicking your "Gelfond's Constant" link reveals a "Gelfond-Schneider Constant". I cannot truthfully claim any credit...

;-)

-- KS

Edited: 23 Oct 2009, 1:56 a.m.

Re: HP-12C mini-challenge (e^pi)

*Message #14 Posted by **Valentin Albillo** on 23 Oct 2009, 8:38 a.m.,*
in response to message #13 by Karl Schneider

Karl posted:

> *"BTW, clicking your "Gelfond's Constant" link reveals a "Gelfond-Schneider Constant". I cannot truthfully claim any credit ... "*

I fed its 12-digit value (*2.66514414268*) to my **IDENTIFY** program but it duly returned $\mathbf{2^{Sqrt(2)}}$ so no joy.

Best regards from V.

Re: HP-12C mini-challenge (e^pi) (Edited for correction)

*Message #15 Posted by **Gerson W. Barbosa** on 23 Oct 2009, 8:45 a.m.,*
in response to message #13 by Karl Schneider

Quote:

```
answer = 23.14069263
```

That's indeed the correct 10-digit answer, but how can we be so sure? The problem doesn't lie on your method, which is absolutely corret, but on the calculator itself as there is no warranty all ten significant digits returned by transcedental functions are always correct (even though most of times they are). We can try, for instance,

```
keystroke                  display
pi                       3.141592654
3                        3
/                        1.047197551
e^x                      2.8496539038   ; can we trust this final 8?
3                        3
y^x                      23.140692638   ; if not, how can we trust this final 3?
```

and still don't be sure of the result. However, your endeavoring to be accurate is quite appreciated.

Regards,

Gerson.

Correction:

I had forgotten to take into account the guard-digits. By redoing your procedure on a 12-digit calculator (to simulate the guard-digits when applied), I see we can take for granted your 10-digit answer is really exact:

```
RAD
pi                                                  3.141592654
1E-9                                                1E-9
-                                                   3.141592653
ENTER                                               3.141592653
SIN                                                 5.9E-10
x<>y                                                3.141592653
3.1                                                 3.1
-                                                   0.041592653
LASTx                                               3.1
e^x                                                 22.1979512814    ; e^3.1
                                                    22.19795128      ; rounded to 10
digits of the display
R_down                                              0.041592653
+                                                   0.04159265359
e^x                                                 1.04246974594    ; e^0.04159265359
                                                    1.042469746      ; rounded to 10
digits of the display
R_up  (or three R_down on the HP-10C)               22.19795128      ;
                                                    23.1406926326    ; 22.19795128 *
1.042469746
                                                    23.14069263      ; correct rounded 10-
digit answer
```

Sorry for the mistake!

Edited: 23 Oct 2009, 8:19 p.m.

e^pi to 10 and 12 digits

*Message #16 Posted by **Karl Schneider** on 24 Oct 2009, 2:48 a.m.,*
in response to message #15 by Gerson W. Barbosa

Gerson --

Thanks for going through my calculation step-by-step, illustratively. I hadn't actually done so, but knew that the answer was correct, and believed that it was not a coincidence, because two extra digits of pi were utilized.

The point of it was really the basic mathematical formulae, significant digits, and a simple application thereof.

The method doesn't buy any extra accuracy for 12-digit inputs and three guard digits, because the 12-digit 'best' value of pi, 3.14159265359, is already quite close to the 15-digit 'best' value 3.14159265358979.

If the exact answer were not readily available (as in the not-so-old days), it could be reasonably inferred, without absolute certainty, by interpolation from adjacent 10-digit inputs that 23.14069263 is the closest 10-digit result for e^pi:

```
    pi            e^pi
3.141592653    23.14069262
3.141592654    23.14069264


3.14159265359  23.1406926328
```

-- KS

Edited: 24 Oct 2009, 3:30 a.m.

Re: HP-12C mini-challenge (e^pi)

*Message #17 Posted by **Paul Dale** on 25 Oct 2009, 5:00 p.m.,*
in response to message #1 by Gerson W. Barbosa

Two possible nine step solutions for the 12cp:

```
4 x^2 7 . 7 y^x 6 * LN
8 x^2 5 . 3 y^x 3 * LN
```

Both unrelated to the existing solutions. Are these related to the *very different one* Gerson mentioned? Replacing the x^2 with ENTER * making them ten steps and suitable for the 12c of course.

- Pauli

Re: HP-12C mini-challenge (e^pi)

*Message #18 Posted by **Gerson W. Barbosa** on 26 Oct 2009, 5:00 p.m.,*
in response to message #17 by Paul Dale

> Quote:
>
> Are these related to the *very different one* Gerson mentioned?

You have found another different family that gives the best 10-digit answer and includes at least a couple of 9-step solutions that will work on ALL 12C versions.

Your solutions can be rewritten for two more 10-step solutions:

```
6 LN 16 LN 7.7 * +

3 LN 64 LN 5.3 * +
```

Regards,

Gerson.

HP-12C mini-challenge (e^pi) - Solutions

*Message #19 Posted by **Gerson W. Barbosa** on 26 Oct 2009, 7:14 a.m.,*
in response to message #1 by Gerson W. Barbosa

Despite e^{pi} is not so appealing as **pi** and other more widely known mathematical constants this mini-challenge has elicited interesting and insightful responses. Thanks to all participants!

Here is a compilation of all available solutions so far:

10-step solutions

```
8 e^x 1 4 8 - 8 9 %T e^x          (Paul Dale)

8 e^x 5 e^x INTG - 8 9 %T e^x     (Paul Dale)

8 7 8 LN 1 6 * ENTER LN /      (Gerson W. Barbosa)

1 6 2 ENTER 6 6 1/x - 7 /
```

```
1 0 6 9 1 ENTER 4 6 2 /        (Valentin Albillo)

2 1 3 8 2 ENTER 9 2 4 /        (Steve Perkins)

2 1 3 8 2 ENTER 7 7 / 12/

6 5 ENTER 4 6 2 / 2 3 +

4 ENTER * 7 . 7 yx 6 * LN      (Paul Dale)

8 ENTER * 5 . 3 yx 3 * LN      (Paul Dale)
```

9-step solutions (12CP only)

```
2 1 3 8 2 12/ 7 7 /            (Steve Perkins)

4 x2 7 . 7 yx 6 * LN           (Paul Dale)

8 x2 5 . 3 yx 3 * LN           (Paul Dale)
```

Gerson.

Edited: 26 Oct 2009, 11:19 a.m.

Re: HP-12C mini-challenge (e^pi) - Solutions

*Message #20 Posted by **Paul Dale** on 26 Oct 2009, 5:15 p.m.,*
in response to message #19 by Gerson W. Barbosa

Nice collection of solutions and a fun challenge.

I'd be a little surprised if there weren't quite a few more ten step solutions to this. Finding them is the difficult part. Still, nobody found the elusive nine step solution if such exists.

- Pauli

Re: HP-12C mini-challenge (e^pi) - Solutions

*Message #21 Posted by **Gerson W. Barbosa** on 26 Oct 2009, 5:29 p.m.,*
in response to message #20 by Paul Dale

> Quote:
>
> I'd be a little surprised if there weren't quite a few more ten step solutions to this.

There are at least two more of them, actually just a rewriting of your own, see my reply to your post above.

> Quote:
>
> Still, nobody found the elusive nine step solution if such exists.

There are at least a couple of 9-step solutions that will work on the 12C as well, both based on yours.

Gerson.

Edited: 26 Oct 2009, 5:32 p.m.

Re: HP-12C mini-challenge (e^pi) - Solutions

*Message #22 Posted by **Paul Dale** on 26 Oct 2009, 8:00 p.m.,*
in response to message #21 by Gerson W. Barbosa

These two nine step solutions are an obvious continuation of my previous:

```
2 n! 2 9 . 8 y^x 12x LN
4 INTG 1 4 . 9 y^x 12x LN
```

I think these two are nicer:

```
2 LN 8 EXP INTG % EXP 12x LN
8 EXP INTG 2 LN % EXP 12x LN
```

- Pauli

Re: HP-12C mini-challenge (e^pi) - Solutions

*Message #23 Posted by **Gerson W. Barbosa** on 26 Oct 2009, 9:16 p.m.,*
in response to message #22 by Paul Dale

> Quote:
>
> ```
> 2 n! 2 9 . 8 y^x 12x LN
> 4 INTG 1 4 . 9 y^x 12x LN
> ```

Congratulations! Exactly what I had derived from yours, by solving LN(12*4^X)=EXP(PI) and LN(12*2^X)=EXP(PI) for X on the 33s:

```
4 ENTER 1 4 . 9 y^x 12* LN
2 ENTER 2 9 . 8 y^x 12* LN
```

Equivalent expressions could also have been found by hand, as in

$6*16^{7.7} = 6*16^{77/10} = 12*1/2*\text{xroot}(10,16^{77}) = 12*\text{xroot}(10,16^{77}/2^{10}) = 12*\text{xroot}(10,2^{308}/2^{10}) = 12*\text{xroot}(10,2^{298}) = 12*2^{29.8}$

but it was way easier with the SOLVER :-) LN(12*16^X)=EXP(PI) and LN(12*32^X)=EXP(PI) give two more 10-step solutions (plenty of them by now!).

> Quote:
>
> I think these two are nicer:
>
> ```
> 2 LN 8 EXP INTG % EXP 12x LN
> 8 EXP INTG 2 LN % EXP 12x LN
> ```

I wonder how many more 9-step solutions there are!

Regards,

Gerson.

Edited: 26 Oct 2009, 9:18 p.m.

Re: HP-12C mini-challenge (e^pi) - Solutions

*Message #24 Posted by **Paul Dale** on 26 Oct 2009, 9:26 p.m.,*
in response to message #23 by Gerson W. Barbosa

> Quote:
>
> I wonder how many more 9-step solutions there are!

Forget the 9-step solutions. Is there an eight?

I suspect not but would like to be proved wrong.

- Pauli

Re: HP-12C mini-challenge (e^pi) - Solutions

*Message #25 Posted by **Gerson W. Barbosa** on 30 Oct 2009, 7:44 a.m.,*
in response to message #24 by Paul Dale

I wish there were something as simple as

```
2 1 ENTER sqrt sqrt +
```

Anyway not so bad, considering just six keystrokes for the first seven digits and the decimal point...

Gerson.

Re: HP-12C mini-challenge (e^pi)

*Message #26 Posted by **Paul Dale** on 27 Oct 2009, 6:19 a.m.,*
in response to message #1 by Gerson W. Barbosa

Can anyone do likewise for pi^e = 22.459157718361...

My 15c gives 22.45915771 for this. Correctly rounded it should be 22.45915772.

So, what can people find for the 12c?

Currently, I've no better solution than the obvious type in the number. However, I'm sure someone can do better than 11 operations.

- Pauli

HP-12C mini-challenge (pi^e)

*Message #27 Posted by **Gerson W. Barbosa** on 27 Oct 2009, 12:54 p.m.,*
in response to message #26 by Paul Dale

```
 1 5 7 sqrt . 5 5 7 9 /

-> 22.45915772
```

Gerson.

Edited: 27 Oct 2009, 12:57 p.m.

e^pi < > pi^e ? [Minor update]

*Message #28 Posted by **Karl Schneider** on 28 Oct 2009, 12:41 a.m.,*
in response to message #27 by Gerson W. Barbosa

A year or two ago, a Forum participant offered a small "challenge" of sorts for young math students: Knowing that pi and e were both near 3 in magnitude, and pi > e, how would one go about deducing whether e^pi or pi^e had the greater value, without actually calculating them?

Here's a straightforward approach I think most of us would follow:

```
  e^pi       ?         pi^e

ln (e^pi)    ?      ln (pi^e)

   pi        ?      e * ln (pi)

e * (pi/e)   ?      e * ln (pi)

Because to raise e to a given higher value requires a greater
multiplier than exponent, pi/e > ln (pi).

Applying this from the bottom upwards, we conclude that e^pi > pi^e.
```

12-digit answers:

e^pi = 23.1406926328
pi^e = 22.4591577184

e^pi is only about 3% greater than pi^e.

Similar, simpler numbers:

2^3 = 8
3^2 = 9

but

3^4 = 81
4^3 = 64

Paul Dale posted:

> Quote:
>
> Can anyone do likewise for pi^e = 22.459157718361...
>
> My 15c gives 22.45915771 for this. Correctly rounded it should be 22.45915772.

If anyone can present a reasonably-straightforward way to obtain this actual value of pi^e to ten digits

on a pre-Saturn HP, I'd like to see it, because I'm stumped...

On an HP-42S with both pi and e rounded to nine decimal digits (10 significant digits), pi^e = 22.4591577145, so it appears that the HP-15C's result is the best possible, given its limitations.

-- KS

Edited: 1 Nov 2009, 3:48 p.m. after one or more responses were posted

Re: e^pi < > pi^e ?

*Message #29 Posted by **Paul Dale** on 28 Oct 2009, 12:47 a.m.,*
in response to message #28 by Karl Schneider

This little puzzle was the inspiration for my follow up challenge.

I've seen it a number of times over the years and I think it is one of the gems of mathematics.

- Pauli

Re: HP-12C mini-challenge (e^pi)

*Message #30 Posted by **Paul Dale** on 2 Nov 2009, 4:08 p.m.,*
in response to message #26 by Paul Dale

Here are two nine step solutions to the pi^e variation. Both give the correctly rounded result as required.

```
.0788 LN 25 +
25 EXP 7.88 % LN
```

Yes, they are essentially the same. The 12cp has at least three more variations on these two by utilising 5 x^2 instead of 25 and commutating the addition.

- Pauli

Edited: 6 Nov 2009, 7:17 a.m. after one or more responses were posted

Re: HP-12C mini-challenge (e^pi)

*Message #31 Posted by **Gerson W. Barbosa** on 6 Nov 2009, 7:03 a.m.,*
in response to message #30 by Paul Dale

> Quote:
>
> ```
> .0788 LN 25 +
> ```

Nice one!

My 10-step solution was found with help a tiny 12c program. I started with n=500 and manually checked sqrt(n)/pi^e for interesting answers as n decreased by one unit. The Turbo Pascal code below tries to automate the process. I tried other functions but didn't find anything better. I quit!

Gerson.

```
---------------
Program Ep;
```

```
var     n: integer;
        d: array[1..9] of byte;
        m: array[0..9] of byte;
  g,i,j,r: byte;
    k,f,x: real;
begin
  ReadLn(k,r);
  n:=1500;
  repeat
    x:=sqrt(n)/k;
    f:=frac(x);
    m[0]:=0;
    for i:=1 to 9 do
      begin
        f:=10*f;
        d[i]:=trunc(f);
        f:=frac(f);
        m[i]:=0
      end;
    for i:=0 to 9 do
      for j:=1 to 9 do
        if d[j]=i then
          m[i]:=m[i]+1;
    g:=m[0];
    for i:=1 to 9 do
      if m[i]>g then
        g:=m[i];
    if g>r-1 then WriteLn(n:4,' ',x:12:10);
    n:=n-1
  until n=1
end.


22.459157718 5
1418 1.6766586370
1413 1.6736999994
1346 1.6335373355
1236 1.5653655450
1181 1.5301411115
1051 1.4434704347
1009 1.4143344442
 804 1.2625092229
 754 1.2226220048
 628 1.1157999996
 625 1.1131316817
 610 1.0996929796
 596 1.0870003024
 211 0.6467668658
 189 0.6121212228
 157 0.5578999998    -> pi^e ~ sqrt(157)/0.5579
```

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Soldering Upgrades in my 42s

*Message #1 Posted by **DavidShenk** on 20 Oct 2009, 10:42 p.m.*

I finally bought a soldering station (Aoyue 937+) that seems to get good reviews but is inexpensive and has temperature control. The plan is to use it, among other things, to upgrade my 42s memory.

[Deeeeep Breath]

I took my beloved 42s apart the other day and didn't have that much trouble removing the 8K chip. The tip that comes with the iron is very pointy. Now my problem is the installation of the new chip. From some videos I've seen online, if the tip is too pointed, the solder won't be right at the end where you need it. This seems to be my issue. Of course, my poor 42s isn't working now in it's current state.

[Holding back tears]

Can anyone recommend a soldering tip or tips that they use for this type of work? Also, is a temp of 625F or so sound about right?

Any help in this area would be appreciated. Dave

Re: Soldering Upgrades in my 42s

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 20 Oct 2009, 11:19 p.m.,*
in response to message #1 by DavidShenk

Hi, David;

I have already upgraded about eight HP42S (three were my own, one was gifted) and I remember that after removing the 8KB RAM IC, soldering the 32KB RAM IC was relatively easy. I am sorry (I´m no native English speaker), but by pointy, do you mean the tip of the soldering iron is too thin or thick? Could you add a picture of it? If you had no trouble removing the 8KB RAM IC, I thought you'd have no trouble using the same soldering iron to set the new RAM in place.

And if you decided to stop and ask for help prior to go ahead, then you have chosen the best option (no need to worry about the HP42S without the RAM IC; just do not try powering it up now...).

I hope other guys have better directions, though.

Success!

Luiz (Brazil)

Edited: 20 Oct 2009, 11:23 p.m.

Re: Soldering Upgrades in my 42s

*Message #3 Posted by **DavidShenk** on 20 Oct 2009, 11:38 p.m.,*

in response to message #2 by Vieira, Luiz C. (Brazil)

Hi Luiz, Yes, the tip seems to be too thin. Tapered too long, I guess. When I melt solder on the tip, the blob seems to move back a bit, away from the very tip. Touching the dry tip to the pin does nothing.

The tip shape is pointed like a pin or needle. I'm thinking that a chisel or beveled tip might work better.

Dave

Re: Soldering Upgrades in my 42s

*Message #4 Posted by **Hal Bitton in Boise** on 20 Oct 2009, 11:52 p.m.,*
in response to message #3 by DavidShenk

Hi David,
That thin tip may be running a little cold. Try bumping the heat control up and see if the tip will draw solder then.
Best regards, Hal

Re: Soldering Upgrades in my 42s

*Message #5 Posted by **DavidShenk** on 20 Oct 2009, 11:57 p.m.,*
in response to message #4 by Hal Bitton in Boise

That is a good idea, I'll have to go and try that. My problem just can't be operator error ;)

Dave

Re: Soldering Upgrades in my 42s

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 20 Oct 2009, 11:59 p.m.,*
in response to message #3 by DavidShenk

Hi, David;

I am not if I understood this:

> Quote:
>
> When I melt solder on the tip, the blob seems to move back a bit, away from the very tip.

When I am soldering electronic components I do not use the soldering iron tip as a means to put solder in place. Instead I touch the surface to be soldered (component and PCB) with the tip of the solder stream (is that correct?) and then I touch both the solder and the surface to be soldered at the same time with the soldering iron tip. I had to acquire practice by soldering many simpler components (more than 25 years ago...) prior to make sure I was doing it correctly, and the smaller the surface, the faster we must be. SMD´s are the worst 'common cases'.

I have no videos nor pictures to show the way I solder, sorry! And pPlease, if this is not the case and you have prior experience with soldering, forgive me. Maybe I understood it wrongly.

Success!

Luiz (Brazil)

Edited: 21 Oct 2009, 12:01 a.m.

Re: Soldering Upgrades in my 42s

*Message #7 Posted by **DavidShenk** on 21 Oct 2009, 12:29 a.m.,*
in response to message #6 by Vieira, Luiz C. (Brazil)

Luiz,

I think that was my next question. In the videos I've seen soldering SMDs, they were doing the opposite of what you just described (here) . They put flux on the pins and a little solder on the iron, then touched the tip for just a second and the solder flows over and makes the connection. They were doing several at a time and it seems so easy!

I'll have to try it the way you described, but I need to get some fine solder wire first. I know this is how you solder more traditionally sized components, but I didn't realize you could use the same technique on SMDs.

I have only casual soldering experience and have never worked with anything so small, so any tips or critique is appreciated.

Dave

Re: Soldering Upgrades in my 42s

*Message #8 Posted by **Vieira, Luiz C. (Brazil)** on 21 Oct 2009, 12:49 a.m.,*
in response to message #7 by DavidShenk

Hi, David;

at this very moment, I'm saving the video to see it later. Thanks.

You are correct with the appliance of the technique I mentioned to bigger components. As you also mentioned, if they are using soldering flux in the video, this means even faster soldering.

I did not see the video yet, so can you tell me if they applied the technique to a PCB with 'virgin' contacts, i.e., a PCB that had not yet been soldered? I have never soldered SMT components for the first time, instead I replaced many. So, there is always a thin coat of solder in both the component and the PCB. IN this case, I position the component and touch the tip of the soldering iron in two opposed terminals first (I.C.´s in this case). Then I solder the rest of them the way I mentioned. I use fine solder when dealing with SMD´s, but when the solder spreads to neighbor terminals, I use the 'solder trap' (cannot remember the name of the 'wire mash to remove solder' in English, sorry) to remove the excess of it.

I´ll see the video and post later, OK?

Cheers.

Luiz (Brazil)

Edited: 21 Oct 2009, 12:52 a.m.

Re: Soldering Upgrades in my 42s

*Message #9 Posted by **DavidShenk** on 21 Oct 2009, 1:02 a.m.,*
in response to message #8 by Vieira, Luiz C. (Brazil)

I am curious to see what you think of the video. They did a very good job shooting it. I think in the examples they are using virgin boards and new components.

After I removed the 8K chip, I did go back over each pad and level the solder before placing the new chip on. Then I was able to solder down two corner pins, but that was about it.

I think the solder trap you're referring to is called desoldering braid or desoldering wick? I do have some and have already had to use it.

Dave

Re: Soldering Upgrades in my 42s

*Message #10 Posted by **Vieira, Luiz C. (Brazil)** on 21 Oct 2009, 1:24 a.m.,*
in response to message #9 by DavidShenk

Hi, David;

the video is indeed vary good and has very important information. The way I usually solder SMT components is a mix of the techniques shown for the PLCC and the QFP. I actually use the residual solder that remains in the tip of the iron to allow the existing solder in the PCB and the components terminals to melt, and after some terminals are joined together I use a bit of solder to go ahead with the other terminals. I do not use some techniques shown in the video, like using a big amount of solder them removing the excess with this purpose, but in some previous industrial SMD soldering, the whole PCB with glued components were dipped into liquid, high temperature solder, so... what the heck do we know!

I agree with you, they are using new components and virgin boards, but the new boards seem to come with a coat of material in the soldering tags (terminals?) that I cannot identify. Maybe it has the same properties of the solder and helps soldering.

And yep, I was trying to mention the desoldering braid, or desoldering wick. Thanks.

I think the video gives enough guidance to a successful soldering. Can you find some old, not working PC board or daughter board, like slow modems or audio boards, that you could remove and re-solder SMD´s for the sake of 'skill enhancement'? Chances are that you´ll find your best, successful way of soldering. I'd bet that!

Success!

Luiz (Brazil)

Edited: 21 Oct 2009, 1:25 a.m.

Re: Soldering Upgrades in my 42s

*Message #11 Posted by **DavidShenk** on 21 Oct 2009, 2:12 a.m.,*
in response to message #10 by Vieira, Luiz C. (Brazil)

I do need to practice my technique on some scrap electronics before I work on my 42s again. Good idea! It appears that there are several different ways to do this, so I'll have to practice and see what works for me.

Thanks for all the help. Dave

Re: Soldering Upgrades in my 42s

*Message #12 Posted by **Eric Rechlin** on 21 Oct 2009, 1:40 a.m.,*
in response to message #9 by DavidShenk

Surface mount soldering is actually very easy. You do not need desoldering braid for cleanly soldering surface mount chips.

Just put flux on the board (something like Kester 186-25 is my favorite, but Kester 979 is good if you prefer no-clean flux), and position the chip.

Put a big blob of solder on the tip of your iron. Touch it to one corner of the chip. Now drag the tip of the iron (which presumably still has a blob of solder on it) across the pins on the opposite side of the chip. You'll solder them all at once, in a single stroke, and the flux will prevent the pins from sticking together.

Now use the remaining solder to do the other side of the chip, and re-stroke either side if there are any shorts.

You should be able to do a 10-20 pin chip in well under 30 seconds with this approach.

Edited: 21 Oct 2009, 1:41 a.m.

Re: Soldering Upgrades in my 42s

*Message #13 Posted by **DavidShenk** on 21 Oct 2009, 2:15 a.m.,*
in response to message #12 by Eric Rechlin

Thanks Eric,

I'll have to try it. I've seen this in a video, but it almost seems like magic. I'm trying to daintily do each pin when they can be done so quickly. I have to practice on some scrap boards first.

Dave

Re: Soldering Upgrades in my 42s

*Message #14 Posted by **Garth Wilson** on 21 Oct 2009, 1:38 a.m.,*
in response to message #7 by DavidShenk

> Quote:
>
> In the videos I've seen soldering SMDs, they were doing the opposite of what you just described (here) . They put flux on the pins and a little solder on the iron, then touched the tip for just a second and the solder flows over and makes the connection. They were doing several at a time and it seems so easy!

What kind of package are you trying to solder? I haven't tried any PQFPs, but I've done a few large SOICs onto SOIC-to-DIP adapters and found they were even easier than the video shows. I found that with a lot of flux, you can just go down the row of pins and flood the whole row with solder, making bridges everywhere with a large tip and large-diameter solder, then hold the board vertically and go down the row again, from top to bottom, and all the excess solder will

come off the board and stay on the iron. There will be the same amount of solder on each pin, and it will be smooth, and there will be no bridges. You don't need any solderwick. You do have to clean the flux off when you're done though.

Concerning the temperature: There's a lot of unnecessary worry about this. In my work in the mid-1980's I occasionally had to do thermal scanning of power transistors in operation. In the extreme situation, I saw transistors actually *operating* at many hundreds of degrees C (not F). Of course they wouldn't last very many hours doing this, but it did not destroy them. I like to use a very hot iron to solder, as this allows you to get the joint up to soldering temperature more quickly and be done before the inside of the part gets so hot. This is especially important with things like mechanical switches that have plastic parts. A hotter iron is *less* likely to melt the switch before you're done. I've seen our production people do more damage with expensive, low-temperature irons than with the 950-degree F uncontrolled ones.

Edited: 21 Oct 2009, 1:38 a.m.

Re: Soldering Upgrades in my 42s

Message #15 Posted by ***DavidShenk*** *on 21 Oct 2009, 2:21 a.m.,*
in response to message #14 by Garth Wilson

Hi Garth,

I'm trying to solder a 28 pin SOIC. I'm going to try the technique you suggest on some practice boards and see how it goes. Thank you for your comments about temperature. I have a feeling it has a lot more to do with technique and skill than sticking to a specific temperature. I probably didn't start with easiest thing to learn with...

Dave

This is a toy, not a tool.

Message #16 Posted by ***Frank Boehm (Germany)*** *on 21 Oct 2009, 8:51 a.m.,*
in response to message #1 by DavidShenk

Please keep in mind that Aoyue is not exactly a manufacturer of quality tools - this is what makes your soldering tip "crappy". A single tip from PACE, WELLER or ERSA already costs a good fraction of your whole soldering kit and actually is more high-techy than it seems. Be assured, the solder sticks to the tip on these ones ;) Maybe the tip could be replaced by a better (branded) one, that should help on your soldering project.

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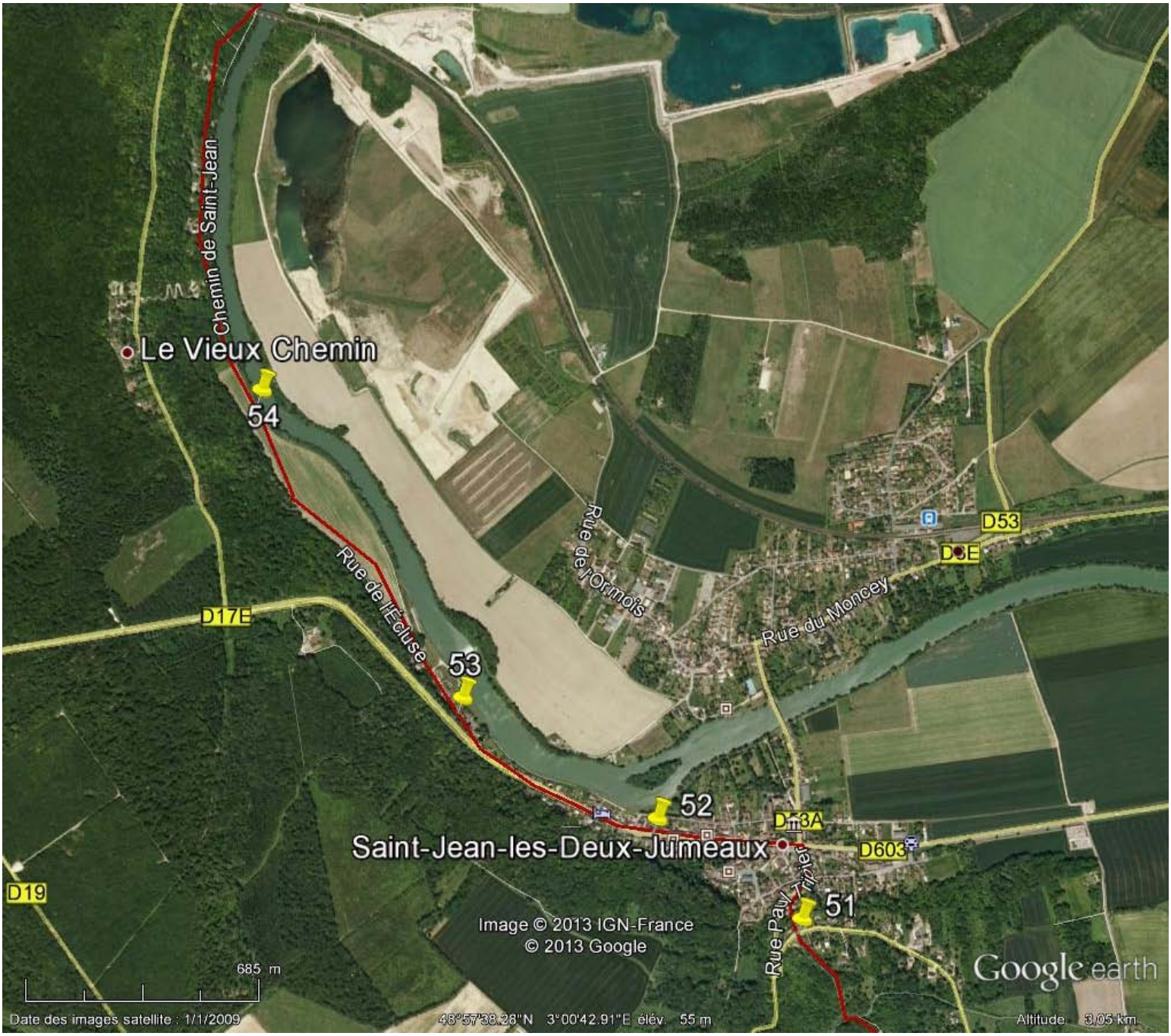
HP20b repurposing

*Message #1 Posted by **hugh steers** on 20 Oct 2009, 8:16 p.m.*

Extreme folly,

5254 ENTER gives,



ok, how do i make the wire, anyone?

Re: HP20b repurposing

*Message #2 Posted by **Tim Wessman** on 21 Oct 2009, 1:08 a.m.,*
in response to message #1 by hugh steers

Send 10 UPCs from the boxes, 5.95SH fee, a small chocolate cake and the deed to your house to cyrile's email address. Then ask nicely.

TW

Re: HP20b repurposing

*Message #3 Posted by **hugh steers** on 21 Oct 2009, 3:37 p.m.,*
in response to message #2 by Tim Wessman

hmm. there's a bit of a shortage of chocolate cakes around here. most of them are only chocolate flavoured cakes. the real ones are hard to come by.

i see that no one else has figured out the meaning of my original posting. anyway, i need to DL the proper dev tools to build a proper binary beforehand anyway. i think im good for the cut down version. my code is well under 32k.

are there any docs on how arrange the RAM sections so that i can put some vars in the 2K battery backed up memory and the rest in the volatile memory.

also, how do i beat the dog?

:-)

Re: HP20b repurposing

*Message #4 Posted by **Tim Wessman** on 21 Oct 2009, 11:23 p.m.,*
in response to message #3 by hugh steers

With a stick?

Cyrille will have to help with that stuff as he is familiar with it and I am not yet.

TW

Re: HP20b repurposing

*Message #5 Posted by **Bruce Bergman** on 22 Oct 2009, 12:34 a.m.,*
in response to message #3 by hugh steers

I think if some of us understood what the HECK you were talking about, we could probably help. Certainly, I wish I could...both help and understand. But until someone explains it to me in more simple terms, for this simple mind, I'm afraid I'm not going to be much help.

That being said, I've created a wiki (http://www.wiki4hp.com) with the intent primarily to help folks develop on the 20b. If there are things that are missing, please let me know and I'll see what I can do to add them. If there is useful information for you there, then that would be even better.

thanks! bruce

Re: HP20b repurposing

*Message #6 Posted by **hugh steers** on 22 Oct 2009, 4:17 p.m.,*
in response to message #5 by Bruce Bergman

Hi Bruce,

Yes it's time for me to 'fess up.

I'm going to have a go at running chess on the 20b. 5254 is E2-E4 and the response is d7-d5 (4745). A bit silly i know.

I have a very small chess program which i wrote for the uWatch. it will easily fit into the 20b and Im hoping the 20b will be able to play quite well. firstly, the 4k of move stack will be quite good and also the 30Mhz arm will enable a quick response.

My next step is to build an actual hp20 binary, after that i'll have to hassle those with wires to let me have one - even if it means sending chocolate cakes!

when i get it working, i'll make the source code and binaries available.

Re: HP20b repurposing

*Message #7 Posted by **cyrille de Brebisson** on 22 Oct 2009, 9:28 a.m.,*
in response to message #3 by hugh steers

Hello,

I have updated the SDK, but it is not yet online... send me an email and I will send you the latest version which is a whole lot easier to work with.

to beat the dog, use the Watchdog() or the watchdog function (one is inlined, one is a function call).

if that is not defined in your version of the SDK, here is the code that I am using. It even answers 2 of your questions!:

#ifdef _ARM_ #include "board.h" TMyApplication *const MyApplication= (TMyApplication*)0x300000; // restart the watchdog inline void Watchdog() { AT91C_BASE_WDTC->WDTC_WDCR= 0xA5000001; } void watchdog(); // same function as above, but not inlined... #else extern TMyApplication MYAPPLICATION; TMyApplication *const MyApplication= &MYAPPLICATION; inline void Watchdog() { } #endif

do not forget to define MYAPPLICATION in the windows only part of the code somewhere...

the backup RAM is at address 300000. there is a way to create a section for the linker and then to tell the linker to place variables there, but I found it easier to create a structure (TMyApplication) that contains all the data that needs to be backed up and then to put that structure at 0x300000. It also makes is a whole lot easier to check that the structure is less than 2KB (sizeof)... as a matter of fact, in the test menu, the number under the copyright message is just that, the size of TMyApplication in order for me to check at each build if I did not mess up!

regards, cyrille

Re: HP20b repurposing

*Message #8 Posted by **Bruce Bergman** on 22 Oct 2009, 11:23 p.m.,*
in response to message #7 by cyrille de Brebisson

Thanks Cyrille! I've added this information to the wiki.

bruce

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HP Forum Archive 19

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>-->-->-->--> HP17BII+ disassembled and...surprise (at least for me)

*Message #1 Posted by **Nacho** on 20 Oct 2009, 7:06 p.m.*

Dears,

I have opened my 17BII+ today, had no more time to fully disassemble it.

I don't know if someone has posted these pics before...

the construction hardware is not similar to a 35S but as you will see in the pics it is more "similar" to a Pioneer (42S, 17BII...)!

The LCD is the same of a 42S or a 17BII and connected via 2 zebra stripes. So...if you have a non working 42S and need a really better display than original one, 17BII+ LCD is simply perfect.

tomorrow will continue with the full disassemble.

to compare 35S and 17BII+

if Mr.Lyuka doesn't worry here is a pic of his 35S:

Regards

Edited: 21 Oct 2009, 11:13 a.m.

Re: >-->-->-->--> HP17BII+ disassembled and...surprise (at least for me)
*Message #2 Posted by **Lyuka** on 25 Oct 2009, 6:31 p.m.,*
in response to message #1 by Nacho

Hi, Nacho

It's very interesting to know its LCD compatibility to the 42S. Thanks.

Regards, Lyuka

Re: >-->-->-->--> HP17BII+ disassembled and...surprise (at least for me)
*Message #3 Posted by **NACHO** on 25 Oct 2009, 8:51 p.m.,*
in response to message #2 by Lyuka

Hello Lyuka,

a shame , yesterday I did the swap from the 17BII+ LCD to the 42S HW and didn't work very well, the LCD's seem equal but the new one is has not the same length...

It gave the information at 90 degrees...

It said Memory Clear, but instead of giving that message horizontally it was vertically.

Regards

Edited: 25 Oct 2009, 8:52 p.m.

Re: >-->-->-->--> HP17BII+ disassembled and...surprise (at least for me)
*Message #4 Posted by **DavidShenk** on 26 Oct 2009, 12:55 a.m.,*
in response to message #3 by NACHO

Nacho,

I think that would be an interesting photo to post. There must be a simple solution to this problem...

Dave

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Fibonacci Sequence

*Message #1 Posted by **Mike T.** on 20 Oct 2009, 5:19 p.m.*

OK,

Following an interesting discussion earlier this evening I thought it might be fun to see just how few keystrokes you would need to calculate successive terms of the Fibonacci Sequence, preferably without using any storage registers...

I doubt it I have the best solution but thought the answer I came up with demonstrated really nicely why I like my old RPN calculator so much and that it would be interesting so see what other people came up with.

Start with a one in 'x' - all other registers zero.

Mike T.

Re: Fibonacci Sequence

*Message #2 Posted by **Ken Shaw** on 20 Oct 2009, 5:26 p.m.,*
in response to message #1 by Mike T.

I'm assuming this is a keystroke procedure only (not a program).

In that case, I think it's just

```
Enter
Enter
Roll Up
+
```

Then repeat, ad infinitum.

Edit: I failed to observe initially that there is no "roll up" key on most machines, including the 12C. I was surprised to realize that this also won't work on a 42S, where the keyboard up-arrow is actually BST. However, it does work on my daily calc, the 17BII, because the up-arrow key performs a RollUp. Unfortunately it is only a keystroke solution, not a program. Obviously this is not intended for RPL machines, as it depends on a revolving 4-level stack.

Edited: 21 Oct 2009, 10:23 a.m.

Re: Fibonacci Sequence

*Message #3 Posted by **Mike T.** on 21 Oct 2009, 6:01 p.m.,*
in response to message #2 by Ken Shaw

Very close in approach to my 'preferred' solution and it doesn't even rely on 'Last x', but since I was using an HP33C I couldn't use Roll Up...

Mike T.

Re: Fibonacci Sequence

*Message #4 Posted by **Paul Dale** on 20 Oct 2009, 5:31 p.m.,*
in response to message #1 by Mike T.

On an RPL machine (three command, ? keystroked):

```
SWAP OVER +
```

On a 42 (five keystrokes, two commands):

```
x<>y  RCL+ ST Y
```

Still thinking about other models....

In the 20b scientific firmware there is a generalised Fibonacci function :-)

- Pauli

Re: Fibonacci Sequence

*Message #5 Posted by **Byron Foster** on 20 Oct 2009, 5:45 p.m.,*
in response to message #4 by Paul Dale

> Quote:
>
> On a 42 (five keystrokes, two commands):
>
> ```
> x<>y  RCL+ ST Y
> ```

One command:

```
RCL+ ST L
```

Edited: 20 Oct 2009, 5:51 p.m. after one or more responses were posted

Re: Fibonacci Sequence

*Message #6 Posted by **Paul Dale** on 20 Oct 2009, 5:49 p.m.,*
in response to message #5 by Byron Foster

Nice!

I'd come up with an alternating sequence of:

```
    STO+ ST Y
    STO+ ST X
```

But that isn't nearly as nice.

- Pauli

Re: Fibonacci Sequence

*Message #7 Posted by **Byron Foster** on 20 Oct 2009, 6:13 p.m.,*
in response to message #6 by Paul Dale

I recently worked on this so I could try and show off the new 7 line program display mode of the 42s/Free42 in iTunes. I came up with:

```
01 LBL "Fibonac"
02 1
03 STO ST L
04 LBL 00
05 STOP
06 RCL+ ST L
07 GTO 00
```

It's not perfect because it creates the sequence 1,2,3,... instead of 1,1,2,...

Re: Fibonacci Sequence

*Message #8 Posted by **Paul Dale** on 20 Oct 2009, 6:25 p.m.,*
in response to message #7 by Byron Foster

Try:

```
01 LBL "Fibonac"
02 0
03 STO ST L
04 1
05 LBL 00
06 STOP
07 RCL+ ST L
08 GTO 00
```

- Pauli

Re: Fibonacci Sequence

*Message #9 Posted by **Byron Foster** on 20 Oct 2009, 6:33 p.m.,*
in response to message #8 by Paul Dale

Yea, that's better, but I was trying to get it to fit in 7 lines.

Re: Fibonacci Sequence

*Message #10 Posted by **Paul Dale** on 20 Oct 2009, 6:35 p.m.,*
in response to message #9 by Byron Foster

Replace the "0 STO ST L" with CLSTK and you get to 7 steps :-)

- Pauli

Re: Fibonacci Sequence

*Message #11 Posted by **Byron Foster** on 20 Oct 2009, 8:50 p.m.,*
in response to message #10 by Paul Dale

How about:

```
0
E^X
LBL 00
STOP
RCL+ ST L
GTO 00
```

Initialization isn't pretty, but it's as non destructive as you can get, and it begins the sequence correctly.

Re: Fibonacci Sequence

*Message #12 Posted by **Crawl** on 24 Oct 2009, 12:18 a.m.,*
in response to message #4 by Paul Dale

Another 3 command RPL:

DUP ROT +

Fibonacci Sequence: where is Valentin Albillo?

*Message #13 Posted by **Vieira, Luiz C. (Brazil)** on 20 Oct 2009, 6:17 p.m.,*
in response to message #1 by Mike T.

Hi, all;

Amongst many others, Valentim would be one of the guys to add some valuable comments to this thread...

Cheers.

Luiz (Brazil)

Edited: 20 Oct 2009, 6:34 p.m.

Re: Fibonacci Sequence

*Message #14 Posted by **Israel Otero** on 20 Oct 2009, 6:35 p.m.,*
in response to message #1 by Mike T.

Hi My program for the HP-41 of the Fibonacci sequence is:

```
01 0
02 1
03 LBL 00
04 X<>Y
05 ST+ Y
06 PSE
07 GTO 00
08 .END.
```

The advantages are that all terms are shown and is very efficient.

Edited: 20 Oct 2009, 7:26 p.m.

Re: Fibonacci Sequence

*Message #15 Posted by **Don Shepherd** on 20 Oct 2009, 7:18 p.m.,*
in response to message #1 by Mike T.

OK, a program on our old friend, the 12c, using no registers and 7 steps:

```
1
enter
+
pse
lastx
x<-->y
goto 03
```

Re: Fibonacci Sequence

*Message #16 Posted by **Allen** on 20 Oct 2009, 7:26 p.m.,*
in response to message #15 by Don Shepherd

Don- Nice work.. I love how you program the Finance Calcs!!!

Re: Fibonacci Sequence

*Message #17 Posted by **Gerson W. Barbosa** on 21 Oct 2009, 7:12 a.m.,*
in response to message #15 by Don Shepherd

Hi Don,

Too late for the show, anyway an alternative 12c program that produces 0,1,1,2,3,... if we don't mind clearing some registers:

```
01- CLEAR SIGMA
02- 1
03- x<>y
04- PSE
05- +
06- LST x
07- GTO 03
```

Regards,

Gerson.

Re: Fibonacci Sequence

*Message #18 Posted by **Mike T.** on 21 Oct 2009, 5:53 p.m.,*
in response to message #15 by Don Shepherd

Actually this exactly key sequence that I first came up with on my HP33C.

Each sucessive iteration takes just four steps/key strokes which I thought was quite efficent, but a little cumbersome to key in...

Mike T.

Re: Fibonacci Sequence

*Message #19 Posted by **Palmer O. Hanson, Jr.** on 20 Oct 2009, 8:49 p.m.,*
in response to message #1 by Mike T.

On a TI A.O.S. machine like the TI-59 start with 1 in the t register and 1 in the display. Then press x<>t + and see each successive term in the display after each + .

Re: Fibonacci Sequence

*Message #20 Posted by **Kiyoshi Akima** on 21 Oct 2009, 12:25 p.m.,*
in response to message #1 by Mike T.

```
LASTx
x<>y
+
```

That's four keystrokes on most RPN machines. On a line-addressed machine like the HP-25, the program becomes

```
01 LASTx
02 x<>y
03 +
04 PAUSE
05 GTO 01
```

Re: Fibonacci Sequence

*Message #21 Posted by **Mike T.** on 21 Oct 2009, 6:24 p.m.,*
in response to message #20 by Kiyoshi Akima

After thinking about it for a little bit on my HP33C I came up with

Enter, Enter, Rdn, Rdn, +

Admittedly not the absolutly the shortest number of keystrokes but it has a certain appeal...

Re: Fibonacci Sequence

*Message #22 Posted by **Michael Meyer** on 21 Oct 2009, 8:01 p.m.,*
in response to message #21 by Mike T.

I like it. Has a nice rhythm to it.

Giving credit where credit is due

*Message #23 Posted by **Palmer O. Hanson, Jr.** on 23 Oct 2009, 10:11 p.m.,*
in response to message #1 by Mike T.

In an earlier submission I gave a very short keyboard sequence for finding the series on an A.O.S. machine. The idea wasn't mine. I had seen it somewhere but couldn't locate it. Now I have found the original reference which is from V5N4/5P16 of TI PPC Notes:

> Quote:
>
> SHORTEST USEFUL ROUTINE - Samuel G. Allen sends me the shortest do-something-useful routine I have seen so far: 000: X<>T + PRT RST . With the t-register clear and 1 in the display, press RST R/S and it will print a listing of the Fibonacci numbers. ...

Re: Fibonacci Sequence

*Message #24 Posted by **Kiyoshi Akima** on 27 Oct 2009, 1:17 p.m.,*
in response to message #1 by Mike T.

If we can alter the initial stack conditions, it can be done in one step.

Set up the stack:

```
5
sqrt
1
+
2
/
ENTER
ENTER
FIX 0
5
sqrt
```

```
1/x
```

You'll need an additional ENTER if the FIX 0 doesn't enable stack lift.

After that, press * (multiply) to see 1. Press * again to see 1. Keep going to see 2, 3, 5, 8, 13, etc.

Re: Fibonacci Sequence

*Message #25 Posted by **Mike T.** on 4 Nov 2009, 5:08 p.m.,*
in response to message #24 by Kiyoshi Akima

Not sure that qualifies as the shortest but it is interesting and does show just how useful the stack can be...

Mike T.

Re: Fibonacci Sequence

*Message #26 Posted by **Michael Meyer** on 4 Nov 2009, 10:32 p.m.,*
in response to message #25 by Mike T.

Impressive. Most impressive. You may be an HP Jedi yet.

Re: Fibonacci Sequence

*Message #27 Posted by **Gerson W. Barbosa** on 7 Nov 2009, 6:33 a.m.,*
in response to message #25 by Mike T.

> Quote:
>
> ...it is interesting and does show just how useful the stack can be...

The stack is really useful: quite by accident (as almost everything I discover) I found it can be used to solve the equation

$$\frac{x}{\ln(x)} = k \ , \ k > e$$

Start by filling the stack with k then iterate 'ln *' until the answer on the display converges (somewhat slowly if k is close to ***e***) to the second real solution.

On my HP-45:

```
pi
e^x
ENTER
ENTER
ENTER
ln *    (16 times)

-> 1.084423455e02
```

As a comparison the HP-33s solver gives 108.442345473 (initial guess = 100). Can a non-programmable algebraic calculator do this? :-)

Gerson.

The answer is Yes!

*Message #28 Posted by **Palmer O. Hanson, Jr.** on 8 Nov 2009, 1:42 p.m.,*
in response to message #27 by Gerson W. Barbosa

Gerson:

You asked:

> Quote:
>
> Can a non-programmable algebraic calculator do this? :-)

The answer is yes. Try this on a TI-30:

pi INV ln STO

then do

ln x RCL =

After 16 iterations you will see 108.44235 in the display with 108.44234529 in the display register.

I suspect that this will work with any algebraic which has a memory. It works on my Sharp EL-501W where it yields 108.4423436 after twelve iterations.

Palmer

Edited: 8 Nov 2009, 1:51 p.m.

Re: The answer is Yes!

*Message #29 Posted by **Gerson W. Barbosa** on 8 Nov 2009, 2:17 p.m.,*
in response to message #28 by Palmer O. Hanson, Jr.

> Quote:
>
> You asked:
>
> > Quote:
> >
> > Can a non-programmable algebraic calculator do this? :-)
>
> The answer is yes.

Thanks! Next time I'll try to solve the problem on an algebraic calculator before asking :-) By the way, long ago, for a while, I had a TI-51-III and a TI-59. Too bad the first got broken (my fault) and the latter was stolen...

Gerson.

Re: Fibonacci Sequence

*Message #30 Posted by **Ken Shaw** on 5 Nov 2009, 1:01 p.m.,*

in response to message #24 by Kiyoshi Akima

Very clever!

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W&W RAMBOX 64K with DIP-Switches

*Message #1 Posted by **Christoph Giesselink** on 19 Oct 2009, 4:10 p.m.*

I recently saw a W&W RAMBOX II 64KB Version with three 8*DIP switches at bottom of the card reader housing. I was wondering about this, because the German RAMBOX II manual does not describe any DIP-Switches. These switches are for example described in the English manual of the W&W RAMBOX 32KB Version.

A HP41 specialist was quite surprised about the existence of such a W&W RAMBOX.

My question, has anybody seen a W&W RAMBOX II 64KB Version with DIP switches also?

From what I read so far, I assume that the W&W RAMBOX 32KB Version exists in two versions, one with dip switches, one without.

Can anybody confirm this?

So it seem that from the RAMBOX II also exist two hardware versions?

Cheers

Christoph

Re: W&W RAMBOX 64K with DIP-Switches

*Message #2 Posted by **Juergen Keller** on 19 Oct 2009, 5:32 p.m.,*
in response to message #1 by Christoph Giesselink

I can only confirm that there is a W&W RAMBOX 32KB _with_ dip switches as it is the only one I have.
Cheers,
Juergen

Re: W&W RAMBOX 64K with DIP-Switches

*Message #3 Posted by **Meindert Kuipers** on 20 Oct 2009, 2:14 a.m.,*
in response to message #2 by Juergen Keller

I also have one with DIP switches, 3 rows of 8 switches,

Meindert

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HP 42S sells for < $100 H**l freezes

*Message #1 Posted by **Michael de Estrada** on 19 Oct 2009, 11:12 a.m.*

I've been following TAS auctions for the HP 42S for a while, and seen the premium prices being paid, sometimes over $400, but lately it seems like the market has been getting soft for this model. Now, the unthinkable has happened. In a recent auction, a HP 42S sold for $89! Granted, it was lacking the manual, the soft case was for a HP 33s, it had a dent below the display and was a domestic (USA) only sale. Yet, it appeared to be in good working condition with no obvious wear and tear. So, has H**l finally frozen? Are other affordable out-of-production collectable models soon to follow? Stay tuned folks.

HP 42S Auction

Re: HP 42S sells for < $100 H**l freezes

*Message #2 Posted by **bill platt** on 19 Oct 2009, 11:41 a.m.,*
in response to message #1 by Michael de Estrada

Having watched these prices on and off since 1999, I'd say that up and down is the way it is....

Re: HP 42S sells for < $100 H**l freezes

*Message #3 Posted by **Egan Ford** on 19 Oct 2009, 11:57 a.m.,*
in response to message #1 by Michael de Estrada

My guess after 3 years of watching is that many have other priorities around summer and the Xmas holiday season (I know I do). Less competition may be driving down prices.

Re: HP 42S sells for < $100 H**l freezes

*Message #4 Posted by **Geoff Quickfall** on 19 Oct 2009, 1:04 p.m.,*
in response to message #1 by Michael de Estrada

Hello Michael!

Just a few points:

```
1.  It never ceases to amaze me to see a 'USA' only sale.  I know
    there are reasons for this; personal, export requirements,
    shipping problems and etc.  But if you want top dollar bid you
    have to open up the bidding to the REST of the world.


2.  The description was not the greatest:


    "Workhorse, used, 15
    years, small dent but does not affect the operation."


  How about:


    "Wow, works perfectly after all these years, no sticky or
    noisy keys.  One owner (me) and it was my main calculator!
    Moving on to a graphing machine for work so no longer
    required."


  Yeah, I know, sounds corny, but it does work!
```

```
3.  Some artwork when it comes to photography?
```

```
4.  one does not, a series make!  When I see 5 in a row go,
    working, for under 100 USd then I think the price is comming
    down.
```

The one pictured above went for 50 USd, granted it was not functional and the keyboard was a mess and the scratches and dents were very visible.

Just to see how strange the market is there is one listed with a "RESERVE NOT MET" and a leaky LCD panel. The bidding is at 100 USd at this moment. Now unless you have a spare panel kicking about, the ability to get in and swap it, it seems that the price is rather high and the reserve is not met yet.

Enough rambling, I chalk it up to Ebay and the collector mentallity!

Cheers, Geoff

Re: HP 42S sells for < $100 H**l freezes

*Message #5 Posted by **Michael de Estrada** on 19 Oct 2009, 8:51 p.m.,*
in response to message #4 by Geoff Quickfall

Hi Geoff,

I agree with points 2,3 and 4 but not necessarily point number 1. I have seen many USA only sales fetch top dollar, and more often than not the winning bidder in a worldwide auction will reside in the USA. To wit, recently a seller had 18 concurrent auctions for Woodstocks and Spices, and in 12 out of 18 cases, the buyer was a USA resident, myself being one of them. Furtheremore, the 2 highest winning bids of $418 and $385 were made by USA residents. The highest winning bid by a non-USA resident (France) was $215.40. So I don't think it is necessary for a seller that makes a good presentation to get a good price in a domestic only sale.

BTW, none of the winning bidders in these auctions was Canadian (4 France, 1 Luxembourg, 1 Australia).

Regards,

Michael

Edited: 20 Oct 2009, 11:33 a.m. after one or more responses were posted

Re: HP 42S sells for < $100 H**l freezes

*Message #6 Posted by **Walter B** on 20 Oct 2009, 1:30 a.m.,*
in response to message #5 by Michael de Estrada

Small market = lower chance for a good price.

Big market = higher chance.

These chances will materialize observing large samples.

The observation of a larger fraction of winning US-bidders, if exceeding the expectations based on head count significantly, would show the US-bidders being more wealthy in average than the rest of the population.

Fairly trivial, isn't it?

Edited: 20 Oct 2009, 1:41 a.m.

Re: HP 42S sells for < $100 H**l freezes

*Message #7 Posted by **Bart (UK)** on 20 Oct 2009, 4:29 a.m.,*
in response to message #5 by Michael de Estrada

Hi Michael

Did you factor in the effect the non-winning non-US bidders had on pushing up the price?

Admittedly, I do not even bid on non-EU items as the shipping cost puts me off. Also I classify myself as a user, not a collector and have not paid over £100 for a used HP.

Bart

Re: HP 42S sells for < $100 H**l freezes

*Message #8 Posted by **Michael de Estrada** on 20 Oct 2009, 11:31 a.m.,*
in response to message #7 by Bart (UK)

Hi Bart,

You do bring up an interesting point. As you may know, the winning bid in a TAS auction is actually the

highest competing bid or next highest bid from the first loser plus an increment which is determined by the price range of the bid. The final winning bid price is either this amount of the actual highest bid, whichever is lower. The winner's actual bid is often much higher, especially if the winner places the bid within the last few seconds and does not have opportunity to rebid if it proves too low. So, I looked at the bid history of the 2 highest priced auctions, and found that in the case of the highest ($418), the first loser was a non-USA resident who bid $413, whereas in the next highest auction ($385), the first loser was a USA resident who bid $380. In the first case, the next lower bid was for a USA resident ($350). So, in the first case, participation by a non-USA resident increased the final price by $63, whereas in the second case participation by non-USA residents had no impact on the final winning price. So, I would agree that in balance, worldwide auctions will increase the odds of getting a higher price than domestic only auctions, but will not assure this with total certainty.

BTW, I had the same experience that you had in reverse. I won a Sinclair Scientific calculator in TAS UK auction, and had to pay over $20 in postage, only to have the idiot seller send it in a thin envelope and the calculator's foam box was severly damaged.

Regards,

Michael

Edited: 21 Oct 2009, 10:12 a.m. after one or more responses were posted

Re: HP 42S sells for < $100. Hell freezes

*Message #9 Posted by **Walter B** on 20 Oct 2009, 5:04 p.m.,*
in response to message #8 by Michael de Estrada

Small samples statistics, but anyway ;)

Re: HP 42S sells for < $100. Statistically....

*Message #10 Posted by **Bart (UK)** on 21 Oct 2009, 5:42 a.m.,*
in response to message #9 by Walter B

Ah, good old statistics. Perhaps you should collect some data and post results here. Taking into account hitwords in the title and description (so we know how to flourish it up without being overwhelming :-)), effect of too low or high starting/reserve price, photos (no. claririty etc.), etc. etc. etc.

Which in the end would give us "on average you can expect". Then when you put yours on, ten others appear. So you could still be the outlier that's lucky to get a high price or the poor chap that gets 1 low bid.

Re: HP 42S sells for < $100 H**l freezes

*Message #11 Posted by **Martin Pinckney** on 19 Oct 2009, 2:09 p.m.,*
in response to message #1 by Michael de Estrada

I would have to agree the prices have been coming down on the 42s. during the first two weeks of October, 11 sold on eB**. Of these, the one you mentioned $89 was the lowest of the functional ones, $269 was the highest, and most were around $200.

Until recently, $250-$400 was more the norm.

Re: HP 42S sells for < $100 H**l freezes

*Message #12 Posted by **Reth** on 19 Oct 2009, 6:55 p.m.,*
in response to message #1 by Michael de Estrada

I catch myself using iPhone emulators more often than the real tings lately. In the HP-42S case - 42s beats the real calculator hands down in any every respect except the keyboard feel; the HP-48GX has hard competition too, namely

m48 - with a bit of work it will be the winner. And all that in your pocket *all the time*. Unless HP comes with something really attractive like Walter's 43s I'm really over with spending any money on HP calc stuff.

Re: HP 42S sells for < $100 H**l freezes

*Message #13 Posted by **Don Shepherd** on 19 Oct 2009, 7:52 p.m.,*
in response to message #12 by Reth

> Quote:
>
> I'm really over with spending any money on HP calc stuff

A 35s costs, maybe, $50 these days (yes, I'm aware that calc has some issues). You probably spend over twice that EACH MONTH for an iPhone. I will never understand the appeal of emulators. The beauty of HP calculators is the hardware itself, and no emulator can emulate that. And once you buy it, you've got it and you don't have to keep buying it each month.

I will never own an iPhone and I get extreme pleasure out of my REAL HP-65!

Re: HP 42S sells for < $100 H**l freezes

*Message #14 Posted by **Mike Morrow** on 19 Oct 2009, 10:49 p.m.,*
in response to message #13 by Don Shepherd

> Quote:
>
> I will never understand the appeal of emulators. The beauty of HP calculators is the hardware itself, and no emulator can emulate that.

Don, that expresses exactly the way I feel.

I greatly admire FREE42, but nothing beats real hardware. There's something special about using my real HP-67 that I've owned for 32 years, or even my real SR-51A that I owned before that, and think about the places in the world that they travelled with me and helped me perform my job aboard a nuclear submarine a third of a century ago.

The magic of these old machines is intimately bound to their physical hardware. Anyone who finds an emulator as satisfying as the original physical machine is likely one who did NOT use the machine at the time that it was originally marketed. He didn't have to budget to buy what was then state-of-the-art hardware (my HP-67 and accessories cost me more than a month's take home pay as a junior officer!). Things like that attach a lot of sentiment (cash value = 0). I really don't know why folks too young to have used these machines in their professional life at the time the machines were current would find them compelling today.

(iphones and blackberrys and dingleberries...just say NO!)

Re: HP 42S sells for < $100 H**l freezes

*Message #15 Posted by **Don Shepherd** on 19 Oct 2009, 11:24 p.m.,*
in response to message #14 by Mike Morrow

Thanks, Mike. We'll probably hear from the guys who did own and use the original calcs from years ago, and they like the emulators now too. I don't know, everyone's different of course; you like what you like and there's nothing wrong with that.

My first computer was an Apple][and I thought that was revolutionary since it made it possible for a regular person to afford a programmable computer (as opposed to the multi-million dollar IBM and Univac mainframes we used in our regular jobs). Then came the Macintosh in 1984. I remember attending a meeting where Steve Wozniak demonstrated the Mac 128k in January, 1984. I heard the ooohs and ahhhhs when he opened MacWord (I think it was) and demonstrated how to get your font to go bold; just select the text with

the mouse and choose bold from the menu, and there it is, bold on your screen, rather than put a ctrl+b in front of the text you want bold and another ctrl+b after it. That was WYSIWYG, and it was revolutionary in 1984. I went right from that meeting to my local Apple store and ordered my first (of several) Mac. Then, years later, I left Mac-dom and entered the PC world, largely due to the availability of software and more affordable prices of hardware.

I didn't own my 65 until about 2 or 3 years ago. I couldn't have afforded it in 1974, I was still in graduate school when it came out. But it was revolutionary too, in that it was the first programmable handheld calculator, I think. I enjoy it now because of its simple RPN implementation and the fact you can store your programs on magnetic cards, a feature many would love on some of the current line of HP calcs (like the 12c and 35s, for example).

Don

Re: HP 42S sells for < $100 H**l freezes

*Message #16 Posted by **Dave Shaffer (Arizona)** on 20 Oct 2009, 12:21 a.m.,*
in response to message #15 by Don Shepherd

> Quote:
>
> That was WYSIWYG, and it was revolutionary in 1984

It sure isn't anymore!

I am teaching a couple of sections of Intro Digital Photography at the local University this fall. When I was explaining the benefits of a single-lens-reflex camera, I used the term WYSIWIG, and all I got from the audience of 20-ish students in both classes was a blank look.

I had to explain to this crowd of iphone / windows / facebook / etc. users what WYSIWIG meant! They caught on quickly, but since they were all born after your Mac demonstration, I guess they assumed the world had *always* been WYSIWIG!!

Re: HP 42S sells for < $100 H**l freezes

*Message #17 Posted by **Nigel Bamber** on 20 Oct 2009, 3:43 a.m.,*
in response to message #14 by Mike Morrow

Interesting thread.

I am someone who had an interest in programmable calculators and as a school boy could only afford a Commodore PR100 and then that was a stretch at the time. Never knew much about HP calculators and still wouldn't had it not been for an Itouch and coming across the I41CX+.

Whilst it can't emulate the fell of the real thing ,although it is the case that the creator has tried to emulate the original in every way possible, the reality is that the I41CX+ can actually do better in other ways :

1. You can upload/download programs 2. You have access to almost every module that was created for the HP41 and at no cost 3. You can use knewly created modules and/or updates eg IceBox or SandMath modules 4. You can easliy print programs onto A4 paper (not a till receipt) 5. YOu can try synthetic or machine code programming without fear of permanently locking your machine or having to to soft reset it , thus having to re-input your programs by hand again 6. Its more portable (smaller)

If you were to replicate all of that with original modules etc. then the cost would be north of $1,000. Even using Diego's Clonix/NovRam system it is going to cost you around $300 to $400.

Plus of course you can have other emulators on your machine !

I do understand the pleasure and tactile feel of the real thing, especially if you owned the original when you

were younger or still have it, but you shouldn't be so dismissive of the Itouch/Iphone emulators if you haven't tried them, as some of them ain't that bad and in many ways they are actually helping to maintain or even stimulate interest in the real thng !

Nigel

Re: HP 42S sells for < $100 H**l freezes

*Message #18 Posted by **Reth** on 20 Oct 2009, 1:22 a.m.,*
in response to message #13 by Don Shepherd

> Quote:
>
> You probably spend over twice that EACH MONTH for an iPhone

What do you mean? iPhone is a phone and what I spend on a phone has nothing to do with the emulators. I also have iPod Touch running the same software.
I got HP-35S sn CNA72102367 couple of weeks after its release.
You got me wrong, it's not about money at all; I can't carry calculators on me all the time like I do with the phone. Then I use the emulators to do some calcs and not to enjoy their beauty. The latter applies to women in my case ;)

Cheers

Re: HP 42S sells for < $100 H**l freezes

*Message #19 Posted by **Don Shepherd** on 20 Oct 2009, 6:52 a.m.,*
in response to message #18 by Reth

I understand, Reth. I know emulators have their place and lots of folks use them productively. I just prefer the old original hardware because of it's "look and feel" and because I enjoy showing it to my students. It's sort of like looking at an old Corvair!

Don

Re: HP 42S sells for < $100 H**l freezes

*Message #20 Posted by **Reth** on 20 Oct 2009, 7:36 a.m.,*
in response to message #19 by Don Shepherd

... so do I, Don, as a matter of fact I still keep my HP41CX on my desk, next to my HP48GX, HP50, HP35S, HP42S. I also have my first generation ipod touch (which unlike its successors has flat stainless steel back and fits perfectly just about everywhere) with headphones hooked in.
Every time I touch my HP41 though I remember what an incredible beast it was when I first came around. Nothing beats that.
Cheers, Reth

Emulators (and a link to the Corvair)

*Message #21 Posted by **Karl Schneider** on 20 Oct 2009, 8:22 p.m.,*
in response to message #19 by Don Shepherd

> Quote:
>
> I know emulators have their place and lots of folks use them productively. I just prefer the old original hardware because of its "look and feel"

A good emulator on a smartphone with a big display on a keyless face would be handy, and might approach the usability of the real thing. I have Thomas Okken's Free42, but use it only for program tests

that require substantial processing power and for program archival.

> Quote:
>
> It's sort of like looking at an old Corvair!

Many readers might not get the reference about these iconic Amercian cars of the 1960's.

The redesign for 1965-69 was quite handsome:

http://en.wikipedia.org/wiki/File:1965_Chevrolet_Corvair.JPG
http://www.corvaircorsa.com/corsa.html *(scroll down for photo)*

The original 1960-64 version was less so:

http://en.wikipedia.org/wiki/File:1963_Chevrolet_Corvair_Monza.jpg

-- KS

Edited: 20 Oct 2009, 9:24 p.m.

Re: Emulators (and a link to the Corvair)

*Message #22 Posted by **db (martinez, ca.)** on 20 Oct 2009, 11:07 p.m.,*
in response to message #21 by Karl Schneider

re: the corv-8.
Personally, i'd have went with a 283 instead of the 350. my chevelle with the smaller V-8 was so smooth i could sit my beer on the air cleaner while i tuned it and it wouldn't even scoot around. and it would have flat **moved** a corvair.

Re: HP 42S sells for < $100 H**l freezes

*Message #23 Posted by **Michael de Estrada** on 20 Oct 2009, 8:36 p.m.,*
in response to message #19 by Don Shepherd

> Quote:
>
> It's sort of like looking at an old Corvair!

Sorry, looking at an old Corvair just makes me think of Ralph Nader. And, that's definitely not a pleasant thought.

Re: HP 42S sells for < $100 H**l freezes

*Message #24 Posted by **Don Shepherd** on 20 Oct 2009, 8:42 p.m.,*
in response to message #23 by Michael de Estrada

Ahh, Ralph Nader, he could have been a figure on an old Batman episode: the Spoiler!

Re: HP 42S sells for < $100 H**l freezes

*Message #25 Posted by **Ken Shaw** on 20 Oct 2009, 9:48 a.m.,*
in response to message #13 by Don Shepherd

Agree on the iPhone. But the iTouch is a good alternative.

Re: HP 42S sells for < $100 H**l freezes

*Message #26 Posted by **DavidShenk** on 20 Oct 2009, 11:43 p.m.,*

in response to message #1 by Michael de Estrada

Did you see the excellent condition 15c that sold recently on TAS for $40! It was a BIN and obviously listed by someone not doing any research. There can't be many of those. Someone got a hell-of-a-deal.

Dave

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Questions about speeding up 48sx

*Message #1 Posted by **Martin Pinckney** on 18 Oct 2009, 8:51 p.m.*

I am looking for someone here with experience speeding up and/or changing the HP 48sx user interface.

I have found SpeedUI, Java, and Meta Kernel on http://www.hpcalc.org

The description for SpeedUI specifies "For the 48G series only".

The descriptions for both Java and Meta Kernel Full Version are silent on this, stating only for "HP 48".

I have read "A comprehensive review of the Meta Kernel ROM card", also on hpcalc.org, and it says that it works with the 48gx only. But this was a ROM card that is (presumably) no longer available. "Meta Kernel Full Version" is designed to be loaded onto a 128k RAM card, which I have.

Based on the descriptions, I am very interested in trying either Java or Meta Kernel on my 48sx.

Any thoughts? Thanks in advance.

Re: Questions about speeding up 48sx

*Message #2 Posted by **Nacho** on 19 Oct 2009, 4:15 a.m.,*
in response to message #1 by Martin Pinckney

Dear Martin,

I have seen in another post that you were trying to speed up your 48SX.

MK works only for 48G series.

remember that Port 0 of a 48SX only has 32KB and to download the MK you will need to 256kb Port 0 (128Kb) and Port 1 (memory card 128k)of a 48G.

So in a 48S series via that way it is no possible.

:(

Regards,

Nacho

Re: Questions about speeding up 48sx

*Message #3 Posted by **Martin Pinckney** on 19 Oct 2009, 7:31 a.m.,*
in response to message #2 by Nacho

Nacho,

Thanks for responding, although not the answer I was hoping for!

Are you saying that memory available for downloading is the issue? I have access to a 48gx for downloading and setting up the 128k RAM card; then could the card be transferred to and used in the sx? Thanks.

Re: Questions about speeding up 48sx

*Message #4 Posted by **Nacho** on 19 Oct 2009, 7:56 a.m.,*
in response to message #3 by Martin Pinckney

the correct answer is not memory problem but incompatibility.

Remember G and S series work the same way with USER RPL programs but ROM's differ a lot.

No chance.

Mr Raymond del Tondo perhaps can give more information about SpeedUI and 48S series.

Write him, he is the creator of SpeedUI.

Regards,

Nacho

Edited: 19 Oct 2009, 7:56 a.m.

Re: Questions about speeding up 48sx

*Message #5 Posted by **Martin Pinckney** on 19 Oct 2009, 1:55 p.m.,*
in response to message #4 by Nacho

Nacho,

Remember I was asking about Meta Kernel, not SpeedUI.

I thought your first answer was that there was not enough memory available in Port 0 for downloading, thus the reason for my further questions. Thanks.

So am am still wondering if anyone knows of similar software written for the sx.

Re: HP 41CX locked in program mode

*Message #6 Posted by **Raymond Del Tondo** on 19 Oct 2009, 5:44 p.m.,*
in response to message #5 by Martin Pinckney

On an SX, I'd suggest using JAVA, as it has a relatively small footprint, and works fine.

However I'd suggest upgrading to the HP-48GX,
since the GX is much better than the SX in almost all respects,
except maybe regarding the keyboard legend colors,
which are a matter of taste;-)

HTH

Raymond

HP 48SX improved user interface options

*Message #7 Posted by **Martin Pinckney** on 19 Oct 2009, 9:28 p.m.,*
in response to message #6 by Raymond Del Tondo

Raymond, thanks for chiming in.

> Quote:
>
> On an SX, I'd suggest using JAVA, as it has a relatively small footprint, and works fine.

After downloading Java (I haven't installed it yet), I was indeed delighted to see that it does work on the SX.

Can you confirm, then, that Meta Kernel **will not** work on the SX platform? I still would prefer it, since it seems to have more features than Java.

> Quote:
>
> However I'd suggest upgrading to the HP-48GX,
> since the GX is much better than the SX in almost all respects,
> except maybe regarding the keyboard legend colors,
> which are a matter of taste;-)

Well, you hit on it. It's not only the color scheme, it's the inset logo instead of painted on, it's the molded key legends, it's the "Made In USA" on the back; in short, the overall impression of build quality.

Re: HP 48SX improved user interface options

*Message #8 Posted by **Mark Edmonds** on 20 Oct 2009, 2:19 a.m.,*
in response to message #7 by Martin Pinckney

> Quote:
>
> Well, you hit on it. It's not only the color scheme, it's the inset logo instead of painted on, it's the molded key legends, it's the "Made In USA" on the back; in short, the overall impression of build quality.

My 1996 Singapore GX has moulded key legends and is every bit as solid and well constructed as my earlier SX.

I'd just forget the SX and go for a good GX. The GX is faster anyway, has more memory, has a much better display, features some powerful and very useful software enhancements and then to top it off, can run SpeedUI as well.

My SX lies idle which saddens me as it has special significance to me but the reason it is idle is simply that the GX is so much better. Get yourself a GX and I really don't think you will regret it one iota.

Mark

Re: HP 48SX improved user interface options

*Message #9 Posted by **Christoph Giesselink** on 20 Oct 2009, 6:17 p.m.,*
in response to message #7 by Martin Pinckney

> Quote:
>
> Can you confirm, then, that Meta Kernel will not work on the SX platform?

I confirm that the Meta Kernel don't work on a SX platform.

I agree with Mark that Singapore made HP48GX are good as USA made SX from the quality aspect. My latest Singapore made HP48GX from 1997 (with new serial number format) has still molded key legends.

My Indonesia made GX from 1999 has painted key legends. Also the key tactile feeling is quite worse. When the are older you may sometimes hear something which sounds like a releasing spring when you release a key on the calculator. You shouldn't buy an Indonesia one for every day usage. Most of all sold GX have ROM rev. R, all other calculators with a different ROM rev are IMHO only interesting for collectors.

I personally still use the SX but only in emulated form on Emu48. In this environment I have no speed problems at all.

Cheers

Christoph

Re: HP 48SX improved user interface options

*Message #10 Posted by **Martin Pinckney** on 22 Oct 2009, 7:49 a.m.,*
in response to message #9 by Christoph Giesselink

Thanks to all for your responses.

I actually have three well-worn Indonesia GX's that I "inherited" when I bought my engineering company from my former boss (well worn because they were used as data collectors). Interestingly, two of them have the **same** display as my SX - greenish background with blue foreground. The third has a slightly less green background with black foreground. Personally, I find the two types different, but contrary to what most posters say, I don't find either particularly better than the other.

All three have painted key legends.

To me the impression of build quality is more than just physical sturdiness, it is all of the other more subtle things I mentioned, as well. I guess my preference still goes to the SX, in spite of its limitations. Too bad about Meta Kernel. I will try Java and report back on my results.

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HP42S upgrade and opening... pictures ;-)

*Message #1 Posted by **geoff quickfall** on 18 Oct 2009, 6:31 p.m.*

Just a short note.

It was brought up that opening a Pioneer by removing the keyboard overlay and then drilling the eight heat stakes may be risky or destructive. I thought I would post these results to let you be the judge.

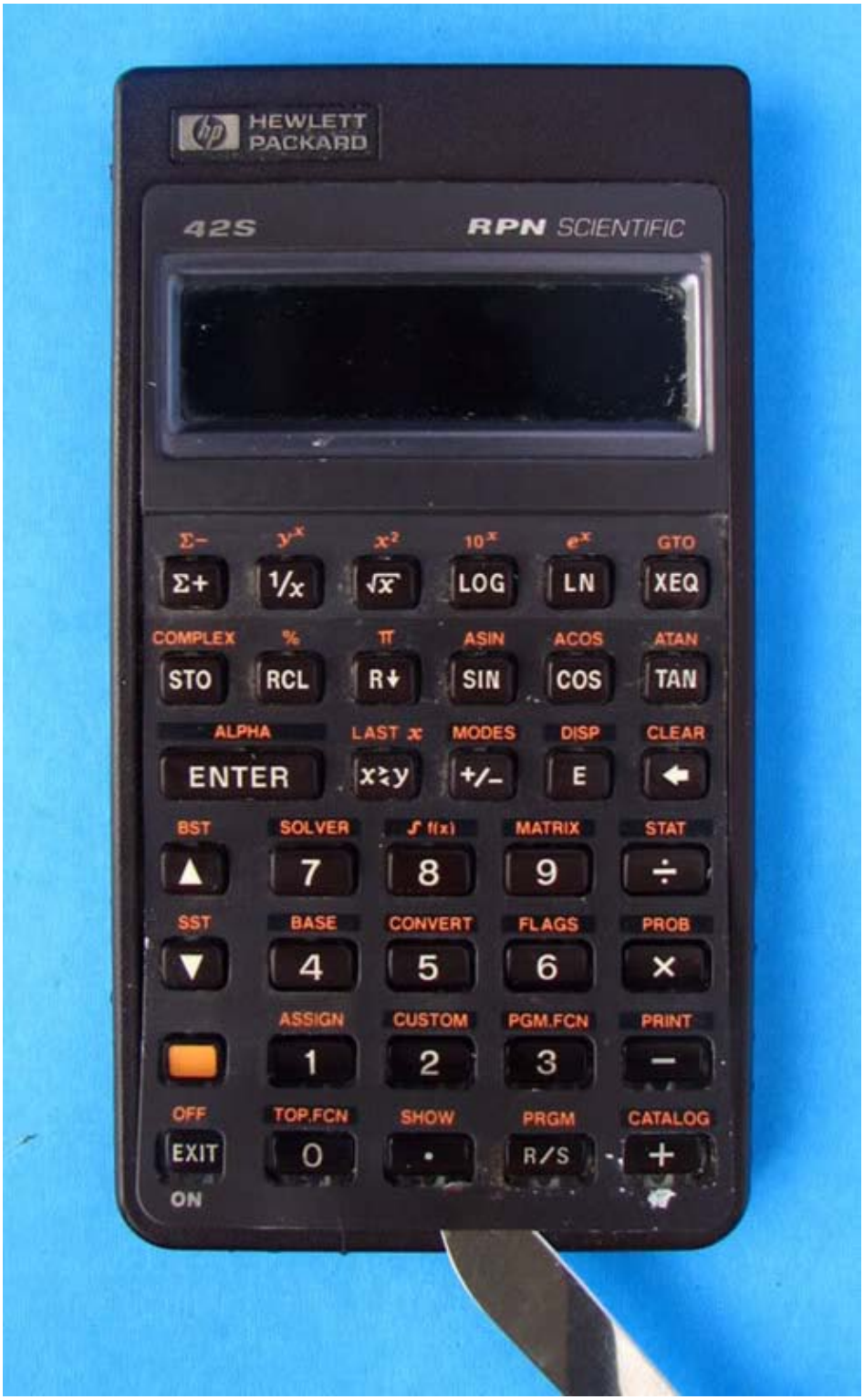
I tried the force full pry technique on a 48SX and was not happy with the results. Suffice to say it is working, looks good, but now has a wavy keyboard due to the forceful separation of the shells without predrilling.

Now when I say drill out the heat stakes I mean just enough to separate the shells and yet provide a snap back into position without the aid of glue.

Here are some shots of the procedure. I have completed 3 restorations and while inside the 42s I also upgraded the memory to 32K. Of course this will all be found in the book in greater detail 8-)

By the careful application of a little heat to the keyboard (warm but not hot to the touch), just enough to soften the glue you can pry the overlay off the calculator starting at the bottom as pictured. Note the flaked paint at the lower right hand corner.

'Calculator one' non-functional with corroded overlay:



While peeling the overlay back, do not bend it at such an angle that it creases.

'Calculator one' non-functional with corroded overlay. This calculator still needs the overlay touched up but has had the contact foam replaced, keyboard circuit cleaned and memory upgrade:

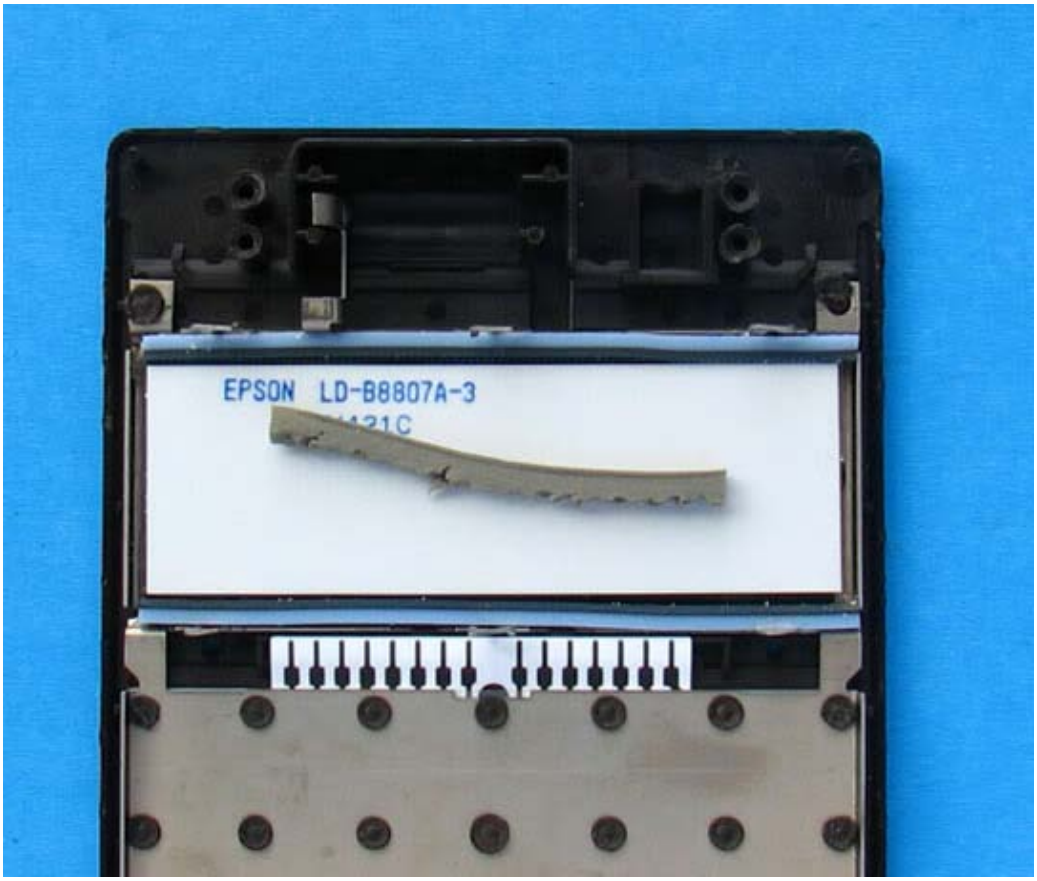
Here is a shot of two overlays looking at the back. The one on the left has had the adhesive removed. Once off, the overlay can be placed between two vinyl sheets on a flat surface. By rubbing a large spoon, bowl side touching the vinyl, the overlay can be flattened as seen below. Of course do not flatten the factory folds! The one on the right has not had the adhesive removed or been flattened yet.

The overlay pictured below had some corrosion on the bottom right corner which had caused flaking paint prior to it's

removal (see above). I am currently experimenting with paint but need an airbrush to correctly and invisibly apply it. At the moment the overlay is flat and crease free and could be placed back on the calculator with contact cement. Note the available memory!

'Calculator one' with corroded overlay:

The offending foam used for pressing the keyboard flex PCB into the logic PCA:

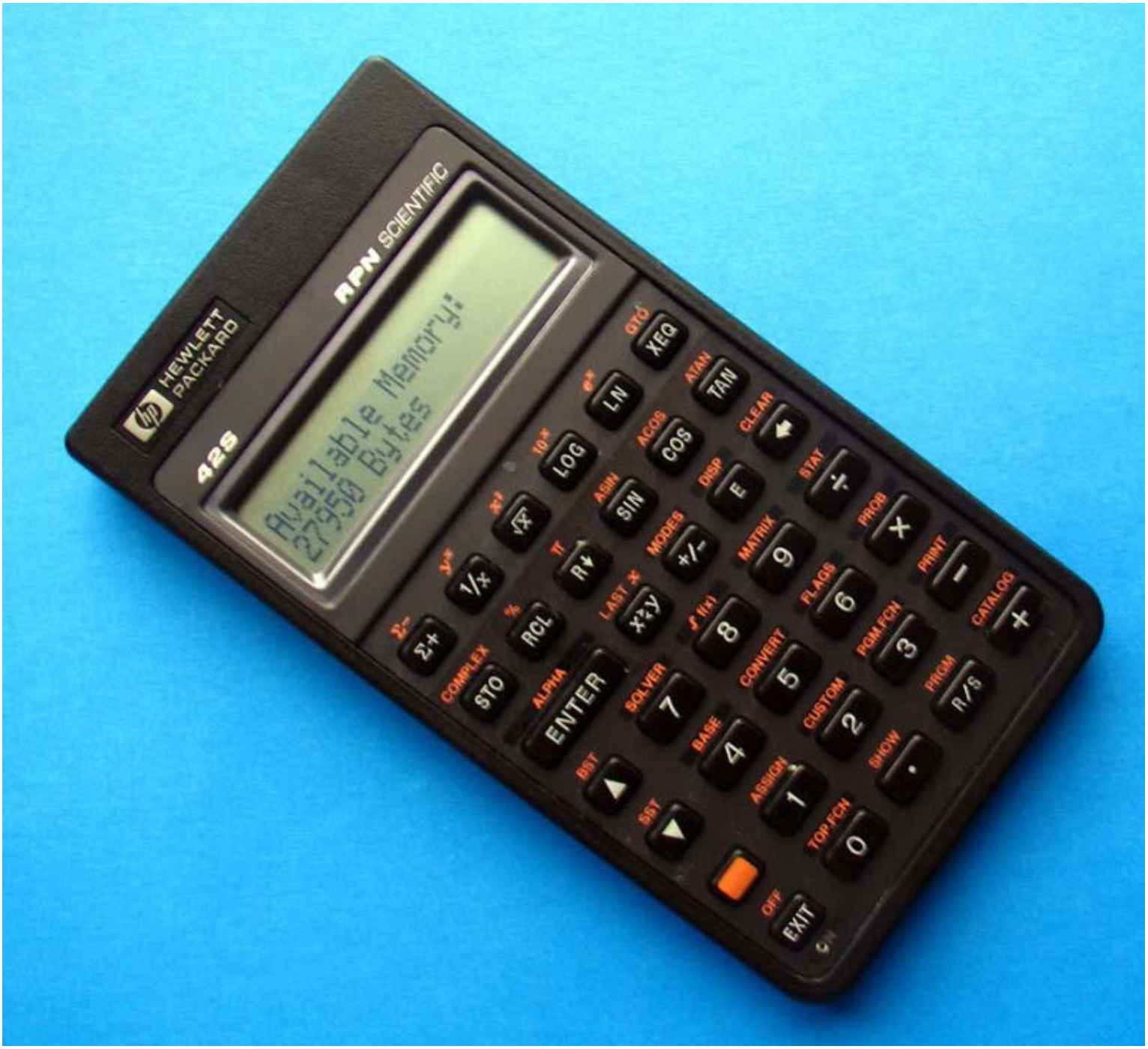


The heats stakes under the overlay prior to drilling:

The heats stakes under the overlay after drilling, you can see just how little needs to be shaved off the top of the heat stake:

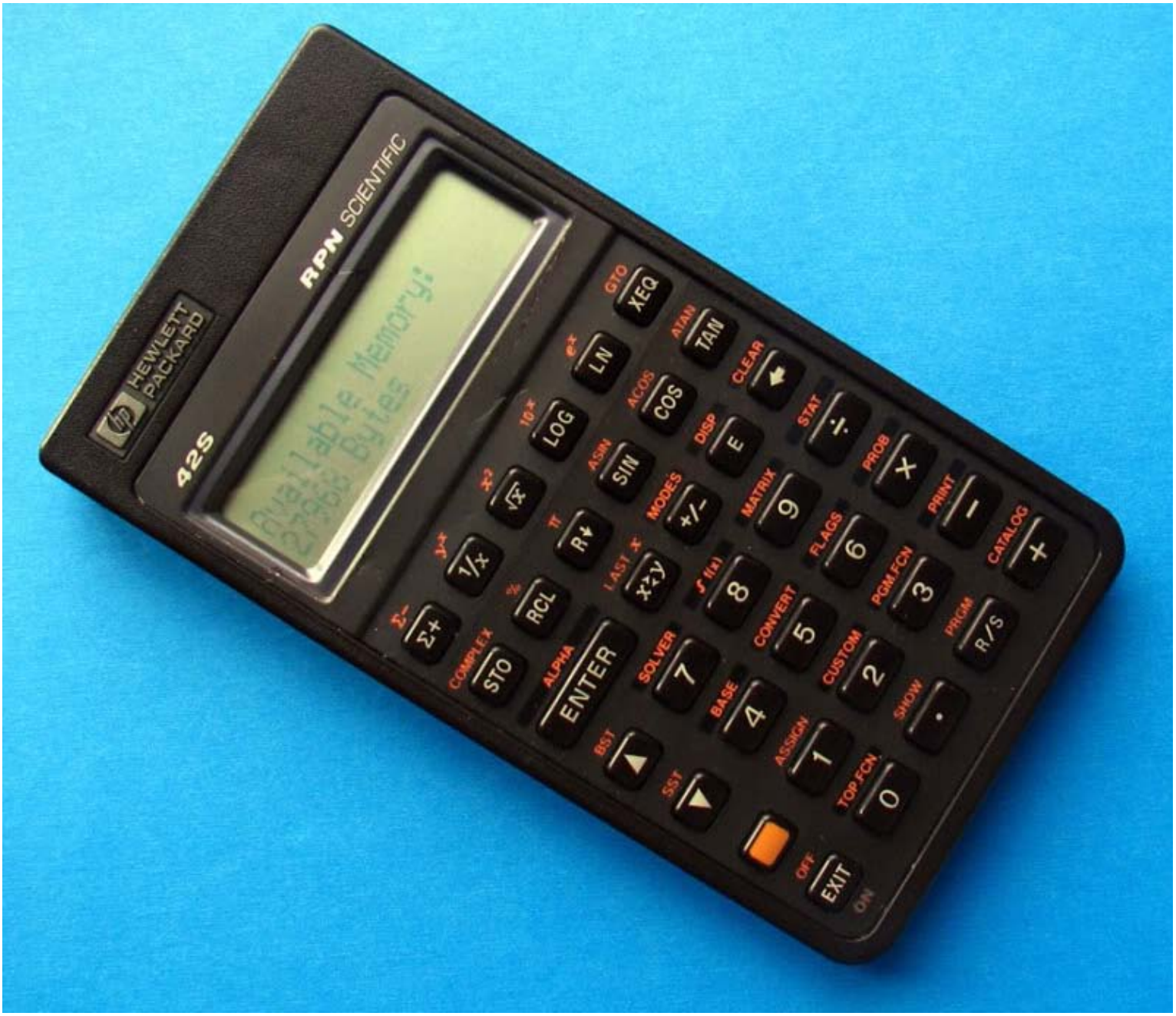
Of course what good is all this unless you have an after picture. This is one of the three. It had and almost perfect keyboard and I was reticent to open it up until I had experimented on the two non-functioning beat up versions.

Minty version with six small glue dots. This was used by a company in Britian that had overlays produced and then affixed to the keyboard overlay with six small dots of glue. I have removed as much of the glue that I can (mechanically) without harming the overlay. Both the next pictures show completed upgrades and restorations. The memory of 27,xxx reflects the available memory after the upgrade and my suite of progams have been loaded:



Here is a shot of a beat up version. The overlay was removed, keyboard cleaned as well as PCA and LCD panel and the offending degraded foam was removed which supplies the force to allow the keyboard flex PCB to contact logic PCA. The memory upgrade completed and then the whole thing bundled up. This overlay had dents and scratches. The spoon and vinyl method removed the dents and flattened the overlay after the adhesive was removed. The scratches were touched up with a combination of black and brown felt marks.

'Calculator two' non-functional with scratched and dented overlay. This calculator also had the overlay touched up, contact foam replaced, keyboard circuit cleaned and memory upgrade:



All three calculators snapped together with a healthy 'snap' yet allow me to open them if required. The overlays were affixed to the calculator with contact cement judiciously placed on the both surfaces.

I think they turned out alright and it is my opinion, having opened stretch and normal pioneers, that I prefer the keyboard overlay removal and heat stake drilling. If you try this experiment do it on a TOTALLY dead HP pioneer.

Cheers, Geoff

Edited: 26 Oct 2009, 9:03 p.m. after one or more responses were posted

Re: HP42S upgrade and opening... pictures ;-)

*Message #2 Posted by **nacho** on 18 Oct 2009, 8:32 p.m.,*
in response to message #1 by geoff quickfall

Hello Geoff,

Absolutely nice and documentary your albums at photobucket!!!!

I have seen HP images WOW...nice work!

these images are of a 42S opened via Credit Cards ;)

Look at the undrilled Stakes.

regards.

Re: HP42S upgrade and opening... pictures ;-)

*Message #3 Posted by **geoff quickfall** on 19 Oct 2009, 12:48 a.m.,*
in response to message #2 by nacho

Hello Nacho,

Nice work. I will be trying the credit card method on an HP48SX with bad keyboard flex PCB and logic PCA contact. The foam again!

I will let you know how it works. I will also include the technique in the book as an alternative.

I can't read the RAM chip, did you upgrade the calculator RAM to 32K?

Also, did you remove the LCD for swapping purposes with one the worked?

Also, did you modify the stakes for re-assembly as I have found they do not go back into their holes easily, at least on the 4 I have done with the pry apart method. I had to shave the mushroom head shape (narrow it) before they would snap back into place.

Cheers, Geoff

Edited: 19 Oct 2009, 12:50 a.m.

Re: HP42S upgrade and opening... pictures ;-)

*Message #4 Posted by **nacho** on 19 Oct 2009, 4:06 a.m.,*
in response to message #3 by geoff quickfall

Hello Geoff!

I did not any upgrade to the 42S!

I removed the LCD because I cleaned all the Keyboard and Overlay intensely, they were plenty of dust!

I put the Keyboard in a recipient with distilled water and then with some neutral soap and a toothbrush I cleaned all the keyboard and overlay. A shame I did not the before pics.

To do a re-assembly I have always to shave the mushroom head shape, if not, it is impossible to assemble it well.

The calc was not very well treated, but now (the calc) is living a 2nd life.

Regards,

Nacho

Edited: 19 Oct 2009, 4:08 a.m.

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FSl164A hp-il/RS232 Interface Power Supply

*Message #1 Posted by **Andy Delano** on 18 Oct 2009, 3:20 p.m.*

I am trying to determine the voltage/polarity for the FSl164A's DC power supply. The FSl164A was produced by Firmware Specialists and is very similar to the HP82164a.

Thanks, Andy

Re: FSl164A hp-il/RS232 Interface Power Supply

*Message #2 Posted by **Garth Wilson** on 18 Oct 2009, 3:54 p.m.,*
in response to message #1 by Andy Delano

9VDC, center positive.

The FSI164A was almost 100% instruction-compatible with the HP unit, but came with two RS-232 channels standard, and optionally up to 8, had deeper buffers, and also had a battery power option. I do believe FSI had told me there was a bug with even parity, but I never used the parity.

Re: FSl164A hp-il/RS232 Interface Power Supply

*Message #3 Posted by **Andy Delano** on 18 Oct 2009, 4:38 p.m.,*
in response to message #2 by Garth Wilson

Thanks! Does yours have the battery option? Mine does not but I was thinking it might be something I could add.

Edited: 18 Oct 2009, 4:52 p.m.

Re: FSl164A hp-il/RS232 Interface Power Supply

*Message #4 Posted by **Garth Wilson** on 18 Oct 2009, 7:27 p.m.,*
in response to message #3 by Andy Delano

I don't have the battery option, but since it has a DC input, it would be easy to have an external battery pack plugged in.

I think this was one of three different things with EPROMs in it that I refreshed recently and kept hex files on, since EPROMs don't hold their data indefinitely. I wanted to just read the EPROM into the programmer and then program it back before some of the contents were gone for good. I believe I also did it for my HP92198 80-column video interface and my 82169A HPIL-to-HPIB interface converter. I'd like to do it for the BIOS ROMS for my DOS PC too, but that's the PC the EPROM programmer works on.

Re: FSl164A hp-il/RS232 Interface Power Supply

*Message #5 Posted by **Klaus** on 19 Oct 2009, 2:30 a.m.,*

in response to message #4 by Garth Wilson

Hi Garth, you can hot-plug the BIOS-EPROMS, remove them after the PC has booted, and reprogram them.

Re: FSl164A hp-il/RS232 Interface Power Supply

*Message #6 Posted by **Marcus von Cube, Germany** on 19 Oct 2009, 6:02 a.m.,*
in response to message #5 by Klaus

Why not just read them (from DOS) in the PC and create a new set without risking a dead system?

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restoring an HP-01 keyboard

*Message #1 Posted by **Alberto Fenini** on 18 Oct 2009, 8:02 a.m.*

dear all, i'm trying to get to near mint conditions my HP-01, which has some discoloration on the rigt side of the keyboard. It doesn't affect the keys or the functioning, but, I'd like to have it fixed. I've tried (with poor results) with a black CD marker softpen, does anyone of you has ever tried anything better than this ? Thx for help, Alberto

Re: restoring an HP-01 keyboard

*Message #2 Posted by **Rainer Wiedemann (Germany)** on 18 Oct 2009, 11:58 a.m.,*
in response to message #1 by Alberto Fenini

Ciao Alberto,

a couple of days ago I read **this** article. The author also describes the restoration of keys and keyboard. IMHO the procedure is very delicate and one can do a lot of damage. Another interesting thing about this article is, that the author has done a reproduction of the red watch crystal and is probably sharing (selling?) it.

I'll be glad if you would post a story of success with pics, when you're done. I'm still looking for an affordable one (which should be in a condition that still allows for refurbishing).

Good luck.

Regards,

Rainer

Re: restoring an HP-01 keyboard

*Message #3 Posted by **geoff quickfall** on 18 Oct 2009, 12:51 p.m.,*
in response to message #1 by Alberto Fenini

Hello Alberto,

A quick response, unfortunately the CD 'sharpie' marker are temporary at best.

I am hoping for an air brush system for Christmas (or I will just buy one). I saw a posting about building up the finish with an air brush. See the link Ranier posted as he beat me to this!

Again this should last longer then the airbrush but it has not got the durability of a paint that was baked on as the original is.

Sorry, no help here but if you have an air brush that might work better.

I have done eleven restorations to date for people on the HP-01 and even made my own crystals from armoured plexi glass. These do not have the Hewlett Packard label/name on them. I prefer the armored plexiglass as it can be polished at any time to remove scratches. The mineral glass can be polished with water

and diamond paste only when removed from the watch, even then it is a long involved process.

If your crystal does not have any major chips from the corner (pictures?) then after removing the movement the crystal can be removed and flipped over.

I will email you later and DO NOT start a dis-assembly UNLESS you know what you are doing!!!! Removing the battery holder can destroy the PCB if allowed to rotate.

Cheers, Geoff

Edited: 18 Oct 2009, 12:58 p.m.

Re: restoring an HP-01 keyboard paint

*Message #4 Posted by **Alberto Fenini** on 18 Oct 2009, 4:47 p.m.,*
in response to message #3 by geoff quickfall

ciao a tutti !(hi everybody), and again thank you very much for you help.

Again, I'm not disassembling the watch, I admit I'd love it, but I have waited to much for it. I'm attaching an image, please considered I have already polished the bracelet (again thanks for help in shortening it) and changed batteries. As you will see it's in fair conditions, but, I'd like to fix the right side of the keyboard painting (that's the most annoying thing to me)

I have tried with the CD marker, but I don't like very much the result, if you look closely at the watch you can see an additional layer of painting. Any, and I mean any, suggestion will be appreciated. Take care, alberto

Re: restoring an HP-01 keyboard paint

*Message #5 Posted by **Alberto Fenini** on 18 Oct 2009, 5:02 p.m.,*
in response to message #4 by Alberto Fenini

by the way, S/N for this is 1712A32861 ...

Re: restoring an HP-01 keyboard paint

*Message #6 Posted by **geoff quickfall** on 18 Oct 2009, 5:24 p.m.,*
in response to message #5 by Alberto Fenini

Nice watch and the keyboard doesn't look bad!

The airbrush technique is the only semi permanent way of repair that I have seen.

Your crystal is an excellent canditate for flipping up side down but of course the hewlett Packard would be missing.

It is amazing how much a good crystal changes the appearance of a watch.

Did you get the email I sent?

Cheers, Geoff

Re: restoring an HP-01 keyboard paint

*Message #7 Posted by **Alberto Fenini** on 18 Oct 2009, 6:48 p.m.,*

in response to message #6 by geoff quickfall

Dear Geoff,

yes indeed, you should have received mine by now, I'll think about the airbrush, although I don't have one, but I can always get one from some friends. Would you really flip the crystal ?

Take care Alberto

Got it!!
*Message #8 Posted by **geoff quickfall** on 18 Oct 2009, 7:03 p.m.,*
in response to message #7 by Alberto Fenini

Ciao

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41 RCL MATH - 30 years later...

*Message #1 Posted by **Ángel Martin** on 18 Oct 2009, 6:51 a.m.*

Sunday News on the venerable 41 field, to somebody's surprise still happening these days...

After wrestling for a while with the NEXT1 and NEXT2 MCODE routines I've added a couple of ideas to the SandMath module, which you could call " funtion launchers".

The first one is HYP, a prefix-like function used to access the six hyperbolics functions on the module. It has a more logical keyboard layout, assigned to the SIGMA+ key it saves 5 key assignments, valuable to allocate other functions from the same rom to the keyboard. Hate it or love it, it works great and was great fun to programm.

The second one is RCL#, an extension to the native RCL function that allows the arithmetic functions to be invoked from the keyboard in a convenient manner. It mimics the STO user interface, so you can key in +,-,*,/ and also supports IND addressing. Try it out for size... It's also a launcher in that it'll transfer the execution to one of the module's RCL_Math four functions, or to the mainframe RCL.

Coming soon to a TOS near you...

Edited: 18 Oct 2009, 7:54 a.m.

Re: 41 RCL MATH - 30 years later...

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 18 Oct 2009, 3:48 p.m.,*
in response to message #1 by Ángel Martin

Hola, Ángel; ¿que tal?

First of all, congratulations! Your HP41-addressed ROM´s are an actual inspiration to us, who like building our own stuff. Being more a 'hardware guy', I'm always tricked with SW development because I can not set hardware apart when seeing each code, so I cannot go ahead developing machine code without a good deal of knowledge about the hardware. Anyway, I´m not afraid of going ahead and trying my own HP41 ROM. I´ll get back with this subject later...

For now, one request/suggestion: wouldn't you be interested on writing down your own experience (like the one you started this thread with) and compose a collection of HP-41 ROM 'how to´s ? Either a complete text or a collection of directions, like the ones you have been posting here and some others you did not actually mentioned when facing and solving new problems. That would help a lot developing new code along with the many other literature. Something like an extended version of the notes you added in the module-s blueprints... c]8^) This way, anyone else creating their own ROM would contribute the same.

This is just an idea, a suggestion. What you have already done is gold, my friend.

Cheers.

Luiz (Brazil)

Re: 41 RCL MATH - 30 years later...

*Message #3 Posted by **Ángel Martin** on 19 Oct 2009, 3:53 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Hi Luiz, glad you're interested in these enhancements... not many people left these days, I actually wonder about my sanity sometimes :)

By all means go ahead and try your hand at your MCODE routines. It's kinda hard (not being a computer scientist but an old fashioned EE) but beware, it's very addictive.

I'm not sure there's much of generic procedures to write up, just common sense programming practices and lots of trial & error. VASM listings are a must (I discovered it the hard way, i.e. by not having them) and using a good environment is vital (I'm still behind on that, somehow got used to the "blueprints", call it hand-made if you wish).

There's a lot in those 12k called "mainframe ROMs", plus all the plug-ins and accesories. I just scratched the surface, nothing more than that - but lots of fun in the way. Will keep it up!

Best wishes.

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Another iPhone/iPod Touch HP-48GX emulator

*Message #1 Posted by **Steve Simpkin** on 17 Oct 2009, 11:33 p.m.*

I just noticed a new free HP-48GX emulator for the IPhone/iPod Touch called GraphiX48. So far it seems stable and relatively usable. I can also read the printing above the keys. Now which one will add an import function first? Very cool!

Re: Another iPhone/iPod Touch HP-48GX emulator

*Message #2 Posted by **Pal G.** on 18 Oct 2009, 3:10 a.m.,*
in response to message #1 by Steve Simpkin

I wonder if we'll see an HP 49G emulator soon as well. Power48 for Palm featured a 48SX 48GX and 49G in a single app.

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Ignorant TAS Seller!

*Message #1 Posted by **Michael de Estrada** on 17 Oct 2009, 6:40 p.m.*

There is an auction for an HP-67 in which the seller states in part:

"I recently purchased the calculator at a local estate sale. I don't know a lot about the calculator but I'm sure there's someone out there who can appreciate its complexity.....The calculator does not have a battery or adaptor, so I haven't been able to see if/how it works. There is also a copper prong missing in the battery compartment. I don't know if the prongs are essential or if they're **just a cushion or spring for the battery**."

Also, in another place the magnetic cards are referred to as "labels". Well, I guess that is partially correct.

Oh well, maybe someone will pick it up cheaply for parts.

Re: Ignorant TAS Seller!

*Message #2 Posted by **Don Shepherd** on 17 Oct 2009, 9:49 p.m.,*
in response to message #1 by Michael de Estrada

Perhaps the seller does think that the copper prongs are springs to hold the battery in place. Having an HP-65, I can see where someone not familiar with these HP's might reasonably think that.

Re: Ignorant TAS Seller!

*Message #3 Posted by **Michael de Estrada** on 17 Oct 2009, 10:01 p.m.,*
in response to message #2 by Don Shepherd

Oh, come on Don. Even my 6 year old grandson knows that batteries need some sort of metal contacts to work, and those are the only metal items inside the battery compartment. Maybe this seller hasn't seen the battery compartment of an HP 65 before, but surely other electronic devices or maybe even changed the batteries in a flashlight. I think you are being too tolerant of just plain intellectual lethargy.

Edited: 17 Oct 2009, 10:02 p.m.

Re: Ignorant TAS Seller!

*Message #4 Posted by **Don Shepherd** on 18 Oct 2009, 12:44 a.m.,*
in response to message #3 by Michael de Estrada

If he has changed the batteries in a flashlight (and I think we can safely assume that anyone beyond the age of about 5 has probably done that), then he knows that sometimes springs are required to ensure a good contact. Most battery-powered devices that use commonly-sized batteries like C, D, AA, and so on, use springs of some sort. He might think that the copper prongs could be springs, I think. I'd give him the benefit of the doubt. He's obviously not knowledgeable about HP calcs.

Look, he said one of the copper prongs is missing. Anyone who would spend more than a few dollars for this calc is likely an HP collector or user who would know exactly what that means, so he's not

trying to hide anything, it seems to me.

I mean, I wouldn't put this guy in the class of the infamous coburlin who sells ratty-looking HP calcs for prices that are extremely inflated (assuming this auction is not BIN for $800). I just don't think this fellow is materially trying to misrepresent this calc, based on the information you provided here. I could be wrong, but since I'm not interested in buying this particular calc, it's a moot point to me.

Re: Ignorant TAS Seller!

*Message #5 Posted by **Michael de Estrada** on 18 Oct 2009, 2:48 p.m.,*
in response to message #4 by Don Shepherd

I wasn't trying to imply that the seller was attempting to mislead anyone, only that I am amazed that he could think that the "prongs" were merely some sort of spring or retention device and not needed for operation of the calculator. In the vast majority of cases, the springs inside the battery compartments of electronic devices, are essential because they are in fact the electrical contacts as well. Since there were no other metal items or wires inside the battery compartment, then one should assume that the broken "prong" was required. I definitely was not trying to put the seller in the same class as the infamous Mr. C.

Re: Ignorant TAS Seller!

*Message #6 Posted by **bill platt** on 18 Oct 2009, 2:15 p.m.,*
in response to message #1 by Michael de Estrada

Why care? I don't.

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Connecting HP-110 to a 9122D floppy drive

*Message #1 Posted by **John AS (UK)** on 17 Oct 2009, 6:18 p.m.*

Hi,

I have the following set-up:

HP-110 laptop (HP-IL interface) HP 82169A HP-IL / HP-IB interface HP 9122D floppy drive (HP-IB interface / SS-80 protocol)

This set-up works fine and allowed me to format floppies and read-write them. I think the combination of the 82169A + 9122D works the same as the 9114A/B HP-IL floppy drive.

I've also tried the HP-110+ (Portable Plus) laptop and that worked fine too. I had no luck attempting to use an Amigo floppy drive (9121D).

The 82169A has a serial number starting 2512A, the 110+ plus manual states:

"Note: If you intend to use HP-IB disk drives, the HP-IL/HP-IB interface must have a serial number greater than 2406A00000. Otherwise it will cause a bad unit error message."

I've got a friend with an HP-41 and HP-IL interface, I'll report back if this can drive the 82169A + 9122D as well.

Regards, John

Re: Connecting HP-110 to a 9122D floppy drive

*Message #2 Posted by **Eric Smith** on 17 Oct 2009, 9:19 p.m.,*
in response to message #1 by John AS (UK)

The HP-IL module for the 41 doesn't speak either SS/80 or Amigo protocol; it only knows 82161A "Filbert" commands. The mass storage functions won't work any HP disk drives other than the 9114A/B, because those are the only ones that have the Filbert command set.

Re: Connecting HP-110 to a 9122D floppy drive

*Message #3 Posted by **John AS (UK)** on 18 Oct 2009, 3:46 p.m.,*
in response to message #2 by Eric Smith

> Quote:
>
> The HP-IL module for the 41 doesn't speak either SS/80 or Amigo protocol; it only knows 82161A "Filbert" commands. The mass storage functions won't work any HP disk drives other than the 9114A/B, because those are the only ones that have the Filbert command set.

Thanks Eric, yes I understand the 9114A understands Filbert and SS/80 protocols, I didn't know the HP-41 only supports Filbert.

Can you clarify please about the HP-71 or HP-75, does this also only understand Filbert for mass storage and no other protocol?

Can the HP-86 read files from a 82161A, perhaps via a BASIC program?

(note a similar topic has been discussed before: http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=95690)

My friend has some files on 82161A cassettes, we were trying to work out how to transfer them to a PC with the hardware we have (eg no PIL-box).

Regards,
John

Edited: 19 Oct 2009, 11:47 a.m.

Re: Connecting HP-110 to a 9122D floppy drive

*Message #4 Posted by **Eric Smith** on 19 Oct 2009, 11:31 p.m.,*
in response to message #3 by John AS (UK)

The HP-71B (with HP-IL module) and HP-75C/D also only use the Filbert command set for mass storage.

I think you could write a program for the HP-86 with I/O ROM to read 82161A tapes. You just have to address the tape drive, send the appropriate DDT command to get it to read a sector, and read the 256 bytes of binary data that come back.

Re: Connecting HP-110 to a 9122D floppy drive

*Message #5 Posted by **John AS (UK)** on 20 Oct 2009, 3:49 a.m.,*
in response to message #4 by Eric Smith

I found another message in the Forum archive: http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=105373 which includes the comment:

"Emu41 and Emu71 emulate the Filbert protocol used on the HP82161 and HP9114, that has nothing to do with CS80 or Amigo. The HP9114 also supports SS80, for use with the HP Portable Plus for instance and SS80 may also be used in the HP-71B Data Acq ROM to access DOS formatted disks."

Interesting! Has anyone got any further info on the HP-71B Data Acquisition Pac (HP 82479A), I couldn't find the manual on-line?

I found the article in the HP Journal

http://hp41.betapersei.com/files/HP%20Journal/HP%20Journal%201986%20Mar.pdf

based on this I doubt if does allow support of SS-80 disks, but would be nice to confirm.

Regards,
John

Edited: 20 Oct 2009, 3:59 a.m.

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Silver line above on-off swiths Classics

*Message #1 Posted by **Ronald** on 17 Oct 2009, 11:32 a.m.*

Hi,

I stumbled yesterday in a watch magazine on some articles how to get some silverplating on plastic. You would have to apply some conductive silver paint/precoating first and after that put it in a bowl with some dissolved silver salts and a contra electrode and run some current trough it.

I have never seen any discussion on this method in the forum, any ideas if this would be worth a try. The set is around 40€ so no a huge loss, but if someone already knows this is not working, it saves some money for aquiring new HP toy.

Also I was wondering how did HP do it when it was originally manufacured. Was tho top selectively covered, sprayed with a conductive aerosol and then some silver ions in the air that were by some voltage difference deposited on the plastic, like powder coating?

Kind regards Ronald

Re: Silver line above on-off swiths Classics

*Message #2 Posted by **geoff quickfall** on 19 Oct 2009, 12:45 a.m.,*
in response to message #1 by Ronald

Hello Roland,

My first question: Is this for creating traces for electronics? If so I wonder how glossy or shiny the process would be and how permanent.

The original finish was vacumn plated as with car dashboard plastics.

It would be interesting to see a finished product.

Cheers, Geoff

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Programming HP-42S

*Message #1 Posted by **Howard Jones** on 17 Oct 2009, 10:12 a.m.*

I am fairly new to programming HP calculators and I apologize if this question is basic. I am trying to programme the DPLOT programme on pp156-158 of the HP-42 Owner's Manual. I cannot find anywhere how I type in line 27 VARMENU IND "FCN" Thank you in advance

Re: Programming HP-42S

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 17 Oct 2009, 12:37 p.m.,*
in response to message #1 by Howard Jones

Hi, Howard;

every possible HP42S user has already been, at least once, fairly new to programming it too, so... welcome!

Now for the answer. Keep in mind that the IND (for Indexed, or indirect) is added only when the function (VARMENU, in this case) allows it to. And to add the IND after VARMENU, you should use the [.] key. Prior to go ahead, let´s call [SHIFT] key the prefix, golden key right above the [EXIT] key. Thus, considering that the calculator is already in PRGM mode and you can see step # 26 (whatever you have on it):

press [SHIFT][PRGM.FCN];
press [up-arrow];
press [VARM] menu key (actually [1/X]); you should see 27 VARMENU "_
press [.]; you should see 27 VARMENU IND _ _
press [ENTER] key to bring ALPHA menu back;
key in FCN;
pres [ENTER]

If all goes well, you should have your

```
27 VARMENU IND "FCN"
```

in the LCD by now. If not, let us know.

Cheers.

Luiz (Brazil)

Edited: 17 Oct 2009, 12:39 p.m.

Re: Programming HP-42S

*Message #3 Posted by **Howard Jones** on 17 Oct 2009, 6:47 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Thank you. It works perfectly.

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Help with credits in the book, please.

*Message #1 Posted by **Geoff Quickfall** on 16 Oct 2009, 7:12 p.m.*

Hello all!

The book is comming along well, of course that is a subjective opinion since I have never written something this large for publication.

Just finished the Pioneer and Stretch Pioneer chapter which gives the following examples:

```
1.  HP 48SX with non functional display and keyboard
2.  HP 42S with non functional display, keyboard and the memory
    upgrade.
```

Here are some unlabled pictures of the 42S restoration and memory upgrade. All this thanks to Tony Duells' postings and emails. The book has many more figures, each referred to in the text and much more helpful then what is pictured below.

Removing the keyboard overlay for access to the four heat stakes.

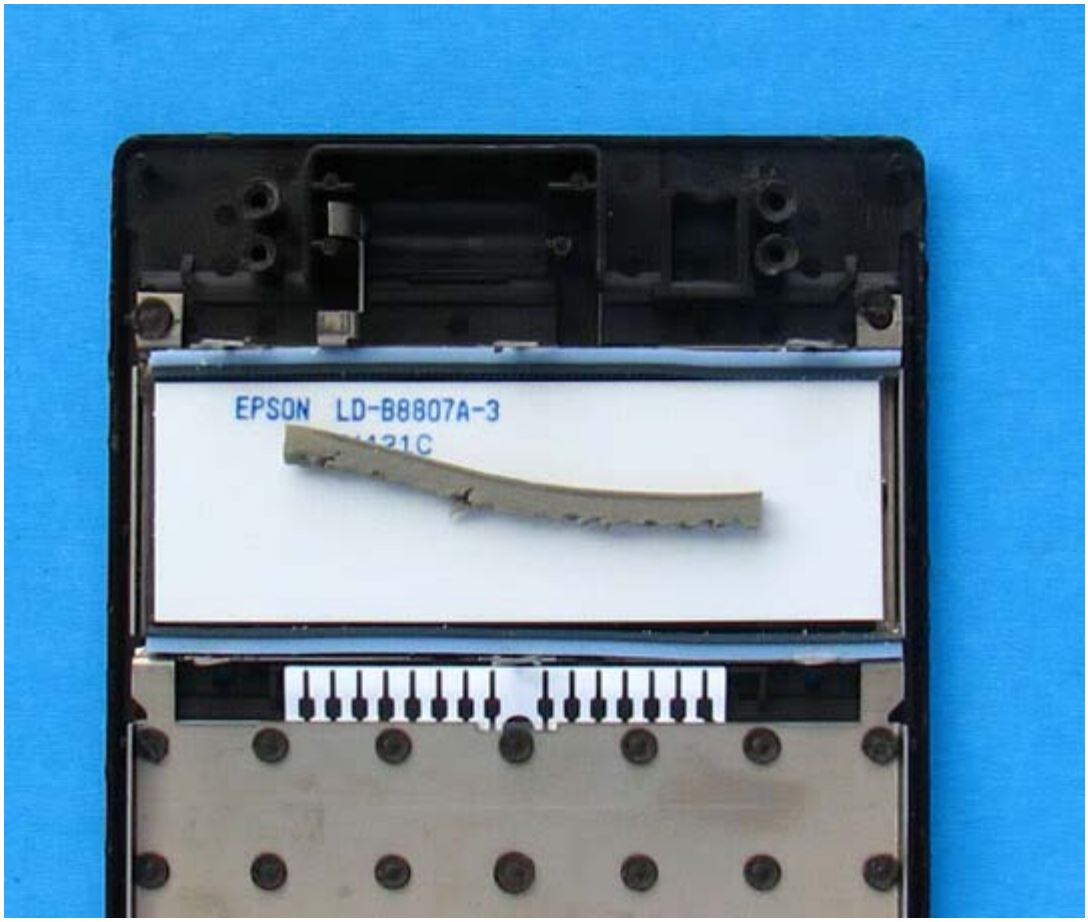
Two keyboard overlays, one with the adhesive and curved from removal, the other with the adhesive removed and reshaped by placing between two vinyl sheets and flattening with a spoon.

Help with credits in the book, please.

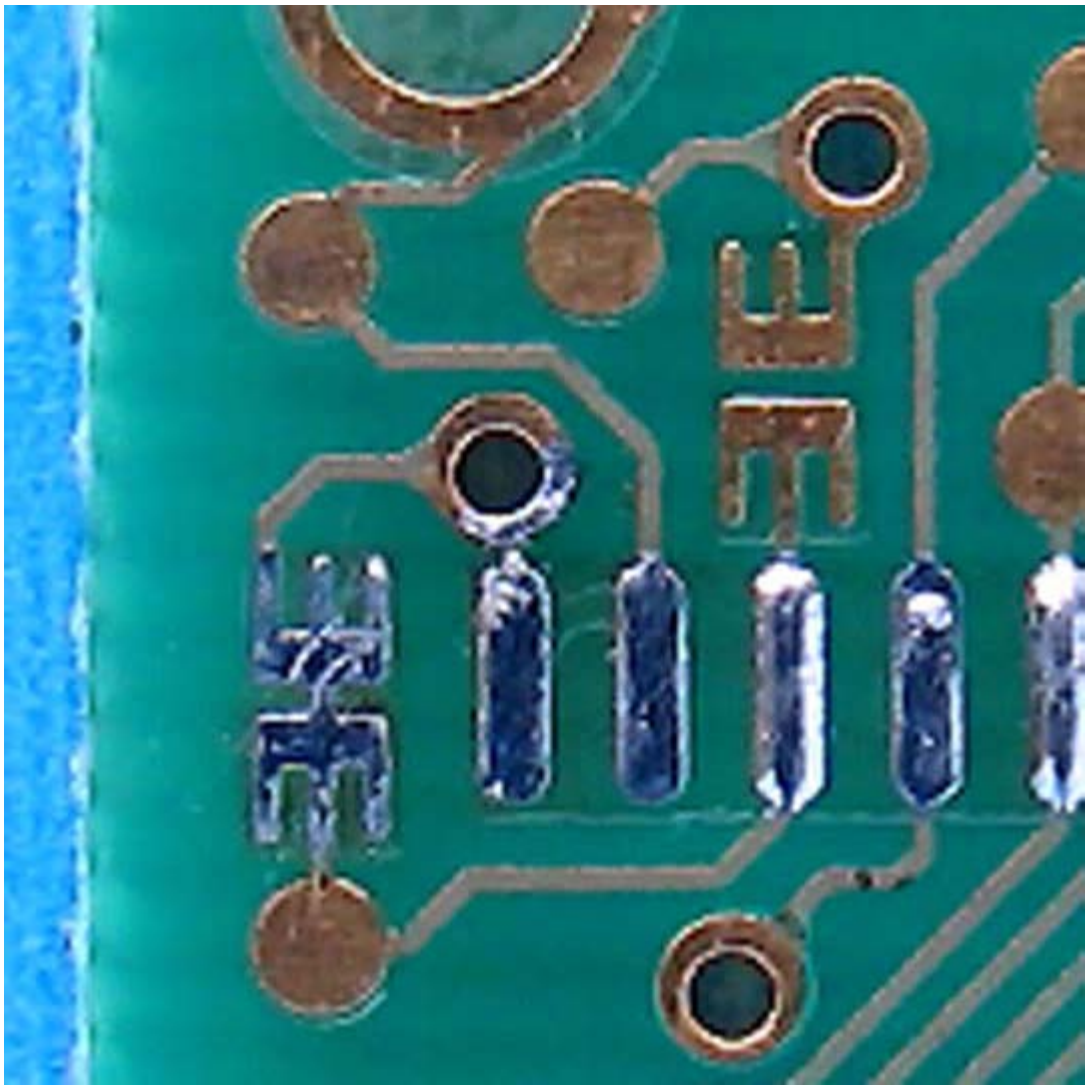
Close up of the heat stakes before drilling.

Close up of the heat stakes after drilling.

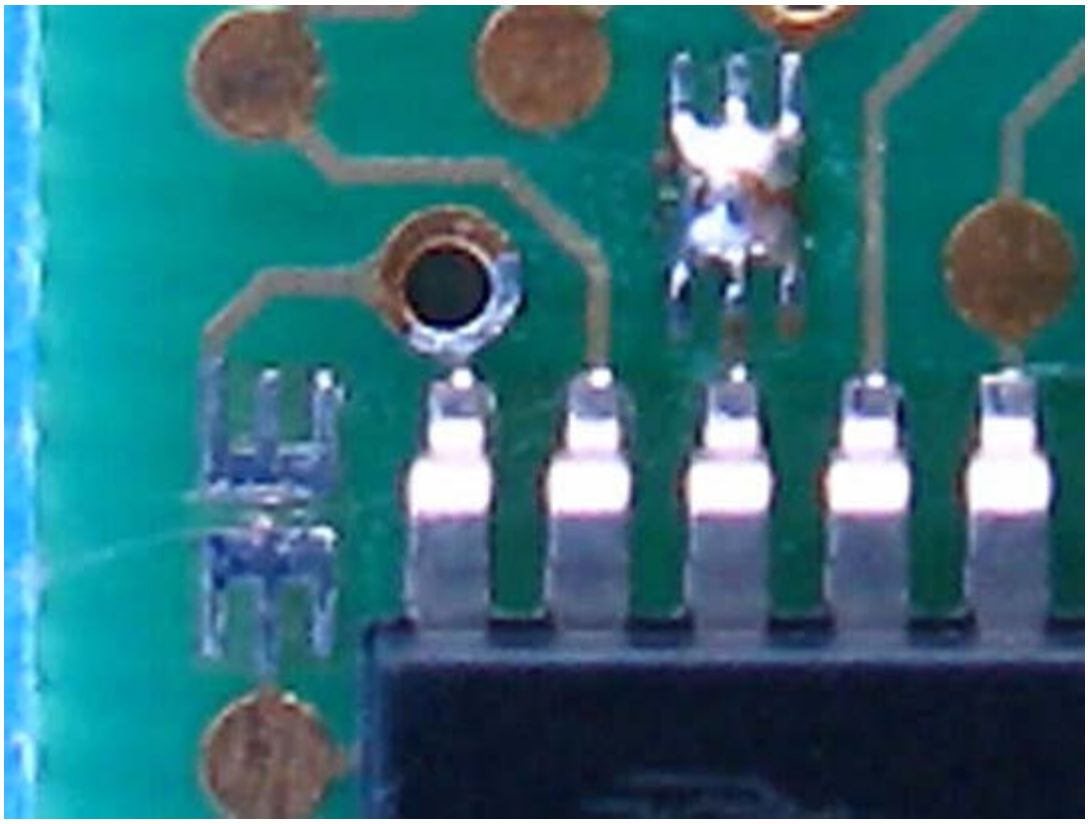
The deteriorated keyboard flex PCB foam insert. The major cause of the failed keyboards on the Pioneers and Stretch Pioneers.



Jumper desoldered showing the trace bridge left after the solder was removed



Close up of the jumper with the trace bridge removed and new jumper in place.



New memory accessable!

_____ ----------

Now for the reason and title of the post. There are THOUSANDS of postings in the archives ;-). Also articles and repair sections of the museum, let along googling the internet for repair techniques.

I certainly do not want to step on any feet when it comes to credit for techniques that have been developed. With that in mind I am compiling a list of peoples names that seem to be the originators of various techniques.

Some obvious names come to mind:

1. Katie Wasserman and the HP-97 topcat printer gear replacement
2. Tony Duell and the increase of RAM for the HP42s
   Tony also came up with a milled brass pinch roller for the 41C!

```
3.  Diego Diazs' flex PCB replacement for HP 41C I/O assembly.


But some are not so obvious:


3.  Vinyl tubing for pinch roller
4.  Dampening couple using wire insulation
5.  Jumper position in the Spice for decimal versus comma separator
6.  Foam insert replacements for Pioneers.
7.  Just saw Luizs' spice wire work around for broken flex PCB
8.  Using vinyl envelopes to smooth out labels that have been
    removed from the backs of the Classics and others.
9.  First occurrence of the quartz crystal application to the
    HP-45.
10. LED block replacements for removing ghosting.  Did this one
    after reading the forum and resurrected an HP-45 and HP-80.
```

The problem is the proper crediting of techniques. Of course a blanket THANK YOU would suffice but I rather be more personal.

For those of you wondering why the book is taking a while; it is going to be 300-400 pages with over 250 figures. It encompasses all the techniques that have been published (hopefully).

I am, however, documenting ALL the restorations in house and this takes time. For example, I need a Spike for photo purposes. I have one being lent to me but I have to get to London to pick it up (thanks Wlodek).

As you see above, I just finished upgrading 3 HP-42S to 32K. Two were non functional off Ebay and once I had documented the successful conversion I then upgraded my HP-42s that I use along with my HP-41C.

```
So does anyone know who originated the following:


1.  Vinyl tubing for pinch roller.
2.  Dampening couple using wire insulation.
3.  Jumper position in the Spice for decimal versus comma separator
4.  Foam insert replacements for Pioneers.
5.  Just saw Luizs' spice wire work around for broken flex PCB.
6.  Using vinyl envelopes to smooth out labels that have been
    removed from the backs of the Classics and others.
7.  First occurrence of the quartz crystal application to the
    HP-45.
8.  LED block replacements for removing ghosting.  Did this one
    after reading the forum and resurrected an HP-45 and HP-80.
```

Cheers, Geoff

Edited: 16 Oct 2009, 7:14 p.m.

Re: Help with credits in the book, please.

*Message #2 Posted by **Nacho** on 16 Oct 2009, 7:24 p.m.,*
in response to message #1 by Geoff Quickfall

Hello Geoff!

When you talk about opening a Pioneer series calc you mean drilling the 4 stakes?

I have opened several Pioneer and never in a so intrusive way.

I mean, drilling damages too much and removing an overlay is very dangerous (aesthetically).

Hope my opinion doesn't bother you.

REGARDS

Thanks for the input. My restorations are just that, restorations...

*Message #3 Posted by **Geoff Quickfall** on 16 Oct 2009, 7:47 p.m.,*
in response to message #2 by Nacho

I am not happy with just fixing the calculator but actually restoring it to the original factory look.

With that in mind, how do you open your Pioneers?

I have used two published techiques. The 'carefully pull apart and hope technique' and the 'careful removal of keyboard overlay' technique, then drill a miniscule amount of the stakes.

Both these techniques were successful, however, the pull apart version does distort the keyboard and mylar film and can cause several stressful moments as well as damage to the stakes and electronics if done incorrectly. It is also not as controllable as the keyboard overlay removal.

The careful application of heat to soften the adhesive and gentle pulling will remove the overlay without damaging it is the secret. The technique of removing the adhesive with adhesive remover and then flattening the overlay by rubbing it with a spoon while sandwiched between two sheets of vinyl has restored the overlay to perfect condition. It then is a simple process of gluing the overlay back into position.

All three 42S that I just did were using the keyboard overlay removal. Also, the stakes are drilled just enough to allow the shells to separate with some force but definitely less then the pry apart techniqe described. This allows the keyboard to be reapplied and the shells to snap back together. Also this allows continued access to the insides if done correctly. With the cautious application of drilling the shells will actually snap back together tightly.

I have successfully opened the Pioneer series and Stretch Pioneers series by removing the keyboard overlay (actually quite easy) without damaging them.

I have also opened them by carefully prying the heat stakes apart (much harder). I prefer the overlay technique described to me by Tony Duell.

After regluing the overlay back in place, all three calculators look perfect. The added bonus of having the overlay off is the ability to clean the keys of debris and the overlay. It also allows one to touch up the overlay with paint if required prior to replacing it.

Unless you have a third option (secret?) I recommend the removal of the overlay and the drilling of a very miniscule amount of the heat stakes versus the prying apart of the calculator with force. This is of course explained in the book as all techniques are included.

By the way I have restored six 48s and four 42s, a 32S and a 32SII and all look brand new.

Hope this explains the technique a little more, for a full explanation you will have to wait for the book.

Cheers, Geoff

Re: Thanks for the input. My restorations are just that, restorations...

*Message #4 Posted by **Nacho** on 16 Oct 2009, 8:07 p.m.,*
in response to message #3 by Geoff Quickfall

Hello Geoff,

Thanks for the explanation!

I have to say that I like very very much the way you restore the calcs, they look very nice and new.

I surely will buy the book.

I have opened several 48 series (mem upgrade) in my university years and repaired some and replacing original (blue LCD to black LCD) parts from 49 bad working units.

I'm not a perfectionist like you! but the way I open calcs has never damaged any calc.

the first time I opened a 48 I did the way you are telling here and I destroyed the overlay...

So I searched and found other ways.

It is true that the way of pulling creates more stress.

I open the calcs with 3 or 4 credit cards, these plastic cards don't damage the body of the card, and little by little it is possible to pull the stakes.

After that the calcs don't look opened.

And if the calcs in case of 48 series are singapore or USA versions (stronger than indonesia ones) I use a metal credit card.

REGARDS

Edited: 16 Oct 2009, 8:08 p.m.

Re: Thanks for the input. My restorations are just that, restorations...

*Message #5 Posted by **Geoff Quickfall** on 16 Oct 2009, 9:01 p.m.,*
in response to message #4 by Nacho

Thanks again!

You just cleared up a question I had as I remember reading about your credit card use for opening the case.

I actually tried this on a 48SX which needed a new foam insert. Unfortunately it took hours on my particular calculator (U.S.) and it was extremely tough. It was not the technique but the calculator I am sure!

In any case both methods are explained and your use of the credit card (hotel key?) is excellent. I was using peg wood for the same reason, so the calculator would not be damaged.

In any case, I still prefer the keyboard overlay method if done correctly, but thats me! And the minimalist drilling of the stakes.

Cheers, Geoff

Re: Thanks for the input. My restorations are just that, restorations...

*Message #6 Posted by **Katie Wasserman** on 16 Oct 2009, 9:26 p.m.,*
in response to message #5 by Geoff Quickfall

Geoff,

I think that giving specific credit is hard to do as many repair ideas were hashed out here over the years by many people with much back and forth dialog. I think a blanket credit to the Museum Forum members and especially Dave Hicks for facilitating all this would do nicely.

-Katie

Re: Thanks for the input. My restorations are just that, restorations...

*Message #7 Posted by **Geoff Quickfall** on 16 Oct 2009, 9:28 p.m.,*
in response to message #6 by Katie Wasserman

Thanks Katie,

I would tend to agree but as with cases such as the topcat printer the cudos are obvious ;-)

After all provenance for discoveries is an on going thing, just look at my field (Botany/Forestry) names of plants keep changing as an earlier paper is discovered describing a certain species.

So a blanket thankyou (already typed it out in the intro) should suffice. Any other ideas!!

Cheers, Geoff

Re: Help with credits in the book, please.

*Message #8 Posted by **Lyuka** on 16 Oct 2009, 11:11 p.m.,*
in response to message #1 by Geoff Quickfall

Hello Geoff

Have you ever read these before?

Upgrading the memory of the HP 42S to 32K, Crystal resonator replacement for double speed 42S

Repairing the HP 32sII with faulty keypad

Regards, Lyuka

Re: Help with credits in the book, please.

*Message #9 Posted by **Geoff Quickfall** on 17 Oct 2009, 12:01 a.m.,*
in response to message #8 by Lyuka

Lyuka,

Thanks and yes, they are beautifully documented and photographed. However the dates of 2008 and 2007 were not the first occurences of these repairs.

Tony Duells description goes back to a Datafile more then 5 years back. I repaired many calculators prior to the postings above.

This is no way takes away the value of the postings done by Takayuki Hosoda but creates the question; Who created the idea?

As Katie stated, many of the repair and restoration techniques were a group effort over many years. I am

attempting to almagamate all the techniques into one book as they apply to each family (chapter).

Thanks again for the feedback.

Geoff

About Katie and the dot/comma selection in Spices

*Message #10 Posted by **Vieira, Luiz C. (Brazil)** on 17 Oct 2009, 12:26 a.m.,*
in response to message #9 by Geoff Quickfall

Hi, Geoff;

first of all, congratulations on your writings. I am sure the book IS already a must-read.

Second, I remember that the first time I saw a reference at the MoHPC Forum about the jumper in the Spices´ power-supply board to select comma or dot as radix mark was in a post by Katie Wasserman. Later I took a picture myself and posted again, but this time it was a power-supply board with a different layout. I have both pictures stored in my computers. They are about eight years old... give it or take.

About any of my contributions you believe that may help in your book: crediting Dave Hicks and/or the MoHPC suffice, mostly because my contributions are here only for they found shelter.

Cheers.

Luiz (Brazil)

P.S. Thanks for your suggestions regarding Topcats´ battery pack... I appreciate 8^)

Edited: 17 Oct 2009, 12:50 a.m.

Re: About Katie and the dot/comma selection in Spices

*Message #11 Posted by **Mark Edmonds** on 23 Oct 2009, 2:19 p.m.,*
in response to message #10 by Vieira, Luiz C. (Brazil)

> Quote:
>
> Second, I remember that the first time I saw a reference at the MoHPC Forum about the jumper in the Spices´ power-supply board to select comma or dot as radix mark was in a post by Katie Wasserman. Later I took a picture myself and posted again, but this time it was a power-supply board with a different layout. I have both pictures stored in my computers. They are about eight years old... give it or take.

If I can add a further theory or info to this one please because I have not yet seen or heard about a Spice that breaks the theory.

I posted this before and was given a different explanation but logically, that explanation does not ring true to me.

I very strongly suspect that any Spice that has an asterisk next to the serial number is factory set to show a comma radix. Whilst this isn't a repair issue, if the theory is correct at least it lets you know what you are getting if you aren't able to confirm before hand.

My sample is small, slightly more than 10 calcs but none have broken the rule so far.

Anyway, just throwing that in whilst this aspects of the Spices is topical.

Mark

Re: About Katie and the dot/comma selection in Spices

*Message #12 Posted by **Michael de Estrada** on 23 Oct 2009, 2:56 p.m.,*
in response to message #10 by Vieira, Luiz C. (Brazil)

Hi Luis,

I have an extra Spice that I use as a test bed and guinea pig that I'd like to change the radix from period to comma. I do remember a post that showed how to do this by cutting a particular jumper on the power circuit board, but have lost the link. If you have it, could you post it. Thanks.

Regards, Michael

Re: About Katie and the dot/comma selection in Spices

*Message #13 Posted by **Vieira, Luiz C. (Brazil)** on 23 Oct 2009, 3:33 p.m.,*
in response to message #12 by Michael de Estrada

Hi, Michael;

of course, no problem. Just let me find the pics and I'm posting right away (I have six PC´s and 14 HD´s, but I am sure the pics are in one of two of them... Fingers crossed!)

Cheers.

Luiz (Brazil)

Dot/comma selection in Spices: Found the picture!

*Message #14 Posted by **Vieira, Luiz C. (Brazil)** on 23 Oct 2009, 3:55 p.m.,*
in response to message #12 by Michael de Estrada

That was fast! Just sit in front of the computer, plugged the pendrive, opened the first suspicious directory and... there it is!

This image was captured with a flatbed scanner and shows the jumper for comma/dot selection in Spice series calculators. This is the power supply board of an HP38C, and chances are it is common to all other C-type Spices. This picture was (careless, sorry for the lack of focus...) taken a few minutes ago with a digital camera and shows the jumper for comma/dot selection in E-Spice series calculators. This is the power supply board of an HP38E, and maybe it is also common to all other E-type Spices.

Hope these help.

Luiz (Brazil)

Edited: 23 Oct 2009, 3:57 p.m.

Re: Dot/comma selection in Spices: Found the picture!

*Message #15 Posted by **Michael de Estrada** on 23 Oct 2009, 4:38 p.m.,*
in response to message #14 by Vieira, Luiz C. (Brazil)

Hi Luis,

I just cut the jumper, and it worked: Comma is now the radix, and period is now the thousands separator. I was pretty sure, since there is only one obvious jumper, but just wanted to be sure. Thanks.

BTW, I have tried to use an "E" suffix power board in a "C" suffix calc, and it does work, however, the contents of memory is lost when the ON/OFF switch is turned off, and you get a "pr error" display when it is turned back on. So I assume the "C" power board permits battery power to be fed to memory when the calc is switched off, but the "E" board does not.

Regards,

Michael

Re: Dot/comma selection in Spices: Found the picture!

*Message #16 Posted by **Vieira, Luiz C. (Brazil)** on 23 Oct 2009, 4:53 p.m.,*
in response to message #15 by Michael de Estrada

This should not work actually, the ´E´ series power supply has no provision for the constant memory (power feed to the RAM IC when the calculator is OFF).

Cheers.

Luiz (Brazil)

Edited: 23 Oct 2009, 4:55 p.m.

ad 7

*Message #17 Posted by **Frank Boehm (Germany)** on 19 Oct 2009, 10:33 a.m.,*
in response to message #1 by Geoff Quickfall

considering the HP 45 prototype I had already had the quartz as "custom addon" installed, one should consider this to be "common knowledge"

Re: Help with credits in the book, please.

*Message #18 Posted by **Johnny Bjoern Rasmussen** on 23 Oct 2009, 2:21 a.m.,*
in response to message #1 by Geoff Quickfall

Hi Geoff When will the book be available? Please let me know if I can be helpfull in any way.

Best regards.

Johnny

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Help with credits in the book, please.

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Programming with the 200LX

*Message #1 Posted by **R.J. Soto** on 16 Oct 2009, 2:42 p.m.*

I would really appreciate if you could share your experience programming the HP 200LX. What tools do you use?

I would be mostly interested in programming console applications in C (if possible the newest ANSI compliant version of C available.) But wouldn't be averse to programming in Pascal for example.

This would be something to do as a hobby while riding the bus and in spare moments. Something that I can have fun with and benefit from at the same time.

Re: Programming with the 200LX

*Message #2 Posted by **Thomas Chrapkiewicz** on 16 Oct 2009, 2:59 p.m.,*
in response to message #1 by R.J. Soto

I had tried various compilers from back in the day of the 200LX (Turbo Pascal 4.0, etc), but more regularily have used QBASIC and Derive.

TomC

Re: Programming with the 200LX

*Message #3 Posted by **R.J. Soto** on 17 Oct 2009, 1:48 a.m.,*
in response to message #2 by Thomas Chrapkiewicz

> Quote:
>
> I had tried various compilers from back in the day of the 200LX (Turbo Pascal 4.0, etc), but more regularily have used QBASIC and Derive.
>
> TomC

Thanks for your input, Tom. I remember finding information about Derive in the 200LX at some point. The kind of things that some people made to run in the 200LX is staggering. Like that windowing environment (is its name GEM?) that was a competitor to the very early versions of Windows.

Re: Programming with the 200LX

*Message #4 Posted by **BruceH** on 16 Oct 2009, 3:34 p.m.,*
in response to message #1 by R.J. Soto

Using an old version of Turbo C is the usual way - but this is K&R not ANSI.

Re: Programming with the 200LX

*Message #5 Posted by **Juergen Keller** on 16 Oct 2009, 3:46 p.m.,*
in response to message #4 by BruceH

Borland Turbo C 2.01 is provided by Borland free of charge (thanks, Borland). This is a good way to create DOS programs. I think you will need additional libraries to integrate your program into the 200LX system. Probably, you'll find some information here.

Good luck and happy programming, Juergen

Re: Programming with the 200LX

*Message #6 Posted by **R.J. Soto** on 17 Oct 2009, 1:50 a.m.,*
in response to message #5 by Juergen Keller

Thank you for the extra information, Juergen. I will look into it and hopefully I can build a hacking environment for my spare moments.

Cheers!

Re: Programming with the 200LX

*Message #7 Posted by **Juergen Keller** on 17 Oct 2009, 3:15 a.m.,*
in response to message #6 by R.J. Soto

Just found this site with interesting information about programming the 100/200LX:
Programming the Palmtop

Re: Programming with the 200LX

*Message #8 Posted by **R.J. Soto** on 17 Oct 2009, 1:24 p.m.,*
in response to message #7 by Juergen Keller

> Quote:
>
> Just found this site with interesting information about programming the 100/200LX:
> Programming the Palmtop

That looks like an excellent source of information. Thank you very much for sharing it!

Re: Programming with the 200LX

*Message #9 Posted by **R.J. Soto** on 17 Oct 2009, 1:48 a.m.,*
in response to message #4 by BruceH

Yeah, thanks. I think I will end up going that route. Asking for an ANSI compliant C compiler for the 200LX might be a little of a stretch.

Re: Programming with the 200LX

*Message #10 Posted by **David Hayden** on 19 Oct 2009, 10:41 a.m.,*
in response to message #1 by R.J. Soto

You might investigate the early versions of Borland's Turbo C++ compiler. Also, their Turbo Vision library lets you create windows applications in a text-based environment. I think I played around with this a little

back in the day, and it was pretty easy to use. Most of these tools are now available for free.

Re: Programming with the 200LX

*Message #11 Posted by **R.J. Soto** on 26 Oct 2009, 8:13 p.m.,*
in response to message #10 by David Hayden

I will do that, thank you.

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Happy day - Triple speed 15C - after 22 years

*Message #1 Posted by **Lyuka** on 16 Oct 2009, 2:35 p.m.*

Hello.

On a BBS, I've got an information that some old HP calculator will be sold at a radio parts shop in Akihabara Tokyo, last week. When I visit the shop, which is very next to the shop I bought 15C twenty two years ago, I found several old HP-15Cs between HP-35 and HP-65 (It still work!), and met a young man who had posted the information. After an hour of negotiation talk with the proprietor, I purchased an old HP 15C at reasonable price, and brought it back home.

Since I got a spare 15C, I made speed-up modification to it while doing cleaning and maintenance.

HP 15C - LC resonator replacement for triple speed 15C

It seems to work well until the battery voltage drops under 3.0V at triple speed, with double current drain of 2.5mA(at 4.7V, while running).

After all, I got 15C that is working at triple speed, and made the new young friend who is trying to use good-old-16C from now. It was a happy day.

Re: Happy day - Triple speed 15C - after 22 years

*Message #2 Posted by **hpnut** on 16 Oct 2009, 2:58 p.m.,*
in response to message #1 by Lyuka

Wow! you have a spare 15C to experiment with overclocking?

cool,very informative, thanks

Re: Happy day - Triple speed 15C - after 22 years

*Message #3 Posted by **Gerson W. Barbosa** on 16 Oct 2009, 4:00 p.m.,*
in response to message #1 by Lyuka

Nice work!

Three years ago I made a similar experiment:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=99306

I didn't use any inductor because battery consumption would increase, but perhaps I just didn't have proper ones. I found double speed to be most realiable. I don't have it anymore (traded it with a 16C and have received no complain so far :-) I did the same procedure on one of my three units (easily done as the SMD capacitor I had to replace was on the PCB visible side. It's ok after two and a half years of very moderate use,

except that the batteries went dead last week...

Regards,

Gerson.

Re: Happy day - Triple speed 15C - after 22 years

*Message #4 Posted by **Lyuka** on 16 Oct 2009, 4:12 p.m.,*
in response to message #3 by Gerson W. Barbosa

Thanks Gerson.

I've ever read your article before, and it was very informative reference to me.

Regards, Lyuka.

Re: - Triple speed 15C - question about 48sx

*Message #5 Posted by **Martin Pinckney** on 16 Oct 2009, 5:17 p.m.,*
in response to message #1 by Lyuka

This post prompted me to ask a question I have been wondering - does anyone know of a hardware speed-up for the 48sx? I have tried searching the archives w/o success so far.

I think I did read about a software speed-up, but I cannot remember the name of it, nor find it in the archives. I understand SpeedUI only works on the gx.

Anyone? Thanks.

Re: - Triple speed 15C - question about 48sx

*Message #6 Posted by **nacho** on 16 Oct 2009, 5:34 p.m.,*
in response to message #5 by Martin Pinckney

Hello Martin,

48 S Series overclock is possible just changing crystal oscillator.

32kHz is used and must be changed to 64kHz.

clock time will also be modified.

regards

Re: - Triple speed 15C - question about 48sx

*Message #7 Posted by **Martin Pinckney** on 16 Oct 2009, 5:38 p.m.,*
in response to message #6 by nacho

Thanks, Nacho. Do you know if there was ever a thread on how to do this?

Re: - Triple speed 15C - question about 48sx

*Message #8 Posted by **Martin Pinckney** on 16 Oct 2009, 6:29 p.m.,*
in response to message #5 by Martin Pinckney

> Quote:
>
> I think I did read about a software speed-up, but I cannot remember the name of it, nor find it in the archives. I understand SpeedUI only works on the gx.

I remembered it - Meta Kernel. Anyone have experience with this? Is it really faster than the native 48sx user interface? Once you load it onto a 128k card, and leave the card in, can you swap out cards in the other slot, without disturbing the Meta Kernel interface?

Re: - Triple speed 15C - question about 48sx

*Message #9 Posted by **Mark Edmonds** on 17 Oct 2009, 11:01 p.m.,*
in response to message #5 by Martin Pinckney

> Quote:
>
> I understand SpeedUI only works on the gx.

I am not sure but that might be down to memory requirements rather than specific G features. You certainly wont fit it on an SX without a memory card and what I consider the basic configuration takes about 60K on my GX. Worth having though without any doubt.

Mark

Re: Triple speed 15C - after 22 years

*Message #10 Posted by **Karl Schneider** on 17 Oct 2009, 4:33 p.m.,*
in response to message #1 by Lyuka

Lyuka --

Nice work and photos!

I'd like to make a few comments:

1. Your modifications -- replacement of two capacitors and one inductor, plus addition of a parallel capacitor -- were more extensive than the simple parallel-inductor addition described in Ken Sumrall's writeup hosted by Eric Smith.

2. Was the purpose of lowering the oscillator capacitance values to achieve further increases in resonant frequency while maintaining an L/C ratio of the oscillator closer to its unmodified value? The better-matched L and C components would help to retain more energy-exchange capability and resulting magnitude of the oscillator voltage.

3. Was the bypass capacitor replaced with a higher-capacitance part in order to help compensate for the other changes?

4. Both of your HP-15C's are of the revised (1986-89) Voyager circuit design, with most or all of these parts atop the circuit board that allows easy replacement. The modifications you made appear not to be suited to the original (1981-85) circuit design:

5. Original-design Voyager units lack the same external connections for the bypass capacitor shown on the right side of the photos, as well as for the lower oscillator capacitor on the left side. Also, the oscillator capacitor is of a large "can" style residing in the cutaway of the circuit board, below the battery (shown on

your older 1986 calculator). The oscillator inductor is very difficult to access, residing below the circuit board.

6. Your photos did not include one of the unmodified older (1986) calculator. I assume that its oscillator capacitor was can-style like those of the original design. (I have a 1985 unit that has the cutaway as well as the same type 1LM2-0001 CPU).

I based a speedup of my 1985 original-circuit HP-15C on Ken Sumrall's approach. At first, I simply connected a 22-mH inductor in parallel, to give a 3.3x increase in speed. However, the calculator later malfunctioned at healthy battery voltage, so I removed the extra inductor, which restored proper operation. Next time, I will install a 33-mH part for a 2.75x increase in speed.

-- KS

Edited: 18 Oct 2009, 9:58 a.m.

Re: Triple speed 15C - after 22 years

*Message #11 Posted by **Lyuka** on 18 Oct 2009, 11:37 a.m.,*
in response to message #10 by Karl Schneider

Hi Karl,

Thank you for your comment. I'm sorry, but I forgot to add your 'successful HP-11C speed up' article to the reference.

I know that some* early model of the HP 15C has one aluminum electrolytic capacitor (which has poor characteristics) for bypassing. And later model has improved PCB design, and has one solid tantalum (which has good characteristics) bypass capacitor close to the CPU.

Though the solid tantalum capacitor has good characteristics, to increase the operating frequency up to 2.8MHz, it should better have one or two relatively high capacitance ceramic capacitor close to the CPU for mainly stability and EMI reason. (100uF/6V/MLCC that I used is over-quality and expensive, 47uF/10V/Ta with one 100nF/16V/MLCC in parallel may be enough.)

The series resistance of the inductor and L/C ratio are important for LC resonator. These parts should better be chosen to keep its maximum Q(quality factor) greater than several tens at oscillation frequency for stable oscillation.

regards, Lyuka

some* - some model uses dip solid tantalum (good characteristics)

Edited: 19 Oct 2009, 6:09 a.m. after one or more responses were posted

Re: Triple speed 15C - after 22 years

*Message #12 Posted by **Gerson W. Barbosa** on 18 Oct 2009, 3:39 p.m.,*
in response to message #11 by Lyuka

Hi Lyuka,

Here is my current sped-up 15C, SN 2740B30986:

I only replaced the SMD capacitator that was soldered on the lower pads with the ceramic 27 pF capacitor you see. Considering the original 180 uH inductor, the speed-up factor I have is 2.5, not 2 as I thought (I will check this later). Have you measured the original current?

Regards,

Gerson.

Re: Triple speed 15C - after 22 years

*Message #13 Posted by **Lyuka** on 19 Oct 2009, 2:33 a.m.,*
in response to message #12 by Gerson W. Barbosa

Hi, Gerson

Yes, the original current have been measured as noted in the URL shown above.

> Quote:
>
> Power supply current (Ta=26¡ëC, Vbattery=4.72V(SR44¡ß3), fLC=884kHz(original), Agilent 34401A)
>
> Irun = 1.2mA, Iidle=7¦ÌA, Istandby<0.1¦ÌA

Your experience that 33pF gives exact x2 factor makes sense, since,

Factor_speedup = sqrt((180pF + C_inductor + C_line) / (33pF + C_inductor + C_line))

where
C_inductor is the parallel capacitance of the inductor, assumably 4pF from inductor's self resonant frequency.
C_line is the line capacitance, 12pF by your measurement.
Factor_speedup = sqrt((180 + 4 + 12) / (33 + 4 + 12)) = sqrt(196 / 49) = sqrt(4) = 2 (Great! :-)

Regards, Lyuka

Re: Triple speed 15C - after 22 years

*Message #14 Posted by **Gerson W. Barbosa** on 19 Oct 2009, 7:03 a.m.,*
in response to message #13 by Lyuka

> Quote:
>
> Yes, the original current have been measured as noted in the URL shown above.

Thanks for the nice documentation! I had tried to go beyond 2.5x before but did not succeed. Your choice of components to achieve maximum quality factor is interesting. I will try your mod later.

Regards,

Gerson.

Re: Triple speed 15C - after 22 years

*Message #15 Posted by **Lyuka** on 19 Oct 2009, 2:03 p.m.,*
in response to message #14 by Gerson W. Barbosa

Hi Gerson,

The bypassing capacitor is getting more important at higher frequencies.
At least one 100nF/MLCC should better be added in parallel with 22u/10V/Ta capacitor.

Regards, Lyuka

Quad-speed 15C (Experimental)

*Message #16 Posted by **Lyuka** on 22 Oct 2009, 8:57 p.m.,*
in response to message #12 by Gerson W. Barbosa

Hi, there.

I did further experimental speed-up modification on a 15C.

Experimental modification for quad-speed 15C

It seems that it's stable at 4X speed with fresh SR44 batteries, so far.

Regards,
Lyuka

Edited: 23 Oct 2009, 8:06 a.m.

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Topcats, HP82143A and HP82161/82162 Battery Pack

*Message #1 Posted by **Vieira, Luiz C. (Brazil)** on 16 Oct 2009, 2:31 a.m.*

Hi, all;

I am trying to 'make one out of two' HP82143A and both units have no battery terminals. I also have an HP97 with a broken battery terminal and another complete, working HP82143A. And one working battery pack... Nothing is perfect, though.

Having three units and a lack of battery terminals led me to search for a possible updated, readily available replacement. I found what seems to be a solution and, although it is not yet implemented, I´m adding pictures for your evaluation. (you may click on each image to enlarge it)

Now I´m reasoning about a way to connect the batteries with each other and fix them in place. I will use a two-pole connector like the ones used in wireless telephone batteries (maybe a pair of them to make sure enough current will be allowed to the circuit) instead of trying to rebuild original terminals.

I would like to hear from those interested on trying something like this that will not only allow the preservation of the original terminals but also will allow the safe use of the equipment with readily available components.

As soon as I have more news I´ll post.

Cheers.

Luiz (Brazil)

Edited: 16 Oct 2009, 2:38 a.m.

Re: Topcats, HP82143A and HP82161/82162 Battery Pack

*Message #2 Posted by **Bart (UK)** on 16 Oct 2009, 4:45 a.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

Hi Luiz,

Some electronics shops sell those recharcheable AA cells with tabs on the terminals. Perhaps that would help to connect them to each other?

Bart

Re: Topcats, HP82143A and HP82161/82162 Battery Pack

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 16 Oct 2009, 10:35 a.m.,*

in response to message #2 by Bart (UK)

Hi, Bart;

thanks for your suggestion. Unfortunately I did not find these ones around here... But surely would be faster to build the pack 8^)

Cheers.

Luiz (Brazil)

Re: Topcats, HP82143A and HP82161/82162 Battery Pack

*Message #4 Posted by **Bart (UK)** on 16 Oct 2009, 12:28 p.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

I would get tabbed ones, solder the tabs together & the connector's wires, then use heat shrink around the lot to make a pack.

Bart

Re: Topcats, HP82143A and HP82161/82162 Battery Pack

*Message #5 Posted by **Garth Wilson** on 16 Oct 2009, 12:27 p.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

NiCad Lady (at the URL below) will rebuild the 82143A battery pack for $18. I've seen this company at an electronics swap meeet years ago and they seemed to do good work. I have no personal experience with them though.

http://www.nicdladyonline.com/rebuilding/photo-power.html

Re: Topcats, HP82143A and HP82161/82162 Battery Pack

*Message #6 Posted by **Egan Ford** on 16 Oct 2009, 12:59 p.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

Is there a difference between NiCD and NiHM in an old HP rechargeable?

I'd like to try to do the same. Can someone in the US recommend a good source of the proper AA (NiCD or NiHM) with tabs? I found many Google hits, but I thought I'd ask.

Thanks.

Re: Topcats, HP82143A and HP82161/82162 Battery Pack

*Message #7 Posted by **Garth Wilson** on 16 Oct 2009, 1:25 p.m.,*
in response to message #6 by Egan Ford

If you want to keep using the same charger, it would probably be best to stay with NiCads.

Also, with all this talk of AA's, I would mention that I think my 82161A tape drive takes the same sub-C batteries, not C or AA. Sub-C rechargeable batteries made for battery pack assemblies should not be difficult to find.

Edited: 16 Oct 2009, 1:35 p.m.

Battery terminals in Classics and Topcats

*Message #8 Posted by **Geoff Quickfall** on 16 Oct 2009, 2:19 p.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

Luiz, Hello!

Yes the rotted or fatigued battery terminals are a flaw in long term design.

I too am preparing a new system for the classics and the Topcats:

```
1  The classics are easy, purchase a standard 3 NiNH AA battery
   pack with the standard female phone plug.
2  Purchase the male plug
3  Open up the classic or topcat and remove the two prongs or
   whatever remains!
4  Mill a rectangular hole in the side of the battery housing in
   calculator.
5  Epoxy the male plug in place inside the milled receptacle.
6  attach the power wires to the male plug.
7  Insert the new battery pack (charged!).
8  Plug it in and voila, a new system for keeping the calculator
   running with available battery packs.
```

With the topcat the battery packs are not available. If you have an existing battery pack, diassemble it with a knife (carefully) as we want to keep the pack. Purchase the batteries and connect them, place them in the battery pack case and glue the halves together.

Now follow the above steps to modify the battery housing to accept the male battery plug. Secure the female plug and attach it to the correct poles in the battery pack and you are set to go.

This is acutally an appendix in my book for Calculators without the battery prongs due to corrosion or fatigue.

Like you, I have not yet documented the procedure but have all the bits here to complete the task.

Good luck, Geoff

Materials:

```
1  Male and female phone connector plugs (electronics shop).
2  4 (classic) NiMH AA batteries or 4 (topcat) C batteries.
3  Knife to open up the old battery packs (optional).
4  Tape or heat gun glue to secure the batteries to each other
   if not using the old battery packs.
5  tools to mill the receptacle for the male battery plug into
   the calculator battery hatch.
6  Of course; wire, solder, flux and solder iron!
```

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HP95LX and IrDA / SIR Interfaces

*Message #1 Posted by **Thomas Radtke** on 15 Oct 2009, 5:09 p.m.*

Has anyone recently tried one of this IrDA interfaces offered at TAS (Germany) to connect 95LX and PC? I know the palmtop doesn't support all IrDA protocols, but in one "auction", SIR is explicitly mentioned.

Re: HP95LX and IrDA / SIR Interfaces

*Message #2 Posted by **Egan Ford** on 15 Oct 2009, 11:27 p.m.,*
in response to message #1 by Thomas Radtke

Got a URL?

Re: HP95LX and IrDA / SIR Interfaces

*Message #3 Posted by **Thomas Radtke** on 16 Oct 2009, 3:49 a.m.,*
in response to message #2 by Egan Ford

This is one of them:

USB IrDA

Re: HP95LX and IrDA / SIR Interfaces

*Message #4 Posted by **Christoph Giesselink** on 16 Oct 2009, 7:06 a.m.,*
in response to message #1 by Thomas Radtke

Hello Thomas,

I assume that this interface isn't working connecting a HP95LX with a PC.

I wrote an article about the possibilty of IR transfers to the HP48 several years ago. This article can be found at http://www.hpcalc.org/details.php?id=4856.

The IR interface inside the HP95LX is quite similar to the HP48 one.

Cheers

Christoph

Re: HP95LX and IrDA / SIR Interfaces

*Message #5 Posted by **Thomas Radtke** on 16 Oct 2009, 7:31 a.m.,*
in response to message #4 by Christoph Giesselink

Hi Christoph! Thanks for your article, which gave me some new insights on this issue. I was about trying a few interfaces but will probably stay away from it now. At least, until someone confirms a certain model to

work.

It's really sad that there's no such simple way to connect older HPs to the PC.

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HP 48GX connection to Laptop

*Message #1 Posted by **Aubrey (South Africa)** on 15 Oct 2009, 9:53 a.m.*

I've got USB to serial converter (USB - RS232, PL - 2303 Driver for Windows XP, Prolific USB to Serial configured on COMM Port 8). I've installed all the relevant software and connected the 48GX to my laptop. When I try to establish the connection it gives me an error message: "ERROR (NO DEVICE DETECTED. CHECK THE CABLE CONNECTIONS AND THE CALCULATOR.)" Can you please help me to get my connection working?

Regards

Aubrey

Re: HP 48GX connection to Laptop

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 15 Oct 2009, 12:46 p.m.,*
in response to message #1 by Aubrey (South Africa)

Hi aubrey;

this has been discussed in this thread. If you have not red it yet, I think you might have a look at it and check the discussion. Maybe you´ll find some initial directions there.

Success!

Luiz (Brazil)

Re: HP 48GX connection to Laptop

*Message #3 Posted by **Richard Reed** on 15 Oct 2009, 1:07 p.m.,*
in response to message #1 by Aubrey (South Africa)

Hi Aubrey. I'm not the best at this, but I just did:

1. Plug the USB into the laptop and then load the driver dialog, either from the tray icon or Control Panel>System>Hardware tab>Device Manager>Ports.
2. Prolific seem to change the COM port used every time I plug in, so I always find which one (COM9 today) from the driver. I set the comm details _in the driver_ to 9600,8,N,1, no flow control.
3. As a test, load HyperTerminal and in File Properties set the COM port to the right one. Check Configure on COM9 (or whatever) to make sure the properties are the same as the driver - interestingly, mine worked with xon/xoff, which I think is HyperTerminal/Kermit for no _hardware_ flow control
4. Save that HyperTerminal config, just so it's easy to find and amend.
5. File>Open the new config file.
6. On 48GX, start Kermit from right-shift I/O... and set all the fields with the chooser, and pick any old object, ASCII.
7. Start Receive Kermit in HyperTerminal, picking the directory where - Kermit writes the filename as the object name.
8. Click Send in 48GX Kermit. You'll see a few packets go.

9. Check the ASCII object file in your laptop directory.

Post back your result. Richard

Re: HP 48GX connection to Laptop

*Message #4 Posted by **Aubrey (South Africa)** on 16 Oct 2009, 12:47 a.m.,*
in response to message #3 by Richard Reed

Good day Richard

Points no 1 an 2 I am happy with. Comm details 'in the driver' are set to 9600,8,N,1, no flow control.

Can you please explain points 3 and 4? How do I do the test, load the HyperTerminal?

Regards

Aubrey

Re: HP 48GX connection to Laptop

*Message #5 Posted by **Richard Reed** on 16 Oct 2009, 2:25 p.m.,*
in response to message #4 by Aubrey (South Africa)

HyperTerminal is in Accessories>Communication in the Windows Start Menu. When you start it you'll be able to see what I'm talking about.

My description of using HyperTerminal is for a test, before you get further involved copying directories, ports, etc. I don't mean to use HyperTerminal generally, as Conn4x is much better. It's free from HP.

Re: HP 48GX connection to Laptop

*Message #6 Posted by **Aubrey (South africa)** on 17 Oct 2009, 6:36 a.m.,*
in response to message #5 by Richard Reed

Hallo Richard

Thank you for the help and assistance. I eventually established a connection and could get info from my laptop to my 48GX.

Question? I am trying to save 'Text'. When I want to upload it to the 48GX, it gives me the following message: "... txt file and does not match the calculator. This may damage the calculator contents."

I've got the info I want to save in "Word". I then convert it to .txt format (because of the size) obviously this format is incorrect, because of the above message. What is the correct format to save the "Word" document to?

Regards

Aubrey

Re: HP 48GX connection to Laptop

*Message #7 Posted by **Richard Reed** on 17 Oct 2009, 4:18 p.m.,*

in response to message #6 by Aubrey (South africa)

Sorry, but someone else will have to help on this, or get these pdf manual scans (annoyingly can't be searched), if you're missing manuals:

User Guide Scan

Advanced User Guide Scan

For any other manuals and tons of other useful information, you should buy the very reasonably priced DVD set here:

HP Museum DVD set contents

Have fun,
Richard

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Spec of dust in a 16C LCD screen

*Message #1 Posted by **R.J. Soto** on 15 Oct 2009, 2:02 a.m.*

Hi,

I have a 16C which is in perfect condition except for having what looks like a small spec of dust inside the screen. Has anybody been in this same situation with a 16C or one of its sibling models, and found a way to solve it? I really don't want to take the calculator apart, because I remember doing a little bit of research, and it seems that these models were not assembled with disassembly in mind, and the calculator is kind of special (it belonged to someone who worked at Los Alamos in rocket propulsion if I remember correctly.)

Cheers,

Ruben

Edited: 15 Oct 2009, 2:03 a.m.

Re: Spec of dust in a 16C LCD screen

*Message #2 Posted by **Geoff Quickfall** on 15 Oct 2009, 2:40 a.m.,*
in response to message #1 by R.J. Soto

Buy a can of compressed air. Remove the feet and the four screws on the back. Remove the back. Be careful not to lose the two tiny springs used for ESD protection.

Blow the sides of the LCD panel from the inside. Do it until the dust leaves!

Short bursts of air not a prolonged burst as the air is cold when it decompresses and may cause condensation on the inside Clear LCD protection lens which when dry may leave evaporation marks.

If you have trouble getting the feet back on purchase some THIN double sided tape and cut to size. Reapply the feet.

Cheers, Geoff

Edited: 15 Oct 2009, 2:42 a.m.

Re: Spec of dust in a 16C LCD screen

*Message #3 Posted by **R.J. Soto** on 15 Oct 2009, 1:02 p.m.,*
in response to message #2 by Geoff Quickfall

Hi Geoff,

Thanks for your very detailed explanation. I had the notion that even removing the back of one of these calculators was a destructive process to some degree. I'm glad to know I was mistaken. I will first try Jimi's approach, and if that doesn't work, then I will do it your way. I'm sure either way it should work.

Out of curiosity, since you sound very confident about this procedure, I assume you have performed it before. Did you do it on a 16C, or in one of the other models?

Many thanks,

Ruben

Re: Spec of dust in a 16C LCD screen

*Message #4 Posted by **jimi** on 15 Oct 2009, 10:26 a.m.,*
in response to message #1 by R.J. Soto

I have had some luck in the past by charging up some fabric or paper with static electricity. You know, rub it on your pants or something. Anyway, then brushing the display, and it will sometimes "walk" the dust spec off the display. Certainly beats opening it up if you can get away with not.

Re: Spec of dust in a 16C LCD screen

*Message #5 Posted by **R.J. Soto** on 15 Oct 2009, 1:04 p.m.,*
in response to message #4 by jimi

Hi there,

Thank you for pointing this out, Jimi. Actually I had thought of this before, but I was a little leary of doing something like it just in case the static electricity is enough to damage the calculator (maybe I'm being too paranoid?) I think I might try your idea first, and then try Geoff's approach if necessary. First I need to make sure that by doing things your way I won't damage the calculator.

Cheers,

Ruben

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A few more pictures: Spice series

*Message #1 Posted by **Vieira, Luiz C. (Brazil)** on 14 Oct 2009, 10:55 p.m.*

Hi, all;

I added a few pictures here that may help those willing to repair their Spices. The first two pictures show data I collected while replacing the flex circuit for a cut of regular flat cable.

Cheers.

Luiz (Brazil)

Re: A few more pictures: Spice series

*Message #2 Posted by **Hal Bitton in Boise** on 15 Oct 2009, 1:19 a.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

Very nicely done Luiz.
I did that same repair on my late model (soldered) 34C about a year ago, except I used 3 separate small gauge wires (stuff that I just had in my tool box). I was barely able to get the case closed after the repair (the wires could have been a little smaller). It worked out OK though.
The pictures you posted are excellent. I saved them so next time I can do it right!!
Thanks, and best regards, Hal

Re: A few more pictures: Spice series

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 22 Oct 2009, 12:05 a.m.,*
in response to message #2 by Hal Bitton in Boise

Hi, Hal;

I thought I had already posted a follow-up, but I really missed it. Sorry!

Please, use the pictures as you wish. In fact, as you may have noticed, the pictures are actually images captured with a flatbed scanner. I don´t remember the resolution, though.At that time I had no digital camera...

Cheers.

Luiz (Brazil)

Edited: 22 Oct 2009, 12:08 a.m.

Re: A few more pictures: Spice series

*Message #4 Posted by **Paul Dale** on 21 Oct 2009, 11:33 p.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

Thanks Luiz for this. I just repaired my 34c using these as a guide :-)

- Pauli

Re: A few more pictures: Spice series

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 22 Oct 2009, 12:04 a.m.,*
in response to message #4 by Paul Dale

My pleasure!

Cheers.

Luiz (Brazil)

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Relying on old technology

*Message #1 Posted by **Juan J** on 14 Oct 2009, 1:23 p.m.*

Hello,

Four years ago I bought an HP notebook and signed up for customer service, newsletters and related stuff.

The old gal still works, mainly at home, and is good enough for things like Ofice documents, Web surfing/e-mail, and "special" applications like Mathematica or Linux every now and then.

Las week I received a newsletter encouraging me to get rid of this so-called old technology:

» Replace your old technology now and save If you've been holding on to old PCs, you might not be aware of the hidden costs of operating and maintaining old equipment. Get the facts on how much money you can save with new HP technology.

I was surprised to receive this. My computer is old but still works. It will eventually give up the ghost, like all machines do.

Following this logic, I should have gotten rid of all my calculators. I remember HP including older models in a sort of insurance plan, and I also remember HP issuing notices of discontinuing lab/test equipment; the latter included details about the time during which consumables would still be available. Not anymore, I am afraid. And more than technology, costs are the driving factor here.

This notice kind of assumes I am one of those bean counters or one of those MBAs that led us to disaster, which thankfully I am not.

True, I can ditch the old girl and replace it, but what if she still serves me well and I want to keep her as long as she can be used?

Has anyone received such a message?

JuanJ

Edited: 14 Oct 2009, 1:26 p.m.

Re: Relying on old technology

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 14 Oct 2009, 1:48 p.m.,*
in response to message #1 by Juan J

Hola, Juan; ¿que tal?

I did not receive such a message, but I did not sign up for any stuff related to HP or any other company.

> Quote:

> And more than technology, costs are the driving factor here.

I'd go further and say that **profits are the driving factor**. For as long as you keep the old stuff running, you are no longer a buyer. I keep at least oe of each XT and 80286 Mother boards still working. They are boxed and at least one time a year I plug them into a power supply just to make sure they are still there. My house has no backyard, just a small construction in the back that I use for stocking and as a lab, so I can find a place to save these masterpieces from destruction. Who knows if 100 years from now someone finds them and decides they belong to a museum... or throw them away for good.

Back to calculators, most of my students actually never care about technology unless they can use it without the need of knowing how they work, like automobile drivers who have no idea what a piston, or a sealing joint are for. Fact is that regular drivers actually need no specific knowledge about their cars to drive them, while race pilots take the best of their race cars the more they know how their cars work. Hence they keep track of what engineers are doing to their cars. Here, where I am, we are missing true technology 'race pilots' and designers, while tech drivers are coming and coming...

I hope somewhere else the new guys change this route and go ahead trying to find something new to do with the old tech... As we do, somehow.

I'd dare wishing this does not happen to humans...

Cheers.

Luiz (Brazil)

Edited: 14 Oct 2009, 1:49 p.m.

Re: Relying on old technology

*Message #3 Posted by **Garth Wilson** on 14 Oct 2009, 2:40 p.m.,*
in response to message #1 by Juan J

> Quote:
>
> » Replace your old technology now and save If you've been holding on to old PCs, you might not be aware of the hidden costs of operating and maintaining old equipment. Get the facts on how much money you can save with new HP technology.

What a bunch of malarky. I still do some of my work on a old '486 PC and DOS, including PC board layout and embedded systems programming, just because it's so reliable. Even the same two hard discs have been in it, running non-stop for 10+ years. OTOH, the power supplies, CD-ROM drives, and 3.5" floppy-disc drives in my newer PCs have gone down right and left.

Re: Relying on old technology

*Message #4 Posted by **bill platt** on 14 Oct 2009, 3:18 p.m.,*
in response to message #3 by Garth Wilson

Yep. New hard drives etc are junk compared to old. I had my first unexpected failure--3 months old--recently, during a backup procedure. Since I didn't double double backup, I lost it all. I was moving rather than copying then throwing out files...

From now on I am even more fanatical than before. I have three hard drives of everything really critical!

Relying on new technology

*Message #5 Posted by **Egan Ford** on 14 Oct 2009, 3:40 p.m.,*
in response to message #4 by bill platt

> Quote:
>
> From now on I am even more fanatical than before. I have three hard drives of everything really critical!

I have always been extra paranoid about my data for years. I used to make multiple tape backups of everything and store 1/2 off-site with the tape vertically.

Then I switched to burned CDs.

Now that HDs are so cheap I have a 16 disk RAID5 array at home. 2 of the 16 disks are hot spares that will automatically repair a failed disk. The probability of losing data is very remote.

However, I still believe in off-site. I have been using Backblaze on my and my kid's MacBooks. For my wife's Windows Laptop I may use Mozy, now I just do disk dups and a network backup manually. My kid and I also have extra HDs for Apples Time Machine backups. Time Machine is a real lifesaver because it backs up snapshots, so you can not only restore a backup, but you can get a certain backup in time. Most useful for user error.

Mosy and Backblaze are $5/month with unlimited usage. I got 200GBs on Backblaze--took 2 months to get it there. Once there only changes are saved, but only the last change, i.e. not like Time Machine. There is an online Time Machine as well, but charges per GB. Too expensive for me.

Unless all of North America gets hose or the unlikely possibility of losing my entire home with me in it and Backblaze being torched I think I am safe.

Edited: 14 Oct 2009, 3:43 p.m.

Re: Relying on old technology

*Message #6 Posted by **Egan Ford** on 14 Oct 2009, 3:05 p.m.,*
in response to message #1 by Juan J

> Quote:
>
> hidden costs of operating and maintaining old equipment

Were any listed?

Only things I can think of:

1. Software Support. May cost more to call a specialist.
2. Hardware Support. May need to use eBay to get parts, could be expensive.
3. Power efficiency. This is a real issue. FLOPS/Watts, bytes/Watts, etc... However, that assumes that your need for storage and speed increases over time. If your performance and storage needs are the same as they were 20 years ago, well then you are probably just as energy efficient with your old gear. But there are minor upgrades that are universal, e.g. replace CRT with LCD.

Edited: 14 Oct 2009, 3:42 p.m.

Re: Relying on old technology

*Message #7 Posted by **Chan Tran** on 14 Oct 2009, 7:06 p.m.,*
in response to message #6 by Egan Ford

I've been using old computers and with some cheap upgrade (upgrade that were to expensive in their time) they work wonderful.

Re: Relying on old technology

*Message #8 Posted by **R.J. Soto** on 14 Oct 2009, 8:46 p.m.,*
in response to message #1 by Juan J

My main computer was until very recently a 5 or 6 year old Thinkpad X24, and it worked perfectly fine. It couldn't play HD video, but I didn't expected it to do that.

My philosophy about this is that there are three main things which drive the PC market: 1. Specialty applications which depend on sophisticated software and truly require top of the line machines (3D applications, video rendering and editing, music production, and such.) 2. Video reproduction (by this, I mean HD video reproduction on computers.) 3. By far the most important factor corresponds to sadly uninformed folks which probably only use their computer for email, office applications, and web surfing, and which rely on the "advice" of store sales people pushing new computers down their throats.

As far as I know, 5 years ago there existed applications to do pretty much anything at a professional level, and those applications ran on 5 year old technology. So use a 5 year old laptop with Adobe Photoshop 7, no need to use Adobe Photoshop CS4, because CS4 hasn't added any essential functionality (and by this I mean functionality which you definitely need to perform certain tasks.) It is perfectly possible to use "old" computers and yet be completely productive.

Edited: 14 Oct 2009, 8:48 p.m.

Re: Relying on old technology

*Message #9 Posted by **Paul Dale** on 14 Oct 2009, 8:53 p.m.,*
in response to message #8 by R.J. Soto

> Quote:
>
> 1. Specialty applications which depend on sophisticated software and truly require top of the line machines (3D applications, video rendering and editing, music production, and such.)

You missed by far the biggest driving force behind hardware development these days: games. Getting the highest frame rate on the largest monitor with the best graphics. Very big market.

Computers have been *fast enough* for most other tasks for more than a few years.

- Pauli

Re: Relying on old technology

*Message #10 Posted by **R.J. Soto** on 15 Oct 2009, 12:39 a.m.,*
in response to message #9 by Paul Dale

You got that right. Can you tell that I'm not a gamer? Scratch that. I like to play old arcade games, the kind of games that run in two Z80 CPUs.

Cheers,

Ruben

Re: Relying on old technology

*Message #11 Posted by **Paul Dale** on 15 Oct 2009, 1:22 a.m.,*
in response to message #10 by R.J. Soto

Me too, got myself an old arcade cabinet :-)

- Pauli

Re: Relying on old technology

*Message #12 Posted by **R.J. Soto** on 15 Oct 2009, 1:56 a.m.,*
in response to message #11 by Paul Dale

HEHEHE. Congratulations then. I've been toying with the idea of building a miniature cabinet myself, either using a GP2X (Korean game console based on Linux) or one of the small MiniITX boards (is it Mini?) Can't beat good old Galaxian, Asteroids, etc.

Games nowaday are too realistic, and that strangely detracts from their charm. Old games were like a simple model of reality which you could immerse into. New games though are about as complex as reality itself.

If you haven't seen the movie "The King of Kong - A Fistful of Quarters" I wholeheartedly recommend it. One of its two main characters (not the evil one, but the good one) actually came to give an after-movie talk to my previous employer. Sadly, I missed it due to heavy workload.

Re: Relying on old technology

*Message #13 Posted by **David Hayden** on 19 Oct 2009, 10:46 a.m.,*
in response to message #12 by R.J. Soto

Have you heard of the Multiple Arcade Machine Emulator (MAME)? It runs on a PC and emulates thousands of arcade games. Add a cabinet, the right buttons, joy sticks and track balls, plus a coin selector, and you have your own personal arcade.

I built one for my wife and it's a lot of fun even though we don't use it much any more.

Re: Relying on old technology

*Message #14 Posted by **Egan Ford** on 14 Oct 2009, 10:02 p.m.,*
in response to message #8 by R.J. Soto

I'd also add bad and bloated software. The answer to bad software slowing you down is always the same, get faster hardware. And if you upgrade that bad software, well then, it actually can be worse.

Three examples:

1. Many web sites require flash just to view. Flash requires newer browsers, that require more speed and RAM. Avoiding all flash sites was an option, but not any more. Its getting really bad out there.
2. Windows printer drivers. I do not know what changed in the last few years but it seem that there is a lot more overhead with ?? printer drivers. Its awful. I don't want my ink levels constantly monitored and sent to ?? so that I get prompted to buy ink. I have to kill the monitors frequently on my wife's

Windows box. If she had a newer dual-core machine, then the printer driver could hog one core and she could still work.
3. Background virus and spyware scanners are getting more and more CPU and memory intensive. I recently had to disable all automatic scanners on my XP VM after an upgrade because it was so slow to resume.

It's only going to get worse. Quad-core, 4 GB+, SSD machines will be the standard for software developers next year.

One of the only ways I have found to combat this trend of bloat is to use Linux. Not that there isn't bloat there, its just not as bad.

Edited: 14 Oct 2009, 10:05 p.m.

Re: Relying on old technology

*Message #15 Posted by **R.J. Soto** on 15 Oct 2009, 12:50 a.m.,*
in response to message #14 by Egan Ford

That's true, but there is even more to it than what you mention. It's not merely bad/bloated software, but higher level programming/execution environments. Back in the day every CPU cycle counted, so programmers really had a lot of low level work to do interfacing with the computer via machine language. Back then computer time was a very expensive commodity, so companies could afford to have programmers dedicated to the long and arduous task of programming them, just because computer-microseconds were more valuable than man-hours.

Now things are just different, and programmers are a more expensive commodity than computers. Companies can afford to save money by using high level programming platforms which afford a higher productivity rate, but which obviously produce less efficient code. It's the macroeconomics of the software business that drive this whole thing. Back 50 years ago if you had told a programmer that he would be able to program at the high level that programs are written today he would have probably had a seizure. Not to say that programming is less complex nowadays though, complexity used to grow horizontally, and now it is more of a vertical complexity (so to speak,) where you have a great variety of technologies interfacing with each other, computers communicating with each other through remote networks, and data flowing and being transformed everywhere.

I guess my point is not that the software companies are getting lazy, it's just that they are using the resources that they have the best way they can in order to advance at the fastest rate possible.

Of course, there are still guys like the SpinRite programmer (I forget his name) which do things the old way.

Re: Relying on old technology

*Message #16 Posted by **Bill (Smithville, NJ)** on 15 Oct 2009, 8:04 a.m.,*
in response to message #15 by R.J. Soto

> Quote:
>
> Of course, there are still guys like the SpinRite programmer (I forget his name) which do things the old way.

Ah yes, Steve Gibson. I still have archived copies of many of the early versions of Spinrite. Great program and it's still being made and kept up to date for current hard drives.

Bill

Re: Relying on old technology

*Message #17 Posted by **R.J. Soto** on 15 Oct 2009, 1:10 p.m.,*
in response to message #16 by Bill (Smithville, NJ)

Ah yes, Steve Gibson (The name of his company being Gibson Research if I remember correctly.) I've never had to get SpinRite, but I have seen video demonstrations of it, and it is a mighty impressive piece of software. Some people really swear by it.

Re: Relying on old technology

*Message #18 Posted by **Martin Pinckney** on 15 Oct 2009, 10:03 a.m.,*
in response to message #15 by R.J. Soto

> Quote:
>
> It's not merely bad/bloated software, but higher level programming/execution environments. Back in the day every CPU cycle counted, so programmers really had a lot of low level work to do interfacing with the computer via machine language.

Remember the original Sidekick? It had a complete word processor, communications software, and a few other things thrown in, all in 40k of code!!

Re: Relying on old technology

*Message #19 Posted by **Bill (Smithville, NJ)** on 15 Oct 2009, 11:14 a.m.,*
in response to message #18 by Martin Pinckney

> Quote:
>
> Remember the original Sidekick? It had a complete word processor, communications software, and a few other things thrown in, all in 40k of code!!

One of my favorites also. I still have the original manual & discs and it's loaded on my Omnibook 430 - a 386 notebook that runs on 4 penlight batteries!

Anothe great program is Turbo Pascal 3.0 - A 40K pascal compiler/editor that will generate COM programs. I still use it for quick & dirty one-off programs.

Bill

Re: Relying on old technology

*Message #20 Posted by **R.J. Soto** on 15 Oct 2009, 1:12 p.m.,*
in response to message #18 by Martin Pinckney

I don't remember it because I wasn't into computers back then. But it sounds quite amazing that code so little could do so much. 40Kb don't get you anywhere these days. Heck, most advertisement banners on the internet are larger than 40Kb.

Re: Relying on old technology

*Message #21 Posted by **Marcus von Cube, Germany** on 15 Oct 2009, 5:27 p.m.,*
in response to message #20 by R.J. Soto

In the mid eighties I was a programmer for microcomputers used in manufacturing. The system was based on a Z80 compatible processor by Hitachi (HD64180, IIRC). The original hardware was developed from a TRS-80 clone. We did some impressive controller applications with this design, all within 64 KB address space! It was based on a realtime kernel that I wrote myself and a CP/M based Z80 C compiler (MI-C, a German development). I had to rewrite the libs as well but it worked. :)

Re: Relying on old technology

*Message #22 Posted by **Walter B** on 15 Oct 2009, 6:13 p.m.,*
in response to message #21 by Marcus von Cube, Germany

Around 1980, we had a full fledged real time data acquisition and analysis system for nuclear spectroscopy on a pdp 11 featuring 2 hard disk drives (2.5MB each) and a magtape, all programmed in assembler by ourselves, and all well within 64kB. Just the OS was by DEC. Basis was a *small* mini computer, meaning just one 19" rack, some 2m high, and dammn heavy.

BTW, it's a pity DEC is not existing anymore -- they had really good stuff.

Re: Relying on old technology

*Message #23 Posted by **bill platt** on 15 Oct 2009, 6:22 p.m.,*
in response to message #22 by Walter B

College: Dec VAX 11-780, and 11-750. Also in graduate school, University Library database was VAX...unless that was just the dumb terminal model. But we used a Unix system in graduate school, for the academic computing.

I liked finding open sessions at dumb terminals and writing quick code to "take over" the user account--only the appearance of it--when the person came back and logged on, a picture would pop up on the screen rather than merely the username "Login Successful" notice

I remember in 1990 0r so when the computer consultant told me, "come back to the computer room, I have something to show you." So I go back there, and all the "washing machine" memory was gone, the big racks with all the RED LEDS were gone, the air conditioned floor was not yet torn out but idled, and there on a desk, sitting on a desk, was a desktop cabinet with a keyboard and screen, taking up less space than the 286 machines out in the lab. "Say hello to the new 11-780," he said. "No way, that's it? Something of a let-down now, isn't it," I said. "And that's not all," he said, "all of the memory is on this," (shows me a DAT tape) "and a few more over here (empty shelves with three or four DAT cassettes)."

Ah, memories....

Edited: 15 Oct 2009, 6:28 p.m.

Re: Relying on old technology

*Message #24 Posted by **Don Shepherd** on 15 Oct 2009, 7:21 p.m.,*

in response to message #22 by Walter B

Walter, I also used to program on DEC: VAX 11/780 I think, and DEC20. What happened to them? They were great systems to program. I always assumed they were still around today.

Don

Re: Relying on old technology

*Message #25 Posted by **John B. Smitherman** on 16 Oct 2009, 12:15 a.m.,*
in response to message #24 by Don Shepherd

Hi Don. Your VAX can live on as a VAXBar: Link to VAXBar

Enjoy!

Regards,

John

Re: Relying on old technology

*Message #26 Posted by **Don Shepherd** on 16 Oct 2009, 5:17 a.m.,*
in response to message #25 by John B. Smitherman

A Vax turned into a bar! How the mighty have fallen.

Thanks John.

Don

Re: Relying on old technology

*Message #27 Posted by **John B. Smitherman** on 17 Oct 2009, 1:42 p.m.,*
in response to message #26 by Don Shepherd

We still have 12 VAX 4300 series machines that have been in continuous service since 1991. We've only had to replace 2 or so power supplies and hard drives. Very solid equipment.

John

Re: Relying on old technology

*Message #28 Posted by **R.J. Soto** on 15 Oct 2009, 8:40 p.m.,*
in response to message #21 by Marcus von Cube, Germany

Thank you for sharing this information, it is very impressive! Although not strictly a pioneer of computer programming, your experience goes further back than most people that I know.

Back in the mid 80's my father got me the first computer I ever owned, an Amstrad CPC128 (I believe these machines were sold in Germany under the Schneider brand.) I'm bringing this up to give some context, and also to mention that the computer came with a version of CP/M. Later I learned that CP/M was the brain child of Gary Kildall,

who sadly passed away in the early 90's.

If you were developing microkernels in the mid 80's, you must have had exposure to computers much earlier than that, since that is an advanced task. How did you get started?

Re: Relying on old technology

*Message #29 Posted by **Marcus von Cube, Germany** on 16 Oct 2009, 1:47 p.m.,*
in response to message #28 by R.J. Soto

My first BASIC experience dates back to the age of 16 at the evening school of a friend on a Wang computer. Later at university in the early eighties, I bought my first "real" computer", the Video Genie - a TRS-80 clone. Z80 assembler became 2nd nature soon thereafter.

How do you learn C? Be young enough and buy the K&R book! I had to switch from NewDos to CP/M to run the compiler but it was worth it. My realtime kernel is the culmination of these experiences: a good mixture of Z80 assembler and C. Application development was in C, the kernel and some library functions were written in assembler.

Re: Relying on old technology

*Message #30 Posted by **R.J. Soto** on 16 Oct 2009, 2:27 p.m.,*
in response to message #29 by Marcus von Cube, Germany

Thank you for sharing your experience with computers. Somehow it seems that back then (late 70s, up to the late 80s) was the golden age of the personal computer (I'm not talking about volume of sales, or even about the capability of the machines themselves, but about something else.) It sounds like back then it was more of a pioneering effort, and because the field was greener everything seemed possible (I'm just imagining this looking back in the past, as my experience with computers back then was limited for the most part to playing games on them and, at most, to writing simple Basic programs.)

I also hold the K&R book in good esteem. I still own the hardcopy version, which hasn't been on print in the U.S. for a few years now.

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OT sort-of: Reverse Engineering Calculator OS

*Message #1 Posted by **Chuck** on 13 Oct 2009, 9:27 p.m.*

It seems odd TI even had a problem with this considering what HP is providing with the HP 20b (I think that's the one.)

Article

CHUCK

Re: OT sort-of: Reverse Engineering Calculator OS

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 13 Oct 2009, 10:37 p.m.,*
in response to message #1 by Chuck

If it applies to cars, one could never tune them...

Luiz (Brazil)

Re: OT sort-of: Reverse Engineering Calculator OS

*Message #3 Posted by **Les Bell** on 13 Oct 2009, 11:18 p.m.,*
in response to message #1 by Chuck

> Quote:
>
> It seems odd TI even had a problem with this considering what HP is providing with the HP 20b (I think that's the one.)

And the Electronic Frontier Foundation has bought into the debate. There's an informative article at http://www.eff.org/press/archives/2009/10/13.

Best,

--- Les
[http://www.lesbell.com.au]

Re: OT sort-of: Reverse Engineering Calculator OS

*Message #4 Posted by **DaveJ** on 14 Oct 2009, 12:43 a.m.,*
in response to message #3 by Les Bell

Thumbs up to the EFF!

Dave.

Re: OT sort-of: Reverse Engineering Calculator OS

*Message #5 Posted by **Tom Mathes** on 14 Oct 2009, 9:49 a.m.,*
in response to message #1 by Chuck

> Quote:
>
> It seems odd TI even had a problem with this considering what HP is providing with the HP 20b (I think that's the one.)
>
> Article
>
> CHUCK

This is typical TI. I used to work for them, and they are a litigious bunch. They became like that in the late 80s when they sued several Japanese DRAM makers over patents. Ever since they'll sue at the drop of a hat; they're known in the semi biz as a quite sue-happy outfit.

Case in point: several of my co-workers and I left en masse (nine of us to be exact) to go work for a company they never considered a competitor. In any TI internal discussions/presentations, TI never ever even mentioned the company we left for as a competitor. Once we left, they sued us and our new employer (suddenly they were competitors, but none of us had employment nor non-compete contracts nor took any TI IP/property of any kind with us and could never prove it). The case was complete harassment and the court ruled as such. It didn't matter as TI has deep pockets and they caused us untold grief for a year.

TI acting like this is par for the course. Yhey love to bully anyone they think they can with lawsuits.

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41CX Startup Program?

*Message #1 Posted by **Egan Ford** on 13 Oct 2009, 11:49 a.m.*

Is there a way in the 41 series (native or with a module) to have a program execute on start up?

The point would be the have the calculator always start up in a known state (e.g. flag settings).

Thanks.

Re: 41CX Startup Program?

*Message #2 Posted by **Etienne Victoria** on 13 Oct 2009, 12:07 p.m.,*
in response to message #1 by Egan Ford

Yep, native:

Automatic Execution Flag:
If flag 11 is set the HP-41C automatically begins executing the current program whenever the calculator is turned on.

Etienne

Edited: 13 Oct 2009, 12:08 p.m.

Re: 41CX Startup Program?

*Message #3 Posted by **Egan Ford** on 13 Oct 2009, 12:16 p.m.,*
in response to message #2 by Etienne Victoria

Thanks. But, what I am looking for would be a default program. Is that possible?

Re: 41CX Startup Program?

*Message #4 Posted by **Eric Smith** on 13 Oct 2009, 12:51 p.m.,*
in response to message #3 by Egan Ford

That's one of the functions of the Autostart/Mass Duplication ROM. The microcode function to support that was also in the HP SDK for use in custom ROMs.

Re: 41CX Startup Program?

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 13 Oct 2009, 1:29 p.m.,*
in response to message #4 by Eric Smith

Hi Eric, guys;

when I first read about the AutoStart & Duplication ROM I felt intrigued by such feature. Anyway,

some other ROM seem to take advantage over this feature, like the CCD ROM, AECROM and the FORTH ROM. By inspecting the FORTH ROM module listing, the last parameters after the main ROM space refer to such things as 'PAUSE interrupt' (#8FF4), action 'After each program line' (#8FF5) and so. All of them have a NOP code (that´s what we see in most ROM listings) except for the 'Awaken by pressing ON key' (#8FF9), which has a jump code for label 8FED (3A3: JNC -0C 8FED) in this FORTH ROM. Label 8FED is actually the last label in the listing and it seems to perform some sort of custom default setting. In fact, these three ROM modules actually reconfigure the HP41 standard keyboard in such a way the calculator performs custom tasks for regular keys when it is not in USER mode, and this should be done every time the calculator is turned ON (the calculator will never know if the module has been removed prior to be turned back on). I do not 'read' HP41 machine code without a table, so it would need further inspection. If the action to be performed when the calculators is 'Awaken by pressing ON key' can be defined by a user program, then we have a bunch of possibilities left...

Cheers.

Luiz (Brazil)

Edited: 13 Oct 2009, 1:37 p.m.

Re: 41CX Startup Program?

*Message #6 Posted by **Etienne Victoria** on 13 Oct 2009, 12:15 p.m.,*
in response to message #1 by Egan Ford

To complete my previous answer:

Upon turn on, the 41 will clear flag 11 before autoexecuting the program.

Therefore your autoexec program must set it again to ensure another autoexec at the next OFF/ON cycle.

HTH

Etienne

Re: 41CX Startup Program?

*Message #7 Posted by **Garth Wilson** on 13 Oct 2009, 5:23 p.m.,*
in response to message #6 by Etienne Victoria

Without using the modules, I have my sumation key (just under the ON key) assigned to a program that says SF 11, OFF. I never turn the 41 off by pressing ON, only by pressing the sumation key. The next instruction is where I want execution to pick up automatically every time I turn it on. That includes setting the constant-ON flag, then ENG 3, then seeing if an alarm is pending, and if so, display how long until it is due. Otherwise, it next checks to see if there's something in the DAYTIMR file it's supposed to remind me of, and if so, display that. Otherwise it goes on to display the time and date.

Edited: 13 Oct 2009, 5:24 p.m.

Re: 41CX Startup Program?

*Message #8 Posted by **Egan Ford** on 14 Oct 2009, 3:45 p.m.,*
in response to message #7 by Garth Wilson

Great idea, very close to what I was looking for. Thanks.

Re: 41CX Startup Program?

*Message #9 Posted by **Karl Schneider** on 14 Oct 2009, 12:59 a.m.,*
in response to message #1 by Egan Ford

Hi, guys!

This isn't what Egan was seeking, but there was a long-ago entry in the MoHPC Memories section describing the built-in capability mentioned by Etienne:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/memories.cgi?read=95

-- KS

Edited: 14 Oct 2009, 1:03 a.m.

Re: 41CX Startup Program?

*Message #10 Posted by **Christoph Klug** on 14 Oct 2009, 3:26 a.m.,*
in response to message #9 by Karl Schneider

The EXT-IL-PLUS Module includes the start feature of the AUTO-DUPLICATION ROM. Place a program in main memory called / named RECOVER, this is executed after switching ON HP41...

Best regards - Christoph Klug

Re: 41CX Startup Program?

*Message #11 Posted by **Egan Ford** on 14 Oct 2009, 3:45 p.m.,*
in response to message #10 by Christoph Klug

Excellent, I will give it a try today. Thanks.

Re: 41CX Startup Program?

*Message #12 Posted by **Egan Ford** on 14 Oct 2009, 7:28 p.m.,*
in response to message #10 by Christoph Klug

Christoph,

Just tested it. Absolutely perfect. Exactly what I was looking for. Thanks.

Re: 41CX Startup Program?

*Message #13 Posted by **Christoph Klug** on 15 Oct 2009, 2:27 a.m.,*
in response to message #12 by Egan Ford

Dear Egan,

nice to hear that you like the autostart feature of the EXT-IL-PLUS module :-) I think this module is a nice collection of commands for advanced HP-41 applications...

Some more details about autostart and switching on HP-41 by an external wake up event you find in The IL2000 Interface System manual...

Best regards - Christoph Klug

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How do you sell your HP calculators?

*Message #1 Posted by **R.J. Soto** on 12 Oct 2009, 7:18 p.m.*

This question is mainly geared towards self-proclaimed collectors of these wonderful machines. I am faced with the prospect of having to sell a NIB Singapore 48GX, and the prospect of using eBay seems a little scary. I would rather this calculator ends up in the hands of a serious collector which will treasure it and take care of it, and I'm afraid it might end up in the hands of a college kid that doesn't know what he has.

One of the simple examples of why I cringe thinking about eBay is the fact that 48GX units with black LCD are promoted in auctions always as superior, without regards for other factors.

Besides the Classified Ads section in this very website, is there anywhere else that you guys use for this?

Re: How do you sell your HP calculators?

*Message #2 Posted by **Hal Bitton in Boise** on 12 Oct 2009, 8:33 p.m.,*
in response to message #1 by R.J. Soto

Hi R. J.
For such a prized machine as yours, the bidding on Ebay would quickly escalate beyond what a college kid would would want to pay, and into the realm of collectible value. I would think anyone who was willing to pay what I know it would go for would treat it with kid gloves.
As for myself, I have an "as new" 48GX black LCD that is the centerpiece of my collection. Nobody touches it but me, and then only after I've washed my hands and cleaned the entire surface where it will be used. So you see, I would give your 48GX the home it deserves :)
Best regards, Hal

Re: How do you sell your HP calculators?

*Message #3 Posted by **R.J. Soto** on 12 Oct 2009, 8:47 p.m.,*
in response to message #2 by Hal Bitton in Boise

Hi Hal,

Thanks for your answer. I suppose you are correct about the bidding process taking care of unqualified buyers by virtue of the price itself.

I completely understand your feelings about your 48GX, I treat mine with the same care, which sadly reaches the level of unabashed OCD ritual. :)

I really hate to part with it, but it must go. I'm still holding on to my NIB 42S and NIB 48SX. I know the 48SX is less valuable than the 48GX regarding market price, but it holds more personal value to me.

Regards,

Ruben

Re: How do you sell your HP calculators?

*Message #4 Posted by **Pal G.** on 13 Oct 2009, 7:19 p.m.,*
in response to message #3 by R.J. Soto

Why would an SX hold more personal value for you than a GX if they're both NIB? Cause you used an SX a couple times on your exams? ... only to switch to TI?

You just finished your exams 3 years ago but you have all these classic HPs NIB? Start school late?

In later threads, you are found whimsically adding and removing folks from your list of potential buyers.... I smell a troll. There, I said it.

PS - I am pleased to report I just bought a 48G (not + or X) for $34, incl. shipping, to replace my busted 49g+, that I actually used every day. People are paying way too much for 48GXs to put in glass boxes under warm lights and alarm systems.

Re: How do you sell your HP calculators?

*Message #5 Posted by **R.J. Soto** on 13 Oct 2009, 11:02 p.m.,*
in response to message #4 by Pal G.

You smell a troll? Listen, Pal. Get your nose checked. And while you are at it, take care of your mouth too, because you have a big one. Public forums can afford a sort of anonimity that tends to infuse courage in people that in real life would be quite meeker. I believe I have kept my discussion here so far civil, and I intend to continue doing that.

Why do you have to question why a 48SX holds more value to me personally than a 48GX? It is none of your business, but for the benefit of the other well intentioned folks in this forum, here are some of the reasons: - Manufactured in the U.S.A. If you think it is irrelevant, don't tell me about it, because I'm not interested. - When I was studying engineering 18 years ago, it was the calculator to have, and I used to covet one. - It is the original 48 design, and it looks better than the later models.

I started "collecting" HP calculators about 7 years ago. Why does this matter to you, anyway? And I don't consider myself a collector, because I have too few of them due to several reasons.

Edited: 13 Oct 2009, 11:02 p.m.

Re: How do you sell your HP calculators?

*Message #6 Posted by **bill platt** on 12 Oct 2009, 8:47 p.m.,*
in response to message #1 by R.J. Soto

The auction site which shall remain nameless seems to have the highest prices. Of course presentation is everything, as a search through "completed listings" will demonstrate. We "collectors" tend to be a bit more savvy about this which is good for us. Of course as collectors, we all hope for a badly presented listing--tends to reduce the price :-)

So list it as an HP47 GX Claculator please ;-)

Re: How do you sell your HP calculators?

*Message #7 Posted by **R.J. Soto** on 12 Oct 2009, 8:53 p.m.,*
in response to message #6 by bill platt

HA, good one Bill. I'll list my Helewt Parckard 47GT Carculator soon, and I'll send you a PM so that you

can be the only bidder.

Seriously though, I understand about the presentation. I have taken quite a few pictures of the machine and its accompanying items, which I have already uploaded to a PhotoBucket album (if you are interested, the URL is listed in the Classified Ads secction.) I'm going to take a video of me running the tests also.

Another thing I hate about EvilBay is that you pay through the nose not just for the eBay fees, but for the PayPal fees (since eBay owns PayPal and PayPal has pretty much become a monopoly, you end up paying eBay twice.) I sometimes wonder with such a brilliant business model, how come their stock is not soaring.

Regards,

Ruben

Re: How do you sell your HP calculators?

*Message #8 Posted by **Allen** on 12 Oct 2009, 10:06 p.m.,*
in response to message #7 by R.J. Soto

> Quote:
>
> ...how come their stock is not soaring.

They have to pay high-priced consultants to evaluate and change their screwed up feedback system every few quarters.

Re: How do you sell your HP calculators?

*Message #9 Posted by **R.J. Soto** on 12 Oct 2009, 11:48 p.m.,*
in response to message #8 by Allen

HEHEHE. Ain't that the truth. Another thing that really irked me (this time about PayPal) is that they used to, up until a few weeks ago, discourage buyers from paying with a credit card, and instead favoured using direct bank transfers. Obviously, if you make a payment with your credit card and the transaction goes sour, you can issue a chargeback against PayPal, which then has to deal with the seller/provider. But if you make a payment via a direct transfer and the deal goes south, you are pretty much out of luck (despite what PayPal may tell you about buyer protection.) I was very surprised that they changed this practice of discouraging buyers to use credit cards, because it had been in place for as long as I can remember. Someone must have threatened a class order lawsuit or something, because otherwise it does not compute.

Re: How do you sell your HP calculators?

*Message #10 Posted by **Maximilian Hohmann** on 13 Oct 2009, 2:36 a.m.,*
in response to message #1 by R.J. Soto

Good morning!

> Quote:
>
> ... towards self-proclaimed collectors ...
>
> ... I would rather this calculator ends up in the hands of a serious collector ...

If you consider this forum here to be a playing ground for "self-proclaimed" collectors, and on the other hand you want to make sure your calculator finds it's way to a "serious collector", this is hardly the place to ask your question, isn't it?

If it was my calculator, I would sell it locally to some college kid, because then it will get a chance to be used as a tool for education and science. And this is what it was designed and built for.

Greetings, Max

Re: How do you sell your HP calculators?

*Message #11 Posted by **Don Shepherd** on 13 Oct 2009, 4:25 a.m.,*
in response to message #10 by Maximilian Hohmann

> Quote:
>
> If it was my calculator, I would sell it locally to some college kid, because then it will get a chance to be used as a tool for education and science. And this is what it was designed and built for.

That is an excellent point. What better tribute to our favorite calculators than to have them continue to be used for the purpose of making the world a better place, rather than sitting on a shelf in a personal shrine.

Re: How do you sell your HP calculators?

*Message #12 Posted by **R.J. Soto** on 13 Oct 2009, 5:56 a.m.,*
in response to message #11 by Don Shepherd

I'm sorry, but that is not an excellent point. It is a horrible point. At least in my opinion, for the reasons which I have already explained. These machines are more than tools, more than the sum of their parts and the technological abilities which they implement. So yes, they deserve to be kept in a shrine. Collecting is a free endeavour, and I reserve the right to sell my calculator to whomever I please (and as of now, you two have ceased to form a part of that select group of potential buyers.) No offense whatsoever, I just really like my calculator, and would like it to be kept in good shape for as long as possible.

Edited: 13 Oct 2009, 6:02 a.m.

Re: How do you sell your HP calculators?

*Message #13 Posted by **Don Shepherd** on 13 Oct 2009, 8:24 a.m.,*
in response to message #12 by R.J. Soto

> Quote:
>
> and as of now, you two have ceased to form a part of that select group of potential buyers

Well, you've certainly ruined my day! :)

Hey Max and DaveJ, let's go have a beer and not worry if some of it spills on our calculator!

Re: How do you sell your HP calculators?

*Message #14 Posted by **Thomas Radtke** on 13 Oct 2009, 9:47 a.m.,*
in response to message #13 by Don Shepherd

> Quote:
>
> Hey Max and DaveJ, let's go have a beer and not worry if some of it spills on our calculator!

May I join you? I'll bring my 35s. ;^)

Re: How do you sell your HP calculators?

*Message #15 Posted by **Maximilian Hohmann** on 13 Oct 2009, 12:53 p.m.,*
in response to message #14 by Thomas Radtke

Hello!

> Quote:
>
> May I join you? I'll bring my 35s. ;^)

Sure! And I will bring the HP22 that I got in the mail today :-) With charged batteries! Another gap closed. And at a reasonable price too (less than 100 Euros). I think I'll have a beer to celebrate right now...

Greetings, Max

Re: How do you sell your HP calculators?

*Message #16 Posted by **Thomas Radtke** on 13 Oct 2009, 1:27 p.m.,*
in response to message #15 by Maximilian Hohmann

Congrats, enjoy!

Re: How do you sell your HP calculators?

*Message #17 Posted by **Bruce Bergman** on 13 Oct 2009, 11:11 a.m.,*
in response to message #12 by R.J. Soto

This makes me believe you're just using these forums to find a potential buyer, knowing that the true collectors here will pay a premium for an excellent-condition machine.

If so, just be up front and say you want as much money for it as you can get. There's no reason to use the "high and mighty" road here because you're preaching to the choir. We all appreciate HP calculators, including those that are rare and in great condition. But you're either missing the point, or you're purposefully avoiding it. The guys above made an EXCELLENT suggestion -- find someone who will use it and let them have it at a discount. There's no reason to put these calculators on a shrine (at least, not until there's only one left in the world).

Don't use the forums to sell your product. Either use an auction site or the classifieds here. Be up front about what you want.

I suspect this will remove me from the pool of potential buyers too, and if so, then you've just proven my point.

Thanks, Bruce

Edited: 13 Oct 2009, 11:13 a.m.

Re: How do you sell your HP calculators?

*Message #18 Posted by **R.J. Soto** on 13 Oct 2009, 3:42 p.m.,*
in response to message #17 by Bruce Bergman

Hi Bruce,

You are partially right. I am of course interested in getting as much money for my calculator as possible. I even put an add in the Classified Ads section asking for offers, because I'm trying to determine how viable it would be to sell it directly through these forums. However, that is not the whole story. I truly wish to find a buyer for it that will take care of it. Call me crazy, but if someone with a sledgehammer offered me $1000 for the calculator with the purpose of smashing it in a commercial for Texas Instruments, I would not sell it. Life is not black and white. Most all human intentions are fraught with conflict and compromise. Yes, I want to get a good price for my calculator (who wouldn't?) But I also want to find a good home for it, and I'm horrified by the herd of beer-spilling ghouls that call themselves collectors which inhabit these forums (Don't be outraged, I'm just being humorous.)

You are still part of the select group of buyers, but you are pushing it...

Re: How do you sell your HP calculators?

*Message #19 Posted by **Paul Dale** on 13 Oct 2009, 6:13 p.m.,*
in response to message #18 by R.J. Soto

> Quote:
>
> ...I'm horrified by the herd of beer-spilling ghouls that call themselves collectors which inhabit these forums (Don't be outraged, I'm just being humorous.)

This is your fundamental mistake: not everyone here is a collector.

- Pauli

Re: How do you sell your HP calculators?

*Message #20 Posted by **R.J. Soto** on 13 Oct 2009, 11:06 p.m.,*
in response to message #19 by Paul Dale

I understand that now. I also have come to realize that collectors follow different patterns. I have a very limited amount of calculators that I seldom use (unless you want to consider running the self test sequence using it.) Whereas some people have 700+ calculators that they use often ;)

Re: How do you sell your HP calculators?

*Message #21 Posted by **DaveJ** on 13 Oct 2009, 7:46 a.m.,*
in response to message #11 by Don Shepherd

Add my vote for that.
Those who keep such things in original shrink wrap etc lest they let the new product smell out, don't

deserve'em I say!
Flames invited :-P

Dave.

Re: How do you sell your HP calculators?

*Message #22 Posted by **Egan Ford** on 13 Oct 2009, 11:11 a.m.,*
in response to message #21 by DaveJ

> Quote:
>
> Those who keep such things in original shrink wrap etc lest they let the new product smell out, don't deserve'em I say!

IMHO, things that were designed to be used should be used. You'll extract more joy out of your collection by using it, than by knowing its just there.

How people choose to collect and what they do with that collection is their own business. Personally my stuff is all over the place (on desk, on shelves, on the floor). I try to take care of them, but I also use them frequently, so I never remove the batteries.

Stuff that I have no use for (e.g. LED calculators) I give away or put back in the community so that another can exact some joy from *using* it.

I have to agree with the OP that a modern university student would have little use for a 48GX. It'd be a frustrating experience (RPN only, hard to read display, slow). Most university students in the US today were raised on TI. My own kid (NYU freshmen) took her TI to school with her. She really likes her TI because she knows how to use it and it makes her successful. That said there will always be exceptions (I can think of one, a Theoretical Physics Ph.D student) that would truly appreciate and use legacy HP calculators in new and interesting ways.

My advice for the OP, if you are going to sell it, then sell it, why do you care what the buyer does with it? If you do care, then don't sell it.

I think I'll go visit Dave's "Museum of Amazing Used and Mostly Functioning Things".

Edited: 13 Oct 2009, 11:16 a.m.

Re: How do you sell your HP calculators?

*Message #23 Posted by **Michael de Estrada** on 13 Oct 2009, 11:36 a.m.,*
in response to message #22 by Egan Ford

> Quote:
>
> IMHO, things that were designed to be used should be used. You'll extract more joy out of your collection by using it, than by knowing its just there.
>
> My advice for the OP, if you are going to sell it, then sell it, why do you care what the buyer does with it? If you do care, then don't sell it.

Amen.

Re: How do you sell your HP calculators?

*Message #24 Posted by **R.J. Soto** on 13 Oct 2009, 4:03 p.m.,*
in response to message #23 by Michael de Estrada

You guys are missing the point. Let me just throw a couple of semi-random thoughts that might shed some light into my philosophy:

1: HP 48GX emulation has been perfected. Therefore, nothing would be lost if all HP 48GX calculators ceased to exist, given that their functionality can be preserved.

2: Since calculators like the HP 48GX were made to be used, aren't collectors that hoard a large number of such calculators doing a disservice to the human race? Wouldn't it be more in the spirit of the intent of such calculators to give them away to people that can use them? How many calculators can you use simultaneously, anyway? And, is there anything every single one of those calculators can do that no other calculator in the collection can do?

I'm just trying to be the devil's advocate and go against the prevailing tree-hugging mentality here.

Edited: 13 Oct 2009, 4:04 p.m.

Re: How do you sell your HP calculators?

*Message #25 Posted by **Bruce Bergman** on 13 Oct 2009, 4:48 p.m.,*
in response to message #24 by R.J. Soto

Okay, not that I want to give Ms. Soto any credibility here whatsoever, I think I have to give her credit -- just a little -- for this last post. It got me thinking. Maybe the issue here for me is that this is a 48 we're talking about.

I went back to some of the posts and inserted "HP-01" or "HP-10" or "HP-19c" in there, in place of "48" and found that when I did that, I had a bit of agreement with Ms. Soto. There is something to be said for those devices that are truly unique and more museum quality than day-to-day. For example, I could not fathom buying an HP-01 and then actually wearing it on a daily basis. One small mistake and the thing could be history. A scratch across the glass, or a button jammed in and it would detract from the whole thing. Same for my prized possession, my HP-19c (original owner) -- it's probably my most prized calc, and even though I do use it occasionally, it's not one I would want to give to a high-schooler.

In a like vein, I would have no problem giving a 32sii to a high schooler to use because -- although it is relatively valuable -- it is a powerhouse calc, and it would be used.

So, is this whole argument centered around the relative worth/value of the calculator? If so, where do we draw the line? I personally don't think a 48GX, even one with immaculate black text, is worth the hubbub that this is all about. To me it's in the same class as a 32sii or a 16c -- it's a great calc, and I'd have no problem seeing it used on a daily basis.

I still think I'd rather see it used.

thanks, bruce

Re: How do you sell your HP calculators?

*Message #26 Posted by **R.J. Soto** on 13 Oct 2009, 5:16 p.m.,*
in response to message #25 by Bruce Bergman

Maybe my perspective as to the actual value of the 48GX is skewed. Will it be more valuable in 50 years?

What I really don't get is who Ms. Soto is. :)

Re: How do you sell your HP calculators?

*Message #27 Posted by **Jim Horn** on 14 Oct 2009, 6:37 p.m.,*
in response to message #25 by Bruce Bergman

Regarding "buying an HP-01 and wearing it on a daily basis" - I did for quite a while. But the $30 per year for the batteries back then ($100 / year now after inflation) to wear a 1/4 pound (115 gram?) watch which required you to press a button just to know the time got pretty old. Casio "Data Bank" calculator watches replaced it (the first was the oh-so-missed scientific model). With an LCD and 75% less weight and thinner, they are vastly more practical.

Still have my '01 though - if only to wear to HHCs when I can get to 'em. Still works fine, too. Not bad after having it for 30 years now...

Jim (still have the buckle button pusher - and a spare!) Horn

Re: How do you sell your HP calculators?

*Message #28 Posted by **Jimi** on 15 Oct 2009, 10:37 a.m.,*
in response to message #24 by R.J. Soto

> Quote:
>
> 2: Since calculators like the HP 48GX were made to be used, aren't collectors that hoard a large number of such calculators doing a disservice to the human race?

I have a number. That will be diminishing soon, as I lost my job, and at some point, extras will have to go. I will always keep a beater HP-15C around. Not worried about it dying. By the time that thing goes, we'll be able to get them implanted in our heads.

Still, except for a mint HP-16C, that I've kept tucked away, mostly because I have a pair of well used 16s in use, I use most all mine. To me, they only really hold value when I'm using them. I could often get by with software cals, and all too often end up just pulling up one for a quick calc, but I like using them too much to lock them away. I guess I'm not a very good collector. Just like them a lot.

Re: How do you sell your HP calculators?

*Message #29 Posted by **R.J. Soto** on 15 Oct 2009, 1:18 p.m.,*
in response to message #28 by Jimi

You actually make a good point. Maybe collectors who rarely turn on their machines don't really like the machines, but the idea of having them. What I really don't understand very well is how someone with a large number of different models can use all of them. It takes some time to know the intricacies of each model and to

become proficient with it. Unless you are going to use core functionality, but then what's the point of having so many different ones, if most of what you do with each one of them could be done with a single one? In other words, you might be using all of them, but you are not using them to their full potential. And isn't that what they were designed to do?

Re: How do you sell your HP calculators?

*Message #30 Posted by **Don Shepherd** on 13 Oct 2009, 1:10 p.m.,*
in response to message #22 by Egan Ford

> Quote:
>
> IMHO, things that were designed to be used should be used. You'll extract more joy out of your collection by using it, than by knowing its just there.

Amen to that, Egan. Perhaps the late Grace Hopper (computer pioneer, Navy Admiral, and co-inventor of COBOL) said it best: a ship in port is safe, but that's not what ships are for."

May she RIP.

Re: How do you sell your HP calculators?

*Message #31 Posted by **R.J. Soto** on 13 Oct 2009, 4:07 p.m.,*
in response to message #30 by Don Shepherd

But the problem is that a calculator like the HP 48GX is used regularly, it will eventually fail just due to simple mechanical wear and tear. I'm just trying to postpone that fate by using it in a controlled environment and in a limited fashion, because to me it is more than a calculator.

Re: How do you sell your HP calculators?

*Message #32 Posted by **Bruce Bergman** on 13 Oct 2009, 4:49 p.m.,*
in response to message #30 by Don Shepherd

Hey, I got the same message in my fortune cookie last week. I have it right here. It says:

"A ship in harbor is safe, but that's not why ships are built."

Cool! :-)

Thanks, Bruce

Re: How do you sell your HP calculators?

*Message #33 Posted by **R.J. Soto** on 13 Oct 2009, 3:56 p.m.,*
in response to message #22 by Egan Ford

Yours is a very reasonable post, Egan. I can find no fault with it, yet at the same time I can't agree with it, because I'm a very unreasonable man. I do extract a lot of joy from simply looking at my calculator, holding it, and occasionally turning it on (just to reciprocate, and if you get this last joke you are as sick as I am.)

Unfortunately you are right about TI. I graduated in Mathematics 3 years ago, and my TI-89

served me well. Yet, I find it hard to feel sentimental about that machine. I even tried to take a 48SX to a couple of exams, but I wasn't able to use it as efficiently as the TI-89 for that purpose, so I ceased the experiment (my GPA was at stake.)

I don't claim to be reasonable or even rational. I'm not a hypocrite either, although perhaps I should have been more forward in my original post by saying I'm also interested in getting a good price for it (although I think that was implied.)

As much as I find reason and logic in your post, unfortunately I must cross you out of my pool of potential buyers. The idea of my 48GX laying on the floor gives me squalors.

Regards,

Ruben

Re: How do you sell your HP calculators?

*Message #34 Posted by **Egan Ford** on 13 Oct 2009, 4:26 p.m.,*
in response to message #33 by R.J. Soto

> Quote:
>
> As much as I find reason and logic in your post, unfortunately I must cross you out of my pool of potential buyers. The idea of my 48GX laying on the floor gives me squalors.

I already have a 48GX, I do not need another. However if you *gave* it to me, then I assure you that it would not sit on my floor. Instead it'd sit in a padded box on its way to a student that I know would *use* it.

Re: How do you sell your HP calculators?

*Message #35 Posted by **R.J. Soto** on 13 Oct 2009, 3:46 p.m.,*
in response to message #21 by DaveJ

I actually agree with you. I take my calculator out to admire it every few months actually. Once I even used it to calculate the square root of 9. It was an exhilarating experience...

HP - The Next Generation

*Message #36 Posted by **Chris McCormack** on 14 Oct 2009, 9:38 a.m.,*
in response to message #11 by Don Shepherd

> Quote:
>
> > Quote:
> >
> > If it was my calculator, I would sell it locally to some college kid, because then it will get a chance to be used as a tool for education and science. And this is what it was designed and built for.
>
> That is an excellent point. What better tribute to our favorite calculators than to have them continue to be used for the purpose of making the world a better place, rather than sitting on a shelf in a personal shrine.

I've been taking a similar approach by foisting HP calculators on my kids. (How many 7th graders do you know swinging an HP-33s in class?) Of course, that regularly forces me back to the auction site that shall not be named when a kid succeeds in breaking or losing a calculator. ('My calculator won't turn on.' ... 'What did you do to it?' ... 'Nothing.' - another HP48G bites the dust :<)

Fortunately my wife is an engineer with a HP-11C in her purse, so I can get away with such behavior.

Re: HP - The Next Generation

*Message #37 Posted by **Vieira, Luiz C. (Brazil)** on 14 Oct 2009, 11:19 a.m.,*
in response to message #36 by Chris McCormack

Hi, all;

> Quote:
>
> (...) to be used as a tool for education and science. And this is what it was designed and built for.

Could not agree more. In fact, I agree with all in this 'subthread', or "My name in the list, please!"

Luiz (Brazil)

Edited: 14 Oct 2009, 11:24 a.m.

Re: HP - The Next Generation

*Message #38 Posted by **Don Shepherd** on 14 Oct 2009, 11:46 a.m.,*
in response to message #36 by Chris McCormack

As a teacher and math tutor, I have given several calculators to my students over the years, if I thought they could benefit from them. I gave a 12c platinum to a seventh-grader who expressed interest in how programming on a calculator worked. I gave a TI-34 Multiview (excellent calculator for middle-school kids) to my entire 8th grade class last year as a graduation present (it was a very small school and the 8th grade consisted of only three girls).

And each year I take my HP-65 with its flashing LEDs to school, and the kids are always intrigued by that. Face it, kids are into electronics these days, and anything that gets them interested in math and its operations is a good thing.

Re: HP - The Next Generation

*Message #39 Posted by **Michael Plant** on 14 Oct 2009, 12:01 p.m.,*
in response to message #38 by Don Shepherd

This is my experience as well. In the sea of iPod Touches and iPhones, a calculator still resonates with teens, which actually runs contrary to my expectations. My HP-41CV and TI-59 are the biggest hits. The HP-42s is so discrete that it fails to impress. The 48GX doesn't excite as much interest as the 50g, presumably because mine is a well used example and the 50g looks "new".

Re: HP - The Next Generation

*Message #40 Posted by **Paul Dale** on 14 Oct 2009, 5:33 p.m.,*
in response to message #36 by Chris McCormack

> Quote:
>
> How many 7th graders do you know swinging an HP-33s in class?

My daughters both have HP-35s :-) They were in grades 6 & 7 when they got them but are now in 7 & 8.

- Pauli

Re: How do you sell your HP calculators?

*Message #41 Posted by **R.J. Soto** on 13 Oct 2009, 5:50 a.m.,*
in response to message #10 by Maximilian Hohmann

Hi there,

I do not find any contradiction in my statement. Collecting is a voluntary activity which doesn't depend on talent or ability, but rather in the will and passion to collect something which is the object of your devotion. Therefore, a self-proclaimed collector is for all intents and purposes, a collector. In contrast, a self-proclaimed rocket scientist might be nothing more than a hack, due to lack of talent, knowledge, or ability. Basically, what I'm trying to tell you, is that I didn't mean "self-proclaimed collector" in any pejorative sense, but rather as a way to denote the self-conscious nature of a given activity (collecting HP calculators in this case.)

I also disagree with your second point. These calculators are a species near extinction, and a specimen of the kind I have stands a better chance of being preserved and admired by a collector. What you are saying is that I should sell this to a college kid so that the calculator can be used as a tool. I have to disagree with this for a couple of reasons: 1) At this point in time, there are machines which are far more capable tools, from the purely technological point of view, than a HP 48GX. As a matter of fact, you can probably run a perfect 48GX emulation using PDA hardware. 2) Most importantly, you are forgetting that a machine like the HP 48GX is much more than a simple tool. Some snobs (I'm saying this with tongue in cheek by the way) might even consider it a piece of artistic industrial design due to some of its qualities: Solid construction, materials, layout, etc. After all, we are in a museum, aren't we?

To make a crude analogy, what you are saying is that someone willing to part with a Hispano-Suiza with all original parts should sell it to someone who will drive it to the store and back just because that's what all cars were created for.

Edited: 13 Oct 2009, 5:58 a.m.

Re: How do you sell your HP calculators?

*Message #42 Posted by **Richard Reed** on 13 Oct 2009, 7:47 a.m.,*
in response to message #41 by R.J. Soto

> Quote:
>
> These calculators are a species near extinction

This is not nearly as true of 48GX as it is of 41C(V,X), and people have used those older models to death and then restored them for more _use_. PDA's don't quite fill the bill, as there is a constant battle

for appearance rather than ergonomics. A touch screen is quite difficult to one-hand. 48GX isn't great for one hand, so maybe, when surveyors (TDS is doomed ;-)) lecturers and students have all got 50g's...

I sort of understand collecting, but for me there is much more satisfaction using something I don't have to sling over my shoulder that was very carefully designed for my hand and brain.

Richard

Re: How do you sell your HP calculators?

*Message #43 Posted by **R.J. Soto** on 13 Oct 2009, 4:13 p.m.,*
in response to message #42 by Richard Reed

Very reasonable post. Again, I can not agree though, because I'm not reasonable. I can envision a future, 200 years ago, when children won't be able to lay their eyes (multiple eyes, due to mutations caused by the great war of 2012) onto a mint 48GX. If this is not enough to give you nightmares, what is? OK, perhaps the idea of a braless Woopi Goldberg jumping rope with Rosie O'Donnell. But besides that, what is?

Re: How do you sell your HP calculators?

*Message #44 Posted by **DaveJ** on 13 Oct 2009, 8:04 a.m.,*
in response to message #41 by R.J. Soto

> Quote:
>
> 2) Most importantly, you are forgetting that a machine like the HP 48GX is much more than a simple tool. Some snobs (I'm saying this with tongue in cheek by the way) might even consider it a piece of artistic industrial design due to some of its qualities: Solid construction, materials, layout, etc. After all, we are in a museum, aren't we?

If I was in a real museum, I'd actually want to see a beat-up used HP48GX in the glass cabinet running a program. Rather than a shiny virginal one through its original bubble packaging without the batteries in lest they leak.
It gives it some character, history, and a sense of worth.

But that's just me...

> Quote:
>
> To make a crude analogy, what you are saying is that someone willing to part with a Hispano-Suiza with all original parts should sell it to someone who will drive it to the store and back just because that's what all cars were created for.

Hey, why not?
I'm in a Youtube kinda mood today, so here is another one that is just so apt, err, I mean so choice, for you collectors...

http://www.youtube.com/watch?v=4MxPoxxt7n0

Dave.

Re: How do you sell your HP calculators?

*Message #45 Posted by **nacho** on 13 Oct 2009, 1:40 p.m.,*
in response to message #44 by DaveJ

100% agree!!!

That's what makes me think if I'm a collector or simply a user that likes to use great calcs instead of seeing them in a drawer.

Regards

Re: How do you sell your HP calculators?

*Message #46 Posted by **R.J. Soto** on 13 Oct 2009, 4:17 p.m.,*
in response to message #44 by DaveJ

DaveJ,

But you are missing the point of a museum. There is no shortage of beat up, dirty 48GX calculators full of character. Museums are for the excellent pieces.

That video brought a smile to my weathered convict-like mug. :)

Re: How do you sell your HP calculators?

*Message #47 Posted by **DaveJ** on 13 Oct 2009, 5:19 p.m.,*
in response to message #46 by R.J. Soto

> Quote:
>
> But you are missing the point of a museum. There is no shortage of beat up, dirty 48GX calculators full of character. Museums are for the excellent pieces.

No I'm not missing the point, because my viewpoint is different. That's what I'd prefer to see in a museum when it comes to technology like this.
Try going to the Computer History Museum some time. I don't believe there is a single item in the collection that hasn't been used and is beat-up in some way. You won't find any original boxes on display, that's for sure. I liked it.

Here is the calc section PHOTO 1 PHOTO 2

The only exception is the HP01, and that kinda makes sense because the box is designed for display. The other cals are in reasonable condition, but I like that they looked used, that's what I expected to see.

If pristine units in their original bubble packaging floats your boat, then that's fine too, just don't be surprised when others don't get so excited!

Dave.

Edited: 13 Oct 2009, 5:32 p.m.

Re: How do you sell your HP calculators?

*Message #48 Posted by **R.J. Soto** on 13 Oct 2009, 5:41 p.m.,*

in response to message #47 by DaveJ

I'm not surprised actually. I thought the feeling would be more prevalent, specially here. Maybe the term "Museum" should be changed to "Repository". I'm not arguing that my 48GX should be considered art, by the way. Even I can see the difference between a Picasso and a chunk of plastic with buttons on it.

Re: How do you sell your HP calculators?

*Message #49 Posted by **Maximilian Hohmann** on 13 Oct 2009, 12:49 p.m.,*
in response to message #41 by R.J. Soto

Hello!

> Quote:
>
> To make a crude analogy, what you are saying is that someone willing to part with a Hispano-Suiza with all original parts should sell it to someone who will drive it to the store and back just because that's what all cars were created for.

Yes :-) This summer, I had the chance to go to the Duxford Flying Legends weekend (http://duxford.iwm.org.uk/) with a couple of colleagues. For two days in a row, we saw a stunning performance by dozens of aeroplanes, some of which were nearly 100 years old. Some of them one-of-a-kind specimens. Worth millions (of dollars/pounds/euros/whatever). But far too rare and precious to be left gathering dust in a museum. These things were built for flying, and the air is the place where they belong. If one of them gets damaged or destroyed in the process, then at least it has not "died" for nothing.

Today I had a day off and went flying with two students (I consider instructing as recreation, not work). We had the rare luck, to encounter the "Breitling Super Constellation" (http://www.superconstellation.org/) at the airfield where we practised instrument approaches. What a joy! What a pity and loss it would be to let this beauty rust away in some museum.

So when I say, that calculators should be used for calculating, I really mean it. Sometimes I feel guilty for not letting (most of) my 700+ calculators do what they are best at...

Greetings, Max

Re: How do you sell your HP calculators?

*Message #50 Posted by **R.J. Soto** on 13 Oct 2009, 4:32 p.m.,*
in response to message #49 by Maximilian Hohmann

Hello Maximilian,

I understand your point of view. But I think there is a limit to everything. You must be very conflicted about your 700+ calculator collection, because it radically goes against that theory. This leads me to believe that you at least partially understand some of my feelings.

How often do you use each one of your calculators? Wouldn't it be more in tune with your philosophy to donate all but 10 or 20 of them to people which would use them everyday in a practical context?

Do you have any duplicates? (I think this question answers itself.) If so, how can you justify that fact? Having more than one item which can exactly perform the same function does not make any

sense, at least according to your feelings that things should be used for that which they were intended. How does the superfluousness and waste inherent in owning two items of one kind fit with your theory, when you can only use one of them at a time?

The main thing that I disagree with is your attitude that you should use things "because that's what they were created for." Things are nothing but inanimate objects, and I think they should be used for that which their owner can derive the most pleasure from. If that is gazing at them, holding them, and occasionally using them, so be it. If that is using them without constraints or care, that's fine too. But there is no greater purpose to be fulfilled, no promise to be satisfied, in using a calculator for that which it was designed for. At least, not when it transcends the realm of utilitarian tools, and reaches the domain of industrial art. And perhaps the 48GX doesn't reach that level, but it is mightlily close.

Re: How do you sell your HP calculators?

*Message #51 Posted by **Bart (UK)** on 13 Oct 2009, 7:22 p.m.,*
in response to message #50 by R.J. Soto

Hi R.J.,

You are a person of contradiction yourself. You say:

> Quote:
>
> Things are nothing but inanimate objects,...

Yet you attach emotion to these things as if they were your child.

also

> Quote:
>
> ... and I think they should be used for that which their owner can derive the most pleasure from.

so why care if the next owner gets the most pleasure out of it by smashing it for a TI ad?

Bart

Edited: 13 Oct 2009, 7:24 p.m.

Re: How do you sell your HP calculators?

*Message #52 Posted by **R.J. Soto** on 13 Oct 2009, 11:14 p.m.,*
in response to message #51 by Bart (UK)

How's it going, Bart.

I don't claim to be fully rational (and whoever does is a fool.) And yes, I see the contradiction in what I say. Let me see if I can rationalize some of it...

People get attached to things regardless of things themselves being inanimate objects. It happens all the time. Why is that? My guess is that things can sometimes be vehicles to spark remembrances of places in time, to evoke memories of times past. I'm not defending

this as rational behavior, but emotion in itself is the antithesis of reason (and I hope it stays that way, because otherwise we would all be a bunch of robots.)

Why would I care someone smashing my calculator? Because I like my calculator, it's as simple as that.

Cheers,

Ruben

Edited: 13 Oct 2009, 11:16 p.m.

Re: How do you sell your HP calculators?

*Message #53 Posted by **DaveJ** on 14 Oct 2009, 12:32 a.m.,*
in response to message #52 by R.J. Soto

> Quote:
>
> Why would I care someone smashing my calculator? Because I like my calculator, it's as simple as that.

Then why don't you keep it? Are you really *that* desperate for the cash?
With your sort of attachment it might be perhaps something you'll come to regret one day if you do sell it?

Dave.

Re: How do you sell your HP calculators?

*Message #54 Posted by **R.J. Soto** on 14 Oct 2009, 1:02 a.m.,*
in response to message #53 by DaveJ

It it were only that simple...

It's not as much about the cash as it is about my life in general. I have too much stuff and I need to get rid of some of it, because it has gotten to a point that it is ruling my life. I do tend to get obsessed as a matter of fact, and I have realized that I need to simplify. I am going to end up selling a bunch of stuff in eBay in the short run, and for the 48GX I wanted to figure out if there existed a different channel for collectors only that I may try. The first couple of very helpful responses I got made the point that I should just put it on eBay and let things sort themselves out. So that's what I'm going to do. I apologize if I created a stir with my views about how to deal with these calculators. It wasn't my intention to do that, it just happens to be the way I feel about it.

Cheers,

Ruben

Re: How do you sell your HP calculators?

*Message #55 Posted by **Maximilian Hohmann** on 14 Oct 2009, 3:15 a.m.,*
in response to message #50 by R.J. Soto

Hello!

> Quote:
>
> How often do you use each one of your calculators?

Not as often as I would like to!

> Quote:
>
> Wouldn't it be more in tune with your philosophy to donate all but 10 or 20 of them to people which would use them everyday in a practical context?

I have never suggested that you donate your calculator to anybody! But if you sell it, then (as others have pointed out already) I think it is the buyer alone who has to decide what's best for his newly acquired calculator.

And yes: It would be good if I could give away/sell most my calculators and keep only 20. My wife would love the idea! But as of now, I simply can't decide which ones to keep...

> Quote:
>
> Do you have any duplicates? (I think this question answers itself.)

Not so many, actually. Because I don't collect HP exclusively, but (in order of importance to me): Navigation calculators, exotic calculators of all sorts, programmable scientific with luminous display, scientific with luminous display, all others with luminous display, very smart calculators with LC display. As a matter of fact, I do not own a working HP-48GX, because it does not fit any of these categories...

> Quote:
>
> If so, how can you justify that fact? Having more than one item which can exactly perform the same function does not make any sense, at least according to your feelings that things should be used for that which they were intended. How does the superfluousness and waste inherent in owning two items of one kind fit with your theory, when you can only use one of them at a time?

I keep some duplicates for the purpose of trading or as spares for calculators that I actually use regularly. And especially the old ones really break if you continue using them.

> Quote:
>
> The main thing that I disagree with is your attitude that you should use things "because that's what they were created for."

I'm not all that strict about this point. But, as said before, if I had the choice to sell a calculator to either a collector or a user, than I would choose the latter. And be happy for "my" calculator!

Greetings, Max

Re: How do you sell your HP calculators?

*Message #56 Posted by **R.J. Soto** on 14 Oct 2009, 3:39 a.m.,*
in response to message #55 by Maximilian Hohmann

Hello Max,

I think you have explained your feelings well enough. I hope my previous post didn't sound too hostile. Your collection sounds quite amazing. I used to have a Russian calculator with light tubes (I forget the name of the company, but it might have been Elektronika or something similar,) but I gave it away to a college friend from Russia whose father worked for Sun Microsystems.

How do you manage the storage and organization of your collection? That sounds like a great task in itself.

Edited: 14 Oct 2009, 3:41 a.m.

Re: How do you sell your HP calculators?

*Message #57 Posted by **Maximilian Hohmann** on 15 Oct 2009, 3:26 p.m.,*
in response to message #56 by R.J. Soto

Hello!

> Quote:
>
> How do you manage the storage and organization of your collection? That sounds like a great task in itself.

First: My collection is a very small and humble one. Some people who post on this forum (and some who don't) have 3000 or more...

As for the organisation, I have a little database with a short description and a photo of each calculator. And with storage, I must confess, I have a litte (or big, according to my wife) problem... I'm afraid, the day is coming close when I will have to focus on two or three specific classes of calculators and part with all the rest.

Greetings, Max

Re: How do you sell your HP calculators?

*Message #58 Posted by **R.J. Soto** on 15 Oct 2009, 8:47 p.m.,*
in response to message #57 by Maximilian Hohmann

Fair enough.

I suggest that if you enjoy your calculator collection and wish to maintain it complete, you bring your wife flowers from time to time. Lobying of (and preemptive apologizing to) wives accounts for 79% of the fresh flower sales in the U.S. according to recent statistics. :)

Cheers!

Re: How do you sell your HP calculators?

*Message #59 Posted by **bill platt** on 13 Oct 2009, 1:12 p.m.,*
in response to message #41 by R.J. Soto

Yes but even Valentin (who takes impeccable care of his collection) made a very good point one day some years back when he asserted that all of these glorious HPs will one day stop working--even if you never touch them--as certain critical key components will decay and unlike an old National or Hallicrafters with dead-bug construction, you cannot bring one back phoenix-like.

So live a little--and use them claculaters! :-)

Re: How do you sell your HP calculators?

*Message #60 Posted by **R.J. Soto** on 13 Oct 2009, 4:39 p.m.,*
in response to message #59 by bill platt

I understand what you say. Nothing lasts forever. Even the Universe is in a process of constant death. I just want to preserve some things for as long as possible.

Slightly out of topic, I hope you guys have looked into Faraday cages, because there is a world wide EM pulse attack at hand. It's just a question of time. And when that happens, bye bye calculator collection!

Also, I happen to admire my calculators when they are off as well (which happens to be most of the time.) Even without its innards a 48GX is a thing of beauty.

Re: How do you sell your HP calculators?

*Message #61 Posted by **bill platt** on 13 Oct 2009, 8:42 p.m.,*
in response to message #60 by R.J. Soto

My faraday cage is a 1949 Porsche 356 with an aluminium body.

Edited: 13 Oct 2009, 9:28 p.m.

Re: How do you sell your HP calculators?

*Message #62 Posted by **R.J. Soto** on 13 Oct 2009, 11:18 p.m.,*
in response to message #61 by bill platt

Obviously it must not be a convertible model. Keep your windows rolled up and you will be fine.

Re: How do you sell your HP calculators?

*Message #63 Posted by **Walter B** on 14 Oct 2009, 1:03 a.m.,*
in response to message #62 by R.J. Soto

> Quote:
>
> Keep your windows rolled up and you will be fine.

Oh, I didn't know Porsche sports conductive windows :))

Re: How do you sell your HP calculators?

*Message #64 Posted by **R.J. Soto** on 14 Oct 2009, 1:07 a.m.,*
in response to message #63 by Walter B

That's what I was told as a kid, to always keep the windows rolled up during a thunderstorm. As a matter of fact, I vividly remember seeing a demonstration of TV with a rat inside a model car submitted to some electrical discharge, which seemed to confirm that theory. So what you are saying is that the foundation on which I have based all my life is nothing but a lie?

Re: How do you sell your HP calculators?

*Message #65 Posted by **DaveJ** on 13 Oct 2009, 6:34 a.m.,*
in response to message #10 by Maximilian Hohmann

> Quote:
>
> If it was my calculator, I would sell it locally to some college kid, because then it will get a chance to be used as a tool for education and science. And this is what it was designed and built for.

That so reminded me of this James May's Top Toys segment about collecting model trains, and all the kill-joys who won't take them out of the box to play with them:
http://www.youtube.com/watch?v=zZ8IjZ3tUas

James has a great solution to that!

Dave.

Re: How do you sell your HP calculators?

*Message #66 Posted by **Paul Dale** on 13 Oct 2009, 6:49 a.m.,*
in response to message #65 by DaveJ

:-)

I like.

- Pauli

Re: How do you sell your HP calculators?

*Message #67 Posted by **bill platt** on 13 Oct 2009, 1:05 p.m.,*
in response to message #65 by DaveJ

I love it!

Re: How do you sell your HP calculators?

*Message #68 Posted by **Egan Ford** on 13 Oct 2009, 2:16 p.m.,*
in response to message #65 by DaveJ

Very nice! Thanks. My favorite part was the glee expressed with the possible one hour task to connect two trains.

Sadly, I gave away my HO gauge set when I moved away from home. If I had it now I'd find a way to

control it with HP-IL.

Thanks again.

Re: How do you sell your HP calculators?

*Message #69 Posted by **Matt Kernal** on 13 Oct 2009, 2:46 p.m.,*
in response to message #1 by R.J. Soto

I don't understand? This question is foreign to me. Sell.. my.. HP calculators???? Not gonna happen ;-)

I use a variety, about 8-10 different ones, here at work, and have a few more at home that the family uses for homework and account balancing.

But sell them? That's kind of funny!! (Half joking, half serious :-)

Matt

p.s. Call me old fashioned, but I recently bought an old Swingline stapler, just for the quality of it. Same thing about an old metronome. I just hate to see the race-to-bottom.. all the throw away stuff that isn't worth keeping. But that's just me.

p.p.s. I would however, easily consider selling some old TI's.

Re: How do you sell your HP calculators?

*Message #70 Posted by **Egan Ford** on 13 Oct 2009, 3:10 p.m.,*
in response to message #69 by Matt Kernal

> Quote:
>
> ... I recently bought an old Swingline stapler ...

LOL, I have one sitting right next to me. It has got to be one of the oldest things I own. Still works.

Re: How do you sell your HP calculators?

*Message #71 Posted by **Michael de Estrada** on 13 Oct 2009, 4:20 p.m.,*
in response to message #70 by Egan Ford

Staplers, huh? One of my most precious momentos is an Ace Scout Model 202 stapler given to me for my fifth birthday by my father 58 years ago. It was made in Chicago, Il by the Ace Fastener Co., and is built entirely of steel, except for the rubber feet. It uses these heavy duty buckle-proof undulated staples. Inside the box of staples is a small inspection card that states in part "If your Clipper or Scout does not function perfectly with these staples, send it to us with this card. This will assure only a minimum charge for putting the machine in working order."

And, yes, it still works perfectly.

Edited: 15 Oct 2009, 5:52 p.m. after one or more responses were posted

Re: How do you sell your HP calculators?

*Message #72 Posted by **Richard Reed** on 13 Oct 2009, 8:06 p.m.,*
in response to message #71 by Michael de Estrada

Tops me. Bostich B8, 1968. Someday I might run out of the large box of staples from the U-Store.

Richard

Swingline staplers -- US manufacturing

*Message #73 Posted by **Karl Schneider** on 15 Oct 2009, 2:54 a.m.,*
in response to message #69 by Matt Kernal

Hi, Matt! --

> Quote:
>
> I recently bought an old Swingline stapler, just for the quality of it.

I bought one when starting college in 1981, paying around $20 for an all-metal, made in USA, Swingline Model 747. Pea-soup green, like the earth tones so in vogue back then. It's never given me a bit of trouble, and I still use it.

Just a few years ago, I bought a made-in-China Swingline 747 for about $11. It looked the same, but was not as solid, and some imprecise manufacturing made it jam frequently. I sent it to the metals-recycling bin.

Recently, I bought for about $20(?) a Swingline spring-loaded model (also made in China) that uses the same kind of staples, and is better-built than others of this type. So far, so good. The spring-loading is a clever innovation that gives more stapling power. The innards aren't accessible for safety reasons.

This is all very mundane, but what is significant are the familiar themes:

- How expensive, but durable, the original product was.
- The original, mass-produced low-tech product utilized domestic labor.
- Today's more-sophisticated product might still be lower-priced in inflation-adjusted dollars if it were domestically made, but is not -- with the US public generally unwilling to pay for high quality or for labor wages commensurate with their own.

-- KS

Edited: 15 Oct 2009, 4:03 a.m.

Re: Swingline staplers -- US manufacturing

*Message #74 Posted by **Michael de Estrada** on 15 Oct 2009, 11:33 a.m.,*
in response to message #73 by Karl Schneider

> Quote:
>
> Today's more-sophisticated product might still be lower-priced in inflation-adjusted dollars if it were domestically made, but is not -- with the US public generally unwilling to pay for high quality or for labor wages commensurate with their own.

I think it's important to differentiate between individual consumer products and business use products. Staplers are mostly used by businesses and considered office supplies, whereas small calculators are

generally purchased by private individuals. I think that businesses place more importance on durability and reliability, and are often willing to pay more for this. Individuals look more at cost and value, and are not so concerned with longevity, especially with rapidly evolving technological products. I personally get a kick out of playing with my ancient calculators and computers, but when it comes down to doing some serious work, I still use the newest ones.

Edited: 15 Oct 2009, 5:50 p.m.

Re: Swingline staplers -- US manufacturing

*Message #75 Posted by **Karl Schneider** on 16 Oct 2009, 1:57 a.m.,*
in response to message #74 by Michael de Estrada

> Quote:
>
> I think it's important to differentiate between individual consumer products and business use products. ... I think that businesses place more importance on durability and reliability, and are often willing to pay more for this.

It's a good point that businesses place more of a premium on quality, due to heavier use. Commercial-grade printers and appliances, for example, are certainly better-built and much more expensive.

Let's also remember that the purchaser for a large business is not spending his own money. Purchases made by someone for his small business may entail a tax deduction.

Still, the "devolution", or "race to the bottom" associated with outsourcing practically all US consumer-product manufacturing to cheap-labor countries is having serious consequences -- loss of family-wage jobs, loss of know-how and capability, dramatic increase in trade deficits.

That $20 I spent almost 30 years ago for a quality low-tech stapler and box of staples would be about $45 today. Who'd pay that much, when cheaper options abound? Hardly anyone...

-- KS

Edited: 16 Oct 2009, 2:03 a.m.

Re: How do you sell your HP calculators?

*Message #76 Posted by **Philippe Lasnier** on 15 Oct 2009, 5:06 p.m.,*
in response to message #1 by R.J. Soto

Hi Ruben,

On behalf of all the members, welcome to the forum ;-)

Myself? I have been a member for only a few months, and had been reading it for quite some time before that. It's a fantastic place. As you found out, it's full of argumentative and opinionated people :-D

If you were in a room with them, you wouldn't hear the music for the din, and the police would probably knock on the door to ask to keep it down because they'd had complaints from the town next door.

But the wealth of knowledge is staggering; they are argumentative and opinionated, but passionate; they are also very helpful. Being so "green" myself (or "blue", depending on your custom), I feel a bit awkward putting myself forward like this; I feel it would be more up to long-time members like Maximilian, Egan, Michael, or

Luiz, to welcome you...but they were all busy arguing.

Who would have thought that asking a seemingly innocent question would spawn a thread that exploded in just a few days! Talk about baptism of fire. But I see that you held your end very well, parrying and thrusting; I am personally very impressed, although that would hardly count.

So again, welcome, and your HP-48GX looks very nice (I'm not in the running, I've got one like that already :)

Regards (to all),

Philippe

Re: How do you sell your HP calculators?

*Message #77 Posted by **R.J. Soto** on 15 Oct 2009, 8:57 p.m.,*
in response to message #76 by Philippe Lasnier

Hello Philippe,

Thank you very much for the warm welcome. I actually have no issue with arguments myself, as you have probably noticed. Regardless, I appreciate all the input received, and I have tried to put each of it in its proper context. Nothing like someone with a view completely different from your own to make you question your own actions. :)

Congratulations on your budding collection! Not everybody can perhaps even attempt to approach the gigantic collections of some of the folks here, but the important thing is not the magnitude of your collection, but your level of enjoyment (and after the discussions in this thread, I'm questioning whether I even am enjoying my meager collection enough to justify being the custodian of it.)

Out of curiosity, how did you get started with HP calculators? Like I said, I became immediately impressed after seeing several 48SX pieces in my old university days. Then, after going back to college to study Math, and despite the absolute dominance of Texas Instruments by then (I'm talking circa 2002,) at least in the U.S., it was only normal that my old interest in these machines would be rekindled.

Thanks again for your welcome!

Regards,

Ruben

Re: How do you sell your HP calculators?

*Message #78 Posted by **Philippe Lasnier** on 16 Oct 2009, 3:36 a.m.,*
in response to message #77 by R.J. Soto

In my case the story goes back to the (late 70's and) early 80's. At that time, while in high school (US meaning) in the scientific classes, I managed to acquire an HP-41C. I don't remember how exactly; I think it was second-hand. Before that, I had been using a TI-57. The TI was a great machine to learn on, and it taught me things that I've been using ever since; but the HP was a 'wow' moment. It was simply brilliant, and it got used extensively. At that time, TI and HP were at war, and the top calculators doing battle were the TI-59 and the HP-41. Frankly, I admired the TI-59 too, but the HP-41 was better ;-)

The accessories for the HP were too expensive, and I didn't have any, so when a few years later I needed something more practical, I sold the HP-41 and bought a Casio PB-700 with printer and

cassette storage. I always regretted selling the HP-41 (although I know it got to someone who put it to good use, like I had), but a cash-poor student has little choice. Don't get me wrong, the Casio was very good, and it got used nearly every day until the early 90's.

Forward many years, and I thought that I must have enough money now to buy an HP-41 again, this time with accessories - mostly for nostalgia; but I wondered if there were still any out there. Boy, was I surprised! So I got one, then two (you need a backup, right?), got the tape reader for it, then wondered what else from HP was worth looking for (I had seen HP-67s in my youth...). I spare you the details, but I turned into a collector without really realising it. I went through a magpie phase (I'm better now, thanks). It's not just HPs (I've got TIs, Casios, Sharps...), but HPs are the bulk of my collection.

In short, in my case it was nostalgia that made me look again for *the* machine of my youth, and it went on from there :-)

Philippe

Re: How do you sell your HP calculators?

*Message #79 Posted by **R.J. Soto** on 16 Oct 2009, 2:33 p.m.,*
in response to message #78 by Philippe Lasnier

Thanks for explaining your path to being a collector. Regarding Casio calculators, I seem to remember there was a Casio calculator which actually had a C compiler built in (or was it a Sharp calculator?) I thought this was quite surprising when I found out about it. You probably know (and possibly own) the calculator that I'm talking about.

Re: How do you sell your HP calculators?

*Message #80 Posted by **Mike Morrow** on 16 Oct 2009, 4:46 p.m.,*
in response to message #78 by Philippe Lasnier

> Quote:
>
> At that time, TI and HP were at war, and the top calculators doing battle were the TI-59 and the HP-41. Frankly, I admired the TI-59 too, but the HP-41 was better ;-)

The HP-67 was introduced in late 1976, and in response the TI-59 was introduced a few months later in May, 1977. I had both. Although the TI-59 is more technically innovative and has better performance than the HP-67, I went through several TI-59s by 1979 due to reliability problems. I never experienced any problems with my HP-67 until it had been in service more than four years, and the RPN programming was far more efficient than TI's AOS.

Thus, the numeric-only LED HP-67 was the true competitor to the numeric-only-except-for-printing LED TI-59. Introduced in 1979, the fully alphanumeric LCD HP-41C was in the "next generation." It is unfair to characterize the TI-59 as TI's competitor to the HP-41C.

Re: How do you sell your HP calculators?

*Message #81 Posted by **Philippe Lasnier** on 16 Oct 2009, 6:50 p.m.,*
in response to message #80 by Mike Morrow

Thanks for the precisions about the dates Mike. I need to put my statement in a narrower time-frame, and then it will be more accurate: I bought my HP-41C probably in late 1979 or early-to-mid 1980, in France. Going by the dates, the HP-41C would have been out (eclipsing the

HP-67), with the TI-59 being still alive and kicking (and no sign of any successor until the TI-66 in 1982). At that moment in time then, it is correct that the top calculators doing battle were the TI-59 and the HP-41 ;-)

I agree that the comparison was not fair though, so I stand corrected.

Ruben, I know the Casio you mean. Actually, there are many! But no, I don't own any, yet...I'm aiming for the PB-2000C and the FX-890P. Sharp had similar machines, but I haven't checked in detail.

Oops, we're getting off topic here...

Bonsoir,

Philippe

Re: How do you sell your HP calculators?

*Message #82 Posted by **Mike Morrow** on 16 Oct 2009, 10:13 p.m.,*
in response to message #81 by Philippe Lasnier

Philippe,

I apologize if my post sounded like a correction...it was really just an opinion.

Best regards!

Edited: 16 Oct 2009, 10:15 p.m.

Re: How do you sell your HP calculators?

*Message #83 Posted by **R.J. Soto** on 17 Oct 2009, 1:45 a.m.,*
in response to message #81 by Philippe Lasnier

> Quote:
>
> Ruben, I know the Casio you mean. Actually, there are many! But no, I don't own any, yet...I'm aiming for the PB-2000C and the FX-890P. Sharp had similar machines, but I haven't checked in detail.

Ah, so my memory wasn't completely wrong. Good luck with the hunt for one of these calculators!

Regards,

Ruben

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Pil Box ... works like a charm !

*Message #1 Posted by **Sean Connor** on 12 Oct 2009, 1:09 p.m.*

Had my Pil box for about three weeks now. Initially I had some problems with my (real) 71b locking up and lots of HPIL broken loop errors.

It was a problem with my Framework installation. I repaired it with the microsoft software and Voila ! It works like a charm.

Brilliant I'm chuffed to bits as we say over here.

Thanks to Jean-Francois for his efforts. It's worth every penny.

If this sounds like an advert I'll point out that I have no connection with Jean-Francois apart from buying a box from him LOL

Now HUNGRY for LIF images

Sean

Re: Pil Box ... works like a charm !

*Message #2 Posted by **Marcus von Cube, Germany** on 13 Oct 2009, 12:18 p.m.,*
in response to message #1 by Sean Connor

My PILBox with HP-71b chokes. What kind of framework update did you do? I guess you're talking about .Net. I'll test with a different PC later.

Re: Pil Box ... works like a charm !

*Message #3 Posted by **Egan Ford** on 13 Oct 2009, 12:59 p.m.,*
in response to message #2 by Marcus von Cube, Germany

What does PRINT VER$ return? PIL-Box 1.2 or 1.3?

Thanks.

Re: Pil Box ... works like a charm !

*Message #4 Posted by **Sean Connor** on 13 Oct 2009, 1:48 p.m.,*
in response to message #3 by Egan Ford

Framework 2.0 Will check version of PIL box tomorrow (it's at work)

Marcus how does it 'choke' ? What are the symptoms ?

Sean

Edited: 13 Oct 2009, 1:53 p.m.

Re: Pil Box ... works like a charm !

*Message #5 Posted by **Marcus von Cube, Germany** on 13 Oct 2009, 3:54 p.m.,*
in response to message #4 by Sean Connor

I get "HPIL ERR: Message Error" and scrambled output in the display window.

My HPIL-1A seems to be the culprit, at least that's what JF told me. I might have to reflash my PIC to get it working.

Re: Pil Box ... works like a charm !

*Message #6 Posted by **Sean Connor** on 14 Oct 2009, 4:26 a.m.,*
in response to message #5 by Marcus von Cube, Germany

VER$ does not return the PIL Box version. I asssume its the latest firmware though as the box ifs from JF's latest batch.

My HPIL is ver 1A

My problem was also either broken loop errors or HPIL message errors.

I could see output in the scope window but nothing in the display area.

Sean

Re: Pil Box ... works like a charm !

*Message #7 Posted by **Marcus von Cube, Germany** on 14 Oct 2009, 11:52 a.m.,*
in response to message #6 by Sean Connor

Seems to be the same case as mine. JFG is working on the problem. I've a prommer so I can update the FW in my PILBox from images recieved by mail. Hopefully this will result in a new FW that works with 1A.

Re: Pil Box ... works like a charm !

*Message #8 Posted by **J-F Garnier** on 14 Oct 2009, 1:13 p.m.,*
in response to message #6 by Sean Connor

Hi Sean,

At least, the PILBox (firmware 1.3) works correctly with your 1A module. I have no problem as well with my 1A module.

It seems there are some differences between the 1A modules, unless Marcus's problem is due to something else. But for the moment, I still suspect the 1A module because the symptoms are very similar to what I (and others) observed with 1A modules and PILBox firmware 1.2.

J-F

Re: Pil Box ... works like a charm !

*Message #9 Posted by **Marcus von Cube, Germany** on 15 Oct 2009, 4:12 p.m.,*
in response to message #8 by J-F Garnier

JF, we can swap our 1A modules for further testing.

Re: Pil Box ... works like a charm !

*Message #10 Posted by **ZOleg** on 15 Oct 2009, 6:56 p.m.,*
in response to message #8 by J-F Garnier

As I mentioned earlier in HP-IL 2009 thread there are problems with PILBox firmware 1.3 and HP-71B with HPIL version 1B.

Re: Pil Box ... works like a charm !

*Message #11 Posted by **Egan Ford** on 17 Oct 2009, 4:16 p.m.,*
in response to message #8 by J-F Garnier

> Quote:
>
> At least, the PILBox (firmware 1.3) works correctly with your 1A module. I have no problem as well with my 1A module.

I no longer have a problem with my 1A. I just reprogrammed the PIC today with 1.3 and tested with ILPer (Windows in a VM session), Linux and OS/X (hpil_test) without issue.

Re: Pil Box ... works like a charm !

*Message #12 Posted by **Marcus von Cube, Germany** on 17 Oct 2009, 4:34 p.m.,*
in response to message #11 by Egan Ford

My problem still persists, even with 1.3. It's probably my specific interface.

JFG has asked me to perform at test with another device in the loop. The only device I could provide was an old PC with Christoph's card and EMU41: It made the connection to ILPer work, but I have to recheck with a reversed setup (changing the position of the PC in the loop.)

Edit: I've just checked it: With the PC in the loop, PILBox works, without I get errors, no matter where in the loop the PC is.

Edited: 17 Oct 2009, 6:03 p.m.

Re: Pil Box ... works like a charm !

*Message #13 Posted by **Marcus von Cube, Germany** on 19 Oct 2009, 6:17 a.m.,*
in response to message #12 by Marcus von Cube, Germany

JFG has sent me a new incarnation of the firmware. This works better but mass storage access still produces errors. I'm positive that he will sort this out... :)

Re: Pil Box ... works like a charm !

*Message #14 Posted by **Marcus von Cube, Germany** on 25 Oct 2009, 4:44 p.m.,*

in response to message #13 by Marcus von Cube, Germany

JFG has created a fix for my HP-71b 1A HP-IL problem. The controller is simply too fast: It starts sending the next frame while it is still receiving the last package rearriving around the loop. This seems to have confused PILBox. Another device in the loop slows down communications enough to make PILBox happy.

The recent fix (1.3.3) introduces a special, jumper selectable, "no other device in the loop" mode that seems to take care of my 71b's behavior but might interfere with other devices in the loop. Since I don't have any other device, I'm happy with the solution.

Re: Pil Box ... works like a charm !

*Message #15 Posted by **Sean Connor** on 27 Oct 2009, 6:40 a.m.,*
in response to message #14 by Marcus von Cube, Germany

Hi Marcus,

Is this a firmware fix ? My PIL box has started to work intermitently with my 1A HPIL. It's really weired sometimes it will work for an hour and then on re-connecting fail for the rest of the day. I'm afraid I spoke too soon ! Maybe it's a temperature effect (clock drift ?) with the marginal timings.

Sean

Re: Pil Box ... works like a charm !

*Message #16 Posted by **Marcus von Cube, Germany** on 27 Oct 2009, 1:22 p.m.,*
in response to message #15 by Sean Connor

Sean, do you have any other HP-IL devices that you can put in the loop? If that fixes the problem, the new FW will help you. JFG can certainly send you the HEX file but you need a PIC programmer to install it on the chip.

Re: Pil Box ... works like a charm !

*Message #17 Posted by **Sean Connor** on 28 Oct 2009, 4:20 p.m.,*
in response to message #16 by Marcus von Cube, Germany

Hi Marcus

Yes I'll try to put my printer or 9114A in line tomorrow. I have a programmer so I may ask JFG for the new code.

Best Regards

Sean

Edited: 28 Oct 2009, 4:21 p.m.

Re: Pil Box ... works like a charm !

*Message #18 Posted by **Sean Connor** on 4 Nov 2009, 1:55 p.m.,*
in response to message #17 by Sean Connor

I tried the HP9114 in line and it still didn't work.

JFG has kindly sent me an upgraded firmware version to try.

Will keep you posted. It's a bit difficult at the moment as I'm trying to move my laboratory Where did I put that programmer LOL ?

PS never try to lift a Cascade Mirotech 12K prober with less than 4 VERY strong guys !!!

Edited: 4 Nov 2009, 1:57 p.m.

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HP-01 adjustable bracelet

*Message #1 Posted by **Alberto Fenini** on 12 Oct 2009, 9:53 a.m.*

Hello everybody, I know I have to buy the DVDs set but ... can anybody help me on how to remove links from the HP-01 bracelet ? There a couple too much and I'd like to adjust it without breaking it ... Promise I'll get my DVDs set, it's definetely necessary now ... Thanks in advance for help, Alberto

Re: HP-01 adjustable bracelet

*Message #2 Posted by **Walter B** on 12 Oct 2009, 1:51 p.m.,*
in response to message #1 by Alberto Fenini

Buona sera Alberto,

sorry I can't help you with the bracelet. But with the DVD set I recommend you wait a bit until Dave comes out with the update he said he will launch this autumn.

Cordialmente,

Walter

Re: HP-01 adjustable bracelet

*Message #3 Posted by **Maximilian Hohmann** on 13 Oct 2009, 3:03 a.m.,*
in response to message #1 by Alberto Fenini

Buongiorno!

> Quote:
>
> Hello everybody, I know I have to buy the DVDs set but...

That won't help, because it is not described in the user manual anyway ;-)

OK, this is how it goes: First, you detach one side of the folding clamp to get easy access to the bracelet. For this purpose, you need to squeeze the end of the stainless steel part (where there are to layers of sheet metal), which you then can hook-out from the steel pin that goes across the bracelet cover. (You also need to to this when you want to change batteries.)

Now you see that the three or four links closest to the clamp have little slots on the inside. You take a needle (or a very, very small screwdriver) and gently push it into the slot of the link you want to remove. While you apply pressure, the links can be slided out sideways. Be very gentle, there is not much force required to do it. Do not proceed if you encounter any resistance, the locking mechanism of the links is very delicate. Try another link instead.

Saluti, Max

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10C batteries

*Message #1 Posted by **John Mosand** on 12 Oct 2009, 6:06 a.m.*

Hi: I just replaced the batteries in my 10C after 27 yrs on the originals! I admit that it hasn't been in heavy use, I usually use my 48SX after I got that one as soon as it was introduced. 10C serial# 2247A02568.

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HP-01 help needed

*Message #1 Posted by **Alberto Fenini** on 9 Oct 2009, 6:43 p.m.*

Hello everybody, I need your help ! I have just received an HP-01 and I simply can't get it work. The item listed on ebay was pictured working, I have checked the batteris and are ok, what I'm I missing ? I just would be happy to see it showing date and time, any hint will be GREATLY appreciated, Alberto

HP-01 apart with pictures...

*Message #2 Posted by **Geoff Quickfall** on 9 Oct 2009, 10:46 p.m.,*
in response to message #1 by Alberto Fenini

Some basic points:

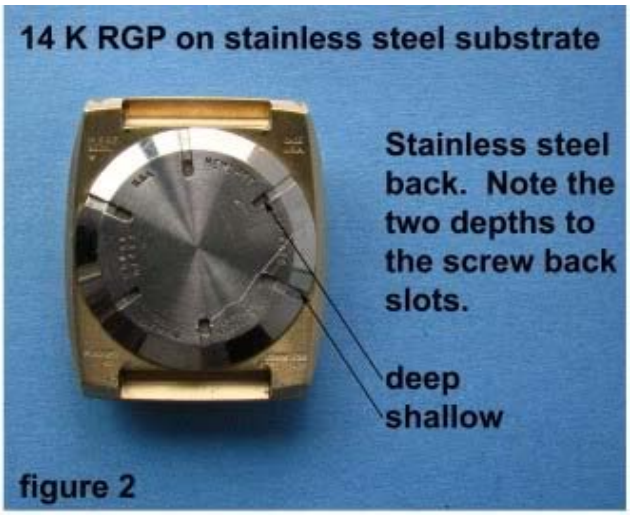
```
-  these watches are 30 years old.
-  they were beautifully engineered.
-  batteries leak or out gas.
-  the contacts on the battery holder (black plastic form) and
-  contacts on the (PCA)printed circuit assembly get dirty.
-  the contacts have a very narrow arc of contact.  That is the
   battery holder can shift in the case when the case back is put
   in place.
```

So without diassembly and with the back off the watch, remove the batteries noting the polarity of each. Clean the contacts on the PCA with a cotton swab and alcohol or contact cleaner. Allow to dry. Clean the contacts on the battery holder (do NOT attempt to remove it) just swab what you can. Replace the batteries observing the polarity marked on the PCA or with reference to the figures below. Once the batteries are in place press the reset button in figure 5.

Now let us know how it worked or email me personally.

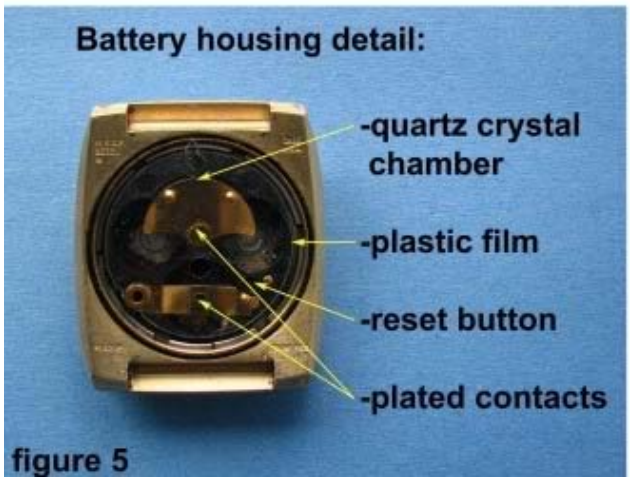
Good luck, Geoff

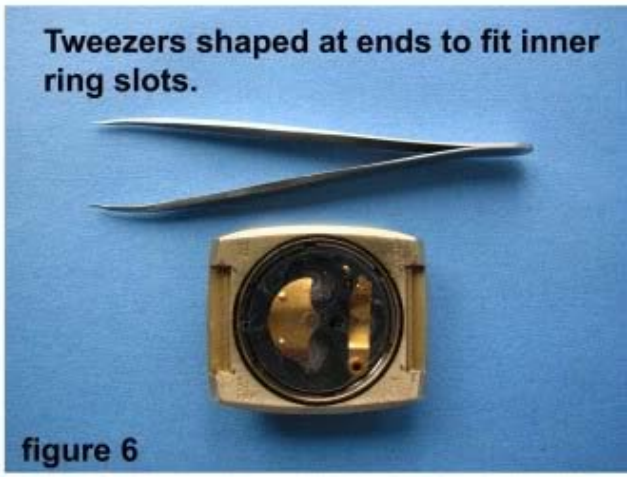
A rolled gold plate watch (RGP)
-scratched crystal
-dirty keyboard
-marred case
figure 1

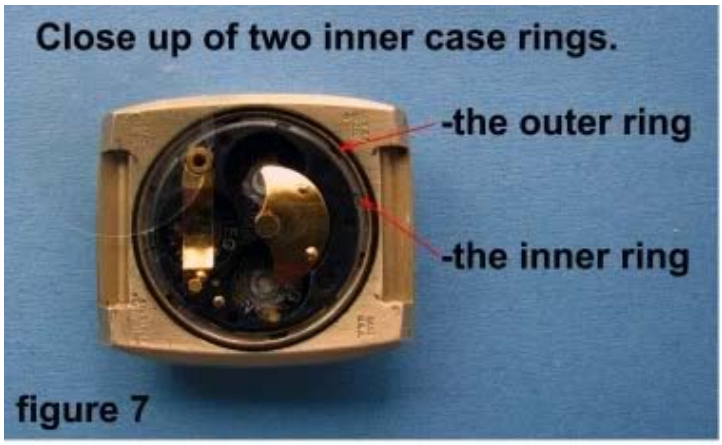

14 K RGP on stainless steel substrate
Stainless steel back. Note the two depths to the screw back slots.
deep
shallow
figure 2

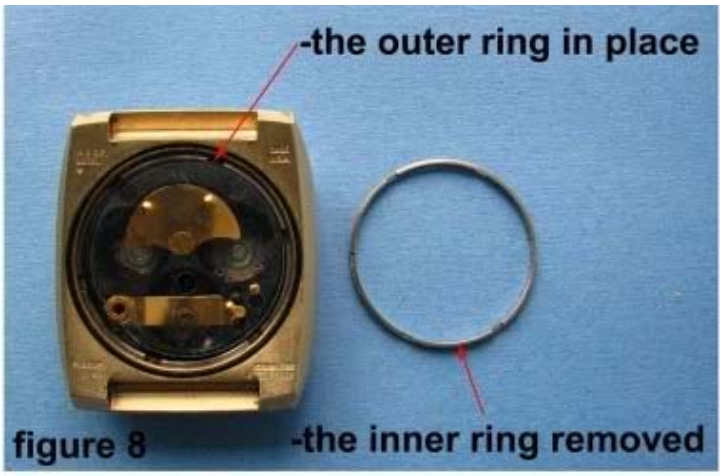
Case back and case wrench
figure 3

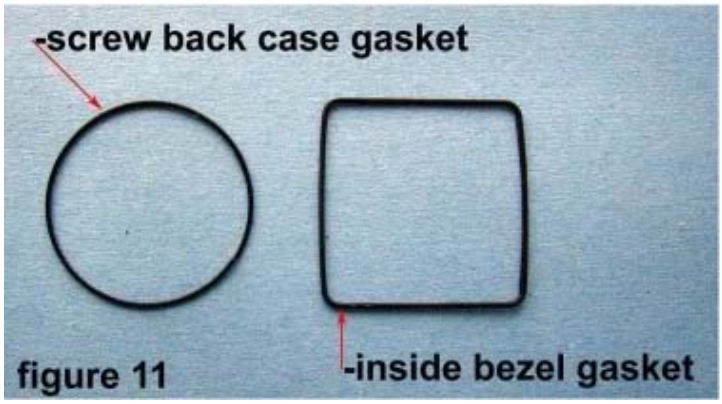
Case back removed exposing battery housing
piezo buzzer
figure 4


Battery housing detail:
-quartz crystal chamber
-plastic film
-reset button
-plated contacts
figure 5


Tweezers shaped at ends to fit inner ring slots.
figure 6







Edited: 9 Oct 2009, 10:52 p.m.

Re: HP-01 apart with pictures...

*Message #3 Posted by **Alberto Fenini** on 10 Oct 2009, 6:58 a.m.,*
in response to message #2 by Geoff Quickfall

Dear Geoff, dear all, first of all thank you for the prompt response.

I did all of the things you suggested, (actually I didn't take apart the whole watch) but yet, the display remains black ...

Few things I don't know (forgive me if are obviuos to most of the readers and to you) :

a. should the watch work without the metal back cover mounted ? (this will make easier future tests

b. should it work, what should happen ? should display a default date and a running time ?

c. Now, about batteries, the watch comes from australia and the batteries inserted are Energizer 357/303, I have checked them with a voltmeter, and these provide a good 1.5 volt output. What do you suggest ?

Ebay Item was 260478798693, and to me, it really looked like it was working, could the shipping have ruined it ? It was very well packaged.

Again, thank you very much for help.

Re: HP-01 apart with pictures...

*Message #4 Posted by **Geoff Quickfall** on 10 Oct 2009, 10:47 a.m.,*
in response to message #3 by Alberto Fenini

a. should the watch work without the metal back cover mounted ? (this will make easier future tests)

Yes it will except for the piezo transducer (beeper) as that is built into the case back.

b. should it work, what should happen ? should display a default date and a running time ?

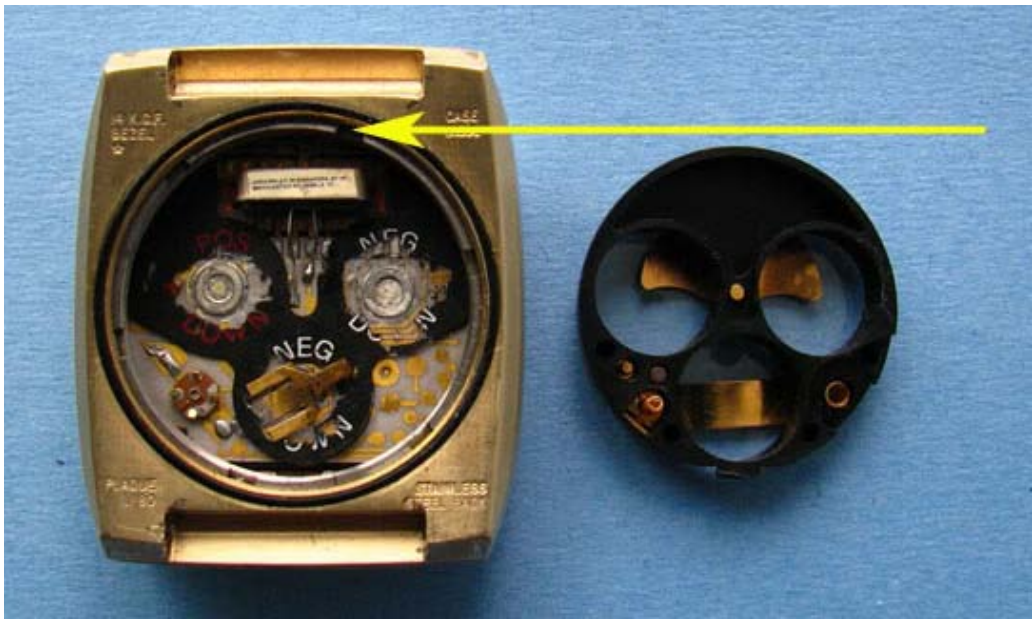
NO, you have to push the date button or time button. It MAY display a 0 followed by a decimal. If you press the reset button then you will get the 0. display

c. Now, about batteries, the watch comes from australia and the batteries inserted are Energizer 357/303, I have checked them with a voltmeter, and these provide a good 1.5 volt output. What do you suggest ?

The batteries are correct and show the correct voltage, HOWEVER, PURCHASE some new ones as a voltmeter does not test a battery with a draw on it. I have had bad batteries test close to 1.5 volts and not power the watch. These batteries when new on a volmeter should indicate 1.55 volts. The caveat here is to install new batteries prior to disassembly just in case!

Email me personally before you decide to disassemble the watch. When looking at the watch with it's face down and the case back off the sequence of battery placement should be:

```
upper left:    positive down   display battery
upper right:   negative down   display battery
lower centre:  negative down   memory battery  (also required for display to work but does
not power the display)
```



Ebay item 260478798693

He has the stopwatch function running. Have you tried pushing the upper right hand button marked S to see if that function works?

These watches are problematic when it comes to repair. Typically the batteries leak or out gas and corrode the PCA. A second failure point which can occur is the Quartz Crystal which can be replaced. The trimming capacitor can also be replaced. Contact breaks at both these points lead to a blank display.

Cheers, Geoff

geoffqf@nospamtelus.net remove the nospam part!

Edited: 10 Oct 2009, 11:00 a.m.

Re: HP-01 apart with pictures...

*Message #5 Posted by **Alberto Fenini** on 10 Oct 2009, 5:56 p.m.,*
in response to message #4 by Geoff Quickfall

it works ! it works ! it works ! it works ! it works ! it works ! it works ! it works ! it works ! it works ! it works ! it works ! it works ! it works ! it works ! it works ! it works ! it works ! it works ! it works !

I know it's childish, but, it works !! THnkas Geoff and thanks Bob, it really needed a fresh set of batteries, it was in very good shape and cleaned, so it was very frustating, I hope to post soon (if ever of interest) pictures of this beatiful piece of design.

Again, thx everybody, take care Alberto

Geoff, I'm ready to buy the book you are working on it when it will be ready, ay bews about it ?

Re: HP-01 apart with pictures...

*Message #6 Posted by **Juergen Keller** on 10 Oct 2009, 6:58 p.m.,*
in response to message #5 by Alberto Fenini

Enjoy your new gem!

Yep, the old dead battery trick!!!

*Message #7 Posted by **geoff quickfall** on 10 Oct 2009, 8:52 p.m.,*
in response to message #5 by Alberto Fenini

Right on and enjoy it!

The book is almost complete. Some of the HCC2009 people got to see it and they also got chapter eight in the proceedings.

The hardest part will be tracking down who gets credit for what but that will be done.

Cheers, Geoff

the pictures above have been modified from the book, but the HP-01 is chapter six.

Edited: 10 Oct 2009, 8:53 p.m.

Re: HP-01 apart with pictures...

*Message #8 Posted by **BobVA** on 10 Oct 2009, 11:03 a.m.,*
in response to message #3 by Alberto Fenini

Hi:

Edit: removed duplicative stuff: Geoff answered tech questions before I did (and better!)]

Random thoughts:

If you haven't seen it already, this may interest you: http://www.hpmuseum.org/hp01.htm particularly if you didn't get a manual.

Just to rule out any strange battery issues, you might want to try out a fresh set.

Good luck it getting it working.

Bob

Edited: 10 Oct 2009, 11:23 a.m.

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HP50G related: is it just me or this is new?

*Message #1 Posted by **Vieira, Luiz C. (Brazil)** on 9 Oct 2009, 3:23 p.m.*

Hi, everybody.

Some time ago I was lurking around the forum, just randomly reading the posts, and someone mentioned this stuff with the complaint that it was not HP49/50G addressed, only HP39/40G. A few weeks ago, I red this thread and decided to upgrade my HP49G (test driver) prior to upgrade the HP50G. It was a big surprise to see that the APPS menu offered, along with the equation library (12th. entry) and the periodic table (13th. entry), a StreamSmart menu (14th. entry). Was the StreamSmart menu available in previous O.S. versions for the HP49/50G or is this the first one?

Please, if this is yesterday news, let me know and forgive me...

Cheers.

Luiz (Brazil)

Edited: 9 Oct 2009, 3:34 p.m.

Re: HP50G related: is it just me or this is new?

*Message #2 Posted by **Tim Wessman** on 9 Oct 2009, 5:12 p.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

That is the first one. Is that a 49G you installed it on. . . or a g+? As far as I know it shouldn't boot on a 49G.

TW

Edited: 9 Oct 2009, 5:13 p.m.

(edited) HP50G related: is it just me or this is new?

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 9 Oct 2009, 5:56 p.m.,*
in response to message #2 by Tim Wessman

Hi, Tim;

you are correct, it worked fine the HP49G+ and the HP50G. I did not test it in the HP49G (should not work, you are correct). I do not have a Stream Smart (yet...) to test it, but the OS ran smooth in both calculators.

In time: I added a 1GB SD card to the HP50G (long time ago) and tried to format it with the calculator OS. Did not succeed formatting the card with all available space, but after formatting through the computer (FAT32, 512K/cluster) the calculator saw the hole 1GB. I wonder if this new version allows formatting a card that big.

Cheers.

Luiz (Brazil)

Edited: 9 Oct 2009, 6:23 p.m.

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HP20 and USB as showed at HHC

*Message #1 Posted by **cyrille de Brebisson** on 9 Oct 2009, 10:34 a.m.*

Hello,

someone at HHC showed me hi modified HP20b with a USB chip mounted in the 20b box...

Can you give me the chip reference?

thanks, cyrille

Re: HP20 and USB as showed at HHC

*Message #2 Posted by **Pavneet Arora** on 9 Oct 2009, 12:20 p.m.,*
in response to message #1 by cyrille de Brebisson

I believe Vern Lindsay had one with him. At least it had the USB connector exposed at the bottom. Sorry don't know about the chip(set).

Vern made it sound like he lived just across the street from you ;) ;).

Edited: 9 Oct 2009, 12:25 p.m.

Re: HP 41CX locked in program mode

*Message #3 Posted by **Raymond Del Tondo** on 9 Oct 2009, 4:01 p.m.,*
in response to message #2 by Pavneet Arora

Afaik Vern lives in or somewhere near the potato capital, so this should be near to Cyrille's house;-)

Re: HP20 and USB as showed at HHC

*Message #4 Posted by **Paul Dale** on 9 Oct 2009, 4:59 p.m.,*
in response to message #1 by cyrille de Brebisson

This is interesting. I was recently thinking about how to add some kind of serial connection or IR output to the 20b :-)

- Pauli

Re: HP20 and USB as showed at HHC

*Message #5 Posted by **Bill Wiese** on 9 Oct 2009, 7:18 p.m.,*
in response to message #4 by Paul Dale

I have no direct info, but I'd gues that person just glued in an FTDI USB/serial chip (or maybe one from Silabs/Cygnal)...

Bill Wiese San Jose CA

Re: HP20 and USB as showed at HHC

*Message #6 Posted by **Scott Newell** on 9 Oct 2009, 7:47 p.m.,*
in response to message #4 by Paul Dale

I was surprised to find that the 20B back cover is not transparent to IR.

Re: HP20 and USB as showed at HHC

*Message #7 Posted by **Eric Rechlin** on 9 Oct 2009, 7:20 p.m.,*
in response to message #1 by cyrille de Brebisson

I think Vern said it was a FT232 variant he bought pre-mounted to a board from SparkFun. The only problem was it was mounted on a 1/16" board instead of a 1/64" board, so it was too thick to close the case properly.

Re: HP20 and USB as showed at HHC

*Message #8 Posted by **Bruce Bergman** on 10 Oct 2009, 12:37 a.m.,*
in response to message #1 by cyrille de Brebisson

If we track him down, someone please let me know -- I'd really like to add that information to the HP-20b wiki. I think that would be a perfect add-on to the wiki (and the 20b!).

thanks, bruce

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HP-35 screw dimension

*Message #1 Posted by **Andreas Grund** on 8 Oct 2009, 10:10 p.m.*

I would need to know the exact dimensions of the screws (diam., length) inside the HP-35 battery compartment. In my 35 one screw is missing, the other got replaced by a silver color screw in an apparent attempt by a previous owner. I do not want to remove resp. destroy the intact backside label to check with the remaning screws. I hope to get such screws as spare part, although I live in the metric world....

Thanks & regards,

Andreas

Re: HP-35 screw dimension

*Message #2 Posted by **Dan W** on 8 Oct 2009, 10:33 p.m.,*
in response to message #1 by Andreas Grund

> Quote:
>
> I would need to know the exact dimensions of the screws (diam., length) inside the HP-35 battery compartment. In my 35 one screw is missing, the other got replaced by a silver color screw in an apparent attempt by a previous owner. I do not want to remove resp. destroy the intact backside label to check with the remaning screws. I hope to get such screws as spare part, although I live in the metric world....
>
> Thanks & regards,
>
> Andreas

If one screw is missing, I'd probably lift up one of the feet and unscrew the one from there and move it to the battery compartment. I doubt the calculator will notice the one under the feet missing.

Or I'd take the screw to the largest nearby hardware store and try to match it with what they have. I matched a HP-97 screw very closely in the wood screws section.

Re: HP-35 screw dimension

*Message #3 Posted by **Michael de Estrada** on 8 Oct 2009, 10:49 p.m.,*
in response to message #1 by Andreas Grund

First, these are self-tapping screws and not machine screws. They tap the threads into the plastic posts in the case when they are first installed at the factory. I measured a few with a digital caliper, and they are approximately 7.2mm long and 2.2mm diameter. The thread pitch is very approximately 0.8mm, but I don't have a proper pitch gauge to measure this. The replacement screw may be bigger, in which case the original screw will no longer be a tight fit. I fixed this in one calc that had been previously opened by using a longer screw to make some new deeper threads.

Regards,

Michael

Re: HP-35 screw dimension

*Message #4 Posted by **Eric Smith** on 8 Oct 2009, 11:52 p.m.,*
in response to message #3 by Michael de Estrada

> Quote:
>
> I fixed this in one calc that had been previously opened by using a longer screw to make some new deeper threads.

That is in fact the official repair technique right out of the HP service manuals.

Re: HP-35 screw dimension

*Message #5 Posted by **Andreas Grund** on 9 Oct 2009, 1:04 a.m.,*
in response to message #4 by Eric Smith

Thank you for the fast responses. First, I "reuse" the screws under the rubber feet for the more visible locations in the battery compartment and then I check for new screws of suitable size in the next hardware shop.

Andreas

Re: HP-35 screw dimension

*Message #6 Posted by **Randy** on 10 Oct 2009, 11:52 a.m.,*
in response to message #5 by Andreas Grund

HP did in fact use silver colored screws in early 35's so I would not assume it was an owner repair, more than likely it was original if the the pitch was the same as other screws inside the unit. FWIW, many 35's had a mix of both black oxide and silver colored screws.

I don't know what luck you'll have finding a metric substitute since the originals are a standard U.S. numbered screw size and further, they are of a unique self tapping design specifically for plastic and are sold under the trademarked name "Plastite".

Re: HP-35 screw dimension

*Message #7 Posted by **Andreas Grund** on 10 Oct 2009, 11:07 p.m.,*
in response to message #6 by Randy

Interesting to learn that screws of different colors were used even within the same calculator, I did not know that.

Meanwhile I got in a hardware shop silver color self tapping screws of 2.3x8mm, pitch 0.8, should be a suitable replacement.

greetings, Andreas

Edited: 10 Oct 2009, 11:07 p.m.

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Need advice: 48SX battery leak repair

*Message #1 Posted by **Scott Newell** on 8 Oct 2009, 9:54 p.m.*

I caught it early (only the lower negative contact was affected), and cleaned the contact with Q-tips and vinegar, water, and alcohol. Looks pretty good, from what I can see. (Maybe a dot or two of green stuff on the backside of the contact--hard to say.)

However, the bottom row of keys are making a sorta wet squishy sound, so I'm concerned that I may have wicked the vinegar into the keypad. What's my best option for cleanup at this point? I'd really rather not open the case.

Dip the bottom inch of so in distilled water, then let it dry out for a week or so?

I wonder if Duracell will send me a coupon to make up for it.

Re: Need advice: 48SX battery leak repair

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 8 Oct 2009, 10:37 p.m.,*
in response to message #1 by Scott Newell

H, Scott;

> Quote:
>
> Dip the bottom inch of so in distilled water, then let it dry out for a week or so?

I am not quite sure about this, but I'd try it myself if the calculator is mine.

If you do that, please, let us know.

Success!

Luiz (Brazil)

Re: Need advice: 48SX battery leak repair

*Message #3 Posted by **Iqbal** on 11 Oct 2009, 10:25 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Luiz, congrats on your country Brazil hosting the 2014 world cup. I sent a few calculators that had battery problems (exploding, leaking, corroded contacts etc) and Randy from fixthatcalc.com fixed them up as good as new. I know he is stacked up with work, but if you treasure your HP like myself, the wait shouldn't be a problem. Luiz, I know the distill water works for dirt and stuff, but I am not sure if it'll work for battery leaks.

Re: Need advice: 48SX battery leak repair

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 12 Oct 2009, 11:27 p.m.,*

in response to message #3 by Iqbal

Hello, Iqbal; long time no talk...

Are you using SUBDIV yet? I was 'organizing and cleaning my attic' (my house has no attic, just a figure of speech...) and found many program listings, amongst them what seems to be SUBDIV´s last version. Good days, though...

Thanks for your mentioning the soccer (football?) world-series cup. I just hope our country, meaning people and government, makes to deserve it... There are many major problems to be fixed in Brazil prior to welcome tourists all over the world the way it must be done. Well, time will tell. I´m an optimist, just do not believe in miracles, I believe in people´s will and hard work. Miracles work well in the big screen, not that much in real life.

About the HP48 and the leakage: I considered that, at least, we'll have the alkaline leakage being diluted in distilled water, reducing its action for the moment. My advise (and this is something I'd do, actually) would be to remove the batteries and dip the bottom part of the calculator in distilled water till the water covers the battery compartment. Gently shake it and allow the water to pass through it, dissolving the alkaline solution. I'd repeat the process at least three times, with new amount of distilled water. THEN... I'd allow it to dry a little bit while setting the arrangements with Randy to send it to fixthatcalc d8^)

Once, I was given an HP48G that stopped working for good. I opened it and part of the internal metal frame was corroded by leakage (the owner had told me about that). The problem is that the leakage also corroded the carbon-based tracks of the flex keyboard circuit, hence the nonworking condition. I did not have conductive tape, but I decided to try to rebuild it with conductive ink, only to see what happened. I did not succeed putting it to work, though...

Not much of a help, but at least I cleared some points out. Thnaks, Iqbal; good reading from you.

Success!

Luiz (Brazil)

Edited: 12 Oct 2009, 11:36 p.m.

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The HP-01 of our time

*Message #1 Posted by **hecube** on 8 Oct 2009, 6:42 p.m.*

http://www.cognitime.no/

Re: The HP-01 of our time

*Message #2 Posted by **DaveJ** on 8 Oct 2009, 7:17 p.m.,*
in response to message #1 by hecube

> Quote:
>
> http://www.cognitime.no/

How is that comparable?
The HP-01 was a calculator watch.

Dave.

The shape?

*Message #3 Posted by **geoff quickfall** on 8 Oct 2009, 8:04 p.m.,*
in response to message #2 by DaveJ

nt

Re: The shape?

*Message #4 Posted by **DaveJ** on 8 Oct 2009, 8:49 p.m.,*
in response to message #3 by geoff quickfall

and that's exciting, how? :-/

Dave.

Re: The shape?

*Message #5 Posted by **BruceH** on 9 Oct 2009, 3:05 a.m.,*
in response to message #4 by DaveJ

It's not the shape it will be the cost. Hugely expensive, so that no one buys one and then becomes a rare collectors piece in 20 years.

Re: The shape?

*Message #6 Posted by **hecube** on 9 Oct 2009, 12:02 p.m.,*
in response to message #5 by BruceH

That's what I was thinking. And the shape is vaguely reminiscent of the HP-01.

Re: The HP-01 of our time

*Message #7 Posted by **Katie Wasserman** on 8 Oct 2009, 9:47 p.m.,*
in response to message #2 by DaveJ

It says that it runs "applications" but there no examples of them yet. Perhaps one of the apps will be a calculator.

Re: The HP-01 of our time

*Message #8 Posted by **DaveJ** on 9 Oct 2009, 12:57 a.m.,*
in response to message #7 by Katie Wasserman

Quote:

It says that it runs "applications" but there no examples of them yet. Perhaps one of the apps will be a calculator.

With what user interface?
I've got a scientific calculator app on my Timex USB datalink watch, but using the crown to spin up numbers one-by-one isn't exactly efficient.

Dave.

Re: The HP-01 of our time

*Message #9 Posted by **Katie Wasserman** on 9 Oct 2009, 11:16 a.m.,*
in response to message #8 by DaveJ

> Quote:
>
> With what user interface?

I have no idea but the face is at least partially touch sensitive (they have a demo of that) and they claim to have to calendar and event functionality built-in so there must be at least a graphical way to display numbers and enter them.

Re: The HP-01 of our time

*Message #10 Posted by **Martin Pinckney** on 9 Oct 2009, 7:37 a.m.,*
in response to message #1 by hecube

Fascinating ... a digital display that's analog.

Re: The HP-01 of our time

*Message #11 Posted by **Martin Pinckney** on 9 Oct 2009, 9:36 a.m.,*
in response to message #10 by Martin Pinckney

It's what my Uncle used to call a Wonder Watch - you stare at it and wonder what time it is.

Re: The HP-01 of our time

*Message #12 Posted by **hecube** on 9 Oct 2009, 12:01 p.m.,*
in response to message #11 by Martin Pinckney

Ha ha!

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HP-IL 2009

*Message #1 Posted by **Egan Ford** on 8 Oct 2009, 3:43 p.m.*

I uploaded a PDF of my HHC 2009 PPT here: http://sense.net/~egan/HHC%202009%20HPIL.pdf.

Since it was a live demo much of this PDF may make little sense.

The big picture:

The PIL-Box with a laptop can be used to access physical HP-IL peripherals (HP 32 column video tested) from emulators (EMU41 and Nonpareil tested).

And

The PIL-Box with a laptop can be used by physical calculators (41CX, 71B, and EMU41 on PC with ISA card tested) to access emulated peripherals (ILPer simulating storage and printer tested and test_hpil simulating 32 column video and printer tested).

And

The two above mixed together. I.e. you can create a virtual HP-IL loop of physical and virtual devices.

An easier way to think of all of this is that an old PC with HP-IL ISA is equivalent to a modern PC with a PIL-Box.

Lastly, Windows, OS/X and Linux tested. My demo was done with Windows in VMware and OS/X.

The other big announcement was that for the first time ever there is an open source HP-IL implementation. ILPer (Windows VB), Nonpareil with HP-IL patches (C code), and test_hpil (C code) include the source.

In time Khanh-Dang may have a virtual PIL-Box completed. I.e. HP-IL to TCP (its mostly available today in the Nonpareil HP-IL patch). With this I should be able to create an HP-IL loop that spans the globe. NOTE: This is HP-IL encapsulated in IP, not IP encapsulated in HP-IL. The later is already done (NutIP).

How would you use HP-IL over TCP? Well let me give you an example. Say that I wrote a program for the 71B that you really wanted. I could email it to you or post it, then you'd have to find a way to get it into a LIF image so that you could use your PIL-Box to get to it via test_hpil or ILPer, or I could send you a LIF. Or... I could put it in a virtual storage device on a virtual loop and just send you the IP address. Then you connect to the PIL-Box, launch test_hpil with some option to extend your virtual loop to mine via TCP, then from the 71B you just read it from my virtual storage. (Howard Owen is drooling, I can see it from New York :-).

And, that is just the begining of many possible cool things to come.

Re: HP-IL 2009

*Message #2 Posted by **Geoff Quickfall** on 8 Oct 2009, 4:01 p.m.,*
in response to message #1 by Egan Ford

Thanks Egan,

Your explanation and talk at the HCC this year has convinced me of the need to update my 41C and 71B with a PIL-box.

The talk was wonderful as well as the demo. Most of the new peripherals for the HP-41 et.al. seem to be complex in usage but your demo disproved that!

Cheers, Geoff

And good to meet you also!

Re: HP-IL 2009

*Message #3 Posted by **Egan Ford** on 8 Oct 2009, 10:27 p.m.,*
in response to message #2 by Geoff Quickfall

Thanks. Likewise.

And we are talking 30YO technology...

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 8 Oct 2009, 5:15 p.m.,*
in response to message #1 by Egan Ford

Hi, Egan;

thanks for your very interesting information.

I contacted J. F. Garnier about three weeks ago in order to know how to buy a PIL-Box, but I had no answer from the second e-mail. I'll wait for a bit more and ask him again. It seems to me the PIL-Box is the best solution for connecting the HP41 to the new computers through USB ports.

In time: any chance that we have HPIL-cable clones? I guess that with available technology they are not that hard to be 'reversed-engineered'.

Cheers.

Luiz (Brazil)

Re: And we are talking 30YO technology...

*Message #5 Posted by **Egan Ford** on 8 Oct 2009, 10:26 p.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

> Quote:
>
> I contacted J. F. Garnier about three weeks ago in order to know how to buy a PIL-Box, but I had no answer from the second e-mail. I'll wait for a bit more and ask him again. It seems to me the PIL-Box is the best solution for connecting the HP41 to the new computers through USB ports.

Just ping him again.

> Quote:

> In time: any chance that we have HPIL-cable clones? I guess that with available technology they are not that hard to be 'reversed-engineered'.

I was thinking that myself. Would any know how hard it would be to create new cables and peripheral connectors?

Re: And we are talking 30YO technology...

*Message #6 Posted by **Eric Smith** on 8 Oct 2009, 11:54 p.m.,*
in response to message #5 by Egan Ford

It is unfortunate that the HP-IL specifications actually do NOT include proper mechanical drawings of the connectors. They have drawings, but the drawings are missing many important dimensions.

It would also be nice if we had specifications of the actual cable HP used. I haven't found any other cable quite like it.

Re: HP-IL 2009

*Message #7 Posted by **Martin Pinckney** on 9 Oct 2009, 7:47 a.m.,*
in response to message #1 by Egan Ford

Egan,

Even though:

1. I was not there

2. I don't have a 41

3. I have only the foggiest notion of what HP-IL is

4. I have no idea what Nonpareil, TCP, or most of the other jargon means

Still, I found your presentation enjoyable.

Re: HP-IL 2009

*Message #8 Posted by **Egan Ford** on 9 Oct 2009, 3:46 p.m.,*
in response to message #7 by Martin Pinckney

> Quote:
>
> 1. I was not there

Bummer, perhaps next year. :-)

> Quote:
>
> 2. I don't have a 41

I didn't have one until 2007. It's never too late. :-)

> Quote:

> 3. I have only the foggiest notion of what HP-IL is

http://en.wikipedia.org/wiki/HP-IL is a good place to start. Think something like USB for calculators in the early 80s. IOW, its a network--a way to move data.

> Quote:
>
> 4. I have no idea what Nonpareil, TCP, or most of the other jargon means

Nonpareil is an open source *Swiss Army* HP calculator emulator. One of the models emulated is the 41.

TCP is short for TCP/IP.

> Quote:
>
> Still, I found your presentation enjoyable.

Excellent. Thanks.

Re: HP-IL 2009

*Message #9 Posted by **ZOleg** on 9 Oct 2009, 8:19 p.m.,*
in response to message #1 by Egan Ford

I recently received my PILBox and began to experiment.

In Windows XP x86:
1) HP-71B, HP-82161A and ILPer 1.3.1 works fine on normal and high speed.
2) HP-71B and Emu41 2.47 only work on normal speed, on high-speed Emu41 simply do not see any external device and HP-71B do not see Emu41 internal devices.
3) HP-82161A and Emu41 2.47 do not work together at all, when i try read directory or file from tape, recorder rewinds the tape, then just nothing happens - on recorder Busy lamp is flashing and Emu41 does not respond to any command until pressed F12. (Emu41 works in slow mode as specified in manual)

In Windows 7 Ultimate x64:
1) When i copy my files from HP-71B to HDRIVE1 on ILPer 1.3.1 at the end of the process of copying a message on 71B - HPIL ERR:Frames Altered. If repeat copy same file 2-3 times, then everything goes well (without any error). I tried with high-speed and norlmal-speed - same result, i tried small and big files - same result, i tried basic and lex files - same result.
2) If i use ILPer as DISPLAY or PRINTER device - all is in most cases normal, but sometimes by transmission characters disappear or garbage is transferred.

I dont have Linux to try modified Nonpareil, may be someone will tell me how to compile Nonpareil in Windows?

Edited: 9 Oct 2009, 8:35 p.m.

Re: HP-IL 2009

*Message #10 Posted by **Eric Smith** on 10 Oct 2009, 1:05 a.m.,*
in response to message #9 by ZOleg

There is currently no working way to compile Nonpareil for Windows. I hope to address that in early 2010.

The plan is to switch from GTK+ to Qt, as Qt has much better cross-platform support.

Re: HP-IL 2009

*Message #11 Posted by **Egan Ford** on 10 Oct 2009, 2:01 p.m.,*
in response to message #9 by ZOleg

> Quote:
>
> 2) HP-71B and Emu41 2.47 only work on normal speed, on high-speed Emu41 simply do not see any external device and HP-71B do not see Emu41 internal devices.

JFG stated to me that EMU42 2.47 will only function at 9600 baud (slow speed).

> Quote:
>
> 3) HP-82161A and Emu41 2.47 do not work together at all, when i try read directory or file from tape, recorder rewinds the tape, then just nothing happens - on recorder Busy lamp is flashing and Emu41 does not respond to any command until pressed F12. (Emu41 works in slow mode as specified in manual)

I have been able to reproduce this problem as well with EMU41. JFG did state that the EMU41 2.47 support of the was experimental. However, from Nonpareil with the PIL-Box patch it works as expected. NEWM, READP, WRTP, and DIR all behaved as expected.

> Quote:
>
> 1) When i copy my files from HP-71B to HDRIVE1 on ILPer 1.3.1 at the end of the process of copying a message on 71B - HPIL ERR:Frames Altered. If repeat copy same file 2-3 times, then everything goes well (without any error). I tried with high-speed and norlmal-speed - same result, i tried small and big files - same result, i tried basic and lex files - same result.
> 2) If i use ILPer as DISPLAY or PRINTER device - all is in most cases normal, but sometimes by transmission characters disappear or garbage is transferred.

I suspect a bug in ILPer. I have issue #2 as well (did not test #1). JFG said that it may be a timing issue with the 1A version of the 71B HP-IL module. I have 1A and PIL-Box 1.2 and also have the dropped data. However with test_hpil on OS/X simulating a 32 col video and printer I was able to print out long 71B programs without missing characters. I'll try to add mass storage to test_hpil today and test for you.

I speculate that most of your issues are with software and not the PIL-Box.

> Quote:
>
> I dont have Linux to try modified Nonpareil, may be someone will tell me how to compile Nonpareil in Windows?

That may be a bit tricky. There are 3 versions of Nonpareil with HP-IL support. The first dated 7/14/09 has working simulated HP-IL support in Nonpareil with PIL-Box support that did not work. I was able to build that version for Windows under Cygwin. I'll try again and document it this time. It is not ideal, but it worked.

The 2nd is the work that Khanh-Dang did to fix the PIL-Box support. That has not been released, however I can zip/tar it up for you if you want to give Cygwin/X a crack with it.

The 3rd is test_hpil (still part of Nonpareil, but to be standalone in the future). test_hpil is hardcoded with a printer and a video display. It was done at the last minute for HHC 2009. I should be able to add mass storage.

The 2nd/3rd may be problematic for Windows since the way Linux/UNIX access serial devices is different that Windows, however if Cygwin/X exposes that as Linux-ish, then it should work. I'll try to give it a shot this weekend. I have a new XP SP3 machine I can try on.

Bottom line, my PIL-Box experiences with Nonpareil/test_hpil have been stellar and without issue. I believe the PIL-Box to be feature complete, but think the Windows software may need a bit of help. BTW, source is included with ILPer, so you can fix yourself. :-)

Re: HP-IL 2009

*Message #12 Posted by **Egan Ford** on 10 Oct 2009, 2:36 p.m.,*
in response to message #11 by Egan Ford

> Quote:
>
> I have 1A and PIL-Box 1.2 and also have the dropped data. However with test_hpil on OS/X simulating a 32 col video and printer I was able to print out long 71B programs without missing characters.

Hmmm... I have been trying to reproduce all my testing and document. I was able to do a long listing with my 71B last week before the conference, however I just tried again and I am getting the same dropped char result I got with ILPer. JFG is sending me PIL-Box 1.3 firmware for me to test with 1A on the 71B. Hopefully that will fix my problem. Still stumped however, it was working.

Re: HP-IL 2009

*Message #13 Posted by **Egan Ford** on 10 Oct 2009, 2:43 p.m.,*
in response to message #12 by Egan Ford

Update. It's more stable at 9600. I am unsure where the problem is. Could be the PIL-Box 1.2 or test_hpil. I am not going to bother with a mass storage simulation test with test_hpil until the printing from the 71B is resolved.

I have been unable to produce any problems with a physical 41CX. It may be that the 41CX is too slow. I'll test with EMU41 on a PC as a 41CX running at full speed.

Re: HP-IL 2009

*Message #14 Posted by **J-F Garnier** on 11 Oct 2009, 3:36 a.m.,*
in response to message #13 by Egan Ford

The timing problem Egan is mentionning is specific to the HP71B HPIL module version 1A. It will not happen with the HP41. Actually the timing difference that causes problem to the PILBox is due to the firmware of the embedded uC inside the HPIL module. I have no way to findout the firmware revision, but it seems it has changed at some point, more or less when the 1B revision was released.

I advise HP71's users to find a 1B module. Not only the PILBox will work better, but you will get rid of revision 1A bugs that can cause Memory Lost, see my web page.

J-F

Added note: this timing problem is solved, in principle, with PILBox firmware 1.3.

Edited: 11 Oct 2009, 3:47 a.m.

Re: HP-IL 2009

*Message #15 Posted by **ZOleg** on 11 Oct 2009, 7:36 a.m.,*
in response to message #14 by J-F Garnier

How to update PILBox firmware to 1.3 version?

Re: HP-IL 2009

*Message #16 Posted by **J-F Garnier** on 11 Oct 2009, 11:28 a.m.,*
in response to message #15 by ZOleg

You already have the latest firmware 1.3, Egan has not (not yet).

I can send replacement uC in case of firmware upgrade.

J-F

Re: HP-IL 2009

*Message #17 Posted by **ZOleg** on 11 Oct 2009, 7:33 p.m.,*
in response to message #16 by J-F Garnier

If my PILBox have 1.3 firmware and HP-71B have HP-IL module 1B version then the problem is something else. Perhaps ILPer does not work well in Windows 7 x64?

Re: HP-IL 2009

*Message #18 Posted by **Egan Ford** on 10 Oct 2009, 4:32 p.m.,*
in response to message #12 by Egan Ford

Another update. I used EMU71 w/ ISA card for HP-IL, then I connected that to my PIL-Box 1.2 and tested with hpil_test and ILPer. No dropped packets and I was able to fill up hdrive1.dat.

So, I suspect that JFG is right, there is a problem with 1A and hopefully PIL-Box 1.3 will fix it.

Re: HP-IL 2009

*Message #19 Posted by **ZOleg** on 10 Oct 2009, 8:58 p.m.,*
in response to message #12 by Egan Ford

HPIL in my 71b is 1B version:
PRINT VER$
HP71:2CCCC FTH41:1A EDT:A SURV:A JPC:F01 HPIL:1B MATH:1A

Re: HP-IL 2009

*Message #20 Posted by **Egan Ford** on 10 Oct 2009, 2:04 p.m.,*
in response to message #9 by ZOleg

> Quote:
>
> I dont have Linux to try modified Nonpareil, may be someone will tell me how to compile Nonpareil in Windows?

I forgot to add, but you can install Virtual Box (free) and then install Ubuntu 9.10 (also free) and test Nonpareil that way.

Re: HP-IL 2009

*Message #21 Posted by **Egan Ford** on 11 Oct 2009, 10:43 a.m.,*
in response to message #9 by ZOleg

> Quote:
>
> I dont have Linux to try modified Nonpareil, may be someone will tell me how to compile Nonpareil in Windows?

I got the patched Nonpareil to build in Windows, however you'll need Cygwin/X. It does work with the PIL-Box, however there are a few bugs that may make it unstable. I know how to get around one of them, but the other concerns me. For some reason ESC sequences are not making it to virtual or physical devices when testing 32 column video.

Until I (or Khanh-Dang) have time to fix it, I'd recommend avoiding it. But if you really want it let me know and I'll post it somewhere.

Re: HP-IL 2009

*Message #22 Posted by **ZOleg** on 11 Oct 2009, 7:43 p.m.,*
in response to message #21 by Egan Ford

Yes, i want to try, and i have already installed Cygwin.
If possible, also publish instructions how to compile Nonpareil in Cygwin.

Edited: 11 Oct 2009, 7:55 p.m.

Re: HP-IL 2009

*Message #23 Posted by **Egan Ford** on 12 Oct 2009, 10:21 a.m.,*
in response to message #22 by ZOleg

Here you go. A few limitations:

1. If you see HP-IL traffic spewing on stdout nonstop, then press ON/ON. It's a bug only with Windows. The best way to avoid is to not use MEMLOST in your .nal file and then never power off the 41CX.

2. test_hpil is not built. My early attempts failed. I did not spend a lot of time on it. I'd prefer to wait for Khang-Dang's latest code.

3. For now it works much better in Linux and OS/X. If you really want test_hpil, better speed, and no problems, then I'd install Ubuntu 9.10 (avoid 9.04, there is an FTDI bug, or install 9.04 and then update the kernel yourself) in a virtual machine.

Build notes:

1. Install Cygwin/X

```
All Devel
All X11
Plus vim, atk-devel
```

2. Launch an Xterm (Important!).

3. Install scons

```
cd
wget http://prdownloads.sourceforge.net/scons/scons-1.2.0.tar.gz
tar zxvf scons-1.2.0.tar.gz
cd scons-1.2.0
python setup.py install
```

4. Build Nonpareil

```
cd
wget http://sense.net/~egan/nonpareil-0.79.cygwin_hack.tgz
tar zxvf nonpareil-0.79.cygwin_hack.tgz
cd nonpareil-0.79
scons -c
scons prefix=$HOME install
```

5. Sample $HOME/.nonpareil/41CX.nal:

```
#Don't use MEMLOST with Cygwin/PIL-Box hack.
#MEMLOST 100

#load code
#BIN IO.BIN

#load modules, HPIL first
MOD hpil.mod
HPIL hpil.conf

#Printer
#MOD 82143a.mod

#Modules
#MOD EXT-IO.MOD
#MOD CCD-OSX.MOD
```

6. Sample $HOME/.nonpareil/hpil.conf:

```
#HP82182A
#set printer_switch 1
#printer mode=manual

#HP82163
#video 32 zoomx=2 zoomy=2

#HP92198
#video 80 zoomx=1 zoomy=1

#HP9114B
#disc file=/home/egan/.nonpareil/disc.lif

#HP82161A
#tape file=/home/egan/.nonpareil/tape.lif

#New HP-IL devices
#serial tty=/dev/ttyp0
#tcp listen port=1111
#tcp host=127.0.0.1 port=1111

#PIL-Box
pilbox tty=/dev/ttyS2 init=con speed=115200
```

Speed can be 9600 or 115200 depending on how you jumpered your PIL-Box, tty=/dev/ttyS(COM port number - 1), e.g. COM1: = /dev/ttyS0, COM2: = /dev/ttyS1, COM3:

= /dev/ttyS2, etc...

Good luck.

Re: HP-IL 2009

*Message #24 Posted by **ZOleg** on 12 Oct 2009, 9:20 p.m.,*
in response to message #23 by Egan Ford

Thanks!

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HP Forum Archive 19

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Low tech HP calculator on eb**

*Message #1 Posted by **Martin Pinckney** on 8 Oct 2009, 8:51 a.m.*

Get one while you can ... Link

On second thought, it's not even original, so forget it.

Edited: 8 Oct 2009, 8:56 a.m.

Re: Low tech HP calculator on eb**

*Message #2 Posted by **Thomas Radtke** on 8 Oct 2009, 9:42 a.m.,*
in response to message #1 by Martin Pinckney

Probably the most lousy made replica one can imagine. It's stapled!

Re: Low tech HP calculator on eb**

*Message #3 Posted by **Bill (Smithville, NJ)** on 8 Oct 2009, 12:19 p.m.,*
in response to message #1 by Martin Pinckney

You gotta love the description:

"is a nice looking COPY of the Hewlett Packard H.P. 5952-2516 Vector Impedance Calculator in NEW condition"

So it's a NEW condition COPY. You would think the seller would at least use a little glue to put it together rather than staples.

Bill

Re: Low tech HP calculator on eb**

*Message #4 Posted by **Dave Shaffer (Arizona)** on 8 Oct 2009, 12:57 p.m.,*
in response to message #1 by Martin Pinckney

I just might pay $29.99 for the vector voltmeter (pictured on the slide rule) itself.

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HP Forum Archive 19

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I'm back! (...and HP stuff, of course...)

*Message #1 Posted by **Vieira, Luiz C. (Brazil)** on 8 Oct 2009, 3:13 a.m.*

Hi, all;

First of anything else, thank you all very much for your so generous and kind 'Welcome'. Either from those of you who wrote it down here or from the ones who dropped me an e-mail, I really appreciate. Thanks.

I've seen some new names around here, but most of all the same sharing spirit remains. As you may have already read, I am getting back to the MoHPC Forum the way I've been since 2001 after about two years without serious contributions. Hence, I have about two years of unread posts I need to check prior to actually participate as an 'up-to-date' contributor. Please, let me know if I'm loosing track and mentioning facts that have already been discussed.

I asked Dave to allow me to introduce the book 'Voyagers in Brief', being announced for the new CD/DVD set, but I had no answer so far (he is surely busy, I understand). Anyway, because it has been already announced here (last one in the list), there is no secrecy about it. I began writing it in 2005 and, after many 'pit stop' occurrences, I finished it about a month ago. Please, I would like to invite you to have a sip of it here (forgive the format, the PDF converter did it so...).

This first edition misses the following subjects: amortization, bonds and depreciation for the HP12C; numerical integration and SOLVE for the HP15C; floating-point numbers in the HP16C. Actually, it misses a bit more info about matrices in the HP15C, too, and that's why I plan the 2nd. edition to be ready next year. I told Dave that I am not sure if this is the first book exclusively written for the MoHPC, and if so, I suggest inviting people to go ahead and do that! Please, let me know how do you like the 'sample'. The idea is to make it simple, readable and not crowded with examples, just a few ones. As soon as it is fully available, suggestions and corrections, as always, are welcome.

I have also mentioned that I have uploaded some pictures to photobucket. Please, be my guest at this other collection: hewpack_lcv

MLDL2000 pics
Some HP41 LCD modules.

From electron_br, I have these so far:

A hot glue gun I repaired... maybe the concept helps someone.
Two Brazilian designed amplifiers from the same factory. The only ones made by them.
A small regulated power supply that I built to my workbench. I still can do it right!

Some pictures are not yet sorted, others were not added descriptions nor titles. I will add images constantly, and I'll post about them.

There is more, but I think for now I wrote about too much.

Cheers!

Luiz (Brazil)

Re: I'm back! (...and HP stuff, of course...)

*Message #2 Posted by **Charles Oxford** on 8 Oct 2009, 4:38 a.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

You are absolutly remarkable. I was looking for a photo of the front to see what voltages you have but no luck. Are you going to give more detailed info about how you made the pc board?

Charlie (Phoenix)

(edited) I'm back! (...and HP stuff, of course...)

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 8 Oct 2009, 10:28 a.m.,*
in response to message #2 by Charles Oxford

Hi, Charles;

thank you for your words, I appreciate! Of course, just let me find the PCB layout I have in the computer and I'll send you the file, no problem at all. I have it in CorelDRAW! (cdr) format, would that be good for you? Can you use it as it is or should I convert it to a suitable format? Just let me know.

The adjustments are in the range:

0 to 30 Volts (thanks to the negative voltage at -REF pin, the LM327 goes to zero-volt output)
0 to 1 Amp

I have no data about voltage regulation, though. It works pretty fine for me, and in low output voltages, say, 5Vcc, with 150 mAmps or more, the 2N3055 goes really hot (unregulated peak voltage at the 2N3055 collector is about 43VDC). Needless to say it needs fair thermal dissipation (I used the box for that, will add a picture of the external view).

Luiz (Brazil)

Edited: 8 Oct 2009, 11:56 a.m.

Re: I'm back! (...and HP stuff, of course...)

*Message #4 Posted by **Walter B** on 8 Oct 2009, 5:01 a.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

Muito bom dia, Luiz!

> Quote:
>
> I asked Dave to allow me to introduce the book ‘Voyagers in Brief’, being announced for the new CD/DVD set, but I had no answer so far (he is surely busy, I understand). Anyway, because it has been already announced here (last one in the list), there is no secrecy about it. I began writing it in 2005 and, after many ‘pit stop’ occurrences, I finished it about a month ago. Please, I would like to invite you to have a sip of it here (forgive the format, the PDF converter did it so...).

This is looking absolutely awesome, also layout-wise! Really looking forward to the next DVD set.

There are, however, some minor errors and typos, starting in the table of contents. You may be already aware

of them. If you tell me your e-mail address, I'll mail you what I found.

Melhores cumprimentos,

Walter

Re: I'm back! (...and HP stuff, of course...)

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 8 Oct 2009, 10:16 a.m.,*
in response to message #4 by Walter B

Ola, Walter; tudo bem?

Thanks for your support and encouragement, I appreciate. Please, feel free writing me at:

linux_lcv (at) yahoo (dot) com (.) br

Learning is a continuous process, and correcting what can be better is part of it. As an engineer, I do not believe in 'trial and error', instead in 'trial and correction'. Actually I think this is the correct term, people just use the first one to justify the need for errors... 8^)

Looking forward to your contact.

Saudações (close to Saludos in Spanish, right?)

Luiz (Brazil)

Re: I'm back! (...and HP stuff, of course...)

*Message #6 Posted by **Charles Oxford** on 8 Oct 2009, 1:54 p.m.,*
in response to message #5 by Vieira, Luiz C. (Brazil)

My email says your address is invalid.

May its the underline?

Re: I'm back! (...and HP stuff, of course...)

*Message #7 Posted by **Walter B** on 10 Oct 2009, 1:29 p.m.,*
in response to message #5 by Vieira, Luiz C. (Brazil)

Bom dia, Luiz!

You've got mail.

Re: I'm back! (...and HP stuff, of course...)

*Message #8 Posted by **bill platt** on 9 Oct 2009, 7:43 p.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

Hi Luiz,

Great to "see" you here again. Love the repaired glue gun!

Re: I'm back! (...and HP stuff, of course...)

*Message #9 Posted by **Vieira, Luiz C. (Brazil)** on 10 Oct 2009, 9:32 a.m.,*
in response to message #8 by bill platt

Thanks, Bill; I aprreciate.

I´ll post some new stuff, soon!

Cheers.

Luiz (Brazil)

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HP Forum Archive 19

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Is an HP-10 worth $700?

*Message #1 Posted by **Michael de Estrada** on 7 Oct 2009, 10:40 p.m.*

As a collector, I can understand that unique HP calcs can and should command a high price. But what about something like the HP-10, which is a totally mundane item that has been replicated by many other manufacturers. First, it is not RPN, just plain algebraic. Second, it is an ordinary 4 banger with just one memory register. I own a CASIO HR-10 that does everything the HP-10 can do, plus it has a neat calendar feature, that can print out a monthly calender for any year and month that you specify and is Y2K compliant! The CASIO cost me $30 in 1982, and still works perfectly today. Its quality is excellent and it's very solidly built. Yet, if I go to TAS, I see it being sold today for $30, whereas the asking price for an HP-10 is $695. According to MoHPC, an HP-10 has already sold for as much as $400. So I ask, is the mere fact that this is a rare antique item made by the old HP make it worth so much?

Edited: 7 Oct 2009, 11:30 p.m.

Re: Is an HP-10 worth $700?

*Message #2 Posted by **Raymond Del Tondo** on 8 Oct 2009, 12:12 a.m.,*
in response to message #1 by Michael de Estrada

Yes:-)

Consider that even a TI-59 (!) sometimes goes for more than 100 Euros these days.

HTH

Raymond

Re: Is an HP-10 worth $700?

*Message #3 Posted by **Patrick Rendulic** on 8 Oct 2009, 1:16 a.m.,*
in response to message #1 by Michael de Estrada

No, it is not worth so much.

The reason for such high prices is an "ebay-market" that went out of control. Sellors have noticed that some collectors may pay high prices. Now prices are generally high and most buyers seem to have accepted this state.

That's why I have stopped collecting.

Re: Is an HP-10 worth $700?

*Message #4 Posted by **Martin Pinckney** on 8 Oct 2009, 2:24 p.m.,*
in response to message #1 by Michael de Estrada

There is the old adage that something is worth the sum that both the buyer and seller agree on. So for this sale

we will have to wait and see ...

Even so, one can only establish a general value of a particular commodity based on a history of transactions. That is the beauty of eB**, because it gives a both a wider market exposure, and a larger number of comparative sales, than ever existed before it came into being.

Many here lament the way eB** has elevated the price of certain items, like the HP 10. However, don't forget that it has had the opposite effect on other items that sellers have flooded eB** with.

Re: Is an HP-10 worth $700?

*Message #5 Posted by **Richard Reed** on 8 Oct 2009, 4:11 p.m.,*
in response to message #4 by Martin Pinckney

The dynamic aspect of price is important. It's the main reason that value is so difficult to assign. Markets are only rarely if ever efficient at indicating value, and no one really knows when, only when the inefficiencies have swung in their favor to some degree.

The number of items like this is far to small to hope for market efficiency. I think this has allowed a few sellers to somewhat 'corner the market', such as it is. The existence of collectors may make their actions profitable for a time, but it's hard to say for how long or for which items. I have a use for a big memory card for my 48gx, but I may just buy a 50g for much less because sellers think the HP 1MB cards, and even inferior ones, are 'collectible', making a big deal out of "the original box" and so on. Down the road a bit I have my doubts.

Richard

Re: Is an HP-10 worth $700?

*Message #6 Posted by **Patrick Rendulic** on 9 Oct 2009, 4:57 a.m.,*
in response to message #5 by Richard Reed

Not finding an 1MB card with an acceptable price for my HP48 was the main reason why I finally switched to an HP50.

For less money I got a completely new calculator with more memory than I will ever need, with easy file transfers and with an updated system.

+- 10 years ago I bought a used 1 MB card for +- 100$. At that time I think that the price was more than reasonable because the HP48 was still in production. But nowadays?

Re: Is an HP-10 worth $700?

*Message #7 Posted by **Richard Reed** on 9 Oct 2009, 11:04 a.m.,*
in response to message #6 by Patrick Rendulic

Yes. I've become quite obsessive about this. I was able to see quite a lot of Oliver Klotz's eBay feedback and figure that he ran out of the cards he built in early 2007, and I think that would have been near his price for a big card. I also noticed that his card business really came to a halt over the previous year, so it's understandable that he quit.

BTW - I just ordered a 50g new for £113 -- and I know it goes for the same number of dollars, but with VAT/duty and shipping it comes out to the same thing!

Richard

Re: Is an HP-10 worth $700?

*Message #8 Posted by **Mike Morrow** on 8 Oct 2009, 5:13 p.m.,*
in response to message #1 by Michael de Estrada

I usually set, as the *upper* limit on the amount I'd possibly consider paying, the inflation-adjusted price of the calculator when it was introduced. This philosophy is based on the wish (sometimes) to be able to go back in time and buy the desired item new. Generally, I'd consider paying something near this only if the item were in like-new condition, with all accessories and documentation in likewise new condition.

For example, the most intriguing HP calculators to me are:

HP-29C - $195 in 1977 ($695 in 2009)
HP-34C - $150 in 1979 ($446 in 2009)
HP-15C - $135 in 1982 ($302 in 2009)
HP 42S - $120 in 1988 ($219 in 2009)

The HP-29C and HP-34C would be overpriced by this process, while the HP 42S would be a minor bargain.

The HP-10 was $175 in 1977, which was equivalent in buying power to $624 in 2009. By this process, $700 is not so far off after all. I personally wouldn't pay such an amount, if for no other reason than I considered the HP-10 to be a very boring machine when it first appeared, and I still do today, regardless of how rare it is.

Edited: 8 Oct 2009, 5:30 p.m.

Re: Is an HP-10 worth $700?

*Message #9 Posted by **Michael de Estrada** on 8 Oct 2009, 6:11 p.m.,*
in response to message #8 by Mike Morrow

I bought my HP-15C in 1982 for $108, and it still works perfectly today on only its third set of batteries. I still use it a lot and it is one of my favorite calcs.

I bought an HP-34C in 1979 for $123, and sold it to a co-worker when I bought the HP-15C. Two years ago, I bought another HP-34C complete with all accessories for $95, that was in good working condition but needed some case repair.

I just picked up an immaculate HP-29C that works perfectly for $385. It included only the soft zipper case and Quick Reference Card, which were also like new. Since I already have the HP-19C/HP-29C Owner's Handbook to go with my HP-19C, I basically have a complete set.

I have never owned an HP 42S, although I do have FREE42.

I have no interest in owning an HP-10, even for much less than its inflated value. Like you, I find it to be totally mundane.

Re: Is an HP-10 worth $700?

*Message #10 Posted by **Mike Morrow** on 8 Oct 2009, 6:47 p.m.,*
in response to message #9 by Michael de Estrada

> Quote:
>
> I have never owned an HP 42S, although I do have FREE42.

Ahhhh...you must correct that!

Many people (I'm one) consider the HP 42S to be the best RPN calculator ever made, even today 21 years after its introduction. It's not perfect, but perfection's peak can be seen from it.

Re: Is an HP-10 worth $700?

*Message #11 Posted by **Michael de Estrada** on 8 Oct 2009, 10:24 p.m.,*
in response to message #10 by Mike Morrow

I suppose it's all because of the path I took as opposed to others in my progression through HP calculators. I moved from the HP-34C and HP-15C straight to the RPL calcs, bypassing the HP-41. Since the HP-42S is HP-41 compatible, rather than RPL, I never saw any need to buy one. I've owned an HP-28C (1987), HP-28S (1988), HP-48SX (1990) and HP-50g (2009). I still have all of them, except the HP-28C (sold it), and the HP-28S is sidelined with a broken case at the battery door. Given the current feeding frenzy for the HP-42S on TAS, I've not seen fit to pay the prices currently being asked. Also, from the collection vantage point, my main interest is in older LED calcs like the HP-29C that I paid so much for. I would never pay that kind of money for an HP-42S or something like an HP-10C.

Re: Is an HP-10 worth $700?

*Message #12 Posted by **Mike Morrow** on 9 Oct 2009, 12:30 a.m.,*
in response to message #11 by Michael de Estrada

The trail of HP-29C to HP-34C to HP-15C to HP 42S was a logical progression through four generations in capability, sophistication, and decreased price for all-in-one-case (no expansion) RPN calculators, from 1977 to 1988. It would have been wonderful had this progression continued with two or three later generations between 1988 and 2009.

But such was not to be, and the HP 42S has remained the best-in-class for more than two decades. Its capabilities are yet so useful that most by far who pay those high eBay prices seem to be doing so not to acquire some collector's piece, but to have the best small RPN calculator that HP has ever made for actual work use.

I used an HP-15C as my day-to-day calc for ten years, so I didn't know I wanted/needed an HP 42S before they were discontinued in 1995. I was very fortunate in 1997 to find two new-in-box HP 42S units priced at $114 each still unsold after four years on the shelf at the University of Alabama at Huntsville bookstore. Although I had used the HP-35, -45, -67, -21, -41C, -41CX, -15C, 28C, 28S, 48SX, 48GX, and 32SII, I found the HP 42S to be simply stunning in its capability and ease of use. It has an excellent alphanumeric human interface, especially compared to the HP-15C that it replaced. It remains my favorite, though my HP 50g RPL machine has some very good points too. I usually take both with me to work, sometimes with the financial brother of the 42S, the 17BII.

The auction prices of the HP 42S seem to have moderated a bit with the recession. I think there are about five on ebay at any given time. I'd go after one if I didn't have my two. A calculator this good, this important, deserves to be part of any HP collection.

Edited: 9 Oct 2009, 12:59 a.m.

Re: Is an HP-10 worth $700?

*Message #13 Posted by **Mike Morrow** on 9 Oct 2009, 3:31 p.m.,*
in response to message #12 by Mike Morrow

As if to illustrate my point about lowering auction prices on HP 42S units, here is an auction that finished a few hours ago for an HP 42S, an HP 82240B printer, and original spiral bound manuals. For $183! That's well below the inflation adjusted price of the HP 42S alone.

Re: Is an HP-10 worth $700?

*Message #14 Posted by **Maximilian Hohmann** on 9 Oct 2009, 2:53 a.m.,*
in response to message #9 by Michael de Estrada

Hello!

> Quote:
>
> I have never owned an HP 42S, although I do have FREE42.
>
> I have no interest in owning an HP-10, even for much less than its inflated value. Like you, I find it to be totally mundane.

Interesting, how different people sharing the same hobby can be ;-)

I would have phrased those two sentences as follows:

"I have never owned an HP 42S and am even less interested in emulated calculators."

"I have no interest in owning an HP 42S, even for much less than its inflated value. Like no-one else here (?), I find it to be one of those dull 1980s mass produced grey LCD calculators that does not invoke the slightes desire in my fingertips to ever touch one of its keys, even less to navigate through one of its menus..."

And regarding the HP-10: It is one of the two most un-typical HP calculators and no collection will ever be complete without one. And it if you ever show your collection to a non-HP-enthusiast, it probably will be one of the three items immediately picked out by him (or her). Because it is so different. My personal price limit would be something like 200 Euros though. It really isn't worth more than that - even considering its rarity. And with patience, you can find it for that amount - even on the bad evil horrible auction site (at least I did).

Greetings, Max

Re: Is an HP-10 worth $700?

*Message #15 Posted by **Martin Pinckney** on 9 Oct 2009, 8:07 a.m.,*
in response to message #1 by Michael de Estrada

> Quote:
>
> First, it is not RPN, just plain algebraic.

A small correction: it actually has "adding machine" logic, which is a combination of RPN for addition/subtraction, and algebraic for multiplication/division.

Re: Is an HP-10 worth $700?

*Message #16 Posted by **Michael de Estrada** on 9 Oct 2009, 11:43 a.m.,*
in response to message #15 by Martin Pinckney

> Quote:
>
> A small correction: it actually has "adding machine" logic, which is a combination of RPN for addition/subtraction, and algebraic for multiplication/division.

Correction acknowledged, however, I still say this is nothing extraordinary or unique to HP; my $30 CASIO HR-10 printing calc works exactly the same way. In fact, I have a $1 "Big Display" calc I bought at Walmart for kitchen use that works this way and has memory arithmetic plus square root.

Re: Is an HP-10 worth $700?

*Message #17 Posted by **juan demin** on 9 Oct 2009, 3:13 p.m.,*
in response to message #16 by Michael de Estrada

Hola Michael…

A lot of Money for such a simple calculator, I agree… but let's see how it ends in a coulple of days...

The price of a piece of a collection, I think, is not so related to the quality of that piece. Once you've decided that it has to be part of your collection, the price is related to the how-difficult-is-to-find situation, compared with the rest. This involves also the other stuff supposed to arrive together (manual, case, etc).

I won't put the present value of the (those days) new price as a limit because an HP 65 could be as expensive as 3,500 USD nowadays, following this rule…

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HP Forum Archive 19

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HP 42S Programming

*Message #1 Posted by **Howard Jones** on 7 Oct 2009, 9:35 p.m.*

I have put a simple little programme into my 42S

I want the result to be displayed as

New$KG= (the calculated value) All on the x line. It will not do that (my HP 41 does)

Relevant last lines are 13 x (This is the final multiplication to give the result I want) 14 CLA (If I don't do this every time I run the programme the statement in line 15 is added to each other multiple times. 15 (append sign like a plus with the left horizontal arm missing) "NEW$KG=" 16 AVIEW 17 END.

Re: HP 42S Programming

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 7 Oct 2009, 10:49 p.m.,*
in response to message #1 by Howard Jones

Hi, Howard;

in order to show the message you want, you should append the number you want to current ALPHA contents. If the number you want to add, referred to as (the calculated value), is in the X-register, you should use:

```
15 "NEW$KG="
16 ARCL X (appends X-register contents to ALPHA)
17 AVIEW
18 END
```

Please, let us know if it works.

You can eliminate the line #14 (CLA) if you do not append line 15 (text itself). If you simply key in a text instead of appending it (the addition sign without the left arm, as you described), the new text erases all previous ALPHA contents.

Cheers.

Luiz (Brazil)

Edited: 7 Oct 2009, 10:52 p.m.

Re: HP 42S Programming

*Message #3 Posted by **Howard Jones** on 8 Oct 2009, 2:04 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Luiz, That worked fine except that the "New$kg=(value) is on the y line and the (value) is on x line ie x:(value). Thank you, It is not perfect but a lot better than I could manage by myself. Howard.

Re: HP 42S Programming

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 8 Oct 2009, 11:21 a.m.,*
in response to message #3 by Howard Jones

Hi, Howard;

please, make sure you did not add a 'new line' character after the "New$kg=", because it would cause the ALPHA cursor to 'jump' to the next line. I tested the lines I posted previously with my HP42S and the complete ALPHA contents used only the first, top line of the display (commonly filled with the Y-register contents, as you mentioned). I filled the X-register with as many digits as possible.

You mentioned you could do that with the HP41, right? The HP42S is not much different, though. The ALPHA register holds more digits and the LCD allows more digits to be shown in one single line, but these are advantages. Also, the ARCL X should read ARCL ST X (Stack register X) in the HP42S to avoid confusion with a possible ARCL "X" (variable named "X"), instead. So, the lines would read:

```
14 CLA
15 "NEW$KG="
16 ARCL ST X
17 AVIEW
```

Please, make sure there is no $^{N}_{L}$ in the end of the ALPHA string in line #15 ("NEW$KG=$^{N}_{L}$")

Success!

Luiz (Brazil)

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HP-67 Battery Pack

*Message #1 Posted by **AlbertTocarLoseggs** on 7 Oct 2009, 6:00 p.m.*

Hi everybody, Can I use NI-HM Batteries (Panasonic HHR-P401 3.6V 1150 mAh) instead of the standard Ni-Cd pack? Does this option produce damages in the calculator? Thanks. ATE.

Re: HP-67 Battery Pack

*Message #2 Posted by **Geoff Quickfall** on 7 Oct 2009, 6:31 p.m.,*
in response to message #1 by AlbertTocarLoseggs

Absolutely, just a couple of points:

```
1   you will have to modify the connection as the unit you
    mention, the Panasonic HHR-P401 3.6V 1150 mAh has a standard
    home wireless telephone plug.


    The metal contacts found on the HP-67 match two metal strips on
    the original battery pack mount and the Panasonic does not have
    these.


2   A better option, if you want to purchase a unit, is to search on
    EBay for Classic Battery pack.  Check this link for the battery
    pack: ebay link
```

I am not affiliated with the seller but the price is lower and the added benefit of a correct contact not requiring modification.

As an aside I am doing a section on how to modify the classic case to accept the new style battery packs the telephones have. This modification is for the calculators that have been restored but have had severe damage done to the two spring metal contacts found inside the battery compartment. The mod is simply attaching the male receptacle in a milled portion of the battery compartment and then just plugging the battery into the receptacle as seen in modern wireless home phones.

Cheers, Geoff

P.S. the NiMH batteries will take twice as long as the NiCd batteries to charge while using a standard NiCd battery charger. If you use the HP-67 to charge the NiMH batteries be aware of this limitation.

Edited: 7 Oct 2009, 6:35 p.m.

Re: HP-67 Battery Pack

*Message #3 Posted by **sylvandb** on 10 Oct 2009, 1:03 p.m.,*
in response to message #2 by Geoff Quickfall

> Quote:
>
> As an aside I am doing a section on how to modify the classic case to accept the new style

> battery packs the telephones have. This modification is for the calculators that have been restored but have had severe damage done to the two spring metal contacts found inside the battery compartment. The mod is simply attaching the male receptacle in a milled portion of the battery compartment and then just plugging the battery into the receptacle as seen in modern wireless home phones.
>
> Cheers, Geoff
>
> P.S. the NiMH batteries will take twice as long as the NiCd batteries to charge while using a standard NiCd battery charger. If you use the HP-67 to charge the NiMH batteries be aware of this limitation.

I look forward to seeing your phone-pak mod. Sounds nice!

When I put NiMH in my 67, charge times were way more than "twice as long." (The original NiCd were only 450mAh, the smallest capacity AA NiMH I had on hand was some NexCells at IIRC, 1800mAh, maybe more.) A full charge now takes 2+ days before the batts start getting warm.

sdb

Two days sounds about right

*Message #4 Posted by **Randy** on 10 Oct 2009, 1:32 p.m.,*
in response to message #3 by sylvandb

The charge rate of the 82002 is approximately 55ma which puts it at .03/C for an 1800mah cell, a perfect trickle charge rate.

At that rate, 50 to 60 hours would be normal for a full charge but you might encounter problems should the cells ever discharge fully, the trickle rate most likely will not be enough to bring the pack back to life.

Because of the simplistic design and low current of the HP chargers, I avoid using Nimh in pack rebuilds since they seem to fail sooner, rather than later. Sanyo makes an 1100mah AA nicd so why switch chemistries if you don't have to?

PS: You'll find those eBay batteries are nicd's as well. Ask the seller why... :^)

Edited: 10 Oct 2009, 1:34 p.m.

Re: Two days sounds about right

*Message #5 Posted by **sylvandb** on 11 Oct 2009, 2:02 p.m.,*
in response to message #4 by Randy

> Quote:
>
> you might encounter problems should the cells ever discharge fully, the trickle rate most likely will not be enough to bring the pack back to life.
>
> Because of the simplistic design and low current of the HP chargers, I avoid using Nimh in pack rebuilds since they seem to fail sooner, rather than later. Sanyo makes an 1100mah AA nicd so why switch chemistries if you don't have to?

Interesting. For 30+ years I have never had acceptable results with NiCd cells. Now I switch every pack I own to NiMH at the first failure and for many years I've been happy with that approach.

NiMH is a very robust chemistry if you avoid 1C or faster charging and the super high capacity cells. (The jury is still out on the low self-discharge variety, e.g. Sanyo eneloop.)

I'm even experimenting with switching out lead-acid (e.g. a UPS) and it seems to be working very well (but probably not cost effective). I'm watching for some surplus (read: cheap) flooded NiMH for my main UPS system. The cycle life and voltage curve should beat the flooded lead-acid, but since I don't care about energy density (volume or weight) the economics thus far have not worked.

Should I run into problems with a specific pack not charging (e.g. my 67 or the 25) I do have a generic NiMH fast charger which will charge anything from 2 to 12 cells in series (disconnected from any electronics and if I bypass any electronics in the pack). So far I've only used it when I did not have a charger for an application, or when I was in a hurry.

(It does up to 2amps into a pack with very good delta-V detection. Of course, delta-V into NiMH does not work very well below about C/5, but that's OK, at that rate my fingers safely detect the temperature rise in order to terminate charging.)

Re: HP-67 Battery Pack

*Message #6 Posted by **sylvandb** on 15 Oct 2009, 1:26 a.m.,*
in response to message #3 by sylvandb

> Quote:
>
> A full charge now takes 2+ days before the batts start getting warm.

To add a data point... The same day I posted that, I used the 67 down to the point the display would blank and all would reset when trying to read a card (wouldn't even pull the card in). It would still do simple calculations, but that's it. Probably had no more than a few minutes left of that before it wouldn't do more than power up.

I plugged it in that evening (the 10th). Just unplugged it an hour or so ago (the 14th). The batteries had no detectable warmth this morning, but tonight they seemed just a bit above ambient (66 there now, but it varies +10/-2f or so over the past few days -- it's by a south facing wall near a poorly weatherstripped wooden door opening onto a large concrete patio).

After four days on charge, all's well for another three to six months (depending on how much I use it, with no use the charge is still usable after six months).

sdb

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Off topic but still electronics...

*Message #1 Posted by **Geoff Quickfall** on 7 Oct 2009, 3:56 p.m.*

We all come to the forum for retrieving, posting or viewing information about HP calculators. The visits are for programming, wish lists, restorations and new additions be they peripherals or new calculators and etc.

What usually is not posted (but does show up) are 'off topics'. One of my recent focuses between HP restorations, the HP book, family and travel (work) are vintage radios between the mid 50's to the mid 60's although I do have some outliers.

The following are all between 1953 and 1963 and average 4.5 inches by 2.5 inches except for the toshiba and the zenith which are 5.5 aby 3.5.

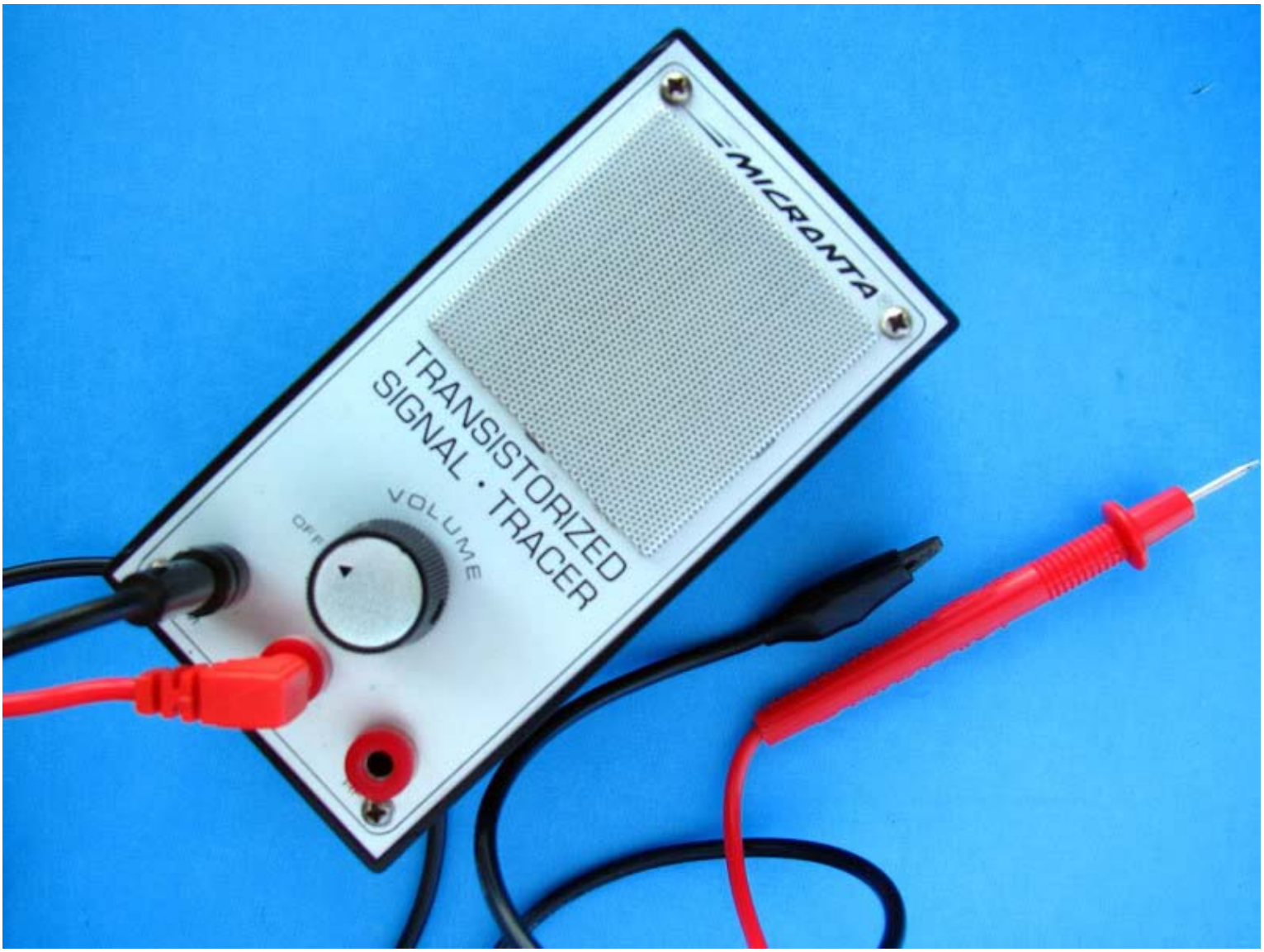
All you need to restore them is a signal tracer, electrolytic capacitors, maybe a resistor or transistor, although not much.

Tools are screw drivers, contact cleaner, plastic polish, crayons for the inlay numbers, gold wax for some of the names and of all things, a vial of WD-40. A drop of this on the volume control internal variable resistor will remove all traces of "scratch" when you use the volume control/on-off rotary switch.

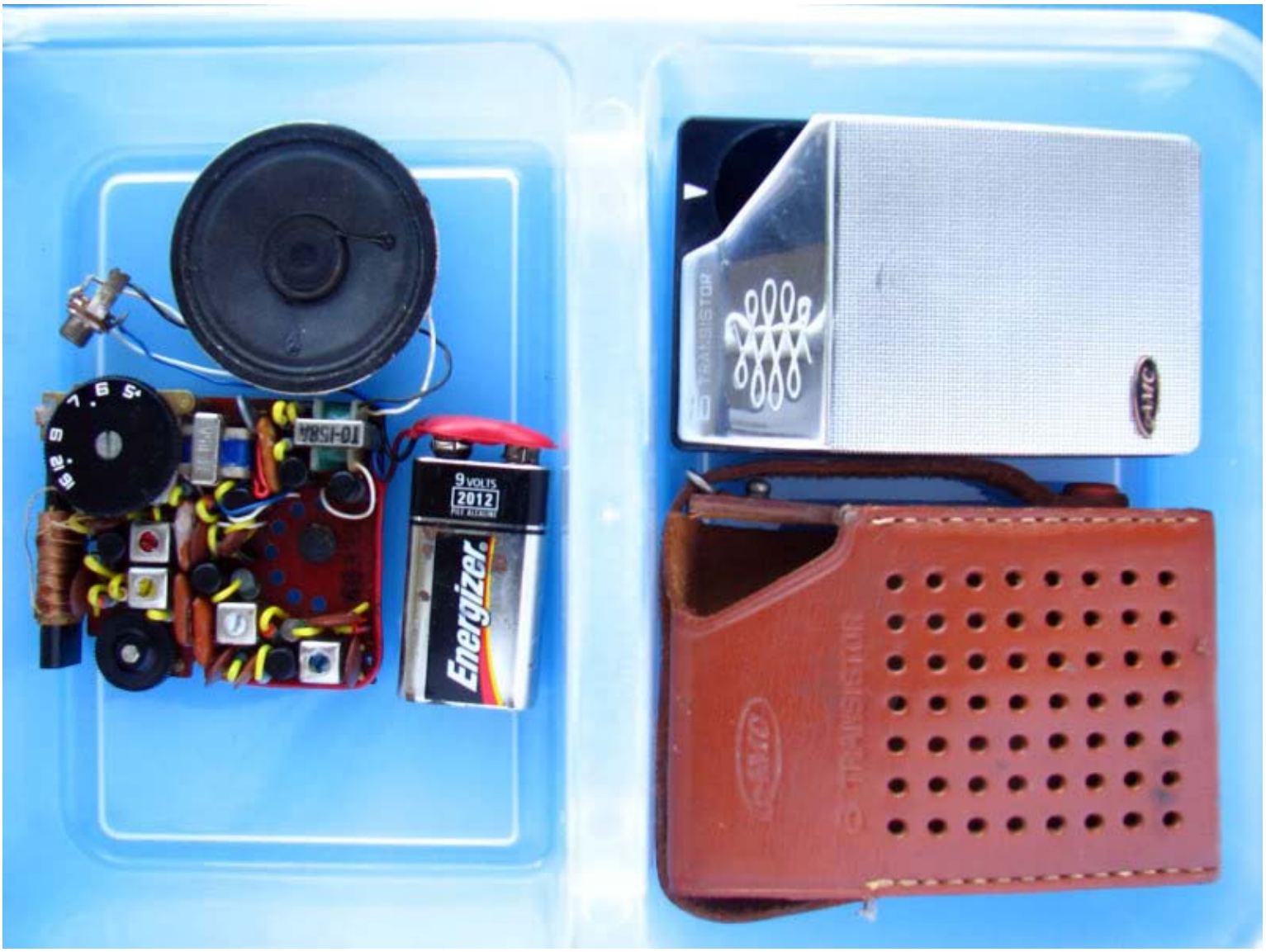
Enjoy the pictures and maybe post some OFF topic hobby pictures that you also do. I certainly learned at the HCC2009 that we all have many other hobbies aside from HP and work, lets get to see them!

Cheers, Geoff

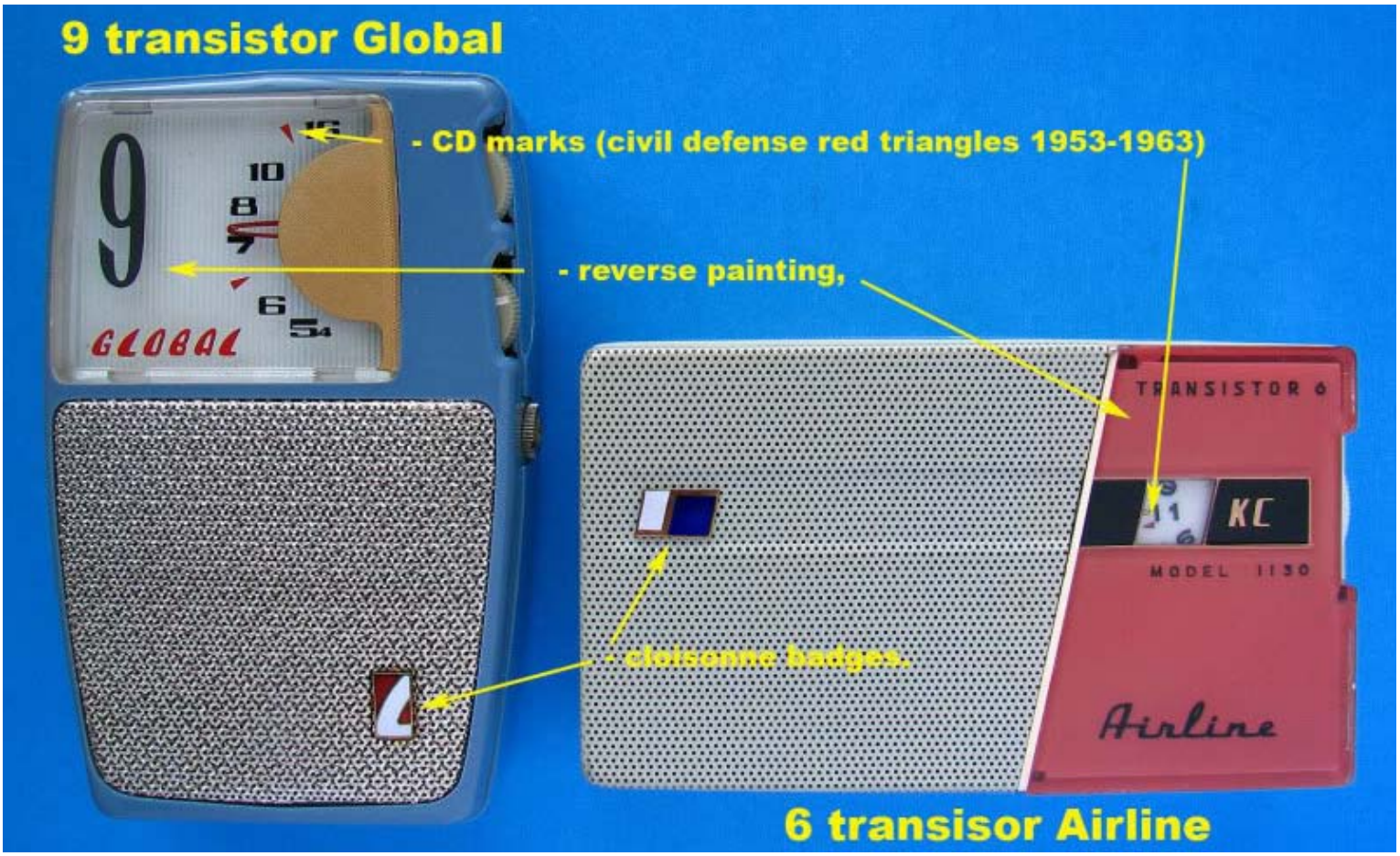
Shot of a signal tracer to trace which part of the circuit fails. This combined with an electrolytic capacitor around 20 micro farads on two clipped wires is used to dtermine which capacitors have failed. The capacitors dry up and are the MAJOR reason that these radios fail as indicated by no volume, weak reception or just static. All these radios failed due to capacitors and some due to cold solder and cracked resistors. None of these except the Global were working when the arrived.



A work in progress, the electronics are done but the case has chips and requires some epoxy work to make it look good.



What to look for if collecting transistor radios (IMHO):

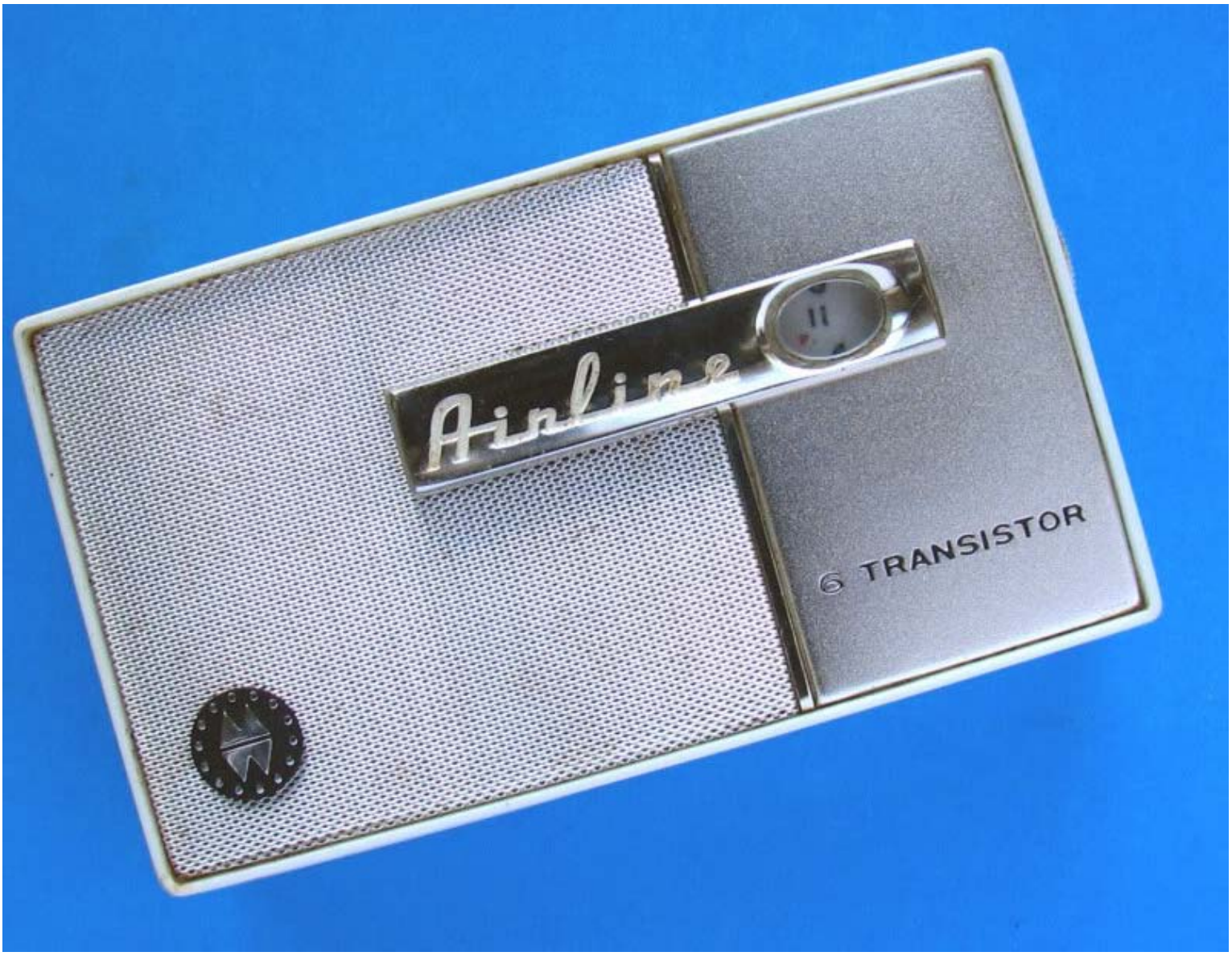


A before and after of an Omegas 6 transistor radio. Replaced two capacitors and restored the case on Tuesday.

The Zenith 500 D circa 1960 (or earlier):

Airline brand, colorful reverse painted and plain white with the same PCB inside.

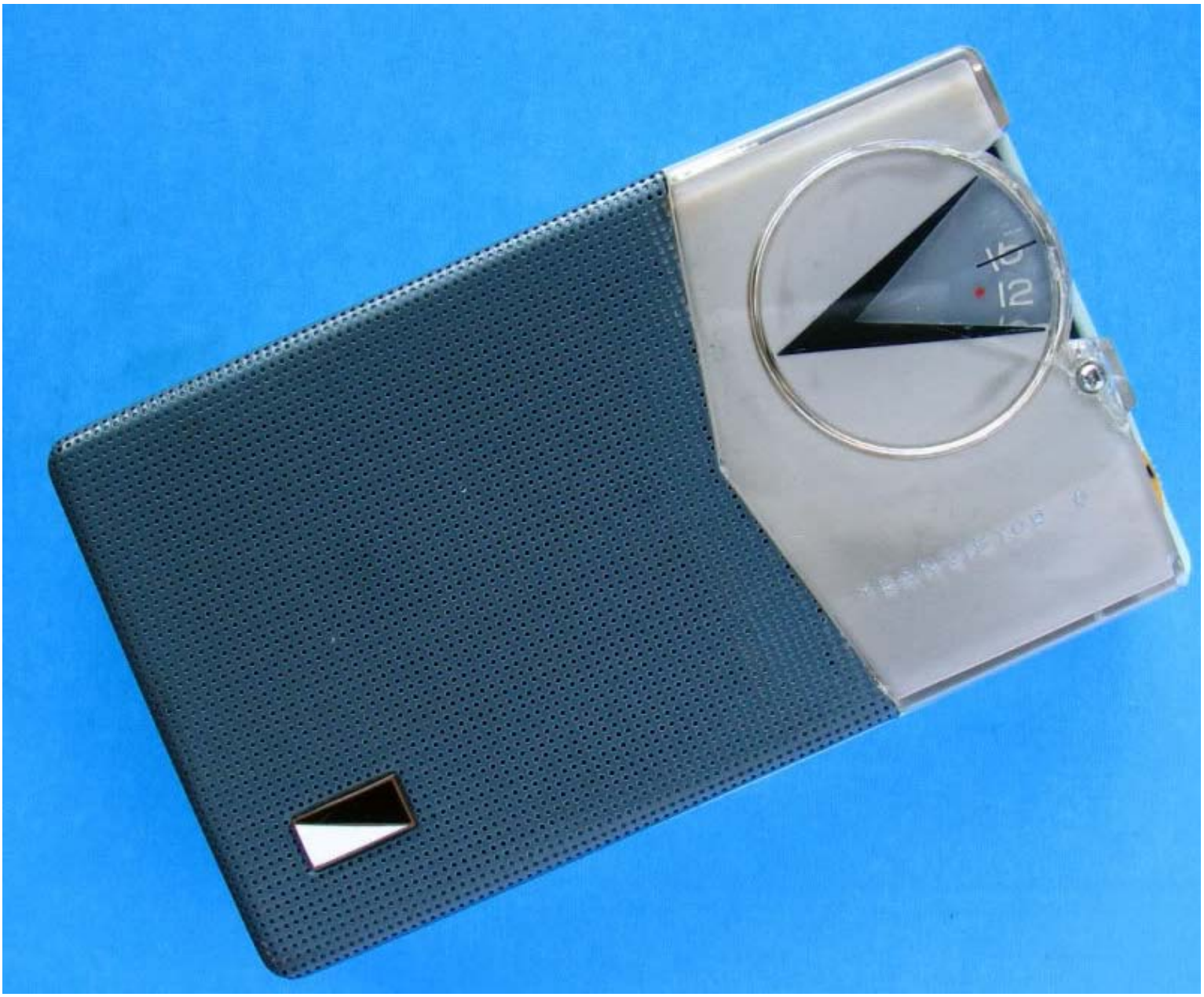
Off topic but still electronics...



A beautiful Viscount:

The Global 9 for nine transistor with its minty leather case and functional ear bud. The IPOD of its time and the reception is incredible! At night I get stations from Mexico as well as San Diego, not bad considering I am in Vancouver, Canada.

A no name with a Sony PCB:



My favourite as it is the one that hung from the rearview mirror of the 1958 Plymouth Station wagon we had in Germany when I was a child. Yes the car was four but the radio was from 1962. We had the car until 1968 and Dad still has his radio; and now I finally got one!

Hope you enjoyed the diversion from calculators, now back to the show.

Geoff

Edited: 7 Oct 2009, 3:57 p.m.

Re: Off topic but still electronics...

*Message #2 Posted by **Martin Pinckney** on 7 Oct 2009, 5:15 p.m.,*
in response to message #1 by Geoff Quickfall

Beautiful, Geoff! I love the styling of the radios in this period. Wish I still had my little Channel Master ...

(edited to add picture) Off topic but still electronics...

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 7 Oct 2009, 5:38 p.m.,*
in response to message #1 by Geoff Quickfall

Hi, Geoff;

I have two major activities that I can tell them 'hobbies', although they have a lot more meaning than just fill the time.

One of them is almost like yours: I spend some time restoring cassette recorders to their work condition. I consider cassette recorders the perfect home-address technology that mixes analog and digital electronics with mechanics, a superb 'three technologies rendezvous'. From the very first Philips EL3300 till the uP controlled units, there is always something new to be observed. I'm filling my own photobucket with pictures, for now you can search electron_br and have a look (just a few pics, no specific organization so far).

The other 'hobby' is plastic modeling, but this one I need more time to show something. I like diorama, mostly about

unusual technology, and some German stuff goes ahead of their time. If you want to see something very interesting, search for BV141 and tell us about it... Just to give a glimpse.

It flew OK, but never went operational. Ten units built, only.

Cheers.

Luiz (Brazil)

Edited: 7 Oct 2009, 5:46 p.m.

Re: (edited to add picture) Off topic but still electronics...

*Message #4 Posted by **Geoff Quickfall** on 7 Oct 2009, 6:39 p.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

Yes, the aero design of the 40's in Germany were spectacular from the ME267 to others including swept forward wings, double fuselage and etc.

The dioramas would be fun to see!

The tape recorders too!

Cheers, Geoff

Re: (edited to add picture) Off topic but still electronics...

*Message #5 Posted by **Charles Oxford** on 7 Oct 2009, 8:06 p.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

Luiz, I'm glad you're back, too. I remember your battery door fabrication for the Pioneer. I would like to see your models and recorders too.

Charlie - Phoenix USA

Re: (edited to add picture) Off topic but still electronics...

*Message #6 Posted by **John B. Smitherman** on 7 Oct 2009, 11:21 p.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

Hi Luiz. I thought that this airplane looked familiar. It was featured recently in an article on asymmetry at link

Regards,

John

Re: (edited to add picture) Off topic but still electronics...

*Message #7 Posted by **Vieira, Luiz C. (Brazil)** on 7 Oct 2009, 11:50 p.m.,*
in response to message #6 by John B. Smitherman

Hi, John;

thanks for your additional info.

I hope Dave (and other contributors) do not wish our heads to be cut off of our bodies, but since we are talking about off-topic, instead scientific subjects, let me go a little further.

I followed the proposed link and found this other one, with some other interesting stuff...

Also, the original article mentions that about thirty BV141 were produced. I read that no more than five units were built in a pre-production series and that thirteen were built after that, but only ten flew. Only original Luftwaffe papers would now tell us the actual truth, though...

And in order to avoid my HP soul to be condemned to the 'HP´less Hell of Sinners', what about using any of your HP calculator to compute the air flow and final engine torque in these asymmetrical beasts? Consider that in the BV141, the pilot pod balances the opposed torque at a certain engine RPM range. On the other hand, the pilot would need a 'crash course' on landing to avoid crash landings! (poor joke, I know...)

Cheers and thanks, again!

Luiz (Brazil)

Edited: 8 Oct 2009, 11:48 a.m.

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Woodstock feet replacements?

*Message #1 Posted by **Michael Meyer** on 7 Oct 2009, 11:37 a.m.*

Now that my Woodstocks are getting older, the feet are getting to the point that just "sanding" them isn't working... as with the drive wheels, they're turning into sticky goo.

I have had no problem finding the tan rubber in furniture feet, but cutting them into little Woodstock feet is turning out to be more difficult than I expected. They end up the wrong size, the wrong angles (the rubber deforms when pressed on with a knife), etc.

Any ideas on how to cut uniform replacements?

Re: Woodstock feet replacements?

*Message #2 Posted by **Rainer Wiedemann (Germany)** on 8 Oct 2009, 6:20 p.m.,*
in response to message #1 by Michael Meyer

It may be helpful keeping the rubber in a freezer overnight. It probably won't deform when you cut it due to its frozen state.

I never tried that on my own, the idea spontaneously came to my mind, so it might not work.

Good luck.

Re: Woodstock feet replacements?

*Message #3 Posted by **Michael Meyer** on 9 Oct 2009, 1:00 a.m.,*
in response to message #2 by Rainer Wiedemann (Germany)

Thanks. I knew somebody had to have SOME ideas. I thought of cutting razor blades to build a box die cutter, but I've never done something like this. The feet have to have depth and a taper unless they are glued towards the surface, but that would change the way you access the screws. I guess another approach would be to fill the openings with another material and just top them off with the rubber part. Still... a replacement piece would be best.

maybe a mold to fill with hot glue, topped by rubber?

Re: Woodstock feet replacements?

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 9 Oct 2009, 1:30 a.m.,*
in response to message #3 by Michael Meyer

Hi, Doc; are you OK?

I read your post and wondered about it since; no ideas so far. The specific format of the rubber feet actually helps cutting a spare from raw material (they are like small bricks). And the mold with hot glue seems valid: just wrap an existing feet with any aluminum foil (thicker than the one used in the

kitchen, which is as thin as a paper) and remove the feet from the top: your mold is ready. You could also try to carve the glue bar directly and then use a small amount of hot glue to set the sheet rubber feet (flat cut) in place. I would also suggest to cut the new rubber feet (sheet) a bit larger than the actual feet so its edges match the thickness of the small borders around them in the calculator case. Wish I had a picture or a Chinese to write down its description in a thousand words...

Success!

Luiz (Brazil)

Re: Woodstock feet replacements?

*Message #5 Posted by **Andreas Grund** on 9 Oct 2009, 1:58 a.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

The idea of Luiz how to build a simple mold is great, however, instead of hot glue I would prefer a 2K-silicon compound, which certainly can be blended with a filler and/or tan pigment to get the right hardness and surface. Such silicon compounds are usually available at modelling shops or dental supplies.

Andreas

Re: Woodstock feet replacements?

*Message #6 Posted by **Karl Schneider** on 9 Oct 2009, 2:39 a.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

Hi, Luiz, and let me add my belated welcome upon your return from hiatus!

> Quote:
>
> Wish I had a picture *or a Chinese to write down its description in a thousand words...*

I admit to not quite getting the reference, there -- does this refer to a calligrapher painstakingly producing an illustration 'worth a thousand words'?

:-)

-- KS

Edited: 9 Oct 2009, 2:40 a.m.

Re: Woodstock feet replacements?

*Message #7 Posted by **Vieira, Luiz C. (Brazil)** on 9 Oct 2009, 5:15 a.m.,*
in response to message #6 by Karl Schneider

Hi, Karl;

Yeap, you are correct about the 'chinese thought'. It was just a reference of the origin of the thought (at least, I've been told that since I was a kid...) because after reading what I wrote, I felt as using too much words and failing to describe it... Frustrating.

<:^(

Cheers and thanks for your welcome. I appreciate.

Luiz (Brazil)

Edited: 9 Oct 2009, 5:30 a.m.

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compiled local variable

*Message #1 Posted by **DK2ZA** on 7 Oct 2009, 9:10 a.m.*

Hello all!

I would like to write a HP-50g program containing a compiled local variable.

Problem is: I do not know how to type that small left arrow which precedes the variable's name using the calculator's keyboard.

Help would be appreciated.

Greetings, Helmut

Re: compiled local variable

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 7 Oct 2009, 9:34 a.m.,*
in response to message #1 by DK2ZA

Hi;

when you are keying in your program, press [right-shift][EVAL] and all existing characters will be shown in the display (scroll it down and up, if needed). This is a way to key any character in. Choose it (cursor keys) and press [ECHO].

Cheers.

Luiz (Brazil)

Edited: 7 Oct 2009, 9:35 a.m.

Re: compiled local variable

*Message #3 Posted by **DK2ZA** on 7 Oct 2009, 11:05 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Thank you very much!

Helmut

Re: compiled local variable

*Message #4 Posted by **Kiyoshi Akima** on 7 Oct 2009, 12:19 p.m.,*
in response to message #1 by DK2ZA

If you use it a lot, as I do, you might want to assign it as a one-character string to a user key.

Re: compiled local variable

*Message #5 Posted by **David Hayden** on 8 Oct 2009, 12:57 p.m.,*
in response to message #1 by DK2ZA

It's right-shift 0 (zero)

Re: compiled local variable

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 8 Oct 2009, 1:10 p.m.,*
in response to message #5 by David Hayden

Hi, David;

the right-arrow you get with the [right-shift][0] is not the same one you need for compiled local variables. The one that works here is the left-arrow, not available as a regular ALPHA character. Either you assign it to a key in the ALPHA keyboard (as Kiyoshi correctly suggested) or you use the CHARS menu.

I first read about compiled local variables (I do not remember reading about them in original HP manuals) at James Donnely´s "The HP48 Handbook" (2nd. Ed, p. 46). I consider this one a 'must read'. I also do not know if Willian Wickes tells about them in his "HP48 Insights", third volume (HP48G) because I did not read it (yet).

Hope this helps.

Cheers.

Luiz (Brazil)

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A great HP Watch (15C) replacement?

*Message #1 Posted by **artur - brazil** on 7 Oct 2009, 8:34 a.m.*

Has anybody here seen this amazing watch?

http://www.calcwatch.com/

Best wishes! Artur

Re: A great HP Watch (15C) replacement?

*Message #2 Posted by **Katie Wasserman** on 7 Oct 2009, 8:38 a.m.,*
in response to message #1 by artur - brazil

Of course. David L. Jones (DaveJ), the inventor, is a regular here and video blogs about electronics here. Look through his earlier episodes for one about this watch. Then there's the great group of people that program this, I think that this is the best place to see what they're up to.

-Katie

Edited: 7 Oct 2009, 8:44 a.m.

Re: A great HP Watch (15C) replacement?

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 7 Oct 2009, 8:39 a.m.,*
in response to message #1 by artur - brazil

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

The uWatch has been introduced here for about one-two years ago. It is really something to have... I'm waiting for the chance to have one. What about finding a group of 'us here' and try to buy some pieces of it? My name in the list, please!

Cheers.

Luiz (same ol'Brazil)

Hello, Luiz!

*Message #4 Posted by **artur - brazil** on 7 Oct 2009, 8:42 a.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

What a long time Luiz! I'm always busy trying something different! Very best wishes!

Artur

Re: A great HP Watch (15C) replacement?

*Message #5 Posted by **artur - brazil** on 7 Oct 2009, 8:40 a.m.,*
in response to message #1 by artur - brazil

Hummmmm .... maybe a replacement for HP15C or HP01 is a bit high evaluation, but they are in an excellent way ...

Artur

Re: A great HP Watch (15C) replacement?

*Message #6 Posted by **hecube** on 7 Oct 2009, 12:23 p.m.,*
in response to message #1 by artur - brazil

No offense to anyone but it's ugly as hell...

Re: A great HP Watch (15C) replacement?

*Message #7 Posted by **Don Shepherd** on 7 Oct 2009, 12:28 p.m.,*
in response to message #6 by hecube

Hey, if you want a Rolex, buy one. This one is for the geeks, and its geek-factor is superb.

Re: A great HP Watch (15C) replacement?

*Message #8 Posted by **hecube** on 7 Oct 2009, 8:32 p.m.,*
in response to message #7 by Don Shepherd

Like I said, no offense meant to anyone. I'll hold out for a HP-01 thank you!

Re: A great HP Watch (15C) replacement?

*Message #9 Posted by **Don Shepherd** on 7 Oct 2009, 8:50 p.m.,*
in response to message #8 by hecube

I'm not geeky enough to actually wear that watch, but it was amazing what Dave did with that project. I asked him once about the programming language of the watch, and he said it was basically a macro recorder, to let you record and then play back keystrokes, but no abilities to test or branch like a real programming language.

The HP-01 is interesting, but I can't see wearing that either. I do have one of the original Pulsar digital watches I got around 1972 or 73, and it still works after all these years. You adjust the hour and minutes with a little magnet concealed in the clasp. Cool.

Re: A great HP Watch (15C) replacement?

*Message #10 Posted by **Geoff Quickfall** on 7 Oct 2009, 8:58 p.m.,*
in response to message #9 by Don Shepherd

And the HP-01 IS NOT UGLY!!!!!!

And neither is my Synchronar:

2:17

Re: A great HP Watch (15C) replacement?

*Message #11 Posted by **hecube** on 7 Oct 2009, 9:41 p.m.,*
in response to message #10 by Geoff Quickfall

I like those big watch designs of the early seventies. I even bought a russian watch from that era this past summer. I wear it daily and I got many compliments (mostly from ladies!):

Re: A great HP Watch (15C) replacement?

*Message #12 Posted by **DaveJ** on 8 Oct 2009, 4:51 a.m.,*
in response to message #9 by Don Shepherd

> Quote:
>
> I'm not geeky enough to actually wear that watch, but it was amazing what Dave did with that project. I asked him once about the programming language of the watch, and he said it was basically a macro recorder, to let you record and then play back keystrokes, but no abilities to test or branch like a real programming language.

My original firmware was only fairly rudimentary, it's the community that took it forward. See what the latest firmware can do in this excellent USER MANUAL

The worlds only chess playing watch perhaps?

Dave.

Re: A great HP Watch (15C) replacement?

*Message #13 Posted by **DaveJ** on 7 Oct 2009, 11:20 p.m.,*
in response to message #6 by hecube

> Quote:
>
> No offense to anyone but it's ugly as hell...

Sure it is, but it was built using off the shelf parts and no case!

The new one will be much nicer, if I ever get it finished...

Dave.

Re: A great HP Watch (15C) replacement?

*Message #14 Posted by **Dan W** on 8 Oct 2009, 10:54 p.m.,*
in response to message #13 by DaveJ

Hi Dave,

Great web site. I watched your video blogs on capacitors. I am a reliability engineer, so I really appreciate your comments. And entertaining too.

And Katie, thanks for the link (message #2).

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Accuracy by chance

*Message #1 Posted by **Javier Goizueta** on 7 Oct 2009, 4:19 a.m.*

Recently, while testing various implementations of arbitrary-precision decimal trigonometry, I came up with seemingly excellent results of the Savage test due to less than perfect trigonometry. By chance, error cancellation worked better with some imperfect implementations than it did with correctly rounded results.

This reminded me of the apparent accuracy of the HP-35s trigonometry (leaving apart its known bugs!) so I took a look at it.

The result of the forensic test for the HP-35s (a 12 digit calculator without hidden precision) is 8.99999986001 (1.56E-6 percent error) while the HP Saturn-based 12 digits calculators (HP-71B, 28*, 48*, 42s, etc.) give 8.99999864267 (1.51E-5 percent error.)

So, is the trigonometry of the 35s better than that of the venerable Saturn models?

The answer is no: in each step of the test the Saturn calcs give the best possible answer to within 12 digits, so no other 12-digit calculator (with no hidden precision) can possibly be better in this particular case.

The good result of the 35s occurs purely by chance.

When it comes to compute the ATAN, both calcs have the argument 1.74549998555E-2, which has accumulated some round-off error deviating from the perfect 1.74549998554886...E-2 result (computed with unlimited precision).

The ATAN of the 12-digits argument is 0.999996272743534 5... which is correctly rounded by Saturn calcs to 0.999996272744, while the 35s gives the not-so-correct 0.999996272743. But by chance some of the accumulated error has now cancelled and the final result is better; the unlimited precision result of ATAN(TAN(COS(SIN(9)))) is 0.999996272742885...). This tiny deviation fully explains the final result of the test.

Note that the forensics test is a great easy way of identifying families of calculators, and was never intended to measure accuracy.

In general, we should be aware of the randomnes in the results of tests that accumulate rounding error which makes them not a valid measure of accuracy in any particular case.

Take for example the Gruenberger test that I applied to the SmartCalc 300S in this thread If we compute it with perfectly rounded 14-digit arithmetic, the result is worse than using 13 digits. The best result with 25 digits is worse than the best result with 23 digits!

Well, after all, the Saturn models' accuracy remains unsurpassed! ... and the 35s trigonometry is not only buggy, but not-so-accurate as well.

Re: Accuracy by chance

*Message #2 Posted by **Gerson W. Barbosa** on 7 Oct 2009, 10:13 a.m.,*
in response to message #1 by Javier Goizueta

> Quote:
>
> Well, after all, the Saturn models' accuracy remains unsurpassed! ... and the 35s trigonometry is not only buggy, but not-so-accurate as well.

You're right, but rather than microprocessors better algorithms have played an import role to achieve that accuracy. I think you are aware of this old thread, started by Rodger Rosenbaum, in which he quotes the philosophy behind math routines in HP calculators after the influence of Prof. Kahan:

"Each calculation is to return a result as though the calculation were done to infinite precision and the result properly rounded (round to even on most Saturn calcs) to an n-digit result."

The HP-33C and the HP-34C are the oldest calculator I have which achieve this goal. It appears newer HP calculators have abandoned this philosophy, so they will not give the expected forensic result. However at least the 12C Platinum has been programmed to replicate it:

```
1) asin(acos(atan(tan(cos(sin(9))))):
Keystrokes                Display
9                         9.
R/S                       0.156434465
g GTO 090 R/S             0.999996273
g GTO 100 R/S             0.017455000
g GTO 178 R/S             0.999996272
g GTO 157 R/S             0.156441660
g GTO 137 R/S             9.000417403
```

Re: Accuracy by chance

*Message #3 Posted by **Paul Dale** on 7 Oct 2009, 4:55 p.m.,*
in response to message #2 by Gerson W. Barbosa

My long running and slowly progressing scientific 20b firmware fares well in this particular test:

```
9.000000000029361
```

Which, if you reference the old thread mentioned above, is correct for 16 digits :-)

- Pauli

Re: Accuracy by chance

*Message #4 Posted by **Gerson W. Barbosa** on 7 Oct 2009, 5:31 p.m.,*
in response to message #3 by Paul Dale

> Quote:
>
> ```
> 9.000000000029361
> ```
>
> Which, if you reference the old thread mentioned above, is correct for 16 digits :-)

Way to go! That's exactly what I get on the 200LX:

```
1.564344650402309e-1
0.999996272742885
1.745499985548866e-2
0.999996272742885
1.56434465040737e-1
9.000000000029361
```

A 20b with your firmware should be fantastic. I only hope the keys are good enough.

Gerson.

Re: Accuracy by chance

*Message #5 Posted by **Walter B** on 7 Oct 2009, 6:48 p.m.,*
in response to message #4 by Gerson W. Barbosa

> Quote:
>
> A 20b with your firmware should be fantastic. I only hope the keys are good enough.

Well, we try our very best. Though tactile response is given by the 20b as is.

Re: Accuracy by chance

*Message #6 Posted by **Jeff O.** on 8 Oct 2009, 1:27 p.m.,*
in response to message #3 by Paul Dale

> Quote:
>
> My long running and slowly progressing scientific 20b firmware...

Pauli,
Have you provided any/many details regarding your 20b scientific firmware project? I checked the archives, there was some discussion last Fall, and a couple of mentions in threads since then, but no details. So I went to the 20b repurposing web site, and found this page where you described your efforts to create a scientific calculator on the 20b:

> Quote:
>
> The calculator is based loosely on the HP-34c with some of the more modern functions added; it also has complex operations like the 32/35 series but over a much wider range of functions. Additionally, the device supports superset of the HP-16c integer mode functionality. It is programmable with 500 steps of program memory (every instruction taking but a single step) and 100 storage registers.

The above sounds pretty cool. That page was last updated on 2008/12/21. Unfortunately, the links on that page are broken, but with a little guessing I found them:

Source

Walter's documentation

Any updates on the above or other details regarding your project?

Re: Accuracy by chance

*Message #7 Posted by **Paul Dale** on 8 Oct 2009, 7:02 p.m.,*
in response to message #6 by Jeff O.

Those links are to a very old version of the project but most of the high level ideas haven't changed. There has been a bit of to and fro over the function set since this revision. Mostly new

functions added. There have also been a lot of bug fixes and space savings.

The software isn't currently running on the 20b hardware but I can compile it for the arm and there is still sufficient space (RAM and flash) left to do the hardware driving that will be required (some of this is done already but more is required). Does anyone know where to source a programming cable from? Any space left over after that will be dedicated to more functionality and bug fixes :-)

Highlights are still similar to what I wrote previously:

- 500 merged programming steps.
- 100 registers (+ stack X Y Z T L & I).
- HP-41 like programming model.
- Almost all operations support complex numbers done like the 35s.
- Logical and bit operations are a superset of the 16c. Bases supported are from 2 to 16 inclusive, arithmemtic modes are unsigned, ones complement, twos complement and sign and mantissa.
- Comprehensive suite of statistical operations.
- Time, date and calendar operations (using the internal RTC for current time and date).
- Fraction mode as per the 32sii with a maximum denominator of 9999.

Walter's documentation change list might be helpful (some of the special characters here will like get mangled):

1.2 4.1.09 Added ASRN, CBC?, CBS?, CCB, SCB, FLOAT, MIRROR, SLN, SRN, >BIN, >DEC, >HEX, >OCT, BETA, D>R, DATE, DDAYS, D.MY, M.DY, Y.MD, CEIL, FLOOR, DSZ, ISZ, D>R, R>D, EMGAM, GSB, LNBETA, LNGAMMA, MAX, MIN, NOP, REAL, RJ, W and WINV, ZETA, %+ and %-; renamed the top left keys B, C, and D, and bottom left EXIT.

1.3 17.1.09 Added AIP, ALENG, ARCL, AROT, ASHF, ASTO, ATOX, XTOA, AVIEW, CLA,PROMPT (all taken from 42S), CAPP, FC?C, FS?C, SGMNT, and the …# commands; renamed NBITS to BITS and STOWS to WSIZE; specified the bit commands closer; deleted the 4 carry bit operations.

1.4 10.2.09 Added CONST and a table of constants provided, D>J and J>D, LEAP?, %T, RCL and STO 􀁣 and 􀁤, and 2 forgotten statistics registers; deleted CHS, EMGAM, GSB, REAL and ZETA; purged and renamed the bit operations; renamed many commands.

1.5 5.3.09 Added RNDINT, CONV and its table, a memory table, the description of XEQ B, C, D to the operation index, and a and ge to the table of constants; put CLSTK on a key, moved CLΣ and FILL, changed the % and log labels on the keyboard, put CLALL in X.FCN; checked and cleaned alpha mode keyboard and added a temporary alpha keyboard; rearranged the alphabet to put Greek after Latin, symbols after Greek consistently; separated the input and non programmable commands; cleaned the addressing tables.

1.6 12.8.09 Added BASE, DAYS+, DROP, DROPY, E3OFF, E3ON, FC?F, FC?S, FIB, FS?F, FS?S, GCD, LCM, SETDAT, SETTIM, SET24, SINC, TIME, VERS, αDAY, αMONTH, αRC#; %Σ, as well as F-, t-, and χ2-distributions and their inverses; reassigned DATE, modified DENMAX, FLOAT, αROT, and αSHIFT; deleted BASE arithmetic, BIN, DEC, HEX, and OCT; updated the alpha keyboards; added flags in the memory table; included indirect addressing for comparisons; added a paragraph about the display; updated the table of indicators; corrected errors.

1.7 9.9.09 Added P.FCN and STAT catalogues, 4 more conversions, 3 more flags, Greek character access, CLFLAG, DECOMP, DENANY, DENFAC, DENFIX, Iβ, IΓ, αDATE, αRL, αRR, αSL, αSR, αTIME, 12h, 24h, fraction mode limits,

normal distribution and its inverse for arbitrary μ and σ, and Boolean operations working within FLOAT; deleted αROT and αSHIFT, the timer, and forced radians after inverse hyperbolics; renamed WINV to W –1, and beta and gamma commands to Greek; added tables of catalogue contents; modified label addressing; relabeled PRGM to P/R and PAUSE to PSE; swapped SHOW and PSE as well as Δ% and % on the keyboard; relabeled Q; corrected CEIL and FLOOR;

There have been a number of changes since the 1.7 documentation. Mostly extra statistic distributions -- currently, normal(0,1), normal(mean,var), chi^2, t, F, geometric, Weibull, binomial, poisson & exponential both cumulative distribution functions and their inverses.

The operations that aren't supported in complex mode are those that don't make sense, those that won't fit on the stack (regularized incomplete beta function), the integer mode only commands and a couple of other functions: error function and regularized incomplete gamma function - but not the normal gamma function. Complex stack and STO/RCL operations are supported, e.g. there is a complex lastX which restores L & I to the stack.

I can send the source to those interested I guess. I really should create a project on the web to host this.

- Pauli

Re: Accuracy by chance

*Message #8 Posted by **Jeff O.** on 9 Oct 2009, 8:20 a.m.,*
in response to message #7 by Paul Dale

Thanks for the update. It sounds pretty awesome.

Re: Accuracy by chance

*Message #9 Posted by **Walter B** on 8 Oct 2009, 7:53 p.m.,*
in response to message #6 by Jeff O.

If you tell me a place where I can put some 600kB of pdf, I'll be happy to upload edition 1.8 of the documentation file tomorrow.

Re: Accuracy by chance

*Message #10 Posted by **Jeff O.** on 9 Oct 2009, 8:11 a.m.,*
in response to message #9 by Walter B

I guess your guest folder here is too full? To clear room in mine, I have gone back and subsituted smaller images for the originals. That way there is still an image in the archives and not the annoying:

Re: Accuracy by chance

*Message #11 Posted by **Walter B** on 9 Oct 2009, 9:31 a.m.,*
in response to message #10 by Jeff O.

AFAIK, nobody but Dave is allowed to upload files greater than 100kB on this site. This makes perfect sense, since at the golden age of our objects of worship, 64kB was what an entire data acquisition system for e.g. nuclear spectroscopy needed. So, sorry, no way to

upload 600kB here.

Waiting for a better offer,

Walter

Re: Accuracy by chance

*Message #12 Posted by **Jeff O.** on 9 Oct 2009, 10:18 a.m.,*
in response to message #11 by Walter B

Walter,
I was just able to upload a 123 kB file. But this may not be the best place to host your manual.

Jeff

Re: Accuracy by chance

*Message #13 Posted by **Karl Schneider** on 9 Oct 2009, 1:46 a.m.,*
in response to message #2 by Gerson W. Barbosa

Hi, Gerson --

> Quote:
>
> The HP-33C and the HP-34C are the oldest calculator I have which achieve this goal *(of returning a result correct to* n *significant digits, given input assumed to be accurate to* n *significant digits)*

Almost, but with at least one exception: Trigonometrics with small-magnitude results that reside within the guard digits. The HP-34C -- and every other subsequent scientific model (HP-41C/CV/CX, HP-10C, HP-11C, HP-15C) until the Saturn processor -- will return

```
sin (3.141592653 rad) = 5.9E-10, instead of 5.897932385E-10.
```

My explanation for this result is this excerpt from the following thread:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv017.cgi?read=123880#123880

HP calculators with pre-Saturn microprocessors (e.g., HP-15C) and many modern calculators from other manufacturers (e.g, TI-82) sometimes give only two significant digits for the sine and cosine calculations described. I suspect that they calculate out to their internal precision of three guard digits, round the answer to the second guard digit and "call it good", without recognizing that even more digits could be calculated due to the small magnitude of the result. Example:

```
       input    |guard|  extra
                \     /
sin 3.14159265358|000|
=   0.00000000000|979|323846264
                  |   |
```

On any Pioneer-series model and some descendants, you get 9.79323846264e-12 as the result. On some newer 12-digit non-HP's, you might get 9.8e-12 as the result.

> Quote:
>
> It appears newer HP calculators have abandoned this philosophy, so they will not give the expected forensic result.

I don't believe that the "philosophy was abandoned". However, the standard was certainly not met in some cases due to errors in porting ROM code to modern microprocessors, and the lack of rigorous testing that was done in the past. To my knowledge, all the identified transcedental-math errors of the HP-33s and HP-35s have been corrected -- except perhaps for the trig error discussed in the linked thread, which was corrected for the HP-20b.

As for giving highly-accurate forensic results, it's impossible without carrying many extra digits of precision in the calculations -- three is not enough.

-- KS

Edited: 9 Oct 2009, 2:24 a.m.

Re: Accuracy by chance

*Message #14 Posted by **Gerson W. Barbosa** on 9 Oct 2009, 5:25 p.m.,*
in response to message #13 by Karl Schneider

Hello Karl,

> Quote:
>
> > Quote:
> >
> > The HP-33C and the HP-34C are the oldest calculator I have which achieve this goal *(of returning a result correct to* n *significant digits, given input assumed to be accurate to* n *significant digits)*
>
> Almost, but with at least one exception: Trigonometrics with small-magnitude results that reside within the guard digits. The HP-34C -- and every other subsequent scientific model (HP-41C/CV/CX, HP-10C, HP-11C, HP-15C) until the Saturn processor -- will return
>
> `sin (3.141592653 rad) = 5.9E-10, instead of 5.897932385E-10.`

Yes, *almost* is the word that was missing in my statement. Thanks for the correction! (an 's' was also missing :-)

> Quote:
>
> To my knowledge, all the identified transcedental-math errors of the HP-33s and HP-35s have been corrected -- except perhaps for the trig error discussed in the linked thread, which was corrected for the HP-20b.

I wish it had been corrected on the 33s also, even though it doesn't affect my calculations. Currently that is the replaceable HP calculator I use most. The '1' key on my second unit got broken after only two years of not so heavy use. The same had happened on my first one ('.' key).

Quote:

As for giving highly-accurate forensic results, it's impossible without carrying many extra digits of precision in the calculations -- three is not enough.

I assume by highly-accurate forensic results you mean results very close to 9. If such is the case three guard digits are really too little. But if each intermediate result is to be rounded to the number of digits of the display then three is enough - at least for the particular 9 degrees argument.

Regards,

Gerson.

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HP41C issue: beeps, but the display does not work

*Message #1 Posted by **Nenad (Croatia)** on 7 Oct 2009, 3:34 a.m.*

Hi, everybody

My newly acquired HP41C arrived with the following problem: after putting a battery pack in and pressing ON, the display does not display anything, or something gibberish. Sometimes all the segments of the left half of display are seen, sometimes all the segments on the right, sometimes upper half, sometimes none, etc. After pressing any key, the display goes out, however a beeping sound (not a normal beep) is heard every three or four seconds.

The battery contacts are in perfect condition: clean, with no corrosion. All the screw posts seem to be intact (lower posts are reinforced by hexagonal nuts).

It also seems that all the keys have a perfect tactile feedback. The gibberish display can be cleared by any key, meaning that every key gives a contact.

What should I do next?

Another question: can I replace the HP41C PCB with the one from the HP41CV? I have an HP41CV with a PCB which works correctly, but the machine has another issues.

Thank you.

Re: HP41C issue: beeps, but the display does not work

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 7 Oct 2009, 8:17 a.m.,*
in response to message #1 by Nenad (Croatia)

HI, Nenad; greetings from this side of the ocean!

Your assumptions are correct: the mainboard of the 'coconut' series (I used to call the 'fullnut' as a counterpart for the 'halfnut', but it seems to me it is not the correct term, though) are interchangeable, and the display should work correctly. The behaviour you describe should be related to a bad contact between the main PCB and the rest of the calculator, and this should be because the small, double zebra contact (either with thin golden-plated strips or multi-contact conductive polymer) has not been pressed enough. If you have any modules connected to the calculator, you could also have other problems. Just as a brief test, press the calculator half cases against each other between the tow rubber feet in the botton, and see if it works. The zebra contacts are exactly there.

If you need more guidance or pictures, let us know.

Success!

Luiz (Brazil)

Edited: 7 Oct 2009, 8:21 a.m.

Re: HP41C issue: beeps, but the display does not work

*Message #3 Posted by **Nenad (Croatia)** on 7 Oct 2009, 2:39 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Your procedure did something very bad to my new/old HP41C. After disassembling the machine, cleaning the zebra strips, retightening the PCB nuts, putting the screws, as well as the battery pack back, the display showed something as:

MEMORY LOST

My machine lost its memory! I thought the memory was somewhere on the PCB. Nevertheless, I looked under the desk and there was no visible HP41C memory. Then the most interesting part comes: after I pressed <alpha> and a few keys afterwards, the LCD display says:

THANKS LUIZ

Finally, I decided not to exchange the HP41C PCB with the one of the HP41CV. Knowing that the HP41CV PCB is OK, this was a new information to me that this is also the case with the HP41C PCB.

Oh, that HP41CV. When I summarize what I have already done to it, it will certainly deserve my post under the topic "condemned to HP hell".

Ha Ha! 8-) good sense of humor...

*Message #4 Posted by **Geoff Quickfall** on 7 Oct 2009, 3:59 p.m.,*
in response to message #3 by Nenad (Croatia)

nt

Re: HP41C issue: beeps, but the display does not work

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 7 Oct 2009, 5:20 p.m.,*
in response to message #3 by Nenad (Croatia)

Hi, Nenad;

you have no idea how I missed these moments we experience here... Needless to say I feel back home! Thank you for letting me know about this, I appreciate. Oh, and have you found the memory your calculator lost, just throw it away and allow the little one a fresh new start from now on. Not all memories are good, mostly in 'her' case, with that weird behavior (do you actually think 'she' would like to remember the days 'she' was only able to beep in the blind? I don't think so...).

I am preparing a post (not a big one, just filled with info) in order to update the guys here about some new stuff. Gimme a couple of days...

Best regards.

Luiz (Brazil)

Edited: 7 Oct 2009, 5:21 p.m.

"She"

*Message #6 Posted by **Nenad (Croatia)** on 9 Oct 2009, 3:29 a.m.,*
in response to message #5 by Vieira, Luiz C. (Brazil)

"She" is reserved for my HP67! She was a real beauty back in 1980 when I finally got her attention (and still she is). She was always there with me, ready to help me through my university days, reports, exams, etc. with her bright red LED display and magnetic cards. I would have never completed studying of mechanical engineering without her smart support. Yes, I know that I should have talked to her, brought her flowers, written her poems, try to attract her in other ways, but unfortunately I did not have enough time later on as a young engineer-I had a lot of work to do, and (my confession) treated and exploited her as a working horse.

This is just to explain why I cannot use "she" to address my HP41C-it is only a common calculator.

;-)

Re: "She"

*Message #7 Posted by **Vieira, Luiz C. (Brazil)** on 9 Oct 2009, 5:21 a.m.,*
in response to message #6 by Nenad (Croatia)

I need help...

While reading your text I began listening to Charles Aznavour and seeing a little movie with a calculator, a guy, flowers and happy people... All of this in my head! Doc Meyers, were are you? I need to set an appointment...

Oh, boy...

Edited: 9 Oct 2009, 3:25 p.m.

Re: "She"

*Message #8 Posted by **Michael Meyer** on 9 Oct 2009, 4:46 p.m.,*
in response to message #7 by Vieira, Luiz C. (Brazil)

Well... I used my TI-59 with printer in college to generate love poems for my random girlfriend... I mean, random poems.

Does that count?

Why not "she"? A few of us here, that will remain un-named (Luiz, you know who we are), call our calculators our "babies".

Just terms of endearment. I don't think that's too odd.

I finally pieced together a working 29C. A working circuit with a working keyboard. She's beautiful. She needs an HP-10 calculator to share a shelf with, now. Her Woodstock siblings and 19C big brother are getting old... they need a new companion...

Thanks, Doc!

*Message #9 Posted by **Vieira, Luiz C. (Brazil)** on 9 Oct 2009, 5:23 p.m.,*
in response to message #8 by Michael Meyer

Hi, Doc; good old days, ahn?

You see, while reading Nenad´s post I actually 'traveled' that way, like a prelude for a TV commercial! That was wierd...

Anyway, I´m also guilty as charged... I still look at any of the Voyagers and think: 'What a beautiful design...'. Same with the HP71B (remember it? Still here, of course, and working fine...). I just did not know how bad that could be prior to consider that a way to get us rid of the 'HPless Hell of Sinners'.

'Nough said, though! The new guys may be wondering if this is the kind of stuff I actually used to post about in the past... I should have waited a bit more, right?

> Quote:
>
> (...)to generate love poems for my random girlfriend... I mean, random poems.

Hope your wife does not read the Forum...

Cheers!

Luiz (Brazil)

HP41C issue: be carefull with the zebra stripes

*Message #10 Posted by **Vieira, Luiz C. (Brazil)** on 7 Oct 2009, 5:26 p.m.,*
in response to message #3 by Nenad (Croatia)

Hi, Nenad;

just to add that the golden plated zebra stripe is very fragile, and gentleness is demanded when cleaning it. I have what remains from a zebra stripe that simply dismantled in various parts, the zebra contacts themselves broke in a few small tubes. I was lucky enough to have a spare (polymer type) to replace it.

Cheers.

Luiz (Brazil)

Edited: 7 Oct 2009, 5:27 p.m.

Re: HP41C issue: be carefull with the zebra stripes

*Message #11 Posted by **Steve Leibson** on 8 Oct 2009, 10:43 p.m.,*
in response to message #10 by Vieira, Luiz C. (Brazil)

Luiz,

What do you recommend to use to clean the gold zebra strip?

Thanks,

Steve Leibson

Re: HP41C issue: be carefull with the zebra stripes

*Message #12 Posted by **Vieira, Luiz C. (Brazil)** on 9 Oct 2009, 12:11 a.m.,*
in response to message #11 by Steve Leibson

Hi, Steve;

I have already used isopropyl alcohol. From our good friend Wikipedia, we have:

> Quote:
>
> Isopropyl alcohol is cheaply available. Like acetone, it dissolves a wide range of nonpolar compounds. It is also relatively non-toxic and dries (evaporates) quickly. Thus it is used widely as a solvent and as a cleaning fluid, especially for dissolving lipophilic contaminants such as oil.

Because the conductors are golden plated, they will actually not oxidize, just get dirty or simply isolated because of lack of pressure. But I consider that the main problem actually is how to clean without dismantling the piece. I use regular, commercially available cotton swab moysted with isopropyl alcohol and carefully move it over the surface of the contacts the way I suggest in the drawing below (sorry if it is not better, I drew it right now...)

The image (hopefully) shows the polymer tube where the contacts are build. I use the swab like this to avoid the contacts to detach from the surface of its isolating base.

Hope this helps.

Success!

Luiz (Brazil)

Edited: 9 Oct 2009, 12:12 a.m.

Re: HP41C issue: be carefull with the zebra stripes

*Message #13 Posted by **Steve Leibson** on 9 Oct 2009, 12:24 a.m.,*
in response to message #12 by Vieira, Luiz C. (Brazil)

Thank you for that very complete explanation and the excellent illustration, Luiz. I really appreciate the help.

Steve

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HCC2009 and the NIST tour

*Message #1 Posted by **Geoff Quickfall** on 6 Oct 2009, 8:14 p.m.*

Hello all:

Had a great time at the HCC2009!

I thought I would share the NIST tour with you and thank Mark Ringrose for organizing the tour.

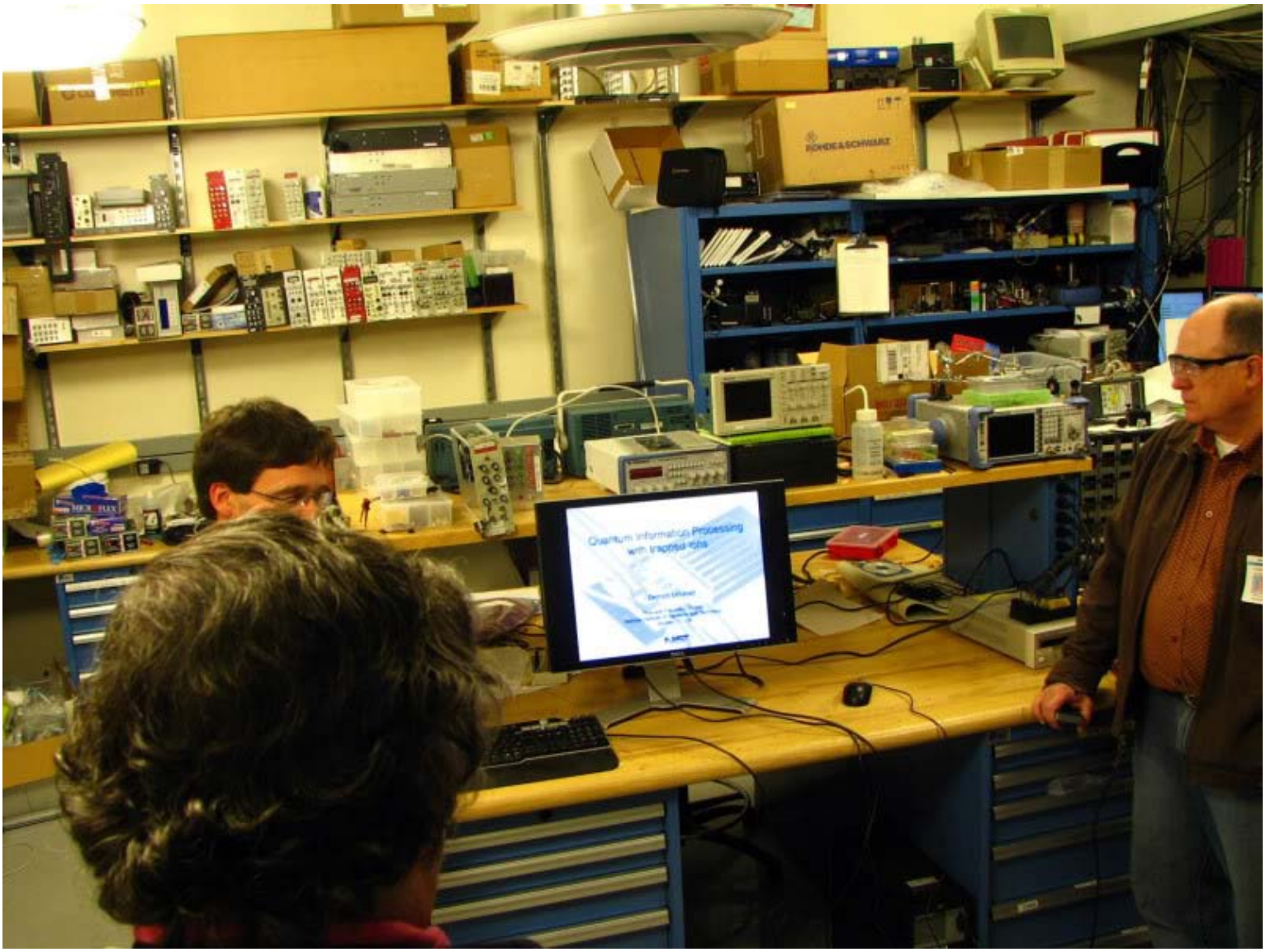
NIST link

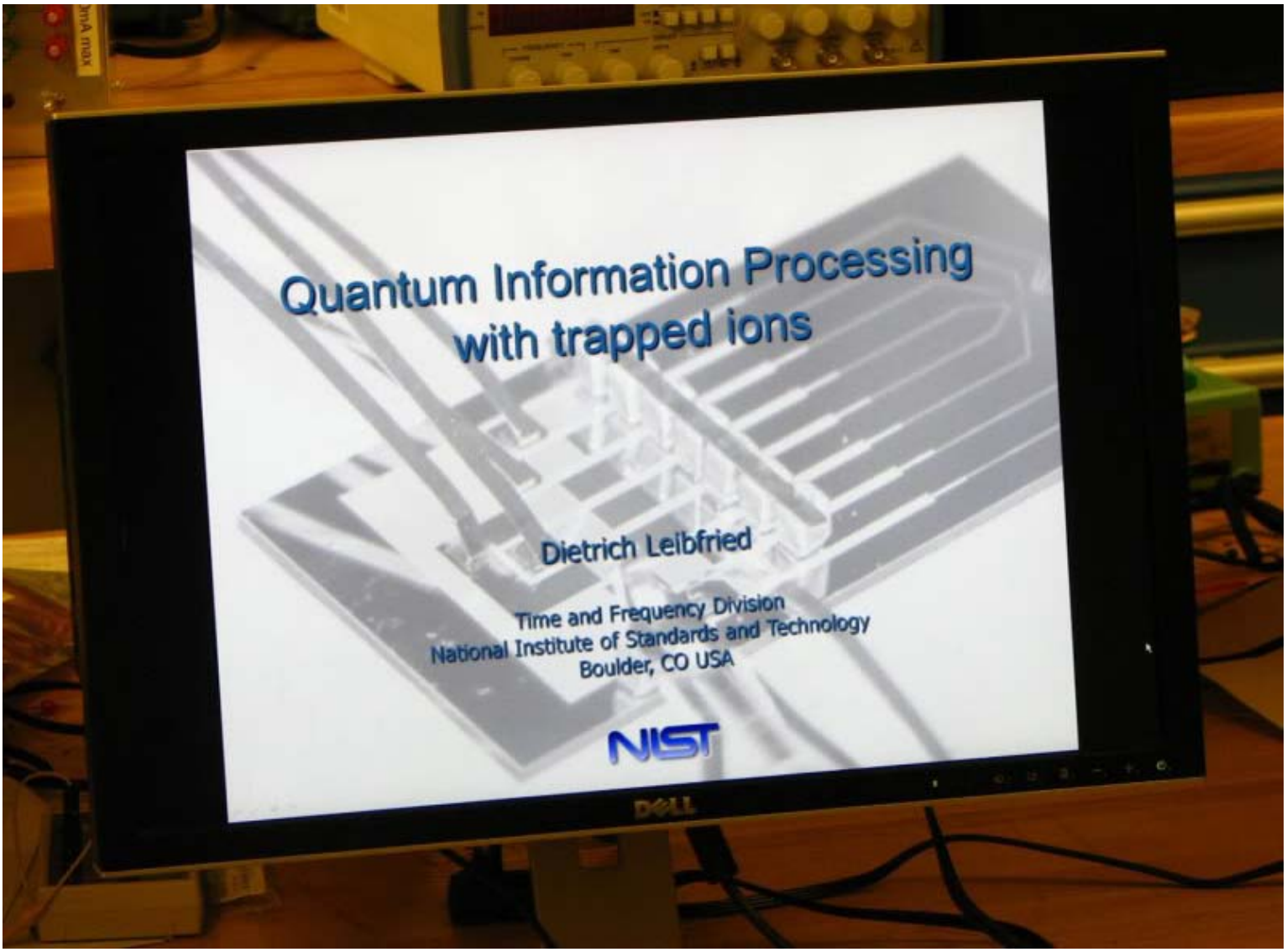
actual link to the quantum lab info at NIST

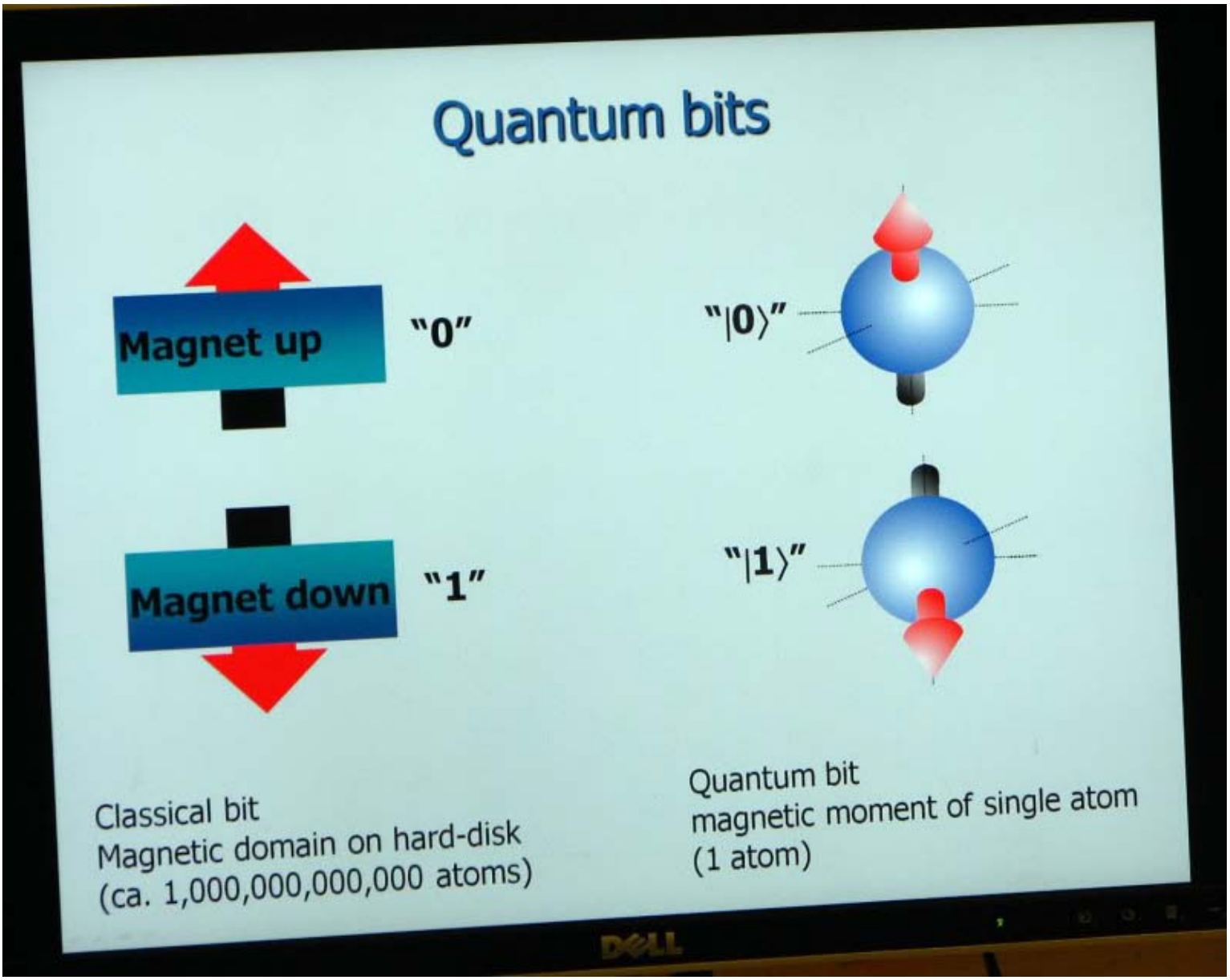
The tour was composed of two parts; the Atomic clock lab and the Quantum computer lab. With that in mind the following are a series of pictures of the Quantum Computer research facility.

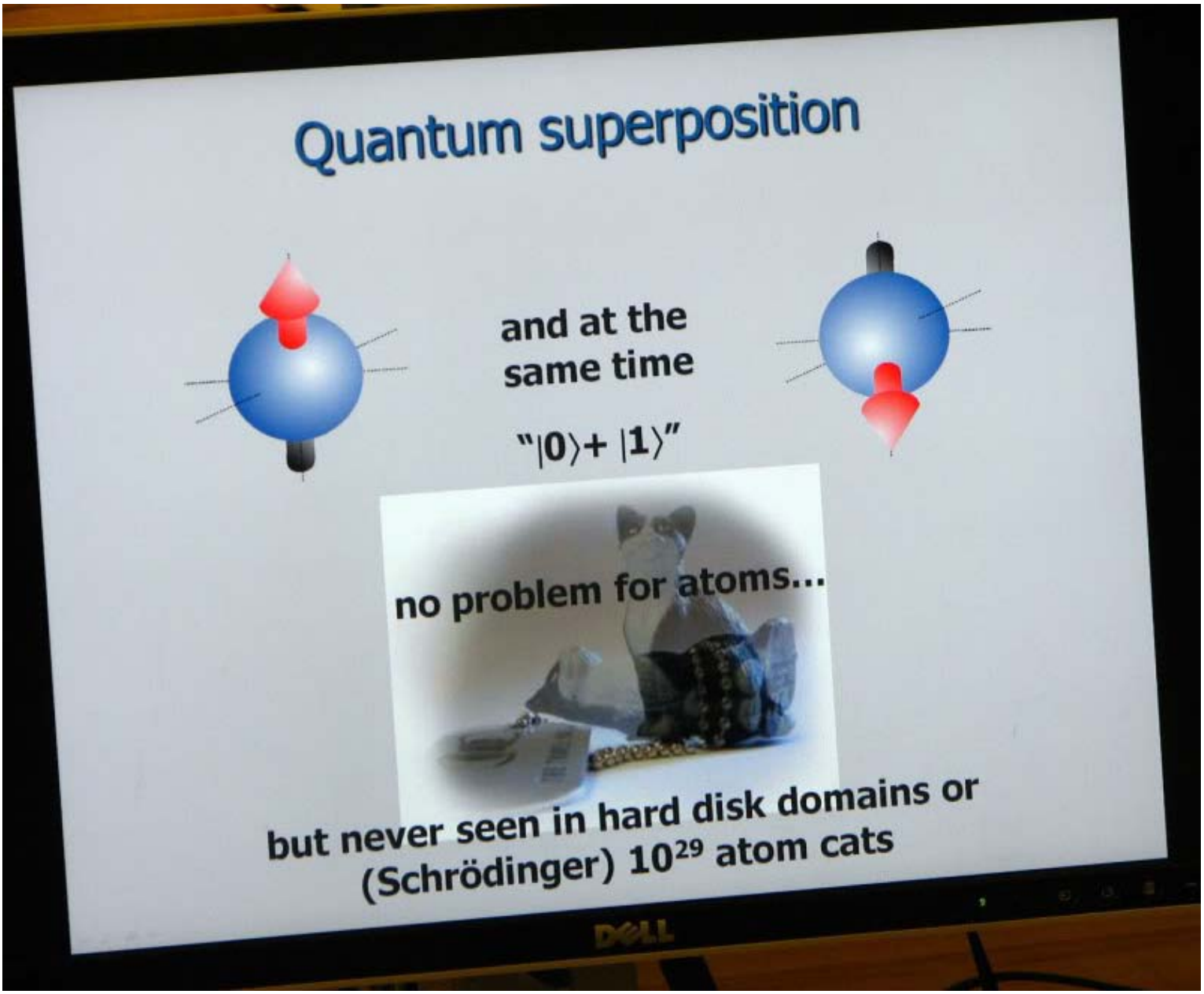
They include a series of pictures (powerpoint) on a research computer as part of a presentation. The slides were explained in greater detail by one of the researchers (the name escapes me but someone will supply it I am sure, it may have been Dietrich Leibfried). Once the slide show was completed we made our way around to the laser system (red and green) which are used to guide the ions into the ion traps.

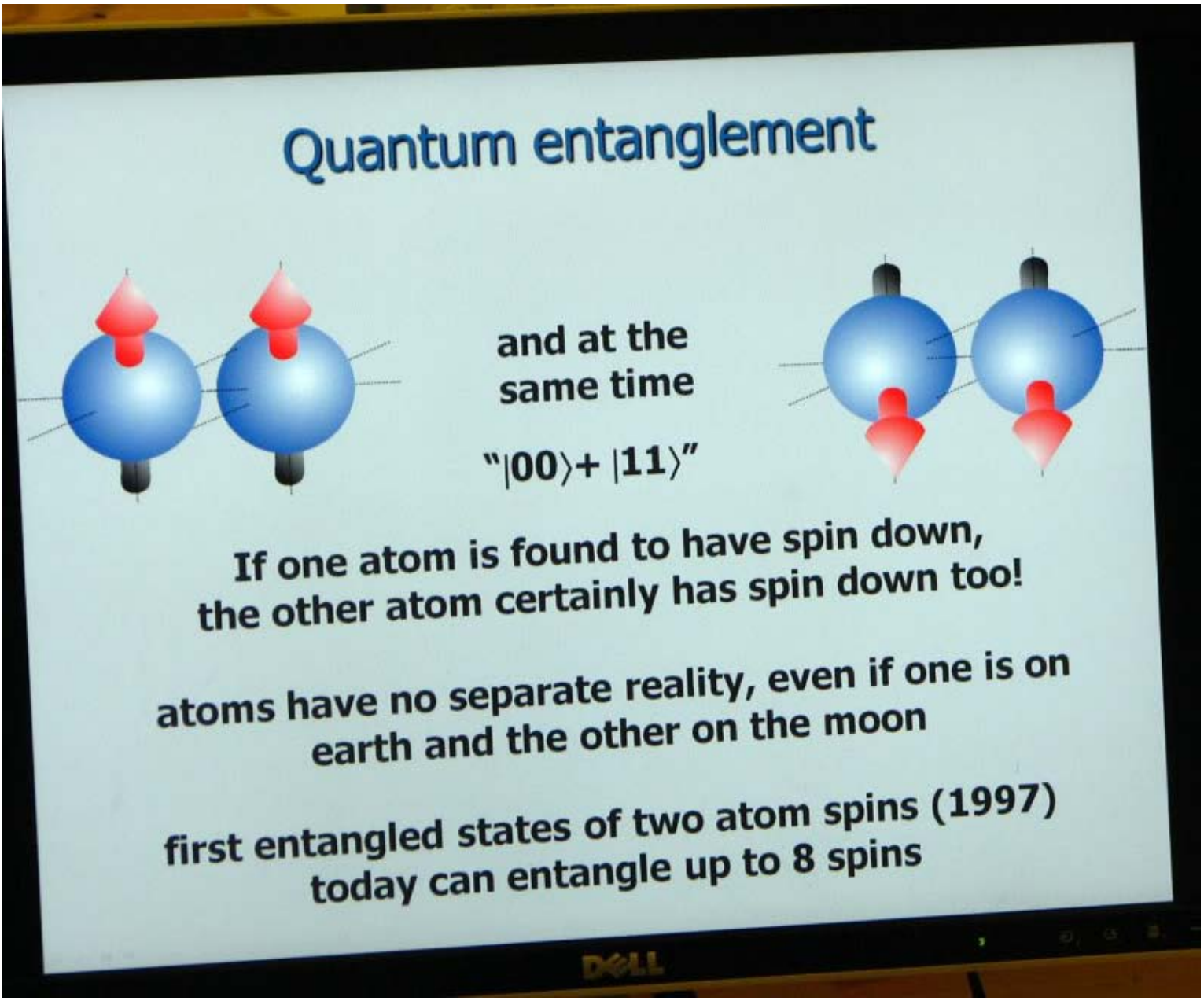
Without further ado here are the slides and the laser plus ion trap sections photos:

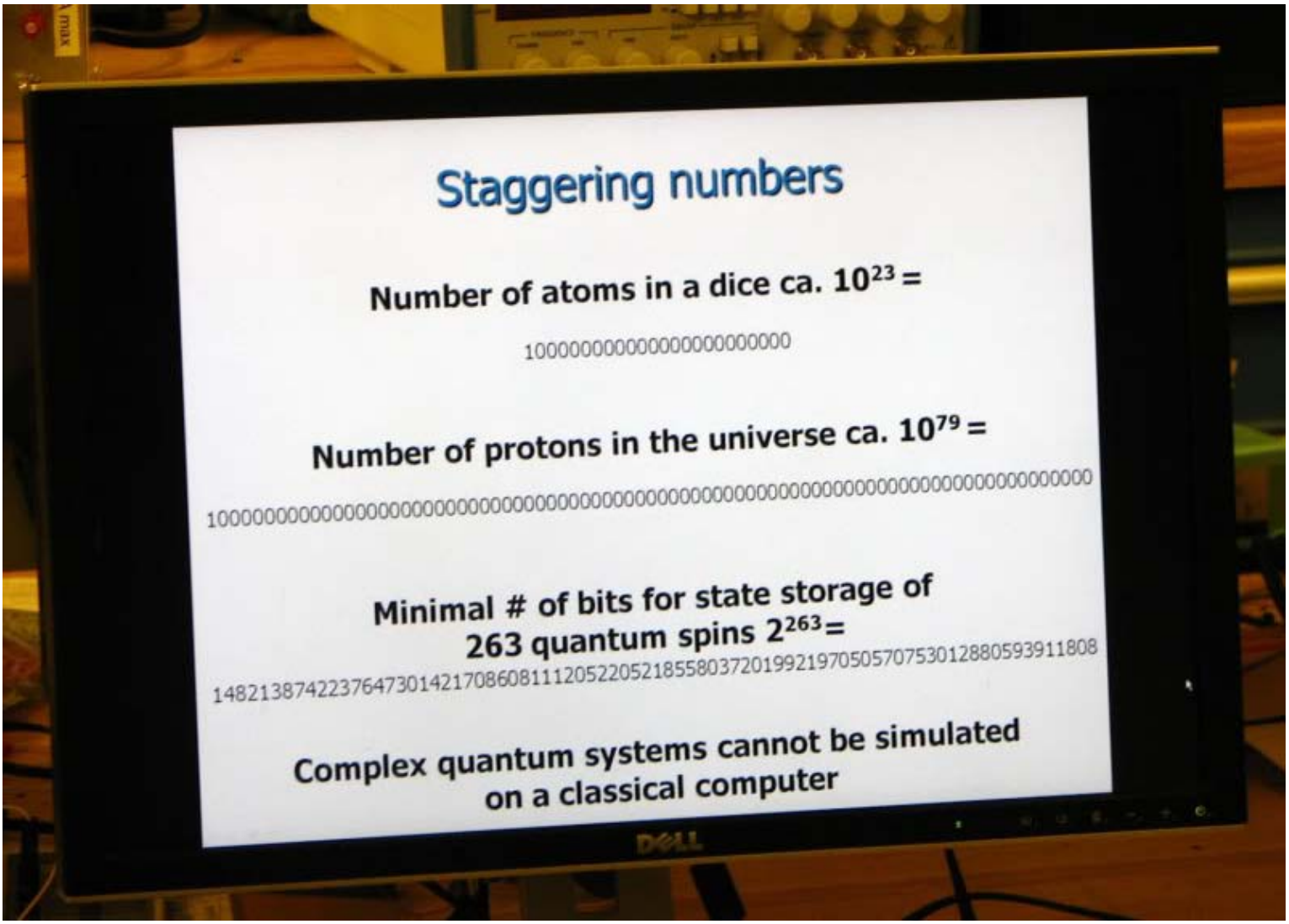

ROHDE&SCHWARZ

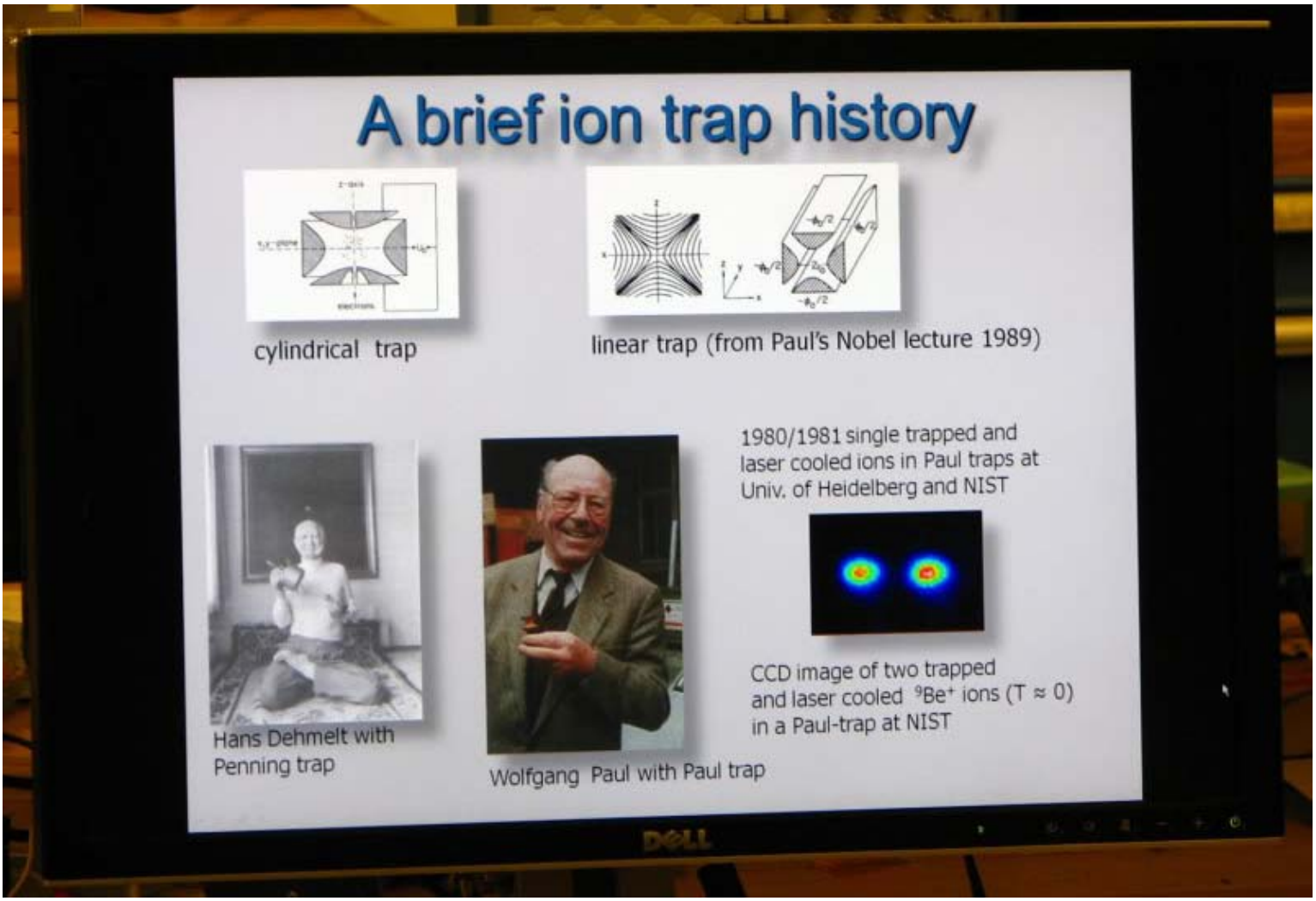

Quantum Information Processing
with trapped ions
Dietrich Leibfried
Time and Frequency Division
National Institute of Standards and Technology
Boulder, CO USA
NIST
DELL


Quantum bits
Magnet up
"0"
"|0⟩"
Magnet down
"1"
"|1⟩"
Classical bit
Magnetic domain on hard-disk
(ca. 1,000,000,000,000 atoms)
Quantum bit
magnetic moment of single atom
(1 atom)
DELL


Quantum superposition
and at the same time
"|0⟩+ |1⟩"
no problem for atoms...
but never seen in hard disk domains or (Schrödinger) 10^29 atom cats
DELL

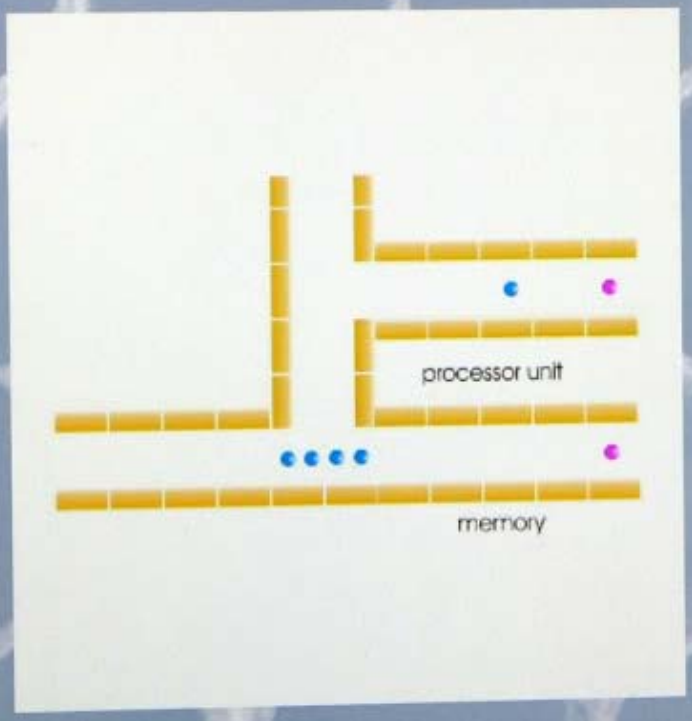

Quantum entanglement
and at the same time
"|00⟩+ |11⟩"
If one atom is found to have spin down, the other atom certainly has spin down too!
atoms have no separate reality, even if one is on earth and the other on the moon
first entangled states of two atom spins (1997)
today can entangle up to 8 spins
DELL


Staggering numbers
Number of atoms in a dice ca. 10^{23} =
100000000000000000000000
Number of protons in the universe ca. 10^{79} =
1000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000
Minimal # of bits for state storage of 263 quantum spins 2^{263}=
14821387422376473014217086081112052205218558037201992197050570753012880593911808
Complex quantum systems cannot be simulated on a classical computer
DELL


A brief ion trap history
cylindrical trap
linear trap (from Paul's Nobel lecture 1989)
1980/1981 single trapped and laser cooled ions in Paul traps at Univ. of Heidelberg and NIST
CCD image of two trapped and laser cooled $^9Be^+$ ions (T ≈ 0) in a Paul-trap at NIST
Hans Dehmelt with Penning trap
Wolfgang Paul with Paul trap
DELL

Scaling up

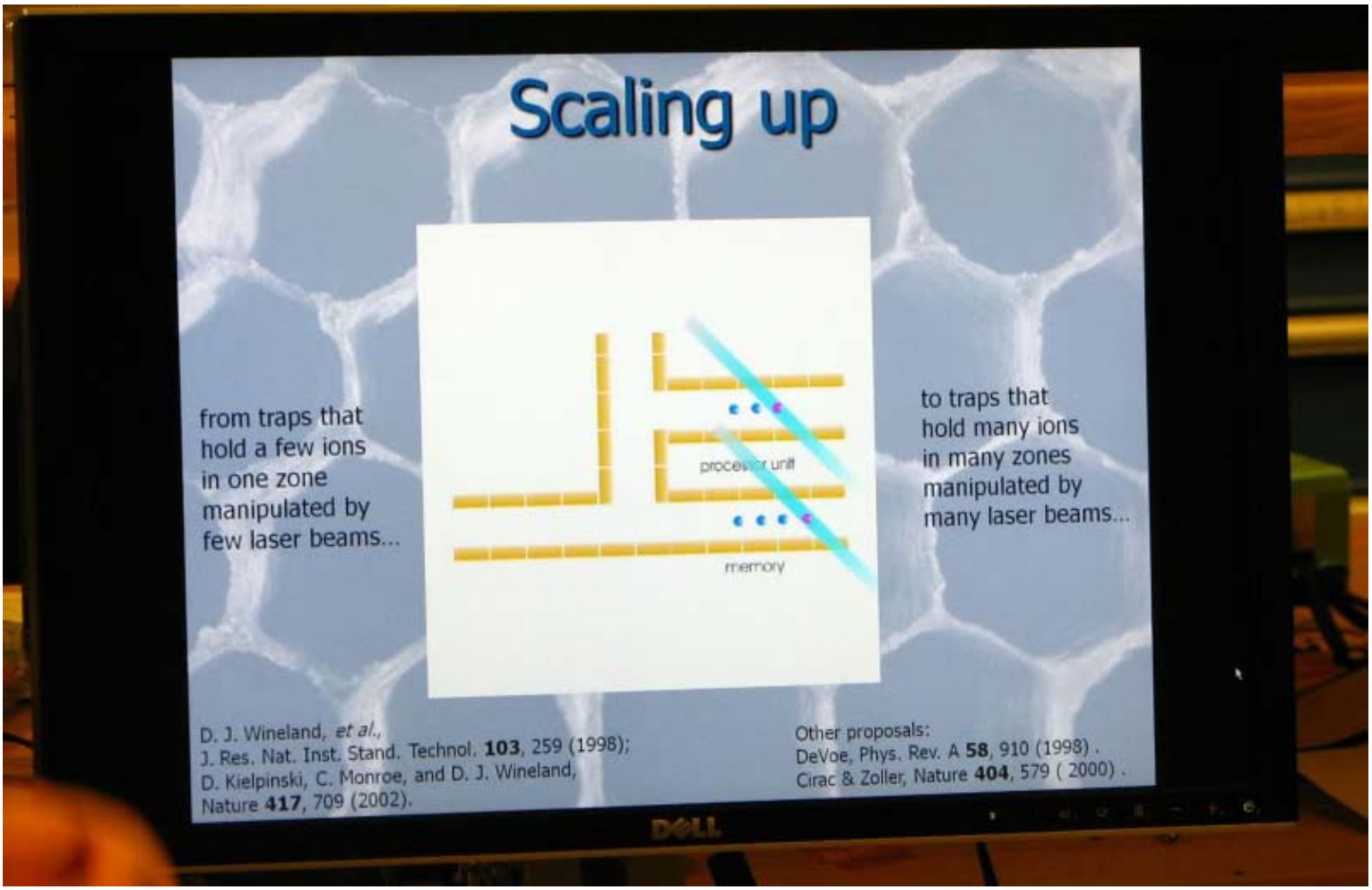
from traps that hold a few ions in one zone manipulated by few laser beams...

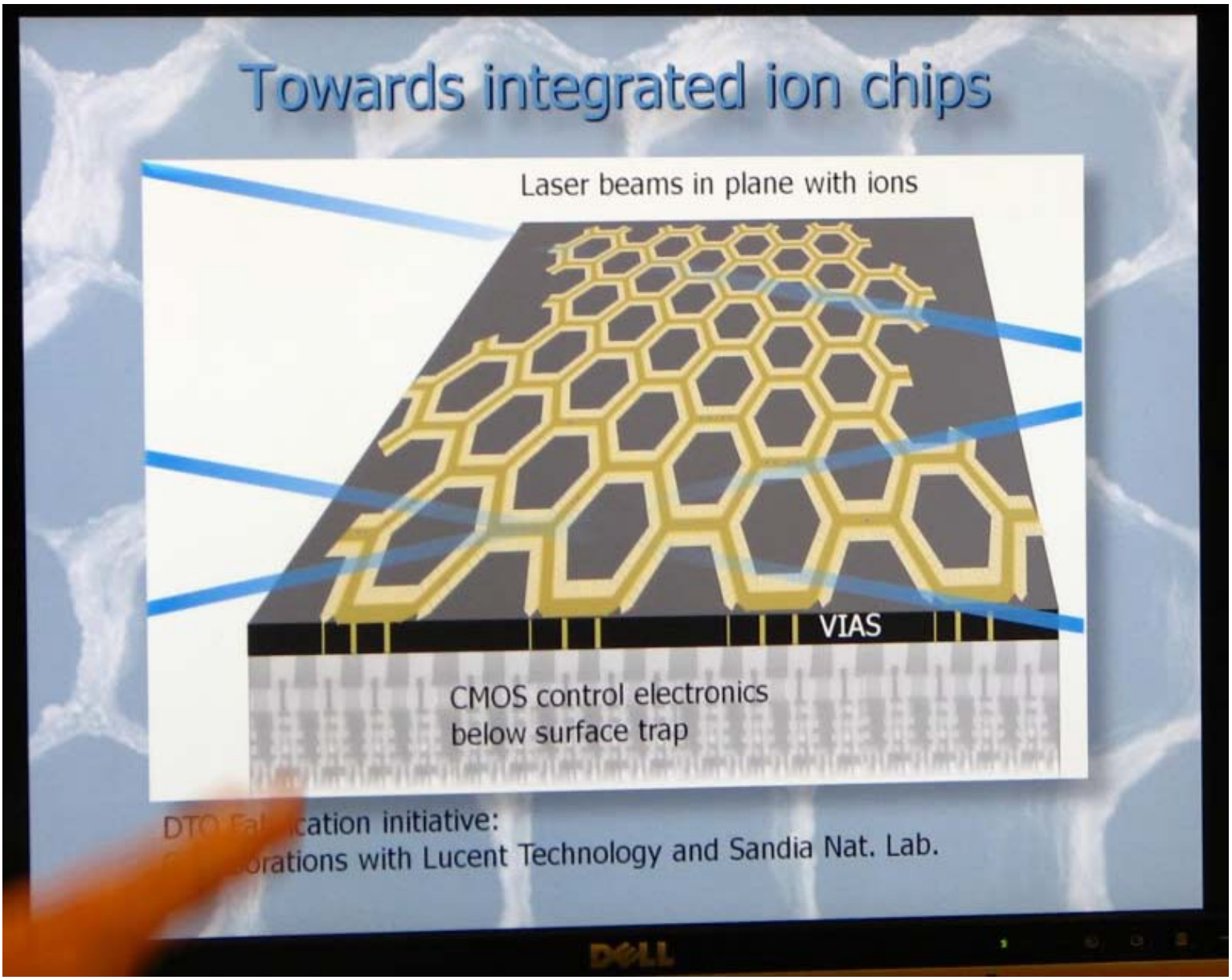


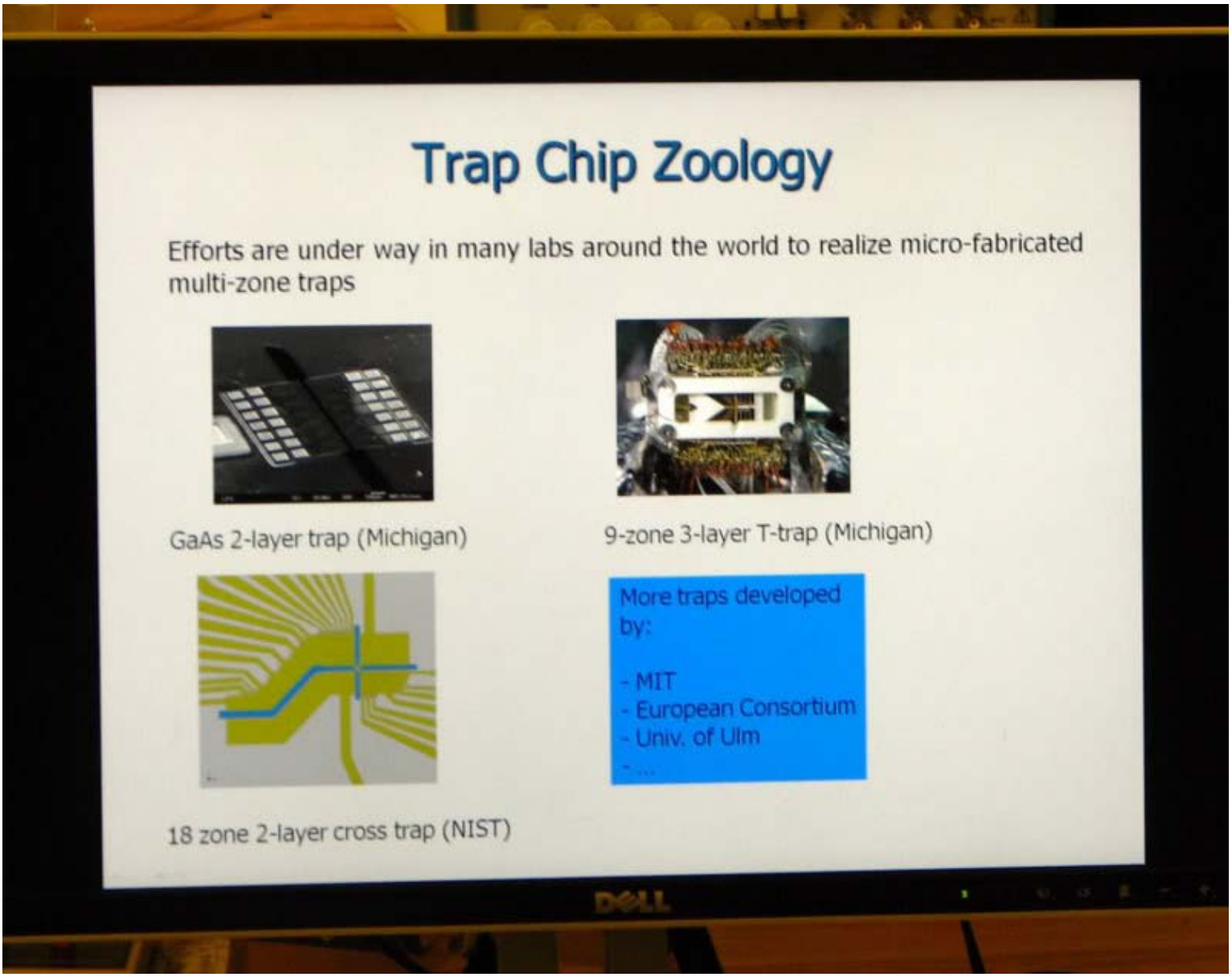
to traps that hold many ions in many zones manipulated by many laser beams...

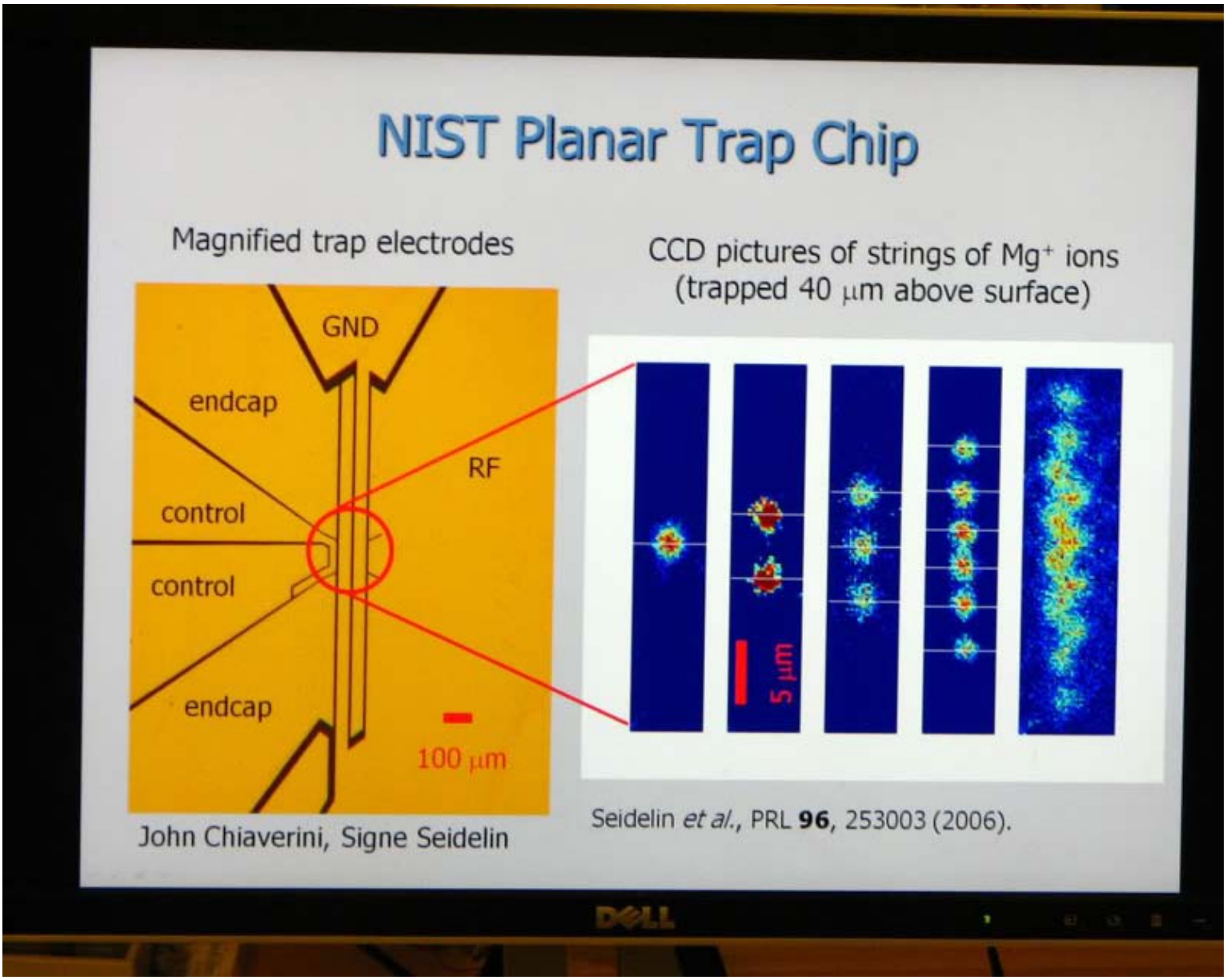
D. J. Wineland, *et al.*,
J. Res. Nat. Inst. Stand. Technol. **103**, 259 (1998);
D. Kielpinski, C. Monroe, and D. J. Wineland,
Nature **417**, 709 (2002).

Other proposals:
DeVoe, Phys. Rev. A **58**, 910 (1998) .
Cirac & Zoller, Nature **404**, 579 (2000) .

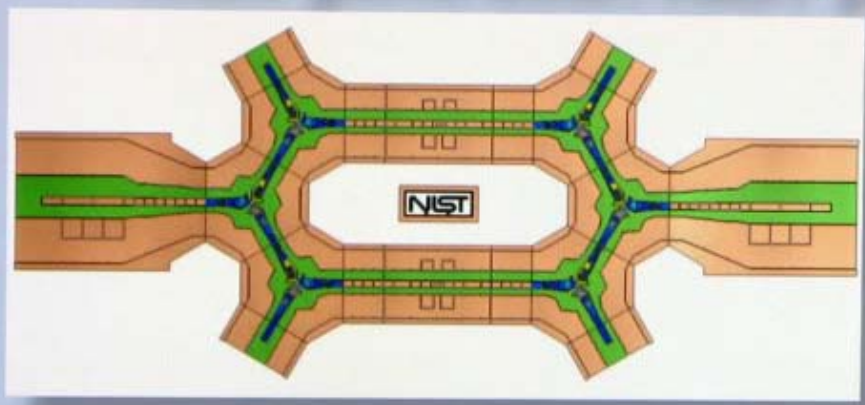

Scaling up
from traps that hold a few ions in one zone manipulated by few laser beams...
processor unit
memory
to traps that hold many ions in many zones manipulated by many laser beams...
D. J. Wineland, et al., J. Res. Nat. Inst. Stand. Technol. 103, 259 (1998); D. Kielpinski, C. Monroe, and D. J. Wineland, Nature 417, 709 (2002).
Other proposals: DeVoe, Phys. Rev. A 58, 910 (1998). Cirac & Zoller, Nature 404, 579 (2000) .
DELL


Towards integrated ion chips
Laser beams in plane with ions
VIAS
CMOS control electronics
below surface trap
DTO Fab cation initiative:
orations with Lucent Technology and Sandia Nat. Lab.
DELL


Trap Chip Zoology
Efforts are under way in many labs around the world to realize micro-fabricated multi-zone traps
GaAs 2-layer trap (Michigan)
9-zone 3-layer T-trap (Michigan)
18 zone 2-layer cross trap (NIST)
More traps developed by:
- MIT
- European Consortium
- Univ. of Ulm
- ...
DELL

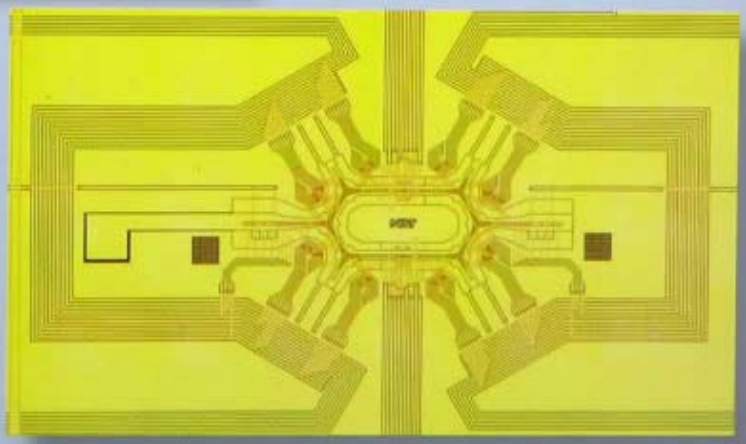

NIST Planar Trap Chip
Magnified trap electrodes
GND
endcap
RF
control
control
endcap
100 μm
John Chiaverini, Signe Seidelin
CCD pictures of strings of Mg+ ions
(trapped 40 μm above surface)
5 μm
Seidelin et al., PRL 96, 253003 (2006).
DELL

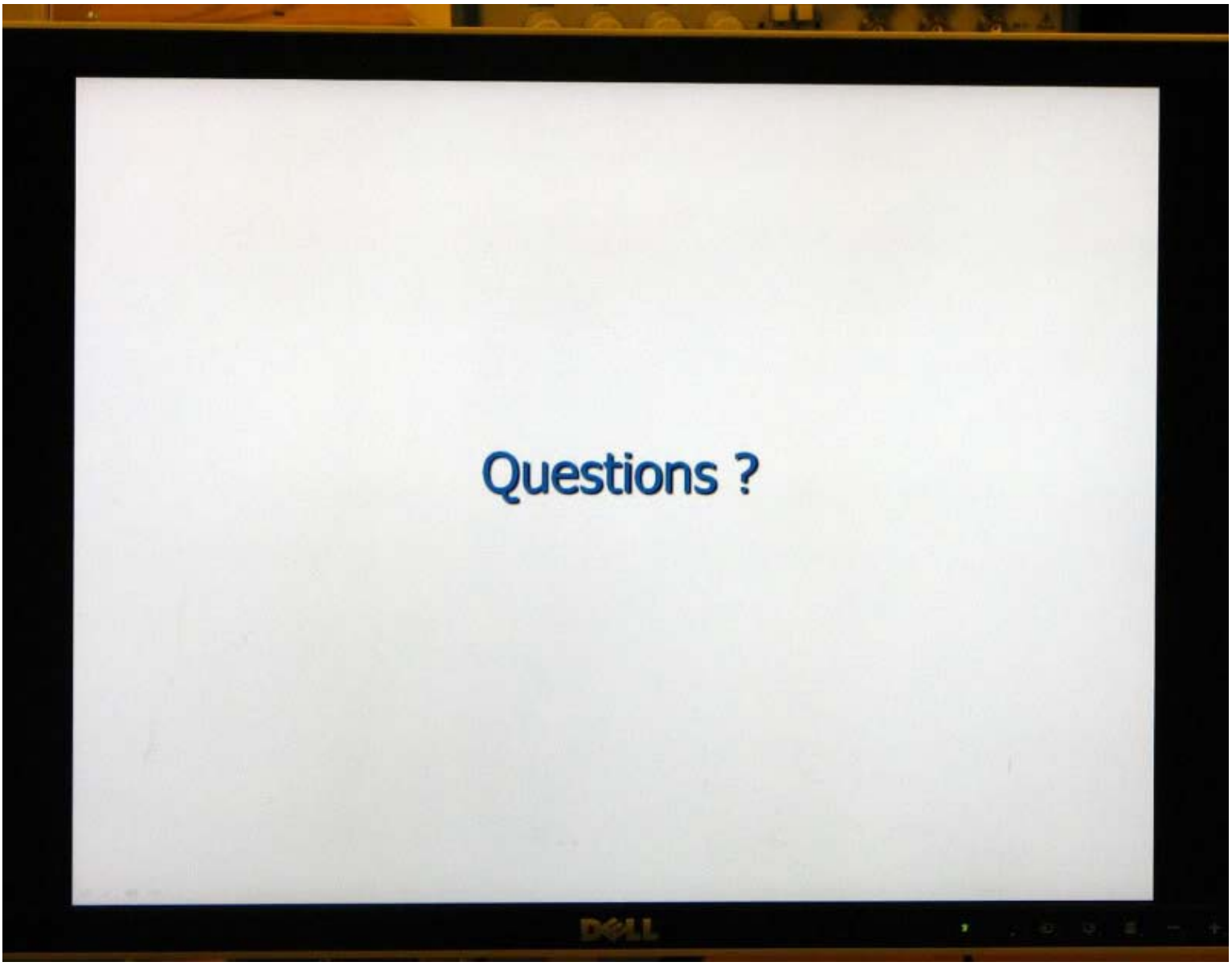
Next generation NIST planar trap chip



- 2 load zones
- 4 improved junctions
- 150 control electrodes

- loaded first ions early Feb. 09
- ions travel through 1st junction



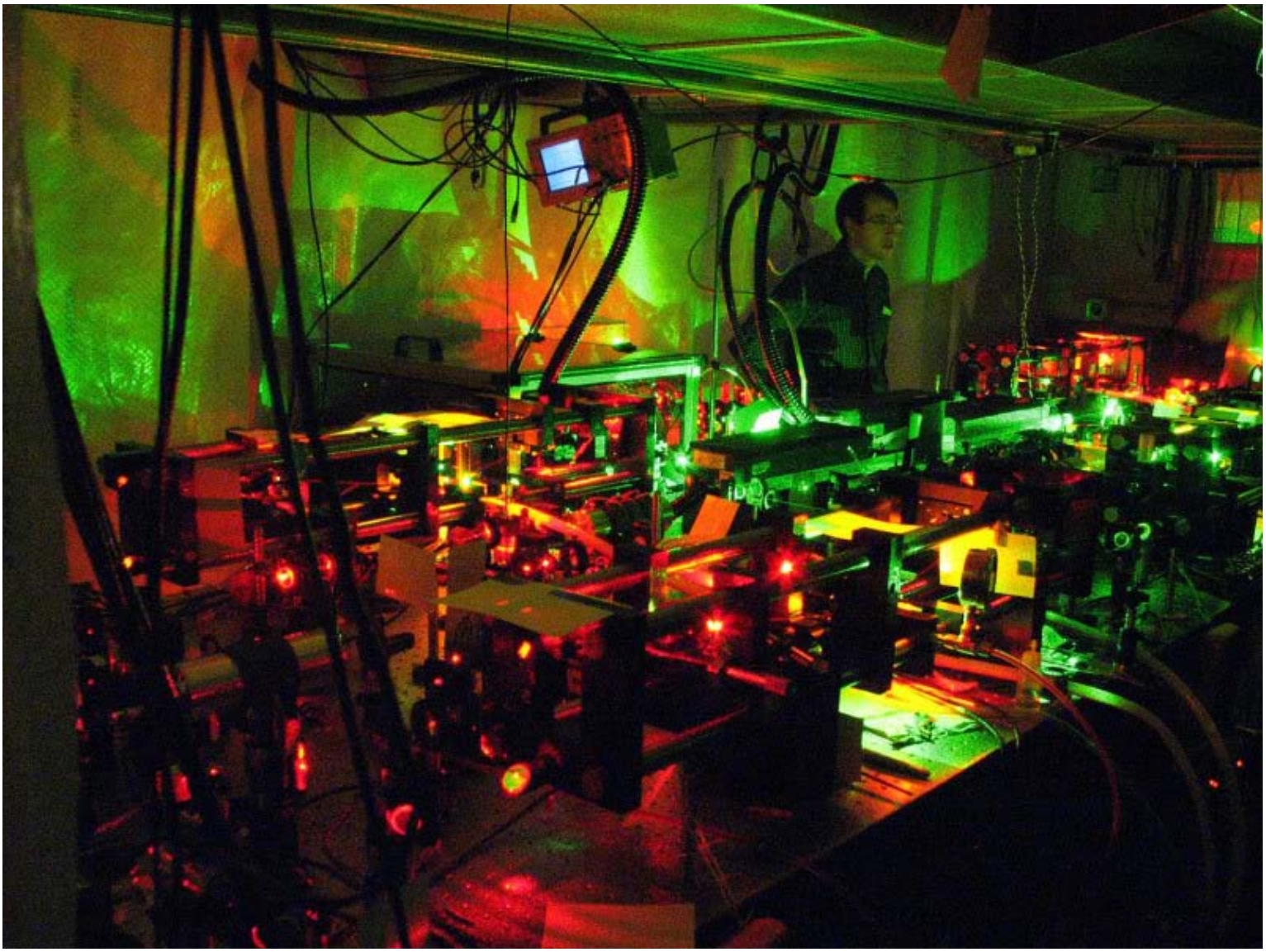


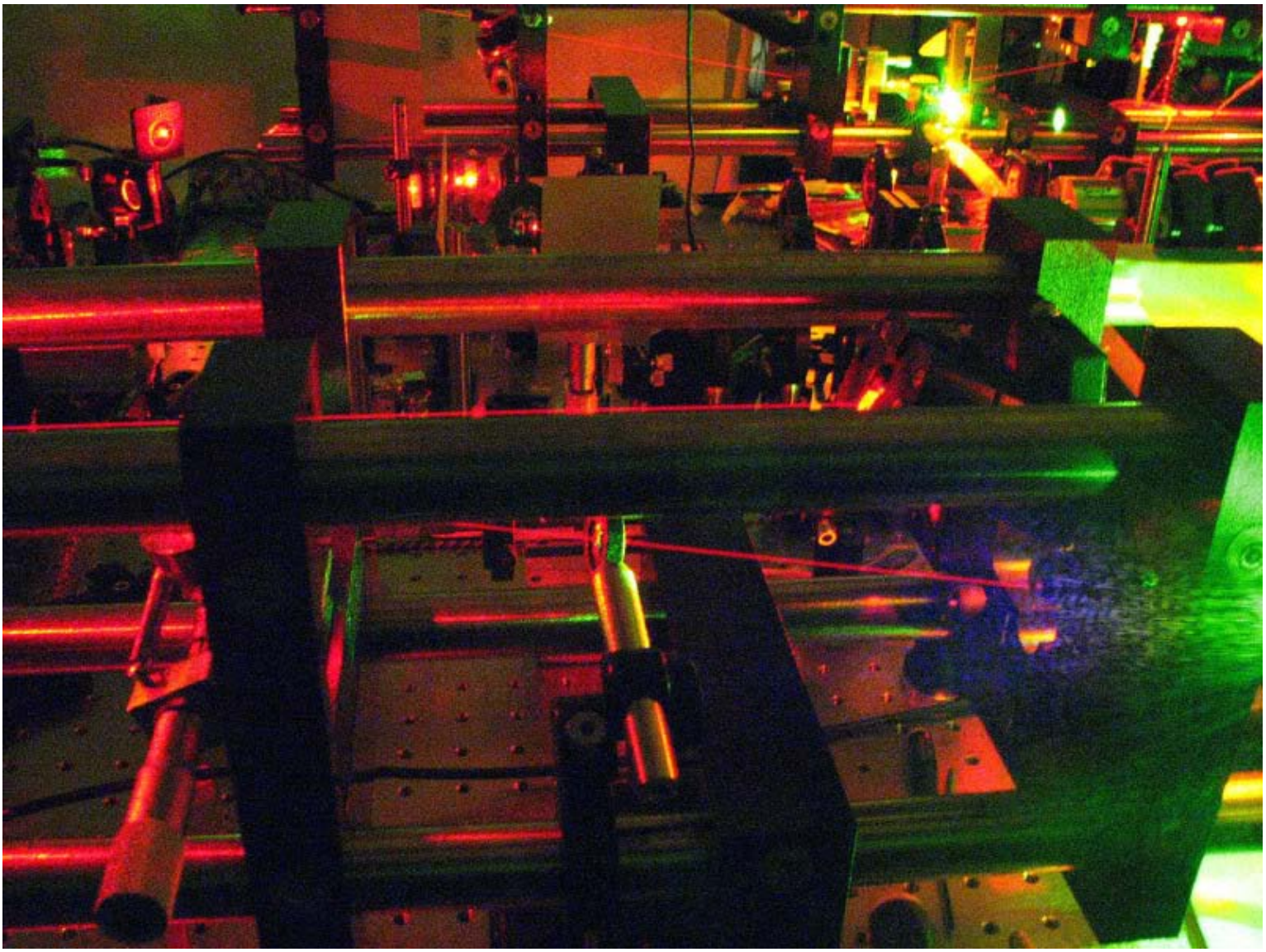
Just kidding!! but here are two examples of the ion traps

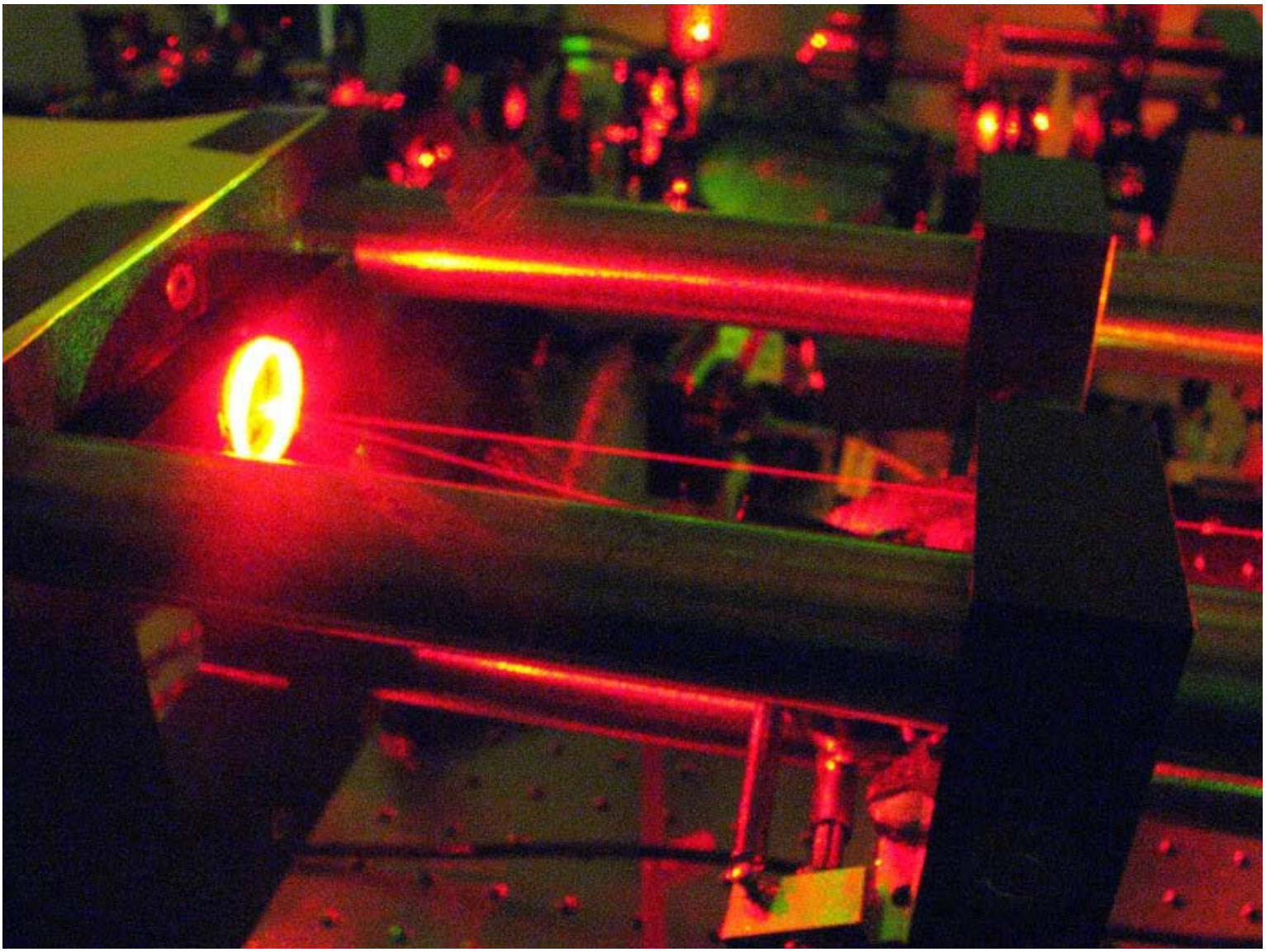
EXAMPLE ALUMINA TR

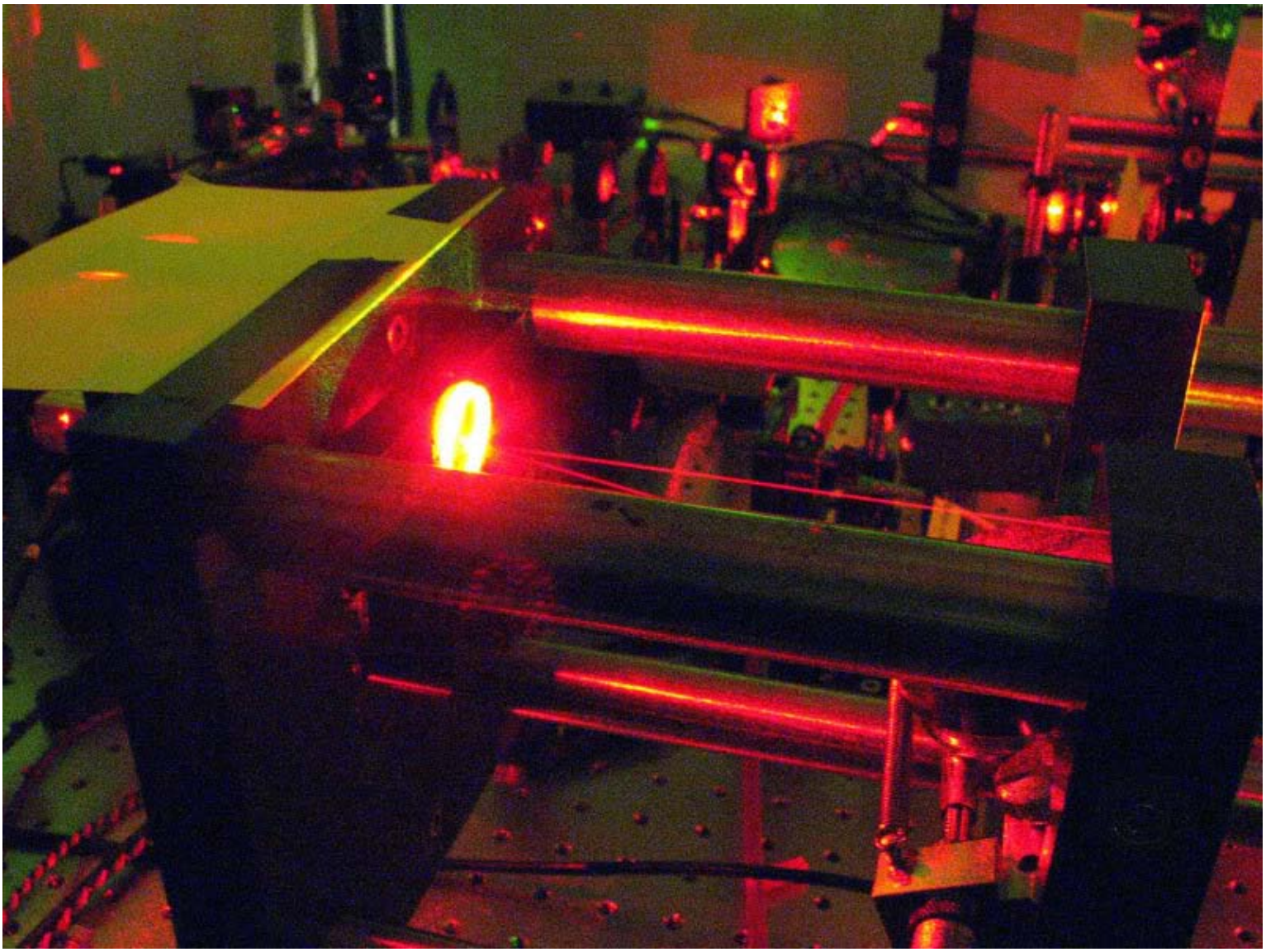
here is the laser set up section. These lasers are used to control the position and guide the ions (alumina) into the traps. So far they have been able to control up to six ions per trap and a facility in Europe (Switzerland?) has controlled up to 8 (?). Some one else can fill in the question marks as it was noisey in there!

The red laser section

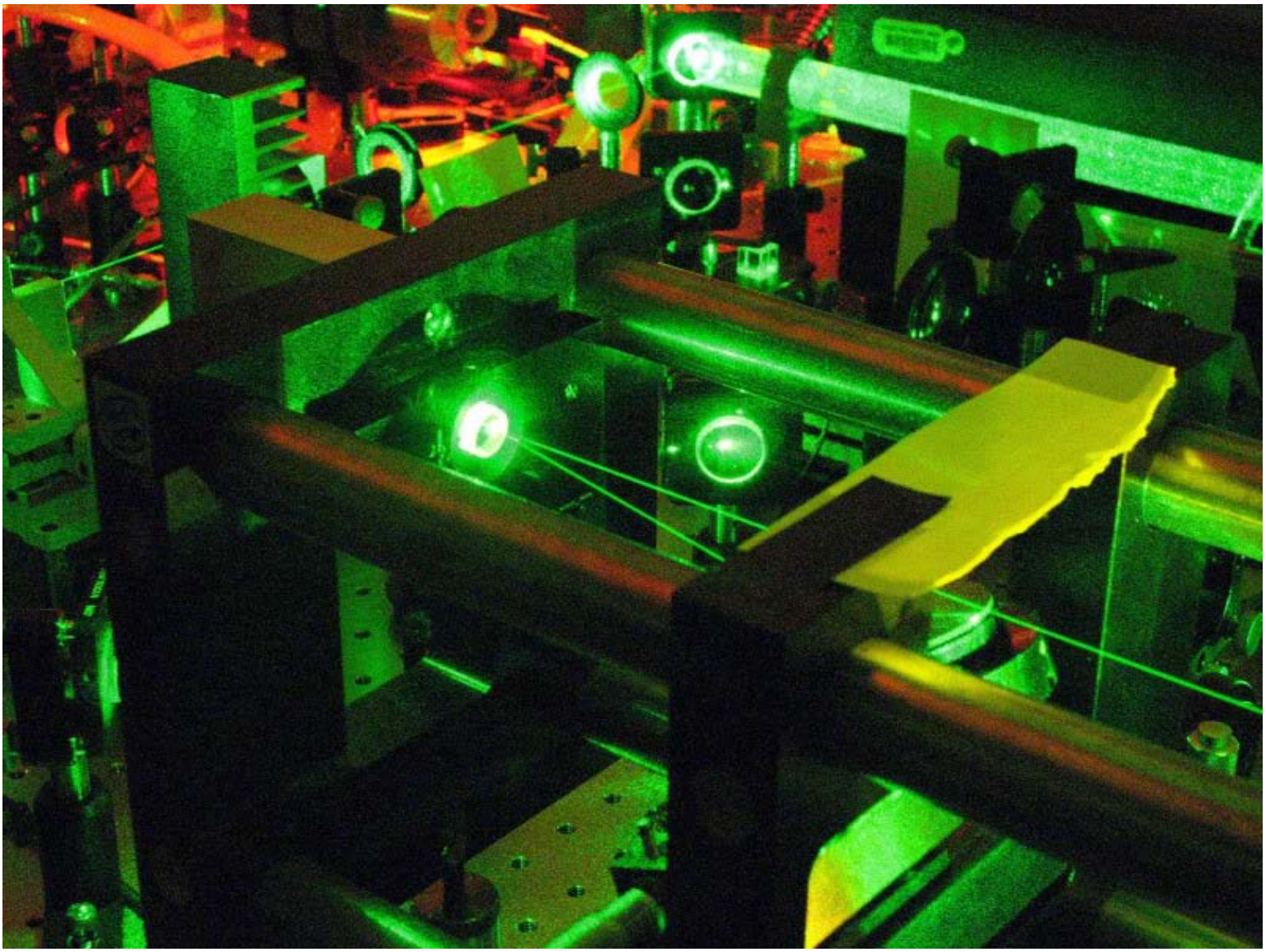


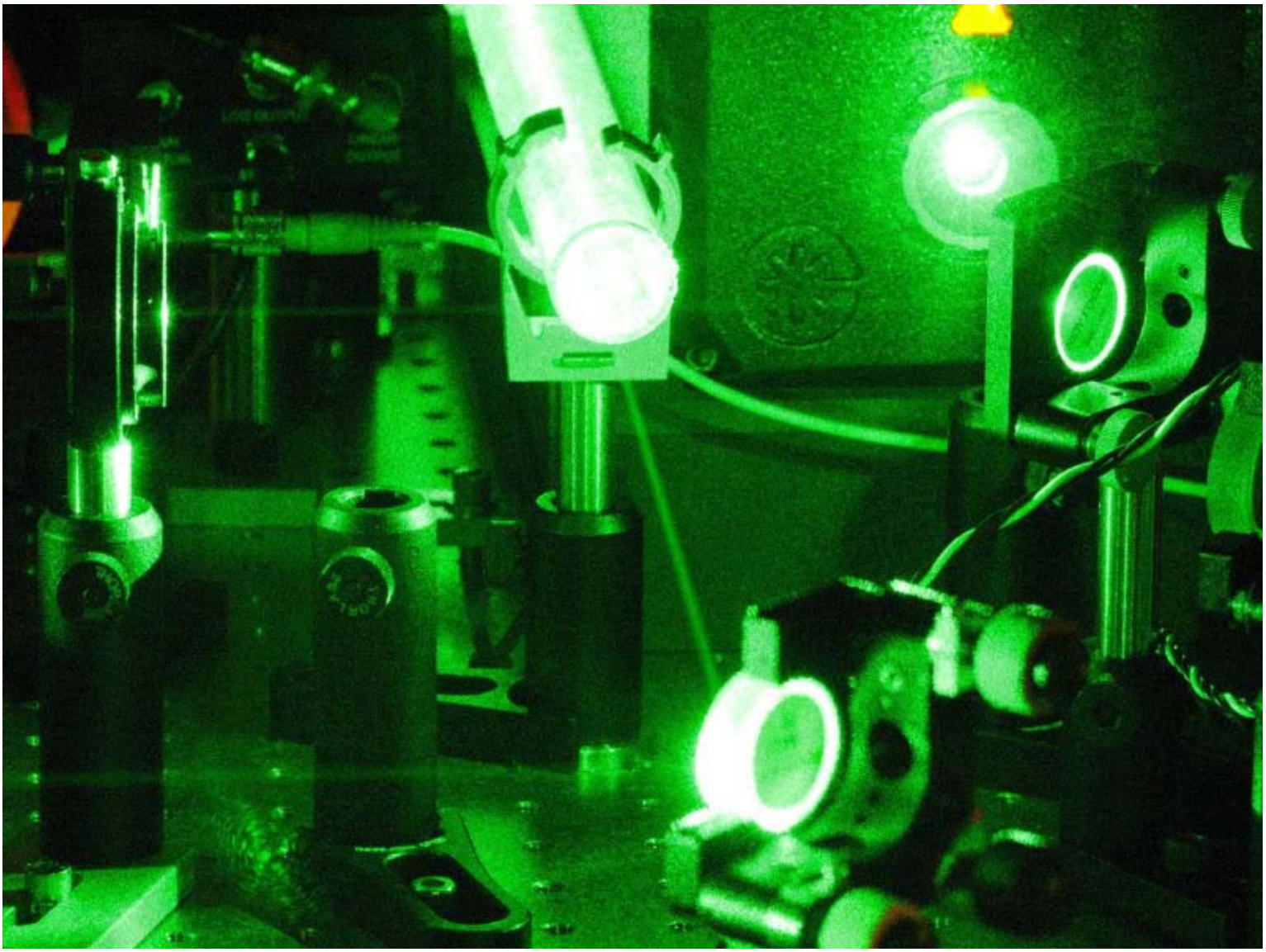




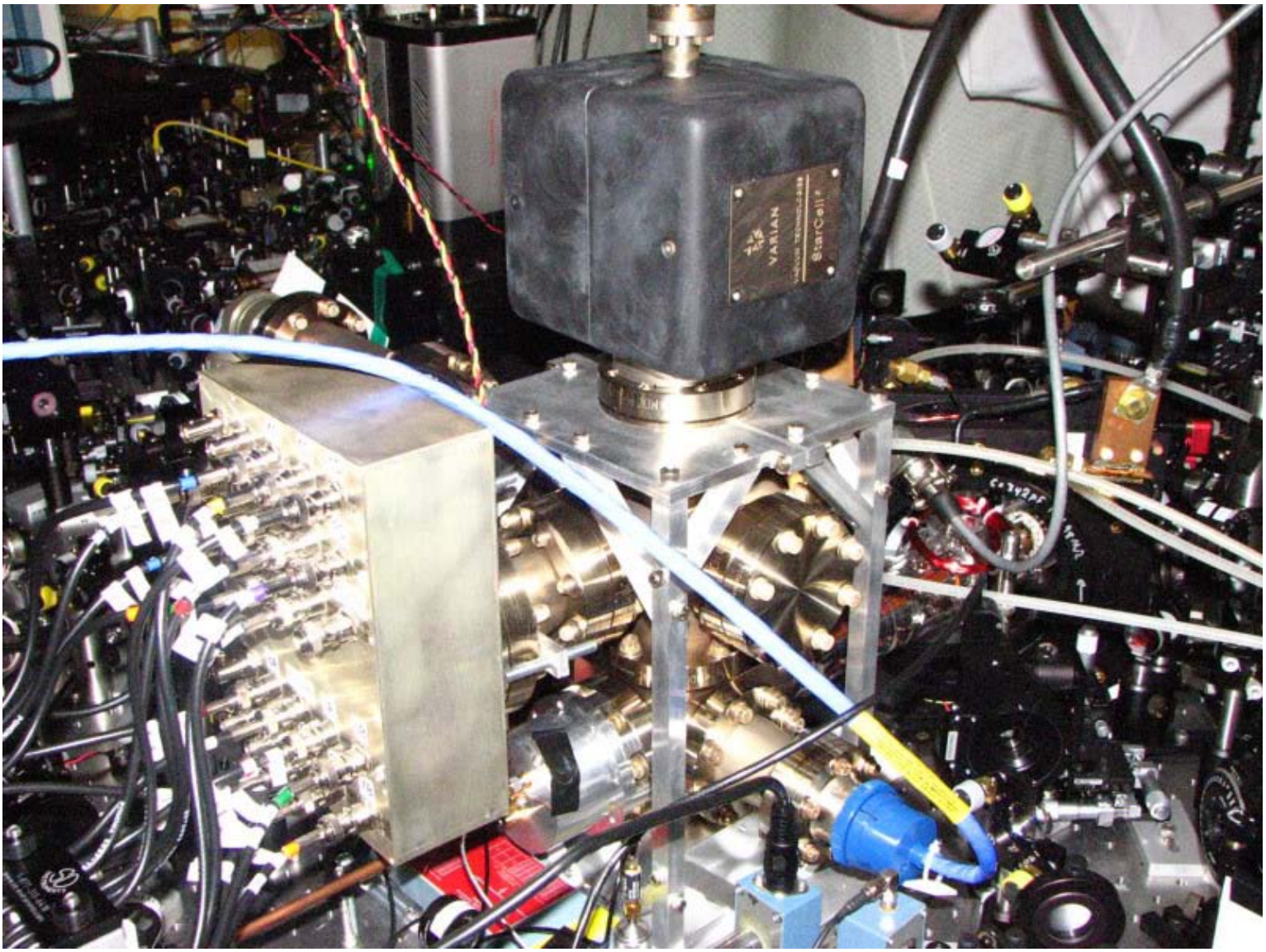


The green laser section.

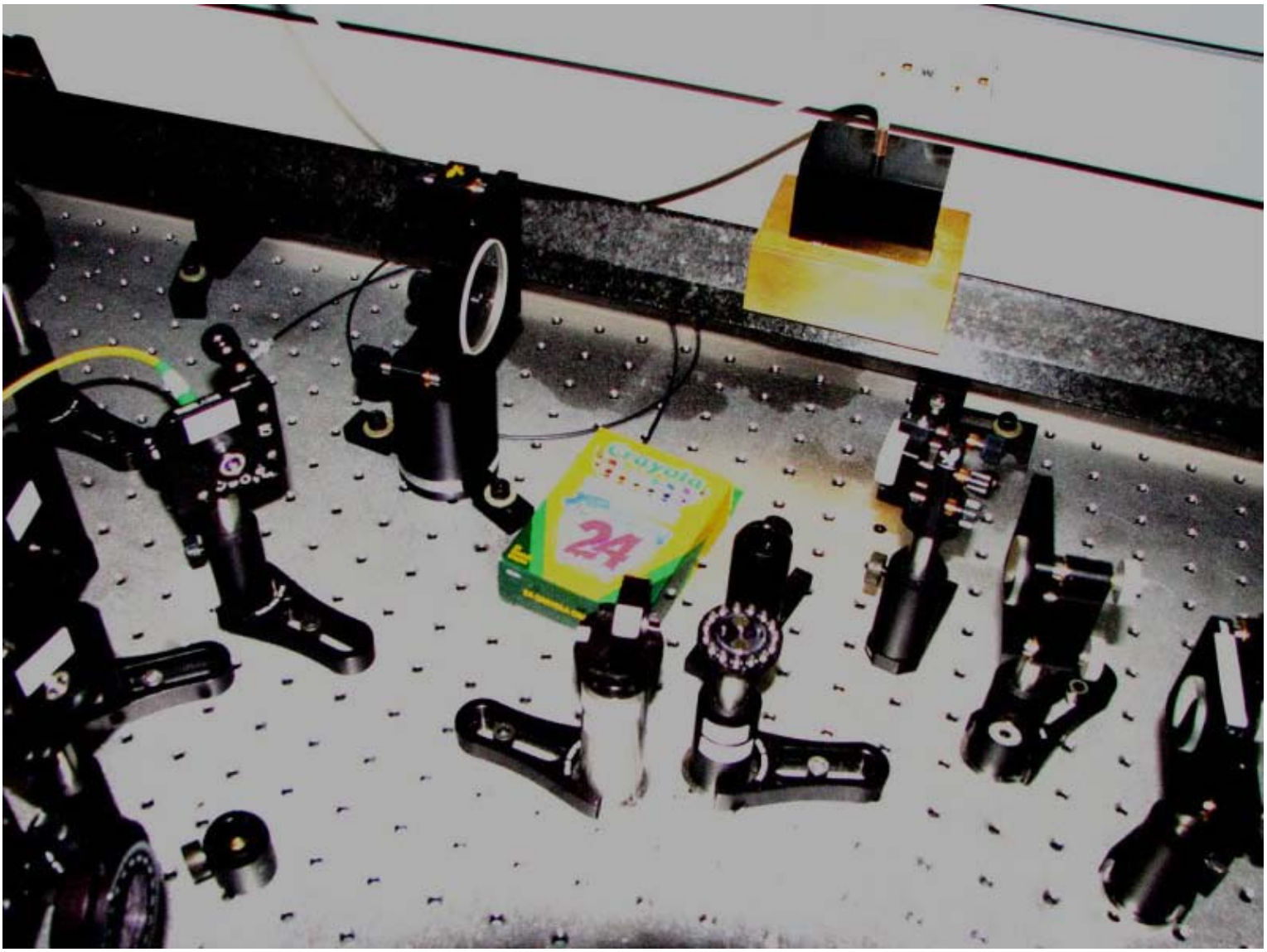




The business end where the ion trap resides (vertical cylinder):



Can anyone explain the box of crayons!



Tomorrow the atomic clock and when I can a write up of the HCC2009.

Cheers, Geoff

Edited: 6 Oct 2009, 8:23 p.m.

Re: HHC2009 and the NIST tour

*Message #2 Posted by **Walter B** on 6 Oct 2009, 11:46 p.m.,*
in response to message #1 by Geoff Quickfall

Thanks a lot, Geoff, for your thorough documentation! Looking forward to the pictures to come.

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GTO Go back to the main exhibit hall

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WOW talk about your retro calculator HP 9100A

*Message #1 Posted by **Donald Williams** on 6 Oct 2009, 7:13 p.m.*

During my travels over the weekend, I stumbled across an HP 9100A. Forever the fool, I decided to buy the $50.00 boat anchor in an "unknown" condition. There was no available AC cord for a quick test. I just knew that the CRT would be dead after 40 years.

I broght it home and finally found the old style AC cord I had stashed away. After a quick visual, I switched it on with a silent prayer. A few pensive seconds later "viola" I was greeted with three green 0'S

0

0

0

I was stunned. These old devices are truly built like a tank, and they are a lasting tribute to the engineers and techs who designed and built them.

I was fortunate enough to get a great deal of the documentaion. The calculator was delivered in October of 1969 to a school district in California, and I acquired it in October of 2009. 40 years later it seems to be as good as the day it left the factory. I can imagine it lived a hard life among those students, but it never faultered in its mission.

In all my preliminary checks every operation seems to function. Unfortunately in came without the printer, but I did get the optical card reader accessory.

Now my problem. I have no media cards, so I cannot complete the checkout. No magnetic or card media came with the hardware.

Does anyone have any media to spare? I am not acually expecting to be successful with that plea. I know that "TAS" is a possibilty, but I finally broke that "bad habit" a few years ago, and that will be my absolute last resort.

I am always amazed at the number of bright and talented people who support this forum, and I thought perhaps someone had already blazed this trail before. Does anyone have any ideas about how to fabricate media cards for this device. This calculator "pre-dates" my desktop computing experience, I started out on an HP 9825. I have never even seen the type of media that I am searching for. With no samples or prior experience I don't know what I am trying to duplicate.

So if you have contributions, ideas, or suggestions I would really appreciate guidance.

BTW - product ID Z-000175 - no options stated

TIA

Don Williams

Re: WOW talk about your retro calculator HP 9100A

*Message #2 Posted by **hecube** on 6 Oct 2009, 10:42 p.m.,*
in response to message #1 by Donald Williams

Lucky dog!

Re: WOW talk about your retro calculator HP 9100A

*Message #3 Posted by **THOMAS OSBORNE** on 8 Oct 2009, 12:55 a.m.,*
in response to message #2 by hecube

I can ship out a mag card or two. Let me know where to send them.

Tom

Re: WOW talk about your retro calculator HP 9100A

*Message #4 Posted by **Donald Williams** on 8 Oct 2009, 1:06 a.m.,*
in response to message #3 by THOMAS OSBORNE

What a great offer. Could you please autograph them?

You can contact me at donaldwilliams"at"sbcglobal.net

Don W

Edited: 8 Oct 2009, 1:09 a.m.

Re: WOW talk about your retro calculator HP 9100A

*Message #5 Posted by **paolo** on 10 Oct 2009, 6:32 a.m.,*
in response to message #1 by Donald Williams

Hi Donald,

I too stumbled on a HP9100A early this year, it was not working at first but the problem was just a couple of blown rectifying diodes in the power supply so I could fix it quite easily.

I wonder how many such units are still in working condition all around the world, may be forum could held a "census" about it ?

Also in my case I had the problem of missing magnetic cards so I tried to build some, at the end I made some working magnetic card for the HP9100A which I describe here below in case you would like to perform some test.

To start with I used the card dimensions, kindly told to me by a forum member (Etienne), to scale a printout of an actual card I found on the HP museum site. I then glued it to a cardboard to reach the given thickness. On the rear side I glued two strips of magnetic tape from a wrecked VCR cassette. Take care that the active side of the tape is that which faces outward w.r.t. the reels hubs, if you use the other side the support plastic film will prevent the head to get enough signal. The exact position of the strips I derived from measurements of the head position in the card reader. It took me four tentatives to get a working prototype, I realized that the main problem are:

a) to have the correct width for the card (I found it is 50.5 mm) to fit exactly between the rails of the reader, otherwise the card tilts on the right when driven out by the mechanism (which has a single rubber wheel on the left side) and alignement is lost with the data.

b) to be very careful in having the tape smoothly glued on the cardboard, any wrinkle causes poor performances. The trick seems to glue the tape with the card slightly concave (U-shaped) so that when allowed to relax it will "pull" the tape flat. A quality check is that the tape surface must be reflecting an incident lightbeam as it would be a mirror.

I tried the card many times, at first recording a sequence of numbers (which is useful to check if the process "skips" a data) and later saving and reloading simple programs.

After the first success with short (20-30 lines) programs I tried to load on the calculator the full "diagnostic program" which is 196 lines long (i.e. the whole RAM capacity) which was used by HP field engineers to test the overall functionality of these machines.

The prime result was that my HP9100A passes the test, which is the final prove that the HW is all working.

I did some other experiments to find a reliable enough procedure to reconstruct cards which works, the point seems just to be very precise with dimensions and tape gluing. On two of them I was able to load the full 196 steps sequence of the 9100A diagnostic program and the data were still retained one month later.

I have in the back of my mind the idea to write a "paper" about this topics to put in the related forum section but up to now I didn't fond the quiet times to prepare it, may be the renewed interest in HP9100 can trigger it.

Best Regards

Paolo

Re: WOW talk about your retro calculator HP 9100A

*Message #6 Posted by **Donald Williams** on 13 Oct 2009, 4:59 p.m.,*
in response to message #5 by paolo

Hi Paolo

I must apologize for my tardy response. Thanks for the information about fabricating a mag card. Some members have kindly offered to send me a sample, so hopefully I may have a specimen to copy soon.

Do you have a listing of the diagnotics program? I have just been randomly testing functions. It would be great to get a listing of the factory diagnostics. I have seen a missing digit on occasion. It must be intermittent. It would be helpful to loop the diagnotics for trouble shooting purposes.

Thanks Don W

Re: WOW talk about your retro calculator HP 9100A

*Message #7 Posted by **paolo** on 15 Oct 2009, 5:54 p.m.,*
in response to message #5 by paolo

Hi Donald,

you can find the listing in APPENDIX A of the HP Service Manual for models 9100A and 9100B H/P part 09100-90034.

you can download a copy of this document from the Australian site herebelow:

http://www.hpmuseum.net/collection_document.php

In this site there is lot of other good stuff, worths a visit.

Ciao

Paolo

Re: WOW talk about your retro calculator HP 9100A

*Message #8 Posted by **Donald Williams** on 15 Oct 2009, 9:18 p.m.,*
in response to message #7 by paolo

Hi Paolo

I need to read my own documentation a little more carefully. DUH!

Thanks again for the info and the link.

Don W

Re: WOW talk about your retro calculator HP 9100A

*Message #9 Posted by **Mark Edmonds** on 15 Oct 2009, 8:16 p.m.,*
in response to message #1 by Donald Williams

What a fantastic stroke of luck! I am very happy for you, if not somewhat seething in envy! I don't consider my collection complete until I have a 9100 so your fortune gives me continued hope. Keep us posted of developments please. It is an amazing machine and I like to read user's experiences of them.

Mark

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LCD displays life expectancy

*Message #1 Posted by **hecube** on 6 Oct 2009, 8:13 a.m.*

For how much longer should we expect LCD displays of HP-41s to function properly?

Re: LCD displays life expectancy

*Message #2 Posted by **Garth Wilson** on 6 Oct 2009, 11:08 a.m.,*
in response to message #1 by hecube

Remembering documents from the mid-80's when the 41 was in its heyday, the biggest enemy to LCDs is not feeding them properly, giving them a net DC so they plate up on one side. Assuming HP designed their circuitry right, that's not a concern. The next enemy is heat and humidity, especially the combination; but Hantronix' website says the life expectancy of the LCD glass is 50,000 hours of use (almost 6 years of never being turned off), and I had a battery-powered LCD clock in the car for that many years and it didn't seem to deteriorate at all. (The mechanical clock had quit working so I stuck a $2 LCD clock from the drug store over it.) UV isn't good for them either, but I doubt that you leave your 41 in the sun. I have seen an LCD that was damaged by extreme heat or UV and the silver background had turned very dark blue IIRC. My own 41's LCD looks the same as it did new 23 years ago, with the bright silver background and really black segments. I really don't think you have anything to worry about. LEDs OTOH have a half life.

Failure is rare

*Message #3 Posted by **Frank Boehm (Germany)** on 6 Oct 2009, 11:38 a.m.,*
in response to message #1 by hecube

I have seen lots of failed "early" LCD displays:
- ca. 1972/1973 Rockwell LCD: almost 100% chance of being dead
- ca. 1973/1975 Sharp COS: 50% of being dead
- ca. 1976/1977 LCD (with or with yellow filter): 25% of being dead, sharply rising as of lately, still a 30 year life span
- later LCD: almost 0% being dead

This is of course only valid if you don't expose the display to intense sunlight or heat for longer period or physical damage.
There are several other parts of the calculator that will fail before the LCD.

LCD failure is rare

*Message #4 Posted by **Karl Schneider** on 6 Oct 2009, 11:27 p.m.,*
in response to message #3 by Frank Boehm (Germany)

> Quote:
>
> I have seen lots of failed "early" LCD displays:
> - ca. 1972/1973 Rockwell LCD: almost 100% chance of being dead

- ca. 1973/1975 Sharp COS: 50% of being dead
- ca. 1976/1977 LCD (with or with yellow filter): 25% of being dead, sharply rising as of lately, still a 30 year life span
- later LCD: almost 0% being dead

This may explain why HP introduced an LED-display line (Spice series) in 1978, just before the upscale LCD HP-41C in 1979: They wanted to ensure that LCD technology was mature and reliable.

My much-cheaper Casio fx-3600P (bought in 1981) replaced an LED-display TI-30 from 1977. The Casio's LCD has had no problems, although I have used it very sparingly since I bought an HP-15C in 1983. That year, the still-available LED-display HP-34C with rechargeable battery looked retro by comparison (a "super TI-30"!), but I still gave it serious consideration.

-- KS

Edited: 6 Oct 2009, 11:32 p.m.

Also, the halfnut units... (was: LCD displays life expectancy)

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 6 Oct 2009, 11:47 a.m.,*
in response to message #1 by hecube

... allow contrast adjustment 8^) If the LCD begins to fade out, just 'push them up' a little bit.

Cheers.

Luiz (Brazil)

Re: Also, the halfnut units... (was: LCD displays life expectancy)

*Message #6 Posted by **Egan Ford** on 6 Oct 2009, 11:52 a.m.,*
in response to message #5 by Vieira, Luiz C. (Brazil)

How? I know I have read it somewhere, but since you brought it up please save me a few minutes of research.

Thanks.

BTW, I use my fullnut over my halfnut just for the contrast of the fullnut.

Re: Also, the halfnut units... (was: LCD displays life expectancy)

*Message #7 Posted by **PeterP** on 6 Oct 2009, 11:56 a.m.,*
in response to message #6 by Egan Ford

easiest is using the sandbox or the hepax, both of which have contrast and ct+/ct- (or similar commands. Do a CAT 2 and it will pop out immediately) to request, set, increase, decrease contrast.

HTH

Cheers

Peter

Re: Also, the halfnut units... (was: LCD displays life expectancy)

*Message #8 Posted by **Egan Ford** on 6 Oct 2009, 3:23 p.m.,*
in response to message #7 by PeterP

Thanks. It is persistent? What resets it (e.g. power on/off, battery swap, memory lost, etc...)?

Re: Also, the halfnut units... (was: LCD displays life expectancy)

*Message #9 Posted by **Garth Wilson** on 6 Oct 2009, 3:59 p.m.,*
in response to message #8 by Egan Ford

The so-called "contrast" setting is really a viewing-angle setting, otherwise we would just set it for max all the time. Sometimes it is appropriate to adjust it as battery voltage drops, in order to maintain the optimum viewing angle. It's more of an issue in low-duty-cycle LCDs though, mostly meaning graphics LCDs or large character-only LCDs. The 41's LCD hardly qualifies.

There never was a "fullnut" though. Before the "halfnut" was the "coconut"!

(edited) Also, the halfnut units... (was: LCD displays life expectancy)

*Message #10 Posted by **Vieira, Luiz C. (Brazil)** on 6 Oct 2009, 4:52 p.m.,*
in response to message #8 by Egan Ford

Hi, Egan;

the contrast settings remains after being set, i.e., depends on calculator main hardware. It uses a four-bit range parameter (0 to 15), usually in the X-register. If you have HEPAX, try HEPAX function 005. Default contrast is 5 (0101) instead of expected 7 (0111)... Go figure!

And, yeap: contrast setting remains after MEMORY LOST, but I do not know how long does it take to restore to default after being without batteries... i.e., IF it restores.

Cheers.

Luiz

(After posting, I edited to add that HEPAX 005 actually uses X-register contents, and I left my HP41 without batteries after a MEMORY LOST for some more than 1 hour and the contrast restored to default, then.)

Edited: 6 Oct 2009, 8:59 p.m.

Re: LCD displays life expectancy

*Message #11 Posted by **Martin Pinckney** on 6 Oct 2009, 12:04 p.m.,*
in response to message #1 by hecube

Interesting question. Do they show signs of fading?

I recall reading that Nikon originally designed all their top-of-the-line professional cameras with removable meters, because they expected the electronics to give out before the mechanicals. This has proven true. Nikon F2 cameras were built to last forever, and they do, but the meters don't.

Nikon also at first resisted using LCD's, because of concerns about the life span. Finally, someone decided that changing market conditions made this a moot point, since any new camera model would be obsolete long before it gave out. This has also proven true, since the 1980's F3's (the first with LCD's) are still going strong

(for those who use them), but Nikon has since stopped making nearly all film cameras, and the digitals have only about, what, a 3-year model life span?

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Profanity free iPhone calculator application

*Message #1 Posted by **BruceH** on 5 Oct 2009, 8:53 p.m.*

Remember entering a number on an old 7-segment machine and turning it upside down to reveal a word? Remember that some words were mildly rude? Well, now your children can be protected.

http://www.dragthing.com/blog/?p=285

Re: Profanity free iPhone calculator application

*Message #2 Posted by **bill platt** on 5 Oct 2009, 9:22 p.m.,*
in response to message #1 by BruceH

I like this subthread:)

Dries October 1, 2009 at 5:03 pm

Has everyone gone barking mad? I am so tired of being nannied. # Adam October 1, 2009 at 5:11 pm

I think that’s a wise decision. The App store reviewers always stand on their head, if you somehow forgot to remove the “calculator words” they would probably find out and reject your app because it contains swear words! ;-) # Peter Nordstrand October 1, 2009 at 5:43 pm

Why would you do such a thing? Disgusting. I will never ever buy an app from you. # David October 1, 2009 at 5:46 pm

Apparently some here are satire-impaired.

Re: Profanity free iPhone calculator application

*Message #3 Posted by **Byron Foster** on 6 Oct 2009, 1:56 a.m.,*
in response to message #1 by BruceH

If you search on iTunes for a calculator called "Calc Zero" you'll find that it has a rating of:

Rated 12+ for the following: Infrequent/Mild Sexual Content or Nudity

I thought this was too funny that a calculator would be rated NC-17, so I mailed the developer about how this happened. Apparently some of his resource file names has the word boobs in them.. Apple review must have some kind of filter they perform on the submissions :)

Re: Profanity free iPhone calculator application

*Message #4 Posted by **Andrés C. Rodríguez (Argentina)** on 6 Oct 2009, 8:42 a.m.,*
in response to message #3 by Byron Foster

It may have had a SIN function, a blue square key, and other subtle traces of improper content. Physical

calculators were even worse, they used to have female connectors which may be near male plugs, and these obtained their power from transformers!

Re: Profanity free iPhone calculator application

*Message #5 Posted by **Walter B** on 6 Oct 2009, 2:27 a.m.,*
in response to message #1 by BruceH

Crazy, simply crazy - or even mad already.

Re: Profanity free iPhone calculator application

*Message #6 Posted by **Maximilian Hohmann** on 6 Oct 2009, 2:31 a.m.,*
in response to message #5 by Walter B

Good morning!

> Quote:
>
> Crazy, simply crazy - or even mad already.

Indeed. More and more, I get convinced that I would rather live in that parallel universe, in which Russia has won the cold war and we are spared from that kind of nonsense ;-) Even if that means that I have to collect Elektronika calculators instead of HP ones!

Greetings, Max

Re: Profanity free iPhone calculator application

*Message #7 Posted by **Bart (UK)** on 6 Oct 2009, 5:59 a.m.,*
in response to message #1 by BruceH

From the first line:

> Quote:
>
> ... to protect innocent minds ...

How innocent are the minds that want to make (or even understand) "those words" in the first place?

Re: Profanity free iPhone calculator application

*Message #8 Posted by **Richard Reed** on 6 Oct 2009, 6:42 a.m.,*
in response to message #1 by BruceH

'salright. I can read upside down.

Re: Profanity free iPhone calculator application

*Message #9 Posted by **Howard Owen** on 6 Oct 2009, 12:12 p.m.,*
in response to message #1 by BruceH

They say they "think they know their audience." I suppose they assume that audience will read the entire

posting. :)

Regards,
Howard

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Connecting HP 48GX with PC via Conn4x....help!!!

*Message #1 Posted by **juan demin** on 5 Oct 2009, 10:32 a.m.*

I need some help with this first time connection...

I am trying to download the XModem (Manual-XRECV) following the steps: ' alpha X , left shift I/O , NXT , XRECV .... After some 20 seconds the calc displays: "XRECV Error: Transfer Failed"... And that's the end of the loop... I cannot connect the calc with the PC....

I am using a serial-USB adapter because my laptop does not have a serial port.. could be this a problem?

Any idea or hint? Thank you!!!

Re: Connecting HP 48GX with PC via Conn4x....help!!!

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 5 Oct 2009, 11:01 a.m.,*
in response to message #1 by juan demin

Hola, Juan; que tal?

If you are using an HP48GX, the only port available with its hardware is RS-232 compatible (PC_compatible serial) and, if I am not wrong, it is possible to use a serial-USB converter (that should not be the problem). But I am not 100% sure about this...

If you have the chance, try using another computer with a RS-232C compatible serial port just to make sure your HP48GX connects correctly.

(after editing) I forgot to ask: the keystroke sequence you mention, is it correct? I cannot check now, but it seems to me it has more keystrokes than usual (maybe it is because I´ve been using the HP50G more, lately)

Success!

Luiz (Brazil)

Edited: 5 Oct 2009, 12:52 p.m.

Re: Connecting HP 48GX with PC via Conn4x....help!!!

*Message #3 Posted by **Michael de Estrada** on 5 Oct 2009, 1:06 p.m.,*
in response to message #1 by juan demin

Hola Juan,

Something doesn't seem right here. If your HP 48GX recognizes the XRECV command, then you already have the XMODEM library installed on your calc, and shouldn't need to download it again. I too had problems with communication between my HP 48SX with XMODEM on it and my PC using Conn4x and a USB to RS232 converter. I did try some other communication programs with no luck. I assume that you made sure the

communication protocols were matched between the PC and calc (baud rate, parity etc.). I have an old DOS PC with a RS232 port and use Kermit to communicate with the calc.

Sorry I couldn't be more helpful.

Saludos, Michael

Re: Connecting HP 48GX with PC via Conn4x....help!!!

*Message #4 Posted by **juan demin** on 5 Oct 2009, 3:53 p.m.,*
in response to message #3 by Michael de Estrada

thank you Luiz and Michael... I cheked everything (that I know) and is still not connecting....

Re: Connecting HP 48GX with PC via Conn4x....help!!!

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 5 Oct 2009, 5:31 p.m.,*
in response to message #4 by juan demin

Hola, Juan;

I looked again at the keystroke sequence and, if I am not wrong:

- you define a variable named 'X' to hold data to be transferred from the computer to your HP48GX ([ALPHA] X); did you try [ALPHA][']X instead?
- then you open I/O ([left-shift] I/O);
- then you 'tell' the calculator to receive data ([XRECV]); it will be stored in variable named 'X', defined in first step, right?
- 20 seconds later you get transfer error message.

What message you have from the PC? What happens in the Conn4x window? The error message appears only in the calculator?

Just to let us track a little bit down.

Saludos, Luiz (Brazil)

Edited: 5 Oct 2009, 5:32 p.m.

Re: Connecting HP 48GX with PC via Conn4x....help!!!

*Message #6 Posted by **juan demin** on 6 Oct 2009, 12:43 a.m.,*
in response to message #5 by Vieira, Luiz C. (Brazil)

That's correct Luiz, step by step.. I got no message in the pc, only in the calculator...It looks like they are not seeing each other...and no connection is stablished... Reading other mails and possible causes (thank you guys very much!!!!) I am still not clear about the problem... I have XP with SP2, this should not be a problem...

Re: Connecting HP 48GX with PC via Conn4x....help!!!

*Message #7 Posted by **Vieira, Luiz C. (Brazil)** on 6 Oct 2009, 12:50 a.m.,*
in response to message #6 by juan demin

Hola, Juan;

Just another question: when you execute XRECV in the calculator, the computer should also 'be told' to send data. What operation are you performing in the Conn4x after (or before) executing XRECV in the calculator?

Cheers.

Luiz (Brazil)

Re: Connecting HP 48GX with PC via Conn4x....help!!!

*Message #8 Posted by **juan demin** on 9 Oct 2009, 3:40 p.m.,*
in response to message #7 by Vieira, Luiz C. (Brazil)

Sorry Luiz, I've just seen your question... Yes I tried to connect first and then send a small file but the pc did not show any signal with any message. I will try this weekend with the HP explorer and the HP comm sugested up here. Thanks and… um ótimo final de semana para você...

Re: Connecting HP 48GX with PC via Conn4x....help!!!

*Message #9 Posted by **Reth** on 5 Oct 2009, 5:59 p.m.,*
in response to message #1 by juan demin

I guess you've recently upgraded Windows XP to SP3? After that serial to USB adapters no longer work even if you re-install windows and don't upgrade to SP3.

Re: Connecting HP 48GX with PC via Conn4x....help!!!

*Message #10 Posted by **Michael de Estrada** on 5 Oct 2009, 10:17 p.m.,*
in response to message #9 by Reth

Well, I guess it's time to throw my USB > RS232 converter in the trash. :<) I'm glad I still have my old DOS PCs. :>)

Re: Connecting HP 48GX with PC via Conn4x....help!!!

*Message #11 Posted by **Reth** on 5 Oct 2009, 10:22 p.m.,*
in response to message #10 by Michael de Estrada

Well that's where mine are heading...
I've got one old machine too, kept it just in case.
Cheers

Edited: 5 Oct 2009, 10:25 p.m.

Re: Connecting HP 48GX with PC via Conn4x....help!!!

*Message #12 Posted by **Egan Ford** on 9 Oct 2009, 3:54 p.m.,*
in response to message #9 by Reth

I am using a Keyspan USB/Serial with XP/SP3 without issue. Perhaps if you uninstall and reinstall your drivers. One thing that I did do was to remove all the extra COM entries. I had 8 or so for many devices that I do not use like bluetooth. After I did that I was able to use two different USB/serial adapters as COM3 and COM4 without issue.

Re: Connecting HP 48GX with PC via Conn4x....help!!!

*Message #13 Posted by **Ed Look** on 5 Oct 2009, 10:31 p.m.,*
in response to message #1 by juan demin

I use a desktop, WinXP SP3. I could NEVER connect to it from my 48G or 48G+ using Conn4x.

I installed an older connectivity program, HP48Explorer. That seems to work just about all the time. I use a serial/USB converter, too.

I'm not sure what exactly is wrong with Conn4x as far as the 48G series machines, and what is exactly right with HP48Explorer, but the latter works.

Re: Connecting HP 48GX with PC via Conn4x....help!!!

*Message #14 Posted by **Reth** on 5 Oct 2009, 10:49 p.m.,*
in response to message #13 by Ed Look

I'm sure it's not Conn4x - before installing SP3 I connected my Leica instruments to USB ports through serial-USB adapter on 3 different computers. Once they got upgraded (automatically) to SP3 no one can't connect.

Re: Connecting HP 48GX with PC via Conn4x....help!!!

*Message #15 Posted by **juan demin** on 6 Oct 2009, 12:46 a.m.,*
in response to message #13 by Ed Look

Thanks Ed, I will try this HP48Explorer you mentioned....

Re: Connecting HP 48GX with PC via Conn4x....help!!!

*Message #16 Posted by **Ed Look** on 16 Oct 2009, 3:55 p.m.,*
in response to message #15 by juan demin

Juan,

Did you try it?

Re: Connecting HP 48GX with PC via Conn4x....help!!!

*Message #17 Posted by **Dave Britten** on 6 Oct 2009, 8:46 a.m.,*
in response to message #13 by Ed Look

In my experience, Conn4x is extremely fussy when it comes to USB/serial adapters. I've never been able to get it to work that way, except for a very old build that's lacking quite a few features (ASCII transfer mode, for one).

Try sending a file to the 48 using HyperTerminal and XModem. Any file will do. I've never had issues getting that to work.

Re: Connecting HP 48GX with PC via Conn4x....help!!! Works just fine for me.

*Message #18 Posted by **Egan Ford** on 9 Oct 2009, 4:32 p.m.,*
in response to message #1 by juan demin

I just tried this without issue. Step-by-step:

1. Acquire Windows XP SP3 machine.
2. Acquire USB to Serial cable.
3. Plug USB to Serial cable into PC. Install driver if necessary (I had to).
4. Note the COM number, I was using COM3:
5. Install CONN4X.
6. Launch CONN4X.
7. Set "Connect Using" to your COM port (mine was COM3:)
8. Important. Set "Speed" to 9600 (it defaults to 115200).
9. On your 48GX Right Shift 1 (I/O), select Transfer..., make sure BAUD is 9600, PORT is Wire, ignore the rest, NXT, then F (OK).
10. From CONN4X select File/Download HP48 Server
11. Follow the instructions (I used 'XX' instead of 'X' because 'X' was already in use).
12. Watch it download and be amazed. :-)

My guess is that you did not do steps 7 and 8. If I omit them then I can reproduce your problem.

Edited: 9 Oct 2009, 4:45 p.m.

Re: Connecting HP 48GX with PC via Conn4x....help!!! Works just fine for me.

*Message #19 Posted by **juan demin** on 10 Oct 2009, 3:19 p.m.,*
in response to message #18 by Egan Ford

Thanks Egan for the detailed step by step explanation. I went thru it fut faild in the last minute, i think. There was a signal sying 0/3400 bytes transfered....wait... and then another one saying: connection error - please check your connections.... Meaning who knows what....

Re: Connecting HP 48GX with PC via Conn4x....help!!! Works just fine for me.

*Message #20 Posted by **Egan Ford** on 10 Oct 2009, 4:33 p.m.,*
in response to message #19 by juan demin

Try a different USB/Serial and check your HP48 cable and connections.

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Spice question

*Message #1 Posted by **Paul Dale** on 5 Oct 2009, 3:40 a.m.*

Has anybody tried adding memory chips to the various spice range.

My 34c has all three spaces on the circuit board populated. My 32e has only two. I don't have any others in the range to compare but I'd be surprised if they all had all the memory spots populated.

Has anyone tried this? What happened?

- Pauli

Re: Spice question

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 5 Oct 2009, 6:46 a.m.,*
in response to message #1 by Paul Dale

Hi, Paul;

AFAIR, many discussions here in the (far) past led us to the fact that many spices of the same type have incompatible IC´s. I have two 38C, one of them with two IC´s and another with only one (in both cases, it is apart of the big processor). It seems that HP changed their internals the same way it did with the Voyagers, mainly the HP12C, over the years.

I am not sure if their memory can be extended... but, hey, what do we know? HP has hidden so many information (belong to them, right?) that nothing is for good.

Success!

Luiz (Brazil)

Re: Spice question

*Message #3 Posted by **Eric Smith** on 5 Oct 2009, 9:44 a.m.,*
in response to message #1 by Paul Dale

The memory chips in the 30 series are combined ROM/RAM chips. There aren't any that are suitable for just adding more RAM, and even if there were, the ROM code wouldn't recognize it.

Re: Spice question

*Message #4 Posted by **Paul Dale** on 5 Oct 2009, 7:48 p.m.,*
in response to message #3 by Eric Smith

Thanks, I suspected they contained RAM and ROM but wasn't sure :-(

- Pauli

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RPS

*Message #1 Posted by **Paul Dale** on 5 Oct 2009, 2:47 a.m.*

XKCD to our rescue:

RPS

or not :)

- Pauli

Re: RPS

*Message #2 Posted by **DaveJ** on 5 Oct 2009, 3:03 a.m.,*
in response to message #1 by Paul Dale

Hey, it is just like RPN, you have to move things around a bit first in order to eat it!

Dave.

Edited: 5 Oct 2009, 3:04 a.m.

Re: RPS

*Message #3 Posted by **db (martinez, ca.)** on 5 Oct 2009, 10:55 p.m.,*
in response to message #1 by Paul Dale

i agree with this poster on the xkcd forum:
"the comic would have been better (imho) if there had been some more steps (sausage> mustard> bun +, +, mouth, +, "YUM!)"
yes; make full use of the stack.

Re: RPS

*Message #4 Posted by **Tim Wessman** on 6 Oct 2009, 11:20 p.m.,*
in response to message #3 by db (martinez, ca.)

Katie (wife) and I both are avid fans, but she looked at it yesterday and didn't understand it. I told her I printed it and put it up in the cube and she gave me a really funny look. When I told her to think of it with reference to calculators it clicked and she laugher. Apparently, up until then she thought it was some sort of vauge sexual reference (which it usually is when she doesn't get it. . . :-)

TW

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9830A Repair

*Message #1 Posted by **Sebastian Kelz** on 4 Oct 2009, 3:50 p.m.*

Hello,

I hope someone around here can help me.

I recently aquired a HP 9830A. After checking the the power supply I decided to turn the unit on. But for some reasons the display stays black. So I guess one of the boards is defective.

When I turn the calculator on, 2 random characters flash up for a fraction of a second, so I guess the Display and its controller is working. I do have an osciloscope and a voltmeter. Can someone help me to get this thing going?

Thanks in advance,

Sebastian

Re: 9830A Repair

*Message #2 Posted by **Tony Duell** on 5 Oct 2009, 4:43 a.m.,*
in response to message #1 by Sebastian Kelz

The hp9800 series are bit-serial, which makes them 'interesting' to repair

You'll need the schematics, which are available from the Australian museum site. A logic analyser is very useful, but you can manage without one.

The display on the 9830 is partially scanned by the processor/firmware. So for the display to work, the processor, memory control, ROM, RAM and display all have to be working. Of course there are ways of tracking down the fault, but just about any problem in a 9830 causes a blank display

A little background info which will explain the 2 random characters you see at power-up. The CPU has a 16 bit I/O register. When talking to the display hardware, this register contains the 6 bit codes for 2 characters, and a 4 bit value saying where to put them. The character pattern generation is done in hardware. So at power-on you have a random pair of codes and location. There is a protection circuit that blanks the display if the processor isn't talking to it, hence these random characters disappear after a short time.

Re: 9830A Repair

*Message #3 Posted by **Sebastian Kelz** on 5 Oct 2009, 10:17 a.m.,*
in response to message #2 by Tony Duell

Hello, so thanks for this information. Does this mean that every board has to work? So even the complete cassette drive contoller? I really don't know how to get started on this system. I got 2 ram cards so I ruled these two out. I also sensed the 8 Mhz at the clock. But how do I find out wich components are working and wich are not? Do I have to check the boards by applying voltage and data signals to them outside the systeme, or is there a better solution?

Re: 9830A Repair

*Message #4 Posted by **Achim (Germany)** on 6 Oct 2009, 4:27 p.m.,*
in response to message #3 by Sebastian Kelz

Sebastian,

there are some function critical boards, e.g. the 4 CPU boards, on which a failure of nearly any IC leads to a complete calculator malfunction.

The easiest way to find out the defective board is to do board swapping with a known functional machine. The boards of the malfunctioning machine are plugged into the working one until a failure occurs. In the next step one has to isolate the defectice ICs my means of a logic comparator (HP5011) and/or a logic analyzer. Of course, for use with the logic comparator you would need a working sample of every TTL IC. This may become difficult since some of them are no longer produced and hard to find. Some defects can be found best by comparing the signals of the malfunctioning machine with those of a working one using the logic analyzer. Having a service manual handy is very helpfull.

Best regards, Achim

Re: 9830A Repair

*Message #5 Posted by **Tony Duell** on 9 Oct 2009, 8:17 a.m.,*
in response to message #3 by Sebastian Kelz

I don't normally post repair tips here any more due to the actions of one particular member, but I'll make an exception. If you contact me by e-mail, I can talk you through the entire machine.

Not all the boards have to be working, but most of them do :-(. And the ones that don't _have_ to work (like the cassette controller, expansion ROM backplane, etc) could fail in such a way that they prevent the machine from working.

The fact that you have 2 RAM boards (in the slots in front of the PSU) doesn't mean you don't have a RAM fault. The 2 boards are assigned fixed addresses (depending on which slot they're in) and there has to be RAM at some particular addresses for things like the system stack. So if that board has a problem, the machine won't work. Alas I am working from memory, and can't remember which slot has to contain a working RAM board.

So what I normally do is firstly remove all the 'unnecessary' boards. These are the 4 boards for the tape controller (Blue handles), the tape drive itself, the keyboard connector (in front of the display, but leave the mains cable to the on/off switch connected), the I/O backplane, the expansion ROM module backplane, and any internal expansion ROMS (but leave the black/red handled PCB that contains the last bit of BASIC in place).

Still no display? I then check the display strobe signal (see the scheamtics). It's almost always missing, but you'd feel a right idiot if you spent time debugging the processor section only to find the processor was sending data to the display and the fault was in the latter section.

Then there are several things to try. If you power up the CPU clock PCB (brown/red handles)on its own (either in the machine with all the other boards removed, or using a 5V bench supply), the BitClk and muClk signals will run. 16 bit clocks, then a muclock (microcode clock), and so on. Check this with a 'scope or logic analyser.

Since it's a bit serial machine, the M (memory address) and T (memory data) registers should have all bits changing. With the 'essential' boards back in the machine, check these with a 'scope or logic

analyser.

Then it gets harder. I connect a logic analyser to the microcode address lines on the CPU control PCB (brown/orange handles) and grab the microcode listings (ask me nicely by e-mail :-)). Then I see just what the CPU is doing and go from there.

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Warning: GRiD cards ad for 48GX

*Message #1 Posted by **Richard Reed** on 3 Oct 2009, 2:46 p.m.*

On TAS, seller 'coburlin' is showing two 1MB cards labelled GRiD as "FOR HP 48GX". If I'm not mistaken, it was these Epson-built cards that did not have the HP changes for lower voltage levels, different from GRiD, at which 48GX is allowed to operate. It has been reported from several reliable sources that when calculator battery voltage in 48GX gets to a lower, still operable value, the GRiD cards clamp address and data inputs low while the calculator is still driving them, effectively shorting the calculator power supply.

The result has been reported variously as sudden low battery indication on new-ish batteries, loss of user memory, permanent calculator power supply damage, and "never saw any problem".

coburlin's prices are always too high for me anyway (no auction).

Please correct me if something about GRiD cards later changed to eliminate this problem.

Richard

Edited: 3 Oct 2009, 2:54 p.m.

Re: Warning: GRiD cards ad for 48GX

*Message #2 Posted by **Norris** on 3 Oct 2009, 9:10 p.m.,*
in response to message #1 by Richard Reed

(Much) more info about the potential hazards of Epson cards in the HP48 here

Edited: 3 Oct 2009, 9:11 p.m.

Re: Warning: GRiD cards ad for 48GX

*Message #3 Posted by **Bart (UK)** on 4 Oct 2009, 5:40 p.m.,*
in response to message #2 by Norris

Corrected link.

An extra http// had slipped in :)

Re: Warning: GRiD cards ad for 48GX

*Message #4 Posted by **Richard Reed** on 4 Oct 2009, 8:42 p.m.,*
in response to message #3 by Bart (UK)

I also found this response to a 'GRid OK' post from August 1998, specifically about 1MB GRiD card problems in 48GX. I think there were a number of good alternative makes after this, but I sympathise with the poster's 'HP-only' opinion at the time (response poster name is Dan Kirkland).

1MB GRiD in 48GX

Edited: 4 Oct 2009, 8:43 p.m.

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Live from HHC2009

*Message #1 Posted by **Namir** on 3 Oct 2009, 10:02 a.m.*

Hello All,

We are all here at HP's in Fort Collins, CO. The conference is about to begin!

:-)

Namir

Re: Live from HHC2009

*Message #2 Posted by **Johnny BJoern Rasmussen** on 3 Oct 2009, 1:36 p.m.,*
in response to message #1 by Namir

I hope that you'll have a good time.

Cheers! Johnny

Re: Live from HHC2009

*Message #3 Posted by **Walter B** on 3 Oct 2009, 3:33 p.m.,*
in response to message #1 by Namir

Enjoy!

And don't forget to tell us the news -- Ft. Collins is far, far away. In addition, economic conditions are a bit worse than last year at that time for whatever cause, the USA as a whole is counted here as "swine flue area", so long range travelling needs very good reasons ;)

Re: Live from HHC2009

*Message #4 Posted by **Juan J** on 3 Oct 2009, 10:04 p.m.,*
in response to message #1 by Namir

Hello there,

Enjoy and keep us posted.

JuanJ

Re: Live from HHC2009

*Message #5 Posted by **pascal** on 4 Oct 2009, 1:26 a.m.,*
in response to message #1 by Namir

Hello Namir, I wish you a good time there ! Greetings from Switzerland.

Re: Live from HHC2009

*Message #6 Posted by **Namir** on 4 Oct 2009, 1:54 a.m.,*
in response to message #5 by pascal

Thanks Pascal.

The first day was a veyr very long day. We left HP's office at 9:30 pm!! When we got to the hotel we had a second wind and sat in the reception area and chatted some more!

Cheers,

Namir

Re: Live from HHC2009

*Message #7 Posted by **Don Shepherd** on 4 Oct 2009, 8:33 a.m.,*
in response to message #6 by Namir

Hmmm, sounds like no programming problem contest this year.

Re: Live from HHC2009

*Message #8 Posted by **BruceH** on 5 Oct 2009, 1:22 a.m.,*
in response to message #7 by Don Shepherd

There was one, won by Roger Hill. My effort was hopelessly outclassed (this is what comes of starting it at midnight the night before it was due in). Bill Butler set the challenge - I'll leave him to repost it here when he gets home.

Re: Live from HHC2009 (well, not quite live any more)

*Message #9 Posted by **Jeff O.** on 5 Oct 2009, 1:38 p.m.,*
in response to message #7 by Don Shepherd

It was specific to the 50G:

HHC 2009 Programming Challenge

Finding partial sums of rows of Pascal's Triangle

```
      1
     1 1
    1 2 1
   1 3 3 1
  1 4 6 4 1
    etc.
```

Write an HP50g program which takes a positive integer **n** of any size in level 2 and any integer **r** in level 1 and returns the sum of C(n,0) + C(n,1)+...+C(n,r) to level 1. The output should be 0 for **r**<0 and $2^{\mathbf{n}}$ for **r** >= **n**.

The program will be transferred from your HP50g to the judges' HP50g and will be tested (in exact mode) for a selection of values of **n** and **r** chosen by the judges. The fastest program wins.

The usual rules apply:

- The program must be in user code only

- The program must be self-contained

- The program must leave the stack unchanged except for replacing **n** and **r** with the result.

- Default flag settings are assumed, except that RPN mode must be set. Flag settings must be restored if changed.

- The judges' decision is final.

Re: Live from HHC2009 (well, not quite live any more)

*Message #10 Posted by **Don Shepherd** on 5 Oct 2009, 2:02 p.m.,*
in response to message #9 by Jeff O.

Thanks Jeff.

Re: Live from HHC2009 (well, not quite live any more)

*Message #11 Posted by **Allen** on 6 Oct 2009, 8:21 p.m.,*
in response to message #9 by Jeff O.

FWIW, I made a smaller binomial sum of products:

http://www.wolframalpha.com/input/?i=sum+%28-1^j%29*binomial%28+n%2Br-2j%2C+r-j%29*binomial%28n%2Br-3j%2Cr-2j%29%2C+j%3D0+to+r%2F2%2C+r%3D13%2C+n%3D8

to satisfy the programming contest.. there's some interesting limitations of it, but should work for all rows under row 30.

It steps through pascals triangle like a knight in a chess board:

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
0	1														
1	1	1													
2	1	2	1												
3	1	3	3	1											
4	1	4	6	4	1										
5	1	5	10	10	5	1									
6	1	6	15	20	15	6	1								
7	1	7	21	35	35	21	7	1							
8	1	8	28	56	70	56	28	8	1						
9	1	9	36	84	126	126	84	36	9	1					
10	1	10	45	120	210	252	210	120	45	10	1				
11	1	11	55	165	330	462	462	330	165	55	11	1			
12	1	12	66	220	495	792	924	792	495	220	66	12	1		
13	1	13	78	286	715	1287	1716	1716	1287	715	286	78	13	1	
14	1	14	91	364	1001	2002	3003	3432	3003	2002	1001	364	91	14	1
15	1	15	105	455	1365	3003	5005	6435	6435	5005	3003	1365	455	105	15
16	1	16	120	560	1820	4368	8008	11440	12870	11440	8008	4368	1820	560	120
17	1	17	136	680	2380	6188	12376	19448	24310	24310	19448	12376	6188	2380	680
18	1	18	153	816	3060	8568	18564	31824	43758	48620	43758	31824	18564	8568	3060
19	1	19	171	969	3876	11628	27132	50388	75582	92378	92378	75582	50388	27132	11628
20	1	20	190	1140	4845	15504	38760	77520	125970	167960	184756	167960	125970	77520	38760
21	1	21	210	1330	5985	20349	54264	116280	203490	293930	352716	352716	293930	203490	116280
22	1	22	231	1540	7315	26334	74613	170544	319770	497420	646646	705432	646646	497420	319770
23	1	23	253	1771	8855	33649	100947	245157	490314	817190	1144066	1352078	1352078	1144066	817190
24	1	24	276	2024	10626	42504	134596	346104	735471	1307504	1961256	2496144	2704156	2496144	1961256

I can walk you through the recursion for getting there.. took me about 15 hours without my "Concrete Mathematics" book. The internet wasn't much help either...

Edited: 6 Oct 2009, 8:57 p.m.

Re: Live from HHC2009

*Message #12 Posted by **Howard Lazerson** on 4 Oct 2009, 7:32 p.m.,*
in response to message #1 by Namir

dont forget to ask when the new enhanced 42s will be available

Live from HHC2009: any online info so far?

*Message #13 Posted by **Vieira, Luiz C. (Brazil)** on 5 Oct 2009, 2:34 a.m.,*
in response to message #1 by Namir

Hi Namir, guys;

congratulations, all of you. Good to know that you, people, are there.

I am not sure if this is common knowledge, but I would like to ask, please, as soon as any online information about the meeting is available, would you let us know? If any already, which links?

Thanks again.

Luiz (Brazil)

Re: Live from HHC2009

*Message #14 Posted by **Thomas Chrapkiewicz** on 5 Oct 2009, 7:08 p.m.,*
in response to message #1 by Namir

Hello Namir:

Would you be able to post a XL 2003 compatible version of RPN2?

Thanks, TomC

Re: Live from HHC2009

*Message #15 Posted by **Namir** on 5 Oct 2009, 9:28 p.m.,*
in response to message #14 by Thomas Chrapkiewicz

Tom,

Send me email to:

n.s.h.a.m.m.a.s@aol.com (remove the dots before the @ sign)

I will email you an Excel 2003 version of RPN2.

Regards,

Namir

PS: Thanks for the rides to and from the conference!

Edited: 5 Oct 2009, 9:28 p.m.

Re: Live from HHC2009

*Message #16 Posted by **Thomas Chrapkiewicz** on 6 Oct 2009, 10:35 a.m.,*
in response to message #15 by Namir

Namir:

Thank you. It was a great pleasure spending time with you at the conference! Hope to see you again next time!

TomC

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Go back to the main exhibit hall

HP Forum Archive 19

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Thought experiment:: creating great hardware assuming software will follow

*Message #1 Posted by **Hugh Evans** on 3 Oct 2009, 1:43 a.m.*

Producing machines that exceed the quality of old HPs is relatively trivial but will require funding. Is this community interested in investing in the development of such a machine(s)?

I'm considering a stripped down version of my OpenRPN project involving only hardware and this is my target audience. My current theory is that if you build it the apps will come. Feel free to email me with concepts outside this post. Machines such as the 35s are nice, but I'm prepared to go way over the top in terms of design. Any interest? People willing to help make this happen?

Re: Thought experiment:: creating great hardware assuming software will follow

*Message #2 Posted by **Paul Dale** on 3 Oct 2009, 2:47 a.m.,*
in response to message #1 by Hugh Evans

I'd be interested. I don't know how much money I could contribute but I'm sure I could find some.

I agree that if the hardware exists, the software will likely follow. There are several good calculator software projects any of which would make a good starting place.

As for the OpenRPN project, the software development was fairly far along, so there wouldn't be a huge need to consider it hardware only :)

- Pauli

Re: Thought experiment:: creating great hardware assuming software will follow

*Message #3 Posted by **DaveJ** on 3 Oct 2009, 6:11 a.m.,*
in response to message #1 by Hugh Evans

Yes, if you build it they (the software developers) will come. The uWatch is a perfect example.

A calculator project is all about the hardware, so actual hardware = excitement. No hardware = no excitement.

No offense, but there was no OpenRPN hardware produced after how many years of development? (not even a single prototype of any aspect) How will this attempt be any different?

Also, please correct me if I'm wrong, you were somewhat adverse to producing "less than perfect" interim prototypes, which most people would consider essential for such a project. You wanted to shoot for the final product on the first attempt? Is this still the case?

Producing calculator hardware people will be happy with is far from relatively trivial.

Surely you have tons of stuff to show after all the previous OpenRPN development? If so, how about you show us some ideas so people can actually get excited and want to help out?

Dave.

Re: Thought experiment:: creating great hardware assuming software will follow

*Message #4 Posted by **Bill Wiese** on 4 Oct 2009, 5:19 p.m.,*
in response to message #1 by Hugh Evans

OpenRPN (& other variant projects) were failures because:

1. It solved a problem not needing much solving. Creating decent calc FW isn't that hard these days with tons of decent low-power microcontrollers out there, or with iPhone, etc. platforms. Either 'Nut emulation or from-scratch code can be done with some reasonable facility.

2. The dream software served as occupational therapy for those folks not acknowledging it takes a ton of money & skills to get quality case, keyboard and consumer packaging to realize a worthwhile product one would want to use daily (as other than a "science project" on a perfboard.) And while I admire the uCalc (?) watch I certainly would not remove my Rolex to wear one (same said about Casio plastic watches). If a Calc watch were to ever be in production it would have to have some panache/quality a la HP01 (or even an upscaled Nat'l Semi sci calc watch from ages ago).

3. There's no need to duplicate/branch off a high-end RPL calc (HP48, 49g, etc.) Those calcs do what they do well, although the problems to which they're aimed often are burdened by data entry & speed, such that PC software is more appropriate to the task and setting.

3. I do crunch a few numbers daily and have no need for 48/49g, etc functionality. I think others agrree - the passion is for recovering the original elegance of the orig HP RPN calcs as they age and drop out of circulation. Those of us doing "powerful math" are not gonna subject ourselves to limited calc HW when we have laptops & PCs around with Matlab etc. There's a right tool for the job and a calculator can go back to being a calculator and not a 'protocomputer'.

4. Original keystroke programmability was a necessary compromise "back in the day"; later RPL programming alienated keystroke programmers who also worked with conventional languages.

5. Bringing back a quality RPN calculator with large ENTER key and reasonable HP layout should be goal. Programming language should be some form of BASIC. I note the HP71B BASIC as an excellent implementation and it could fit on an HP35S package. For years, there's no longer any need for the programming language to be coupled with the calculator's direct-entry mode.

6. The HP35S is a pretty good 1st cut at recovering a traditional RPN calculator. I don't care for the display too much and some key layouts are 'interesting choices'. And the programming model really doesn't make me sing.

7. Until proper case and keypad and funding work it's all a joke. And for quality keys some agreement on key legend & shifted key function labelling on top plate would need to be agreed upon. If this can't be done the project can't be started and it'll just be a buncha buttons on perfboard.

Bill Wiese
San Jose CA

Edited: 4 Oct 2009, 5:26 p.m.

Re: Thought experiment:: creating great hardware assuming software will follow

*Message #5 Posted by **DaveJ** on 4 Oct 2009, 6:55 p.m.,*
in response to message #4 by Bill Wiese

> Quote:
>
> And while I admire the uCalc (?) watch I certainly would not remove my Rolex to wear one (same said about Casio plastic watches). If a Calc watch were to ever be in production it would have to have some panache/quality a la HP01 (or even an upscaled Nat'l Semi sci calc watch from ages ago).

I agree, and it's my baby!
The original uWatch was simply a quick exercise in what could be done with off-the-shelf parts, so that's what it looked and felt like. It was actually done for a design contest (I didn't even place :-( )

The new uWatch Mk2 design is evolving slowly, so it should hopefully answer the criticisms of the first one. Namely:

1) A "real" case made out of anodised aluminium, so it should "feel" like a solid quality watch. Real integral watch band pin supports etc.

2) A graphical LCD display with a nice backlight.

3) Bigger more powerful processor. The programming community maxed the old one to death playing chess and all sorts of things!

4) Bigger spaced keys. In fact this one will use touch technology. The major problem is deciding exactly how to implement this. I originally crammed 24 buttons on the thing, even though I knew it probably would be unworkable in practice unless you have the worlds smallest fingers. My current thinking is to just go minimalist so the touch technology will actually work nicely for all. 16 or 18 keys max. Who cares if you have to hit shift for nearly everything, worked fine on my CFX-400 sci calc watch.
Don't like the key layout? Design your own PCB front panel.

5) USB and rechargable battery.

If I get off my butt and actually lay some money down to get the first prototype, it could be a decent product (I hope)...

Dave.

Re: Thought experiment:: creating great hardware assuming software will follow

*Message #6 Posted by **Bill Wiese** on 4 Oct 2009, 7:46 p.m.,*
in response to message #5 by DaveJ

> Quote:

```
DaveJ wrote:
I agree, and it's my baby!


The new uWatch Mk2 design is evolving slowly, so it should hopefully answer
the criticisms of the first one. Namely:
```

> 1) A "real" case made out of anodised aluminium, so it should "feel" like a solid quality watch. Real integral watch band pin supports etc.

Sorry, Dave, a 'real' watch does not have an alum. case.
Good watches (which excludes most all Seiko, Citizen, Skagen, Pulsar, Casio, Swatch, etc) have at least 316 stainlees for case, and they also have (near-)scrtachproof sapphire crystals.

If you're gonna produce something attempting to be sellable, don't fight for the low-end. No margin for time & effort. Sell 'em for $500 - $1K, not $125 or less. Also, higher-end watch cases and bands are avaiable for custom watch builders from sources like [url]http://www.ofrei.com[/url]

> Quote:
>
> 1) A graphical LCD display with a nice backlight.

Please, don't overdo graphics. While graphix LCD might be required to do better-than-character-LCDs don't do graphics per se on the calc. Get RPN + memory/transcendentals and maybe some 12C PV/FV/PMT/i/n running and you're done.

Think something like Tritium capsule or other watch illumation like Indiglo.

For small volume production rape Timex or Casio calc watches.

> Quote:
>
> 3) Bigger more powerful processor. The programming community maxed the old one to death playing chess and all sorts of things!

Please O Please No! A low power 80c51 etc is fine - or even better a watch CPU. Find the BEST lowest-power CPU you can. Don't build a "computer". Battery life needs to be 1-2 years just like Casio calc watches.

Given touch sense (below) a Cypress or Atmel is likely best sol'n.

> Quote:
>
> 4) Bigger spaced keys. In fact this one will use touch technology. The major problem is deciding exactly how to implement this. I originally crammed 24 buttons on the thing, even though I knew it probably would be unworkable in practice unless you have the worlds smallest fingers. My current thinking is to just go minimalist so the touch technology will actually work nicely for all. 16 or 18 keys max. Who cares if you have to hit shift for nearly everything, worked fine on my CFX-400 sci calc watch.

I agree. I also had the CFX20 wathc and CFX400. Capsense touch is the way to go and can work thru a watch crystal. A side button and timeout reversion should shift in/out of calc mode so capsense disabled and not burning power etc. Do not try use big LCD legends
for keypad, use printed logo. Capsense touch processing can solve 'fat finger' issue and can even do stroke recognition.

> Quote:

> 5) USB and rechargable battery.

Nobody wants a friggin' watch that has to recharge.
1+ yr battery life, or stay home.

If a stylish, $1000 stainless+sapphire QUALITY {too many nerds here who think Seiko=quality) watch that has an RPN calc with 1+ yr battery life hits the market, enough folks will buy, and money is made to recoup costs.

Frankly, Plan B is to work with Casio on a custom run to reprogram one of their touch calc watch variants and have it dropped in a quality case + sapphire face w/quality band.

Re: Thought experiment:: creating great hardware assuming software will follow

*Message #7 Posted by **DaveJ** on 4 Oct 2009, 8:47 p.m.,*
in response to message #6 by Bill Wiese

> Quote:
>
> Sorry, Dave, a 'real' watch does not have an alum. case. Good watches (which excludes most all Seiko, Citizen, Skagen, Pulsar, Casio, Swatch, etc) have at least 316 stainlees for case, and they also have (near-)scrtachproof sapphire crystals.
>
> If you're gonna produce something attempting to be sellable, don't fight for the low-end. No margin for time & effort. Sell 'em for $500 - $1K, not $125 or less. Also, higher-end watch cases and bands are avaiable for custom watch builders from sources like [url]http://www.ofrei.com[/url]

Yes, I really meant aluminium as a minimum, not plastic. Stainless is a more expensive option, just gotta specify it. Easy.

Sapphire crystal is another expensive custom option. Anyone know where you can get such things custom machined?

I'm realistic enough to know that I perhaps don't quite have the skills on my own to design a watch worthy of a $1000 price tag. At that sort of price people expect fancy presentation cases, a really elegant case design, 5 year warranties etc. This tends to push the risk aspect (financial and time) into the stratosphere.

The uWatch was butt ugly, but it made a lot of people very happy. I can't begin to imagine what impact a slightly more refined version would have, one that looks like you could actually wear it every day. And I can do that with very little financial outlay or risk.

I know enough about various industries to know that price-point is an important factor. It can make or break your product.

> Quote:
>
> Please, don't overdo graphics. While graphix LCD might be required to do better-than-

> character-LCDs don't do graphics per se on the calc. Get RPN + memory/transcendentals and maybe some 12C PV/FV/PMT/i/n running and you're done.
>
> Think something like Tritium capsule or other watch illumation like Indiglo.
>
> For small volume production rape Timex or Casio calc watches.

I haven't overdone graphics. I've pretty much settled on a 128x32 display, much to the disdain of the community who wanted a 128x64

Backlight is integral white LED and is very nice. Not the lowest power solution, but backlights are not used often, and it's integral, so no development effort or risk.

Raping parts from other products is fraught with danger. If I sold a couple of hundred uWatch's, then I'd be crazy to think in design terms for anything less than 1000 Mk2's.

> Quote:
>
> ---
>
> Please O Please No! A low power 80c51 etc is fine - or even better a watch CPU. Find the BEST lowest-power CPU you can. Don't build a "computer". Battery life needs to be 1-2 years just like Casio calc watches.
>
> Given touch sense (below) a Cypress or Atmel is likely best sol'n.
>
> ---

I've speced in an Atmel touch device. A low power micro is fine, but remember the other stuff takes power too, so it ain't just about the micro. The uWatch used a 64KB/8K 16 bit processor, and we ran into the limitations very quickly. No one is going to want to have to code in assembler... You can have your cake and eat it too here. A big processor can be clocked at 32KHz or shut down and draw adequately little power in time/date mode, but then has the grunt when and if you decide to use it. One can also argue a 32 bit processor is actually more efficient power-wise than an optimised low power 8 bit micro. There ain't much in it.

> Quote:
>
> ---
>
> I agree. I also had the CFX20 wathc and CFX400. Capsense touch is the way to go and can work thru a watch crystal. A side button and timeout reversion should shift in/out of calc mode so capsense disabled and not burning power etc. Do not try use big LCD legends for keypad, use printed logo. Capsense touch processing can solve 'fat finger' issue and can even do stroke recognition.
>
> ---

Actually, no. Cap sense creates the "big finger" problem. You can get higher density using tact keys because the finger can "feel" before pushing. Cap sense has to be spaced big enough to absolutely ensure it can be used by anyone. Although admittedly I have not experimented in this area yet, mainly going by what the informed are telling me. You think say reliable 6mm pitch keys with touch sense is possible? I'd love to see some foolproof implementation examples, please.

> Quote:
>
> ---
>
> Nobody wants a friggin' watch that has to recharge. 1+ yr battery life, or stay home.
>
> If a stylish, $1000 stainless+sapphire QUALITY {too many nerds here who think

> Seiko=quality) watch that has an RPN calc with 1+ yr battery life hits the market, enough folks will buy, and money is made to recoup costs.
>
> Frankly, Plan B is to work with Casio on a custom run to reprogram one of their touch calc watch variants and have it dropped in a quality case + sapphire face w/quality band.

Unfortunately I'm being forced down the rechargable path.
The display takes around 100uA continuous, so even if I had a decent 500mAh capacity coin cell that's only around 200 days. And I have not factored in a DC-DC, touch sense, processor, occasional backlight use etc. Then the case design is more complex because you have to allow easy battery access. Yes, it can be done, but it means a custom LCD display and the entire project explodes into complexity from there. Complex development means more money, more time, more risk, and will ultimately never get done because I'll lose the enthusiasm. BTW, I'm already looking at around 1 month battery life for the rechargable.

Find me a suitable lower power LCD solution off-the-shelf and I'll happily consider giving you a year battery life. Really.

People who have not actually done in-depth investigation into designs like this can't really appreciate the countless trade-offs involved. I don't think I could even begin to list all the trade-offs I've encountered in this project. Not as many for pocket calc to be sure, but still, many gut-wrenching decisions need to be made. And I've said this before, this never works well by-committee or by-community. It need one smart person to do the legwork and make the big decisions for such a project.

That's why Hugh needs to simply make decisions, do the work and SHOW us something tangible. Then people will get excited and want to help out. It's a real shame nothing but software has come out of OpenRPN.

I believe OpenRPN never got off the ground because perfection was aimed for. I like being a tad more realistic with my projects. Perfection and gilding the lily is nice, but not needed for a successful product.

Dave.

Edited: 4 Oct 2009, 10:32 p.m.

Re: Thought experiment:: creating great hardware assuming software will follow

*Message #8 Posted by **Jeff O.** on 5 Oct 2009, 1:04 p.m.,*
in response to message #7 by DaveJ

Dave, please do what you are going to do the way you want to do it.

If it costs $1,000, I will buy exactly zero. My propensity to drop substantial money on toys maxes out well below that figure.

Re: Thought experiment:: creating great hardware assuming software will follow

*Message #9 Posted by **DaveJ** on 5 Oct 2009, 8:03 p.m.,*
in response to message #8 by Jeff O.

> Quote:
>
> Dave, please do what you are going to do the way you want to do it.

I always do! :->
I have 20+ years experience doing projects and kits like this for niche markets so I like to think I have at least some sense for it after all that time!

> Quote:
>
> If it costs $1,000, I will buy exactly zero. My propensity to drop substantial money on toys maxes out well below that figure.

So does mine.
You won't see me ever produce a $1000 niche hobby product, I know it would be a guaranteed loser.

The "magic figure" in the consumer market is $300, and the niche hobby market is substantially less than that.

Dave.

Re: Thought experiment:: creating great hardware assuming software will follow

*Message #10 Posted by **DaveJ** on 4 Oct 2009, 7:07 p.m.,*
in response to message #4 by Bill Wiese

> Quote:
>
> 7. Until proper case and keypad and funding work it's all a joke. And for quality keys some agreement on key legend & shifted key function labelling on top plate would need to be agreed upon.

That will never work, you'll never ever get even close to majority agreement on such things. I think any design should be minimalist and have support for a drop-in face plate. This would not lock you into such critical design decisions at the start of the project.

You could also argue that you could do that with the hardware too. Use an FPGA perhaps so you can change the processor to anything you like.

I agree with what you say about big powerful calcs, I simply don't see the point. There are already plenty of calcs out there that fill this market. Think SMALL and really pocketable.

Aluminimum case to set the thing apart from a million other calcs on the market. because no matter how much money and effort you pour into the case and key design, it's still doomed to look like every other plastic chinese calc out there. Think different. Think about people who might want one (Geeks, Hackers, Makers, Steampunkers) simply because it looks cool.

Dave.

Re: Thought experiment:: creating great hardware assuming software will follow

*Message #11 Posted by **Bill Wiese** on 4 Oct 2009, 7:51 p.m.,*

in response to message #10 by DaveJ

> Quote:
>
> That will never work, you'll never ever get even close to majority agreement on such things. I think any design should be minimalist and have support for a drop-in face plate. This would not lock you into such critical design decisions at the start of the project.

Screw the majority. Just do it right. Have an opinion that's based on ease of use/minimizing keystrokes.

You're either building a product or a science project.

> Quote:
>
> You could also argue that you could do that with the hardware too. Use an FPGA perhaps so you can change the processor to anything you like.

Baloney. Any reasonable calc for a watch can be done on a 4 bit CPU or even a bit-serial CPU.

FPGAs are not really designed for ultraportable ultralowpower and have lotsa pin/package baggage.

> Quote:
>
> Aluminimum case to set the thing apart from a million other calcs on the market. because no matter how much money and effort you pour into the case and key design, it's still doomed to look like every other plastic chinese calc out there. Think different. Think about people who might want one (Geeks, Hackers, Makers, Steampunkers) simply because it looks cool.

For a hand *calculator* and not a *watch*, yes. And laser-etched keytops and plates can be done in smaller-volume, with colored plastic filler filling in the keytop legends.

[/quote] [/pre]

Re: Thought experiment:: creating great hardware assuming software will follow

*Message #12 Posted by **DaveJ** on 4 Oct 2009, 8:14 p.m.,*
in response to message #11 by Bill Wiese

> Quote:
>
> Screw the majority. Just do it right. Have an opinion that's based on ease of use/minimizing keystrokes.
>
> You're either building a product or a science project.

The HP 41 had a template overlay, and it was a good product, so I think it's doable if you want to.

> Quote:
>
> Baloney. Any reasonable calc for a watch can be done on a 4 bit CPU or even a bit-

> serial CPU.
>
> FPGAs are not really designed for ultraportable ultralowpower and have lotsa pin/package baggage.

Sorry, I'm not talking about the uWatch here, I'm talking Hugh's proposal.

Yes, FPGA's chew power and mostly big pin counts. But it could be novel for an open source powerful calc if you wanted to go that way.

I prefer hard silicon micros for stuff like this, but I like to be open minded too. (I design FPGA development tools for a living)

Dave.

Re: Thought experiment:: creating great hardware assuming software will follow

*Message #13 Posted by **BruceH** on 5 Oct 2009, 1:28 a.m.,*
in response to message #1 by Hugh Evans

> Quote:
>
> but will require funding

You will need at least $4m and there is a 99.9% chance you won't get this money back. But don't take my word for it - go and find a venture capitalist for a second opinion.

Re: Thought experiment:: creating great hardware assuming software will follow

*Message #14 Posted by **DaveJ** on 5 Oct 2009, 2:33 a.m.,*
in response to message #13 by BruceH

> Quote:
>
> You will need at least $4m and there is a 99.9% chance you won't get this money back. But don't take my word for it - go and find a venture capitalist for a second opinion.

You are generous with those odds at $4M!

Try $4K as an order of magnitude for a DIYer, $40K if you want it really schmick. Heck, give me a lousy $400K and I'll quit my job and go full time at it :->

I (and many others I'm sure) could quite easily produce a very usable calc for under $10K, provided I had help with the mechanical CAD stuff.

Even if I spent that sort of money on my MK2 uWatch (it won't even be close to that), it's practically a 100% certainty I'll get my money back on that investment. I think there is little risk in any sub $10K design that is done well. Over that and your odds start dropping fairly quickly I recon. I base that on a typical price-point and sales numbers of a project like my uWatch.

But like I've said in the past, I don't quite see the point in doing yet another pocket scientific calculator design. There are just too many other platforms out there. It would have to have some niche appeal that is not currently being met. e.g. a REALLY pocket size calc (no the Voyager is not what I call pocket size)

and/or some really funky all-metal design etc. Perhaps a retro LED calc even. Heck you'd probably sell a few hundred of those small non-programmable 4-banger type RPN designs doing the rounds a while back. Get it on ThinkGeek and you'll probably quadruple that number.

Dave.

Re: Thought experiment:: creating great hardware assuming software will follow

*Message #15 Posted by **BruceH** on 5 Oct 2009, 8:37 p.m.,*
in response to message #14 by DaveJ

> Quote:
>
> You are generous with those odds at $4M!
>
> Try $4K as an order of magnitude for a DIYer, $40K if you want it really schmick. Heck, give me a lousy $400K and I'll quit my job and go full time at it :->
>
> I (and many others I'm sure) could quite easily produce a very usable calc for under $10K, provided I had help with the mechanical CAD stuff.

If you look at the original post you will see

> Quote:
>
> Producing machines that exceed the quality of old HPs is relatively trivial but will require funding

This is not a "usable calc" but one which exceeds the rather excellent standards of the old HPs. That cannot be done cheaply nor can it be done at any of the prices you are proposing.

Re: Thought experiment:: creating great hardware assuming software will follow

*Message #16 Posted by **DaveJ** on 5 Oct 2009, 9:22 p.m.,*
in response to message #15 by BruceH

> Quote:
>
> This is not a "usable calc" but one which exceeds the rather excellent standards of the old HPs. That cannot be done cheaply nor can it be done at any of the prices you are proposing.

If you seriously think a skilled person cannot product an excellent quality product for a niche market for the figures I quoted then I'd guess you have a no experience at all in designing electronics products "mightnight engineer" style.

Remember several things:
No one is talking about starting up a company here, and it does not require more than a couple of experienced individuals to produce a world class product. You can even do it with one person if they have all the required skills.

And if you read Hugh's original post also:

> Quote:
>
> and this is my target audience

So it hardly has to a perfect gold plated world class product in a fancy silk lined box with a nice hydraulic closing lid.

Labor is FREE. This is a community/hobby project, people will not charge for their time.

There are no overheads or other expenses apart from prototype manufacturing costs.

There is nothing magical about the standard and quality of the old HP's, sorry to burst your bubble. In fact some of them were not all that great.

It's not rocket science to design a quality robust product like this. The electronics is trivial, don't even mention it. The case is not hard - make it metal and it will be more robust than anything HP has ever produced - ever. Chose a high quality brand LCD and it and the LED backlight will last as long as you want.

So what's left?

The only issue I see is with the quality/reliability of the keys, and this is not rocket science either. Top quality tact domes like Snaptron for example have rated lives of 5,000,000 actuation's. I've got a hole box of them on my desk, and they cost me nothing. Couple that with top quality gold plating on your board and a nicely designed keytop, mount and legend system and you are done. It'll take a few prototypes to iron out the issues and get the "feel" right, but it's far from hard. All it takes is for someone to DO IT.

Heck, even if I or others had to HIRE a professional contractor to design the case and keys, the project would still come in well under the $40K I mentioned, let alone the $400K I mentioned to do it as a full time job, or the silly blue-sky figure of $4M you mentioned.

Dave.

Re: Thought experiment:: creating great hardware assuming software will follow

*Message #17 Posted by **Paul Dale** on 5 Oct 2009, 2:52 a.m.,*
in response to message #13 by BruceH

I'm with DaveJ on this, $4m is way too high an estimate unless you're into burning money needlessly in startups.

- Pauli

Re: Thought experiment:: creating great hardware assuming software will follow

*Message #18 Posted by **Garth Wilson** on 5 Oct 2009, 9:55 a.m.,*
in response to message #17 by Paul Dale

> Quote:
>
> I'm with DaveJ on this, $4m is way too high an estimate unless you're into burning money

> needlessly in startups

or it was a government operation.

Re: Thought experiment:: creating great hardware assuming software will follow

*Message #19 Posted by **Thomas Radtke** on 5 Oct 2009, 10:29 a.m.,*
in response to message #18 by Garth Wilson

I suppose there are experts here. So, how much is it really for a rapid prototyping of Hugh's CAD drawings (case and keys), the PCB and a LCD?

Re: Thought experiment:: creating great hardware assuming software will follow

*Message #20 Posted by **DaveJ** on 5 Oct 2009, 7:54 p.m.,*
in response to message #19 by Thomas Radtke

> Quote:
>
> I suppose there are experts here. So, how much is it really for a rapid prototyping of Hugh's CAD drawings (case and keys), the PCB and a LCD?

The PCB will be around the $100-$150 mark + components.

The rapid prototyped case will depend on who does it. But emachineshop will do my fully custom uWatch2 case for around $200-$250 mark for 5 or 10 or so. Their prices are based on type and amount of material used + amount of machining. So figure maybe $500-$600 for the case + blank keys? (+ legend?) I believe there are people on this group with access to such machines as well. You have to use the emachineshop software though, but the advantage is you know exactly what it's going to cost up-front.

For the LCD you'd be crazy to go custom for such a project, plenty of suitable off-the-shelf solutions from the likes of Newhaven and CrystalFonz. A suitable LCD with nice backlight might be $20-$30

Dave.

Edited: 5 Oct 2009, 9:38 p.m.

Re: Thought experiment:: creating great hardware assuming software will follow

*Message #21 Posted by **Garth Wilson** on 5 Oct 2009, 10:22 p.m.,*
in response to message #20 by DaveJ

I just got 100 multilayer (4-layer) SMT PC boards made, slightly smaller than what we'd need for a calculator, for about $800, *including* the NRE (non-recurring engineering) and all setup charges *and* bare-board automated testing.

At the last place I worked, we looked into getting a keyboard made with double-shot keys, and as I remember, the tool-up was something like $2-3K. That was 20 years ago, but I

think that would be greatest part of the cost. We've had lexan overlays made like the HP-41 has around the keys, and, although we didn't have to get the die made to make all cutouts for the keys, the NRE was under $2K.

We also looked into getting a custom LCD made for a product, and that was a couple grand too. We ended up using an off-the-shelf one for about $6/ea.

Re: Thought experiment:: creating great hardware assuming software will follow

*Message #22 Posted by **DaveJ** on 5 Oct 2009, 10:36 p.m.,*
in response to message #21 by Garth Wilson

> Quote:
>
> I just got 100 multilayer (4-layer) SMT PC boards made, slightly smaller than what we'd need for a calculator, for about $800, *including* the NRE (non-recurring engineering) and all setup charges *and* bare-board automated testing.

Yep, that's pretty standard these days. Who did you use? I use www.pcbcart.com

> Quote:
>
> At the last place I worked, we looked into getting a keyboard made with double-shot keys, and as I remember, the tool-up was something like $2-3K. That was 20 years ago, but I think that would be greatest part of the cost. We've had lexan overlays made like the HP-41 has around the keys, and, although we didn't have to get the die made to make all cutouts for the keys, the NRE was under $2K.

Yep, keys are the only major cost in the whole exercise really. You'd just have to budget for a few spins to get the physical interface right.

Dave.

Re: Thought experiment:: creating great hardware assuming software will follow

*Message #23 Posted by **Garth Wilson** on 6 Oct 2009, 12:31 a.m.,*
in response to message #22 by DaveJ

> Quote:
>
> Yep, that's pretty standard these days. Who[m] did you use? I use www.pcbcart.com

Imagineering (pcbnet.com) .006" trace/space, .015" vias. Another one of the several boards for the project was .030" thick, with .008" vias.

Re: Thought experiment:: creating great hardware assuming software

will follow

*Message #24 Posted by **Thomas Radtke** on 6 Oct 2009, 5:15 a.m.,*
in response to message #20 by DaveJ

I conclude that Hugh could have a prototype for about $1000, something to show and to study if it mechanically works. With some luck, it would already demonstrate a viable design. Considering time and effort that have been invested, I can't understand why there is still no prototype.

Edited: 6 Oct 2009, 5:16 a.m.

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HHC 2009

*Message #1 Posted by **sjthomas** on 2 Oct 2009, 10:41 p.m.*

Anybody tweeting from the conference?

Re: HHC 2009

*Message #2 Posted by **Bruce Bergman** on 2 Oct 2009, 10:48 p.m.,*
in response to message #1 by sjthomas

Hey, that's a great idea! Especially for those of us who would LOVE to be there, but can't.

Gene? Tim? Feel like tweeting a bit? ;-)

thanks! bruce

Re: HHC 2009

*Message #3 Posted by **Eric Smith** on 3 Oct 2009, 1:43 a.m.,*
in response to message #1 by sjthomas

#HHC2009

Re: HHC 2009

*Message #4 Posted by **Patrick Rendulic** on 3 Oct 2009, 8:05 a.m.,*
in response to message #3 by Eric Smith

Offering a webcam would'nt be so hard ;).

And HP could do an effort. What do they fear?

Re: HHC 2009

*Message #5 Posted by **David Hayden** on 3 Oct 2009, 8:42 a.m.,*
in response to message #4 by Patrick Rendulic

I'd be interested in getting a copy of the conference materials and would be willing to pay for it. I suspect others might also. Does anyone know if the materials are available? Anyone else interested in getting copies?

Re: HHC 2009

*Message #6 Posted by **Don Shepherd** on 3 Oct 2009, 9:25 a.m.,*
in response to message #5 by David Hayden

The 2007 conference proceedings are here. I don't immediately see last years proceedings, and I

don't know if they plan on publishing this years either.

Re: HHC 2009

*Message #7 Posted by **Bart (UK)** on 3 Oct 2009, 9:53 a.m.,*
in response to message #5 by David Hayden

Information on DVDs of various conferences available here. Scroll down to see a table of available DVDs.

Re: HHC 2009

*Message #8 Posted by **Didier Lachieze** on 5 Oct 2009, 5:18 a.m.,*
in response to message #3 by Eric Smith

> Quote:
>
> #HHC2009

Eric, many thanks for providing some inside view of what was going on during these two days. The agenda looks pretty interesting, and these "Top Secret" items are really tantalizing .... wish I would be there, but Fort Collins is way too far.

Re: HHC 2009

*Message #9 Posted by **Richard J. Nelson** on 12 Oct 2009, 7:19 p.m.,*
in response to message #1 by sjthomas

HHC 2009 was even more intense than previous HHCs. There were several additional speakers that are not yet shown on the HHC 2009 website. Most people are probably taking a few days just to recover from the around the clock discussions. An NIST tour was taken by 24 of the 47 attendees on Monday, and it was also super because it was very personally conducted for us - and very technical.

Several astounding topics were presented and these will be discussed in time (yes, there was a new machine, but that is almost "normal?"). We learned a great deal about how HP calculators are being made under the present business model and most of us were quite surprised at how ignorant we were.

It is a new HP Calculator World and this will be described by postings on the HHC website over the next few weeks. My thanks to all who participated. The hotel was super, and HP was a GREAT host.

X < > Y, Richard

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HP 41CX locked in program mode

*Message #1 Posted by **Steve Leibson** on 2 Oct 2009, 7:37 p.m.*

I have a friend who gave me his mint-looking HP41CX. He couldn't get it to work any more. These handhelds aren't my specialty but I had a look. The batteries were badly drained. Some so low they measured 60 mV of reverse polarity. I got some new N cells, put them in, and the calculator came up with "memory lost." That solves that, I thought.

Not so, in seconds, the 41CX went into program mode and became unresponsive to most keys. The run/stop key produces a display with one "0" on the left and two zeroes on the right, for as long as I hold down the run/stop key. I've taken out the batteries, shorted the battery terminals, opened the calculator, shorted the electrolytics, put it together again, run the resent sequences, tapped it lightly to reseat anything loose, and rattled my beads.

For a brief moment, I could enter a short sequence (2 enter 2 x) and got the right answer (4) and then the 41CX popped back into program mode. I'm suspecting a short in the keyboard. Probably the PRGM key.

Any clues as to what's happening and what's to be done? I've seen nothing like this in the archived forum stuff, but it may be too far back.

Re: HP 41CX locked in program mode

*Message #2 Posted by **Randy** on 2 Oct 2009, 9:00 p.m.,*
in response to message #1 by Steve Leibson

> Quote:
>
> I'm suspecting a short in the keyboard. Probably the PRGM key

No, a stuck PRGM key would have the unit come up in program mode and show 00 REG 219.

Fullnut or halfnut?

Re: HP 41CX locked in program mode

*Message #3 Posted by **Raymond Del Tondo** on 2 Oct 2009, 9:02 p.m.,*
in response to message #1 by Steve Leibson

I don't know whether the reverse polarity did any damage to the hardware,
however the locked kbd could have it's cause in a bad contact,
either between the I/O connector and/or the CPU-to-kbd pcb connector.

Another typical error cause are broken screw posts.

Is it a halfnut model (rounded LCD frame)?

Re: HP 41CX locked in program mode

*Message #4 Posted by **Steve Leibson** on 2 Oct 2009, 9:20 p.m.,*
in response to message #3 by Raymond Del Tondo

Randy and Raymond, it's got a square LCD bezel.

Edited: 2 Oct 2009, 9:22 p.m.

Re: HP 41CX locked in program mode

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 2 Oct 2009, 10:16 p.m.,*
in response to message #4 by Steve Leibson

Hi, Steve;

now the next reasonable question should be: is it ACTUALLY a CX? If the LCD bezel has squared corners, then the unit is a fullnut and the mainboard is separated from the keyboard. Would it be possible to compare the mainboard with the pictures here and tell us which one compares OK with yours? The fullnut type may produce some unexpected behavior when the mainboard and the LCD driver do not establish good communication (bad contact with the contact strip under the mainboard)

Cheers.

Luiz (Brazil)

Edited: 2 Oct 2009, 10:23 p.m. after one or more responses were posted

Re: HP 41CX locked in program mode

*Message #6 Posted by **Steve Leibson** on 2 Oct 2009, 10:20 p.m.,*
in response to message #5 by Vieira, Luiz C. (Brazil)

It looks like the one marked:

HP-41C/CV/CX Common Board (CX version)

It's got the three electrolytic capacitors on the left, the doubled up piggy-backed ROMs along the top, and the assorted bent-over resistors along the bottom.

Re: HP 41CX locked in program mode

*Message #7 Posted by **Vieira, Luiz C. (Brazil)** on 2 Oct 2009, 10:24 p.m.,*
in response to message #6 by Steve Leibson

Sorry, I added an extra line in my previous follow up exactly when you were posting yours...

Cheers.

Luiz (Brazil)

Re: HP 41CX locked in program mode

*Message #8 Posted by **Randy** on 3 Oct 2009, 12:15 a.m.,*
in response to message #1 by Steve Leibson

Any crud/flux on the logic board around the rom area is from a sloppy repair can cause problems. So, remove

the processor and clean both sides well with isopropyl. Allow to dry for several hours.

Check the logic to keyboard connector for any corrosion. Clean with isopropyl if needed. If damage is severe, it will need to be replaced.

Reassemble and test. If the problem remains, it is most likely a bad rom. The only way to test further would be with the 5061-7221 service module.

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200LX date format in filer - What determines it's format?

*Message #1 Posted by **Peter A. Gebhardt** on 2 Oct 2009, 3:18 p.m.*

I have two 200LX 2MB, ROM 1.02a (05/24/94) in front of me - both US International units (Brazil ... - ... USA). Both setups identical in Time & Int'l settings. Date & Time setup to "DD.MM.YY" and "HH:MM:SS" respectively.

DOS boot shows Date & Time in US format. Both D drives (200LX firmware) compare equal in file size & date stamps.

Now the question: Why does one unit (SG53 ...) display the date in filer as in above European format, BUT the other unit (SG70 ...) does display it in US format "MM-DD-YY"???

Best regards

Peter A. Gebhardt

Edited: 2 Oct 2009, 3:19 p.m.

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Proposed Small Calculator

*Message #1 Posted by **Ron Kok** on 2 Oct 2009, 12:23 p.m.*

Here are the calculator designs that I want. Small. Simple. Versatile.

Features

• Algebraic or RPN • Undo • Fractions (a b/c) • Foot / Inch input (a' b") • Trigonometry • Logarithms • Degrees or radians • Deg : Min : Sec input • 13 memory registers • 6 programs (A-F) [Edited] • Mortgage calc's • Probability • Date math • Virtual tape display • Statistics • Solver • Complex numerals • Two-dimensional vector • Decimal, Binary, Octal, or Hexadecimal numerals • Fixed or significant digits

Edited: 3 Oct 2009, 1:44 p.m. after one or more responses were posted

Re: Proposed Small Calculator

*Message #2 Posted by **Martin Pinckney** on 2 Oct 2009, 2:07 p.m.,*
in response to message #1 by Ron Kok

Small, versatile. Maybe not so simple. (At least to get HP to build one).

I **especially** like *Foot/Inch input (a' b")* .

[Edited grammar]

Edited: 2 Oct 2009, 3:09 p.m.

Re: Proposed Small Calculator

*Message #3 Posted by **Ron Kok** on 2 Oct 2009, 7:47 p.m.,*
in response to message #2 by Martin Pinckney

The foot/inch input may not help in much of the world, but it is a big deal in the USA. I know of at least three companies that sell "construction" calculators. The people I know with one of those calculators all bought them just to get the inch/foot capability.

Re: Proposed Small Calculator

*Message #4 Posted by **bill platt** on 2 Oct 2009, 10:27 p.m.,*
in response to message #3 by Ron Kok

One of the first programs I ever wrote for my 11c wen I was a kid, was feet-inches-eighths to decimal feet and vice-versa. I think I've posted it here before, and someone even had some elegant refinements!

One of the neat things about making a pr0gram for F-I-E is that you can go finer than F-I-E merely by inputting or returning remainders. I allowed the Decimal Feet to FIE to give the decimal remainder of the eighths--which gives you 16ths etc so you don't even need a different program for F-I-S.

Of course nowadays this is almost exclusively the job of a spreadsheet--the Holy Grail of tabular repetitive calculations!

Edited: 2 Oct 2009, 10:28 p.m.

Re: Proposed Small Calculator

*Message #5 Posted by **Martin Pinckney** on 2 Oct 2009, 11:04 p.m.,*
in response to message #4 by bill platt

> Quote:
>
> One of the first programs I ever wrote for my 11c when I was a kid, was feet-inches-eighths to decimal feet and vice-versa. I think I've posted it here before, and someone even had some elegant refinements!

Where is it??

Re: Proposed Small Calculator

*Message #6 Posted by **db (martinez, ca.)** on 2 Oct 2009, 11:57 p.m.,*
in response to message #4 by bill platt

Bill;
That's a real useful program for construction layout here in the states, and from a kid too. Engineers and Surveyors use feet, tenths and hundredths. Architects and Tradespeople use feet, inches and fractions down to eighths. Like most old time layout guys i have every inch (1"=.08, 5"=.42) and the even fractions (6"=.50, 4"=.33) memorized, along with most of them just from repetition; there's only 96 eighths. Since a hundredth is so close to an eighth; one never has to add or subtract more than .04' to translate from decimal to Architectese. It goes quicker than using a calculator to do it in your head or from memory too.
Personally; i was too lazy to write my own program like you did at first. My PPC ROM would do my thinking for me - till rote memorization took over.

Re: Proposed Small Calculator

*Message #7 Posted by **bill platt** on 3 Oct 2009, 12:36 p.m.,*
in response to message #6 by db (martinez, ca.)

Hi db,

That is so true--about faster when memorized. I've gotten to know many (though not all) of those 96 eighths by heart: 0.0208333333 = 1/4" , .0625' = 3/4" etc. Some of this from typing in zoom scale 0.02083333xp into autocad to get a viewport to the right scale....

In the old days, when I used my program to go through a table of offsets, I would find that after a while, some of the patterns were memorized very quickly. like 7-7-4 is 7.625, 3-2-4 is

3.208333 etc.

And so in the end, the program was more a memorization aid than a program. Better for the brain that way anyway!

Edited: 3 Oct 2009, 12:38 p.m.

Re: Proposed Small Calculator

*Message #8 Posted by **DaveJ** on 2 Oct 2009, 6:26 p.m.,*
in response to message #1 by Ron Kok

I like the fraction display that doubles as an exponent display.

Don't forget R-P and P-R

No ENG display?

I'd have an unshifted X-Y key.

Dave.

Re: Proposed Small Calculator

*Message #9 Posted by **Ron Kok** on 2 Oct 2009, 7:45 p.m.,*
in response to message #8 by DaveJ

The [a b] key and the a«b key are meant to toggle between rectangular and polar modes.

I've always thought that an ENG mode misses the point. What I want is to be able to specify the number of significant digits. The calculator should display as many digits after the decimal as is necessary to display the number of digits specified by f Sig# __. That number of digits should be determined on the fly and will differ for every engineering or scientific calculation. Examples: 4.03 lb-ft (3 significant digits) or 48.4 lb-inches (again, 3 significant digits).

Re: Proposed Small Calculator

*Message #10 Posted by **Andrés C. Rodríguez (Argentina)** on 2 Oct 2009, 8:10 p.m.,*
in response to message #9 by Ron Kok

The "significant digits" seems like a nice option, but ENG is useful, at least in electronics, where you have "gigas", "megas", "kilos", "millis", "micros", "nanos", "picos" and so on, in units of daily usage.

And, by the way, allow for 3 simultaneous equations, and/or 3x3 matrices at least; don't settle for just 2 dimensional vectors.

For BIN, OCT and HEX, a WORD SIZE function is needed. And please, allow for comma and dot radix; thousands separators should be optional (as flags 28 and 29 in the HP 41C).

Best regards!!

Re: Proposed Small Calculator

*Message #11 Posted by **Ron Kok** on 3 Oct 2009, 10:07 a.m.,*
in response to message #10 by Andrés C. Rodríguez (Argentina)

The small calculator gets a decal on the back. On it goes some seldom-used mode changes. I thought they should be:

g Mode A -> Algebraic -><- RPN

g Mode C -> Comma -><- Dot

g Mode D -> M.D.Y -><- D.M.Y

g Mode E -> Record Macro (in POC 30 only)

g Mode 1 -> inch precision = 1/x

g Mode 2 -> Binary

g Mode 8 -> Octal

g Mode ^ -> Display Statistics

For bit bangers like you, I would be happy to add:

g Mode 3 -> Unsigned -><- 2's complement

g Mode 4 -> Word size = x

Matrices are intentionally excluded. It's a 31 key, one-line, no-menu calculator. I had to leave something out.

Edited: 3 Oct 2009, 10:31 a.m.

Re: Proposed Small Calculator

*Message #12 Posted by **Walter B** on 3 Oct 2009, 12:03 p.m.,*
in response to message #11 by Ron Kok

> Quote:
>
> g Mode ^ -> Display Statistics

??

How do you want to access the necessary operations? And which do you want to offer?

BTW, keys A-F allow for 6 programs only (see your first post).

Re: Proposed Small Calculator

*Message #13 Posted by **Ron Kok** on 3 Oct 2009, 2:02 p.m.,*
in response to message #12 by Walter B

Thanks for catching the error regarding the number of programs. I've edited the original post.

The statistics function is an odd one, I agree. First, a bit of design philosohpy: I think calculators today serve best as a complement to computers, not an alternative to computers. That means, for me, simple one-line calculations get done on a calculator. More

complicated work gets done on a computer.

That philosophy drives some decisions on what to include Examples: (1) complex numbers are in, but 3x3 matrices are out. (2) Mortgage calcs are in but NPV is out.

I lost my nerve when it came to accumulated statistics. I really think that simple statistics should be done on a spreadsheet and complicated statistics should be done on SPSS or something similar. You can't check your work if do accumulated statistics on a calculator. So I don't want to give it much keyboard space.

So my, admittedly lame, statistics scheme is: (1) Use g [sigma] to enter a single datum. (2) Then type g MODE ^ to enter Statistic Retrieval mode (3) Then use the up and down arrows to retrieve mean, variance, etc.

Re: Proposed Small Calculator

*Message #14 Posted by **Walter B** on 4 Oct 2009, 9:14 a.m.,*
in response to message #13 by Ron Kok

> Quote:
>
> So my, admittedly lame, statistics scheme is: (1) Use g [sigma] to enter a single datum. (2) Then type g MODE ^ to enter Statistic Retrieval mode (3) Then use the up and down arrows to retrieve mean, variance, etc.

This falls far below the standard of any HP since the HP-45 in 1973. IMHO, the automatic calculation of basic statistics is one of the key features of a pocket calculator. By basic statistics I mean Sigma+, Sigma-, x-bar, s, and the necessary sums for linear regression and so-called forecasting.

At least the 4 functions named first should be readily accessible on the keyboard. Sigma+ should be primary.

Edited: 4 Oct 2009, 5:32 p.m.

Re: Proposed Small Calculator

*Message #15 Posted by **Paul Dale** on 3 Oct 2009, 4:35 p.m.,*
in response to message #11 by Ron Kok

> Quote:
>
> g Mode D -> M.D.Y -><- D.M.Y

No Y.M.D dates? Quite a bit of the world uses this as their date format.

- Pauli

Re: Proposed Small Calculator

*Message #16 Posted by **Ron Kok** on 3 Oct 2009, 5:06 p.m.,*
in response to message #15 by Paul Dale

I love the YYYY.M[M].D[D] format. It is unambiguously different than the other two date

formats. So it doesn't need to have a mode set in order to be recognized.

Re: Proposed Small Calculator

*Message #17 Posted by **Paul Dale** on 3 Oct 2009, 4:37 p.m.,*
in response to message #11 by Ron Kok

> Quote:
>
> g Mode E -> Record Macro (in POC 30 only)

Why not in the 31 too? It has a solve function and would need programmability to support this.

- Pauli

Re: Proposed Small Calculator

*Message #18 Posted by **Ron Kok** on 3 Oct 2009, 5:08 p.m.,*
in response to message #17 by Paul Dale

In landscape format, I was able to find room for a g REC key. So that calculator doesn't need a REC on the back decal.

Re: Proposed Small Calculator

*Message #19 Posted by **hpnut** on 2 Oct 2009, 8:59 p.m.,*
in response to message #1 by Ron Kok

those are cool designs. I like Poc 31 better. Better still, remove the Algebraic = from both designs :-)

Re: Proposed Small Calculator

*Message #20 Posted by **Martin Pinckney** on 2 Oct 2009, 9:24 p.m.,*
in response to message #19 by hpnut

> Quote:
>
> ... remove the Algebraic = from both designs :-)

NO! :-(

Re: Proposed Small Calculator

*Message #21 Posted by **bill platt** on 2 Oct 2009, 10:23 p.m.,*
in response to message #20 by Martin Pinckney

I am an RPN old-timer and I agree with you, Martin. I really like the 27S--an "algebraic" and the 48GX ability to parse "algebraic" expressions.

Re: Proposed Small Calculator

*Message #22 Posted by **Martin Pinckney** on 2 Oct 2009, 11:00 p.m.,*
in response to message #21 by bill platt

> Quote:

> > I really like the 27S--an "algebraic" ...
>
> My favorite!
>
> > Quote:
> >
> > ... and the 48GX ability to parse "algebraic" expressions.
>
> I have an SX - still finding it difficult to learn, but I keep trying.

Re: Proposed Small Calculator

*Message #23 Posted by **Paul Dale** on 2 Oct 2009, 9:47 p.m.,*
in response to message #1 by Ron Kok

How is the solver supposed to work?

I don't see any of the usual programming functions and the display doesn't seem suitable for formula entry.

- Pauli

Re: Proposed Small Calculator

*Message #24 Posted by **Ron Kok** on 3 Oct 2009, 10:16 a.m.,*
in response to message #23 by Paul Dale

To run a program, type gA, or gB, ... , gF. (When in HEX mode that gets you a hex numeral, so you have to type "g" twice to get the program when in HEX mode.)

Note that RPN users have no use for (or), so they get single-keystroke access to programs A and B.

To write a program, you have two options: 1. Simple programs can be recorded from the keyboard. To record program A, one would type g REC A, then keypress your program, then type g REC. 2. More complex programs can be written on a computer and input through a USB cable (sold separately).

The Solve key works the same way it does in the hp15C. Put a program into A, then type f SOLVE A.

Re: Proposed Small Calculator

*Message #25 Posted by **Walter B** on 3 Oct 2009, 4:24 a.m.,*
in response to message #1 by Ron Kok

Nice looking designs! I'd prefer the 31.

Some questions (asking's more efficient than speculating):

- What is a "virtual tape display"?
- Looks like you're suggesting a 7-segment display. If true then how are exponents handled in the small section reserved for them?
- Looks like fractions are confined to 2 digit denominators -- based on the assumption above.
- What is "odd" for and how shall it work?
- I see a yellow "Int" near to the decimal point -- what does it do? I don't see "Frac". Or shall it mean "Integrate"?

> What do you plan to offer behind "MODE"?

Some suggestions: I'd vote for ENG and a primary x<->y as others did before. + I won't waste a primary space for %.

Ceterum censeo: HP, launch a 43S.

Walter

Re: Proposed Small Calculator

*Message #26 Posted by **Ron Kok** on 3 Oct 2009, 10:26 a.m.,*
in response to message #25 by Walter B

A virtual tape display allows me to scroll back through the previous operations with the up arrow and down arrow keys. I personally would use it mostly when I'm paying monthly bills and I want to check my input.

If a seven segment display saves battery life, then I'm for it. Otherwise a good dot matrix display is better.

If an exponent runs more than 2 digits, the calculator can always revert to the old one-line style of exponent display. And you're right about the fractions. Of course, a dot-matrix display would solve those limitations.

The "Int" returns an integer result. With it, you can program your own "Frac" key or your own modulo.

The Modes are covered in a post above.

Regarding ENG and X-Y, perhaps you are right. Opinions vary, and I might come around to your way of thinking. But I'm committed to a small, 31 key calculator. That means something else gets displaced.

Edited: 3 Oct 2009, 10:34 a.m.

Re: Proposed Small Calculator

*Message #27 Posted by **Ron Kok** on 3 Oct 2009, 10:28 a.m.,*
in response to message #25 by Walter B

The "odd" key is for mortgage calculations. It is a reminder that memory register 0 holds a value for the number of odd days at the beginning of a mortgage term.

Re: Proposed Small Calculator Significant Digits, Programming, Complex numbers)

*Message #28 Posted by **Karl Schneider** on 3 Oct 2009, 3:28 p.m.,*
in response to message #1 by Ron Kok

> Quote:
>
> I've always thought that an ENG mode misses the point. What I want is to be able to specify the number of significant digits. The calculator should display as many digits after the decimal as is necessary to display the number of digits specified by f Sig# __. That number of digits should be determined on the fly and will differ for every engineering or scientific calculation. Examples: 4.03 lb-ft (3 significant digits) or 48.4 lb-inches (again, 3 significant digits).

SCI *n* and ENG *n* on HP models are identical, except that the value of the base-10 exponent in ENG is always

an integer multiple of three, while SCI produces a mantissa of magnitude greater than unity but less than ten. *n* is the user-defined number of significant digits to display.

What you may want is for the calculator to *determine* the valid number of significant digits in a calculation or chain of calculations. I am unaware of any calculator that does that. It seems possible, but a couple things are necessary:

- A means of activating and deactivating "significant digits" mode, so the calculator knows when to apply the process. (Maybe the "sig #" function would do that, but then a display annunciator would be needed.)

- A means of specifying an exact number without having to append zeroes. (It would be a nusiance in "significant digits" mode to see and utilize the full calculated value of 2*pi without having to enter '2.000000000000'.)

The calculator must track the number of significant digits of every result, imposing some extra overhead on the machine. Users, however, generally want it to provide the full-accuracy calculation, without analyzing results to determine what it signifies. In practice, if the operands don't have a decent number of significant figures (at least 4-5), the results often won't be very informative.

> Quote:
>
> To run a program, type gA, or gB, ... , gF. (When in HEX mode that gets you a hex numeral, so you have to type "g" twice to get the program when in HEX mode.)
>
> To write a program, you have two options: 1. Simple programs can be recorded from the keyboard. To record program A, one would type g REC A, then keypress your program, then type g REC. 2. More complex programs can be written on a computer and input through a USB cable (sold separately).

Programmability (or entry of equations) is essential for your concept, due to SOLVE. Your proposed 7-segment display doesn't allow for equations.

Why not provide numerical integration along with rootfinding -- a pioneering design objective of the HP-34C of 1979 incorporated into the HP-15C of 1982?

If, e.g., "REC A" essentially does PRGM, then LBL A -- I see no particular means of editing a program once it is entered. Also not provided are the more-advanced HP-15C capabilities such as multiple entry points (via LBL), GOTO, subroutines, looping, conditional tests, and flags.

The capability of editing is essential for useful programming. That of the HP-12C and HP-10C is barely usable, due to the lack of insert/delete editing. I have a 1981 Casio whose built-in Simpson's Rule integration requires programmability. It offers 38 steps amongst two programs; steps are executed as they are entered and recorded (yielding possible math errors); programs are not displayable or editable -- a program must be deleted and re-entered if an error is made.

What would the format of USB-uploaded programs be?

> Quote:
>
> Complex numerals

More than just the ability to enter and calculate with complex *numbers* is needed. They must be displayable, and the germane utility functions -- or a means of doing them -- must be provided.

> Quote:
>
> If a seven segment display saves battery life, then I'm for it. Otherwise a good dot matrix display is better.

Dot-matrix displays aren't battery hogs -- time clocks, I/O, and peripherals are. Thin batteries such as the CR2032 also don't seem to last, I assume due to less volume available for chemicals.

Since you seem either to have, or have seen, an HP-15C, why not review this discussion of its functional, organized keyboard layout, and -- better yet -- read the fine *Hewlett-Packard Journal* article from May 1983, available on CD or DVD ROM from the MoHPC?

-- KS

Edited: 3 Oct 2009, 9:58 p.m. after one or more responses were posted

Re: Proposed Small Calculator Significant Digits, Programming, Complex numbers)

*Message #29 Posted by **Ron Kok** on 3 Oct 2009, 5:48 p.m.,*
in response to message #28 by Karl Schneider

You are correct in that no calculator does significant digits the way I want. That doesn't make it right. Also, you don't have to type 2.0000000000. The result will be written to the number of digits previously specified by f Sig#__. So just type 2.

This keyboard does not allow you to edit a program, that's true. You have to start each program from scratch. Moreover, this keyboard does not provide for looping, conditionals, or indirection. It's actually a pretty rotten programming tool. So people will use this keyboard only to record trivially small programs. Complicated programs will need a computer and a USB cord.

I'm not trying to duplicate the functionality of the hp35. I think the high end RPN calculator market is served reasonably well. I'm trying to provide a design for the small RPN calculator. And I'm willing to make some trade offs to get that small size. I've got nothing against root finding and numerical integration, except that they will be used infrequently and probably more easily on www.wolframalpha.com. If a way can be found to include integration without increasing the number of keys, then I'll be for it. Otherwise not.

Re: Proposed Small Calculator Significant Digits, Programming, Complex numbers)

*Message #30 Posted by **Karl Schneider** on 3 Oct 2009, 9:54 p.m.,*
in response to message #29 by Ron Kok

(NOTE: I was editing my previous post when you posted your response. I made a few more after-the-fact changes, too. You might want to re-read it.)

> Quote:
>
> You are correct in that no calculator does significant digits the way I want. That doesn't make it right. Also, you don't have to type 2.0000000000. The result will be written to the number of digits previously specified by f Sig#__. So just type 2.

Then, maybe I'm confused. Specifying a number of significant digits to display is exactly what SCI is for. Many calculators -- not just HP's -- offer it.

> Quote:
>
> This keyboard does not allow you to edit a program, that's true. You have to start each program from scratch.

I and others would likely find this unacceptable. We can probably live without the other programming features, as spreadsheet programs with BASIC or other language support can tackle such tasks. (Back in the 1970's and early 1980's, however, the likely alternative to using a programmable calculator was to reserve time on a mainframe to run a Fortran program.)

> Quote:
>
> I've got nothing against root finding and numerical integration, except that they will be used infrequently and probably more easily on www.wolframalpha.com.

I wouldn't count on a free website always being available and accessible to handle any computational problem one might have. This particular site is quite recent, anyway.

-- KS

Edited: 3 Oct 2009, 10:00 p.m.

Re: Proposed Small Calculator Significant Digits, Programming, Complex numbers)

*Message #31 Posted by **Don Shepherd** on 4 Oct 2009, 8:37 a.m.,*
in response to message #30 by Karl Schneider

> Quote:
>
> I and others would likely find this unacceptable

You can say that again. A programming language without looping, conditionals, and the ability to edit your program is not a programming language at all.

I'd say this calc is DOA if programming is important to you (and it is to me).

Re: Proposed Small Calculator Significant Digits, Programming, Complex numbers)

*Message #32 Posted by **Ron Kok** on 4 Oct 2009, 11:17 a.m.,*
in response to message #31 by Don Shepherd

Karl and Don don't like this calculator. That's fine. There is room in this world for more than one calculator model. You want the full set of functions and a robust programming interface on the keyboard. There are calculators like that being made. You're lucky.

A small RPN engineering calculator is not being made. Such a calculator would have value, even if it had no programming at all.

I hope now that we can part amicably, you to interest in a certain kind of calculator and me on a different path.

Re: Proposed Small Calculator Significant Digits, Programming, Complex numbers)

*Message #33 Posted by **Don Shepherd** on 4 Oct 2009, 1:50 p.m.,*
in response to message #32 by Ron Kok

Ron, it's not that I don't like the calculator you have designed. I love the Voyager design, something that fits easily in your shirt pocket. Ever since I began programming in the 70's I have dreamed of an ideal programmer's calculator that would fit in your shirt pocket. The 16c came close, but I want something with text input/output. I am also particularly interested in number theory, so my ideal calculator would have keys for prime factors, GCD, LCM, isprime(), and so on. No one makes a Voyager-sized calculator with those functions, and no one is likely to because the target market would be way too small to justify the expense of manufacturing and marketing such a product.

I thought that the 35s, imperfect though it may be, met the needs of most engineers, although it does not fit in the pocket easily.

I think the ultimate solution to what you want may be the Apple iPhone/iTouch system. I have neither, but I know people are developing software apps for them, including some pretty sophisticated emulations of past HP engineering calculators. Now, everyone has their own idea of what the ideal calculator should be, so what I think would be great would be a "calculator toolkit" to let you drag and drop the keys where you want them, with the legends and functions you want, and size the display with how you want it, and so on, and then be able to put that on the iPhone or iTouch platform. Then you would have what you want. Of course, someone would have to build the construction kit, and I'm sure that would not be trivial.

I don't know what direction HP is going in the future (I forfeited that right when I decided not to go to Ft. Collins this year). Maybe they are planning something close to what you describe, but I doubt it.

In any event, I do wish you luck in getting the calc you want. For me, I'm still happy with my 12c in my pocket and 99 lines of code (and unfriendly programming environment too!).

Don

Re: Proposed Small Calculator Significant Digits, Programming, Complex numbers)

*Message #34 Posted by **Ron Kok** on 4 Oct 2009, 7:51 p.m.,*
in response to message #33 by Don Shepherd

The most cogent reply in this whole thread is the first one. You and Martin Pinckney both think it unlikely that anyone will build this calculator. You're both right.

I've come to agree with Karl about ENG and SCI displays. They should be in the mix. But a decent programming environment needs a lot of keys.

So does a interest in number theory mean that you need complex number input? (For Riemann type stuff?)

Re: Proposed Small Calculator Significant Digits, Programming, Complex numbers)

*Message #35 Posted by **Don Shepherd** on 4 Oct 2009, 8:16 p.m.,*
in response to message #34 by Ron Kok

> Quote:
>
> So does a interest in number theory mean that you need complex number input? (For Riemann type stuff?)

For me personally, no. I guess I'm not into number theory enough to have to deal with that.

Re: Proposed Small Calculator Significant Digits, Programming, Complex numbers)

*Message #36 Posted by **Thomas Radtke** on 5 Oct 2009, 4:23 a.m.,*
in response to message #34 by Ron Kok

> Quote:
>
> But a decent programming environment needs a lot of keys.

A macro recorder would be perfectly ok for me. I wish the 20b had one ;^).

Nice design, Ron.

Re: Proposed Small Calculator Significant Digits, Programming, Complex numbers)

*Message #37 Posted by **Palmer O. Hanson, Jr.** on 4 Oct 2009, 10:38 a.m.,*
in response to message #30 by Karl Schneider

> Quote:
>
> (Back in the 1970's and early 1980's, however, the likely alternative to using a programmable calculator was to reserve time on a mainframe to run a Fortran program.)

Comments like that make me realize just how well-off I was in those days. Honeywell had a computer network based in Minneapolis which was available anywhere if only one had a telephone line and a Silent 700 or equivalent terminal. It was S-L-O-W, but it had an extended BASIC with double precision mathematics, matrix manipulation commands, a substantial library of programs and, of course, printouts and plots on standard paper. There were terminals scattered throughout our facility. My big disappointment was that I couldn't convince my boss to let me have a terminal at my desk.

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HP 49g+ unit conversion problem

*Message #1 Posted by **T.M. Baxter** on 2 Oct 2009, 11:38 a.m.*

Much to my dismay, several years ago I had to bid farewell to my 48SX calculator as it bit the dust - nothing would resurrect it. Some time later, I decided to purchase a new calculator and ended up buying the 49 g+, as the 48SX was not available (at least, not affordably at the time). Until today, the calculator was a paperweight but I decided today to use it to do some quick and easy unit conversions. Ha! As if! I must say, based on my experience with it when I first purchased it and my experience today, that I detest the HP 49g+. With the 48SX, unit conversion was so simple that even though my calculator broke years ago I still remember that it was an easy process.

Since the conversion wasn't intuitively obvious with this 49 g+, I looked online for assistance. I found some in archives from this site.

One method posted: 1: press right-shift than units. Press next and choose mass,F1. 2: press Kg,F1. The beep sounds and the box 'Error Too Few Arguments' appears on the screen. Just press on/cancel and the box disappears, leaving 1._kg on the stack. 3: press left-shift,then choose g from the menu,F2. Kg is now converted to grams

Here's another: 1 right shift minus to place an underline after the one, (press * on 48) right shift 6 to access the units menu f6 for speed units, (press e on 48) f6 again, to place knot after 1_, (press f on 48) ENTER left shift mpg to convert to mph

The problem is that when I press left shift I get NO menu. None. What the heck? With the 48SX, I was able to select the units I wanted converted from and then select (in the "menu" across the bottom of the screen) the units I wanted it converted TO without complicated keystrokes or voodoo.

Don't get me started on the online user's guide; it's a joke regarding what I need from it.

So here's the gist: I want to convert several data points from psi to MPa or vice versa. Let's say I want to convert 18,500 psi to MPa. It appears I'll have to convert to Pa and then just take it to MPa from there - no problem. It's getting from psi to Pa that is the problem.

So I start: 18500 right shift 6, 11, ok, 4, ok (yields 18500_psi in stack)

Now based on what I've read before, left (green) shift should give me a menu, right? **WRONG!**

So, how DO I convert from psi to Pa, short of pulling out my pad and pencil and books and do it manually? After all, that's why I bought the blasted calculator - to save some time and effort, not add to it!

Re: HP 49g+ unit conversion problem

*Message #2 Posted by **Tim Wessman** on 2 Oct 2009, 12:17 p.m.,*
in response to message #1 by T.M. Baxter

Turn on RPN mode if not already, turn off exact mode, turn off choose menus (system flag 117 if memory serves).

-117 CF (or it might be -117 SF, I don't have a unit in front of me)

There you go.

TW

Re: HP 49g+ unit conversion problem

*Message #3 Posted by **Michael de Estrada** on 2 Oct 2009, 12:34 p.m.,*
in response to message #2 by Tim Wessman

FYI, the default is flag -117 cleared, which gives you pull-down menus. To get the soft menus on the top row keys, flag -117 must be set. At this point the HP 49g+ will behave just like the HP 48SX, which only had soft menus. That is how I have my HP 50g configured. This is documented in the AUM, however, you have to dig around to find it.

Re: HP 49g+ unit conversion problem

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 2 Oct 2009, 12:46 p.m.,*
in response to message #2 by Tim Wessman

Hi, guys;

just to add a little bit more info, with [MODE][FLAGS][^] (up-arrow), you'll find flag 117 and current selection:

checked (set): Soft Menu
unchecked (cleared): Choose boxes

Cheers.

Luiz (Brazil)

Edited: 2 Oct 2009, 12:47 p.m.

Re: HP 49g+ unit conversion problem

*Message #5 Posted by **T.M. Baxter** on 2 Oct 2009, 2:10 p.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

Thank you! This did help. Calculater was already set to RPN and exact; it was the boxes issue in my case. Thanks again!

Re: HP 49g+ unit conversion problem

*Message #6 Posted by **Mike Morrow** on 2 Oct 2009, 2:07 p.m.,*
in response to message #1 by T.M. Baxter

Almost any thing that the RPL(N)-only HP48SX/GX can do, the HP49g+/HP50g set for RPL(N) mode can do better and faster, using essentially the same technique. Finding something that is behaving starkly different between the these machines is usually a good sign that some significant optional setup differences exist (provided by the greater versatility of the HP49g+/HP50g), as has been pointed out already.

Some differences are really subtle, such as the possibility of significantly reduced execution speed of an HP49g+/HP50g program that unnecessarily uses binary integers (BINTS, integers displayed without a radix point). On the HP48-series, there's no significance to an integer displayed within a program with or without a radix point. On the HP49g+/HP50g, there definitely is.

Another feature that the HP48-series lacks is an exact versus approximate mode, and of course the algebraic mode option.

The HP50g became overall my favorite HP of the many that I've used since 1972, just edging out my beloved HP42S. I have owned an HP48SX for 18 years, and two GX units for 13. I disliked their slow speed, horrible LCD, misplaced ENTER key (should always be in line with the *, /, +, - keys), firmware that couldn't be revised, and low contrast micro-labeled keyboard. If you have a late HP49g+ with a decent keyboard, use it and you may develope a real appreciation for it.

Re: HP 49g+ unit conversion problem

*Message #7 Posted by **John B. Smitherman** on 2 Oct 2009, 2:15 p.m.,*
in response to message #1 by T.M. Baxter

Hi T.M. You can find a training module titled "Working with Units" at the following web site:

Link to Training Modules

I hope that this helps.

Regards,

John

Re: HP 49g+ unit conversion problem

*Message #8 Posted by **David Hayden** on 2 Oct 2009, 10:54 p.m.,*
in response to message #1 by T.M. Baxter

> Quote:
>
> Don’t get me started on the online user’s guide; it’s a joke regarding what I need from it.

Try using the User's Guide located on the CD or available for download from HP's website. It's a GREATLY expanded version of the User's Manual that comes with the calculator.

I recently broke down and printed a copy. Using the laser printer at work, I printed it 2-up and double sided for 4 pages per sheet of paper. Then I took it to Staples and had them put a spiral binding on it. Since their spiral bindings can only do about an inch of paper, I split it into chapters 1-12 and 13-end. I copied the title page and table of contents so I could put those in each volume. Total cost for binding and vinyl covers: $7.

Now, hopeless nerd that I am, I'm reading the manual for fun....

One should never get rid of...

*Message #9 Posted by **Vieira, Luiz C. (Brazil)** on 2 Oct 2009, 11:34 p.m.,*
in response to message #8 by David Hayden

the almighty mantra:

RTFM... RTFM... RTFM...

d8^)

Cheers from another hopeless nerd, who printed it all in original size: two volumes, almost 900 pages total.

And is also reading it!

%D

Luiz (Brazil)

Edited: 2 Oct 2009, 11:44 p.m.

when all else fails, read the book.

*Message #10 Posted by **designnut** on 3 Oct 2009, 1:45 a.m.,*
in response to message #9 by Vieira, Luiz C. (Brazil)

I used to sell digital meters. Customers would approach me in conspiratorial tones, is there some something special we need to work on these machines? Yes, when all else fails read the book. I have this stack of books on my table that aren't going to be read. At 81 I still have a full deck, but I don't have the ambition anymore. Sam

Re: One should never get rid of...

*Message #11 Posted by **Mike Morrow** on 3 Oct 2009, 2:35 a.m.,*
in response to message #9 by Vieira, Luiz C. (Brazil)

I printed out the 653 page Advanced User's Reference Manual at four pages per one side of a 8.5x11 inch sheet, both sides (eight pages per sheet). The result is very compact at 82 pages long and it is quite usable (as long as I have my reading glasses).

I hate reading stuff from a computer screen.

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HP-25 Battery Pack

*Message #1 Posted by **Andreas Grund** on 2 Oct 2009, 7:04 a.m.*

It is well known that a HP-25 should not be connected to the AC charger without proper accu pack. Now, I built a new pack (the original one of my old (1976) HP-25 got lost...)with NiCds in a plastic case, which fits well into the battery compartment.

Question: Is there any risk, if I connect to the AC charger (calculator switched OFF) and the batteries loose contact while being charged?

Andreas

Re: HP-25 Battery Pack

*Message #2 Posted by **Maximilian Hohmann** on 2 Oct 2009, 7:18 a.m.,*
in response to message #1 by Andreas Grund

Hello!

> Quote:
>
> Question: Is there any risk, if I connect to the AC charger (calculator switched OFF) and the batteries loose contact while being charged?

Not as long as the switch is in the OFF position.

But it really is the best advice to place the charger in the most remote spot of your house and leave it there... Always charge the batteries outside the calculator. Since the original batteries only had 500mAh, your new NiMh last 5x as long with one charge and you will not have to charge them very often. If you use the original charger, it will take very very long to charge the larger batteries anyway.

Greetings, Max

Edited: 2 Oct 2009, 7:20 a.m.

Re: HP-25 Battery Pack

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 2 Oct 2009, 7:26 a.m.,*
in response to message #1 by Andreas Grund

Hi, Andreas;

I have the HP21 schematic diagram in hands, and it differs from the C (continuous memory) in many aspects. As you mentioned you have an HP25, not a 25C, I´d guess the power circuits may be closer to each other.

In the HP21, if the charger is connected and the ON/OFF switch is turned to OFF, there is only one diode and an 82 ohms resistor in series with the battery (half bridge rectifier, no capacitors); all of the remaining circuit is disconnected. Once you turn the calculator ON and the charger is connected, the 82 ohms resistor is

shorted and the calculator is fed thru the battery in parallel with the charger plus the rectifier. The power line capacitor, a 60uF/6V, is in the calculator circuit.

If the HP25 has something closer to it, I see no problem if there is bad contact with the batteries while charging. The problem is that the batteries act as a voltage reference (regulator) while the calculator is ON. So, my suggestion is: allow it to charge for, say, about ten hours. Check if the batteries and the calculator case close to them are getting warm (82 ohms resistor). If you are going to use the calculator, unplug the charger and do so.

In any way, this does not apply the same for the 25C series.

Hope it helps.

Success!

Luiz (Brazil)

Edited: 2 Oct 2009, 7:29 a.m.

Re: HP-25 Battery Pack

*Message #4 Posted by **Andreas Grund** on 3 Oct 2009, 6:49 a.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

Hi Max & Luiz,

Thanks for your thoughts and input. To be on the safe side - I don't want to ruin my old HP-25 which guided me safely through my chemical engineering studies three decades ago - I build now an external charger, using the original AC adapter together with a 82 Ohm resistor (should be 0.5W since quite some energy will be killed) and a diode (1N4001). So I charge the accu pack outside with the original adapter. Not convenient, but safe.

Regards,

Andreas

PS: By chance, since yesterday, I am owner of a HP-42s

Re: HP-25 Battery Pack

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 3 Oct 2009, 9:56 a.m.,*
in response to message #4 by Andreas Grund

> Quote:
>
> By chance, since yesterday, I am owner of a HP-42s

Congrats! I still have two working units, both upgraded to 32Kbytes RAM (I replaced them myself). One of them has one missing line and two missing rows in the LCD and many scratches in the keyboard faceplate, the other one is not mint, but looks great. Both work fine, though. I think the HP42S is the best choice for a stand alone calculator, mostly because I'm an electrical engineer and complex, matrices, integrals and SOLVE are our daily tools.

Cheers.

Luiz (Brazil)

Re: HP-25 Battery Pack

*Message #6 Posted by **Jacques Laporte** on 7 Oct 2009, 5:48 a.m.,*
in response to message #1 by Andreas Grund

Hi,

Another practical and simple solution : throw this junk wall charger in the garbage!

Put 2 lithium cells into the machine. It will last a long long time. I reloaded this unit more than a year ago. Cheers

SEE HERE => HP POWER UNITS

Edited: 7 Oct 2009, 5:49 a.m.

Re: HP-25 Battery Pack

*Message #7 Posted by **Charles Oxford** on 7 Oct 2009, 9:34 a.m.,*
in response to message #6 by Jacques Laporte

In the late 70's and 80's when I used an hp21, after buying a replacement pack or 2 I found I could pop the back off as you did and use nicads and charger from radio shack and saved a bunch of $$.

Re: HP-25 Battery Pack

*Message #8 Posted by **Vieira, Luiz C. (Brazil)** on 7 Oct 2009, 9:38 a.m.,*
in response to message #6 by Jacques Laporte

Hi;

should just be carefull with the [+] pole while placing the battery in because of the contact shape...

Luiz (Brazil)

Re: HP-25 Battery Pack

*Message #9 Posted by **Andreas Grund** on 10 Oct 2009, 11:13 p.m.,*
in response to message #8 by Vieira, Luiz C. (Brazil)

Meanwhile I decided not to use the original charger in combination with a self build battery pack. Instead, I put two Sanyo eneloop AA batteries into my self build pack and run the calculator. These eneloop AAs have 2000mA capacity, quite a lot compared with the original Nicads. I recharge them with an external NiMH charger.

Andreas

Re: HP-25 Battery Pack

*Message #10 Posted by **Andreas Grund** on 16 Oct 2009, 11:52 p.m.,*
in response to message #9 by Andreas Grund

Hi Luiz,

Cold you please confirm that the internal resistor is 82 Ohm, as you explained earlier? In previous postings 8.2 resp. 8.3 Ohm were mentioned. I m just building a simple external charger for Woodstock battery packs (original ones and self built ones) which uses the original AC charger as power source.

Andreas

HP-25 Battery Pack: I stand corrected!

*Message #11 Posted by **Vieira, Luiz C. (Brazil)** on 17 Oct 2009, 12:14 a.m.,*
in response to message #10 by Andreas Grund

Hi, Andreas;

please, forgive me. You are correct: it is a 8.2-Ohm resistor instead of 82-ohm as I wrote.

I would edit the original post to avoid confusion and add a remark about your follow-up, but unfortunately it can no longer be edited.

Thanks a lot.

Luiz (Brazil)

Edited: 17 Oct 2009, 12:15 a.m.

Re: HP-25 Battery Pack: I stand corrected!

*Message #12 Posted by **Andreas Grund** on 17 Oct 2009, 12:22 a.m.,*
in response to message #11 by Vieira, Luiz C. (Brazil)

Hi Luiz,

Thanks for the immediate information/correction, so I visit now an electronics shop to get the correct resistor and certainly little later my external charger will be functional....

greetings,

Andreas

Re: HP-25 Battery Pack: power dissipation

*Message #13 Posted by **Vieira, Luiz C. (Brazil)** on 17 Oct 2009, 12:54 a.m.,*
in response to message #12 by Andreas Grund

Hi, Andreas;

given the size of the resistor, the time the calculator was produced and the amount of heat one can sense, I'd go for a 1Watt dissipation power. 1Watt resistors we find today are the same size as the 1/8 watt at the time the HP25 was produced...

Success! And please, let us know how it goes with the charger 8^)

Luiz (Brazil)

(P.S. - I'm sorry for taking too long to answer your first question, I just red it a few minutes before answering...)

Edited: 17 Oct 2009, 12:56 a.m.

Re: HP-25 Battery Pack: power dissipation

*Message #14 Posted by **Andreas Grund** on 17 Oct 2009, 4:45 a.m.,*
in response to message #13 by Vieira, Luiz C. (Brazil)

Hi Luiz,

Among my electronic components I found a nice old 8.3 Ohm resistor with even 3W dissipation. Certainly oversized, it is like a small

ceramic brick and in the cold season I may abuse it as a heater..

The basic construction of the charger is already finished, I need to wait until the paint got dried and then I wire the unit.

How to post here some photos? What is best method - I do not have an image host.

greetings,

Andreas

Re: HP-25 Battery Pack: power dissipation

*Message #15 Posted by **Vieira, Luiz C. (Brazil)** on 17 Oct 2009, 9:48 a.m.,*
in response to message #14 by Andreas Grund

Halo, Andreas;

you may ask Dave Hicks to create a directory so you may upload your photos as you log in (the directory usually has your name on it) and then use the links to address them. This way, as Dave has already mentioned, the photos will be preserved and the links will never be broken (permanent address).

You can also create an account at www.photobucket.com (faster and easier than you can imagine...). I´ve been using it for a while (Geoff also uses it) and it works fine. See here. Any of these pictures may be added directly, like this:

My first MLDL 2000...

If you need further info, let us know.

Success!

Luiz (Brazil)

Edited: 17 Oct 2009, 9:49 a.m.

Re: HP-25 Battery Pack: A simple external charger

*Message #16 Posted by **Andreas Grund** on 19 Oct 2009, 5:35 a.m.,*
in response to message #15 by Vieira, Luiz C. (Brazil)

The reasons are known why Woodstocks better should not be run with the AC Adaptor. Therefore I built a simple and low cost external charger, which uses as power source the existing AC Adaptor.

On a base plate of plywood 7.5x10.0x0.6cm I glued a box of wooden stripes (1.5x0.5cm) in exactly the dimensions of the battery compartment of an HP-25 (or any other Woodstock...)

In one end of this box I cut out an area of 1.5x0.8cm, which gives place to the retainer of the original battery pack and furthermore facilitates to remove the battery pack from the box. In the other end I drilled two 2.00mm holes in a distance of 14mm for the charging contacts. These contacts are M2x16mm screws.With nuts and washers the correct distance of 53.5mm can be easily

adjusted.

As connector to the AC Adaptor's plug two screws (M2x12mm) are used (head removed with cutting pliers). Drill two holes, diameter 2.0mm in a small wood stripe (glued on the base plate) and fix the screws with a 2k adhesive in the bores.

Now, the electrical part comes. Connect left connector in the box with the left connector to the charger with a 8.2 Ohm resistor (white body in the photo), soldering tags may be helpful and connect correspondently the two right connectors with a diode (I used a standard 1N4001). The "positive" end of the diode is marked with a silver or white ring, this needs to direct to the connector in the box.

The AC voltage is 9.0V, at the charging contacts (idle) it 4.2V DC.

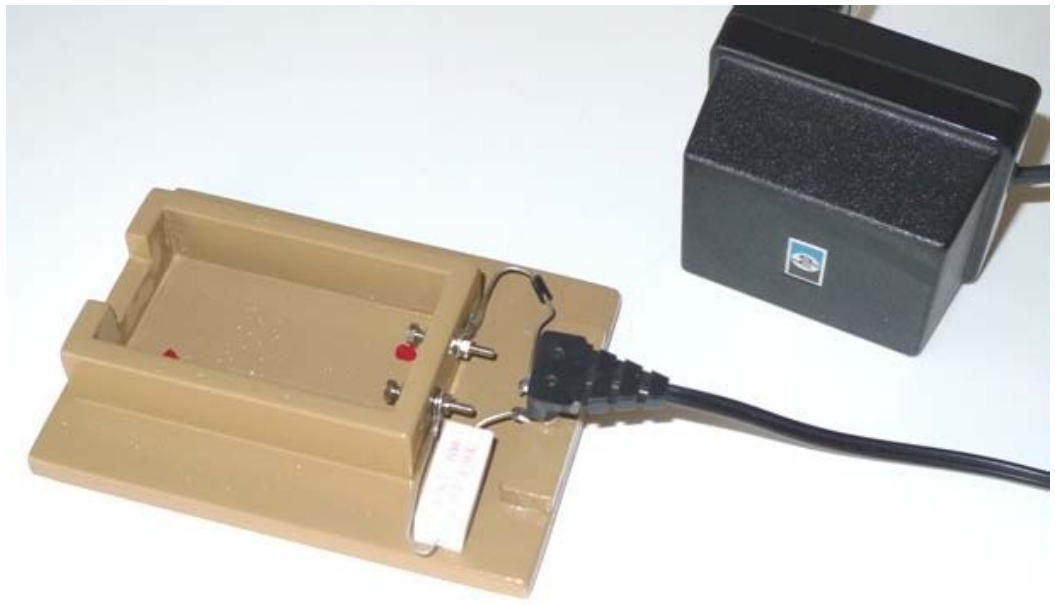
Finished - or continue with painting.

Materials: Plywood, wood stripes, 8.2 Ohm resistor (1W dissipation), diode 1N4001, soldering tags, 4 M2 screws with washers and nuts, wood glue, 2k adhesive, paint.

Tools: Jigsaw, sand paper, soldering iron, solder

Cost: approx. 1$

Time demand: 3hrs.



Greetings,

Andreas

Edited: 19 Oct 2009, 6:20 a.m.

HP-25 Battery Pack: Congrats!

*Message #17 Posted by **Vieira, Luiz C. (Brazil)** on 19 Oct 2009, 9:33 a.m.,*
in response to message #16 by Andreas Grund

Halo, Andreas;

first of all, thanks for your feedback. I see you found a 'guests place' at the museum so you could store your pictures. About the charger, I always believed (and still do) that the best solutions are the simpler ones, and most of all, one may need heavy brainy activity to come up with a working, simple solution. The pictures tell by themselves, it is beautifully done. And it works, what else do we need?

Thanks again, I´ll soon try my own based on your directions.

Cheers.

Luiz (Brazil)

Re: HP-25 Battery Pack: Congrats!

*Message #18 Posted by **Xavier A. (Brazil)** on 20 Oct 2009, 7:34 a.m.,*
in response to message #17 by Vieira, Luiz C. (Brazil)

Hallo Andreas,

Gute Arbeit ! This is now a new function for an old & unused HP accessory. Thank you for having realized it.

Edited: 20 Oct 2009, 7:35 a.m.

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Classic LED displays

*Message #1 Posted by **John Robinson** on 1 Oct 2009, 7:45 p.m.*

Hi, can anyone tell me what is the normal forward voltage and current for a segment in the classic LED displays ?

Thanks John

Re: Classic LED displays

*Message #2 Posted by **Joel Setton (France)** on 2 Oct 2009, 3:28 p.m.,*
in response to message #1 by John Robinson

Hello John,

The average current in a segment typically ranges from 1 to 3 mA. However, the Classic display is multiplexed, so the peak current is approximately 15 times this value. You'll find a detailed description of the Classic display multiplex mechanism in one of the HP-35 patents, available on Eric's website:
http://www.brouhaha.com/~eric/hpcalc/patents/3755697.pdf.

I hope this helps!

Joel Setton

Re: Classic LED displays

*Message #3 Posted by **John Robinson** on 2 Oct 2009, 8:55 p.m.,*
in response to message #2 by Joel Setton (France)

Thanks Joel, I'll check out the patent. I just wanted the information for constructing a tester for the classic displays. I won't be multi-plexing, just driving each segment with it's own current limiting resistor.

Cheers, John

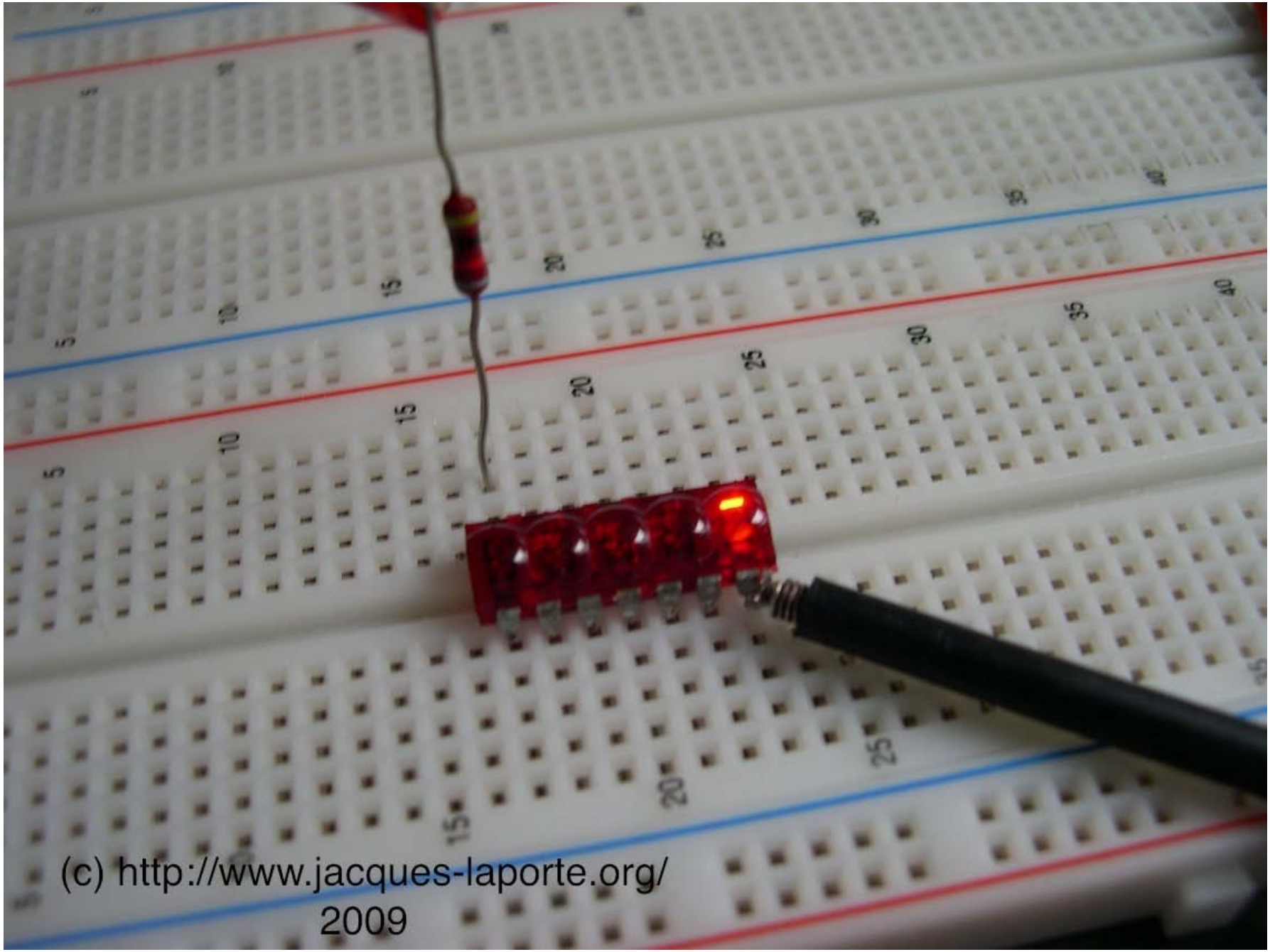
Re: Classic LED displays

*Message #4 Posted by **Jacques Laporte** on 5 Oct 2009, 7:07 a.m.,*
in response to message #3 by John Robinson

Good question John.

You put the 3.6 V DC '+' polarity on pin 14 of a Classic LED cluster (Anode a) through a 100 ohms resistor (here I took a 82 ohms handy) and the negative polarity on pin 7 (cathode 1) ; you light segment 'a' on digit 1. If you use a 300-400 ohms resistor the light will be dimmer. These LED voltage drop is 1.7V .

A cheap Classic Led tester!



See the Led Cluster pin out on my site here (to test other segments and other cathodes):

HP-35 Display system

Edited: 10 Oct 2009, 4:44 p.m. after one or more responses were posted

Re: Classic LED displays

*Message #5 Posted by **Andrés C. Rodríguez (Argentina)** on 6 Oct 2009, 4:48 p.m.,*
in response to message #4 by Jacques Laporte

Red LEDs forward drop is 1.6 Volt (Plank's constant and the electron charge are related to such voltage drop and the wavelenght of the red light obtained; but that is another story), so you can select your resistor as per

R = [[VCC - 1.6 V]*1000] / I

where

R is the series resistor, in ohms

VCC is the power supply voltage, in volts

I is the desired current, in milliamperes

For VCC = 5 Volt, and I = 10 mA, a 330 Ohm resistor is adequate. Please check with the display spec sheet about a safe current value before starting your tests. Good luck!!

All this assumes a permanent condition, no multiplexing or pulsing of any kind.

Re: Classic LED displays

*Message #6 Posted by **Joel Setton (France)** on 10 Oct 2009, 1:19 p.m.,*
in response to message #3 by John Robinson

Hi John,

As I was sorting old stuff I found the datasheet for the Classic displays (5082-7405). If you'd like a copy, please let me know.

Joel Setton

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Tipoff: HP-41 stuff

*Message #1 Posted by **Martin Pinckney** on 1 Oct 2009, 10:27 a.m.*

For those interested there is a boatload of 41 modules and application packs (and some 71b stuff) for sale right now on eB** by a seller named "emterp872". All with BIN prices.

I have no connection to the seller.

Re: Tipoff: HP-41 stuff

*Message #2 Posted by **hpnut** on 2 Oct 2009, 1:30 a.m.,*
in response to message #1 by Martin Pinckney

Thanks! the seller must have found a container load of HP goodies :-)

Re: Tipoff: HP-41 stuff

*Message #3 Posted by **Doug** on 2 Oct 2009, 8:13 a.m.,*
in response to message #2 by hpnut

Or you can just go to TOS and get current immages for free. Also TOS is more up to date than those modules. Doug

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Well my boss is in space now...

*Message #1 Posted by **hecube** on 30 Sept 2009, 12:08 p.m.*

But he didn't bring a HP calculator with him...

Re: Well my boss is in space now...

*Message #2 Posted by **Jeff O.** on 30 Sept 2009, 12:21 p.m.,*
in response to message #1 by hecube

Is your boss this gentleman?

(Sorry if this is already common knowledge.)

Re: Well my boss is in space now...

*Message #3 Posted by **hecube** on 30 Sept 2009, 12:36 p.m.,*
in response to message #2 by Jeff O.

He's the one.

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HP-IL interface cables

*Message #1 Posted by **John Pierce** on 30 Sept 2009, 8:57 a.m.*

I wonder if there is any relationship between the high number of sellers offering HP-IL interface cables and Jean-Francois's shipping of the PIL Box?

Re: HP-IL interface cables

*Message #2 Posted by **Ángel Martin** on 30 Sept 2009, 9:20 a.m.,*
in response to message #1 by John Pierce

Same here... it can't be a coincidence!

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Say with me: "Natural Complex Entry"

*Message #1 Posted by **Ángel Martin** on 30 Sept 2009, 8:11 a.m.*

I'm glad to report that finally the natural complex number entry is featured on the 41Z module!

This capability is implemented in the function "IMAGINE" - which until now was just a dummy place holder, but has become the heart of the matter now.

Assuming you have it assigned to the ENTER^ key, then the data entry sequence can't be more intuitive:

Re(z), ENTER^, Im(z), ENTER^

This will place the data in the XY registers appropriately, as well as lifting the complex stack automatically.

IMAGINE uses the "partial entry sequence" feature of the 41 OS - not for the faint of heart! Im(z) is entered by writing the digits and special characters into Alpha during the data entry process. The routine also updates the display at the same time to provide the feedback to the user.

During the process the keyboard is redefined, allowing only the following active keys:

- ENTER^ & R/S to terminate the entry
- numeric keypad
- back arrow to delete the previous entry
- comma for the decimal part
- EEX for the exponent field
- CHS for negative mantissa and exponent fields.

It supports both decimal choices for the radix, either comma or period as controlled by user flag 28. Features nice logic to control the sequence.

Once completed the information in the Alpha register is converted to numeric by using ANUM. Its built-in logic for it will resolve possible wrong typing, like repeated commas or EEX signs. Note that even on the new 35S there's the same issue, yielding 'Invalid Syntax' errors!

Arguably the wrong entries should be prevented during the process but that'll have to wait... let's say it's perfect and ready for users knowing their way around :)

Needless to say this doesn't replace the other methods to enter complex numbers, still available as until now. (Using ZREAL^, ZIMAG^, or ZENTER^)

Hope you enjoy it, will be posted at TOS in a couple of days I hope.

Best, ÁM

Edited: 30 Sept 2009, 9:27 a.m.

Re: Say with me: "Natural Complex Entry"

*Message #2 Posted by **Walter B** on 30 Sept 2009, 10:24 a.m.,*
in response to message #1 by Ángel Martin

> Quote:
>
> This capability is implemented in the function "IMAGINE" - which until now was just a dummy place holder, but has become the heart of the matter now.
>
> Assuming you have it assigned to the ENTER^ key, then the data entry sequence can't be more intuitive:
>
> **Re(z), ENTER^, Im(z), ENTER^**
>
> This will place the data in the XY registers appropriately, as well as lifting the complex stack automatically.

Assume you meant entering the number **Re(z)**, then calling **IMAGINE**, entering **Im(z)**, and finally calling **IMAGINE** again? If true, what is the functional difference between IMAGINE and traditional ENTER^ then? What did I miss?

TIA for enlightenment :)

Re: Say with me: "Natural Complex Entry"

*Message #3 Posted by **Ángel Martin** on 30 Sept 2009, 2:58 p.m.,*
in response to message #2 by Walter B

> Quote:
>
> Assume you meant entering the number Re(z), then calling IMAGINE, entering Im(z), and finally calling IMAGINE again? If true, what is the functional difference between IMAGINE and traditional ENTER^ then? What did I miss?

Well, for starters the sequence is in the natural order (as opposed to Im, ENTER, Re) which causes some trouble to some users. But the better aspect is the automated stack lift done by IMAGINE that saves a final ZENTER^ when using the alternative method.

You'll probably see this better if/when you try it by yourself, if you did.

Again, each user has his/her preferences - IMAGINE is important because goes beyond all other complex data entry implementations on the 41 done before.

Re: Say with me: "Natural Complex Entry"

*Message #4 Posted by **PeterP** on 30 Sept 2009, 6:02 p.m.,*
in response to message #3 by Ángel Martin

one word: awesome!

Re: Say with me: "Natural Complex Entry"

*Message #5 Posted by **Doug** on 2 Oct 2009, 8:27 a.m.,*
in response to message #1 by Ángel Martin

A'ngel, why do you insist upon a natural complex number entry? Just get over it and accept that the "i" portion must be entered first ! It's not that bad ! D

all this swicthing of regesters just confuses things. we need absolute certenty with 41c.

Edited: 2 Oct 2009, 8:43 a.m.

Re: Say with me: "Natural Complex Entry"

*Message #6 Posted by **Ángel Martin** on 2 Oct 2009, 8:57 a.m.,*
in response to message #5 by Doug

Howdy Doug, glad to hear from you - even if it's about sound criticism :)

Well, I realize the debate isn't over and will probably never be - it reminds me the RPN vs. AOL saga. The fact is there are two camps, and people take sides on whether it should be "natural" or "reversed" data entry - mostly a matter of personal choice depending on what we learned first or got used to doing.

To me they're both about the same, just a cosmetic aspect - but the natural data entry represented a challenge to implement (for me at least, using the partial key entry routines) so I wrote the IMAGINE function as a way to learn more about it. Now the 41Z has BOTH ways to do it, so everybody's happy, right?

IMAGINE has an advantage over the "reversed" method: it performs the complex level lift, so you save pressing ZENTER^. This is not always required, only for dual-argument functions or for stack chained calculations.

The following is a more detailed rationale - sorry if it's boring:-

If you've used the 41Z you'll have noticed that the 4-level complex stack is implemented using an I/O buffer. The actual XYZT stack is just a "scratch pad" used to prepare the complex numbers. Mapping of the XYZY regs is to the buffer's Level 1 and Level 2. The synchronization amongst buffer and stack is done at different points, (like before and after performing a function), but there isn't automatic stack lift upon pressing numeric keys.

Anyway, the Module is submitted at TOS (Revision 6Z shows when you switch OFF the calculator), so go ahead and take it for a spin and let me know what you think.

Cheers, ÁM

Edited: 2 Oct 2009, 2:33 p.m.

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[resolved] HP49G+ doesn't turn on

*Message #1 Posted by **k.mart** on 29 Sept 2009, 12:36 p.m.*

Hello, (sorry for my bad english, I'm french..) so, i want to fix my HP49G+, when i turn it on, there are a flash on the screen and nothing happening. I opened it to check voltage and everything is ok. I think, it's a ROM problem. I searched information about an possible RS232 pins on motherboard,to reflash the ROM in the flash (SST39VF120) but I have not found informations about that. If you have an idea how I can repair my HP49G+, I'm ready to heard.

Edited: 6 Oct 2009, 1:55 p.m. after one or more responses were posted

Have you tried.. (Re: HP49G+ doesn't turn on)

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 29 Sept 2009, 8:13 p.m.,*
in response to message #1 by k.mart

Hi;

the HP49 has a small hole in the back of it with a RESET inscription close to it. The idea is to reset the hardware (not intended to clear memory contents) in some circumstances. If you have not tried it yet, just gently insert the tip of a paper clip in the small hole till it reaches the mainboard (you will feel it canot go any further... No need to push it harder). At this point, a small metal plate is touching a contact in the mainboard, and you can keep it for about three seconds (HP recomendations). As you have already opened the calculator, you can easily locate it and even perform the reset directly. Maybe your HP49G will wake up and work fine after that.

Success!

Luiz (Brazil)

Re: Have you tried.. (Re: HP49G+ doesn't turn on)

*Message #3 Posted by **Pal G.** on 1 Oct 2009, 2:05 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Mine is bricked too. When I press the RESET button, with a small paperclip, I see a solid line that stretches across the screen, and sometimes an individual annunciator comes on (alpha, left-shift, etc) . Then, upon release of RESET, the LCD is dimly on, but does not respond to ON+plus or ON-minus. Reth's ON+C (release) CLEAR does not work either. I don't see Metakernal splash screen or anything anymore.

I've pulled all batteries for 24 hours. Nothing. I am using good batteries.

I was just programming some userrpl two days ago when it first locked up. I rebooted once or twice, but now it seems terminal.

Re: Have you tried.. (Re: HP49G+ doesn't turn on)

*Message #4 Posted by **Reth** on 1 Oct 2009, 7:01 p.m.,*
in response to message #3 by Pal G.

I got mine old HP49G+ "bricked" too for a couple of months; I even sent it to HP dealer in Melbourne, Australia - they could do nothing. It showed exactly what yours does. Joe Horn told me about the ON+C & BS (press and HOLD) trick. I had to try about 100 times before it worked. The HP49g+ and 50 are very quick (unlike the old HP49) and a lot harder and trickier to get this done, but it works. Probably the exact moment to hit the BS is important and one needs a bit of luck. Now I can do it in 2 out of 3 attempts ;).
I don't think you can really "brick" this calculator

PS I knew the problem with mine - I installed a 48 library and then "bricking" happened. Leaving all batteries out even for weeks does absolutely nothing - the flash memory port 2 doesn't get affected.

Edited: 1 Oct 2009, 7:07 p.m.

Another shot... (in the dark?)

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 1 Oct 2009, 11:08 p.m.,*
in response to message #4 by Reth

Hi, all;

a few days ago I updated the OS version for both HP50G I have. The primary steps to be taken are:

- press [+] and [-] keys and hold;
- proceed with regular RESET procedure: insert and remove metal tip into RESET hole in the back side of the calculator case;
- wait for about three second then release [+] and [-] keys;
- follow the OS updating instructions, etc.

The use of [-] and [+] keys was not known by me, and maybe it overrides regular start up sequence. Have you also tried it?

Success!

Luiz

Edited: 1 Oct 2009, 11:08 p.m.

Re: HP49G+ doesn't turn on

*Message #6 Posted by **Reth** on 30 Sept 2009, 12:32 a.m.,*
in response to message #1 by k.mart

You need to give more details about how it stopped turning on. Did you install any libraries?

Re: HP49G+ doesn't turn on

*Message #7 Posted by **k.mart** on 30 Sept 2009, 1:36 a.m.,*
in response to message #6 by Reth

I have already try insert a paper clip in reset hole but nothing happening (whith [+] [-] too).

For details, the first bug a few months back, and I suppose a librairy is concerning, but which .. maybe Openfire, tgv or hp49g library... I thought after few days whithout battery, it would restart but no.

Thanks you for your help.

Re: HP49G+ doesn't turn on

*Message #8 Posted by **Reth** on 30 Sept 2009, 10:18 p.m.,*
in response to message #7 by k.mart

If you have "bad" library try this:

> Quote:
>
> Holding BackSpace during Boot Sequence will put the calculator in safe mode. User library will be completely ignored...

That means reboot: press and hold down keys [ON]+[C] and immediately after they are released press and hold down backspace [<-] (below DEL and CLEAR). The above needs to be done very quickly so you may need to try a few times.
Hope this helps

Re: HP49G+ doesn't turn on

*Message #9 Posted by **k.mart** on 1 Oct 2009, 6:58 a.m.,*
in response to message #8 by Reth

I tryed to this sequence but I didn't have a success. One more thing, when I put the battery, my HP49g+ start with a flash screen and nothing, and I can't turn off (I observed the intensity because I can't know if it turn on or not..). Whith this, i can't turn on my calculator with [ON] key or [ON] + [C] , so I don't know if the i can enter in safe mode.

Re: HP49G+ doesn't turn on

*Message #10 Posted by **Bart (UK)** on 1 Oct 2009, 12:44 p.m.,*
in response to message #9 by k.mart

OK, this may be a bit of a long shot. I once had a PC that didn't start, but just beeped and flashed on the screen. It was because the air was too dry. I had to leave a humidifier in the room for a few hours before it would work. Is it very dry in your area recently? Try leaving the calculator in a room for a few hours with a humidifier or a little steam (not close to the calculator!) - but do not make condensation.

Re: HP49G+ doesn't turn on

*Message #11 Posted by **Ed Look** on 1 Oct 2009, 9:05 p.m.,*
in response to message #10 by Bart (UK)

This is the first I've heard of this!

One might think that the lack of moisture would not interfere with the operation of an electric (power on) circuit.

Re: HP49G+ doesn't turn on

*Message #12 Posted by **Vieira, Luiz C. (Brazil)** on 1 Oct 2009, 11:29 p.m.,*
in response to message #11 by Ed Look

Hi, Ed;

I'd give credit to ESD (electrostatic discharge), which goes harder in dried environment. The particles of water combined with atmosphere suspended particles would be a path for partial electrostatic discharge. The so common atmospheric discharges (lightnings) are commonly seen when the relative air humidity increases, so the moisture may turn the atmosphere into a path for ESD instead of enhancing this condition. I was never told about lightnings in dried environment.

Any other thoughts?

Cheers.

Luiz (Brazil)

Re: HP49G+ doesn't turn on

*Message #13 Posted by **C.Ret** on 2 Oct 2009, 2:35 a.m.,*
in response to message #10 by Bart (UK)

> Quote:
>
> [...]It was because the air was too dry. [...]

How can the weather over The United Kingdom have change to a so extreme point that the ambient air is too dry for a computer to operate ?

Which part of the country ? All the Great Britain, the Scotland's or the Wales have a solid reputation of rainy and foggy weather. Is this the end of an era?

Re: HP49G+ doesn't turn on

*Message #14 Posted by **Bart (UK)** on 2 Oct 2009, 4:51 a.m.,*
in response to message #13 by C.Ret

I lived in South Africa for 30 years, in the Highveld (Johannesburg area). It gets very dry there in the winter months, no rain for 4 or more months continuous. The humidity would be below 20% on my crude home barometer set. To get the PC working, it had to be above 40%. It was an i386 based machine.

I have never really investigated the possible mechanism of the problem, but considered that (as Luiz said) ESD is harder in dried environments, there may actually be a build-up of charges not conducted away as easily as in higher humidities.(Hence the ease at which one can get an ESD shock in dry climates - in electronic lab work grounding is a must!)

edit: as I said, it's a long shot because
a) I don't know if it gets that dry anywhere in France (where I believe k.mart is located)
b) no other electronic equipment I have owned before or since has been so severely affected this problem (most effects were due to a charged person touching the equipment, and a reboot sorted it)

Edited: 2 Oct 2009, 5:02 a.m.

Re: HP49G+ doesn't turn on

*Message #15 Posted by **k.mart** on 6 Oct 2009, 12:48 p.m.,*
in response to message #14 by Bart (UK)

Thank you very much!!

I try to put my calculator in my oven 5 minutes 100°C and it reboot! I will look the humidity and I will report to you.

You saved me, I have a math exam friday (matrix, trigonometry..)

Re: HP49G+ doesn't turn on

*Message #16 Posted by **Ed Look** on 6 Oct 2009, 5:46 p.m.,*
in response to message #15 by k.mart

Actually, putting any electronics in an oven at 100° C DOES NOT sound like a good idea!

Besides the electronics, what do you think will happen to the PLASTIC case??!!!

It will either melt or burn!

Re: HP49G+ doesn't turn on

*Message #17 Posted by **Bart (UK)** on 7 Oct 2009, 4:57 a.m.,*
in response to message #16 by Ed Look

I wouldn't worry too much about the electronics, at work we regularly test plastic encapsulated electronics on FR4 to 125°C (we use enhanced packages). Most commercial parts are rated at ~80°C normally because low thermal conductivity of junction-to-ambient requires this to limit junction temp to 125°C during operation. Unpowered, this wouldn't present a problem at 100°C.

What I **definitely would** worry about is the LCD, batteries (if installed) and the plastic case.

Re: HP49G+ doesn't turn on

*Message #18 Posted by **Bart (UK)** on 6 Oct 2009, 7:10 p.m.,*
in response to message #15 by k.mart

Be careful!!

I would not recommend anything higher than 40°C!!

Re: HP49G+ doesn't turn on

*Message #19 Posted by **k.mart** on 7 Oct 2009, 1:29 a.m.,*
in response to message #18 by Bart (UK)

I didn't preheat the oven so maybe the temperature did not reach 100°, the plastic case was hot but didn't fade (EDIT: molten ?).

Edited: 7 Oct 2009, 1:31 a.m.

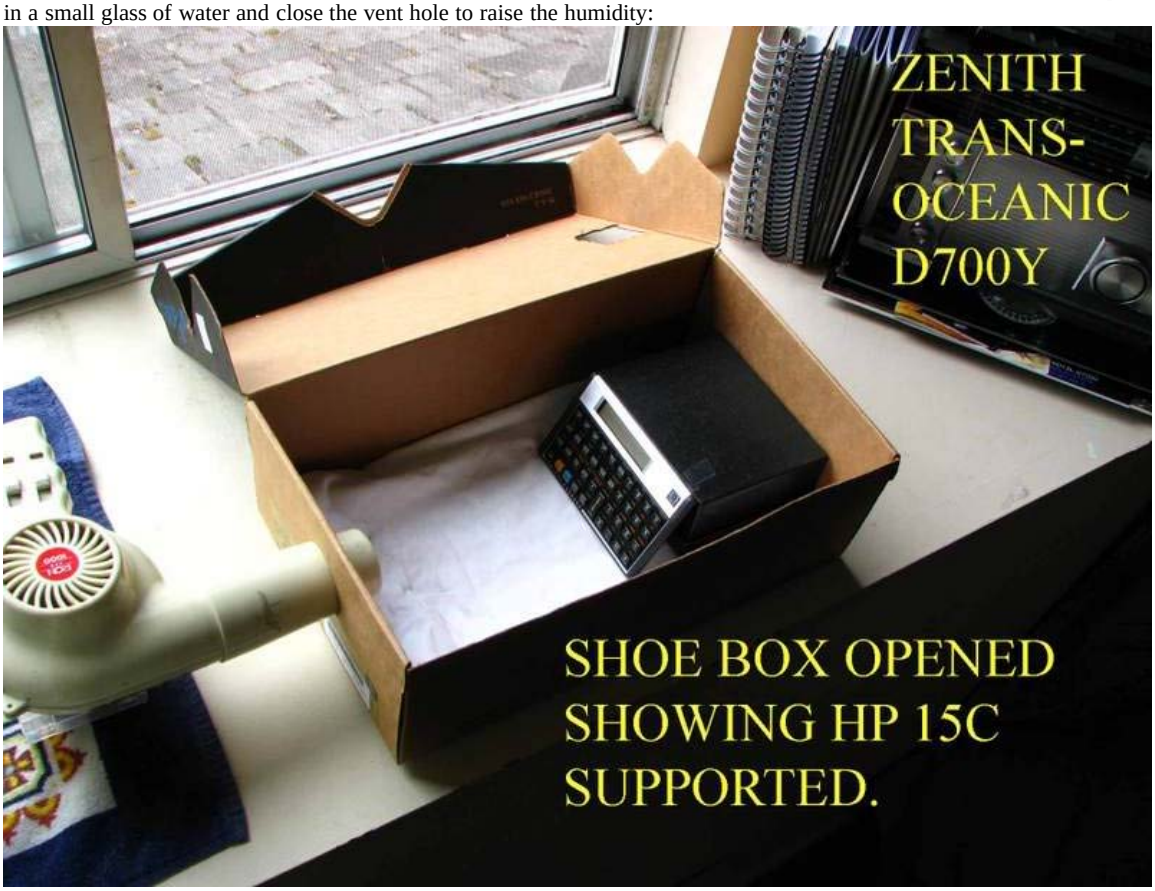
Re: HP49G+ doesn't turn on

*Message #20 Posted by **Bart (UK)** on 7 Oct 2009, 5:04 a.m.,*
in response to message #19 by k.mart

> Quote:
>
> I didn't preheat the oven...

That probably saved it. A preheated oven could have damaged the LCD by thermal shock (stresses created due to uneven heating). The LCD would be my primary concern as you may be willing to put up with a warped/faded case, but when the LCD goes it's pretty much the end or an expensive repair (if HP sells such spares).

I would suggest using Geoff Quickfall's drying shoebox as an "environmental chamber". Use it as is to dry out, or just put in a small glass of water and close the vent hole to raise the humidity:



Thanks to Geoff for the photos.

Edit: Good to hear it is working again.

Edited: 7 Oct 2009, 7:24 a.m.

Re: HP49G+ doesn't turn on

*Message #21 Posted by **Ed Look** on 7 Oct 2009, 12:49 p.m.,*
in response to message #20 by Bart (UK)

You know, calcium sulfate (sulphate to some of you) is a commonly used drying agent. I believe that calcium chloride (perhaps a lot of us may use it to de-ice sidewalks in the winter) is also sometimes used for this purpose, of being a dessicant.

So, instead of a shoebox, perhaps a plastic box with a sealable lid, some of one of these salts on the bottom, and a small plate to put the calculator over it, and you have a pretty good drying environment.

Of course, don't open the lid more often than is necessary. And don't get any of that dust onto the calculator.

Re: HP49G+ doesn't turn on

*Message #22 Posted by **John B. Smitherman** on 7 Oct 2009, 2:14 p.m.,*
in response to message #21 by Ed Look

Hi Ed. Dried rice can be used as a desiccant.

Regards,

John

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If I own a software am I allowed a backup copy

*Message #1 Posted by **Charles Oxford** on 29 Sept 2009, 12:16 p.m.*

of the manual?

Charlie

Edited: 29 Sept 2009, 12:16 p.m.

Re: If I own a software am I allowed a backup copy

*Message #2 Posted by **DaveJ** on 29 Sept 2009, 5:52 p.m.,*
in response to message #1 by Charles Oxford

For personal use, yes, of course.

Dave.

Re: If I own a software am I allowed a backup copy

*Message #3 Posted by **Charles Oxford** on 29 Sept 2009, 6:12 p.m.,*
in response to message #2 by DaveJ

Would be ok if someone else made a copy for me?

Charlie

Re: If I own a software am I allowed a backup copy

*Message #4 Posted by **DaveJ** on 29 Sept 2009, 11:20 p.m.,*
in response to message #3 by Charles Oxford

That's ok by me!
Really, no one is going to care. Make your personal backup copy any way you like.

Dave.

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Texas HP Module $$$$

*Message #1 Posted by **Saile (Brazil)** on 29 Sept 2009, 11:54 a.m.*

Who wrote that Texas is not valued in relationship HP's?

RPN Module Link

TI-59 Link

Texas TI58/58C/59 LIVE !!!

Great Joerg !!!!

Edited: 29 Sept 2009, 11:54 a.m.

Re: Texas HP Module $$$$

*Message #2 Posted by **Michael Meyer** on 29 Sept 2009, 2:08 p.m.,*
in response to message #1 by Saile (Brazil)

Holy @#$% ! Years ago there was someone here that was sending out HP calculators with TI calculators used as "packing material"!

Re: Texas HP Module $$$$

*Message #3 Posted by **tomdrewski** on 2 Oct 2009, 5:10 p.m.,*
in response to message #2 by Michael Meyer

Guilty

Re: Texas HP Module $$$$

*Message #4 Posted by **Michael Meyer** on 4 Oct 2009, 10:54 a.m.,*
in response to message #3 by tomdrewski

Thanks, Tom. I remember now. It's ok... most of those TI's can be bought for just a couple of bucks now. Still funny as hell.

Re: Texas HP Module $$$$

*Message #5 Posted by **Juergen Keller** on 29 Sept 2009, 4:09 p.m.,*
in response to message #1 by Saile (Brazil)

I didn't know (and still wouldn't believe it if I didn't saw the pictures in Joerg's auction) that TI produced an RPN simulator module. Doing that, TI acknowledged that RPN is superior to AOS, otherwise there would not be any need of such a module. Really amazing!

- Juergen

Re: Texas HP Module $$$$

*Message #6 Posted by **Palmer O. Hanson, Jr.** on 29 Sept 2009, 7:59 p.m.,*
in response to message #5 by Juergen Keller

> Quote:
>
> Doing that, TI acknowledged that RPN is superior to AOS, otherwise there would not be any need of such a module. Really amazing!

Not so! All that they really acknowledged was that there were some hardheads out there in HP land, and they might make some sales with an RPN option. That is similar to what HP did when they offered an algebraic option with the HP-33s and HP-35s.

Re: Texas HP Module $$$$

*Message #7 Posted by **Juergen Keller** on 30 Sept 2009, 2:04 a.m.,*
in response to message #6 by Palmer O. Hanson, Jr.

You are probably right; I'm just too much a techie guy than a marketing guy. But from the winning bid on eBay I conclude that this module is rare, so TI didn't sell many of them. Perhaps they missed the point that an efficient method like RPN also needs a quality keyboard to really be useful.

- Juergen

Re: Texas HP Module $$$$

*Message #8 Posted by **Palmer O. Hanson, Jr.** on 1 Oct 2009, 8:46 p.m.,*
in response to message #7 by Juergen Keller

> Quote:
>
> ... an efficient method like RPN also needs a quality keyboard to really be useful.

What RPN really needed in those days was a credible power supply design.

Re: Texas HP Module $$$$

*Message #9 Posted by **Daniel Diggelmann** on 2 Oct 2009, 12:12 a.m.,*
in response to message #7 by Juergen Keller

very true Jürgen and it seems that HP have long forgotten about this requirement.

Edited: 2 Oct 2009, 12:13 a.m.

Re: Texas HP Module $$$$

*Message #10 Posted by **Mike Morrow** on 30 Sept 2009, 6:53 a.m.,*
in response to message #6 by Palmer O. Hanson, Jr.

> Quote:

> That is similar to what HP did when they offered an algebraic option with the HP-33s and HP-35s.

HP has done a much better job of producing algebraic logic calculators (including those that "swing both ways") than TI did for RPN with this module for the TI-59. AFAIK, it's TI's only attempt at any type of RPN capability.

I remember when these modules were announced. IIRC, the MIT Coop carried them, as well as a few other places in the Boston area. I never knew anyone who bought one. I had a HP-67 in addition to a TI-59.

A computer geek friend and I were intrigued by the TI Algebraic Operating System, since it seemed to have some characteristics of a line-by-line interpreter/compiler. Each "statement" would need internally to be parsed and converted to stack or register operations like RPN. It seemed to be a technically sophisticated way (like RPL) to make simple things complex.

Re: Texas HP Module $$$$ (and HP 9820)

*Message #11 Posted by **Andrés C. Rodríguez (Argentina)** on 30 Sept 2009, 7:42 a.m.,*
in response to message #10 by Mike Morrow

IIRC, the HP 9820 desktop calculator (there is information about it here at the MoHPC) accepts algebraic programs and formulas from the user. It even allows for implied multiplication, such as 2ab+3a. But, internally, it converts all to RPN, and stores the program in RPN syntax. When the user wants to read, edit or list a program, the RPN code is "decompiled" to show it in the algebraic way.

Re: Texas HP Module $$$$ (and HP 9820)

*Message #12 Posted by **Mike Morrow** on 30 Sept 2009, 4:13 p.m.,*
in response to message #11 by Andrés C. Rodríguez (Argentina)

Yes, it's true that the HP 9820 is algebraic. The HP 9820 was the first HP calculator I ever used. It was employed as a logic board controller in an early digital systems class at Georgia Tech in the early 1970s.

I have a complete but non-working HP 9820 that I bought for $10 a decade ago, just for nostalgia. It's impressively built.

Thus, HP has some long-time expertise with algebraic calculators. OTOH, TI has never made any RPN calculators (except this weak module).

Re: Texas HP Module $$$$ (and HP 9820)

*Message #13 Posted by **Don Shepherd** on 30 Sept 2009, 4:31 p.m.,*
in response to message #12 by Mike Morrow

> Quote:
>
> TI has never made any RPN calculators (except this weak module)

Mike, I doubt TI has any regrets about not entering the RPN market. I suspect they make more money from the TI-83 alone than HP makes from all their calculators.

Re: Texas HP Module $$$$

*Message #14 Posted by **Valentin Albillo** on 2 Oct 2009, 5:26 a.m.,*
in response to message #5 by Juergen Keller

Juergen wrote:

> *I didn't know (and still wouldn't believe it if I didn't saw the pictures in Joerg's auction) that TI produced an RPN simulator module. Doing that, TI acknowledged that RPN is superior to AOS, otherwise there would not be any need of such a module.*

Wrong in both counts.

First, this wasn't an *"RPN simulator"* in the sense I think you're assuming it to be, i.e., a module which would allow you to perform RPN operations from the keyboard and such, as if you were using an HP-25 or HP-67, say, to perform some casual calculations.

Nothing of the sort. What this TI module did was accept **an RPN program** written for the HP-67/97, which you would enter as the corresponding numeric keycodes (say 31 25 00 for "LABEL 0" or 35 64 for "ABS"), and it would then convert said RPN program to the equivalent TI-58/TI-59 program, which would then be output to the mandatory printer for you to key it in.

Thus, it never simulated or made available RPN keyboard operations, it just accepted an RPN program for the HP-67/97 and converted it to the equivalent algebraic program for the TI-58/59, for you to enter it and then run it in the TI machine.

The point was clear: using this module, a TI user would have access to the vast library of excellent RPN programs made available for the HP-67/97, thus greatly expanding the library software for their machines by also taking advantage of those quality programs written for the other side.

I don't see this as proof that *"TI acknowledged that RPN is superior to AOS"*, far from it. It actually was a very clever move by TI, even if the final results didn't meet the expectations.

Regards from V.

Edited: 2 Oct 2009, 5:29 a.m.

Re: Texas HP Module $$$$

*Message #15 Posted by **Joerg Woerner** on 2 Oct 2009, 9:17 a.m.,*
in response to message #14 by Valentin Albillo

Valentin,

Thanks for ghost-writing my comment ;-))

I just returned from a business trip and browsed the HP Forum. When I read this thread about my TI eBay auctions (BTW, a few months ago I sold a perfect, fully working but unboxed TI-59 for $315 to Asia), I thought about commenting the *"Doing that, TI acknowledged that RPN is superior to AOS,"* statement.

But you did already. Thanks!

Regards, Joerg

Re: Texas HP Module $$$$

*Message #16 Posted by **Valentin Albillo** on 2 Oct 2009, 9:56 a.m.,*
in response to message #15 by Joerg Woerner

Hi, Joerg:

> Thanks for your appreciation. I hadn't read or noticed your previous thread (i.e.: *"db: You miss an important non-HP RPN calculator!"*) so I wasn't aware that this TI module's functionality had been discussed before.
>
> Quite on the contrary, after reading the fanboy-like comment by the other poster I assumed that he didn't know how it worked and what it did or didn't do, at all.

Have a nice weekend and regards from V.

Re: Texas HP Module $$$$

*Message #17 Posted by **Juergen Keller** on 4 Oct 2009, 2:35 p.m.,*
in response to message #14 by Valentin Albillo

Thank you for clarification regarding the TI RPN module. I really thought it would simulate RPN input, because on the box it is advertised as 'RPN Simulator'. Making the huge HP program library available for TI-59 was really a good move and a comprehensible business decision. Anyway, one of my conclusions still hold: an efficient input method makes only sense together with a reliable keyboard. There are other RPN calculators (e.g., I have a Corvus 500), but I guess (I have no sales figures) they were not really successful because they lacked a quality keyboard.

Re: Texas HP Module $$$$

*Message #18 Posted by **db (martinez, ca.)** on 5 Oct 2009, 10:28 p.m.,*
in response to message #17 by Juergen Keller

Jurgen;

The nearly perfect hp keyboard isn't everything.
This had a near-hp quality keyboard and was sold just across the border from you. It has the advantage of **NOT** having one of the two worst battery/charging systems imaginable: those found in the woodstock and spice series.
On the other hand; i may be overly forgiving of keyboard failings because i kind of like the keyboard on *my* Corvus, or maybe mine is from a different production run. I just wish it had those double shot hp keys. - db

Re: Texas HP Module $$$$

*Message #19 Posted by **Martin Pinckney** on 30 Sept 2009, 7:35 a.m.,*
in response to message #1 by Saile (Brazil)

There was a thread on this last week (started by Joerg). Accessible here.

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Texas HP Module $$$$

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(deleted post)
*Message #1 Posted by **deleted** on 29 Sept 2009, 11:26 a.m.*

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

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Navigation module

*Message #1 Posted by **juan demin** on 29 Sept 2009, 11:15 a.m.*

Hi, does anyone know about Navigation modules for the HP 71 and HP 48? Thanks

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12C+

*Message #1 Posted by **Charles Oxford** on 28 Sept 2009, 11:48 p.m.*

I read somewhere (I think on hp site) that the 12c+ can't be repurposed to scientific calc. What then would be useful repurpose?

On friday I was in Fry's for batteries and printers so I checked the calcs on my way out. The last time I was there (maybe 2 months ago) they had 7 of the older 12c's. This time there were only 2. They don't seem to move very quickly. I asked an employee in the aisle about their stock but he didn't know.

I would be interested to hear about any repurposing done thus far.

Also, is the same equipment needed as for the uWatch?

Charlie

Re: 12C+

*Message #2 Posted by **DaveJ** on 29 Sept 2009, 1:00 a.m.,*
in response to message #1 by Charles Oxford

> Quote:
>
> I read somewhere (I think on hp site) that the 12c+ can't be repurposed to scientific calc. What then would be useful repurpose?
>
> On friday I was in Fry's for batteries and printers so I checked the calcs on my way out. The last time I was there (maybe 2 months ago) they had 7 of the older 12c's. This time there were only 2. They don't seem to move very quickly. I asked an employee in the aisle about their stock but he didn't know.
>
> I would be interested to hear about any repurposing done thus far.
>
> Also, is the same equipment needed as for the uWatch?
>
> Charlie

See HERE for info on the 12C repurposing.

Sorry, doesn't use the same micro as the uWatch, it uses an Atmel ARM processor with a serial interface (is the JTAG interface is accessible?). So you need either a suitable serial cable I believe HP sells?

Totally different development environment to the PIC too.

A scientific version would be easy in software, but the problem remains that of the keys have the finance legends on them.

It's surely just a matter of time before HP release the exact same machine with the original HP15C ROM and keys. I'm surprised it's taken this long already.

Dave.

Edited: 29 Sept 2009, 1:11 a.m.

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Spice series issues

*Message #1 Posted by **Kevin Manley** on 28 Sept 2009, 7:51 p.m.*

Pardon my ignorance as I am sure this is old hat for most of you but I recently came into quite a few 1970s HP Calculators and am in the process of evaluating them for functionality. All seem fine for the most part except the Spice series, none of which power up. I have tried several power supplies and some do nothing while otheres just flash random numbers. Is it possibly because I have no batteries for these and am trying to turn them on with only the power supply connected? I got no battery packs for these and am also wondering where I should get them if available. I searched the trouble shooting on this web site and found no battery info pertaining to shis series.

Re: Spice series issues

*Message #2 Posted by **Paul Dale** on 28 Sept 2009, 8:13 p.m.,*
in response to message #1 by Kevin Manley

Spice + power supply + no battery = dead unit.

You've likely been destroying each as you test. Well those that aren't already dead and gone...

- Pauli

Re: Spice series issues

*Message #3 Posted by **Steve Simpkin** on 28 Sept 2009, 8:54 p.m.,*
in response to message #2 by Paul Dale

I wasn't aware that the Spice series had the same poorly designed battery charging circuitry as the Woodstock models. Damn! You know there should be a special place in Hell for the person or persons responsible for this charging circuit design. The upper managment personnel that approved the design should also join them.

Re: Spice series issues

*Message #4 Posted by **Paul Dale** on 28 Sept 2009, 9:19 p.m.,*
in response to message #3 by Steve Simpkin

Its possible I'm mistaken on this one but I do remember being warned to not run a spice without batteries.

- Pauli

Re: Spice series issues

*Message #5 Posted by **Michael de Estrada** on 28 Sept 2009, 9:30 p.m.,*
in response to message #4 by Paul Dale

All the Spice manuals (handbooks) have a note regarding ac operation: "Do not attempt to operate

the calculator from the ac line with the battery pack removed." Now, they do not specify what the consequences will be if this is done, but for sure the calculator will not function properly. Whether this can or will also result in irreversible damage to the calculator, I do not know, however, I think it is prudent not to find out.

Re: Spice series issues

*Message #6 Posted by **Michael de Estrada** on 28 Sept 2009, 8:16 p.m.,*
in response to message #1 by Kevin Manley

First off, you can't power these using the AC adapter, because it is a battery charger only, and the circuit requires that a good rechargeable battery be installed when you attach the adapter. The calculator can ONLY be powered by applying 2.5 Vdc to the two battery contacts inside the battery compartment. The polarity is (-) on top contact and (+) on bottom contact. You can do this by insertion of 2 AA cells with proper polarity and a jumper on the opposite site to connect them in series (be careful not to damage the contacts as you can deform or break them if they are compressed too much, since AA's are taller than the flat top cells used in a proper battery pack), or you can use a DC power supply if you have one. NiCd battery packs can be bought on eBay from Waterhosko (Mark Hoskins) for $9.50 including shipping.

Re: Spice series issues

*Message #7 Posted by **Howard Jones** on 28 Sept 2009, 8:19 p.m.,*
in response to message #6 by Michael de Estrada

I have found that the +ve terminals of the batteries can be hammered in (with care) to get them to fit.

Re: Spice series issues

*Message #8 Posted by **Howard Jones** on 28 Sept 2009, 8:23 p.m.,*
in response to message #7 by Howard Jones

Oops. I don't mean hammer them into the calculator. I mean hammer in as in standing the battery on the -ve end and gently hammer the +ve terminal in slightly. It only has to be hammered in about .5MM ie not much. Tap and then test and tap again if needed.

Re: Spice series issues

*Message #9 Posted by **Michael de Estrada** on 28 Sept 2009, 10:27 p.m.,*
in response to message #8 by Howard Jones

From what I can tell, a typical alkaline AA cell is 50.5mm tall, whereas a NiCd flat top AA is 48mm, so the difference is more like 2.5mm. Pushing the battery contacts an extra 0.5mm isn't going to hurt them, but an extra 2.5mm probably will. Even if you pound the positive tip all the way in, the cell will still be longer, because the body itself is also longer.

The battery contact design on the Spices is about as stupid as it gets, because they are almost guaranteed to break after a number of battery removals and insertions, unless the user is extremely careful and gentle. The contact has a very sharp bend, such that the material has already been taken past the elastic limit (yield point), and just a few stress reversals will break it off at that location. All HP had to do was form it with a gradual bend, and this failure would not occur. Also, the rivetted connection with the circuit board tends to get loose over time, resulting in a bad electrical connection. Even after HP fixed the solderless design issues, they still retained this faulty battery contact design, so finding a good Spice of any vintage remains a challenge.

Re: Spice series issues

*Message #10 Posted by **Kevin Manley** on 29 Sept 2009, 12:00 a.m.,*
in response to message #9 by Michael de Estrada

Wonderful....case closed. Thank you all for the very useful information.

One of the other units was a 97 that would only run once I removed the battery pack. So based on that I felt safe trying these without batteries.

I was able to rig a test with a couple double A's and in the name of research have discovered that preliminary testing seems to indicate many have survived my ignorant fiddling. Surprising considering the output of the "battery charger." One unit still shows only odd characters and I was unable to test two yet due to already broken battery tabs. One unit, a 38E, is completely dead but I have another 38E that seems to work fine so my assumption would be that it was done previous to my abuse. Based on that assumption I have a survival rate of 75%.

Thanks again to all for your helpful advice.

Kevin

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MCODE Keith Numbers

*Message #1 Posted by **PeterP** on 28 Sept 2009, 1:19 p.m.*

I know this is very late, but I cant stand not-finished projects…

A few weeks back Don posted a Keith Number Challenge. It was obvious that a RPN solution for the 41 would be way to slow but I thought a MCODE solution should be acceptable time-wise. Unfortunately I got side-tracked in this other thing called 'normal life' and so the rudimentary code was never finished. Well, this weekend I stole a couple of hours to finish it (an unfinished project is really nagging me...)

Below you find an MCODE function called NXTK (Next Keith number) that finds the next Keith number > than the value in X. Original X is stored into L.

I must say that I was surprised how long it takes to get to the Keith numbers past 10^3. Even in MCODE and m41 simulation it takes a few minutes to get from 7909 to 31331, which is one of the larger gaps.

One useful piece of code for MCODERS might be MFFR – MCODE Find Free Regs. Sometimes one needs some scratch area and this routine finds the first free available RAM register in the buffer area. It also checks if there are enough free regs (you can request a certain number of free regs). To use it place the number of regs you need into B[S&X] and you get back in A[S&X] the absolute address off the first free reg which you then can use for your storage needs. If there are not enough free regs, the routine jumps out to [PACKE] (Packing, Try Again).

Pfhh, I'm happy this is finished now, I want to dig into 41Z from Angel!

Cheers

Peter

```
* KEITH.SRC
* Assembled by A41
* Mon Sep 28 13:11:18 2009
                                .TITLE  ""
                                .JDA
                                .EQU    [PCTOC] 00D7
;*****************************************************************************
;*  FAT for Keith Number
;*****************************************************************************
 0000 004                       XROM    4       ;XROM number. Same as RSU1
 0001 007                       FCNS    7       ;Header + functions
 0002 00001B                    DEFR4K  [Header] 001B   ;1 - first executable of header
 0004 000020                    DEFR4K  [NXTK] 0020     ;2 - Next Keith Number > than X
 0010 000                       NOP
 0011 000                       NOP
;-----------------------------------------------------------------------------------
;-----------------------------------------------------------------------------------
                                .NAME   "PPL-KEITH"
*0012 088                       #088            ; "H"
*0013 014                       #014            ; "T"
*0014 009                       #009            ; "I"
*0015 005                       #005            ; "E"
*0016 00B                       #00B            ; "K"
*0017 02D                       #02D            ; "-"
*0018 00C                       #00C            ; "L"
*0019 010                       #010            ; "P"
*001A 010                       #010            ; "P"
 001B 3E0       [Header]        RTN
```

```
;-------------------------------------------------------------------------------------
;-------------------------------------------------------------------------
; FOCAl Function - NXTK - Next Keith Number
;            Max Range is 9 digits
; Dependencies : MLOCB (C, A[MS, S&X])
;                        MKBF
;                        Needs at least 10 free registers as temp storage
; Input:  X-Reg: Number to start for Keith search
; Output: X-Reg: Next Keith Number
; Errors: Paccking Try Again - Not enough space for temp storage
;              Data Error              - Start number is not valid
; Uses: A,B,C,M,N,Q + 9 tmp storage regs
; xxx sub
; ------------------------------------------------------------------------
                                .NAME   "NXTK"
*001C 08B                       #08B            ; "K"
*001D 014                       #014            ; "T"
*001E 018                       #018            ; "X"
*001F 00E                       #00E            ; "N"
 0020 1A0       [NXTK]          A=B=C=0         ;master clear
 0021 130009                    LDIS&X  009     ;we need 9 registers
 0023 0E6                       C<>B    S&X     ;prep 9 into B [S&X]
 0024 37903C0B8                 ?NCXQREL        [MFFR] 00B8     ;find first reg of free space
 0027 066                       A<>B    S&X     ;put address of first reg into B
 0028 149024    [NonNormX]      ?NCXQ   [ENCP00] 0952   ;Need to shift number in x to right &
kill exp
 002A 0F8                       READ    3(x)
 002B 128                       WRIT    4(L)    ;store into L
 002C 2A0                       SETDEC
 002D 0A0                       SLCTP
 002E 31C                       R=      1
 002F 2E2                       ?C#0    @R      ;check we have no exponent larger than 9
 0030 0B50A3                    ?CGO    [ERRDE] 282D    ;yes -> DATA ERROR
 0032 2F6                       ?C#0    XS      ;no neg exponent either
 0033 0B50A3                    ?CGO    [ERRDE] 282D
 0035 39C                       R=      0       ;ok, focus on (single digit) exponent
 0036 2A2                       C=-C-1  @R      ;build complement, max single dig exp allowed.
 0037 262                       C=C-1   @R
 0038 3DA       [SRX]           RSHFC   M
 0039 262                       C=C-1   @R
 003A 3F3                       JNC     [SRX] -2 0038
 003B 046                       C=0     S&X     ;just clean up
 003C 0E8                       WRIT    3(x)
 003D 13000A    [SplitNr]       LDIS&X  00A     ;max of 9 digs, 10=DATA ERROR
 003F 0A6                       A<>C    S&X
 0040 260                       SETHEX
 0041 126                       A=A+B   S&X     ;MaxAddr
 0042 149024                    ?NCXQ   [ENCP00] 0952   ;select Ramchip 0
 0044 0F8                       READ    3(x)    ;get Start Number
 0045 046                       C=0     S&X
 0046 0A0                       SLCTP
 0047 35C                       R=      12
 0048 2E2                       ?C#0    @R      ;do we have 10 digits?
 0049 0B50A3                    ?CGO    [ERRDE] 282D    ; yes-> DATA ERROR
 004B 1A6       [FFD]           A=A-1   S&X     ;address for 9 digits
 004C 2FC                       RCR     13      ;move next digit into C[12]
 004D 2E2                       ?C#0    @R      ;Found first digit?
 004E 3EB                       JNC     [FFD] -3 004B   ;no -> try next (Find First Digit)
 004F 186                       A=A-B   S&X     ;yes->calc nr of digits
 0050 0A6106                    C=A     S&X     ;nr of digs into C[0]
 0052 066086                    A=B     S&X     ;Start Addr
 0054 0FA                       C<>B    M       ;store numeber into B[M], starts at C[12]
 0055 33C                       RCR     1       ;move Nr of Digs into C[MS]
 0056 0BE                       A<>C    MS      ;store into A[MS]
 0057 1BE                       A=A-1   MS      ;so that we can jump at 0
 0058 09E                       B=A     MS      ;save Nr of Digs into B[MS]
 0059 04E       [StoreD]        C=0     ALL     ;Clean Slate
 005A 0C2                       C=B     @R      ;get first digit
 005B 27C                       RCR     9       ;move into C[3]
 005C 0A6106                    C=A     S&X
 005E 270                       RAMSLCT
 005F 2F0                       WRITDATA
 0060 07A                       A<>B    M       ;move nr into A[M] to use LSFHTA
 0061 3FA                       LSHFA   M       ;move next digit to @R
 0062 07A                       A<>B    M
 0063 166                       A=A+1   S&X     ;next address
 0064 1BE                       A=A-1   MS      ;underflow if past 1st digit
 0065 3A3                       JNC     [StoreD] -12 0059
 0066 06E08E                    A=B     ALL     ;A[MS] = counter for Nr of dig, A[S&X] = start
addr
 0068 01A                       A=0     M       ;Clean A
```

```
 0069 0A6106    [CalcS]         C=A     S&X     ;A[S&X] is first(next) reg
 006B 270                       RAMSLCT
 006C 038                       READDATA
 006D 2A0                       SETDEC
 006E 15A                       A=A+C   M       ;calc running sum
 006F 260                       SETHEX
 0070 166                       A=A+1   S&X
 0071 1BE                       A=A-1   MS
 0072 3BB                       JNC     [CalcS] -9 0069 ;loop until all nrs are summed
 0073 1A6                       A=A-1   S&X     ;MaxAddr into A[S&X]
 0074 149024    [CheckNr]       ?NCXQ   [ENCP00] 0952   ;select Ramchip 0
 0076 0F8                       READ    3(x)    ;get number to check
 0077 2A0                       SETDEC
 0078 25A                       C=A-C   M       ;calc delta
 0079 2FA                       ?C#0    M       ;identical?
 007A 103                       JNC     [IsKeith] +32 009A
;------- Stepping stone
 007B 013                       JNC     [cSS1] +2 007D
 007C 20B       [SS1]           JNC     [SplitNr] -63 003D
 007D 000       [cSS1]          NOP
;------- Stepping stone
 007E 0F8                       READ    3(x)    ;check if we are passed it already
 007F 31A                       ?A<C    M       ;Sum <X
 0080 193                       JNC     [NotKeith] +50 00B2     ;no -> not keith
 0081 260       [ShiftRgs]      SETHEX
 0082 07E09E                    A=B     MS      ;nr of digits=regs
 0084 1BE                       A=A-1   MS      ;last digit needs special code
 0085 0C6                       C=B     S&X     ;data_reg(1)
 0086 226       [LShRgs]        C=C+1   S&X     ;get next reg data
 0087 270                       RAMSLCT         ;read data_reg(2)
 0088 038                       READDATA
 0089 266                       C=C-1   S&X     ;regs have their abs addr stored in S&X
 008A 270                       RAMSLCT         ;select data_reg(1)
 008B 2F0                       WRITDATA                ;write data_reg(2) into data_reg(1)
 008C 226                       C=C+1   S&X     ;prep with data_reg(2) address
 008D 1BE                       A=A-1   MS      ;are we done yet?
 008E 3C3                       JNC     [LShRgs] -8 0086        ;not down yet
 008F 0BA11A                    C=A     M       ; now saev latest number
 0091 270                       RAMSLCT         ;last reg is already in C[S&X]
 0092 2F0                       WRITDATA
 0093 04E                       C=0     ALL     ;prep for next run
 0094 00E                       A=0     ALL
 0095 066086                    A=B     S&X     ;restore Start Addr
 0097 07E09E                    A=B     MS      ;restore counter as well
 0099 283                       JNC     [CalcS] -48 0069        ;calc new sum
 009A 149024    [IsKeith]       ?NCXQ   [ENCP00] 0952   ;need to normalize number in X-reg
first...
 009C 0F8                       READ    3(x)
 009D 35C                       R=      12      ;set pointer to first digit location
 009E 2FC       [LSC]           RCR     13      ;= shift left once
 009F 2E2                       ?C#0    @R      ;fonud first digit?
 00A0 3F3                       JNC     [LSC] -2 009E   ;keep on Left Shifting C
 00A1 0BA                       C<>A    M       ;now set exponent -> save M
 00A2 04E                       C=0     ALL
 00A3 0DE                       C=B     MS      ;get exponent
 00A4 2FC                       RCR     13      ;move Nr of Digits into S&X
 00A5 0BA                       C<>A    M       ;get back mantissa
 00A6 0E8                       WRIT    3(x)
 00A7 260                       SETHEX
 00A8 06E                       A<>B    ALL     ;clear all buffer regs used
 00A9 0A6106    [ClRgs]         C=A     S&X     ;
 00AB 270                       RAMSLCT
 00AC 04E                       C=0     ALL
 00AD 2F0                       WRITDATA
 00AE 166                       A=A+1   S&X     ;next Reg
 00AF 1BE                       A=A-1   MS
 00B0 3CB                       JNC     [ClRgs] -7 00A9
 00B1 3E0                       RTN
 00B2 0F8       [NotKeith]      READ    3(x)    ;get number
 00B3 2A0                       SETDEC
 00B4 23A                       C=C+1   M       ;increase test number by 1
 00B5 0E8                       WRIT    3(x)    ;save into X
 00B6 233                       JNC     [SS1] -58 007C  ;check if this one is Keith (via
Stepping Stone)
 00B7 3E0                       RTN
;-------------------------------------------------------------------------
; -------------------------------------------------------------------------
; Subroutine MFFR - MCODE Find Free Regs
; Input:   B[S&X = Nr of regs needed in hex
; Output:  A[S&X] has Address of first free reg
; Uses:    C[ALL], A[S&X], B[S&X]
```

```
; Error: Packing - try Again -> no free regs
; Assumes: nothing
; Leaves in hex mode
;-------------------------------------------------------------------------
 00B8 260        [MFFR]          SETHEX
 00B9 1300BF                     LDIS&X  0BF     ;Buffers start at 0C0
 00BB 106                        A=C     S&X     ;copy start address into A[S&X]
 00BC 166        [IncAdr]        A=A+1   S&X     ;increment start address -> need to do smarter
than +1, need to increment by buffer length!
 00BD 149024     [Cont1]         ?NCXQ   [ENCP00] 0952   ;select Ramchip 0
 00BF 378                        READ    13(c)   ;get .END. address
 00C0 306                        ?A<C    S&X     ;if 0C0 >= .END. -> no free space
 00C1 09B                        JNC     [MFFRE0] +19 00D4       ;Packing, Try Again (error 0)
 00C2 0A6106                     C=A     S&X     ;copy next address to check into C [S&X]
 00C4 270                        RAMSLCT
 00C5 038                        READDATA
 00C6 2EE                        ?C#0    ALL     ;if all 0, no more I/O data
 00C7 043                        JNC     [Chk9reg] +8 00CF
 00C8 3A3                        JNC     [IncAdr] -12 00BC
 00C9 23E                        C=C+1   MS      ;check if this is key assignment (buffer id F)
 00CA 397                        JC      [IncAdr] -14 00BC       ;yes-> check next reg
 00CB 0FC                        RCR     10;
 00CC 056                        C=0     XS
 00CD 146                        A=A+C   S&X     ;add to current reg
 00CE 37B                        JNC     [Cont1] -17 00BD
 00CF 126        [Chk9reg]       A=A+B   S&X     ;check if we have n regs. n in B[S&X] in hex
 00D0 149024                     ?NCXQ   [ENCP00] 0952   ;select ramchip 0
 00D2 378                        READ    13(c)   ;read in .END.
 00D3 306                        ?A<C    S&X     ;if >= .END. address -> not enough space
 00D4 009082     [MFFRE0]        ?NCGO   [PACKE] 2002    ;nope, not enough -> Packing, Try
Again (error 0)
 00D6 186                        A=A-B   S&X     ;yes, bring first reg address into A[S&X]
 00D7 3E0                        RTN             ;yes -> A[S&X]
```

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HP 34C

*Message #1 Posted by **Howard Jones** on 28 Sept 2009, 6:08 a.m.*

Can anybody help me with my HP 34C. It works fine except that sometimes when I switch it back on I get the message "Pr Error" and of course the all memory is lost. I feel it must be losing power. It does this even when it is on the charger. Thank you in advance.

Re: HP 34C

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 28 Sept 2009, 10:52 a.m.,*
in response to message #1 by Howard Jones

HI, Howard;

I had an HP38C with that kind of behavior. In that case, it was a bad power supply unit. I had it replaced and it worked fine since. Unfortunately I had no time to go ahead and find the actual cause: bad contact, faulty component, etc. All I can tell you is that I replaced it and the HP38C worked fine since.

There is also a possibility of your unit being a solderless one. In this case, a bad contact in the RAM terminals would be enough causing it to be erased due to power loss. Best chance would be opening it, disassembling and cleaning contacts. It would also be a good idea to check if the IC´s terminals can be a little bit bent against the flex circuit, so contacts would enhance.

Chances are that you could have a simple bad contact in the batteries, but since you have the same problem even when it is on the charger, I´d consider the power supply unit, instead.

Not too much of help, though...

Success!

Luiz (Brazil)

Re: HP 34C

*Message #3 Posted by **Juergen Rodenkirchen** on 28 Sept 2009, 2:45 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Hi Luiz, good to have you back :-)) Where have you been all the time?
Kind Regards from Germany, Jürgen

Re: HP 34C

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 28 Sept 2009, 5:15 p.m.,*
in response to message #3 by Juergen Rodenkirchen

Hi, Juergen; danke!

Please, have a look here and I´m sure you will forgive me for not being here...

Cheers.

Luiz (Brazil)

Re: HP 34C

*Message #5 Posted by **Juergen Rodenkirchen** on 29 Sept 2009, 3:03 p.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

Luiz, I do not have to forgive you anything but am just glad that you're back on the scene as an expert but most of all as a good friend :-)) I'm happy that you found the "break" early enough to understand what's really important in life: lifetime, health, having good friends and having a good time! Looking forward to reading interesting posts from you.
Yours Jürgen

Re: HP 34C

*Message #6 Posted by **Michael de Estrada** on 28 Sept 2009, 10:54 a.m.,*
in response to message #1 by Howard Jones

There are several possibilities. First, are you using a B suffix charger? Use of an A suffix charger on a C suffix calculator can cause loss of "continuous memory". Second, the calculator gets its power from the battery, and not the charger. If the battery is discharged or bad, it won't properly power the calculator. Third, the battery contacts and/or connections may be bad. Fourth, the power circuitry board at the other end of the ribbon connector to the battery/charger contacts may have issues with it's circuitry that povides power to the "continuous memory" when the calculator is turned off. This circuitry is unique to the C suffix calculators, and an E suffix power board does not have this circuitry.

Re: HP 34C

*Message #7 Posted by **Dwight Sturrock** on 29 Sept 2009, 12:23 a.m.,*
in response to message #1 by Howard Jones

I lost the charger for my 34C many years ago (I bought it new in 1982). I still use the 34C with alkaline batteries. If I change the batteries in less than 10 seconds, the unit will maintain continuous memory. Based on this, temporary interruptions do not seem to affect the unit, and the original batteries or charger are not essential for regular operation.

Re: HP 34C

*Message #8 Posted by **Vieira, Luiz C. (Brazil)** on 29 Sept 2009, 1:33 a.m.,*
in response to message #7 by Dwight Sturrock

Hi, Dwight;

you are correct. But consider that the power supply maintains the RAM I.C. continuously powered even when the calculator is turned off, so chances are that some capacitors directly connected to the DC lines take a little while to discharge prior to completely turn the RAM off (hence the 10 seconds to change the batteries). But if there is a bad contact in the circuit, mainly after the power supply, RAM contents may also be lost or become invalid too quickly if its DC line fails for a flash. It seems to be the case, here.

The main fact is that we are going ahead with the investigation, and this is what matters most. Any other thoughts?

Cheers.

Luiz (Brazil)

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Mini review: m48, another 48GX for the iPhone

*Message #1 Posted by **Egan Ford** on 27 Sept 2009, 11:49 a.m.*

I just read about this on comp.sys.hp48. A new and much better 48GX for the iPhone was just released. This one is based on EMU48 (unlike i48 that is based on x48). The keyboard is dynamic (shifts/alpha change the keys) and A-F is merged in with the LCD. Looks like a Star Trek inspired setup. Quite usable. However the unshifed symbols are very hard to read. Something that could be improved. Right now I have to use shift to find things. If the 48GX was my daily calculator then I'd have it memorized.

Screen shots here: http://www.mksg.de/

Emulation performance is 4x faster (based on a single benchmark), whereas i48 was just a bit faster.

m48 is also more stable. i48 will crash if the clock is showing. i48 drops keys from time to time, but that may just be the accuracy of the user. m48 keyboard accuracy is much better. I have not missed a stroke.

Re: Mini review: m48, another 48GX for the iPhone

*Message #2 Posted by **Christoph Giesselink** on 27 Sept 2009, 5:44 p.m.,*
in response to message #1 by Egan Ford

Hi Egan,

it's quite unfair to compare the x48 emulator sources with one of the later Emu48 sources. :)

The lastest version of the x48 sources I have is 0.4.1e from 1999. Comparing to a 2004 copyrighted Emu48 version from me, x48 is as old as Methuselah in HP48 emulation technology. AFAIK x48 was never able to run the Metakernel because of it's MMU emulation limatations.

A Emu48 version copyright from 2004 smells like, that the base for m48 was the Mac OS Port from Pierre Tardy, which base on the original Emu48 IA32 v1.25 version (this implicate the chance of getting a HP49G version).

We should be glad that there are people out there, remembering the advantages of open source software, publishing there own versions of software to the public. I think, without the influence of Eddie C. Dost (x48) and Sebastien Carlier (Win48 / Emu48) emulators for Saturn based calculators wouldn't exist in the form like now.

Regards,

Christoph

Re: Mini review: m48, another 48GX for the iPhone

*Message #3 Posted by **Egan Ford** on 27 Sept 2009, 6:40 p.m.,*
in response to message #2 by Christoph Giesselink

> Quote:
>
> it's quite unfair to compare the x48 emulator sources with one of the later Emu48 sources. :)

Why? Both are 48GX emulators. I actually prefer x48 since it runs native on my Mac and Linux machines. However, if there were a current EMU48 port for UNIX/Linux, I'd use that because its faster and more capable.

Since m48 uses Emu48 (EMU48MS116 to be specific) as a base we can expect more features.

> Quote:
>
> The lastest version of the x48 sources I have is 0.4.1e from 1999.

0.6.1 is the latest version. It was published Aug 1 2009.

> Quote:
>
> Comparing to a 2004 copyrighted Emu48 version from me, x48 is as old as Methuselah in HP48 emulation technology. AFAIK x48 was never able to run the Metakernel because of it's MMU emulation limatations.

Despite the recent updates, it is still limited. All updates since 0.4.1e have been mostly bug fixes, no real feature enhancements. I still use 0.4.3.

> Quote:
>
> A Emu48 version copyright from 2004 smells like, that the base for m48 was the Mac OS Port from Pierre Tardy, which base on the original Emu48 IA32 v1.25 version (this implicate the chance of getting a HP49G version).

Author told me EMU48MS116. Unsure why that version was selected.

> Quote:
>
> We should be glad that there are people out there, remembering the advantages of open source software, publishing there own versions of software to the public. I think, without the influence of Eddie C. Dost (x48) and Sebastien Carlier (Win48 / Emu48) emulators for Saturn based calculators wouldn't exist in the form like now.

Very grateful indeed for all contributors to open source emulators. Without them then I would not have i41CX+, 15C, 16C, 12C (nonpareil-based), or Free42, or x48/EMU48 on my iPhone. Thanks to Eddie I also have x49gp (50g ARM emulation) for my MacBook.

Re: Mini review: m48, another 48GX for the iPhone

*Message #4 Posted by **Mark Edmonds** on 27 Sept 2009, 10:28 p.m.,*
in response to message #3 by Egan Ford

> Quote:
>
> Very grateful indeed for all contributors to open source emulators.

Me too. I think the first emu I came across was emu48 and I was totally flabbergasted that someone had managed to achieve such a remarkable program. And it isn't just the calculators. Almost every computer I've ever used exists in emulated form (not sure about the pdp-8/e though but nothing can replace the real front-end) as well as numerous arcade consoles that otherwise would have been consigned to the deep distant remnants of my memory.

No hyperbole or exageration here - the emu programmers deserve special recognition for one of the most significant contributions in modern computing history.

Mark

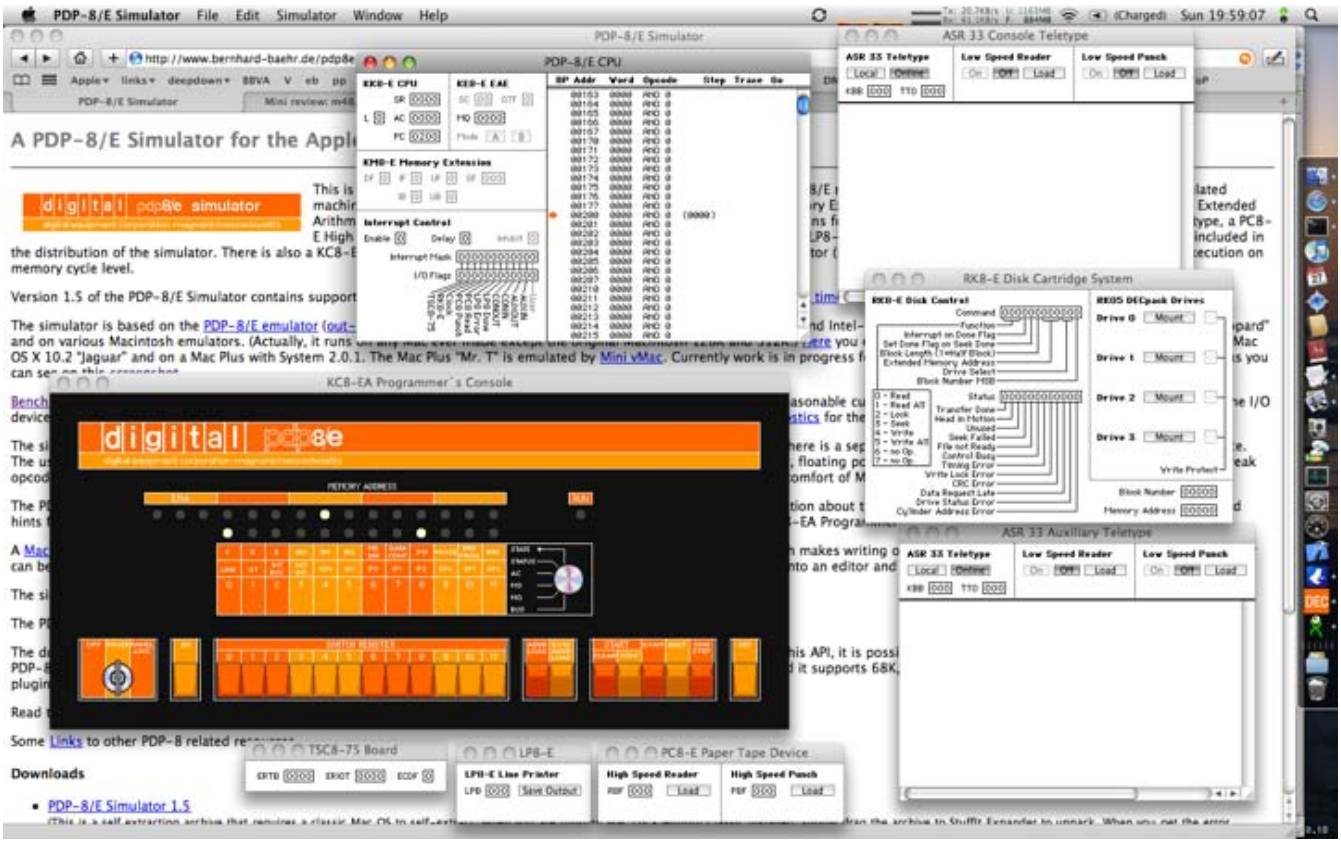
Re: Mini review: m48, another 48GX for the iPhone

*Message #5 Posted by **Pal G.** on 27 Sept 2009, 11:10 p.m.,*
in response to message #4 by Mark Edmonds

PDP-8/e has been done for Mac.

Author's homepage: A PDP-8/E Simulator for the Apple Macintosh

The screenshot on that site does not show the front end you mention, so I created a screenshot for you.



PDP8/e full size screenshot (1440x900).

Cheers.

Re: Mini review: m48, another 48GX for the iPhone

*Message #6 Posted by **Mark Edmonds** on 28 Sept 2009, 4:45 p.m.,*
in response to message #5 by Pal G.

Thanks Pal! That looks great :) Sadly, I don't have a Mac though but some searching has shown up some leads.

The 8/e was the first computer I ever used and with its front panel flashing away, teletypes clattering and paper tape spooling everywhere, it completely dominated the room, almost as if it was alive. I was very lucky to have such an evocative introduction to the world of computing!

Mark

Re: Mini review: m48, another 48GX for the iPhone

*Message #7 Posted by **Reth** on 28 Sept 2009, 6:51 a.m.,*
in response to message #1 by Egan Ford

At first glance - the keyboard should be reworked completely, it's cluttered to the stage of being useless for obvious reasons. I'd get rid of all shifted labels and make them visible after LS and RS. It's a small price to pay - only one extra keystroke if the wrong shift key was hit.
Display font is not sharp enough.
Needless to say - program/data storage, IO, memory increase, printing etc. (the 42s is a good example) should be on the to-do list.
Pretty good start though.
Cheers

Re: Mini review: m48, another 48GX for the iPhone

*Message #8 Posted by **Egan Ford** on 28 Sept 2009, 10:21 a.m.,*
in response to message #7 by Reth

> Quote:
>
> At first glance - the keyboard should be reworked completely, it's cluttered to the stage of being useless for obvious reasons. I'd get rid of all shifted labels and make them visible after LS and RS. It's a small price to pay - only one extra keystroke if the wrong shift key was hit.

Or user definable. e.g. I'd prefer to see the shifted. However, I would like to see the Alpha labels removed, especially if the native QWERTY keyboard will be supported similar to i41CX+ and 42s.

> Quote:
>
> Display font is not sharp enough.

Agreed, too small.

> Quote:
>
> Needless to say - program/data storage, IO, memory increase, printing etc. (the 42s is a good example) should be on the to-do list.

The author has plans for most of this. The source should be posted soon. So, we can all lend a hand.

Re: Mini review: m48, another 48GX for the iPhone

*Message #9 Posted by **Byron Foster** on 28 Sept 2009, 4:08 p.m.,*
in response to message #8 by Egan Ford

I like the look of the keyboard, functionality aside. The blurry display is because the author is either creating an image with the display bitmap, or stretching the bitmap to fit the view, both give this kind of look. I went through this on the 42s, I found that drawing each pixel individually creates a better result, and also in many cases is faster. If source was available I would look at improving the display, already have the drawing routines.

What's the deal with the ROMs, does HP not care about their more contemporary ROMs being distributed like this anymore?

Re: Mini review: m48, another 48GX for the iPhone

*Message #10 Posted by **Egan Ford** on 28 Sept 2009, 4:59 p.m.,*
in response to message #9 by Byron Foster

> Quote:
>
> If source was available I would look at improving the display, already have the drawing routines.

Soon I'm told. It'd be nice to have your display code. BTW if you ON - or + you can cycle through different colors for the LCD. Plain white on black looks pretty good.

> Quote:
>
> What's the deal with the ROMs, does HP not care about their more contemporary ROMs being distributed like this anymore?

According to hpcalc.org, HP is allowing hpcalc.org to host the GX and SX ROMs. Unsure how this translate to others supplying the ROMs. Worse case i48 and m48 can just HTTP download the ROMs from hpcalc.org on initial startup.

All of this ROM business (nonpareil 12C, 15C, etc..., 41*, 48*, etc...) has always been a bit of a grey area to me. I suspect that there are no rights for redistribution. HP probably has the right to pursue any/all potential violators. I know that Atari, Nintendo, and other 70s/80s video game makers pursue those that illegally distribute their ROMs.

Re: Mini review: m48, another 48GX for the iPhone

*Message #11 Posted by **deepdvd** on 7 Oct 2009, 2:30 p.m.,*
in response to message #7 by Reth

> Quote:
>
> At first glance - the keyboard should be reworked completely, it's cluttered to the stage of being useless for obvious reasons. I'd get rid of all shifted labels and make them visible after LS and RS. It's a small price to pay - only one extra keystroke if the wrong shift key was hit.
> Display font is not sharp enough.
> Needless to say - program/data storage, IO, memory increase, printing etc. (the 42s is a good example) should be on the to-do list.
> Pretty good start though.
> Cheers

Memory increase is simple (although nearly pointless without I/O) It includes a 256k card in Port 1. To double your available RAM you just do the following: 1 press ENTER MERGE press ENTER

To see your RAM available before/after just type MEM and press Enter

OR port 1 could be used for Libraries. If only we could.

I have successfully replaced the "ram" file in i48 with one from Power48 (x48 on PalmOS) to get files on, but have been unsuccessful doing this with m48 using modified files from Emu48.

Of course this is only possible on a jailbroken device.

Sadly, i48 doesn't come with a port 1 card inserted, so I run out of RAM quickly.

Re: Mini review: m48, another 48GX for the iPhone

*Message #12 Posted by **deepdvd** on 9 Oct 2009, 6:06 p.m.,*
in response to message #11 by deepdvd

My brother found out how to get files into m48 (with a jailbroken device) 1) Make sure you have installed Emu48 on your PC (include CardCopy tool when installing) 2) Save whatever you want to transfer to m48 in port 1 3) Save the whatever.e48 state and CLOSE Emu48 4) Copy the "data" file from the m48 application /Documents directory to your PC (I put it in the Emu48 install folder for ease) 5) at the command line type "cardcopy whatever.e48 data" and you will get the following:

HP48 Port1 Import/Export Tool for Emu48 V2.1 Copy successful

6) Copy the "data" file from your PC back to the m48 /Documents directory and overwrite. (i-FunBox is great for this) 7) run m48 and move them into the main RAM or port 0 if desired 8) rinse and repeat...

Re: Mini review: m48, another 48GX for the iPhone

*Message #13 Posted by **Raymond Del Tondo** on 10 Oct 2009, 6:48 p.m.,*
in response to message #12 by deepdvd

So it should also be possible to load SpeedUI,
which will accelerate all user interface components;-)

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INFORM

*Message #1 Posted by **Jan Kromhout** on 27 Sept 2009, 9:59 a.m.*

When I use the inform on my hpg50 and wont to proram more than 4 items I get an error. Is it correct that not more than 4 items can be used? (Documentation is not mentiod that)

Hase someone a solution for this?

Thanks in advance

Jan Kromhout Hellevoetsluis-NL

Re: INFORM

*Message #2 Posted by **Tim Wessman** on 27 Sept 2009, 11:47 a.m.,*
in response to message #1 by Jan Kromhout

Code? (should work fine unless I am misunderstanding you)

Re: INFORM

*Message #3 Posted by **Jan Kromhout** on 27 Sept 2009, 2:27 p.m.,*
in response to message #2 by Tim Wessman

Hi,

This is my code:

« "RECON" { { "WOQ" "" 0 } { "WZL" "" 0 } { "WZQ" "" 0 } { "EFCO2" "" 0 } { "WH2O" "" 0 } } { 659.49820 6.29442 0.002705 94.0 1.80 } { } { } IF INFORM

THEN

END

Please can you help me?

Thanks in advance.

Jan Kromhout Hellevoetsluis-NL »

Re: INFORM

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 27 Sept 2009, 7:11 p.m.,*
in response to message #3 by Jan Kromhout

Hi Jan, folks; (yeap, it´s me!)

I think you could try redefining the number of columns. Please, try this one (I am not sure, did not try in my HP50G):

"RECON" { { "WOQ" "" 0 } { "WZL" "" 0 } { "WZQ" "" 0 } { "EFCO2" "" 0 } { "WH2O" "" 0 } } {2} { 659.49820 6.29442 0.002705 94.0 1.80 } { }

The {2} argument means 2 columns with the input elements in each. It may work for the elements you want, I guess.

Cheers.

Luiz (Brazil)

(P.S. - hi, folks; I´ll be writing about my absence in a while, OK?)

Edited: 28 Sept 2009, 1:18 a.m. after one or more responses were posted

Luiz!!!!

*Message #5 Posted by **Michael Meyer** on 27 Sept 2009, 7:18 p.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

Luiz!!! We've all been looking for you. I couldn't find you online anywhere, and I've looked for years. You've been missed, my friend!!!! Don't go away again!!!

Michael

Brief explanation...

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 27 Sept 2009, 7:37 p.m.,*
in response to message #5 by Michael Meyer

Hi, Doc; what´s up?

For the records: non-fatal heart condition due to repeating stressed activities. The ol´pump (I´m 48 Y.O., now) claimed for mercy with arrhythmic operation, and I had to slow down. No harm to the structure: muscles, "inner spaces", valves and blood flow were fine, just 'out of compass', followed by a little pain in the chest. Main fact is that I was pushing my limits up for about two, three years in order to show the bosses 'I could handle the pressure' (hence my absence...), but after that what was left of me was not that healthy anymore. Now I feel a lot better, working less (and having less $$$... nothing is absolutely beautiful, right?) but expecting to live longer.

Thanks for your warm 'welcome back', Doc... I appreciate!

Cheers.

Luiz (Brazil)

(folks: my old e-addresses no longer work; please, try linux_lcv@yahoo.com.br; I have some calculators with me that must be returned back to their owners...)

Edited: 27 Sept 2009, 8:11 p.m.

Re: Brief explanation...

*Message #7 Posted by **Michael Meyer** on 27 Sept 2009, 9:25 p.m.,*

in response to message #6 by Vieira, Luiz C. (Brazil)

Luiz, I'm glad to hear that you're around, and hopefully will be around for a long, long time to come. Maybe I can send you a "get well" calculator. "Mother Nature's" way of telling you to slow down and spend more time with your hobbies!

Michael

Re: Brief explanation...

*Message #8 Posted by **Etienne Victoria** on 28 Sept 2009, 2:17 a.m.,*
in response to message #6 by Vieira, Luiz C. (Brazil)

Hello Luiz,

I'm so happy you're back and wish you the best for the upcoming years!

Please don't overclock it again!

Take care.

Amicalement

Etienne

Re: Brief explanation...

*Message #9 Posted by **Vieira, Luiz C. (Brazil)** on 28 Sept 2009, 11:19 a.m.,*
in response to message #8 by Etienne Victoria

Mercy, mon frère; pour vous, le méme.

Luiz (Brésil)

Re: Brief explanation...

*Message #10 Posted by **Jeff O.** on 28 Sept 2009, 7:22 a.m.,*
in response to message #6 by Vieira, Luiz C. (Brazil)

Welcome back, and take care!

Re: Brief explanation...

*Message #11 Posted by **Vieira, Luiz C. (Brazil)** on 28 Sept 2009, 11:15 a.m.,*
in response to message #10 by Jeff O.

Hi, Jeff;

just to tell you that in one of my 'silent readings' into the forum messages (a few, rare visits in the last three months), I read this thread and your comment was noticed.

Thank you very much!

Luiz (Brazil)

Re: Brief explanation...

*Message #12 Posted by **Jeff O.** on 28 Sept 2009, 12:25 p.m.,*
in response to message #11 by Vieira, Luiz C. (Brazil)

You are very welcome, I'm glad you saw my comment.

Re: Brief explanation...

*Message #13 Posted by **Ángel Martin** on 28 Sept 2009, 2:58 p.m.,*
in response to message #6 by Vieira, Luiz C. (Brazil)

Welcome back Luiz, so glad you're back on the scene :)

Take care, 'AM

Re: Brief explanation...

*Message #14 Posted by **Juan J** on 28 Sept 2009, 8:00 p.m.,*
in response to message #6 by Vieira, Luiz C. (Brazil)

Hello Luiz,

It's good to have you back. I missed you insightful posts.

Take it easy. And don't overclock your main (and only) "ol' pump." Remember that there is no backup, and a spare is hard to come by.

JuanJ

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Things that surely will condemn us to HP Hell

*Message #1 Posted by **Sean Connor** on 26 Sept 2009, 1:35 p.m.*

Been needing to get this off my chest for 15 years or so...

Back in 1992 or so I attended an auction in Bedford UK.There in a box lay two 71bs complete with a Zenwand each. I had (in those days) no idea what they were but hey, they looked interesting. I bought the pair for about £20. I'm an electronics engineer and hoarder so my life is full of cupboards containing old circuit boards computers etc etc.

I had them for about two years and played a bit with some basic programs. There was remember NO internet to speak of NO web and NO information.

I moved house in 1994 and ..... threw them into the bin !

My pennance. I now have a 41CX with math/stat, circuits, Advantage modules and HPIL

Also a '71b with tape drive HP914A drive RS232 module, math and text editor PIL box etc etc

Have I done enough to save my HP soul ?

What sins have you commited LOL

Sean

Re: Things that surely will condemn us to HP Hell

*Message #2 Posted by **Geoff Quickfall** on 26 Sept 2009, 1:55 p.m.,*
in response to message #1 by Sean Connor

Thats really bizarre!

In late 1994, due to a temporal rift, a pristine HP-71B with Zenwand showed up at my house, garage to be accurate, with a 20 pound note attached to it!

On a separate yellow stickey was the following:

```
"The answer is 42"
and
"This is for you"
```

Yes, you have paid your dues!!!!

At least I sold my HP-25 and put the funds to an HP-41C in 1982!

;-)

Geoff

Re: Things that surely will condemn us to HP Hell

*Message #3 Posted by **Allen** on 26 Sept 2009, 3:58 p.m.,*
in response to message #2 by Geoff Quickfall

Perhaps we can make an multi-purpose HP towel for just such occasions?

Re: Things that surely will condemn us to HP Hell

*Message #4 Posted by **Paul Guertin** on 26 Sept 2009, 5:25 p.m.,*
in response to message #1 by Sean Connor

> Quote:
>
> What sins have you commited LOL

In the late eighties or early nineties, at a flea market, I came upon a cardboard box full of old HP calculators, AC adapters and maybe some other stuff. At least two dozen calculators. They were all scientific LED models, probably HP-25, HP-33E and the like, but there's no way to be sure. All had "Property of [the power company]" stickers, and I guess they had been thrown out when the company bought newer LCD calculators.

The guy wanted 20$ for the lot. As I had just bought an HP 28s, I had no use for those old calculators, so I walked away...

Re: Things that surely will condemn us to HP Hell

*Message #5 Posted by **Mark Edmonds** on 27 Sept 2009, 2:34 p.m.,*
in response to message #4 by Paul Guertin

The only regret I have is that at some time in the past, hundreds and thousands of early HP desktop calcs got dumped in skips and probably ended up in landfills. If only I had known about them to go on salvage missions each time I saw a skip!

When you think about the rest of our computing heritage that has just been chucked out and lost, you can't help but ask yourself, why were we so stupid?

Mark

Re: Things that surely will condemn us to HP Hell

*Message #6 Posted by **Garth Wilson** on 27 Sept 2009, 3:31 p.m.,*
in response to message #5 by Mark Edmonds

> Quote:
>
> What sins have you commited LOL

thinking that they would just keep getting better and better

I wish I had gotten the HPIL-to-parallel interface converters (there were at least a couple of them), and some other things, but I didn't feel that I could afford them at the time. I wish I had kept all the advertising literature from the early 80's, and I kind of wish I had kept all the boxes things came in. I do still have the 41's original box and the 82169A HPIL-to-HPIB interface converter box, and I have all the manuals.

Re: Things that surely will condemn us to HP Hell

*Message #7 Posted by **Palmer O. Hanson, Jr.** on 27 Sept 2009, 9:24 p.m.,*
in response to message #6 by Garth Wilson

> Quote:
>
> I wish I had kept all the advertising literature from the early 80's, and I kind of wish I had kept all the boxes things came in. I do still have the 41's original box and the 82169A HPIL-to-HPIB interface converter box, and I have all the manuals.

For some reason when I started collecting I recognized that boxes, manuals and promotional literature were worth keeping. So, I have four working 41's (two 41C's, a 41CX and a 41CV) all with boxes and manuals, and with some of the promotional literature as well. I also have several dead calculators (the charger problems) with near mint condition boxes and manuals. I'm hoping to find working devices to match the boxes and manuals.

Re: Things that surely will condemn us to HP Hell

*Message #8 Posted by **Don Shepherd** on 27 Sept 2009, 3:56 p.m.,*
in response to message #5 by Mark Edmonds

Mark, what's a "skip"? We don't know that term in the US.

Re: Things that surely will condemn us to HP Hell

*Message #9 Posted by **Sancerre (Phoenix)** on 27 Sept 2009, 4:20 p.m.,*
in response to message #8 by Don Shepherd

I suspect he means pallet.

Re: Things that surely will condemn us to HP Hell

*Message #10 Posted by **Mark Edmonds** on 27 Sept 2009, 5:10 p.m.,*
in response to message #9 by Sancerre (Phoenix)

Well, in the UK, a skip is a large waste bucket that gets lifted up onto the back of a flat-back lorry. One of these:

http://en.wikipedia.org/wiki/Skip_(container)

Mark

Re: Things that surely will condemn us to HP Hell

*Message #11 Posted by **Richard Reed** on 27 Sept 2009, 5:51 p.m.,*
in response to message #10 by Mark Edmonds

Everything is by brands in the US, so close to this is the "Dempster Dumpster" or 'dumpster' for short.

Re: Things that surely will condemn us to HP Hell

*Message #12 Posted by **Eric Smith** on 27 Sept 2009, 9:14 p.m.,*
in response to message #1 by Sean Connor

A friend once told me that he saw an HP-81 at the swap meet, but he didn't buy it for me since he wasn't sure it was a model I wanted.

Five years later, after I got out of prison...

Just kidding, I was obviously disappointed but didn't do anything rash.

Re: Things that surely will condemn us to HP Hell

*Message #13 Posted by **Mark Edmonds** on 27 Sept 2009, 10:11 p.m.,*
in response to message #12 by Eric Smith

Another thing that will condemn this community to HP Hell is the apparent failure to appreciate what a great calc the 19Bii is. Although I will accept the clamshell formfactor is not ideal, what the calc offers functionally though is surely the most flexible and well specified all-rounder HP ever produced.

I am under the impression that the later models used button cells instead of the N cells so that got rid of the dreaded battery door problem as well.

A truly great calc that no one seems to like?

Mark

Re: Things that surely will condemn us to HP Hell

*Message #14 Posted by **Gerson W. Barbosa** on 28 Sept 2009, 8:10 a.m.,*
in response to message #13 by Mark Edmonds

> Quote:
>
> I am under the impression that the later models used button cells instead of the N cells so that got rid of the dreaded battery door problem as well.

Actually late-run units kept all three N-type batteries, but the battery cover was modified and relocated to the back of the calculator. Surely a more clever design.

Gerson.

Re: Things that surely will condemn us to HP Hell

*Message #15 Posted by **BobVA** on 27 Sept 2009, 10:13 p.m.,*
in response to message #1 by Sean Connor

I spotted an HP-91 under a guy's sneaker at a hamfest. There was also an HP-97 in the pile as well. I bought both for $10 and parted out the 91 to get the 97 working. Then I binned the mortal remains of the 91. Oops!

At least I'm still balancing my checkbook with that 97.

Bob

Re: Things that surely will condemn us to HP Hell

*Message #16 Posted by **Jérôme Grandjanny (France)** on 2 Oct 2009, 3:23 a.m.,*
in response to message #1 by Sean Connor

It was about ten years ago, when I started to collect HP calculators, at a flea market. I saw a kind of little coloured HP calculator I didn't knew. At that time I thought it was a recent four banger made from HP, something of no interest to collect. I went away without even looking at the calc, thinking it was the kind of things we will find in quantities in flea markets ... Now, I'm not absolutely sure, but, the more I think about it, the more I'm convinced it was an Xpander.

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HP-41 I/O Circuit Strip

*Message #1 Posted by **Stephan Gloor** on 26 Sept 2009, 12:35 p.m.*

In response to another thread from March of this year another way to come over the damaged circuit strips of a HP 41C calculator.

```
Repair instructions:
http://keepcontact.ch/hp41c/
```

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HHC 2009 only 1 week away...who is coming?

*Message #1 Posted by **Gene Wright** on 25 Sept 2009, 5:45 p.m.*

I'll be there.

HHC 2009 web page

List of door prizes looks really nice!

Door Prizes

P.S. Anyone getting into the Denver airport Thursday night around 7pm? :-)

Re: HHC 2009 only 1 week away...who is coming?

*Message #2 Posted by **Egan Ford** on 25 Sept 2009, 6:42 p.m.,*
in response to message #1 by Gene Wright

I'll be there. You can upgrade my 90% to 99%. I'm driving from SLC, UT.

Re: HHC 2009 only 1 week away...who is coming?

*Message #3 Posted by **hugh steers** on 25 Sept 2009, 7:44 p.m.,*
in response to message #1 by Gene Wright

Yes me.

Re: HHC 2009 only 1 week away...who is coming?

*Message #4 Posted by **Gerry Schultz** on 25 Sept 2009, 8:05 p.m.,*
in response to message #3 by hugh steers

Yes Gene, I'll be there too. Sorry I won't be in Denver Thursday night, I'll be in Albuquerque. I won't be in Denver until Friday afternoon. Do you need any volunteers for envelope stuffing?

Jean-Francois contacted me last Monday saying my PIL-Box HP-IL to USB protocol converter was on its way. I hope to get it before I leave.

Gerry

Re: HHC 2009 only 1 week away...who is coming?

*Message #5 Posted by **Eric Smith** on 25 Sept 2009, 9:34 p.m.,*
in response to message #1 by Gene Wright

I'll arrive in Denver on Wednesday afternoon. I could be at the airport on Thursday evening if there was some particular reason to be there.

Re: HHC 2009 only 1 week away...who is coming?

*Message #6 Posted by **Allen** on 25 Sept 2009, 9:46 p.m.,*
in response to message #1 by Gene Wright

I'll be there. I'm getting into Denver at 11:00am on Friday.. Anyone need a ride to Ft. Collins?- email me.

Re: HHC 2009 only 1 week away...who is coming?

*Message #7 Posted by **Howard Owen** on 26 Sept 2009, 10:05 a.m.,*
in response to message #1 by Gene Wright

I'm going to have to miss it again this year. Life is interfering with my hobby again. :)

Like an optimistic fan of a losing baseball team, I can say "maybe next year."

Regards
Howard

Re: HHC 2009 only 1 week away...who is coming?

*Message #8 Posted by **Geoff Quickfall** on 26 Sept 2009, 1:51 p.m.,*
in response to message #1 by Gene Wright

see you there!

Re: HHC 2009 only 1 week away...who is coming?

*Message #9 Posted by **Bruce Bergman** on 26 Sept 2009, 8:45 p.m.,*
in response to message #1 by Gene Wright

The move to Colorado killed it for me. Unfortunately, I won't be coming this year. Hopefully it will be back in California next year.

thanks! bruce

Re: HHC 2009 only 1 week away...who is coming?

*Message #10 Posted by **Karl Schneider** on 26 Sept 2009, 9:56 p.m.,*
in response to message #9 by Bruce Bergman

> Quote:
>
> The move to Colorado killed it for me. Unfortunately, I won't be coming this year.

Same here. I wouldn't have even needed a hotel room if the conference were to be held as originally planned at HP's since-sold complex in Vancouver, Washington.

-- KS

Re: HHC 2009 only 1 week away...who is coming?

*Message #11 Posted by **Olivier (Wa)** on 26 Sept 2009, 10:08 p.m.,*
in response to message #10 by Karl Schneider

Me 2... Hopefully, next year at the (not yet disclosed) new location...

Re: HHC 2009 only 1 week away...who is coming?

*Message #12 Posted by **Matt Kernal** on 2 Oct 2009, 11:26 a.m.,*
in response to message #10 by Karl Schneider

> Quote:
>
> as originally planned at HP's since-sold complex in Vancouver, Washington

A friend's wife who works for HP, said the Vancouver facility is being leased by HP for the time being. So other than ownership of the buiding(s), it *seems* the conference wouldn't have necessarily had to have been relocated to Ft. Collins, as it's "business as usual" in Vancouver.

My daughter's birthday is this weekend :-), so I won't be attending HHC2009 :-(. Hopefully next year, in Boise ID.

Matt

Re: HHC 2009 only 1 week away...who is coming?

*Message #13 Posted by **Reth** on 27 Sept 2009, 8:41 a.m.,*
in response to message #1 by Gene Wright

I'm really curious what drives one to attend this event under the circumstances in the last 10 years or so. The only reason I can see is nostalgia.

Re: HHC 2009 only 1 week away...who is coming?

*Message #14 Posted by **geoff quickfall** on 27 Sept 2009, 9:19 a.m.,*
in response to message #13 by Reth

Lots of reasons Reth

```
hope springs eternal
meeting old friends
meeting new friends
sharing ideas
programming and new initiatives in calculator design
```

It is about the old and the new, although I have used HP since 1975 I am new to the conferences. The names that attend I have known through HP programming and using for the last 34 years.

I finally get to put faces, traditions and thinking to all the names involved in design whether or not one accepts the reality of calculator design and marketing today.

In any case, attend one of the conferences and then make a comment about the reasons for attendance.

Cheers, Geoff

Re: HHC 2009 only 1 week away...who is coming?

*Message #15 Posted by **Reth** on 28 Sept 2009, 7:15 a.m.,*
in response to message #14 by geoff quickfall

Thanks, Geoff.

Please note I didn't make a comment but rather asked a question.
Regards,

Re: HHC 2009 only 1 week away...who is coming?

*Message #16 Posted by **Tim Wessman** on 27 Sept 2009, 12:05 p.m.,*
in response to message #13 by Reth

The fact that everyone who goes, even unwillingly at first, ends up having a really fun time and enjoying themselves immensely might have something to do with it. People that don't even like calculators all that much have gone and had a blast. :-)

TW

Re: HHC 2009 only 1 week away...who is coming?

*Message #17 Posted by **BruceH** on 30 Sept 2009, 10:21 p.m.,*
in response to message #1 by Gene Wright

Nice prize list. You can add two more items from me:

- A standard 200LX, in full working order (but no batteries to preserve the insides)
- Four wax candles with an image of an HP-48SX on the sides originally produced by the Dutch club, STORC.

Those of a certain age from the UK reading this last point will automatically think of this. Perhaps they could be used as votive candles to help the HP team with their efforts to produce new calculators?

Re: HHC 2009 only 1 week away...who is coming?

*Message #18 Posted by **Thomas Chrapkiewicz** on 1 Oct 2009, 8:57 p.m.,*
in response to message #1 by Gene Wright

.....so.....what time do things start Saturday Morning?

thanks, TomC

Re: HHC 2009 only 1 week away...who is coming?

*Message #19 Posted by **geoff quickfall** on 2 Oct 2009, 6:59 p.m.,*
in response to message #18 by Thomas Chrapkiewicz

7:30 o-dark am!

Cheers, Geoff

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Hp 71b power fault

*Message #1 Posted by **Sean Connor** on 25 Sept 2009, 8:44 a.m.*

Hi all,

This is driving me NUTS. My 71b is fine on batteries but when powered from an AC adapter it keeps losing power and switching off. I thought that maybe it was a faulty wire from the AC to the recifier so I re-soldered these (The thin green and pink ones wound on the choke). It's STILL doing it. The behaviour can be aggrivated by wiggling the AC plug into the machine. What else could be loose ? Could it be that the actual pins are not being held tight enough by the adapter plug ?

I have no batteries inside themachine when I am doing this

Sean

PS I'm an electronics engineer so I don't mind swapping stuff out or soldering

Re: Hp 71b power fault

*Message #2 Posted by **Bart (UK)** on 25 Sept 2009, 11:46 a.m.,*
in response to message #1 by Sean Connor

Sean,

Have you checked to see if connection on the pins are good inside the unit? Also if the AC cord has been wrapped tightly, the strands inside it could be broken. Otherwise as you said it could be a loose fitting plug.

Bart

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OT: BA 2 Plus TI

*Message #1 Posted by **Nigel Bamber** on 25 Sept 2009, 12:37 a.m.*

This has just been released by TI in the App store. Price £8.99 or probabably around $15.

Nigel

Re: OT: BA 2 Plus TI

*Message #2 Posted by **Eric Smith** on 25 Sept 2009, 1:54 a.m.,*
in response to message #1 by Nigel Bamber

Until I looked at this, I wasn't aware that recent TI financial calculators have trig functions. Maybe that's what prompted their inclusion in the HP 20b?

And you're right, the US pricing is $14.99.

Edited: 25 Sept 2009, 1:54 a.m.

Re: OT: BA 2 Plus TI

*Message #3 Posted by **Howard Owen** on 25 Sept 2009, 3:41 a.m.,*
in response to message #1 by Nigel Bamber

I noticed that yesterday. Despite my nearly compulsive collecting of calculator simulators for the iPhone/iPod Touch, I just can't bring myself to pay that much for a simulator of a *TI* calculator, particularly one of modern vintage.

Regards,
Howard

Re: OT: BA 2 Plus TI

*Message #4 Posted by **Eric Smith** on 25 Sept 2009, 4:05 a.m.,*
in response to message #3 by Howard Owen

I'll probably buy it, as part of "market research". It's too bad that the license agreement forbids reverse-engineering it, though realistically I probably wouldn't have time to do that anyhow.

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HP-97 diagnostics

*Message #1 Posted by **Bruce Bergman** on 24 Sept 2009, 8:59 p.m.*

So, I just picked up a nice condition HP-97 and have found only two issues with it. I wonder if anyone can point me at roughly what I need to consider as far as repairs.

1) Inserting a mag card. It doesn't grip well, although I hear the motor run. Upon ERROR, removing the card shows little patches of stickiness (technical term) on the bottom edge of the mag side. I presume something is gummed up inside.

2) The printer works well, but advancing the paper it "sounds" a bit like it's not cleanly (or perhaps confidently) advancing. No real issue here, but is there some preventative maintenance I can do to perhaps help the situation?

Thanks! bruce

Re: HP-97 diagnostics

*Message #2 Posted by **Michael de Estrada** on 24 Sept 2009, 9:11 p.m.,*
in response to message #1 by Bruce Bergman

1) Needs "gummy wheel" repair. Others on this forum can tell you how. Meanwhile, don't insert any more cards until this is fixed.

2) Could just need a good internal cleaning, or could be a bad printer advance gear. If the latter, I can tell you where to get a replacement.

Re: HP-97 diagnostics

*Message #3 Posted by **Geoff Quickfall** on 24 Sept 2009, 9:16 p.m.,*
in response to message #1 by Bruce Bergman

Hello Bruce, good find!

Three things to consider here:

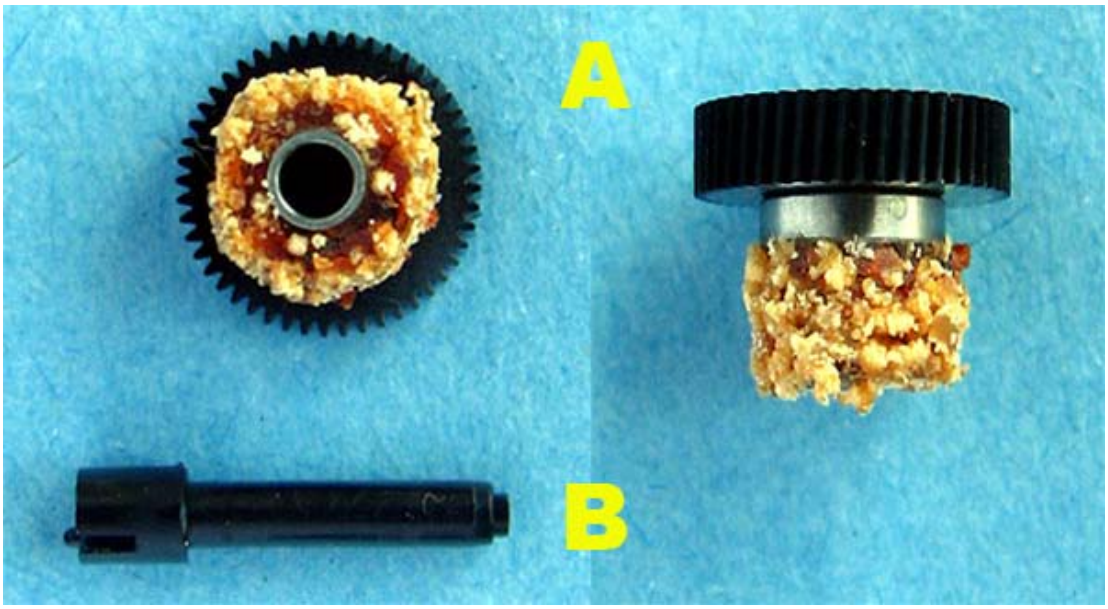
```
CARD READER:
a.  the drive roller rubber has deteriorated to a gummy
    residue and needs replacing.
b.  the dampening couple needs replacing as it is composed of the
    same rubber.


PRINTER:
c.  some printers have a carbon composite gear while some have
    a rubber gear composed again of the same rubber as in (a)
    and (b)above.
```

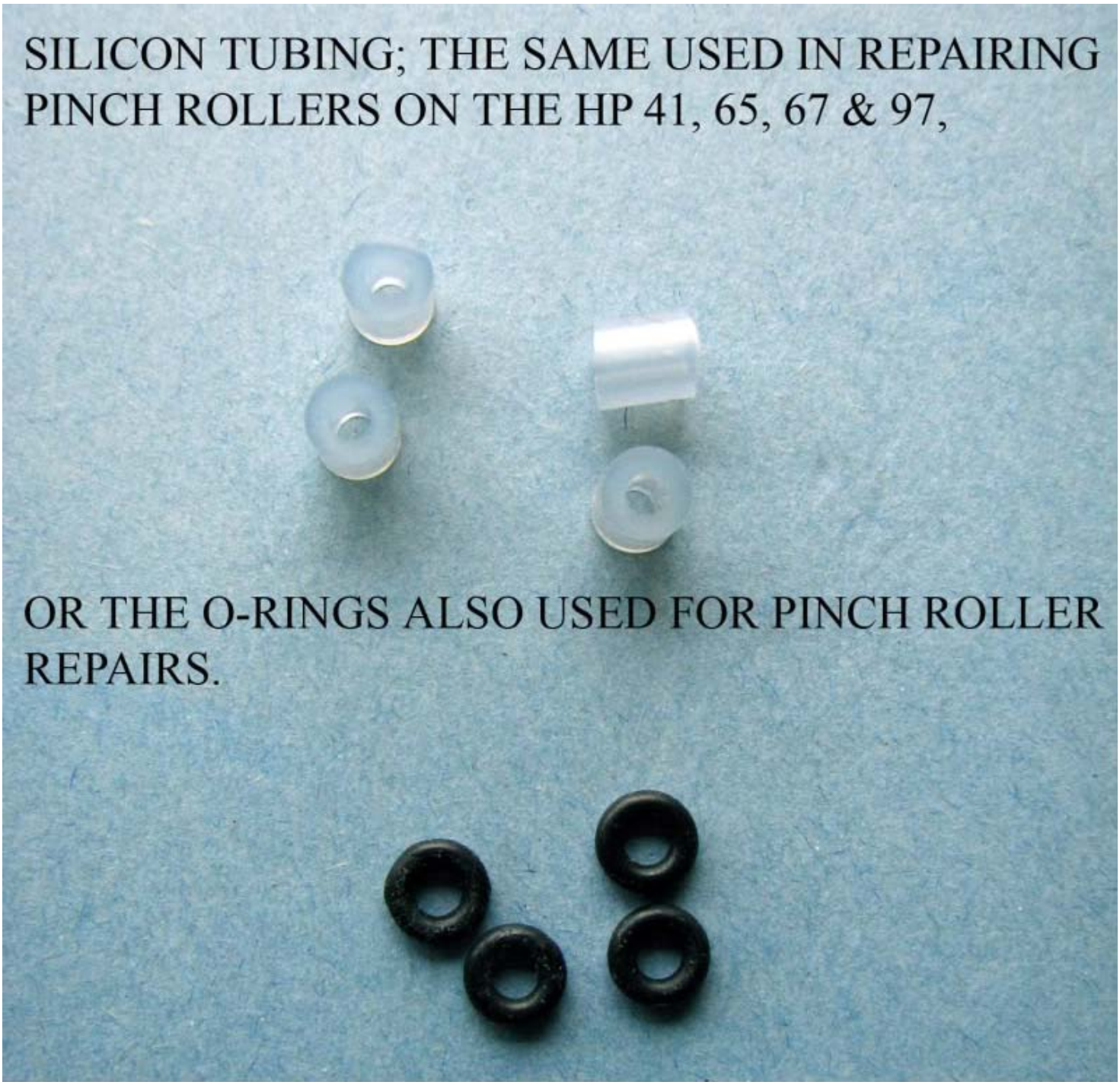
Check out the repair section of the MoHPC:

repair section

Example of a deteriorated drive roller, some talk about a bacterial infection of the natural rubber.



Example of repair types with tubing or o-rings:



Gratuitous photo of a 97 and 91 restored:

Cheers, Geoff

Re: HP-97 diagnostics

*Message #4 Posted by **Bruce Bergman** on 25 Sept 2009, 12:03 a.m.,*
in response to message #3 by Geoff Quickfall

Thanks guys! I figured the card reader was indeed the "gummy wheel" repair scenario, but just never encountered it as yet. Lucky I guess. I have ordered some parts for the repair from YouKnowWho here and will be tackling it when I get them.

Oh, and I didn't know the museum HAD a repair section! After all these years, there's new stuff to learn every day! ;-)

Thanks! bruce

Re: HP-97 diagnostics

*Message #5 Posted by **Dan W** on 25 Sept 2009, 12:46 a.m.,*
in response to message #4 by Bruce Bergman

> Quote:
>
> Thanks guys! I figured the card reader was indeed the "gummy wheel" repair scenario, but just never encountered it as yet. Lucky I guess. I have ordered some parts for the repair from YouKnowWho here and will be tackling it when I get them.

Oh, and I didn't know the museum HAD a repair section! After all these years, there's new stuff to learn every day! ;-)

Thanks! bruce

I don't know YouKnowWho, but the o-rings are very common 1/16 ID, 1/4 OD. You can find a couple at any hardware store for a buck or so.

I've repaired quite a few card readers and experimented with the o-rings and the tubing. I had more consistent success with the o-rings. They are manufactured to tight tolerances, whereas tubing is not manufactured to be perfectly round at all.

Re: HP-97 diagnostics

*Message #6 Posted by **Geoff Quickfall** on 25 Sept 2009, 1:00 a.m.,*
in response to message #5 by Dan W

Hi there again,

I prefer the tubing myself. It has greater surface area for tracking the card through the reader. I use MIL spec fuel line tubing which for some military reason has the hole in the exact centre. It is usually pink in colour.

Dan is correct though, the o-rings are consistent and easy to source.

Cheers, Geoff

Re: HP-97 diagnostics

*Message #7 Posted by **Etienne Victoria** on 25 Sept 2009, 5:39 a.m.,*
in response to message #1 by Bruce Bergman

Hi Bruce,

Answering your question 2), this is how I repair the printer gear:

Topcat printer gear repair.

Credits go to Katie as she was the first one to publish an elaborate repair procedure.

Best regards

Etienne

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Trivia: Which HP can't display its own programs?

*Message #1 Posted by **Mark Edmonds** on 24 Sept 2009, 3:47 p.m.*

I don't know if this machine is unique in this respect but one of HP's calcs can't display its own program code. So you type a program in and it is impossible to get the keystrokes back on the display. The only way to get the program details is to print it. An incredibly strange design decision which makes programming somewhat awkward and wasteful of paper.

Which calculator is it?

Mark

Re: Trivia: Which HP can't display its own programs?

*Message #2 Posted by **Katie Wasserman** on 24 Sept 2009, 3:54 p.m.,*
in response to message #1 by Mark Edmonds

The 9815, with it's shockingly loud printer.

Re: Trivia: Which HP can't display its own programs?

*Message #3 Posted by **Mark Edmonds** on 24 Sept 2009, 4:07 p.m.,*
in response to message #2 by Katie Wasserman

Well that didn't take long!!! Correct on both counts Katie!

I know the keyboard layout is not uniform for a simple grid reference but I really am surprised HP didn't find some way of using the display to show key numbers. It is a near-fatal flaw otherwise.

Mark

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hp 9815a/s repair
*Message #1 Posted by **frankabc** on 24 Sept 2009, 1:50 p.m.*

I have corresponded 2 years ago concerning "hp 9815a repair". Last week we obtained an hp 9815s calculator via ebay. It is in better shape than our 9815a, but the 9815s does have some memory issues. Rather than displaying ~3800 programmable steps, it displays 904. Also the storage registers A->E and 003->009 work perfectly, but F->J, and 000, 001 and 002 already are filled with the number 2.02 x 10^33 when the unit is turned on. All other functions seem to work. Obviously some of the memory chips (hp 1818-0438) are faulty, but some chips are still active. Does anyone know which memory chips are responsible for which functions? Which memory chip holds storage registers A->J, which holds registers 000->009, and which hold the remaining 3800 programmable steps? We have Tony Duell's schematics for the hp 9815a (Australian HP Museum), but are not sure that these schematics cover the 9815s. Does anyone know which of the 8 memory chips does what?

And where do we find replacement 1818-0438 memory chips?

We also are seeking the Utility and Test tape cartridge for the 9815a/s, or a copy, or a print-out of the Utility and Test programs, so that we can make a test tape of our own. Apparently every 9815a/s came with a Utility and Test tape, so at least one 9815 owner must still have a Utility and Test tape cartridge that works - hopefully!!??!!

Thank you, most very kindly.

Frank Simpson franksimpson4@gmail.com

Re: hp 9815a/s repair
*Message #2 Posted by **Mark Edmonds** on 24 Sept 2009, 3:43 p.m.,*
in response to message #1 by frankabc

I have a 9815a expanded to 9815s spec. The only difference between the two machines is surely the interface card and the extra ram card sitting middle top. So to reduce your machine to a 9815a, remove the extra ram card and then you've got a match for Tony's schematic. I would expect the base register location to be the same between both macine types anyway as the s just has more extended ram.

Don't know if that helps...

Mark

Re: hp 9815a/s repair
*Message #3 Posted by **Katie Wasserman** on 24 Sept 2009, 3:58 p.m.,*
in response to message #1 by frankabc

Copying the Utility and Test tape is something that I have been unable to do after many attempts, years ago. There's some sort of special copy protection that it makes use of.

Re: hp 9815a/s repair
*Message #4 Posted by **frankabc** on 25 Sept 2009, 12:49 a.m.,*
in response to message #3 by Katie Wasserman

Thank you, Katie, Can the Utility and Test tape program be printed out via list, or similar?

Re: hp 9815a/s repair
*Message #5 Posted by **Katie Wasserman** on 25 Sept 2009, 5:04 p.m.,*
in response to message #4 by frankabc

> Quote:
>
> Can the Utility and Test tape program be printed out via list, or similar?

I'm afraid not. Most of the programs are hidden and are in machine language. They display and print patterns that are not possible to generate via user programming. I suppose that it wouldn't be impossible to hack the tape read/write code given that the 9815 used a 6800 microprocessor, but there must be an easier way to copy this tape.

Just curious, has anyone here ever figured out how to run their own 6800 code on the 9815A/S? I used to write in 6502 machine language for my PET computer way back when I didn't have an assembler and had most the op codes memorized. It might be run to try that (a few bytes of it) on a 9815.

Re: hp 9815a/s repair
*Message #6 Posted by **Mark Edmonds** on 27 Sept 2009, 2:15 p.m.,*
in response to message #5 by Katie Wasserman

Although it is a long while now, I used to be completely fluent in the 6800 (I detested the 6502!). Sadly, I know I have lost all my original opcode docs as I've been trying to find them for over 20 years but there must be docs on the net. If anyone can get a binary dump of these tapes, I wouldn't mind seeing what I can do with it given time. The results could be very interesting as they would show entry points and how to load and run your own 6800 code from tape.

One of the things that always picqued my interest in the 9815 was that it used a 6800 - it would be fun delving into this more even if we are a long way off doing this as of now.

Mark

Re: hp 9815a/s repair
*Message #7 Posted by **Joel Setton (France)** on 27 Sept 2009, 4:08 p.m.,*
in response to message #6 by Mark Edmonds

Hi Mark,

The starting point would be to get a binary dump of the ROMs, then disassembling the code shouldn't be too difficult since we have the partial listing in the patent. Any clues about how to read the binary without desoldering the ROM chips?

Joel Setton

Re: hp 9815a/s repair
*Message #8 Posted by **Mark Edmonds** on 27 Sept 2009, 5:06 p.m.,*
in response to message #7 by Joel Setton (France)

Hi Joel,

No, wouldn't know how to do that.Back in those days, you tended to get branded as a software or hardware person and I was always software. I'm out of my depth here but all I can think of is a method of loading 6800 code via tape can be established, then a simple program to dump the entire 64K memory map. But seriously, I'm guessing a lot here.

Are the patent docs freely available on-line?

Mark

Re: hp 9815a/s repair
*Message #9 Posted by **Joel Setton (France)** on 28 Sept 2009, 1:20 a.m.,*
in response to message #8 by Mark Edmonds

Hi Mark,

The patents are available from Eric Smith's website. And they are public domain by now, so they are "highly-recommended" reading. I have found the one on the 9815A to be a fascinating description of the machine.

Joel Setton

Re: hp 9815a/s repair
*Message #10 Posted by **Steve Leibson** on 24 Sept 2009, 6:31 p.m.,*
in response to message #1 by frankabc

The HP 9815's RAMs are most likely Intel 2111a parts. They're not the eight white chips that I think you're referring to. Those white ceramic parts are ROMs and contain the calculator's firmware. There are actually six RAMs on the motherboard. Each RAM is a 256x4-bit chip. They are black, have 18 pins, and most likely have a big, lower-case "i" for Intel stamped on them, although they may well have an HP part number instead of 2111a. I think they're up by themselves at the top of the motherboard between the tape drive and printer cutouts. It takes two of these chips to make one 8-bit byte and there are three banks on the motherboard. Sorry, I can't tell you which one is bad from your description. I did a quick search and you can still find these on eBay, but the chip is way obsolete. Some just sold on eBay: http://cgi.ebay.com.my/ws/eBayISAPI.dll?ViewItem&item=260454127351 for way cheap. You can also use AMD 9111a parts, I think.

Re: hp 9815a/s repair (Intel RAM)
*Message #11 Posted by **Andrés C. Rodríguez (Argentina)** on 24 Sept 2009, 7:22 p.m.,*
in response to message #10 by Steve Leibson

Hi Steve,

I recall I worked with Intel 2101A, 256x4 static RAM chips (=one kilobit); are those compatible with the 2111A you mentioned?

Regards

Re: hp 9815a/s repair (Intel RAM)
*Message #12 Posted by **Steve Leibson** on 24 Sept 2009, 7:51 p.m.,*
in response to message #11 by Andrés C. Rodríguez (Argentina)

Intel 2101A parts are earlier devices. They have 22 pins instead of 18 and require multiple power supplies where the 2111A parts only require 5V. The HP 9815A was based on the Motorola 6800 microprocessor, which was the first commercial microprocessor to run on just 5V, hence the desire to use 5V RAMs as well: to simplify the HP 9815A's power supply.

Re: hp 9815a/s repair (Intel RAM)
*Message #13 Posted by **Eric Smith** on 24 Sept 2009, 11:49 p.m.,*
in response to message #12 by Steve Leibson

The 2101 is a 5V-only part. The reason it has more pins is that it has separate data inputs and outputs.

2101A
*Message #14 Posted by **Steve Leibson** on 24 Sept 2009, 11:54 p.m.,*
in response to message #13 by Eric Smith

My mistake. Thanks for clarifying.

Re: hp 9815a/s repair
*Message #15 Posted by **Eric Smith** on 24 Sept 2009, 11:50 p.m.,*
in response to message #10 by Steve Leibson

Since the 9815S is newer and has more RAM, I'd expect it to use newer, higher-density RAM chips than the 9815A did. Possibly the 2114. But I don't have a 9815S handy to check.

Re: hp 9815a/s repair
*Message #16 Posted by **Steve Leibson** on 25 Sept 2009, 12:02 a.m.,*
in response to message #15 by Eric Smith

The additional RAM was added with a daughter card, I believe. Someone stated that in the archives earlier. Otherwise, there would have been two different motherboard designs, which there weren't. In addition, there would have to have been 2-Kbit SRAMs, which there weren't at the time. We designed those machines with the biggest commercially viable chips available at design time, and the IC generations were decidedly further apart in time than they are now. The HP 9825A started with 4-Kbit DRAMs and then graduated to 16-Kbit devices two to three years later in the HP 9825T. Note to all of you born in the 1980s or later: I'm sure this discussion of Kbit DRAMs is hilarious with the multi-Gbit SDRAM devices we have now, but the first commercially successful DRAM (from Intel) only appeared in 1971. It held all of 1 Kbit. Few people know that it was a bear to bring to production and it was only through the help of the friendly engineers of HP Loveland, who desperately needed the chips to make the HP 98x0 series of desktop calculators real that the chips made it to market in 1971.

Re: hp 9815a/s repair
*Message #17 Posted by **Eric Smith** on 25 Sept 2009, 1:43 a.m.,*
in response to message #16 by Steve Leibson

The 9815S was introduced four years later than the 9815A. The 2114 4-kbit SRAM (1Kx4) was certainly readily commercially available before the 9815S shipped.

I was of the impression that the 9815S used a different PWB than the 9815A, but I'll admit that it's been quite a while since I looked at the innards of either model, so it's quite possible that I'm mistaken about that.

Even if the 9815S used the same main PWB as the 9815A, it's still possible that it used a newer memory expansion board with denser RAM chips than the original optional memory expansion for the 9815A. In fact, I'd be extremely surprised if it *wasn't* a new board, because the 9815S had as standard *twice* as much memory as the 9815A could handle as an option. This means either a different memory board was used, or a different main board that could accept two memory boards.

Re: hp 9815a/s repair
*Message #18 Posted by **Joel Setton (France)** on 25 Sept 2009, 3:29 a.m.,*
in response to message #17 by Eric Smith

Folks,

The two CPU boards are different: The one in the 9815A uses the 2111 RAM chips (with a capacity of 256 x 4) and seven 2kx8 ROM chips; the board in the 9815S uses 2114 memory chips (each of which with a capacity of 1k x 4) and two 8Kx8 ROM chips. As seen in the 9815S I have, the CPU is not an upgraded 9815A, it is a redesigned board. The 9815S gets its larger memory from the "large-capacity" 2114s chips and not from an additional RAM expansion board.

I also believe that at some point in time, HP stopped making the old 9815A CPU board and used the newer 9815S boards to service defective 9815As. In the repair process, these calculators became "hybrids", with a 9815S CPU and its larger memory, but without the two explansion slots which are standard in the 9815S.

Joel Setton

Re: hp 9815a/s repair
*Message #19 Posted by **Andrés C. Rodríguez (Argentina)** on 25 Sept 2009, 11:25 a.m.,*
in response to message #16 by Steve Leibson

Steve, thank you for your comments. Yes, it is fun when we talk about bits and kilobits. I use to comment those facts to my engineering students at the university; for instance that all HP35 code fit in 768 x 10 bit words... some of them expect no less than megabytes even for the most simple task!

I still have (in working condition) my homebrew RCA 1802 board, with 256 bytes made from 2 5101 SRAM... I once "upgraded" it by adding a 2 kbyte CMOS SRAM, all battery-backed.

Re: hp 9815a/s repair
*Message #20 Posted by **Steve Leibson** on 24 Sept 2009, 8:00 p.m.,*
in response to message #1 by frankabc

Here are some AMD 9111As for $5 each on eBay: http://cgi.ebay.com/Vintage-INTEL-P2101A-4-256X4-RAM-2101A-22-PIN-DIP_W0QQitemZ320252853049QQcmdZViewItemQQptZLH_DefaultDomain_0?hash=item4a908ebb39. I think they'll work.

Jameco has 2111As for <$2 each
*Message #21 Posted by **Steve Leibson** on 24 Sept 2009, 8:11 p.m.,*
in response to message #1 by frankabc

http://www.jameco.com/webapp/wcs/stores/servlet/ProductDisplay?jameco_page=46&langId=-1&productId=38931&drill_parents=category_root%24%2410%24%241050&drill_children=10%24%241050%24%24105090&catalogId=10001&storeId=10001&search_type=all&drill_displays=ICs+%26+Semiconductors+%2F+Memory+%2F+SRAM&ddkey=http:StoreCatalogDrillDownView

Re: hp 9815a/s repair
*Message #22 Posted by **Joel Setton (France)** on 25 Sept 2009, 3:37 a.m.,*
in response to message #1 by frankabc

Hi Frank,

The assignment of memory location addresses to the various storage registers in the 9815A (i.e. X/Y/Z/T in the stack, user program storage, etc...) is very well documented in the 9815A patent (US 4,089,059) which you can read from Eric Smith's website. This patent is a "must-read" for all those interested in the 9815A.

This should help you find the addresses of the defective RAM locations, which will point to a pair of RAM chips since RAM locations are 8-bit wide and each chips stores 4 bits.

I hope this helps, but please let me know if it doesn't!

Joel Setton

Re: hp 9815a/s repair
*Message #23 Posted by **frankabc** on 26 Sept 2009, 4:53 a.m.,*
in response to message #22 by Joel Setton (France)

Thank you, thank you, for your many wonderful, helpful responses!!!

Since there seems to be some debate on the differences between the "a" and the "s" models, here is the scoop on the boards and memory chips for our hp 9815a and our hp 9815s, opened, side-by-side.

9815a - with both the 001 option (extended memory to 2008 programmable steps) and the 002 option (HP-1B interface).

```
Numbers on CPU Board:
     88809F
     REV B
     09815-66510
     4699
RAM chips on CPU: SIX 1818-0140 (these cross reference to Synertek SYP2112A-4).
RAM chips on 001 extended memory board: TWELVE 1818-0140.
All RAM chips are 16-pin with 8 pins per side.
Numbers on 001 option board:
     88809L
     REV A
     09815-66581
     525
     OS
ROM chips on CPU: SEVEN, white, 28-pin chips with 14 pins per side, with an open slot
 on the board for an 8th chip.
NOTE: The hp 1818-0140 RAM chips cross reference to 2112, NOT 2111.


9815s
Numbers on CPU Board:
```

```
     88809F
     REV C
     09815-66514
     3936
RAM chips on CPU: EIGHT 1818-0438 (these cross reference to TMS2114-45NL).
No provision on CPU board for attachment of 001 memory option board.
These RAM chips are 18-pin with 9 pins per side.
ROM chips on CPU: SEVEN, white, 28-pin chips with 14 pins per side, with an open slot
   on the board for an 8th chip.


Clarification of confusions on the forum:
1) The RAM chips on the 9815a cross reference to 2112, and the RAM chips on the
   9815s cross reference to 2114.  Although everyone is talking about 2111 chips, 2111's
   are not to be seen on either of our calculators.
2) Tony Duell mentions that the 9815a uses 7 ROM chips, but the 9815s uses a pair of
   ROM chips, http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=66265.
   Both our 9815a and our 9815s have 7 ROM chips.  Perhaps our 9815s is a transition model.
3) Our 9815s DEFINITELY has a redesigned CPU board compared to our 9815a (compare
   the serial numbers listed above).  Our "s" version has no provision for
   attachment of the "a" version's extended memory board.  In the region of the
   memory chips, the circuitry of the boards, and the layout of the chips, are quite
   different.  Plus the 9815s has eight 18-pin RAM chips on its CPU, while the 9815a
   has six 16-pin RAM chips on its CPU.
```

I'll let you know if/when we get either of these running at 100%, and how we solved it.

Frank

Edited: 26 Sept 2009, 3:53 p.m. after one or more responses were posted

Re: hp 9815a/s repair

*Message #24 Posted by **Eric Smith** on 26 Sept 2009, 5:33 a.m.,*
in response to message #23 by frankabc

Thanks for posting all the details. If it's not too much trouble, could you check the part numbers of the ROMs in both units? If either one has part numbers other than 1818-2602 through 1818-2608, that would be very interesting to know.

You should be able to find some 2114 chips, but they've got a reputation for being unreliable, so pulls or even NOS parts aren't necessarily going to be good. If all else fails, you could kludge up something with newer RAMs such as the 6116. That was a 2K*8 CMOS static RAM originally introduced by Hitachi around 1980, but equivalent parts are still made to this day (unlike the 2114).

Thanks! Eric

Re: hp 9815a/s repair

*Message #25 Posted by **Joel Setton (France)** on 26 Sept 2009, 7:18 a.m.,*
in response to message #24 by Eric Smith

Hello Eric,

The ROMs on my 9815 are one 1818-1056A and one 1818-1057A. Each of these chips is 8K bytes, so that's a total of 16K bytes. However, the top 2K are disabled by the missing jumper which enables/disables the optional character set.

The CPU board part-number is 09815-69512 which is technically the same as a 09815-60512. The 69xxx prefix (as opposed to 60xxx) means the board was sold by HP as a service part.

Joel Setton

Re: hp 9815a/s repair

*Message #26 Posted by **frankabc** on 26 Sept 2009, 3:31 p.m.,*
in response to message #25 by Joel Setton (France)

Dear Eric and Joel, Saturday, 9/26/2009

Here are the numbers of the white ROM IC's for our 9815a and our 9815s. As for the position of the chips, I am viewing the keyboard section inverted (i.e. upside down), and rotated so the white ROM chips are at the top. I then read left-to-right for the uppermost bank of four ROM chips, followed by, left-to-right, the lower bank of one empty slot, followed by three ROM chips.

hp 9815a
Upper bank:
G1818, 2605, 2693
H1818, 2602, 1363
D1818, 2603, 2696
B1818, 2604, 2801
Lower bank:
empty slot
B1818, 2608, 2668
D1818, 2607, 2783
E1818, 2606, 2455

hp 9815s
Upper bank:
H1818, 2605, 5640, SINGAPORE
H1818, 2602, 2581, SINGAPORE
D1818, 2603, 5454
B1818, 2604, 5174, SINGAPORE
Lower bank:
empty slot
B1818, 2608, 5633
D1818, 2607, 6149, SINGAPORE
E1818, 2606, 5915

General question: Why has 'most EVERYONE spoken of 2111 memory chips on the 9815a, whilst our 9815a has 2112's (hp 1818-0140)? Is our 9815a unique, or (heaven forbid!) are some recollections foggy?

Thank you, Eric, for the information on possible replacements for the unreliable 2114's, and thank you, Joel, for the patent reference for memory assignments for the RAM chips. Maybe we can order some replacement RAM's soon.

Endless details: Also Joel, when you refer to the two ROMs of your 9815, I assume that yours is an "s" version? So it is interesting that our 9815s has 7 white ROM chips, like our 9815a, while your 9815s has two ROM chips. Our "s" CPU board is REV C, 09815-66514, while you notice that your board is the service part 09815-69512.

Frank

Edited: 26 Sept 2009, 3:41 p.m.

2111a vs 2112a
*Message #27 Posted by **Steve Leibson** on 26 Sept 2009, 4:59 p.m.,*
in response to message #26 by frankabc

My incorrect reference to the 2111a was caused by the photo of the 9815 motherboard on this site. It shows 18-pin chips for RAMs. That led me to incorrectly state that the chips on your board were 2111a parts. Clearly, not correct. From now on, I'll leave it to the experts.

Re: hp 9815a/s repair
*Message #28 Posted by **Eric Smith** on 26 Sept 2009, 7:02 p.m.,*
in response to message #26 by frankabc

The 2112 (and AMD Am9112) are similar to the 2111 (and AMD Am9111), but have only a single chip select and no output disable pin. It's likely that they either used exactly the same die, or a die with only a metalization change. The 2112 was probably slightly less expensive due to the smaller package.

With regard to my previous suggestion of the 6116 as a possible replacement, you should be aware that it is not even *close* to being pin compatible. The 2114 is in an 18-pin DIP (0.3" row spacing), while the 6116 is most commonly found in a 24-pin DIP (0.6" row spacing). Were I in need of replacements for a lot of 2114 chips, I'd probably lay out a small PCB with a surface-mount SRAM like an ISSI IS61C256AL-12TLI (28-TSOP package) on one side, and two 9-pin surface-mount male headers on the other.

Hmmm... I wonder if enough people need 2114 replacements that I could sell some? I need a bunch myself.

On the other hand, Unicorn Electronics does have several 2114 variants in their catalog

2114 chips
*Message #29 Posted by **Steve Leibson** on 27 Sept 2009, 2:45 a.m.,*
in response to message #28 by Eric Smith

Jameco (www.jameco.com), a mail-order company in the SF Bay area, sells 2114s for about $2 each. Just search on 2114.

Re: hp 9815a/s repair
*Message #30 Posted by **Joel Setton (France)** on 27 Sept 2009, 6:46 a.m.,*
in response to message #26 by frankabc

Hi Frank, Eric and all,

The ROM part-numbers in Frank's message show that his 9815A and 9815S have the same set of ROMs, so I think we can reverse-engineer the history of 9815x CPU boards:

- The 09815-66510, first generation used the seven-chip ROM set, 1818-2602 to 1818-2608. An additional 2K ROM chip can be added for optional characters. The RAM chips were six 2111s, and the CPU board has a connector for the RAM expansion board. RAM size is 768 bytes.

- The second-generation 09815-66514, uses the same 7-chip ROM set, but increases RAM size with eight 2114 chips to a capacity of 4K bytes. Since this is the maximum addressing capacity permitted by the firmware architecture, additional RAM cannot be used and the connector for the memory expansion accessory is deleted. This board is used to produce the first 9815S.

- The third generation is the 09815-60512, with keeps the same 4K of RAM in 2114 chips, but the seven+1 ROMs are replaced with two 8Kx8 chips, one 1818-1056A and one 1818-1057A.

The backward-compatibility of the newer boards, which can be used in all generation of 9815x calculators, resulted in HP using the newer boards to repair failed 9815As. This is what happened to mine, which was manufactured in 1977 as a 9815A, but was later fitted with a new board. Since the calculator had Option 001 (two expansion slots), this repair essentially turned it into a 9815S.

It would be interesting to know if the switch from the seven-ROM set (1818-2602 to 1818-2608) the two-ROM set (1818-1056 and 1818-1057) included any firmware changes, bug fixes etc... Is anyone aware of such changes?

Joel Setton

Re: hp 9815a/s repair
*Message #31 Posted by **frankabc** on 28 Sept 2009, 12:27 a.m.,*
in response to message #30 by Joel Setton (France)

Maybe my one contribution to this whole exchange is to question, and hopefully put to rest, the notion that 2111 RAM chips were used in the 9815a. My 9815a here in my hands has 2112's - NOT 2111's. Apparently mine is not a one-off prototype. I am noticing that almost every mention in the forum of RAM in the 9815a, even by the expert Tony Duell back to circa 2004, says 2111. However, when I have looked up the 2111 at Jameco during these last few days, the 2111 has 18 pins. The 9815a here in my hands has 16 pins on each RAM chip. When I cross-reference the hp numbers of the 6 RAM chips on mine's CPU Board, and the 12 RAM chips of its 001 extended memory option board, every one of which is 16 pin, and every one of which is 1818-0140, I obtain SYP2112A-4. I have obtained this cross reference SYP2112A-4 at TWO different sites on the internet, by typing "hp 1818-0140" into google, as the girl on the telephone at hp did, and as she advised I should do, also.

Further, it was thoughtfully pointed out by Steve in Message #26 of this forum page, that there is a photograph of the entrails of an hp 9815a on the hp museum's internet site. I've gone to the hp museum's photograph. It really is of a 9815a, as its CPU board has the proper gold connectors for the 001 memory option. I unfortunately cannot decipher the code numbers on the chips of this photo; however by squinting and recounting several times, I find 16 pins on each RAM chip, 8 per side, not 18 pins/9 per side. I presume therefore that the RAM chips of the hp museum's 9815a are likewise 2112, not 2111.

Re: hp 9815a/s repair
*Message #32 Posted by **frankabc** on 28 Sept 2009, 4:21 a.m.,*
in response to message #30 by Joel Setton (France)

Hello Joel, One more bit of curiosity. If your calculator really was initially a 9815a that later acquired an "s" board during servicing, I am wondering what its stickers read under the printer roll lid, at the back. Our 9815a has two stickers in this location that read, "option 001", and "option 002". While our 9815s has a single sticker here that reads, "9815 S". Might yours have all three stickers, perhaps?

I'm also noticing REV letters on the CPU boards. Our 9815a CPU board is REV B. Our 9815s CPU board is REV C. Both of these boards have seven ROM chips. Your CPU has dual ROM chips. Though it necessitates removing a few screws, etc., to open your case, so you may not want to risk a look, I also am wondering what REV letter your CPU board has. This letter might verify your reverse engineered theory, somewhat, by confirming that our REV C is an earlier "s" version, while your board is later.

Frank

Re: hp 9815a/s repair
*Message #33 Posted by **frankabc** on 28 Sept 2009, 11:48 a.m.,*
in response to message #32 by frankabc

http://store.americanmicrosemiconductor.com/tms2114-45nl.html

http://www.americanmicrosemi.com/information/spec/?ss_pn=TMS2114-45NL

I have just ordered all 14 of these RAM chips. The number TMS2114-45NL cross-references to the original hp 1818-0438 NMOS 450 ns RAM chip of the hp 9815s. I am not sure who the manufacturer is. Hermes tells me that American Microsemiconductor can order more because their supplier has 8000 in stock, though he cannot predict the cost of their next batch. Hermes can be contacted at hermes@americanmicrosemi.com, phone# 1-973-377-9566 or 1-877-372-6652.

One giant leap for human kind!

Re: hp 9815a/s repair
*Message #34 Posted by **Joel Setton (France)** on 28 Sept 2009, 3:26 p.m.,*
in response to message #32 by frankabc

Hi Frank,

I had a look at the CPU board, it's an 09815-69512, A-2244 which means it's the first version of the 09815-6x512 copper (revision A) and the last engineering change to that board was made in the 44th week of 1982. Of course this is not the date of production, the most recent chips on the board have 1984 datecodes. The board has 4K memory in eight 2114 chips, and two 8Kx8 ROM chips.

The revision letters were incremented when a board went through a change which did not affect "fit, form and function", in other words when its feature set and compatibility with the outside world are unaffected by the change. When the feature set changes, for example when replacing the 2112 SRAMs with 2114s and removing the memory expansion connector, the new board is not an exact replacement for the old one, so it gets a new part-number and its revision letter is reset to A.

Comparing the revision letters of two different boards is probably not going to tell us a lot, because production of different types of boards may have overlapped during some time.

On the outside, my 9815 started life as an "A" and included the optional I/O backplane. It has just one sticker, "Option 002". Then it probably failed and got repaired with a new 09815-69512 CPU board, with 2114 RAMs and two 8Kx8 chips. This repair upgraded the machine to an exact 9815S.

Does this help?

One last word: when it comes to HP calculators, curiosity is not very far from passion!

Joel

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Why is x^2 shifted?

*Message #1 Posted by **Frank Rottgardt** on 24 Sept 2009, 6:29 a.m.*

I often wonder why HP (and many other brands) choosed many times to make x^2 a shifted function? In most formulas I see you´ll find a lot more squared variables than square roots. As example only one simple formula used a million times each day around the globe c = SQRT(a^2+b^2). I love the 33s for having a dedicated x^2 key. Is there some deeper going logic behind having x^2 shifted?

Re: Why is x^2 shifted?

*Message #2 Posted by **Bart (UK)** on 24 Sept 2009, 6:48 a.m.,*
in response to message #1 by Frank Rottgardt

Interestingly, the 300s has X^2, x^3, x^n and SQRT as direct keytop functions.

Re: Why is x^2 shifted?

*Message #3 Posted by **DaveJ** on 24 Sept 2009, 6:51 a.m.,*
in response to message #1 by Frank Rottgardt

It's designed to send us nuts!, just like in one of my recent blogs

Shifted 1/X, X^2, Log10, EXP and ENG keys are my pet hates. And don't get my started on the useless dedicated HYP key!

Dave.

Edited: 24 Sept 2009, 7:03 a.m.

Re: Why is x^2 shifted?

*Message #4 Posted by **Ángel Martin** on 6 Oct 2009, 7:39 a.m.,*
in response to message #3 by DaveJ

actually I'd like to know your issues with the dedicated HYP key - being curious about pros/cons of such implementation.

I can see cases where accessing the hyperbolics would be convenient. It's just one key to launch 6 functions (or more).

I just implemented it on the 41Z. Point in case is the user keyboard is full with "regular" functions (non-user is the real-numbers 41, user is the COMPLEX 41). HYP saves six key assignments and also presnts a more logical arrangment.

Best, ÁM

Re: Why is x^2 shifted?

*Message #5 Posted by **Paul Dale** on 6 Oct 2009, 5:57 p.m.,*
in response to message #4 by Ángel Martin

> Quote:
>
> HYP saves six key assignments and also presnts a more logical arrangment.

And both people who use hyperbolic functions regularly will appreciate the saving ;-)

- Pauli

Re: Why is x^2 shifted?

*Message #6 Posted by **DaveJ** on 6 Oct 2009, 6:13 p.m.,*
in response to message #5 by Paul Dale

> Quote:
>
> And both people who use hyperbolic functions regularly will appreciate the saving ;-)

grin
Yes, it's a simple matter of need. What percentage of typical sci calc users would use Hyperbolic trig functions on a regular basis?

My guess is it wouldn't even reach a single percent.

Infinitely more sensible to make HYP a shifted function.

Dave.

Re: Why is x^2 shifted?

*Message #7 Posted by **Michael de Estrada** on 24 Sept 2009, 9:00 a.m.,*
in response to message #1 by Frank Rottgardt

Don't forget the venerable HP-45, which was the first HP pocket calculator to feature the x^2 function. It has a dedicated x^2 key and the sqrt(x) function is shifted. I always have an HP-45 handy for routine calculating.

Re: Why is x^2 shifted?

*Message #8 Posted by **Karl Schneider** on 24 Sept 2009, 10:29 a.m.,*
in response to message #1 by Frank Rottgardt

> Quote:
>
> I often wonder why HP (and many other brands) choosed many times to make x^2 a shifted function? In most formulas I see you´ll find a lot more squared variables than square roots ... Is there some deeper going logic behind having x^2 shifted?

I agree that x^2 is very commonly used, and that an unshifted key is convenient. However, lack of available keyboard space is a constraint. Since square root and x^2 are inverse functions of each other, square root is normally unshifted, with x^2 being the second function.

x^2 can also be performed in RPN by [ENTER][*], which -- along with a limited keyboard -- may explain why the HP-35 didn't have it.

> Quote:
>
> As example only one simple formula used a million times each day around the globe c = SQRT(a^2+b^2).

This, of course, can be performed by a rectangular -> polar conversion, as well.

-- KS

Edited: 24 Sept 2009, 10:30 a.m.

Re: Why is x^2 shifted?

*Message #9 Posted by **Gene Wright** on 24 Sept 2009, 11:23 a.m.,*
in response to message #8 by Karl Schneider

Yes, keyboard layout is a tough discussion.

Considerations:

1) Can the function be done another way? x^2 is also ENTER X, so making it a shifted function costs the same keystrokes as ENTER X. Perhaps better to save a key press and make x^2 primary then and save a keypress for the user.

2) How often is the function used? Is SQRT used more often that x^2? If so, perhaps it deserves a primary key.

#2 applies to the LOG/10^x and LN/e^x discussion. Seems as if the natural log functions occur most often and if so, these "ought" to be given a primary key position over the common functions.

Re: Why is x^2 shifted?

*Message #10 Posted by **Michael de Estrada** on 24 Sept 2009, 12:00 p.m.,*
in response to message #9 by Gene Wright

> Quote:
>
> #2 applies to the LOG/10^x and LN/e^x discussion. Seems as if the natural log functions occur most often and if so, these "ought" to be given a primary key position over the common functions.

Again, the Hp-45 did exactly this with ln and e^x as separate primary keys with log and 10^x as shifted keys. It should be pointed out that the much maligned HP-33s also has dedicated primary ln and e^x keys.

And while we're on the subject of primary keys, I've always liked having separate STO and RCL keys on my basic non-menu calcs. Again, both the HP-45 and HP-33s have these. Unfortunately, I have an early HP-33s with the invisible decimal point, so I don't use it very much.

Re: Why is x^2 shifted?

*Message #11 Posted by **Walter B** on 24 Sept 2009, 12:55 p.m.,*
in response to message #9 by Gene Wright

> Quote:
>
> Yes, keyboard layout is a tough discussion.

Oh yes! E.g. assume a small RPN calculator featuring the following primary keys:

```
0 ... 9 . E ± + - * / ENTER Delete
STO RCL x<>y Rv Sigma+
XEQ R/S SST BST ON/OFF
```

Enough space shall be left for secondary (i.e. shifted) functions. Three (3) primary keys are to be filled yet. What would you put on them?

Re: Why is x^2 shifted?

*Message #12 Posted by **DaveJ** on 24 Sept 2009, 8:31 p.m.,*
in response to message #11 by Walter B

> Quote:
>
> Oh yes! E.g. assume a small RPN calculator featuring the following primary keys:
>
> ```
> 0 ... 9 . E ± + - * / ENTER Delete
> STO RCL x<>y Rv Sigma+
> XEQ R/S SST BST ON/OFF
> ```
>
> Enough space shall be left for secondary (i.e. shifted) functions. Three (3) primary keys are to be filled yet. What would you put on them?

Wouldn't a "small RPN calculator" have none of that programming stuff? Like the RPN Scientifc 4-Banger dream calc some time back?

The difference really comes down to a calculator key layout optimised for programming, and one optimised for manual calculations.
As someone who rarely runs programs, I prefer a layout designed for manual calculations, so I believe all the program keys should be shifted.

But if I only had three keys left I'd put 1/x, X^2 and SQRT

And of course an ON/OFF key is the most useless thing ever invented for a low power calculator.

Dave.

Re: Why is x^2 shifted?

*Message #13 Posted by **Walter B** on 25 Sept 2009, 5:30 a.m.,*
in response to message #12 by DaveJ

> Quote:
>
> The difference really comes down to a calculator key layout optimised for programming, and one optimised for manual calculations. As someone who rarely

> runs programs, I prefer a layout designed for manual calculations, so I believe all the program keys should be shifted.
>
> But if I only had three keys left I'd put 1/x, X^2 and SQRT
>
> And of course an ON/OFF key is the most useless thing ever invented for a low power calculator.

Well, I didn't tell you SST, BST, and ON/OFF are multi-purpose keys like on the 42S. SST and BST browse catalogues as well, and ON/OFF serves also as EXIT. So there are only XEQ and R/S left being primary program keys. My ideas for the three free keys were 1/x, y^x and PI so far, so we agree on one key already. Maybe e^x and LN are a better choice than y^x and PI ?

Edited: 25 Sept 2009, 4:12 p.m.

Re: Why is x^2 shifted?

*Message #14 Posted by **Steve Perkins** on 25 Sept 2009, 4:45 p.m.,*
in response to message #13 by Walter B

I would definately leave PI for a shifted key.

For primary keys, 1/X gets my vote as well, but it's a hard choice between Y^X, SQRT and X^2. I guess I'd go for Y^X and SQRT, leaving X^2 for a shifted function.

It almost pushes me to use the 3 keys for SIN, COS, TAN so their inverses are on the proper shifted key. It's always a matter of tradeoffs in the limited resources world.

Re: Why is x^2 shifted?

*Message #15 Posted by **DaveJ** on 26 Sept 2009, 6:49 a.m.,*
in response to message #14 by Steve Perkins

> Quote:
>
> I would definately leave PI for a shifted key.

I like the Casio method of putting PI on the EXP key.
If you haven't already entered a digit then pressing EXP gives you PI without using SHIFT. But once you enter a digit then EXP becomes the active key.

Dave.

Re: Why is x^2 shifted?

*Message #16 Posted by **Walter B** on 26 Sept 2009, 9:12 a.m.,*
in response to message #15 by DaveJ

> Quote:
>
> I like the Casio method of putting PI on the EXP key. If you haven't already entered a digit then pressing EXP gives you PI without using SHIFT. But once you enter a digit then EXP becomes the active key.

HP's traditional way was using the EEX key to enter 1*10^ directly if no input was pending. E.g. 225 SQRT E 4 * will result in 150,000. Sadly, this way was abandoned recently with the 35s.

EXP & pi key on Casios

*Message #17 Posted by **Karl Schneider** on 26 Sept 2009, 2:27 p.m.,*
in response to message #15 by DaveJ

> Quote:
>
> I like the Casio method of putting PI on the EXP key.
>
> If you haven't already entered a digit then pressing EXP gives you PI without using SHIFT. But once you enter a digit then EXP becomes the active key.

Hi, Dave --

I have a 1981 Casio fx-3600P with that feature. (Note: pi is always accessible using the shift key.) I thought it was a clever means of dual-purposing a key.

On the newer fx-115MS, EXP and pi are also on the same key, but pi always requires the shift key. A leading "1" is not necessary; EXP 6 will give "E6" representing 1,000,000 -- more HP-like in that sense.

I agree with Walter regarding the application of the old Casio method to HP's. Not only does it preclude quicker entry of power-of-10 numbers, it is inconsistent with RPN principles and could cause ambiguity in programs.

-- KS

Edited: 27 Sept 2009, 12:40 a.m.

Re: Why is x^2 shifted?

*Message #18 Posted by **Paul Guertin** on 25 Sept 2009, 6:10 p.m.,*
in response to message #9 by Gene Wright

> Quote:
>
> #2 applies to the LOG/10^x and LN/e^x discussion. Seems as if the natural log functions occur most often and if so, these "ought" to be given a primary key position over the common functions.

I find it interesting that the 32s has e^x and ln as primary functions (with 10^x and log10 shifted), but the 42s has log and ln (with 10^x and e^x shifted). Which came first, and why the change?

Re: Why is x^2 shifted?

*Message #19 Posted by **Mike Morrow** on 26 Sept 2009, 12:10 a.m.,*
in response to message #18 by Paul Guertin

They were both introduced in 1988. I suspect the design differences are evidence that the HP42S

was not related to the HP32S in any way except use of Saturn and external appearance. Other than that, these two machines seem to come from two rather different design philosophies with little in common between them. With respect to the problems they were designed to solve, there is much more in common between the HP-15C and the HP42S than there is between the HP-15C and the HP32S, or between the HP32S and the HP42S.

HP-15C/32S/42S top-row math keys

*Message #20 Posted by **Karl Schneider** on 26 Sept 2009, 6:41 a.m.,*
in response to message #19 by Mike Morrow

Q:

> Quote:
>
> *I find it interesting that the 32s has e^x and ln as primary functions (with 10^x and log10 shifted), but the 42s has log and ln (with 10^x and e^x shifted). Which came first, and why the change?*

A:

> Quote:
>
> I suspect the design differences are evidence that the HP42S was not related to the HP32S in any way except use of Saturn and external appearance.

"not related ... in any way"? That's a rather sweeping -- and wrong -- conclusion based on just one difference in key layout.

Use of the Saturn microprocessor is a significant similarity because that means identical mathematical algorithms (for functions that are common to both). The virtually-identical appearance resulted from the use of identical packaging and basic layout, as well as a design based on one shift key and menu-based access to many functions.

Of course, the function set, display, programming paradigm, and price were quite different.

As for the minor difference in top-row keys: The HP-42S has an unshifted up-arrow key (convenient for menu and program scrolling), bumping XEQ to the top row and leaving one fewer key for transcedental math functions. This also explains why y^x was shifted. (Walter B. correctly pointed out that the layout of these keys are identical to those of the HP-41.)

Back to the original poster's question: The square-root symbol (x inside a radical) can be difficult to discern in small font. That may explain why square root, instead of x^2, is typically unshifted.

I suspect that aesthetics and consistency of structure played a large role in some of the layouts:

HP-15C:

UNSHIFTED:	sqrt	e^x	10^x	y^x	1/x
SHIFTED:	x^2	LN	LOG	%	%CHG

HP-32S:

UNSHIFTED: sqrt e^x LN y^x 1/x
SHIFTED: x^2 10^x LOG % %CHG

HP-42S:

UNSHIFTED: 1/x sqrt LOG LN
SHIFTED: y^x x^2 10^x e^x

The following should be noted:

- On the HP-15C, the three leftmost pairs are inverse functions, and the three "exponentiated to power x" functions are side-by-side, forming a group.
- On the HP-42S, the three rightmost pairs are inverse functions. Four exponentiated functions are side-by-side, as are LOG and LN. These also form groups.
- The HP-32S is perhaps optimized for convenience; LN and e^x-- which are used more than LOG or 10^x -- are unshifted on two of the five keys.

-- KS

Edited: 26 Sept 2009, 10:10 p.m.

Re: Why is x^2 shifted?

*Message #21 Posted by **Walter B** on 26 Sept 2009, 5:18 a.m.,*
in response to message #18 by Paul Guertin

> Quote:
>
> I find it interesting that the 32s has e^x and ln as primary functions (with 10^x and log10 shifted), but the 42s has log and ln (with 10^x and e^x shifted). Which came first, and why the change?

The 42S inherited the top key sequence of the 41 (and added XEQ to this row). The 32S had the standard top key row of the scientific Pioneers (20S, 21S, 22S). So it's obvious which came first.

Re: Why is x^2 shifted?

*Message #22 Posted by **Palmer O. Hanson, Jr.** on 25 Sept 2009, 9:47 p.m.,*
in response to message #9 by Gene Wright

Gene:

> Quote:
>
> Can the function be done another way? x^2 is also ENTER X, so making it a shifted function costs the same keystrokes as ENTER X. Perhaps better to save a key press and make x^2 primary then and save a keypress for the user.

I sort of remember that some earlier machines did x^2 using logarithms as a special case of y^x with the result that

1. x^2 was less accurate than x X x, and

2. x^2 was slower than x X x

Do you remember anything like that?

Palmer

Re: Why is x^2 shifted?

*Message #23 Posted by **Ángel Martin** on 6 Oct 2009, 7:44 a.m.,*
in response to message #9 by Gene Wright

Using ENTER^, X will lose the contents of the T register... which may be an important consideration for some (programs, of course).

Re: Why is x^2 shifted?

*Message #24 Posted by **David Hayden** on 24 Sept 2009, 11:47 a.m.,*
in response to message #1 by Frank Rottgardt

That's a good point, Frank. I think you're suggesting that they put x^2 and sqrt(x) on the same key, make sqrt(x) shifted and x^2 unshifted, rather than the other way around.

I wrote a long note on HP's support site shortly after getting my 50g giving some thoughts on the keyboard. I recognize the difficulty in changing such things, but it's still helpful to speculate I think.

More specifically, I noticed that several unshifted keys (TOOL, VAR, NXT, and SYMB) and more than a dozen shifted keys do nothing more than change the soft-menu context. Many others (like APPS, MODE and shifted functions CHARS, EQW and CAT) just start applications. I'd put nearly all of these functions behind a single "Menu" key. Some functions like EQW are really key from a marketting perspective so they might still be on the keyboard.

I'd also change it so that pressing a shift key would change the softkey labels to indicate the new function (shifted soft keys already PERFORM different functions, but the labels don't change to indicate what the new function is). Finally, I'd do two rows of 5 soft keys instead of 1 row of 6 (and two rows of labels on the screen to match). Note that this would allow an extra character in the softkey label that appears on the screen

By adding this emphasis on soft keys, you could now remove a ton of clutter. You'd probably need just one shift key, which would make room for a large ENTER key. With 20 functions available in each menu (10 unshifted and 10 shifted) you wouldn't need the NXT key at all. In the unlikely event that a menu set required more than 20 functions, you could add NXT and PREV soft functions.

Dave

Re: Why is x^2 shifted?

*Message #25 Posted by **Martin Pinckney** on 25 Sept 2009, 11:44 a.m.,*
in response to message #1 by Frank Rottgardt

The 27s gives "equal time" to everybody: SQRTx,x^2,e^x,LNx,10^x,LOGx,y^x,1/x are ALL shifted. Only the trig functions are arranged in unshifted/shifted groupings.

Re: Why is x^2 shifted?

*Message #26 Posted by **bill platt** on 6 Oct 2009, 10:42 a.m.,*
in response to message #25 by Martin Pinckney

Hi Martin,

Actually that isn't completely true. If you are working from the MAIN menu position, then all of the blue "shifted" functions in the top row are direct press (UNshifted) as there are no softkeys active!

Maybe you already knew this but if not, it is useful to know.

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gamma approximation in 48/49/50?

*Message #1 Posted by **Eric Smith** on 24 Sept 2009, 3:04 a.m.*

I've been poking around in the 48GX, and I'm curious about the approximation of the gamma function it uses. For real non-integer arguments greater than 6, it uses an approximation which I've rewritten in (ugly) C code:

```
double gamma (double x)
{
  const double k0 = -49.5920119017593;
  const double k1 = 3.03479606073615;
  const double k2 = -7.65594818140208;
  const double k3 = 0.933584905660377;
  const double k4 = -0.121142857142857;
  const double k5 = 0.4;
  const double k6 = 0.918938533204673;


  double tx2 = 12.0 * x * x;  // 12 x squared


  double ln_gamma = x/(k4/(k2/((k0/(tx2+60))+tx2+k1)+tx2+k3)+tx2+k5)-x+k6+(x-0.5)*log(x);
  return exp (ln_gamma);
}
```

(Note that in C the log(x) function is the natural log, and exp(x) returns e to the x.)

This doesn't appear to exactly match any of the approximation formulas I've seen elsewhere. Is this a rearrangement of one of the well-known approximation formulas?

[edited 24-SEP-2009 15:45 PDT to correct transcription of k1]

Edited: 24 Sept 2009, 6:45 p.m. after one or more responses were posted

Re: gamma approximation in 48/49/50?

*Message #2 Posted by **Ángel Martin** on 24 Sept 2009, 10:57 a.m.,*
in response to message #1 by Eric Smith

if memory serves me (which is doubtful these days) that looks rather similar to the method used in the HP-29 High-Level Math application booklet. Will check when I'm back home... maybe I just don;t recall it right. Could it be HP's used the same thing ever since the 29C days?

Edited: 24 Sept 2009, 10:58 a.m.

Re: gamma approximation in 48/49/50?

*Message #3 Posted by **Eric Smith** on 24 Sept 2009, 3:50 p.m.,*
in response to message #2 by Ángel Martin

It's possible. I haven't yet figured out how the real gamma function in the 34C works, and I haven't even started looking at the 15C gamma function code yet.

Re: gamma approximation in 48/49/50?

*Message #4 Posted by **Eric Smith** on 24 Sept 2009, 6:54 p.m.,*
in response to message #2 by Ángel Martin

I found the 19C/29C Mathematics Solutions book you're referencing on the MoHPC DVD, and the section on the Gamma function references an HP-25 program in 65 Notes v3n10, which I found on Jake's PPC CD-ROM. It does look similar, though the 48GX code uses more terms, presumably to get more digits of accuracy. It's unfortunate that the authors of that program don't give a derivation or reference. (Then again, maybe it is obvious to someone with a better mathematics education than I have.)

Re: gamma approximation in 48/49/50?

*Message #5 Posted by **Ángel Martin** on 25 Sept 2009, 1:23 a.m.,*
in response to message #4 by Eric Smith

Interestingly HP seemed to have abandoned this approximation in other solutions books published afterwards (see the 67 and 41 HL math for instance) just to return to it (allegedly) on the saturn machines... vagaries of corporate design teams perhaps?

Re: gamma approximation in 48/49/50?

*Message #6 Posted by **hugh steers** on 24 Sept 2009, 11:56 a.m.,*
in response to message #1 by Eric Smith

using this approx on 7.22! gives, 7877.71704167 but my hp50 gives 7877.71717234 which is correct.

do you get the former on your 48gx?

Re: gamma approximation in 48/49/50?

*Message #7 Posted by **Frank Rottgardt** on 24 Sept 2009, 12:05 p.m.,*
in response to message #6 by hugh steers

My 48GX Singapore 3438S02321 give me the same result as you 50g.

Re: gamma approximation in 48/49/50?

*Message #8 Posted by **hugh steers** on 24 Sept 2009, 12:24 p.m.,*
in response to message #7 by Frank Rottgardt

So Eric, is this really the formula used, or could it be to do with the number system in the 48 vs the "C" code?

Re: gamma approximation in 48/49/50?

*Message #9 Posted by **Eric Smith** on 24 Sept 2009, 3:48 p.m.,*
in response to message #8 by hugh steers

It's possible that I didn't transcribe one of the constants from the 48GX correctly, as I was doing it by hand, and I haven't got time to double-check it. (I forgot to write down the address of the code in the 48GX ROM, so I'd have to find it again.) Anyhow, unless I screwed it up, my C code is essentially the logic used in the 48GX factorial function.

They use other code for dealing with integers, and with values less than 6. I assume that they're using the standard reflection formula to handle negative numbers, but I didn't study the code for it.

Presumably they chose 6 as the lower bound of the domain because the approximation is less accurate for smaller values.

My point wasn't the C code would be useful for anything. I just wondered if anyone was familiar with this approximation.

Re: gamma approximation in 48/49/50?

*Message #10 Posted by **Tim Wessman** on 24 Sept 2009, 6:26 p.m.,*
in response to message #9 by Eric Smith

I just looked in the source and there wasn't any clue there at all. Here are the constants pulled out of there to check your transcription.

NIBHEX 395710911029594
NIBHEX 516370606974303
NIBHEX 802041818495567
NIBHEX 773066509485339
NIBHEX 758241758241121
NIBHEX 000000000000004
NIBHEX 376402335839819

For those not familiar with saturn encoding, like all HP stuff it is sdrawkcab. . . :-)

TW

Edited: 24 Sept 2009, 6:29 p.m.

Re: gamma approximation in 48/49/50?

*Message #11 Posted by **Eric Smith** on 24 Sept 2009, 6:49 p.m.,*
in response to message #10 by Tim Wessman

Thanks, Tim! I did drop a digit in the constant I designated k1, so I've updated the code.

On my x86-64 Linux system, it still doesn't perform as well as the actual HP-48GX. IEEE double precision should have just over 15 digits of precision, so I don't think that's the problem. Perhaps the natural log and exponential functions aren't as accurate.

Re: gamma approximation in 48/49/50?

*Message #12 Posted by **hugh steers** on 24 Sept 2009, 9:37 p.m.,*
in response to message #11 by Eric Smith

Something subtle is missing. these constants, they don't much change magnitude are there some exponents missing?

Re: gamma approximation in 48/49/50?

*Message #13 Posted by **Eric Smith** on 24 Sept 2009, 11:53 p.m.,*
in response to message #12 by hugh steers

I think I have the exponents correct, but it would be helpful for someone else to study the actual HP-48 (or -49 or 50) code to see if they spot any obvious mistakes in my C rewrite.

Re: gamma approximation in 48/49/50?

*Message #14 Posted by **Tim Wessman** on 25 Sept 2009, 12:11 a.m.,*
in response to message #13 by Eric Smith

I looked at it quickly when I grabbed those constants. I didn't see anything that looked out of place. I didn't look long though, so I easily could have missed something.

TW

Re: gamma approximation in 48/49/50?

*Message #15 Posted by **Pal G.** on 25 Sept 2009, 12:33 a.m.,*
in response to message #13 by Eric Smith

I do believe Eric's constant k1 and Tim's hexbin line 2 do not match the other constant's regarding their backwardness.

ie.:

```
constant k0 = ABCDEFG : nibhex GFEDCBA
constant k1 = GFEDCBA : nibhex ABCDEFG
constant k2 = ABCDEFG : nibhex GFEDCBA
constant k3 = ABCDEFG : nibhex GFEDCBA
constant k4 = ABCDEFG : nibhex GFEDCBA
constant k5 = ABCDEFG : nibhex GFEDCBA
constant k6 = ABCDEFG : nibhex GFEDCBA
```

Does that matter?

Re: gamma approximation in 48/49/50?

*Message #16 Posted by **Eric Smith** on 25 Sept 2009, 4:11 a.m.,*
in response to message #15 by Pal G.

I appreciate your taking it look at it, but either I don't understand what you are suggesting, or you are mistaken. I double-checked and am fairly certain that all of my k[i] constants are in the reverse digit order of the NIBHEX strings Tim posted. I did have a dropped digit in the middle of k1, which I've since corrected, but that didn't improve the accuracy to match the actual 48GX.

Re: gamma approximation in 48/49/50?

*Message #17 Posted by **Pal G.** on 25 Sept 2009, 11:41 a.m.,*
in response to message #16 by Eric Smith

I apologize Eric. My brain seems to have failed last night. I'm looking at it now and I can't figure out where my head went wrong. I thought k1 was mirrored wrong compared to the other entries.

I will move to another thread and MYOB ;)

Re: gamma approximation in 48/49/50?

*Message #18 Posted by **Steven Thomas Smith** on 25 Sept 2009, 11:46 a.m.,*
in response to message #1 by Eric Smith

That's simply the asymptotic expansion of log(Gamma(x)), rearranged as a continued fraction. For example, you can recognize the k6 constant as log(2*pi)/2 = 0.91893853320467267. The coefficients are all Bernoulli numbers, which are spelled out explicitly in the asymptotic expansion for Gamma(z).

A better implementation would use Lanczos's approximation.

Re: gamma approximation in 48/49/50?

*Message #19 Posted by **Eric Smith** on 25 Sept 2009, 5:25 p.m.,*
in response to message #18 by Steven Thomas Smith

Thanks! I knew someone here would recognize it!

> Quote:
>
> A better implementation would use Lanczos's approximation.

Is that still a better method than the Nemes approximation? Or the Stieltjes approximation, which along with many others is described here?

Re: gamma approximation in 48/49/50?

*Message #20 Posted by **hugh steers** on 25 Sept 2009, 8:06 p.m.,*
in response to message #19 by Eric Smith

maybe it really does use this formula and there is no mistake here. except there is an outer "driver" routine that conditions the input.

say we want 12 accurate digits. I have the (alleged) 48 logic as:

```
double _gamma48gx(double x)
{
    const double k0 = -49.5920119017593;
    const double k1 = 3.03479606073615;
    const double k2 = -7.65594818140208;
    const double k3 = 0.933584905660377;
    const double k4 = -0.121142857142857;
    const double k5 = 0.4;
    const double k6 = 0.918938533204673;


    double tx2 = 12.0 * x * x;  // 12 x squared
    double ln_gamma = x/(k4/(k2/((k0/(tx2+60))+tx2+k1)+tx2+k3)+tx2+k5)-x+k6+(x-
0.5)*log(x);
    return exp (ln_gamma);
}
```

this barely gets about 8 digits for numbers starting at 6. But, if you bump all inputs up to around 100, things are ok.

eg

```
double gamma48gx(double x)
{
    double g;
    double p = 1.0;
    while (x < 100)
    {
        p *= x;
        x = x + 1;
    }
    return _gamma48gx(x)/p;
}
```

ok, its not very good because you have to perform all those multiplies, but it does get the right answer.

so i had a look at what also might be done with the same amount of work (ie 4 divides, some adds plus log/exp), i am finding the Stieltjes forms quite good. for example, i get this:

```
double gammaStieltjes4(double x)
{
    // get 12 digits x > 8
    const double a = 1.0/12;
    const double b = 1.0/30;
    const double c = 53.0/210;
    const double d = 129.0/250;  // adapted


    // would be a constant
    double e = sqrt(2*PI);
    double s;


    s = a/(x + b/(x + c/(x + d/x)));
    return e*exp((x-.5)*log(x) - x + s);
}
```

this starts getting 12 correct digits somewhere between 7 and 8 and would be easy to bump up in the same was suggested above, but with only a few extra multiples (maybe just one). Either that or use the next best version of the approx (ie one more term).

in this example, i got surprisingly accurate results from this 4 divide logic. actually this was a mistake, i had a typo in the last coefficient that turned out to make it *more* accurate!

After some experimentation, it turns out to be a benefit to adjust the last coefficient term to take account of the fact that you are stopping there (can compute the adjustment from the next term ignored). I did this and arrived at my "adapted" term here.

i still don't really know what the 48 actually does.

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N-type Zinc Battery

*Message #1 Posted by **Gerson W. Barbosa** on 23 Sept 2009, 12:13 p.m.*

I haven't been able to find alkaline batteries for my 41CX. However I found Vinnic 1.4V zinc batteries, like this one. I preferred to wait until next week, when alkaline batteries are due to arrive. Zinc batteries cost half the price but my concern is about the damage they might cause in case of leaking. Has anyone tried them?

Thanks,

Gerson.

Re: N-type Zinc Battery

*Message #2 Posted by **John Robinson** on 23 Sept 2009, 7:12 p.m.,*
in response to message #1 by Gerson W. Barbosa

Hi Gerson, i have tried both Zinc and Alkaline, and both work fine, except the Alkalines give longer life of course, and are better for using the card reader. If you use the card reader with zinc batteries, you will kill them pretty quickly.

Also, in Australia at least, Alkaline N cells are available from Tandy Electonics (= Radio Shack in US ?).

Cheers, John

Re: N-type Zinc Battery

*Message #3 Posted by **Gerson W. Barbosa** on 23 Sept 2009, 8:08 p.m.,*
in response to message #2 by John Robinson

Hello John,

Thank you very much for the information. Yes, I occasionally use the card reader so I will try them only on the 28S.

Regards,

Gerson.

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TI Aims Lawyers at Calculator Hackers

*Message #1 Posted by **jacksonconsult** on 23 Sept 2009, 12:06 p.m.*

The Register

Re: TI Aims Lawyers at Calculator Hackers

*Message #2 Posted by **hugh steers** on 23 Sept 2009, 3:47 p.m.,*
in response to message #1 by jacksonconsult

So this has to be to do with calculators in education. Firstly, it's an enormous amount of work to rewrite a new calculator, or "OS" as they call it. it takes literally years to get all the bugs out - and then you still find some. It's not something that Ti should be afraid of. ie repurposing.

so presumably this is to prevent exam approved calculators from being repurposed into better calculators that can be used to cheat. Frankly, anyone who can repurpose a Ti83 into a Ti89 should be hired by TI !

Re: TI Aims Lawyers at Calculator Hackers

*Message #3 Posted by **Joerg Woerner** on 23 Sept 2009, 4:06 p.m.,*
in response to message #2 by hugh steers

Hugh,

I'm not kidding - there are "kits" available to convert the TI-83 Plus to a TI-89 or a TI-84 Plus to a TI-89 Titanium ;-))

Basically you just swap the printed circuit boards ;-))

Regards, Joerg

Re: TI Aims Lawyers at Calculator Hackers

*Message #4 Posted by **hugh steers** on 23 Sept 2009, 5:12 p.m.,*
in response to message #3 by Joerg Woerner

Hi,

Yes i've heard of these case swaps. So what you're thinking is that you could hack the ti89 firmware to identify itself as a Ti83, then re-sign it and load it onto a ti83 with a 89 internal board, and thus fool the invigilators?

cracking idea!

Re: TI Aims Lawyers at Calculator Hackers

*Message #5 Posted by **Egan Ford** on 23 Sept 2009, 5:21 p.m.,*

in response to message #2 by hugh steers

> Quote:
>
> Firstly, it's an enormous amount of work to rewrite a new calculator, or "OS" as they call it. it takes literally years to get all the bugs out - and then you still find some.

I'd see *new* OSes more targeted to something special purpose. It's an embedded platform with a screen, I/O, and a keyboard. Could be a game machine, data collector, etc...

Why not embrace this? Have a repurposing kit and a contest.

> Quote:
>
> It's not something that Ti should be afraid of. ie repurposing.

Furthermore the percentage of people that would actually do this rounds to zero.

Re: TI Aims Lawyers at Calculator Hackers

*Message #6 Posted by **hecube** on 23 Sept 2009, 8:38 p.m.,*
in response to message #5 by Egan Ford

> Quote:
>
> Furthermore the percentage of people that would actually do this rounds to zero.

Maybe on a TI calculator. What would be the percentage on a HP calculator? :-)

Re: TI Aims Lawyers at Calculator Hackers

*Message #7 Posted by **Egan Ford** on 24 Sept 2009, 1:54 a.m.,*
in response to message #6 by hecube

The same. The new 20b and 12C can be repurposed and with HP's blessing. See http://www.wiki4hp.com/doku.php for details. Incredible! However, I'd wager that < 10 people have actually done it. How many 10s of 1000s of HP financial calculators are sold each year?

IMHO, the repurposing of anything (cars, computers, calculators, etc...) will only attract a very small minority.

Re: TI Aims Lawyers at Calculator Hackers

*Message #8 Posted by **David Hayden** on 24 Sept 2009, 11:55 a.m.,*
in response to message #7 by Egan Ford

> Quote:
>
> IMHO, the repurposing of anything (cars, computers, calculators, etc...) will only attract a very small minority.

I'm not so sure. One reason for the success of the Palm Pilot was that they made it easy to customize it and develop new software for it. I think the same is true of the iPhone and iTouch -

they're nice platforms for 3rd party applications.

I'm currently working on an application for the 40gii. When in the field, the calculator will basically be a dedicated platform for this application and will probably not be used as a calculator at all (or very little).

Tim Wessman's surveying program is another example of a repurposed calculator.

Re: TI Aims Lawyers at Calculator Hackers

*Message #9 Posted by **Egan Ford** on 24 Sept 2009, 2:42 p.m.,*
in response to message #8 by David Hayden

> Quote:
>
> I'm not so sure. One reason for the success of the Palm Pilot was that they made it easy to customize it and develop new software for it. I think the same is true of the iPhone and iTouch - they're nice platforms for 3rd party applications.

Applications for an existing platform using the platform API is not repurposing. It's actually a supported purpose of the device.

> Quote:
>
> I'm currently working on an application for the 40gii. When in the field, the calculator will basically be a dedicated platform for this application and will probably not be used as a calculator at all (or very little).
>
> Tim Wessman's surveying program is another example of a repurposed calculator.

My point exactly, *very small minority*.

Re: TI Aims Lawyers at Calculator Hackers

*Message #10 Posted by **Chan Tran** on 24 Sept 2009, 6:33 p.m.,*
in response to message #9 by Egan Ford

So the motive is clear. TI don't want you to repurpose their calculators because they would be banned from school exam. Although, only a very few would do it, many teachers may take the safe side and ban them all.

Re: TI Aims Lawyers at Calculator Hackers

*Message #11 Posted by **Tim Wessman** on 24 Sept 2009, 6:34 p.m.,*
in response to message #10 by Chan Tran

I'd say lets make sure that happens! ;-)

Would it be a bad thing?

TW

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(deleted post)

*Message #1 Posted by **deleted** on 23 Sept 2009, 11:54 a.m.*

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: TI Aims Lawyers At Calculator Hackers

*Message #2 Posted by **hecube** on 23 Sept 2009, 11:59 a.m.,*
in response to message #1 by deleted

Misleading title...

Edited: 23 Sept 2009, 11:59 a.m.

Re: TI Aims Lawyers At Calculator Hackers

*Message #3 Posted by **jacksonconsult** on 23 Sept 2009, 12:07 p.m.,*
in response to message #2 by hecube

Sorry, my mistake, have reposted correctly

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silver band rubbing off...

*Message #1 Posted by **juan demin** on 22 Sept 2009, 5:29 p.m.*

Hi, does anybody know how to make the silver band around the front of classic calculators look silver again? Is that a special paint? Any advice? Thanks

Re: silver band rubbing off...

*Message #2 Posted by **db (martinez, ca.)** on 22 Sept 2009, 11:37 p.m.,*
in response to message #1 by juan demin

Juan; All my calc fixin' stuff is in boxes right now and i can't remember the brand name but there was a kind of pen available in the states that would "write" in silver. It was black and silver colored. I used it on a classic's trim and it looked good, just not as shinny.

There will probably be people who will say, IN CAPS LOCK, that it's not kosher to replace paint or labels with non original stuff. Me, i think if a calculator works well after the "pretty" is gone then it was well made. Wasn't it? Dings, scratches, and a funky r/s key on a 41 that has survived 30 years of bulldozer dust are badges of honor.

Re: silver band rubbing off...

*Message #3 Posted by **Thomas Radtke** on 23 Sept 2009, 8:07 a.m.,*
in response to message #2 by db (martinez, ca.)

In my experience, the paint of those pens is easily rubbed of. I ended up with some modeling paint that gave a durable result. I bet I could have made it slightly more shiny by polishing, but it is ok as it is now.

Re: silver band rubbing off...

*Message #4 Posted by **Dan W** on 24 Sept 2009, 1:51 p.m.,*
in response to message #1 by juan demin

That little silver pen others have mentioned works well for the very thin lines to the sides and the bottom edge. These edges are also fairly well protected and I have not had a problem with it rubbing off. These pens are ball-point with a liquid silver paint. Find them at art shops like Michael's in the US.

The top line is another matter. First, it is thicker than the other lines. second, being next to the switch it gets a lot of wear. That silver pen won't cut it.

I use a chrome spray paint and a clear acrylic top coat. Carefully mask off the line - spend as long as needed to get the masking perfect. Then I put the whole calculator in a small plastic bag that has a half inch wide slit cut for the trim to show through. I mask around the slit to protect the calculator from overspray. Then I give it a few coats of the chrome paint, let dry, then a few coats of clear acrylic.

After it has dried and the masking removed, there is typically a lip of paint where the masking edge was. This can be removed by running your fingernail across the edge.

This won't duplicate the chrome plate look. Despite the name of the paint, it's really a silver paint and so it has a matte texture, not the mirror finish of chrome. Still, it looks good IMHO.

Whether or not to do this is up for debate of course. I wouldn't do this on any highly collectible item. But I will often touch-up a run-of-the-mill Classic.

Sealed in bag, ready for painting:

HP-55 with restored chrome. Slightly underexposed to bring out the texture of the top line:

And the complete before-and-after restore:

Re: silver band rubbing off...

*Message #5 Posted by **davidshenk** on 24 Sept 2009, 2:02 p.m.,*
in response to message #4 by Dan W

Wow Dan! Great work. That before and after picture is amazing. I have about 7 calculators I'm sending you for restoration ;) Dave

Re: silver band rubbing off...

*Message #6 Posted by **juan demin** on 24 Sept 2009, 5:55 p.m.,*
in response to message #4 by Dan W

> Quote:
>
> I use a chrome spray paint and a clear acrylic top coat

Hi Dan, could you tell me the brand of those 2 sprys you use. I don't want to experment with other than yours.

Thank you very much and congrats for that job!!!

Re: silver band rubbing off...

*Message #7 Posted by **Dan W** on 24 Sept 2009, 7:08 p.m.,*
in response to message #6 by juan demin

> Quote:
>
> Hi Dan, could you tell me the brand of those 2 sprys you use. I don't want to experment with other than yours.
>
> Thank you very much and congrats for that job!!!

I used Krylon for both the chrome paint and the clear.

Re: silver band rubbing off...

*Message #8 Posted by **Thomas Radtke** on 25 Sept 2009, 7:01 a.m.,*
in response to message #1 by juan demin

Another idea, but haven't tried it myself: There are adhesive chrome strips, usually used for cars. Maybe one could cut it down to the size of a classic's stripe.

Re: silver band rubbing off...

*Message #9 Posted by **Andreas Grund** on 26 Sept 2009, 7:02 a.m.,*
in response to message #8 by Thomas Radtke

There is another possibility with metal polishing paint by Gunze Sangyo (H-211 chrome silver, approx. 5$ for 10ml). It is an acrylic based paint that can be applied by brush, or better, by airbrush and be polished after drying. Though I did not use it yet on my 35 and 45 with the typical damage near the off/on switch, I made good experiences in railway modelling with such paint.

Andreas

Re: silver band rubbing off...

*Message #10 Posted by **Dan W** on 26 Sept 2009, 12:38 p.m.,*
in response to message #9 by Andreas Grund

> Quote:
>
> There is another possibility with metal polishing paint by Gunze Sangyo (H-211 chrome silver, approx. 5$ for 10ml). It is an acrylic based paint that can be applied by brush, or better, by airbrush and be polished after drying. Though I did not use it yet on my 35 and 45 with the typical damage near the off/on switch, I made good experiences in railway modelling with such paint.
>
> Andreas

When I was a young squirt I made a lot of plastic scale models. Back then we didn't have, that I recall, these metalizer paints. You got me thinking about digging around the scale modeler sites. There are quite a few paints that are intended to be buffed out to create a metal-like finish.

Gunze Sangyo may be hard to find but Testors makes a similar product and there are others.

Here's a good site with photos of scale aircraft using these paints.

http://www.clubhyper.com/reference/nmfcb_2.htm

I may have to dust off my old Badger airbrush.

Re: silver band rubbing off...

*Message #11 Posted by **Dallas Osborne** on 28 Sept 2009, 12:37 p.m.,*
in response to message #10 by Dan W

I have had rather nice success with Aluminum leaf. You will plop down about $20-$25USD on

both the 'Size' (the varnish you use to prep the surface for the leaf to adhear to) and aluminum leaf. There are a number of quick videos on how to leaf; it is rather easy, just practice on a couple of times on sacrificial objects.

Spray two very light runs of clear coat afterward about an hour to two apart.

But it looks damned pretty when you are done. (This is also VERY good for voyager badges.)

Re: silver band rubbing off...

*Message #12 Posted by **davidshenk** on 28 Sept 2009, 1:38 p.m.,*
in response to message #11 by Dallas Osborne

Thank you for this idea. I'm familiar with gold and silver leaf, but didn't realize they make aluminum leaf and wasn't even thinking this route as a solution. I'm sure all of this can be picked up at a crafting store. Dave

---

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HP 42S what can we do with a 2nd rom?

*Message #1 Posted by **nacho** on 22 Sept 2009, 1:29 p.m.*

I know it has been exposed sometimes the fact that 17BII international units have 2 roms in it.

1st Rom (calc Rom) 2nd Rom (Language Rom).

The question I have is if it would be possible to access to a 2nd ROM? XFCN is the key??

So If it was possible what type of ROM could it be? only acces ROM or a substitute of the Original ROM??

Would it be a way to expand the 42S as the 41 series with its rom Modules?

Regards!

Re: HP 42S what can we do with a 2nd rom?

*Message #2 Posted by **davidshenk** on 24 Sept 2009, 11:39 a.m.,*
in response to message #1 by nacho

I don't think there is a lack of interest in this question, just a lack of knowledge. Without some inside information, it's probably impossible to utilize the second ROM. Dave

Re: HP 42S what can we do with a 2nd rom?

*Message #3 Posted by **Raymond Del Tondo** on 24 Sept 2009, 4:10 p.m.,*
in response to message #2 by davidshenk

There were threads about this topic in the past.

To sum them up somehow:
It would be possible to utilize the language ROM space for OS extensions,
but you had to find someone who actually knows how to program the functions, which I guess are only a handful of people,
and someone to burn and wire a suitable ROM/EPROM chip to the location.

The first problem is a rather time-consuming one,
and in combination with the 2nd problem (hardware mod) a rather expensive one.

There may be many people wanting to have and extended HP-42S, maybe with an XFCN ROM
maybe with I/O capability (which works, as Christoph Giesselink demonstrated),
but there are only a few who even let their HP-42S upgrade to 32K RAM,
and maybe not enough people to pay off the effort for making the real h/w extensions, like XFCN ROM and I/O;-)

HTH

Raymond

Re: HP 42S what can we do with a 2nd rom?

*Message #4 Posted by **Diego Diaz** on 27 Sept 2009, 8:55 p.m.,*
in response to message #1 by nacho

Hi,

May be a little too late, but I for one, have built the HW mods in order to create a "Frankens-42-MLDL" with access to the memory bus.

Regrettably I'm on the lowest end on Saturn assembly knowlegde, but since I met Mr. Giesselink at last Alshwill meeting on Nov. '08 I find an interesting field for experiment and development... although (as Raymond has pointed out), most users won't let their valued and valuable 42's in foreing hands under no circumstances. Which turns all this in a project of myown in the long term.

My interest is, by one hand, simply knowledge; and by the other hand, if I only could get...

- a way to create 42's RAM back-ups (may be IR input?) - PC connectivity (serial or serial converted to USB externally) - a real time clock functions set, as those in the TIME module of the 41

... then I may try a 128KRAM upgrade also.... ;-))

Oh, well, it's real late here in the Canaries, may be I'm just dreaming.

Best wishes.

Diego

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32sii Quality over time...

*Message #1 Posted by **Michael Plant** on 22 Sept 2009, 12:34 p.m.*

Just a quick question WRT the build quality of the brown bezel 32sii versus the silver bezel version. I have the latter and find it very flimsy feeling compared to my Singapore produced 42s. I'm wondering if the earlier brown bezel versions are noticeably more "substantial" feeling?

Re: 32sii Quality over time...

*Message #2 Posted by **Frank Rottgardt** on 22 Sept 2009, 12:56 p.m.,*
in response to message #1 by Michael Plant

my brown bezel 32sII made in Singapore is very good in terms of build quality. Perfect keys with good tactile feedback that never fail to register, face plate without fading colours or vanishing symbols, sturdy housing, no display glare. But it rocks slightly on the desk (all rubber feets in place) when entering numbers. Moderate daily use at work. Bought it used. The rubber feets were like new when I got it. So the calculator might not be owned by a power user.

Re: 32sii Quality over time...

*Message #3 Posted by **Ed Look** on 22 Sept 2009, 10:21 p.m.,*
in response to message #1 by Michael Plant

I am the original owner of mine, a brown bezel model made in Indonesia. I have had it now coming up on ten years. It still feels fine to me. The keys maybe are just slightly less snappy than the day I bought it, and that aesthetically pleasing Pioneer form factor case feels solid, reminiscent of my old Spice. The colors of the case, bezel, keys, and keyboard, along with the metal plated raised plastic lettering of the logo have not faded to my eye (of course, it's never out in the sun!). There is a little bit of heft to it, not like a Spice series nor a 50g, though.

It's a very pleasing little calculator to use. It makes me wish I did have a 42S.

Re: 32sii Quality over time...

*Message #4 Posted by **Mike Morrow** on 23 Sept 2009, 12:37 a.m.,*
in response to message #3 by Ed Look

You should prowl ebay and find yourself an HP42S! With the economic downturn, prices are generally lower than I've seen in several years, unless the HP42S is new in the box!

The HP42S 21 years after introduction is stunning. I thought that 12 years ago when I got my first one, and I still think that today.

As for color scheme...it's like about everything else that HP produced after 1986. It's disadvantageous, ugly, and sucks big time. It's chosen only for left-coast artsy BS appeal. For the Pioneers, it's suck-butt orange on fecal brown! What could HP management been doped up on to come up with that? I'd love a HP42S++ that also had the capability of its worthy financial cousin, the HP17Bii, and the color scheme of the HP-

15C. Almost perfection!

Perfection would also require that the ENTER key be placed above the /, *, -, + keys, the way it was for pre-Saturn calculators. Putting those keys on the right and leaving the ENTER on the left for the Saturn era was absolute incompetent idiocy by HP! Apparently, the visual appeal of a keyboard with less effectivve key arrangement won.

I'd like a mini-SD card too, but I doubt that the power demands of such a device could long be met by a calculator powerd by a 357 or 2032 battery.

Edited: 23 Sept 2009, 1:03 a.m.

Re: 32sii Quality over time...

*Message #5 Posted by **Michael Plant** on 23 Sept 2009, 9:39 a.m.,*
in response to message #1 by Michael Plant

Thank you for your replies!

Re: 32sii Quality over time...

*Message #6 Posted by **Patrick Rendulic** on 23 Sept 2009, 11:46 a.m.,*
in response to message #5 by Michael Plant

I have an 12 year old Indonesian brown bezel model, almost daily use. It still works perfectly and feels wonderful.

I don't like the silver bezel black ones. They feel cheaper and above all, the display response is far worse. Numbers don't appear instantly on the display of the black one when typing. That's annoying.

Re: 32sii Quality over time...

*Message #7 Posted by **Michael Plant** on 23 Sept 2009, 12:44 p.m.,*
in response to message #6 by Patrick Rendulic

Thank you for this - this is what I was looking for, a comparison of both. I'm bidding on some brown bezel units now... It's going to take me some time to pick one up, though, because I'm not in a position to pay the prices they are fetching on the auction site. However, with luck, one of my low ball bids will be successful at some point.

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"Why Rechargeable Batteries Are Rarely Cost Effective"

*Message #1 Posted by **Egan Ford** on 22 Sept 2009, 11:38 a.m.*

Interesting read subject to debate: http://lenpenzo.com/blog/id710-why-rechargeable-batteries-are-rarely-cost-effective.html.

Re: "Why Rechargeable Batteries Are Rarely Cost Effective"

*Message #2 Posted by **Dave Shaffer (Arizona)** on 22 Sept 2009, 12:49 p.m.,*
in response to message #1 by Egan Ford

He's probably right for low-current draw equipment.

He didn't mention digital cameras - they are real power hogs and almost everybody has one.

He also didn't do his battery shopping very well. With diligent searching (perhaps at hamfests), you can get the batteries for around a buck. They are less than $2 at Frys anytime. And, you need only one charger, brand names of which can be found on sale for under $10: I've seen (& bought) 4 batteries+charger (Rayovac and/or Energizer) for $9.95 at Target.

Re: "Why Rechargeable Batteries Are Rarely Cost Effective"

*Message #3 Posted by **designnut** on 22 Sept 2009, 2:45 p.m.,*
in response to message #2 by Dave Shaffer (Arizona)

I recently invested in low discharge rate Eneloop Nimh cells and find they do live up to their name. They are hot. Things run faster on them, and I can use them in cameras or infrequently used items. My toothbrush and shaver are speedier, and my pocket radio is hotter than with former cells. I do have big piles of other nimh cells and they do self discharge and fail. Sam

Re: "Why Rechargeable Batteries Are Rarely Cost Effective"

*Message #4 Posted by **Maximilian Hohmann** on 22 Sept 2009, 3:05 p.m.,*
in response to message #1 by Egan Ford

Hello!

> Quote:
>
> ... to debate ...

IMO, there are other aspects involved that are far more important than cost effectivity. Most important to me is that recharchable batteries result in several orders of magnitude less toxic and hazardous waste than disposable batteries do. If we would have to pay all the real and future costs caused by the manufacturing and disposing of single use batteries, than these would be far more expensive than rechargeable ones.

Greetings, Max

Re: "Why Rechargeable Batteries Are Rarely Cost Effective"

*Message #5 Posted by **Garth Wilson** on 22 Sept 2009, 3:47 p.m.,*
in response to message #4 by Maximilian Hohmann

Do you have any data on the toxicity? I don't think alkaline batteries have mercury in them anymore.

Re: "Why Rechargeable Batteries Are Rarely Cost Effective"

*Message #6 Posted by **Maximilian Hohmann** on 22 Sept 2009, 4:35 p.m.,*
in response to message #5 by Garth Wilson

> Quote:
>
> Do you have any data on the toxicity? I don't think alkaline batteries have mercury in them anymore.

It is not the mercury in the first place, which makes them toxic, but the mining and processing of the raw materials! The latest figure that I could find is this: in the year 2000 in Germany, 15,000 tons of alkaline batteries have been sold. That means 15.000 tons of zinc, steel (for the casing), plastic, electrolyte (toxic) and manganese dioxide produced to been thrown away shortly thereafter.

Plus the energy required: The manufacturing process of a disposable battery consumes about 300 times (the qouted figures range between 50 and 500 depending of the type of battery) as much energy as is stored in the cell! Rechargeable batteries reduce the amount of raw materials and the amount of energy required by a factor of at least 100. That alone should be a good reason not to buy disposable batteries. I haven't done in 20 years...

Re: "Why Rechargeable Batteries Are Rarely Cost Effective"

*Message #7 Posted by **Mark Edmonds** on 22 Sept 2009, 4:57 p.m.,*
in response to message #6 by Maximilian Hohmann

I haven't read the original linked article but one aspect that niggles me with high power rechargeables in cameras, laptops, phones, etc., is that nearly each device has its own custom battery.

If I put on my cynical hat, the main reason for this is to tie the customer down to having to buy an expensive bespoke battery which the same company sells at a high profit.

We have standard size cells like AA, AAA, etc so surely it is possible if the will exists to design rechargs into 2xAA form factors and so on, standardise manufacturing and remove the waste bought on by having unique batteries for each device.

Mark

Re: "Why Rechargeable Batteries Are Rarely Cost Effective"

*Message #8 Posted by **Garth Wilson** on 22 Sept 2009, 5:12 p.m.,*
in response to message #7 by Mark Edmonds

> Quote:

> is that nearly each device has its own custom battery.

That's mostly why, when I bought a digital camera recently, I insisted that it use AA batteries which I get at $.25 to $.35 each for alkalines and can change in a few seconds. It is also why I won't buy a calculator that requires a custom battery. I don't like today's high price of N cells for the HP-41, but at least I can go a year at a time or more without thinking about batteries.

And for many uses, the self-discharge rate of rechargeables makes them unacceptable.

Re: "Why Rechargeable Batteries Are Rarely Cost Effective"

*Message #9 Posted by **Steve S** on 22 Sept 2009, 7:26 p.m.,*
in response to message #8 by Garth Wilson

<<...for many uses, the self-discharge rate of rechargeables makes them unacceptable...>>

...I was just about to say the same thing.

For equipment that is not in constant use, modern disposable batteries are hard to beat!

Re: "Why Rechargeable Batteries Are Rarely Cost Effective"

*Message #10 Posted by **designnut** on 22 Sept 2009, 8:06 p.m.,*
in response to message #9 by Steve S

<<If I put on my cynical hat, the main reason for this is to tie the customer down to having to buy an expensive bespoke battery which the same company sells at a high profit.>> I find many makers eager to offer replacements for these custom cells. I use google to find them and check prices. Sam

Re: "Why Rechargeable Batteries Are Rarely Cost Effective"

*Message #11 Posted by **Paul Guertin** on 22 Sept 2009, 8:28 p.m.,*
in response to message #8 by Garth Wilson

> Quote:
>
> That's mostly why, when I bought a digital camera recently, I insisted that it use AA batteries

I bought my digital camera five years ago, and did the same thing. I use low-self-discharge NiMH Eneloop batteries in mine and they work very well. On more than one occasion over the years, the possibility of using readily-available AA cells saved the day.

The modern trend toward custom, often non-replaceable batteries worries me. I was shopping for an MP3 player recently, and thought my requirements were pretty simple and reasonable: decent sound, an SD card slot, takes standard AAA or AA cells and has a usable interface for selecting the song order (i.e., not just a shuffle player). No need for video or other PDA stuff.

Well, it turns out that AA/AAA music players are extremely rare nowadays, and most modern MP3 players even have non-replaceable batteries, the idea being that when the battery doesn't take a charge anymore (which may be in 3-7 years), people will just buy a newer model with more features. In effect, you end up renting your MP3 player instead of

buying it.

Re: "Why Rechargeable Batteries Are Rarely Cost Effective"

*Message #12 Posted by **Chan Tran** on 22 Sept 2009, 10:15 p.m.,*
in response to message #11 by Paul Guertin

Most of the argument for the rechargables being less expensive and less toxic waiste based on a high number of expected recharge cycle. I doubt that the rechargable last as long as most people think they do. I found that I have to throw away my rechargables quite often. Typically 2 years, sometimes less sometimes more.

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db: You miss an important non-HP RPN calculator!

*Message #1 Posted by **Joerg Woerner** on 22 Sept 2009, 11:31 a.m.*

Dennis,

I just took some time to browse your extensive non-HP RPN calculator collection and found one-and-a-half Texas Instruments calculators:

The TI-51 VI RPN HOAX and the Mickey Mouse calculator.

But you miss the ONLY real Texas Instruments RPN calculator!

How comes? Here it is:

In case you need one - I couldn't resist to put one for sale. Just search for RPN Simulator in our favorite four-letter website (e**y) and think about it.

Regards, Joerg

Re: db: You miss an important non-HP RPN calculator!

*Message #2 Posted by **Namir** on 22 Sept 2009, 11:37 a.m.,*
in response to message #1 by Joerg Woerner

Joerg,

How true to RPN stack operations is the TI-50 RPN module? I never had one to play with, but I have heard, from true HP devotees, that it is more of a toy RPN imitation.

Now since you are THE TI guy (AND a friend of the HP/RPN community) tell me if my impression is correct?

Cheers.

Namir

Re: db: You miss an important non-HP RPN calculator!

*Message #3 Posted by **Michael Meyer** on 22 Sept 2009, 7:25 p.m.,*
in response to message #2 by Namir

If I recall correctly, the RPN simulator module is mainly a translator that allows you to enter some simple RPN programs and convert them to TI-59 code.

Specifically, it did NOT reassign the TI-59 keyboard to an RPN machine.

There were some rpn programs for the TI-59, but the number of keystrokes needed was high, as everything had to be entered via "SBR" (subroutine) commands. And since those ran in a TI-59 program rather than a machine code, these were painfully slow and of no real use....

I was disappointed when this module came out, as it was the TI-59 that took me through college. Despite its limitations, it was a very powerful machine.

They are still pretty cheap to buy ($10-20) and fun to restore, though I've stopped at about 10 working ones...<grin>

Namir: The TI-59 with RPN Module beats the HP 67!

*Message #4 Posted by **Joerg Woerner** on 23 Sept 2009, 8:21 a.m.,*
in response to message #2 by Namir

Namir,

The TI Programmable 59 with the RPN Simulator is the best RPN calculator ever and easily outperforms the HP-67, HP-65 and even the HP-41C! Just buy it, test it for 3 months and compare it with your HP calculators. If you are not 100% satisified - just trade the calculator and module in within 3 months. No questions asked.

May the best calculator win!

No, I am not the sales guy from your local GM dealer - but I represent the Datamath Calculator Museum focusing on Texas Instruments calculators.

But - before I loose my credibilty in this wonderful forum:

The RPN Simulator module is a joke!!!

From the manual:

1) Enter the HP-67 keycodes amd watch your print cradle print the corresponding TI-59 keycodes in a program-listing format. HP-67 keycodes and step numbers are also printed for easy reference.

2) Key the program back into your TI-59 and record it on magnetic cards for future use.

3) Execute the program on your TI-59. Programs included in this library act as subroutines which simulates the RPN instructions.

You really wanted to do this on a daily base???

Hope this helps,

Joerg

Joerg -- Thanks for giving me a big smile.

*Message #5 Posted by **Michael Meyer** on 23 Sept 2009, 1:46 p.m.,*
in response to message #4 by Joerg Woerner

Very fun. No, the TI-59 didn't do RPN. Even if you tried. But it's still a great machine, with a great history, and mine withstood fairly heavy use for years... my original still works... even the card reader (not sure why).

Like most here, I still prefer RPN machines, especially HP's. But I have a respectable collection of TI's, and I enjoy restoring and playing with TI's as well. I have asked people to "keep an eye open" for calculators at garage sales, etc. and I have been brought a large number of TI-55's. Most of them still work as well as they did when they were new.

My HP-25 had such pretty, shiny traces on the circuit board in high school. But those traces were covered with solder, which corroded over the years. Most of the TI's had clear-coated copper traces that ended up being more resistant to battery gassing. (Except that darn SR-52 keyboard)

Anyway, I sure see a lot more dead HP's than dead TI's come my way. When restored, the HP's are amazing. Gotta give those TI's their recognition, though. Thanks for doing that for us.

Michael

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RPN

*Message #1 Posted by **db (martinez, ca.)** on 21 Sept 2009, 10:47 p.m.*

To whom it may concern; i just updated the *Mirror Universe* calculator site.

There is a link to Katie's site here with a manual that has split pages- German and English. Kind of a Rosetta Stone of RPN.

There is a new (to me) Japanese RPN here with a link to the Mostek page on Datamath. I really like this one.

MOSTEK Calculator IC's

*Message #2 Posted by **Joerg Woerner** on 22 Sept 2009, 9:04 a.m.,*
in response to message #1 by db (martinez, ca.)

Dennis,

Thanks for pointing to the other end of the calculator world ;-))

To all:

I am not sure how Dennis found out about my MOSTEK website, because it isn't released yet.

I would appreciate if you could contribute some information about the various Mostek calculator chips, I guess you HP guys know much more about the company than I do ;-))

Thanks in advance.

Regards, Joerg

I wonder

*Message #3 Posted by **Frank Boehm (Germany)** on 22 Sept 2009, 11:13 a.m.,*
in response to message #2 by Joerg Woerner

what the difference to the MS50xx parts is? Maybe customer samples? (Too many found by me to be samples, I guess...)

Re: MOSTEK Calculator IC's

*Message #4 Posted by **db (martinez, ca.)** on 23 Sept 2009, 12:26 a.m.,*
in response to message #2 by Joerg Woerner

Joerg; How did i fine your Mostek history site? Nothing is secret on the internet. I'd be careful about that "T.I. using Russian Lolita" page that you're building on Datamath ;-)

I bet you were really pleased when you found all those HP calculators had ROMs made in .... this hurts to

say .... Texas.

Re: MOSTEK Calculator IC's

*Message #5 Posted by **Joerg Woerner** on 23 Sept 2009, 8:32 a.m.,*
in response to message #4 by db (martinez, ca.)

Dennis,

We knew it all the time - even the HP 35 relies on Texas Instruments' technology ;-))

Regards, Joerg

Re: RPN

*Message #6 Posted by **Michael de Estrada** on 22 Sept 2009, 12:21 p.m.,*
in response to message #1 by db (martinez, ca.)

Hi Dennis,

Thanks for the updates. I have a link directly tied to your list of calculators with the Mostek ROM >>>>

<Mostek>

There now are six (Privileg, Omron, APF, Corvus, GE, Sanyo). Thanks to your heads up, I found an immaculate Corvus 500, which has become one of my collection favorites. I noticed that only the Omron, GE and Sanyo have a DEG / GRAD switch, so I wonder if this is something implemented in the ROM, but not used on the other three calculators.

Regards,

Michael

Edited: 22 Sept 2009, 4:00 p.m.

Re: RPN

*Message #7 Posted by **db (martinez, ca.)** on 22 Sept 2009, 11:59 p.m.,*
in response to message #6 by Michael de Estrada

Michael; How'd you do that? Where'd the titles go? Man, just when i thought i had that thing figured out.....

I'll have to dig out the Corvus and look into the grad function, nice calc - worth finding again.

Re: RPN

*Message #8 Posted by **Michael de Estrada** on 24 Sept 2009, 12:03 a.m.,*
in response to message #7 by db (martinez, ca.)

Dennis,

How did I do it? Well, I did a filter search on "Omron" and the search result was all the Mostek based calcs. Why it does this I have no idea. Anyway, meanwhile, I watched a Garrett CM-35 just go for $71 on e**y. I wonder if the buyer knows it's RPN.

Michael

Re: RPN

*Message #9 Posted by **db (martinez, ca.)** on 24 Sept 2009, 1:04 a.m.,*
in response to message #8 by Michael de Estrada

if he doesn't know now, he will when he trys to use it.

that's a good price for a stylish calc.

Rosetta Stone

*Message #10 Posted by **Joerg Woerner** on 22 Sept 2009, 1:10 p.m.,*
in response to message #1 by db (martinez, ca.)

Dennis,

For us non-native US speakers:

Do you refer to the stone or company?

Regards, Joerg

Re: Rosetta Stone

*Message #11 Posted by **Walter B** on 22 Sept 2009, 2:19 p.m.,*
in response to message #10 by Joerg Woerner

Hallo Jörg,

aus dem Kontext sollte klar sein, dass Dennis den Stein meint. Durch paralleles Lesen des inhaltsgleichen Texts über RPN in beiden Sprachen müsste man die einander entsprechenden Worte finden können -- ähnlich wie damals die den Hieroglyphen entsprechenden Worte gefunden wurden, da auch auf dem Stein derselbe Text in einer bekannten und einer (damals noch) unbekannten Sprache steht.

(answer to Joergs question, explaining some background)

HTH,

Walter

Edited: 22 Sept 2009, 2:21 p.m.

Re: Rosetta Stone

*Message #12 Posted by **Joerg Woerner** on 22 Sept 2009, 2:44 p.m.,*
in response to message #11 by Walter B

Hallo Walter,

"Nach" dem Oeffnen UND durchblaettern des Dokuments von Katie ist natuerlich alles klar! Vielen Dank fuer den Tip und entschuldige die fehlenden Umlaute.

Gruss aus New York, Joerg

(Short Thank you note to Walter)

Re: Rosetta Stone

*Message #13 Posted by **Walter B** on 22 Sept 2009, 3:54 p.m.,*
in response to message #12 by Joerg Woerner

Hallo Jörg,

You're very welcome. BTW, I didn't read the link to Katie's site before posting. Anyway, you hit the nail on its head: I meant #1, 2, 5, and 19 ;)

Re: Rosetta Stone

*Message #14 Posted by **Joerg Woerner** on 22 Sept 2009, 2:54 p.m.,*
in response to message #11 by Walter B

Walter,

I love all these three-letter abbreviations but usually look them up. For HTH I found 32 different entries and assume that you meant #1.

To me #30 is far more suitable ;-))

Thanks again and

Best regards, Joerg

#01 HTH Hope This Helps

#02 HTH Hope That Helps

#03 HTH Helix-Turn-Helix (Protein Structure)

#04 HTH High Tech High (California Charter School)

#05 HTH Happy To Help

#06 HTH How the Hell?

#07 HTH Heart To Heart

#08 HTH Head to Head

#09 HTH Hard to Handle

#10 HTH How the Heck

#11 HTH Hand To Hand combat

#12 HTH Highway to Hell (AC/DC album)

#13 HTH High Test Hypochlorite

#14 HTH Hotter Than Hell

#15 HTH High Tail Hall (adult flash game website)

#16 HTH Hilltop Hoods (Australian hip hop group)

#17 HTH Hollywood Tower Hotel (Disney's Tower of Terror)

#18 HTH Have to Hurry (internet chat)

#19 HTH Hoping This Helps

#20 HTH Home Town Hero (band)

#21 HTH Hit the Highway

#22 HTH Haliotis Tuberculata Hemocyanin

#23 HTH Harry the Horse

#24 HTH Hands to Heaven (song by Breathe)

#25 HTH Hjälper Torr Hud

#26 HTH Hand To Heart (I'm being honest)

#27 HTH Highway Traffic Headquarters

#28 HTH Hawthorne, Nevada USA (Airport Code)

#29 HTH Hang Them High

#30 HTH Hell This Hurts

#31 HTH Hill Top Hose (Volunteer Fire Company in Campton, PA

#32 HTH High Tail Hotel (San Francisco, CA)

Re: Rosetta Stone

*Message #15 Posted by **Howard Owen** on 22 Sept 2009, 4:24 p.m.,*
in response to message #14 by Joerg Woerner

Having Tasted Heaven (Hell)

Hardy Traveling Hunter

Hasty Though Heartfelt

Holy Thumping Hotcakes!

Hast Thou Heard?

Heavy Thought Helps (Hurts)

These may not have shown up in your Google search, but consider: they probably will tomorrow :)

Regards,
Howard

Re: Rosetta Stone

*Message #16 Posted by **hecube** on 22 Sept 2009, 5:19 p.m.,*
in response to message #15 by Howard Owen

Hump thy human?

Re: Rosetta Stone

*Message #17 Posted by **Mike Morrow** on 22 Sept 2009, 6:35 p.m.,*
in response to message #14 by Joerg Woerner

Hope This Hurts!

Re: Rosetta Stone

*Message #18 Posted by **Gerson W. Barbosa** on 22 Sept 2009, 9:29 p.m.,*
in response to message #17 by Mike Morrow

Has This Helped?

Hate This Help.

Hold That Horse!

Re: Rosetta Stone

*Message #19 Posted by **db (martinez, ca.)** on 23 Sept 2009, 12:25 a.m.,*
in response to message #10 by Joerg Woerner

Joerg:

Both.

-db

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HP-41Z module ready (at last)

*Message #1 Posted by **Ángel Martin** on 20 Sept 2009, 3:54 a.m.*

You can stop holding your breath :) The module is ready and good to go to the daylight. I bet you thought it'll never be finished (I for one did!) but sure enough it's reached the "good enough" stage.

A quick recap of its highlights:

- a 4-level complex stack, complete for all the functions and routines.
- simplified/optimized complex displaying. It now uses the "RE+jIM" notation, more legible with real-life numbers (with EEX part)
- The displaying is nor rounded, but Integer numbers will display without trailing zeros in the decimal part. So you quickly tell if it's integer or not (and saves real state in the display).
- common factor is extracted when Re(z)=Im(z), and not zero - somehow I found slightly misleading the line "0(1+j)"
- 8k module, holding more than 120 complex math and complex stack functions, plus about 20 more buffer-related functions, 98% of them in MCODE
- programmable promptimg memory functions - with IND addressing support in run time

Already submitted to TOS, should hopefully be ready for download in a few days time.

Thanks to those who provided suggestions and actual coding, real MCODE programmers out there. Peter, Eric, Egan, Howard... In particular Doug Wilder for his implementation of the programable prompting routine, and Håkan Thörngren for his coaching on the buffer implementation. It would have taken them just a fraction of the time it took me to put it together had they wanted to!

Best, AM

Edited: 20 Sept 2009, 4:05 a.m.

Re: HP-41Z module ready (at last)

*Message #2 Posted by **Egan Ford** on 20 Sept 2009, 2:26 p.m.,*
in response to message #1 by Ángel Martin

Thanks. I look forward to using it.

Re: HP-41Z module ready (at last)

*Message #3 Posted by **Howard Owen** on 20 Sept 2009, 7:15 p.m.,*
in response to message #1 by Ángel Martin

Congratulations on implementing all those improvements! I'm sure the programming wasn't a trivial exercise. I'd like to differ with you on one point however. I almost certainly couldn't have implemented those ideas in mcode anywhere near as fast as you could. The only mcode program I ever wrote was a simple initializer for Hepax memory. Stack and buffer manipulation like you achieved would have taken me a long, long time to write.

Congratulations again!

Regards,
Howard

Re: HP-41Z module ready (at last)

*Message #4 Posted by **Eric Smith** on 20 Sept 2009, 8:02 p.m.,*
in response to message #3 by Howard Owen

I've found that writing microcode for HPs goes much more quickly when I've got a simulator that lets me single-step through it, set breakpoints, etc. Otherwise debugging is extremely tedious.

I have no idea whether Ángel Martin uses such a thing, though.

Re: HP-41Z module ready (at last)

*Message #5 Posted by **Ángel Martin** on 21 Sept 2009, 3:29 a.m.,*
in response to message #4 by Eric Smith

I wish! Is there one available? That'll sure make my day... you're right it's tedious, but also painful and sooo easy to make mistakes. Yet it's as addictive as any programming language can be, maybe even mode.

Re: HP-41Z module ready (at last)

*Message #6 Posted by **Raymond Del Tondo** on 21 Sept 2009, 4:24 a.m.,*
in response to message #5 by Ángel Martin

Of course there are simulators with built-in debuggers.
One of them is part of SDK41 from Warren Furlow,
and the other is part of Emu41 from J.-F. Garnier;-)

HTH

Raymond

Re: HP-41Z module ready (at last)

*Message #7 Posted by **PeterP** on 22 Sept 2009, 12:50 p.m.,*
in response to message #5 by Ángel Martin

Angel, now I'm even more impressed! You did all of your fabulous MCODEing without Warrens m41? It is a most wonderful tool that allows single stepping of MCODE and many more easy features. I've had to learn how to use it myself and wrote a little expanded manual for it with examples etc which you can find at TOS as well.

Cheers

Peter

Re: HP-41Z module ready (at last)

*Message #8 Posted by **Ángel Martin** on 24 Sept 2009, 9:24 a.m.,*
in response to message #1 by Ángel Martin

Currently posted & available for download. Feedback is appreciated... hope you enjoy it.

Edited: 24 Sept 2009, 9:26 a.m.

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Collection Redundancy

*Message #1 Posted by **Michael de Estrada** on 19 Sept 2009, 10:41 p.m.*

Inevitably a collection ends up with more than one sample of any given item. Sometimes it is the result of buying bits and pieces with different accessories in order to complete a set (cases, manuals, AC adapter) or even subcomponents in order to obtain complete functional and cosmetically undamaged units. I had to buy 13 Spice units in order to get 10 good units and at least one sample of each model. However, at some point this redundancy becomes wretched excess, and it's time to prune the tree so to speak. In my case, it's the HP-45. I have 7 complete sets for goodness sake, even though I have already disposed of two additional units. How exactly this happened, I'm not quite sure, but they just seem to reproduce like rabbits. I wonder if any of you have this problem of collectormania, or if it's just inevitable?

Re: Collection Redundancy

*Message #2 Posted by **Karl-Ludwig Butte** on 20 Sept 2009, 5:35 a.m.,*
in response to message #1 by Michael de Estrada

Hello Michael,

I wouldn't see this as a problem. For one side you've got a repository of spare parts just in case the one reaaly good unit needs repair. On the other hand you have items to exchange with other collectors and therefore the chance to get missing items while at the same time come into contact with others who share the same hobby like yourself.

Just in case you like the latter idea just send me an email.

Kind regards

Karl

Re: Collection Redundancy

*Message #3 Posted by **Valentin Albillo** on 20 Sept 2009, 10:51 a.m.,*
in response to message #1 by Michael de Estrada

I plead guilty.

I now have no less than 4 (four) HP-15C and 4 (four!) HP-71B (+ MathROM) ! :-)

Same with some SHARP models as well ... Quite frankly, having just two of each would be more than enough, what with the many excellent simulators/emulators freely available nowadays such as **Nonpareil**, say. Its HP-15C emulation is perfectly adequate for article, program, and challenge writing. Not that I indulge in any of that as of late ...

Best regards from V.

Edited: 20 Sept 2009, 10:52 a.m.

Re: Collection Redundancy

*Message #4 Posted by **Saile (Brazil)** on 20 Sept 2009, 11:55 a.m.,*
in response to message #1 by Michael de Estrada

I have that problem.
For more than 35 years I have been collecting.
My father's collection that was given for me
I have been making everything to organize my collection.
Now I have 600 items.
It still exists more than 8 boxes for me to organize where
they are several HP41CY, HP-01, PC-1600, CFX-200, Ruputer and
several documents and manuals
I am always giving a present my friends calculators and pocktes
that I have more than 2 units

Partially (PDF) of my collection of calculators and pockets (megaupload link)

I hope my children like my collection, because if they don't like
will have to do several happy people donating my collection when it
arrives the moment of my end or I begin of a new life without
worrying with HP Texas Sharp. . . :-)

Excuse my English am not good in the universal language ;-)

Edited: 20 Sept 2009, 12:03 p.m.

Re: Collection Redundancy

*Message #5 Posted by **Palmer O. Hanson, Jr.** on 20 Sept 2009, 9:51 p.m.,*
in response to message #4 by Saile (Brazil)

> Quote:
>
> I hope my children like my collection, because if they don't ...

My wife, my children and my friends don't exactly like my collection. They are more properly described as bemused by it, but they do tolerate it and have even helped me add to it.

What will happen to it when I am gone is another matter. What possible use can they make of over 600 old out-of-date hand-held calculators, over 200 old slide rules, an untold number of printers, chargers, battery packs, books and three large anchors (a.k.a. Fridens)?

Edited: 21 Sept 2009, 3:35 a.m.

Re: Collection Redundancy

*Message #6 Posted by **Ron G.** on 23 Sept 2009, 3:27 p.m.,*
in response to message #5 by Palmer O. Hanson, Jr.

My wife told me just last night, that she's sure going to have a lot of calculators to sell for $2 a piece, when I die.

Re: Collection Redundancy

*Message #7 Posted by **Michael Meyer** on 23 Sept 2009, 7:56 p.m.,*
in response to message #6 by Ron G.

Ron- could you let me know ahead of time? I'll try to do the same. (Though I'll tell me wife to try

to get $5 a piece for mine). Sigh.

Re: Collection Redundancy

*Message #8 Posted by **Palmer O. Hanson, Jr.** on 23 Sept 2009, 9:57 p.m.,*
in response to message #7 by Michael Meyer

It isn't just my calculators and slide rules. It's also my Ohlsson & Rice 23 model aircraft engine; the trowel, brick-hammer and level that I used to pay for college (1944-1950); my collection of cigarette lighters from places like Barber's Point NAS, Iwakuni NAS, Kadena AFB, Clark Field and Wheelus AFB; the Simpson Model 355 Midgettester that I used on F-100, F-101 and YF-12 programs (1957-1966); my Handbook of Chemistry and Physics Mathematical Tables and my AMS-55; my Annals of America and Durant histories; my chain saw; and so on, and on and on.

Re: Collection Redundancy

*Message #9 Posted by **Bart (UK)** on 24 Sept 2009, 5:07 a.m.,*
in response to message #8 by Palmer O. Hanson, Jr.

:) :) So if wait long enough I can start up my own collection really cheaply. Although 600+ calcs @ $2-$5 a piece can still total a few thousand dollars. Maybe the pound will be stronger by then (and pigs may fly).

Re: Collection Redundancy

*Message #10 Posted by **Egan Ford** on 20 Sept 2009, 2:25 p.m.,*
in response to message #1 by Michael de Estrada

I do not suffer from this condition. :-) I suppose that if it where critical to my job/life that I have a working unit 24x7 then I'd need a backup or two. Until recently I did this with my laptop--I always had a close to identical backup. Since I mostly use emulators, my physical calculators are my backup and my source for benchmarking and testing the accuracy of emulators/simulators.

Re: Collection Redundancy

*Message #11 Posted by **Juergen Keller** on 20 Sept 2009, 6:56 p.m.,*
in response to message #1 by Michael de Estrada

If your HP-45s really reproduce themselves like rabbits I would like to buy them :-) Anyway, I know your problem; often I think this unit is even nicer than the one I have, and oops, there is another calc in my collection. But luckily, there are these NOS (new old stock) items which eventually end this loop. But these NOS units have the disadvantage that they look so nice that you do not want to touch them, and I don't want to have calculators to only look at them...

Cheers, Jürgen

Re: Collection Redundancy

*Message #12 Posted by **Martin Pinckney** on 21 Sept 2009, 8:52 a.m.,*
in response to message #11 by Juergen Keller

Quote:

... I don't want to have calculators to only look at them...

As I have said before, I am a user, not collector. But since the calculators I use are all out of production, I keep spares of the most important ones.

Re: Collection Redundancy

*Message #13 Posted by **juan demin** on 21 Sept 2009, 1:48 p.m.,*
in response to message #12 by Martin Pinckney

I've started my collection recently… Without any experience I bought the wrong calcs (of course)… then I realized that cases were important….and manuals too… then I realized that manuals in mint condition were a must…and calculators should not only work but look like new…Even though I bought and sold trying to have only one of each model, I now understand that this is a never ending story… I simple want to have the best and nicest calc fully equipped… Maybe this is not normal, but I check on ebay almost on a daily basis….

Re: Collection Redundancy

*Message #14 Posted by **Michael Meyer** on 21 Sept 2009, 2:06 p.m.,*
in response to message #13 by juan demin

Well... normal from the perspective of collecting. I was very active in collecting for about 5 years, until I had at least one working model, restored and functioning, of each model I wanted. I'm missing very few: 10C, 16C, 10 printing, etc. And I have several of the ones I love... 19C, 67, 97, 41, 71.

While I'm still involved enough to follow the posts here, and buy an occasional model now and then, it's slowed down. I can't justify spending the money for yet another HP-25 just to restore it, though I still throw some losing bids in.

So, don't worry. If it's an ongoing thing, you'll end up trading and selling. If not, you'll slow down when you collect the ones you want.

And if you just keep adding to the collection, there will be a day when somebody else, hopefully, will appreciate what you have done.

Re: Collection Redundancy

*Message #15 Posted by **db (martinez, ca.)** on 21 Sept 2009, 11:07 p.m.,*
in response to message #13 by juan demin

Many of us here bear the same cross. Don't worry; it's not fatal.

Do you also collect Calculators from your *patria*? Do you have a Microcifra or Magiclik?

Re: Collection Redundancy

*Message #16 Posted by **juan demin** on 22 Sept 2009, 11:08 a.m.,*
in response to message #15 by db (martinez, ca.)

Hi, I do not collect other than HP (and this bug is enough...), but you can find a nice RPN Microcifra at less than 30 bucks in Buenos Aires market.

Re: Collection Redundancy

*Message #17 Posted by **Michael de Estrada** on 23 Sept 2009, 9:57 p.m.,*

in response to message #16 by juan demin

Juan,

Te envie un correo electronico en respecto a la Microcifra 10.

Saludos,

Michael

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Program speed from sd card

*Message #1 Posted by **Iqbal** on 19 Sept 2009, 9:36 p.m.*

I wrote some programs for the 50G that are stored in port :0: (which was originally done to prevent people from copying programs). I just changed them to run straight from the sd card. The problem is that the program is much slower running from a 16mb sd card than the calculator, even though it's identical. Why is this? Is there anything that can be done to improve speed from sd card?

Edited: 19 Sept 2009, 11:20 p.m. after one or more responses were posted

Re: Program speed from sd card

*Message #2 Posted by **Raymond Del Tondo** on 19 Sept 2009, 10:26 p.m.,*
in response to message #1 by Iqbal

> Quote:
>
> I wrote some programs for the 59G that are stored in port :0: (which was originally done to prevent people from copying programs). I just changed them to run straight from the sd card. The problem is that the program is much slower running from a 16mb sd card than the calculator, even though it's identical. Why is this? Is there anything that can be done to improve speed from sd card?

The SD card is an external device, and its contents have to be copied to main RAM first to run. Port0 objects are evaluated directly.
There may be tweaks to improve speed somehow, but the principle stays the same;-)

HTH

Re: Program speed from sd card

*Message #3 Posted by **Tim Wessman** on 20 Sept 2009, 2:31 p.m.,*
in response to message #1 by Iqbal

Why specifically do they need to be in port 0 and not 2? What type of program is it and how much external data is being access vs. entered locally?

Running directly off the SD card is not really a good way to do it for speed reasons.

TW

Re: Program speed from sd card

*Message #4 Posted by **Iqbal** on 20 Sept 2009, 9:28 p.m.,*
in response to message #3 by Tim Wessman

Originally, I wrote them for the 48G series. And to prevent anyone from transferring via IR, I stored all the

modules in Port :0:. It was not impossible to transfer but very difficult having so many modules. I am using the same programs although I had to change a few to work properly on the 50G. I am a land surveyor and all the programs and related to land surveying. Thanks, for the feedback.

Re: Program speed from sd card

*Message #5 Posted by **Tim Wessman** on 21 Sept 2009, 11:17 a.m.,*
in response to message #4 by Iqbal

Ok. I know a thing or two about land surveying software on the 50g. . . :-)

I assume all of the program is in userRPL since nothing else was specified. Feel free to correct me if needed.

Are you writing and accessing data (points or raw) from the SD card itself? If so, that is probably the largest speed hit. I'd recommend keeping data locally in HOME, and then writing it out to the SD card or port2 with some kind of backup routine. The rest of the commands should be organized into a library or a collection of libraries if you haven't done that yet.

That is what is going on with the surveying software I made. Basically, the program libraries reside in port2, and all variables are created in the hidden directory in HOME. The point database is stored in unused internal system RAM and is read in from the SD card using some C software. The only time it accesses the card is when loading or saving points, writing the RW5 info, saving a copy of current job/software settings, or accessing the code attribute file. In short, only times when speed isn't all that critical as it can take a second or two for some of the operations.

If that doesn't give you some ideas on what to do, or if you'd like some help with it, feel free to email me directly at timwessman_a_t_gmail.com

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Hotel room sharing at conference?

*Message #1 Posted by **Eric Smith** on 19 Sept 2009, 7:24 p.m.*

Would anyone like to split a double room at the hotel for the conference? Ideally I'd like to share a room on Friday, Saturday, and Sunday nights. I'm a non-smoker.

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What type of caps are used in Classic power supply?

*Message #1 Posted by **Dan W** on 19 Sept 2009, 1:37 p.m.*

Hi all,

In the Classic series what type of capacitors are used in the power generating circuits on the main boards? These are the silver radial lead caps, 2.2 uF to 60 uF. They appear to be non-polarized, but I think they might be non-polar electrolytics.

On the HP-67 they switched to Tantalums throughout.

TIA

Re: What type of caps are used in Classic power supply?

*Message #2 Posted by **Walter B** on 19 Sept 2009, 1:49 p.m.,*
in response to message #1 by Dan W

Assume baseball ... (sorry, couldn't resist ;)

Re: What type of caps are used in Classic power supply?

*Message #3 Posted by **Karl Schneider** on 21 Sept 2009, 1:24 a.m.,*
in response to message #2 by Walter B

> Quote:
>
> Assume baseball ... (sorry, couldn't resist ;)

I, too, find it annoying when a capacitor is termed a "cap"...

Re: What type of caps are used in Classic power supply?

*Message #4 Posted by **Garth Wilson** on 21 Sept 2009, 4:08 a.m.,*
in response to message #3 by Karl Schneider

> Quote:
>
> I, too, find it annoying when a capacitor is termed a "cap"...

To make it worse, the small values that are specified in pF (picofarad) are often referred to as so many "puff." This bugged me just a tad when I worked in applications engineering at a company that made VHF and UHF power transistors.

Re: What type of caps are used in Classic power supply?

*Message #5 Posted by **DaveJ** on 21 Sept 2009, 6:49 a.m.,*
in response to message #4 by Garth Wilson

> Quote:
>
> To make it worse, the small values that are specified in pF (picofarad) are often referred to as so many "puff." This bugged me just a tad when I worked in applications engineering at a company that made VHF and UHF power transistors.

That's how real electronics guys talk!
And 10uF is "10 mike"
Then of course you have the old timers who refuse to use nanofarads, it's "100,000 puff" son!

Dave.

Re: What type of caps are used in Classic power supply?

*Message #6 Posted by **Dave Shaffer (Arizona)** on 21 Sept 2009, 7:56 p.m.,*
in response to message #3 by Karl Schneider

> Quote:
>
> I, too, find it annoying when a capacitor is termed a "cap"...

Can I call it a "condensor" instead?! That really dates me.

Re: What type of caps are used in Classic power supply?

*Message #7 Posted by **Bart (UK)** on 19 Sept 2009, 6:25 p.m.,*
in response to message #1 by Dan W

Looking at an explanation of the 35 & 45 PSU here, one can see from the photograph of the 45 that they seem to be polarised axial capacitors, with the lead starting with a thicker bit being +ve.

Re: What type of caps are used in Classic power supply?

*Message #8 Posted by **Randy** on 19 Sept 2009, 9:10 p.m.,*
in response to message #1 by Dan W

> Quote:
>
> They appear to be non-polarized, but I think they might be non-polar electrolytics

No, polarized for sure as they're Kemet hermetically sealed tantalums... which is why they still work after all these years.

FWIW, HP always noted the + terminals or pin 1 with a square pad on the their pc traces.

Re: What type of caps are used in Classic power supply?

*Message #9 Posted by **Dan W** on 20 Sept 2009, 12:06 a.m.,*
in response to message #8 by Randy

> Quote:

> No, polarized for sure as they're Kemet hermetically sealed tantalums... which is why they still work after all these years.
>
> FWIW, HP always noted the + terminals or pin 1 with a square pad on the their pc traces.

Yep, you're right, I see Kemet written on one of them. That's the info I was looking for. thanks. I have 2 cases where I see a problem with a cap but you're right, these caps are rarely the problem.

Funny thing, I went to Digikey today and ordered a set of replacement caps - before I read this, and ended up ordering Kemet axial Tantalums.

On the pads, the square pad for positive is true for the 65 and 67, but not for the 35, 45 or 55. These have a small triangle next to the positive pad.

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Are there any calculator manufacturers out there...

*Message #1 Posted by **hecube** on 18 Sept 2009, 9:55 p.m.*

who still use led displays? Is LCD domination complete?

Edited: 18 Sept 2009, 9:56 p.m.

Re: Are there any calculator manufacturers out there...

*Message #2 Posted by **Eric Smith** on 19 Sept 2009, 1:20 a.m.,*
in response to message #1 by hecube

If any calculators with LED displays were manufactured and sold in the last 20 years, it's news to me.

Re: Are there any calculator manufacturers out there...

*Message #3 Posted by **Paul Dale** on 19 Sept 2009, 1:46 a.m.,*
in response to message #2 by Eric Smith

I guess LED backlights don't count :-)

Anyway, my first though was the various Soviet calculators *might* have LED models less than 20 years old -- they certainly have VFD models younger than that. A bit of searching and I found the Elektronika MK-37 which has a LED display and was manufactured less than 20 years ago.

- Pauli

Re: Are there any calculator manufacturers out there...

*Message #4 Posted by **Michael de Estrada** on 19 Sept 2009, 2:21 a.m.,*
in response to message #1 by hecube

Of course there are countless numbers of non-battery powered desktop calculators that use LED displays, such as the following:

<see here>

Were you perhaps thinking of small battery powered calculators, such as the HP classics, Woodstock and Spices (Spicem)?

Edited: 19 Sept 2009, 2:23 a.m.

Re: Are there any calculator manufacturers out there...

*Message #5 Posted by **Katie Wasserman** on 19 Sept 2009, 2:35 a.m.,*
in response to message #4 by Michael de Estrada

I think that most of these are fluorescent displays -- even though this manufacturer says it's LED. I did

come across this Casio calculator that has a 2-color display. I have no idea what technology that is, I've never seen a bi-color 7-segment display.

Re: Are there any calculator manufacturers out there...

*Message #6 Posted by **marais** on 19 Sept 2009, 3:06 a.m.,*
in response to message #5 by Katie Wasserman

The name digitron refers to VFD (vacuum fluorescence display) tubes, but the technology does not allow for a segment to have two different colours - only for different segments to have different colours. That Casio is an intriguing machine...

marais

Re: Are there any calculator manufacturers out there...

*Message #7 Posted by **Bart (UK)** on 19 Sept 2009, 5:22 a.m.,*
in response to message #6 by marais

A careful look at the two different colour images shown, it seems that the same digits do not quite line up. So it could be VFD, just different colour segments of each digit next to each other?.

Re: Are there any calculator manufacturers out there...

*Message #8 Posted by **Paul Guertin** on 19 Sept 2009, 1:11 p.m.,*
in response to message #6 by marais

> Quote:
>
> The name digitron refers to VFD (vacuum fluorescence display) tubes, but the technology does not allow for a segment to have two different colours - only for different segments to have different colours. That Casio is an intriguing machine...
>
> marais

Looking at the pictures of the display, one notices that the shape of the digits is not exactly the same between the two colors. Notice in particular the hole in the upper right part of several digits: 2, 3, 7, 8, 9, 0. This leads me to believe that each segment is actually made from two VFD tubes put side by side.

Re: Are there any calculator manufacturers out there...

*Message #9 Posted by **Howard Owen** on 19 Sept 2009, 4:17 a.m.,*
in response to message #1 by hecube

LEDs are being used to make some spectacular computer displays nowadays. A modern LED based calculator might not resemble the old machines at all. Such a calculator certainly wouldn't consume power at the rates the old machines do either.

Regards,
Howard

Re: Are there any calculator manufacturers out there...

*Message #10 Posted by **marais** on 19 Sept 2009, 6:38 a.m.,*
in response to message #9 by Howard Owen

...well, that's not exactly a LED display, just a LED backlit LCD screen with a misleading name. I agree though that the result is stunning.

marais

Re: Are there any calculator manufacturers out there...

*Message #11 Posted by **bill platt** on 19 Sept 2009, 8:02 a.m.,*
in response to message #1 by hecube

Yes.

It's called a PDA.

Re: Are there any calculator manufacturers out there...

*Message #12 Posted by **Mike Morrow** on 19 Sept 2009, 9:43 a.m.,*
in response to message #1 by hecube

A lot of solar-powered LCD calculators use an internal LED in the voltage regulation circuitry. But...that's not a display.

Re: Are there any calculator manufacturers out there...

*Message #13 Posted by **Hugh Evans** on 21 Sept 2009, 11:08 p.m.,*
in response to message #1 by hecube

Does OLED count? That could become viable in the not too distant future.

Re: Are there any calculator manufacturers out there...

*Message #14 Posted by **DaveJ** on 22 Sept 2009, 2:51 a.m.,*
in response to message #13 by Hugh Evans

> Quote:
>
> Does OLED count? That could become viable in the not too distant future.

OLED is already viable, has been for quite some time.
Likely rules out a nice looking 7 segment display version though, unless you pulled a trick or two.

Dave.

Re: Are there any calculator manufacturers out there...

*Message #15 Posted by **Katie Wasserman** on 22 Sept 2009, 9:51 a.m.,*
in response to message #14 by DaveJ

From what I've read recently OLED's have a theoretical efficiency only slightly higher than conventional LED's. This means that they still suck up too much power to be viable for a hand held calculators. Which is why they were abandoned in 1980 (roughly).

I think that Casio got the "right" calculator display on their fx-9860G series with the switchable backlight. I'm not sure what they use but it looks like it's electroluminescent. It's plenty bright and uses just 30mW of power. On 2 AAA cells it provides back lighting for 3 or 4 days of continuous use.

Re: Are there any calculator manufacturers out there...

*Message #16 Posted by **Mike Morrow** on 23 Sept 2009, 9:48 a.m.,*
in response to message #15 by Katie Wasserman

How about a return to the tritium phosphor LCDs that TI and a few other manufacturers used on some LCD watches in 1978? They were wonderful, putting out enough light to be able to illuminate not only the watch display, but also anything held in front of the display as well. In blackened control room conditions on the submarine I was on, those wearing such watches could easily be noticed across the compartment. The display used no battery power, and required no button pushes to read in the darkness. These were the best watch displays ever made, IMHO.

For some reason, by 1979 TI had discontinued all such watches and gone to a power-consuming micro light bulb which required the push of a button to activate.

I've always wondered if it wasn't anti-atomic idiocy that made it politically incorrect for TI to use such displays, especially after Three Mile Island.

Re: Are there any calculator manufacturers out there...

*Message #17 Posted by **Dave Shaffer (Arizona)** on 23 Sept 2009, 12:01 p.m.,*
in response to message #16 by Mike Morrow

One (minor?) problem: Tritium has a half life of just over 12 years.

Depends on your philosophy about how long your calculator should work. It seems that most of us here hope/expect to use our HPs nearly forever. A tritium-powered HP35 from the early 70s would now be only about 1/8 as bright as originally (assuming the brightness of the display is proportional to the tritium decay activity).

Re: Are there any calculator manufacturers out there...

*Message #18 Posted by **Katie Wasserman** on 23 Sept 2009, 12:04 p.m.,*
in response to message #16 by Mike Morrow

I've never seen one of those LCD watches, but still have an alarm clock with a radium painted dial. They still make tritium clocks and watches. But these only have a very small amount of tritium on the face. I realize that the beta particles emitted by tritium are very low energy and won't penetrate a good glass watch face. However, I wonder if there are problems with the radiation heading into modern clock/calculator chips with their sub 100nm transistors and thin epoxy blob coatings. A large area that would be needed for an LCD backlight might generate enough radiation to randomly mess with the microelectronics.

Edited: 23 Sept 2009, 12:05 p.m.

Re: Are there any calculator manufacturers out there...

*Message #19 Posted by **Dave Shaffer (Arizona)** on 23 Sept 2009, 12:13 p.m.,*
in response to message #18 by Katie Wasserman

Love the product names on the watch and clock: H3 - the element designator (H) and atomic

weight (3) of tritium.

Re: Are there any calculator manufacturers out there...

*Message #20 Posted by **Katie Wasserman** on 23 Sept 2009, 12:25 p.m.,*
in response to message #19 by Dave Shaffer (Arizona)

It could also be a reference to Harrison's H3.

Re: Are there any calculator manufacturers out there...

*Message #21 Posted by **Hugh Evans** on 23 Sept 2009, 1:06 a.m.,*
in response to message #14 by DaveJ

I know they are in production but pricing is still on the high side, that was my real point regarding viability.

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HP Forum Archive 19

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Latest HP-35 with the "bugs"?

*Message #1 Posted by **Michael de Estrada** on 18 Sept 2009, 3:55 p.m.*

We all know about the infamous "bugs" in the original HP-35, and HP's recall to remedy them. Still, many buggy HP-35s remain in circulation, and I wonder what is the lastest version/serial number that exists with this flaw, that is actually an asset to collectors. I just obtained an HP-35, version 2 with S/N 1249A08206 that is fully buggy, however, my version 3 with S/N 1302A52942 that I bought new in June 1973, already had the corrected ROM. So, someplace between those the manufacture of those two calculators, HP implemented the fix. I'd be interested to know what is the highest S/N version 2 that was buggy, and if there were any early version 3s that were buggy. Perhaps this has been discussed previously on this forum and I have missed it.

Michael

Re: Latest HP-35 with the "bugs"?

*Message #2 Posted by **Dan W** on 19 Sept 2009, 11:46 a.m.,*
in response to message #1 by Michael de Estrada

> Quote:
>
> We all know about the infamous "bugs" in the original HP-35, and HP's recall to remedy them. Still, many buggy HP-35s remain in circulation, and I wonder what is the lastest version/serial number that exists with this flaw, that is actually an asset to collectors. I just obtained an HP-35, version 2 with S/N 1249A08206 that is fully buggy, however, my version 3 with S/N 1302A52942 that I bought new in June 1973, already had the corrected ROM. So, someplace between those the manufacture of those two calculators, HP implemented the fix. I'd be interested to know what is the highest S/N version 2 that was buggy, and if there were any early version 3s that were buggy. Perhaps this has been discussed previously on this forum and I have missed it.
>
> Michael

I have run across quite a few with the bug. The latest I have seen was 1230A. All were Type-2, dimple on the 5, 2-piece backbone. Most were 1143A.

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A ridiculous idea: what if HP sells calculator hardware & software seperately

*Message #1 Posted by **KC** on 18 Sept 2009, 9:48 a.m.*

This comes to my mind when HP decided to sell its calculator emulator on iphone. It sounds great, as one can have a machine with all the good old calculators inside it. But wait, would you ever feel comfortable "pressing the keys" all the way on the screen? I wouldn't. Try entering the Mach number equation on iphone and I'm sure it will drive you nuts.
So here comes a solution: HP builds a "barebone" calculator, with the keyboard, with your favorite HP calculator form factor like the HP41C or HP15C or whatever. The keyboard will be free from labels, of course, much like the HP-41C Option 001. Then much like the iphone, the firmware/software can be sold seperately and downloaded via a USB port on the calculator. Finally, you can buy the appropriate "label" or "faceplate" and attach onto the calculator.
What's the advantage of this?
1. Easy bug fixes.
2. You can upgrade easily to another "calculator".
3. Lots of people will contribute to the calculator software, whether HP likes it or not, and this makes the calculator better and better.
4. The software can be tailor made for you.
5. HP can concentrate to build better calculator hardware such as better key press.
And disadvantages:
1. Surely you cannot bring it to most of the examinations.
2. Emergence of "calculator virus".
Sounds great and ridiculous, isn't it?

KC

Re: A ridiculous idea: what if HP sells calculator hardware & software seperately

*Message #2 Posted by **Martin Pinckney** on 18 Sept 2009, 10:31 a.m.,*
in response to message #1 by KC

Sounds only great to me. I don't think viruses would be an issue; not enough "return on the investment" (glee for causing someone else problems) for the virus-writers.

The trick would be to get HP to consider it a worthwhile project.

Oh, and choosing a form factor that would gain widespread acceptance.

Re: A ridiculous idea: what if HP sells calculator hardware & software seperately

*Message #3 Posted by **Walter B** on 18 Sept 2009, 10:48 a.m.,*
in response to message #1 by KC

We're not so far away from this. Take the HP-20b as an example.

Though its tactile response as well as its display can (and need to) be improved for sure, an interface is given at least.

Ceterum censeo: HP, launch a 43S (on your way to it you may launch something blank as KC suggests, if you prefer, but a good keyboard and display are inevitably necessary, as had been said here many times).

Walter

Re: A ridiculous idea: what if HP sells calculator hardware & software seperately

*Message #4 Posted by **Bart (UK)** on 24 Sept 2009, 6:59 a.m.,*
in response to message #3 by Walter B

Has anyone tried reporposing a 20B to a 42S, to replace, as it were, the aging hardware of current user's 42s's? Doing the same as what HP has done with the 12C+ could give a faster 42S with new harware. Just a matter of re-labelling the keys, I remember someone posting that they were struggling to remove the original lettring from the 20B keys?

Re: A ridiculous idea: what if HP sells calculator hardware & software seperately

*Message #5 Posted by **Tim Wessman** on 24 Sept 2009, 10:37 a.m.,*
in response to message #4 by Bart (UK)

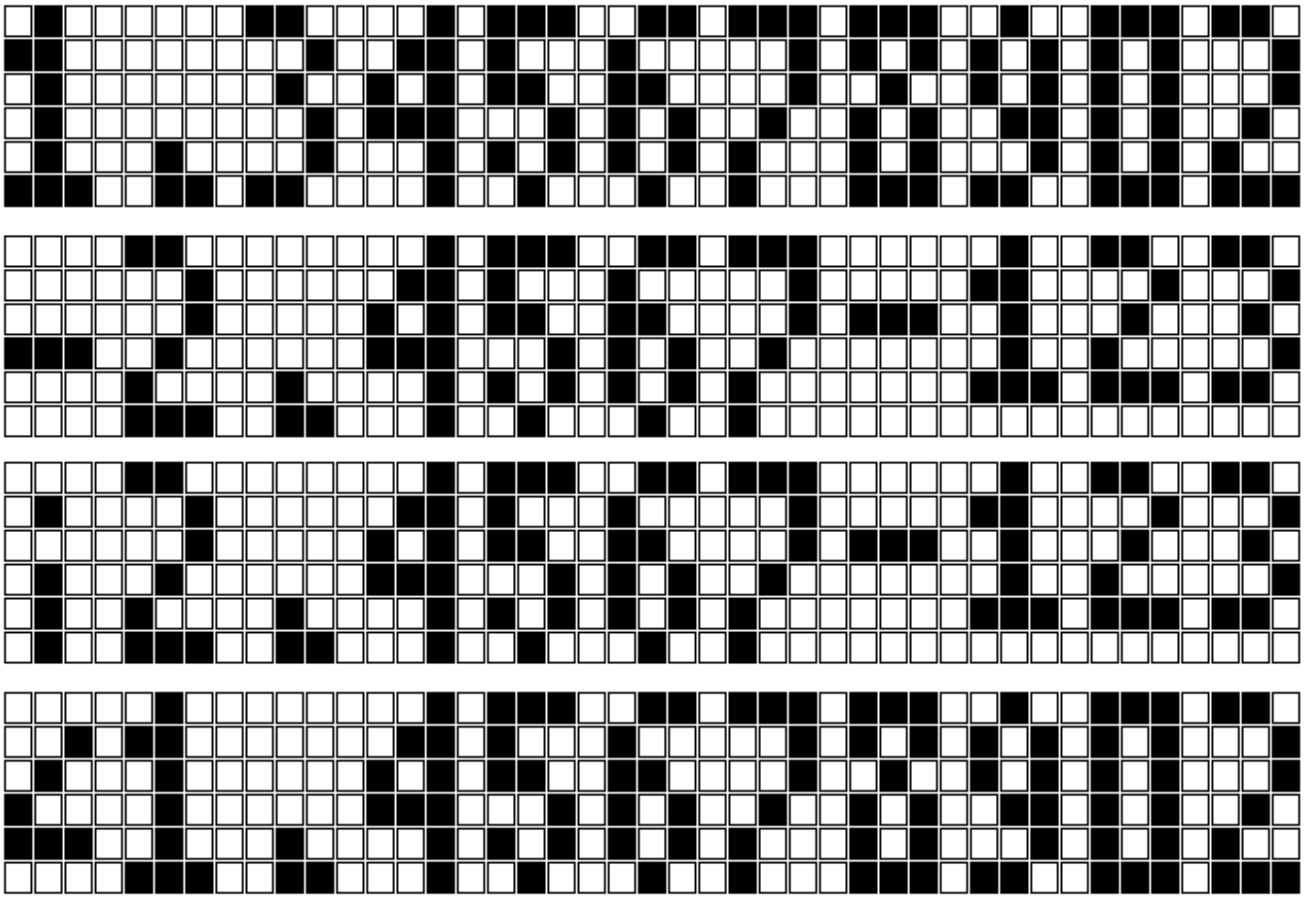
The big problem with trying to do that, or to make any scientific out of the 20b is the screen. The LCD driver built into the chip will only support 400 segments, and they are all used on the 20b. It could be possible. . . but I'm not sure how it would turn out. :-(

RW

Re: A ridiculous idea: what if HP sells calculator hardware & software seperately

*Message #6 Posted by **Jeff O.** on 24 Sept 2009, 5:17 p.m.,*
in response to message #5 by Tim Wessman

While not optimal, it seems like the display could be useable for a decent scientific calculator. The dot-matrix area in the upper left side of the 20b diplay could be used as a rudimentary second line, to display the stack-y contents and/or to display the imaginary part or angle for a complex number representation. Last year after HHC 2008 when the 20b repurposing project was active, I played around to see how numbers might be represented in the dot-matrix area. Below is what I came up with. Of course I have neither the knowledge nor the equipment needed to repurpose my 20b, so that's as far as it got.



Edited: 25 Sept 2009, 7:26 a.m. after one or more responses were posted

Re: A ridiculous idea: what if HP sells calculator hardware & software seperately

*Message #7 Posted by **Mike Morrow** on 25 Sept 2009, 1:21 a.m.,*
in response to message #6 by Jeff O.

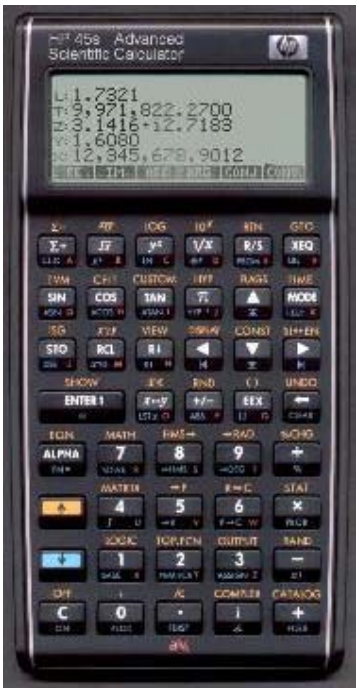
This LCD would be completely unsatisfactory for an HP42S type of calculator.

Re: A ridiculous idea: what if HP sells calculator hardware & software seperately

*Message #8 Posted by **Jeff O.** on 25 Sept 2009, 7:37 a.m.,*
in response to message #7 by Mike Morrow

Hi Mike,
I agree that it would not be ideal. Just to be clear, (and sorry if you are aware), the 20b has a 12 character 7-segment (plus 3 smaller 7-segment characters for the exponent) display area on the bottom of the LCD, with the dot-matix area in the upper left, with 11 or so annunciators in the upper right. So I was not suggesting my crude character display for the main numeric output.

But in any case, I'd certainly rather have this:



Re: A ridiculous idea: repurposing a 20B to a 42S

*Message #9 Posted by **Bart (UK)** on 25 Sept 2009, 11:38 a.m.,*
in response to message #8 by Jeff O.

Nice one Jeff. I had been thinking that the 35s form-factor with a bigger screen would be good.

On the subject of the 20B's LCD: I had looked at it and thought maybe to substitute it for a same physical size generic LCD which means finding another way of displaying the annunciators, or replace it with a custom made screen which might be viable if there were enough takers. But then this would defeat the whole object of repurposing *existing* hardware. I also wasn't aware of the LCD driver's capability limitations in the 20B's hardware. 'twas but a simple idea.

Re: A ridiculous idea: repurposing a 20B to a 42S

*Message #10 Posted by **Jeff O.** on 25 Sept 2009, 3:47 p.m.,*
in response to message #9 by Bart (UK)

> Quote:
>
> Nice one Jeff.

Thanks!

> Quote:
>
> I had been thinking that the 35s form-factor with a bigger screen would be good.

For some reason I spent (or perhaps wasted, depending on your point of view) considerable thought and effort on that concept a while ago.

...

Re: A ridiculous idea: what if HP sells calculator hardware & software seperately

*Message #11 Posted by **Mike Morrow** on 24 Sept 2009, 10:44 a.m.,*
in response to message #4 by Bart (UK)

> Quote:
>
> Has anyone tried reporposing a 20B to a 42S,

Sounds fishy. :-)

> Quote:
>
> to replace, as it were, the aging hardware of current user's 42s's? Doing the same as what HP has done with the 12C+ could give a faster 42S with new harware. Just a matter of re-labelling the keys,

IMHO, such alterations to existing hardware would be a big-time kludge of interest only as an experiment. How would the 20B display be made completely compatible with that of the 42S? What about generating 42S sounds, which can be important to prompt for input? What about IR printer support?

If I lost both of my HP42S units, I'd use my disdained HP32SII before falling back on a Franken-42S. Actually, I'd accomodate the large size and just use a 50G. But I've used one 42S daily for 12 years and it still looks and responds like new, while the other is yet new in the box. The 42S has kept its youthful appearance much better than my HP-15C did after only a few years of routine use.

But a new HP42S-type machine designed from the start in the HP20B-type hardware (but with sound and IR) would be interesting indeed. Much better than any mythological HP-15C re-issue, IMHO.

Re: A ridiculous idea: what if HP sells calculator hardware & software seperately

*Message #12 Posted by **Silvio A. Bensi** on 18 Sept 2009, 12:16 p.m.,*
in response to message #1 by KC

> Quote:
>
> So here comes a solution: HP builds a "barebone" calculator,

The idea is good, but change "HP" for "someone else".

> Quote:
>
> 5. HP can concentrate to build better calculator hardware such as better key press.

If HP has a real interest in developing better calculator hardware, how do you explain what has happened in last decade? Nobody convinces me that HP has a deep interest in doing it

Sílvio

Re: A ridiculous idea: what if HP sells calculator hardware & software seperately

*Message #13 Posted by **Martin Pinckney** on 18 Sept 2009, 1:04 p.m.,*
in response to message #12 by Silvio A. Bensi

> Quote:
>
> If HP has a real interest in developing better calculator hardware, how do you explain what has

> happened in last decade? Nobody convinces me that HP has a deep interest in doing it

Well, to be fair, HP did give us the 50g and 35s, not perfect but attempts to return to their roots, and the 12c series is still pretty good...

Re: A ridiculous idea: what if HP sells calculator hardware & software seperately

*Message #14 Posted by **Howard Owen** on 18 Sept 2009, 8:00 p.m.,*
in response to message #12 by Silvio A. Bensi

I would have argued with this if Sam Kim had stuck around. You could at least point to quality improvements in the scientific and graphing models under his watch Now the question is open again in my mind.

Focusing on the high school market is presumably the right move for their business, but what sort of quality standards do you need to compete effectively there? What shortcuts in quality would make economic sense in that market and others HP competes in?

Regards
Howard

Re: A ridiculous idea: what if HP sells calculator hardware & software seperately

*Message #15 Posted by **Frank Rottgardt** on 18 Sept 2009, 1:26 p.m.,*
in response to message #1 by KC

If I want to drive a beetle I don´t need a Mercedes Benz chassis. Will say the still expensive calculator hardware needed to implement and run advanced functions is a must for the typical 50g customer, but by far an overkill for the 10s type of guy. So where will the 10s mate buy his next basic scientific calculator? Would the 50g guy be happy to subsidize the lower end market fraction by paying higher prices than necessary?

Further, the 50g customer expects first class keys, the 10s customer expects nothing from the keys. The latter is used to the simple equation "cheap calculator = poor keys". Will he be happy to pay a higher price tag for decent keys?

Re: A ridiculous idea: what if HP sells calculator hardware & software seperately

*Message #16 Posted by **Dan W** on 18 Sept 2009, 1:35 p.m.,*
in response to message #1 by KC

You mean something like this?

Actually I think the technology could be developed to place some kind of character display on each key and the keyboard so that the function labels could be dynamically changed electronically.

Then one would say, why not just have the flat touch screen like an iPod with the complete keyboard electronic? Two reasons. First as you say there is something inherently superior to a real keyboard. Second, a blend of real and electronic keyboard would have a cool factor - flat touchscreens are so yesterday.

Re: A ridiculous idea: what if HP sells calculator hardware & software seperately

*Message #17 Posted by **Garth Wilson** on 19 Sept 2009, 1:49 a.m.,*
in response to message #16 by Dan W

> Quote:
>
> You mean something like this?

I believe one of the early ideas or plans for the 41 was to make language ROMs available. That could still be done, couldn't it?

Re: A ridiculous idea: what if HP sells calculator hardware & software seperately

*Message #18 Posted by **Walter B** on 19 Sept 2009, 3:01 a.m.,*
in response to message #17 by Garth Wilson

> Quote:

> I believe one of the early ideas or plans for the 41 was to make language ROMs available. That could still be done, couldn't it?

Do you mean replacing SIN (English) by SIN (German)? ;)

Re: A ridiculous idea: what if HP sells calculator hardware & software seperately

*Message #19 Posted by **David Hayden** on 18 Sept 2009, 2:43 p.m.,*
in response to message #1 by KC

I think HP could get 90% of the benefit of your proposal just by providing keyboard overlays for their calculators, just like they did with the HP 41's. I'm not sure which models currently offer user-assignable keyboards, but certainly the 50g does.

On future models, I think they could also make a handsome profit if they made the machines expandable (again, like the 41). Lots of us would pay to add cool extras (like a printer).

(deleted post)

*Message #20 Posted by **deleted** on 18 Sept 2009, 2:58 p.m.,*
in response to message #1 by KC

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: A ridiculous idea: what if HP sells calculator hardware & software seperately

*Message #21 Posted by **Egan Ford** on 18 Sept 2009, 3:54 p.m.,*
in response to message #1 by KC

> Quote:
>
> What's the advantage of this?
> 1. Easy bug fixes.
> 2. You can upgrade easily to another "calculator".
> 3. Lots of people will contribute to the calculator software, whether HP likes it or not, and this makes the calculator better and better.
> 4. The software can be tailor made for you.
> 5. HP can concentrate to build better calculator hardware such as better key press.
> And disadvantages:
> 1. Surely you cannot bring it to most of the examinations.
> 2. Emergence of "calculator virus".
> Sounds great and ridiculous, isn't it?

With the exception of #5 I get this with an iPhone and soon any number of touch screen devices such-as other phones, touch screen netbooks, tablet PCs, and eBook readers.

If you survey the landscape of calculators out there today and their respective users you'll find that key press doesn't even register as something of importance. However, even small markets can generate revenue. What is the size of the nit-picky calculator market?

I avoided the iPhone for a year because of a bias towards Blackberry style keyboards--rigid, inflexible, reliable. However I--as have many others--have adapted to touchscreen technology. The possibilities of virtual keyboards IMHO outweighs the static (even if you can put your own stickers on it). Look at the work done by i41CX+ and 42s. I like the dynamic labels, the on-demand QWERTY keyboard, the swipe for a 4 line stack, etc... I feel that as a whole it makes me more productive.

It's the end of an era, time to change.

Re: A ridiculous idea: what if HP sells calculator hardware & software seperately

*Message #22 Posted by **Martin Pinckney** on 18 Sept 2009, 4:44 p.m.,*
in response to message #21 by Egan Ford

> Quote:
>
> It's the end of an era, time to change.

Well, fortunately, I do not have to, since I already have sufficient physical HP calculators that I like.

Re: A ridiculous idea: what if HP sells calculator hardware & software seperately

*Message #23 Posted by **hugh steers** on 18 Sept 2009, 8:04 p.m.,*
in response to message #21 by Egan Ford

Hi Egan,

The issues of this thread overlap what I am planning to talk about in Denver next month, so I won't comment.

However, your point on virtual keyboards is interesting; I've been experimenting with free42 on the HTC touch pro 2. On this device and other latest gen handsets (like iphone), the calculator appears on screen almost life sized – at least big enough to actually press the virtual buttons with your finger.

One of the big drawbacks is that you can't feel the keys. Consequently, I've been trying to get some tactile feedback going with the virtual keys. I don't know if the iphone version does this, but it's fairly effective (compared to nothing!). Phone people like to call it haptic feedback, but its not really because true haptic feedback involves fingertip sensation (would be nice to add!).

What Im doing is wiggling the vibration mass inside the phone. I'm picking a number for the duration that gives it about 1 spin or so. For me, its 25ms, for other handsets it could well be different. Anyway, this is a real step forward for virtualised keyboards. It would be even better to have special hardware, like a mass that could move forward and back rather than rotate.

if you're in Denver, I can show you and that goes for anyone else interested.

Re: A ridiculous idea: what if HP sells calculator hardware & software seperately

*Message #24 Posted by **Egan Ford** on 20 Sept 2009, 2:15 p.m.,*
in response to message #23 by hugh steers

> Quote:
>
> One of the big drawbacks is that you can't feel the keys.

That is because you were conditioned to expect to feel it. The next generation will not. Visual and auditory feedback may be sufficient and in some cases mandatory, i.e. a poorly designed mechanical keyboard can give the user a false positive--you'll find multiple threads of missed keystrokes on the 50g and 35s. I'd argue that most pocket calculator users rely mostly on the visual feedback of the LCD.

However that all said I firmly believe that there are applications where a real keyboard cannot ever be replaced. E.g. the weighted keys of a piano.

Being conditioned myself for tactical feedback keyboards I'll admit I do miss the feeling at times and that I cannot substitute certain keyboards with a touch screen, e.g. my computer keyboard--the ridges on the J and F

are critical for touch typing at speed. I imagine that accountants with their 5 key feel the same way. Perhaps the difference lies in speed. The piano, computer keyboard, Blackberry, etc... need tactical feedback for speed. Most calculator and mobile phone users use a single finger and without thinking register each keystroke from the display--relatively slow work.

> Quote:
>
> What Im doing is wiggling the vibration mass inside the phone. I'm picking a number for the duration that gives it about 1 spin or so. For me, its 25ms, for other handsets it could well be different. Anyway, this is a real step forward for virtualised keyboards. It would be even better to have special hardware, like a mass that could move forward and back rather than rotate.
>
> if you're in Denver, I can show you and that goes for anyone else interested.

Very interested. I think there is a high probability I will make it this year.

Re: A ridiculous idea: what if HP sells calculator hardware & software seperately

*Message #25 Posted by **Palmer O. Hanson, Jr.** on 21 Sept 2009, 4:13 a.m.,*
in response to message #24 by Egan Ford

> Quote:
>
> Being conditioned myself for tactical feedback keyboards I'll admit I do miss the feeling at times and that I cannot substitute certain keyboards with a touch screen, e.g. my computer keyboard--the ridges on the J and F are critical for touch typing at speed. I imagine that accountants with their 5 key feel the same way. Perhaps the difference lies in speed. The piano, computer keyboard, Blackberry, etc... need tactical feedback for speed. Most calculator and mobile phone users use a single finger and without thinking register each keystroke from the display--relatively slow work.

What I have found for touch typing is that the positioning of the rows of keys on a slanted keyboard and audible feedback from the keys hitting the platen were more important than the tactile feedback. I went through that when I switched from a mechanical typewriter to an electric typewriter, and again to a modern computer keyboard. When I learned to type on a mechanical typewriter I could do forty to fifty words a minute with very few errors. I held that speed with an electric typewriter but lost it with modern computer keyboards.

In the old days we also had key punch entry machines. Operators never looked at the keys, often (at least as I recall) didn't even have a display, but could achieve phenomenal speeds and accuracy. Engineers didn't need to apply.

Re: A ridiculous idea: what if HP sells calculator hardware & software seperately

*Message #26 Posted by **Alain Mellan** on 19 Sept 2009, 1:08 a.m.,*
in response to message #21 by Egan Ford

Couldn't agree more with you, Egan.

Had a personal iPhone (plus almost every RPN calc that run on it :-) for about a year, and I got outfitted now for work with a Blackberry. The tiny keyboard is totally unusable.

I found out the best way use the various calcs for me was to hold the iPhone in the left hand and "press" buttons with the left thumb, while I can write with the right hand at the same time. YMMV.

Everybody has different needs and ways to use the machine, and the touch screen seems the easiest to use and customize. Look at the discussions on this forum and OpenRPN.org in the past on keyboard layout. Anybody can

potentially make their own with a programmable device like iPhone, it's not limited by the hardware.

Edited: 19 Sept 2009, 1:10 a.m.

Re: A ridiculous idea: what if HP sells calculator hardware & software seperately

*Message #27 Posted by **Garth Wilson** on 19 Sept 2009, 1:46 a.m.,*
in response to message #26 by Alain Mellan

Does anyone have any numbers on how long a touch screen lasts? Sometimes I can hardly make the ATM work, and it's not even mechanical-- you can see the conductors for the capacitive sensors when the sun is at the right angle.

One problem with consumer products like the iPhone is that the product life is extremely short-- they're here today and gone tomorrow. If the battery goes out in a few years, there probably won't be one available to fit it anymore. The 41 OTOH was in production for over ten years IIRC, and even today, 30 years after its introduction, you can still get things like Clonix41, MLDL 2000, and of course the older products are available on eBay. I've had programs on mine continuously for over 20 years. In the consumer market you have to move all your programs to another device every couple of years and learn to use it.

Re: A ridiculous idea: what if HP sells calculator hardware & software seperately

*Message #28 Posted by **Egan Ford** on 20 Sept 2009, 1:43 p.m.,*
in response to message #27 by Garth Wilson

> Quote:
>
> One problem with consumer products like the iPhone is that the product life is extremely short

I'd argue that most if not all electronic consumer products. My first HP (15C) is still in use and will probably continue to function longer than my 50g and 35s. They just don't make them like they used to. The market has changed to wanting change.

> Quote:
>
> In the consumer market you have to move all your programs to another device every couple of years and learn to use it.

Yep, I did this with my Palms, then Zaurus, then Windows Mobile, now iPhone. Hmmm... also did this with VCR -> DVD -> BlueRay and Vinyl/Tape -> CD -> MP3 and rotary dial -> touch tone -> voice dialing.

And, I also did this with my 15C -> 48GX -> 50g. "Couple of years" in this case was ~10 years.

Change is good. Nothing wrong with learning something new.

Re: A ridiculous idea: what if HP sells calculator hardware & software seperately

*Message #29 Posted by **Garth Wilson** on 20 Sept 2009, 6:03 p.m.,*
in response to message #28 by Egan Ford

> Quote:
>
> Change is good. Nothing wrong with learning something new

Sometimes. But when new doesn't mean better, it's a waste of time. I got a 50g, and totally lost interest after going through the paper manual. The 41cx meets my needs better. So does my 71.

Re: A ridiculous idea: what if HP sells calculator hardware & software seperately

*Message #30 Posted by **Hugh Evans** on 21 Sept 2009, 11:14 p.m.,*
in response to message #21 by Egan Ford

Neat idea, but given the cost of development for such an endeavor will keep it from getting off the ground. From some of the posts I've read from Cyrille it could theoretically be possible to get HP to make calculator hardware to the specs of the community... Bankrolling it would be the big challenge, though. How many hundreds of thousands of dollars can HP enthusiasts pool to make that happen?

I'll leave it at that, this could be an interesting thought experiment.

Re: A ridiculous idea: what if HP sells calculator hardware & software seperately

*Message #31 Posted by **Garth Wilson** on 22 Sept 2009, 1:50 a.m.,*
in response to message #30 by Hugh Evans

> Quote:
>
> How many hundreds of thousands of dollars can HP enthusiasts pool to make that happen?

As one who has brought many electronic products to market, I am almost tempted to make such hardware myself, if I could give it the time. It would **not** take hundreds of thousands of dollars. For NRE (non-recurring engineering costs), figure a few thousand for a custom LCD (we looked into it 20 years ago and were quoted about $2K, and I suspect that greater efficiency today means the price has not increased much), or maybe better, use an off-the-shelf LCD to avoid the NRE, a few thousand for the keyboard (we looked into that too, with double-shot keys so the labels are actually *in* the keys like the HPs' of the early 80's so they won't wear off), a couple thousand for lexan overlays (we've done those), a few hundred dollars for the first run of PC boards (we've done loads of those, up to 12 layers, but 2 to 4 would be plenty for this), and a few thousand for the case molds. I lay out very dense PC boards all the time, SMT and thru-hole, and up to 500 parts on a single board. Add in the parts for the first run, and we're only up to about $20,000, plus my own time.

Edited: 22 Sept 2009, 1:51 a.m.

Re: A ridiculous idea: what if HP sells calculator hardware & software seperately

*Message #32 Posted by **Egan Ford** on 22 Sept 2009, 11:33 a.m.,*
in response to message #31 by Garth Wilson

> Quote:
>
> plus my own time.

Much of that time is probably spent on software and documentation. I believe that is where the *hundreds of thousands* comes from. A single engineer's salary can easily exceed $100K US. And, you need to double that to get the actual carrying cost of an employee (at least in large companies).

I have a dozen incomplete personal projects sitting on my desk (I'll bet Eric has 100 :-). Time is a rare and expensive commodity.

Re: A ridiculous idea: what if HP sells calculator hardware & software seperately

*Message #33 Posted by **Garth Wilson** on 22 Sept 2009, 1:15 p.m.,*
in response to message #32 by Egan Ford

I was figuring that the community of enthusiasts would do the software. I'm happy on a fraction of your $100,000/yr though.

Re: A ridiculous idea: what if HP sells calculator hardware & software seperately

*Message #34 Posted by **Hugh Evans** on 23 Sept 2009, 1:39 a.m.,*
in response to message #33 by Garth Wilson

I've pondered this issue before. Looking at the body of work already available from nonpareil, free42, x48, to name a few. Creating hardware capable of running said software would be relatively trivial.

Re: A ridiculous idea: what if HP sells calculator hardware & software seperately

*Message #35 Posted by **Hugh Evans** on 23 Sept 2009, 1:28 a.m.,*
in response to message #31 by Garth Wilson

My quote of hundreds of thousands was in response to HP taking on the development of said hardware. Your figures are correct. LCDs in many cases waive tooling fees now, injection molding costs vary more than I'd like. As a cost cutting tool, I worked on a procedure for OpenRPN to accomplish the effect of double-shot keys using laser etching with a resin back-fill for key legends. It's a trade-off in terms of cost vs. flexibility.

If you ever want to pursue such an endeavor I would be happy to donate my efforts to see it happen. OpenRPN, for me, was always about bringing at least one more great no-holds-barred piece of calculator hardware to the market.

Re: A ridiculous idea: what if HP sells calculator hardware & software seperately

*Message #36 Posted by **Bastian** on 21 Sept 2009, 11:35 a.m.,*
in response to message #1 by KC

It looks like TI doesn't like the idea of people running a custom OS on their hardware.

http://www.ticalc.org/archives/news/articles/14/145/145316.html

Re: A ridiculous idea: what if HP sells calculator hardware & software seperately

*Message #37 Posted by **Eric Smith** on 23 Sept 2009, 2:29 a.m.,*
in response to message #36 by Bastian

I imagine that a few of the reasons that TI isn't happy about installation of non-standard firmware on their calculators might be:

- risk of losing certification or approval for students to use the calculator model on tests, which would probably dramatically reduce sales
- support costs - if people have calculators with modified firmware, they're going to get some amount of support requests relating to firmware problems
- reputation - suppose someone buys a used TI calculator and doesn't know that it has modified firmware; if it doesn't work right it makes TI look bad

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HP Forum Archive 19

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Working on a 9114B HP-IL Disk Drive

*Message #1 Posted by **Gerry Schultz** on 17 Sept 2009, 8:04 p.m.*

To All:

I recently purchased another 9114B floppy drive from that unmentionable place as it was sold "As Is". There was something banging around inside when it arrived so before testing, I opened it (it's so much fun finding the right spline tool) and found a metal tag of some kind. Anyway, it appears to be a pristine unit internally as indicated by a small amount of tape still holding the front of RF shield on the floppy drive itself.

The unit accepts and ejects floppies fine but reluctantly. I tested it with EMU41 and it read a floppy directory so it appears to work. The battery is bad and have ordered a replacement. I am concerned about the extra effort required in ejecting a floppy so I went here to this site and read PeterP's excellent article (876) and Steve's excellent article (78) about repairing the 9114.

It appears most of the problems are with the 9114A version, so should I be concerned with cleaning and lubing the eject mechanism? I have no problems tearing into this unit as I was buying it for parts but it seems to be in great shape so I'm thinking of getting it back in shape. Is there anything special I need to be careful of that is not covered in the articles mentioned before?

Any input about your experiences with the 9114B are appreciated.

Thanks,

Gerry

Re: Working on a 9114B HP-IL Disk Drive

*Message #2 Posted by **Sean Connor** on 18 Sept 2009, 5:38 a.m.,*
in response to message #1 by Gerry Schultz

Gerry,

Where did you order the replacement battery from ? Are you just replacing the internal cell/s ?

I have a 9114A with no battery at all that I run from a power supply.

Sean

Re: Working on a 9114B HP-IL Disk Drive

*Message #3 Posted by **PeterP** on 18 Sept 2009, 12:46 p.m.,*
in response to message #1 by Gerry Schultz

Gerry, congrats on finding a good unit, they are rare!

When writing the article (thanks for your generous words) I was actually repairing a B-unit - with the

invaluable help of the master himself, Tony Duell. The B-Unit seems to be generally in better condition etc then the A-units, especially with regards to battery live. I'd try to determine where the stuck eject is coming from. As you have read, forcing a disk out when it is stuck rips off the head and that is, well, bad...

So I would try to figure out where the eject is stuck and lubricate it, starting with minimal dissassembly and working my way towards more intense dissassembly.

Hope that helps.

Cheers

Peter

Re: Working on a 9114B HP-IL Disk Drive

*Message #4 Posted by **Diego Diaz** on 18 Sept 2009, 1:06 p.m.,*
in response to message #1 by Gerry Schultz

Hi there,

I think these pics may be of some help.

The "metal tag" you found rattling inside your unit is more likely the top head cover... (red circle -also missing- in the image) which is supposed to be covering, and magnetic shielding, the upper head circuitry. Your 9114B can live without that... ;-)

The eject mechanism is commanded by the gears and spring inside the green cirle. May be just a bit (use very little please) lubricating grease (not oil!) will help smoothening the ejection.

If you plan to leave your 9114 unit unused for long periods of time, it's highly advisable to put a dummy disk like the one in the picture below. to protect the heads. A cleaning disk can also be used (and are easier to find). Do not leave a real disk inside the unit as the magnetic coating may end up tearing from the disk substrate damaging the heads (as Peter has pointed out above)

Regarding the battery, although the original part (Panasonic LCR-226P) is no longer in production (AFAIK), you can easily find a matching replacement (PM631). Terminals are not in the same position but this can be worked out.

Best wishes.

Diego.

Re: Working on a 9114B HP-IL Disk Drive

*Message #5 Posted by **Gerry Schultz** on 18 Sept 2009, 6:55 p.m.,*
in response to message #4 by Diego Diaz

Thanks, Diego. One picture is work 4K words in this case. I can't remember how many of those 3.5" dummy disks I threw away when I got new drives in. It seems that I just have to be careful when I clean and lubricate the drive mechanism. I've done it before on IBM PC floppy drives so I'm not worried.

You're right about the top head cover. It's the right size and shape. I'm just glad I removed it before I

applied power. What a great way to ruin a new (to me) piece of equipment by having a piece of metal floating around in it.

Peter, your article is very good and thank you for sharing the fruits of your labor with the rest of us. I am lucky to find such a rare drive and I want to have it last for a long time.

Sean, I googled for a PowerSonic PS-628 as, according to Peter's article, it is a direct replacement battery. I ordered two from batteryplex.com as I want to replace a second one as well. They cost only $11.80 and they should get here early next week.

Thanks for all the responses.

Gerry

Re: Working on a 9114B HP-IL Disk Drive

*Message #6 Posted by **Gerry Schultz** on 24 Sept 2009, 1:10 p.m.,*
in response to message #5 by Gerry Schultz

A small follow up to close out this thread. I have received and installed the two PS-628 batteries and they work great. I wrote a small program on the EMU41 that looped through selecting and retrieving directories from the 9114B drives as a way to test the charge/discharge cycle of the power supply assembly. I was looking to confirm that the charging board would properly recharge the battery and it seems fine.

It was interesting to note that running the loop in EMU41's fast mode kept both drives lights on all the time with directory listing whizzing past on the screen. It still took over an hour for the batteries to discharge down to empty.

I will bring them to the HHC 2009 conference that starts in about 10 days.

Thanks, Gerry

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'Begin' message in display

*Message #1 Posted by **Stacey Bower (Oregon)** on 17 Sept 2009, 5:17 p.m.*

How can I remove the message 'begin' from the display of my 12 C? Thanks.

Press blue shift and then 8 to set END mode

*Message #2 Posted by **Gene Wright** on 17 Sept 2009, 6:00 p.m.,*
in response to message #1 by Stacey Bower (Oregon)

Press blue shift and then 8 to set END mode and BEGIN will disappear.

Re: Press blue shift and then 8 to set END mode

*Message #3 Posted by **Stacey Bower (Oregon)** on 23 Sept 2009, 2:44 p.m.,*
in response to message #2 by Gene Wright

Thank you!!

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HP ALERT for HP49G+/HP50

*Message #1 Posted by **Mike Reed** on 17 Sept 2009, 4:28 p.m.*

```
Recommended Driver Alert                Sep 14 2009

        HP 49g+/50g Calculator ROM Upgrades (ver 2.15)

        Products: HP 49g+ Graphing Calculator, HP50g Graphing
        Calculator

        OS: Microsoft Windows 2000, Mac OS X, Mac OS 8, Linux,
            Microsoft Windows XP, Mac OS 9, Microsoft Windows 98,
            Microsoft Windows ME

        Description: This package contains the latest version of the
                     HP 49g+/50g ROM (v2.15).
```

Re: HP ALERT for HP49G+/HP50

*Message #2 Posted by **Bruce Bergman** on 17 Sept 2009, 9:25 p.m.,*
in response to message #1 by Mike Reed

Is this a buffer overflow denial of service alert for the calc?

If so, I'm really in trouble. ;-)

thanks, bruce

Re: HP ALERT for HP49G+/HP50

*Message #3 Posted by **Bart (UK)** on 18 Sept 2009, 7:52 a.m.,*
in response to message #1 by Mike Reed

Is this the same one that appeared here on hpcalc.org in April?

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Travelling to HHC2009 from outside the US

*Message #1 Posted by **Wlodek Mier-Jedrzejowicz** on 17 Sept 2009, 12:03 p.m.*

If you are travelling to HHC2009 from outside the US, and if you are not a US citizen and you do not have a US visa, then you are either planning to enter on a Visa Waiver or you need to get a visa pronto!

If you are planning to come in from a country that has a Visa Waiver arrangement with the US, then you must register online before you travel. This is a new requirement from the beginning of 2009, so you may not know of it, and so I am posting the information here, with apologies to everyone else.

The scheme is called "Electronic System for Travel Authorisation (ESTA)". Look it up on the web and be sure to fill it in at least 72 hours before you travel.

I have just had it pointed out to me that the official US web site is free at https://esta.cbp.dhs.gov and that others might charge for the same service.

Thanks, normal service is now resumed,

Wlodek

Edited: 17 Sept 2009, 10:34 p.m.

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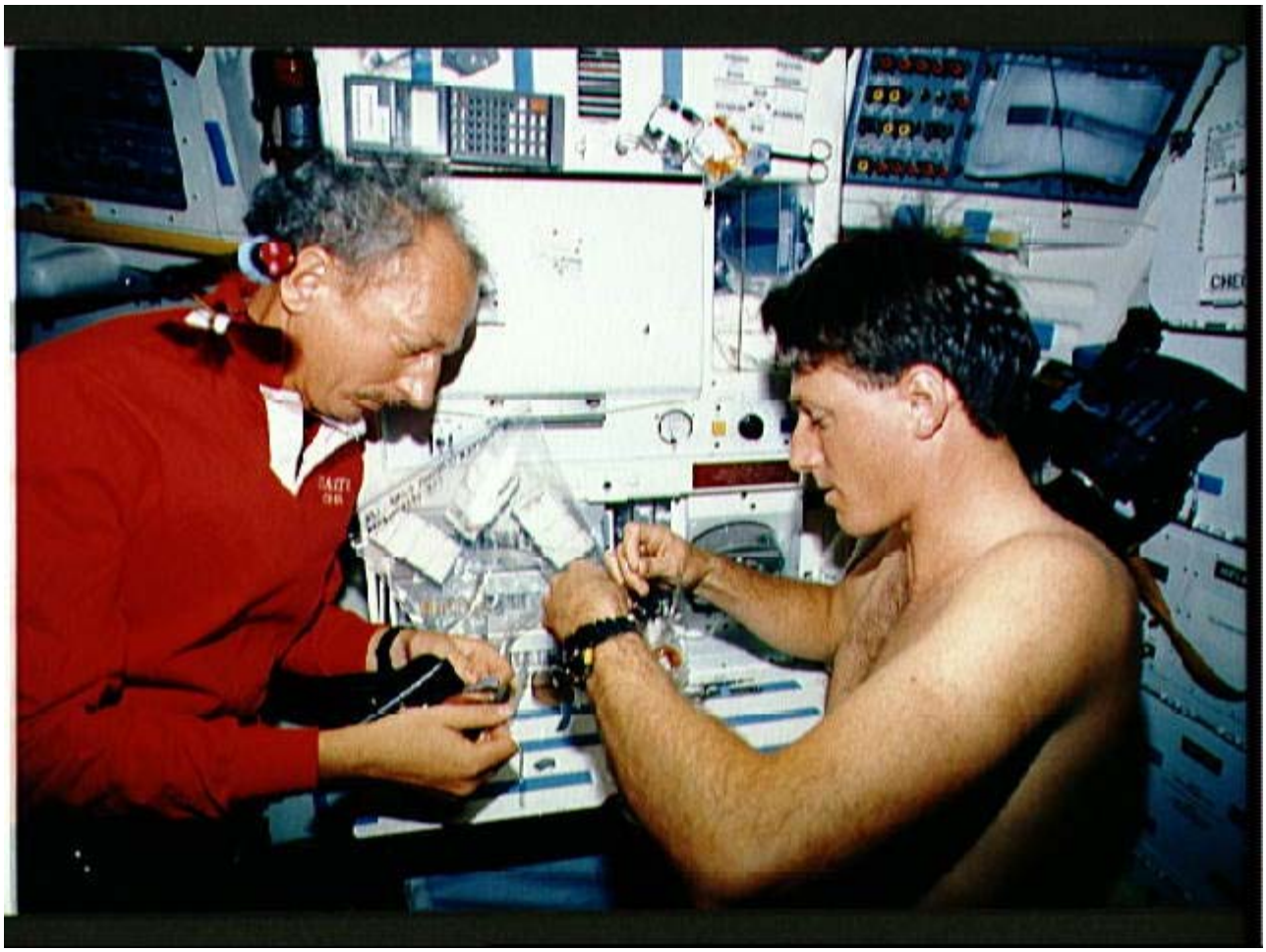
Mystery calculator - not a calculator?

*Message #1 Posted by **Joerg Woerner** on 17 Sept 2009, 9:32 a.m.*

Hi There,

I recently followed the interesting discussions about the "Mystery Calculator" and working 17 years in the Barcode Scanner market (and knowing most western calculators) I have my own ideas....



I doubt that we are talking about a calculator, to me the little thing looks more like a portable data terminal. Just google e.g. for the Telxon PTC-710 and you find a lot of images like these:

What do you think about the similarities?

db, they may have an ENT key - but no RPN. Sorry!

Regards, Joerg

Re: Mystery calculator - not a calculator?

*Message #2 Posted by **David Hayden** on 17 Sept 2009, 11:53 a.m.,*
in response to message #1 by Joerg Woerner

The Johnson Space Center photo archive implies that it's a calculator here. The text description says:

> Quote:
>
> STS-45 Payload Specialist Dirk D. Frimout (left) and Mission Specialist (MS) C. Michael Foale (shirtless) conduct Detailed Supplementary Objective (DSO) 621, Inflight Use of Florinef to Improve Orthostatic Intolerance After Flight, on the middeck of Atlantis, Orbiter Vehicle (OV) 104. The purpose of DSO 621 is to evaluate the efficacy of the drug on postflight orthostatic tolerance using heart rate, blood pressure, stroke volume and other cardiovascular responses to orthostatic stress. A penlight flashlight freefloats above Frimout's shoulder. **The crewmembers are in front of the port side galley with a calculator, food containers, and DSO 621 supplies velcroed to it** [emphasis added]. Behind Foale are a camcorder and the forward middeck lockers.

I sent an email to the curator asking if there's a higher resolution scan of the picture available.

Re: Mystery calculator - not a calculator?

*Message #3 Posted by **hecube** on 17 Sept 2009, 11:59 a.m.,*
in response to message #2 by David Hayden

It might just be a matter of a generic description of the pic by someone not knowing what they're looking at.

Re: Mystery calculator - not a calculator?

*Message #4 Posted by **hecube** on 17 Sept 2009, 11:58 a.m.,*
in response to message #1 by Joerg Woerner

Thanks for your insight. It makes sense.

Particularly puzzling to me was the fact that there were only 4 button columns on the bottom of the

"calculator" when so many calculators have 5 columns.

The fact that there didn't seem to be arithmetic buttons (+ - * /) was also bizarre.

I think you've nailed it.

Re: Mystery calculator - not a calculator?

*Message #5 Posted by **hecube** on 17 Sept 2009, 7:53 p.m.,*
in response to message #1 by Joerg Woerner

So after a lot of research, it seems only these calculator models ever went into space:

HP-35 HP-65 HP-41 HP-48 Elektronik Mk-52

Re: Mystery calculator - not a calculator?

*Message #6 Posted by **hecube** on 17 Sept 2009, 8:24 p.m.,*
in response to message #1 by Joerg Woerner

I also found this blurb here about Telxon:

Telxon was started in Texas in 1969 as Electronic Laboratories, Inc. by engineers **who developed data recording devices for NASA** and the FAA, the company was a pioneer in the mobile information systems industry.

Re: Mystery calculator - not a calculator?

*Message #7 Posted by **David Hayden** on 18 Sept 2009, 2:36 p.m.,*
in response to message #1 by Joerg Woerner

After a little sluthing, I tracked down a guy at Nasa who is going to get me a high-resolution scan of the photo. I'll post it when I receive it in about a week.

Re: Mystery calculator - not a calculator?

*Message #8 Posted by **Joerg Woerner** on 18 Sept 2009, 3:23 p.m.,*
in response to message #7 by David Hayden

David, Thanks!

And our friends in UK start to make a bet ;-))

Joerg

Re: Mystery calculator - not a calculator?

*Message #9 Posted by **hecube** on 18 Sept 2009, 4:37 p.m.,*
in response to message #8 by Joerg Woerner

Wow. Talk about team work...

Re: Mystery calculator - not a calculator?

*Message #10 Posted by **David Hayden** on 1 Oct 2009, 3:50 p.m.,*
in response to message #7 by David Hayden

I have received a high-res copy of the image from Nasa, but I'm not sure how to post it here. Looks like I need to put the image on a website somewhere and then provide a link to it. Can anyone help out?

Thanks, Dave

Re: Mystery calculator - not a calculator?

*Message #11 Posted by **Egan Ford** on 1 Oct 2009, 4:35 p.m.,*
in response to message #10 by David Hayden

Just cut out the part of interest and post that. And, while you are asking NASA for things, ask them what it is.

Edited: 1 Oct 2009, 4:35 p.m.

Re: Mystery calculator - not a calculator?

*Message #12 Posted by **David Hayden** on 2 Oct 2009, 10:11 p.m.,*
in response to message #11 by Egan Ford

> Quote:
>
> And, while you are asking NASA for things, ask them what it is.

But where's the fun in **that??!** :)

Dave

Re: Mystery calculator - not a calculator?

*Message #13 Posted by **Sancerre (Phoenix)** on 1 Oct 2009, 9:28 p.m.,*
in response to message #10 by David Hayden

I should be able to post the photo - send me an email at sancerre @ gmail . com (no spaces).

--Sancerre

Re: Mystery calculator - not a calculator?

*Message #14 Posted by **hecube** on 2 Oct 2009, 11:57 a.m.,*
in response to message #13 by Sancerre (Phoenix)

Waiting in anticipation!

Re: Mystery calculator - not a calculator?

*Message #15 Posted by **David Hayden** on 2 Oct 2009, 10:37 p.m.,*
in response to message #14 by hecube

I emailed the photo to Sancerre so he should post them soon.

It looks to me like an Intermec 9444 or 9445 bar card scanner.

Re: Mystery calculator - not a calculator?

*Message #16 Posted by **hecube** on 2 Oct 2009, 11:48 p.m.,*
in response to message #15 by David Hayden

I would put real money on that last one.

Re: Mystery calculator - not a calculator?

*Message #17 Posted by **Sancerre (Phoenix)** on 3 Oct 2009, 1:04 a.m.,*
in response to message #15 by David Hayden

Hi,

Here are the two images that Dave sent. I have intentionally left the images at their original resolution, so you'll have to scroll for the first one.

--Sancerre

Re: Mystery calculator - not a calculator?

*Message #18 Posted by **hecube** on 3 Oct 2009, 10:36 a.m.,*
in response to message #17 by Sancerre (Phoenix)

> Quote:
>
> Hi,
>
> Here are the two images that Dave sent. I have intentionally left the images at their original resolution, so you'll have to scroll for the first one.
>
>
>
>
>
> --Sancerre

Case closed.

Re: Mystery calculator - not a calculator?

*Message #19 Posted by **db (martinez, ca.)** on 20 Sept 2009, 1:35 a.m.,*
in response to message #1 by Joerg Woerner

Joerg;
It has no "=" sign either. What good to us is a data collector that only *collects* data?

Re: Mystery calculator - not a calculator?

*Message #20 Posted by **Palmer O. Hanson, Jr.** on 20 Sept 2009, 9:25 p.m.,*

in response to message #19 by db (martinez, ca.)

> Quote:
>
> What good to us is a data collector that only *collects* data?

Joerg's picture of the PTC-710 shows keyboard functions such as FIND, INSERT, SEND, DISP (display?), etc. Do you really not see any use for such a device?

Re: Mystery calculator - not a calculator?

*Message #21 Posted by **db (martinez, ca.)** on 20 Sept 2009, 10:45 p.m.,*
in response to message #20 by Palmer O. Hanson, Jr.

> Quote:
>
> Do you really not see any use for such a device?

Yep. I do. For a one function robot, or a gas meter reader. I have had to use things like that and then recall the recorded data to hand input into my 41 or 48 so I could use it. No fun there. I would prefer to use a data collector that also calculates, such as the Precision Surveying Solutions unit based on the hp50g that Tim Wessman and John Evers have demonstrated to us at the HHCs.

So, yes; I see a use for such a device. I just don't like the premise.

Re: Mystery calculator - not a calculator?

*Message #22 Posted by **Palmer O. Hanson, Jr.** on 21 Sept 2009, 3:51 a.m.,*
in response to message #21 by db (martinez, ca.)

Isn't it a miniaturized word processor?

Re: Mystery calculator - not a calculator?

*Message #23 Posted by **db (martinez, ca.)** on 21 Sept 2009, 11:39 p.m.,*
in response to message #22 by Palmer O. Hanson, Jr.

I have never used one of these but i'd guess that the INSERT, CLEAR & ERASE hot keys are to interact with things analogous to "descriptor" and "note" fields that could be appended to each record (point, reading, whatever). DELETE might erase the entire shot (reading, whatever). FIND could find and recall a reading (group of entries) by things like point number or a word in the descriptor. God only knows what a reading consists of for them, monitoring scientific experiments in near earth orbit. For me doing surveying it could be Point Number, Northing, Easting, Elevation, Descriptor and maybe a Note. In the warehouse environment that this is made for it could be widget #, shelf #, date, quantity, and a note on condition. Or not.

I just wish that that was a real enter key, but then i'd have to collect *it*.

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Mystery calculator - not a calculator?

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Classic Series Logic Board - Desoldering Temp ?

*Message #1 Posted by **John Robinson** on 17 Sept 2009, 8:29 a.m.*

Hi, can anyone recommend the best temperature to set a desoldering iron at for removing components from classic series logic boards ? I am finding that I need 400 Celcius but that sounds a little high to me.

Thanks John

Re: Classic Series Logic Board - Desoldering Temp ?

*Message #2 Posted by **Randy** on 17 Sept 2009, 9:12 a.m.,*
in response to message #1 by John Robinson

Never needed more than 310 C. Perhaps you're just out of calibration?

Re: Classic Series Logic Board - Desoldering Temp ?

*Message #3 Posted by **Joel Setton (France)** on 17 Sept 2009, 10:25 a.m.,*
in response to message #2 by Randy

The Classics were manufactured with tin-lead solder alloys (way before the age of lead-free soldering!) which have a low melting point. Start with lower temperatures first, like 290 or 300C which should be OK. Be very careful, as the 5-digit LED displays are VERY sensitive to heat!

I hope this helps,

Joel Setton

Re: Classic Series Logic Board - Desoldering Temp ?

*Message #4 Posted by **Dan W** on 17 Sept 2009, 1:52 p.m.,*
in response to message #1 by John Robinson

I typically use about 600-650F (315-340C) when soldering, which is probably higher than needed. I highly recommend a desoldering gun such as a Hakko 880 when desoldering the chips. The heat is applied only for about 2 seconds each connection and it's clean enough to fall right out.

F to C conversion thanks to my handy HP-55. Now if I could just find some use for the timer. ;)

Re: Classic Series Logic Board - Desoldering Temp ?

*Message #5 Posted by **Martin Pinckney** on 17 Sept 2009, 2:52 p.m.,*
in response to message #4 by Dan W

> Quote:
>
> F to C conversion thanks to my handy HP-55.

Interesting. I hadn't realized unit conversions (English-Metric, that is) had been built in to calculators that early. Looking at the HP-55 features, I was surprised to learn that it included BTU-Joules and LBF-Newtons, whereas most calcs lesser than say, the 28 series, limit themselves to length, mass, volume, and temperature, and only one of each of the aforementioned.

Re: Classic Series Logic Board - Desoldering Temp ?

*Message #6 Posted by **Dan W** on 17 Sept 2009, 3:49 p.m.,*
in response to message #5 by Martin Pinckney

> Quote:
>
> Interesting. I hadn't realized unit conversions (English-Metric, that is) had been built in to calculators that early. Looking at the HP-55 features, I was surprised to learn that it included BTU-Joules and LBF-Newtons, whereas most calcs lesser than say, the 28 series, limit themselves to length, mass, volume, and temperature, and only one of each of the aforementioned.

The HP-45 also had a few conversions: cm/in, kg/lb, ltr/gal. But in this case it offered the conversion factors only, one still had to multiply or divide appropriately. The 55 did the math at the push of the button.

Re: Classic Series Logic Board - Desoldering Temp ?

*Message #7 Posted by **John Robinson** on 17 Sept 2009, 8:02 p.m.,*
in response to message #1 by John Robinson

Thanks for the feedback all !! Might be a calibration issue.

Dan, my Hakko 808 "chinese clone" has a minimum temp of 350, but I think the Hakko has a minimum of 380 - is that what you use ?

Thanks John

Re: Classic Series Logic Board - Desoldering Temp ?

*Message #8 Posted by **Dan W** on 17 Sept 2009, 9:36 p.m.,*
in response to message #7 by John Robinson

Hi John,

Ah! Now I know who you are - wasn't paying attention.

Anyway I am using whatever the default is from the factory. I haven't tried to measure it.

-- Dan

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Question about HP-IL Printer

*Message #1 Posted by **Namir** on 17 Sept 2009, 7:11 a.m.*

Hello All,

I have an HP-IL printer for the HP-41C/CV/CX calculators. The battery pack does not seem to hold much charge. After I try to charge the battery for a few hours and I turn on the printer I get the lights for the power and the low battery indicator. I still cannot advance the paper when I press the advance button. Does that mean the printer does not work or it's the battery that is the problem?

Thanks for any feedback.

Namir

Re: Question about HP-IL Printer

*Message #2 Posted by **Randy** on 17 Sept 2009, 8:20 a.m.,*
in response to message #1 by Namir

The 41 printers are *very* similar to a Topcat - and so they will not work without a good, charged battery installed.

Edited: 17 Sept 2009, 8:21 a.m.

Re: Question about HP-IL Printer

*Message #3 Posted by **Bill (Smithville, NJ)** on 17 Sept 2009, 10:22 a.m.,*
in response to message #1 by Namir

As Randy said, you need a good battery pack for the printer to operate.

You can easily do a test to determine if it's the battery or the printer. Take a good 6-volt lattern battery, carefully clip it on the printer battery terminals and if the printer works, then it's definetly the rechargable battery. Or you can use any other 6-volt battery pack - 4 D Cells in a battery holder from Radio Shack works great. That's what I used in lieu of useing a rechargable pack. 4-D Cells will run the printer for what seems like forever.

Just make sure you clip the battery on the correct terminals - I marked the inside of my printer battery compartment with a large plus and minus next to the terminals.

Note - do not use wall wart power supplies - they usually don't have a consistent voltage control.

Bill

Re: Question about HP-IL Printer

*Message #4 Posted by **P.Hart** on 17 Sept 2009, 4:42 p.m.,*

in response to message #1 by Namir

Is that the HP 2225B? I have one of those which I have not used yet. When I get round to doing so I quite expect the battery will be defunct so the information about alternatives is going to be very useful. Bill, can offer any guidance to an ignoramus on how to decide which are the correct + and - terminals for a set of D batteries?

Re: Question about HP-IL Printer

*Message #5 Posted by **Garth Wilson** on 17 Sept 2009, 6:18 p.m.,*
in response to message #4 by P.Hart

I'm sure they're talking about the little 82162 thermal printer, basically in the same case as the tape drive. I seem to remember the 2225B Thinkjet printer taking two more cells. I think they're sub-C size IIRC, but when mine went out and I found out how much a new battery pack would be, I refused to pay it. I ran it on a 9V alkaline battery briefly while I made myself a 7.8V power supply for it. I had everything I needed except one diode which was fifty cents.

Edited: 17 Sept 2009, 6:19 p.m.

Re: Question about HP-IL Printer

*Message #6 Posted by **Dave Shaffer (Arizona)** on 17 Sept 2009, 6:37 p.m.,*
in response to message #4 by P.Hart

> Quote:
>
> how to decide which are the correct + and - terminals for a set of D batteries?

If you look carefully, one end or the other should have aplus or minus sign.

In general, though, for AA, AAA, C, and D cells, the raised button end is the positive end, and the flat end is the negative end.

(What happened to A and B? Maybe B was too confusing with what was known once upon a time as a B battery - the high voltage (often 60-90 volts if I recall correctly) plate supply battery for radios in the 20s-30s-40s)

Re: Question about HP-IL Printer

*Message #7 Posted by **Katie Wasserman** on 17 Sept 2009, 8:31 p.m.,*
in response to message #6 by Dave Shaffer (Arizona)

'A' size cells and shortened versions of them are still made in rechargeable chemistry at least.

NiCd

NiMH

In battery powered tube radios there were 'A', 'B' and sometimes 'C' batteries (not cells) that have nothing to do with modern size cells. The 'A' battery was the filament power supply, the 'B' battery supplied power to the plate and the 'C' for the grid (if there was a separate grid supply).

I don't know why there are no 'B' size cells around (at least I've never seen any in the US). It might be that they did exist at one time and just never got into general use. The 'A' cells are sort of rare at that,

but I have come across them in various rechargeable calculators.

-Katie

Re: Question about HP-IL Printer

*Message #8 Posted by **Martin Pinckney** on 18 Sept 2009, 10:12 a.m.,*
in response to message #7 by Katie Wasserman

The "A" size lives on in the "CR123A". Don't claim to know that much about dry cell terminology, but I am pretty sure the "23A" in this one means "2/3 A". That is, the same diameter as "A" (17mm), but 2/3 the height (34.5 vs. 50mm).

Another "lost" size is "F", which is basically an elongated "D". If you open up a zinc-carbon 6v "lantern" battery (I have), you will find 4 "F" cells, whereas inside an alkaline lantern you will find 4 "D"s and some empty space. Makes me feel cheated a little!

E?

On an aside, ya gotta love a woman who is a storehouse of so much obscure technical information!

Re: Question about HP-IL Printer (battery)

*Message #9 Posted by **Karl Schneider** on 18 Sept 2009, 12:18 a.m.,*
in response to message #1 by Namir

> Quote:
>
> I have an HP-IL printer ... The battery pack does not seem to hold much charge. After I try to charge the battery for a few hours and I turn on the printer I get the lights for the power and the low battery indicator.

Hi, Namir --

I bought several HP-IL printers several years ago. One unit included a NiCd battery pack that would not hold a charge, and got rather warm during charing. I assumed that it had one or more short-circuited cells. Several sellers will provide a rebuilt pack for about $30; you can rebuild your own with new cells.

-- KS

Re: Question about HP-IL Printer (battery)

*Message #10 Posted by **Namir** on 18 Sept 2009, 4:57 a.m.,*
in response to message #9 by Karl Schneider

Thanks Karl. The battery I have is heating up like you mentioned.

Namir

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HP simulator for Nokia smartphones?

*Message #1 Posted by **Jim P** on 17 Sept 2009, 3:39 a.m.*

There may have been an earlier post on this but I haven't seen anything in months that would be up to date. Does anyone know if there are plans to develop an HP calculator simulator for Symbian S60 v3? It looks like the Nokia E71 screen is of just about the perfect proportion to squeeze an HP-15C emulator into.... but I'd settle for a good RPN

Jim

Re: HP simulator for Nokia smartphones?

*Message #2 Posted by **jotne** on 17 Sept 2009, 6:42 a.m.,*
in response to message #1 by Jim P

I wold like that to. S60 v5 with touch screen function and a HP41 would be nice, like the iPhone

Re: HP simulator for Nokia smartphones?

*Message #3 Posted by **Bart (UK)** on 18 Sept 2009, 5:05 a.m.,*
in response to message #2 by jotne

A free Java HP45 is available on hpcalc.org. It's 240x320 pixel, so a bit small on newer high res screens e.g. 5800, but works.>hpcalc HP45 Java<

There is a newer version that fits the 5800 nicely available for purchase (~$8) on sites like Mobile2day or Handango.

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"Hard Problems" Moves to Television

*Message #1 Posted by **Egan Ford** on 16 Sept 2009, 4:11 p.m.*

http://www.maa.org/news/091409hp.html

Edited: 16 Sept 2009, 9:07 p.m. after one or more responses were posted

Re: Hard Problems Moves to Television

*Message #2 Posted by **Walter B** on 16 Sept 2009, 7:17 p.m.,*
in response to message #1 by Egan Ford

Nice example showing why it's sometimes a hard problem for us foreigners to decode what is meant. The original reads > *Hard Problems* Moves to Television <. If the title of this post here would read > "Hard Problems" Moves to Television < it would be easier guessing what the author wanted to address.

Re: Hard Problems Moves to Television

*Message #3 Posted by **Ángel Martin** on 17 Sept 2009, 6:34 a.m.,*
in response to message #2 by Walter B

not sure that I see the subtlety - either I'm a bad example of a "foreigner" or I miss the point altogether. Anyway it's an interesting piece of news, thanks for posting it.

Re: Hard Problems Moves to Television

*Message #4 Posted by **Bart (UK)** on 17 Sept 2009, 8:19 a.m.,*
in response to message #3 by Ángel Martin

Egan's title originally did not have the quotes, he put those in after Walter's comments. Making the "Hard Problems" thread a hard problem to follow? [sorry, couldn't help myself :-)].

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Help - broken HP-25

*Message #1 Posted by **Paul Dale** on 16 Sept 2009, 7:57 a.m.*

I've got a HP-25 that is broken and I'd like to fix it if possible.

The battery pack had some corrosion and the contact had some too. I've scraped this off and now the contact is nice and shiny. I've also rebuilt the battery pack, however further tests have been done using a small bench top power supply clipped to the battery contacts (polarity has been observed at all times) while the back is off the calculator.

Initially, the calculator was drawing about 100mA when switched on but without any display.

Okay, open it up carefully and reseat the main circuit board. Now the display shows '8' in random positions. Most typically at the right end but sometimes in other places and sometimes several (2 or 3) at once. No keys respond and the program/run switch does nothing either.

Pull it apart again and I don't find anything obviously wrong. I gently spread the between board connections a little to hopefully improve contact. Reassemble and now nothing. No power draw when on or off.

Does anyone have any suggestions as to what I broke and what the original problem was?

I don't have any *for parts* Woodstocks :-(I've got a working HP-21 which I could extract parts from but would prefer not too since it works.

I'll take this into work tomorrow and check for bad solder joints under the microscope.

So anyone have an idea on any other avenues to follow?

- Pauli

Re: Help - broken HP-25

*Message #2 Posted by **Walter B** on 16 Sept 2009, 8:59 a.m.,*
in response to message #1 by Paul Dale

Is it an HP-25 or a 25C?

Re: Help - broken HP-25

*Message #3 Posted by **Paul Dale** on 16 Sept 2009, 5:18 p.m.,*
in response to message #2 by Walter B

It is a HP-25. No C.

- Pauli

Re: Help - broken HP-25

*Message #4 Posted by **Randy** on 17 Sept 2009, 8:26 a.m.,*
in response to message #1 by Paul Dale

With no current draw, it sounds like a bad transistor in the SMPS or something as simple as the ON/OFF switch not making contact.

When it was drawing current, it had all the signs of a dead ACT IC.

Re: Help - broken HP-25

*Message #5 Posted by **Mike Morrow** on 17 Sept 2009, 9:35 a.m.,*
in response to message #4 by Randy

Smells like toast. HP's lauded design quality from the good ol' days (one-third century ago!) strikes again.

This is not age-related failure. It could happen to a new Woodstock just out of the box. It should have sparked a class action against HP for the blatantly incompetent and destructive design of the Woodstock charging system. The lowest cost Woodstock, the HP-21, cost $125 in 1975 (equivalent to $500 in 2009). The HP-25 subject of this thread cost the 2009 equivalent of $800. These were never intended to be short-lived throw-away items. The customer deserved far better.

It's a real shame, because mechanically (size, weight, rigidity, keyboard layout, battery pack/door) the Woodstocks are my favorite HP LED calculators. I'd love to have the capability of the HP-34C (so flimsily made...more good ol' time HP quality) available in the sturdy and compact Woodstock configuration, and with a charging system designed by someone more competent than a dull grade school student.

Edited: 17 Sept 2009, 9:48 a.m.

Re: Help - broken HP-25

*Message #6 Posted by **Gerson W. Barbosa** on 17 Sept 2009, 10:25 a.m.,*
in response to message #5 by Mike Morrow

Too bad most Woodstocks around are burned. I still don't have any. This HP-22 is selling for about 60 dollars but it doesn't work... I'd rather get an HP-25C though.

Re: Help - broken HP-25

*Message #7 Posted by **Michael de Estrada** on 17 Sept 2009, 2:37 p.m.,*
in response to message #6 by Gerson W. Barbosa

> Quote:
>
> Too bad most Woodstocks around are burned. I still don't have any.

I somewhat disagree, and would rather say "many" are bad. I purchased my HP-21 a little over a year ago from a seller who was willing to ship internationally (DaveHal2001) for $76 USD and it is in exceptional functional and cosmetic condition. I also have two HP-22's, a HP-25C and a HP-27, all of which are in excellent condition. Admittedly, they are hard to find and you just have to be patient. You can always find one if you are willing to pay enough, it's just a matter of your personal limit. So far, I've yet to find an HP-29C or HP-70 that meets my cost criteria, but I'll just continue to keep looking. The one thing I've learned about Woodstocks is that it is better not to buy one that is untested, because in all likelihood it will be "toast."

Re: Help - broken HP-25

*Message #8 Posted by **Michael de Estrada** on 17 Sept 2009, 4:41 p.m.,*
in response to message #5 by Mike Morrow

> Quote:
>
> It should have sparked a class action against HP for the blatantly incompetent and destructive design of the Woodstock charging system.

I'm no lawyer, however, I do know that there is something known a "failure to inform liability" where a manufacturer fails to alert a consumer as to improper use of a product, which could result in damage. I have the owner's handbooks for all the Woodstock models (HP-21/22/25/27/29C), and only the HP-21 and HP-25 manuals have a specific warning (caution actually) that AC operation without a battery installed may damage the calculator. The other manuals simply state that the calculator will not operate or operate properly, however, there is no indication that any damage could occur. I wonder if this is the one of the reasons it is harder to find undamaged HP-22/27/29C's than Hp-21/25's.

Re: Help - broken HP-25

*Message #9 Posted by **Mike Morrow** on 17 Sept 2009, 7:58 p.m.,*
in response to message #8 by Michael de Estrada

I suspect that the HP-21 and HP-25/25C sold many times the number of units compared to all of the other Woodstock calculators combined. Therefore, just due to the quantity originally built, more survive.

I'd like to come across a decent HP-29C, but I've never trusted the ebay listings that I've seen with respect to the functionality of the item being sold. When it comes to Woodstocks, I'd gladly pay more for a guarantee of complete functionality, and I'd pay nothing for anything less. I have no need of a $200 paperweight that so many Woodstocks have become.

Re: Help - broken HP-25

*Message #10 Posted by **Paul Dale** on 17 Sept 2009, 9:06 p.m.,*
in response to message #9 by Mike Morrow

I'd like a nice 29c too but I'd settle for a working 25 or 25c at the moment. I really like the Woodstock form factor and feel.

- Pauli

Re: Help - broken HP-25

*Message #11 Posted by **Paul Dale** on 17 Sept 2009, 9:03 p.m.,*
in response to message #4 by Randy

Randy,

Thanks for the comments. I suspected a bad ACT IC might be the culprit. I guess that means I won't be able to fix this one unless I decide to break my 21 (assuming the chips are the same in these two models of course).

Oh well,

- Pauli

Re: Help - broken HP-25

*Message #12 Posted by **Randy** on 17 Sept 2009, 9:24 p.m.,*
in response to message #11 by Paul Dale

They are not compatible... as the 21 ACT was unique.

Since the 21 lacked memory external to the ACT, the 1820-1396 omits the DATA signal on pin 11. The 1820-1596 ACT used in the 25 has it... so while you could calculate, you'll have no programmability.

Re: Help - broken HP-25

*Message #13 Posted by **Paul Dale** on 17 Sept 2009, 10:00 p.m.,*
in response to message #12 by Randy

Thanks again Randy, I'll leave my 21 alone :-) The 25 will just have to stay dead.

- Pauli

Edited: 17 Sept 2009, 10:01 p.m.

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HP-21 simulator for iPhone/iPod

*Message #1 Posted by **Steve Simpkin** on 16 Sept 2009, 2:19 a.m.*

I just noticed there is a HP-21 simulation available On the App store for the iPhone/iPod Touch. It is called GO-21 SciRPN ($.99). I wonder if a HP-25 is in the works? (I hope, I hope!)

Re: HP-21 simulator for iPhone/iPod

*Message #2 Posted by **Howard Owen** on 16 Sept 2009, 3:52 p.m.,*
in response to message #1 by Steve Simpkin

Yippee! Another calculator simulator. My iPod math/calculator page is getting crowded. :)

Regards,
Howard

Re: HP-21 simulator for iPhone/iPod

*Message #3 Posted by **Egan Ford** on 16 Sept 2009, 4:24 p.m.,*
in response to message #1 by Steve Simpkin

The ratio of different RPN options on the iPhone to non-RPN options vs. the same ratio in the *real world* is disproportionate.

Clearly the public wants their RPN. Unfortunately, there is no public data on RPN usage on the iPhone or RPN vs. non-RPN sales. It may just be that the type of people that like RPN are just more capable of creating iPhone apps. I.e. RPN people are smarter, more creative, and more motivated. Just my biased opinion. But, years of RPN use has got to affect the layout of the brain.

BTW, why GO-21? I know that on the keyboard GO is parallel to HP and alphabetically G before H and O before P, but I after H and Q after P for IQ21 would have been better.

Edited: 16 Sept 2009, 4:30 p.m.

Re: HP-21 simulator for iPhone/iPod

*Message #4 Posted by **Marnus Malan (RSA)** on 16 Sept 2009, 4:54 p.m.,*
in response to message #3 by Egan Ford

...maybe it is too close to IQ=21, which is not very inspiring for clever people who know what intelligence coefficient means (pardon the english spelling, i'm only IQ=22 :)

Re: HP-21 simulator for iPhone/iPod

*Message #5 Posted by **Pal G.** on 16 Sept 2009, 5:23 p.m.,*
in response to message #3 by Egan Ford

> Quote:
>
> RPN people are smarter, more creative, and more motivated.
>
> Quote:
>
> I after H and Q after P for IQ21 would have been better.

Egan, you proved your own point in the same post.

Re: HP-21 simulator for iPhone/iPod

*Message #6 Posted by **Byron Foster** on 16 Sept 2009, 5:28 p.m.,*
in response to message #3 by Egan Ford

> Quote:
>
> The ratio of different RPN options on the iPhone to non-RPN options vs. the same ratio in the *real world* is disproportionate.

The numbers are biased though because anyone who is satisfied with algebraic functionality has a good basic scientific calculator by default. Seems like all the calculators that started as algebraic in the app store have added RPN functionality to attract the RPNers that have to go to the app store to get their RPN fix.

Also, most of the RPN calcs are emulations (HP specifically). I'm speculating, but of the natively running calculators I bet more offer algebraic functionality rather then RPN.

Long live RPN!

Re: HP-21 simulator for iPhone/iPod

*Message #7 Posted by **Walter B** on 16 Sept 2009, 6:24 p.m.,*
in response to message #3 by Egan Ford

> Quote:
>
> I know that on the keyboard GO is parallel to HP and alphabetically G before H and O before P, but I after H and Q after P for IQ21 would have been better.

This story goes back to 2004 at least, with a stopover in 2006 (message #20).

Re: HP-21 simulator for iPhone/iPod

*Message #8 Posted by **Steve Lidie** on 26 Sept 2009, 2:08 p.m.,*
in response to message #3 by Egan Ford

> Quote:
>
> BTW, why GO-21? I know that on the keyboard GO is parallel to HP and alphabetically G before H and O before P, but I after H and Q after P for IQ21 would have been better.

IQ-21 was indeed on the list but as another noted it was to reminiscent of intelligence quotient, and 21

wasn't such a hot IQ. So, in memory of 2001: A Space Odyssey and the HAL 9000, whose initials preceded IBM, GO was chosen because it precedes HP.

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32SII SQRT(NEG)

*Message #1 Posted by **Marnus Malan (RSA)** on 15 Sept 2009, 5:35 a.m.*

Good day everybody!

You may recall I enquired on this forum about getting a 32SII (and got a very good broadly informative response!) The seller said it used to be her late husbands dearest possesion and one had to a) cough up and b) convince her you will be using the calculator "properly". I received it, still boxed with manual and in a perfect "as new" condition, apart from the box that showed som deformation.

Anyway, to my dismay I do not seem able to calculate the square root of a negative number, even though the calculator is supposed to handle complex numbers. The 42S and the 50G don't bother about this.

Is there a way to do this and is it possible with the 33s? My 33s is at home at the moment so I can't check, but I noticed the manuals are about word for word the same, give or take a few exceptions like facilitating examples in algebraic mode.

Regards

Thanks

edit, fixed typo

Edited: 15 Sept 2009, 5:36 a.m.

Re: 32SII SQRT(NEG)

*Message #2 Posted by **Paul Dale** on 15 Sept 2009, 6:16 a.m.,*
in response to message #1 by Marnus Malan (RSA)

Yes it can do this operation but not in a nice manner:

0 ENTER 1 +/- ENTER 0 ENTER 0.5 CMPLX y^x

There isn't a direct complex square root operation.

- Pauli

Re: 32SII SQRT(NEG)

*Message #3 Posted by **Norris** on 15 Sept 2009, 8:20 p.m.,*
in response to message #2 by Paul Dale

Granted, this is a clumsy and inelegant procedure. On the other hand, the 32SII *is* a programmable calculator. So you could easily add an "alternative" square root function for dealing with negative numbers.

I don't have a 32SII handy, but I do have a 33S. On the 33S, you could program:

LBL G
0
X<>Y
0
ENTER
0.5
cmplx y^x
RTN

Now the 33S has two square root functions. The first is the regular built-in function, which only works for positive numbers. But the second function also works for negative numbers. The second function is invoked with XEQ G -- since the G key is also the square-root key on the 33S, this is easy enough to remember.

So for example, you coud calculate the square root of -9 with:

9
+/-
XEQ G

This yields 0 in the X-register and 3 in the Y-register, which is the way that the 33S represents 0+3i.

The program above should work on a 32SII as well. However, the A key is the square root key on the 32SII, so you would want to start with LBL A (instead of LBL G).

Edited: 15 Sept 2009, 8:26 p.m.

Re: 32SII SQRT(NEG)

*Message #4 Posted by **Didier Lachieze** on 16 Sept 2009, 3:26 a.m.,*
in response to message #3 by Norris

Interesting trick! For the 35s you can do:

```
K001 LBL K
K002 i0
K003 +
K004 0.5
K005 y^x
K006 RTN
```

with:

```
9
+/-
XEQ K ENTER
```

you get *0.00i3.00* as the result of the square root of -9 if you're in FIX 2 mode..

Anyway, this is just a workaround and, as already said several times in this forum, it would be good to see a 35sii with full complex operation support, and not a half baked implementation.

Edited: 16 Sept 2009, 4:20 a.m.

Re: 32SII SQRT(NEG)

*Message #5 Posted by **Bart (UK)** on 15 Sept 2009, 6:20 a.m.,*
in response to message #1 by Marnus Malan (RSA)

Hi Marnus,

I do not have an 32SII, but a 32S, I suspect it's the same though.

The way to do this is to type: 0 ENTER -1 ENTER 0 ENTER 0.5 <LS>CMPLX Y^X. You'll have 0 in X and 1 in Y. The complex stack being X: real1, Y:img1, Z:real2, T:img2.

Why the CMPLX SQRT doesn't work and CMPLX Y^X does, I don't know. The 35S is pretty much the same, but easier as the complex number is in one line.

Hope this helps,
Bart

Re: 32SII SQRT(NEG)

*Message #6 Posted by **Mike Morrow** on 15 Sept 2009, 9:51 a.m.,*
in response to message #1 by Marnus Malan (RSA)

The so-called complex number support of the HP32S and HP32SII is very limited, very inconsistent, and just plainly a joke. There have been many postings here over the years about this. It was a extremely poor HP decision to develope such a limited capability compromised unit like the "improved" HP32SII at the expense of dropping the excellent HP42S that you mention, which 21 years after its introduction is still the finest RPN calculator ever made, in many people's judgement.

In 1997 I bought an HP32SII to replace my HP-15C and quickly found out how inferior it was to the HP-15C in this and many other qualities, except speed and precision. Unfortunately, the HP-15C's true replacement, the HP-42S, had been discontinued in 1995. With blind luck, I then found a local university book store that still had two HP42S units, sitting unsold for more than four years! I quickly purchased both and relegated my new HP32SII into my collection bin of "bad-mistake" calculators. It sits there today along with other HP "wonders" like the HP38G, HP28C, and HP6S.

The disappointing HP32SII is no HP42S. Not even close.

Re: 32SII SQRT(NEG)

*Message #7 Posted by **Martin Pinckney** on 15 Sept 2009, 12:12 p.m.,*
in response to message #6 by Mike Morrow

> Quote:
>
> ... relegated my new HP32SII into my collection bin of "bad-mistake" calculators. It sits there today along with other HP "wonders" like the HP38G, HP28C, and HP6S.

Always fascinating how much opinions diverge on this forum. There have been many arguments over the 32sii, and even the vaunted 42s has a few detractors.

Now me, I actually like the 38g, although I suspect in that regard I may be a minority of one on this forum ...

Re: 32SII SQRT(NEG)

*Message #8 Posted by **Ed Look** on 15 Sept 2009, 12:14 p.m.,*
in response to message #6 by Mike Morrow

Yes, compared to a 42S (unfortunately, I've never had nor used one), I'm sure it will look like a knock-off four banger. But I suspect it was intended for a different niche, a different purpose. I one wanted to have an even slightly more involved program, it might not fit on the 32SII. I still use mine (less and less just because I don't want to wear it out or break it; the 33s is taking its place more and more) because it is small, lightweight, and will do most scientific calculations nicely.

Yes, I wish I have a 42S also, but consider also the price differential; I paid $60 US for my 32SII, and I do recall one reason why I never got the 42S was that it cost much more than double that, and at the time, it was not feasible for me. In fact, I do recall feeling quite bad when I one day realized I might need a replacement and found that they not only stopped production of 42S's, but 32sII's, as well!

Re: 32SII SQRT(NEG)

*Message #9 Posted by **Marnus Malan (RSA)** on 15 Sept 2009, 12:27 p.m.,*
in response to message #8 by Ed Look

Thanks for everybody who replied.

I am somewhat dissapointed, looking back I paid way too much (slightly less than what a new 35 would have costed me. Even though the calculator and the manual is in prestine condition, it seems pretty useless, as it will be relegated to the drawer as I do not think I will be able to adapt to using it instead of my 42s, as I have hoped in order to extend the life of my 42s.

I used to find HP calculators (42s, 41c etc) fairly easy at second hand shops but nowadays they are even more scarce than chicken teeth.

The 50G works fine and I use it a lot for work that another calculator simply wouldn't be able to do, but sometimes it is simply too big to carry around with ease.

So the hunt for more 42s sspecimens is still on...

Re: 32SII SQRT(NEG)

*Message #10 Posted by **Ed Look** on 15 Sept 2009, 12:36 p.m.,*
in response to message #9 by Marnus Malan (RSA)

Obviously, we are not going to find that kind of power anymore in a small package as we did with the Pioneer form-factored 42S. I guess if you don't need that kind of computing and storage power too often, a 33s or 35s should do, as they are of a small form factor (and light!!). But HP has, I suppose even more powerful calculators in the 48G series, 49G series, but they are big calculators, even if they are quite nice. In fact the latest member of the latter group, the 50g, is fairly hefty.

Re: 32SII SQRT(NEG)

*Message #11 Posted by **Bill (Smithville, NJ)** on 15 Sept 2009, 2:53 p.m.,*
in response to message #9 by Marnus Malan (RSA)

Marnus,

I agree with your assessment of HP-42S versus the HP-32SII. I also played around with a HP-32SII a few years ago. At first, I loved the large display. For me, it was trying to adjust to letter registers - I was just too used to doing STO xx or RCL xx. I also missed having the rich HP-41 style programming environment of the 42S.

If money is tight (and nowdays it usually is), I'd suggest you pick up a cheap windows Pocket PC

and load the HP-42S emulator on it. One of the best, is the Dell AXIM - I had the 624 MHZ unit and it ran the Emulator Fast - I mean really fast. You also get the ability to save/load programs. The only thing missing is that sastifying pressing of the keys. Side benefit is you'll also have a good PDA.

If your cell phone is windows mobile, then you can put the emulator there. That's my current setup. Of couse, I still carry the actual HP-42s in my briefcase.

Bill

Re: 32SII SQRT(NEG)

*Message #12 Posted by **Steve Simpkin** on 15 Sept 2009, 4:42 p.m.,*
in response to message #11 by Bill (Smithville, NJ)

> Quote:
>
> If money is tight (and nowdays it usually is), I'd suggest you pick up a cheap windows Pocket PC and load the HP-42S emulator on it.

A used or refurbished iPod Touch is another low-cost hand held option for running several different HP calculator emulators. Emulators (or simulators) for the HP-42, HP-41CX, HP-48GX, HP-11C, HP-12C, HP-15C and HP-16C are currently available at the App store. Apple has refurbished iPod Touch (2nd gen) available starting at $150.

Re: 32SII SQRT(NEG)

*Message #13 Posted by **KC** on 16 Sept 2009, 3:50 a.m.,*
in response to message #12 by Steve Simpkin

> Quote:
>
> A used or refurbished iPod Touch is another low-cost hand held option for running several different HP calculator emulators. Emulators (or simulators) for the HP-42, HP-41CX, HP-48GX, HP-11C, HP-12C, HP-15C and HP-16C are currently available at the App store. Apple has refurbished iPod Touch (2nd gen) available starting at $150.

While using emulators on ipod or iphones looks cool and fashionable, I can never get used to "pressing" the keys using touchscreen. I would instead recommend the 35S for doing complex calculations if one is looking for the 32S-33S lines of calculators. Though still show SORT(NEG), complex calculations are much easier to manipulate in 35S, mainly due to the primary i key.

KC

Re: 32SII SQRT(NEG)

*Message #14 Posted by **Martin Pinckney** on 15 Sept 2009, 2:59 p.m.,*
in response to message #9 by Marnus Malan (RSA)

> Quote:
>
> Even though the calculator and the manual is in prestine condition, it seems pretty

> useless, as it will be relegated to the drawer ...

Well, if you want to sell it, you will find lots of takers here.

Re: 32SII SQRT(NEG)

*Message #15 Posted by **Michael Plant** on 15 Sept 2009, 5:12 p.m.,*
in response to message #14 by Martin Pinckney

Yes! I'd be interested, if it's not a silver bezel model (I have one of those...).

Marnus, e-mail me if you're interested.

Re: 32SII SQRT(NEG)

*Message #16 Posted by **Luca** on 18 Sept 2009, 2:48 a.m.,*
in response to message #9 by Marnus Malan (RSA)

Interesting, to each his own I guess. In practice, I rarely work with complex numbers. I have both a 42s and a 32sII (and a 33s).

The 42s has marvelous implementations of things I rarely use, such as complex numbers, matrices, and more. However, it fails on two counts: the display is hard to read, especially in the marginal light in which I do a lot of my programming, and too many of the functions I need often are buried deep in menus (do people really have the patience to fish things out of the huge menu of functions?).

The 32sII and 33s are humbler and less powerful, but they are actually much easier and better for the simple calculations (4-ops, trigs, exps, percentages,...) that make up 99.9% of my calculations.

The result is that I have a 32sII on my desk at home, and a 33s at work, while the marvelous 42s stays, in all its marvel, mostly in a drawer.

Luca

Re: 32SII SQRT(NEG)

*Message #17 Posted by **Steve Simpkin** on 15 Sept 2009, 12:24 p.m.,*
in response to message #6 by Mike Morrow

> Quote:
>
> I quickly purchased both and relegated my new HP32SII into my collection bin of "bad-mistake" calculators. It sits there today along with other HP "wonders" like the HP38G, HP28C, and HP6S.

Some comments about the HP38G, HP28C, and HP6S.

A few years ago I purchased an HP-38G from eBay for $12 and it turned out to be intermittent. After opening the case I could not believe how cheaply made it was inside. It looked similar to an HP-48 series on the outside, but it was a rather severe cost saving design compromise inside. In particular the battery contact and power source design (which turned out to be the problem) was very poorly done. It is now sitting on "permanent display" in a drawer.

I had bought a HP-6S years ago for one of my daughters. It was obviously not designed by HP and the color contrast scheme was horrible. It failed a couple of years later after serving its purpose and I threw it in the trash.

The HP-28C on the other hand was a breakthrough 3rd generation calculator with many firsts for a hand held device. Despite its shortcomings (severely limited memory, poor battery cover design, weak hinge design and no I/O for programs), it has a definite place in history and does not deserve to be in the same category as the the above calculators.

Steve

Re: 32SII SQRT(NEG)

*Message #18 Posted by **Michael de Estrada** on 15 Sept 2009, 12:39 p.m.,*
in response to message #17 by Steve Simpkin

> Quote:
>
> The HP-28C on the other hand was a breakthrough 3rd generation calculator with many firsts for a hand held device. Despite its shortcomings (severely limited memory, poor battery cover design, weak hinge design and no I/O for programs), it has a definite place in history and does not deserve to be in the same category as the the above calculators.

Yes, indeed, and it also provided full support for complex number functions and operations as well. This support was continued with the HP-48S/SX and current HP-50g. As far as the memory limitation problem, that was quickly resolved with the HP-28S.

Re: 32SII SQRT(NEG)

*Message #19 Posted by **Frank Rottgardt** on 15 Sept 2009, 2:08 p.m.,*
in response to message #6 by Mike Morrow

> Quote:
>
> I quickly purchased both and relegated my new HP32SII into my collection bin of "bad-mistake" calculators. It sits there today along with other HP "wonders" like the HP38G, HP28C, and HP6S.

For me the 32sII is a good fellow at work. Sometimes the limited memory is a issue when I want to handle some more equations. Due to this limitations I don´t use it for programs. For this purpose I have a 33s with 10 or so short, but for everyday-use helpful programs for quick calculations.

The reason I keep the 32sII is for its exellent keys and overall craftmanship. It is simply a pleasure to use the 32sII. As some posters here already stated the 33s has grown on me. The two line display is nice. But sometimes the zero key doesn´t register which is pain. As mechanical engineer I never need to make any calculations involving complex arithmetics. So for my needs it is a perfect machine. I understand if EE fellows here have a different opinion.

The 28C(S) is a great calculator. It took me through my college courses and was of great help. The footprint is rather big and many functions are burried in menues, but it was the first calculator doing almost everything. I still have it at work and if I need to convert complicated units I use it from time to time. I also learned RPL on it. And compared with my 48GX the 28S is much easier to master. IMHO it is not fair to state the 28C is a "mistake".

Re: 32SII SQRT(NEG)

*Message #20 Posted by **Mike Morrow** on 16 Sept 2009, 1:36 p.m.,*
in response to message #19 by Frank Rottgardt

The HP28C that I bought in 1987 didn't have anywhere near enough RAM to be really useable at only 2 kBytes. About all one could do is demonstrate simple capabilities. I bought an HP28S in 1988 with its 32 kBytes of RAM. That was in fact usable...until the battery door structure failed.

Re: 32SII SQRT(NEG)

*Message #21 Posted by **Karl Schneider** on 16 Sept 2009, 2:44 a.m.,*
in response to message #1 by Marnus Malan (RSA)

> Quote:
>
> You may recall I enquired on this forum about getting a 32SII ... Anyway, to my dismay I do not seem able to calculate the square root of a negative number, even though the calculator is supposed to handle complex numbers...
>
> Is there a way to do this and is it possible with the 33s?

Here is an archived thread on the topic, started by Paul Dale (the first repsondent to your query):

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv017.cgi?read=119576#119576

-- KS

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HP Forum Archive 19

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HP's "Blue Mauritius" up for auction

*Message #1 Posted by **Rainer Wiedemann (Germany)** on 14 Sept 2009, 8:03 p.m.*

Up for a "Buy it now" auction is a HP Calculator Digest from 1976 for 580 bucks. **Here** you'll find the auction, the gracious seller will ship for free. Is this the Blue Mauritius among all HP calculator literature? Perhaps I should make a best offer then, a block of Lehman Bros. shares ... :-)

Edited: 14 Sept 2009, 9:09 p.m.

Re: HP's "Blue Mauritius" up for auction

*Message #2 Posted by **Namir** on 14 Sept 2009, 9:18 p.m.,*
in response to message #1 by Rainer Wiedemann (Germany)

I think I will swap him with my authentic unpublished Beethoven musical manuscript.

:-)

Namir

Re: HP's "Blue Mauritius" up for auction

*Message #3 Posted by **fbronner** on 15 Sept 2009, 11:20 a.m.,*
in response to message #2 by Namir

> Quote:
>
> I think I will swap him with my authentic unpublished Beethoven musical manuscript.
>
> :-)
>
> Namir

Well,

I should consider to sell my deads to the Brooklyn bridge :-)

Re: HP's "Blue Mauritius" up for auction

*Message #4 Posted by **Namir** on 15 Sept 2009, 11:53 a.m.,*
in response to message #3 by fbronner

The seller has other HP calculators that he is selling with rather high price tags. An you thought time travel to the past was impossible!!! I sure hope he will not hold his breath. I hate to see a fellow seller expire like that!

:-)

Namir

Re: HP's "Blue Mauritius" up for auction

*Message #5 Posted by **Rainer Wiedemann (Germany)** on 15 Sept 2009, 1:16 p.m.,*
in response to message #4 by Namir

Not only the calculators are pretty expensive, did you see the wall warts' prices? For such a lot of money I would expect them at least to work, even when not plugged into a wall outlet.

What about your Beethoven manuscript? If ol' Ludwig van printed it on an HP-97, I'd give you a bid for it, provided, you sell me his original mag cards, too :-)

Re: HP's "Blue Mauritius" up for auction

*Message #6 Posted by **Namir** on 15 Sept 2009, 2:20 p.m.,*
in response to message #5 by Rainer Wiedemann (Germany)

Rainer,

You are a good guesser! The manuscript I have for Beethoven was printed using an HP-41C and an external HP printer!!!

Now many readers will ask how on earth did Beethoven get an HP-41C?? Well, thanks to the Einstein Express, I was able to send the old master all these gadgets back time!

:-)

Namir

Re: HP's "Blue Mauritius" up for auction

*Message #7 Posted by **fbronner** on 15 Sept 2009, 4:58 p.m.,*
in response to message #1 by Rainer Wiedemann (Germany)

Wow,

Have you seen how many remotes he is selling....My wife has issues picking the right one from the 3 at home, can you imagine if I had that many hanging around at our home...

Re: HP's "Blue Mauritius" up for auction

*Message #8 Posted by **Gonzalo Fernandez (Spain)** on 25 Sept 2009, 4:24 p.m.,*
in response to message #7 by fbronner

Finally it has been sold for $579.99, congratulations to the lucky buyer!

Re: HP's "Blue Mauritius" up for auction

*Message #9 Posted by **hecube** on 25 Sept 2009, 11:57 p.m.,*
in response to message #8 by Gonzalo Fernandez (Spain)

Was it worth it?

Re: HP's "Blue Mauritius" up for auction

*Message #10 Posted by **Rainer Wiedemann (Germany)** on 27 Sept 2009, 9:43 p.m.,*
in response to message #8 by Gonzalo Fernandez (Spain)

Nope, he didn't sell it. It's up for auction again at the same price. Either the seller is pretty sure to find a dude, oops, I mean a buyer, or he doesn't mind paying high ebay fees.

I wonder, what makes this magazine so very special, of course without considering a buy (since my cash cow is constipated for a while :-))

Re: HP's "Blue Mauritius" up for auction

*Message #11 Posted by **Michael de Estrada** on 27 Sept 2009, 10:36 p.m.,*
in response to message #10 by Rainer Wiedemann (Germany)

> Quote:
>
> I wonder, what makes this magazine so very special

Presumably the fact that it is Volume One. The first edition of anything is always considered more valuable than subsequent issues. For example, I have Volumes Five and Seven of the HP Digest, but I imagine that they are less valuable for that reason. Of course, I have no desire or intention of selling them, any more than I would sell my Red Dot. As far as the item not selling at that price, well, the market has spoken and clearly no one has felt it is worth that much.

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Restoration of an HP-15C

*Message #1 Posted by **Karl-Ludwig Butte** on 14 Sept 2009, 3:54 p.m.*

Dear All,

I was lucky and got an HP-15C for my collection. Although it's functioning the front of the cabinet is in rather bad shape: - the chrome color of the "HP 15C" nameplate in the upper right hand corner is totally gone - there are lots of scratches on the aluminium bezel. (I made a photo but couldn't load the photo into the message. This would be a very welcome addition to the message editor).

Now my question: On ebay I found a "Glass and Mirrorspray" by a company "Reeves". Does anyone have experiences with this spray or another product to restore the chrome color ? And what can be done about the bezel ? Wasn't there someone in this forum writing a book about restoring HP calculators ?

Any hint will be very much appreciated.

Thank you very much in advance

Kind regards

Karl

Re: Restoration of an HP-15C

*Message #2 Posted by **Jeff O.** on 14 Sept 2009, 9:39 p.m.,*
in response to message #1 by Karl-Ludwig Butte

Geoff Quickfall is writing a repair/restoration book.

This thread discusses the book and restoration of a 10C bezel.

Edited: 14 Sept 2009, 9:43 p.m.

Re: Restoration of an HP-15C

*Message #3 Posted by **Karl-Ludwig Butte** on 15 Sept 2009, 3:09 a.m.,*
in response to message #2 by Jeff O.

Thanks Jeff, for the info and the link. I hope Geoff is reading this - he may have some experiences with chrome colors (as the glass and mirror spray I found) and if so I say a big PLEASE to share it with us. And now I know I need a copy of your book. Please let me know when it is available and if it would be possible for you to send a copy to Germany and how to pay for it.

Thank you very much in advance

Kind regards

Karl

Re: Restoration of an HP-15C

*Message #4 Posted by **Paul Dale** on 15 Sept 2009, 5:17 a.m.,*

in response to message #3 by Karl-Ludwig Butte

I think there are more than a few of us wanting to know when the book will become available.

- Pauli

Re: Restoration of an HP-15C

*Message #5 Posted by **Howard Owen** on 15 Sept 2009, 6:01 a.m.,*
in response to message #1 by Karl-Ludwig Butte

Regarding images, the forum software allows you to link to an image hosted elsewhere. I'd guess the curator isn't interested in hosting all the images that would accumulate over years, but that's just speculation.

Regards,
Howard

Re: Restoration of an HP-15C

*Message #6 Posted by **Geoff Quickfall** on 15 Sept 2009, 1:11 p.m.,*
in response to message #1 by Karl-Ludwig Butte

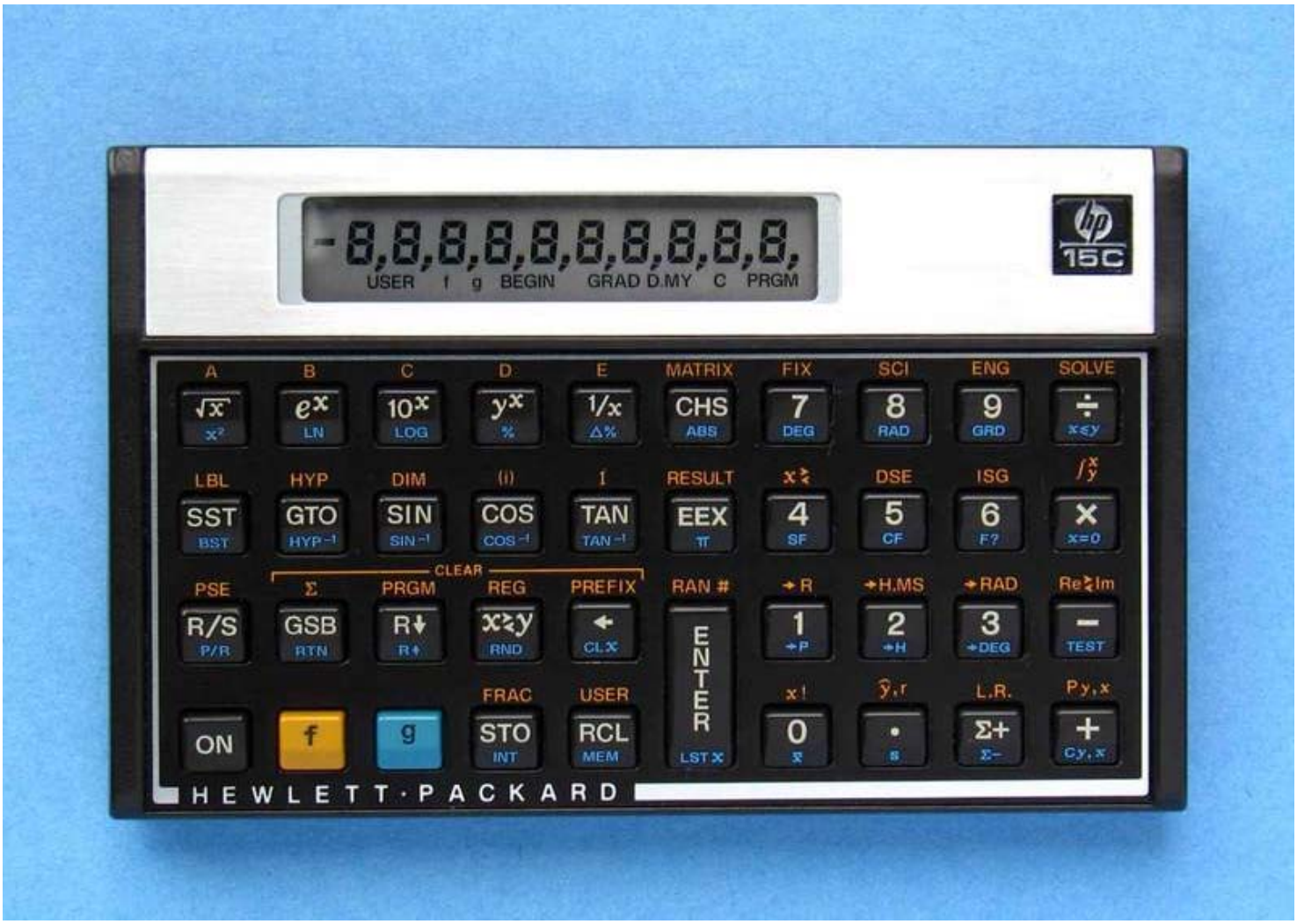
Hello Karl, and others!

Karl;

unfortunately any spray paint used, even those designed to bond with plastics will wear. If however you want to try it, I suggest that you remove it of course. Clean it with water, soap and a good rinse then after a thorough dry. Give it a light dusting of the silver spray. Follow that with a few coats. Then using a black wax filler pencil, fill in the 15C engraving. Rub off the excess.

These paints never give the 'mirror' finish they promise. The only way to do that is to vacumn plate the plastic.

An alternative is to remove the chrome, then polish the resulting black badge, then fill in the HP15 with silver paint. Not original but attractive and the added benefit of never having to paint it again!


-8,8,8,8,8,8,8,8,8,8,
USER f g BEGIN GRAD D.MY C PRGM
hp 15C
A B C D E MATRIX FIX SCI ENG SOLVE
√x x² eˣ LN 10ˣ LOG yˣ % 1/x Δ% CHS ABS 7 DEG 8 RAD 9 GRD ÷ x≤y
LBL HYP DIM (i) I RESULT x≷ DSE ISG ∫ʸₓ
SST BST GTO HYP⁻¹ SIN SIN⁻¹ COS COS⁻¹ TAN TAN⁻¹ EEX π 4 SF 5 CF 6 F? × x=0
CLEAR
PSE Σ PRGM REG PREFIX RAN # →R →H.MS →RAD Re≷Im
R/S P/R GSB RTN R↓ R↑ x≷y RND ← CLx ENTER 1 →P 2 →H 3 →DEG − TEST
FRAC USER x! ŷ,r L.R. Py,x
ON f g STO INT RCL MEM LST x 0 x̄ • s Σ+ Σ− + Cy,x
HEWLETT·PACKARD

The book: is almost complete, up to 400 photos and should top out at 350 pages. Problem is, information keeps coming up in this forum, like the delrin or nylon ball replacements mentioned in the HP-97 posting below.

Unfortunately it will not be done in time for HCC2009 next month I don't expect a major delay. Also, those attending the HCC will be getting a preview in the form of the talk in which they will see the quality of the photos and text and will be

Cheers, Geoff

p.s. keep an eye out at the auction site as the badges do come up occasionally.

Re: Restoration of an HP-15C

*Message #7 Posted by **Michael Plant** on 15 Sept 2009, 1:44 p.m.,*
in response to message #6 by Geoff Quickfall

Hi Geoff,

I wish I had your talent/hard earned skill! I've successfully "tarted up" my HP-15c's bezel (using techniques you've posted elsewhere on the forum) and it looks infinitely better than it did when I took delivery of the calculator. However, your efforts are beautiful! At any rate, thank you for the advice on the badge. I used a brush and silver

model paint and it didn't turn out that well. However, using your black wax pencil trick has made it passable until I can get organized to re-do it properly with spray paint. Actually, I quite like the reversed colour scheme that you suggested as an alternative. We shall see.

I really wanted to ask if, when the book is finally finished, it will be available for general purchase (ie outside of conferences and meetings)? I certainly hope so!

Thank you again,

Mike

Re: Restoration of an HP-15C

*Message #8 Posted by **Karl-Ludwig Butte** on 15 Sept 2009, 3:19 p.m.,*
in response to message #6 by Geoff Quickfall

Hello Geoff and others,

I'd like to thank you all who took the time to respond to my questions, especially Geoff who provided additional photos. I'll keep your good advice in mind and will try my luck with this 15C.

Thanks again and I'm sure your book, Geoff, will be a bestseller.

Kind regards

Karl

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Complex Gamma Function... revisited

*Message #1 Posted by **Angel Martin** on 14 Sept 2009, 2:54 p.m.*

Valid for the complex plane plane where Gamma is defined (i.e. includes Re(z)<0, and excludes negative integers and zero).

Here's the program listing, a nice example of the HP-41Z function set (can you tell it's FOCAL?? :-)

Uses the Lanczos approximation, split in three parts as per the function names clearly show.

More soon...

```
LBL "ZG"
CF 00
X<0?
SF 00
X<0?
ZNEG
ZREPL
ZGSUM
LASTZ
ZGLNC
Z*
Z<>W
ZGPROD
Z/
FC?C 00
GTO 00
ZINV
Z<>W
ZGNZG
Z*
LBL 00
ZAVIEW
END
```

Re: Complex Gamma Function... revisited

*Message #2 Posted by **hugh steers** on 14 Sept 2009, 5:03 p.m.,*
in response to message #1 by Angel Martin

I have had a lot of trouble with the Lanczos approximation. The coefficients of the series vary wildly and cause large swings in value. This causes a lot of cancellation which destroys accuracy. Currently, Im using increased precision to cope with this problem. I'd prefer a more stable formula than Lanczos. There's another method by Spouge, but you need a lot more series terms for convergence.

it will be interesting to see how many digits you get on the 41.

Re: Complex Gamma Function... revisited

*Message #3 Posted by **Marcus von Cube, Germany** on 15 Sept 2009, 1:40 p.m.,*
in response to message #2 by hugh steers

Go and ask Viktor T. Toth at rskey.org! He's dedicated part of his life to Gamma.

Re: Complex Gamma Function... revisited

*Message #4 Posted by **Namir** on 15 Sept 2009, 2:22 p.m.,*
in response to message #3 by Marcus von Cube, Germany

I think Toth calculates the Gamma function for real arguments only. This way he can apply the Gamma (or Ln Gamma) to a whole collection of programmable calculators.

Re: Complex Gamma Function... revisited

*Message #5 Posted by **Marcus von Cube, Germany** on 15 Sept 2009, 4:29 p.m.,*
in response to message #4 by Namir

Namir, that depends on the calculator. On machines with decent complex support (like the TI-92) he calculates the complex Gamma function.

His general article about Gamma is worth reading.

Re: Complex Gamma Function... revisited

*Message #6 Posted by **Angel Martin** on 15 Sept 2009, 4:50 p.m.,*
in response to message #5 by Marcus von Cube, Germany

That exactly is the source I have used to programm it.

http://www.rskey.org/gamma.htm

To the careful reader it's clear that:

ZGSUM computes the sum of the seven terms (qk * Z^k)
ZGPROD is thhe product of (z+k)
ZGLNC calculates the trascendent part of the formula, and
ZGNZG corrects the expression for Re(z)<0

Cheers,

Re: Complex Gamma Function... revisited

*Message #7 Posted by **Namir** on 16 Sept 2009, 10:31 a.m.,*
in response to message #5 by Marcus von Cube, Germany

Marcus,

You are correct! I did revisit Toth's Gamma function math page (have not seen it for a while) and saw the Lancsoz approximation that is being talked about here.

While series approximation are in general easy to work with, a few here and there are tough to tame! Using the old programmable calculators, series approximation were really time consuming. With today's machine's we have faster CPU and the approximation (again in general) are not too bad.

Namir

Re: Complex Gamma Function... revisited

*Message #8 Posted by **Les Wright** on 16 Sept 2009, 2:27 a.m.,*
in response to message #2 by hugh steers

Hugh, I have done a lot of fiddling with Spouge, and the cancellation and digit loss issues persist there--only worse. You need a LOT of guard digits to preserve accuracy. I understand you double precision BCD-20 type has gone a long way to help here.

Re: Complex Gamma Function... revisited

*Message #9 Posted by **Steven Thomas Smith** on 25 Sept 2009, 12:16 p.m.,*
in response to message #2 by hugh steers

See GSL's complex Gamma implementation -- they use Lanczos for the right half-plane, Stirling for the left away from the negative real axis, and reflection to avoid the unstable parts -- actually, they use reflection to avoid Stirling altogether. It's a good implementation.

Edited: 25 Sept 2009, 12:19 p.m.

Re: Complex Gamma Function... revisited

*Message #10 Posted by **Egan Ford** on 15 Sept 2009, 4:06 p.m.,*
in response to message #1 by Angel Martin

Nice. How about a complex LogGamma and a complex Lambert W?

Re: Complex Gamma Function... revisited

*Message #11 Posted by **hugh steers** on 15 Sept 2009, 4:15 p.m.,*
in response to message #10 by Egan Ford

You kind-of get LnGamma anyway. Out of Lanczos you wind up with three numbers; S, A and B (say).

Gamma(z) = S*exp(A*ln(B)-B)

so using the same subroutine, you can have,

LnGamma(z) = A*ln(B) - B + Ln(S)

However, the latter might not be the best for larger numbers.

Re: Complex Gamma Function... revisited

*Message #12 Posted by **Angel Martin** on 15 Sept 2009, 4:36 p.m.,*
in response to message #10 by Egan Ford

Here's where I'm going to show my utter lack of math finesse but what the heck:

```
LBL "LNZG"
ZG
ZLN
END
```

Of course this is just a teaser, will look into a proper way during the week-end :)

Cheers,

'AM

Re: Complex Gamma Function... revisited

*Message #13 Posted by **Paul Dale** on 16 Sept 2009, 12:31 a.m.,*
in response to message #10 by Egan Ford

> Quote:
>
> Nice. How about a complex LogGamma and a complex Lambert W?

Wikipedia has an algorithm for Lambert's W function that seems okay and converges in the complex plane: here. This is the one I'm using in the 20b scientific firmware. Start with the approximation and then iterate to the solution - I've limited this to 20 times through.

For complex (and real) LogGamma, I'm using Lanczos. Look for *An Analysis of the Lanczos Gamma Approximation* by Glendon Ralph Pugh pages 134 and 135 for the formula and coefficients of the approximation I'm using.

- Pauli

Re: Complex Gamma Function... revisited

*Message #14 Posted by **Ángel Martin** on 22 Sept 2009, 8:51 a.m.,*
in response to message #10 by Egan Ford

Well, I'll leave Lambert for the real mathematicians out there but here's a pragmatic approach for the LnGamma case.-

The first program is the "brute force" approach, adding terms to the summ until their contribution isn't relevant to the (rounded) result. VERY slow, and not an appropriate method- just good for comparison purposes.

LnG(z) = -Gz - Lnz + SUM [(z/k)-Ln(1+z/k) |k=1,2....]

No doubt you'll recognized Stirling's approach embedded in the second method. The routine calculates LnG(z+7) for enhanced accuracy (about E-9), and adjusts it back appropriately.

MCODE functions from the 41Z module help bring down the execution time to manageable on the real 41, and of course irrelevant on emulators.

2LnG(z)=Ln(2pi)-Ln(z)+z{2Lnz + Ln[z*sinh(1/z)+(1/810*z^6)]-2}

LnG(z) = LnG(z+n) - Ln [PROD(z+k)|k=1,2..(n-1)]

Method-2 is much faster, more accurate and takes less program memory... can you ask for more? Yes, an MCODE version will be implemented on the 41Z during the next few weeks :)

Enjoy, ÁM.

```
LBL "ZLNG"    LBL "ZLNG2"
1             7
STO 02        +
RDN           ZST0 (00)
ZSTO (00)     6
XEQ 05        CHS
```

```
LBL 00          Z^X
ZENTER^         810
XEQ 05          ST/ Z
Z+              /
Z=WR?           ZRCL (00)
GTO 02          ZINV
GTO 00          ZSINH
LBL 02          ZRCL (00)
ZRCL (00)       Z*
ZLN             Z+
Z-              ZLN
ZRCL (00)       ZRCL (00)
0,5772156649    ZLN
ST* Z           ZDBL
*               Z+
Z-              2
ZAVIEW          -
RTN             ZRCL (00)
LBL 05          Z*
ZRCL (00)       ZRCL (00)
RCL 02          ZLN
ST/ Z           Z-
/               PI
ZENTER^         ST+ X
1               LN
+               +
ZLN             ZHALF
Z-              ZRCL (00)
1               7
ST+ 02          -
RDN             ZGPROD
END             ZLN
                Z-
                ZAVIEW
                END
```

Edited: 22 Sept 2009, 9:16 a.m.

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If I do this...

*Message #1 Posted by **hecube** on 14 Sept 2009, 12:27 p.m.*

http://space.1337arts.com/hardware

and attach a HP calculator, would the calculator qualify for a post in my blog?

Re: If I do this...

*Message #2 Posted by **Dan W** on 14 Sept 2009, 10:54 p.m.,*
in response to message #1 by hecube

Well your blog is about space exploration, so one would have to get the calculator into space. This group didn't come close. They went 17.5 miles high. There is no sudden transition into space, but space is typically defined as beginning at 100 km, about 62 miles high. The US defines an astronaut as someone who has been at least 50 miles high (though I think this definition was created to award a couple of X-15 pilots their astronaut wings). No balloon will ever get into space. The highest research balloons can get about half way there. You need a sounding rocket.

Re: If I do this...

*Message #3 Posted by **hecube** on 14 Sept 2009, 10:58 p.m.,*
in response to message #2 by Dan W

:-(

Re: If I do this...

*Message #4 Posted by **Walter B** on 15 Sept 2009, 12:59 a.m.,*
in response to message #3 by hecube

Shame on physics ;)

Re: If I do this...

*Message #5 Posted by **hecube** on 15 Sept 2009, 12:02 p.m.,*
in response to message #4 by Walter B

My original post was done in jest!

Re: If I do this...

*Message #6 Posted by **Walter B** on 15 Sept 2009, 12:22 p.m.,*
in response to message #5 by hecube

... and my response, too.

Re: If I do this...

*Message #7 Posted by **hecube** on 15 Sept 2009, 12:25 p.m.,*
in response to message #6 by Walter B

We're a bunch of jokers.

Re: If I do this...

*Message #8 Posted by **Martin Pinckney** on 15 Sept 2009, 4:04 p.m.,*
in response to message #7 by hecube

Well, I was disappointed so few liked the humor I intended here. I even threw in a special line for you.

Edited spelling.

Edited: 15 Sept 2009, 4:09 p.m.

Re: If I do this...

*Message #9 Posted by **hecube** on 15 Sept 2009, 4:46 p.m.,*
in response to message #8 by Martin Pinckney

Ha! I didn't catch that one. And yes, it's true I do this. This forum is a bit more sedate than the usual guitar forums I read but I like to throw curve-balls...

Re: If I do this...

*Message #10 Posted by **mike reed** on 15 Sept 2009, 10:44 a.m.,*
in response to message #2 by Dan W

The US defines an astronaut as someone who has been at least 50 miles high

---

During the 60's, I think my roommate might have made it a few times... and he never had to leave the room! LOL ;o)

Re: If I do this...

*Message #11 Posted by **hpnut** on 15 Sept 2009, 11:32 a.m.,*
in response to message #1 by hecube

thanks, hecube. this is an awesome project, very cost effective too.

hpnut in malaysia

Re: If I do this...

*Message #12 Posted by **Dan W** on 15 Sept 2009, 8:53 p.m.,*
in response to message #11 by hpnut

We may have to start a contest: Who can get his/her calculator the highest, for no particular reason.

Re: If I do this...

*Message #13 Posted by **hecube** on 15 Sept 2009, 10:06 p.m.,*
in response to message #12 by Dan W

Don't tempt me. As has already been observed in this thread, I'm already known for starting random threads...

Edited: 15 Sept 2009, 10:06 p.m.

Re: If I do this...

*Message #14 Posted by **Tim Wessman** on 16 Sept 2009, 1:10 a.m.,*
in response to message #13 by hecube

Hmm. . . I had several at 14,240 feet about a month ago. I think let's exclude planes or flying objects. Makes it more interesting! :-)

TW

Re: If I do this...

*Message #15 Posted by **Walter B** on 16 Sept 2009, 1:42 a.m.,*
in response to message #14 by Tim Wessman

Tim, have you been there?

Re: If I do this...

*Message #16 Posted by **Tim Wessman** on 16 Sept 2009, 2:24 a.m.,*
in response to message #15 by Walter B

Yup. That was it. Had my work bag with some calcs and a computer in the trunk. :-)

TW

Re: If I do this...

*Message #17 Posted by **db (martinez, ca.)** on 16 Sept 2009, 10:57 p.m.,*
in response to message #14 by Tim Wessman

Tim: I once took a watermelon to 14,400 on mt Rainier. This was before i discovered RPN. A calculator would be much more interesting - but less juicy.

Re: If I do this...

*Message #18 Posted by **Pal G.** on 16 Sept 2009, 3:43 p.m.,*
in response to message #12 by Dan W

For one, we have a 747 pilot on this forum. He, or any military pilot, can easily exceed any altitude posted by terrestrial mortals.

However, I believe freight jets fly higher than passenger jets (but not military jets!), so if one can time it right, and have an altimeter attached to I/O, one might get his/her calculator higher than a 747, while not carrying the device.

Re: If I do this...

*Message #19 Posted by **Maximilian Hohmann** on 16 Sept 2009, 4:20 p.m.,*
in response to message #18 by Pal G.

Hello!

> Quote:
>
> However, I believe freight jets fly higher than passenger jets (but not military jets!), so if one can time it right, and have an altimeter attached to I/O, one might get his/her calculator higher than a 747, while not carrying the device.

Most freighters are converted airliners that have the same airframe and powerplants as the passenger version and therefore identical performance values. Typical service ceilings of these aircraft are between 41,000 and 43,000 feet, independently of their configuration. The altimeter in your freighter however will not read more than 8,000 feet because the cargo holds are pressurised!

If you want your calculator taken to higher altitudes, you either put it on board of a Space Shuttle or Soyus spacecraft, a military fighter jet or a business jet. Even "my" (my bosses to be precise, but I get paid for flying it) little Citation reaches 45,000 ft. (Others like Learjets and Gulfstreams go above 50.000ft.) And we have an unpressurised baggage compartment, so your altimeter will actually read that figure. Some of my HP calculators have been there already - but without an altimeter attached to prove it...

And regarding the subject: If anyone wants to reapeat the experiment, _please_ get the necessary permissions from the relevant aviation authority. A one-Kilogram box with equipments can cause millions (Dollars/Euros) worth of damage to an aeroplane and endanger hundreds of people on board!

Greetings, Max

Re: If I do this...

*Message #20 Posted by **Walter B** on 16 Sept 2009, 5:02 p.m.,*
in response to message #19 by Maximilian Hohmann

50.000 imperial feet = 15,2 km in real units, just for better understanding ...

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replacement for nylon balls in HP97 card reader

*Message #1 Posted by **Alberto Fenini** on 14 Sept 2009, 8:17 a.m.*

Hi everybody, while restoring an HP-97 card reader, I have noticed that only one out of the original four nylon balls was in place. Has anybody found a compatible item for replacing them ? Thanks in advance for help, Alberto

Re: replacement for nylon balls in HP97 card reader

*Message #2 Posted by **Randy** on 14 Sept 2009, 10:09 a.m.,*
in response to message #1 by Alberto Fenini

1/8" nylon balls

Shipping will be more than the parts...

Send me an email and I will post a set to you.

Re: replacement for nylon balls in HP97 card reader

*Message #3 Posted by **Katie Wasserman** on 14 Sept 2009, 2:00 p.m.,*
in response to message #2 by Randy

Randy,

I found these replacement balls some time ago and have been using them ever since, but never found a suitable replacement for the rolling-pin shaped part. Do you have an alternative?

-Katie

Re: replacement for nylon balls in HP97 card reader

*Message #4 Posted by **Randy** on 14 Sept 2009, 2:42 p.m.,*
in response to message #3 by Katie Wasserman

> Quote:
>
> ...Do you have an alternative?...

Unfortunately no. But on the up side, the only bad ones I've ever seen are the ones I lost ;-)

Re: replacement for nylon balls in HP97 card reader

*Message #5 Posted by **Klaus** on 15 Sept 2009, 3:08 a.m.,*
in response to message #3 by Katie Wasserman

I read from someone who used a watchmaker's lathe to build one. It did come out fine, I think he used brass, but "Never again" was written (maybe between the lines) IIRC.

Re: replacement for nylon balls in HP97 card reader

*Message #6 Posted by **Katie Wasserman** on 15 Sept 2009, 11:59 a.m.,*

in response to message #5 by Klaus

I remember something like that too. Since I haven't seen these on ebay, my guess is that it was much too hard to repeat.

Re: replacement for nylon balls in HP97 card reader

*Message #7 Posted by **Dan W** on 14 Sept 2009, 9:50 p.m.,*
in response to message #2 by Randy

I agree, get 1/8 inch balls at smallparts.com

I use the Delrin balls myself.

http://www.smallparts.com/Acetal-Delrin-Polished-Grade-Diameter/dp/B0017YT1YY?ie=UTF8&qid=1252979270&pf_rd_r=0XAX5FYGCTKZ6K0F4X54&pf_rd_p=467590051&pf_rd_i=16414311&sr=1-1&pf_rd_s=center-3&pf_rd_m=AIUBT5HP6PMAF&pf_rd_t=101

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41-MCODE: IND/ST/MATH in prompting

*Message #1 Posted by **Ángel Martin** on 14 Sept 2009, 5:12 a.m.*

Greetings,

I'm looking for information on how's the coding done for prompting functions using the extra options, like IND, ST, IND_ST, and MATH.

It's easy for the standard and simple IND cases, but how about the rest? This should be well know to the community but I can't trace the information anywhere - got no VASM listings myself :(

1.- Standard: reg# address in S&X field of A

2a.- IND: (reg# + 80) in S&X field of A
2b.- IND ST

3.- ST (X/Y/Z/T/L...)

5a.- MATH (+/-/*//)
5b.- MATH IND
5c.- MATH IND ST

Cheers,
ÁM

Edited: 14 Sept 2009, 5:27 a.m.

Re: 41-MCODE: IND/ST/MATH in prompting

*Message #2 Posted by **Meindert Kuipers** on 14 Sept 2009, 2:10 p.m.,*
in response to message #1 by Ángel Martin

Angel,

The VASM listings are a must, and they are on the various DVD's. The listing below is from my disassembler and it has the 2 bits of the last words of the function name combined in the prompt variable, hope this helps!

```
case prompt of
  $00 : Cmt := '';            // no prompting
  $01 : Cmt := 'Prompt: Alpha (null input valid)';
  $02 : Cmt := 'Prompt: 2 digit ST IND IND_ST + - * /';
  $03 : Cmt := 'Prompt: 2 digit or non-null Alpha';
  $11 : Cmt := 'Prompt: 3 digits';
  $12 : Cmt := 'Prompt: 2 digits ST IND IND_ST';
  $13 : Cmt := 'Prompt: 2 digits IND IND_ST non-null Alpha';
  $21 : Cmt := 'Prompt: non-null Alpha';
  $22 : Cmt := 'Prompt: 2 digits IND IND_ST';
  $23 : Cmt := 'Prompt: 2 digits or non-null Alpha';
  $31 : Cmt := 'Prompt: 1 digit IND IND_ST';
  $32 : Cmt := 'Prompt: 2 digits IND IND_ST';
  $33 : Cmt := 'Prompt: 2 digits IND IND_ST non-null Alpha . ..';
```

Meindert

Re: 41-MCODE: IND/ST/MATH in prompting

*Message #3 Posted by **Angel Martin** on 14 Sept 2009, 2:29 p.m.,*
in response to message #2 by Meindert Kuipers

Thanks Meindert, sorry I didn' t explain it better but the issue is not with the coding of the function NAMES (using the leftmost bits of the first two function name bytes as per the table you attached) but with the way the actual values are coded when used.

For instance. I have not figured out where is the input "IND ST Y" stored when using such a prompt. Not in the S&X field of the A register, which only "knows" about the IND part but not about the ST... mystery or plain ignorance on my part? Likely the latter...

Best, 'AM

Re: 41-MCODE: IND/ST/MATH in prompting

*Message #4 Posted by **Meindert Kuipers** on 15 Sept 2009, 12:12 p.m.,*
in response to message #3 by Angel Martin

That will be more difficult, you will have to look for examples using the various types of prompting. If you have a copy (also on the DVD's) of Ken Emery's famous HP41 M Code For Beginners, there is a nice introduction on page 135 and on which should get you started.

Meindert

Re: 41-MCODE: IND/ST/MATH in prompting

*Message #5 Posted by **Eric Smith** on 15 Sept 2009, 2:30 p.m.,*
in response to message #3 by Angel Martin

Is the A S&X field formatted as a postfix byte? If so, isn't the "ST Y" implicit in the postfix value? If not, how are you finding that "IND" is indicated?

If I had to make a wild-ass guess, I'd think that any additional information from prompting might be stored in the "Q" status register. That's where alpha prompting goes, but maybe numeric prompting affects it also.

Re: 41-MCODE: IND/ST/MATH in prompting

*Message #6 Posted by **Håkan Thörngren** on 15 Sept 2009, 4:32 p.m.,*
in response to message #1 by Ángel Martin

A stack argument is stored in the postfix byte of the function, just like numeric registers. Low numbers are for data registers, while higher numbers (112-127) are for stack / status registers. The quick reference card for synthetic programming shows the coding, for example 112 is T register, add 128 for IND T.

Math STOre functions are encoded in the prefix byte, postfix bytes works the same as all others.

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Nestler slide rule

*Message #1 Posted by **Peter Klein** on 14 Sept 2009, 12:34 a.m.*

I have an old German Nestler slide rule, mahogany with white plastic (?) overlays. It was probably made in the 1930s. It was my father's, and I believe he used it in college and in his early work as a physicist. I'd like to know the model number and approximate date, but this is hard to find.

The slide rule is very similar to, but a bit more advanced than this one:
http://www.sliderulemuseum.com/Nestler/S403_Nestler.jpg

In addition to what you see in the photo, it has a CI scale in the center of the slide and a K scale under the D scale on the stationary part. Everything else appears identical to the photo linked above, including the screws, the table of equivalents on the bottom, and inch and centimeter scales on the sides that face away from and towards the user, respectively.

I haven't been able to find any references to this exact model anywhere. Can anybody with Old Knowledge fill in the blanks?

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Dirk Dykson of H-P?

*Message #1 Posted by **Karl Schneider** on 13 Sept 2009, 5:20 p.m.*

A recent thread provided a link to the following *Wall Street Journal* article about the TI Inspire:

http://online.wsj.com/article/SB125244891686393811.html

The article also stated the following:

> Quote:
>
> *"We've had a bit of a late start," in the high-school market, said Dirk Dykson, head of H-P's calculator division. But the company is renewing its focus on the much larger middle and high-school markets.*

I'd never heard of Dirk Dykson, but a web search reveals that he is based in Fort Collins. Those who are attending HHC 2009 will surely meet him.

I can't recall having learned of this in the Forum. Did he replace Sam Kim? H-P recently sold the complex in Vancouver, WA (where Sam is/was based) to Shin-Etsu, another high-tech firm.

-- KS

Edited: 13 Sept 2009, 8:09 p.m.

Re: Dirk Dykson of H-P?

*Message #2 Posted by **Jake Schwartz** on 13 Sept 2009, 8:15 p.m.,*
in response to message #1 by Karl Schneider

> Quote:
>
> Did he replace Sam Kim? H-P recently sold the complex in Vancouver, WA (where Sam is/was based) to Shin-Etsu, another high-tech firm.

Right you are. Part of the recent changes was that calculators got put under the accessories group and jobs got shuffled around. Unfortunately, Sam was not retained. This is a big blow to many of us, as he really cared about what went on, since he was "raised" on HP machines and belonged to the PPC Puget Sound chapter during the HP41 days. As an outsider, I have to say that he will be sorely missed.

Jake Schwartz

Re: Dirk Dykson of H-P?

*Message #3 Posted by **Tim Wessman** on 13 Sept 2009, 8:51 p.m.,*
in response to message #2 by Jake Schwartz

Dirk has been with the calculator group for many years in a more managerial type position (working on deals for textbook/education etc). Wing Cheung, whom many of you met two years back at HHC, was promoted upwards earlier this year. A few months or so before that, the calculator groups was placed into the accessories group (mice, keyboards, general 'doesn't fit anywhere' group)

When the groups were more tightly meshed, there were two R&D managers, and the other group was larger and she had been in charge longer. . .

It was very sad, but the calculator group is in good hands. I will not go into details more as there is a lot of personal info, but I suspect Sam still reads here as he'd always send emails to us highlighting particular posts he found interesting.

He has a very good job working with some good freinds, so don't be worried he is on a street corner somewhere living in a box. :-)

TW

Management changes in HP's calculator division

*Message #4 Posted by **Karl Schneider** on 14 Sept 2009, 12:36 a.m.,*
in response to message #3 by Tim Wessman

Jake and Tim --

Thank you for the update. It's disappointing that Sam Kim is no longer part of the team.

I wonder, though, if Sam had been seeing "the writing on the wall" regarding modest corporate support and emphasis for calculators, as well as for the future of the Vancouver facility.

Sam has appeared routinely in the Vancouver (WA) *Columbian* for his work as a member and president of his local school board, and for community issues. However, the May 14, 2008 edition ran a story on Page C1 that identified him as one of four finalists for the City Administrator position in Bend, Oregon -- at a time when rumors abounded of scaling down at HP's Vancouver facility. When no story followed to announce his being selected for the position, I wondered about his future at HP.

I had read the article, but did not mention it to anyone at HHC 2008.

-- KS

Edited: 14 Sept 2009, 2:25 a.m. after one or more responses were posted

Re: Management changes to HP's calculator division

*Message #5 Posted by **Pal G.** on 14 Sept 2009, 1:54 a.m.,*
in response to message #4 by Karl Schneider

> Quote:
>
> It's disappointing that Sam is no longer part of the team.

I agree.

At HHC 2007, (perhaps selfishly), as soon as we broke for lunch, I tracked down Sam and asked if I could see the "prototypes" that were in the special black briefcase. Sam was so kind to spend the first half of his lunch hour talking and showing me the new calculators. He seemed to not mind our

chat and graciously allowed me to keep drooling over the protos, never looking at his watch, so to speak.

Thanks, Sam.

PG

ps - And Karl, I enjoyed our chats on day one too. I sat right next to you, until my wife had some drama that tore me away and home to AZ, before the end of the conferece. I think I still have my raffle ticket in my HP35s User's Guide. I was hoping to take home an HP48SX coffee mug :)

Re: Management changes to HP's calculator division

*Message #6 Posted by **BruceH** on 15 Sept 2009, 7:01 p.m.,*
in response to message #5 by Pal G.

And Sam took the stack of conference DVDs as his prize choice in the raffle. He's probably still going through them. :-)

A note to Sam Kim

*Message #7 Posted by **db (martinez, ca.)** on 15 Sept 2009, 9:33 p.m.,*
in response to message #6 by BruceH

Sam;
I'm glad to hear that you landed in a good place but sad to hear that you will not be there to guide the calculator division. Thank you for all that you have done for this community and for people who do math (even simple math like me) for a living. You're the greatest. - db

Re: A note to Sam Kim

*Message #8 Posted by **Reth** on 17 Sept 2009, 7:03 a.m.,*
in response to message #7 by db (martinez, ca.)

May I know what exactly did he do to be regarded as "the greatest" by you?

Re: A note to Sam Kim

*Message #9 Posted by **db (martinez, ca.)** on 20 Sept 2009, 2:11 a.m.,*
in response to message #8 by Reth

Reth;
For those who talk American, as opposed to those who speak English; that phrase would be like "the bee's knees" or something to y'all. I was for sure not comparing Mr. Kim to Alexander the Great. Suleiman the Great, Peter the Great, or even Catherin the Great.
Still, taken at face value; why is he Sam the Great? That hp came out with seven or so calculators on his watch and all that i can think of had rpn or rpl, that he included four or so people from this forum (not me) in the design and documentation processes, that he allowed or instructed his subordinates to share info on the architecture and hardware of hp's new machines, that he shared hp's future plans and asked HHC attendees for their input, that he gave out samples of hp's newest calcs at those HHC meetings (i'm easy to bribe). Those are a couple of good reasons.
I was thinking of addressing this note to Reth the Great, but i couldn't think of

anything that you had done for *me* in the past week.

Re: A note to Sam Kim

*Message #10 Posted by **Reth** on 20 Sept 2009, 3:20 a.m.,*
in response to message #9 by db (martinez, ca.)

Oh, I see, you were talking "American". I wasn't aware of such language. Is it how they refer to it at school?
So "the greatest" means nothing in that language. Fair enough. ;)

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O.T. Timers

*Message #1 Posted by **designnut** on 13 Sept 2009, 3:42 p.m.*

- I have a digital watch that not only sets itself from WWWB time station but takes more than one reading and digitally corrects it's own rate. Here's one reference to it. http://atomicelmer.topcities.com/clocks/sports.html I had it in Europe for 15 days and it was spot on with the BBC time ticks, then the battery failed. I had a similar watch destroyed by someone who insisted he had to set it after he changed the cell. I found a dressy watch by Casio that had a solar rechargeable cell. http://www.casio.com/products/Timepiece/Waveceptor/WV300DA-7A/ Both watches have a ready time zone change and a display of GMT. I use wall and bedside clocks set by WWWB time. I enjoyed showing the unannounced timer in the HP45 and it was great for short time splits from 0-9, just press the number keys. Sam

Re: O.T. Timers

*Message #2 Posted by **Marcus von Cube, Germany** on 14 Sept 2009, 2:49 a.m.,*
in response to message #1 by designnut

Here in Germany, rado controlled clocks are quite common. I have several analog ones in my home and a digital clock near my bed. The signal comes from Darmstadt and is known to be very accurate.

My computers set their time from the 'net.

Edit: See Walter's post for a more accurate description where the signal comes from. Or look here. You can search for DCF77 in Google Maps or Google Earth.

Edited: 14 Sept 2009, 3:40 p.m. after one or more responses were posted

Re: O.T. Timers

*Message #3 Posted by **Walter B** on 14 Sept 2009, 1:09 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Like in other countries, the time signal here comes from an atomic clock. Ours is Cs AFAIK and is located at PTB (Physikalisch-Technische Bundesanstalt = German Weights and Measures at Braunschweig, an institute like NIST in the USA). The signal is DCF77, long wave, broadcasted from Mainflingen (some 50 km east of Frankfurt). You can receive it within 1500 km radius, provided you are not behind concrete walls or similar obstacles for electromagnetic radiation.

Way back, I took part in production of radio controlled clocks, so this is what I recall.

Re: O.T. Timers

*Message #4 Posted by **Marcus von Cube, Germany** on 14 Sept 2009, 3:41 p.m.,*
in response to message #3 by Walter B

Thanks for the clarification, I've updated my post with a Link to Google Maps.

Edited: 14 Sept 2009, 3:41 p.m.

Re: O.T. Timers

*Message #5 Posted by **Dan W** on 14 Sept 2009, 11:12 p.m.,*
in response to message #1 by designnut

> Quote:
>
> I enjoyed showing the unannounced timer in the HP45 and it was great for short time splits from 0-9, just press the number keys. Sam

The HP-45 is not very accurate as a timer. The timing is controlled by a simple LC circuit - a capacitor and an inductor creating a sine wave at about 800 kHz. But it varies from calculator to calculator because of part tolerances and may vary with temperature.

The HP-55 replaces the LC parts with a quartz crystal at 784 kHz. According to the owner's handbook it is accurate to 0.01%, or 1.5 seconds in 8 hours.

I enjoy using my HP-55 but I haven't found any real use for the timer.

I have a Waveceptor watch and also a digital wall clock that syncs to the WWWB time station. In previous days I would tune a shortwave radio to the time station to sync my watches.

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HP-41CX in Space SpaceLab Exhibit (hecube take note)

*Message #1 Posted by **Dan W** on 12 Sept 2009, 4:09 p.m.*

I was in Munich last week and visited the Deutches Museum, which is all about science and technology. A wonderful museum, highly recommended to anyone here.

In the aerospace section I found this small exhibit about a German astronaut using the HP-41CX on the SpaceLab D1 mission in 1985. The English text reads:

> Quote:
>
> D1-SAPCELAB [sic] Mission, 1985 Calculator: Hewlett-Packard, USA, 1984 Voltmeter: Walcher Elektronik GmbH, Kirchheim, 1985
>
> The voltmeter is an instrument for measuring voltage and temperature. It contains an analog-to-digital converter that feeds the measured values to the calculator for processing. The calculator is a slightly modified standard HP 41 calculator. Astronaut Ernst Messerschmid devised this voltmeter to be used for experiments in materials science aboard the 1985 German D1 mission.

The exhibit includes the calculator and the voltmeter, with an interface to one of the expansion slots. There are two notebooks with the handwritten program code, derivation and user's guide. A couple of lines of code are obscured but it would be relatively easy to replicate.

Jimmy, you are welcome to use these photos on your site. The photos are quite large so I am including just the links below for download.

Cheers,

-- Dan

http://members.cox.net/revolvr/DMDeutchesMuseumexterior.JPG

http://members.cox.net/revolvr/DMSpacehabandHP41CXcalcandbook.JPG

http://members.cox.net/revolvr/DMSpacehabandHP41CXexhibit.JPG

http://members.cox.net/revolvr/DMSpacehabandHP41CXexhibitphoto.JPG

http://members.cox.net/revolvr/DMSpacehabandHP41CXpgmbook.JPG

http://members.cox.net/revolvr/DMSpacehabandHP41CXpgmbookenhanced.JPG

Edited: 12 Sept 2009, 6:30 p.m. after one or more responses were posted

Re: HP-41CX in Space SpaceLab Exhibit (hecube take note)

*Message #2 Posted by **Marcus von Cube, Germany** on 12 Sept 2009, 5:08 p.m.,*
in response to message #1 by Dan W

Hi Dan, time to go to Munich. Last time I visited the museum, the HP-41 had yet to be invented.

Do you have a reason, to call the mission "spacehab" instead of "spacelab"?

Re: HP-41CX in Space SpaceLab Exhibit (hecube take note)

*Message #3 Posted by **Dan W** on 12 Sept 2009, 6:30 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Just a typo on my part.

Re: HP-41CX in Space SpaceLab Exhibit (hecube take note)

*Message #4 Posted by **Martin Pinckney** on 12 Sept 2009, 6:27 p.m.,*
in response to message #1 by Dan W

Dan, I am wondering if these are scans of a film images, rather than straight digital?

Re: HP-41CX in Space SpaceLab Exhibit (hecube take note)

*Message #5 Posted by **Dan W** on 12 Sept 2009, 6:30 p.m.,*
in response to message #4 by Martin Pinckney

No these are all digital. They were taken at ISO-200.

Edited: 12 Sept 2009, 6:32 p.m.

Re: HP-41CX in Space SpaceLab Exhibit (hecube take note)

*Message #6 Posted by **Raymond Del Tondo** on 12 Sept 2009, 7:43 p.m.,*
in response to message #1 by Dan W

Hi,

nearly all links seem to be broken, except for the first pic.
The 2nd pic loads only the upper half, the others don't load at all.

Bandwith restrictions?

Raymond

Re: HP-41CX in Space SpaceLab Exhibit (hecube take note)

*Message #7 Posted by **Dan W** on 12 Sept 2009, 8:07 p.m.,*
in response to message #6 by Raymond Del Tondo

Yea, appears to be a bandwidth problem. I uploaded a new set of smaller photos. If you tried to download them you may have to clear your cache to see the new versions (in FireFox anyway).

Re: HP-41CX in Space SpaceLab Exhibit (hecube take note)

*Message #8 Posted by **hecube** on 13 Sept 2009, 12:28 a.m.,*
in response to message #1 by Dan W

Got it!

Thanks and nice to know some of you are watching my back!

And damn! Part of the program listing is not visible! Hasn't it occured to the curator that fans might want to try the program on their 25+ years old HP-41?!

Edited: 13 Sept 2009, 12:33 a.m.

Re: HP-41CX in Space SpaceLab Exhibit (Program Listing Challenge)

*Message #9 Posted by **Walter B** on 13 Sept 2009, 1:11 a.m.,*
in response to message #8 by hecube

> Quote:
>
> And damn! Part of the program listing is not visible! Hasn't it occured to the curator that fans might want to try the program on their 25+ years old HP-41?!

Well, let me guess a bit. The steps 18, 19, 20, and 27 through 32 are obscured, some of them only partially. Ernst Messerschmid seems to have been a systematic programmer. So my guess is:

```
18 LBL C          27 LBL D
19 LBL 03         28 LBL 04
20 TRIGGER        29
                  30 VIEW .6
                  31 STOP
                  32 MEAN
```

So there's only one step missing still. Come on ... :)

HTH,

Walter

Edited: 14 Sept 2009, 12:13 p.m.

Re: HP-41CX in Space SpaceLab Exhibit (hecube take note)

*Message #10 Posted by **Walter B** on 13 Sept 2009, 12:42 a.m.,*
in response to message #1 by Dan W

> Quote:
>
> I was in Munich last week and visited the Deutches Museum, which is all about science and technology. A wonderful museum, highly recommended to anyone here.

For those of you looking for this site, you'll find it under "Deutsches Museum" easier. Worth a visit for sure.

Re: HP-41CX in Space SpaceLab Exhibit (hecube take note)

*Message #11 Posted by **hecube** on 13 Sept 2009, 12:48 a.m.,*
in response to message #1 by Dan W

Here's the Museum's web page regarding this exhibit:

http://www.deutsches-museum.de/en/collections/transport/astronautics/experiments/voltmeter/

Edited: 13 Sept 2009, 12:48 a.m.

Re: HP-41CX in Space SpaceLab Exhibit (hecube take note)

*Message #12 Posted by **Matt Kernal** on 13 Sept 2009, 11:26 a.m.,*
in response to message #11 by hecube

"cpocket alculator" :-)

Re: HP-41CX in Space SpaceLab Exhibit (hecube take note)

*Message #13 Posted by **hecube** on 13 Sept 2009, 12:10 p.m.,*
in response to message #12 by Matt Kernal

I saw that. Looks russian!

Re: HP-41CX in Space SpaceLab Exhibit (hecube take note)

*Message #14 Posted by **Dan W** on 13 Sept 2009, 4:16 p.m.,*
in response to message #12 by Matt Kernal

Yes, and also "D1-SAPCELAB". So much for German attention to detail. ;)

Re: HP-41CX in Space SpaceLab Exhibit (hecube take note)

*Message #15 Posted by **hecube** on 13 Sept 2009, 12:57 p.m.,*
in response to message #1 by Dan W

Blog is updated.

Thanks again!

Re: HP-41CX in Space SpaceLab Exhibit (hecube take note)

*Message #16 Posted by **Johnny Bjoern Rasmussen** on 13 Sept 2009, 1:07 p.m.,*
in response to message #15 by hecube

Back in 1993 I had the pleasure to visit Deutches Museum. The exhibit has probably changed since then...

Re: HP-41CX in Space SpaceLab Exhibit (hecube take note)

*Message #17 Posted by **Dan W** on 13 Sept 2009, 4:21 p.m.,*
in response to message #16 by Johnny Bjoern Rasmussen

Unfortunately I missed the computing section so I can't say if that's still there. They started ushering everybody out just before 5 PM and I realized I hadn't made it up there. I'll just have to go back. There's a lot I missed due to lack of time, and I had 2 hours.

Re: HP-41CX in Space SpaceLab Exhibit (hecube take note)

*Message #18 Posted by **Marcus von Cube, Germany** on 14 Sept 2009, 2:34 a.m.,*

in response to message #17 by Dan W

You'll need two weeks, not two hours! ;)

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Woodstock LED Cover Replacement?

*Message #1 Posted by **Michael de Estrada** on 11 Sept 2009, 1:39 p.m.*

I just acquired a functionally perfect HP-27 Woodstock, which has one very annoying cosmetic flaw. The previous owner chose to engrave his last name into the bottom of the red transparent LED cover in the front of the calculator. I have a spare broken Woodstock with a clean cover, and wondered if it is possible to non-destructively remove its red LED cover and re-implant it in the good calculator. I have done this with several Spice calculators, which have LED covers that are simply snapped in place, and are easily removed. However, from what I can tell the Woodstock cover is not removable without being damaged. Perhaps one of you knows otherwise?

Thanks,

Michael

Re: Woodstock LED Cover Replacement?

*Message #2 Posted by **Dallas Osborne** on 11 Sept 2009, 2:57 p.m.,*
in response to message #1 by Michael de Estrada

http://www.hpmuseum.org/20intern.jpg

From what it looks like, you will be able to push from the front once you open the calculator.

I would separate the back by taking off the rubber feet and gently unscrewing the screws underneath. The top will separate with a gentle tug and the bottom connection should lever out.

Now I don't know what the cover is glued in with so you will have to play around a little. Sometimes you can heat it up (hair dryer or heat gun - be careful with a heat gun) and the adhesive will soften up.

Re: Woodstock LED Cover Replacement?

*Message #3 Posted by **Michael de Estrada** on 11 Sept 2009, 4:48 p.m.,*
in response to message #2 by Dallas Osborne

Thanks, Dallas. I already know how to open these up, and in fact have done so many times, but it seems like the red LED cover is stuck on pretty good. I've tried gently prying to no avail. I tried a hair dryer like you said on the donor calculator and it separated on the bottom but didn't budge on the top, so I don't think this approach will work.

Michael

Edited: 11 Sept 2009, 4:58 p.m.

Re: Woodstock LED Cover Replacement?

*Message #4 Posted by **Dallas Osborne** on 11 Sept 2009, 5:48 p.m.,*
in response to message #3 by Michael de Estrada

They may have used a cyanoacrylate type glue or epoxy-ish. It that is the case, you will have a much harder time and heat won't help a bit. I would recommend against the solvent route.

Sorry, Mate; in your shoes, I would pull out a drill, jewelers saw, files, polishing files, lapping cloth, a hot glue gun, and some nice hard plastic. Acrylic is my favorite for this type of thing, but it can shatter if dropped. Making Frankenstein's monster look good is such a fun hobby.

Re: Woodstock LED Cover Replacement?

*Message #5 Posted by **Gordon Strickland** on 11 Sept 2009, 6:34 p.m.,*
in response to message #4 by Dallas Osborne

"Debonders" are readily available for loosening cyanoacrylate glue, at many model hobby shops, for instance. Whether they would harm the surrounding plastic, I do not know. Epoxy glue would probably be a more difficult proposition.

Re: Woodstock LED Cover Replacement?

*Message #6 Posted by **Dallas Osborne** on 11 Sept 2009, 11:23 p.m.,*
in response to message #5 by Gordon Strickland

True and I haven't tested them on the various plastics. I had a bad experience with lacquer thinner when repairing a 41c and have stayed away from solvents.

(I know, I know; that was more than dumb and resulted in my first screen transplant operation. I was clearing flux after solding the new LCD on and grabbed the thinner off my shelf instead of alcohol. It was very sad.)

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Slide Rule Apps for the iPod/iPhone

*Message #1 Posted by **Howard Owen** on 11 Sept 2009, 1:32 p.m.*

I just received my slide rule from Think Geek. (The quality is poor, but my expectations were low.) It made me curious about slide rule simulators for the iPhone. It turns out there are several. (Just search for "slide rule" in the App Store.) Has anyone tried one or more of these apps? There's no practical application for these simulators (other than education, I suppose) but perhaps someone else here has the simulation bug as badly as I do?

Regards,
Howard

Re: Slide Rule Apps for the iPod/iPhone

*Message #2 Posted by **Martin Pinckney** on 11 Sept 2009, 8:33 p.m.,*
in response to message #1 by Howard Owen

Like everything else these days, is it hecho en China? (the real one, that is).

Edited: 11 Sept 2009, 8:34 p.m.

Re: Slide Rule Apps for the iPod/iPhone

*Message #3 Posted by **Howard Owen** on 11 Sept 2009, 9:57 p.m.,*
in response to message #2 by Martin Pinckney

Can't tell. I'm guessing it is made in Asia.

Sorry for the indistinct lettering. But you should be able to see there is no indication of origin.

As to quality, the center scale can move vertically with respect to the other two, and it sticks on one side. The slide isn't smooth at any point, for that matter. For me a slide rule is just a curiosity, since I was in the first generation that never touched one.

Regards,
Howard

Re: Slide Rule Apps for the iPod/iPhone

*Message #4 Posted by **Palmer O. Hanson, Jr.** on 11 Sept 2009, 10:55 p.m.,*
in response to message #3 by Howard Owen

Howard:

Near the end of the slide rule era companies such as Hoffman, Pickett and Sterling offered some quite well made plastic slide rules in configurations ranging from pocket Mannheims to full size log-logs. I

have a number of spares in my collection of almost two hundred slide rules. So, I hope that you didn't really spend $29.99 for what you got. Can you get your money back?

I also note that the promotional material at the site you provided says in part

> Quote:
>
> ... Here was a simple device with one sliding part ...

Wow! Slide rules have two moving parts -- the slide and the cursor.

Palmer

Re: Slide Rule Apps for the iPod/iPhone

*Message #5 Posted by **Walter B** on 11 Sept 2009, 11:31 p.m.,*
in response to message #4 by Palmer O. Hanson, Jr.

> Quote:
>
> Near the end of the slide rule era companies such as Hoffman, Pickett and Sterling offered some quite well made plastic slide rules in configurations ranging from pocket Mannheims to full size log-logs.

Don't forget to mention Aristo.

Re: Slide Rule Apps for the iPod/iPhone

*Message #6 Posted by **Howard Owen** on 12 Sept 2009, 12:10 a.m.,*
in response to message #4 by Palmer O. Hanson, Jr.

Well, that's embarrassing. :)

Hey, Think Geek does T-shirts really, really well. Can I be blamed for thinking they could make slide rules too? Heh.

Regards,
Howard

Re: Slide Rule Apps for the iPod/iPhone

*Message #7 Posted by **Martin Pinckney** on 12 Sept 2009, 12:01 p.m.,*
in response to message #3 by Howard Owen

> Quote:
>
> As to quality, the center scale can move vertically with respect to the other two, ...

Back in the day, all quality slide rules were fully adjustable. You could adjust the fit of the slide, alignment of top/slide/bottom and cursor, each side of cursor independently.

> Quote:
>
> ... and it sticks on one side. The slide isn't smooth at any point, for that matter. For me a

slide rule is just a curiosity, since I was in the first generation that never touched one.

The professional ones were made either out of mahogany, bamboo, or aluminum (later some in plastic, as Palmer pointed out), and were very precisely machined. You lubricated the mahogany with talcum powder, the Al with petroleum jelly, the bamboo and plastic with nothing. Even so, some sticking (really just slight hesitation) was not unheard of.

It's just a curiosity for me now, but it was an essential tool when I started out.

Re: Slide Rule Apps for the iPod/iPhone

*Message #8 Posted by **Walter B** on 12 Sept 2009, 1:54 p.m.,*
in response to message #7 by Martin Pinckney

Quote:

The professional ones were made either out of mahogany, bamboo, or aluminum (later some in plastic, as Palmer pointed out), and were very precisely machined.

Agree if "later" means after ca. 1950 in developed countries, and "some" means state-of-the-art slide rules for engineers and scientists. These were made of good white plastic completely, as were well made student's rules. No need for lubrication or adjustment. BTW, my father had a wooden rule laminated with white plastic on its faces, which I found terribly outdated when he offered it to me in the late sixties.

Re: Slide Rule Apps for the iPod/iPhone

*Message #9 Posted by **Chan Tran** on 12 Sept 2009, 6:14 p.m.,*
in response to message #8 by Walter B

Athough $29 for a poor quality slide rule is bad news but however, it's a good news that new slide rules are being made. I think it a copy of a Pickett slide rule. The style of the rule as well as the design of the box is a copy of the Pickett.

Edited: 12 Sept 2009, 6:23 p.m.

Re: Slide Rule Apps for the iPod/iPhone

*Message #10 Posted by **Palmer O. Hanson, Jr.** on 12 Sept 2009, 8:09 p.m.,*
in response to message #9 by Chan Tran

Quote:

Athough $29 for a poor quality slide rule is bad news but however, it's a good news that new slide rules are being made. I think it a copy of a Pickett slide rule. The style of the rule as well as the design of the box is a copy of the Pickett.

I agree that the style looks similar to the some of the lower cost plastic Pickett slide rules. I don't have my collection here but I think it is also close to some of the Acu-Math's and Sterlings. My recollection is that I have at least one which also uses black connectors at the ends.

Lawrence Engineering Service of Peru, Indiana made some really low cost slide rules in the

1940's which used white paint on pine.

I remember that the slides of the metal Pickett's had a tendency to be sticky even when they were greased. If you work with those today you will find that WD-40 does wonders and is far easier to applly without leaving a sticky residue.

Re: Slide Rule Apps for the iPod/iPhone

*Message #11 Posted by **Eric Smith** on 13 Sept 2009, 3:09 a.m.,*
in response to message #10 by Palmer O. Hanson, Jr.

WD-40 will in fact leave a residue. WD-40 is NOT a lubricant. It is a Water Displacer.

Better to use a real lubricant that is suited to the slide rule material.

Re: Slide Rule Apps for the iPod/iPhone

*Message #12 Posted by **Martin Pinckney** on 12 Sept 2009, 6:15 p.m.,*
in response to message #8 by Walter B

I stand corrected. I did not remember the all-plastic ones in the late 60's. And in fact the engineering students all purchased professional-grade rules.

When I was a university senior in 1970, someone decided they needed my 10" Post Versalog more than I did. I could not afford to replace it at $30, so I bought a 5", $15 "pocket Versalog" with which to finish my studies. As soon as I landed a job and got my first paycheck, I went downtown and purchased another 10" Versalog. I still have both those two today.

Re: Slide Rule Apps for the iPod/iPhone

*Message #13 Posted by **Chan Tran** on 12 Sept 2009, 6:25 p.m.,*
in response to message #12 by Martin Pinckney

I have the Faber Castell 2/83, I think it's one of the better slide rule but made of plastic.

Re: Slide Rule Apps for the iPod/iPhone

*Message #14 Posted by **Walter B** on 13 Sept 2009, 5:11 a.m.,*
in response to message #13 by Chan Tran

Assume there were some patents constraining the choice of materials. Else no company would have stayed with the older ways of composite rules (basis material plus cover layers) or materials requiring lubrication. Though the production times were longer than patents live, so some "choices" may have been tradition, too.

Edited for typos.

Edited: 13 Sept 2009, 7:10 a.m.

Re: Slide Rule Apps for the iPod/iPhone

*Message #15 Posted by **John Mosand** on 13 Sept 2009, 7:06 a.m.,*
in response to message #14 by Walter B

To make something clear: 'plastic slide rules' isn't the same as 'cheap quality'. ARISTO, the world's most successful slide rule manufacturer (with about 1000

models, 1872-1978) made ONLY high grade PVC slide rules from 1936. Their most successful STUDIOs, more than 2 million made, became an engineer's standard outside the US. Also, plastic slide rules should absolutely be kept lubricated! Preferably with vaseline.

Re: Aristo Slide Rules

*Message #16 Posted by **Palmer O. Hanson, Jr.** on 13 Sept 2009, 8:56 p.m.,*
in response to message #15 by John Mosand

I have only a few ARISTO's in my collection. The ones that I have use the so-called Darmstadt configuration where the trigonometric scales are on the frame not on the slider. Slide rules with the trigonometric functions on the slide as in the Mannheim configuration allow direct chained trigonometric calculations such as occur in solid geometry transformations. I haven't figured out how to do chained trigonometric calculations with a Darmstadt without reading a trigonometric function from the frame by eye and entering it at the C scale by eye.

Is it that I just don't know how to use a Darmstadt?

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Breaking news.

*Message #1 Posted by **Pal G.** on 11 Sept 2009, 11:18 a.m.*

An HP48GX emulator for iPhone.

http://www.automagic- software.com/products/i48/

I haven't downloaded or tested yet. Just thought I'd let folks know I happened across it..

(edit: added a message to my post)

Edited: 11 Sept 2009, 11:23 a.m.

Re: Breaking news.

*Message #2 Posted by **Gordon Strickland** on 11 Sept 2009, 3:31 p.m.,*
in response to message #1 by Pal G.

This looks very nice. For SX and earlier model GX users, this simulated screen is a great improvement. I have a late model GX with the improved black text screen, but this simulation looks even better than that.

I would assume that this simulator would run much faster, and perhaps be free of the annoying garbage collections. However, you are certainly not going to have any tactile feedback on "key" presses. I wonder if you can activate an audible key click.

i48 emulator on iPhone

*Message #3 Posted by **Gene Wright** on 11 Sept 2009, 4:10 p.m.,*
in response to message #2 by Gordon Strickland

1) Free. No charge.

2) Runs this program in 28.96 seconds. << TICKS 1 10000 START NEXT TICKS SWAP - B->R 8192 / >>

3) What does a real 48GX do on that loop?

4) No audible keyclick settings that I can find. No preferences at all.

5) Perhaps if the screen could simply be made white with black pixels it would be more readable?

All for now.

Re: i48 emulator on iPhone

*Message #4 Posted by **Vladan Dugaric** on 11 Sept 2009, 5:45 p.m.,*
in response to message #3 by Gene Wright

Real HP 48GX runs this loop in 29.13 s. The emulation appears to run slightly faster than real calculator speed (my iPod Touch 2G runs it in 22.52 s).

Edited: 11 Sept 2009, 5:47 p.m.

Re: i48 emulator on iPhone

*Message #5 Posted by **Raymond Del Tondo** on 11 Sept 2009, 8:00 p.m.,*
in response to message #3 by Gene Wright

Emu48 (1.41) on WinXP in real speed mode runs the program in 29.51 seconds.

Raymond

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Chess on the HP-200LX

*Message #1 Posted by **Xerxes** on 11 Sept 2009, 9:16 a.m.*

Looking for the best chess program for the HP-100LX/200LX/1000CX, I've tried out many old DOS programs for compatibilty and playing strength. The result of many test games and chess problems is:

Two well playing and nice programs are Psion Chess 2.13 and Rex Chess. For these programs [ON] + [/] is required for correct colour representation of pieces and squares. The estimated playing strength of both is USCF Class B level.

But there is also an outstanding program with the best user interface and display representation, most features and clearly the strongest play: Fritz 2.51 with an estimated playing strength of USCF Class A level.

The three mentioned programs are downloadable for free at http://www.top-5000.nl/cp.htm.

Re: Chess on the HP-200LX

*Message #2 Posted by **Steve Perkins** on 11 Sept 2009, 3:15 p.m.,*
in response to message #1 by Xerxes

Nice information.

I'll have to try some of these. I appreciate the recommendations!

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Toward a more user-friendly Forum

*Message #1 Posted by **Martin Pinckney** on 10 Sept 2009, 9:18 p.m.*

In looking over the posts of the last few months, it occured to me that the site could be made a little more user-friendly, by building in some shortcuts. So what follows is a prototype list; perhaps some of you could add some more suggestions. The links are dummies right now; when we all agree (Ha!) on the list, then perhaps one of you web gurus can make the links automatically fill in the subject line. Maybe even include some starter text in the message...

Start a new thread on the deficiencies of the HP 35s

Start a debate on the pros & cons of the HP 48 series vs. 50g

Start a debate on the pros & cons of the HP 15c

Start a debate on the whether it is economically feasible for HP to build a good keyboard today

Start a new thread on why maybe the 33s is actually better than the 35s after all

Start a thread on some newfound bug in the 12c+ that no financial user would ever discover in 1000 years

Start a thread on any odd topic designed to provoke a discussion to liven things up (for hecube only)

Re: Toward a more user-friendly Forum

*Message #2 Posted by **Paul Dale** on 10 Sept 2009, 10:07 p.m.,*
in response to message #1 by Martin Pinckney

Forget about the starter messages. We should be able to completely populate the new threads automatically.

- Pauli

Re: Toward a more user-friendly Forum

*Message #3 Posted by **Walter B** on 11 Sept 2009, 12:54 a.m.,*
in response to message #1 by Martin Pinckney

I'd vote for a COLLECT operation, searching the archives and collecting all the arguments written already about a given topic. This will do the automatic thread generation Paul mentioned. Anybody eventually reaching the end of such a thread will then be generously allowed to append his new idea at the end ;)

Re: Toward a more user-friendly Forum

*Message #4 Posted by **Howard Owen** on 11 Sept 2009, 12:58 a.m.,*
in response to message #1 by Martin Pinckney

Start a thread on why RP(N|L) is better than. RP(L|N).

Edit to add Karl's link per below.

Edited: 12 Sept 2009, 2:44 a.m. after one or more responses were posted

Re: Toward a more user-friendly Forum

*Message #5 Posted by **Karl Schneider** on 12 Sept 2009, 2:14 a.m.,*
in response to message #4 by Howard Owen

> Quote:
>
> Start a thread on why RP(N|L) is better than RP(L|N).

Hi, Howard --

Your statement with links to multiple threads on the topic is perhaps incomplete without my "RPL -> Leisure Suit" comparison and responses (which itself was inspired by another's difficulties with RPL).

-- KS

Re: Toward a more user-friendly Forum

*Message #6 Posted by **Howard Owen** on 12 Sept 2009, 2:32 a.m.,*
in response to message #5 by Karl Schneider

Thanks for the addition, Karl! I just did a Google on RPL RPN site:hpmuseum.org, and took the first four I came up with :) I'll add yours to the links. :)

Regards,
Howard

Re: Toward a more user-friendly Forum

*Message #7 Posted by **Bart (UK)** on 11 Sept 2009, 5:06 a.m.,*
in response to message #1 by Martin Pinckney

In my opinion all it needs is a better search Forum search engine. Then we could easily find threads on all of Martin's subjects.

BTW, I know there was a thread on forum searchability recently but I couldn't be bothered to use Google to search for it as it doesn't always work (e.g. sometimes the links don't always work when it's recently moved into the archives).

Re: Toward a more user-friendly Forum

*Message #8 Posted by **Mark Edmonds** on 11 Sept 2009, 5:43 p.m.,*
in response to message #7 by Bart (UK)

I'd like to second the suggestion for a better search engine. I've been trying to use the Google hack but the results returned can be very limited.

However, rather than fixing the search engine, it might be worth spending the time on upgrading the entire forum to a more universal and modern standard such as phpBB. I know the existing forum has a certain "charm" with its rather unusual method of operation and style but I am sure that nearly everyone would agree that usability is not its strong-point, especially when compared to a typical php forum.

Having said all that, I do recognise that the current forum might be fairly immune to the majority of hacking/spamming/intrusion methods that target php so if the change was made, administration duties might increase. Perhaps some members might like to volunteer to help with this?

Mark

Re: Toward a more user-friendly Forum

*Message #9 Posted by **Howard Owen** on 11 Sept 2009, 6:54 p.m.,*
in response to message #8 by Mark Edmonds

Phbb has had security issues in the past, to put it mildly. As their security blog shows, they are working hard to address them, and may even have made substantial progress. However I have a longish memory when it comes to that sort of thing.

Regards,
Howard

P.S.
Pardon me for helping to start one of the perennial threads back up. :)

Re: Toward a more user-friendly Forum

*Message #10 Posted by **Kevin Brown** on 12 Sept 2009, 2:13 a.m.,*
in response to message #7 by Bart (UK)

> Quote:
>
> In my opinion all it needs is a better search Forum search engine. Then we could easily find threads on all of Martin's subjects.
>
> BTW, I know there was a thread on forum searchability recently but I couldn't be bothered to use Google to search for it as it doesn't always work (e.g. sometimes the links don't always work when it's recently moved into the archives).

It doesn't need just a better search engine: it also needs to ditch the concept of archives.

Really, a thread should be a continuous conversation until people stop posting to it. With the archive system, you lose a lot of context whenever messages are archived.

If you want to achieve the same thing as viewing threads as if they started on a given day, the forum software should be able to achieve that relatively easily, but you should always be able to painlessly view prior messages if you so desire.

I've always wondered why we have the archiving thing going when the amount of disk space required by the entire history of this forum is probably a tiny fraction of a single modern hard drive...

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HPGCC

*Message #1 Posted by **Jan Kromhout** on 10 Sept 2009, 4:43 p.m.*

I have a simple question about transfering data from the emulator to the PC.

I use the emulator to build the executable wit s->exe. After i'm finished how to get this compiled executeble to the PC to download later to my HP50?

should I first store it to a variable and store this variabel, or the object on the stack after using s->exe.

Thanks in advance

Jan Kromhout Hellevoetsluis-NL

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Old School Calculators Still Do It For Some

*Message #1 Posted by **Egan Ford** on 10 Sept 2009, 1:41 a.m.*

http://gizmodo.com/5355805/old-school-calculators-still-do-it-for-some

Re: Old School Calculators Still Do It For Some

*Message #2 Posted by **Bart (UK)** on 10 Sept 2009, 4:43 a.m.,*
in response to message #1 by Egan Ford

I like the feel of a real culculator in the hand. For me it must be at least a basic scientific though (the functions of the original 35 would do just fine). That is why I still have a 32S on my desk. I think the pioneers were just the right size.

For portability when the physical one is too far away, my Nokia 5800 only has a four banger on it - useless. No free42 for it yet, but found a Java HP45 on HPcalc that is a bit small on the screen but works.

Re: Old School Calculators Still Do It For Some

*Message #3 Posted by **DaveJ** on 10 Sept 2009, 7:49 a.m.,*
in response to message #2 by Bart (UK)

> Quote:
>
> I like the feel of a real culculator in the hand. For me it must be at least a basic scientific though (the functions of the original 35 would do just fine).

Me too. I do 99.9% of my work on a basic scientific. Nothing beats it.

Dave.

Re: Old School Calculators Still Do It For Some

*Message #4 Posted by **Thomas Radtke** on 10 Sept 2009, 8:27 a.m.,*
in response to message #2 by Bart (UK)

> Quote:
>
> I like the feel of a real culculator in the hand.

Same here. Why should a tool designed for a specific task be replaced by something else? If you need a hammer, use a hammer, not the smartphone ;-).

Re: Old School Calculators Still Do It For Some

*Message #5 Posted by **Palmer O. Hanson, Jr.** on 10 Sept 2009, 9:19 a.m.,*

in response to message #4 by Thomas Radtke

> Quote:
>
> Why should a tool designed for a specific task be replaced by something else? If you need a hammer, use a hammer, not the smartphone ;-).

If you need to travel, use a buggy. If you need to move something from one place to another, use a travois. If you need to write something, use a quill pen. And so on.

Let's don't be Luddites!

Re: Old School Calculators Still Do It For Some

*Message #6 Posted by **Martin Pinckney** on 10 Sept 2009, 10:15 a.m.,*
in response to message #5 by Palmer O. Hanson, Jr.

Perhaps the analogies are getting a little muddled. I think Thomas' point would have been better made with 'If you need a hammer, use a hammer, not a multi-tool.'

As far as Luddites are concerned, they were against technological progress. This debate seems more about choosing specific-purpose devices vs. do-everything devices.

No?

Re: Old School Calculators Still Do It For Some

*Message #7 Posted by **Thomas Radtke** on 10 Sept 2009, 10:31 a.m.,*
in response to message #6 by Martin Pinckney

You're right about my intention, Martin.

About Luddites, it seems to be often used as a killer phrase. I'm really tired of this and usually stop any further discussion if it comes up.

Re: Old School Calculators Still Do It For Some

*Message #8 Posted by **bill platt** on 11 Sept 2009, 9:47 p.m.,*
in response to message #6 by Martin Pinckney

I own a "multi-tool" but almost never use it for anything other than merely admiring it's cleverness. A real screwdriver or saw or etc works so much better...

Re: Old School Calculators Still Do It For Some

*Message #9 Posted by **Palmer O. Hanson, Jr.** on 11 Sept 2009, 10:21 p.m.,*
in response to message #6 by Martin Pinckney

> Quote:
>
> Perhaps the analogies are getting a little muddled. I think Thomas' point would have been better made with 'If you need a hammer, use a hammer, not a multi-tool.'
>
> As far as Luddites are concerned, they were against technological progress. This debate seems more about choosing specific-purpose devices vs. do-everything

> devices.
>
> No?

In many cases a hammer IS a multi-tool. I probably over-reacted to the "If you need a hammer, use a hammer" idea because of an article on home repairs that one should be able to do which appeared in the St. Petersburg Times. It discussed the idea of using a hammer to tap on a wall to find an underlying stud for support of a heavy picture. You can do it with a hammer -- just like I did it in the mid-twentieth century and my father and grandfather did it before me. Or, you can do it with one of those little magnetic devices which help you find nail heads. But in the twenty-first century the best tool is a specific purpose device known as an electronic stud finder.

Re: Old School Calculators Still Do It For Some

*Message #10 Posted by **Bart (UK)** on 10 Sept 2009, 10:59 a.m.,*
in response to message #5 by Palmer O. Hanson, Jr.

If I need to travel 100 yards, do I need a car? If I need to move a crate do I use a truck? Why do I need a computer or a "space ship"-like calculator to do basic maths? I find it quicker & more efficient to have my 32s next to me than to call up the windows calculator & click the functions with a mouse. The 50G impresses others but not so easy to carry around the office in a pocket.

On a closing note I say: use a hammer .... ON the smartphone!! :-)

Re: Old School Calculators Still Do It For Some

*Message #11 Posted by **Don Shepherd** on 10 Sept 2009, 11:14 a.m.,*
in response to message #10 by Bart (UK)

I think Steve Jobs is a genius, but the iphone is not for me. Last night my financial advisor was at my house and he wanted to show me the performance of some mutual fund using real-time wireless data on his iphone. He used his finger to scroll the screen left and right, and yes that is cool. But the final chart he called up had a font so small that I couldn't read it. So, despite the cool technology, what good is it if the final user interface does not convey any useful information? If there is a way to enlarge the font, my guy didn't know it. I want a 19-inch screen I can actually read. And some calculator user "manuals" (really just folded sheets) use fonts so small I need a magnifying glass to read them. They are useless.

Re: Old School Calculators Still Do It For Some

*Message #12 Posted by **Jeff O.** on 10 Sept 2009, 12:51 p.m.,*
in response to message #10 by Bart (UK)

> Quote:
>
> On a closing note I say: use a hammer .... ON the smartphone!! :-)

Spoken like a true Luddite! (I prefer the term curmudgeon:-))

(I am of course kidding. No offense or offence intended.)

Re: Old School Calculators Still Do It For Some

*Message #13 Posted by **John McCormick** on 11 Sept 2009, 12:17 a.m.,*
in response to message #1 by Egan Ford

Fancy toys are a theft hazard and typically have extended costs, and computers are rarely convenient away from desks. The user was able to achieve the desired end on a subway with a very portable and inexpensive tool no-one would bother to steal. Bravo. Speaking of "outdated" technology, here's a report about the contest between a messenger pigeon and ADSL+Internet. http://news.bbc.co.uk/2/hi/africa/8248056.stm

Edited: 11 Sept 2009, 11:57 a.m. after one or more responses were posted

In case you did not read it, the pigeon won!

*Message #14 Posted by **Martin Pinckney** on 11 Sept 2009, 9:01 a.m.,*
in response to message #13 by John McCormick

Quote:

... here's a report about the contest between a messenger pigeon and ADSL+Internet.

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HP48SX accuracy questioned.

*Message #1 Posted by **Pal G.** on 9 Sept 2009, 7:08 p.m.*

A few years ago, my boss suggested the HP48sx was not an accurate instrument based on his misunderstanding the following article:

Article here.

The article defines two equations for calculating great circle distances and states the first equation listed is not very accurate depending on what calculation device or software is used. The author states the second equation is more accurate for all devices.

My boss assumed the HP48sx was not accurate due to the error margin in the result of the first equation. I would like to argue any TI calc would give similar results to the 48sx when using equation 1.

In a nutshell:

Equation 1 evaluated with Excel is accurate.
Equation 1 evaluated with HP48sx is not very accurate.
Equation 1 evaluated with TI-XX might not be very accurate either.

Equation 2 evalutated with Excel is accurate.
Equation 2 evaluated with HP48sx is accurate.
Equation 2 evaluated with TI-XX should be accurate.

Would equation 1 evaluated with a TI-XX be more accurate than an HP48SX? Unfortunately, the author of the article did not include several variables, such as a pair of lat/lons, or earth radius.

edit: fixed link.

Edited: 9 Sept 2009, 7:11 p.m.

Re: HP48SX accuracy questioned.

*Message #2 Posted by **Thomas Chrapkiewicz** on 9 Sept 2009, 9:02 p.m.,*
in response to message #1 by Pal G.

It would be interesting for you to share the actual data that you had used in your testing.

TomC

Re: HP48SX accuracy questioned.

*Message #3 Posted by **Eric Smith** on 9 Sept 2009, 9:56 p.m.,*
in response to message #1 by Pal G.

The first formula (based on the spherical law of cosines) is ill-conditioned for small distances and will have

accuracy problems on almost any computer; it is simply much more sensitive to limited precision than the haversine formula. This is an example of why numerical analysis is important. Just because you have a mathematically correct formula doesn't mean that it will be generally useful on a computer (or calculator).

See also "Virtues of the Haversine", R.W. Sinnott, Sky and Telescope, vol. 68, no. 2, 1984, p. 159.

Re: HP48SX accuracy questioned.

*Message #4 Posted by **hugh steers** on 10 Sept 2009, 9:01 p.m.,*
in response to message #3 by Eric Smith

the idea of a great circle is somewhat misleading in the context of earth navigation. use the spherical formulae for pure spheres, but for earth distances it's a bad idea.

for some time i've been using Meeus' formula. i put some code here,
http://www.voidware.com/earthdist.htm

but recently, i became aware of a formula by Vincenty, http://en.wikipedia.org/wiki/Vincenty's_formulae. I read the paper and coded it up. it's a bit more complicated, but claims to be super accurate. However, i had problems with it not converging for points almost opposite the globe.

in any case, unless you really want to measure distances on WSG84, you're going to have a height difference involved which the, as presented, Vincenty formula doesn't deal with. so, im still happy to use the Meeus approximation for real use.

However, at some point im going to have to try to get something that takes height into account too.

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High-end calculators in the WSJ

*Message #1 Posted by **J-F Garnier** on 9 Sept 2009, 12:54 p.m.*

An interesting article in the Wall Street Journal, although mainly related to TI calculators:

Numbers Don't Add Up for a TI Calculator

J-F

Re: High-end calculators in the WSJ

*Message #2 Posted by **hecube** on 9 Sept 2009, 4:09 p.m.,*
in response to message #1 by J-F Garnier

The way to the future is Mathematica on Touch/iPhone devices with a simplified "basic user" overlay.

I think there's a way for dedicated graphing calculators though. Here's my take:

*landscape form-factor: business

*portrait form-factor: scientific

All calculators should have a back-lighted color display that doesn't have to be as big as the iPhone screen. Something nice to look at at any rate.

Whatever Steve Jobs says, there's nothing like tactile feedback for the keys.

To me, the biggest mistake HP ever made starting with the HP-28C is to get rid of stepped programming and treating programs like data. From a theoretical point-of-view and as a LISP fan, I applaud. From a practical point-of-view, it becomes a big obstacle to access the computational power of the calculator. Let's be honest here, no one is ever going to do artificial intelligence research on a pocket calculator. The calculator's main reason to exist is the "immediate result". If I can't get that, it's dead in the water.

I never got around to program my HP-48 but I could program the HP-41 within the first five minutes when I got it.

One last thing: bring back the trapezoidal stylings of yore for the machine itself.

Edited: 9 Sept 2009, 4:10 p.m.

Re: High-end calculators in the WSJ

*Message #3 Posted by **marais** on 9 Sept 2009, 5:45 p.m.,*
in response to message #2 by hecube

That is true today, but wasn't back in 87 when the 28c came out. I bought one rightaway, and its loyal services got me through my EE studies. At the time, no PC application whatsoever provided the computing power the 28C had. I agree, though, that I have a hard time to program it today, and an even harder time to find worthwhile applications to program. I don't have these issues with my more basic calculators. And mind you, I'm still a professional C++ developer.

A.

Re: High-end calculators in the WSJ

*Message #4 Posted by **Paul Guertin** on 9 Sept 2009, 8:52 p.m.,*
in response to message #3 by marais

> Quote:
>
> That is true today, but wasn't back in 87 when the 28c came out. I bought one rightaway, and its loyal services got me through my EE studies. At the time, no PC application whatsoever provided the computing power the 28C had.

In 1984, I was doing symbolic math, numerical integration, and linear algebra on my Apple II home computer using muMATH. The only thing I can think of that an HP 28C could do but not muMATH is graphing, but scientific graphing programs were available too.

That said, I did buy an HP 28S in 1988 and used it almost every day for the next five years.

Re: High-end calculators in the WSJ

*Message #5 Posted by **Allen** on 9 Sept 2009, 9:10 p.m.,*
in response to message #2 by hecube

> Quote:
>
> The way to the future is Mathematica on Touch/iPhone devices with a simplified "basic user" overlay.

No debate here..

> Quote:
>
> All calculators should have a back-lighted color display that doesn't have to be as big as the iPhone screen. Something nice to look at at any rate.

Respectfully, I disagree. Backlights are fun for gameboy's but almost useless for a calculator. While I agree it would be nice to have, the cost in $$ and battery life will not nearly make up for the 2x per year I would use the function- and I use my calculators alot. With a gameboy there is no inputs and outputs to the system. you respond to things on the screen by pressing buttons, which changes the display, which causes you to respond... etc...

With a calculator, you almost always have numbers or other data to put in, and something to write down when you're done, and both those things require light or at lest a pen with radioactive ink. Did they ever make a glow-in-the-dark slide rule? <idea>

I also respectfully disagree on the Color LCD. not worth the suck on battery power, and the added color will probably not add any information to the screen whatsoever. I reference Tufte and his many books about Data Ink. If it is not required to display data, get rid of it and Use the ROM/display space/battery life/development costs etc.... for something that does.

> Quote:
>
> Whatever Steve Jobs says, there's nothing like tactile feedback for the keys.

Could not agree more. :)

> Quote:
>
> To me, the biggest mistake HP ever made starting with the HP-28C is to get rid of stepped programming and treating programs like data. From a practical point-of-view, it becomes a big obstacle to access the computational power of the calculator.

There are strengths and weaknesses to both. The power of the 3rd generation calculators 28,48,50g is that you can do more complex functions- for example parallel list processing, multiple data types, longer strings, etc.. Some things are easier on the RPL, some on RPN. I would not trust a 'one is better than the other' statement from someone who has not mastered BOTH- and even then I would suggest there is a large middle ground where either are good. There is also the 71b

BASIC/FORTH language which also has strengths and weaknesses.

> Quote:
>
> Let's be honest here, no one is ever going to do artificial intelligence research on a pocket calculator.

Never say never... that really depends on the heuristics of the program. I've found the decision algorithms in HPChess to be quite advanced for a hand-held calculator. It's not "Deep Blue", but that's beside the point. FYI, in some ways the HP 50G is well beyond the early 1976 Cray-1 Supercomputer. The beauty of it is that a 15 year-old student can do on a 50g what took scores of PHD's to do on a computer in the 1960s- if it was possible. Feynman helped design nuclear weapons and quantum electrodynamics with far less sophisticated machines.

> Quote:
>
> The calculator's main reason to exist is the "immediate result". If I can't get that, it's dead in the water.

May I disagree again? There are many uses for calculators.. Fast and accurate results are one (although computers are better at both). Calculators "boot" in a fraction of a second- even today it takes my computer several minutes to turn on. So I think convenience takes front seat over the 'immediate result'. The other issue is portability. Until recently, you could not really cram a supercomputer into your pocket. Today with a smartphone connected to the internet, you don't need to....you can call up wolfram|Aplha or other site.

> Quote:
>
> I never got around to program my HP-48 but I could program the HP-41 within the first five minutes when I got it.

I have 6 of each.. try the 48, you might like it.

> Quote:
>
> "trapezoidal"

Please click here :)

edit: removed link to Feynman interview

Edited: 9 Sept 2009, 9:26 p.m.

Re: High-end calculators in the WSJ

*Message #6 Posted by **hecube** on 9 Sept 2009, 9:36 p.m.,*
in response to message #5 by Allen

About "trapezoidal". Let me respectfully point you in the right direction:

I presently have a HP-67 in my hand. I count 8 trapezoidal surfaces on the machine, not even counting the keys themselves.

Re: High-end calculators in the WSJ

*Message #7 Posted by **Tim Wessman** on 9 Sept 2009, 10:57 p.m.,*
in response to message #2 by hecube

Trapezoidal like the 20b? ;-)

TW

Re: High-end calculators in the WSJ

*Message #8 Posted by **hecube** on 9 Sept 2009, 11:06 p.m.,*
in response to message #7 by Tim Wessman

I like it!

It looks like Darth Vader's HP.

Edited: 9 Sept 2009, 11:09 p.m.

Re: High-end calculators in the WSJ

*Message #9 Posted by **Dave** on 10 Sept 2009, 12:38 a.m.,*
in response to message #8 by hecube

Did anyone notice the 5% graphic calc market share for HP in that story? Man, we're lucky HP is still making calculators at all, much less ones that meet any of our retro requirements.

Re: High-end calculators in the WSJ

*Message #10 Posted by **Bart (UK)** on 10 Sept 2009, 5:12 a.m.,*
in response to message #2 by hecube

Hi,

As you see, there are many different opinions. A lot is open to personal preference. I loved the 28C. I still have a 28S and enjoy working on it, although by todays standards it is slow.

I thought that the advent of the 28C and RPL would have put stepped RPN programming behind us. To me it was like going from Basic to C.
It was not until coming to this forum that I realised how many still preferred the stepped RPN programming. So perhaps as discussed in the "43S ponderings" thread, both should be incorporated to allow users their preferred method.

> Quote:
>
> I never got around to program my HP-48 but I could program the HP-41 within the first five minutes when I got it.

I could program my 28C within the first 5 mins. Was it not just a case of going back to what's familiar rather than learning RPL? I have that problem with Pascal. When I did my first programming course it was in Pascal. The world uses C/C++. I have tried to switch, but keep jumping back to Pascal because I know it and can do something quickly rather than bother to learn something else.

Re: High-end calculators in the WSJ

*Message #11 Posted by **Don Shepherd** on 10 Sept 2009, 7:56 a.m.,*
in response to message #10 by Bart (UK)

For those who like to program programmable calculators, of course some will prefer RPL, some RPN, and some BASIC; we like what we like.

What is truly amazing, IMHO, is this (and I'm going to exaggerate a bit, to make a point): there are roughly 6,783,244,335 people in the world today. Of these, 2,119 write programs on calculators. The amazing thing is that HP continues to make them at all.

Re: High-end calculators in the WSJ

*Message #12 Posted by **Bastian** on 10 Sept 2009, 9:00 a.m.,*
in response to message #11 by Don Shepherd

> Quote:
>
> The amazing thing is that HP continues to make them at all.

Calculators are a typical cash cow. "Profit of $208 million on revenue of $526 million in 2007", that is a profit margin of 40%!*. Since there is no real R&D or marketing going on, production is outsourced and component prices are constantly sinking, calculator manufacturers got low costs too. As long as you are making money (little as it may be) why should you stop?

*[From the WSJ article for TI and probably before taxes]

Re: High-end calculators in the WSJ

*Message #13 Posted by **Palmer O. Hanson, Jr.** on 10 Sept 2009, 9:28 a.m.,*
in response to message #11 by Don Shepherd

> Quote:
>
> ... there are roughly 6,783,244,335 people in the world today. Of these, 2,119 write programs on

> calculators.

I love it. If you believe the correspondents in this site most of the 2,119 write their programs using their HP-67's. And, the old TI guys think that they write the rest on their doughty old TI-59's.

Re: High-end calculators in the WSJ

*Message #14 Posted by **Martin Pinckney** on 10 Sept 2009, 9:51 a.m.,*
in response to message #13 by Palmer O. Hanson, Jr.

> Quote:
>
> > I love it. If you believe the correspondents in this site most of the 2,119 write their programs using their HP-67's. And, the old TI guys think that they write the rest on their doughty old TI-59's.

To paraphrase Doc Brown, does this mean that there is some special significance to the mid-1970's in the space-time continuum? (Or is it just an incredible coincidence?)

Re: High-end calculators in the WSJ

*Message #15 Posted by **hecube** on 10 Sept 2009, 10:09 a.m.,*
in response to message #14 by Martin Pinckney

It can not be a coincidence:

Led Zeppelin HP-67 Concorde plane

Re: Led Zeppelin HP-67 Concorde plane

*Message #16 Posted by **Bart (UK)** on 10 Sept 2009, 11:17 a.m.,*
in response to message #15 by hecube

And don't forget - the people will want it to circumnavigate the world in no time at all without sonic boom :)))

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spice battery contacts repair (or replacement)

*Message #1 Posted by **Alberto Fenini** on 9 Sept 2009, 11:07 a.m.*

Hi everybody, I have recently purchased an couple of HP38E and one HP38C, and although are all in working conditions, the battery contacts were broken. Has everybody else already replaced or repaired these ? I will appreciate any suggestion ! Thx in advance for your replies. Cheers, Alberto

Re: spice battery contacts repair (or replacement)

*Message #2 Posted by **Katie Wasserman** on 9 Sept 2009, 11:43 a.m.,*
in response to message #1 by Alberto Fenini

I described what I did in this thread some time ago.

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Searchable PDFs/HP41 manual/Slightly Off Topic

*Message #1 Posted by **Kevin Kitts** on 9 Sept 2009, 10:37 a.m.*

Hi All, I've been experimenting with a web site (not free) that allows one to upload a PDF of a scanned document - and then does OCR on the the scanned/PDF images so that you can actually search through the document. I'm sure that there are a lot of tools that can do this. The particular site I'm using is called www.evernote.com.

Unfortunately, the HP41 scanned document I have is 50M in size but the site only allows documents 25M or smaller to be uploaded. Is there an easy way to take a 50M PDF and break it into 3 equal size pieces - hopefully at a Chapter boundary?

I tried creating a zip of the file - but - surprisingly it was not any smaller than the origianl. I guess PDFs of scanned documents may already employ some compression...

Thanks,

Kevin

Re: Searchable PDFs/HP41 manual/Slightly Off Topic

*Message #2 Posted by **Bastian** on 9 Sept 2009, 11:04 a.m.,*
in response to message #1 by Kevin Kitts

http://www.pdfsam.org/

It is free and easy to use.

Re: Searchable PDFs/HP41 manual/Slightly Off Topic

*Message #3 Posted by **Kevin Kitts** on 12 Sept 2009, 12:16 p.m.,*
in response to message #2 by Bastian

Ah - that pdfasm program was just perfect - what a jewel - this will be very useful at work as well.

Kevin

Re: Searchable PDFs/HP41 manual/Slightly Off Topic

*Message #4 Posted by **PeterP** on 9 Sept 2009, 11:13 a.m.,*
in response to message #1 by Kevin Kitts

try PrimoPDF Its a free pdf converted that works by printing a document. So you can open your pdf, prnit the first n-pages using primopdf and voila, you are good to go.

HTH

Cheers

Peter

PS - cool site! I scanned and OCRed the VASMs a little while ago to make them searchable. Would be great to hear how successful your conversion was. Maybe we can pool together - everyone scans & uploads one manual of general interest and then we all share. A few suggestions with regards to manuals

1. HP41 user Manuals
2. Keith Jarret - Extended Functions Made Easy
3. Keith Jarret - Synthetic Programming made Easy
4. HP Advantage Module
5. CCD Module
6. PPC Module
7. Hepax Manuals
8. Ken Emery - MCODE for Beginners
9. Wlodeks 'Red bible' - Extend Your HP-41
10. Paul Dodin Inside the HP-41
11. Article Index from the PPC journal (this would awesome! There are literally 1000s of pages of PPC Journal and its very hard to find something on a particular subject. I went once through the exercise and organized all PPC, HPCC, CHUU etc articles into themes by printing them out, reading all of them and organizing them by theme. Better, but still very cumbersome. There are some good indices which cover a few years of articles so if we have those OCRed one can search for articles on a particular subject)

Just a thought...

Re: Searchable PDFs/HP41 manual/Slightly Off Topic

*Message #5 Posted by **Dave Hicks** on 9 Sept 2009, 11:35 a.m.,*
in response to message #4 by PeterP

On version 7 of the DVDs, which will be out in the fall, nearly all manuals are searchable. That includes many/most of the above. (all the documents I've managed to get permission for.)

Re: Searchable PDFs/HP41 manual/Slightly Off Topic

*Message #6 Posted by **Massimo Gnerucci (Italy)** on 9 Sept 2009, 11:38 a.m.,*
in response to message #5 by Dave Hicks

w00t!
Thanks Dave!

Re: Searchable PDFs/HP41 manual/Slightly Off Topic

*Message #7 Posted by **PeterP** on 9 Sept 2009, 5:30 p.m.,*
in response to message #5 by Dave Hicks

OMG, that is absolutely awesome!!! and for next version I'll pass on the searchable VASM to you as well.

Cheers

Peter

Re: Searchable PDFs/HP41 manual/Slightly Off Topic

*Message #8 Posted by **Egan Ford** on 9 Sept 2009, 10:54 p.m.,*

in response to message #7 by PeterP

> Quote:
>
> OMG, that is absolutely awesome!!! and for next version I'll pass on the searchable VASM to you as well.

Even more awesome.

Re: Searchable PDFs/HP41 manual/Slightly Off Topic

*Message #9 Posted by **Allen** on 10 Sept 2009, 9:35 p.m.,*
in response to message #5 by Dave Hicks

> Quote:
>
> On version 7 of the DVDs, which will be out in the fall, nearly all manuals are searchable. That includes many/most of the above. (all the documents I've managed to get permission for.)

Gee,I wonder where Dave got the idea? ;)

Re: Searchable PDFs/HP41 manual/Slightly Off Topic

*Message #10 Posted by **Walter B** on 11 Sept 2009, 1:02 a.m.,*
in response to message #5 by Dave Hicks

Thanks for the news! I was starting to wonder about the fate of all our scans of this spring already.

Re: Searchable PDFs/HP41 manual/Slightly Off Topic

*Message #11 Posted by **Jake Schwartz** on 9 Sept 2009, 2:23 p.m.,*
in response to message #4 by PeterP

> Quote:
>
> 11. Article Index from the PPC journal (this would awesome! There are literally 1000s of pages of PPC Journal and its very hard to find something on a particular subject. I went once through the exercise and organized all PPC, HPCC, CHUU etc articles into themes by printing them out, reading all of them and organizing them by theme. Better, but still very cumbersome. There are some good indices which cover a few years of articles so if we have those OCRed one can search for articles on a particular subject)

For what it is worth, all of the PPC Journal, CHHU Chronicle, HPX Exchange and HPCC Datafile issues have already been scanned into pdf images, over several years. The PPC Journal, CHHU Chronicle and HPX Exchange scanned issues available at http://www.pahhc.org/ppccdrom.htm include all the article indexes which were in the issues, plus some additional ones which were not printed in their time frames. The HPCC Datafile issues are all indexed at their club web site, at http://www.hpcc.org/datafile/. Since the U.S.-newsletter material consists mostly of pasted-up articles typed on regular typewriters, the task of OCRing those indexes might be a challenge.

Jake Schwartz

Re: Searchable PDFs/HP41 manual/Slightly Off Topic

*Message #12 Posted by **Dave Shaffer (Arizona)** on 9 Sept 2009, 12:05 p.m.,*
in response to message #1 by Kevin Kitts

> Quote:
>
> Is there an easy way to take a 50M PDF and break it into 3 equal size pieces - hopefully at a Chapter boundary?

If you (or a friend) have Adobe Acrobat Professional (not the free reader which everybody has), you can extract arbitrary pages, or range of pages, from a pdf file. Then you save what you extracted (under a new name!), and go back and extract some more. Conversely, you can delete what you don't want.

Can you point on the web to the original pdf you have, or put it on a web site somewhere? If so, I would be glad to break it up into chunks (and put the pieces on my own site).

Re: Searchable PDFs/HP41 manual/Slightly Off Topic

*Message #13 Posted by **Quan** on 9 Sept 2009, 2:22 p.m.,*
in response to message #1 by Kevin Kitts

Try this here:

http://portableapps.com/apps/office/pdftk_builder_portable

Re: Searchable PDFs/HP41 manual/Slightly Off Topic

*Message #14 Posted by **David Hayden** on 9 Sept 2009, 11:42 p.m.,*
in response to message #1 by Kevin Kitts

An excellent online version of the HP 41C manual is here

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HP 50 as a stop watch.

*Message #1 Posted by **Stuart Sprott** on 9 Sept 2009, 8:05 a.m.*

Hi,

I wish to use the HP50 as a stop watch to time road runners in a race. It should not be difficult to program to do this.

The only problem is that the calculator can go to sleep if there is a big gap between runners. This means that you could miss time a runner.

I have searched for a internal flag that might control the calculator sleeping, but I have had no success.

Does anyone know how to stop the HP from sleeping during a race?

Re: HP 50 as a stop watch.

*Message #2 Posted by **Nacho** on 9 Sept 2009, 8:19 a.m.,*
in response to message #1 by Stuart Sprott

have you tried with the internal variable TOFF??

you can define an idle time before variable STARTOFF is executed.

Remember 1second = 8192 TICKS

Regards

Edited: 9 Sept 2009, 8:20 a.m.

Re: HP 50 as a stop watch.

*Message #3 Posted by **Stuart Sprott** on 9 Sept 2009, 11:45 p.m.,*
in response to message #2 by Nacho

I must be missing something. I have tried TOFF just by keying it in but get no response. If I do a seach in the electronic manual on TOFF nothing comes up. How do you get access to this command?

The variable STARTOFF is one of your variables?

Re: HP 50 as a stop watch.

*Message #4 Posted by **Tim Wessman** on 10 Sept 2009, 12:31 a.m.,*
in response to message #3 by Stuart Sprott

Store a hexadecimal number as TOFF in HOME. It represents tics (8192/sec)

So #8192d * 60 * min will set a new off time. As for a stopwatch, look here:

http://www.software49g.gmxhome.de/EnglishSeite01.htm#SWC

TW

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Out of curiosity, HP calculators in movies or TV series?

*Message #1 Posted by **hecube** on 8 Sept 2009, 9:38 p.m.*

Any ideas?

Re: Out of curiosity, HP calculators in movies or TV series?

*Message #2 Posted by **Etienne Victoria** on 9 Sept 2009, 12:48 a.m.,*
in response to message #1 by hecube

Yep,

The Hp-65: superstar in the french movie "L'ordinateur des pompes funèbres, 1973" from Gérard Pirès.

It is originally a book written by Walter Kempley: The Probability Factor

You will find a very nice description of the film on Noël Jouenne's website.

Fluency in french compulsory.

Best regards

Etienne

Re: Out of curiosity, HP calculators in movies or TV series?

*Message #3 Posted by **Namir** on 9 Sept 2009, 1:14 a.m.,*
in response to message #2 by Etienne Victoria

Yes sir!!! I remember seeing it in Limoges, France, in 1978. on a Sunday afternoon at the hotel's main lobby TV. I was sitting in the lobby and watching TV and boom ... came that movie. I almost fell off my chair--here I am watching a movie about the HP-65!!!

Thanks for bringing the memory.

Namir

Edited: 9 Sept 2009, 1:15 a.m.

Re: Out of curiosity, HP calculators in movies or TV series?

*Message #4 Posted by **DaveJ** on 9 Sept 2009, 3:17 a.m.,*
in response to message #1 by hecube

There is a sketch drawing of what is clearly a HP calc used in a current beer ad in Australia:

http://www.youtube.com/watch?v=886H3CXYR5o&feature=related

Dave.

Re: Out of curiosity, HP calculators in movies or TV series?

*Message #5 Posted by **hecube** on 9 Sept 2009, 11:50 a.m.,*
in response to message #4 by DaveJ

Very funny ad! You have to pinch yourself watching this because they get all the mid-80s stylings perfectly.

TV commercials

*Message #6 Posted by **Juergen Keller** on 9 Sept 2009, 3:46 a.m.,*
in response to message #1 by hecube

Here you can find some TV commercials:
hpmuseum.net
Enjoy!

Re: Out of curiosity, HP calculators in movies or TV series?

*Message #7 Posted by **Klaus** on 9 Sept 2009, 6:53 a.m.,*
in response to message #1 by hecube

I think we had a similar thread some years ago, and I remember a quick appearence of a HP-48 in "The Specialist" (1994).

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HP50g - very inaccurate clock?

*Message #1 Posted by **Mark Edmonds** on 8 Sept 2009, 6:23 p.m.*

I can't find any answer on this by searching.

The internal clock on my 50g is not maintaining accurate time by a large factor.

At 17:00 today, I set the clock.

At 23:00 today, it had already lost 1 min 12 secs !!!

During that time, the calc was off.

What the heck is going on here?!?!?! I only got this machine the other day and the batts are fresh.

Is there a history of inaccurate clocks in the 50g? Or have I just lucked out here?

Mark

Re: HP50g - very inaccurate clock?

*Message #2 Posted by **Raymond Del Tondo** on 8 Sept 2009, 6:44 p.m.,*
in response to message #1 by Mark Edmonds

Hi,

there were threads about this issue in comp.sys.hp48 , and maybe here, too.

HTH

Raymond

Re: HP50g - very inaccurate clock?

*Message #3 Posted by **Gerson W. Barbosa** on 8 Sept 2009, 6:51 p.m.,*
in response to message #1 by Mark Edmonds

Mine is about three hours in advance, but I don't remember the last time I set the time on it (probably three months ago). For timekeeping I never found anything better than my cheap Casio watch (2889 HDD-600), +/- 3 seconds/year but I might just have been lucky as the manual states +/- 30second/month.

Wolfgang Rautenberg's Timeman might be an option. It works nicely on my HP-49G. (I haven't tried it on the 50g yet).

http://page.mi.fu-berlin.de/raut/WR49/Timeman.htm

Gerson.

Re: HP50g - very inaccurate clock?

*Message #4 Posted by **Dave Britten** on 8 Sept 2009, 7:23 p.m.,*
in response to message #1 by Mark Edmonds

I've noticed the same thing. I wrote a tiny program that adjusts for daily clock skew, and the calculated offset on my 50g is probably a few orders of magnitude greater than on my 48GX.

I use a 48G for an alarm clock, so I need accurate timekeeping. :)

Re: HP50g - very inaccurate clock?

*Message #5 Posted by **Michael de Estrada** on 8 Sept 2009, 9:01 p.m.,*
in response to message #4 by Dave Britten

Wow, that's strange. I just checked mine and it's only 5 minutes slow after seven months.

Re: HP50g - very inaccurate clock?

*Message #6 Posted by **Allen** on 8 Sept 2009, 10:20 p.m.,*
in response to message #1 by Mark Edmonds

The only perfectly accurate clock is a dead one-- it's exactly right twice per day. All others are off by some margin- some more than others. :-)

Re: HP50g - very inaccurate clock?

*Message #7 Posted by **Stuart Sprott** on 9 Sept 2009, 8:13 a.m.,*
in response to message #6 by Allen

Hi,

I have used both the HP48 & HP50 as stop watches for sun observations. As a Surveyor I have to determine accurate true North. The method I use requires accurate time. You have to determine the watch error at the time of observation. This can be done on both calculators. I have found both to be reliable.

Re: HP50g - very inaccurate clock?

*Message #8 Posted by **Patrick Rendulic** on 9 Sept 2009, 2:16 p.m.,*
in response to message #7 by Stuart Sprott

On my 48 GX, time is off around 1 second per day. This can be fixed by an alarm program that runs daily. Works perfectly. Even after weeks or even months, the time on my 48 is accurate within several seconds.

On the 50 G this is completely different. I got mine 2 months ago. And it seems that the daily offset is not constant. With CLKADJ I don't manage to adjust the clock within 0.2 seconds. On the 48 I do manage. At the moment I'm trying Timeman. But when the offset is not constant, that program will fail too.

I think the only "workaround" is to write an approximative CLKADJ program and to check the 50 G time always when it must be accurate.

HP do something. You are crippling your wonderful products because of bugs, bad emulation (what a horror), etc.

Programming firmware no longer is an art. Too sad.

Re: HP50g - very inaccurate clock?

*Message #9 Posted by **Mark Edmonds** on 9 Sept 2009, 4:18 p.m.,*
in response to message #8 by Patrick Rendulic

Thanks for all the replies.

I am quite happy to accept a tolerance of about a couple of seconds a day for clock accuracy. Both my 48G calcs are actually better than this.

However, I am not prepared to accept the level of accuracy being shown in my 50G which is currently losing about 5 minutes a day. That is completely ridiculous and I am going to negotiate a refund or replacement from the dealer.

Yes, I can write a simple clock adjust program running off an alarm but it boggles the mind that this should be necessary on what is currently HP's top calc and in theory, one of the best calcs ever made.

The sad thing is that after the huge disappointment of the 35s and now this fiasco with the 50g, can I trust any new HP calc? I've said before that I consider the 48GX to be the last great true HP calc but I never expected it would retain that mantle because its replacement has fundamental problems such as not being able to keep time!

One of the reasons I bought the 50g was to use a style of programming that the 48GX doesn't quite have enough speed for and that style of programming is dependent on clock accuracy.

What an utter huge disappointment all of this is.

Mark

Re: HP50g - very inaccurate clock?

*Message #10 Posted by **Mike Morrow** on 10 Sept 2009, 1:14 p.m.,*
in response to message #1 by Mark Edmonds

My 2003 HP49g+ is pretty consistent, dropping 1.7 seconds/day.

My 2007 HP50g is pretty consistent, dropping 2.1 seconds/day.

My HP48 units are not any better.

I wish the HP50g clock had a SETAF function like my HP-41CX, which gains only a few seconds each month when SETAF is properly set. I instead use a repeat-once-per-day ALARM program \<< 17200 CLKADJ DROP OFF \>> that adds 2.1 seconds (17200 ticks) to the clock. (The well-known erratic behavior of the HP49/50 ALARM function does cause some problem with regularity of activation.)

Edited: 14 Sept 2009, 6:42 p.m.

Re: HP50g - very inaccurate clock?

*Message #11 Posted by **David Hayden** on 14 Sept 2009, 12:23 p.m.,*
in response to message #1 by Mark Edmonds

What else are you running on the calculator? This is pure speculation, but it's possible that the interrupt routine

that updates the clock is low priority, so if some higher priority code is running for long enough, the calculator may skip updating the clock periodically.

As I said, this is pure speculation though.

Dave

Re: HP50g - very inaccurate clock?

*Message #12 Posted by **Bart (UK)** on 19 Sept 2009, 5:50 a.m.,*
in response to message #1 by Mark Edmonds

Reading this thread, I decided to check my 48G and 50G. I used BBC1 terletext clock as reference.

After 8 days:
48G: lost 11 secs
50G: lost 17 secs.

The 48G was used occasionally for simple calculations and the 50G wasn't used at all. Temperature probably between 15 to 25 celcius.

Re: HP50g - very inaccurate clock?

*Message #13 Posted by **Chan Tran** on 19 Sept 2009, 7:37 p.m.,*
in response to message #12 by Bart (UK)

My 50G is right now 7 minutes slow. That in about a year and a half. It's not accurate but it's typical of the 50 I think. With my 2 41's and by adjusting the accuracy factor I could get them to be accurate within a few seconds a year.

Re: HP50g - very inaccurate clock?

*Message #14 Posted by **Mike Morrow** on 20 Sept 2009, 3:47 p.m.,*
in response to message #13 by Chan Tran

That's about a loss of 0.8 seconds per day. That's better than I've ever heard about in a HP49g+/HP50g.

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HP 48 serial cable but no serial port in laptop

*Message #1 Posted by **juan demin** on 8 Sept 2009, 4:57 p.m.*

A questions to all downloaders out there... I do not have a serial port in my laptop...I wonder how to adapt (if it's possible) the HP 48GX serial cable connector....Any idea?

Re: HP 48 serial cable but no serial port in laptop

*Message #2 Posted by **Egan Ford** on 8 Sept 2009, 5:01 p.m.,*
in response to message #1 by juan demin

Get a USB to Serial adapter. I prefer the Keyspan (19HS) adapters because they work with Windows, Linux, and OS/X. Any should do that your OS supports.

Re: HP 48 serial cable but no serial port in laptop

*Message #3 Posted by **juan demin** on 8 Sept 2009, 5:20 p.m.,*
in response to message #2 by Egan Ford

Thanks Egan...!!! As simple as that? no other consideartions? Thanks again

Re: HP 48 serial cable but no serial port in laptop

*Message #4 Posted by **Charles Oxford** on 8 Sept 2009, 6:10 p.m.,*
in response to message #2 by Egan Ford

I tried similar for old Palms but they didn't work. Are some different? Are drivers required?

Re: HP 48 serial cable but no serial port in laptop

*Message #5 Posted by **Egan Ford** on 8 Sept 2009, 6:41 p.m.,*
in response to message #4 by Charles Oxford

> Quote:
>
> Are some different? Are drivers required?

Yes and yes/no. OSes now have better support for USB to serial. I picked the Keyspan years ago because it had great driver support. I had to install the drivers on XP and OS/X to use. I have had no problems with my Garmin GPS, Zaurus PDA, and 48GX with the Keyspan on XP or OS/X. It even works with VMware running XP on OS/X.

I'd guess that USB->Serial has matured enough to just work.

BTW, I have also had great luck with Bluetooth to serial. I have two different kinds and both work great with XP, Linux, and OS/X without any drivers required. The only issue with BT->Serial is that

you need to power the device.

Re: HP 48 serial cable but no serial port in laptop

*Message #6 Posted by **Paul Dale** on 8 Sept 2009, 5:20 p.m.,*
in response to message #1 by juan demin

Try: http://www.dealextreme.com/details.dx/sku.24512

Pauli

Edited: 8 Sept 2009, 5:20 p.m.

Re: HP 48 serial cable but no serial port in laptop

*Message #7 Posted by **juan demin** on 8 Sept 2009, 5:33 p.m.,*
in response to message #6 by Paul Dale

Thanks Paul!!! perfectly on line...!!!

Re: HP 48 serial cable but no serial port in laptop

*Message #8 Posted by **Paul Dale** on 8 Sept 2009, 5:38 p.m.,*
in response to message #7 by juan demin

And remember the massive $2.99 includes shipping anywhere....

- Pauli

Edited: 8 Sept 2009, 5:38 p.m.

Re: HP 48 serial cable but no serial port in laptop

*Message #9 Posted by **Dave Britten** on 8 Sept 2009, 7:27 p.m.,*
in response to message #6 by Paul Dale

Niiiiice, going to order a couple of those. Anybody know how this model works with Conn4x?

Re: HP 48 serial cable but no serial port in laptop

*Message #10 Posted by **Ed Look** on 8 Sept 2009, 11:10 p.m.,*
in response to message #9 by Dave Britten

I suspect most of these adaptors work most of the time; I have been using a no-name one, not even a single solid piece like the one given here, and it works for my 48G/G+ machines. Mine consists of a USB connector and a serial connector, connected by a length of cable.

Re: HP 48 serial cable but no serial port in laptop

*Message #11 Posted by **Patrick Rendulic** on 9 Sept 2009, 2:20 p.m.,*
in response to message #10 by Ed Look

I have adapters from HP and from Belkin which both work with the 48. They also work with my GPSs, etc. But I also had serial devices which refused to work with those adapters (a Sarad doseman for measuring Radon concentration in air).

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HP 35s modification: Matte LCD cover (and LCD re-alignment)

*Message #1 Posted by **Dallas Osborne** on 8 Sept 2009, 4:39 p.m.*

Replacing the soft, glossy 35s LCD screen cover with a matte version (and fixing LCD alignment):

The new screen material should be about 0.5-0.7mm thick. I used LCD protectors out of a batch of office telephones I found in a dumpster (Lucent multi-function jobs). They were nice and large, 0.7mm thick acrylic with a nice subtle matte surface on one side, gloss on the reverse. You may also find this type of plastic at a custom framing shop and it is available from many vendors online (e.g., http://www.rplastics.com/polycarbonate-film.html). To attach the new screen in place on the front panel I used Scotch double sided tape. A double-sided foam boarder is normally attached to the back side of the screen to make firm contact with the LCD. I had planned on using the 3M 4492 (black, 1/32” (about 0.8mm), double-sided adhesive foam), but found I could slowly remove the old one and recycle it. It is important to reapply this; it will keep dust out and provide positive pressure to the screen. When measuring and cutting the new material, cover the plastic with a clear tape that can be easily removed to protect from minor scratches. Obviously, make sure the area between the new screen and the LCD is free of dust and other particles; it is very annoying to finish the upgrade only to find there is a nasty piece of lint hanging in there.

Photos (these are huge, by the way; it may take a bit of a wait for them to load in some locations): HP 35s Screen Mods

Intro over, the process is as follows:

1. Open the case by removing the batteries, four round rubber screw covers, and the long rubber strip at the bottom of the back half of the case. Put them aside in a safe place. I would suggest sticking a strip of tape on your work surface and put them there; it will be dust-free and release the adhesive easily.

2. Remove the screws and put them in a safe place.

3. Using finger only, slowly pry the case apart along the top and left side with the face down at the work table. Be careful not to tear off the power wires between the two halves; they are on the side of the calculator under the ENTER key.

4. Remove the springs at the top and bottom (the top one is obviously the long spring) and put them in a safe place as well. If you think you should just leave the springs where they are and be careful with the front half, I would suggest you grab a flashlight for when they fall out on the floor.

5. Remove the rubber reset seal and put it away. This is the white/clear round thing that may have fallen off when you opened it up. It will usually stay attached to the reset hole on the back half of the case. (In case you may be tempted, don’t mess around with the black carbon contact part.)

6. Slowly lift up the LCD by using a non-scratching tool. Allow the adhesive to slowly free up. If you pull to fast things will end up messy. I used the handle of a plastic fork. Flip the LCD out and over the PCB, wrap it and the PCB with a soft, lint-free cloth, and tape it all together.

7. Press out the old screen by starting at one corner and S-L-O-W-L-Y let the adhesive give way to firm, slow pressure.

8. Cover the new, matte screen material with removable clear plastic tape on both sides and apply the old screen to the new matte (front) side. This is your template. Cut around it. Don't worry about the blade-cut space; there is enough room in the case for the new one to fit even with a few tens of mils additional material.

9. Remove the tape from the back side of the new screen. Wipe it down very carefully with a lint-free cloth. Carefully remove the foam gasket from the old screen and place it on this cleaned surface. If the old one is torn or stretched out in the process you will need to make a new gasket. I suggest 3M 4492 tape (1.5" width will be adequate to make a new one). Single-sided foam tape will work just fine as well and would be easier to open up later, if you need to.

10. Remove the tape and old screen from the front side of the new screen and wipe it down.

11. Carefully lay new double-sided tape on the edges of the new screen at a width that will allow it to be placed in the front of the case and make contact only to the inside plastic: slightly less than 2mm. As you can see from the last picture, I put a little too much width on the bottom of the one I did and it can be seen when looking in at an angle.

12. Carefully install the new screen. (If you have a crooked LCD, see the note at the bottom.)

13. Check/clean any dust.

14. Take off the cloth and tape from the LCD and lay it back in place.

15. Put the springs back in place.

16. Put the rubber reset button back on its post.

17. Carefully close up the case (making sure the power wires route around the reset post and contact), screw it together, and check the new display.

18. If the case creaked a lot during operation, this is a good time to test out the loose points, apply small dots of adhesive (epoxy, hot glue, anything else you may like) at the key locations and close it back up. I would warn against trying to tighten the screws as a solution; the posts butt up together and won't go any further… and plastic is soft.

19.!Test the reset button!

20. Replace the rubber screw covers and enjoy the matte screen.

One final note: If you have a 35s with a crooked display, this is a perfect opportunity to tilt it back into place. I didn't take pictures of the entire procedure, but here we go: After you pop out the old screen, put the batteries back in and push the LCD back into its socket; turn on the calc and type in a ton of 8's. Take a close look at the margin for mental reference. The idea is to bend/press/mold the right hand portion of plastic up, as seen from the back side of the LCD socket frame, (for most early 35s' that is). This may require gentle nipping at the bracing buttresses with a pair of side cutters. Then shim the LCD and screw post on the lower right. Double check the alignment and shift it around as needed. Make sure the other side of the screw butt will not knock the shim around and put a spot of glue to hold the shim in place. There is a shot of the shim in one of the photos.

Edited: 8 Sept 2009, 9:57 p.m. after one or more responses were posted

Re: HP 35s modification: Matte LCD cover (and LCD re-alignment)

*Message #2 Posted by **Iqbal** on 8 Sept 2009, 8:00 p.m.,*
in response to message #1 by Dallas Osborne

Well done. It looks pretty decent.

Re: HP 35s modification: Matte LCD cover (and LCD re-alignment)

*Message #3 Posted by **Dallas Osborne** on 9 Sept 2009, 11:25 a.m.,*
in response to message #2 by Iqbal

Thanks! The 35s needed it; crooked and ultra-glossy don't work for me.

Re: HP 35s modification: Matte LCD cover (and LCD re-alignment)

*Message #4 Posted by **Thomas Radtke** on 9 Sept 2009, 1:45 p.m.,*
in response to message #1 by Dallas Osborne

Thanks for sharing!

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Help with HP 29C

*Message #1 Posted by **George** on 8 Sept 2009, 8:55 a.m.*

This otherwise beautiful working calculator suddenly developed a fault displaying 'error' followed by all LEDs randomly lighting some very bright. It then just shuts down with no vital signs. Given a while it again powers-up normally and works for a 20 30 sec until LED flashing starts again. (Batteries are new Li-Ion and well charged). All suggestions welcome. thanks

Re: Help with HP 29C

*Message #2 Posted by **Geoff Quickfall** on 8 Sept 2009, 11:30 a.m.,*
in response to message #1 by George

Until you get some more answers, try substituting the LiIon batteries with some NiCd or NiMH.

The voltage of the LiIon are 1.60 each for a total of 3.2 volts. The design called for NiCd at 1.22 topping out a 2.44 volts.

Normally this would not be a problem but the increased voltage may be to much for the aged circuits. It does sound like a circuit is heating up and then shutting down.

I had a very old Casio calculator (their first battery model). It would only work for 5 minutes until the IC heated and then it shut down. I could get it to work indefinitely if I sprayed the IC with a can of "Cold" (can't remember the brand name) for testing circuits.

My first home computer was a 486 which froze 20 minutes after start up. Shut it down and allow it to cool and it worked again for 20 minutes. Turns out the CPU had 'crept' out of its socket and the heating was enough to disconnect one of the pins. Had to reseat the CPU and all was well.

Cheers, Geoff

Re: Help with HP 29C

*Message #3 Posted by **George** on 8 Sept 2009, 12:01 p.m.,*
in response to message #2 by Geoff Quickfall

thanks Geof

the batteries are in fact NiMH (1.2V) not Li sorry for the red herring

George

Re: Help with HP 29C

*Message #4 Posted by **Geoff Quickfall** on 8 Sept 2009, 2:38 p.m.,*
in response to message #1 by George

George,

It still sounds like a power supply problem and we all know how finicky the Woodstocks are.

I would try tracing the circiuts back from the battery contacts.

Try spraying with a can of Cold spray, various power supply components, when the display appears correct you may have isolated the problem.

cold spray link

It does not sound like the Logic CPU as it cold starts correctly.

Cheers, Geoff

Edited: 8 Sept 2009, 2:38 p.m.

Re: Help with HP 29C

*Message #5 Posted by **George** on 9 Sept 2009, 5:43 a.m.,*
in response to message #4 by Geoff Quickfall

Geoff

filling the display with say, 8888888888, it remains ok for about 20 sec pretty much consitently then gives up until powered down briefly after which it resets nicely. However if you reapeat this enough times it will eventually latch-off for a good while after the display goes erratic which makes me suspect the LED driver chip - or even the clock. I had it open a few days ago nothing obvious at all like dry joints or failed components. Does the Woodstock PSU steps up from 2.4V to 5 or so ?

Re: Help with HP 29C

*Message #6 Posted by **George** on 9 Sept 2009, 7:05 a.m.,*
in response to message #4 by Geoff Quickfall

http://images.google.co.uk/imgres?imgurl=http://www.series80.org/Misc/HP21-bat-lr.jpg&imgrefurl=http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi%3Fread%3D88022&usg=__Uo_1rZ8Z8hHmAaCR3Y-lRIZtfE4=&h=357&w=512&sz=213&hl=en&start=2&tbnid=Yb0Uw2g7UExMCM:&tbnh=91&tbnw=131&prev=/images%3Fq%3Dhp%2B29c%2Binside%26gbv%3D2%26hl%3Den

Re 29C problem I found this in an archive seems very close to what my 29 is doing- did any one follow this one up ?

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Designing a calculator housing

*Message #1 Posted by **Thomas Radtke** on 8 Sept 2009, 8:12 a.m.*

Hi,

I have some serious questions to all experts out there. When taking a recent calculator to hand, very often one can immediately find some problems whithin the first couple of minutes.

Example 1: Having keys on a calculator with beveled edges that lie outside the feet of the calculator (HP-20b) is plain silly.

Example 2: Placing an LCD so that small annunctiators lie right under the faceplate makes them easily shadowed (HP-35s).

Now, who does designs like that? Can we really explain such things with low budgets? Is the only constraint to a design that it mechanically works (when not in use)? It would have taken just a few minutes of thought to prevent the problems mentioned in my examples.

Next question, why is there no evolution in calculator housing design? Every new calcultor appears to look completely different, so that problems cannot be corrected but new ones are likely to be introduced.

Especially with HP, calculators seem to have a chance in niche markets only. Allthough some might not be distracted by its design, the 33S was a perfect example of a design that completely ignores its target audience. Last question: Why isn't HP designing for their users? Kids don't need a business or programmable scientific calculator. A student who does will likely have a look at the specs and price rather than if it matches their cell phones.

Or am I completely wrong?

Re: Designing a calculator housing

*Message #2 Posted by **DaveJ** on 8 Sept 2009, 8:52 a.m.,*
in response to message #1 by Thomas Radtke

The problems in product design are many...
- There are so many design issues that it really is easy to overlook what some will see as basic stuff.

- The person or people doing the design usually cannot objectively review a design. Smart product design companies will call upon independent people to overlook the design at all phases of development. But getting people that are good and thorough at this is really hard.

- Even if you do find issues before release it's often too late in the design process to fix them. And many factors may mean you simply can't get these fixes implemented.

- Small things like you mention actually have zero measurable effect on unit sales, so it's often not in anyone's interest to fix things like this. Often design guys like me who raise issues like this will get shot down in flames, so often the natural evolution of that will make it's way into the final product...

You'd be really surprised at how easy it is for simple things to slip through (deliberately or unnoticed), no matter how good your intention or what processes you put in place. You really have to have experience in product design in a big company to appreciate (the often absurdity of) it all.

I've said this before, if HP (and other companies) were *really* smart and open minded they would make use of the "geek factor" and get a bunch of select calculator geeks to review their products at all stages of the design process. But that is a massive leap of faith which would be way too wacko an idea for them to seriously contemplate.

As for kids, their reference point is what the other kids have. And baring any such reference point they will choose whatever matches their phone or has been subliminally put in their heads by advertising or fancy packaging :->

Dave.

Re: Designing a calculator housing

*Message #3 Posted by **Bart (UK)** on 8 Sept 2009, 9:34 a.m.,*
in response to message #2 by DaveJ

If they keep a Lessons Learnt/User Feedback database then after many years/products, will they not have captured just about every possible thing that could be wrong? They would then just have to refer to the database at a few stages in the design before it is too late to make changes.

Re: Designing a calculator housing

*Message #4 Posted by **Walter B** on 8 Sept 2009, 11:02 a.m.,*
in response to message #3 by Bart (UK)

In principle, you're right. Though that would require this database being filled in a way newbies can benefit. The guys working now at calculator division may not understand what their grandfathers wrote ;) No offense to anybody, but mere basic laws of communication. Always a challenge to pass experience to successors, even if you collaborate with them for some time -- and I think there was a somewhat broken line of history in this division, making such tasks even harder.

Re: Designing a calculator housing

*Message #5 Posted by **Howard Owen** on 8 Sept 2009, 11:43 a.m.,*
in response to message #2 by DaveJ

> Quote:
>
> - Small things like you mention actually have zero measurable effect on unit sales

.. and a measurable effect on design costs.

What a company gets back for the investment is a reputation for quality. The Wal Mart effect means that such an advantage has little value for commodities.

While very much agreeing with your general point, I think it's good to remember that HP has recently bucked the Wal Mart tide to a surprising degree. The 50g was a response to consumer push-back on the quality of the 49g+. They actually fixed the keyboard and the color scheme, both of which were roundly (and justifiably) criticized, here and elsewhere. The next calculator they produced was the 35s which, despite flaws minor or otherwise, was astonishing for how it incorporated feedback from long time HP users, many of whom hang out here. (It didn't hurt that an old time PPC member was put in charge of the

tiny calculator division, or that Richard Nelson got his ear.) The large enter key was a direct response to this community. Since we make up a tiny slice of the overall market for the 35s, the effort can only be due to them trying to regain a reputation for quality, using our sensibilities as a guide.

So Wal Mart hasn't completely banished excellence in American corporate product design and production. I'm hopeful HP will continue to design and market high quality calculators, at least at the high end of the product range. If they keep that up, I'll gladly forgive them for pandering to the lowest common denominator with the low end.

Regards,
Howard

Re: Designing a calculator housing

*Message #6 Posted by **Martin Pinckney** on 8 Sept 2009, 2:47 p.m.,*
in response to message #1 by Thomas Radtke

> Quote:
>
> ... why is there no evolution in calculator housing design? Every new calculator appears to look completely different, so that problems cannot be corrected but new ones are likely to be introduced.

For better or worse (worse!) it appears that HP has determined that the current market demands a different package for each machine. You seem to be asking for a return to the era of steadily evolving calculators in the same or similar case. HP has been there, done that.

> Quote:
>
> ... the 33S was a perfect example of a design that completely ignores its target audience. Last question: Why isn't HP designing for their users? Kids don't need a business or programmable scientific calculator.

Problem is, in my view, HP is a company searching for its target audience, at least regarding calculators. I think the 33s was an attempt to woo younger buyers who are attracted to "cool" styling, while the 35s is targeted to the traditionalist side. Perhaps this is a grand experiment by HP to let sales figures guide the future direction of the calculator division.

> Quote:
>
> Or am I completely wrong?

I think you are completely right.

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Prototype serial numbers

*Message #1 Posted by **Keith Midson** on 8 Sept 2009, 2:18 a.m.*

Hopefully someone can help me:
I have a 67 that has a serial number starting with 9999 - does that make it a prototype, or something else?
Cheers, Keith

it is

*Message #2 Posted by **Frank Boehm (Germany)** on 8 Sept 2009, 4:44 a.m.,*
in response to message #1 by Keith Midson

yes, that's a prototype

Re: Prototype serial numbers

*Message #3 Posted by **Etienne Victoria** on 8 Sept 2009, 7:01 a.m.,*
in response to message #1 by Keith Midson

But I do not think the serial is a Keith-number :-))

Sorry couldn't resist...

Cheers

Etienne

Re: Prototype serial numbers

*Message #4 Posted by **Namir** on 8 Sept 2009, 8:48 a.m.,*
in response to message #3 by Etienne Victoria

It's a David and Bill number!!!!!

:-)

Namir

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HPGCC and Steamtable Calculations (IF97)

*Message #1 Posted by **Jan Kromhout** on 7 Sept 2009, 12:53 p.m.*

I have transfered the Steamtable calculation IAPWS-IF97(as you can find on several places on the net) to small subroutines (functions)

With these functios I created the calculations (executable). On this moment I have finished 10 small executables for the HP50g.

Every module is tested with HPAPINE. I love this tool because every time sending the finished routine to the HP and test it cost a lot of time!

I have two questions.

1. When I created to big functions the S->EXE aborts on amount of memmory (I have no programs on the HP). Is it posible to create these exe outside the HP50G.

2. Is the memmory on the SD card seen as physical memmory? Supose I have an programm greater than then the memmory of the HP and stored on the SD Card, can it running?

Thanks in advance.

Jan Kromhout Hellevoetsluis-NL

Re: HPGCC and Steamtable Calculations (IF97)

*Message #2 Posted by **Egan Ford** on 7 Sept 2009, 3:48 p.m.,*
in response to message #1 by Jan Kromhout

> Quote:
>
> 1. When I created to big functions the S->EXE aborts on amount of memmory (I have no programs on the HP). Is it posible to create these exe outside the HP50G.

No. You will need a 50g or 50g emulator. In either case 50G RAM is limited. At least with an emulator you can have a clean slate maximizing your memory available for S->EXE. IIRC, S->EXE fails when the object code size is > ~70K.

The alternative is to use PrRUN. This will require that the ARMToolBox be installed on the 50g to execute. My largest PrRUN binary is 183K.

> Quote:
>
> 2. Is the memmory on the SD card seen as physical memmory? Supose I have an programm greater than then the memmory of the HP and stored on the SD Card, can it running?

No, the SD card is storage. You can store your program on the SD, but when it executes it will load into RAM.

Re: HPGCC and Steamtable Calculations (IF97)

*Message #3 Posted by **hugh steers** on 7 Sept 2009, 4:22 p.m.,*
in response to message #2 by Egan Ford

what happened to hpgcc 3. wasn't this supposed to fix this problem of needing the armtoolbox. or did it come out already?

any chance of C++ on the 50g. actually, i only need the very basics like classes, virtual functions and operator overloading. no need for templates or fancy pants C++ libs like the stl.

Re: HPGCC and Steamtable Calculations (IF97)

*Message #4 Posted by **Egan Ford** on 7 Sept 2009, 5:38 p.m.,*
in response to message #3 by hugh steers

> Quote:
>
> what happened to hpgcc 3. wasn't this supposed to fix this problem of needing the armtoolbox. or did it come out already?

I do not know. Email to the authors gets bounced back. I still have the beta and the 2.09 custom ROM that eliminates the need for the toolbox.

The last time I heard from Claudio was March 2009. He sent me some x49gp patches so that I could use x49gp as a debugger with Eclipse. Very cool indeed.

> Quote:
>
> any chance of C++ on the 50g. actually, i only need the very basics like classes, virtual functions and operator overloading. no need for templates or fancy pants C++ libs like the stl.

You should be able to use any ARM cross compiler with the c-based libraries. Others have (e.g. David Hayden's Sudoku solver: http://www.hpcalc.org/details.php?id=7062). On my long list of things-to-do-that-will-never-get-done, are new ARM cross compilers with C++, Fortran, Java, and Obj C support for use with the HPGCC 2 C-libs.

JYA's versions of the cross compiler for OS/X and Linux does have C++ ready to go (http://www.hydrix.com/Download/Hp/hpgcc/). I cannot remember where I downloaded my ARM cross compiler for Windows that included C++. Google will know.

Re: HPGCC and Steamtable Calculations (IF97)

*Message #5 Posted by **Tim Wessman** on 7 Sept 2009, 5:58 p.m.,*
in response to message #4 by Egan Ford

It would be unfortunate if HPGCC died. The website has been down for several months now.

I think part of the problem was that every time anyone got excited to work on something, the response was "Well yes, but HPGCC3 has removed that/is no longer needed/is complete/etc". I can understand the desire to have things mostly complete before release, but going too long with no

news just looses the interest that was already there. :-(

TW

Re: HPGCC and Steamtable Calculations (IF97)

*Message #6 Posted by **Egan Ford** on 7 Sept 2009, 6:00 p.m.,*
in response to message #5 by Tim Wessman

HPGCC3 as-is, is awesome. Yes, it'd be too bad.

Re: HPGCC and Steamtable Calculations (IF97)

*Message #7 Posted by **gjermund skailand** on 9 Sept 2009, 6:11 a.m.,*
in response to message #6 by Egan Ford

I agree, especially since HPGCC3 has an compiler option which includes up to 1024bytes of slack space, such that compiled programs can be executed directly from port 2. The program is then not moved to any RAM, simply executed directly from port 2 (flash).

Re: HPGCC and Steamtable Calculations (IF97)

*Message #8 Posted by **David Hayden** on 9 Sept 2009, 1:02 p.m.,*
in response to message #4 by Egan Ford

Thanks for the reference, Egan.

Hugh, there are 3 small tricks to getting C++ to work with hpgcc.

1. Modify the Makefile to use the c++ compiler for c++ code
2. define "new" and "delete" operators
3. Add appropriate glue to jump from the main() program (in C) to the C++ code.

I found one problem related to initializing static variables It was either initializing a static with a function call, or initializing a static within a function.

See my sudoku solver for an example. I used HPGCC 2.0 to compile it.

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41C external power options?

*Message #1 Posted by **Egan Ford** on 7 Sept 2009, 10:57 a.m.*

One of the features of my 71B and 50g that I really like is the ability to power externally. What are my options to do this with the 41C? (I did search and found rechargeable solutions, is that all there is/was?)

Thanks.

Re: 41C external power options?

*Message #2 Posted by **Eric Smith** on 7 Sept 2009, 2:32 p.m.,*
in response to message #1 by Egan Ford

Early 41C units had spring-loaded contacts in the side "tunnel" that were intended for an external power adapter that HP never sold. The only external power solution HP offered was the 82120A rechargeable pack, which would accept an 82059A charger (or the equivalent for other regions).

Re: 41C external power options?

*Message #3 Posted by **Raymond Del Tondo** on 7 Sept 2009, 5:40 p.m.,*
in response to message #2 by Eric Smith

HP didn't sell a wall adapter for the early C's with "gold balls",
but a Company named Corvallis Team sold an AC adapter with a suitable slide plug.

I can upload a photo of that adapter on request.

HTH

Raymond

Re: 41C external power options?

*Message #4 Posted by **Egan Ford** on 7 Sept 2009, 5:59 p.m.,*
in response to message #3 by Raymond Del Tondo

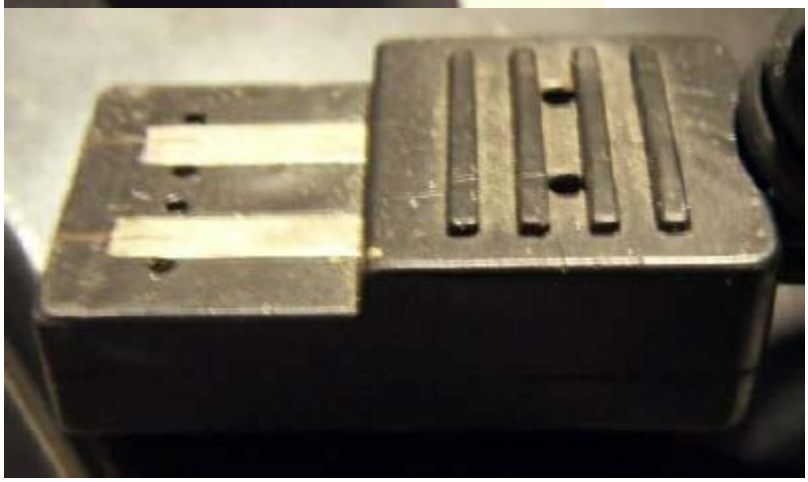
> Quote:
>
> I can upload a photo of that adapter on request.

Thanks. Requested.

Re: 41C external power options?

*Message #5 Posted by **Raymond Del Tondo** on 8 Sept 2009, 3:52 p.m.,*
in response to message #4 by Egan Ford

Here you are:



And while we're at it, a pic of some of the famous multi-outlet AC adapters from CT (CT7050, CT70520),
to which one can connect an HP-41C and up to three peripheral devices at the same time:

Regards

Raymond

Re: 41C external power options?

*Message #6 Posted by **Egan Ford** on 7 Sept 2009, 5:58 p.m.,*
in response to message #2 by Eric Smith

I just read the 82120A docs, but it was not clear that if I run the calculator while connected to power that it will run indefinitely. I am assuming that it will.

tv cheater cord and a six volt battery!

*Message #7 Posted by **geoff quickfall** on 7 Sept 2009, 6:28 p.m.,*
in response to message #6 by Egan Ford

cheater cord 1

cheater cord 2

cheater cord 3

I was talking to Richard Nelson about the power connectors and he came up with the following recollection relating to the cheater cords listed above:

"PPC was the primary promotional force for HP-41 users to power their machine using a readily available so called TV "cheater cord" and a sharp knife to trim some rubber off to make a nice fitting connector. You would cut the rubber off on the "D" side of the connectors. A very common DC source was a lantern battery which cost $2 at the time. Do you have a reference to the PPC article and date or maybe a picture of the modified cheater cord."

Hope this helps, of course the cheater cable could be hooked up to an appropriate adapter.

Cheers, Geoff

Edited: 7 Sept 2009, 6:32 p.m.

Re: tv cheater cord and a six volt battery!

*Message #8 Posted by **Christoph Klug** on 8 Sept 2009, 1:58 a.m.,*
in response to message #7 by geoff quickfall

In my HP-41 Input Output Board & IL2000 Interface System I describe a solution for an external DC power supply box for HP-41. Furthermore this solution includes a small add on circuit for switching on the HP-41 by an external event....

Best regards - Christoph Klug

Re: tv cheater cord and a six volt battery!

*Message #9 Posted by **Egan Ford** on 8 Sept 2009, 11:28 a.m.,*
in response to message #8 by Christoph Klug

Thanks. I have your book. What page?

Re: tv cheater cord and a six volt battery!

*Message #10 Posted by **Christoph Klug** on 9 Sept 2009, 2:35 a.m.,*
in response to message #9 by Egan Ford

Dear Egan,

Please refer to I/O-Board manual Chapter XIII.07

In Chapter XIII I describe a small circuit which activates HP41 by an extern signal (galvanic isolated with help of an opto coupler).

In Chapter XIII.07 I modify the HP41 battery holder with a small +6V backup battery and an 5 pin terminal for external DC supply. I add an micro switch for selecting internal backup battery or external DC supply. The micro switch is activated when the external cabel /harness is pluged in ....

This extenal Dc supply application is helpful for long time interface applications - and for advanced interface applications which need an wake up of the handheld by an external event - and last not least I use the external DC supply when burning ZEPROMS...

Best regards - Christoph

Re: tv cheater cord and a six volt battery!

*Message #11 Posted by **Egan Ford** on 9 Sept 2009, 11:54 a.m.,*
in response to message #10 by Christoph Klug

Excellent. Thanks.

Re: 41C external power options?

*Message #12 Posted by **Meindert Kuipers** on 9 Sept 2009, 5:36 a.m.,*
in response to message #1 by Egan Ford

I use my MLDL2000 with an external 6VDC adapter. This is directly connected to the BAT line of the module connector. On the HP41CX and CV there is some voltage drop, resulting in the BAT annunciator being on, but this is not really a big problem. Of course, this can only be used if there are no batteries in the calculator!

Meindert

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HPAPINE

*Message #1 Posted by **Jan Kromhout** on 7 Sept 2009, 10:37 a.m.*

I wont to compile HPAPINE because I wont to make a small change. Is documentation available to to this compiling?

Thanks inadvance

Jan Kromhout Hellevoetsluis-NL

Re: HPAPINE

*Message #2 Posted by **Egan Ford** on 7 Sept 2009, 10:44 a.m.,*
in response to message #1 by Jan Kromhout

Where did you get your HPAPINE?

Re: HPAPINE

*Message #3 Posted by **Jan Kromhout** on 7 Sept 2009, 12:38 p.m.,*
in response to message #2 by Egan Ford

I downloade with the Cygwin/X application.

This as written in the documentation "Extend your 50g with C (HPGCC 2.0SP2)"

wget http://sense.net/~egan/hpgcc/hpgcc.tgz

Jan Kromhout Hellevoetsluis-NL

Re: HPAPINE

*Message #4 Posted by **Egan Ford** on 7 Sept 2009, 3:41 p.m.,*
in response to message #3 by Jan Kromhout

Type:

```
cd ~/hpgcc/2.0SP2-hpapine
make
```

Then relink your app.

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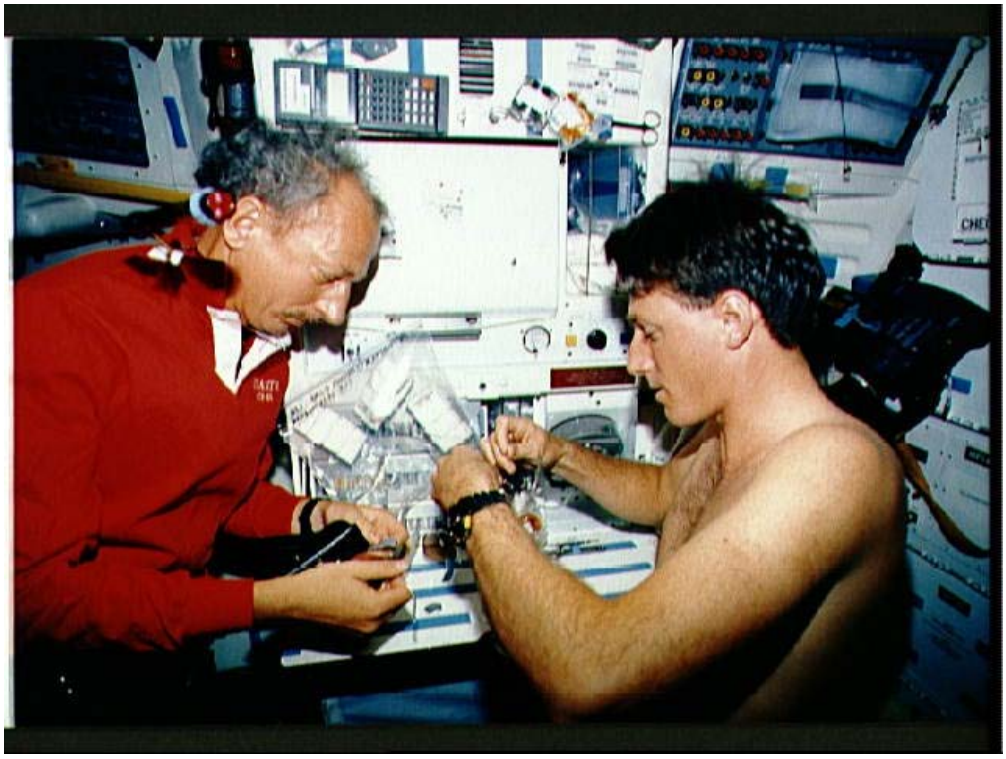
Mystery calculator

*Message #1 Posted by **hecube** on 7 Sept 2009, 12:59 a.m.*

Here's what I found in the Johnson Space Center archives:

- First one is clearly a 48 (pic taken in 1992)
- Second one: mystery calculator (pic taken in 1992)
- Third one is clearly a 41 (pic taken in 1985)

Any ideas about the second one?



Edited: 7 Sept 2009, 11:56 a.m.

Re: Mystery calculator

*Message #2 Posted by **hecube** on 7 Sept 2009, 3:07 p.m.,*
in response to message #1 by hecube

I also found this shot on Youtube (look at 6:28). Doesn't look like a HP at all (metallic finition, no trapezoidal shape).

Any clue as to what it might be?

http://www.youtube.com/watch?v=cbOn_1F3oeU

Re: Mystery calculator

*Message #3 Posted by **Dan W** on 7 Sept 2009, 3:16 p.m.,*
in response to message #1 by hecube

Do you know what mission that second pic is from? If it was Apollo-Soyuz, my money would be on an Elektronika. I believe some of those models had the white with red keys. It looks similar to the MK-54. Just a stab in the dark really.

Re: Mystery calculator

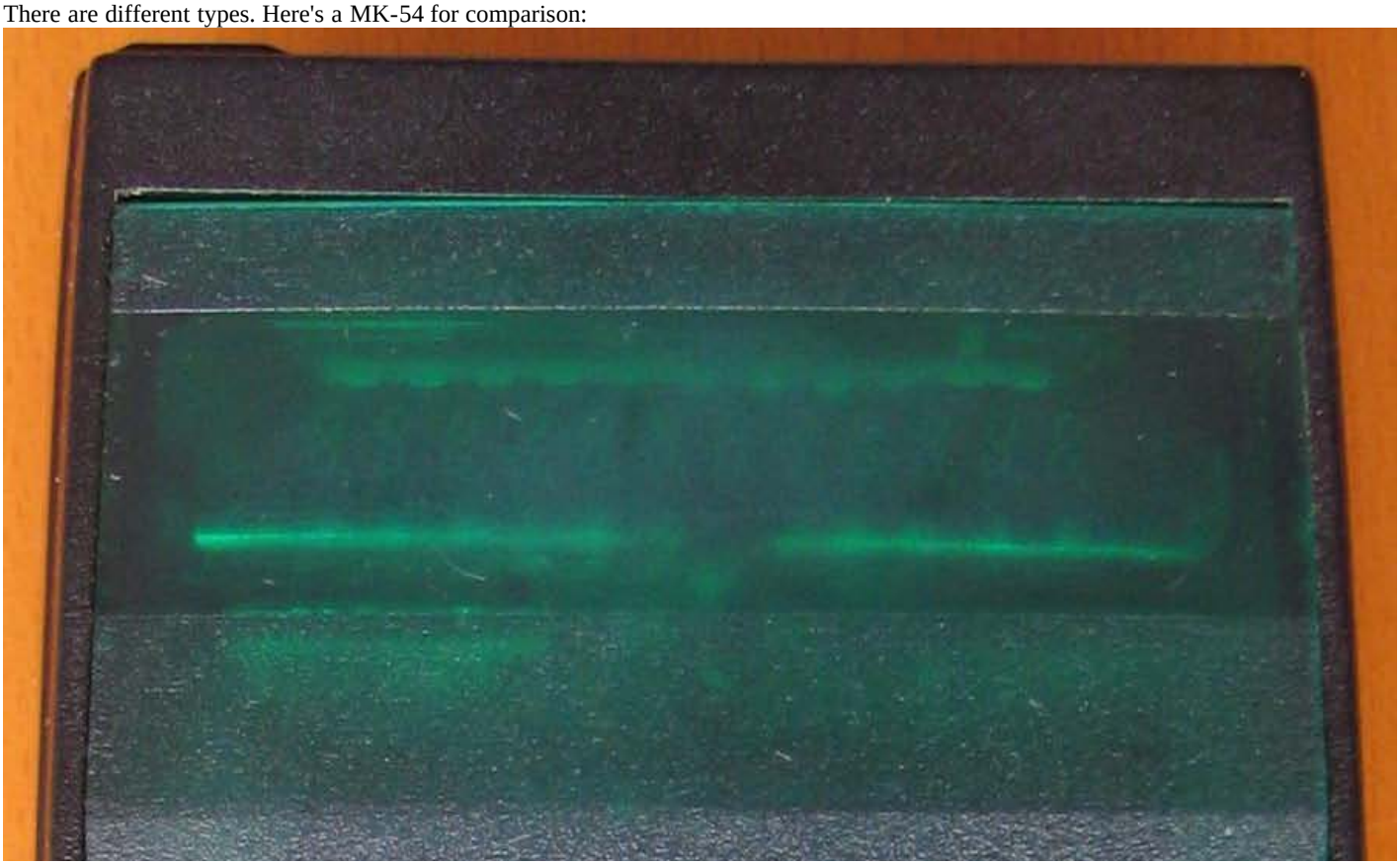
*Message #4 Posted by **hecube** on 7 Sept 2009, 3:45 p.m.,*
in response to message #3 by Dan W

All three pics are from space shuttle missions. Here's an Elektronika for comparison purposes:

Re: Mystery calculator

*Message #5 Posted by **Walter B** on 7 Sept 2009, 4:04 p.m.,*
in response to message #4 by hecube

There are different types. Here's a MK-54 for comparison:



ЭЛЕКТРОНИКА МК-54
ГРД
ВКЛ
Р
Г
X<0
X=0
X≥0
X≠0
F
ШГ
ШГ
В/О
С/П
L0
L1
L2
L3
К
П→х
х→П
БП
ПП
sin
cos
tg
√
1/x
7
8
9
−
÷
sin-1
cos-1
tg-1
π
x2
4
5
6
+
×
ex
lg
ln
xy
Bx
1
2
3
10x
АВТ
ПРГ
СF
0
•
+/−
ВП
Сх

Re: Mystery calculator

*Message #6 Posted by **hecube** on 7 Sept 2009, 4:30 p.m.,*
in response to message #5 by Walter B

Nonetheless, the two astronauts in the pic are americans aboard a space shuttle. I checked TIs of the early 90s and there's no match. I'm thinking it might be a Casio or a Sharp but haven't found any match so far...

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HP 48G vs HP 50G

*Message #1 Posted by **Mendl Lategan** on 6 Sept 2009, 4:25 p.m.*

Hi there. I am a civil engineering student (Cape Town, South Africa) and recently bought a 2nd hand HP 48G. I have not started to use the calculator due to time constraints to learn the operation. I am thinking of buying the HP 50G and then rather learn how to use the 50G.

Is the 50G better/easier to learn than the 48G or should I rather just lear to use the 48G? Thank you for any responces.

Re: HP 48G vs HP 50G

*Message #2 Posted by **Michael Plant** on 6 Sept 2009, 4:47 p.m.,*
in response to message #1 by Mendl Lategan

I am far from an expert on the use of either calculator, but I do own both a 50g and a 48gx. I bought the 50g first (April 2009) and the 48gx several months later (July 2009). I find the 48gx far more intuitive and easier to use for the limited number of things that I have done with it. I really can't pinpoint why I feel this way, but I find that I feel less overwhelmed when I'm using the 48.

My feeling is that you should think about what you're going to need to use the calculator for and then compare the specs of the two calculators and then make a decision. The biggest advantage, to my mind, of the 50g is its SD card slot.

Re: HP 48G vs HP 50G

*Message #3 Posted by **Dave Britten** on 6 Sept 2009, 4:56 p.m.,*
in response to message #1 by Mendl Lategan

I find that the usability of the 48 is much, much better. That goes for the software, the physical hardware, and the keyboard layout. I generally use either my 48GX or my 48SX, and only pull out the 50G for stuff those two can't handle (which isn't often).

Now, the 48G will be a bit more constrained for RAM than a 48GX would be, so you'll have to factor that into the equation too.

Re: HP 48G vs HP 50G

*Message #4 Posted by **Raymond Del Tondo** on 6 Sept 2009, 5:53 p.m.,*
in response to message #1 by Mendl Lategan

Hi,

there are many points for the HP-48G series, and also some for the 50g.
As the other posters wrote, one thing to consider is the main usage profile.

However there's another thing to take into account:

A set batteries for the 50g will last a few weeks,
whereas a set of batteries for the HP-48 will last several months.

HTH

Raymond

Re: HP 48G vs HP 50G

*Message #5 Posted by **Egan Ford** on 6 Sept 2009, 6:34 p.m.,*
in response to message #1 by Mendl Lategan

I have both the 48GX and the 50g. I switched to the 50g in 2006 because it is still in production and can be easily replaced.

Some other reasons to consider the 50g:

1. Clear and large screen.
2. About 2x faster.
3. Easier to get data in and out (options: USB, SD, and Serial (just like 48GX)).
4. Superset of the 48 functionality. CAS and large integers.
5. Can be programmed in C (cross compiler) and ARM assembly.

I'm not a fan of the 50g keyboard or the layout, but since you have not started on the 48, you'll probably not mind as much. I used my 48GX for 13 years before I got the 50g. It took about a week to adapt.

Both the 48 and 50 have emulators. A huge plus. Both have all docs in PDF, however only the 50g docs can be searched. The 48 docs are scans.

Re: HP 48G vs HP 50G

*Message #6 Posted by **Les Bell** on 6 Sept 2009, 11:57 p.m.,*
in response to message #1 by Mendl Lategan

My advice would be to get started learning and using the 48G. You might find that you just don't like that style of calculator, in which case buying a 50G would be a waste of money.

There are lots of basic concepts to master in learning RPL, and the 48G will do fine for this purpose. The 50G is completely compatible and you'll make the transition quite easily.

Best,

--- Les
[http://www.lesbell.com.au]

Re: HP 48G vs HP 50G

*Message #7 Posted by **Nigel J Dowrick** on 7 Sept 2009, 12:37 p.m.,*
in response to message #1 by Mendl Lategan

I have an HP-50G and a HP-48G+. My personal preference would be for the HP-50g every time. It has a bigger and clearer display; its interface is faster; it has an SD-card slot. Its keyboard is fine - many people prefer the keyboard of the HP-48 series, but that isn't because the HP-50g keyboard is in any way unreliable. It really is just a matter of taste.

In any case, do you really want either of these calculators? The HP-50g especially has many truly obscure

features that I doubt have ever been used by anyone. Something like the TI-89 titanium does far less but will probably do enough for many users (and appears to have fewer bugs). The TI isn't RPN, of course, but despite this its in-built editor makes it surprisingly usable.

Nigel

Re: HP 48G vs HP 50G

*Message #8 Posted by **Michael Plant** on 7 Sept 2009, 3:52 p.m.,*
in response to message #7 by Nigel J Dowrick

The OP already has a 48g so the issue comes down to whether or not what he's already got is enough to see him through or if he should/needs to spend more money for something else. At the moment he's thinking about the 50g, but the TI-89 Titanium might be a valid alternative, especially if that is what his colleagues are using. However, I have TI-89 (non-Titanium) and have yet to warm to it. The most counter-intuitive calculator of any that I own.

EDIT: added in some missing words...

Edited: 7 Sept 2009, 3:53 p.m.

Re: HP 48G vs HP 50G

*Message #9 Posted by **Walter B** on 7 Sept 2009, 4:10 p.m.,*
in response to message #8 by Michael Plant

IMHO a HP-48G contains more mathematical features than a civil engineer will ever need in his life. So, yes, a 48G shall do. Save the money for the 50G and buy some good textbooks instead.

My 0,02 Euros.

Re: HP 48G vs HP 50G

*Message #10 Posted by **Bart (UK)** on 8 Sept 2009, 6:15 a.m.,*
in response to message #9 by Walter B

Hi Mendl

When I was in SA, the engineers had an affinity for HPs. As you have a 48G and the 50G is expensive there (I think with the current exchange rate, it is sold at about twice the equivalent US value) you should be fine using the 48G.

As others have said, if you later decide you really need a 50G, it will be easy enough to change over.

Sterkte met die studies.
Groete, Bart

Re: HP 48G vs HP 50G

*Message #11 Posted by **Pal G.** on 7 Sept 2009, 7:39 p.m.,*
in response to message #7 by Nigel J Dowrick

Quote:

(and appears to have fewer bugs)

Can this be substantiated? Not necessarily by Nigel, but by anyone who knows both calc's buglists well enough.

Re: HP 48G vs HP 50G

*Message #12 Posted by **Nigel J Dowrick** on 8 Sept 2009, 11:54 a.m.,*
in response to message #11 by Pal G.

Now that I have actually looked at a buglist for the TI-89 I think I might retract my claim that it has fewer bugs than the HP-50g. I based what I said on the fact that I have never had the TI-89 give me a wrong answer (although very rarely it hangs), whereas on several occasions I have come across a clear bug in the HP-50g CAS. It also seems reasonable that since the HP-50g does so much more than the TI it is likely to have more bugs, especially as the obscure features will be used by relatively few people.

I really want to love the HP-50g, but unless I give it all my time and attention and stop seeing my other calculators I simply keep forgetting how to use it. The TI is nowhere near so demanding. I'm sure that if the HP-50g is your only calculator and if you take the time and trouble to get to know it properly, then you will be very happy together.

Nigel

Re: HP 48G vs HP 50G

*Message #13 Posted by **Crawl** on 8 Sept 2009, 2:15 p.m.,*
in response to message #12 by Nigel J Dowrick

I have had the TI89 give me a wrong answer, once. The HP gives the same wrong answer.

Consider the expression

(1 + x^2)^(1/6) cos(atan(x)/3) / x^(1/3)

as x tends to the squareroot of -1.

The correct answer is

cuberoot(2)/4 * (squareroot(3) + i)

The calculators give 0.

Of course, even with the calculators, you can get an answer close to the correct one by having x close to but slightly different than i.

Re: HP 48G vs HP 50G

*Message #14 Posted by **Crawl** on 8 Sept 2009, 2:41 p.m.,*
in response to message #13 by Crawl

Opps, I think the correct answer might be the complex conjugate of what I gave.

Anyway, you can "nudge" the TI89 into giving you the correct result by instead entering

(1-x^2)^(1/6)*cosh(atanh(x)/3)

and taking the limit as x->1 (and then dividing by the cube root of i)

It seems like the HP50g still gives the wrong answer, though.... (mostly because it does not reduce that expression to a an algebraic expression)

Re: HP 48G vs HP 50G

*Message #15 Posted by **Hal Bitton in Boise** on 7 Sept 2009, 4:56 p.m.,*
in response to message #1 by Mendl Lategan

If you're new to RPN, go ahead and start learning the 48G. If and when you get a 50G the transition will not be hard. That way, you'll be all set to use the 50G in RPN mode (which is imperative in my opinion). If you're planning on using the 50G in algebraic mode, you might as well just get a TI.
Best regards, Hal

Re: HP 48G vs HP 50G

*Message #16 Posted by **Reth** on 7 Sept 2009, 11:56 p.m.,*
in response to message #15 by Hal Bitton in Boise

I second the above; also by the time he is ready to switch to something more powerful, HP may get it right once for a change and produce something decent like HP50 without CAS and in the HP48 skin but of the HP42 size. :)

Re: HP 48G vs HP 50G

*Message #17 Posted by **Marnus Malan (RSA)** on 8 Sept 2009, 7:18 a.m.,*
in response to message #1 by Mendl Lategan

Hello Mendl,

At which uni / tech are you studying? I own the 48S, 48G+, 50G and a few aother calculators. I started with a 42s and then a 49G. People who have problems with the layout of the 50g started with the 48 series. If you are used to a 48, keep using it, otherwise get used to the 50g and a 48 will feel like a dinosaur. I would recommend the 50g, primarily for the larger screen, the faster execution times AND the ability to power from USB when working at your desk as well as the SD expasion ability. If you use any GX you are stuck regarding memory. Expansion cards for the GX is expensive and scarce. I use my 50g on a daily basis, carry it with me to construction sites and have put it through intense use and it still looks as new - no wear on the keys and I am happy with it. The 48 might be robust but it is just too slow and fiddly with the pre-historic serial connection.

If your calc is allowed in exams the execution time on large matrix, fem and beam statics calculations become invaluable. If it is not allowed, get a 42s. It is also not allowed but it looks innocent enough that nobody notices.

on gumtree you can purchase an as new 50g for R1200 (new is R1800)or order from Eric at hpcalc.org (which I did).

The documentation of the 48 is usefull to understand the workings of the 50g.

Which year are you now? Come and see me, I need engineers and if your profile suits our company I can offer a bursary.

Regards

Marnus

Edit: DONT buy the TI, I have never seen anybody in the engineering industry or at any uni that uses a TI in SA. SA engineers stick to the HP's and that can not be without a reason...

Edited: 8 Sept 2009, 7:23 a.m.

Re: HP 48G vs HP 50G

*Message #18 Posted by **Martin Pinckney** on 8 Sept 2009, 1:40 p.m.,*
in response to message #17 by Marnus Malan (RSA)

Mendl,

> Quote:
>
> Come and see me, I need engineers and if your profile suits our company I can offer a bursary.

Perhaps the best advice you will ever get on this forum...

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Update: ICEBOX 1F

*Message #1 Posted by **Geir Isene** on 6 Sept 2009, 9:23 a.m.*

UC-41 website with ICEBOX 1F

Fixes a few prompting functions (like FDATA). Also includes version number in catalog display.

Re: Update: ICEBOX 1F

*Message #2 Posted by **Diego Diaz** on 6 Sept 2009, 3:32 p.m.,*
in response to message #1 by Geir Isene

Hi Geir,

Man you're really pushing NoV-64 to the limits... ;-)) Well done indeed!

My congrats for this nice and useful tool.

Best from Spain.

Diego.

Re: Update: ICEBOX 1F

*Message #3 Posted by **ZOleg** on 6 Sept 2009, 7:15 p.m.,*
in response to message #1 by Geir Isene

Hi Geir!
Thanks for your excelent work!

Re: Update: ICEBOX 1F

*Message #4 Posted by **Ángel Martin** on 14 Sept 2009, 5:18 a.m.,*
in response to message #1 by Geir Isene

Greetings Geir,

Thanks for the update, I definitely have to get around writing the function documentation still missing in your manual - I'll do it as soon as I finish the 41Z overhaul (very close now...)

BTW, the links on your web site aren't working for me, is that a known issue? I can donload them from TOS, in the meanwhile.

Best,

ÁM

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Challenge: Open-ended Dice on the HP-41

*Message #1 Posted by **Geir Isene** on 6 Sept 2009, 8:12 a.m.*

This challenge is derived from creating applications for the Amar role-playing game. It is a challenge involving the extension of the normal dice with 6 sides - a so called open-ended dice throw.

Definition: Take a dice with 6 sides. Now we would like to extend the range of the numbers beyond the intrinsic 1 to 6. A way to accomplish that is to make the 1 and the 6 special cases. Whenever you throw a 6, you can extend the range by making another throw. A throw of 4 to 6 (50%) will add 1 to the original 6. Throw again and a result of 4 to 6 will again add 1 to the number (making it 8) etc. Every throw of 4 to 6 will add one until you get a 1, 2 or 3, then it stops. Conversely, throwing a 1 on the first throw is a special case. Throw again, and a result of 1 to 3 will subtract 1 from the original number. Keep throwing 1, 2 or 3 to subtract one... until you throw a 4, 5 or 6 - then it stops. Now we add a dimension; Whenever you throw two 6's *consecutively* it is marked as a "critical". A throw of two *consecutive* 1's is a "fumble". All this is called an "open-ended" dice throw. A normal dice roll is termed a D6, an open-ended roll is O6.

Challenge: Create a program for the HP-41 that does open-ended dice rolls. It should show whether the roll also includes a "critical"/"fumble". Do this without using any storage registers - i.e. only using the stack (and the Alpha register if you wish).

I will publish my solution for dissection in a few days :-)

Re: Challenge: Open-ended Dice on the HP-41

*Message #2 Posted by **hugh steers** on 6 Sept 2009, 3:29 p.m.,*
in response to message #1 by Geir Isene

i was interested in how far out from [1,6] the "openness" might get. So i hacked up a quick program in Lua to print out a histogram. here's what i get after a million goes:

the first column is the value and the second the percentage of trials hitting that value.

```
1       8.2905
2       16.6888
3       16.6197
4       16.6964
5       16.7057
6       8.3628
7       4.1587
8       2.0964
9       1.0276
10      0.5105
11      0.264
12      0.1336
13      0.0652
14      0.0334
15      0.0141
16      0.0092
17      0.0041
18      0.0024
19      0.0011
20      0.0003
21      0.0002
22      0.0001
```

```
23      0.0002
-1      2.0857
0       4.1388
-2      1.0439
-3      0.5196
-4      0.2631
-5      0.1331
-6      0.0665
-7      0.0324
-8      0.0163
-9      0.0072
-10     0.0041
-11     0.0015
-12     0.0013
-13     0.0008
-14     0.0005
-15     0.0001
-16     0.0001
total   100
critical =      2.7771
fumble =        2.7606
```

So we have a [2,4] plateau (1/6 as expected), then 50% falloff each side. However, it's interesting to note that the "critical" and "fumble" percentages are almost 1 in 36.

This indicates that you don't really get much difference tracking consecutive 1's and 6's after the first go. Consequently, i modified my simulator to count a "critical" as 2 6's at the start and a "fumble" as 2 1's. here's what i get:

```
1       8.2841
2       16.659
3       16.6423
4       16.7312
5       16.7244
6       8.2914
7       4.2017
8       2.0684
9       1.0386
10      0.5212
11      0.2641
12      0.1315
13      0.0618
14      0.0322
15      0.0185
16      0.0073
17      0.0041
18      0.002
19      0.0012
20      0.0006
22      0.0001
23      0.0001
24      0.0001
-7      0.0298
-8      0.0176
-9      0.0072
-10     0.0033
-11     0.0024
-12     0.0006
-13     0.0006
-14     0.0003
-1      2.0799
0       4.1518
-2      1.0266
-3      0.5313
-4      0.2638
-5      0.1286
-6      0.0701
-15     0.0002
total   100
critical =      2.7716
fumble =        2.7501
```

Similar story. So i would say, for the purposes of generating values for Amar, you could simplify your algorithm on the 41c and not track consecutive values. which should shorten the program.

here are my two versions. o6() is the "real" algorithm and "os6plain" is my hacked one.

```
function d6()
   return math.floor(math.random()*6+1)
end


function o6()
   local v = d6()
   local d
   local crit = false
   local fumb = false
   local c = true
   if v == 6 then
      while true do
         d = d6()
         if d >= 4 then
            v = v + 1
            if d == 6 then
               crit = c
               c = true
            else
               c = false
            end
         else break
         end
      end
   elseif v == 1 then
      while true do
         d = d6()
         if d < 4 then
            v = v - 1
            if d == 1 then
               fumb = c
               c = true
            else
               c = false
            end
         else break
         end
      end
   end
   return v,crit,fumb
end


function o6plain()
   local v = d6()
   local crit = false
   local fumb = false
   if v == 6 then
      crit = d6() == 6
      while d6() >= 4 do v = v + 1 end
   elseif v == 1 then
      fumb = d6() == 1
      while d6() < 4 do v = v - 1 end
   end
   return v,crit,fumb
end
```

Re: Challenge: Open-ended Dice on the HP-41

*Message #3 Posted by **hugh steers** on 6 Sept 2009, 3:38 p.m.,*
in response to message #2 by hugh steers

Uh-oh! i made a mistake tracking the consecutive values. The difference is actually more - about 3% instead of 2.7

should be,

```
function o6()
   local v = d6()
   local d
   local crit = false
   local fumb = false
```

```
   local c = true
   if v == 6 then
      while true do
         d = d6()
         if d >= 4 then
            v = v + 1
            if d == 6 then
               if c then crit = true end
               c = true
            else
               c = false
            end
         else break
         end
      end
   elseif v == 1 then
      while true do
         d = d6()
         if d < 4 then
            v = v - 1
            if d == 1 then
               if c then fumb = true end
               c = true
            else
               c = false
            end
         else break
         end
      end
   end
   return v,crit,fumb
end
```

so, it depends on whether you really want to track consecutive values or not.

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HPGCC.ORG ??????

*Message #1 Posted by **Jan Kromhout** on 6 Sept 2009, 2:32 a.m.*

Dear All,

When I tried to connect to hpgcc.org (via hpgcc.sourceforge.net) there is no connection to this. Is this adress changed? Is this webside closed?

Thanks in advanced.

Jan Kromhout Hellevoetsluis-NL

Re: HPGCC.ORG ??????

*Message #2 Posted by **Howard Owen** on 6 Sept 2009, 2:46 a.m.,*
in response to message #1 by Jan Kromhout

Looks like the website is just down. The sourceforge project is still there. No reason for alarm, I would guess.

Regards,
Howard

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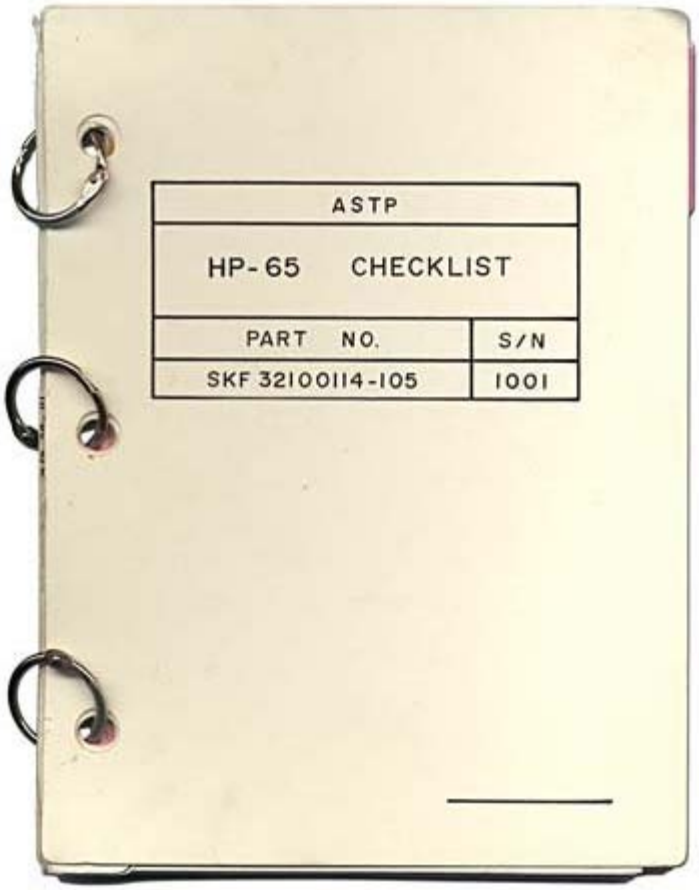
Has anyone ever seen this? ASTP HP-65 checklist

*Message #1 Posted by **hecube** on 6 Sept 2009, 12:56 a.m.*



This three-ring checklist (6"x8") was flown used onboard Apollo-Soyuz by Deke Slayton and has extensive pencil notations in his hand. Pristine condition and unique. Fourteen pages plus front and back cover. A 'Slayton' Certificate of Authentication is included and states, in part: 'This checklist book has been on loan for exhibition to the Astronaut Hall of Fame in Titusville, FL and the Air and Space Museum in Huntsville, AL. Ex-Donald 'Deke' Slayton Estate Collection.

Re: Has anyone ever seen this? ASTP HP-65 checklist

*Message #2 Posted by **Johnny Bjoern Rasmussen** on 6 Sept 2009, 7:56 a.m.,*
in response to message #1 by hecube

Hmmm..... Could be nice to have a copy of this in my collection. I am sure that I can fit it beside my HP-65 inside the cabinet ;-)

Re: Has anyone ever seen this? ASTP HP-65 checklist

*Message #3 Posted by **Don Shepherd** on 6 Sept 2009, 8:49 a.m.,*

in response to message #1 by hecube

Any information about what is actually in it?

Re: Has anyone ever seen this? ASTP HP-65 checklist

*Message #4 Posted by **hecube** on 6 Sept 2009, 10:20 a.m.,*
in response to message #3 by Don Shepherd

That's all I could find.

Re: Has anyone ever seen this? ASTP HP-65 checklist

*Message #5 Posted by **Don Shepherd** on 6 Sept 2009, 11:49 a.m.,*
in response to message #4 by hecube

Yeah, looks like someone bought it at an estate sale auction and probably paid a mint for it. I'd certainly like to see what's inside, but being a "checklist," I doubt it contains actual HP-65 code, unfortunately.

Re: Has anyone ever seen this? ASTP HP-65 checklist

*Message #6 Posted by **Etienne Victoria** on 6 Sept 2009, 4:02 p.m.,*
in response to message #1 by hecube

Hello Hecube,

On the ASTP program, the Hp-65 is further referenced in the Rendez-vous manual:

- Part 1

- Part 2

where the rendez-vous procedure is extensively described, alas without the HP-65 code...

Best regards

Etienne

Re: Has anyone ever seen this? ASTP HP-65 checklist

*Message #7 Posted by **hecube** on 7 Sept 2009, 8:50 p.m.,*
in response to message #6 by Etienne Victoria

Merci pour l'info!

Already posted on the blog!

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Challenge: Keith numbers

*Message #1 Posted by **Don Shepherd** on 5 Sept 2009, 9:48 p.m.*

Number theory has all kinds of identifiers for mathematically unusual numbers. Take Keith numbers, for instance. I think it is easier to give an example of a Keith number than to explain mathematically what it is, so here goes.

Is 14 a Keith number? Yes. Why?

start a Fibonacci-like sequence with the individual digits of 14, and each subsequent number is the sum of the previous 2 (because 14 has 2 digits) numbers:

1,4,(1+4=)5, (4+5=)9, (5+9=)14. Since 14 is in the sequence that begins with 1,4, it is a Keith number.

Is 30 a Keith number? No. Why?

3,0, (3+0=)3, (0+3=)3, (3+3=)6, (3+6=)9, (6+9=)15, (9+15=)24, (15+24)=39. Since 30 is not in the sequence, it is not a Keith number.

What about 3 digit Keith numbers? Is 145 a Keith number?

1,4,5, (1+4+5=)10, (4+5+10=)19, (5+10+19=)34, (10+19+34=)63, (19+34+63=)116, (34+63+116=)213, so 145 is not a Keith number.

So, the challenge is to write a calculator program (RPN, RPL, BASIC, pick your favorite language and calculator) to identify as many Keith numbers as you can. You can verify your results by Googling Keith number. And post your code so we can all benefit from your brilliance!

I can't think of any practical reasons that Keith numbers are important, but there aren't that many of them and this problem does lend itself to solutions on the devices we have come to know and love.

Re: Challenge: Keith numbers

*Message #2 Posted by **Valentin Albillo** on 5 Sept 2009, 11:36 p.m.,*
in response to message #1 by Don Shepherd

Hi, Don:

In the HP-71B, this 5-liner is as straightforward as it gets:

```
1  DESTROY ALL @ OPTION BASE 1 @ DIM D(12) @ FOR N=10 TO 10^12-1 @ N$=STR$(N)
2  L=LEN(N$) @ FOR I=1 TO L @ D(I)=VAL(N$[I,I]) @ NEXT I
3  S=0 @ FOR I=1 TO L @ S=S+D(I) @ NEXT I @ IF S=N THEN DISP N ELSE IF S>N THEN 5
4  FOR I=1 TO L-1 @ D(I)=D(I+1) @ NEXT I @ D(L)=S @ GOTO 3
5  NEXT N


>RUN


  14
  19
```

```
    28
    47
    61
    75
   197
   742
  1104
  1537
  2208
  2580
  3684
  4788
  7385
  7647
  7909
 31331
 34285
 34348
  ...
```

It can be optimized in a number of ways, such as using MATH ROM statements and avoiding loops by just adding one value and subtracting another to keep the running sum instead of computing it in a loop, etc, etc, but what the heck ? The above code took less than 2 minutes to write, enter, and run, and it delivers the correct results, so ...

Try to beat that time (from *nothing* to *correct results*) using RPL ... :-)

Best regards from V.

Re: Challenge: Keith numbers

*Message #3 Posted by **Keith Midson** on 6 Sept 2009, 4:37 a.m.,*
in response to message #2 by Valentin Albillo

I like it for a whole lot of reasons ... Cheers, Keith

Re: Challenge: Keith numbers

*Message #4 Posted by **Don Shepherd** on 6 Sept 2009, 11:52 a.m.,*
in response to message #2 by Valentin Albillo

Thanks, V, great solution. I'm working on an RPN solution to run on the super-fast 12c to see what it can do with this problem.

Re: Challenge: Keith numbers on HP-28S

*Message #5 Posted by **C.Ret** on 7 Sept 2009, 5:08 a.m.,*
in response to message #2 by Valentin Albillo

> Quote:
>
> Try to beat that time (from *nothing* to *correct results*) using RPL ... :-)

Well, 2 mins is really a challange.

Except if you are using the ISKEITH? binary function on your HP-28S which returns True(1) for any keith number k given as argument or False(0) otherwise.

```
« DUP ->STR DUP SIZE
  ->  k T n                     @ k-number, T is string representation, n is length
     « 1 n FOR i
            T i i SUB STR->      @ Put any digit of the k-number in the stack
```

```
       NEXT
       DO                          @ main loop performing sum of the n-digits
          n ROLL
          n DUPN
          2 n START + NEXT         @ compute the n-digits sum (additing n-1 times)
          SWAP
          DROP                     @ remove oldest digit from the stack


       UNTIL DUP k >= END          @ loop until sum egals or overpasses k
       n ROLLD
       n 1 - DROPN                 @ remove remaining digts from stack, keeping last sum
       k ==                        @ perform test: last sum of n-digits egal k ?
      »
»
'ISKEITH?' STO
```

The ISKEITH? function/program may be used in any RPL calculator to list Keith's numbers; such as

```
« 10 9999 FOR i
     IF i ISKEITH? THEN i PR1 END
  NEXT
»
```

```
 14 19 28 47 61 75 197 742 1104 1537 2208 2580 3684 4788 7385 7647 7909 ...
```

But, **Don** is right, a lot of optimisation have to be carry out to beat the oberall 2 mins delay :-)

Especely with an HP-28S !

Edited: 7 Sept 2009, 2:29 p.m. after one or more responses were posted

Re: Challenge: Keith numbers on HP-28S

*Message #6 Posted by **Don Shepherd** on 7 Sept 2009, 9:58 a.m.,*
in response to message #5 by C.Ret

C.Ret, thanks for your very elegant RPL solution to this problem. It "almost" makes me want to go out and buy a 50g and learn RPL. I had no idea that the 28s actually has an ISKEITH function, that is amazing.

Great work.

And thanks to Valentin for an equally elegant BASIC solution.

Re: Challenge: Keith numbers on HP-28S

*Message #7 Posted by **Don Shepherd** on 7 Sept 2009, 6:26 p.m.,*
in response to message #5 by C.Ret

Oh, I think I see now, the 28s does NOT have a built-in ISKEITH function. You wrote it and called it ISKEITH, right? My understanding of RPL is not very advanced, I'm afraid.

Yeah, when I did this problem in RPN, I knew I wanted to avoid moving the digits around the registers and adding all the digits to create the next entry each time, and the key was to figure out how to replace the un-needed number (after saving it so you can subtract it from the new sum) with the new sum during each cycle. And that worked fine, even with the 12c's limited indirect addressing. And in lines 26-29 I double the current sum and subtract the un-needed digit from the sum to get the new sum. It took a lot of thought and sheets of paper for me to get this to finally work, but it was worth it.

I've thought about trying create a solution to this problem on the HP-65 or the 17bii+ solver, but the lack of indirect addressing killed that idea.

Re: Challenge: Keith numbers

*Message #8 Posted by **C.Ret** on 7 Sept 2009, 5:27 p.m.,*
in response to message #2 by Valentin Albillo

I was trying to convert the 5-liner HP-71B program from **Valentin** to an oldest Pocket whith a rudimental BASIC (such as a SHARP PC-1211)

Quote:

```
    1  DESTROY ALL @ OPTION BASE 1 @ DIM D(12) @ FOR N=10 TO 10^12-1 @
N$=STR$(N)
    2  L=LEN(N$) @ FOR I=1 TO L @ D(I)=VAL(N$[I,I]) @ NEXT I
    3  S=0 @ FOR I=1 TO L @ S=S+D(I) @ NEXT I @ IF S=N THEN DISP N ELSE IF
S>N THEN 5
    4  FOR I=1 TO L-1 @ D(I)=D(I+1) @ NEXT I @ D(L)=S @ GOTO 3
    5  NEXT N
```

At first, string operation have to be avoid (not possible on a SHARP PC-1211). So mathematics have to be used in order to extract each digit from the N-number.

Second, to compute the sum of the l-digits, manipulation and shifting of D(i+1) to D(i) can easely be avoid. At each step, the new sum of the last l-digits, which can be express as :

```
1 4 5(=1+4) 9(=4+5)   14(=5+9)   23(=9+14)   ...
```

Each new term is egal to the double of the previous minus the droped digit :

```
1 4 5(=1+4) 9(=2*5-1) 14(=2*9-4) 23(=2*14-5) ...
```

This can spare the FOR/TO/NEXT loop computing the sum (see line 3) and D(i) transposition (line 4)!

So, this is a second version of **Valentin** HP-71B program, which stil can be optimize :

```
  1 DESTROY ALL @ OPTION BASE 1 @ DIM D(99) @ FOR N=10 TO 99999
  2 S=0 @ L=1+INT(LOG(N)) @ FOR I=1 TO L @ B=10^(L-I) @ D(I)=INT(N/B) MOD 10 @ S=S+D(I)
@ NEXT I @ I=L
  3 IF S<N THEN I=I+1 @ D(I)=S @ S=2*S-D(I-L) @ GOTO 3
  4 IF s=N THEN DISP N
  5 NEXT N
```

Or the really similar version adapted to SHARP PC-1211:

```
 10: CLEAR :N=10
 20: S=0:L=1+INT LOG N: FOR I=1 TO L:B=10^(I-L):X=INT NB-10*INT
(NB/10):S=S+X:A(26+I)=X:NEXT I:I=26+L
 30: IF S<N LET I=I+1, A(I)=S, S=2S-A(I-L):GOTO 30
 40: IF s=N PRINT N
 50: N=N+1:GOTO 20
```

And a second version of ISKEITH? :

```
« DUP LOG IP 1 +
  -> k n                              @ k tested number, n number of digits
   « 0                                @ initiate sum   S=0
     1 n FOR i
       k n i - ALOG / IP 10 MOD       @ put i-digit into stack
       SWAP OVER +                    @ add it to sum
     NEXT
     WHILE DUP k <                    @ loop while sum is less than k
       REPEAT
         n 1 + ROLL OVER 2 * SWAP -   @ new sum is 2x last sum minus least i-digit
```

```
      END
    n 1 + ROLLD n DROPN              @ save sum and remove remaining digits
    k ==                             @ test sum is k
   »
»
'ISKEITH?' STO
```

These three program are still relatively slow to list all Keith number since most of the running time is used to test any N sequnetially.

We are still waiting for a clever way to pick up keith-numbers !

Re: Challenge: Keith numbers

*Message #9 Posted by **Egan Ford** on 7 Sept 2009, 5:49 p.m.,*
in response to message #8 by C.Ret

> Quote:
>
> We are still waiting for a clever way to pick up keith-numbers !

You'll probably be waiting for sometime. I've looked into this on/off throughout the 3-day US holiday weekend and AFAIK the only known method is by *exhaustive search*. It'd be nice to find a way to eliminate a candidate sooner than later. Of course, I have not done an *exhaustive search* myself for a better solution. It's been a lazy weekend.

There are reverse Keith numbers as well, e.g. 341 following the same logic ends up as 143.

Re: Challenge: Keith numbers

*Message #10 Posted by **Pal G.** on 8 Sept 2009, 10:41 a.m.,*
in response to message #9 by Egan Ford

Per Wolfram Mathworld:

```
"There is no known general technique for finding Keith numbers except by
exhaustive search.
```

http://mathworld.wolfram.com/KeithNumber.html

Re: Challenge: Keith numbers

*Message #11 Posted by **Valentin Albillo** on 8 Sept 2009, 9:17 a.m.,*
in response to message #8 by C.Ret

Hi, C. Ret:

Thanks for your interest in my instant-coffee HP-71B solution, but be aware that in your HP-71B version you've used **LOG** (base e-logarithm) when you actually want to use **LGT** (decimal logarithm) so your HP-71B version as written is faulty.

Also, in the HP-71B you can use **N DIV B** instead of **INT(N/B)** to perform integer division, etc. Not so in the PC-1211 BASIC dialect, which lacks **DIV**.

Best regards from V.

Re: Challenge: Keith numbers

*Message #12 Posted by **Don Shepherd** on 7 Sept 2009, 2:12 a.m.,*
in response to message #1 by Don Shepherd

Well, after considerable frustration with the 12c+ indirect addressing via the cfj command and a nasty bug that took hours to track down, here is a solution for the 12c. Enter the number you want to start with, like 10, and press R/S. It will run until you stop it, and it will display each Keith number and pause for 1 second. If you have an original 12c, it will take a rather long time. If you have the new 12c+ (Arm-based processor), it will go considerably faster. And if you have the 12c Windows-based emulator that HP is selling for $20, it will go faster still (although the original version would not handle the pse command correctly, but they sent me a fix for that).

Here is the code. I used all 5 TVM variables for purposes for which they were not intended.

```
01 clr fin
02 cf0
03 1
04 0
05 /
06 i
07 frac
08 1
09 0
10 x
11 cfj
12 rcl pv
13 +
14 pv
15 rcl i
16 intg
17 x=0
18 goto 20
19 goto 03
20 rcl n
21 fv
22 rcl cfj
23 pmt
24 rcl pv
25 cfj
26 2
27 x
28 rcl pmt
29 -
30 pv
31 rcl n
32 1
33 -
34 n
35 x=0
36 goto 38
37 goto 40
38 rcl fv
39 n
40 rcl pv
41 rcl 0
42 -
43 x=0
44 goto 46
45 goto 49
46 rcl 0
47 pse
48 goto 54
49 rcl pv
50 rcl 0
51 x<=y
52 goto 54
53 goto 22
54 rcl 0
55 1
56 +
57 goto 01
```

Re: Challenge: Keith numbers

*Message #13 Posted by **Crawl** on 8 Sept 2009, 7:38 a.m.,*
in response to message #1 by Don Shepherd

Fun! I haven't done one of these in a while.

The gist of this program is that first the initial number's digits, then the running sums, are stored as entries in a row matrix.

You put the number D on the stack, and it exhaustively searches for all Keith numbers with D digits. So, on a real HP50g, if you put 2 on the stack and run the program, you get (after about a minute)

```
14
19
28
47
61
75
```

You might want to run it on an emulator for much larger values of D!

```
%%HP: T(3)A(R)F(.);
\<< 0 0 0 0 \-> D S N J M
  \<< 10 D 1 - ^ 1 + 10 D ^ 1 -
    FOR N N \->STR 'S' STO 1 D
      FOR J S J J SUB OBJ\->
      NEXT D ROW\-> 'M' STO
      DO 2 D
        FOR J M J GET
        NEXT M 1 GET 2 D
        FOR J M J GET +
        NEXT D ROW\-> 'M' STO
      UNTIL M D GET N \>=
      END M D GET N ==
      IF
      THEN N
      END
    NEXT
  \>>
\>>
```

Re: Challenge: Keith numbers

*Message #14 Posted by **Don Shepherd** on 8 Sept 2009, 12:16 p.m.,*
in response to message #13 by Crawl

Thanks for another great RPL solution to this problem.

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HP41CX x Psion LZ64.

*Message #1 Posted by **Saile (Brazil)** on 5 Sept 2009, 9:15 p.m.*

```
Can we compare a HP41CX with a Psion LZ64?
I am using a Psion LZ64 is is really an excellent equipment.
Can anybody lift a negative point in relation to HP-41CX?
I didn't find none :-)
Whose is the supremacy?


Technical specification Psion LZ64
```

Re: HP41CX x Psion LZ64.

*Message #2 Posted by **Garth Wilson** on 6 Sept 2009, 12:43 a.m.,*
in response to message #1 by Saile (Brazil)

> Quote:
>
> Can anybody lift a negative point in relation to HP-41CX?

Major, major (to me anyway): no HPIL. The 82169A HPIL-to-HPIB interface converter transparently gave the 41 access to many pieces of lab equipment simultaneously. There were other interface converters as well like the FSI164A which went from HPIL to up to eight RS-232 channels, the parallel interface converter, HPIL modem, printers, tape & disc drives, etc., and the 41 could connect to, and handle, all of these simultaneously. My first automated test set-up at work to test a particular communications product in the late 1980's was controlled by a 41cx and a 10-page program.

Also, what kind of OS? Can keys be re-assigned? And does the Psion have a time-of-day clock and calendar plus stopwatch functions, multiple alarms that can wake it up to do a job periodically and put it back to sleep?

Of course, the 41cx wasn't the end-all hand-held, and neither was the 71 with all the user-group additions which was far superior although less practical as a calculator; but the 41cx was amazing and is still very useful.

Re: HP41CX x Psion LZ64.

*Message #3 Posted by **Johnny Bjoern Rasmussen** on 6 Sept 2009, 7:42 a.m.,*
in response to message #2 by Garth Wilson

Having an Psion XP among many PDA's I really am amazed by the capabillities of these little wonders.

Re: HP41CX x Psion LZ64.

*Message #4 Posted by **Saile (Brazil)** on 6 Sept 2009, 8:04 a.m.,*
in response to message #2 by Garth Wilson

```
"Major, major (to me anyway): no HPIL ..."
```

I am only comparing the Calculators no the interfaces for normal
 use but the LZ64 has additional communication port enabling the
 attachment of a wide range of peripherals such as modems,
 printers, bar code readers, CCD scanners, mag card swipes and more.

"Also, what kind of OS?"

PSION OS

"Can keys be re-assigned?"

I can create options in the menu for my programs

"And does the Psion have a time-of-day clock and calendar plus stopwatch functions..."

Yes have a time-of-day clock and calendar plus stopwatch

OPL commands and functions

Edited: 6 Sept 2009, 8:06 a.m.

Re: HP41CX x Psion LZ64.

*Message #5 Posted by **Dave Britten** on 6 Sept 2009, 5:03 p.m.,*
in response to message #1 by Saile (Brazil)

I'd say that for heavy mathematics, the 41 is better prepared out of the box. For software customization, they're probably about on par. (What's the maximum RAM for a 41? I've got a Psion Organiser II XP with 32 KB RAM built in, plus two expansion slots.) An interesting feature of the Psion is that you can write a function in OPL, compile it, and then call it from the built in calculator program like any other internal math function. The Series 3 allowed this as well, though they dropped this functionality from the Series 5, for whatever reason (along with a few other steps backward that I won't get into).

On a related note, I read that the OPL programming language of the Psion is compiled internally to some sort of RPN code.

Re: HP41CX x Psion LZ64.

*Message #6 Posted by **Saile (Brazil)** on 6 Sept 2009, 6:47 p.m.,*
in response to message #5 by Dave Britten

"What's the maximum RAM for a 41?"

My 41CX +/- 2.3 Kbytes

My LZ64 64RAM built in plus 512 Kbytes in two expansion slots!!!

Re: HP41CX x Psion LZ64.

*Message #7 Posted by **Mark Edmonds** on 8 Sept 2009, 6:42 p.m.,*
in response to message #6 by Saile (Brazil)

I think mine has a spell-checker/thesaurus as well (on ROM).

Sadly, a couple of columns in the LCD stopped working but otherwise, those machines had great

potential and were quick and easy to use. I went through a lot of PDAs after that and it took many years for me to find one which had the same operational ease.

Mark

Re: HP41CX x Psion LZ64.

*Message #8 Posted by **Saile (Brazil)** on 8 Sept 2009, 7:50 p.m.,*
in response to message #7 by Mark Edmonds

```
Mine is with 512 K plus synthesizer of voice plus module of mathematics plus
financial module


Psion language is super powerful and structured as the current ones


4 display lines (20x4) it is really a differential
```

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Origin of the beep melody

*Message #1 Posted by **hecube** on 5 Sept 2009, 4:48 p.m.*

Does anyone have any info as to why/how this particular melody was chosen for the HP-41? Who was the "composer"?

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Need to contact Ed Austin

*Message #1 Posted by **Giovanni Jimenez** on 5 Sept 2009, 1:27 p.m.*

Does anybody in this forum have the updated contact information of Ed Austin ? I have his email address as ed@i-dot.com but have not gotten any response. I need to contact him ASAP.

Thank you in advance. Giovanni

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HP71B mains adaptor

*Message #1 Posted by **P.Hart** on 5 Sept 2009, 10:54 a.m.*

At the back of my HP71B are two sockets for HPIL connectors and another which I presume is for a mains adaptor. Can anyone please inform me what the specification would be for an adaptor?

P.Hart

Re: HP71B mains adaptor

*Message #2 Posted by **Garth Wilson** on 5 Sept 2009, 1:27 p.m.,*
in response to message #1 by P.Hart

In the U.S. it's HP number 82059D, the same one that goes to the 82161A tape drive, the thinkjet printer, the 82169A HPIL-to-HPIB converter, and other things. Output is 8VAC.

Re: HP71B mains adaptor

*Message #3 Posted by **P.Hart** on 5 Sept 2009, 2:40 p.m.,*
in response to message #2 by Garth Wilson

Thanks Garth. I doubt I could get the HP part. I'm hoping to find out the full spec for an adaptor that I could find elsewhere.

P.

Re: HP71B mains adaptor

*Message #4 Posted by **Katie Wasserman** on 5 Sept 2009, 3:38 p.m.,*
in response to message #3 by P.Hart

It's just a transformer, no regulation or rectification at all. Output is rated 8 VAC at 3VA, I measured 12.5 V RMS with no load.

Re: HP71B mains adaptor

*Message #5 Posted by **P.Hart** on 5 Sept 2009, 5:01 p.m.,*
in response to message #4 by Katie Wasserman

Thanks Katie, I should be able to find something to that spec.

P.Hart

Re: HP71B mains adaptor

*Message #6 Posted by **Garth Wilson** on 6 Sept 2009, 12:48 a.m.,*
in response to message #3 by P.Hart

I was trying to think of a way you could substitute something; but I have never seen that plug outside of the HP equipment. You might have to more-or-less custom-make it, possibly with some Molex pin sockets.

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HP71B LEX files

*Message #1 Posted by **P.Hart** on 5 Sept 2009, 10:44 a.m.*

In his book 'HP71 BASIC MADE EASY' Joe Horn lists the code for a BASIC program for entering LEX files into a 71B and gives code listings for several LEX files. On his web site holyjoe.org there is a listing of all known LEX file titles but without code. Can anyone please inform me where I can find the code for some more LEX files?
P.Hart

Re: HP71B LEX files

*Message #2 Posted by **Egan Ford** on 5 Sept 2009, 12:25 p.m.,*
in response to message #1 by P.Hart

Start here: ftp://ftp.hpmuseum.org/hpswap/. Look at lexfl1*

The following links may help:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv018.cgi?read=136666

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv018.cgi?read=128809

Re: HP71B LEX files

*Message #3 Posted by **P.Hart** on 5 Sept 2009, 6:11 p.m.,*
in response to message #2 by Egan Ford

Thanks Egan, exploring that lot will keep me busy for a while.
Concerning the MAKELEX problem mentioned in your first link, my copy of Horn's HP-71 Basic came with an official-looking errata sheet
giving an amendment of the listing ---

Page 133 Program line 60: change RPT$("-",16) to "----------------"
(16 dashes in quotes

The program amended thus works fine. P.Hart

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Vintage Computer Festival East

*Message #1 Posted by **David Hayden** on 5 Sept 2009, 8:36 a.m.*

I just saw this on comp.sys.hp48.

```
Vintage Computer Festival East 6.0
Sept. 12-13, 2009
InfoAge Science Center
Wall Township, New Jersey
```

web site here

This about 40 minutes from where I live so I'm definitely going.

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For those who are interested in : i59 available on Appstore

*Message #1 Posted by **Jean-Michel** on 5 Sept 2009, 3:36 a.m.*

Hello all,

I know it is not an HP, but as it is also an interesting calc, let me advise you from this new emulator for iPhone/iPod Touch. Sorry, I still haven't downloaded the latest 3.0 OS on my iPod, so I can't copy & paste the link to. (I'm not involved in any way in this emulator, and especially on a money point of view. :-)

At least this emulator will definitively fix the usual problem of bouncing keys of TI calcs from this time.

Kind regards. JM

Re: For those who are interested in : i59 available on Appstore

*Message #2 Posted by **Howard Owen** on 5 Sept 2009, 11:12 p.m.,*
in response to message #1 by Jean-Michel

I wonder how many people on this forum would pay US$5.99 for a *real* TI59?

Just kidding. I own one and paid a bit more than that for it. :) Thanks for the pointer. It's another fun little mathematical toy for my iPod.

Regards,
Howard

Re: For those who are interested in : i59 available on Appstore

*Message #3 Posted by **Egan Ford** on 6 Sept 2009, 11:43 a.m.,*
in response to message #1 by Jean-Michel

I could not tell from the App store description or from their website if it is a simulation (e.g. like Free42) or an emulation (e.g. like EMU42).

Re: For those who are interested in : i59 available on Appstore

*Message #4 Posted by **HrastProgrammer** on 7 Sept 2009, 1:05 a.m.,*
in response to message #3 by Egan Ford

Simulation ...

Re: For those who are interested in : i59 available on Appstore

*Message #5 Posted by **Marcus von Cube, Germany** on 8 Sept 2009, 4:02 p.m.,*
in response to message #4 by HrastProgrammer

I think, no one ever managed to extract the 59's ROM code. BTW, does i59 come with any modules?

Is the card reader emulated in any way?

Re: For those who are interested in : i59 available on Appstore

*Message #6 Posted by **HrastProgrammer** on 9 Sept 2009, 2:00 a.m.,*
in response to message #5 by Marcus von Cube, Germany

You think right, unfortunately ...

Re: For those who are interested in : i59 available on Appstore

*Message #7 Posted by **Eric Smith** on 9 Sept 2009, 4:08 a.m.,*
in response to message #5 by Marcus von Cube, Germany

I could extract the ROM code, but I don't have any information on the enhancements of the TMC0501E as compared to the original TMC0501. There might be more registers, more instructions, or who knows what. It doesn't seem worth investing the time to dump the ROM unless either docs turn up or someone finds the time to reverse-engineer the TMC0501E.

Re: For those who are interested in : i59 available on Appstore

*Message #8 Posted by **HrastProgrammer** on 9 Sept 2009, 5:10 a.m.,*
in response to message #7 by Eric Smith

Just extract the ROM :-)

Everything else could be figured out either from the patents or by tracing through the code, as I already did with TI-57. It will take a lot of time, but I am sure it can be done.

As far as I know, there are no new registers (except maybe KR - I have to see if it is in the original TMC0501) and only 8 new instructions ... see page 2 from US patent #4153937.

Re: For those who are interested in : i59 available on Appstore

*Message #9 Posted by **Eric Smith** on 9 Sept 2009, 2:01 p.m.,*
in response to message #8 by HrastProgrammer

The description of the figure is

> Quote:
>
> FIG. 5h depicts the instruction words decoded on the second ROM chip and **selected** instruction words decoded on the arithmetic chip, but which may be conveniently employed in connection with the utilization of the second ROM chip;

[emphasis added]

Some of these instructions are thus interpreted by the TMC0501E, but these are being presented to explain the support for the second DSCOM, and it's not at all obvious that there are no other enhancements being used in the 58/59.

However, I'll dump the ROMs when I find some spare time. Most likely not until early next year.

For those who are interested in : i59 available on Appstore

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HPAPINE

*Message #1 Posted by **Jan Kromhout** on 5 Sept 2009, 3:11 a.m.*

Dear All,

Is it posible to format the stack output (RPL Stack) when using HPAPINE?

I wont to have the maximal digits after the decimal point!

Thanks in advance Jan Kromhout Hellevoetsluis-NL

Re: HPAPINE

*Message #2 Posted by **Khanh-Dang Nguyen Thu-Lam** on 5 Sept 2009, 12:30 p.m.,*
in response to message #1 by Jan Kromhout

HPAPINE is released under the GNU Public License. It means you can read and modify the source code.

To change the printing format, go in the HPAPINE's source root directory and edit the src/saturn/rplapi.c file. In the SAT_DOREAL case, change the format string "%g" in the fprintf() instruction with "%.16f" or whatever you want.

However, HPAPINE is not a emulator. It is an implementation of the HPGCC's standard libraries. You should not expect the math functions of HPAPINE to give the exact same result than with HPGCC.

Re: HPAPINE

*Message #3 Posted by **Jan Kromhout** on 7 Sept 2009, 12:21 a.m.,*
in response to message #2 by Khanh-Dang Nguyen Thu-Lam

Thanks for the information.

Is there some help how to compile a new version with the change yoe mentiod?

Thanks in advance.

Jan Kromhout Hellevoetsluis-nl

Re: HPAPINE

*Message #4 Posted by **Egan Ford** on 7 Sept 2009, 9:59 a.m.,*
in response to message #3 by Jan Kromhout

If you are using the http://sense.net/~egan/hpgcc versions, then you should just have to type 'make' in the 2.0SP2-hpapine directory.

Re: HPAPINE

*Message #5 Posted by **Khanh-Dang Nguyen Thu-Lam** on 7 Sept 2009, 10:00 a.m.,*
in response to message #3 by Jan Kromhout

Just take a look at the Makefiles, then, just run the make command.
http://en.wikipedia.org/wiki/Makefile

Re: HPAPINE

*Message #6 Posted by **Jan Kromhout** on 7 Sept 2009, 4:27 p.m.,*
in response to message #5 by Khanh-Dang Nguyen Thu-Lam

Thanks for all usefull information. I have changed the code as you mentiod, but in HPAPINE output I see :

--- Waiting for stack input on stdin... 100 500 --- Stack reading: done.

--- RPL Stack:

2: 100.0000000000000000 1: 500.0000000000000000

--- RPL Stack:

1: " 3375.06"

How (where) can I change the output so that I see more decimals.

Thanks inadvance.

Jan Kromhout Hellevoetsluis-NL

Re: HPAPINE

*Message #7 Posted by **Khanh-Dang Nguyen Thu-Lam** on 8 Sept 2009, 4:30 a.m.,*
in response to message #6 by Jan Kromhout

What is your program doing? What HPGCC routines does it use? What does a real HP49G+ or HP50g return?

Re: HPAPINE

*Message #8 Posted by **Jan Kromhout** on 8 Sept 2009, 7:17 a.m.,*
in response to message #7 by Khanh-Dang Nguyen Thu-Lam

I use a routine as mentiod "SAT_DOREAL"

My program is taken two values from sthe stack (pressure and temperature) and calculates the enthalpy of steam. In normal operation on the hp50g I set in mode the max alowed decimal positions.

In the output of HPAPINE I wont to have the same behavior, max amount of decimal positions on the anwer.

On my hp50 the anwer is 3375.05844185

Thanks in advance

Jan Kromhout Hellevoetsluis-NL

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HP-42s Memory Upgrade

*Message #1 Posted by **DavidShenk** on 5 Sept 2009, 12:45 a.m.*

I'm entertaining the idea of upgrading my 42s but find the listings of computer chips confusing. I have seen this for sale in a few places. Is this what I'm looking for:

62256-70S 32Kx8 70ns CMOS SRAM - SMD

If not, could someone post a link to the exact chip I need to get.

Thanks, Dave

Re: HP-42s Memory Upgrade

*Message #2 Posted by **Diego Diaz** on 5 Sept 2009, 5:55 a.m.,*
in response to message #1 by DavidShenk

Hi David,

The type is ok. In general whichever XX256 memory (28 pin SMD SOIC) will fit the task.

The reponse time (-70... or something like this) is not a concern as HP-42s are slow enough for any memory currently in production to meet the specs. Even if you go thru the 2x speed-up. (See here)

However you should pay attention to the stand-by current drain in order to extend your battery life to the most.

CY62256NLL-70 (Digikey: 428-2039-5-ND) has a 0.1uA typical standby current. It has worked fine for me.

Hope this helps.

Diego.

Edited: 5 Sept 2009, 9:41 a.m.

Re: HP-42s Memory Upgrade

*Message #3 Posted by **DavidShenk** on 5 Sept 2009, 12:17 p.m.,*
in response to message #2 by Diego Diaz

Thank you, that is exactly the info I was looking for. I went ahead and ordered a few from Digikey.

Maybe I should have ordered some crystals too, but one step at a time.

Dave

Re: HP-42s Memory Upgrade

*Message #4 Posted by **Paul Dale** on 6 Sept 2009, 4:28 a.m.,*

in response to message #2 by Diego Diaz

And the part number for the crystal??

- Pauli

Re: HP-42s Memory Upgrade

*Message #5 Posted by **DavidShenk** on 6 Sept 2009, 11:36 a.m.,*
in response to message #4 by Paul Dale

I think this is the correct crystal, can anyone confirm?

http://search.digikey.com/scripts/DkSearch/dksus.dll?Detail&name=XC975-ND

Dave

Re: HP-42s Memory Upgrade

*Message #6 Posted by **Geoff Quickfall** on 5 Sept 2009, 8:34 p.m.,*
in response to message #1 by DavidShenk

Thanks Deigo for the memory chip order number.

I also have ordered two for my HP42s's which along with my Clonix HP-41CX make up my office duo.

This also will be a section in the pioneer chapter.

Cheers, Geoff

Re: HP-42s Memory Upgrade

*Message #7 Posted by **Diego Diaz** on 6 Sept 2009, 12:54 p.m.,*
in response to message #6 by Geoff Quickfall

Hi all,

Well, crystal Digikey P/N: SER3322-ND is smaller, and is the one I've used. but previous reference will also work.

However, I'd take the "Speed-up" upgrade with a grain of salt... you more likely will lose printing capabilities.

And no, you won't get the IR printer interface back to work when you need it by "simply" writing H'03 into H'40300... it's not that easy... ;-)

IR (red eye) interface, takes the carrier frequency directly from the Xtal. so... Well, you can always install both Xtals and the required switch. Yes, I've done it, and yes it works ;-))

Cheers.

Diego.

Edited: 6 Sept 2009, 12:58 p.m.

Re: HP-42s Memory Upgrade

*Message #8 Posted by **Paul Dale** on 6 Sept 2009, 7:16 p.m.,*
in response to message #7 by Diego Diaz

> Quote:
>
> Well, you can always install both Xtals and the required switch. Yes, I've done it, and yes it works ;-))

This is what I was thinking of doing.

Where would the switch fit through the case? There isn't a lot of space for such...

- Pauli

Re: HP-42s Memory Upgrade

*Message #9 Posted by **Andres C. Rodriguez (Argentina)** on 6 Sept 2009, 8:46 p.m.,*
in response to message #8 by Paul Dale

A magnetic reed switch may be a good option.

Re: HP-42s Memory Upgrade

*Message #10 Posted by **Diego Diaz** on 7 Sept 2009, 5:52 a.m.,*
in response to message #9 by Andres C. Rodriguez (Argentina)

Hi again,

Please note that you'll need a changeover reed, as well as a convenient place to hold the activating magnet... In HP-41's this is the way I went, using the PORT-1 cover to hold the magnet... but HP-41 only needs a simple "Open/Close" reed to switch between speeds. Actually I choose the serial capacitor approach to build my 41 speed-up.

I simply hate drilling, cutting, or otherwise "damaging" the housing of one of these bauties... so I go the "Hidden Switch" way for my 42 upgrade.

Just a paper clip tip is enough... even the edge of the IR cover can be used to move the switch up and down.

Here you are the pics:

Hope this be useful.

Regards.

Diego.

Re: HP-42s Memory Upgrade

*Message #11 Posted by **DavidShenk** on 7 Sept 2009, 12:43 p.m.,*

in response to message #10 by Diego Diaz

Thank you for taking the time to post pics. I didn't know changing crystals can effect printing.

I wonder if you can change crystals in the printer as well...?

Dave

Re: HP-42s Memory Upgrade

*Message #12 Posted by **Diego Diaz** on 7 Sept 2009, 3:25 p.m.,*
in response to message #11 by DavidShenk

Hi Dave,

No such things as Xtals inside the 82240A/B IR printers.

It uses a Pi shape resonant circuit (Capacitor-Inductor-Capacitor) which makes the 80C50 microcontroller run at some 3.5 ~ 4 MHz.

Nonetheless, you can replace the inductor with a Xtal. Specs for the 80C50 sets an upper limit working frequency of 6MHz; but it won't change the results. Still good printing at 42's normal speed and nothing at 2x.

Going beyond 6MHz will result in no printing at all... these micros were not very well suited for overclocking... :-(

Sorry for the bad news.

Diego.

Re: HP-42s Memory Upgrade and Speed Doubling

*Message #13 Posted by **Andrés C. Rodríguez (Argentina)** on 8 Sept 2009, 7:36 a.m.,*
in response to message #12 by Diego Diaz

... and with a different crystal, even if the micro eventually runs at higher speed, it is very possible that the timing of outputs which control the mechanism (or the thermal printing pulse duration) will get affected and not working.

And there may be also analog components (filters) on the IR link which are tuned for some pulse-train frequency, and may not work well with a different rate.

Re: HP-42s Memory Upgrade

*Message #14 Posted by **Paul Dale** on 7 Sept 2009, 9:08 p.m.,*
in response to message #10 by Diego Diaz

Very useful thanks.

- Pauli

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To Étienne / Pour Étienne

*Message #1 Posted by **hecube** on 4 Sept 2009, 7:50 p.m.*

I'm trying to find if HP calculators were ever used by ESA (European Space Agency) engineers with the Arianne space program. Do you know any french forum which in which I might pitch this question? (english question for the benefit of other readers)

___

Bonjour Étienne, connais des forums dans lesquels je pourrais obtenir de l'info à propos des calculatrices utilisées par les ingénieurs de l'ESA dans le cadre du programme Arianne? Merci!

Re: To Étienne / Pour Étienne

*Message #2 Posted by **Etienne Victoria** on 6 Sept 2009, 3:07 p.m.,*
in response to message #1 by hecube

Hello Hecube!

Thank you for your effort on documenting the Hps in space!

I'm highly interested in your findings.

On your question about the most appropriate french forums to ask info on this topic, I would suggest:

- Le forum de la conquête spatiale

- la section astronautique de futura-sciences

However, the ESA & the various Ariane missions are a collaborative work of 18 european countries and not only France.

Therefore I'd suggest extending your investigations with our european friends on the forum.

Best regards from France!

Etienne

Re: To Étienne / Pour Étienne

*Message #3 Posted by **Etienne Victoria** on 6 Sept 2009, 3:17 p.m.,*
in response to message #1 by hecube

... and of course, more Hp-41 centered but with a couple of helpful members:

Le forum de la Hp-41

Cordialement

Etienne

Re: To Étienne / Pour Étienne

*Message #4 Posted by **hecube** on 7 Sept 2009, 8:03 p.m.,*
in response to message #3 by Etienne Victoria

Super! Merci!

Je me suis inscrit aux trois forum.

Edited: 7 Sept 2009, 8:50 p.m.

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On the missing comma as thousand-separator

*Message #1 Posted by **Luca** on 4 Sept 2009, 5:25 p.m.*

I really like how, on older calculators, the comma (used as thousands-separator) moves as you input a large number. It makes it very easy to enter such numbers quickly and without errors.

This has been eliminated in newer calculators, including the HP-50g and the HP-35s. I have heard repeated that new calculators cannot use this as they accept a more general form of input on the stack. But I think this explanation does not really hold up. It would be very easy to write an algorithm that places commas properly even for arbitrary stack input: simply check that to the left of the cursor you only have digits until a whitespace, and if so, place commas every three digits (taking into account of the decimal point). When a non-digit (such as E, or -, etc) is inserted, freeze the commas where they are, and continue getting input. Why would this not work?

In fact, it would be quite simple to encode the above as a state-machine.

Luca

Re: On the missing comma as thousand-separator

*Message #2 Posted by **Gerry Schultz** on 4 Sept 2009, 6:42 p.m.,*
in response to message #1 by Luca

I have both RPN and RPL machines and I have always preferred the RPN style with a 4-level stack. I do understand the issue in the RPL machine where the command line needs to parse an entry for its data type and extra commas can confuse it. But aren't we dealing with two separate issues? On a 41 when you type in a number, the commas are inserted automatically and maintained by the display but are not a part of the number itself. In the RPL machines, commas are never displayed for either integers or real numbers (as I remember). So, the issue is, as I see it, inputting of numeric data verses the display of numeric data.

As a compromise, why not disallow commas when inputting a real (it has a radix displayed in a 50g) number or integer (no radix in a 50g) number so the command line can properly parse the input. Then, after the number type is identified, have the calculator firmware put commas in the display of those number types only. It's not perfect but it would be a step getting the commas back in a number.

It does raise the question of if you have large numbers in the real and imaginary axises of a complex number, can the firmware also insert display commas? I don't see why it couldn't but I'm no expert. The displaying of all numeric data types would have to be rewritten. Sounds like a lot of work and that would cost.

My 2 cents.

Gerry

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On the missing comma as thousand-separator

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Women in the Forum?

*Message #1 Posted by **Saile (Brazil)** on 4 Sept 2009, 3:33 p.m.*

Only a curiosity. Does this forum have women are crazy for calculators and pockets? :-)

Re: Women in the Forum?

*Message #2 Posted by **Katie Wasserman** on 4 Sept 2009, 4:36 p.m.,*
in response to message #1 by Saile (Brazil)

There's me.

Re: Women in the Forum?

*Message #3 Posted by **Saile (Brazil)** on 4 Sept 2009, 5:31 p.m.,*
in response to message #2 by Katie Wasserman

```
All of the men of the forum have his history, Chemical, Biologistas, Doctors, Engineers
and you Katie Wasserman?
How did you begin in that passion?
You excuse for my English. :-)
```

Re: Women in the Forum?

*Message #4 Posted by **Etienne Victoria** on 4 Sept 2009, 6:14 p.m.,*
in response to message #3 by Saile (Brazil)

If I may...

Not all the men in this forum have a Chemical, Biology, Medical, Engineering background.

There is also a small group of bean-counters I proudly belong to :-)

Ch€€r$!

Eti€nn€

Re: Women in the Forum?

*Message #5 Posted by **Frank Balzer** on 4 Sept 2009, 6:29 p.m.,*
in response to message #4 by Etienne Victoria

Physics!!!

Re: Women in the Forum?

*Message #6 Posted by **Ken Shaw** on 8 Sept 2009, 12:34 p.m.,*
in response to message #4 by Etienne Victoria

Also physics.

Re: Women in the Forum?

*Message #7 Posted by **Katie Wasserman** on 4 Sept 2009, 6:30 p.m.,*
in response to message #3 by Saile (Brazil)

I posted a bio here.

Re: Women in the Forum?

*Message #8 Posted by **hpnut** on 4 Sept 2009, 7:14 p.m.,*
in response to message #1 by Saile (Brazil)

> Quote:
>
> Only a curiosity. Does this forum have women are crazy for calculators and pockets? :-)

does gender matter? an hp nut is an hp nut. still, it's great to have Katie and Etienne in this forum :-)

cheers,

hpnut in Malaysia

Re: Women in the Forum?

*Message #9 Posted by **Raymond Del Tondo** on 4 Sept 2009, 7:27 p.m.,*
in response to message #8 by hpnut

Hi,

Etienne is a male's name, the equivalent of the German name Stefan.

HTH

Raymond

Re: Women in the Forum?

*Message #10 Posted by **hecube** on 4 Sept 2009, 7:43 p.m.,*
in response to message #9 by Raymond Del Tondo

As odd as it may seem, I'm an a musician. I work in music publishing. However, before my music career, I studied in math and computer science.

Re: Women in the Forum?

*Message #11 Posted by **Katie Wasserman** on 4 Sept 2009, 8:07 p.m.,*
in response to message #10 by hecube

I don't think that's odd at all. Music, math and computer science all fit together very nicely. Did you ever read Hofstadter's book *Godel, Escher, Bach: An Eternal Golden Braid*?

-Katie

Re: Women in the Forum?

*Message #12 Posted by **hecube** on 5 Sept 2009, 1:23 a.m.,*
in response to message #11 by Katie Wasserman

I did. I have a few Hofstadter books in my bookshelves.

Re: Women in the Forum?

*Message #13 Posted by **DavidShenk** on 5 Sept 2009, 1:27 p.m.,*
in response to message #11 by Katie Wasserman

I am just finishing a program for the 42s that I got from his book *Metamagical Themas* called CopyCat. You enter a string of 6 characters and the calc picks a method and "changes" the string in a certain way, then displays the result. You get three test strings to figure out what the calc is doing, then the calc gives you a string and it's up to you to figure out what it should change to, following the pattern.

Example: ABCDEF to ABCDEG - This could be that the last character is shifted one to the right, or the last character is always 'G'. You can confirm that with more test strings.

Of course, the more interesting ones are much more complicated. Switching and rotating letters around, doing changes depending on what letters are present, etc.

I'll have it done and posted in the next week or so.

Dave

Re: Women in the Forum?

*Message #14 Posted by **hecube** on 5 Sept 2009, 2:08 p.m.,*
in response to message #13 by DavidShenk

This is my nightstand book right now. Unfortunately, I hit the sack without reading...

Re: Women in the Forum?

*Message #15 Posted by **DavidShenk** on 5 Sept 2009, 2:27 p.m.,*
in response to message #14 by hecube

It is on the thick side...

Re: Women in the Forum?

*Message #16 Posted by **Walter B** on 5 Sept 2009, 12:11 a.m.,*
in response to message #10 by hecube

AFAIK, music and math have (had?) a very close relation for 2500 years at least. Some math was discovered looking at harmonies ...

Re: Women in the Forum?

*Message #17 Posted by **Peter Klein** on 6 Sept 2009, 5:16 p.m.,*
in response to message #16 by Walter B

Walter: Yes they do (music and math). But some of the worst music ever written has been

inflicted on the world by the misapplication of math techniques on music in the past century. Somehow the perpetrators forgot that music is sound, and what it sounds like matters.

Katie: Thanks for reminding me that I have to have another go at "Gödel, Escher, Bach" some day. It's a pretty heady read. I tried to get through it once, but I wasn't in the right frame of mind.

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HP-75C Magnetic Cards read by HP-71B card reader

*Message #1 Posted by **Giovanni Jimenez** on 4 Sept 2009, 1:27 p.m.*

Can you read an HP-75C magnetic card (specifically the financial program) with the HP-71B car reader ? Any special command to do that ?

thanks for any info on this,

Giovanni

Re: HP-75C Magnetic Cards read by HP-71B card reader

*Message #2 Posted by **Raymond Del Tondo** on 4 Sept 2009, 3:57 p.m.,*
in response to message #1 by Giovanni Jimenez

Hi,

the cards are the same physically, but the binary format is totally different between the HP-71B and the HP-75.

The 71B has the Saturn CPU, whereas the 75 features a CMOS/Mobile version of the Series 80 desktop computers CPU (Capricorn?)

HTH

Raymond

Re: HP-75C Magnetic Cards read by HP-71B card reader

*Message #3 Posted by **Jakob B. Sorensen** on 7 Sept 2009, 11:58 a.m.,*
in response to message #1 by Giovanni Jimenez

Hi Giovanni

Your HP-71 can read LIF1 files made at the HP-75 and then convert them into BASIC programs. At the HP-75 use the command TRANSLATE ['filname'] INTO LIF1 and copy the file to card. At the HP-71 copy the file to memory and execute TRANSFORM filename INTO BASIC.

Jakob

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In praise of hard-copy manuals

*Message #1 Posted by **Luca** on 4 Sept 2009, 12:59 a.m.*

When I bought my first HP calculator, an HP 32SII, it was the manual which impressed me more than the calculator.

The calculator was very nice, but I had had some other Casio and Sharp calculators that, while being in the algebraic style, were also well thought out and quite usable.

But the manual was on a planet of its own. It was written in an outstanding way. It was clear, from the manual, the enormous amount of thought and engineering that went into that calculator. Other calculators were composed of many functions, more or less put together on top of an algebraic setting. But it was clear from the 32SII manual that true engineers and mathematicians had worked at the calculator. It was not a toy, it was the outcome of very sophisticated thought. The impression of quality, attention to detail, was remarkable.

The 33s, which I just bought, had a similar manual.

The manual is part of the reason I never liked the 48, 49, 50g series. The manuals were hastily put together, poorly organized, too large -- a sloppy job. And worse, those calculators were never really useful to me if I did not have the manuals nearby; never being able to use the calculators alone, I never grew fond of them.

The 35s has also a decent manual, but not in hard copy. To me, that is just a statement of cheapness, and lack of attention to quality. I find it strange that the cheaper 33s has a printed manual, whereas the 35s does not. It is as if the 35s wants to be a status symbol, rather than an actually useful calculator. This, to me, is also apparent in other choices of the 35s. The ALL-digits mode is broken, the comma does not appear while typing a large number... yes I heard explanations for the latter, but when I got my first HP calculator, that incredibly useful shifting comma was one little detail that showed the attention to design that had gone into that calculator. Losing that in the 35s is just sad.

I don't buy the argument of going green. If you do care about being green, stop (as I have done) reading newspapers on paper, and read them on the web. I must have saved over ten pounds of paper a week doing that. I think all my HP manuals weigh about 5-6 pounds; my purchase of manuals is a tiny percentage of the books I buy. But for me, the presence of a manual is a sign that the calculator is created to be really used, as a professional, well thought-out instrument.

We will see if there will be models following the 33s, which I now consider to be the last of the classical calculators (the 35s does not qualify due to lack of manual). On some level, calculators will cease to make sense. Everybody will soon have a smartphone (an Android, or Pre, or iPhone, or...), and that will work as a calculator too. I am not sure of what the market will support; it will be interesting to see.

Luca

Re: In praise of hard-copy manuals

*Message #2 Posted by **Martin Pinckney** on 4 Sept 2009, 11:02 a.m.,*
in response to message #1 by Luca

> Quote:
>
> The 35s has also a decent manual, but not in hard copy. To me, that is just a statement of cheapness,

You are right, because the first production 35s *did* come with a printed manual, then it was dropped.

> Quote:
>
> the comma does not appear while typing a large number... yes I heard explanations for the latter,

The explanations I read had to do with RPL calculators, which the 35s is not. It is in the lineage of the 32sii and 33s, which *do* have that feature. So to me that's no explanation at all.

Re: In praise of hard-copy manuals

*Message #3 Posted by **Tim Wessman** on 4 Sept 2009, 11:21 a.m.,*
in response to message #2 by Martin Pinckney

The thousands shifting is easy on a calculator where you only have one data type (real numbers). On the 35s which can have complex numbers, or vectors, it can't really know what you are typing in until the end. It could *possibly* have been kept that, but would have used up a lot of ROM in an already full ROM.

As for thick, hardbound manuals. . . I doubt you will ever seen them again in ANY consumer product because of cost, "green", and the fact that nobody reads them.

Calculators aren't made for a single group of professionals any more like HP calcs of old. A large included manual isn't enough of a selling point that it outweighs the cost of putting it in. . . :-(

If it was up to us, we'd do it. Very expensive people that study that type of thing in a methodi, scientific method though tend to shape corporate policy.

TW

Edited: 4 Sept 2009, 11:22 a.m.

Re: In praise of hard-copy manuals

*Message #4 Posted by **Martin Pinckney** on 4 Sept 2009, 11:56 a.m.,*
in response to message #3 by Tim Wessman

> Quote:
>
> As for thick, hardbound manuals. . . I doubt you will ever seen them again in ANY consumer product because of cost, "green", and the fact that nobody reads them.
>
> Calculators aren't made for a single group of professionals any more like HP calcs of old. A large included manual isn't enough of a selling point that it outweighs the cost of putting it in. . . :-(
>
> If it was up to us, we'd do it. Very expensive people that study that type of thing in a methodi, scientific method though tend to shape corporate policy.
>
> TW

See above:

> Quote:
>
> the first production 35s did come with a printed manual, then it was dropped.

Re: In praise of hard-copy manuals

*Message #5 Posted by **Martin Pinckney** on 4 Sept 2009, 1:51 p.m.,*
in response to message #3 by Tim Wessman

> Quote:
>
> Calculators aren't made for a single group of professionals any more like HP calcs of old.

No doubt true. But who, regardless of what demographic they belong to, can use any features beyond the basics w/o a manual?

> Quote:
>
> A large included manual isn't enough of a selling point that it outweighs the cost of putting it in. . . :-(

But a printed manual *was* included with the first production. Which makes Luca's point:

> Quote:
>
> To me, that is just a statement of cheapness,

> Quote:
>
> Very expensive people that study that type of thing in a methodi, scientific method though tend to shape corporate policy.

But do they *use* their own products?

Re: In praise of hard-copy manuals

*Message #6 Posted by **Gene Wright** on 4 Sept 2009, 3:35 p.m.,*
in response to message #5 by Martin Pinckney

A printed manual was included when the 35s was first introduced. True.

But, being in the consumer electronics business myself, things change. Demands come from special interest groups, investors, corporate boards, retailers, distributors and they are all looking for similar things.

Pack more stuff into the same size boxes or fit more product on the same peg in the store.

Manuals eat paper. Manuals are big. Manuals make packaging big. Few customers even OPEN the manual much less look at it.

Sadly (and it is sad to me), the printed large manual is going the way of the dodo.

Fitting 3 boxes on a peg in a store vs. 6 by having smaller packaging may mean the product is picked up by the store or not. Smaller packaging means more product can be fit into a container from China, reducing costs.

We have redesigned our own packaging several times to reduce materials and make things smaller.

I'm sure HP is no different.

Re: In praise of hard-copy manuals

*Message #7 Posted by **Bart (UK)** on 5 Sept 2009, 7:44 a.m.,*
in response to message #6 by Gene Wright

> Quote:
>
> Sadly (and it is sad to me), the printed large manual is going the way of the dodo

Indeed sad, but true.

Products come with a PDF manual on CD if you're lucky, otherwise a web address to go download one. I guess the assumption is everyone has a computer.

One of the advantages is portability. Need a 50G manual at work? just download it from the HP website - you don't even have to bother remebering the CD, let alone lug the manual along.

Many software packages install large help files in stead of books (I came across my WP5.1 manuals a few weeks ago), but even that's changing - recent MS Office releases go online whenever the help files are accessed.

Change happens. I recently invested in a laser printer - one of the motivaters being to print manuals. I still prefer a printed manual, it's just easier to page through & find stuff and after a while I know pretty much where to open it to find something. I find it more difficult to scroll through a couple of hundred page PDF. Perhaps because I grew up with printed matter and maybe the next generation will not know what to do with a printed book :-))).

Re: In praise of hard-copy manuals

*Message #8 Posted by **Antonio Maschio (Italy)** on 8 Sept 2009, 7:00 a.m.,*
in response to message #7 by Bart (UK)

> Quote:
>
> I grew up with printed matter and maybe the next generation will not know what to do with a printed book :-))).

Ouch! This is true for me too. Does it mean we're getting old?

-- Antonio

Re: In praise of hard-copy manuals - what about ebook readers?

*Message #9 Posted by **Didier Lachieze** on 8 Sept 2009, 7:15 a.m.,*
in response to message #8 by Antonio Maschio (Italy)

Is anyone using an eInk device (Kindle, Sony Reader, Cybook ...) to store and read the HP manuels? I agree with what was said about paper manuals and I appreciate them for the tactile feedback, the portability (you can bring them where you want, on the desk close to the calculator, on the sofa, on the bench, in the bed ...) but I'm wondering if this kind of devices can offer in a close future the reading experience of a paper manual, while providing the e-book advantages: storage of a whole library in a small device, text search ...

Re: In praise of hard-copy manuals

*Message #10 Posted by **Garth Wilson** on 4 Sept 2009, 3:43 p.m.,*
in response to message #3 by Tim Wessman

> Quote:
>
> As for thick, hardbound manuals. . . I doubt you will ever seen them again in ANY consumer product because of cost, "green", and the fact that nobody reads them.

Chicken-and-egg-- no one reads them anymore because no one expects the manual to be any good, because the art of good manual-writing was lost years ago.

But if I'm going to invest in a good tool and the manual only comes in a .pdf file, I'm going to Email it to Kinko's and have them print it for me. It's nice to have the searchable digital version, but I also want to be able to pencil-in my comments and other marks and use post-it notes along the edge. It's much faster to get around a paper manual than the online version if you're not searching.

Just the volume of junk mail I've gotten for Verizon FiOS exceeds the amount of paper it would take to print out an 800-page manual, not to mention all those cereal boxes over the years, the Pennysaver which always goes straight to the recycling, toilet paper, etc., so I don't think "being green" is a concern.

HP-35s -- lack of comma-insertion

*Message #11 Posted by **Karl Schneider** on 5 Sept 2009, 1:25 a.m.,*
in response to message #3 by Tim Wessman

> Quote:
>
> The thousands shifting is easy on a calculator where you only have one data type (real numbers). On the 35s which can have complex numbers, or vectors, it can't really know what you are typing in until the end.

You're on the right track, but I can't quite agree with your conclusions. As Martin Pinckney stated:

> Quote:
>
> *The explanations I read had to do with RPL calculators, which the 35s is not. It is in the lineage of the 32sii and 33s, which do have that feature. So to me that's no explanation at all.*

Recall that the HP-42S offered complex numbers, matrices, and alphanumeric strings in addition to floating-point numbers, and still provided the comma or point separators automatically.

I believe that the HP-35s might be borrowing some non-legacy ROM code from the HP-50g and other models, because a few instances of "RPL way" and "business-model way" replaced the traditional "RPN scientific way". In addition to the lack of automatic comma-separator placement (based on RPL's free-format input buffer that accepted input of uncertain data type), the following unwelcome methods were adopted on the HP-35s:

- The awkward RPL-style HEX/OCT/BIN data entry that required the user to append a lower-case base identifier to the alternate-base integer, even with that base selected
- The requirement to prepend a "1" prior to entering the base-10 exponent "E", as with the business models

-- KS

Edited: 5 Sept 2009, 1:49 a.m.

Re: In praise of hard-copy manuals

*Message #12 Posted by **Egan Ford** on 5 Sept 2009, 12:28 p.m.,*
in response to message #3 by Tim Wessman

> Quote:
>
> The thousands shifting is easy on a calculator where you only have one data type (real numbers). On the 35s which can have complex numbers, or vectors, it can't really know what you are typing in until the end.

42S does not have this problem. It support multiple types (IIRC) and is RPL-based (again IIRC).

> Quote:
>
> It could *possibly* have been kept that, but would have used up a lot of ROM in an already full ROM.

Get a larger ROM. :-)

Re: In praise of hard-copy manuals

*Message #13 Posted by **designnut** on 4 Sept 2009, 11:34 a.m.,*
in response to message #2 by Martin Pinckney

-I just weighed the printed manuals for the 50G including the starter book, in the aggregate 6.5 pounds. It isn't enough, and yet it's too much. The information is hiding in plain sight. There is simply too much NEW information to be digested unless you are strongly motivated. It is too complex to simplify. Paper may be great for simpler cases. You need an html document in your computer to access the information, then too there is a lot to carry in your head. If you have not grown up with the previous calculators that presaged the 50G it seems hopeless to learn all at once. Sam

Re: In praise of hard-copy manuals

*Message #14 Posted by **David Hayden** on 5 Sept 2009, 9:20 a.m.,*
in response to message #13 by designnut

> Quote:
>
> -I just weighed the printed manuals for the 50G including the starter book[...]

Printed manuals for the 50g? Did you print them yourself or are they available from HP?

Personally, I think companies should make printed & bound manuals available for a price. That way the people who want them could get them and hopefully the companies could earn a little profit from it.

Re: In praise of hard-copy manuals

*Message #15 Posted by **Dallas Osborne** on 4 Sept 2009, 11:56 a.m.,*
in response to message #2 by Martin Pinckney

True, it was very nice that the first run of 35s calculators came with printed manuals.

The spiral bind is also nice to have.

Re: In praise of hard-copy manuals

*Message #16 Posted by **Michael de Estrada** on 4 Sept 2009, 1:07 p.m.,*
in response to message #15 by Dallas Osborne

Where the heck did you find one with a spiral bound manual? I bought one of the very first ones (CNA 72600865), and it came with a lousy paperback bound manual. Grrrrrrr!

Re: In praise of hard-copy manuals

*Message #17 Posted by **Martin Pinckney** on 4 Sept 2009, 1:19 p.m.,*
in response to message #16 by Michael de Estrada

I think Dallas just took it to a print shop and had it spiral bound.

Re: In praise of hard-copy manuals

*Message #18 Posted by **Dallas Osborne** on 4 Sept 2009, 3:34 p.m.,*
in response to message #17 by Martin Pinckney

Yup, Kinko's did it for $8. I really don't like hardback manuals; they don't lay proper-like.

I also promptly replaced the zipper case with a 33s case. Yes, the zipper case is neat and all, but, again, I just don't like working the dang zipper all the time. Call me lazy, eh?

The 33s case fits perfectly. The only other thing I still have yet to do is replace the soft plastic film over the LCD with a thicker matt-plastic. I have done this with a couple of the 15c jobs with badly scratched screens. I use a matt plastic that is somewhat like the 48 series screen material.

Re: In praise of hard-copy manuals

*Message #19 Posted by **Michael de Estrada** on 4 Sept 2009, 4:01 p.m.,*
in response to message #18 by Dallas Osborne

> Quote:

> I also promptly replaced the zipper case with a 33s case.

Great idea! I never thought of that. My HP 33s has one of the older displays with the invisible decimal point, and I hardly ever use it since getting my HP 35s.

I think I'll head down to Kinko's to get the manual spiral bound, and maybe the HP 32SII manual as well.

Re: In praise of hard-copy manuals

*Message #20 Posted by **Thomas Radtke** on 5 Sept 2009, 7:28 a.m.,*
in response to message #18 by Dallas Osborne

> Quote:
>
> The only other thing I still have yet to do is replace the soft plastic film over the LCD with a thicker matt-plastic.

It's crucial for a matt-plastic film to make perfect contact to the LCD, right? Did you find a self-adhesive film or is yours stiff enough to ensure it?

Re: (minor hijack) In praise - and endeavor for - of quality LCD covers.

*Message #21 Posted by **Dallas Osborne** on 5 Sept 2009, 7:21 p.m.,*
in response to message #20 by Thomas Radtke

I use 1mm thick foam double-sided tape as a stand-off similar to how the 35s screen is originally installed.

The matt plastic is rather thick - about 0.7mm; I raided it from the LCD covers of some old office phones.

For the 11c/15c screens, I just cut them the same size as the old glossy ones. I hit the front and the aluminum face plate with a heat gun until it is warm and press the old screen out of the bracket. The new ones takes a little flexing to get it started in the slot but will fit just like the old one. Then heat the front up again and press the ends against the glue.

Let me know if you would like photos; I just finished up an 11c and will do my 35s early this next week.

Re: (minor hijack) In praise - and endeavor for - of quality LCD covers.

*Message #22 Posted by **Thomas Radtke** on 6 Sept 2009, 5:48 a.m.,*
in response to message #21 by Dallas Osborne

Thanks for your answer! I'm very interested in your 35s display surgery, so please take some photos :-).

Re: (minor hijack) In praise - and endeavor for - of quality

LCD covers.

*Message #23 Posted by **Dallas Osborne** on 6 Sept 2009, 10:04 a.m.,*
in response to message #22 by Thomas Radtke

I will put in a link (in a separate thread) to a photo page sometime mid to late next week.

Re: In praise of hard-copy manuals

*Message #24 Posted by **Mike Morrow** on 4 Sept 2009, 11:59 a.m.,*
in response to message #1 by Luca

I think one of the last good HP calculator manuals was the spiral bound owner's manual for the HP42S. But it later was changed to a more awkward bound book.

I think the greatest HP calculator manual set EVER is the HP-15C Owner's Handbook with the HP-15C Advanced Functions Handbook. I'd love the equivalent for my cherished and more capable HP42S.

If the fantasy is true that HP may be considering a resurrection of the HP-15C, what are the chances that these two high quality manuals will also be re-issued? (None!)

In fairness to very complex machines like the HP49g+/HP50g, I find that the searchable pdf format manuals are far easier to use overall to sift through those 800 page monsters. I can carry manuals on an SD card or flash drive. Of course, I must have have a PC available.

I printed out the HP49g+ AUR on a high definition printer, four pages on each side of an 8.5x11 inch sheet, and got something light and compact that I can use without having a PC (if I have my best reading glasses).

Re: In praise of hard-copy manuals

*Message #25 Posted by **Michael de Estrada** on 4 Sept 2009, 1:27 p.m.,*
in response to message #24 by Mike Morrow

> Quote:
>
> I think the greatest HP calculator manual set EVER is the HP-15C Owner's Handbook with the HP-15C Advanced Functions Handbook. I'd love the equivalent for my cherished and more capable HP42S.
>
> If the fantasy is true that HP may be considering a resurrection of the HP-15C, what are the chances that these two high quality manuals will also be re-issued? (None!)

Yes, wonderful and informative reading. I guess we are fortunate to already have these manuals, as well as the many others that HP published in the early years. I value these manuals almost as much as the calculators themselves. I also very much like the original manual for the HP 12C, as well as those for the HP 91 and HP 34C.

Re: In praise of hard-copy manuals

*Message #26 Posted by **Michael Plant** on 4 Sept 2009, 3:44 p.m.,*
in response to message #25 by Michael de Estrada

Just to note - HP is still shipping bound copies of the manual on request. I just got off the phone with them and my manual is coming via UPS with a 10 to 15 day delivery window.

BTW I've been lurking here for awhile this is my first post!

Good hard-copy manuals; HP-15C engineering

*Message #27 Posted by **Karl Schneider** on 5 Sept 2009, 2:10 a.m.,*
in response to message #1 by Luca

> Quote:
>
> But the manual was on a planet of its own. It was written in an outstanding way. It was clear, from the manual, the enormous amount of thought and engineering that went into that calculator. Other calculators were composed of many functions, more or less put together on top of an algebraic setting. But it was clear from the 32SII manual that true engineers and mathematicians had worked at the calculator. It was not a toy, it was the outcome of very sophisticated thought. The impression of quality, attention to detail, was remarkable.

Luca --

That was a nice short essay, and that particular paragraph hit the nail on the head.

H-P had an impressive "A-Team" of engineers (in the electronic, mechanical, and software disciplines), mathematicians, and technical writers producing the calculators of the 1970's and 1980's. A large professional market and relatively-high retail prices made it possible.

The HP-15C in particular was amazingly cohesive in its broad functionality, which was flawlessly implemented and documented in a pioneering product developed on a fairly-short timeline. Despite that the calculator's specification embodied "uncharted waters", and was implemented on hardware of modest capability, no bugs or avoidable shortcomings were introduced.

Every feature it truly needed to have for practicality was present. The matrix functions provided utilities for solving complex-valued systems, and the complex-number functionality -- although limited by hardware -- worked quite well with it. All the regular and advanced functionality was programmable and available concurrently, without resorting to operating 'modes' so common in other brands.

In addition to sound analytical thinking, certain systematic methods of engineering must have been used in order to achieve such results. I'd like to know specifically what they were.

-- KS

Edited: 6 Sept 2009, 1:43 a.m. after one or more responses were posted

Re: Good hard-copy manuals; HP-15C engineering

*Message #28 Posted by **Luca** on 5 Sept 2009, 10:58 p.m.,*
in response to message #27 by Karl Schneider

Thanks, Karl. I fully agree with you; it is this impression of quality and cohesion that makes those calculators so nice to have and use.

My wife has the 15C; I missed out: I went through my engineering degree with a Casio fx-4000p. It was not till I moved to this country and started graduate school that I finally decided to buy a true HP, and I started with the 32SII (which is still my everyday calculator).

I bought an 11C, to also have a Voyager. I find the 42s also gives me a sense of incredible design quality,

more so than the 32sII. However, the 42s never became my everyday calculator, due to the poor readability of the display (I write lots of code, and I often work in ambient -- not bright -- light), and due to the fact that too many of the functions I use are buried too deep in that general, huge, function menu. The 15c, with its power, readable display, and extensive functions on the key, is a very nice balance.

Oh, if they only made a 42sII with better display (like the 33s or 35s) and with more functions on the keyboard!

Cheers, Luca.

Re: Good hard-copy manuals; HP-15C engineering and beyond

*Message #29 Posted by **Walter B** on 6 Sept 2009, 6:54 a.m.,*
in response to message #28 by Luca

> Quote:
>
> Oh, if they only made a 42sII with better display (like the 33s or 35s) and with more functions on the keyboard!

Hmmh, do you think of something like this here? Supporters of this dream are most welcome.

Ceterum censeo: HP, launch a 43S.

Walter

Edited: 8 Sept 2009, 2:35 a.m.

Re: Good hard-copy manuals; HP-15C engineering and beyond

*Message #30 Posted by **Bart (UK)** on 8 Sept 2009, 7:43 a.m.,*
in response to message #29 by Walter B

Now that's just the right size calculator with the right size screen: a 4 level stack like the 28S.

Make it an RPL machine with 28S ROM (without the "graphics" - that i'll do on a PC) and it'd be the perfect handheld. Oh, just remember USB support for saving / re-loading progs :).

I know many prefer RPN programming, but just think: an (almost) limitless stack - no more keeping track of when you're about to drop something off the top of the stack!

Just my opnion/wish.

43S pondering

*Message #31 Posted by **Byron Foster** on 8 Sept 2009, 11:44 a.m.,*
in response to message #30 by Bart (UK)

> Quote:
>
> Make it an RPL machine with 28S ROM (without the "graphics" - that i'll do on a PC) and it'd be the perfect handheld.

Would one really choose to use RPL in a modern design? I've never done RPL myself so I can't

asses it. But, it seems if you are going to go higher level then something like Hugh Steer's hplua would be a better fit. That's what I would choose :)

> Quote:
>
> I know many prefer RPN programming, but just think: an (almost) limitless stack - no more keeping track of when you're about to drop something off the top of the stack!

Why would RPN programming preclude a larger stack?

Re: 43S pondering

*Message #32 Posted by **Egan Ford** on 8 Sept 2009, 12:36 p.m.,*
in response to message #31 by Byron Foster

> Quote:
>
> Would one really choose to use RPL in a modern design? I've never done RPL myself so I can't asses it. But, it seems if you are going to go higher level then something like Hugh Steer's hplua would be a better fit. That's what I would choose :)

1. Lots of RPL programs.
2. Stack oriented programing like RPN.

But, I do see your point. Given today's memory sizes I see no reason why I should have to choose. Just have both RPL and Lua.

Re: 43S pondering

*Message #33 Posted by **Bart (UK)** on 8 Sept 2009, 5:34 p.m.,*
in response to message #32 by Egan Ford

> Quote:
>
> Why would RPN programming preclude a larger stack?

Good question, why is it that RPN programming calcs have only a 4-level stack? (all the ones I know anyway - 35S included).

> Quote:
>
> Given today's memory sizes I see no reason why I should have to choose.

Also a good point. That would make it attractive to a bigger audience.

As for HPLua - I have never tried it, something to look into ...

Re: 43S pondering

*Message #34 Posted by **Walter B** on 8 Sept 2009, 7:00 p.m.,*
in response to message #33 by Bart (UK)

> Quote:
>
> > Quote:
> >
> > Why would RPN programming preclude a larger stack?
> >
> > Good question, why is it that RPN programming calcs have only a 4-level stack? (all the ones I know anyway - 35S included).

AFAIK the reason was cost of memory in the ancient times. But nowadays this is no argument anymore. There are RPN calcs with larger finite stacks on the market, e.g. MathU with 16 levels. IMHO, a stack size of 6 or 8 would suffice for carefree calculations while still allowing for stack "gymnastics" like rolling etc.

A settable fixed stack size may include a "compatibility mode" -- i.e. size 4 -- for all the old programs. So sizes 4, 6, 8 would be perfect for my purposes.

Re: 43S pondering

*Message #35 Posted by **Bart (UK)** on 9 Sept 2009, 6:26 a.m.,*
in response to message #34 by Walter B

> Quote:
>
> AFAIK the reason was cost of memory in the ancient times.

In the HPs the barrier was broken with the 28C. It could probably have been done in the 41C series.

As far as compatibility with old programs goes, would it be that difficult adapting an old program to a dynamic length stack? There are some differences between models anyway that require small mods to programs (e.g 15C vs 42S vs 35S). If the designers allowed the first 4 levels to be addressed by either 1 to 4 or X Y Z T (allowing e.g. both the use of X<>Y or SWAP) the impact would be minimal, requiring small changes e.g. to ROLL & OVER.

My first HP was a 28C, so keeping track of the stack was never a worry, apart from running out of memory* - which wasn't a problem as I don't recall going beyond 10. I must say that RPN programming has me keeping careful track of the stack when designing programs.

[*The limited memory of the 28C did teach me the discipline of clearing the stack after each use.]

Re: In praise of hard-copy manuals

*Message #36 Posted by **Reth** on 5 Sept 2009, 3:45 a.m.,*

in response to message #1 by Luca

> Quote:
>
> The manual is part of the reason I never liked the **48**, 49, 50g series. The manuals were hastily put together, poorly organized, too large -- a sloppy job...
> 33s has a printed manual, whereas the **35s does not**

It would be nice if you did your home work before making statements as the quoted ones above.
The HP48S had a perfect, thick manual; the 48G's not too bad either and the 35S had one.

Re: In praise of hard-copy manuals

*Message #37 Posted by **Bart (UK)** on 5 Sept 2009, 7:55 a.m.,*
in response to message #36 by Reth

> Quote:
>
> ... the 48G's not too bad either...

Except that for programmng you really needed the Advanced User's Reference Manual, which had to be purched seperately. Programming is one of the main features of the 48.

Re: In praise of hard-copy manuals

*Message #38 Posted by **Ed Look** on 5 Sept 2009, 12:21 p.m.,*
in response to message #37 by Bart (UK)

This is true, and initially, I was put off because of the need for a separate AUR for the 48G series.

But then it seemed to me that if you included the material of the AUR into the included User's Guide, you'd have large brick that would have required traditional cloth binding to make it usable. Spiral and punched hole binding can accomodate only so many pages before the sheets become torn from the binding just by opening the book, and there are other physical issues.

Now, putting such material online or on a CD or DVD may make them affordably accessible (from both sides of the market), but personally, I find these media harder to use. I truly rather read a printed volume than something of equal size online or from a CDROM.

I learned to program my 48Gs from some awkward places and positions at odd times. Even a netbook or ipod touch would have made that harder, even if they existed at that time, even if I liked those kind of devices.

Edited: 5 Sept 2009, 12:22 p.m.

Re: In praise of hard-copy manuals

*Message #39 Posted by **Reth** on 6 Sept 2009, 12:18 a.m.,*
in response to message #37 by Bart (UK)

That's why I said "not too bad" - the programing capabilities of the 48G overpassed the 48S' so the already thick manual should be at least doubled in size to cover it all. I have no problem buying extra manuals and they were available. Vast majority of users never need them anyway; they don't even read

manuals coming with the calculator. Some participants in this forum included. Which doesn't stop them winging. I bet at least 80% of questions asked here and in the other forum come from people who never read the manual.

Re: In praise of hard-copy manuals

*Message #40 Posted by **designnut** on 9 Sept 2009, 10:46 a.m.,*
in response to message #39 by Reth

-I think there is a limit to how much information one can use printed material to cover. Clearly the 50G reaches that limit. Printing the material means the information is hiding in plain sight. I think the answer is an HTML computer document that lets you jump among various subjects. I have the CD manuals for the 50g printed, in total 6.5 pounds and it is not enough, or it is too much. Won't work. It is unreal to hold up the 15C book as exemplary. It is simple and yet I read the book through and was still puzzled. Only on the second reading did it make sense. There is limit to the rate one acquires new information. Given the amount of new information it forces a long learning period. simple text won't work. You need an HTML document to access what you are puzzled about. Sam

Re: In praise of hard-copy manuals

*Message #41 Posted by **Bart (UK)** on 19 Sept 2009, 5:59 a.m.,*
in response to message #39 by Reth

> Quote:
>
> I bet at least 80% of questions asked here and in the other forum come from people who never read the manual.

I noticed. I always found it superfluous for forums to state "read the manual/documentation first" - but I now see why.

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PIL-box connectivity

*Message #1 Posted by **Juergen Rodenkirchen** on 4 Sept 2009, 8:21 a.m.*

Hi all! Lately I ordered my PIL-box, newer version with mini-USB plug. While in pleasant anticipation :-) I checked an electronic parts dealer for an appropriate cable, and found 2 versions: 4- and 5-pin plugs. From Jean-Francois I know that the cable of the HP-50G will work. I do not have an HP-50G, but according to commerce.hpcalc.org/serialcable.php this is a 4-pin style plug. Can anyone confirm this? For those who are in Germany, is the cable AK 637 found at Reichelt.de appropriate for the PIL-box?

Thanks & kind regards, Juergen

Re: PIL-box connectivity

*Message #2 Posted by **Juergen Rodenkirchen** on 4 Sept 2009, 4:28 p.m.,*
in response to message #1 by Juergen Rodenkirchen

Found the information on http://www.geocalc.com.au/product/F2229AA (HP-50G product info): USB 5-pin mini-USB connector to USB (and Serial 4-pin mini-USB connector to RS232)

Regards, Juergen

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An addition to my collection

*Message #1 Posted by **Palmer O. Hanson, Jr.** on 4 Sept 2009, 4:24 a.m.*

Last week I picked up a Commodore MINITEMAN 6X at a flea market for two dollars. Like the NSC 600 and the NOVUS 650 it uses RPN but it is limited to integer arithmetic. It does have a dedicated Enter key, something that the 600 and 650 do not have.

That's a Novus, too...

*Message #2 Posted by **Frank Boehm (Germany)** on 4 Sept 2009, 6:22 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

it uses a National Semiconductor (NS; Novus was the consumer division of NS) MM5736N - the same chip has been used inside the Minuteman 6 (simple RPN, but no Enter key) *and* also inside the Novus 650. So the lack of an Enter key probably was a marketing decision (and maybe even dictated by manufacturing costs, considering the 650 was the cheapest calculator one could buy...)

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Completing my collection

*Message #1 Posted by **Michael de Estrada** on 3 Sept 2009, 7:46 p.m.*

Today I came just a little closer to completion of my collection of HP LED era calculators. My basic goal is to have one sample of each model of the Classic, Woodstock and Spice handhelds as well as associated printing desktops. I just bought on auction a complete working HP 27 set, which has proven to be one of the toughest models to find in good condition. I have allowed that certain models are covered by others, such as the HP 25 is covered by the HP 25C, and indeed sold my HP 25 when I found an HP 25C. I may also sell my HP 33E and HP 38E, since I now have both an HP 33C and HP 38C. The only models I now lack are the HP 29C and HP 70. I own a HP 19C, which somewhat covers the HP 29C, and have passed up opportunities to buy an HP 29C at high prices. As to the HP 70, well that may never happen as I've yet to see a good and complete one show up or anything at a remotely reasonable price. But perhaps never having a complete collection will keep me more interested in this hobby.

Edited: 3 Sept 2009, 9:39 p.m. after one or more responses were posted

Re: Completing my collection

*Message #2 Posted by **Don Shepherd** on 3 Sept 2009, 8:48 p.m.,*
in response to message #1 by Michael de Estrada

Michael, instead of the 70, why not go after a 65? I got one about two years ago and it has become one of my favorites. It was the first programmable, and the card reader/writer would be a welcome addition to many models today.

Re: Completing my collection

*Message #3 Posted by **Michael de Estrada** on 3 Sept 2009, 9:38 p.m.,*
in response to message #2 by Don Shepherd

Don, I already have an HP 65, in fact I've got 3 of them, all in perfect refurbished working condition. About a year ago I sold a fourth HP 65 that I'd fixed up, but was not in as nice cosmetic condition. I agree that it is a milestone product, and a lot of fun to use. I've also got 2 of the HP 67 and one HP 97. So I have all of the card reader models except the pre and post classic models. Like I said, I have all of the Classics, except the HP 70. Perhaps, I should have said one of each model rather than sample. I am also the proud owner of an HP 35 Red Dot. I'm only interested in the HP 70 for its uniqueness, since the HP 80 (I've got 4, including a version 1) completely trumps it in features, and besides mostly I use my HP 12C anyway.

But thanks for your observations.

Michael

Edited: 3 Sept 2009, 9:44 p.m.

Re: Completing my collection

*Message #4 Posted by **Don Shepherd** on 3 Sept 2009, 10:49 p.m.,*

in response to message #3 by Michael de Estrada

Oh, OK, now I see. I don't know if you have run into this on your 65s, but I think there is a problem with the y^x function for larger values when y is 10. For example, on my 65, using y^x, 10^1 through 10^6 are all OK, but 10^7 gives 9999999.99, 10^8 gives 99999999.60, 10^9 gives 1.000000003 09, 10^10 gives 1.000000000 10, and 10^11 gives 9.999999970 10. I would be curious if you get the same results. Maybe this was documented somewhere back in 1974 or 75, but I haven't seen it anywhere.

The EEX function works fine.

Re: Completing my collection

*Message #5 Posted by **Michael de Estrada** on 3 Sept 2009, 11:27 p.m.,*
in response to message #4 by Don Shepherd

Yes, all 3 of my HP 65's give the same results that you have. Two of them are version 1 with the serial number inside the battery compartment and indicating 1973 as date of manufacture and the third is a version 2 with the serial number between the bottom feet below the back label and indicating 1976 as the date of manufacture. I also get the same results with a HP 45 and HP 55, however, my HP 67 from 1978 gives the exact correct results. So, apparently this "bug" was common to the early classics, but later corrected in the second generation mag card models.

Re: Completing my collection

*Message #6 Posted by **Katie Wasserman** on 4 Sept 2009, 2:50 a.m.,*
in response to message #5 by Michael de Estrada

According to Wlodek the 91 was the first HP calculator to correctly deal with integer exponentiation. The HP-91 came out on March 1, 1976, the 27 and 29C and 19C came out later and also handled integer exponents correctly. I don't think that HP revised the ROM's of the earlier Woodstocks (21, 22, 25, 25C) even though they continued to produce them for a couple of years after the 91 came out.

Re: Completing my collection

*Message #7 Posted by **Michael de Estrada** on 4 Sept 2009, 12:47 p.m.,*
in response to message #6 by Katie Wasserman

Katie,

I tested my HP 21 (s/n 1710A), HP 22 (s/n 1601A), HP 22 (s/n 1711A) and HP 25C (s/n 1703A) and both the HP 21 and HP 25C give the same erroroneous results, however, the HP 22's give the correct exact results. Curious that a business calculator would be more accurate with large numbers than a scientific calculator.

Michael

Re: Completing my collection - Wlodek are you reading this?

*Message #8 Posted by **Katie Wasserman** on 4 Sept 2009, 2:17 p.m.,*
in response to message #7 by Michael de Estrada

Michael,

You're right my HP-22 works correctly on integer exponents. The 22 came out before

the 91, in fact the serial number on mine is 1601A.... so it was made in January of 1976. I think that the book may have this wrong.

Thanks, Katie

Re: Completing my collection - Wlodek are you reading this?

*Message #9 Posted by **Wlodek Mier-Jedrzejowicz** on 4 Sept 2009, 9:09 p.m.,*
in response to message #8 by Katie Wasserman

Hi Katie, thanks,

And thanks to Gene Wright for pointing out this thread to me.

HP described the increased accuracy of y^x in an article in the HP Journal. (I don't have the exact issue reference to hand, sorry.) The article described the HP-91 as they were writing about the new Topcat series, but I assume that in fact the improved algorithm was also put in the HP-22, which was introduced a few months before the 91, but after the HP-21 and the HP-25. I believe that the HP Journal articles were sometimes written long before they were printed, so someone else could have sneaked a new algorithm into a different model before the article was published, saying the HP-91 was the first model with this algorithm ;-)

Anyway, thanks for pointing this out - something else to change in the next edition,

Wlodek

which calculators use the improved log/exp algorithms

*Message #10 Posted by **Eric Smith** on 5 Sept 2009, 3:37 a.m.,*
in response to message #9 by Wlodek Mier-Jedrzejowicz

The 19C, 22, 27, 29C, 67, and 97 use the newer logarithm and exponential code, verified by studying the ROM code.

The 21, 25, and 25C use the older code, verified by studying the ROM code.

I suspect that the 92 and 95C use the newer code, but I haven't verified it.

Re: which calculators use the improved log/exp algorithms

*Message #11 Posted by **Mike Morrow** on 6 Sept 2009, 12:36 p.m.,*
in response to message #10 by Eric Smith

I've always found these differences in results for the same calculation to be interesting. Here are three examples that puzzle me a bit. Each is a 2500-iteration Savage Benchmark, where the "perfect" numerical result would be 2500.

HP-25
01 RAD
02 STO 0
03 0
04 STO 1
05 RCL 1

06 1
07 +
08 SQRT
09 X^2
10 LN
11 e^X
12 ATAN
13 TAN
14 STO 1
15 RCL 0
16 1
17 -
18 STO 0
19 X=0?
20 GTO 22
21 GTO 05
22 RCL 1
23 DEG
24 GTO 00
Enter 2500 and press R/S
Result = 2499.079996 after 5940 seconds.

HP-67
01 LBL B
02 RAD
03 ST I
04 0
05 LBL 1
06 1
07 +
08 SQRT
09 X^2
10 LN
11 e^X
12 ATAN
13 TAN
14 DSZ I
15 GTO 1
16 DEG
17 RTN
Enter 2500 and press B
Result = 2499.976148 after 5840 seconds

HP-34C
01 LBL B
02 RAD
03 STO I
04 0
05 LBL 1
06 1
07 +
08 SQRT
09 X^2
10 LN

11 e^X
12 ATAN
13 TAN
14 DSE I
15 GTO 1
16 DEG
17 RTN
Enter 2500 and press B
Result = 2499.969898 after 7530 seconds

The HP-41CX after 3210 seconds and the HP-15C after 5840 seconds produce numerical results identical to the HP-34C.

SUMMARY (Result and time in seconds)
HP-25____2499.079996____5940
HP-67____2499.976148____5840
HP-34C___2499.969898____7530
HP-41CX__2499.969898____3210
HP-15C___2499.969898____5840

The benchmark does not use the Y^X function, so other differences must exist in the numerical algorithms of the HP-25 and the later models.

Suprisingly, the HP-67 result differs slightly from that of all the later pre-Saturn calculators. However, if the benchmark is run for less than 1500 iterations, the HP-67's result is identical to the later calculators!

I don't have a working HP-19C to check results for the 19C/29C models, but I'd bet they show the same strange effect as the HP-67.

Edited: 6 Sept 2009, 12:53 p.m.

Re: which calculators use the improved log/exp algorithms

*Message #12 Posted by **Michael de Estrada** on 7 Sept 2009, 8:56 p.m.,*
in response to message #11 by Mike Morrow

I ran the Savage benchmark on my HP-19C, and the result is 2499.976148 as you predicted. I used pretty much the same code as you did for the HP-25, except that the GTO <line number> are replaced with GTO <label> and labels 0,1,2 were inserted. Also, I inserted a R/S before the last line (GTO 0) to prevent it from looping. I didn't time it precisely, but it took approximately 6600 seconds to run.

Re: Completing my collection

*Message #13 Posted by **Jeff Kearns** on 4 Sept 2009, 9:49 a.m.,*
in response to message #5 by Michael de Estrada

I have a neat little application on my Palm Treo 650 called CSIM. It simulates the HP-35, HP-45 or HP-55, depending on setup. It also gives the answers above for each model. It is a great little Palm OS program for anyone (like me) not lucky enough to own a real Classic.

Jeff Kearns

Re: Completing my collection

*Message #14 Posted by **Eric Smith** on 4 Sept 2009, 2:41 a.m.,*
in response to message #1 by Michael de Estrada

I'm still hoping to find an 81 and a 9805A (which is similar to the 46 and 81).

Re: Completing my collection

*Message #15 Posted by **Michael de Estrada** on 4 Sept 2009, 9:01 p.m.,*
in response to message #14 by Eric Smith

> Quote:
>
> I'm still hoping to find an 81 and a 9805A (which is similar to the 46 and 81).

I also don't have a 9805A, but am not looking for one, since I only care about HP RPN calculators. The 46 is one of my collection favorites, along with the 91, 65/67/97, 19C and 34C.

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Does anyone, in all earnest, still use slide rules for work?

*Message #1 Posted by **hecube** on 3 Sept 2009, 11:50 a.m.*

Not necessarily in here. Are there die-hards who still swear by slide rules?

Re: Does anyone, in all earnest, still use slide rules for work?

*Message #2 Posted by **hpnut** on 3 Sept 2009, 12:59 p.m.,*
in response to message #1 by hecube

have you seen anyone riding a penny farthing bicycle lately? ;-)

Re: Does anyone, in all earnest, still use slide rules for work?

*Message #3 Posted by **designnut** on 3 Sept 2009, 1:09 p.m.,*
in response to message #2 by hpnut

I got a lot of mileage from the use of cardboard calculators. They may still be in use as company handouts, though with the internet information highway less useful. They were not precise, but that was not needed as the selection of parts values was more limited and their tolerances considerable. It put your decimal in the right place, a potential danger with the slide rule. Sam 81

Re: Does anyone, in all earnest, still use slide rules for work?

*Message #4 Posted by **Martin Pinckney** on 3 Sept 2009, 1:27 p.m.,*
in response to message #3 by designnut

> Quote:
>
> It put your decimal in the right place, a potential danger with the slide rule. Sam 81

The other side of the coin is, with the way we used to have to do calculations in the slide rule days, you were *forced* to figure out what a *reasonable* answer was, since the slide rule only gave you significant digits, not magnitude. With today's automated calculations (computers), there's always the risk of GIGO.

Re: Does anyone, in all earnest, still use slide rules for work?

*Message #5 Posted by **Bart (UK)** on 3 Sept 2009, 2:58 p.m.,*
in response to message #4 by Martin Pinckney

> Quote:
>
> ... you were forced to figure out what a reasonable answer was...

And I still do, even when using Excel, or should I say _especially_ when using Excel...

I had a pocket slide rule at school* that my father taught me how to use. I still have his bigger Faber Castell one at home (just for show).

*I had a geeky science teacher that allowed slide rules in the exam, but not electronic calcs.

Re: Does anyone, in all earnest, still use slide rules for work?

*Message #6 Posted by **Palmer O. Hanson, Jr.** on 4 Sept 2009, 4:07 a.m.,*
in response to message #3 by designnut

Sam:

> Quote:
>
> It put your decimal in the right place, a potential danger with the slide rule. Sam 81

Somewhere in this forum I picked up the idea that you are over eighty years old. If so, then you have got to remember that there were ways to keep track of the decimal point which were akin to the way it is done when using logarithm tables.

Palmer

Re: Does anyone, in all earnest, still use slide rules for work?

*Message #7 Posted by **Les Bell** on 4 Sept 2009, 6:58 p.m.,*
in response to message #2 by hpnut

> Quote:
>
> have you seen anyone riding a penny farthing bicycle lately? ;-)

Yes - just a couple of days ago, actually:

http://www.dailymail.co.uk/sciencetech/article-1210534/Bike-enthusiast-develops-electric-penny-farthing-travels-13mph.html

Best,

--- Les
[http://www.lesbell.com.au]

Re: Does anyone, in all earnest, still use slide rules for work?

*Message #8 Posted by **Walter B** on 3 Sept 2009, 1:42 p.m.,*
in response to message #1 by hecube

For getting a whole set of relations at once, a slide rule is unbeatable. Not that this brings me back to use one again, though ;)

Just a few years ago (maybe 4), I've seen a professional using a pocket slide rule at work. And it was a reasonable application.

Edited: 3 Sept 2009, 1:45 p.m.

Re: Does anyone, in all earnest, still use slide rules for work?

*Message #9 Posted by **Jeff Kearns** on 3 Sept 2009, 2:01 p.m.,*
in response to message #8 by Walter B

I always wanted a slide rule... I remember seeing one in my house when I was a kid, but it was a cheap plastic unit and no one knew where it ended up. But I wanted a good one! Made of bamboo! I like 'old' technology, reading about Briggs and Oughtred and logarithms and have a 12th edition Machinery's Handbook that has a chapter on the slide rule which I love. So last month I bought my first one from the Slide Rule Trading Company - a Hemmi 260 Advanced Engineering Slide Rule. It was brand new (so not cheap...), never-been-used, with instruction manual and new leather case. What a slipstick! I financed the purchase by selling a spare HP-32E to a fellow in Australia who posted in the WTB section.

I am still learning how to use all the scales and am enjoying the experience. I really want to get a vest pocket sized unit next to wear to black-tie affairs and fancy restaurants (and show-off at the office). The 'ultimate' geek symbol. No batteries, works in most ambient lighting conditions, and sure to impress women all over the planet. I love this forum...

My $0.02... --- Jeff Kearns

Re: Does anyone, in all earnest, still use slide rules for work?

*Message #10 Posted by **Martin Pinckney** on 3 Sept 2009, 2:50 p.m.,*
in response to message #9 by Jeff Kearns

> Quote:
>
> I really want to get a vest pocket sized unit next to wear to black-tie affairs and fancy restaurants (and show-off at the office). ... and sure to impress women all over the planet.

And what planet are you referring to?

Re: Does anyone, in all earnest, still use slide rules for work?

*Message #11 Posted by **Bill (Smithville, NJ)** on 3 Sept 2009, 3:05 p.m.,*
in response to message #10 by Martin Pinckney

I still have a tie clip slide rule. I don't have to wear ties anymore, but it was fun to wear. Always wanted a set of cuff links to go wit the tie clip.

There were all sorts of wearable slide rules. See followin link:

Wearable Slie Rules

Just found a like where you can buy a Slide Rule Tie Clip:

Slide Rule Tie Clip

While I don't use a slide rule anymore, our office does use a lot of special slide rule type charts to calculate pipe sizing, duct sizing, electrical sizing, etc. Companies used to make all sorts of sliding devices - rectangular and circular - that would let you quickly select a particular equipment size. When PC's came out, they stopped giving the sliding charts out and starting giving us disks with computer programs (now they give us CDROM and even DVD's). These were NEVER as easy or fast to use as the sliding charts. That's why we hang onto these 20-30year old charts.

Bill

Edited: 3 Sept 2009, 3:08 p.m.

Re: Does anyone, in all earnest, still use slide rules for work?

*Message #12 Posted by **John B. Smitherman** on 3 Sept 2009, 3:40 p.m.,*
in response to message #10 by Martin Pinckney

> Quote:
>
> And what planet are you referring to?

Women are from Venus, Men are from Mars. ;-)

Regards,

John

Re: Does anyone, in all earnest, still use slide rules for work?

*Message #13 Posted by **hecube** on 3 Sept 2009, 4:38 p.m.,*
in response to message #12 by John B. Smitherman

It seems men can't even go to Mars because they can't agree on a measuring system.

Re: Does anyone, in all earnest, still use slide rules for work?

*Message #14 Posted by **Walter B** on 3 Sept 2009, 5:43 p.m.,*
in response to message #13 by hecube

Watch out: you're going to "open a barrel", as people say here.

Re: Does anyone, in all earnest, still use slide rules for work?

*Message #15 Posted by **Jeff Kearns** on 4 Sept 2009, 11:55 a.m.,*
in response to message #10 by Martin Pinckney

Why the one located between Saturn and Neptune, of course.

Cheerio! --- Jeff Kearns

Re: Does anyone, in all earnest, still use slide rules for work?

*Message #16 Posted by **Paul Dale** on 3 Sept 2009, 5:35 p.m.,*
in response to message #8 by Walter B

> Quote:
>
> Just a few years ago (maybe 4), I've seen a professional using a pocket slide rule at work. And it was a reasonable application.

Drawing straight lines on a piece of paper? ;-)

- Pauli

Re: Does anyone, in all earnest, still use slide rules for work?

*Message #17 Posted by **htom trites jr** on 3 Sept 2009, 5:42 p.m.,*
in response to message #16 by Paul Dale

I have several, don't use them much, mostly to keep in practice. Along the way I lost my 4" and 6" VersaLogs, and would love to replace them, but the prices the collectors want, no way. I keep looking at garage sales.

Re: Does anyone, in all earnest, still use slide rules for work?

*Message #18 Posted by **designnut** on 3 Sept 2009, 7:45 p.m.,*
in response to message #17 by htom trites jr

I recall leaving a test where all the EE's were finished and the ME's were still looking at their rules with a puzzled expression. We used every scale on the rule but the cube root.

Re: Does anyone, in all earnest, still use slide rules for work?

*Message #19 Posted by **Palmer O. Hanson, Jr.** on 5 Sept 2009, 10:56 p.m.,*
in response to message #18 by designnut

> Quote:
>
> I recall leaving a test where all the EE's were finished and the ME's were still looking at their rules with a puzzled expression. We used every scale on the rule but the cube root.

I was an AeroE and I remember that the twidgits were better with their slide rules than we were. I don't recall that it bothered us very much since we knew that most serious aero work couldn't be done at slide rule accuracy.

Re: Does anyone, in all earnest, still use slide rules for work?

*Message #20 Posted by **John Mosand** on 5 Sept 2009, 6:28 a.m.,*
in response to message #17 by htom trites jr

The Versalogs were issued in standard 5" and 10" scale versions. If you had them in 4" and 6", they would be incredibly valuable today :-)

Re: Does anyone, in all earnest, still use slide rules for work?

*Message #21 Posted by **htom trites jr** on 5 Sept 2009, 6:06 p.m.,*
in response to message #20 by John Mosand

Must have been 5" and 3" (or there abouts) then. The shirt pocket one was a stock item, the tiny one a gift from a salesman (I taught slide rule at the time.)

Re: Does anyone, in all earnest, still use slide rules for work?

*Message #22 Posted by **Dave Shaffer (Arizona)** on 4 Sept 2009, 2:40 p.m.,*
in response to message #16 by Paul Dale

> Quote:

> Drawing straight lines on a piece of paper? ;-)

They actually work really great for that: I used to use the slide from my K&E for drawing straight lines all the time. It was especially nice when you were using an ink pen (fountain pen - who here remembers, or still uses (!), one of those?) because the ink didn't get sucked under the slide, courtesy of the ridge sticking out, like it would be when using a regular ruler that laid flat on the paper next to the pen tip.

Re: Does anyone, in all earnest, still use slide rules for work?

*Message #23 Posted by **Bart (UK)** on 5 Sept 2009, 8:11 a.m.,*
in response to message #22 by Dave Shaffer (Arizona)

> Quote:
>
> (fountain pen - who here remembers, or still uses (!), one of those?)

Yes, and I do remember the trouble of using them with rulers, I had a ruler with a ridge, but when I'd use a normal ruler it was a matter of keeping the opposite side down and rotating the side you just used straight upwards, any sliding movement causing that awful smear :)

Re: Does anyone, in all earnest, still use slide rules for work?

*Message #24 Posted by **Chuck** on 3 Sept 2009, 9:54 p.m.,*
in response to message #1 by hecube

I only use them to show my students what was used in the "old" days.

Maybe in Ireland they're still used. Here is the link to the 2009 CPA Examination Syllabus:

CPA Syllabus

On Page 4 we have:

```
Use of Calculators, Logarithm Tables,Templates and Slide Rules


The use of calculators is permitted, provided they are not mains
operated or do not have a print out facility. Logarithm tables are
available on request. Use of templates for flow charting etc., is
allowed. The use of slide rules is also permitted.
```

CHUCK

Re: Does anyone, in all earnest, still use slide rules for work?

*Message #25 Posted by **designnut** on 4 Sept 2009, 12:04 a.m.,*
in response to message #24 by Chuck

As reported in Readers Digest, there was a report that concluded, these values were calculated with a sly drool. Sam

Re: Does anyone, in all earnest, still use slide rules for work?

*Message #26 Posted by **Bruce Bergman** on 4 Sept 2009, 12:17 a.m.,*

in response to message #1 by hecube

Just today, I got an email from ThinkGeek.com that said they're now offering a slide rule. Very cool!

thanks, bruce

Re: Does anyone, in all earnest, still use slide rules for work?
*Message #27 Posted by **Marnus Malan (RSA)** on 4 Sept 2009, 1:33 a.m.,*
in response to message #1 by hecube

Well, actually yes! We offer our clients a formwork planning slide ruler. The ruler is slided to the appropriate slab thickness and then one can read all the spacings for the propping supports and girders from the ruler.

All formwork companies offer a similar type of device to their clients.

Re: Does anyone, in all earnest, still use slide rules for work?
*Message #28 Posted by **Thomas Radtke** on 4 Sept 2009, 4:16 a.m.,*
in response to message #1 by hecube

I have one in my car mainly to calculate fuel consumption.

Re: Does anyone, in all earnest, still use slide rules for work?
*Message #29 Posted by **Mark Storkamp** on 4 Sept 2009, 8:04 a.m.,*
in response to message #1 by hecube

I would guess that student pilots still learn to use an E6B flight computer. I don't know if pilots still use them or not.

I still see speed/feed calculators in machine shops.

Both are specialized versions of slide rules.

Re: Does anyone, in all earnest, still use slide rules for work?
*Message #30 Posted by **Walter B** on 4 Sept 2009, 8:48 a.m.,*
in response to message #29 by Mark Storkamp

I know student pilots still use the Aristo Aviat on a regular basis. I'd guess they tend to use their notebooks later.

Re: Does anyone, in all earnest, still use slide rules for work?
*Message #31 Posted by **Egan Ford** on 4 Sept 2009, 8:53 a.m.,*
in response to message #1 by hecube

Relatively recently SciAm had a great article on the slide ruler. The followup letters to the editor had a letter from a US military artillery operator that stated that they still use slide rulers to verify the computer instructions.

Re: Does anyone, in all earnest, still use slide rules for work?
*Message #32 Posted by **hecube** on 4 Sept 2009, 8:03 p.m.,*
in response to message #1 by hecube

BTW, is there a more dramatic scene with slide rules in any movie than when Mission Control is checking Jim Lovell's conversions with slide rules in the movie Apollo XIII?

Re: Does anyone, in all earnest, still use slide rules for work?

*Message #33 Posted by **Don Shepherd** on 4 Sept 2009, 8:29 p.m.,*
in response to message #32 by hecube

Dramatic, maybe, truthful, probably not. Someone posted recently in one of these threads that the Apollo 13 engineers with the slide rules were double-checking addition results which, I am told, a slide rule cannot do.

Re: Does anyone, in all earnest, still use slide rules for work?

*Message #34 Posted by **Palmer O. Hanson, Jr.** on 5 Sept 2009, 2:47 a.m.,*
in response to message #33 by Don Shepherd

> Quote:
>
> ... double-checking addition results which, I am told, a slide rule cannot do.

A user can do addition within a limited range on slide rules which have the L scale on the slider.

A user who has one of those devices with a slide rule on the front and an Addiator on the back (such as my Faber-Castell 67/22R) can do more extended addition. In fairness, the addition isn't done with the slide rule part.

Another interesting addition to the conventional scales on a slide rule is an appropriately positioned scale on the inside of the frame which allows the device to be used as an inside caliper, as in the A. W. Faber 387 and 1/87m.

Re: Does anyone, in all earnest, still use slide rules for work?

*Message #35 Posted by **Ed Look** on 5 Sept 2009, 12:29 p.m.,*
in response to message #1 by hecube

Well, my boss does, only in jest and very, very, infrequently, just to show the superiority of his "slipstick" over my beloved HP calculators.

The only time I might best him in such peeing contests is when we have slightly more complicated, relative to say, a gas law calculation, or a more than one step conversion, and just by punching in "XEQ <whatever label>", the HP calc renders the result ahead of his laminated wood or plastic or whatever it's made of generating frictional heat.

Unfortunately, I fear his slipstick is more politically correct- it's green and the HP uses batteries. Oh well.

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HP 33s much better IMO than the 35s

*Message #1 Posted by **Luca** on 3 Sept 2009, 3:40 a.m.*

Unsatisfied with my HP 35s, I just bought an HP 33s for use at work, and to my surprise, I like it much better than the 35s! These are some of the advantages I see in everyday use:

- When I type a long number, the 33s inserts commas every three digits, so that I can easily see the magnitude of what I have entered (e.g., try to enter 120 millions). Not so on the 35s.
- The ALL mode on the 35s is badly broken, as often the exponent is not fully visible (!!). Not so on the 33s.
- The STO key in the 33s is unshifted; on the 35s, it is shifted.
- The displays are more or less equivalent to me.
- The 35s looks better than the 33s, but the 33s is thinner and ligher, an advantage when you have to carry it around.
- The ENTER key on the 33s is not bad after all; it is placed close to the arithmetic operation keys, and I use all such keys equivalently often.
- The 33s is free from many small annoying things in the 35s, such as the inability of entering 1/3 as 1..3 (.1.3 enters 0 1/3, which is visually more confusing).
- The 33s comes with a real manual.

In summary, I find the 33s a better calculator for everyday use. Do you agree?

Luca

Re: HP 33s much better IMO than the 35s

*Message #2 Posted by **Don Shepherd** on 3 Sept 2009, 10:07 a.m.,*
in response to message #1 by Luca

Agreed. And if you write programs for it, you will find the execution speed a whole lot faster on the 33s.

Re: HP 33s much better IMO than the 35s

*Message #3 Posted by **designnut** on 3 Sept 2009, 10:13 a.m.,*
in response to message #1 by Luca

I buy them on ebay to give to children. They are basically simple math calculators, with added layers of complexity as you advance. After basic math, you can add formula solving, fractions and programming. I'm sorry that someone had to "style" it and add rubber sides which forces the use of the clunky case rather than the thin slip cases of the past. It is an undervalued calculator, Sam now 81

Re: HP 33s much better IMO than the 35s

*Message #4 Posted by **Gene Wright** on 3 Sept 2009, 10:25 a.m.,*
in response to message #1 by Luca

1) The comma issue is due to a change to a process more like the RPL calculators, which have a command line and appear to be unable to parse a number as it is entered to put commas in place. After all, how does an

RPL calculator know if you are entering a number or a pair separated by a comma? If it had already put commas in number for you (with it assuming you were entering a real number) and then you press comma, then the entry is very confusing. I know the 35s does not have that particular issue, but being built on the RPL "shell" or such means it processes values entered in a similar fashion.

2) ALL is troubling. The display will not show all digits with that annoying scroll for the exponent. What should have been done? Show "almost all" and fit the exponent? Not have an ALL mode? Have an "Almost all" mode? :-) This was a problem that was talked about. Not a very good answer, I'm afraid. Not sure the approach chosen is/was the best, but ...

3) STO is a personal choice. Supposedly research exists that shows RCL is used much much more frequently than STO, hence the shifted status. Making STO primary means something else has to go shifted. Keyboard wars are always tough. And, no, I have not seen the supposed research and wish STO were primary myself.

4) The fraction mode is not that big a deal (to me) since it is fairly easy to adjust. Changes happen.

5) The 35s manual is not that bad, if you get a copy of the full manual of course. The quick start guide attempted to fit as much as possible into its 20-something pages. . . so please don't criticize that effort! Retailers often make demands to shrink package size, so perhaps this had something to do with the change. That and the loud requests to go greener from many voices.

My 2 cents and worth probably less than that!

Re: HP 33s much better IMO than the 35s

*Message #5 Posted by **Michael Andersson** on 3 Sept 2009, 1:55 p.m.,*
in response to message #1 by Luca

I agree, I like the 33s and tolerate the 35s. The 35s does have some advantages though, and the added functionality is nice (more variables, built in solutions to 2nd and 3rd order linear equations to name some), but the keyboard layout is not good. It has never taken me so long to learn were the keys are on any calculator as on the 35s. Furthermore, the large enter key uses one extra key space, that could have been used for unshifted STO, and the small ENTER down to the right is much better. Actually on my 48G I found that after a while I started using SPACE (which is placed down on the right) to separate input instead of ENTER because that key was better placed.

The way format ALL works on the 33s (and on my older HP:s) is better than on the 35s. I like the ALL mode because I see more digits than I need and can round it of to the needed precision manually. If there is an exponent it should be fully visible and the rest of mantissa can be called using SHOW.

Re: HP 33s much better IMO than the 35s

*Message #6 Posted by **Peter Klein** on 3 Sept 2009, 3:39 p.m.,*
in response to message #5 by Michael Andersson

A lot of people flamed the 33s for having the little Enter key at lower right. I thought I would hate it, but I've adjusted to it with surprisingly little trouble. Especially since I could program the R/S key to act like Enter most of the time, to ease the transition.

The "Big Enter Key" on the left is almost a religious icon among those of us who Remember the Good Old Days. I'm sure that's why the 35s has the double-width Enter. We complained, and Marketing listened.

Of course, we also want things to be Just the Way They Were in the Good Old Days. We also want lots of new features and no more complexity.

:-)

--Peter

Re: HP 33s much better IMO than the 35s

*Message #7 Posted by **John McCormick** on 3 Sept 2009, 10:47 p.m.,*
in response to message #1 by Luca

The 33s was my first HP calculator, and I found much to love even though it was regarded as the red-headed step child of the line. I've never seen the keypad as cluttered. For me, helpful is more appropriate. I wish the computational discrepancies could all be fixed though. It fits perfectly into the tool pocket of a pair of Carhartt work jeans, so it's always right there under my shooting hand, ready for...

Edited: 3 Sept 2009, 10:51 p.m.

Re: HP 33s much better IMO than the 35s

*Message #8 Posted by **Palmer O. Hanson, Jr.** on 4 Sept 2009, 3:56 a.m.,*
in response to message #7 by John McCormick

> Quote:
>
> The 33s was my first HP calculator ... ... I've never seen the keypad as cluttered. ...

To see a really cluttered keyboard look at an HP-67 where some keys have four functions.

Re: HP 33s much better IMO than the 35s

*Message #9 Posted by **John B. Smitherman** on 3 Sept 2009, 11:57 p.m.,*
in response to message #1 by Luca

Hi Luca. I agree with you. My 33s sits on my desk and gets used regularly while the 35s sits idle in my desk drawer. Others must agree with you as it's been 2 years since the 35s was released and HP still sells the 33s.

Regards,

John

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Your choice of calculator at work

*Message #1 Posted by **hecube** on 2 Sept 2009, 3:26 p.m.*

Do you use company issued calculators or do you bring your HP at work?

I use my HP-10bII for my part.

Re: Your choice of calculator at work

*Message #2 Posted by **Namir** on 2 Sept 2009, 3:49 p.m.,*
in response to message #1 by hecube

I use Excel to perform calculations. It has many built-in functions (including statistical ones), displays grid of data and can run very powerful macros programmed in Visual BASIC.

Any HP calculator can top that? I DON'T THINK SO!

Namir

Re: Your choice of calculator at work

*Message #3 Posted by **hecube** on 2 Sept 2009, 4:03 p.m.,*
in response to message #2 by Namir

I'm an Excel power user and there always comes a time when you need to reach for a good old calculator.

Re: Your choice of calculator at work

*Message #4 Posted by **Bart (UK)** on 2 Sept 2009, 4:31 p.m.,*
in response to message #2 by Namir

Mine is a 32S or the 35S. I have some of my more common routines programmed in the calcs, so I can give a quick answer in a meeting if needed.

I use Excel a lot too, just remember that Excel & VBA/Excel use binary FP, thus recreating programs from your fav HP in VBA may result in a slightly different answer akin to Free42Binary. (Unless you redim your vars to Decimal type).

Re: Your choice of calculator at work

*Message #5 Posted by **Daniel Diggelmann** on 2 Sept 2009, 4:47 p.m.,*
in response to message #4 by Bart (UK)

I use EXCEL a lot but use my private HP-48GX as well. On some days I even bring my HP-41CX - this is then a bit like sunday. We bought the HP-35s for our department and most engineers like it. I prefer the older HPs jut for the better keys. The keys are key ;-) to reliable result in my opinion. I've had most of the newer calcs and dumped them all after a while for the bad keys.

Re: Your choice of calculator at work

*Message #6 Posted by **Dave Britten** on 2 Sept 2009, 7:23 p.m.,*
in response to message #2 by Namir

Oh come now, I think a 200LX running Lotus 123 2.4 is plenty up to the task. ;) It certainly beats the pants off any Windows CE version of Excel that's been released, and also trounces the Psion's spreadsheet! I often have mine in my computer bag for this reason.

I also keep a 48SX on my desk, and usually carry my 48GX and 17bii with me. (Though the 17bii becomes redundant when the 200LX is on board.)

Re: Your choice of calculator at work

*Message #7 Posted by **Alex L** on 2 Sept 2009, 4:43 p.m.,*
in response to message #1 by hecube

Free42. But I'm in front of my computer ALL day, so it makes sense.

Re: Your choice of calculator at work

*Message #8 Posted by **Ed Look** on 2 Sept 2009, 4:55 p.m.,*
in response to message #1 by hecube

At work I use both the HP-50g and the HP-33s.

I really prefer the 33s as it's much easier to just pick up and use, but I often have to calculate amounts of reagents and I have Arnold Moy's Periodic Table (and chemical data) stored in my 50g so I often have to use it.

But unless I have some humongous program (at present I don't), I can still just program the 33s, which is keystroke programming, something I am more used to than RPL, so it is faster for me on the 33s.

Re: Your choice of calculator at work

*Message #9 Posted by **Paul Dale** on 2 Sept 2009, 5:12 p.m.,*
in response to message #1 by hecube

I always have my 15c and 16c with me and I use whichever is more suited to my current problem.

I often have my one of my 35s, 42s and 32sii with me and they get used when I feel like a change. Sadly, my 49g+ died a while back.

- Pauli

Re: Your choice of calculator at work

*Message #10 Posted by **Steve Simpkin** on 2 Sept 2009, 5:31 p.m.,*
in response to message #1 by hecube

At work I quite often use my 1991 HP-48SX (the last HP I bought new) for quick calculations.

At home, I rotate amongst my HP-25, HP-41C, HP-33S or HP-48G depending on which one is handy or fun for the task at hand.

Re: Your choice of calculator at work

*Message #11 Posted by **Martin Pinckney** on 2 Sept 2009, 5:31 p.m.,*
in response to message #1 by hecube

It's my company, so most calcs I have are company owned. I have a 27s on my desk and another in the conference room, with several equations "programmed" in the Solver.

Ditto a 17b on my desk with Solver routines for payroll taxes etc.

I use Excel for a lot of things, but usually not for engineering calculations. Those are handled by stand-alone software.

Re: Your choice of calculator at work

*Message #12 Posted by **Alain Mellan** on 2 Sept 2009, 6:02 p.m.,*
in response to message #11 by Martin Pinckney

For simple computations, Free42 for Linux, and SCI-15C (too afraid to take my 15C to work) or Free42 or i41CX+ on iPhone. For the rest: Python. And as little Excel as I can :-)

Re: Your choice of calculator at work

*Message #13 Posted by **Jim P** on 2 Sept 2009, 7:17 p.m.,*
in response to message #1 by hecube

I tend to use my 35s and 50g at work -- the former for day to day and latter for more complicated things with equations in the solver. Also I use my 17bII+ for all things financial. Occasionally I'll rotate in the old 48G, and pull out the 33s for some tasks as it's easier to haul around (and I'm not so concerned if it goes belly up!). The 20b, while a nice idea, has such a dreadful keyboard that I'm not too fond of it.

Re: Your choice of calculator at work

*Message #14 Posted by **fbronner** on 2 Sept 2009, 8:09 p.m.,*
in response to message #13 by Jim P

my HP41CX at work,

my iPhone with the i41CX+ on the road

Edited: 2 Sept 2009, 8:10 p.m.

Re: Your choice of calculator at work

*Message #15 Posted by **Marnus Malan (RSA)** on 2 Sept 2009, 10:43 p.m.,*
in response to message #1 by hecube

Privately owned, our office equip the inhabitants with Sharp scientific calculators. Somehow I find that I have a certain advantage over my peers who uses the office issue calculators, especially on site.

I use primarily a 50g. On the desk it is powered by the usb cable. Data can be transfered back and forth. Use some macro's to export data from AutoCAD. Excel solvers are not very elegant and aften I get stuck. Solvesys goes a long way for my purposes. Excel is a bit troublesome to carry around on construction sites. Contractors have the ability NEVER to follow the drawings and some situations that arise on site just can't be foreseen on the drawing desk, then the 50g with FEM49 comes into it's own right. As a formwork engineer I love my 50g, it is miles better, as far as usability and speed is concerned, than any of the predecessors.

For simple tasks my 42 is also at hand. I feel a bit sorry for the 42s and got a 33s to relieve the 42s from duty. that was a bad mistake. Yes, it is fast, has lots of memory but the keys are horrible once you are used to the 42s. I recently acquired a 32SII but unfortunately I simply find it inferior to the 42s. I will be looking to sell the 32SII soon, or trade it for a new 35.

Edited: 2 Sept 2009, 10:48 p.m.

Re: Your choice of calculator at work

*Message #16 Posted by **Peter Klein** on 2 Sept 2009, 11:31 p.m.,*
in response to message #15 by Marnus Malan (RSA)

I do computer and network support. Most of my calculator use at work is four-banger math and occasional hex and binary arithmetic. For that I use my own 32s.

On my PC, I also sometimes use Free42 or Exalibur, both RPN. And for "what-iffing," I will sometimes use Andrzej

Wrotniak's "Midget," which is a convenient subset of his superb "Kalkulator." But I really prefer to use the 32s--it gets my hands off the PC keyboard, and it somehow feels more satisfying.

Colleagues have mostly TI 4-bangers, variants of the TI-30, and the occasional Casio. There are a few HPs--a 32s and 21s that the company bought years ago, plus a personally-owned 48gx and 49+.

At home, when I want to play with math, it's mostly with the 32sII. Interestingly, I have no trouble switching between the 32s and the 32sII.

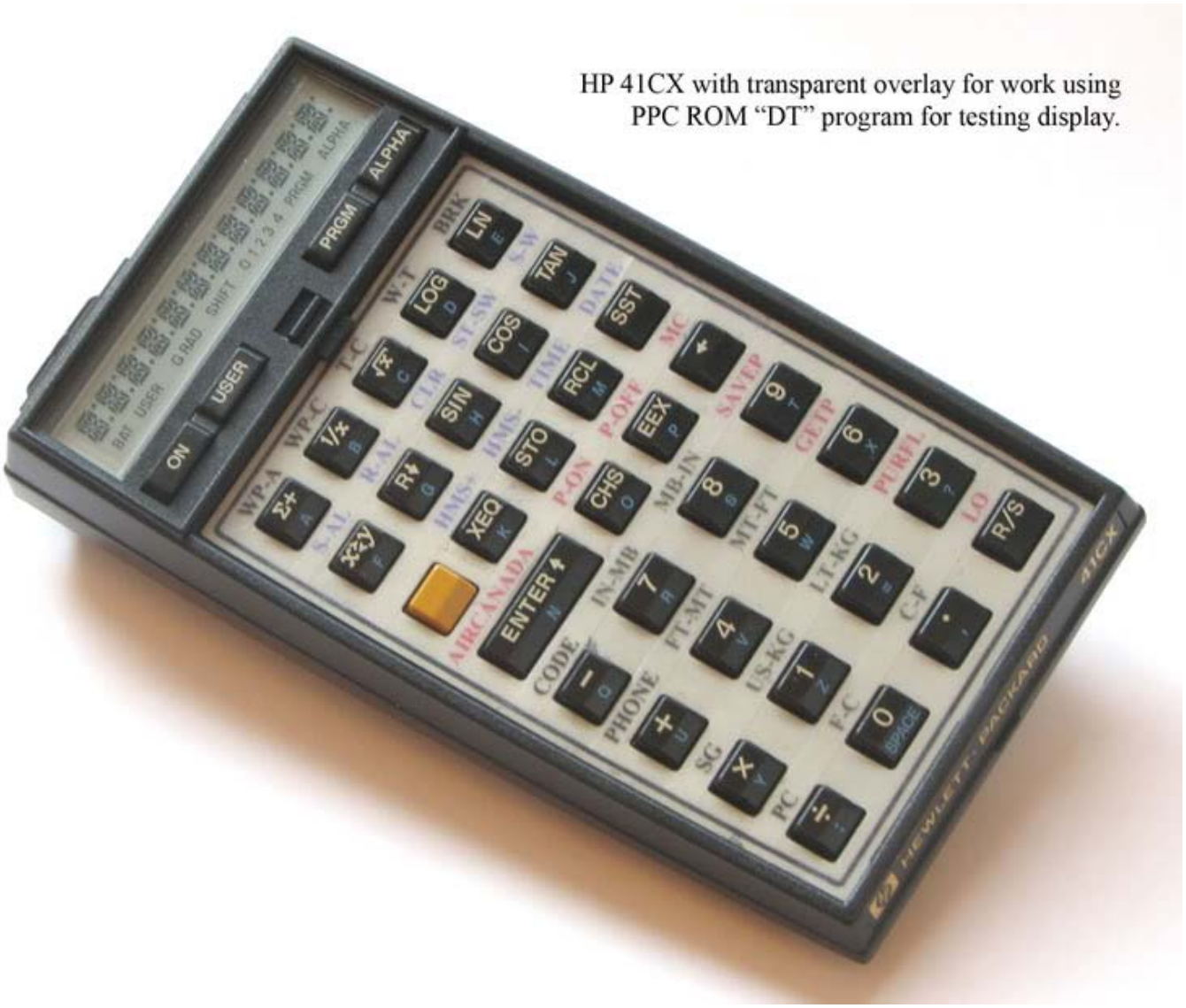
Re: Your choice of calculator at work

*Message #17 Posted by **Geoff Quickfall** on 3 Sept 2009, 12:15 a.m.,*
in response to message #1 by hecube

HP-41cx with a dedicated suite of programs, or HP-42S with the same programs but prompting for GMT input or to spice it up with a light show, the HP-67.

Of course I wear the big ugly (as some CALL it) at work. To complete the group I bring the infared printer for hard copy output.

Cheers, Geoff



HP 41CX with transparent overlay for work using PPC ROM "DT" program for testing display.

HEWLETT PACKARD
RPN SCIENTIFIC
32SII
HEWLETT PACKARD
RPN SCIENTIFIC
42S

Edited: 3 Sept 2009, 12:16 a.m.

Re: Your choice of calculator at work

*Message #18 Posted by **DaveJ** on 3 Sept 2009, 2:08 a.m.,*
in response to message #1 by hecube

I just need to do basic electronics engineering calcs, so I prefer a pre-VPAM Casio for the task.
I have a HP 20S in the draw but it doesn't come out much.

And in my dreams, my uWatch Mk2...

Dave.

Edited: 3 Sept 2009, 2:10 a.m.

Re: Your choice of calculator at work

*Message #19 Posted by **Etienne Victoria** on 3 Sept 2009, 2:27 a.m.,*

in response to message #1 by hecube

Hello,

At work:

- on my desk: Hp-81

- in meetings: Hp-80 or 22

- at home: Hp-92.

I also have an HP-12C and a very rare Casio BF-100

But these two are just too high-tech for me.

Cheers.

Etienne

Re: Your choice of calculator at work

*Message #20 Posted by **Katie Wasserman** on 3 Sept 2009, 3:39 a.m.,*
in response to message #19 by Etienne Victoria

> Quote:
>
> - on my desk: Hp-81

Wow! Is there anyone else in the world that uses one of these on a daily basis? I have one in my collection and like it a lot, but it's s-l-o-w on all financial calculations. IRR for 9 cash flows can take a couple of minutes to solve, good thing it has a huge keystroke buffer that you can load up while it's number crunching.

I have 32sii and a 12C+ for financial calculations on my desk.

Re: Your choice of calculator at work

*Message #21 Posted by **Etienne Victoria** on 3 Sept 2009, 6:42 a.m.,*
in response to message #20 by Katie Wasserman

Agreed, it is slow!

But given the current length of the investment approval process nowadays in my environment, I have ample time to wait for my Hp-81 to complete simulations without any need to overclock it :-)

...and the printed output is just...gorgeous...let alone the printer noise.

Etienne

Re: Your choice of calculator at work

*Message #22 Posted by **Bob Patton** on 4 Sept 2009, 9:13 p.m.,*
in response to message #19 by Etienne Victoria

[/quote]

> Quote:
>
> I also have an HP-12C and a very rare Casio BF-100

I recently picked up a Casio BF-80. Is it unusual, too?

Re: Your choice of calculator at work

*Message #23 Posted by **Etienne Victoria** on 6 Sept 2009, 3:38 p.m.,*
in response to message #22 by Bob Patton

Hello,

The BF-80 (picture below from the Dentaku reference database), is a simpler financial calculator with an interesting double keyboard:

I cannot say if it is unusual too. Having only seen a couple of them in Japan, I wonder if the BF-80 is not dedicated to the japanese market.

Best

Etienne

Re: Your choice of calculator at work

*Message #24 Posted by **Michael Andersson** on 3 Sept 2009, 3:37 a.m.,*
in response to message #1 by hecube

I use my 35S at work. Before I had my 48G but it broke, I tried to replace it with a 50G but could never get used to the keyboard layout after the 48G. Ideally I would use my 42S, but don't want to risk it at work.

To me a handheld calculator, with at least the basic set of scientific functions, is essential to do small calculations in a fast and efficient way.

Re: Your choice of calculator at work

*Message #25 Posted by **JoseL** on 3 Sept 2009, 4:08 a.m.,*
in response to message #24 by Michael Andersson

V41 with my own ROM module inserted.

I have included in the ROM module all my User Programs and functions I need for everyday use.

Re: Your choice of calculator at work

*Message #26 Posted by **Walter B** on 3 Sept 2009, 8:09 a.m.,*
in response to message #1 by hecube

Our company equips the staff with Sharp scientific calculators. Somehow I feel I have a little advantage over my peers who use company issued calculators, since on my desk sits a 42S in "good condition" for quick and dirty RPN calculations, and a 21S if I need some values of statistical distributions. On my notebook, Free42. I have a 50G at home and once used it for evaluating an integral, but it's too large for daily work and too complicated for my little brain.

Re: Your choice of calculator at work

*Message #27 Posted by **Martin Pinckney** on 3 Sept 2009, 9:30 a.m.,*
in response to message #26 by Walter B

> Quote:
>
> I have a 50G at home ... too complicated for my little brain.

Walter, now I feel a whole lot better, since that's the way I feel about my 48sx, and based on reading your posts for the last two years (how long I have been a member) I have thought of you as one of the larger brains here. (No offense intended to anyone else!)

Re: Your choice of calculator at work

*Message #28 Posted by **hpnut** on 3 Sept 2009, 9:49 a.m.,*
in response to message #27 by Martin Pinckney

Work: HP 50g, HP 12c,

Home: HP 41CX, HP 48G, HP 33S

Shopping: I take along the true shirt pocket sized HP 12C ;-)

Re: Your choice of calculator at work

*Message #29 Posted by **Egan Ford** on 3 Sept 2009, 10:09 a.m.,*
in response to message #1 by hecube

I travel for work--a lot. To reduce what I have to carry I use emulators on my MacBook and iPhone. On the iPhone its i41CX+, Free42, SCI-15C. On the Mac its usually 'calc' from the CLI (calc is RPN). Occasionally I use Nonpareil 41CX, Free42, EMU42, EMU41, EMU71, and x49gp (50g ARM emulation).

Before the iPhone I traveled for years with my 48GX, then switched to the replaceable 50g. The 35s was never an option because it cannot be backed-up and has no freely available emulator.

Re: Your choice of calculator at work

*Message #30 Posted by **Pal G.** on 4 Sept 2009, 12:12 a.m.,*
in response to message #29 by Egan Ford

Egan, you seem to be RPLess now (except for your macbook), compared to when you had your 48GX with you. Or did you use the 48GX to emulate RPN machines, and not bother with RPL at all??

The reason I bring this up is because I thought it was worth mentioning there is no RPL on the iPhone yet, at least not that I know of. And while this may suit some here, I personally would not mind such.

And speaking of emulated RPL, anyone know what happened to Robert H., the developer of Power48? Mobilevoodoo dot com is not even his domain anymore.

Cheers.

Re: Your choice of calculator at work

*Message #31 Posted by **Egan Ford** on 4 Sept 2009, 9:04 a.m.,*
in response to message #30 by Pal G.

> Quote:
>
> Egan, you seem to be RPLess now (except for your macbook), compared to when you had your 48GX with you. Or did you use the 48GX to emulate RPN machines, and not bother with RPL at all??

This is true and inconvenient. I had to port all my programs to RPN and it was not easy. E.g. I use MSOLVR2 a lot, now I do not have it. Recreating it in RPN was less than simple and is still not as flexible as MSOLVR2, however, I got through it.

> Quote:
>
> The reason I bring this up is because I thought it was worth mentioning there is no RPL on the iPhone

> yet, at least not that I know of. And while this may suit some here, I personally would not mind such.

I have everything I need to create a 48GX emulator for the iPhone, except time. I plan to start on this around December.

Re: Your choice of calculator at work

*Message #32 Posted by **Mike Morrow** on 3 Sept 2009, 1:36 p.m.,*
in response to message #1 by hecube

The HP calculator that I used most productively in my work at the time (nuclear submarine officer) was the HP-67, in 1977-79. (It and accessories cost me more than a month's salary.) Later, I spent a lot of quality time with an HP-41C in civil work.

More than 20 years ago, I settled on regular use of an RPL and an RPN scientific, plus a financial calculator. Subsequently, the RPL machines were HP28C, 28S, 48SX, 48GX, and 49G+. The RPN machines were HP-41C, 41CX, 15C. The financial machine was the HP-12C.

Today, I use the HP50g and HP42S, plus the HP17bii for financial calculations.

The RPN units are (to me) much easier for programming simple problems, compared to the RPL units, hence the two scientifics. Plus, though the HP50g has some financial calc support, what comes built-in doesn't closely match the HP17bii.

My dream machine would be an HP50g that could *also* be programmed in RPN, and that had all the functions of the HP17bii built-in. Then I'd have just one HP in the briefcase.

Edited: 4 Sept 2009, 9:44 a.m. after one or more responses were posted

Re: Your choice of calculator at work

*Message #33 Posted by **Michael Meyer** on 3 Sept 2009, 2:54 p.m.,*
in response to message #32 by Mike Morrow

HP-21. Generally cheap enough to replace, does all my math (only doing 4-function these days), has real keys and LLLLEEEEEDDDDD's.

To me, still the classiest "basic" calc around. With LED's.

Re: Your choice of calculator at work

*Message #34 Posted by **htom trites jr** on 3 Sept 2009, 5:45 p.m.,*
in response to message #33 by Michael Meyer

Free42 if there's a computer or my PDA handy. 41cv is my favorite, I suppose. Not taking them anywhere, they're about the house.

Re: Your choice of calculator at work

*Message #35 Posted by **Andreas Grund** on 3 Sept 2009, 9:57 p.m.,*
in response to message #34 by htom trites jr

At office: HP 32Sii Travelling: HP 35s - if lost its not a loss.... at home: another 32Sii (plus a 25, 28C, 35, 41CV and 45)

Re: Your choice of calculator at work

*Message #36 Posted by **Patrick Rendulic** on 4 Sept 2009, 6:50 a.m.,*
in response to message #35 by Andreas Grund

At work: HP32sii. Small, relable keyboard. I can do very fast calculations with it ;).

At home, all the others for playing around, most of the time the 50G because I got my first one only a month ago.

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Getting items posted from the US to UK

*Message #1 Posted by **Richard Reed** on 2 Sept 2009, 2:18 p.m.*

A thread from the end of August speculated on why US shippers of calculators don't like to ship outside the country. I did a little research on shipping from Houston, Texas, in the middle of the US and London, UK. It's fairly complicated to get good security with the cheaper US Postal Service, as opposed to a fast shipper like UPS, which costs at least $76 for a fully tracked and signed-for 2 lb. delivery in 2-3 business days.

All the cheap, secure USPS services claim a 'standard' delivery time of 6-10 business days. For my 2 lb. example, First Class International costs about $33 for Registered Mail, Return Receipt. The maximum indemnity for this is $47.93, the maximum weight is 4 lb. (more money) and the service is "sealed against inspection".

Priority Mail International Parcel costs $30 for 2 lb. and is not a 'sealed' service. Ordinary indemnity is maximum 70.43, or insurance can replace this: the cost of $100 insurance is $3.50. This service claims tracking to major destinations.

Non-tracked, but 'sealed' Priority Mail International Flat Rate Small Box or Flat Rate Envelope are a bad deal for 2 lb. shipments, but can take up to 4 lb at $42. There is no insurance. To get tracking, signed-for and $47.93 indemnity you have to get Registered Mail and Return Receipt for a total of $54.

Hope this clears things up ;-)

Richard
London, UK

Re: Getting items posted from the US to UK

*Message #2 Posted by **Gene Wright** on 2 Sept 2009, 2:44 p.m.,*
in response to message #1 by Richard Reed

Thanks. That just brings up the other problem.

To have paypal seller protection, they want signature on the delivery, even overseas. If you don't have that, the buyer can claim you sent a rock rather than the item and get their money back even though they have the item.

The alternative is to charge VERY high shipping charges, which upset the overseas customer, of course.

In the USA, signature delivery is much cheaper (cheap no-problems with paypal), no customs forms are required.

Couple of reasons why US sellers may not ship overseas.

Of course, present company :-) would not make such claims to paypal, but unless you guys are the ONLY people biuying off that auction site, then the risk is there. Google and you'll find the horror stores.

Re: Getting items posted from the US to UK

*Message #3 Posted by **Richard Reed** on 2 Sept 2009, 3:18 p.m.,*
in response to message #2 by Gene Wright

Does Return Receipt not qualify as signature on delivery for PayPal seller protection? I thought that's what I was satisfying.
Richard

Edited: 2 Sept 2009, 3:22 p.m.

Re: Getting items posted from the US to UK

*Message #4 Posted by **Walter B** on 2 Sept 2009, 4:12 p.m.,*
in response to message #2 by Gene Wright

Of course, I can only respond based on my personal experience. This tells me, however, that *none* of the parcels, flat rate boxes, or envelopes carrying my purchases across the Atlantic ever got lost. Nor did any letter disappear. AFAIK postal service is paid to deliver mailings, not to drop, discard, destroy them. And they do their job quite well.

If you ask a large crowd for interesting stories, however, what will you get? Horror stories, since the normal stuff is sooo boring. Here, the internet is collecting the gossip of this planet. No more double-headed cows or headless devils nowadays anymore (I hope), but lost mail and similar exceptional events. And big business is interested in such stories, else nobody would buy an insurance.

OK, I admit my statements are only valid for shipping from one civilized country to another one, both showing a reasonably low level of corruption along the shipping line (think of customs). But such it is. Sorry ;)

Hope this brings this topic on solid grounds again.

Re: Getting items posted from the US to UK

*Message #5 Posted by **Richard Reed** on 2 Sept 2009, 4:41 p.m.,*
in response to message #4 by Walter B

I only ever sold one item on TAS, a mobile phone, but sure enough the Russian buyer emailed me for a reduction on his bid, which I refused, after which I had to wait three weeks for the dispute to expire and re-list.

A particularly insistent US-only seller on TAS had an experience a year ago with a UK buyer who seemed to want delivery before payment. He had 805 feedbacks (97.5% positive), so I wouldn't be surprised if he had been burned more than once. His RAM card got 1/3 the price it would have done in Europe.

I was just trying to point out that shipping from the US is
- expensive, as you might expect
- complicated to get right (tracking, signed-for, PayPal support) without spending double

I do think the "he sent me a rock" thing is rare, if care is taken, but the extra complication and expense in the US to ship overseas, relative to somewhat easier conditions within the richer EU states, puts off many sellers.

Richard

Edited: 2 Sept 2009, 4:50 p.m.

Re: Getting items posted from the US to UK

*Message #6 Posted by **Gene Wright** on 2 Sept 2009, 5:12 p.m.,*
in response to message #5 by Richard Reed

I too hope/think the "he sent me a rock" thing is rare. However, my point was that without a signature delivery receipt (delivery confirmation, return receipt does not count - read the paypal long notice), a buyer can say they did not get it and the seller is out $$.

So, the seller either ships without that to another country and **hopes** the buyer is honest, or the seller charges outrageous shipping costs to the buyer in the other country (which will reduce the bidders outside the USA), or the seller just sells in the USA.

That said, I shipped three items out of the country this week from TAS. One to England, two to Brazil. Hope the buyers are honest.

Gene

P.S. The ONLY country I have ever had any problems with from a postal service is Italy. Took 6 weeks to clear their customs. Buyer kept getting angry at me when I could do nothing. The other problem I had was in Greece. Sent something there and the duties were more than the item was worth by far. The buyer told them to abandon the item.

Re: Getting items posted from the US to UK

*Message #7 Posted by **Richard Reed** on 2 Sept 2009, 5:26 p.m.,*
in response to message #6 by Gene Wright

> Quote:
>
> delivery confirmation, return receipt does not count - read the paypal long notice

Shocking! So getting a post card back with the recipient's signature is not as good as a carrier-held delivery signature. That means $75 to UPS for my 2 lb. package, unless the Priority Mail International Parcel is signed-for at my 'major destination'.

I want to blame someone, but not sure who >:-(

It really is easier in the richer part of the EU (well, I know about UK, France, Netherlands and Germany). All the services seem to have reasonable signed-for options.

Richard

Edited: 2 Sept 2009, 5:29 p.m.

Re: Getting items posted from the US to UK

*Message #8 Posted by **Mark Edmonds** on 2 Sept 2009, 5:45 p.m.,*
in response to message #7 by Richard Reed

Is shipping abroad from the States any more difficult than shipping abroad from Europe?

Both require extra work from the seller but as I said in an earlier thread, that extra work is more than compensated for in the higher prices that are available when selling.

The way I work things is to offer a good basic package (Royal Mail International Signed For) which is quite affordable and then allow the buyer to opt for insurance or a faster system if they want it. I've sent lots of items out, some with high value and received lots of items in, some also with high value and never had any lost or any trouble. In fact, the only trouble I have had has been from UPS wanting to charge me a fee for something that didn't have any value which took a couple of weeks to sort out. Otherwise, good-old USPS has never failed me on my purchases.

Mark

Re: Getting items posted from the US to UK

*Message #9 Posted by **Richard Reed** on 2 Sept 2009, 6:20 p.m.,*
in response to message #8 by Mark Edmonds

It seems like there is no USPS equivalent to Royal Mail International Signed-for that satisfies PayPal Seller Protection rules.

I was trying to find one that was less expensive than UPS at $76 from Houston to London, but apparently the USPS Return Receipt system doesn't satisfy PayPal seller protection.

Richard

Re: Getting items posted from the US to UK

*Message #10 Posted by **Bart (UK)** on 2 Sept 2009, 6:28 p.m.,*
in response to message #7 by Richard Reed

Why are you all so hung up on PayPal protection. It didn't do me any good when the seller didn't deliver. I only got 15% of my original payment back because the seller's account didn't have any more money in it by the time the dispute got settled. Oh, and the seller had lots of feedback, 100% positive. I've only done about 15 PayPal transactions, and this one has been the only problem. I'm hoping it stays that way.

From PayPal T&C par 13.13:

> Quote:
>
> However, recovery is not guaranteed and may be limited only to the amounts that PayPal can recover from the seller’s Account.

I'm sure you can guess what I think of the "Pay with PayPal and you’re fully protected." slogan.

Re: Getting items posted from the US to UK

*Message #11 Posted by **Richard Reed** on 2 Sept 2009, 6:54 p.m.,*
in response to message #10 by Bart (UK)

> Quote:
>
> Why are you all so hung up on PayPal protection.

I think it's a matter of degrees. Things are somewhat more transparent (protection by whatever -- I was helped by a German sellers' group when PayPal wouldn't) and less expensive shipping within EU, from EU to US, and within US than they are shipping from US to just about anywhere else.

That's why many sellers in the US don't bother shipping anywhere else.

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Lab-Volt (348?) cpu trainer

*Message #1 Posted by **peter a walker (papwalker)** on 2 Sept 2009, 8:48 a.m.*

I noticed in a post from 2007 that 'Ren' had one of the afore mentioned trainers. I was wondering if he or anyone can answer three and a half quick questions? 1) Is the cpu a 6502? (nmos or cmos)(it's missing)

2) What was the supply voltage (I may yet work this out from the regulator circuit but it would be nice to know for sure)

3) There may be a chip missing beside and between the reset and halt/step switches. The is an empty socket between the 74ls14 Schmitt and the 74s04 inverter.

Hoping like crazy that no-one has played musical chairs with the chips. They're all socketed.

Thanks in advance peter walker

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HP-71b used for fire calculations

*Message #1 Posted by **Klaus** on 2 Sept 2009, 7:51 a.m.*

Has this been posted before? pdf-link

This describes how a HP-71b can be used with a special ROM to predict fire in the forrests.

Re: HP-71b used for fire calculations

*Message #2 Posted by **Bill (Smithville, NJ)** on 2 Sept 2009, 8:41 a.m.,*
in response to message #1 by Klaus

Hi Klaus,

Thanks for the link. I've seen several HP-71B show up on the auction site with the Fire Modules. Have always wondered what they were.

Bill

Re: HP-71b used for fire calculations

*Message #3 Posted by **hecube** on 2 Sept 2009, 8:45 a.m.,*
in response to message #2 by Bill (Smithville, NJ)

It's a good bet no one in authority in California had one.

Cheap shot.

Sorry.

Re: HP-71b used for fire calculations

*Message #4 Posted by **Martin Pinckney** on 2 Sept 2009, 10:04 a.m.,*
in response to message #3 by hecube

Maybe they did not take the author's advice, and are still using TI-59's. [:-)

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Slide Rules Back in Production

*Message #1 Posted by **Les Bell** on 2 Sept 2009, 5:11 a.m.*

There must be some kind of geek chic factor involved in slide rules, because ThinkGeek have started manufacturing slide rules. See http://www.thinkgeek.com/gadgets/tools/be12/?cpg=101T.

Best,

--- Les
[http://www.lesbell.com.au]

Re: Slide Rules Back in Production

*Message #2 Posted by **hecube** on 2 Sept 2009, 9:08 a.m.,*
in response to message #1 by Les Bell

Perhaps they could also get in the true RPN vintage calculator business?

Re: Slide Rules Back in Production

*Message #3 Posted by **Martin Pinckney** on 2 Sept 2009, 11:03 a.m.,*
in response to message #1 by Les Bell

YIKES! I just checked TAS, and a Post Versalog (like mine) is at $70! I think I'll start using it again...

Re: Slide Rules Back in Production

*Message #4 Posted by **db (martinez, ca.)** on 2 Sept 2009, 11:15 a.m.,*
in response to message #1 by Les Bell

What! No belt loop?

These new fangled slide whatchamacallits are just a flash in the pan. I'll stick with my good ole Curta.

Re: Slide Rules Back in Production

*Message #5 Posted by **Geoff Quickfall** on 3 Sept 2009, 12:20 a.m.,*
in response to message #4 by db (martinez, ca.)

You bet, i have taken my curta II through british security and had to demonstrate it's use before they let me through!

Cheers,

Re: Slide Rules Back in Production

*Message #6 Posted by **Reth** on 3 Sept 2009, 5:45 a.m.,*

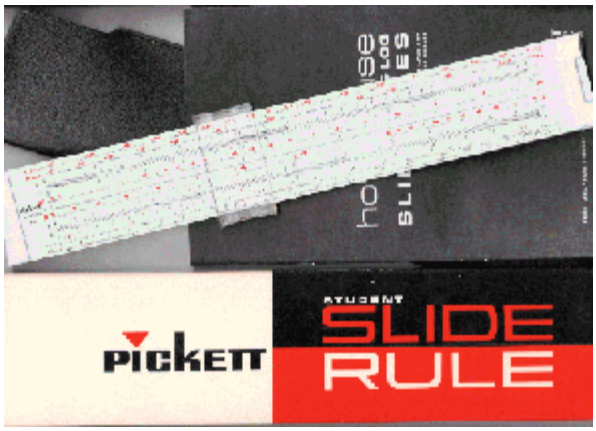
in response to message #1 by Les Bell

Are they "upgradeable"?
If not, I'm out. ;) (and it's not me only! ;))

Re: Slide Rules Back in Production

*Message #7 Posted by **hecube** on 3 Sept 2009, 8:51 a.m.,*
in response to message #1 by Les Bell

They obviously copped the "Pickett" brand look:



Re: Slide Rules Back in Production

*Message #8 Posted by **hpnut** on 3 Sept 2009, 10:16 a.m.,*
in response to message #1 by Les Bell

They ought to carry a warning on the package "Batteries Not Included" ;-)

Re: Slide Rules Back in Production

*Message #9 Posted by **htom trites jr** on 3 Sept 2009, 5:48 p.m.,*
in response to message #8 by hpnut

Pickett-look box, might be a clone of one of the training Picketts.

Warning: Batteries not required; thinking not provided.

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Anyone have an Android phone?

*Message #1 Posted by **Tim Wessman** on 1 Sept 2009, 11:22 p.m.*

Download the android developer contest judging application when it is available. You may find something fun to review among the many submissions.

TW

Edited: 1 Sept 2009, 11:23 p.m.

Re: Anyone have an Android phone?

*Message #2 Posted by **Bruce Bergman** on 2 Sept 2009, 12:16 a.m.,*
in response to message #1 by Tim Wessman

PLEASE consider the Palm Pre (WebOS). The ones that are currently available are pure crap. It's painful.

thanks! bruce

Re: Anyone have an Android phone?

*Message #3 Posted by **tim wessman** on 2 Sept 2009, 11:20 a.m.,*
in response to message #2 by Bruce Bergman

The problem with webOS is that they don't have a good sdk and many capabilities are crippled. For example, you can't read or write a file. Converting everything to javascript wouldn't be fun either. If they ever get around to making c/java/anything else into a non grueling porting experience they will have a lot more applications.

TW

Re: Anyone have an Android phone?

*Message #4 Posted by **Eric Rechlin** on 2 Sept 2009, 1:01 a.m.,*
in response to message #1 by Tim Wessman

I fully intend to get the HTC Hero, assuming it arrives on Sprint next month. It's the first smartphone that I can truly say looks like it will be good. My current mobile phone is 8 years old, so this will be quite the upgrade.

I also plan to use it as a development platform. Once I have two other higher-priority projects finished I intend to make a *good* calculator for it.

Re: Anyone have an Android phone?

*Message #5 Posted by **hugh steers** on 2 Sept 2009, 8:36 a.m.,*
in response to message #4 by Eric Rechlin

Do you know if there's documentation to develop native code for android now?

when it came out, i looked into it and java was the only supported development environment. I dont mind writing java for front ends, but i'd like to have native code back ends for all my existing libs.

Re: Anyone have an Android phone?

*Message #6 Posted by **Eric Rechlin** on 2 Sept 2009, 5:32 p.m.,*
in response to message #5 by hugh steers

I haven't looked into it yet, but I would imagine it shouldn't be too difficult.

What you have is basically a Linux computer on an ARM chip, so you should be able to develop whatever you want on your PC and cross-compile it with GCC. Then you could call the native code from a Dalvik wrapper.

If you prefer .NET, I believe Mono has been ported over as well. That's what interests me most, to be honest, as most development I do these days is in .NET, but I think that the state of Mono on Android is a bit primitive right now.

Re: Anyone have an Android phone?

*Message #7 Posted by **Tim Wessman** on 2 Sept 2009, 7:07 p.m.,*
in response to message #6 by Eric Rechlin

You can wrap c/c++ in wrappers and use them directly, and they just released a native code compiler (with the downside that development is a lot trickier and you don't have access to system OS calls).

TW

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HP 41 X module

*Message #1 Posted by **juan demin** on 1 Sept 2009, 3:49 p.m.*

I wonder if the extended memory module for the HP 41 series works the same way with C, CV or CX models? Does it give a simple memory upgrade or something else is necessary? Does anyone know about this? Thanks

Re: HP 41 X module

*Message #2 Posted by **Richard Garner** on 1 Sept 2009, 4:22 p.m.,*
in response to message #1 by juan demin

The 41C & 41CV need the Extended Function Module for the X Module to be recognized and used. The 41CX has that module built-in.

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Emu28

*Message #1 Posted by **Alexander Wassermann** on 1 Sept 2009, 12:10 p.m.*

Hi everyone,

I am trying to follow the steps for downloading my ROM from a real HP28S to a HP48GX. I have entered the programs from the instructions provided by Christoph Giesselink (thanks for your great work) but cannot get my checksums to match.

Any idea what I might be doing wrong? Thanks, Alex

Re: Emu28

*Message #2 Posted by **Christoph Giesselink** on 1 Sept 2009, 12:52 p.m.,*
in response to message #1 by Alexander Wassermann

This is the wrong emulator. Emu28 is for the HP28C only. Use Emu42 instead please. So the correct program to verify the HP28S ROM image is LEWISCRC.EXE.

Sorry for the confusing. The HP42S was the 1st emulated calculator on Emu42, therefore the name. But the HP42S and the HP28S share the same main chip (1LR2 Lewis), so Emu42 was expanded to emulate the HP28S too. Mainly Emu42 v1.11 is emulating the High-End Pioneer and the 2nd generation of the Clamshell calculator hardware. Forthcoming Emu42 versions will emulate the Mid-Range Pioneer calculator hardware too.

The HP28C (and HP18C) belong to the 1st generation of the Clamshell calculator hardware with different chips (1LK7 CPU, 1LP2 Centipe chipset, ...). So I created a separated emulator for emulating the HP28C.

Cheers

Christoph

Re: Emu28

*Message #3 Posted by **Bart (UK)** on 1 Sept 2009, 1:19 p.m.,*
in response to message #2 by Christoph Giesselink

Thank you for that update Christoph, I hope to do the ROM download for my 28S soon, I'll make a note of this post.

Bart

Re: Emu28

*Message #4 Posted by **Alexander Wassermann** on 2 Sept 2009, 5:45 a.m.,*
in response to message #2 by Christoph Giesselink

Hi Christoph et al,

maybe my question was not quite clear and I will try to explain again:

I have not yet extracted the ROM, so I am not even using either emulator (Emu28 or Emu42). I am still wondering about the procedure to extract the rom using the instructions from the clamshel.txt instructions. The "chk" and the "ass" programs to not provide the required checksums and neither does the MROM28.

I have rechecked my input several times and am quite sure I have no typos.

What might I be doing wrong?

Regards, Alex

Re: Emu28

*Message #5 Posted by **Christoph Giesselink** on 2 Sept 2009, 8:43 a.m.,*
in response to message #4 by Alexander Wassermann

> Quote:
>
> The "chk" and the "ass" programs to not provide the required checksums and neither does the MROM28.

Basicly the checksum of the CHK program must be OK first. It makes no sense to build a checksum with a wrong checksum program.

For the HP28S we have to use this program:

```
CHK [1142] for HP28S Rev. 2BB


<< RCLF STD HEX 64 STWS 48 CF SWAP RCL ->STR 16 STWS
  DUP # 0h 1 ROT SIZE
  FOR j
    OVER j j SUB NUM R->B XOR RL
  NEXT
  ->STR 3 OVER SIZE 1 - SUB ROT STOF SWAP DROP
>>
```

Of course the text <<, >> and -> have to replaced by the correct characters (otherwise you get a syntax error either). It's of course also important that the cases are matching, so a

... OVER J J SUB ...

is different to a

... OVER j j SUB ...

You can't do something wrong with the whitespaces. The code part "RCL ->STR" format the code always in the same way (on the HP28S with ROM rev 2BB, because of this the code for the HP28C looks different).

When you have the correct calculator and typed in the corresponding program correctly the return of

'CHK' CHK

must be "1142" in stack level 1.

Cheers

Christoph

Re: Emu28

*Message #6 Posted by **Alexander Wassermann** on 2 Sept 2009, 10:26 a.m.,*
in response to message #5 by Christoph Giesselink

Hi Christoph et al,

thanks for your clarification, this was exactly what I was referring too.

The problem is that my CHK program is exactly as you typed it (and I redid this three times) and I have no syntax errors (and I confirmed my firmware version by typing # Ah SYSEVAL which returned 2BB). Nevertheless I get "51C3" after 'CHK' CHK and not the required "1142" in stack level 1. And that is why I contacted the Forum for help/assistance.

One question I had was the meaning of "putting the calculator in HEX mode". What I did was SHIFTRED BINARY HEX and thought that was what was meant. I am not 100% sure though if putting the calc in HEX mode means something completely different. Maybe here is a mistake.

I have no other idea at this moment but would be greatful for any more input.

Thanks again for your kind help,

Regards, Alex

Re: Emu28

*Message #7 Posted by **Bart (UK)** on 2 Sept 2009, 6:03 p.m.,*
in response to message #6 by Alexander Wassermann

Hi Alex,

I just tried the CHK program and the checksum is "1142" as Christoph said. I tried setting HEX & DEC before running 'CHK' CHK, but it made no difference, as one would expect (the CHK program puts it in HEX anyway and remembers your previous setting by RCLF & STOF). I'm afraid I cannot be of more help.

Bart

Re: Emu28

*Message #8 Posted by **Alexander Wassermann** on 3 Sept 2009, 3:09 a.m.,*
in response to message #7 by Bart (UK)

Hi Bart and Christoph,

thanks again for your support and input.

Reread again and again what I was supposed to do. Got the mistake finally. When Christoph said J J is different to j j I thought: yes of course, the counter J must be the same cpaital as the variable J and not one upper case and the other lower case. It took until this morning I realized the lower case is a must for all "j's" because the value of the character is used to

calculate the checksum.

Lets see if I can solve the rest of the task.

Regards, Alex

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HP 33s display

*Message #1 Posted by **Peter Klein** on 31 Aug 2009, 4:00 p.m.*

Could someone who has both the old and new HP33s displays (pre- and post-CNx524...) tell me if the shadowing and consequent angle of view issues have been resolved in the newer display?

I played with an old-display 33s at home, mostly handheld, over the weekend. Except for the "amazing disappearing decimal point," liked it. Then I took it to work today and found that when I have it on my desk next to my PC keyboard, the display gets harder to read. It's like there are two copies of each number slightly "out of register" unless my eyes are close to vertical with respect to the display.

No such problems with the 32S and 32Sii, where a couple of presses of C and plus or minus optimize the display for either handheld or desktop use.

Presbyopia is a separate issue. Ah, the joys of middle age. Perhaps as the 33s is geared towards the engineering exams, so the display is geared towards the eyes of 15-30 year olds who are the calc's target market :-)

Re: HP 33s display

*Message #2 Posted by **Nigel J Dowrick** on 31 Aug 2009, 6:52 p.m.,*
in response to message #1 by Peter Klein

I only have a new display 33S, but I can confirm that there appears to be no doubling of the pixels when viewed from different angles. The decimal point is clearly visible to me as well. I like this machine a lot (as I may have mentioned in previous posts!).

Nigel

Re: HP 33s display

*Message #3 Posted by **Dave Britten** on 1 Sept 2009, 6:57 a.m.,*
in response to message #1 by Peter Klein

I've noticed the same shadowing effect on quite a few later models. The Pioneers don't do it, nor do the clamshell models or the 48S/SX. That's the main reason there's a 48SX on my desk rather than a 48G.

Re: HP 33s display

*Message #4 Posted by **Peter Klein** on 1 Sept 2009, 12:52 p.m.,*
in response to message #3 by Dave Britten

Thanks, Nigel and Dave. I think I'll pick up a new-display 33s, as the old display is really annoying.

There's no shadowing on my old 11c, either. I wonder what change in LCD design causes the shadowing, and why it was done. You would think that since a calculator is used both in the hand and on the desk, visibility from typical viewing angles would be a consideration. You would think...

Re: HP 33s display

*Message #5 Posted by **Dave Britten** on 1 Sept 2009, 5:37 p.m.,*
in response to message #4 by Peter Klein

I've noticed that LCDs that exhibit the shadowing behavior also display a more uniform contrast over a wide range of viewing angles. I'm inclined to believe the two phenomena are related, but I don't know enough about LCD design and manufacture to hazard a guess why.

Re: HP 33s display

*Message #6 Posted by **Ed Look** on 2 Sept 2009, 5:38 p.m.,*
in response to message #1 by Peter Klein

I have both. I use the newer one specifically because of the much improved, superior display on the newer version. There is no real shadowing and he decimal point is quite visible.

(Now, I think the "font", such as it is, "looks nicer" in the old one, but what is that if it's hard to read?)

Re: HP 33s display

*Message #7 Posted by **Peter Klein** on 2 Sept 2009, 9:19 p.m.,*
in response to message #6 by Ed Look

Thanks, Ed. Looks like the new display is the way to go.

Suppose I order it from Amazon.com. Does anyone know if I am guaranteed to get one with the newer display, or is there a lot of old stock in the supply chain, which might mean what I will get is subject to random chance?

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HP-35S Case

*Message #1 Posted by **Juan J** on 31 Aug 2009, 1:44 p.m.*

Hello,

I got an HP-35S a few months ago. Aside from the occasional keystroke miss, which I attribute to entering data too quickly, as it occurs when I am in a hurry, I like it.

It is a good machine for my everyday calculations, and you don't have to worry if it gets lost or stolen.

I noticed the case is handy and withstands abuse. It is better than the one that came with the 33S. I also noticed it fits Pioneers. Can it be ordered separately, as were its predecessors? Has anyone tried?

JuanJ

Re: HP-35S Case

*Message #2 Posted by **Raymond Del Tondo** on 31 Aug 2009, 3:56 p.m.,*
in response to message #1 by Juan J

Hello,

yes, a seller of TAS offers these HP zipper cases from time to time.

HTH

Raymond

Re: HP-35S Case

*Message #3 Posted by **Reth** on 1 Sept 2009, 6:48 a.m.,*
in response to message #1 by Juan J

> Quote:
>
> occasional keystroke miss, which I attribute to entering data too quickly

It's definitely not "entering data too quickly", the keyboard/its handling is not good enough. Try to miss a keystroke on the HP48 - the last "HP" calculator.

Re: HP-35S Input

*Message #4 Posted by **Bart (UK)** on 1 Sept 2009, 7:01 a.m.,*
in response to message #3 by Reth

I agree with Reth. At first it didn't bother me either, but as I got more fluent with it's use, it has become more of a problem. It could definitely use a keyboard input buffer.

Re: HP-35S Case (and HP48 commentary)

*Message #5 Posted by **Mike Morrow** on 1 Sept 2009, 10:41 a.m.,*
in response to message #3 by Reth

> Quote:
>
> Try to miss a keystroke on the HP48 - the last "HP" calculator.

The HP48-series is great as long as one doesn't mind:

1. The worst LCD display quality that anyone has ever put on a graphing calculator. Very fuzzy, very easily damaged.
2. Overpriced, underfeatured, unreliable, proprietary memory expansion cards (vs. SD cards).
3. Slow speed, and Saturn-only (vs. ARM) capability.
4. No real CAS built-in. Must use third-party.
5. Non-upgradable firmware.
6. The poorest color schemes ever put on any calculator (other than the HP38G!) with respect to contrast and legibility.

I've had an HP48SX since 1991, plus two HP48GXs since 1997. It seemed like a good idea at the time.

Re: HP-35S Case (and HP48 commentary)

*Message #6 Posted by **Bart (UK)** on 1 Sept 2009, 1:14 p.m.,*
in response to message #5 by Mike Morrow

> Quote:
>
> 1. The worst LCD display quality that anyone has ever put on a graphing calculator. Very fuzzy, very easily damaged.

If you're comparing with the 50G, my 50G's display is just as unreliable - six missing pixel rows and increasing with hard resets. My 48SX still works fine.

> Quote:
>
> 2. Overpriced, underfeatured, unreliable, proprietary memory expansion cards (vs. SD cards).

This thread started about the 35s, which doesn't have any external interfaces - but memory for loads of programmes to be lost with hours of re-typing. (Paul Dale's 710-line, ~8kb game took me many hours to type in).

> Quote:
>
> 3. Slow speed, and Saturn-only (vs. ARM) capability.

This thread started about the 35s, so just to be clear it is not an ARM unit. It's actually quite slow.

Quote:

6. The poorest color schemes ever put on any calculator (other than the HP38G!) with respect to contrast and legibility.

I agree WRT the G series, but like the S-series orange/blue scheme.

That all said, I think the biggest gripe remains the keyboard. I think many would welcome a 50G with a 48S/G type keyboard.

Re: HP-35S Case (and HP48 commentary)

*Message #7 Posted by **Raymond Del Tondo** on 1 Sept 2009, 2:07 p.m.,*
in response to message #5 by Mike Morrow

Ok, since we're off-topic already, I'd like to add my point of view.

Quote:

The HP48-series is great as long as one doesn't mind:

1. The worst LCD display quality that anyone has ever put on a graphing calculator. Very fuzzy, very easily damaged.

If you mean the hardware durability:
No, none of my _various_ HP-48 units has a damaged display,
except for the ones where the previous owners managed to break it.
Apart from that, the LCD of every calculator can break if
one misues the unit, or drops it, regardless of the brand.

If you mean the LCD contrast: Yes, the SX has one of the poorest
LCDs, beaten only by the OmniGO 100 and the Olivetti Quaderno,
the GX LCD is much better, and the latest production runs with
high-contrast LCD are simply excellent!

Quote:

2. Overpriced, underfeatured, unreliable, proprietary memory expansion cards (vs. SD cards).

When the HP-48 came out, every memory card of every vendor for every
machine (calc or PC) was expensive compared to today's SD cards.

And since they (HP RAM cards) are not built anymore,
they tend to get somewhat more expensive.

Quote:

3. Slow speed...

Not true. Just try SpeedUI.

Apart from that, it's hard to compare an ARM core with the Saturn.
However I managed to make a SuDoKu solver for the GX which runs
nearly as fast as compiled C programs on the 50g, so what?

> Quote:
>
> 4. No real CAS built-in. Must use third-party.

Exactly. Use 3rd party, when you need it. I never needed a CAS,
so it would be a waste of space if it were built-in.

> Quote:
>
> 5. Non-upgradable firmware.

No need to upgrade, since the GX has a handful of well-known bugs only.
Compare that to the endless bug lists of the 49g/50g.

Apart from that, you _can_ upgrade certain parts of the OS, see SpeedUI.

> Quote:
>
> 6. The poorest color schemes ever put on any calculator (other than the HP38G!) with respect to contrast and legibility.

Again no! The poorest color schema was on the 49g: Dark blue
and dark red on metallic blue. Who had _that_ sillysilly idea?

Ah, I forgot the 6s (non-solar), which was similar. Or the 33s...

> Quote:
>
> I've had an HP48SX since 1991, plus two HP48GXs since 1997. It seemed like a good idea at the time.

I have the HP-48SX with serial 3003A00xxx, bought new
when it came out. Currently I'm using a GX with B/W LCD:-)

Re: HP-35S Case (and HP48 commentary)

*Message #8 Posted by **Juan J** on 1 Sept 2009, 6:13 p.m.,*
in response to message #7 by Raymond Del Tondo

Hello,

Having used (and frequently abused) a 48GX for years, I agree with Raymond. The last true HP calculator.

Regarding missed keystrokes, it only happens when I am entering data too quickly. The 35S never

misses a keystroke at my "normal" typing speed.

Thank you for the info.

JuanJ

Re: HP-35S issues

*Message #9 Posted by **Bart (UK)** on 2 Sept 2009, 5:48 a.m.,*
in response to message #8 by Juan J

Hi Juan,

Your thread has been hijacked by 48 lovers/haters :)))

All other HP RPNs I have, have keyboard buffers. The algebraic 20S being the only HP I have that doesn't, but it's fast enough not to need it - the 35S isn't.

I will cautiously say that, like me, as you become more proficient with the 35S's use, the lack of a buffer will be more apparent.

By the way, here's a link to Pauli's 35S Bug List with other issues to beware of. (You probably knew this).

Many of these bugs are avoidable or not an issue for me in daily use, and I quite like and enjoy using the 35S. However, the missed keystrokes do "catch me out" occasionally and is an irritation.

Bart

Re: HP-35S issues

*Message #10 Posted by **Juan J** on 3 Sept 2009, 7:10 p.m.,*
in response to message #9 by Bart (UK)

Hello Bart,

Yes, the thread was hijacked. Fortunately it happened after my question was answered :-) Glad to see a simple question made everybody come up with interesting opinions/insights.

I think I am begining to feel the buffer lack. I am missing strokes often. However, slowing down helps. Not an excellent solution, but it helps.

Other than the buffer, the 35S is a good calculator. I was aware of the bugs and the sluggish speed; the latter was not a concern (has not been so far) to me. I needed an all-purpose, replaceable RPN calculator for everyday use, and the 35S fit the bill. Interestingly enough, many people I deal with cannot figure it out even in ALG mode, an added benefit. Now older models can stay at home.

Regarding the 48, it is so different that you either get used to it and appreciate its features or you don't and just hate it. RPL is efficient and fun to use but requires some changes in one's mindset, in my humble opinion. Again, either you learn your way into its subtleties or not.

JuanJ

Edited: 3 Sept 2009, 7:13 p.m.

Re: HP-35S issues

*Message #11 Posted by **Bart (UK)** on 5 Sept 2009, 8:28 a.m.,*
in response to message #10 by Juan J

Hi,

> Quote:
>
> Other than the buffer, the 35S is a good calculator.

Yes, and it seems to be of a good construction that will outlast it's competitors. And it looks good, always attracting interest when it's on my desk but keeping alg calc users from borrowing it :).

My first HP was the 28C, so to me RPL is quite nice. Apart from loop control & graphics, it is almost RPN programming without line numbers, you still use the stack and the calculator functions acting on what's on the stack. And the advantage of an "unlimited" stack. I find that I have to put quite a bit of effort into keeping track of a 4-level stack when programming "traditional" RPN.

Bart.

Re: HP-35S Case (and HP48 commentary)

*Message #12 Posted by **Steve Simpkin** on 1 Sept 2009, 2:58 p.m.,*
in response to message #5 by Mike Morrow

> Quote:
>
> The HP48-series is great as long as one doesn't mind:
>
> 1. The worst LCD display quality that anyone has ever put on a graphing calculator. Very fuzzy, very easily damaged.
> 2. Overpriced, underfeatured, unreliable, proprietary memory expansion cards (vs. SD cards).
> 3. Slow speed, and Saturn-only (vs. ARM) capability.
> 4. No real CAS built-in. Must use third-party.
> 5. Non-upgradable firmware.
> 6. The poorest color schemes ever put on any calculator (other than the HP38G!) with respect to contrast and legibility.

Wow. I have been using my HP-48SX almost daily since 1991 and I don't mind any of those "issues". To tell you the truth, I can't say I've even noticed (or in some cases needed) them.

Steve

Re: HP-35S Case (and HP48 commentary)

*Message #13 Posted by **Nacho** on 1 Sept 2009, 6:04 p.m.,*

in response to message #12 by Steve Simpkin

I bought a 2nd hand 48SX with a faulty Row and Faulty display, very bad treated...

I disassembled it, did a deep clean...reassembled it and it seems near new and of course it works perfect!!!

I found that I have a nice serial number in a 48SX... 2952A00XXX

Regards.

Re: HP-35S Case (and HP48 commentary)

*Message #14 Posted by **Mike Morrow** on 1 Sept 2009, 5:45 p.m.,*
in response to message #5 by Mike Morrow

I'll agree with the thought that, for its era of more than 15 years ago, the HP48 series was notable and top-line.

I only question the frequent allegation that it *still* occupies that spot. It doesn't. It's not even close. Today's HP hardware/firmware is far superior, and a lot lower in cost too.

Re: HP-35S Case (and HP48 commentary)

*Message #15 Posted by **Reth** on 2 Sept 2009, 1:07 a.m.,*
in response to message #14 by Mike Morrow

Today's HP calc hardware is pathetic and good for nothing, hugely overpriced for the piece of rubbish it is. There is strong demand for HP48 among surveyors and no one likes 49- and later models.

Re: HP-35S Case (and HP48 commentary)

*Message #16 Posted by **Don Shepherd** on 2 Sept 2009, 7:20 a.m.,*
in response to message #15 by Reth

> Quote:
>
> no one likes 49- and later models

If you have observed this forum at all, surely you see that many folks like the current 50g. I'm not an RPL man myself, but for those who are, the satisfaction level seems to be very high.

Re: HP-35S Case (and HP48 commentary)

*Message #17 Posted by **Nigel J Dowrick** on 2 Sept 2009, 8:17 a.m.,*
in response to message #16 by Don Shepherd

I have 4 relevant calculators: an early HP-48SX, a HP-49G+, a HP-50g, and a HP-48G+. (The first three were all purchased new.)

HP-48SX: very powerful, and its matrix-handling ability was genuinely useful to me at the time. The keyboard was also terrific. However the low contrast of the display coupled with the extreme slowness of the interface made many advanced features hard to use. The equation writer was incredibly slow, and writing programs took for ever due to the slow

editing speed.

HP-49G+: much nicer display; much faster; far more facilities; hopeless keyboard. In practice, unusable.

HP-50g: all the advantages of the HP-49G+ along with a proper keyboard. I prefer the HP-48 layout and keyboard "feel" but that (to me) is a small point. The keyboard on my HP-50g is completely reliable. In every other regard the HP-50g equals or surpasses my HP-48SX comfortably - as it should, given the time between the two releases.

HP-48G+: like the HP-48SX but with a clearer display and much faster in use. Choosing between this and the HP-50g is hard. Based on this machine I can see why people are so fond of the HP-48 series. I think there's a rational basis for preferring either the HP-48xxx or HP-50g depending on exactly what one's needs are.

My opinion: the HP-50g is a great machine and so is the HP-48G+ (and therefore other later models in the HP-48 series). Although I can understand people putting either model first, I can't really relate to fierce condemnation of whichever model they put second!

Nigel

Re: HP-35S Case (and HP48 commentary)

*Message #18 Posted by **Reth** on 2 Sept 2009, 8:33 a.m.,*
in response to message #16 by Don Shepherd

> Quote:
>
> surely you see that many folks like the current 50g

I said surveyors, e.g. professionals, not just folks.
Note when the HP41 came around it killed TI and everything around. HP48 went the same way but never got to level the king (41) in terms of innovations.
To me HP41 is never gonna be matched as of level of importance (innovation, quality, usefulness etc.) as far as handheld calculators are concerned. It was *the pioneer*
The HP48 was the working horse (and still is). It was there at the right time and provided what was necessary. Cheers

Re: HP-35S Case (and HP48 commentary)

*Message #19 Posted by **Brent Hillebrenner** on 2 Sept 2009, 9:18 p.m.,*
in response to message #18 by Reth

"...and when there was no crawdad to be found, we ate sand."

-Raising Arizona

I use my 32S but I'm going to dig out my 48gx which I have not used in 5 or 6 years.

Re: HP-35S Case (and HP48 commentary)

*Message #20 Posted by **Martin Pinckney** on 1 Sept 2009, 6:11 p.m.,*
in response to message #5 by Mike Morrow

My $0.02:

Quote:

> 1. The worst LCD display quality that anyone has ever put on a graphing calculator. Very fuzzy, very easily damaged.

Well, I guess that is subjective to some degree. The contrast isn't so great, but mine is definitely not fuzzy.

Quote:

> 2. Overpriced, underfeatured, unreliable, proprietary memory expansion cards (vs. SD cards).

I got mine for less than half of a 50g. Underfeatured? It is so feature-rich, it boggles my feeble mind.

Quote:

> 3. Slow speed, and Saturn-only (vs. ARM) capability.

We agree on this, it is maddeningly slow.

Quote:

> 4. No real CAS built-in. Must use third-party.

I must not know what this is all about, since I thought the 48 series did have the capability of manipulating symbolic expressions.

Quote:

> 5. Non-upgradable firmware.

Means nothing to me. I expect the manufacturer to build it right the first time. Silly me.

Quote:

> 6. The poorest color schemes ever put on any calculator (other than the HP38G!) with respect to contrast and legibility.

Funny, I bought the SX because I dislike the GX color scheme. If the SX color scheme is horrible, so is that of 32sii, 20s, 21s.

Re: HP-35S Case (and HP48 commentary)

*Message #21 Posted by **Reth** on 2 Sept 2009, 12:44 a.m.,*
in response to message #5 by Mike Morrow

Quote:

> 1. The worst LCD display quality that anyone has ever put on a graphing calculator. Very fuzzy, very easily damaged.
> 2. Overpriced, underfeatured, unreliable, proprietary memory expansion cards (vs. SD cards).
> 3. Slow speed, and Saturn-only (vs. ARM) capability.
> 4. No real CAS built-in. Must use third-party.
> 5. Non-upgradable firmware.
> 6. The poorest color schemes ever put on any calculator (other than the HP38G!) with respect to contrast and legibility.

7. No joy stick to play games and mouse support, ah?

1. The b&w display is brilliant and the big system font is better visible than on the toys(hp49-hp50). As reliable as anything, I've got a few from the first years of production till the last - no problems at all. And all these have seen tough times out at the field in any weather conditions.
2. These calculators were and still are worth their weight in gold. They payed back their price thousands of times over the years.
3. Speed has never been a problem. Problem is unreliable keyboard.
4. CAS? you must be kidding. HP48 is a professional tool and not algebra school teacher or OS for playing games like TIs.
5. What about slide rules? Are there upgradeable ones? What is the effect of the "upgradeable" firmware? The fact that you can replace one buggy FW with the next one etc etc?
6. The colour scheme is a matter of personal taste. To my eyes HP48's is perfect and I for one like the 48G colours more then the 48S'

Edited: 2 Sept 2009, 12:46 a.m.

Re: HP-35S Case (and HP48 commentary)

*Message #22 Posted by **KC** on 2 Sept 2009, 2:32 a.m.,*
in response to message #21 by Reth

> Quote:
>
> 7. No joy stick to play games and mouse support, ah?

8. No touch screen :)

Re: HP-35S Case (and HP48 commentary)

*Message #23 Posted by **Reth** on 2 Sept 2009, 5:29 a.m.,*
in response to message #22 by KC

9. No bluetooth
10. No Wi-Fi
11. No GPS
Just "horrible, horrible" as in Seinfeld
;)

Re: HP-35S Case (and HP48 commentary)

*Message #24 Posted by **NACHO** on 2 Sept 2009, 8:03 a.m.,*
in response to message #23 by Reth

> Quote:
>
> 9. No bluetooth
> 10. No Wi-Fi
> 11. No GPS
> Just "horrible, horrible" as in Seinfeld
> ;)

11. GPS...HP-GPS connection yes, it exists ;)

http://dadima.chat.ru/cables.html

Re: HP-35S Case (and HP48 commentary)

*Message #25 Posted by **Mike Morrow** on 2 Sept 2009, 10:14 a.m.,*
in response to message #21 by Reth

I have several HP48s that I'll gladly sell to you for their weight in gold. Or was that just more nonsense?

Re: HP-35S Case (and HP48 commentary)

*Message #26 Posted by **Raymond Del Tondo** on 2 Sept 2009, 10:48 a.m.,*
in response to message #25 by Mike Morrow

> Quote:
>
> I have several HP48s that I'll gladly sell to you for their weight in gold. Or was that just more nonsense?

And that's another good point for the HP-48:
It may be worth the weight in gold, but it isn't _that_ expensive to obtain;-)

Re: HP-35S Case (and HP48 commentary)

*Message #27 Posted by **Reth** on 3 Sept 2009, 5:40 a.m.,*
in response to message #25 by Mike Morrow

> Quote:
>
> Or was that just more nonsense?

Nonsense? I'm not trespassing your area, mate.

Re: HP-35S Case (and HP48 commentary)

*Message #28 Posted by **Mark Edmonds** on 2 Sept 2009, 5:07 p.m.,*
in response to message #5 by Mike Morrow

Mike,

You made a similar post recently which nearly provoked me to replying. At least this time, you have hit on a few better points :)

The worst LCD display? Well, I agree that the S series displays aren't exactly high contrast but in well over 10 years using G series, it never once occured to me that the display was bad.

Fuzzy display? None of mine are like that. Fuzzy implies out of focus and I'm not sure how that would happen in an LCD. Do they have lenses?

Easily damaged? Again, none of mine have ever suffered any damage. I'm not in the habit of throwing them into cement mixers but I am in the habit of applying a bit of sense when storing the calc - and the 48 series cases are amongst the best for ease of inserting/removing the calc.

Memory cards? You can hardly blame the 48 series for not having SD as the technology didn't exist. By this comparison, do we start unfairly criticising earlier calcs that don't feature technology "x" when it didn't even exist at the time? However, the main point with memory cards is that their usage is definitly in the minority. If you took numbers of calcs sold and memory cards sold, I bet you'd only find a very small percentage using the cards. It simply doesn't matter for most users.

Speed? Agreed, some operations can be painfully slow. However, a solution to most of these lies in Raymond's superb SpeedUI which streamlines many front-end elements. Strongly recommended. But, even with the slow features of the 48 series, the calc is still quite a lot faster than probably all calcs before it.

Saturn only? Well, that is what it was built on. Is that a fault of the calc? How many 50G users are programming native Arm code? Not many I expect.

No CAS? Didn't CAS start as a 48 lib which HP then took on board? If yes, then it can be installed. The only time I've ever needed CAS was for programming a solution to a challenge on this forum.

Non-upgradable firmware? Well, no. This is desirable for some situations but there is no need for a calc to have it. In a way, I prefer not to have it as it puts extra pressure on getting the bugs sorted before shipping.

Poorest colour scheme? Last time you said something like "west coast arty"!! Not sure what you meant by that but I quite like the violet/green scheme so this is subjective. I have certainly never had problems with contrast or legibility and it is significantly better than the vile scheme on the 49G! If you think the 48G is bad, try a 22S under overhead lighting.

I think that covers your points. The original 48 series has faults but it also has features going for it that have been lost since the 49G. Like others, I think the GX is the last great proper HP calc and I still use it on a daily basis.

Some other bullet points for and against 48GX or 50G

```
50G has bigger display
50G has numerous software enhancements that are really valuable
50G has benefit of USB connection
50G is a lot faster all round
50G eats batteries and needs a backup battery because of this
50G has a good keyboard but still not as good as the GX
GX keyboard layout is far superior to the 50G
GX menus are not so deeply nested as on 50G
GX doesn't do infuriating mode switching like the 50G does
50G has lots of keyboard kludges - shift hold combinations - that exist as far as I
am concerned to compensate for the poor keyboard layout
```

and now doubt many points more that aren't springing to mind right now.

It is a matter of great regret to me that HP didn't continue developing the 48GX in the right direction. The 49G design was such a backwards step and we are still suffering with the legacy of that. I read on hpcalc.org that the keyboard layout was changed to make it less intimidating! Well, if the removal of 4 keys and the subsequent function changes achieved that, all well and good but it was done at the expense of alienating a large swathe of existing users. The 50G is undoubtedly a good calc but if it hadn't suffered from the poor decisions concerning its keyboard and menu structure, it would be absolutely incredible.

Anyway, I've rambled enough...

Mark

> Quote:
>
> The HP48-series is great as long as one doesn't mind:
>
> 1. The worst LCD display quality that anyone has ever put on a graphing calculator. Very fuzzy, very easily damaged.
> 2. Overpriced, underfeatured, unreliable, proprietary memory expansion cards (vs. SD cards).
> 3. Slow speed, and Saturn-only (vs. ARM) capability.
> 4. No real CAS built-in. Must use third-party.
> 5. Non-upgradable firmware.
> 6. The poorest color schemes ever put on any calculator (other than the HP38G!) with respect to contrast and legibility.
>
> I've had an HP48SX since 1991, plus two HP48GXs since 1997. It seemed like a good idea at the time.

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What is this?

*Message #1 Posted by **hecube** on 31 Aug 2009, 12:53 p.m.*

http://cgi.ebay.com/Hewlett-Packard-Calculator_W0QQitemZ250491011247QQcmdZViewItemQQptZCalculators?hash=item3a526d80af&_trksid=p3286.c0.m14#ht_500wt_1182

Re: What is this?

*Message #2 Posted by **Massimo Gnerucci (Italy)** on 31 Aug 2009, 1:28 p.m.,*
in response to message #1 by hecube

Promotional junk

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HP-01 and iPhone

*Message #1 Posted by **hecube** on 30 Aug 2009, 7:44 p.m.*

Am I the only one finding a resemblance? Has this been discussed?

Re: HP-01 and iPhone

*Message #2 Posted by **DaveJ** on 30 Aug 2009, 10:03 p.m.,*
in response to message #1 by hecube

Sorry, I don't see any resemblance at all!

Dave.

Re: HP-01 and iPhone

*Message #3 Posted by **Etienne Victoria** on 31 Aug 2009, 4:04 a.m.,*
in response to message #1 by hecube

Yep, they both display the time on their welcome screen :-))

Cheers

Etienne

Re: HP-01 and iPhone

*Message #4 Posted by **Howard Owen** on 31 Aug 2009, 5:40 a.m.,*
in response to message #1 by hecube

One of Apple's co-founders worked at HP at one time?

Re: HP-01 and iPhone

*Message #5 Posted by **reth** on 31 Aug 2009, 6:50 a.m.,*
in response to message #1 by hecube

It depends on what you were smoking when you saw that "resemblance" of yours ;) I'd be happy to try it out :>)

Re: HP-01 and iPhone

*Message #6 Posted by **Geoff Quickfall** on 31 Aug 2009, 11:24 a.m.,*
in response to message #1 by hecube

Hecube:

the letters **hP oi** are found in iPhone and that looks like HP-01?

;-)

P.S. stop drinking the hard water in Quebec, I can send you some softer water from B.C.

8-)

Edited: 31 Aug 2009, 11:26 a.m.

Re: HP-01 and iPhone

*Message #7 Posted by **hecube** on 31 Aug 2009, 12:02 p.m.,*
in response to message #6 by Geoff Quickfall

Come on!

The black plastic faceplate, the chrome/metal rounded trapezoidal edges...

Re: HP-01 and iPhone

*Message #8 Posted by **Steve Simpkin** on 31 Aug 2009, 12:56 p.m.,*
in response to message #7 by hecube

You know... I did not see how much they looked alike until you posted both pictures at the same time. Wow is that freaky or what. Good catch Hecube!

Steve

Re: HP-01 and iPhone

*Message #9 Posted by **hecube** on 31 Aug 2009, 3:04 p.m.,*

in response to message #8 by Steve Simpkin

A-HA!

Re: HP-01 and iPhone

*Message #10 Posted by **Geoff Quickfall** on 31 Aug 2009, 4:21 p.m.,*
in response to message #9 by hecube

The proverbial FOREST for the TREES!

Cheers, Geoff

Re: HP-01 and iPhone

*Message #11 Posted by **Paul Brogger** on 1 Sept 2009, 11:58 a.m.,*
in response to message #1 by hecube

The only similarity is price.

(Oh, wait a minute -- the HP-01 costs *far* more.)

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what's wrong with this program? / STO error

*Message #1 Posted by **hpnewbie** on 30 Aug 2009, 2:53 p.m.*

So I purchased a 50g a couple of months ago partly based on this forum's advice, (thank you), and really like it, especially rpn. So I've finally gotten around to trying to program it some. I've written a lot of simple programs for various purposes on my old ti-84, and I wanted to see how much faster rpl is than ti basic by writing a simple prime number finding program where you input a number and the program finds all primes up to that number. This is what I've written: << -> X << 3 X FOR B B 1 - S STO 5 M STO 2 S FOR C IF B C MOD 0 == THEN 1 M STO END NEXT IF M 0 &#8800 [does not = symbol]; THEN 0 M STO B END NEXT >> >> (I tried to keep some formatting and stuff so it's easier to read but it just has spaces on the calc on the stack, and the stuff in brackets isn't in the program).

So every time I run this I get the message "STO error: bad argument type." I can't figure out what is causing this, even though I've tried changing a lot of the STO arguments around and stuff I still get the same error. I was thinking that maybe the debug function could pinpoint what is causing this but I can't figure out how to make that work. I would really appreciate if someone would point out what I'm doing wrong.

BTW I'm aware that this really is not an efficient algorithim at all, but right now I'm just trying to learn enough rpl so that I can do all the stuff I knew how to do on my ti 84 on my 50g.

Thanks again

Re: what's wrong with this program? / STO error

*Message #2 Posted by **Allen** on 30 Aug 2009, 3:11 p.m.,*
in response to message #1 by hpnewbie

To get the STO working, you might need to include 'M' instead of M. I'm not sure what the M in the below program is for. it looks like it might not be necessary at all. Can you share a little bit about what the program is used for or provide a pseudocode explanation for these loops?

```
<< -> X
   << 3 X FOR B
      B 1 - S STO 5 M STO
            2 S FOR C
                IF B C MOD 0 == THEN 1 M STO END
            NEXT
            IF M 0 <> THEN 0 M STO B END
         NEXT
   >>
>>
```

In many cases it is not necessary to use the STO function on a 50g (or other RPL calculator) to keep intermediate values. Try writing the routine to only use the stack- it will make the program much faster and likely more elegant.

Re: what's wrong with this program? / STO error

*Message #3 Posted by **hpnewbie** on 30 Aug 2009, 3:42 p.m.,*
in response to message #2 by Allen

Thanks Allen for the help. I didn't realize that inserting quotation marks could make the difference it did - after putting quotation marks around whatever variable names I wanted to be treated as symbolic and not putting them around variable names that I wanted to be treated as the number they represented I got the program to work in short order.

To try to clarify what I was asking (though I already got it working) the program is supposed to find all prime numbers up to the first value on the stack. Since I couldn't figure out how to insert an early exit command for loops in rpl, I used 'M' as a value which basically represents whether or not the number 'B' has any factors. If it does not, the number is copied to the stack.

Thanks again for the help and now I guess I'll do some more reading and try to figure out how to rewrite this using the stack.

Just as a side-note, is there a way to exit a loop early in rpl? Because I just realized that this program is going to crawl as the numbers get bigger because, even if it's divisible by 2, the program is still going to check for every number up to the number being checked. (Actually I need to change it so it stops looking for factors at half the number being checked.)

Edited: 30 Aug 2009, 3:49 p.m.

Re: what's wrong with this program? / STO error

*Message #4 Posted by **Don Shepherd** on 30 Aug 2009, 4:29 p.m.,*
in response to message #3 by hpnewbie

> Quote:
>
> it stops looking for factors at half the number being checked

Not half, square root.

Re: what's wrong with this program? / STO error

*Message #5 Posted by **Howard Owen** on 30 Aug 2009, 4:36 p.m.,*
in response to message #3 by hpnewbie

The quotes give you a reference to the variable. Unquoted, you get the variable's value placed on the stack.

Re: what's wrong with this program? / STO error

*Message #6 Posted by **Luca** on 4 Sept 2009, 12:33 p.m.,*
in response to message #5 by Howard Owen

Unfortunately, it is more complicated than that.

If M is unquoted, then:

- If M is already defined (i.e., contains a value), then M means the number.
- If M is not already defined, then M means the symbol.

If M is quoted, as in 'M', it always means the symbol.

This means that the sequence "3 M STO" does different things depending on whether M already

contains a value or not: if M does not contain a value, it puts 3 into M; otherwise, it causes an error.

There is this kind of craziness all around the 50g; in general, it is NOT true that the outcome of an operation depends on its operands only. There was a thread some time ago on the way the result of CAS functions depended on which variables were accessible! I wish the designers took good programming language design in mind when coming up with the 50g. To me, it feels that its software has been hastily put together.

Luca

Re: what's wrong with this program? / STO error

*Message #7 Posted by **Reth** on 5 Sept 2009, 4:24 a.m.,*
in response to message #6 by Luca

> Quote:
>
> if M is already defined (i.e., contains a value), then M means the number

Really? And which "number" exactly it means? What if M consisted of a string, matrix, vector, list, library etc. etc. ?

> Quote:
>
> I wish the designers took good programming language design in mind when coming up with the 50g.

??? What does that suppose to mean? That RPL is not good enough for you? If that's the case there are SysRPL and C. Still not happy?

Re: what's wrong with this program? / STO error

*Message #8 Posted by **Luca** on 5 Sept 2009, 1:14 p.m.,*
in response to message #7 by Reth

> Quote:
>
> ??? What does that suppose to mean? That RPL is not good enough for you? If that's the case there are SysRPL and C. Still not happy?

Yes, that's exactly right. RPL is clearly not good enough for me; I think it is poorly designed. It has two faults.

- The large fault is that a postfix notation does not make much sense in a structured language setting. As others have remarked, there is an obfuscated C context, but with RPL, you don't need the motivation of a context -- the code comes out naturally obfuscated.
- The smaller, more technical fault is that the effect of too many commands, such as CAS commands and STO, depends on the context. Properly designed stack languages, such as Forth, avoid such side dependencies.

SysRPL and C are even worse - I mean, who wants to bother with such low-level stuff when writing code on a programmable calculator? RPN programming is easy enough for

very small tasks. For bigger tasks, if I want a pocketable device, I am waiting till I can simply write Python, Ruby, on my Android cellphone; I guess it will not be long. Those languages are in another universe, regarding usability.

Re: what's wrong with this program? / STO error

*Message #9 Posted by **Reth** on 6 Sept 2009, 12:04 a.m.,*
in response to message #8 by Luca

You keep messing up RPL and CAS. CAS has nothing to do with RPL which is a unique language specially designed for HP series of calculators like HP28 and HP48. For many years it has proven it's usefulness. The creators of RPL were nothing short but geniuses. The fact, that nothing better was designed later and RPL platform was used for (to my view) running school kids' stuff like CAS etc. is not a reason to be criticized by people with limited knowledge and abilities in this area. If you know what's best and how to do it, what are you waiting for? Go ahead develop new calculator and proper language for it. HP are waiting for you.

Re: what's wrong with this program? / STO error

*Message #10 Posted by **Bart (UK)** on 5 Sept 2009, 9:16 a.m.,*
in response to message #6 by Luca

> Quote:
>
> I wish the designers took good programming language design in mind when coming up with the 50g.

It would be just as helpful if the users used good programming practice.

I.e.
(1) ensure your variables are defined before calling/manipulating them (this was hammered into me as one of the most important practices of good programming, in C if you attemp to use an undefined variable you also get an error).
(2) be _consistent_ when calling your variable, thus always use quotes when referring to the symbol and no quotes when when referring to it's value (making sure you have defined the value!).

Re: Quoted/unqouted variables or read the manual

*Message #11 Posted by **Bart (UK)** on 7 Sept 2009, 9:09 a.m.,*
in response to message #6 by Luca

Luca,

I you wish to continue RPL programming on the 50G, may I point you to the 50G Manuals page (linked for convenience) and suggest you refer to the "HP 49g+ & 48gII_Advanced User's Reference Manual" listed under General Reference. This is an RPL programming reference.

On p1_1 there is a table that clearly states the impact of quoted and unquoted names.

Bart

Re: what's wrong with this program? / STO error

*Message #12 Posted by **Allen** on 30 Aug 2009, 5:31 p.m.,*
in response to message #3 by hpnewbie

> Quote:
>
> Just as a side-note, is there a way to exit a loop early in rpl?

KILL

Re: what's wrong with this program? / STO error

*Message #13 Posted by **Thomas Radtke** on 31 Aug 2009, 3:39 a.m.,*
in response to message #3 by hpnewbie

> Quote:
>
> Just as a side-note, is there a way to exit a loop early in rpl?

Not in a way elegant as the "break" statement in the C language, unfortunately.

Re: what's wrong with this program? / STO error

*Message #14 Posted by **Dave Boyd** on 31 Aug 2009, 1:43 p.m.,*
in response to message #3 by hpnewbie

> Quote:
>
> Just as a side-note, is there a way to exit a loop early in rpl?

The short answer is no.

The longer answer is to rethink the way you program so that you never need to. In this case, a loop structure that has a continue condition, like do-while, should be used.

The other answer is yes, you can write bad FORTRAN in any language, even one as lovely as RPL, so there's a horrible kludgey way to leave a loop. Enclose the loop in an IFERR <your loop> THEN <optional stuff> END block, then inside your loop you can do IF <cond> THEN 0 DOERR END, and the program will jump to whatever is after the THEN (or END if there is nothing after THEN). Try not to do this, please.

Re: what's wrong with this program? / STO error

*Message #15 Posted by **P.Hart** on 31 Aug 2009, 5:38 p.m.,*
in response to message #3 by hpnewbie

It is easy to exit early from a FOR loop on the 50g, for example

1 10 FOR j (do something) (if finished before 10 cycles then) 20 'j' STO NEXT

Re: what's wrong with this program? / STO error

*Message #16 Posted by **Mark Edmonds** on 31 Aug 2009, 7:18 p.m.,*

in response to message #15 by P.Hart

Well, as others have said, there is no formal way of breaking out of a for loop and with good reason - doing so is bad programming because it means you are using the wrong structure. There is also no need for it because the designers kindly built in condition based structures for exactly this type of reason: DO...UNTIL and WHILE...REPEAT depending on whether you want the condition tested at the start or end of the loop.

Having said all that, a BREAK statement or equivalent could be useful at times and even though using this is bad practise, will get frowned upon etc., I don't consider it to be such a huge crime as is sometimes said. If you are going to break rules, as long as you do it elegantly and with good reason, it can give you more flexibility and even simplify the code.

Mark

Re: what's wrong with this program? / STO error

*Message #17 Posted by **Don Shepherd** on 31 Aug 2009, 8:00 p.m.,*
in response to message #16 by Mark Edmonds

Hi Mark. I'm not so sure that the formal requirements inherent in structured programming apply--or should apply--to calculator programming. Good grief, if it's a mainframe program and other programmers may have to make changes to it in the future, then structured programming is appropriate, along with verbose and meaningful comments. But in calculator programming, or programs we write ourselves for ourselves, an emphasis on structured programming may be a bit misplaced.

I once wrote an article on the ultimate in un-structured programming for the 17b solver, in which I described how to exit a loop early by doing a divide by 0. For calculators, just do what works for you.

After all, how could one expect structured programming on a calculator like the 12c, with one of the keys labelled "GOTO"?

:)

Re: what's wrong with this program? / STO error

*Message #18 Posted by **Mark Edmonds** on 2 Sept 2009, 5:29 p.m.,*
in response to message #17 by Don Shepherd

Hi Don,

I may not have put my point over as clearly as I wanted!

My first paragraph was a purist view - thou shalt not do this.

My second paragraph was being more realistic and admitting that it is done.

However, I still think it is very important to write "elegant" code. All my comments were in relation to UserRPL and not regular step programming where anything goes (the thread being about a 48 program).

I consider step programming to be a bit like doing 8 bit assembler with a fancy CPU and quite low level. In those circumstances, you do whatever you need to do to get the job done - there are no rules.

UserRPL on the other hand is a distinct high-level language which like it or not, imposes structures on the program that you have to follow.

Anyway, as UserRPL doesn't allow loop-breaking by keyword, this is all a bit moot but I still maintain that using the correct loop structure is very important (but not mandatory!).

Mark

> Quote:
>
> Hi Mark. I'm not so sure that the formal requirements inherent in structured programming apply--or should apply--to calculator programming. Good grief, if it's a mainframe program and other programmers may have to make changes to it in the future, then structured programming is appropriate, along with verbose and meaningful comments. But in calculator programming, or programs we write ourselves for ourselves, an emphasis on structured programming may be a bit misplaced.
>
> I once wrote an article on the ultimate in un-structured programming for the 17b solver, in which I described how to exit a loop early by doing a divide by 0. For calculators, just do what works for you.
>
> After all, how could one expect structured programming on a calculator like the 12c, with one of the keys labelled "GOTO"?
>
> :)

Re: what's wrong with this program? / STO error

*Message #19 Posted by **Don Shepherd** on 2 Sept 2009, 7:17 p.m.,*
in response to message #18 by Mark Edmonds

Thanks Mark. Yes, I was really talking about pure RPN keystroke programming. I had a 49g+ for awhile a few years ago, but its RPL programming was something I could not get used to. I know RPL is a powerful programming language, but for me there are just too many darned commands! I like the simplicity of RPN.

Katie Wasserman and I have been discussing the joys of RPN programming using as few registers and lines of code as possible. I normally just use what I need without paying a lot of attention to the stack, but I recently wrote a small program on the 12c (15 lines) that used two registers, and when I started analyzing the stack usage I realized I could get away with using no registers. I admit, that felt very good!

Re: what's wrong with this program? / STO error

*Message #20 Posted by **Karl Schneider** on 1 Sept 2009, 12:33 a.m.,*
in response to message #16 by Mark Edmonds

> Quote:
>
> ...there is no formal way of breaking out of a for loop and with good reason - doing so is bad programming because it means you are using the wrong structure. There is

> also no need for it because the designers kindly built in condition based structures for exactly this type of reason: DO...UNTIL and WHILE...REPEAT

Hmm -- what if the loop-breaking condition is determined by a non-straightforward calculation using a datum that is read-in upon each executed step of the loop? There is no predictable pattern to the iterations of the loop, and to express the condition as a one-liner would be cumbersome.

> Quote:
>
> Having said all that, a BREAK statement or equivalent could be useful at times and even though using this is bad practise, will get frowned upon etc., I don't consider it to be such a huge crime as is sometimes said. If you are going to break rules, as long as you do it elegantly and with good reason, it can give you more flexibility and even simplify the code.

Perhaps this is one such instance...

-- KS

Re: what's wrong with this program? / STO error

*Message #21 Posted by **P.Hart** on 1 Sept 2009, 7:41 a.m.,*
in response to message #15 by P.Hart

Error correction, need an END for the IF:-

1 10 FOR j (do something) IF (finished before 10 cycles) THEN 20 'j' STO END NEXT

Might as well get it right.

Re: what's wrong with this program? / STO error

*Message #22 Posted by **hpnewbie** on 1 Sept 2009, 8:13 p.m.,*
in response to message #21 by P.Hart

Hey thanks everyone for the help. As you probably noticed, I am definitely a beginner at programming and stuff, so thank you. Especially P.Hart - your tip sped up my program by a ton :-). Yeah so this is what I have now and it works fine...

<< -> V X << V X FOR B B [square root symbol] 1 + 'S' STO 0. 'M' STO 2. S FOR C IF B C MOD 0. == THEN 1. 'M' STO S 1 + 'C' STO END NEXT IF M 1 = THEN 0. 'M' STO B END NEXT >> >>

I don't know why the = sign after M 1 = has to be a = instead of a ==, but the double equal signs don't work on my calc. Also, I think the values which you input on the stack as the range of numbers within which to search have to have a period (.) after them.

BTW just in case for anybody who doesn't have the hlp49 library on their 50gs or 49g+s, it's been really helpful to me and contains syntax and explanations for something around 600 non CAS commands - similar to the built in help system for the CAS... so you don't have to lug around a manual everywhere! (I know this is random... just trying to help anyone if I can... :-))

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World statistics in a new light

*Message #1 Posted by **designnut** on 30 Aug 2009, 1:59 p.m.*

I think this is worth watching, Sam
http://www.ted.com/talks/hans_rosling_shows_the_best_stats_you_ve_ever_seen.html

Re: World statistics in a new light

*Message #2 Posted by **BruceH** on 30 Aug 2009, 6:49 p.m.,*
in response to message #1 by designnut

I'm sure this one has been mentioned here before - TED certainly has.

I have it on good authority that Microsoft intend to include something similar in Excel... Excel 2037 I think is the proposed release version.

Re: World statistics in a new light

*Message #3 Posted by **Chuck** on 31 Aug 2009, 12:43 a.m.,*
in response to message #2 by BruceH

That's being optimistic. I don't expect Microsoft of ever thinking outside the box like that.

Re: World statistics in a new light

*Message #4 Posted by **Howard Owen** on 31 Aug 2009, 5:32 a.m.,*
in response to message #2 by BruceH

> Quote:
>
> I have it on good authority that Microsoft intend to include something similar in Excel... Excel 2037 I think is the proposed release version.

Just before time_t overflows. Coincidence? I think not!

Edited: 31 Aug 2009, 5:37 a.m.

Re: World statistics in a new light

*Message #5 Posted by **Howard Owen** on 31 Aug 2009, 5:36 a.m.,*
in response to message #2 by BruceH

> Quote:
>
> I'm sure this one has been mentioned here before - TED certainly has.

According to my iTunes podcast list, this one was just put up on the TED site. (8/26/09) This same fellow gave a similar talk - with fewer worked out analyses - some time in the past. That may be what you remember seeing.

Regards,
Howard

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Error message in Hpapine, HPGCC,XP

*Message #1 Posted by **Jan Kromhout** on 30 Aug 2009, 6:41 a.m.*

Dear All

When I compile the program hello_local from extended your hp50g with c the output is excactly the same as the document. I use XP, with sp2

But I get the error message <<unknown>:3784>: Gdk-WARNING **: cannot open display: (null).

I run the whole excercice from in cygwin, not XTERM.

Cane someone help me with this.

Thanks in advance, Regards

Jan Kromhout Hellevoetsluis

Re: Error message in Hpapine, HPGCC,XP

*Message #2 Posted by **Khanh-Dang Nguyen Thu-Lam** on 30 Aug 2009, 7:56 a.m.,*
in response to message #1 by Jan Kromhout

The error message says your X11 server is not running. To check this, try to run another X11 program such as xclock, xlogo, xterm or whatever; it should fail too.

Re: Error message in Hpapine, HPGCC,XP

*Message #3 Posted by **Jan Kromhout** on 30 Aug 2009, 11:53 a.m.,*
in response to message #2 by Khanh-Dang Nguyen Thu-Lam

Hello,

When I start xclock there is no activity. How can I start this server?

Thanks in advance.

Jan Kromhout Hellevoetsluis-NL

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Extend your 50g with C (HPGCC 2.0 SP2)

*Message #1 Posted by **Jan Kromhout** on 30 Aug 2009, 6:35 a.m.*

Hello,

After working troug the document I have intalled the Cygwin/X. Excact as in the manual Extend your 50g with C (HPGCC 2.0 SP2).

At point 2 there is no startxwin.bat

What to do now?

Thanks in advance

Jan Kromhout Hellevoetsluis-NL

Re: Extend your 50g with C (HPGCC 2.0 SP2)

*Message #2 Posted by **Egan Ford** on 3 Sept 2009, 9:46 a.m.,*
in response to message #1 by Jan Kromhout

Did you install Cygwin or Cygwin/X?

Email me directly: egan@sense.net.

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MoHPC *The Museum of HP Calculators*

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HP38G Hardware - HC74/ HC112 , Connector

*Message #1 Posted by **Thomas Chrapkiewicz** on 30 Aug 2009, 5:36 a.m.*

Hello:

Could someone recommend a site or document that describes the HP38G I/O connector pinouts?

Also, what is the function of the HC74 and HC112 components on the main board?

Thanks in advance,

TomC

Re: HP38G Hardware - HC74/ HC112 , Connector

*Message #2 Posted by **Khanh-Dang Nguyen Thu-Lam** on 30 Aug 2009, 7:58 a.m.,*
in response to message #1 by Thomas Chrapkiewicz

This webpage should fit your needs: http://www.geocities.com/hpcables/hpcables.htm

Re: HP38G Hardware - HC74/ HC112 , Connector

*Message #3 Posted by **Thomas Chrapkiewicz** on 30 Aug 2009, 9:16 a.m.,*
in response to message #2 by Khanh-Dang Nguyen Thu-Lam

Thank you, but... . ....

This page does not describe all 10 pins of the HP38G calculator,

-or-

describe the HC devices within the HP38G.

Regards, TomC

Re: HP38G Hardware - HC74/ HC112 , Connector

*Message #4 Posted by **Khanh-Dang Nguyen Thu-Lam** on 2 Sept 2009, 2:45 p.m.,*
in response to message #3 by Thomas Chrapkiewicz

Sorry, I don't know why I thought you had wanted to make a cable. Well, I would be interested too if someone could tell what the 10 pins of the "serial" connector are. Four of them are used for RS232 and the six others are used by the overhead projector.

The FAQ just tells the name of the six mysterious pins, but there is no detailed description. http://www.hpcalc.org/hp49/docs/faq/#ss1.11. It would be fun to use these pins as an output port for transmitting data at very high speed. I guess some reverse engineering is required...

Re: HP38G Hardware - HC74/ HC112 , Connector

*Message #5 Posted by **Eric Smith** on 30 Aug 2009, 3:14 p.m.,*
in response to message #1 by Thomas Chrapkiewicz

The HC74 and HC112 devices function as dual flip-flops. The hardware is very similar to the HP 48G/GX.

Re: HP38G Hardware - HC74/ HC112 , Connector

*Message #6 Posted by **Thomas Chrapkiewicz** on 30 Aug 2009, 8:33 p.m.,*
in response to message #5 by Eric Smith

Eric:

Thanks for your response. I understand they are flip flops, but what I would like to know is what is their purpose is in the HP38G? These devices are not present in a HP48G or HP48GX.

I'm hoping there is a schematic available of the HP38G, but that does not appear to be the case.

Thanks again, TomC

Re: HP38G Hardware - HC74/ HC112 , Connector

*Message #7 Posted by **Eric Smith** on 31 Aug 2009, 2:59 a.m.,*
in response to message #6 by Thomas Chrapkiewicz

I thought there were some flip-flops in the 48GX, though maybe not in the 48G. If there aren't dual flip-flops in the 48GX, was there a hex or octal flip-flop, something like a 74HC174, 74HC273, or 74HC374, perhaps? My recollection was that some flip-flops were needed to handle the size of the internal ROM as well as the addressing for memory cards. Since the 38G doesn't support memory cards, it wouldn't need as many flip-flops.

Re: HP38G Hardware - HC74/ HC112 , Connector

*Message #8 Posted by **BruceH** on 31 Aug 2009, 3:46 p.m.,*
in response to message #1 by Thomas Chrapkiewicz

I don't have the actual I/O pinouts [1] but I can tell that they serve two purposes:

The first is as an RS232 serial port to allow you to connect the 38G to a PC running the HP supplied communications software. This allows aplets to be transferred from and backed-up to the PC.

The second is to drive an overhead projector display. (Part no F1212-90002). The intention here is to allow a teacher to show a class of students what they should be seeing on their own calcs.

[1] Actually I don't think they were ever officially documented.

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Science & Vie Article

*Message #1 Posted by **John Cadick** on 29 Aug 2009, 12:56 p.m.*

Does anyone have or know of an English or Spanish translation for the article "CALCULATRICES: LAQUELLE EST LA PLUS PRECISE?"

John

Re: Science & Vie Article

*Message #2 Posted by **Michel Lahcem** on 29 Aug 2009, 1:01 p.m.,*
in response to message #1 by John Cadick

This is a funny thing. I have this Science & Vie issue just in front of me !!!

:D

Re: Science & Vie Article

*Message #3 Posted by **John B. Smitherman** on 29 Aug 2009, 2:01 p.m.,*
in response to message #1 by John Cadick

Hi John. Google Translator is ideal for this:

"CALCULATORS: WHICH IS THE MOST ACCURATE?

Regards,

John

Re: Science & Vie Article

*Message #4 Posted by **hecube** on 29 Aug 2009, 2:08 p.m.,*
in response to message #3 by John B. Smitherman

Was that the article from 1980 which had several programs to calculate several hundred digits of pi?

Re: Science & Vie Article

*Message #5 Posted by **Michel Lahcem** on 29 Aug 2009, 3:06 p.m.,*
in response to message #4 by hecube

Yes

Re: Science & Vie Article

*Message #6 Posted by **John Cadick** on 29 Aug 2009, 5:08 p.m.,*

in response to message #3 by John B. Smitherman

Thanks, John. I was able to translate the title; however my very poor French won't handle the text of the article. I just thought that perhaps someone had translated it or that there was an English or Spanish version of the magazine.

John

Re: Science & Vie Article

*Message #7 Posted by **Palmer O. Hanson, Jr.** on 29 Aug 2009, 9:38 p.m.,*
in response to message #6 by John Cadick

For a translation of a followon article on calculating many digits of pi go to Viktor Toth's site (www.rskey.org/) , go to the Library, go to Texas Instruments, go to PPC Notes and go to V8N4. You will find a translation on pages 21 ff.

Edited: 29 Aug 2009, 10:26 p.m.

Re: Science & Vie Article

*Message #8 Posted by **John Cadick** on 30 Aug 2009, 10:23 a.m.,*
in response to message #7 by Palmer O. Hanson, Jr.

Thank you, Palmer. Only a partial translation, but still interesting reading.

John

Re: Science & Vie Article

*Message #9 Posted by **hecube** on 29 Aug 2009, 10:30 p.m.,*
in response to message #1 by John Cadick

Is the original french article on the web somewhere?

Re: Science & Vie Article

*Message #10 Posted by **Etienne Victoria** on 30 Aug 2009, 7:37 a.m.,*
in response to message #9 by hecube

Yes, it is archived on the french vintage magazine site.

Etienne

Re: Science & Vie Article

*Message #11 Posted by **hecube** on 30 Aug 2009, 10:32 a.m.,*
in response to message #10 by Etienne Victoria

That's not the one I remember, although I remember that one. The other one was published later and pitted the following calculators:

HP-41 HP-67 TI-59 Sharp PC-1211

It was another Pi shoot-out.

I remember the HP-41 being declared the winner. That article was the spark that lighted my HP lust.

Anyone know what Science et Vie number that was?

Re: Science & Vie Article

*Message #12 Posted by **Michel Lahcem** on 30 Aug 2009, 12:24 p.m.,*
in response to message #11 by hecube

Hello,

It was number n°759.

You can find scans for all articles mentionned here at the following address.

http://silicium.org/forum/viewtopic.php?f=46&t=23946

Re: Science & Vie Article

*Message #13 Posted by **hecube** on 30 Aug 2009, 12:58 p.m.,*
in response to message #12 by Michel Lahcem

That's the one.

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So the 50G can print by IR but not link to a 48GX?

*Message #1 Posted by **Mark Edmonds** on 29 Aug 2009, 7:53 a.m.*

I'm confused over this.

I can print from my 50G to the old HP 82240B IR printer which pre-dates the 50G by many years. The printing is very very slow and sometimes I get rows of solid blocks after the print has completed.

However, despite this all working and suggesting full compatibility with the necessary IR protocols, I simply cannot get my 48GX to send to the 50G by IR.

After struggling with the forum search facility, I eventually found a thread about this which says you can't send/recv by IR without explaining why. If the printing didn't work, I'd leave it alone but as that does work, why can't comms with another 48G work?

Taking a detour via the PC is a little nuisance for file transfer but much more irritating is this apparent incompatibility between the calcs. Can anyone shed some light on this please? Is there a magic trick to get a 48GX talking to a 50G over IR?

Thanks :)

Mark

Re: So the 50G can print by IR but not link to a 48GX?

*Message #2 Posted by **Thomas Radtke** on 29 Aug 2009, 8:06 a.m.,*
in response to message #1 by Mark Edmonds

The 50G uses the IrDA protocol for data transfer while the 48GX does not. Obviously, printing works different. Maybe that's because HP doesn't provide IrDA printers. Anyone knows?

Edited: 29 Aug 2009, 8:06 a.m.

Re: So the 50G can print by IR but not link to a 48GX?

*Message #3 Posted by **Dave Britten** on 29 Aug 2009, 9:43 a.m.,*
in response to message #2 by Thomas Radtke

That's pretty much it. The 82240A/B printers use something called the Red Eye protocol. It's a one-way transmission. There's a program for the 48 called INPRT that was originally designed for receiving "printed" data from a 28C/S, Pioneer, etc. that you might be able to use for receiving similar data from a 50G. I played around with this a little bit and didn't get very encouraging results, but you might have better luck than I did.

Re: So the 50G can print by IR but not link to a 48GX?

*Message #4 Posted by **Bart (UK)** on 29 Aug 2009, 10:57 a.m.,*

in response to message #3 by Dave Britten

Hey, this is interesting. About 2 years ago I emailed HP asking about transferring stuff from the 28S to my new 50G. They told me that the IRs (I assumed wavelenths) were incompatible.

However, if a 48G can be made to receive from a 28S, and the 82240B can receive both 48G and 50G, then perhaps something can be figured out to make a 50G receive a 28/48? (& full comms between 48 & 50)

Perhaps I mis-interpreted HPs email, and it is just a protocol issue, I'll see if I still have the email somewhere.

Re: So the 50G can print by IR but not link to a 48GX?

*Message #5 Posted by **Dave Britten** on 29 Aug 2009, 4:39 p.m.,*
in response to message #4 by Bart (UK)

I'd imagine it would be possible to port INPRT to the 50G. I don't know enough SysRPL or Saturn ML to make it happen, though. It would make a great way to transfer small files between that and a 48 - just pass it through ->STR on the sending end, and then OBJ-> on the receiver.

Re: So the 50G can print by IR but not link to a 48GX?

*Message #6 Posted by **Khanh-Dang Nguyen Thu-Lam** on 30 Aug 2009, 8:03 a.m.,*
in response to message #1 by Mark Edmonds

Basically, I was told the IR wavelengths differ, so it is physically impossible to link a 50g with a 48G. I guess the IR printer can receive from a broader IR wavelengths range, including the IR wavelengths of both 48G and 50g.

Re: So the 50G can print by IR but not link to a 48GX?

*Message #7 Posted by **Mark Edmonds** on 2 Sept 2009, 5:36 p.m.,*
in response to message #6 by Khanh-Dang Nguyen Thu-Lam

Thanks for all the replies. So the long and short of it is that comms between a GX and 50G by IR is impossible. Shame. I shall have to take the long-route via a PC!

You know, I really would have thought that one of the main benefits of the IR on the 50G would be for 48 series users upgrading and copying their programs over. I have never seen anyone anywhere using IR to talk to a PC and I think IR ports are a dying breed on mobos. It certainly seems like a curious decision not to support GX IR comms on the 50G. Perhaps this is one area where the 50G's upgradable firmware could be put to good use - by incorporating IR comms in a future upgrade!! (I am probably dreaming....!)

Mark

Re: So the 50G can print by IR but not link to a 48GX?

*Message #8 Posted by **Alex Christensen** on 2 Sept 2009, 5:43 p.m.,*
in response to message #7 by Mark Edmonds

I've always wondered why HP didn't add support for printing to a PCL printer over IrDA. Many HP Laserjets have an IR port. I can print 7-bit ascii to my 6MP by just sending the string out the IR port. They are missing out on combining their two product lines this way. I would think it would be fairly easy to convert GROBS into a PCL image and be able to print anything on the calculator properly. I've

> been tempted to try it myself one of these days, but programming is not really my strongest skillset.

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My Los Alamos Lab HP-97 looks like Gort

*Message #1 Posted by **hecube** on 28 Aug 2009, 11:57 p.m.*

I just received an adaptor (thanks to a fellow forum member) for my Los Alamos HP-97.

Upon powering it, here's what I noticed:

- a single old-school red led in the middle of the display. - Digits do not light up - printer does not advance when requested

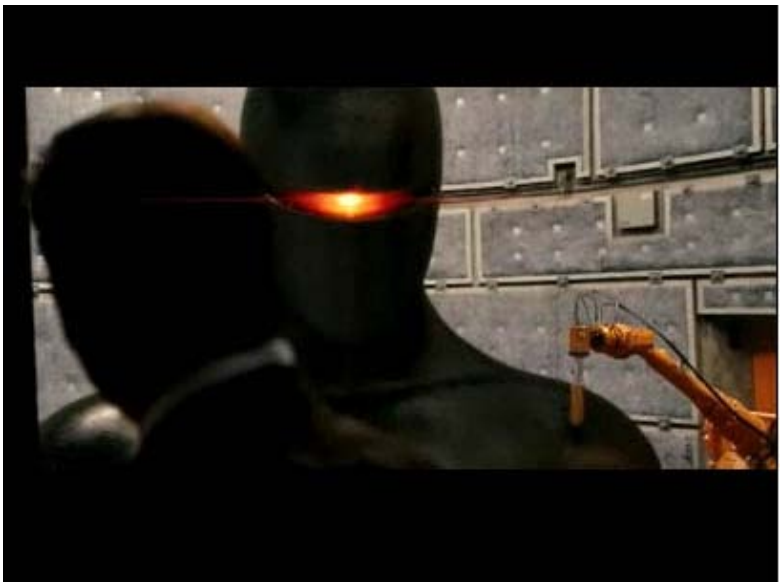
What the hell is this thing?

Somehow, I get the feeling that the unit is not defective but was modded to act that way.

If all the wires were open-ended, the calculator would work normally. Considering its rude behavior, I have to assume that additional mods were made on the circuit boards...

What do you all think?

Gort:



Edited: 29 Aug 2009, 12:03 a.m.

Re: My Los Alamos Lab HP-97 looks like Gort

*Message #2 Posted by **Dan W** on 29 Aug 2009, 12:04 a.m.,*
in response to message #1 by hecube

I can think of two possibilities.

One, you have just armed an experimental nuclear device. Pray the light never goes out.

Two, it could be the low battery indicator.

;)

Re: My Los Alamos Lab HP-97 looks like Gort

*Message #3 Posted by **hecube** on 29 Aug 2009, 12:08 a.m.,*
in response to message #2 by Dan W

Ha ha!

I don't have the 97 manual so I had no idea there was a low-bat indicator.

Thanks...

On the other hand, if the other option is the right one...

Re: My Los Alamos Lab HP-97 looks like Gort

*Message #4 Posted by **Dan W** on 29 Aug 2009, 2:30 p.m.,*
in response to message #3 by hecube

I highly recommend the museum DVD set. It contains all the manuals, and for the 97 it includes the very useful service manual.

Re: My Los Alamos Lab HP-97 looks like Gort

*Message #5 Posted by **Eric Smith** on 29 Aug 2009, 3:24 a.m.,*
in response to message #1 by hecube

Bear in mind that a 97 (or any of the Topcats) will not work properly without a good battery pack installed. You can't just power them from the AC adapter.

For testing, you can power them from 5V DC to the battery terminals, but be VERY careful not to get the polarity reversed.

Re: My Los Alamos Lab HP-97 looks like Gort

*Message #6 Posted by **Thomas Chrapkiewicz** on 29 Aug 2009, 11:10 a.m.,*
in response to message #1 by hecube

Yes, it is the low power Battery indicator. (Manual p45 and appendix B). TomC

Re: My Los Alamos Lab HP-97 looks like Gort

*Message #7 Posted by **Les Wright** on 29 Aug 2009, 4:48 p.m.,*
in response to message #1 by hecube

Yup, that's what you see if you don't have a good battery installed.

The seller waterhosko on the the auction site makes very good battery packs at not bad price.

Les

Re: My Los Alamos Lab HP-97 looks like Gort

*Message #8 Posted by **Ignazio Cara (Italy)** on 31 Aug 2009, 6:24 a.m.,*
in response to message #1 by hecube

That's what you see if you have a bad transistor in the main PCB ;))

Ignazio

Re: My Los Alamos Lab HP-97 looks like Gort

*Message #9 Posted by **Paul Brogger** on 1 Sept 2009, 12:01 p.m.,*
in response to message #1 by hecube

To avert disaster, repeat after me: "Gort: Klaatu barada nikto"

Edited: 1 Sept 2009, 3:26 p.m.

Re: Gort's Plug

*Message #10 Posted by **Katie Wasserman** on 2 Sept 2009, 1:06 a.m.,*
in response to message #1 by hecube

Hecube,

Following up on your previous post about Gort...

I just put a new article out here describing how part of the 97S i/o pod works and building a project around that. I'll bet that Gort's plug was used for something like the clock (and other input stuff) that I describe.

-Katie

Re: Gort's Plug

*Message #11 Posted by **Saile (Brazil)** on 2 Sept 2009, 4:50 a.m.,*
in response to message #10 by Katie Wasserman

Could it be done in the HP-67? Thank's

Re: Gort's Plug

*Message #12 Posted by **Katie Wasserman** on 2 Sept 2009, 11:20 a.m.,*
in response to message #11 by Saile (Brazil)

> Quote:
>
> Could it be done in the HP-67

There's a very good possibility that it can with some modifications. Looking at Tony Duell's schematic, the keyboard scanning is similar but arranged as 5 x 8 matrix with some non-used keys. The control lines (DATA, RCD, STR) all seem to be used in the same way as on the 97.

My guess is that it will work with minimal code changes for the keyboard scan. The big challenge that I see is finding space inside the 67 calculator to add a chip or two.

Looking at Tony's drawings and taking this a step further, it looks to me like the same keyboard scanning control lines are used on all the "classic", "topcat" and "woodstock" machines, but changed on the "sting" and "spice" series when they combined the anode and cathode drivers on the same chip. I'd need to experiment to confirm if this is really the case though.

-Katie

Re: Gort's Plug

*Message #13 Posted by **hecube** on 2 Sept 2009, 7:50 p.m.,*
in response to message #10 by Katie Wasserman

I'll keep the video handy. I still have to get a power pack to properly power it up. We'll see then what kind of black magic it does...

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I got a 33s

*Message #1 Posted by **Peter Klein** on 28 Aug 2009, 3:04 p.m.*

I just received a used 33s via the auction site. I wanted an RPN calculator I could carry anywhere without major loss if it were damaged or stolen. I prefer to keep my real Pioneers at home or work.

Anyway, the initial review on the 33s is mixed. In many ways I like it:

- It's fast.
- The two-line display is very convenient.
- There's enough memory to store loads of equations w/o running out.
- The chevron keyboard doesn't bother me at all (I thought it would, but no)
- I like the rubber grip surfaces on the side.

But there are problems:

- I got one in near-mint condition, but it turned out to have the original version display. Must have been "new old stock" when the seller got it. I can't really complain for $20. The decimal point is unreadable, especially when next to the number "2," and commas are not much better. I can't believe this got past HP. The "shadowing" at all but near straight-on viewing angles is annoying..

- The keys are a little stiff. This is, I suppose, preferable to the mushy rubber junk on many calcs today, but still...

- Not enough labels to fully take advantage of all that memory (but we knew that).

- I really miss the big Enter key. This is mitigated by the trick (found on this forum) of setting the program pointer to a little program, so that R/S executes an Enter.

LBL E // R/S // Enter // GTO E

Incidentally, this program leaves an extra copy of the entered number in the stack. Eliminating the "Enter" in the program works better for routine number keyin--it puts the number on the stack without duplicating it, and the next number just pushes the stack up rather than overwriting the copy in the X register. But if you actually want to duplicate a number to use twice, it's best to use the real Enter key.

- Those of us who know the 32SII well will have "muscle memory" problems. Because some keys are in similar positions to the 32SII, but others have been moved, it creates some confusion. It's neither the same nor different, it's *both*. Perhaps this issue will fade over time. But I honestly think that most diehard HP users just accept that you reach for the Enter key to the left, and when it's on the lower right, the fingers and mind rebel. I understad the marketing reason for doing this-- a concession to the algebraic mode, where it doubles as an Equals key. But it just doesn't seem right.

The firmware bugs are what they are, at least they are known and can be avoided or worked around in most cases.

Conclusion: They don't make 'em like they used to. And if you've had an old one, you know what you're missing. Still, in many ways a nice little machine for the price.

Re: I got a 33s

*Message #2 Posted by **Thomas Radtke** on 28 Aug 2009, 3:32 p.m.,*
in response to message #1 by Peter Klein

> Quote:
>
> The firmware bugs are what they are, at least they are known and can be avoided or worked around in most cases.

Don't be so sure. Only recently, a new 32SII bug was discovered. I expect more to come for the 33S / 35s models.

Re: I got a 33s

*Message #3 Posted by **Quan** on 28 Aug 2009, 4:41 p.m.,*
in response to message #1 by Peter Klein

I also got a 33s for less than $19 dollar total. Brand NEW in blister pack. Mine luckily, however has the same display, when compared side-by-side, as the 35s.

It's definitely a good toss-around RPN calc. I won't kick myself hard if I happen to misplace it. (Getting old does that to me. Sometimes.)

Re: I got a 33s

*Message #4 Posted by **Ed Look** on 28 Aug 2009, 11:34 p.m.,*
in response to message #1 by Peter Klein

Gentlemen,

I initially had the exact same feeling you all did.

However, this little calculator grew on me. It is actually so easy to use and program once you take a short while and get used it in its own right. I don't now even care anymore about its cosmetic aspects. It feels good in my hand and is a pleasure to use. I would now feel awful if I no longer had it.

It is in some ways reminiscent of the 32SII... and in others of the 34C! I think it's more than just a nice little calc, it's very good little calc.

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HP-48 Connectivity Kit

*Message #1 Posted by **Karl-Ludwig Butte** on 28 Aug 2009, 11:55 a.m.*

Hello All,

I tried to connect a 48G to my PC under Windows XP via the COM-port but always get an error message that the HP-Connectivity-Kit (Version 2.3 Build 2436) cannot connect. The Helpfile of the Connectivity Kit gives lots of confusing instructions that first a library has to be installed on the 48G but following the instructions results in an error message that the "Connect using"-Cobobox shouldn't be in Auto-mode. But there's no other value to choose. To tell the truth, it drives me crazy.

May someone be so kind and help me troubleshoot this problem ? And is there a better alternative software I could use instead of the Connectivity Kit ?

Thanks in advance and kind regards

Karl

Re: HP-48 Connectivity Kit

*Message #2 Posted by **Ed Look** on 28 Aug 2009, 1:30 p.m.,*
in response to message #1 by Karl-Ludwig Butte

I had a similar problem. The current connectivity kit works for the 49g+, 50g calculators. I am using another, older I think, connectivity softwarre for my 48G and 48G+. I am not home right now, so I will check later as to what it's called and post back here. I suppose I could e-mail it to you too, as I don't recall it being such a big file (though I could be wrong).

I don't think it's possible anymore with Windows XP to connect a 49g series and a 48G series calculator with the same software package. I am using two different connectivity programs for these two kinds of calculators.

Edited: 28 Aug 2009, 1:31 p.m.

Re: HP-48 Connectivity Kit

*Message #3 Posted by **JMBaillard** on 28 Aug 2009, 4:51 p.m.,*
in response to message #2 by Ed Look

Hi, there is a very good program (HPCOMM3.4) that may be downloaded from www.hpcalc.org
Regards
Jean-Marc.

Re: HP-48 Connectivity Kit

*Message #4 Posted by **Mark Edmonds** on 28 Aug 2009, 5:07 p.m.,*
in response to message #3 by JMBaillard

Call me old-fashioned but I use the old DOS Kermit program HP supplied with their PDL kit. Pretty certain you can download this freely. Even the old PDL is still quite usable and both the PDL and Kermit have minimal footprint, no fancy installation routine and do the job. How often are you going to be transfering files? If not very often, a simple solution like Kermit works a treat.

Mark

Re: HP-48 Connectivity Kit

*Message #5 Posted by **Ed Look** on 28 Aug 2009, 11:25 p.m.,*
in response to message #3 by JMBaillard

Jean-Marc,

I used to use HPComm 3.4. But one day, there was, I guess, an update to Windows XP and it stopped working. It could not find right COM port so it could not find the calculator.

Re: HP-48 Connectivity Kit

*Message #6 Posted by **Ed Look** on 28 Aug 2009, 10:59 p.m.,*
in response to message #1 by Karl-Ludwig Butte

I trust the file was received in good order?

Re: HP-48 Connectivity Kit

*Message #7 Posted by **JJB299** on 30 Aug 2009, 1:17 p.m.,*
in response to message #1 by Karl-Ludwig Butte

If you have an old 56k modem installed, it may be hogging up the COM1 port.

Try freeing up your COM1 port first: Start > Settings > Control Panel > System

In System Properties, select the "Hardware" Tab. On the Hardware Tab, select "Device Manager" button.

In Device Manager, scroll down to the "Modems". Open up the modems list view. Right click on any modem (and any communications cable) and select "Disable".

While your there, go to the "Ports". Right click on the Communications Port (COM1) and select Properties. Make sure the port settings match the settings in the Connectivity Kit. You should use the HP Connectivity Kit 3.0 free from HP.

Hope this helps.

Re: HP-48 Connectivity Kit

*Message #8 Posted by **JMBaillard** on 31 Aug 2009, 6:29 a.m.,*
in response to message #7 by JJB299

```
Hi,


I had similar problems a couple of weeks ago:
I purchased an USB to RS232 cable but the PC - windows xp -
could not detect the calculator!
An expert help me to solve the problem and "JJB299" advices
are certainly the right things to do: desable and unable the com port,
but if it still doesn't work, simply try to unplug and re-plug
the cable - with the HP48 in server mode, displaying
```

```
"Awaiting Server Cmd." - and it should work well.


Regards,
Jean-Marc.
```

Re: HP-48 Connectivity Kit

*Message #9 Posted by **Ed Look** on 31 Aug 2009, 11:23 a.m.,*
in response to message #8 by JMBaillard

I'm no expert, and maybe someone more knowledgeable can say something, but there is power also in the USB connection. I would be careful is simply plugging and unplugging something connected via USB. Yes, I know many people simply connect and pull out their flash drives, etc., but I think these things are more robust maybe, than a 48G/G+/GX.

Re: HP-48 Connectivity Kit

*Message #10 Posted by **Karl-Ludwig Butte** on 31 Aug 2009, 3:55 p.m.,*
in response to message #1 by Karl-Ludwig Butte

thanks a lot to all who responded, especially to Ed Look who sent me the HP-48-Explorer. It works perfect even under Windows XP using the build-in COM-Port of the PC!

Kind regards

Karl

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Another 12C+ Bug

*Message #1 Posted by **Katie Wasserman** on 27 Aug 2009, 6:21 p.m.*

This is a tiny bug, but disturbing in an emulator-based calculator just the same. This simple program will blank the screen and lock up 12C+ in a such way that you need to turn off the calculator to recover from:

```
01 1
02 AMORT
03 GTO 01
```

I'm running firmware dated 7/31/2009, can anyone confirm that this problem existed in earlier firmware 12C+ calculators? (press [ON]+[G]+[ENTER] then [2], [any key] to see the date) On all other 12C calculators that I've tested pressing any key will abort the program, as it should.

-Katie

Re: Another 12C+ Bug

*Message #2 Posted by **Gerson W. Barbosa** on 27 Aug 2009, 6:55 p.m.,*
in response to message #1 by Katie Wasserman

The program terminates when a key is pressed but only after some seconds (sometimes five seconds, sometimes up to 15 seconds). Firmware date: 2008-06-28.

Gerson.

Re: Another 12C+ Bug

*Message #3 Posted by **Don Shepherd** on 27 Aug 2009, 7:20 p.m.,*
in response to message #1 by Katie Wasserman

I have the same firmware date as Gerson (2008-6-28), but no key press on my unit will terminate the program, even after 30 seconds or so. Only turning it off will work.

Re: Another 12C+ Bug

*Message #4 Posted by **Don Shepherd** on 27 Aug 2009, 7:23 p.m.,*
in response to message #3 by Don Shepherd

Oh, I forgot to add, it continues to display "running", but it doesn't flash, just kind of sits there until you turn the calc off to get rid of it.

Re: Another 12C+ Bug

*Message #5 Posted by **Gerson W. Barbosa** on 27 Aug 2009, 7:32 p.m.,*
in response to message #3 by Don Shepherd

I forgot to mention the program would not terminate upon the first key presses, I had to keep trying until I

found one that stopped the program.

Edited: 27 Aug 2009, 7:34 p.m.

Re: Another 12C+ Bug

*Message #6 Posted by **Bart (UK)** on 28 Aug 2009, 8:02 a.m.,*
in response to message #3 by Don Shepherd

Try rapidly toggling a key, then hold.

Re: Another 12C+ Bug

*Message #7 Posted by **Don Shepherd** on 27 Aug 2009, 8:35 p.m.,*
in response to message #1 by Katie Wasserman

Katie, based upon these bugs that you have found in this ARM-based 12c, I'll bet the financial and real estate firms that buy these for their new employees will want to buy the older (slower) 12c's, because they are dependable. It seems that only the members of this forum are particularly interested in getting the newer units.

Re: Another 12C+ Bug

*Message #8 Posted by **Katie Wasserman** on 27 Aug 2009, 9:02 p.m.,*
in response to message #7 by Don Shepherd

Don,

You might be right, but I don't think that there will be a choice in short order since, only the new (12C+) machines are in production I believe. Isn't that why HP did a silent roll-out of this model?

Given the results reported above, I think that the faster the emulator is the less opportunity it has for program interruption. The firmware dated 7/31/2009 is 2.5 times faster than previous versions allowing little or no time for keyboard interrupts.

-Katie

Edited: 28 Aug 2009, 5:12 a.m. after one or more responses were posted

Re: Another 12C+ Bug

*Message #9 Posted by **Eric Smith** on 28 Aug 2009, 2:49 a.m.,*
in response to message #8 by Katie Wasserman

If the keyboard handling was done the way I recommended, it wouldn't matter how much faster the simulation was than the original. There's no fundamental reason why speeding it up makes it hard for it to be responsive to the keyboard; that's just the effect of a bad decision in how the keyboard scanner code is designed and how it interacts with the simulation, possible as a result of having more concern for speeding it up than making the simulation accurate.

Re: Another 12C+ Bug

*Message #10 Posted by **Bart (UK)** on 28 Aug 2009, 4:20 a.m.,*
in response to message #9 by Eric Smith

Could it be that the speed is causing the processor to scan through the keyboard latches/mux/buffer (whatever) too fast, not allowing the signals to settle on the uP I/O lines causing it to "miss" the

keypress?

Just speculating as I have no clue of the ARM & 12C architecture.

Re: Another 12C+ Bug

*Message #11 Posted by **Eric Smith** on 28 Aug 2009, 4:28 a.m.,*
in response to message #10 by Bart (UK)

No. The scanning is done by software, and the software can do it at any rate the programmer wants (within reason).

Re: Another 12C+ Bug

*Message #12 Posted by **Bart (UK)** on 28 Aug 2009, 5:05 a.m.,*
in response to message #11 by Eric Smith

So my question is not how often the programmer calls the kbd scanning routine - but that, with Katie's short program, the routine now executes too fast, reading the port register before the signal has established itself and the port's register is updated. This is what could be associated with "speeding things up", no measures are put in place to accommodate the latency of the H/W when we merely increase clock speeds or plug in fast processors on existing H/W designs.

If increased speed is achieved by reducing the frequency by which the kbd scanning routine is called, a longer keypress would solve the problem.

If however due to the "shortness" of Katie's program the kbd scanning routine is skipped, then we have a different type of bug - something is wrong in the software and that has nothing to do with speed.

Re: Another 12C+ Bug

*Message #13 Posted by **cyrille de Brébisson** on 28 Aug 2009, 10:38 a.m.,*
in response to message #12 by Bart (UK)

Hello,

the keyboard scanner is under interrupt, so when you press a key, it toggles an interrupt and scans the keypad immediately.

Since there is then no way to detect directly further key presses on the same column or all key releases cases, a timer is set that scans the keyboard every 10ms until all keys are released...

The problem does not stem from there...

The problem stems from the fact that the original 12C WAITED for all keys to be released before going in 'IDLE' mode. This is not a problem for eric's windows based emulator who can just ignore that wait loop.

However, on the real hardware, where a typical keypress last around 250ms but executes in <10ms, this would lead to a lot of wasted battery power...

So, the emulator attempts to detect when the old ROM is entering this 'wait for all key

released mode' and tells the old ROM that all keys have been released (even if they have not), but there is a need to program a lot of special cases to handle this (problems with SST for example, or the PREFIX and MEMORY functions are examples)... and I guess that there is still something wrong with the way the key detection is done in the AMORT function...

regards, cyrille

Re: Another 12C+ Bug

*Message #14 Posted by **Bart (UK)** on 28 Aug 2009, 11:15 a.m.,*
in response to message #13 by cyrille de Brébisson

Hi Cyrille,

I've done some reading up on the AT91 ARM (assuming the 12C+ uses the same as the 20B). I guess you're using a similar structure to their 4x4 keypad example.

From the datasheets the interrupt seems edge triggered, also the "de-bounce" is implemented by delay rather than circuit. I just was wondering if somehow the trigger was missed or the de-bounce not long enough (maybe because of the short routine (??)) - hence my other post advising to try rapid key toggles followed by a hold, to generate multiple interrupts hoping at least one would be caught.

Another avenue of thought I had was that if the AMORT routine used an FIQ, it could mask an IRQ of the keyboard matrix, because Katie's routine pretty much keeps it permanently in the AMORT routine.

Again, just some thoughts.

Bart.

Re: Another 12C+ Bug

*Message #15 Posted by **cyrille de Brébisson** on 28 Aug 2009, 12:12 p.m.,*
in response to message #14 by Bart (UK)

hello,

the debounce is done 100% in software and is done by taking a time stamp when the key is pressed. If it later detects the same key pressed without another keypress inbetween within less than 100ms, it considers the 2nd key as a bounce... so there is no time wasted in doing the debouncing...

the 12C rom does not have any IRQ/FIQ or other...

the problem is that the emulator lies to the ROM when it request information on the keyboard from the emulator. the emulator lies in order to protect battery life... I tried to remove/hide/patch all the side effects caused by this 'lie', but that one, I do not know how to fix.

regards, cyrille..

Re: Another 12C+ Bug

*Message #16 Posted by **Bart (UK)** on 28 Aug 2009, 1:39 p.m.,*
in response to message #15 by cyrille de Brébisson

hi,

> Quote:
>
> the 12C rom does not have any IRQ/FIQ or other...

I thought maybe the emulator takes the keyboard interrupt & key data and passes it on the rom via an interrupt. The FIQ idea was just a stab in the dark.

I think I understand how the emulator's lie about the "key still pressed" works when in calc mode (and you definetly do not want the processor running full blast >25x longer than it needs to). However, when executing a program, would the rom not look for a key press, rather than a key release, to stall execution? Or does the rom have a "glitch catcher" that when it sees a key press followed by a quick release (now due to the lie) it assumes that no key was pressed and continues execution? OK, perhaps this is a bit far fetched, right now I just can't think of another reason why a lie about key release can cause a problem for something that requires interruption via a key press.

I wish you luck with solving this.

regards, bart

Re: Another 12C+ Bug

*Message #17 Posted by **Eric Smith** on 28 Aug 2009, 2:26 p.m.,*
in response to message #13 by cyrille de Brébisson

The code I use on real hardware doesn't ignore the wait loops. In addition to my PC version, I've got simulation code running on three different embedded hardware platform (but not yet on the AT91SAM7L128), and on these platforms it does one of three things:

- drop the clock to 32 kHz and continues polling
- go to sleep with CPU clock stopped but 32 kHz timer clock active, for a periodic wakeup to continue polling.
- go to sleep with all clocks stopped, for a wake on port change when the keyboard input changes

Once the condition of the wait loop is met, it resumes full speed.

Have a simulation ignore ANYTHING that the original did is a recipe for disaster, unless you understand exactly why it did it. Unfortunately neither of us is in the position of knowing exactly why the 12C firmware does a lot of the things it does, without spending a lot more time on reverse-engineering than either of us can likely afford.

Re: Another 12C+ Bug

*Message #18 Posted by **Eric Smith** on 29 Aug 2009, 3:26 a.m.,*
in response to message #13 by cyrille de Brébisson

No, I've got my code running on real hardware, and it does sleep while it's waiting for a key to be released. It's not that hard to do it properly. Just use a timer interrupt to wake it up periodically, check whether the key is still pressed, and go back to sleep if it is. It's really not that difficult.

However, I don't see what that has to do with failing to detect a key press during a running program.

Maybe I should port my own simulator to the 12C+ hardware.

Re: Another 12C+ Bug

*Message #19 Posted by **Gerson W. Barbosa** on 30 Aug 2009, 11:59 a.m.,*
in response to message #18 by Eric Smith

> Quote:
>
> Maybe I should port my own simulator to the 12C+ hardware.

Have you considered porting your 15C simulator to it? It would be awesome, even if the keys and faceplace didn't match the actual functions.

Re: Another 12C+ Bug

*Message #20 Posted by **Katie Wasserman** on 30 Aug 2009, 12:41 p.m.,*
in response to message #19 by Gerson W. Barbosa

> Quote:
>
> Have you considered porting your 15C simulator to [the 12c+]?

No need for that. There have been some strong indications on this forum that HP will issue a 15C+ sometime in the not too distant future. See this recent thread in particular.

-Katie

Re: Another 12C+ Bug

*Message #21 Posted by **Bart (UK)** on 28 Aug 2009, 5:11 a.m.,*
in response to message #11 by Eric Smith

Please note that I'm using coulds & woulds. As I said before I am not familiar with ARM & 12C architecture. I just like to speculate & discuss things - maybe trigger some thoughts.

Re: Another 12C+ Bug

*Message #22 Posted by **Bart (UK)** on 28 Aug 2009, 4:10 a.m.,*
in response to message #1 by Katie Wasserman

Does the memory stay intact? The 35s has a deadlier form of the bug which requires removal of the batteries & results in "memory lost".

Re: Another 12C+ Bug

*Message #23 Posted by **Katie Wasserman** on 28 Aug 2009, 5:23 a.m.,*
in response to message #22 by Bart (UK)

Yes, memory is intact. I haven't seen any memory-related problems with the 12C+. This is strictly a timing issue given that the slower version of the firmware has the same problem but not quite as bad. The other timing issue I mentioned recently is that the keyboard self-test times out in about 2 seconds giving an error message. The original 12C does this too, but it takes several minutes so it's gone unnoticed.

Re: Another 12C+ Bug

*Message #24 Posted by **Bart (UK)** on 28 Aug 2009, 6:26 a.m.,*
in response to message #23 by Katie Wasserman

I remember your previous thread on the keyboard test time-out. I tried some Pioneers, and they timed out after around 1 to 3 minutes. These bugs raise some concern as to whether the I/O and man-machine interface received due consideration when the ARM upgrade was implemented.

Re: Another 12C+ Bug

*Message #25 Posted by **Eric Smith** on 28 Aug 2009, 4:32 a.m.,*
in response to message #1 by Katie Wasserman

On the original 12C, when this program is run does "running" flash, or stay on constantly? I expect that you'll say that it flashes, but that the way that both Cyrille's and my simulators work, it won't flash in simulation. If so, I know why, and can fix it in mine fairly easily. Mine doesn't have any problem with recognizing keystrokes instantly, though, even when I crank up the simulation speed to over 500x original.

Re: Another 12C+ Bug

*Message #26 Posted by **Katie Wasserman** on 28 Aug 2009, 5:18 a.m.,*
in response to message #25 by Eric Smith

On the original 12C and the 25th Anniversary edition, "running" flashes when this program is run.

Re: Another 12C+ Bug

*Message #27 Posted by **Eric Smith** on 28 Aug 2009, 2:27 p.m.,*
in response to message #26 by Katie Wasserman

Thanks. I'll apply the fix to my simulation code.

Re: Another 12C+ Bug

*Message #28 Posted by **Bart (UK)** on 28 Aug 2009, 6:28 a.m.,*
in response to message #25 by Eric Smith

Out of curiousity may I ask if the simulation is purely S/W or some sort of ICE on original 12C H/W?

Re: Another 12C+ Bug

*Message #29 Posted by **Eric Smith** on 28 Aug 2009, 2:27 p.m.,*
in response to message #28 by Bart (UK)

My simulation code is purely software.

Re: Another 12C+ Bug

*Message #30 Posted by **Bart (UK)** on 28 Aug 2009, 7:01 p.m.,*
in response to message #29 by Eric Smith

Which, as i'm sure you'll agree, is not quite the same as real H/W. Besides, an ICE does not cover it all either.

> Quote:
>
> ... without spending a lot more time on reverse-engineering than either of us can likely afford.

I understand this time problem and thank you & Cyrille for allowing me to indulge my thoughts. I always have a desire to get to the root cause of a problem, but -reality check- this is not a critical problem. It is easily solved by switching the unit off & on again and without memory loss.

Re: Another 12C+ Bug

*Message #31 Posted by **Eric Smith** on 29 Aug 2009, 3:29 a.m.,*
in response to message #30 by Bart (UK)

Cyrille's code running in the 12C+ is pure software too. And I've run my code on real hardware (though not the 12C+ hardware).

ICE doesn't enter into this *anywhere*.

Re: Another 12C+ Bug

*Message #32 Posted by **Bart (UK)** on 29 Aug 2009, 6:03 a.m.,*
in response to message #31 by Eric Smith

Hi Eric,

Yes, sorry, I kind of gathered that. My ICE comment was to say that ICE does *not* solve all problems.

Let me just add I am thankful to you & Cyrille for the efforts put into the 12C+.

I currently don't have any 12C H/W (or S/W) to play with, but hope to get a 12C+ soon.

regards, B

Re: Another 12C+ Bug

*Message #33 Posted by **Eric Smith** on 29 Aug 2009, 4:16 p.m.,*
in response to message #32 by Bart (UK)

> Quote:
>
> My ICE comment was to say that ICE does *not* solve all problems.

Oh. You're absolutely right about that.

> Quote:
>
> Let me just add I am thankful to you & Cyrille for the efforts put into the 12C+.

99.999% Cyrille, but I've tried to help him with it when he's needed it.

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HP 67 with some dim leds

*Message #1 Posted by **juan demin** on 27 Aug 2009, 10:18 a.m.*

Hi, I've just bought an HP 67 in really good condition…it is working properly but the leds are not as bright as those of my HP 65. I know some of you have also both calculators….can you tell me if this is normal?

Re: HP 67 with some dim leds

*Message #2 Posted by **Eric Smith** on 27 Aug 2009, 3:39 p.m.,*
in response to message #1 by juan demin

Do the segments have uniform brightness, or are some significantly dimmer than others?

Re: HP 67 with some dim leds

*Message #3 Posted by **David Ramsey** on 27 Aug 2009, 3:39 p.m.,*
in response to message #1 by juan demin

If the brightness is even across the LEDs, it's fine. There is some brightness variation among the LED calculators, sometimes even among different examples of the same model.

The display may be brighter if you're running the calculator off its AC adapter. However, with this model, make sure you have a battery pack installed if you're using the card reader, regardless of whether you're using the AC adapter or not.

Re: HP 67 with some dim leds

*Message #4 Posted by **juan demin** on 27 Aug 2009, 4:44 p.m.,*
in response to message #3 by David Ramsey

Thanks for your answers!!!! All the segments have uniform brightness...just dimmer than the hp67 and yhis is the same using it with or without charger. I was told to use always the charger with the battery pack instaled. Thanks again

Re: HP 67 with some dim leds

*Message #5 Posted by **Geoff Quickfall** on 27 Aug 2009, 4:53 p.m.,*
in response to message #1 by juan demin

Yes it is normal,

I have 5 HP-67's including a New Old Stock model and they all vary in brightness (evenly) between each other.

The two HP-65's I have are both brighter then the HP-67's.

Since the HP-67 is related to the HP-21 through HP-29C series; i.e. it is a Woodstock, one should ALWAYS

have good batteries in it when using the charger. In fact, the best thing to do is to purchase an external reserve power pack 82004A and never use the charger for the HP-67.

Also, modify any Woodstock battery packs (remove the centre spine and this will allow access to the batteries and the ability to swap out dead ones for recharged versions) to accept regular NiCd or NiMh batteries and charge them with a generic rechargeable supply. NEVER NEVER use the chargers with the Woodstocks UNLESS you are certain there is NOTHING wrong with the battery pack. A good rule is to never use the charger/adapters with the Woodstocks including the HP-67.

Cheers, Geoff

Re: HP 67 with some dim leds

*Message #6 Posted by **juan demin** on 27 Aug 2009, 5:45 p.m.,*
in response to message #5 by Geoff Quickfall

Thanks Geoff...!! I wonder if these rules of "battery / Charger" are well known among Woodstock users... As I said, I was once told about not connecting the charger without the battery pack inside, but it was a kind of soft warning... I appreciate the advise very much (unlike you, I have only one!!!!)

Re: HP 67 with some dim leds

*Message #7 Posted by **Mike Morrow** on 27 Aug 2009, 10:15 p.m.,*
in response to message #5 by Geoff Quickfall

I don't believe that the power supply arrangement of the HP-67 is anything similar to the disasterous design of real Woodstock units. The Classic battery charger is used, which uses a three-conductor cable to deliver a feed to the electronics that comes from a regulated supply, and a separate circuit section for the battery charging function. The battery is separated from the electronics when the charger plug is pushed in.

Re: HP 67 with some dim leds

*Message #8 Posted by **Eric Smith** on 28 Aug 2009, 2:59 a.m.,*
in response to message #7 by Mike Morrow

In the 67, if you use the charger without a good battery pack, it won't damage the processor or memory chips, but it apparently is possible for it to damage the custom read/write amplifier chip for the card reader. I'd recommend following the same rules as for the Woodstock series.

Re: HP 67 with some dim leds

*Message #9 Posted by **Dan W** on 28 Aug 2009, 4:06 a.m.,*
in response to message #7 by Mike Morrow

> Quote:
>
> I don't believe that the power supply arrangement of the HP-67 is anything similar to the disasterous design of real Woodstock units. The Classic battery charger is used, which uses a three-conductor cable to deliver a feed to the electronics that comes from a regulated supply, and a separate circuit section for the battery charging function. The battery is separated from the electronics when the charger plug is pushed in.

True for all Classics except for the 67 and 65, in which the card reader is powered by 2 additional wires that are connected directly across the battery terminals. When the charger is plugged in, they are then connected to the charging circuit, not the logic circuit.

The charging circuit provides a constant 50 mA current to trickle charge the battery. But the voltage drop can be as high as 16 volts. As I understand it, the battery in effect forces a voltage drop of about 4V give or take. Without a battery, what would happen?

I suppose this was done because the charger logic supply cannot deliver the current needed by the card reader, but the battery can. Is this correct?

Re: HP 67 with some dim leds

*Message #10 Posted by **Geoff Quickfall** on 28 Aug 2009, 8:30 a.m.,*
in response to message #7 by Mike Morrow

Hello Mike,

Eric scooped my response by a few hours! The power I am concerned with in the HP-67 is directed to the card reader circuitry.

But in a more general sense, why subject your 30 year old collectable to any internal charging? Regardless of the family, I would charge all batteries outside the calculator and not stress the aging circuit at all, or subject it to a failing charger.

Cheers, Geoff

Re: HP 67 with some dim leds

*Message #11 Posted by **Mike Morrow** on 28 Aug 2009, 4:04 p.m.,*
in response to message #10 by Geoff Quickfall

I appreciate these several responses which clear up something I've wondered about for more than 32 years, when I got my new HP-67. The manual cautions about damage if the battery pack is not installed when the external charger is being used. But back then I opened and traced the circuit of the charger, which seemed well-designed for calculator operation without a battery installed. I never knew the real basis for the warning in the manual until now.

I suppose the designers wanted the card drive motor current surges to come direct from the battery. But at least the charging design which generates DC in the charger (constant current, IIRC) is better than the real Woodstock's cheap AC-output charger and simple dangerous diode/resistor charge circuit in the calculator. There is no justification for such an incompetent design.

I have always followed the manual's recommendation, and I've always kept a reasonably decent condition battery pack in the HP-67.

Thanks all!

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Who can help me to purchase a HP 12C+?

*Message #1 Posted by **Walter Lam** on 27 Aug 2009, 5:15 a.m.*

I want to buy a HP 12C+ (which uses 2 CR2032 batteries) but I can't find it in Hong Kong.

Does anyone could help me to buy one?

Re: Who can help me to purchase a HP 12C+?

*Message #2 Posted by **Walter Lam** on 27 Aug 2009, 5:17 a.m.,*
in response to message #1 by Walter Lam

> Quote:
>
> I want to buy a HP 12C+ (which uses 2 CR2032 batteries) but I can't find it in Hong Kong.
>
> Does anyone could help me to buy one?

Additional: I will pay by using Paypal.

Re: Who can help me to purchase a HP 12C+?

*Message #3 Posted by **Tim Wessman** on 27 Aug 2009, 10:47 a.m.,*
in response to message #2 by Walter Lam

Try Eric at www.hpcalc.org

He will know if he has the new ones, has good prices, and you can help support that great website.

TW

Re: Who can help me to purchase a HP 12C+?

*Message #4 Posted by **Walter Lam** on 30 Aug 2009, 7:52 a.m.,*
in response to message #3 by Tim Wessman

Thanks, Tim.

I contacted Eric. He replied me that he hasn't got the new 12C+ in stock.

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Who can help me to purchase a HP 12C+?

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Removing the private status of a file (HP-71b)

*Message #1 Posted by **Klaus** on 27 Aug 2009, 3:50 a.m.*

I am trying to have a look into the HP-2225B printer driver included in the zenwand. Unfortunately, it is private. This forum already contains a thread about that, see this thread.

The HP-2225B printer driver is a basic program that is 953 bytes long. I loaded the JPCROM version F into the HP-71B and managed to peek/poke the file into the main ram. But since it is an exact copy, this new file is also marked private.

I would like to remove this protection with the UNPRIVLX mentioned earlier, but I can't find it. The holyjoe page also says it is included in "OLDISLEX", but I can't find that either.

Can anyone please give me a hint how to remove the private status?

I want to look into the printer driver to see if it will be possible to use other printer with the barcode-printing code included in the zenwand.

Kind regards, Klaus

Re: Removing the private status of a file (HP-71b)

*Message #2 Posted by **Marcus von Cube, Germany** on 27 Aug 2009, 4:25 a.m.,*
in response to message #1 by Klaus

Klaus, have you tried to copy the program to a LIF image via HP-IL and EMU71 and modify it there? Cf. my Math RAM Article.

Re: Removing the private status of a file (HP-71b)

*Message #3 Posted by **Klaus** on 27 Aug 2009, 4:44 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Hello Markus,

the JPCROM contains a hex-editor to modify files, so I could do it on the physical HP-71B. I will try to change the byte 03 at (relative) address 000E to 00, and report the result.

Vielen Dank and kind regards, Klaus

Re: Removing the private status of a file (HP-71b)

*Message #4 Posted by **Klaus** on 28 Aug 2009, 2:58 a.m.,*
in response to message #3 by Klaus

I did not succeed in removing the private status. I think this is because the SYSEDIT-command uses nibble addresses and now byte addresses. I tried different locations, but each time it failed. Where did

you get the file-header information from? Is it the software IDS?

I will see if I can transfer the file to emu71 this weekend.

Kind regards, Klaus

Edited: 28 Aug 2009, 3:02 a.m.

Re: Removing the private status of a file (HP-71b)

*Message #5 Posted by **Marcus von Cube, Germany** on 28 Aug 2009, 3:38 a.m.,*
in response to message #4 by Klaus

Yes Klaus, it's somewhere in the IDS.

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PIL Box Success Stories

*Message #1 Posted by **Jeff Davis** on 26 Aug 2009, 9:15 p.m.*

I am planning to get one of these and wanted to know how everyone is using them and what they have been able to accomplish. Please let me know, Jeff

Re: PIL Box Success Stories

*Message #2 Posted by **Raymond Del Tondo** on 27 Aug 2009, 12:17 a.m.,*
in response to message #1 by Jeff Davis

The PIL Box is the thing I have been waiting for for many years,
and near to the point where I had given up hope that s.t. like this would come true,
our wizard Jean-Francois Garnier announced it!

I have one of the earlier protos, and it simply works as expected:-)
You can easily transfer data between your real HP-41 (or HP-71)
and the virtual HDRIVE using the normal mass storage related HP-IL commands.

IMHO the PIL Box is _the_ interface between modern PCs and your beloved HP-41.

So my advice: Get one while you can!

HTH

Raymond

Re: PIL Box Success Stories

*Message #3 Posted by **Egan Ford** on 27 Aug 2009, 2:48 a.m.,*
in response to message #1 by Jeff Davis

I 2nd everything Raymond Del Tondo said above.

I use the PILBox with my MacBook Pro. Currently the PILBox PC code is Windows-based, so I have to use VMware with XP. Not a problem at all, it works great.

I was working with Khanh-Dang Nguyen Thu-Lam to get something native working with OS/X and Linux, but I had to clear my desk for a work project. I'll pick it up again in 3 weeks.

Edited: 27 Aug 2009, 3:18 a.m.

Re: PIL Box Success Stories

*Message #4 Posted by **Christoph Klug** on 27 Aug 2009, 3:57 a.m.,*
in response to message #3 by Egan Ford

The PIL-Box is the perfect interface solution for modern PC - which only support an USB port. The function test with the prototype I get from Jean-Francois is positive.

As Raymond explains the PIL-Box acts as gateway between your real HP-41 / HP-71 and HDRIVE1 of EMU41 / EMU71. Bidirectional transfer of programs, data and Ascii files is possible.

Not possible is the advanced control of external / real HP-IL devices by EMU41 / EMU71, actual for this applications you need the HP-IL/PC Interface Card.

When your PC supports a RS232 serial COM port you can use the HP-IL RS232 Interface for bidirectional transfer of data and programms (refer to IL2000 Interface System manual).

The software / hardware technology of the PIL-Box includes the needed plattform for future IL-devices, for example an IL-Massstorage Drive with simcard memory as replacement for the CMT-RAM-Disk. This device would be a really nice system extension for HP-41 + MLDL200 / NoVRAM / Clonix....

Best regards - Christoph

Edited: 27 Aug 2009, 8:55 a.m.

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Young collection growing...

*Message #1 Posted by **hecube** on 26 Aug 2009, 9:11 p.m.*

Re: Young collection growing...

*Message #2 Posted by **Michael Meyer** on 27 Aug 2009, 1:59 p.m.,*
in response to message #1 by hecube

Uh-Oh. I caught this bug 10 years ago, and it took me years to find, buy, and restore most of the models I wanted. It was the best hobby time of my life.

I still have the bug, but already have a pretty complete collection. But for me, I really enjoy restoration and then the beauty of these remarkable devices.

I hope you enjoy the years to come! Since I was buying all sorts of calculators, I had a motto/wish:

"Another day, another calculator..."

Why do we do this?

*Message #3 Posted by **Mark Edmonds** on 27 Aug 2009, 2:37 p.m.,*
in response to message #2 by Michael Meyer

Remember that line from the film Ghostbusters when the professor-nerd character says he collects "spores, moulds and fungus"? I think he should have said "fungi" really but I digress. Most people would equate collecting calculators to collecting spores, moulds and fungi. Let's be honest about it, collecting calculators is not exactly the sort of hobby which is guaranteed to enhance your charisma during the Friday night party yet we do collect them and enjoy it a great deal.

Why?

If it isn't old hat, perhaps we could write a brief summary of why we do this odd activity and how we came to it? It is always good to see pictures of collections but a little bit of personal reflection on the hobby can be interesting too. I am sure this sort of thing comes up once in a while. Time enough for a new thread on "why we collect"?

Mark

Re: Why do we do this?

*Message #4 Posted by **John B. Smitherman** on 27 Aug 2009, 2:52 p.m.,*
in response to message #3 by Mark Edmonds

Hi Mark.

> Quote:
>
> Time enough for a new thread on "why we collect"?

I'm certainly not an expert but I believe that collecting is due to obsessive-compulsive disorder:

OCD

Regards,

John

Re: Why do we do this?

*Message #5 Posted by **Mark Edmonds** on 27 Aug 2009, 6:43 p.m.,*
in response to message #4 by John B. Smitherman

Hi John,

To be honest, I don't think OCD is accurate unless the collecting habit is causing lifestyles to collapse or go seriously wrong. Elements of the OCD definition are also traits that are perfectly normal in anyone who has an interest in something. Whilst I firmly believe in tracing the root causes for mental patterns, I don't think blanket labelling in the loose way OCD is used is in any way helpful. Many disciplines like to invent labels or terms that sound significant but in reality, offer nothing more than a pseudo-important sounding name with negative connotations.

At least collecting calculators (as long as they are actually used and not kept in their box unwrapped) provides healthy mental stimulus which is more than can be said for activities like collecting .. errr, ... Star Trek action figurines or Friends DVDs.

Everyone here will have a reason for collecting that stems from a particular set of conditions in their life and no one should feel ashamed or stigmatised by that just because someone somewhere decided to associate the word "disorder".

Mark

> Quote:
>
> Hi Mark.
>
> I'm certainly not an expert but I believe that collecting is due to obsessive-compulsive disorder:
>
> OCD

Regards,

John

Re: Why do we do this?
*Message #6 Posted by **Gerson W. Barbosa** on 27 Aug 2009, 7:14 p.m.,*
in response to message #5 by Mark Edmonds

Collecting is also associated with Asperger's Syndrome:

http://books.google.com/books?id=qJZmsp3ZVG8C&pg=PP1&dq=The+complete+guide+to+Asperger%27s+syndrome#v=onepage&q=&f=false (page 178).

However it appears this applies only to unusual objects which hopefully don't include calculators :-) Incidentally I have about twenty HP calculators, but I am not a collector...

Gerson.

Edited: 27 Aug 2009, 7:27 p.m.

Re: Why do we do this?
*Message #7 Posted by **hecube** on 27 Aug 2009, 7:35 p.m.,*
in response to message #6 by Gerson W. Barbosa

What are you then? How do you rationalize having 20 HP calcs?

Re: Why do we do this?
*Message #8 Posted by **Gerson W. Barbosa** on 27 Aug 2009, 9:12 p.m.,*
in response to message #7 by hecube

> Quote:
>
> What are you then? How do you rationalize having 20 HP calcs?

Hmmm... User? Your're right, I cannot rationatize on this. Anyway, I said that rather tongue in cheek. I used to use my 50g on a daily basis until June, but I hardly use it anymore as I am on vacations since then. I use the 33s more often lately. Some I don't use at all, like my 19BII, but I want to keep them even if this doesn't make much sense...

Here are some of mine.

Regards,

Gerson.

Re: Why do we do this?
*Message #9 Posted by **Bart (UK)** on 27 Aug 2009, 7:47 p.m.,*
in response to message #6 by Gerson W. Barbosa

Disorder, syndrome ... who cares? Some soak little paper squares of envelopes, others sort their little flat bits of metal. They call it a hobby, so why shouldn't we? We happen to enjoy the wonders of what a few bits of electronics can do in a handheld sized piece of equipment - and the many different ways it is implemented.

Whether we just appreciate the outer appaerance & functionality or open them up to study & fix - at the end of the day we get enjoyment from it.

Anyhow, that's my 2c worth. What do I know, like Gerson I'm a not a collector. I enjoy using the calcs, looking at them, showing them others who may ot may not be interested...

Re: Why do we do this?

*Message #10 Posted by **Juan J** on 27 Aug 2009, 8:04 p.m.,*
in response to message #9 by Bart (UK)

Hello,

I think we all agree on the fact that calculators have many more practical uses than stamps or labels...

I remember having read that dinosaurs and means of transportation are usual obsessions in Asperger's Syndrome patients. Calculators do not fit any of these categories.

Dumb (and quite likely inaproppriate) question: has any Forum member been diagnosed with Asperger's Syndrome? There was a guy, a few years ago, who wrote he believed he had it; after a few bitter exchanges he disappeared.

JuanJ

Re: Why do we do this?

*Message #11 Posted by **Martin Pinckney** on 28 Aug 2009, 9:34 a.m.,*
in response to message #10 by Juan J

> Quote:
>
> has any Forum member been diagnosed with Asperger's Syndrome? There was a guy, a few years ago, who wrote he believed he had it; after a few bitter exchanges he disappeared.

I laughed out loud!

Re: Why do we do this?

*Message #12 Posted by **Jeff Kearns** on 28 Aug 2009, 11:34 a.m.,*
in response to message #11 by Martin Pinckney

Don with AS string - WOW!

I started frequenting this site around that time but do not recall the string. What a read... It is hilarious!

JeffK

Re: Why do we do this?

*Message #13 Posted by **Massimo Gnerucci (Italy)** on 28 Aug 2009, 12:26 p.m.,*
in response to message #12 by Jeff Kearns

Ah, the good ol' *Quo usque tandem...* thread!

Hilarious? Not so much, at least at the time... ;)

Greetings,
Massimo

Re: Why do we do this?

*Message #14 Posted by **hecube** on 28 Aug 2009, 1:05 p.m.,*
in response to message #13 by Massimo Gnerucci (Italy)

I thought this forum was a bit tamer than guitar forums. I stand corrected...

Re: Why do we do this?

*Message #15 Posted by **Bart (UK)** on 28 Aug 2009, 5:15 a.m.,*
in response to message #6 by Gerson W. Barbosa

Gerson,

Your reference also states that the collection is merely for the sake of having rather than using or enjoying.

Going by the response to mini-challenges etc. on this forum, I'd say most use & enjoy at least part of their collection :)

Bart

Re: Why do we do this?

*Message #16 Posted by **Martin Pinckney** on 28 Aug 2009, 10:17 a.m.,*
in response to message #5 by Mark Edmonds

> Quote:
>
> Many disciplines like to invent labels or terms that sound significant but in reality, offer nothing more than a pseudo-important sounding name with negative connotations.

Agreed, especially the psychological disciplines. I have had a few conversations on this with my wife, who was a social worker (now a high school teacher: same thing). She says these syndrome or diagnosis labels are just convenient shorthand to refer to a group of symptoms. Unfortunately, in general usage they often come to define a person, and more often than not in a negative way, as you point out.

Re: Why do we do this?

*Message #17 Posted by **Steve Keeley** on 28 Aug 2009, 8:51 p.m.,*
in response to message #3 by Mark Edmonds

I'm not a collector; I'm more of an accumulator.

All my HP calculators, starting with a 41C back in '80, were bought new, when they were the latest thing. I wanted them as tools but also wanted to play with all the new features. I read through all the manuals and worked all the examples.

Since I kept the old ones, I eventually wound up with a bunch. All except for the 41C are still in working order and pristine condition.

Re: Young collection growing...

*Message #18 Posted by **Allen** on 27 Aug 2009, 4:27 p.m.,*
in response to message #1 by hecube

This is a great start.. One thing that helped me put some context behind collecting HP calculators is reading some of the great literature written around these wonderful machines.

A great place to start would be: Wlodek's book: A guide to HP Handheld Calculators and Computers

I met him last year at last year's HHC conference - he is a gentleman and a scholar his presentations on Tensor Math with HP calcs has been a favorite of mine.

By all means avoid the other Collectors Guide book advertised on the page. With no offense meant to the author(s), it's incomplete, poorly printed, and in my opinion an extremely shallow information source compared to some collector websites.

Re: Young collection growing...

*Message #19 Posted by **Peter Klein** on 27 Aug 2009, 8:46 p.m.,*

in response to message #18 by Allen

Years ago I wrote an article about a German-American musicologist who had a fantastic collection of original manuscripts. He told me "Collectors are born, not made. Collecting is an instinct, like with the squirrel." He was also extremely gregarious, friendly and warm. No hint of Asperger's.

Thanks to this gentleman, I actually held a piece in Mozart's handwriting in my own two hands. Not to mention pieces and letters by most of the important contemporary composers of the first half of the 20th century. The memory of that afternoon is so moving that I am almost willing to forgive collectors of HP calculators and Leica cameras, who drive the prices up so high that I can't afford them. :-)

Although, I must say I have a few more HPs than I need, so maybe I'm becoming one of THEM....

--Peter

Re: Young collection growing...

*Message #20 Posted by **Mark Edmonds** on 28 Aug 2009, 7:00 a.m.,*
in response to message #19 by Peter Klein

I would say that anyone who has more than 2 or 3 calculators is a collector. Exceptions would be a situation where each calculator is different so fits a specialised purpose and is used for that purpose or a situation where many (potentially similar) calcs are acting as measuring/logging instruments. Otherwise, I think the conclusion is inescapable - the person is a collector - and there is nothing wrong with that either.

I am a collector of course and my interest is in certain series rather than having one of everything. I enjoy this on many levels but two areas which I appreciate greatly on this forum are the exchange of knowledge and the programming challenges. Keeping the brain alert by responding to these challenges which give you something to think about that otherwise wouldn't happen, is, no matter how you view collecting calculators, a *good thing*.

As for the various "syndromes" people might attach to all this, I have already made my views clear. They are a nonsense, a falacy and intellectualise or label an aspect of our nature that doesn't need it. The only people that benefit from it are the lawyers and doctors and the patient is made to think he/she has something wrong when they don't. A complete farce.

Mark

Re: Young collection growing...

*Message #21 Posted by **Bart (UK)** on 28 Aug 2009, 5:20 a.m.,*
in response to message #1 by hecube

Nice collection. I particularly like the printing desktop (is it a 97?). And the 28S .. my 1st favourite.

Re: Young collection growing...

*Message #22 Posted by **Mark Edmonds** on 28 Aug 2009, 7:05 a.m.,*
in response to message #21 by Bart (UK)

No Voyagers or Pioneers in the collection though? Is that through choice or just not enough time/money yet? If through choice, I'd be interested to know why :)

Mark

Re: Young collection growing...

*Message #23 Posted by **PeterP** on 28 Aug 2009, 11:12 a.m.,*
in response to message #22 by Mark Edmonds

Hi,

I think for me it is mostly driven by finally acquiring and holding in my hands something I always wanted but never could. The HP41 came out when I was in high-school and very quickly became an object of great desire for me. Especially as the temptation was always there for me to see - some class-mates had a 41! One even had the whole chabang with printer, card-reader, wand, x-function, x-memory etc

Through painstaking trades, tutoring, bargain hunting etc I eventually also came in the possession of a 41cv with x-function and card-reader. And then even a Wand (very fortuitous event). Oh the wonders of synthetic programming, ever faster programs for solutions to quadratic and cubic equations, systems of linear equations,...

Yet by then there was the PPC module, CCD module, the famous CY, MCODE programming etc . And the 'true' owners of HP-41s had all of that and showed us the magic and wonders that can be had with this fabulous machine. Again I was left with 'look but don't touch' (great training for a guy during that whole puberty and early tweens period...)

last but not least, I'm also a very haptic person and simply love the feel of the hp-41 key clicks. Which later on cost me again in my voyage as a mini collector (see later down below)

So for the longest time, my collection solely pertained to the HP-41 and related accessories, incl HP-IL. Valenting Albillo gently but consistently pleaded the virtues of the HP-71 and as 'it also has an HP-IL connection' (post-event rationalization? nah...) I extended my collection to this very powerful machine and its accessories (which thankfully are smaller in number than the 41's). Last but not least, I learned about the HP-15c and got my hands on one. What a great form-factor! And that key click...Ahhh. Many in my profession use the HP-12c so I said, what the heck, lets get the Voyager series! And as of a few weeks back, where I finally found an affordable (hmm...) HP-10C this one is complete as well.

Having said all that, I think there is something true in the 'collectors are born, not made'. My dad used to collect stamps and it was a favorite bonding time for the two of us to spend Sunday mornings 'soaking little sheets of paper off envelopes' or go to the stamp auctions in Vienna. I now have his stamp collection (in the shelve right above my HP collection) and it is my most cherished piece of memory.

However, I consider myself a deeply interested user. I have read the manual and played/used at least for some time with virtually every single piece of my collection. I always desired to have them so that I can use them! So for example I was very keen on getting a RSU-2 unit as it provided massive amounts of RAM (which was used for my many digits of PI program in MCODE) but passed on a prototype 71b to a true collector. At work I used, for the longest time, a 41CY but after the price the last one fetched on eBay I am now hesitant to have it sitting around on my desk (I don't have an office, not even a cubicle. You have no idea how many pens I loose a week...) I tried my hand on the 15c in a couple of VA's 15c challenges as well as the 71b (with mostly no or disastrous results with maybe one or two exceptions). And the 16c was a constant companion while working on the Many-Digits-of-Pi MCODE program as I needed hex-dec conversion, word-size, bit-testing etc capabilities.

I generally enjoy solving problems of all kinds and learning new things, exchanging thoughts and ideas, etc. Though my skill level never excees amateur, I/m pretty sure that I would not have gotten so enamored with the HP-41, had it not provided an almost unlimited supply of learning opportunities.

Not to sound trite, but the tremendous wealth of kind help, support and learning that this community provided had (and continues to have) a very material impact on my pleasure related to these calculators. I've 'met' (or really met) some incredibly smart yet kind and fun people over the last few years here and the exchange of ideas, thoughts, programs, math etc here is a constant source of pleasure and recreation for me. Hence a great thanks goes to Dave for giving us such a great 'house' to meet and all the people here that make this such a great place to spend (too much) time.

Cheers

Peter

Edited: 28 Aug 2009, 11:13 a.m.

Re: Young collection growing...

*Message #24 Posted by **hecube** on 28 Aug 2009, 11:57 a.m.,*
in response to message #22 by Mark Edmonds

I'd like to get a 16c but not necessarily the complete series. I'm mostly interested in models which offer unique capabilities.

Re: Young collection growing...

*Message #25 Posted by **PeterP** on 28 Aug 2009, 12:45 p.m.,*
in response to message #24 by hecube

12c - unique finance capabilities 15c - unique matrix and complex capabilities (surpassing the native hp41c which is why the came out with the advantage mod)

Re: Young collection growing...

*Message #26 Posted by **hecube** on 28 Aug 2009, 1:01 p.m.,*
in response to message #25 by PeterP

Without wanting to insult anyone here but the 12c, or other financials, are not really my cup of tea...

I did buy a brand new 10BII to use at the office but that will be it for financial calculators (well maybe the 20B, but it has trig functions!). Had HP offered a scientific with the 10BII form factor, I would have bought that isntead.

Re: Young collection growing...

*Message #27 Posted by **hecube** on 28 Aug 2009, 1:03 p.m.,*
in response to message #21 by Bart (UK)

it's a 97 but modded (by the Los Alamos National Laboratory no less)...

Re: Young collection growing...

*Message #28 Posted by **Dan W** on 28 Aug 2009, 1:49 p.m.,*
in response to message #27 by hecube

I hope you are able to decipher the interface and let us know what it does.

Re: Young collection growing...

*Message #29 Posted by **hecube** on 28 Aug 2009, 2:36 p.m.,*
in response to message #28 by Dan W

It controls nuclear warheads diagnostics :-)

Re: Young collection growing...

*Message #30 Posted by **hecube** on 28 Aug 2009, 8:01 p.m.,*
in response to message #1 by hecube

Looking at my collection pic, the HP-67 strikes me as a calc that means business. It looks really menacing...

Re: Young collection growing...

*Message #31 Posted by **Dan W** on 28 Aug 2009, 9:30 p.m.,*
in response to message #30 by hecube

It does have an all business look to it, and it's fairly hefty too. I routinely use a 67 at work and the 97 at home.

This is the part of my collection I use. I also have the other Classics (except for the 70) in a plastic bin under a bed. There's a 48G+ in the pic too but I really don't use it. Never got in to RPL much. The only HP I bought new when it came out was the 42s. I suppose I collect the classics now because I coveted them in high school but could never afford one.

The office, yep the 97 is husky but so is the 9825a!

*Message #32 Posted by **Geoff Quickfall** on 29 Aug 2009, 3:16 a.m.,*
in response to message #31 by Dan W

Young collection growing...

hello hpmuseum: 9825a

The cabinet, nothing like Katie's thought, just the one although you can add the following which are not in shown in the following picture:

- HP 48SX times two
- HP 21
- HP 12C 1984
- HP 12C 2008
- HP 12C 25th anniversary
- HP 11C
- HP 10C
- HP 35S
- HP 17B
- HP 32S
- HP 31E
- HP 38E times two
- HP 38C
- HP 34C
- HP 31E
- HP 35 prototype case
- HP 67 spare NOS 1976 case
- HP 80 times two
- HP 41CV
- two more HP-41CXs
- One tall keys 41C (yese they are actually taller as well as more vertical)

Cheers, Geoff

Edited: 29 Aug 2009, 3:26 a.m.

Re: The office, yep the 97 is husky but so is the 9825a!

*Message #33 Posted by **Dan W** on 29 Aug 2009, 2:25 p.m.,*
in response to message #32 by Geoff Quickfall

Very nice Geoff. When I venture out beyond the Classics, I do think I will go back in time, not forward, and try to find a working 9810 or the 9815.

Re: Young collection growing...

*Message #34 Posted by **Saile (Brazil)** on 29 Aug 2009, 10:57 a.m.,*
in response to message #1 by hecube

My small collection of calculators and pocket

Sharp

Sharp CE-202M
Sharp CT-500 x 2
Sharp CT-600 x 2
Sharp CT-665E
Sharp EL-502
Sharp EL-5102 x 2
Sharp EL-550
Sharp EL-5804 x 4
Sharp EL-6200 x 2
Sharp EL-640 x 2
Sharp EL-670
Sharp EL-8029
Sharp EL-8061
Sharp EL-8116
Sharp EL-8154
Sharp EL-8180
Sharp EL-9600C
Sharp PC-1002
Sharp PC-1403H
Sharp PC-1500 Applications Manual
Sharp EL-5510 Dollars and Cents Computing
Sharp PC-1500 Instruction Manual
Sharp PC-1350 Instruction Manual
Sharp PC-1360 Instruction Manual
Sharp PC-1475 Instruction Manual
Sharp PC-1600 Instruction Manual
Sharp PC-1403 Instruction Manual
Sharp PC-1212 Manuel D' Applications
Sharp PC-1212 Manuel D'initiation du Langage "BASIC"
Sharp PC-1212 Manuel D'Instruction
Sharp PC-1262
Sharp PC-1401/1402
Sharp PC-1002
Sharp CE-126P
Sharp EL-5102
Sharp EL-533
Sharp CE-126P
Sharp PC-1246/1247
Sharp CE-126P
Sharp CE-120P
Sharp CE-123P x 2
Sharp CE-125 x 9
Sharp CE-125S
Sharp CE-126P
Sharp CE-150
Sharp PC-1500 CE-153 Software Board
Sharp PC-1211R
Sharp PC-1600 FastSync Cable
Sharp PC-1500A CE-161
Sharp PC-1211 x 2
Sharp PC-1212
Sharp PC-1246
Sharp PC-1248
Sharp PC-1250A x 4
Sharp PC-1261
Sharp PC-1262 x 3
Sharp PC-1280
Sharp PC-1350
Sharp PC-1360
Sharp PC-1402
Sharp PC-1403
Sharp PC-1421
Sharp PC-1475
Sharp PC-1500A
Sharp PC-1600 x 2
Sharp PC-3100 x 2
Sharp PC-1251 CE-12A Application Programs
Sharp PC-1251 CE-12B Application Programs
Sharp PC-1251 CE-12C Application Programs

Edited: 29 Aug 2009, 11:00 a.m.

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OT: RPN Casio Guys

*Message #1 Posted by **Chuck** on 26 Aug 2009, 4:47 p.m.*

Hugh's RPN replacement calculator, RECKON, for the Casio Slim (or FX-9860g)prompted me to finally get one, and I must say I'm impressed with the calculator and with RECKON. However, the SDK has me a bit buffaloed right now, so I haven't begun to create my own Add-in replacement. I also have to say a big thanks to Nigel for posting his RPN replacement, CasioRPN. This will certainly help me understand the "C++" coding for the calculator a bit more, and may prompt me to attempt to write one.

Since this is my first Casio (after using 20 HP's over the last 30 years) I went about creating my usual vector analysis program (something I have on several hp's) which does norms, dot and cross products, projections, additions, and angle between vectors, along with some simplistic error checking. I though this might help me understand the little bugger a bit more.

For those with the Casio slim and a desire for it to do some vector calculations, here's my little attempt at programming. I think it should be self-explanatory.

VECANAL

[Back to your regularly scheduled HP discussions] :)

CHUCK

Re: OT: RPN Casio Guys

*Message #2 Posted by **hugh steers** on 27 Aug 2009, 8:29 a.m.,*
in response to message #1 by Chuck

Hi Chuck,

You might want to flash your ROM to the latest firmware if your model isn't already. there was 2.0 release from casio a while back.

I started using the textbook style display of the built in calculator and it's rather cool. I want to try to add something like that to Reckon at some point. ie formula drawing.

The free c++ compiler in the SDK is good. i've had no problems with it. It would be nice if casio would add more functions to their SDK. Hopefully, they will continue to support the SDK and improve it.

If you find any bugs in reckon, let me know and i'll fix it.

good luck, -- hugh.

Re: OT: RPN Casio Guys

*Message #3 Posted by **Chuck** on 27 Aug 2009, 11:49 a.m.,*
in response to message #2 by hugh steers

Hi Hugh. When I received the slim a week ago I flashed it to OS 01.11.0000. The Casio website that OS 2 isn't for the Slim. Now I'm confused. Can I upgrade to 2.0? Also, as Nigel pointed out, there was an error in my vecanal program (still not proficient with FA-124 and what you can and cannot do). I've uploaded a working copy without the return error.

CHUCK

Re: OT: RPN Casio Guys

*Message #4 Posted by **hugh steers** on 27 Aug 2009, 12:57 p.m.,*
in response to message #3 by Chuck

there's some doubt now whether casio are distributing the firmware upgrade for the slim anymore. i put of a copy of the official firmware upgrade that _was_ released by casio here,
http://www.voidware.com/tmp/9860slim_osup_200.zip

im not sure if it is still available from the casio website.

Re: OT: RPN Casio Guys

*Message #5 Posted by **Chuck** on 27 Aug 2009, 2:25 p.m.,*
in response to message #4 by hugh steers

Thanks Hugh. It's definitely not available from Casio anymore, and I spent far too long looking for it. :) Thanks for the link.

CHUCK

Re: OT: RPN Casio Guys

*Message #6 Posted by **Nigel J Dowrick** on 27 Aug 2009, 9:35 a.m.,*
in response to message #1 by Chuck

Thanks for the mention! My program CASIOPRN is (sadly) written in C, not C++, but I hope you will still find it interesting. Incidentally there was a bug in it which affected tangents, sometimes; the version now on http://www.mediafire.com/casiorpn no longer has this bug. Upgrade to be safe!

I've tried using your vector program and I like its design. One oddity: I keep on getting error messages that result from the source code containing "IfEndClrText" without a return between "IfEnd" and "ClrText". I've got version 2 of the calculator OS and transfer program installed here, but why that should mess up one particular combination of commands (in several places in the program!) isn't clear.

Keep going with the Casio! The SDK is helpful and enormous fun. Since writing CASIORPN I haven't had the chance to do much more work but I'm looking forward to getting into it again. I think that it's the sheer attractiveness of the hardware (especially that high-contrast display) that makes developing for it such a pleasure.

Nigel

Re: OT: RPN Casio Guys

*Message #7 Posted by **Chuck** on 27 Aug 2009, 10:30 a.m.,*
in response to message #6 by Nigel J Dowrick

Thanks Nigel. That line (lines) of code happened when I tried to edit the program on the computer and not

the calculator (I guess it's not possible). I thought I had posted the corrected file, oops. The corrected one is now posted, so it should work better.

The last time I did any major programming was back in the days of Turbo Pascal. I'm not sure if I want to tackle C or C++; maybe this winter when I'm stuck inside.

CHUCK

Edited: 27 Aug 2009, 11:28 a.m.

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Challenge: Maximum Partition Product

*Message #1 Posted by **Kiyoshi Akima** on 26 Aug 2009, 1:45 p.m.*

For a positive integer N>1, what is the maximum product of a partition into the positive integers?

An example will make it clearer. {2, 2, 2, 2}, {2, 6}, and {3, 5} are three of the many possible partitions of 8 into one or more (not necessarily distinct) positive integers. That is, 2+2+2+2 = 2+6 = 3+5 = 8.

Now consider the product of the partition elements. 2*2*2*2=16, 2*6=12, 3*5=15. What is the maximum possible? (Hint: it's larger than 16.)

The challenge is to write a program on your favorite programmable handheld HP that, given N>1, produces the maximum partition product MPP(N).

Next week I'll present my (not necessarily optimal) solution, which is less than MPP(8) steps in length.

Re: Challenge: Maximum Partition Product

*Message #2 Posted by **Mark Edmonds** on 26 Aug 2009, 3:17 p.m.,*
in response to message #1 by Kiyoshi Akima

> Quote:
>
> ...which is less than MPP(8) steps in length.

I have a formula (or rule) for calculating this but I can't code it in anything like the number of steps you are using! That's assuming my value for MPP(8) is what I think it is. My first draft came in at ~32 steps!!! Which calc have you used to get it less than MPP(8) steps? Very puzzled!

Mark

Re: Challenge: Maximum Partition Product

*Message #3 Posted by **Mark Edmonds** on 26 Aug 2009, 4:01 p.m.,*
in response to message #2 by Mark Edmonds

Well, I am going to submit this code so I hope my method of calculation is correct. I am also going to consider this optimised because I don't think this particular method can be reduced any further (although using MOD would save a couple of steps but I assumed most HP don't have MOD).

```
LBL A
ENTER
ENTER
3
/
IP
STO 1
3
*
-
STO 2
3
RCL 1
1
-
Y^X
2
ENTER
2
RCL 2
```

```
Y^X
+
*
RTN
```

Does it work OK?

Mark

Re: Challenge: Maximum Partition Product

*Message #4 Posted by **Steve Perkins** on 27 Aug 2009, 5:24 p.m.,*
in response to message #3 by Mark Edmonds

I enjoyed deciphering your formula. Very clever.

Allow me to optimize it using MOD and stack operations (on a 41C).

```
LBL P
RCL X
3
MOD
3
STO- Z
STO/ Z
RCL Z
INT
Y^X
2
ENTER
R^
Y^X
+
*
END
```

This is close to the 14 step challenge by Kiyoshi Akima! You can do a lot when you combine ideas, right?

Edited: 27 Aug 2009, 5:25 p.m.

Re: Challenge: Maximum Partition Product

*Message #5 Posted by **Mark Edmonds** on 27 Aug 2009, 6:55 p.m.,*
in response to message #4 by Steve Perkins

Thanks Steve :) Actually, I was going to abandon that program as everyone else was coming in with significantly shorter versions. I've got a new one to post which I'll do after Egan's further down as it is more relevant there.

I was having trouble with your optimised version due to variables appearing without being init (I'm not too familiar with the 41 ins-and-outs) until I realised you must be referencing the stack directly, hence use of X, Z, T. What a great feature! I think you can do this in the 42s but was the 41 the first calc to allow direct stack variable manipulation?

Mark

Re: Challenge: Maximum Partition Product

*Message #6 Posted by **Steve Perkins** on 27 Aug 2009, 6:18 p.m.,*
in response to message #3 by Mark Edmonds

One more version. 14 steps, not including initial LBL and END.

```
LBL P
2
RCL Y
3
STO- T
STO/ T
MOD
Y^X
2
+
3
```

```
RCL Z
INT
Y^X
*
END
```

Re: Challenge: Maximum Partition Product

*Message #7 Posted by **Steve Perkins** on 26 Aug 2009, 3:58 p.m.,*
in response to message #1 by Kiyoshi Akima

Here's my attempt. It's 17 steps on a calcultor with LBL and RTN. Only 13 steps on my HP-12C!

It gives MPP(8) = 18

```
LBL A
1
STO 01
CLX
4
X<>Y
LBL 01
X<=Y?
GTO 02
3
STO* 01
-
GTO 01
LBL 02
RCL 01
*
RTN
```

Re: Challenge: Maximum Partition Product

*Message #8 Posted by **Mark Edmonds** on 26 Aug 2009, 4:22 p.m.,*
in response to message #7 by Steve Perkins

Crikey Steve! Nice solution! Somewhat shorter than my version :(:(:(

So trying to salvage something from the rubble, I can justify my code's bloat because it has one advantage - it takes the same amount of time for all numbers. So as near as makes no difference, calculating MPP(8) should take the same time as calculating MPP(500). For small numbers, your solution wins hands-down but for large, mine will pull ahead.

Mark

Re: Challenge: Maximum Partition Product

*Message #9 Posted by **Kiyoshi Akima** on 26 Aug 2009, 6:13 p.m.,*
in response to message #8 by Mark Edmonds

For the record, my current best attempt is a 14-step constant-time program on the 41C, not counting the initial LBL or the final RTN/END. Good thing I denied optimality, since a shorter version has already been posted. But like Mark's, mine is a constant-time program (more or less).

Getting an EXACT answer for MPP(500) will take a little more effort, since that's an eighty-digit number. But the approximation requires perceptibly no more time than MPP(5).

The 14-step 41 program (note the symmetry) was a straighforward translation of a 13-step RPL program. And I suspect Peter is right on one point --- it should be a one-liner on the 71B.

Re: Challenge: Maximum Partition Product

*Message #10 Posted by **Mark Edmonds** on 26 Aug 2009, 6:59 p.m.,*
in response to message #9 by Kiyoshi Akima

> Quote:
>
> Getting an EXACT answer for MPP(500) will take a little more effort, since that's an eighty-digit number. But the approximation requires perceptibly no more time than MPP(5).

I converted my program to RPL and MPP(500) is:

31,853,582,177,039,572,006,128,297,181,359,762,867,862,759,052,962,792,242,225,097,317,150,555,373,883,058.0 (or 2*3^166)

Hopefully, someone somewhere in the universe will find that number useful.

Mark

Edited: 26 Aug 2009, 7:02 p.m.

Re: Challenge: Maximum Partition Product

*Message #11 Posted by **PeterP** on 26 Aug 2009, 8:59 p.m.,*
in response to message #9 by Kiyoshi Akima

10 Input "N=";N @ Y=Floor(N/3)-Mod(Mod(N,3),2) @ Disp 3^Y*Max(1,N-3*Y)

gives (at least I hope) correct results. Here is how I came up with it. From reading the posts I saw that at least one had come up with a formula rather than my (wrong)iterative approach. Hmmm.

From my original thinking I knew that if you split N into 2 numbers only, you want them to be as close to the mean as possible. Secondly, more numbers is generally (but not always as I learned) better as exponentiation is more powerful than multiplication.

Given that there a)is a formula, b)we want the numbers to be as close to each other as possible or - ideally - identical, I tried to set up p = (N/X)^X and then find the best x, with N/x not necessarily integer.

A little bit of differentiation leads to x=N/e as the only maximum. So in integer world we would want the closest integer to N/x = N/(N/e) = e. Which is 3. This has the - at least for me - astonishing result that independent of N we 'love' lots of 3's! Even though the pgm seems to yield the correct result, this is still quite puzzling to me, so much so, that I don't quite trust my logic.

Anyway, following this nevertheless we now have as the first parts of the partition int(n/3) 3's.

This then leaves us with a remainder r of 0, 1 or 2 so that the sum of the parts gives N. If that r is 0 or 2 we are done - p=3^(N/3) or 3^int(N/3)*2. If we have 1 we actually want to 'steal' one 3, add it to the 1 to get to 4 as the maximum multiplication we can get from 4 is 4 and not 3*1).

This is then easily implemented in the above 1-liner for the 71B which now has the advantage that even for large N it pretty much gives the number instantaneously.

Cheers

Peter

Edited: 26 Aug 2009, 11:11 p.m.

Re: Challenge: Maximum Partition Product

*Message #12 Posted by **Egan Ford** on 27 Aug 2009, 2:26 a.m.,*
in response to message #11 by PeterP

My 71B FORTH version (16 words/steps < 18):

```
: MPP 1 SWAP DUP BEGIN 4 > WHILE SWAP 3 * SWAP 3 - DUP REPEAT * ;
```

Mark mentioned MPP(500), so I thought I'd give that a try, however it looks like I am a bit late (the 71B does not have arbitrary precision integers like the 50g, so a bit of work was needed).

Output:

```
MPP(0100)=7412080755407364
MPP(0200)=6180630876526522472384128360705 8
MPP(0300)=515377520732011331036461129765621272702107522001
MPP(0400)=3820019803187300947572762807097656047679740555897372519347
          415364
MPP(0500)=3185358217703957200612829718135976283786275905296279224 2
          2250973171505553738830 58
MPP(0600)=2656139888758747693387813220357796268292334526533944959745 74
          9617390924909013021829943846990440 01
MPP(0700)=1968752335313857038570476961751782907911826277718092885242
          7694386693755376884381884756851633238312388421154233 64
MPP(0800)=1641662020883603865007385894028542057518301784278567413 8
          5325465555384001054301565517604269335620366653069140770077 43
          925536159058
MPP(0900)=1368914790585883759913260273820883159664636956253374364714 80
          1900783689971774990765938002061556889413882504844405979940 42
          8135127327656957745660 01
MPP(1000)=1014650697509413079627234489686710374303861808496103820156
          0133827143888419190749328173921941991713634105804687612666 02
          6800024450257367553757158393829210594313 64
```

Code (unoptimized, could use better algorithm):

```
: MYMPP ;

65 6 / CONSTANT MAXL
200 CONSTANT N
1000000 CONSTANT OBASE
N 6 / 1 + CONSTANT M
5 CONSTANT S
M S * CONSTANT E
CREATE A E NALLOT
CREATE B E NALLOT
CREATE C E NALLOT
VARIABLE D
VARIABLE F
VARIABLE G
VARIABLE H

: MPZERO DUP E + SWAP DO 0 I ! S +LOOP ;
: MPSET SWAP DUP MPZERO E + S - ! ;
: MPCOPY 2DUP - SWAP DUP E + SWAP DO I @ OVER I + !  S +LOOP 2DROP ;
: UD+ ROT + ROT ROT + ;
: 04D. <# # # # # #> TYPE ;
: 06D. <# # # # # # # #> TYPE ;
: 6D. <# #S #> TYPE ;

: MPDIV
  D ! DUP DUP
  M 0 DO DUP @ 0= IF S + ELSE LEAVE THEN LOOP
  DUP E - ROT = IF DROP 0 ELSE
  0 SWAP ROT E + SWAP DO I @ SWAP D @ UM/MOD I ! S +LOOP
  DROP 1
  THEN
;

: MPMULT
  D ! DUP DUP E + S - M 0 DO DUP @ 0= IF S - ELSE LEAVE THEN LOOP > IF DROP ELSE
  0 SWAP DUP E + S - DO I @ D @ UM* ROT 0 D+ SWAP I ! S NEGATE +LOOP DROP THEN
;

: MPSUB
  2DUP - D !
  0 SWAP DUP E + S - DO I D @ + DUP H ! @ 0 I @ 0 D- ROT 0 UD+ H @ !
  S NEGATE +LOOP
  2DROP
;

: MPPRINT
  G ! N 0 DO
    B G @ MPCOPY G @ OBASE MPDIV 0 = IF DROP LEAVE THEN
    C G @ MPCOPY C OBASE MPMULT B C MPSUB B E + S - @
  6 +LOOP
  0 6D. DEPTH 1 + 1 DO 0 06D. I 1 + MAXL MOD 0= IF CR ."           " THEN LOOP
;

: MPP DUP G ! 1 MPSET DUP BEGIN 4 > WHILE G @ 3 MPMULT 3 - DUP REPEAT G @ SWAP MPMULT ;

: MPPTABLE
  1100 100 DO ." MPP(" I 0 04D. ." )=" I A MPP A MPPRINT CR 100 +LOOP
;

MPPTABLE
```

Update. Faster MPP. Using 3^{12} when possible. Beyond this simple ~7x speed-up I'd need to start looking at multi-multi multiplication vs. single-multi.

```
: MPP 1 H ! DUP G ! 1 MPSET DUP
  BEGIN 4 > WHILE
    H @ 3 * DUP 531441 = IF G @ SWAP MPMULT 1 H ! ELSE H ! THEN 3 - DUP
  REPEAT
  DUP 1 <> IF G @ SWAP MPMULT THEN
  H @ DUP 1 <> IF G @ SWAP MPMULT THEN
;
```

Edited: 27 Aug 2009, 4:06 a.m.

Re: Challenge: Maximum Partition Product

*Message #13 Posted by **Mark Edmonds** on 27 Aug 2009, 7:10 p.m.,*
in response to message #12 by Egan Ford

This is the right spot to add my RPL version which is based on my original formula. I haven't optimised it, I just did a near 1:1 conversion.

Benefits of this version - significantly faster than the looping versions for very large MMP(n) and the *exact* answer for all values of n upto somewhere in the region of just above 30,000. MPP(30,000) has 4770 digits so I wont type them all in!!

```
\<<
 DUP 3 MOD 2 SWAP ^ 2 + R\->I SWAP 3 / IP 1 - R\->I 3 SWAP ^ *
\>>


67.5 bytes
```

Requirements: any RPL+CAS calc (and a nice example of how powerful that combination is).

Mark

Re: Challenge: Maximum Partition Product

*Message #14 Posted by **Egan Ford** on 26 Aug 2009, 5:11 p.m.,*
in response to message #7 by Steve Perkins

On the 15C you can change:

```
1
STO 01
CLX
```

to

```
MATRIX 1
```

and,

```
RCL 01
*
```

with

```
RCLx 01
```

My 15C version of MPP(n)=3*MPP(n-3) for n > 4:

```
001 - 42,16, 1  MATRIX 1   (aka 1 STO 0 STO 1)
002 -        4  4
003 -       34  x<>y
004 - 42,21, 1  LBL 1
005 -    43 10  x<=y
006 -    22  2  GTO 2
007 -        3  3
008 - 44,20, 1  STOx 1
009 -       30  -
010 -    22  1  GTO 1
011 - 42,21, 2  LBL 2
012 - 45,20, 1  RCLx 1
```

Just enter the number, R/S. Probably best CLEAR PRGM first.

Edited: 26 Aug 2009, 5:29 p.m.

Re: Challenge: Maximum Partition Product

*Message #15 Posted by **PeterP** on 26 Aug 2009, 4:33 p.m.,*
in response to message #1 by Kiyoshi Akima

Hopefully Valentin is not around as he would have done it in 1-2 lines max. Somehow I can't quite remember the syntax for DEF FN. Below is a 71b program which I think works but due to the use of SUB instead of DEF FN takes quite long for larger X. And technically it does not deliver the right result for 2 and 3, which should be 1 and 2 (i think).

Cheers

Peter

```
10 Input "N:=?";N @ P=0 @ Call M1((N),P) @ Disp P
20 SUB M1(N,P) @ IF N < 5 Then P=N @ Goto 40
30   Call M1((ceil(n/2)),p1) @ Call M1((floor(n/2)),p2) @ p=p1*p2
40 End Sub
```

Re: Challenge: Maximum Partition Product

*Message #16 Posted by **PeterP** on 26 Aug 2009, 5:25 p.m.,*
in response to message #15 by PeterP

...end he would have gotten it right. While scanning the other posts now I saw that the solution for 8 is 18 (and not 16 as my thing gets). Firstly, read the question correctly, Peter!...

Re: Challenge: Maximum Partition Product

*Message #17 Posted by **Egan Ford** on 26 Aug 2009, 5:53 p.m.,*
in response to message #16 by PeterP

I first read:

which is less than MPP(8) steps in length

as:

which is less than 8 steps in length

I was scratching my head for awhile.

Re: Challenge: Maximum Partition Product

*Message #18 Posted by **Gerson W. Barbosa** on 26 Aug 2009, 4:35 p.m.,*
in response to message #1 by Kiyoshi Akima

Here is mine, but I needed 50% more steps on the 33s:

```
X0001 LBL X
X0002 4
X0003 x<>y
X0004 x<y?
X0005 RTN
X0006 1,000
X0007 /
X0008 +
X0009 STO C
X0010 3
X0011 STO A
X0012 1
X0013 STO B
Y0001 LBL Y
Y0002 RCL C
Y0003 IP
Y0004 3
Y0005 RMDR
Y0006 x=0?
Y0007 1.5
Y0008 STOx B
Y0009 RCL B
```

```
Y0010 STO+ A
Y0011 ISG C
Y0012 GTO Y
Y0013 RCL A
Y0014 RTN


X: LN=87 CK=7F52
y: LN=66 CK=7276
```

Edited: 26 Aug 2009, 4:40 p.m.

Re: Challenge: Maximum Partition Product

*Message #19 Posted by **Gerson W. Barbosa** on 26 Aug 2009, 6:01 p.m.,*
in response to message #18 by Gerson W. Barbosa

Slightly shorter and way faster, now using a reference and only the stack:

```
Z0001 LBL
Z0002 ENTER
Z0003 ENTER
Z0004 4
Z0005 -
Z0006 ENTER
Z0007 ENTER
Z0008 3
Z0009 INT/
Z0010 2
Z0011 *
Z0012 -
Z0013 3
Z0014 x<>y
Z0015 y^x
Z0016 x<>y
Z0017 +/-
Z0018 3
Z0019 RMDR
Z0020 2
Z0021 x<>y
Z0022 y^x
Z0023 *
Z0024 RTN


LN=144 CK=4D4C
```

Re: Challenge: Maximum Partition Product

*Message #20 Posted by **Kiyoshi Akima** on 31 Aug 2009, 12:08 p.m.,*
in response to message #1 by Kiyoshi Akima

Nice to see that no one tried to generate all the possible partitions for a given N. For those who don't see where the scheme comes from, here's a brief analysis leading to my initial result.

First, there is no point in putting any 1s in the partition, since 1+M > 1*M. Because of that, the only partitions for 2 and 3 are the trivial ones. For 4, {2, 2} and {4} produce the same result (2*2=4). For the rest of this analysis, I'll always use {2, 2}.

For 5, {2, 3} is better than {5}.

For 6, {3, 3} is better than {2, 2, 2} or {6}

For 7, {3, 2, 2} is the best.

Define Q=floor(N/3) and R=N mod 3. This splits the problem into three cases.

If R=0, then MPP(N) = 3^Q

If R=1, then MPP(N) = 4 * 3^(Q-1) = 3^Q * 4/3

If R=2, then MPP(N) = 2 * 3^Q

The formula seems to require getting as many 3s as possible, only throwing in 2s when necessary. Not very surprising,

considering that 3 is the integer closest to e, and 2 the next closest.

Given the 3^Q term in each, the formula can be written as MPP(N) = F(R) * 3^Q, where F(0) = 1, F(1) = 4/3, F(2) = 2. There's an infinite number of functions F(R) which will produce the desired result, including a quadratic, but is there something better?

Consider G(R) = 1/F(R) so that MPP(N) = 3^Q / G(R). Then G(0) = 1, G(1) = 3/4, G(2) = 1/2. Note something about G? It's linear! G(R) = 1 - R/4.

Thus, MPP(N) = 3^Q / (1 - R/4), or written out in full, MPP(N) = 3^(floor(N/3)) / (1 - (N mod 3)/4)

In RPL this led me to the 13-step program

```
<<
 3. DUP2 / IP ^ 1. ROT 3. MOD 4. / - /
>>
```

Translated to the 41C, this led me to the 14-step program

```
001 3
002 RCL Y
003 3
004 /
005 INT
006 Y^X
007 1
008 R^
009 3
010 MOD
011 4
012 /
013 -
014 /
```

Okay, I know I'm cheating a little, since the "RCL Y" is not available on most RPN machines. But then, "Y^X", "R^" and "MOD" aren't universally available, either. So, continuing to cheat, if the PPC ROM is available the program comes down to 11 steps:

```
001 3
002 XEQ 'QR
003 3
004 RCL Z
005 Y^X
006 X<>Y
007 -4
008 /
009 1
010 +
011 /
```

QR is a routine that provides the integer quotient and remainder in one shot.

On a TI-86 it's a one-liner:

```
:Prompt N:3^int (N/3)/(1-.25(mod N,3
```

The one-liner on a 71B should be very similar.

This was as far as I'd gotten when I initially posted this little challenge. But after reading some of the early responses, I was inspired to do a little more.

Continuing to cheat, let's take another look at the problem. This time, define Q=floor((N-2)/3) and R=(N-2) mod 3. Then:

If R=0, then MPP(N) = 2 * 3^Q

If R=1, then MPP(N) = 3 * 3^Q

If R=2, then MPP(N) = 4 * 3^Q

This leads to MPP(N) = 3^(floor((N-2)/3)) * (2 + ((n-2) mod 3))

This led me to a 13-step 41C program

```
001 2
```

```
002 -
003 RCL X
004 3
005 STO T
006 MOD
007 ST- Y
008 2
009 +
010 X<> T
011 /
012 Y^X
013 *
```

and, again using the PPC ROM, this time a 10-step program

```
001 2
002 -
003 3
004 XEQ 'QR
005 2
006 +
007 3
008 RCL Z
009 Y^X
010 *
```

This is still 13 steps in RPL

```
<<
 2. - 3. DUP2 / IP ^ SWAP 3. MOD 2. + *
>>
```

but it has the advantage of being easily convertible to work in exact mode for 1 < n <= 30001. The limitation seems to be that ^ will not accept an argument >9999 in exact mode.

```
<<
 2 - 3 DUP2 / IP ->NUM R->I ^ SWAP 3 MOD 2 + *
>>
```

There are ways around the limitation, using the relationship 3^(a+b) = 3^a * 3^b, but I think this is enough for now.

Re: Challenge: Maximum Partition Product

*Message #21 Posted by **Steve Perkins** on 31 Aug 2009, 12:39 p.m.,*
in response to message #20 by Kiyoshi Akima

Nicely done!

And thanks for the challenge.

Re: Challenge: Maximum Partition Product

*Message #22 Posted by **PeterP** on 31 Aug 2009, 1:14 p.m.,*
in response to message #20 by Kiyoshi Akima

Thanks so much for this little challenge and great explanations! I'm very impressed with your knowledge of a wide array of programming languages for the HPs!

From your explanation it would also seem that surprisingly my thinking for the one-liner for the 71b was correct...

Lastly, if you use the Sandbox Rom from Angel Martin instead of the PPC for your very neat trick(!), you can cut th HP41C version down to 10 steps (and a tiny speed improvement)...

```
001 3
002 QREM
003 LastX
004 RCL Z
005 Y^X
006 X<>Y
007 -4
008 /
009 IncX
010 /
```

Thanks again

Peter

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HP Forum Archive 19

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hp 42s restoring

*Message #1 Posted by **Antonio (Spain)** on 26 Aug 2009, 4:43 a.m.*

I own an hp 42s that has not been used in the last 10 years and has accumulated quite a lot of dust under the display. Does anybody have any recommendation on how to remove the dust? Alternatively, do yo know anyone that can restore the calculator in Spain?

Regards

Antonio.

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HP Forum Archive 19

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HP-65 goes for $250,000

*Message #1 Posted by **Don Shepherd** on 25 Aug 2009, 7:20 p.m.*

OK, it wasn't an HP-65, it was a 1971 Z28 Camaro and the buyer was John Schnatter of Louisville, KY, AKA Papa John of Papa John's pizza. John sold that very same car in 1983 to rescue his father's business, and he always dreamed of getting the car back one day. Well, today it happened.

So when you see an HP-41 or HP-71 sell for $800 or so, it just means that it was worth it to the individual who bought it.

Re: HP-65 goes for $250,000

*Message #2 Posted by **Les Wright** on 25 Aug 2009, 10:22 p.m.,*
in response to message #1 by Don Shepherd

I am not lucky with the estate sale bargains people boast about. I have paid at times too much for a piece and have often thrown quite a bit of money at Randy for repair or occasionally rerepair since I have no talent for such things though I pretend I do--i.e., once Randy refixes the HP-97 I recently buggered up through folly, I will be into that machine for about 400 or 500 bucks since I first got it. But 400 bucks for an HP-65 in good cosmetic and working condition with manuals is worth it, consider the original msrp of 800 in 1974 dollars and its historical importance.

Re: HP-65 goes for $250,000

*Message #3 Posted by **Don Shepherd** on 25 Aug 2009, 10:37 p.m.,*
in response to message #2 by Les Wright

> Quote:
>
> But 400 bucks for an HP-65 in good cosmetic and working condition with manuals is worth it

I agree, Les. In fact, I paid close to that for just such an HP-65 two or three years ago, and I have gotten as much joy from that grand old machine as Papa John will get from the car of his youth!

(Re-)acquiring possessions of youth

*Message #4 Posted by **Karl Schneider** on 25 Aug 2009, 11:38 p.m.,*
in response to message #1 by Don Shepherd

> Quote:
>
> HP-65 goes for $250,000
>
> Posted by Don Shepherd on 25 Aug 2009, 7:20 p.m.
>
> OK, it wasn't an HP-65, it was a 1971 Z28 Camaro and the buyer was John Schnatter of

> Louisville, KY, AKA Papa John of Papa John's pizza. John sold that very same car in 1983 to rescue his father's business, and he always dreamed of getting the car back one day. Well, today it happened.

Seeing an HP-41CV and an HP-34C for sale in a used-electronics store in 2002 got me started in collecting the fine (and expensive) HP calc's of yesteryear. I had coveted the unaffordable HP-41 as a teenager and been intrigued by the HP-34C shortly thereafter, then bought an HP-15C in 1983, turning down the HP-34C I had set out to buy. It's a powerful draw to acquire valued trappings of youth that were lost or never obtained.

Certainly, however, mass-produced examples of those two calc's did not compare even remotely to John Schnatter's particular prized car. It must be comfortable to have a quarter-million dollars of discretionary income (and certainly much more) to indulge such a wish.

Off-topic...

As for the 1971 Camaro itself: It is of the 1970-81 body style that I never found particularly handsome. The original 1967-68 and the crisp 1969 models are generally much more desired, to my knowledge.

It's also understandable why a young man would want to have a 12-year-old American "muscle car" Camaro in 1983 instead of a newer one. Cars in the early 1980's were virtually emasculated in order to comply with tough new emissions and fuel-economy regulations, before advanced automotive technology came along in the mid-1980's. A modest 1983 Volkswagen Rabbit GTI was quicker, 0-60 miles per hour, than a base 4-cylinder 1983 Camaro.

-- KS

Edited: 26 Aug 2009, 12:24 a.m.

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HP Forum Archive 19

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Before I had HP calculators, I had Sharp calculators

*Message #1 Posted by **hecube** on 25 Aug 2009, 7:00 p.m.*

The very first programmable calculator I ever had was a Sharp PC-1201 in 1980. I gave it to my sister when I got a Radio-Shack PC-1. It then got lost somewhere. In recent years, I kept asking my parents where the calculator might have ended up. They don't remember but I suspect it got sold in a garage sale a long time ago.

Anyway, I had to get another one on eBay just for the fun of it. It's a beautiful machine:

Forgive me for this nostalgia post...

Re: Before I had HP calculators, I had Sharp calculators

*Message #2 Posted by **bill platt** on 25 Aug 2009, 7:47 p.m.,*

in response to message #1 by hecube

Valentin Albillo has written a lot about the Sharp calculators and pocket computers.

Re: Before I had HP calculators, I had Sharp calculators

*Message #3 Posted by **Valentin Albillo** on 26 Aug 2009, 6:44 a.m.,*
in response to message #2 by bill platt

Indeed, both as full-fledged articles as well as many posts in the forum. Just for instance, you can have a look at this article in PDF format:

Know Thy Foe: A New Contender

This is a 12-page article which confronts two great contemporary, ground-breaking machines of the early 80's, the **HP-41C** versus the **SHARP PC-1211**. The article includes no less than 6 excellent side-to-side pictures comparing specific features of both models, a thorough description of their differences, as well as two test-case programs, each of them written for both models, to better see them in action by attacking the very same problem using their respective programming paradigms.

Finally, no less than four additional sample programs for the SHARP PC-1211 are featured, all of them less than 10 lines long yet dealing with fairly complex tasks.

Best regards from V.

Re: Before I had HP calculators, I had Sharp calculators

*Message #4 Posted by **Eric Smith** on 25 Aug 2009, 8:06 p.m.,*
in response to message #1 by hecube

It wasn't programmable in the conventional sense, but the first scientific calculator I owned was the Sharp EL-5100, which had a 24-character display and could store up to 5 algebraic formulae. I had been using friends' HP calculators starting with the HP-67, but couldn't afford to buy my own HP until 1981, when I bought an HP-41CV.

Re: Before I had HP calculators, I had Sharp calculators

*Message #5 Posted by **hecube** on 25 Aug 2009, 10:00 p.m.,*
in response to message #4 by Eric Smith

The PC-1201 was a Christmas gift. It was my choice and it was a toss-up between the El-5100 and the PC-1201. The fact that the EL-5100 had limited programmability clinched the deal for the PC-1201...

Re: Before I had HP calculators, I had Sharp calculators

*Message #6 Posted by **Gerson W. Barbosa** on 25 Aug 2009, 9:53 p.m.,*
in response to message #1 by hecube

> Quote:
>
> The very first programmable calculator I ever had was a Sharp PC-1201 in 1980. I gave it to my sister when I got a Radio-Shack PC-1.

The first calculator I ever purchased (August 1981) was a SHARP EL-5813. I also gave mine to my sister about six months later when I got a TI 51-III. It was programmable too, albeit very limited.

This is the first program I ever wrote:

2ndF LRN (((K_2 +/- + (K_2 x^2 - 4 K_1 K_3) 2ndF sqrt) / 2 K_1) 2ndF LOOK + K_2 / K_1) +/- 2ndF

```
LRN
```

The coefficients a, b and c would be stored in K_1, K_2 and K_3, respectively, and the program would solve the quadratic equation.

Thanks for reminding me :-)

Re: Before I had HP calculators, I had Sharp calculators

*Message #7 Posted by **marais** on 26 Aug 2009, 3:37 a.m.,*
in response to message #6 by Gerson W. Barbosa

Mine too! A cute little machine, my first experience with a programmable, which started an interest that never left me. The intriguing COMP/LRN button which set the calculator apart from the rest. I also like the slim metal case, the excellent display and the good keyboard quality. I had mine only a year or two, when it got stolen in class. I replaced it by a Casio FX-602P, and just for the fond memories got one on ebay many many years later.

Re: Before I had HP calculators, I had Sharp calculators

*Message #8 Posted by **Mark Edmonds** on 26 Aug 2009, 6:57 a.m.,*
in response to message #7 by marais

My second calc was a Sharp after my wonderful TI57 got stolen from a school locker. The Sharp was the infamous Radio Shack/Tandy PC1 which was a fun and novel experience but rather slow! I still have it of course but the display is bleeding a little :(

When the Sharp PC1500 came out with its 4 colour plotter, extra memory and other accessories, I had the worse case of gear-lust I've ever experienced! I just never had the money for it but over 20 years later, I got one for a fiver. Sadly the plotter pens are dead or missing and where do you get those from today?

Mark

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Halcyon Calc for iPhone/iPod Touch : a clone of an HP-28S ?

*Message #1 Posted by **Jean-Michel** on 25 Aug 2009, 3:24 p.m.*

Hi all,

I found this app this evening by doing my usual "calc" search in the AppStore. It's available from 22/08 on only. Has anyone already bought and used it?

I also saw another clone of HP-12C called "Calc 12E", but in this case, the origin is clearly announced!

Regards from France.

J.-M.

Re: Halcyon Calc for iPhone/iPod Touch : a clone of an HP-28S ?

*Message #2 Posted by **Chuck** on 25 Aug 2009, 3:36 p.m.,*
in response to message #1 by Jean-Michel

It looks like it has 28S-ish buttons and some features, but I wouldn't call it a clone (e.g. no graphing); more of an "inspired by the 28S" rpn calculator.

Re: Halcyon Calc for iPhone/iPod Touch : a clone of an HP-28S ?

*Message #3 Posted by **Jeremy Rand** on 26 Aug 2009, 2:33 p.m.,*
in response to message #2 by Chuck

As the author of the program, I can confirm that version 1.0 is intended to be a subset of HP-28S functionality. The subset includes:

- real, complex and integer numbers and strings, lists, symbols and expressions are supported[/li]
- trig, log, real, complex, binary, string, solv, list, stack, store and memory menus (a couple of operations missing from the string menu, transforming the LCD display to a string and back again)[/li]

It also has some nice features which the iPhone interface provides like being able to scroll quickly back through the stack and use your finger to swipe through the menus instead of using Next and Prev.

Some things are still missing, mainly programs, vectors, arrays, plotting, calculus and the algebra menu. I encourage anyone interested in the application to visit our website. There, you can find a poll where you can vote on what I add for the next version and the documentation I have put together which describes what functionality is included in the support section. I hope to also have a video on line within a week or so which will better describe what the application is capable of.

Thanks for your interest and feel free to contact me if you have any questions about the app.

Edited: 26 Aug 2009, 2:36 p.m.

Re: Halcyon Calc for iPhone/iPod Touch : a clone of an HP-28S ?

*Message #4 Posted by **Pal G.** on 26 Aug 2009, 12:59 a.m.,*
in response to message #1 by Jean-Michel

Nice find, JM!

I like it - but I can't buy it. I already have thirty-seven calculators on my iphone..

Re: Halcyon Calc for iPhone/iPod Touch : a clone of an HP-28S ?

*Message #5 Posted by **Eric Smith** on 26 Aug 2009, 1:40 a.m.,*
in response to message #4 by Pal G.

> Quote:
>
> I already have thirty-seven calculators on my iphone.

And your point is? :-)

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HP 48G Statistics question

*Message #1 Posted by **Ren** on 25 Aug 2009, 11:30 a.m.*

Hello,

In my Chemistry class we will be required to do statistical analysis (mean, std deviation, error, % error) on our lab experiments.

I'm trying to use a HP48G to do this. In one of the sample questions the instructor has supplied, I need to calculate the above stats (mean, std deviation, error, % error) from this data (0.0064, -0.0169, 0.0201, -0.0096).

Using the (right shift)STAT function, I entered the values, (checked Mean, Std Dev, and Total). The SD came out alright, but both Mean and Total came out 0 (zero)

What do I need to do to get more decimal places?

Right now in MODES my Number Format is in STD, But if I use one of the other modes (Fixed, Sci, or Eng) will I need to set the number of decimal places each time I'm given a different data set?

Thanks,

Ren

dona nobis pacem

Re: HP 48G Statistics question

*Message #2 Posted by **Chuck** on 25 Aug 2009, 11:43 a.m.,*
in response to message #1 by Ren

I do believe the mean and total is exactly zero. No amount of decimals will change this.

Re: HP 48G Statistics question

*Message #3 Posted by **Thomas Radtke** on 25 Aug 2009, 11:48 a.m.,*
in response to message #1 by Ren

Mean and Total actually *is* zero ;-).

Re: HP 48G Statistics question

*Message #4 Posted by **Ren** on 25 Aug 2009, 11:54 a.m.,*
in response to message #3 by Thomas Radtke

Doh!

(BLUSH!)

Thanks guys!

Move along, nothing to see here...

Ren

dona nobis pacem

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PScalc95 (48SX sim) on 200LX: Abnormal program termination

*Message #1 Posted by **Dave Britten** on 25 Aug 2009, 10:00 a.m.*

I stumbled across PScalc95 yesterday (48SX sim written specifically for the 95LX), but when I try to run it on either my 200LX or my desktop, I just get "Abnormal program termination" and nothing else. Anybody had any luck getting this working?

It's available here in the pscalc.lzh archive if you guys want to play around with it:

http://ftp.monash.edu.au/pub/palmtop/

I'd love to get it working - it sounds like it could be a significant missing link in functionality for my 200LX.

Re: PScalc95 (48SX sim) on 200LX: Abnormal program termination

*Message #2 Posted by **Chuck** on 25 Aug 2009, 10:56 a.m.,*
in response to message #1 by Dave Britten

Hi Dave. I loaded it onto a memory card and it ran fine out of the filer and out of dos. I'm wondering if your computer didn't expand it cleanly.

Chuck

Re: PScalc95 (48SX sim) on 200LX: Abnormal program termination

*Message #3 Posted by **Dave Britten** on 25 Aug 2009, 11:22 a.m.,*
in response to message #2 by Chuck

Bingo, I expanded it with WinRAR instead and got an exe that's 34 bytes smaller. Weird! I guess I'll have to be wary of using FilZip to extract LZH archives. Thanks!

Re: PScalc95 (48SX sim) on 200LX: Abnormal program termination

*Message #4 Posted by **Massimo Gnerucci (Italy)** on 25 Aug 2009, 1:30 p.m.,*
in response to message #3 by Dave Britten

No problems whatsoever using WinRAR here... :-)

Greetings,
Massimo

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The other side...

*Message #1 Posted by **Marnus Malan (RSA)** on 25 Aug 2009, 5:50 a.m.*

Hello everybody!

Can anybody point me in the right direction: where to sell a TI programmer and a TI SR 56 that is horrible and I need to get rid of it....

Re: The other side...

*Message #2 Posted by **Walter B** on 25 Aug 2009, 8:56 a.m.,*
in response to message #1 by Marnus Malan (RSA)

Hmmh, well, as usual on TAS, i.e. that auction site that must not be named ;)

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fixing my newly acquired HP-48sx

*Message #1 Posted by **Hugh Evans** on 25 Aug 2009, 1:07 a.m.*

I purchased a 48sx on ebay for $35 as is (from a surplus lab equipment dealer who didn't feel like testing it.) VG cosmetic condition I should add. It doesn't start and has a bit of wear in the bezel (someone obviously started it by pressing it there for a while to make it start). To make a long story short, it's not starting with a fresh set of batteries (the battery compartment has no corrosion and overall condition is very good).

I've tried resetting with a paperclip with no results, shorted the battery terminals, and pressed in the middle of the bezel with no results. Should I try soaking in in dilute vinegar followed by DI and IPA, and let dry first? Should I go ahead and open it to install a new foam pad?

PS. I can probably access a sonicator if needed. Right now Im leaning towards soaking it in dilute vineagar, bathing in a few trimes in DI under sonication before testing it again.

Thanks in advance!

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Need help with test

*Message #1 Posted by **hecube** on 24 Aug 2009, 8:45 p.m.*

I don't have manuals for either my HP-48SX or my HP-38G. I'd like to do a simple test, transmitting something over the IR port from one machine to the other.

Help anyone?

Re: Need help with test

*Message #2 Posted by **Martin Pinckney** on 24 Aug 2009, 9:48 p.m.,*
in response to message #1 by hecube

You can download the manuals from HP for free here. At least they still have the 38g and 48gx.

Re: Need help with test

*Message #3 Posted by **Bart (UK)** on 25 Aug 2009, 5:40 a.m.,*
in response to message #2 by Martin Pinckney

The 48S series operations are somewhat different to the 48G series. The manuals are available on the museum's CDs or DVDs.

After some exhaustive searching, this was the only place I could find them. Get the DVD's and you're set for all future purchases of old HPs.

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Why do so many sell old HP calc to US users only?

*Message #1 Posted by **jotne** on 24 Aug 2009, 1:38 a.m.*

If you look at all the HP-15C sold on eBay, most of them do not ship outside US, why?

This exclude all other than the US people to bid on the item.

Re: Why do so many sell old HP calc to US users only?

*Message #2 Posted by **hecube** on 24 Aug 2009, 11:12 a.m.,*
in response to message #1 by jotne

For any kind of item sold on eBay, I delightfully ignore those territorial exclusions. I strongly suspect that sellers set this flag out of sheer ignorance.

Most of the items I bought so far were for US only. There are few cases when eBay blocks you from bidding. A simple email to the seller asking permission to bid solves the problem.

I live in Canada BTW.

Re: Why do so many sell old HP calc to US users only?

*Message #3 Posted by **Jeff Kearns** on 24 Aug 2009, 11:39 a.m.,*
in response to message #2 by hecube

I live in Canada also. In most of the Q&A's I have seen for US only shipping, the seller has stated that he will only sell/ship inside the US, although I don't have any real stats on that... Hopefully you are right and all it would take in 'most' cases is an email/question to seller. --- JeffK

Re: Why do so many sell old HP calc to US users only?

*Message #4 Posted by **Mark Edmonds** on 24 Aug 2009, 11:44 a.m.,*
in response to message #1 by jotne

In nearly all circumstances when I've asked the seller if they would sell to the UK, they have refused. When a reason has been given, it has cited paper work or postal problems. The only time I've been able to persuade someone to post to the UK was for a small item that was easy to post (HP85 ROMs).

Some sellers who do sell internationally don't give themselves any chance of getting outside business because their postage costs are astronomic. The other day, there was an HP9830 on auction that I really wanted to have a bid at but the post cost was about $480!!! Given the additional import charges, I would have been over $600 down before I even made a bid. In those circumstances, there is no point in the seller offering international postage!

Mark

Re: Why do so many sell old HP calc to US users only?

*Message #5 Posted by **Dan W** on 24 Aug 2009, 12:09 p.m.,*
in response to message #1 by jotne

Laziness probably. They see it as an additional hassle. I have found there is quite a demand for HP stuff around the world and marketing outside the US will, if nothing else, raise the bids. ;)

I get a lot of interest from Europe, and especially Australia and New Zealand - very active collectors in these countries. Probably half the calculators I have sold have gone overseas.

There are some countries I will not ship to. Most of South America for example, which seems to have oppressive tax laws. I always get a request from someone in Brazil to lie on the customs forms and declare a value of $27.50. Even Mexico has an annoying amount of paperwork so I don't ship there either. Its a good lesson on how taxes and regulations can quickly shut down economic activity.

Re: Why do so many sell old HP calc to US users only?

*Message #6 Posted by **Gerson W. Barbosa** on 24 Aug 2009, 4:19 p.m.,*
in response to message #5 by Dan W

> Quote:
>
> Most of South America for example, which seems to have oppressive tax laws.

In Brazil electronic items are taxed 60%, which is really high. So I had a good surprise in 2006 when my HP-50g, purchased from Samson's Cables, arrived: despite the $145.99 invoice, I wasn't charged any tax! Even with taxes and $25 shipping & handling it would be a good deal because the 50g price tag here is about $390.

While I agree some tax should be applied to new items it's hard to understand why used and obsolete items, which are not a threat to any national economy, are still being taxed.

Edited: 24 Aug 2009, 4:21 p.m.

Re: Why do so many sell old HP calc to US users only?

*Message #7 Posted by **bill platt** on 24 Aug 2009, 5:32 p.m.,*
in response to message #6 by Gerson W. Barbosa

Any tax which is levied to "protect an economy" is a misguided protectionist regulation which hurts the economy in the end. As you have shown before, these high taxes make it difficult for Brasilian individuals and businesses to acquire the technology they need to compete.

Tax should only be levied, at a reasonable level (no more than say 20% in any category) for the purpose of raising govmt revenue with a minimum of economic distortion. That's my opinion but clearly, many "progressive" politicians see a completely different scenario...

Re: Why do so many sell old HP calc to US users only?

*Message #8 Posted by **Martin Pinckney** on 24 Aug 2009, 1:57 p.m.,*
in response to message #1 by jotne

It may be postal regulations/customs forms is the reason, as some have suggested.

However, I think another big reason is payment issues. PayPal seems the preferred method for most sellers. I

have not checked recently, but times past you could not get seller protection for international shipments. Then if you accept a foreign check, your U.S. bank charges a hefty fee for depositing it. It has to be drawn on a U.S. bank to avoid these charges. Even if the seller states all these conditions in the auction, he can't stop someone from ignoring them and winning the auction. So to avoid dealing with these issues, the seller simply limits the sales to within the USA. My opinion.

Re: Why do so many sell old HP calc to US users only?

*Message #9 Posted by **Gene Wright** on 24 Aug 2009, 5:14 p.m.,*
in response to message #8 by Martin Pinckney

Paypal is a big one. If you want to be paid by paypal and you are in the US and the buyer is overseas, you have no protection as a seller if the buyer files a "He didn't ship it" claim or a "He shipped me a rock instead of the item" claim.

The seller is then out their $$ and their item.

Overseas, I tend to recommend bidpay.com, but that just adds to the "hassle" sometimes.

Sorry. I have lots of friends overseas. :-)

Re: Why do so many sell old HP calc to US users only?

*Message #10 Posted by **DaveJ** on 24 Aug 2009, 8:31 p.m.,*
in response to message #9 by Gene Wright

> Quote:
>
> Paypal is a big one.

On eBay Australia every seller MUST accept PayPal as a payment option, no exceptions.

A sneaky by-product of that monumentally stupid move Ebay Australia tried to push some time back to make PayPal the ONLY form of payment allowed on Ebay. Luckily the government watchdog stepped in and told Ebay to shove it. But the bastards snuck through that rule in all the confusion and protest.

Dave.

Re: Why do so many sell old HP calc to US users only?

*Message #11 Posted by **bill platt** on 24 Aug 2009, 10:24 p.m.,*
in response to message #10 by DaveJ

I have pretty much given up on ebay for that reason. For small stuff, with the required paypal fees, you waste too much money.

Re: Why do so many sell old HP calc to US users only?

*Message #12 Posted by **jotne** on 26 Aug 2009, 5:15 a.m.,*
in response to message #11 by bill platt

PayPal should not be a problem, just look at users stats. If they are high positive, then there should be no problem. I have more than 100 feedback from sellers on what I have bought on eBay, all positive...

Re: Why do so many sell old HP calc to US users only?

*Message #13 Posted by **bill platt** on 26 Aug 2009, 8:46 p.m.,*
in response to message #12 by jotne

Feedback is good--it is the cost that kills it.

Re: Why do so many sell old HP calc to US users only?

*Message #14 Posted by **Walter B** on 24 Aug 2009, 5:20 p.m.,*
in response to message #1 by jotne

Quite often I met US citizens selling on TAS who have never ever sent anything out of God's own country so far. At least they appear this way and/or even claim it themselves. Sometimes I as a foreigner have to tell them the postage or these nice flat rate opportunities USPS offers. Feels a bit strange.

Well, states in Europe are slightly smaller, so most people do international mailing here on a pretty regular basis -- and we benefit from the EU (at least here ;) making it unnecessary to fill extensive custom forms. So it isn't a big hassle when we have to write a word and a number on a tag to satisfy customs for any items to be shipped e.g. to the USA.

Just my 20 milli-Euros based on purely personal experience.

Re: Why do so many sell old HP calc to US users only?

*Message #15 Posted by **Marnus Malan (RSA)** on 25 Aug 2009, 5:16 a.m.,*
in response to message #1 by jotne

Hello,

It is a pain, I agree. I think mostly they don't sell to other countries because they don't have to. Somewhere within a population of 280 million you might just find a buyer for anything. For me the problem is even worse, as very few people want to buy from South Africa, thinking it is another Nigeria. Selling things internationally is the only way for me to aquire the funds to buy stuff from international sellers as the South African Rand is not so strong. US$100 is a substantial percentage of my income. But I understand the hassles of shipping abroad. I may pick up a 42s for 1000ZAR, shipping, packaging & insurance is another ZAR450. eventually I have to sell something I aquired for US$125 at US$180 just to break even. Now try and explain to somebody his money is safe if he buys from you in South Africa...

But international selling widens the horison, most of my collection is sourced from abroad.

Cheers

Re: Why do so many sell old HP calc to US users only?

*Message #16 Posted by **Charles Oxford** on 25 Aug 2009, 10:17 a.m.,*
in response to message #1 by jotne

Mailing to a non US destination requires filling out customs form and placing part inside parcel, a minor hassle.

Some sellers refuse to ship outside the original 48 states. I could find nothing to indicate additional hassle to Alaska, Hawaii, Virgin Islands or Puerto Rico.

I didn't check Fedex or UPS or other services.

Maybe an active seller can give more info.

Re: Why do so many sell old HP calc to US users only?

*Message #17 Posted by **Peter Klein** on 25 Aug 2009, 12:24 p.m.,*
in response to message #16 by Charles Oxford

Alaska, Hawaii, PR and such usually require more postage. I think many US sellers don't want to deal with situations where the postage will have to be discussed with the buyer. There may also be the perception that outside the "Lower 48" states, one has less recourse if the sale goes bad.

You've all seen the questions that get posted on eBay sometimes: "I want purchase widget. How much for postage you send my brother in Paris for him send to me widget in Irkutsk? It travel by dog sled. I pay when I get." A few of those, and people get nervous.

I have sold (a camera lens) to someone in Europe once. It worked out, but it was a hassle. Between language issues, misunderstandings about exact postage costs, etc., I spent a lot more time on it than on a U.S. sale. OTOH, I have purchased from Europe, no problem at all.

Another issue is that many other parts of the world like to pay by bank transfer. This is common in Europe, but US banks charge a huge fee, which often makes the transaction not worth it to the US party.k

Everyone has to decide what their comfort level is. As someone mentioned earlier, with 280 million people, the US is a pretty big market. Some Americans are pretty insular, and may believe that outside our country, it's a confusing and dangerous place. They ought to travel more. :-)

--Peter

Re: Why do so many sell old HP calc to US users only?

*Message #18 Posted by **Charles Oxford** on 25 Aug 2009, 5:22 p.m.,*
in response to message #17 by Peter Klein

To these 4 places {Alaska, Hawaii, Virgin Islands and Puerto Rico) I saw only a slight difference in cost in that the are zone 8. Would people in these places object to a few pennies? I still don't see any additional hardship on a seller.

Re: Why do so many sell old HP calc to US users only?

*Message #19 Posted by **db (martinez, ca.)** on 26 Aug 2009, 12:12 a.m.,*
in response to message #17 by Peter Klein

Back when i was selling off my excess i always said that i'd sell and ship worldwide, except for a couple of very heavy things. Since i've lived and traveled where English was useless; i look at language hassles as a fun obstacle to overcome. I take criticism of my English by ESL speakers less gracefully though.

Anyway; Ive sold stuff on ebaby to folks in France, Italy, Jolly Old England, Poland, Japan, Canada (those bellicose, inscrutable, foreign Canuks!) and i've bought stuff from all over too. The only problems i've ever had on TAS were two as a buyer (one from California and one from Washington State), and one as a seller to a buyer from here in California. The Postage Calculator should take care of questions in shipping costs to other countries. I usually say that i'll only ship by USPS (post office), though this can be a problem in some places like most of South America where nothing coming from the states gets through without at least being opened and "inspected". As an asside; CDs never make it through the Chilean post office even though Chileans are "as honest as a Denver man can be" and

NOTHING, including used toilet paper i assume, makes it through the Ecuadorian Correos.

The paperwork to ship overseas is a time eating problem but the people have been fine so far.

Re: Why do so many sell old HP calc to US users only?

*Message #20 Posted by **Nan W** on 27 Aug 2009, 1:58 a.m.,*
in response to message #16 by Charles Oxford

FedEx & UPS to expensive & forms, broker, etc.

USPS has relieved the hassle of forms. Still forms, but minor fill-in the questions and print the docs. Postage, forms and scan form for tracking are all printable. http://ircalc.usps.gov/default.aspx?Mode=Intl_Single&CID=10013

Fault lies with ignorance and fear of being burned. As stated by another, checking feedback relieves lots of fear. And the USPS Scan form is proof of item being sent.

Ignorance - Send them the above link when asking for beyond US borders and of course mention your 100% feedback. Maybe even send a link to your user profile as many do not even know how to find that or are too lazy.

Fear - Paypal does not discriminate between USA or elsewhere when it comes time to decide that no matter what the seller must pay for the buyer's deception because they could not collect from the buyer. If you really want the item tell them to take a better look at your 100% feedback and of course remain within the TAS email system.

Re: Why do so many sell old HP calc to US users only?

*Message #21 Posted by **Randy** on 25 Aug 2009, 4:20 p.m.,*
in response to message #1 by jotne

There are two main reasons not to deal outside of the US:

1) Ignorance 2) Experience

The first group, well, enough said.

The second group was originally in the first group but they tried it and learned that you can loose both your goods and money by way of Paypal rules with no recourse. Sure, it can be done but most don't want to bother to learn how to do it safely. So, they opt for US only since most would rather have $100 with no hassles than $125 with headaches.

BTW, UPS or FedEx are completely out of reach for the casual seller due to the documentation requirements alone. Then don't forget the very high costs they wack the importer with since they act as the customs agent and many times the fees exceed the transportation costs.

Re: Why do so many sell old HP calc to US users only?

*Message #22 Posted by **Keith Midson** on 25 Aug 2009, 5:56 p.m.,*
in response to message #1 by jotne

I am based in Australia - About 50% of my HP collection comes from the States, 40% from Europe and 10% from Australia.
I would buy a lot more from the States if sellers were more willing to post internationally - If i'm interested in

an item that is not listed for international shipping I usually ask with about a 60% success rate. The 40% that won't usually tell me that they've had a bad experience, or it's just too hard. In some cases they say they can, but it will cost something like USD100!! I usually have to inform them about USPS, not UPS or TNT ... I seem to know more about using USPS than many sellers in USA it seems - should only cost about USD30 and is very reliable.
To date I have not had any problems with international shipping - especially from the States - it takes about 1 to 2 weeks and doesn't cost too much.
Recently I asked if a 34C could be posted to Australia, with a flat out NO - I think 2 other Aussies asked the same question (they displayed messages on the ebay listing). I then got a friend of mine to buy it, who lives in the States - I won the item for about half what it probably would have gone for if it was open to international bidding! So I was happy, but would have been happier to pay more for the convenience of having it shipped straight to me.
Cheers, Keith

Re: Why do so many sell old HP calc to US users only?

*Message #23 Posted by **Mark Edmonds** on 26 Aug 2009, 6:47 a.m.,*
in response to message #22 by Keith Midson

Question time - I've seen "TAS" mentioned a few times here and elsewhere but I don't know what it is. I can guess it stands for "The a??? side" perhaps. What is TAS please?

Regarding selling abroad from ebay, I have done this many times with many high value items and never had a problem. I did have one that got a bit scary when a package to Italy took an age to arrive but it got there eventually.

I am in the UK and the international market is critical to getting the best prices for items. It would be no exageration to say that for some items, I have got close to double the price by selling abroad than I would have got by limiting my market to the UK.

Yes, it is more work when calculating postage costs and logistics but that extra work more than pays off. It is this factor that frustrates me when sellers ignore the potential of the international market.

Mark

Re: Why do so many sell old HP calc to US users only?

*Message #24 Posted by **Jeff O.** on 26 Aug 2009, 7:18 a.m.,*
in response to message #23 by Mark Edmonds

TAS - That Auction Site or The Auction Site.

Re: Why do so many sell old HP calc to US users only?

*Message #25 Posted by **Mark Edmonds** on 26 Aug 2009, 8:02 a.m.,*
in response to message #24 by Jeff O.

Thanks Jeff!

This now puzzles me so I ask anyone:

Is TAS easier to type than ebay? Why refer to ebay as TAS? Is there an ancient voodoo curse that descends on anyone who types in ebay? Or do the secret service monitor peoples' posts by looking for the word ebay, and if you score more than 10 hits, you get branded as an undesirable?

I can personally guarantee that using the word ebay doesn't result in your hair falling out or cause boils to form in your intestines. So with that in mind, could a brave soul step forward and explain why TAS is used please??!

Thank you :)

Mark

Re: Why do so many sell old HP calc to US users only?

*Message #26 Posted by **Walter B** on 26 Aug 2009, 9:37 a.m.,*
in response to message #25 by Mark Edmonds

Two sources:

1) There were extended discussions many months ago whether eBay should be mentioned in this forum at all / as often (check what you like best). Reasons are links to that site become useless very soon. So searching the archives will end in a lot of pits. IIRC there were even some agreements / rules (as above) imposed by the community / Dave (...). You may find them searching the archives.

2) You may know TOS. IIRC the name TAS was adopted since it looks alike TOS. You may find this searching the archives as well.

HTH,

Walter

Re: Why do so many sell old HP calc to US users only?

*Message #27 Posted by **Peter Klein** on 26 Aug 2009, 2:52 p.m.,*
in response to message #26 by Walter B

On another list I belong to, we sometimes call it "the auction site that dare not speak its name." :-)

Re: Why do so many sell old HP calc to US users only?

*Message #28 Posted by **Walter B** on 26 Aug 2009, 6:11 p.m.,*
in response to message #27 by Peter Klein

In parallel to a quite popular text we can speak of "that auction site that must not be named" d;)

Re: Why do so many sell old HP calc to US users only?

*Message #29 Posted by **Mark Edmonds** on 26 Aug 2009, 6:39 p.m.,*
in response to message #26 by Walter B

Thanks Walter.

I certainly wish I had seen the discussions when they were happening because I might have had some points to make - but too late for that now. I hope I wont cause a problem if I continue to use the word ebay rather than TAS.

Mark

PS: TOS = Atari ST OS, the only connection I can think of with that acronym. More searching needed...!

> Quote:
>
> Two sources:
>
> 1) There were extended discussions many months ago whether eBay should be mentioned in this forum at all / as often (check what you like best). Reasons are links to that site become useless very soon. So searching the archives will end in a lot of pits. IIRC there were even some agreements / rules (as above) imposed by the community / Dave (...). You may find them searching the archives.
>
> 2) You may know TOS. IIRC the name TAS was adopted since it looks alike TOS. You may find this searching the archives as well.
>
> HTH,
>
> Walter

Re: Why do so many sell old HP calc to US users only?

*Message #30 Posted by **Jeff O.** on 28 Aug 2009, 8:55 p.m.,*
in response to message #29 by Mark Edmonds

TOS - The Other Site. Another HP calculator-based web site. Not directly mentioned out of respect for our host. For the reasons, I guess I'll have to direct you to search the archives. It has been discussed on a few occasions.

Re: Why do so many sell old HP calc to US users only?

*Message #31 Posted by **Adrian Godwin** on 28 Aug 2009, 6:10 p.m.,*
in response to message #25 by Mark Edmonds

The voodoo curse, I think - a spoof of the english theatrical custom of referring to Macbeth as 'the scottish play', or parliamentarians referring to the house of lords as 'another place'.

Edited: 28 Aug 2009, 6:12 p.m.

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HP Forum Archive 19

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De-allocating memory locations on HP-35s

*Message #1 Posted by **Paul Kleinkramer** on 23 Aug 2009, 8:33 p.m.*

Hi!

I'm getting acquainted with my new 35s and finding the transition from my daily driver, a 20s, pleasant; and the return to RPN very refreshing! I won a 41CX in a college design contest in 1989 and became hooked on HP. I do miss that calculator...

While getting to know my new 35s, I allocated the full 801 variable locations with indirect (i). I thought this was fine until I discovered the hard way, (memory full), that the amount of memory left for programming was trivially small. A calculator reset solved the problem but subsequent reading, plus trial and error, has not turned up a way to de-allocate memory once its assigned to variables.

Any ideas from those who understand this better than me?

Thanks so much! Great fourm,

Paul

Re: De-allocating memory locations on HP-35s

*Message #2 Posted by **Reth** on 23 Aug 2009, 9:29 p.m.,*
in response to message #1 by Paul Kleinkramer

The memory is dynamic - the more "storage" - the less "program" memory; so you should allocate only the number of storage registers you really need. To release memory taken by no longer used registers store zeros in them; the last not-zeroed one draws the border.
It's all clearly explained in the manual.
cheers

Re: De-allocating memory locations on HP-35s

*Message #3 Posted by **Paul Kleinkramer** on 23 Aug 2009, 11:29 p.m.,*
in response to message #2 by Reth

Well,

It's clearly explained in the manual, yet I couldn't get it to release memory. I thought perhaps there was a non-zero value at 801 but it turned out that they were all set to zero.

I suspect it doesn't actually work as the manual says it should.

Re: De-allocating memory locations on HP-35s

*Message #4 Posted by **Reth** on 23 Aug 2009, 11:43 p.m.,*
in response to message #3 by Paul Kleinkramer

I don't have my manual handy, from memory it all worked; there are a few quirks with the calculator and the manual - all available through this forum - google it for HP-35S bugs

Re: De-allocating memory locations on HP-35s

*Message #5 Posted by **Paul Dale** on 23 Aug 2009, 11:46 p.m.,*
in response to message #4 by Reth

Or go to the HP35s bugs article.

- Pauli

Re: De-allocating memory locations on HP-35s

*Message #6 Posted by **Mark Edmonds** on 24 Aug 2009, 11:52 a.m.,*
in response to message #5 by Paul Dale

> Quote:
>
> Or go to the HP35s bugs article.
>
> - Pauli

Pauli - I want to add another small bugette to your post but I don't want to edit your post directly so if you agree with this one, could you add it please?

In most HPs, if you want to enter 10^6 for example, you just press E or EEX then 6. With the 35s, you have to enter 1 then E and 6 which adds an extra keystroke and shouldn't be necessary. It also adds inconsistency with nearly all HPs from the Voyagers onwards.

I tried this out on a few LCD HPs at random and the only one that needed the 1 was the 19B which otherwise took the E to be part of an alpha message so went into alpha edit mode.

Small but lots of small things add up!

Mark

Re: De-allocating memory locations on HP-35s

*Message #7 Posted by **Dave Britten** on 24 Aug 2009, 6:56 a.m.,*
in response to message #1 by Paul Kleinkramer

Press RightShift-Clear, then pick CLVARx (item 6). You'll be asked for a number; this is the highest numbered variable that you want to keep. Every indirect register past that number will be wiped/deallocated.

Re: De-allocating memory locations on HP-35s

*Message #8 Posted by **Paul Kleinkramer** on 24 Aug 2009, 10:00 a.m.,*
in response to message #7 by Dave Britten

Dave Britten,

Wow! It works!! and so easily. Thank you for pointing out the obvious that I had missed.

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HP Forum Archive 19

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How do you organize the collection?

*Message #1 Posted by **Saile (Brazil)** on 23 Aug 2009, 2:58 p.m.*

```
A part of my collection is organized this way.
I would like to know like you organizes yours
```

Re: How do you organize the collection?

*Message #2 Posted by **Mark Edmonds** on 23 Aug 2009, 4:58 p.m.,*
in response to message #1 by Saile (Brazil)

Have you got an SR-22 amongst that lot? Looks like there might be a SR22 library manual on the same shelf as the TI57. If you have, I'd be quite interested in knowing what sort of applications they were showing for using floating-point hex or binary!

Mark

Re: How do you organize the collection?

*Message #3 Posted by **Egan Ford** on 23 Aug 2009, 7:43 p.m.,*
in response to message #1 by Saile (Brazil)

> Quote:
>
> I would like to know like you organizes yours

I am more a user than a collector, my *collection* is sparse compared to yours and many others I suspect.

I store my calcs in a stack, the order is based on usage. The last calc used is on the top. My stack looks like this now:

```
41CX
15C
50g
10C
```

I only support a stack depth of 4. The rest (about 5 or 6 others) are stored in a nice box on a shelf, not far from *the stack*. Think of my emulators as my L1 cache (both iPhone and OS/X), my *stack* would be my L2 cache, the rest would be in main memory and can be fetched with a latency of about 2 seconds.

Re: How do you organize the collection?

*Message #4 Posted by **Martin Pinckney** on 23 Aug 2009, 8:30 p.m.,*
in response to message #3 by Egan Ford

> Quote:
>
> I am more a user than a collector, my *collection* is sparse compared to yours and many others I suspect.

Ditto on that. Four Pioneers are variously on my desk at work, on the conference room table, or in my desk drawer.

Two Pioneers sit on a shelf under my desk at home, or on the desk or dining room table, when I bring design work home.

One Pioneer sits in the seatback pocket in my truck for emergencies.

My 48sx gets shuttled from work to home as I try to find time to learn how to use it effectively!

Some 38g's sit in a box right now, to be brought out again someday when I remember how much I liked *actually* using them instead of *attempting* to use the 48sx.

Re: How do you organize the collection?

*Message #5 Posted by **Allen** on 23 Aug 2009, 7:57 p.m.,*
in response to message #1 by Saile (Brazil)

I have several photos in this previous thread.

This is just the books (there is a shelf of accessible calculators) The majority of boxed calculators are on top of my desk out of reach.

Re: How do you organize the collection?

*Message #6 Posted by **Katie Wasserman** on 23 Aug 2009, 8:32 p.m.,*
in response to message #1 by Saile (Brazil)

I'm sure I've posted these pictures here before, but I can't find them:

Case 1 -- mixed hand held calculators

Case 2 -- mixed hand held calculators

Case 3 -- older/larger battery powered calculators

Case 4 -- all HP calculators

AC powered calculators

There pictures are pretty old, the cases are a lot more crowded now, but there are themes on a shelf-by-shelf basis. For example: the top shelf of case 2 are all metric conversion calculators; the next shelf down are all financial calculators. The HP calculators are roughly in chronological order left to right, top to bottom.

Then there's this awesome Ride snowboard featuring some of the calculators in my collection.

Re: How do you organize the collection?

*Message #7 Posted by **Jeff Kearns** on 23 Aug 2009, 9:27 p.m.,*
in response to message #6 by Katie Wasserman

What is your 'exact' address? ;-)

Seriously, that is an awesome display!!! Did you get the display cases made to measure? I would love to have a nice display case for my meager 13-strong HP calculator collection (if I can even call it that after seeing yours)... One shelf could also be dedicated to my newly-acquired Hemmi 260 Advanced Engineering Slide Rule.

Mine currently sit side-be-each on my office fireplace mantle. I don't use the fireplace...

Jeff

Re: How do you organize the collection?

*Message #8 Posted by **Katie Wasserman** on 24 Aug 2009, 1:02 a.m.,*
in response to message #7 by Jeff Kearns

Jeff,

It took a long time to find these cases -- a year of looking around -- but as it turns out they were a stock item at a local "furniture barn" and were reasonably priced. The only customization I did was to order additional glass shelves for them and to install the shelves on an angle. This was easy since the display case supports the shelves on pegs that have many possible positions, adjustments at 3" intervals, so I just offset them to get a forward slope.

I store the manuals in the wooden set of drawers next to the the case with the HP calculators in them. I bought this at the same "furniture barn" also for a reasonable price. Unfortunately this store has gone out of business so I can't give you a pointer to them. However they were clearly mass produced and probably sold to many "furniture barn" type places.

Getting a nice display case really helped me get my collection going. Before I bought my first display case I had filled up a small, junky old bookcase with a couple of dozen calculators and manuals and it wasn't nearly as enjoyable to take them out and play with them. Now I keep all the calculators in the display cases ready to play with by converting them to use Energizer lithium AAA or AA cells. So I never have to charge them or worry about leakage (as far as I know).

-Katie

Edited: 24 Aug 2009, 1:03 a.m.

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HP Forum Archive 19

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Other brands of calculators in space

*Message #1 Posted by **hecube** on 23 Aug 2009, 1:30 p.m.*

Is anyone aware of other brands of calculators going up in space? Is there any info on what russian and chinese astronauts brought with them up there?

Re: Other brands of calculators in space

*Message #2 Posted by **Joerg Woerner** on 23 Aug 2009, 3:24 p.m.,*
in response to message #1 by hecube

The microwave oven used in the ISS is a standard Panasonic (Matsushita) model ;-))

Regards, Joerg

Re: Other brands of calculators in space

*Message #3 Posted by **hecube** on 23 Aug 2009, 4:40 p.m.,*
in response to message #2 by Joerg Woerner

Is it RPN?!

Re: Other brands of calculators in space

*Message #4 Posted by **Mark Edmonds** on 23 Aug 2009, 4:54 p.m.,*
in response to message #3 by hecube

I've seen a Russian calc on ebay that was claimed to have been in space. I've no idea of the make, nor do I know any Russian makes and I didn't pay much attention because I didn't have much faith in the truth of the auction - too easy to fake something like that and how would you prove it?

I think it would be a fairly safe bet that the Russians never used HP up until they started sharing Mir and then became part of the ISS establishment when HPs would have been on-board. I am only guessing on the last two, simply because those would be the only times the Russians had other country's astronauts on board who might bring along an HP.

Mark

Re: Other brands of calculators in space

*Message #5 Posted by **Thomas Radtke** on 23 Aug 2009, 4:59 p.m.,*
in response to message #1 by hecube

"The MK-52 was used as a backup to the onboard computers of the Soyuz spacecraft on the Soyuz TM-7 mission to the Mir space station."

Source: http://en.wikipedia.org/wiki/Elektronika_MK-52

Re: Other brands of calculators in space

*Message #6 Posted by **hecube** on 23 Aug 2009, 6:43 p.m.,*
in response to message #5 by Thomas Radtke

Once again I bow to the collective wisdom of the internet.

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HP Forum Archive 19

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HP and Kinpo - Are you Listening ? [HP-01 Inspiration]

*Message #1 Posted by **John Stark** on 23 Aug 2009, 12:27 p.m.*

Regarding the HP.01, an extraordinary achievement in its time, and still useful today...

What do you think of HP/Kinpo following up the HP.01 with an updated "homage" using current solar power and display technology, whilst retaining all the unique functionality of the original, especially its interactive time features ?

Starting point could be the advanced "Casio Pathfinder" watch line with its stout packaging and sophisticated backlighting and solar power.

Combine that with the HP.01's usability in time functions (and calculator) and the result could be interesting; kind of an "HP.35S" for the wrist.

Size would not be much of a factor, what with the popularity of unusually large watches these days ("Panerai", "U-Boat", "Luftwaffe", and many other jumbo size timepieces).

I know there is a move afoot regarding "Kit" watches along these lines, but for us HP junkies without DIY skills, and indeed the rest of the techno-watch market, an elegant, well packaged HP.01 follow up might be a nice thing.

John

Re: HP and Kinpo - Are you Listening ? [HP-01 Inspiration]

*Message #2 Posted by **Tim Wessman** on 23 Aug 2009, 3:29 p.m.,*
in response to message #1 by John Stark

Yes we do.

Do you think now is the best time to work on a very risky product?

TW

Re: HP and Kinpo - Are you Listening ? [HP-01 Inspiration]

*Message #3 Posted by **Mark Edmonds** on 23 Aug 2009, 5:14 p.m.,*
in response to message #2 by Tim Wessman

Tim - sorry but I'm not entirely sure of your connection with HP but I gather you are part of the team? If yes, how about a less risky proposition but one that would warm the hearts of many users - a version of the 50G with a keyboard layout similar to the original 48 series with a clear pro-RPN orientation? If it were "done right", it would be such a significant event that it would in one swipe make the original 48 series totally redundant and elevate the 50 to new heights. I'm convinced it would be massive.

Apologies for the temporary hijack of the original thread!

Mark

> Quote:
>
> Yes we do.
>
> Do you think now is the best time to work on a very risky product?
>
> TW

HP 50G ++

*Message #4 Posted by **John Stark** on 24 Aug 2009, 10:59 a.m.,*
in response to message #3 by Mark Edmonds

Mark:

A great idea indeed, and one with a broader appeal then an HP.01 "homage" (Although Casio and Citizen have proved practicality of solar power in a sophisticated, backlit watch).

An extended version of HP.50G with 48-style key layout in a "swoopy" Classic style case closer to or a bit larger in size than 35-67 series compared to 35.S. By "swoopy" I mean the taper of case from front to rear lengthwise with tilted display area and gradually tapering to bottom of keyboard. This, along with large "Enter" key, is the distinguishing styling feature of "classic" HP RPN units.

Just another $0.02

Great Forum ! - Read it daily !

John Stark

Re: HP and Kinpo - Are you Listening ? [HP-01 Inspiration]

*Message #5 Posted by **Eric Smith** on 23 Aug 2009, 3:47 p.m.,*
in response to message #1 by John Stark

It's hard to imagine that the cost and volume of a photovoltaic cell and supporting electronics in a watch is actually the least bit worthwhile.

A typical watch uses so little power that the button cell(s) will run it until they fail from self-discharge. A small photovoltaic cell won't extend the life of the button cells in that case.

If the watch uses more power, because it's doing any significant computation, the small photovoltaic cell can't provide enough energy to significantly affect battery life.

Re: HP and Kinpo - Are you Listening ? [HP-01 Inspiration]

*Message #6 Posted by **Les Bell** on 23 Aug 2009, 10:49 p.m.,*
in response to message #5 by Eric Smith

> Quote:
>
> It's hard to imagine that the cost and volume of a photovoltaic cell and supporting electronics in a watch is actually the least bit worthwhile.

Last year I upgraded to a Citizen Eco-Drive watch, which is claimed to never need battery replacement as long as it gets enough light. For me, the benefit is reliability - all the failures I can recall of my previous watches have been when the case has been opened for either battery replacement or minor repair (scratched crystal, frozen bezel, etc.).

I'm hoping this one will last a bit longer, as I really like the functionality.

Of course, this is absolutely not a benefit for the manufacturer. ;)

Best,

--- Les
[http://www.lesbell.com.au]

Re: HP and Kinpo - Are you Listening ? [HP-01 Inspiration]

*Message #7 Posted by **Martin Pinckney** on 23 Aug 2009, 11:33 p.m.,*
in response to message #6 by Les Bell

> Quote:
>
> Of course, this is absolutely not a benefit for the manufacturer. ;)

The manufacturer isn't worried. He knows the MTF for his product. ;-)

Re: HP and Kinpo - Are you Listening ? [HP-01 Inspiration]

*Message #8 Posted by **Eric Smith** on 24 Aug 2009, 6:46 p.m.,*
in response to message #6 by Les Bell

If it has a button or coin cell in it, that cell will almost certainly be dead from self-discharge in approximately 10 years. You'd want to replace it at that time even if the watch is still working from ambient light, if for no other reason than to keep the cell from leaking and damaging the watch.

Re: HP and Kinpo - Are you Listening ? [HP-01 Inspiration]

*Message #9 Posted by **Les Bell** on 25 Aug 2009, 7:58 a.m.,*
in response to message #8 by Eric Smith

According to this Wikipedia article, the Eco-Drive watches have a titanium lithium-ion battery which will still retain 80% of the original storage capacity after 20 years. At this point, that gives the watch a reasonably chance of outlasting me. :) It's not as nice as a fine mechanical movement, but it's an acceptable trade-off for the functionality (stepper-motor drive, multiple time zones, multiple alarms, etc.), not to mention the price.

Best,

--- Les
[http://www.lesbell.com.au]

Re: HP and Kinpo - Are you Listening ? [HP-01 Inspiration]

*Message #10 Posted by **Thomas Radtke** on 25 Aug 2009, 3:02 a.m.,*
in response to message #1 by John Stark

Hi John,

I'd very much prefer HP to repair existing models (35s bugs, 20b keyboard) bevor getting out new hardware.

Thomas

Re: HP and Kinpo - Are you Listening ? [HP-01 Inspiration]

*Message #11 Posted by **Bart (UK)** on 25 Aug 2009, 6:05 a.m.,*
in response to message #10 by Thomas Radtke

I agree Thomas, that'd be someting useful.

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HP Forum Archive 19

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Profound saturday afternoon question

*Message #1 Posted by **hecube** on 22 Aug 2009, 4:18 p.m.*

I noticed in this forum that the emphasis seems to be on restore AND use.

If you had a HP-01 in your collection, would you wear it? Everyday?

Re: Profound saturday afternoon question

*Message #2 Posted by **Maximilian Hohmann** on 22 Aug 2009, 4:32 p.m.,*
in response to message #1 by hecube

Hello!

I have one in unused condition and I never wore it. Too delicate and expensive to risk scratching or damaging it. And who knows, if it still watertight after 30 years?

But I also have a well worn one that is currently not working. If I ever get it to run again, I might wear it occasionally. To be honest: As a watch it is impractical (so big and heavy that you _will_ bang it against something sooner or later, plus you need both hands to get a time reading and the display is tiny) and as a calculator it is even more impractical, because you need a tool to operate it.

Greetings, Max

Re: Profound saturday afternoon question

*Message #3 Posted by **Geoff Quickfall** on 22 Aug 2009, 8:13 p.m.,*
in response to message #2 by Maximilian Hohmann

Hello Max,

I use mine as the functions I need are at my finger tips. I especially like the ability to use a count down timer which continuously displays until selected off.

I have a few of the pens with the nibs and these accompany so I usually input the flight time into the stop watch, then multiply that with the average fuel flow and then swap between the displays. Also the time zone changing function is so easy to implement!

Of course the need for the watch has changed since my early flying days to the 777 cockpit today. Still, the ability to see the watch in the darkness of the cockpit is excellent.

Besides, that and my nixie watch always get comments that my others never do.

Cheers, Geoff

Re: Profound saturday afternoon question

*Message #4 Posted by **Maximilian Hohmann** on 23 Aug 2009, 6:03 p.m.,*
in response to message #3 by Geoff Quickfall

Hi Geoff,

those subtle differences between intercontinental passenger flights and inter-european executive flying :-)

> Quote:
>
> I especially like the ability to use a count down timer which continuously displays until selected off.

We have two of those (luminous!) built into the instrument panel (one each side) plus a timer function in each primary flight display. Never used any any of them though...

> Quote:
>
> ... so I usually input the flight time into the stop watch, then multiply that with the average fuel flow and then swap between the displays.

Our tyical sector length is less than an hour with constant level and speed changes, so there's nothing like an average fuel flow. I would have to guess that, but then I could guess the total fuel amount as well without using a calulator.

> Quote:
>
> Also the time zone changing function is so easy to implement!

We rarely cross time zones (and if so, the difference seldom exceeds one hour) - so again no excuse why I have to take my capital investment to work.

> Quote:
>
> Still, the ability to see the watch in the darkness of the cockpit is excellent.

I bought one of those miraculous (analogue) watches with GTLS (gaseous tritium light sources) hands recently. This thing really glows in the dark! And without the need to press a button. Very pracical beside the bed in the hotel room, when I wake up in the middle of the night.

> Quote:
>
> Besides, that and my nixie watch always get comments that my others never do.

I believe that for sure! If I would start playing with gadgetry at work, my passengers (who can look over my shoulder all the time) would start complaining instantly because they want their breakfast served instead (also part of my job)!

BTW: Have you ever tried to get that nixie watch through a security check in the United Kingdom?

Greetings, Max

Wear it, use it, enjoy it.

*Message #5 Posted by **Geoff Quickfall** on 22 Aug 2009, 6:09 p.m.,*
in response to message #1 by hecube

I restore vintage watches also. I have over 200 with 130 restored vintage complicated movements.

Included in this are the following three:

```
1  One New Old Stock HP-01 in box with all accessories.


2  One completely restored pre prototype with no serial number in
   mint condition
```

```
3  One restored example which I wear to work.
```

I have 3 modules including one which will work and comes complete with a New Old Stock strap (gold case). The other two supply parts including the LED block.

Enjoy the pictures:

I have repaired and restored 4 others for other users, one in England, and three in the US. All 4 are being used.

So YES, I wear it and use the functions. In fact other than my HP 41CX it is the second most used HP object I have.

Cheers, Geoff

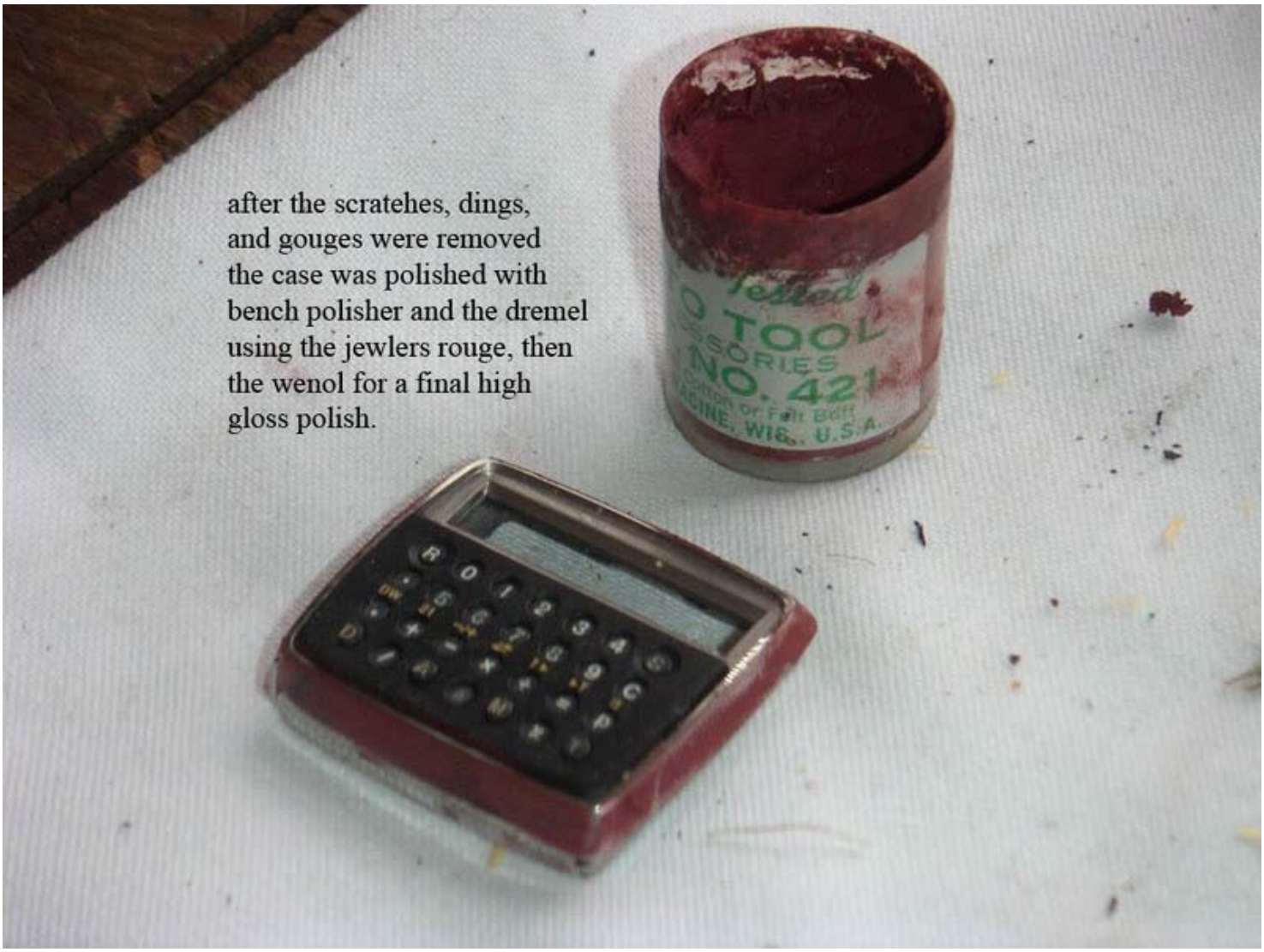
Creating two new plexi glass lens for restoration purposes:

New old stock version:

New magnifying lense installed:

Restored example for client in London:

Prepping a case for the new gloss and brushed finishes:



Prototype top view:

Prototype bottom view with lack of serial number:

Before and After:

All three:

Edited: 22 Aug 2009, 6:11 p.m.

Re: Wear it, use it, enjoy it.

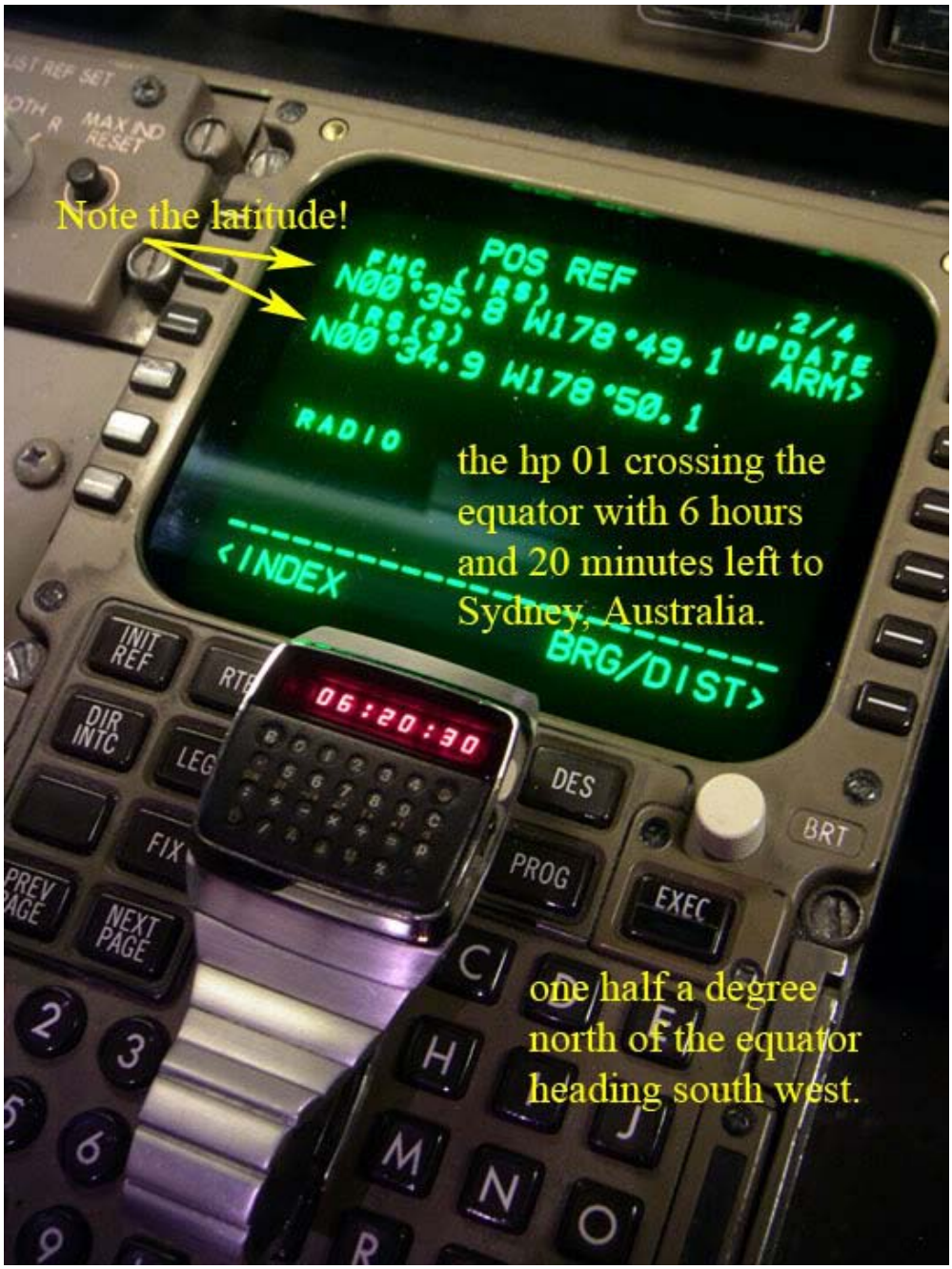
*Message #6 Posted by **hecube** on 22 Aug 2009, 6:29 p.m.,*
in response to message #5 by Geoff Quickfall

Awesome.

The watch and a 67 at work!

*Message #7 Posted by **Geoff Quickfall** on 22 Aug 2009, 8:08 p.m.,*
in response to message #6 by hecube

Here is a shot of the watch at work 2 years ago!



And a rather dark shot on the same flight of the HP-01 and the HP-67 both operating and being used:

Edited: 22 Aug 2009, 8:09 p.m.

No!

*Message #8 Posted by **Mark Edmonds** on 23 Aug 2009, 4:46 p.m.,*
in response to message #7 by Geoff Quickfall

If I had one, I wouldn't wear it. Main reason not being its expense/antique status/delicate nature or whatever, just simply that I think it is as ugly as hell!!

To be honest, I am not that wild about getting one either and I don't quite understand why people are prepared to spend such large sums on it. Yes, it was a one-off and utilised some clever techniques (as I understand it) but as a calculator or a watch, it doesn't excite me and I don't really understand the fuss over it.

On the other hand, spending the same sort of money (or maybe less) could secure an early desktop with real ye-olde-worlde peripherals like a paper tape reader and getting something like that working would be enormous fun! :)

And as part of the original question, my philosophy on collecting is that the collection is to be used, not stored. Collecting items and leaving them stored in the original packaging and never touching them or switching them on etc is just a waste. What's the point in doing that? Where is the fun and enjoyment? Maybe someone who does collect that way can explain why they do that?

Mark

RE: YES!

*Message #9 Posted by **geoff quickfall** on 23 Aug 2009, 5:50 p.m.,*
in response to message #8 by Mark Edmonds

;-)

"And as part of the original question, my philosophy on collecting is that the collection is to be used, not stored. Collecting items and leaving them stored in the original packaging and never touching them or switching them on etc is just a waste. What's the point in doing that? Where is the fun and enjoyment? Maybe someone who does collect that way can explain why they do that?"

Fully agree with the above, as far at the rest of it... 8-)

[pre] - It is Gorgeous!!!!!!!!!(but that is purely subjective).

- The dynamic function has not been reproduced on any other calculator watch and I find it very useful.

- don't pay so much, I have yet to spend more then 200.00 for my examples. (lucky on the boxed one, lucky that the others could be fixed). - Money and expense, well, dealing with collectables and etc, we all know how fical this crowd is, besides, collecting is again extremely subjective.

- Some one just paid 600 USd for a clear back HP 67, so there is no accounting for objectivity in collecting.

Cheers Mark,

Wearing one and LOVING it (yeah makes no sense)

Re:NO! & YES!

*Message #10 Posted by **Martin Pinckney** on 23 Aug 2009, 8:15 p.m.,*
in response to message #9 by geoff quickfall

As a watch, I would agree with Mark, its ugly!

But considered as pure form in and of itself, I would have to agree with Geoff, it is gorgeous.

Re: RE: YES!

*Message #11 Posted by **Bart (UK)** on 25 Aug 2009, 6:07 a.m.,*
in response to message #9 by geoff quickfall

I agree with Geoff, I think they're awesome. I hope to be able to get one sometime :)

edited to fix spelling

Edited: 25 Aug 2009, 6:08 a.m.

Re: RE: YES!

*Message #12 Posted by **Keith Midson** on 26 Aug 2009, 6:16 a.m.,*
in response to message #9 by geoff quickfall

Quote: [Some one just paid 600 USd for a clear back HP 67, so there is no accounting for objectivity in collecting.]

Haha - that someone was me!

Re: No!

*Message #13 Posted by **Mike Morrow** on 24 Aug 2009, 6:21 p.m.,*
in response to message #8 by Mark Edmonds

I thought the HP-01 was less than practical when it was introduced. It never intrigued me at all. Its

collector's appeal is without question, but I'd rather have a red-dot HP-35, if I didn't already have one.

Twenty-five years ago I found the 1983 Casio scientific calculator watch CFX-200 to be valuable in daily use. No tools are needed to operate it, and it is a full-featured scientific calculator. I've still got it, but I don't use it. These once inexpensive models have become pricey collector's items. Here's a picture of the improved 1985 Casio CFX-400. I wouldn't mind having one of them today for actual use. I did not count on Casio discontinuing such products after the CFX-400.

Edited: 24 Aug 2009, 6:44 p.m.

Re: Wear it, use it, enjoy it.
*Message #14 Posted by **hecube** on 24 Aug 2009, 12:18 p.m.,*
in response to message #5 by Geoff Quickfall

Gotta get one of those...

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Brown leather pouches history question

*Message #1 Posted by **hecube** on 22 Aug 2009, 10:46 a.m.*

With what model were the iconic leather pouches first and last offered?

Re: Brown leather pouches history question

*Message #2 Posted by **Dan W** on 22 Aug 2009, 12:50 p.m.,*
in response to message #1 by hecube

Do you mean the zip up pouches?

I believe these began with the HP-67. The prior calculators had a black leather case with velcro enclosure. These cases conform to the shape of the calculator. True of the 65 also which has an added pouch to hold the plastic case that held the magnetic cards.

The 67 did away with the plastic case for cards, replacing it with a vinyl notebook. At the same time they changed to a rectangular zip-up case which has a pouch inside for the vinyl card case.

Re: Brown leather pouches history question

*Message #3 Posted by **hecube** on 22 Aug 2009, 12:58 p.m.,*
in response to message #2 by Dan W

Unfortunately, I have to disagree. I have a HP-21 and a HP-25 here with made-to-fit HP brown pouches. These two calculators were released before the HP-67...

Re: Brown leather pouches history question

*Message #4 Posted by **Dan W** on 22 Aug 2009, 1:38 p.m.,*
in response to message #3 by hecube

> Quote:
>
> Unfortunately, I have to disagree. I have a HP-21 and a HP-25 here with made-to-fit HP brown pouches. These two calculators were released before the HP-67...

Sometimes I forget the 67 really had second gen innards. By made-to-fit do you mean a conformal design or the rectangular zip-up pouch?

Re: Brown leather pouches history question

*Message #5 Posted by **hecube** on 22 Aug 2009, 2:06 p.m.,*
in response to message #4 by Dan W

They are brown HP pouches but smaller than the HP-41 pouch if you're familiar with it...

Re: Brown leather pouches history question

*Message #6 Posted by **Les Bell** on 23 Aug 2009, 10:55 p.m.,*
in response to message #1 by hecube

IIRC, my 45 came with a zip-up brown pouch. They weren't leather, though, they were a man-made plastic material, like Naugahyde. I also bought the black leather belt pouch, which was an optional extra. This was all around April 1974.

I bought a 65 a couple of years later, but it came with the soft black leather pouch that had an extra pocket for an application pac.

Best,

--- Les
[http://www.lesbell.com.au]

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NutIP, a web server and TCP/IP stack for HP-41

*Message #1 Posted by **Khanh-Dang Nguyen Thu-Lam** on 22 Aug 2009, 7:40 a.m.*

Hi all,

NutIP is a ROM for HP-41 (C/CV/CX). It implements a full-featured TCP/IP stack and a web server. I never ran the code on real hardware because devices are rare and expensive (one need a HP-41, a HP-IL module, any hardware that let you burn a ROM, a HP-IL/RS232 transceiver...). Though, I managed to run NutIP on emulators. It works well with nonpareil and Emu41.

You can download source code (under a BSD-like license), binaries and documentation at http://perso.orange.fr/kdntl/hp41/.

Hope you enjoy it,

Khanh-Dang

Re: NutIP, a web server and TCP/IP stack for HP-41

*Message #2 Posted by **Egan Ford** on 22 Aug 2009, 10:12 a.m.,*
in response to message #1 by Khanh-Dang Nguyen Thu-Lam

Too awesome for words.

Re: NutIP, a web server and TCP/IP stack for HP-41

*Message #3 Posted by **hecube** on 22 Aug 2009, 10:53 a.m.,*
in response to message #1 by Khanh-Dang Nguyen Thu-Lam

Has he (or anyone) set-up a real web-page for it yet?

Re: NutIP, a web server and TCP/IP stack for HP-41

*Message #4 Posted by **Egan Ford** on 22 Aug 2009, 2:24 p.m.,*
in response to message #3 by hecube

I have all the necessary gear, just no time right now. I'll give it a shot next month. I expect the only issue will be with the HP-IL/RS232. It will need some unknown setup.

If (big big IF) I can get it working perhaps I can host a section of the HHC2009 website. :-)

Re: NutIP, a web server and TCP/IP stack for HP-41

*Message #5 Posted by **hecube** on 22 Aug 2009, 2:29 p.m.,*
in response to message #4 by Egan Ford

Maybe you could crash the internet by unleashing some synthetic programming...

Re: NutIP, a web server and TCP/IP stack for HP-41

*Message #6 Posted by **Geir Isene** on 22 Aug 2009, 5:59 p.m.,*
in response to message #4 by Egan Ford

Maybe utilize the PIL-box?

Re: NutIP, a web server and TCP/IP stack for HP-41

*Message #7 Posted by **PeterP** on 23 Aug 2009, 4:14 p.m.,*
in response to message #1 by Khanh-Dang Nguyen Thu-Lam

Phenominal job, congratulations! Do you know how one would have to configure the rs232?

Cheers

Peter

Re: NutIP, a web server and TCP/IP stack for HP-41

*Message #8 Posted by **Christoph Klug** on 24 Aug 2009, 2:57 a.m.,*
in response to message #7 by PeterP

Dear Peter,

some knowledge about HP-41 and RS232 you find in the IL2000 manual(transfer between two HP-41, and transfer between HP-41 and EMU41) and on the HPCC webpage under HP-41 calculator...

Regards - Christoph

Re: NutIP, a web server and TCP/IP stack for HP-41

*Message #9 Posted by **Khanh-Dang Nguyen Thu-Lam** on 24 Aug 2009, 4:16 a.m.,*
in response to message #7 by PeterP

If you are using a HP-82164A peripheral (HP-IL/RS232 transceiver), you should use 9600 8N1 (default settings). You may want to read the documentation for more details.

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42S for iPhone v. 2.2 in App Store

*Message #1 Posted by **Les Wright** on 22 Aug 2009, 4:57 a.m.*

Includes a few improvements, including an upgrade to Free42 1.4.52 with the most recent BCD-20 as its computational "core". This means more accurate transcendentals and numerical integration, among other things (hugh steers refined his code, Thomas Okken incorporated it, and Byron Foster incorporated Thomas' upgrade).

Thomas discovered a bug in the BCD-20 code and has fixed it, so Free42 is actually now up to 1.4.53. Byron will shortly submit 2.2.1, incorporating this fix, but it takes these things ages to meander through the Apple approval process.

The newest 42s displays the LastX register in small font in the upper right corner of the display. I find this distracting and have asked Byron to consider making this optional and not obligatory in future releases.

The speed improvements and overall performance that came with the move from v. 1 to v. 2 are maintained.

Great little piece of software--my main calculator these days, and I have a real 42s!

Re: 42S for iPhone v. 2.2 in App Store

*Message #2 Posted by **Egan Ford** on 22 Aug 2009, 10:05 a.m.,*
in response to message #1 by Les Wright

There is also a 20-line stack option. PRST can be used to display/print the entire stack.

Re: 42S for iPhone v. 2.2 in App Store

*Message #3 Posted by **Byron Foster** on 23 Aug 2009, 10:42 a.m.,*
in response to message #2 by Egan Ford

There's a couple of additions you've mentioned in the past. The first is that you can toggle the display of the iPhone keyboard in alpha mode by tapping the display. The "auto keyboard" option has become just an option to display the keyboard automatically when going into alpha mode, but it can still be toggled regardless. The other is that you can switch to the Print View while printing and while a program is running. It didn't do this pre OS 3.0 because of the whole event handling thing, and it would get hosed up (I'll avoid going into detail).

As Les said, a version 2.2.1 was submitted last Thursday with Free42 1.4.53 which contains a BCD20 fix. It also provides an option to toggle the display of LastX (also a couple of minor 42s bug fixes). It should be out in about a week, or when Apple is good and ready!

Re: 42S for iPhone v. 2.2 in App Store

*Message #4 Posted by **Egan Ford** on 23 Aug 2009, 7:34 p.m.,*
in response to message #3 by Byron Foster

Excellent. Thanks. The Alpha toggle was much needed.

Re: 42S for iPhone v. 2.2 in App Store

*Message #5 Posted by **Reth** on 23 Aug 2009, 9:34 p.m.,*
in response to message #3 by Byron Foster

I already posted the following in the other forum, but it may get some feedback here:

- I'd replace L register display with the status of first 5 user flags as it is on HP-41 and make both optional
- make 2 <> 4 line display switchable trough program
- make Alpha register longer and able to display on all 4 lines (2 extra L/F)

I find the white rectangle around arrow keys a brilliant idea, please keep that in future releases at least as an option.
Excellent work and getting better!
Cheers,

Re: 42S for iPhone v. 2.2 in App Store

*Message #6 Posted by **Les Wright** on 24 Aug 2009, 12:57 a.m.,*
in response to message #2 by Egan Ford

Egan, several of my programs depend on the familiar behaviour of the 4-line stack (e.g., the duplication of the T register when a binary operation combines the X and Y registers and the stack drops is a fact I use quite a bit in preserving needed data without stashing it into a register).

The 4-stack option is set as default. I think Byron may include in future documentation the caveat that turning on the 20-stack may "break" programs that rely on the traditional 4-stack behaviour. Of course, serious RPN programs already know their stack behaviour and would pick up on this if there were spurious results coming from familiar programs.

Les

Re: 42S for iPhone v. 2.2 in App Store

*Message #7 Posted by **Egan Ford** on 24 Aug 2009, 1:04 a.m.,*
in response to message #6 by Les Wright

As do mine. Hopefully in the future the stack depth can be programmable. It'd be nice to have programs run as-is, and to have a deeper depth for interactive modes.

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Complex number in HP35S

*Message #1 Posted by **KC** on 21 Aug 2009, 7:48 a.m.*

This topic has been discussed in this forum for some time, and I would like to give my experience on that.

First of all, I am not an engineer, and I have never use complex number to solve real world problems. Somebody earlier in this forum recommend an excellent book "the history of the square root of minus one", and so I bought one, and started calculating complex numbers on my 35S.

35S is heritaged from 32SII and 33S, and the complex number support for the latter two calculators are awkward. I originally assumed that it would be equally awkward for the 35S, and surprisingly, it found it very pleasant to use. This is mainly due to the primary button for i. I don't need to care for the limited 4 stacks, and in fact, I think entering complex numbers in 35S is as simple as entering real numbers, and is the easiest among any HP calculators I've used before, including 42S and 48G.

One of the main drawbacks people complain about HP35S (and 32SII and 33S) is its limited complex number support. For example, somebody here said that it should have supported ln(-2), arcsin (2), etc. I don't know, but I just wonder, how many times you would ever need to calculate arcsin (2) in real world problems? Maybe some professionals here need to, then would you please inform me about that.

Best regards, KC

Re: Complex number in HP35S

*Message #2 Posted by **Mike Morrow** on 21 Aug 2009, 9:13 a.m.,*
in response to message #1 by KC

I think the "how often" justification for not providing a capability misses the point. How often does one calculate the cosine for angles very close to 90 degrees? The HP33S and 35S have documented defects here. Is it not a problem because one seldom performs this function in the affected range? Various natural operations in the real domain generate results in the complex domain for which the HP35S yields no result. I view this as a defect. AT the least it is certainly an avoidable limitation.

The HP42S and the RPL models, and the HP-15C with a little more effort, perform complex number mathematics without user programming. The HP35S and similar do only complex number arithmetic.

The only thing that is required, at the product design phase, to enable the more complete spectrum of capability is a little bit of firmware. It adds no additional weight or power consumption or user complexity.

There is no excuse today, nor for the last 20 years, for any scientific calculator to lack a full capability for complex mathematics.

Re: Complex number in HP35S

*Message #3 Posted by **Jeff O.** on 21 Aug 2009, 12:57 p.m.,*
in response to message #2 by Mike Morrow

Mike,
I agree that the "how often" justification is not a valid justification. If a calculator does something, it ought to do it right, so that is why the cosine bug in the 35s is not acceptable. However I will point out that the 35s does more than simple arithmetic with complex inputs. The following functions accept complex arguments:

```
+
-
*
/
sin
cos
tan
negate
1/z
z^z
ln
e^z
```

Quite a few higher functions in the above list. Not a full suite, of course, but better than just add, subtract, multiply and divide.

.

Re: Complex number in HP35S

*Message #4 Posted by **designnut** on 21 Aug 2009, 1:23 p.m.,*
in response to message #3 by Jeff O.

While you may be able to take the Ln of a complex function with a calculator, I am eager to ask, does it have a real world meaning? As an EE I became painfully aware of complex numbers and their manipulation, but it always served a purpose' and had real world application. In 51 we had only manual manipulation which was painful. with my first calculator HP 35 I discovered relationships not published in books, and I still think they are unknown, as I had tools the book authors did not. Sam

Re: Complex number in HP35S

*Message #5 Posted by **Bart (UK)** on 21 Aug 2009, 1:24 p.m.,*
in response to message #1 by KC

Both the 32S and 35S can compute LN(-2). Arcsin(2) is a bit more complex (excuse the pun), but can be computed on both using the logarithmic form:
arcsin x = -ix*LN(ix+SQRT(1-x^2))

Re: Complex number in HP35S

*Message #6 Posted by **Martin Pinckney** on 21 Aug 2009, 2:38 p.m.,*
in response to message #5 by Bart (UK)

> Quote:
>
> Both the 32S and 35S can compute LN(-2).

My 32sii returns the error message LOG(NEG) /!\.

Re: Complex number in HP35S

*Message #7 Posted by **Jeff O.** on 21 Aug 2009, 3:20 p.m.,*

in response to message #6 by Martin Pinckney

Perhaps it would be more accurate to say that both the 32S and 35s can compute LN(-2+i0).

Re: Complex number in HP35S

*Message #8 Posted by **Bart (UK)** on 21 Aug 2009, 5:53 p.m.,*
in response to message #7 by Jeff O.

Quite so, Jeff. My thoughts were: if you expect an answer in the complex domain ....

For the 32s (& sii is probably the same), use the following key sequence: 0 ENTER 2 +/- SHIFT CMPLX LN. (For complex calcs the Y-register is imaginary part & X-register is the real part).

I totally agree that this is not an easy or ideal way, the 42S implementation is what I would have expected myself on the 35S.

Re: Complex number in HP35S

*Message #9 Posted by **Ángel Martin** on 21 Aug 2009, 4:42 p.m.,*
in response to message #1 by KC

The way to input complex numbers on the 35S is indeed very intuitive and convenient - much better than the 42S and perhaps the best of all HP calcs.

That "i" function sure works great. I wish I could mimic it on the 41 but my MCODE skills are *limited* - say partial key sequence, anyone?

Shame the implementation on the 35S doesn't live up to the same user interface. I love it when on the 42S you get a complex result (instead of an error) when the argument of the function doesn't have a real solution

Best, ÁM

Re: Complex number in HP35S

*Message #10 Posted by **Les Wright** on 22 Aug 2009, 4:49 a.m.,*
in response to message #9 by Ángel Martin

Complex number entry is great on the 35S, but the limitations in actually working with entered complex numbers is annoying. The inability to decompose a number into its real and imaginary parts is a nuisance. This can be done with a little custom routine, but this sort of stuff should be built-in. Likewise with moving back and forth between polar and rectangular coordinates and the various angular modes. the 42S seems to manage this all so seamlessly. It doesn't have the "i" key, but the COMPLEX function toggles things back and forth and coordinate and angle modes are always respected without hassle.

But I preach to the choir. This stuff has been debated to death since the otherwise pretty good 35S came out two years ago.

Edited: 22 Aug 2009, 4:49 a.m.

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Knows physics. Knows no fear. Has accurate calculator.

*Message #1 Posted by **Peter Klein** on 21 Aug 2009, 2:36 a.m.*

I could not believe this when I saw it.

http://www.mach-es-machbar.de

(Even if he doesn't use an HP, he still deserves honorary membership)

--Peter

Re: Knows physics. Knows no fear. Has accurate calculator.

*Message #2 Posted by **DaveJ** on 21 Aug 2009, 2:40 a.m.,*
in response to message #1 by Peter Klein

It's a famous fake.
A viral advertising campaign paid for by Microsoft.
LINK

Dave.

Re: Knows physics. Knows no fear. Has accurate calculator.

*Message #3 Posted by **Peter Klein** on 21 Aug 2009, 3:20 a.m.,*
in response to message #2 by DaveJ

Evil, evil, evil!!

But still entertaining. :-)

Re: Knows physics. Knows no fear. Has accurate calculator.

*Message #4 Posted by **Walter B** on 21 Aug 2009, 7:31 a.m.,*
in response to message #3 by Peter Klein

IF he had known physics THEN he had chosen another water depth d;> The other parts looked more plausible. However, a nice video anyway.

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After the HP-67, I didn't plan on buying anything else for a while but...

*Message #1 Posted by **hecube** on 20 Aug 2009, 5:43 p.m.*

I just got a HP-35 in good condition for 50$ on eBay...

Now if I could score a HP-01 for 150$...

Edited: 20 Aug 2009, 5:45 p.m.

Good deals still to be found!

*Message #2 Posted by **Michael Meyer** on 20 Aug 2009, 8:46 p.m.,*
in response to message #1 by hecube

Years ago I bought a huge lot of adding machine calculators. I mean huge. The guy was upset the whole lot only sold for $10. But, he shipped them anyway in three huge boxes. In with the "junk": 2 HP-97's, 2 HP-91's, a couple of HP-20S's, and two HP-11C's.

Wasn't listed as a calculator auction, but I knew I'd spotted a couple of blurry HP's in the picture.

When I have the time, I still try to look for mis-classified ads. Bought an HP-71B that was listed as a "Log Scaler". Not sure what that is, but it was a 71B in a case with a large, 2-line display. I'm not sure how I found the auction, but I did.... was $20, I think.

Keep up the quest!!!

Re: Good deals still to be found!

*Message #3 Posted by **hecube** on 20 Aug 2009, 9:06 p.m.,*
in response to message #2 by Michael Meyer

Not sure if it's a good thing to spill those but what the heck. Let's call them eBay tricks. A good way to seal a good deal is to bid on an auction which ends during the middle of the night for North America's east coast. Who gets up in the middle of the night to push up the bid one last time?

Re: Good deals still to be found!

*Message #4 Posted by **Paul Dale** on 20 Aug 2009, 9:17 p.m.,*
in response to message #3 by hecube

They use sniping services and sniping software instead :-)

- Pauli

Re: Good deals still to be found!

*Message #5 Posted by **Joel Setton (France)** on 21 Aug 2009, 3:27 a.m.,*

in response to message #3 by hecube

I once bought a near-perfect Classic in an auction which ended during a World Cup final. I was almost the only bidder! It's a pity these finals only happen once every 4 years ;-)

Joel Setton

Re: Good deals still to be found!

*Message #6 Posted by **Martin Pinckney** on 21 Aug 2009, 8:56 a.m.,*
in response to message #3 by hecube

> Quote:
>
> Not sure if it's a good thing to spill those but what the heck. Let's call them eBay tricks.

I know a lot of those eBay tricks, too. But sometimes the "trick" that works best is just taking a chance. Like when I got my 42s. As everyone here knows, these usually bring a premium price. I bid on one that had a poor description and blurry picture, so the collectors stayed away. I correctly judged that the seller was unsophisticated, rather than devious. I was rewarded with a USA-made version in *almost* mint condition, for a very reasonable price.

Re: Good deals still to be found!

*Message #7 Posted by **Gerson W. Barbosa** on 21 Aug 2009, 9:33 a.m.,*
in response to message #6 by Martin Pinckney

> Quote:
>
> But sometimes the "trick" that works best is just taking a chance.

Agreed. I got my 11C in a local auction. It had been advertised as new but the seller provided no picture. Even better, instead of money the seller accepted one of my 12Cs, still under warranty. It happens that 11C had been used only by his late father for a couple of months and been kept in a drawer during the last 20 years...

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MoHPC *The Museum of HP Calculators*

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HP 41CV repair - constant Memory Lost message

*Message #1 Posted by **Nigel Bamber** on 20 Aug 2009, 5:37 p.m.*

I eventually got the materials in order to put a permanent repair to my CV with cracked and broken posts. With some further help from Geoff and following his excellent guide , I managed to repair the posts and the case screws back on successfully. That is the good news.

The bad news is that I have a constant Memory Lost message. I cannot turn the calculator off and it responds to no key presses.

Can anyone help ? I assume its still a contact issue only this time it seems I have the 'reverse problem' to the one I had before the 'repair'.

I had to remove the logic PCA and the silk screen sheet underneath it to repair the broken post. So have I damaged something ?

I await your good ideas.

Nigel

Re: HP 41CV repair - constant Memory Lost message

*Message #2 Posted by **Geoff Quickfall** on 20 Aug 2009, 7:15 p.m.,*
in response to message #1 by Nigel Bamber

This has happened with my half nuts but I am sure it can happen to the fullnut.

Hopefully it is a software, not hardware problem.

It took 48 hours for my two 41CXs to drop the MEMORY LOST lock up. Here is what I did and I am sure others have their methods, but do it in this order and move to the next step if the previous step failed:

```
1   try a master clear,  ON+CLX


2a  if you have a card reader
 b  install it
 c  try to run a card.


3a  remove the batteries
 b  short the far left to far right battery contacts
 c  reinstall batteries
 d  test with the ON+CLX


4a  remove the batteries
 b  reverse their positions in the holder,
 c  install pack with reversed batteries
 d  hold the ON key ON for ten seconds then release
 e  reinstall batteries
 f  test with the ON+CLX
```

```
5a  remove the batteries
 b  reverse their positions in the holder,
 c  install pack with reversed batteries
 d  hold the ON key ON for ten seconds then release
 e  leave calculator OFF over night.
 f  reinstall batteries
 g  test with the ON+CLX
```

These methods were first developed with Synthetic applications, which when handled incorrectly caused a freeze. The freeze was carried even when the calculator was OFF by the capacitor which retains the last memory condition of the software.

The above, all attempt to zero the capacitor leaving the calculator in its original state.

Mine took me to step 5 and I had written both of them off until two days later when I got back from a trip. I picked one up for the curiosity fully expecting it to remain in the OFF condition or with the frozen MEMORY LOST. Put in a battery pack, switched it on and VOILA! it worked. Tried the second machine and it worked!

Be warned, some have reported that it took up to a week without the batteries to unfreeze the calculator.

Hope this helps, Geoff

Edited: 20 Aug 2009, 7:18 p.m.

Re: HP 41CV repair - constant Memory Lost message

*Message #3 Posted by **Nigel Bamber** on 21 Aug 2009, 1:44 a.m.,*
in response to message #2 by Geoff Quickfall

Thanks Geoff. I'm on Step 5 , so let's wait and see. It would seem that the prognosis will be good (in the end).

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High precision calculator in Windows 7

*Message #1 Posted by **jotne** on 20 Aug 2009, 4:48 a.m.*

If you need a calculator with lots of digits, try out the calc in Windows 7 and set it to scientific mode.

Pi = 3.14159265358979323846264338327950288419716939937510582097494459230781640628620899862803482534211706798214808651328230664709384460955058223172535940812848111745028410270193852110555964462294895493038196442881097566593344612847564823378678316527120190914564856692346034861045432664821339360726024914127372458700660631558817488152092096282925409171536436789259036001133053054882046652138414695194151160943305727036575959195309218611738193261179310511854807446237996274956735188575272489122793818301194912983367336244065664308602139494639522473719070217986094370277053921717629317675238467481846766940513200056812714522635608277857713427577896091736371787214684409012249534301465495853710507922796892589235420199561121290219608640344181598136297747713099605187072113499999983729780499510597317328160963185950244594553469083026425223082533446850352619311881710100031378387528865875332083814206171766914730359825349042875546873115956286388235378759375195778185778053217122680661300192787661119590921642019880

If you must have RPN, then install calc:

```
$ calc -d1000 pi | fold -w68
3.14159265358979323846264338327950288419716939937510582097494459230781
64062862089986280348253421170679821480865132823066470938446095505822
31725359408128481117450284102701938521105559644622948954930381964428
81097566593344612847564823378678316527120190914564856692346034861045
43266482133936072602491412737245870066063155881748815209209628292540
91715364367892590360011330530548820466521384146951941511609433057270
36575959195309218611738193261179310511854807446237996274956735188575
27248912279381830119491298336733624406566430860213949463952247371907
02179860943702770539217176293176752384674818467669405132000568127145
26356082778577134275778960917363717872146844090122495343014654958537
10507922796892589235420199561121290219608640344181598136297747713099
60518707211349999998372978049951059731732816096318595024459455346908
30264252230825334468503526193118817101000313783875288658753320838142
06171776691473035982534904287554687311595628638823537875937519577818
57780532171226806613001927876611195909216420198907566430860213949463
95224782133936072602491412737245870066063155881748815209209628292540
91715364367892590360011330530548820466521384146951941511609433057236
57595919530921861173819326117931051185480744623799627495673518857527
24891227938183011949129833673362440656643086021394946395224737190702
17986094370277053921717629317675238467481846766940513200056812714522
63560827785771342757789609173637178721468440901224953430146549585371
05079227968925892354201995611212902196086403441815981362977477130996
05187072113499999983729780499510597317328160963185950244594553469083
02642522308253344685035261931188171010003137838752886587533208381420
61717669147303598253490428755468731159562863882353787593751957781857
78053217122680661300192787661119590921642019890
```

Egan, this is cool! I wasn't aware of the existence of bc. I am assuming that a() is the arctangent function. Where does one find a listing of functions for bc?

Re: Higher precision calculator in OS/X and Linux

*Message #4 Posted by **Les Wright** on 21 Aug 2009, 1:38 a.m.,*
in response to message #3 by Les Wright

Cancel that. Google is my friend:

bc manual

Re: Higher precision calculator in OS/X and Linux

*Message #5 Posted by **Egan Ford** on 21 Aug 2009, 10:42 a.m.,*
in response to message #4 by Les Wright

```
man bc
```

Also works.

One feature of bc that I like is ibase/obase. It makes work with bases very easy.

Edited: 21 Aug 2009, 10:43 a.m.

Re: Higher precision calculator in OS/X and Linux

*Message #6 Posted by **Les Wright** on 22 Aug 2009, 3:35 a.m.,*
in response to message #5 by Egan Ford

bc has a very limited repertoire of built-in math functions. One needs to know a few trig and inverse trig identities to compute arcsine, arccosine, or even tangent. The scripting language seems really straightforward and I don't think it is too hard to build routines to compute more complicated functions. I may work on something to compute Gamma, a longtime pet project of mine :)

Re: Higher precision calculator in OS/X and Linux

*Message #7 Posted by **Egan Ford** on 22 Aug 2009, 9:53 a.m.,*
in response to message #6 by Les Wright

> Quote:
>
> bc has a very limited repertoire of built-in math functions

This is true if you invoke 'bc -l'. dc on the other hand has no such set of functions (although with effort one could write them).

bc -l math functions:

```
s (x)    The sine of x, x is in radians.
c (x)    The cosine of x, x is in radians.
a (x)    The arctangent of x, arctangent returns radians.
l (x)    The natural logarithm of x.
e (x)    The exponential function of raising e to the value x.
j (n,x)  The bessel function of integer order n of x.
```

> Quote:
>
> I may work on something to compute Gamma, a longtime pet project of mine

I'd like to see that. Especially for any scale, e.g. gamma(pi) to 1000 digits :-)

Re: Higher precision calculator in OS/X and Linux

*Message #8 Posted by **Eric Smith** on 22 Aug 2009, 1:39 p.m.,*
in response to message #7 by Egan Ford

The GMPR arbitrary-precision floating point library (based on the GMP arbitrary precision integer library) includes the gamma function, as well as ln(gamma(x)) and ln(abs(gamma(x))) functions.

Re: Higher precision calculator in OS/X and Linux

*Message #9 Posted by **Les Wright** on 22 Aug 2009, 6:56 p.m.,*
in response to message #7 by Egan Ford

> Quote:
>
> I'd like to see that. Especially for any scale, e.g. gamma(pi) to 1000 digits :-)

Now THAT'S a challenge.

The GMPR library that Eric referred me to seems to do it by using the Stirling approximation and predetermining how many terms to go out to given the desired precision and the argument. It then calculates the Bernoulli numbers on the fly.

I have a little routine that does it using Stephen Moshier's qfloat library, but I used a fixed number of terms in the Stirling series for larger arguments, do Pochammer shifting for smaller ones, and I precompute the Bernoulli coefficients and put them in a an array. A qfloat is about 104 or 105 digits, and I get about 102 or 103 of those right. But that is fixed multiple precision, not arbitrary precision.

May look at the Spouge method--no quite as good as Lanczos, but the coefficients are much easier to compute and one can predetermine the number of terms required due to a fairly straightforward error bound estimate.

Les

Gamma to Arbitary Precision

*Message #10 Posted by **Les Wright** on 23 Aug 2009, 1:16 a.m.,*
in response to message #9 by Les Wright

Here is a simple approach that just came to me. This is NOT how Gamma is typically computed in software because it is slower than than the Stirling series and related approaches. However, it is easier to code, and does not require any advance fiddling to figure out how many terms one needs for a desired number of digits.

1. Take your desired argument a.

2. Compute the left sided incomplete gamma by its series for (a, a+1)

3. Compute the right sided incomplete gamma by continued fraction for (a, a+1)

4. Add 'em together.

The only thing one needs to have the code do is derive on the fly a desire convergence epsilon give the desired precision (or scale as it is called in bc).

Code for the incomplete gamma functions is given in Numerical Recipes, and indeed this is what I have ported (indeed, shameless plagiarized) in my various implementations for the incomplete gamma functions and their specialized offspring (like the cumulative normal distribution, error functions, and cumulative chi-square distributions). Some time ago when I was playing around with Stephen Moshier's high precision qfloat library (about 105 decimal digits), this was my adaptation of the Numerical Recipes code:

```
#include <qfloat.h>
```

```
#define ITMAX 1000000


const qfloat fpmin = (qfloat)"1.0e-9800";
const qfloat one = (qfloat)"1.0";
const qfloat two = one + one;
const qfloat qeps = (qfloat)"3e-105";
const qfloat zero = (qfloat)"0.0";
// I have tried to converge to a tinier epsilon but some inputs make the routine belch!


qfloat gser(qfloat a, qfloat x)
{
  long n;
  qfloat sum,del,ap;


  ap=a;
  del=sum=one/a;
  for (n=1;n<=ITMAX;n++) {
                  ap=ap+one;
                  del *= x/ap;
                  sum += del;
                  if (fabs(del)< qeps*fabs(sum)) return exp(-x+a*log(x))*sum;
  }
  puts("a too large, ITMAX too small in routine gser");
  return zero;
}



qfloat gcf(qfloat a, qfloat x)
{
        long i;
        qfloat an,b,c,d,del,h;


        b=x+one-a;
        c=one/fpmin;
        d=one/b;
        h=d;
        for (i=1;i<=ITMAX;i++) {
                an = -i*(i-a);
                b += two;
                d=an*d+b;
                if (d<fpmin) d=fpmin;
                c=b+an/c;
                if (c<fpmin) c=fpmin;
                d=one/d;
                del=d*c;
                h *= del;
                if (fabs(del-one) < qeps) return exp(-x+a*log(x))*h;
        }
        puts("a too large, ITMAX too small in gcf");
        return zero;
}
```

Really should be no trouble to port something this straight forward to a bc script.

Another little challenge!

Les

Arbitrary Precision Gamma for bc

*Message #11 Posted by **Les Wright** on 23 Aug 2009, 10:23 p.m.,*
in response to message #10 by Les Wright

My preliminary efforts go sluggishly.

In the gcf half of the code, I am finding I need to precompute an epsilon that is several order of magnitude larger than what I would expect for a given scale in order to get convergence. I also am trying to figure out that if I compute a result to a given increased scale internally how I can output it so it has

a lower scale and the extra guard digits I have kept are not displayed. As it stands now, a computed result shows all the extra digits, even if I want to reformat the output to show my final result with a different, somewhat slightly smaller scale.

For example, say my desired scale for display is 100. If my code temporarily increases this internally to 110, the output has a scale of 110, even if I set the scale back to the original 100 before returning the result. There must be some way in bc to truncate a result from a higher scale to a lower scale....

Also, the approach is slow for high precisions, as I thought it would be. There is a reason why Stirling or other approaches derived from or inspired by it are used to this day, and my little idea is not!

Les

Re: Arbitrary Precision Gamma for bc

*Message #12 Posted by **Les Wright** on 24 Aug 2009, 11:16 p.m.,*
in response to message #11 by Les Wright

I may get more luck implementing [link:http://en.literateprograms.org/Gamma_function_with_Spouge's_formula_(Mathematica)]this[/link].

Spouge's formula is a good option since one can easily set a conservative error bound a priori. For 1000 digits (and a relative precision of 1e-1000), about 1260 terms in the series need to be computed. Thankfully, this can be done recursively--each coefficient is a multiplicative factor of the previous one.

Will give it a go and see what i come up with.

Les

Edited: 24 Aug 2009, 11:18 p.m.

Re: Arbitrary Precision Gamma for bc

*Message #13 Posted by **Paul Dale** on 25 Aug 2009, 12:30 a.m.,*
in response to message #12 by Les Wright

Interesting, this is exactly the approximation for (real and complex) Gamma I'm using in the 20b scientific firmware :-)

- Pauli

Re: Arbitrary Precision Gamma for bc

*Message #14 Posted by **Les Wright** on 25 Aug 2009, 10:30 p.m.,*
in response to message #13 by Paul Dale

The Spouge series is quite simple to implement and I think easy to implement in arbitrary precision, but I think it can be quite slow compared to a well crafted and properly terminated Stirling series, which to this day seems to be the first choice in the software libraries. That said, I have used Nosy on the HP49G+ and Gamma there looks like either a polynomial or CF approximation of sorts.

I have coded the Spouge series in Mathematica just as I would in C++ or bc, but the bc port is giving me headaches since bc lacks a built in exponentiation function for nonintegers, and the routine I have doesn't like it when the number to be raised to a power is 0 (which it often is with Spouge). I am not good at error trapping either!

That said, bc is a lot of fun BECAUSE it is so stripped down. A challenge. Like trying to program the HP-65 or 33C with so few steps available :)

Les

Re: Arbitrary Precision Gamma for bc

*Message #15 Posted by **Les Wright** on 25 Aug 2009, 10:35 p.m.,*
in response to message #14 by Les Wright

BTW, for anyone who speaks Mathematica, here is the routine I am trying to port to BC:

```
gamma[zin_, n_] :=
    Module[
                {a, c0, ci, sum, gammapos, i, z, zz, out},
                Block[{$MaxExtraPrecision = [Infinity]},
                          z = Rationalize[Abs[zin]];
                          a = Ceiling[n Log[10]/Log[2 Pi]];
                          c0 = Exp[-a]*Sqrt[2 Pi];
                          ci = Sqrt[a - 1]/Exp[1];
                          sum = c0 + ci/z;
                          For[ i = 2, i < a, i++,
                                  ci *= (a - i)^(i - 1/2)*(a - i + 1)^(3/2 - i)/(1 - i)/Exp[1];
                                  sum += ci/(z - 1 + i)
                                 ];
                                 N[(z - 1 + a)^(z - 1/2) Exp[-z + 1] sum, n]
                     ]
                ]
```

I coded it more like C and relied little on Mathematica's built in capabilities (like summing over an index) to make porting easier later. It is several times slower than the built-in Gamma[] at a given argument and precision.

Re: Arbitrary Precision Gamma for bc

*Message #16 Posted by **Les Wright** on 26 Aug 2009, 3:12 a.m.,*
in response to message #13 by Paul Dale

Well, having just ported my little Mathematica routine to c++ and Moshier's 105-digit qfloat library, I have just discovered the Achilles heal of the Spouge series in fixed precision system, albeit one so extended.

Computing the coefficients on the fly with so many evaluations of exp() and log() seems to be contributing to digit loss, where as with my trusty Sterling routine where I have the Bernoulli numerators and denominators stored in a table (I computed them with Maple and just pasted them over) manages to attain 103 or 104 digit accuracy on average.

I am perplexed as to the issue, Moshier's qfloat exp() and log() overloaded functions are well written and seem to give full 105 digit accuracy.

Must be something fishing in my code that perpetuates losing sometimes as many as twenty digits for some arguments.

Still can't get the thing to work in bc either! No clue here....

In the 20b you may want to just precompute and store the coeffiecients rather than compute on the fly each time. For 15 digits of internal precision, that is between 12 and 19 terms, depended on how conservative your error estimate, etc.

In an arbitrary precision environment like Mathematica, spouge works great, but it is slower than the built in function.

hth,

Les

Edited: 26 Aug 2009, 3:49 a.m.

Re: Arbitrary Precision Gamma for bc

*Message #17 Posted by **Paul Dale** on 26 Aug 2009, 4:41 a.m.,*
in response to message #16 by Les Wright

> Quote:
>
> In the 20b you may want to just precompute and store the coeffiecients rather than compute on the fly each time. For 15 digits

> of internal precision, that is between 12 and 19 terms, depended on how conservative your error estimate, etc.

I do precompute the coefficients. Precision on the stack is 16 digits, although internally I'm computing to 39. Not all functions are evaluated to the full 39 digits though.

- Pauli

Re: Arbitrary Precision Gamma for bc

*Message #18 Posted by **Les Wright** on 27 Aug 2009, 4:35 a.m.,*
in response to message #17 by Paul Dale

See the rambling below.

I don't think that precomputing the coefficients will save you from the evils of digit loss due to subtracting large numbers that are so close together.

For 16 digits of stack precision, you will need ever one of your internal digits for large arguments. But if Pi, log, exp, and your power function internally are full precision, your interim results should be okay.

Just keep in mind that digit loss is due to subtraction loss within the alternating series, not the imprecision of the functions used to compute the terms.

Bummer.

Les

Re: Arbitrary Precision Gamma for bc

*Message #19 Posted by **Paul Dale** on 27 Aug 2009, 5:38 a.m.,*
in response to message #18 by Les Wright

> Quote:
>
> > For 16 digits of stack precision, you will need ever one of your internal digits for large arguments. But if Pi, log, exp, and your power function internally are full precision, your interim results should be okay.

Yes, these functions are full precision. I'm using IBM's decNumber library which is a very nice BCD floating point implementation including all the nice extras: infinities, NaNs, sub-normals, packed decimal etc.

However, I might revisit the implementation eventually, this approximation was quick and easy and I [i]knew[/i] it would be accurate enough over the entire domain.

I'm very much aware of the risks of loss of precision having done an amount of numerical analysis over the years.

- Pauli

decNumber library

*Message #20 Posted by **Eric Smith** on 3 Sept 2009, 2:58 a.m.,*
in response to message #19 by Paul Dale

Have you found (or written) any basic trig and inverse trig functions for use with decNumber?

Re: decNumber library

*Message #21 Posted by **Paul Dale** on 3 Sept 2009, 5:07 a.m.,*
in response to message #20 by Eric Smith

Yes. The ill fated OpenRPN project had the first version of the code. The 20b repurposing site has later versions. I can email the current code if you PM your email address to me.

- Pauli

Re: decNumber library

*Message #22 Posted by **Paul Dale** on 3 Sept 2009, 5:15 a.m.,*
in response to message #21 by Paul Dale

Found your brouhaha address and sent the code there.

- Pauli

Re: Arbitrary Precision Gamma for bc

*Message #23 Posted by **Paul Dale** on 3 Sept 2009, 1:35 a.m.,*
in response to message #18 by Les Wright

Found that my complex gamma function wasn't working properly so I switched to a Lanczos approximation instead. Smaller code and likely a bit faster.

- Pauli

Re: Arbitrary Precision Gamma for bc

*Message #24 Posted by **Steve Perkins** on 26 Aug 2009, 12:19 p.m.,*
in response to message #16 by Les Wright

I've been very intrigued by this thread. I've been trying to code up a usable arbitrary precision gamma function for a long time.

I've been somewhat successful using the Incomplete Gamma, extending the tail as far as needed until I get convergence following an example by Victor Toth. I didn't, however, think about doing the two halfs with different implementations to get better convergence. I'll have to try that!

Here's my attempt to simplify Spouge for C. It works well if you keep enough guard digits for values less than 10 (like pi). Note that the powers in the inner loop are all integer, with a square root added. The final computation requires non-integer powers, but that could be done with the exp() and log() functions. I hope this helps someone.

I compiled this with my multi-precision package of choice, MAPM. I just define double to be the MAPM extended precision type. I was able to get 100 digits of precision in less than a second. 1000 digits took about 6 minutes on my PC, so that seems too long. I have to define guard digits with 20% more places than my desired output.

I'm still not sure why it takes so many guard digits. Usually I can get away with 8 extra guard digits, but not here.

```
double gamma(double z, int decplaces) {
  int k;
  double a, den, sum, gamma;


  a = decplaces;  // theory says 1.26*decplaces, but this works!
  den = 1;
  sum = sqrt(2*pi);
  for (k=1; k<decplaces; k++) {
    if (k & 1) {  // odd k, add
      sum += sqrt(pow(a-k, k+k-1)) * exp(a-k) / (den * (z + k));
    }
    else {        // even k, subtract
```

```
      sum -= sqrt(pow(a-k, k+k-1)) * exp(a-k) / (den * (z + k));
    }
    den = den * k;
  }

  return sum * pow(a + z, z + 0.5) / exp(z + a);
}
```

Edited: 26 Aug 2009, 12:35 p.m.

Re: Arbitrary Precision Gamma for bc

*Message #25 Posted by **Les Wright** on 27 Aug 2009, 1:44 a.m.,*
in response to message #24 by Steve Perkins

Since the terms of the series alternate in sign I am assuming digit loss due to subtraction?

That is the only thing I can think of. In my C code, Moshier's qfloat exp, log, and sqrt give full 105 digits almost all the time in the ranges I am interested in. I also modified the qfloat.h header file to include an inline qfloat atn() function, which I use to compute pi to full 105 digit precision with 4*atn(1).

I like your vastly simplified code--looks like you took the time to reduce the coefficient formulae to an even simpler recursion than what I came up with. Why don't we try this: run two sums, sum1 and sum2, the first one for odd k, the second for even, and do only one big subtraction at the end? Also, in diagnostics you can return sum1 and sum2 as well as the final output to see if there is anything about the relative magnitude of the numbers that contribute to digit loss when subtracted?

When I find time I will port your code to a qfloat version and see what I get. I like your version a lot better so far.

The adding together the right and left incomplete gammas is pretty good but for lots of digits can be slow, and I am finding with bc it a big challenge to define an epsilon for the continued fraction half that will provide desired convergence for a given arbitrary precision. But with fixed multiple precision qfloat I am pleased. But the approach seems inefficient, and I can see why most libraries seem to want to stick with trusty Stirling, especially if they are able to efficiently generate the bernoulli numbers on the fly for any given precision. I know that my own qfloat gamma with the bernoulli numerators and denominators in a table does really decently.

Arbitrarily extending the series of the left-sided incomplete gamma works fine on fixed precision calculators, but in arbitrary precision settings I don't know how far out you need to go to get desired precision for a given argument. Also, I think if you go too far "noise" gets introduced and precision degrades.

You may want to look up Glen Pugh, the author of this excellent thesis. He is also approachable, and a couple of years ago was very helpful to me when I had questions about his approach to Lanczos, and he even sent me expanded coefficient and error tables (long ago lost when my inbox was corrupted a while back). Here is his webpage.

The 1.26*decplaces estimate of a really is overkill. The wiki page I referred to above uses it, but admits that this is a very generous over estimate, as a key multiplicative factor that can greatly reduce the relative error by a few orders of magnitude is dropped from Spouge's original estimate so that the inequality is easier to solve for a given desired epsilon.

I don't have so much time to come back to this for a few days, but I would be interested to know what you find. This is a great little programming problem.

FWIW, Free42 uses Hugh Steers BCD20, which implements Lanczos with a table of precomputed coefficients.

Les

PS: A question: I am not familiar with "k & 1" instruction. Is this a simple way to test for oddness or evenness? Also, it looks like your routine actually returns gamma(z+1) = z!, which is how Spouge originally wrote it. My routine rewrites the formulae taking the shifting into account at the beginning. This may overly complicate things in my code.

Digit loss mystery solved

*Message #26 Posted by **Les Wright** on 27 Aug 2009, 2:51 a.m.,*
in response to message #25 by Les Wright

Steve, I ported your routine to Mathematica, set it up so that the argument was handled not as an exact number but an arbitrary precision decimal number to the desired number of digits. I worked with 100 just for the sake of speed.

Guess what? If we call "sum" the sum of all the positive terms and "sumneg" the sum of all the negative terms, these numbers happen to be almost identical, and with 100 digits of arbitrary precision the first 16 to 20 or so digits often look identical depending on the argument.

For illustration, here is my Mathematica code. Even if you don't speak Mathematica, it is pretty clear:

```
gamma_steve[zin_, n_] := Module[
  {k, den, sum, sumneg, term, z},
  z = N[Rationalize[zin], n];
  a = n;
  den = 1;
  sum = Sqrt[2 Pi];
  sumneg = 0;
  For[k = 1, k < n, k++,
            term = Sqrt[(a - k)^(2 k - 1)] Exp[a - k]/(den (z + k));
       If[OddQ[k], sum += term, sumneg += term];
            den *= k
         ];
  {sum, sumneg, N[(sum - sumneg) (a + z)^(z + 1/2)/Exp[z + a], n]}
  ]
```

Here is output of sum, sumneg, and the final result for Pi and 100 digits. BTW, your code actually computes Gamma[z+1], hence the shift:

```
In[102]:= gamma_steve[Pi - 1, 100]


Out[102]=
{1.33833580539379797474186122869653723957771294107431333821109559008221287100278168523665937748624671 73*10^54,
 1.33833580539379539546262669962654586359939405706567075046944861838719510536438165869759594423440286 21*10^54,
2.28803779534003241795958890906023392288968815335622244119938074547047100660850428250 07}
```

Mathematica has a built in function that estimates the precision of the final result:

```
In[103]:= Precision[%]
Out[103]= 86.0209
```

The greater the desired precision, the closer together sum and sumneg are, and the more leading digits get lost to subtraction. Hence the need for about 20% more guard digits.

I am thinking Spouge ain't all that good for this application unless one is on a fast machine and can pay the price for so many more guard digits.

FYI, for those who know Mathematica, if I change the definition of z to z=Rationalize[zin], and pass it to the routine as an exact number, Mathematica uses it as such and carries out the computations exactly before converting it to a 100 digit decimal number at the end, maintaining full precision. The N[] command converts it to an approximate 100 digit number, and a cost is paid for that.

Well, at least we know know we aren't going crazy!

Hope you find this helpful. If you have access to Mathematica please email and I will send the notebooks.

Les

More bad news

*Message #27 Posted by **Les Wright** on 27 Aug 2009, 3:11 a.m.,*
in response to message #26 by Les Wright

The bigger the argument, the worse the digit loss. For 100! and 200! I am seeing digit loss due to subraction in the order of 30 or 40 percent when we take a = desired precision.

No mystery

*Message #28 Posted by **Les Wright** on 27 Aug 2009, 3:33 a.m.,*
in response to message #26 by Les Wright

The digit loss caveat is actually covered in the pithy wikipedia entry on the approximation [link:http://en.wikipedia.org/wiki/Spouge's_approximation]here[/link].

Bugger :(

Re: Digit loss mystery solved

*Message #29 Posted by **Steve Perkins** on 27 Aug 2009, 2:28 p.m.,*
in response to message #26 by Les Wright

A very nice and helpful analysis!

Spouge's method is the fastest way I've found in my environment to calculate the gamma function to arbitrary precision. Even though I have to keep more guard digits around to do it.

I haven't tackled the problem of evaluating the function for larger arguments, but they could be handled with range reduction.

I'm glad you realized my function was actually calculting the factorial, or Gamma(z+1). I forgot I subtracted 1 before calling it in my main routine.

Re: Arbitrary Precision Gamma for bc

*Message #30 Posted by **Paul Dale** on 27 Aug 2009, 5:32 a.m.,*
in response to message #25 by Les Wright

> Quote:
>
> PS: A question: I am not familiar with "k & 1" instruction. Is this a simple way to test for oddness or evenness?

This is a test for oddness. '&' is a bitwise AND operation.

- Pauli

Re: Higher precision calculator in OS/X and Linux

*Message #31 Posted by **Eric Smith** on 23 Aug 2009, 4:17 p.m.,*
in response to message #9 by Les Wright

MPFR gives results that match Wolfram Alpha. Here's the trivial main program:

```
#include <stdio.h>
#include <stdlib.h>
#include <mpfr.h>


#define DIGITS 1000
#define BITS ((DIGITS * 3322)/1000 + 32)


int main (int argc, char *argv [])
```

```
{
  mpfr_t pi;
  mpfr_t result;


  mpfr_init2 (pi, BITS);
  mpfr_init2 (result, BITS);


  mpfr_const_pi (pi, GMP_RNDN);


  mpfr_gamma (result, pi, GMP_RNDN);


  mpfr_out_str (stdout, 10, DIGITS, result, GMP_RNDN);
  printf ("\n");


  exit (0);
}
```

Re: Higher precision calculator in OS/X and Linux

*Message #32 Posted by **Paul Dale** on 22 Aug 2009, 11:01 p.m.,*
in response to message #7 by Egan Ford

> Quote:
>
> I'd like to see that. Especially for any scale, e.g. gamma(pi) to 1000 digits :-)

Go to Wolfram Alpha and see this.

- Pauli

Re: Higher precision calculator in OS/X and Linux

*Message #33 Posted by **Egan Ford** on 23 Aug 2009, 1:57 a.m.,*
in response to message #32 by Paul Dale

> Quote:
>
> Go to Wolfram Alpha and see this.

Yes, that is how we'll check the results. For Les, its about the journey, not the destination.

Re: Higher precision calculator in OS/X and Linux

*Message #34 Posted by **Jonathan Eisch** on 21 Aug 2009, 12:17 p.m.,*
in response to message #2 by Egan Ford

> Quote:
>
> If you must have RPN, then install calc:

Real men use dc.

-Jonathan

(For that matter, even bc traditionally uses dc to preform the calculations.)

Edited: 21 Aug 2009, 12:20 p.m.

Re: Higher precision calculator in OS/X and Linux

*Message #35 Posted by **Howard Owen** on 21 Aug 2009, 3:37 p.m.,*
in response to message #34 by Jonathan Eisch

Both bc and dc have long histories. According to Wikipedia "[dc] is one of the oldest Unix utilities, predating even the invention of the C programming language.." bc was traditionally implemented in dc, simplifying the former's terse syntax. The bc page at Wikipedia references a manual page for bc in the Unix v7 manual set. A POSIX draft standard specified bc in 1991. The current bc in most places is GNU bc, a superset of the POSIX bc.

I'm sure you were all dying to know that. :)

Regards,
Howard

Re: Higher precision calculator in OS/X and Linux

*Message #36 Posted by **Egan Ford** on 21 Aug 2009, 4:45 p.m.,*
in response to message #34 by Jonathan Eisch

> Quote:
>
> Real men use dc.

I guess real men do not need trig, log, and other transcendental functions either. :-)

I use calc over dc because I want more math functions with a CLI calculator.

Re: Higher precision calculator in OS/X and Linux

*Message #37 Posted by **Eric Smith** on 22 Aug 2009, 1:44 p.m.,*
in response to message #36 by Egan Ford

Real men can compute transcendental functions using only addition and shifting. :-)

I'm just giving a presentation this afternoon to SVFIG on computing exponential and logarithmic functions without multiplication. It does require having a small table of precomputed constants, though. This is how HP calculators do it, though they use decimal while my presentation only covers binary.

The algorithm is close to one invented by Henry Briggs in 1624, only about 10 years after Napier invented logarithms. There's an explanation and an analysis of the HP-35 firmware on Jacques Laporte's site: http://www.jacques-laporte.org/digit_by_digit.htm

Re: Higher precision calculator in OS/X and Linux

*Message #38 Posted by **Egan Ford** on 22 Aug 2009, 2:28 p.m.,*
in response to message #37 by Eric Smith

> Quote:
>
> Real men can compute transcendental functions using only addition and shifting. :-)

I was waiting for someone to step up and state that. Yesterday I started writing trig functions for dc. I stopped after 15 minutes to ask myself, why? Perhaps I'm not a real man, just a lazy one, and I'm ok with that. :-)

Re: High precision calculator on the HP-200LX

*Message #39 Posted by **Gerson W. Barbosa** on 20 Aug 2009, 5:51 p.m.,*
in response to message #1 by jotne

In the 200LX set the calculator to the proper modes, that is, Radians and RPN, then

```
PI
1 e-16 -
SIN
1 e16 *
PI
x<>y


-> 3.141592653589793
   2.384626433832795
```

Re: High precision calculator in Windows 7

*Message #40 Posted by **jotne** on 21 Aug 2009, 4:04 p.m.,*
in response to message #1 by jotne

New record for PI http://www.examiner.com/x-16352-Japan-Headlines-Examiner~y2009m8d18-Japanese-supercomputer-calculates-PI-to-record-25-trillion-digits

Re: High precision calculator in Windows 7

*Message #41 Posted by **Gerson W. Barbosa** on 21 Aug 2009, 9:07 p.m.,*
in response to message #40 by jotne

Don't be misled by the website address: it's only **2.5** trillion digits :-)

Re: High precision calculator in Windows 7

*Message #42 Posted by **Eric Smith** on 21 Aug 2009, 9:19 p.m.,*
in response to message #41 by Gerson W. Barbosa

What's a discrepancy of only 22.5 trillion digits between friends?

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The HP-10BII

*Message #1 Posted by **Larry Smith** on 20 Aug 2009, 1:09 p.m.*

The 25 was a woodstock, the 65 a classic, the 42 a pioneer. What is the 10BII? What other calcs are part of this series? Lastly, what is the definitive list of pioneers?

Re: The HP-10BII

*Message #2 Posted by **Larry Smith** on 20 Aug 2009, 1:26 p.m.,*
in response to message #1 by Larry Smith

re: Pioneers - found a list on the web (of course) 10 minutes after posting this. As for the 10BII - the same source classes it as a Pioneer, but it doesn't match the Pioneer form factor at only five buttons across rather than 6. Is it really a pioneer? Are there any other calcs like it in the HP line-up?

Re: The HP-10BII

*Message #3 Posted by **Gene Wright** on 20 Aug 2009, 1:41 p.m.,*
in response to message #2 by Larry Smith

Thankfully, no. Especially if you're talking about the first version of the 10BII.

Newest version is pretty good. Like the case, keys, colors.

Original ... not so much.

Re: The HP-10BII

*Message #4 Posted by **hecube** on 20 Aug 2009, 2:58 p.m.,*
in response to message #3 by Gene Wright

Newest version is a charm to operate. It feels extra solid, key action is great and design is beautiful but I would prefer a dot-matrix display. CPU is a bit sluggish but you don't have calculate a space shuttle reentry with it so it's a non-issue.

Re: The HP-10BII

*Message #5 Posted by **Mike Morrow** on 21 Aug 2009, 10:30 a.m.,*
in response to message #4 by hecube

I purchased two at my local Walmart for $11 each. They were on some sort of clearance sale locally a few weeks ago.

I was very pleasantly surprised by the apparent quality.

I wouldn't mind having something similar in a scientific RPN calculator (especially if it handled complex number math).

Re: The HP-10BII

*Message #6 Posted by **cyrille de Brébisson** on 21 Aug 2009, 8:22 a.m.,*
in response to message #2 by Larry Smith

hello,

definitely not a pionier,

the 10BII is in a class of it's own, it is based on brand new source code (inspired from the HP100LX calculator) and has a micorprocessor only used by the 10BII (H8).

the math part of the source has later been reused for the 33s/35s/17BII+ and 12Cplatinum version 2.

regards, cyrille

Re: The HP-10BII

*Message #7 Posted by **Scott Newell** on 21 Aug 2009, 7:20 p.m.,*
in response to message #6 by cyrille de Brébisson

Cyrille, do you remember if the H8 used in the 10BII is flash or OTP?

Thanks!

Re: The HP-10BII

*Message #8 Posted by **Eric Smith** on 21 Aug 2009, 9:20 p.m.,*
in response to message #7 by Scott Newell

Almost certainly neither Flash nor OTP. It's most likely masked ROM.

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A simple 11c/15c mini-challenge (phi)

*Message #1 Posted by **Gerson W. Barbosa** on 20 Aug 2009, 12:50 p.m.*

The goal is to obtain the golden ratio phi=1.618033989 using the least number of programming steps. There are at least two four-step solutions (LBL and RTN don't count).

Gerson.

Re: A simple 11c/15c mini-challenge (phi)

*Message #2 Posted by **Alain Mellan** on 20 Aug 2009, 2:12 p.m.,*
in response to message #1 by Gerson W. Barbosa

We can get a good approximation with:

```
4
PI
/
x^2
```

Re: A simple 11c/15c mini-challenge (phi)

*Message #3 Posted by **Gerson W. Barbosa** on 20 Aug 2009, 6:04 p.m.,*
in response to message #2 by Alain Mellan

Approximations are welcome. The following is better but requires five steps:

```
2
e^x
e^x
1E03
/
```

Regards,

Gerson.

Re: A simple 11c/15c mini-challenge (phi)

*Message #4 Posted by **Vladan Dugaric** on 20 Aug 2009, 2:37 p.m.,*
in response to message #1 by Gerson W. Barbosa

A solution with 4 steps excluding LBL that requires manual input before starting program:

```
LBL A
1/x
1
+
RTN
```

To run:

```
1
fA
fA
fA
...
fA
```

Eventually, the value converges to phi. This program implements the continued fraction formula:

phi = 1/(1 + 1/(1 + 1/(...)))

Or, an even shorter solution (3 steps):

```
LBL A
1
+
SQRT
RTN
```

implementing the formula

phi = sqrt(1 + sqrt(1 + ...))

Again, run by pressing fA fA fA ...; this will converge with anything in X that won't cause SQRT to return an error, therefore -1 or anything greater will do.

Or, even simpler (but 5 steps):

```
LBL A
3
6
cos
2
x
RTN
```

because phi = 2 cos 36 degrees.

Or

```
1
ENTER
.5
->P
LSTx
+
```

because phi = 0.5 + diagonal of rectangle with sides (1/2, 1), but this requires 7 steps.

Vladan

Edited: 20 Aug 2009, 3:25 p.m.

Re: A simple 11c/15c mini-challenge (phi)

*Message #5 Posted by **Chuck** on 20 Aug 2009, 3:28 p.m.,*
in response to message #4 by Vladan Dugaric

You beat me to it Vladan. I had:

```
Lbl A
1
+
sqrt
GOTO A
```

and press R/S after running a few seconds. As you mentioned, as long as the stack starts with x>-1 it will converge to phi.

CHUCK

Edited: 20 Aug 2009, 3:29 p.m.

Re: A simple 11c/15c mini-challenge (phi)

*Message #6 Posted by **Jeff O.** on 20 Aug 2009, 4:06 p.m.,*
in response to message #5 by Chuck

Since:

```
1
+
SQRT
```

is no shorter than:

```
1
+
1/x
```

I propose the following, which works with all starting values:

```
LABEL A
1
+
1/x
GOTO A
RTN
```

press fA, let run for a while, then press R/S. If not converged, or if stopped with 0.6180339898 in the display, press R/S twice in rapid succession.

Re: A simple 11c/15c mini-challenge (phi)

*Message #7 Posted by **Gerson W. Barbosa** on 20 Aug 2009, 6:33 p.m.,*
in response to message #6 by Jeff O.

Quoting myself:

"The goal is to obtain the golden ratio phi=1.618033989 using the least number of programming steps."

I think your program meets the requirement, even though that was not what I had in mind.

Regards,

Gerson.

Re: A simple 11c/15c mini-challenge (phi)

*Message #8 Posted by **Jeff O.** on 20 Aug 2009, 8:42 p.m.,*
in response to message #7 by Gerson W. Barbosa

I did not think for a second that that is what you had in mind. I'm sure there is a better way.

Re: A simple 11c/15c mini-challenge (phi)

*Message #9 Posted by **Gerson W. Barbosa** on 20 Aug 2009, 4:57 p.m.,*
in response to message #4 by Vladan Dugaric

> Quote:
>
> Or
>
> ```
> 1
> ENTER
> .5
> ->P
> LSTx
> +
> ```
>
> because phi = 0.5 + diagonal of rectangle with sides (1/2, 1), but this requires 7 steps.

This is interesting but **5 sqrt 1 + 2 /** would be one step shorter. The other solutions are also interesting but the one we are looking for is **non-iterative**. Tip: this one (and its variation) will work on the 11c and the 15c, but will not work on any other Voyager.

An older related mini-challenge by Paul Dale:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv018.cgi?read=145811

Regards,

Gerson.

Re: A simple 11c/15c mini-challenge (phi)

*Message #10 Posted by **Vladan Dugaric** on 20 Aug 2009, 5:27 p.m.,*
in response to message #9 by Gerson W. Barbosa

Something with factorial function perhaps?

HP-11C and HP-15C factorial is actually gamma(n+1) while 12C factorial is just factorial and does not accept decimal values. 16C does not have factorial and I don't know if 10C factorial is gamma or just factorial.

Re: A simple 11c/15c mini-challenge (phi)

*Message #11 Posted by **Gerson W. Barbosa** on 20 Aug 2009, 5:40 p.m.,*
in response to message #10 by Vladan Dugaric

> Quote:
>
> I don't know if 10C factorial is gamma or just factorial.

Answer in the Museum's Calculator Comparison Table.

The solution I've found doesn't involve Gamma.

Gerson.

Re: A simple 11c/15c mini-challenge (phi)

*Message #12 Posted by **Paul Dale** on 20 Aug 2009, 6:06 p.m.,*
in response to message #1 by Gerson W. Barbosa

I can find three command sequences of length four that produce the required answer. Two are basically the same. All are exactly six key presses.

- Pauli

Re: A simple 11c/15c mini-challenge (phi)

*Message #13 Posted by **Gerson W. Barbosa** on 20 Aug 2009, 6:15 p.m.,*
in response to message #12 by Paul Dale

Looks like you found them (and an extra one)! Mine, which are basically the same, are four-step long and requires exactly six key presses as well.

Regards,

Gerson.

Re: A simple 11c/15c mini-challenge (phi) SPOILER

*Message #14 Posted by **Paul Dale** on 20 Aug 2009, 7:41 p.m.,*
in response to message #13 by Gerson W. Barbosa

Okay, here us the unique one then:

```
6
g x^2
2
f ->R
```

Four commands & six keystrokes. It assumes the calculator is in DEG mode so it isn't as good as the other solutions.

I won't spoil the other two :-)

- Pauli

Re: A simple 11c/15c mini-challenge (phi)

*Message #15 Posted by **Valentin Albillo** on 21 Aug 2009, 4:50 a.m.,*
in response to message #1 by Gerson W. Barbosa

Not wanting to spoil the 4-step solutions either, I'll just offer this remarkable HP-15C-specific solution which works in any angular mode:

```
.5
Re<>Im
SIN-1
Re<>Im
eX
```

Best regards from V.

Re: A simple 11c/15c mini-challenge (phi)

*Message #16 Posted by **Gerson W. Barbosa** on 21 Aug 2009, 10:46 a.m.,*
in response to message #15 by Valentin Albillo

Hello Valentin,

Thanks for participating. This is based on formula (26) in http://mathworld.wolfram.com/GoldenRatio.html. I wonder why its hyperbolic counterpart, which only lacks the imaginary constant, is not there. Well, it appears now I have spoiled it all :-)

Best regards,

Gerson.

Re: A simple 11c/15c mini-challenge (phi)

*Message #17 Posted by **Jeff O.** on 21 Aug 2009, 12:44 p.m.,*
in response to message #16 by Gerson W. Barbosa

So is the anwswer:

```
.5
sinh-1
ex
```

or:

```
2
1/x
sinh-1
ex
```

Either sequence takes me six keystrokes.

...

Re: A simple 11c/15c mini-challenge (phi)

*Message #18 Posted by **Gerson W. Barbosa** on 21 Aug 2009, 1:30 p.m.,*
in response to message #17 by Jeff O.

Yes, you've found 'em!. Interesting isn't it? When googling for "sinh(ln(phi))" I found only six hits. It appears only the German and Polish versions of wikipedia mentions it:

http://de.wikipedia.org/wiki/Sinus_Hyperbolicus_und_Kosinus_Hyperbolicus

http://pl.wikipedia.org/wiki/Funkcje_hiperboliczne (and now I know what the Polish currency, the zloty, comes from :-)

The equality is easy to prove:

```
phi=(sqrt(5)+1)/2

sinh(ln(phi))=(e^ln(phi) - 1/e^ln(phi))/2 = (phi - 1/phi)/2 = 1/2
```

Gerson.

Re: A simple 11c/15c mini-challenge (phi)

*Message #19 Posted by **Jeff O.** on 21 Aug 2009, 3:55 p.m.,*
in response to message #18 by Gerson W. Barbosa

Yes, quite interesting. Thanks for sharing!

I certainly did not find the above references. I looked at equation 26 in the reference of your previous post:

```
sin(i ln(phi)) = 0.5 i
```

Then I found a calculator that can do arcsin with a complex argument (my 42s) and took arcsin(0.5i), which is 0+ i0.48121182506. I guess that told me that ln(phi) is equal to 0.48121182506. You had mentioned hyperbolics, so I wondered if arcsinh(0.5i) might go somewhere, which it did not. Then tried arcsinh(0.5) and found it equals 0.48121182506, previously found to be ln(phi), so I was done. So basically, using the clues you gave, I just fiddled around until I got the right answer.

.

Edited: 21 Aug 2009, 4:02 p.m.

Re: A simple 11c/15c mini-challenge (phi)

*Message #20 Posted by **Gerson W. Barbosa** on 21 Aug 2009, 4:56 p.m.,*
in response to message #19 by Jeff O.

Until yesterday I hadn't looked up any reference either. I was trying to simplify some constants so that they took up less steps on the 11C. For instance, I had found 4 LN HYP SIN was equivalent to 1.875, which was a gain (3 steps instead of 5). For other constants I would do the backward sequence: k HYP^{-1} SIN e^x. I don't remember for what reason, since there's no way to get .5 with less than two steps, I did .5 HYP^{-1} SIN e^x. I recognized the number on the display as phi...

The following is somewhat interesting:

It appears the continued fraction form for 1/n+sqrt(1+(1/n)^2), which is equivalent to e^$sinh^{-1}$(1/n), where n is an integer greater than 1, is always [1; n-1, 1, 1, n-1, 1, 1, n-1, 1, 1, ...]. When n=2, the continued fraction form for the expression will be [1; 1, 1, 1, 1, 1, ...], that is, phi.

Re: A simple 11c/15c mini-challenge (phi)

*Message #21 Posted by **Paul Dale** on 22 Aug 2009, 8:35 a.m.,*
in response to message #18 by Gerson W. Barbosa

My alternate proof of the arcsinh version.

Start with the formula for arcsinh:

```
arcsinh(x) = ln(x + sqrt(x^2+1))
```

Taking EXP of this gives us:

```
e^arcsinh(x) = x + sqrt(x^2+1)
```

Not let x = 1/2 and substitute into the above:

```
   1/2 + sqrt(1/4 + 1)
 = 1/2 + sqrt(5/4)
 = 1/2 + sqrt(5)/2
 = (1 + sqrt(5)) / 2
 = phi
```

Now for my alternate solution:

```
36 2 ->RECT in DEG mode
```

The conversion from polar to rectangular coordinates:

```
    |  STACK IN   |      STACK OUT
 Y  |   theta     |    r . SIN(theta)
 X  |     r       |    r . COS(theta)
```

We don't care about the output in the Y register. So consider the X register output when theta is 36 degrees and r is 2:

```
X = r . COS(theta)
  = 2 . COS(36)
```

Now, a quick look into some trigonometric identities / trigonometric tables or Wolfram alpha :-) gives us this interesting result:

```
COS(36) = (1 + sqrt(5)) / 4
```

Finally, substitute this into the above:

```
X = 2 . COS(36)
  = 2 . (1 + sqrt(5)) / 4
  = (1 + sqrt(5)) / 2
  = phi
```

- Pauli

Re: A simple 11c/15c mini-challenge (phi)

*Message #22 Posted by **Gerson W. Barbosa** on 22 Aug 2009, 9:33 a.m.,*
in response to message #21 by Paul Dale

> Quote:
>
> Now, a quick look into some trigonometric identities / trigonometric tables or Wolfram alpha :-) gives us this interesting result:
>
> ```
> COS(36) = (1 + sqrt(5)) / 4
> ```

And 2COS(36) gives

```
(1+sqrt(5))/2

1.6180339887498948482...

1/2 + sqrt(5)/2

[1; 1...]
```

but no explicit reference to phi...

On the other hand, 1.6180339887498948482 gives

```
Phi+1

(1+sqrt(5))/2

1/Phi, where Phi is the golden ratio conjugate
```

e^ArcSinh(1/2) gives a lot of interesting results though.

Gerson.

Re: A simple 11c/15c mini-challenge (phi)

*Message #23 Posted by **Paul Dale** on 22 Aug 2009, 8:17 a.m.,*
in response to message #15 by Valentin Albillo

> Quote:
>
> Not wanting to spoil the 4-step solutions either, I'll just offer this remarkable HP-15C-specific solution which works in any angular mode: ...

This doesn't work if there is a value in the complex X register :-)

- Pauli

Re: A simple 11c/15c mini-challenge (phi)

*Message #24 Posted by **Gerson W. Barbosa** on 22 Aug 2009, 9:05 a.m.,*
in response to message #23 by Paul Dale

> Quote:
>
> This doesn't work if there is a value in the complex X register :-)

This had occurred to me too, but in my tests it always worked. In complex mode, when only the real part is entered (.5) it is assumed the imaginary part is 0 and it will replace whatever value is there. Do you have an example?

Gerson.

Re: A simple 11c/15c mini-challenge (phi)

*Message #25 Posted by **Paul Dale** on 22 Aug 2009, 6:23 p.m.,*
in response to message #24 by Gerson W. Barbosa

Yeah, it is a bit contrived though:

```
22
Re<>Im
CLx
.5
Re<>Im
ASIN
Re<>Im
e[sup]2[/sup]
```

Looks like the 15c's complex mode outsmarted me again :-(

- Pauli

Edited: 22 Aug 2009, 6:30 p.m.

Re: A simple 11c/15c mini-challenge (phi)

*Message #26 Posted by **Kiyoshi Akima** on 21 Aug 2009, 11:53 a.m.,*
in response to message #1 by Gerson W. Barbosa

Do multi-digit number entries count as only one step?

If so, then

```
1.25
sqrt
.5
+
```

Re: A simple 11c/15c mini-challenge (phi)

*Message #27 Posted by **Gerson W. Barbosa** on 21 Aug 2009, 12:22 p.m.,*
in response to message #26 by Kiyoshi Akima

Actually, .5 is part of one of the solutions and that alone takes up two steps on the 11c/15c.

Regards,

Gerson.

Re: A simple 11c/15c mini-challenge (phi)

*Message #28 Posted by **Kiyoshi Akima** on 21 Aug 2009, 12:48 p.m.,*
in response to message #1 by Gerson W. Barbosa

Here's a two-step program that may or may not produce the desired result, depending on how lucky you get :-)

```
RAND
1/x
```

You may have better luck replacing the second step with e^x.

The three-step program

```
RAND
1
+
```

should produce the desired result, if iterated enough times.

Please do not consider these as serious attempts at the mini-challenge.

Re: A simple 11c/15c mini-challenge (phi)

*Message #29 Posted by **Gerson W. Barbosa** on 21 Aug 2009, 1:44 p.m.,*
in response to message #28 by Kiyoshi Akima

:-)

You only have to find the right seed. See message #9 in the link below:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv017.cgi?read=112157

Strange as it might seem I considered this yesterday. I thought of trying to find a seed that would generate i/phi. But I realized it would take up more than 2 steps, if it existed...

Gerson.

Edited: 21 Aug 2009, 1:51 p.m.

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Touch Up Paint Pen -Silver Paint

*Message #1 Posted by **Alberto Fenini** on 20 Aug 2009, 5:06 a.m.*

Hi everybody, while browsing around I've found this item :160356551826, and I was wondering if anybody has ever tested something similar for retouching the classic units, thanks in advance for your replies and comments, take care, Alberto

Re: Touch Up Paint Pen -Silver Paint

*Message #2 Posted by **Dan W** on 20 Aug 2009, 9:53 a.m.,*
in response to message #1 by Alberto Fenini

I'm not sure I'd buy on auction what I can get from any hobby store or craft supply like Michael's.

I have used these silver paint pens with some success. There are two types, the thick highlighter style like in the auction, and a fine ball-point paint pen. The fine point works on the chrome lines on the sides and bottom well. These are very thin and partially protected areas. I have tried both on the top raised bar. The top is thinker than the sides and harder to paint well. Either works OK but I have been experimenting with spray paint, and it is better.

These paints are not very robust, especially the top rail under the display. It will rub off very quickly. It has to be oversprayed with a clearcoat.

I am planning on posting some photos soon, comparing the pen and spray paint.

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Has any HP calc model ever been sold under another brand?

*Message #1 Posted by **hecube** on 19 Aug 2009, 4:09 p.m.*

Look at this:

http://cgi.ebay.com/Victor-V12-Programmable-aka-HEWLETT-PACKARD-HP-12C-PLUS_W0QQitemZ180398622556QQcmdZViewItemQQptZCalculators?hash=item2a0098875c&_trksid=p3286.c0.m14#ht_3509wt_1165

No, it is a clone with no connection to HP...

*Message #2 Posted by **Gene Wright** on 19 Aug 2009, 4:50 p.m.,*
in response to message #1 by hecube

There have been this and one other 12c clone I've seen before. Bought the other 12c clone (was a vertical model) from Frys several years ago.

Have this Victor too.

Don't really care for either.

But, I don't believe there is any connection to HP at all.

Re: No, it is a clone with no connection to HP...

*Message #3 Posted by **Michel Beaulieu** on 19 Aug 2009, 5:39 p.m.,*
in response to message #2 by Gene Wright

Is there a victor HP-15c version too?

Re: No, it is a clone with no connection to HP...

*Message #4 Posted by **db (martinez, ca.)** on 20 Aug 2009, 1:07 a.m.,*
in response to message #2 by Gene Wright

As George Bernard Shaw once said: "I often quote myself; it ads spice to the conversation".

This is a link to a photo of the 12c clone that Gene was talking about. There is also a shot of the pcb there.

Gene; You are right; there is no connection.

Dennis - you miss it???

*Message #5 Posted by **Joerg Woerner** on 20 Aug 2009, 8:58 a.m.,*
in response to message #4 by db (martinez, ca.)

Dennis,

I guess this auction was put up on eBay for you! I just browsed your non-HP RPN calculator photos and missed it.

What happened?

Regards, Joerg

Re: Dennis - you miss it???

*Message #6 Posted by **db (martinez, ca.)** on 20 Aug 2009, 11:32 p.m.,*
in response to message #5 by Joerg Woerner

Here is is. It was hiding among all those other cute RPNs. There is an internal of the PCB and a comparison to the hp12c photo on either side of it.

Why are you selling yours Joerg? You will need a financial calculator to keep track of all your money when you sell off those pesky TI algebraics. Have you fallen in love with the new RPN 20b?

Re: Dennis - you miss it???

*Message #7 Posted by **Joerg Woerner** on 21 Aug 2009, 11:28 a.m.,*
in response to message #6 by db (martinez, ca.)

THANKS for sharing the pctures of the V12.

Why I'm selling it?

To make room for more TI calculators;-))

Just hit the 3,000 number and there is more out in the woods.

Regards, Joerg

Re: No, it is a clone with no connection to HP...

*Message #8 Posted by **jotne** on 20 Aug 2009, 4:39 a.m.,*
in response to message #4 by db (martinez, ca.)

Home page for the Victor V12 http://www.victorv12.com/

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HP71B Assembler - references

*Message #1 Posted by **John Robinson** on 19 Aug 2009, 1:14 a.m.*

Hi, can anyone point me to reference material, or tutorial type material for assembly language programming onthe 71B please ?

Thanks John Robinson

Re: HP71B Assembler - references

*Message #2 Posted by **Katie Wasserman** on 19 Aug 2009, 1:44 a.m.,*
in response to message #1 by John Robinson

The FORTH/Assembler ROM Owner's Manual will be a big help. You can get it on the latest CD/DVD here.

Re: HP71B Assembler - references

*Message #3 Posted by **John Pierce** on 19 Aug 2009, 7:17 a.m.,*
in response to message #1 by John Robinson

There is also an excellent book entitled: "The Basic HP-71 Version 2.1" by Richard E. Harvey, which is very difficult to find. I have only seen two copies for sale on the auction site in eight years. It is particularly useful for assembly language programming of the 71B.

John Pierce

Re: HP71B Assembler - references

*Message #4 Posted by **Raymund Heuvel** on 19 Aug 2009, 10:00 a.m.,*
in response to message #1 by John Robinson

There is a "Saturn" document written for the 48/49 that starts at a very basic level. Chapter III describes the Saturn.
The HP-71B version uses a sub-set of the 49 version Saturn.

You can find it here: Saturn Doc

Edited: 19 Aug 2009, 10:00 a.m.

Re: HP71B Assembler - references

*Message #5 Posted by **John Robinson** on 19 Aug 2009, 6:55 p.m.,*
in response to message #4 by Raymund Heuvel

Thanks all, I'll take a look at the Saturn Doc and the FORTH/Assembler ROM Owner's Manual.

Cheers, John

Re: HP71B Assembler - references

*Message #6 Posted by **Egan Ford** on 19 Aug 2009, 9:56 p.m.,*
in response to message #5 by John Robinson

FWIW, HP-71B Forth Assembler IMS/IDS is also on the MoHPC DVD.

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EMU41 BIN files

*Message #1 Posted by **Gerry Schultz** on 18 Aug 2009, 8:28 p.m.*

Hello All:

I've gotten EMU41 running pretty well with my PC with many thanks to Christoph Klug for his patient assistance via email. I have a copy Warren Furlow's HP41 DVD and in both the Standard and HP-IL Peripheral subdirectories on the DVD, he has MOD files for each included module.

According to the EMU41 documentation, there is a program called CLBIN41 to convert ROM files to BIN files. Is there a program to convert MOD files to either ROM or BIN files since EMU41 can use either?

If that's not possible or appropriate, are their other sources that make BIN files available for the EMU41 emulator?

Thank you for our comments or suggestions.

Gerry

Edited: 18 Aug 2009, 8:41 p.m.

Re: EMU41 BIN files

*Message #2 Posted by **Gerry Schultz** on 19 Aug 2009, 8:27 p.m.,*
in response to message #1 by Gerry Schultz

Never mind. I went back and re-read the EMU41 documentation and was reminded that the emulator supports both ROM and BIN files. I got so accustomed to using BIN files with EMU41 that I forgot the emulator can use both types. I did a search for both of them in the 1st Warren Furlow HP-41 disk that I bought a few years ago and the new 30th anniversary DVD I just got a few months ago and found some interesting results.

For BIN files the first disk has 39 and for the 30th anniversary disk, it has 10. For ROM files, the first disk has 268 and for the 30th anniversary disk, it has 363. I looked at the files and there are lots of duplications since many of them are related to the different emulator packages included on the disks. Also, I don't know if all these ROM files are compatible with EMU41 but I'll have lots of fun trying them out. I took the 'Games1a' ROM file and "plugged" it in to the emulator and ended up playing a game of Hangman, so I know that worked.

Gerry

Edited: 19 Aug 2009, 8:28 p.m.

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Emu48 v1.49 / Emu48PCC 1.18 released

*Message #1 Posted by **Christoph Giesselink** on 18 Aug 2009, 4:17 p.m.*

Hello I just released new versions of Emu48 at http://hp.giesselink.com/.

Why another release just 5 weeks since the last one. I recognized a nasty bug in all of my emulators, "Edit/Copy Stack" made a mistake copying real numbers in the range of 1E12 <= x < 1E15 to the clipboard. In the clipboard string the exponent was missing.

Another bug was in the Emu48PPC version. Since over a year the "Edit/Save Object..." hadn't worked. I'm wondering that nobody has reported this bug.

What's new:

- Copy/Paste Stack of complex numbers
- MRU is now sorted (last one on top)
- Settings are now saved in the registry (Win32 version)

Especially the last item "Settings are now saved in the registry" made most problems. This was done because on some Windows installations the %WINDIR% is write protected, so writing to the Emu48.ini file wasn't possible. The problem is more or less on the user side. Many users have there special settings and get are getting lost when using the new version. To solve this problem I wrote a small program copying the settings data from %WINDIR%\Emu48.ini to the new location HKCU\Software\Emu48. The program is available at http://hp.giesselink.com/Emu48/E48INI2REG.ZIP.

Cheers

Christoph

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I scored a HP-67 for 93 dollars on eBay...

*Message #1 Posted by **hecube** on 18 Aug 2009, 12:22 p.m.*

Is this some kind of record?

Re: I scored a HP-67 for 93 dollars on eBay...

*Message #2 Posted by **Michael Meyer** on 18 Aug 2009, 12:25 p.m.,*
in response to message #1 by hecube

I doubt it... but it's great news!!! Restore it to good health and use it in good health!

Re: I scored a HP-67 for 93 dollars on eBay...

*Message #3 Posted by **Massimo Gnerucci (Italy)** on 18 Aug 2009, 12:27 p.m.,*
in response to message #1 by hecube

Far from it...

Greetings,
Massimo

Re: I scored a HP-67 for 93 dollars on eBay...

*Message #4 Posted by **Steve Perkins** on 18 Aug 2009, 2:59 p.m.,*
in response to message #1 by hecube

Yes, congratulations.

I hope you can get it working. If I wasn't already over budget for the month, I'd have bid more than $92 myself.

Re: I scored a HP-67 for 93 dollars on eBay...

*Message #5 Posted by **Art Litka** on 18 Aug 2009, 7:04 p.m.,*
in response to message #1 by hecube

Great! However, I scored a working HP 97 (except for card reader)for 65 dollars at a second-hand store in Angels Camp Ca. Carry bag, charger and manual also included. The (original?)battery pack can hold a charge for a few days and the unit is cosmetically clean. I really felt lucky!

Re: I scored a HP-67 for 93 dollars on eBay...

*Message #6 Posted by **db (martinez, ca.)** on 18 Aug 2009, 10:46 p.m.,*
in response to message #5 by Art Litka

Art; If i didn't know you so well i'd think that you just wrote the second literary tall tale to take place in angels camp, but i guess the downturn in our economy has one good side - affordable HPs.

If your poor bemused equals-sign addicted astronomy students weren't confused enough trying to follow you on their TIs before; now you can touch type in values on the 97's full sized keyboard. You're a cruel man.

Re: I scored a HP-67 for 93 dollars on eBay...

*Message #7 Posted by **Art Litka** on 19 Aug 2009, 10:47 a.m.,*
in response to message #6 by db (martinez, ca.)

Yeah, I guess they might think I am cruel. I fully intend to brag about my recent (early August 09) 97 purchase after classes start just to show them what a nerdy prof they signed up for! I think rpn will scare the heck out of them.

Re: I scored a HP-67 for 93 dollars on eBay...

*Message #8 Posted by **Michel Lahcem** on 20 Aug 2009, 8:17 a.m.,*
in response to message #5 by Art Litka

> Quote:
>
> Great! However, I scored a working HP 97 (except for card reader)for 65 dollars at a second-hand store in Angels Camp Ca. Carry bag, charger and manual also included. The (original?)battery pack can hold a charge for a few days and the unit is cosmetically clean. I really felt lucky!

In France we have almost every week-end what we call "vide grenier". People gather to sell things they want to get rid of. There can be several hundreds sellers.
It's usual to make scores. For instance and just for HP calculators :
- In september 2008 I found a nice HP 32S for 2 euros (+/- 3 dollars), 2 splendid HP 17BII for 1 and 3 euros.
- In march 2009 I found a working HP 48G for 3 euros (+/- 5 dollars).
- In april 2009 I found a nice working HP 97 with battery charger for 3 euros (+/- 5 dollars).
- Three weeks ago I found a non-working HP 42S (but good cosmetic conditions) with its manual in French for 12 euros (+/- 16 dollars).
- Last week-end my wife found 2 nices HP 10B for 10 euros (+/- 14 dollars).... I will use one to test Pioneer's case opening in order to repair the HP 42S

Re: I scored a HP-67 for 93 dollars on eBay...

*Message #9 Posted by **Maximilian Hohmann** on 20 Aug 2009, 8:49 a.m.,*
in response to message #8 by Michel Lahcem

Hello!

> Quote:
>
> In France we have almost every week-end what we call "vide grenier".

Yes. But if you do not especially consider it your hobby to browse through other peoples junk, then going to second-hand stores (I really can't stand that smell!), flea markets, car-boot sales and similar kinds of weekend activities are serious work. Unpleasant work.

I too have bought several HP calculators from flea markets. Some of them really cheap. Incredibly cheap even, like one of these 25th anniversary things, some LCD model that I don't care about to be honest, new and boxed for one Euro. But then, when I ask myself how much time I had to spend at these markets and how long it took me to drive there, and even if I value my time at the cheapest hourly rate, then every single bargain calculaor becomes really expensive in the end...

So I mostly let others do the dirty work and buy the stuff they take home from the flea market from them on eBay. After they have have done a functional test, cleaned the calculator and found a manual for it from another source. And in the end it still comes cheaper and I can spend my Saturdays with the family :-)

And yes, 93 Dollars for an HP67 is a good deal as this certainly is one of the three best pocket calculators ever made. But use it and don't let it rot in some drawer - that's what it was made for!

Greetings, Max

Edited: 20 Aug 2009, 8:54 a.m.

Re: I scored a HP-67 for 93 dollars on eBay...

*Message #10 Posted by **hecube** on 20 Aug 2009, 10:09 a.m.,*
in response to message #9 by Maximilian Hohmann

What are the other two?

Re: I scored a HP-67 for 93 dollars on eBay...

*Message #11 Posted by **Maximilian Hohmann** on 20 Aug 2009, 12:16 p.m.,*
in response to message #10 by hecube

Hello!

> Quote:
>
> What are the other two?

That depends on the time of day you ask me and on the phase of the moon and various other factors :-)

Right now I would answer: The HP-67 for carrying along, the '97 for the office and the Ti Voyage 200 as the most powerful (and yet most easy to master) do-everything calculator I have ever used (maybe the nSpire is even better, but I have never seen one close-up).

Cheers, Max

NB: My favourite (but certainly not the "best") pocket calculator is the HP-25. NNB (or NBB?): I got my HP-97 for free (hard to beat...), complete and boxed and still with its first roll of paper in the printer when they cleared out old stuff at my dad's office many years ago.

Edited: 20 Aug 2009, 12:19 p.m.

Re: I scored a HP-67 for 93 dollars on eBay...

*Message #12 Posted by **Art Litka** on 20 Aug 2009, 10:23 p.m.,*
in response to message #9 by Maximilian Hohmann

Flea markets and second-hand store shopping is not not necessarily "unpleasant work" if you enjoy the "thrill of the hunt" for something you like or want to collect. I find it more rewarding than trying to outbid someone online for an item that is not available for you to touch and evaluate in person!

Re: I scored a HP-67 for 93 dollars on eBay...

*Message #13 Posted by **Palmer O. Hanson, Jr.** on 18 Aug 2009, 10:09 p.m.,*
in response to message #1 by hecube

Several years ago I spent 35 dollars at an estate sale and received:

A working HP-67 with a bad reader.

An AC supply

A manual

A Standard Pak

A set of never used magnetic cards.

A large number of cards which supposedly will permit the user to play backgammon but without instructions. I haven't figured out how to to use the cards.

Re: I scored a HP-67 for 93 dollars on eBay...

*Message #14 Posted by **Paul Dale** on 18 Aug 2009, 10:49 p.m.,*
in response to message #13 by Palmer O. Hanson, Jr.

> Quote:
>
> A large number of cards which supposedly will permit the user to play backgammon but without instructions. I haven't figured out how to to use the cards.

Extract their contents and upload to the software library. I'm sure someone will be able to figure it all out.

- Pauli

Re: I scored a HP-67 for 93 dollars on eBay...

*Message #15 Posted by **Palmer O. Hanson, Jr.** on 19 Aug 2009, 10:02 p.m.,*
in response to message #14 by Paul Dale

> Quote:
>
> Extract their contents and upload to the software library. I'm sure someone will be able to figure it all out.

I published a short description of what I had and a listing of what I thought was the first card in the program on 21 June 2004 at http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=59020 . There was no response.

A little over a year earlier on 10 May 2003 Gene Wright had asked if anyone knew about this program and there were no responses.

Palmer

Edited: 19 Aug 2009, 10:31 p.m.

Re: I scored a HP-67 for 93 dollars on eBay...

*Message #16 Posted by **Paul Dale** on 19 Aug 2009, 11:12 p.m.,*
in response to message #15 by Palmer O. Hanson, Jr.

I don't think that is the first card.

A first attempt at a decode:

LBL A looks like the entry of this part of the program.

LBL a is the start of a loop that seems like the calculator and player are taking turns clearing the board.

LBL 0 is a random die roller that increments the chosen register. I assume this is the calculator's move code.

LBL 5 copies the primary to secondary registers and resets the counter in register 9. It uses LBL 6 to store and show the values as it goes.

- Pauli

here is the code to the backgammon link stretched vertically...

*Message #17 Posted by **Geoff Quickfall** on 20 Aug 2009, 12:58 a.m.,*
in response to message #15 by Palmer O. Hanson, Jr.

haven't had a chance to look at it yer

```
000
001 31 25 11 LBL A
002 00 0
003 33 00 STO 0
004 33 01 STO 1
005 33 02 STO 2
006 33 03 STO 3
007 33 04 STO 4
008 33 05 STO 5
009 33 06 STO 6
010 33 07 STO 7
011 33 08 STO 8
012 33 09 STO 9
013 32 25 11 LBL a
014 34 09 RCL 9
015 34 14 RCL D
016 32 61 xNEy
017 31 22 00 GSB 0
018 84 R/S
019 22 05 GTO 5
020 35 22 RTN
021 31 25 00 LBL 0
022 35 73 pi
023 34 12 RCL B
024 61 +
025 05 5
026 35 63 y^x
027 32 83 FRAC
028 33 12 STO B
029 06 6
030 71 x
031 31 83 INT
032 01 1
033 61 +
034 35 33 ST I
035 32 34 ISZ (i)
036 01 1
037 33 61 09 STO+ 9
038 22 31 11 GTO a
039 35 22 RTN
040 31 25 05 LBL 5
041 31 42 P<>S
042 01 1
043 00 0
044 35 33 ST I
045 34 24 RCL (i)
046 33 00 STO 0
047 31 22 06 GSB 6
048 33 01 STO 1
049 31 22 06 GSB 6
050 33 02 STO 2
051 31 22 06 GSB 6
052 33 03 STO 3
053 31 22 06 GSB 6
054 33 04 STO 4
055 31 22 06 GSB 6
056 33 05 STO 5
057 31 22 06 GSB 6
058 33 06 STO 6
059 31 42 P<>S
060 09 9
061 35 33 ST I
062 00 0
063 33 24 STO (i)
064 35 22 RTN
065 31 25 06 LBL 6
066 31 34 ISZ
067 34 24 RCL (i)
068 31 84 -x-
069 35 22 RTN
070 84 R/S
```

cheers, geoff

Re: here is the code to the backgammon link stretched vertically...

*Message #18 Posted by **Paul Dale** on 20 Aug 2009, 2:57 a.m.,*
in response to message #17 by Geoff Quickfall

Try this for slight better presented with some comments added by me:

```
000:
001: 31 25 11   LBL A
002: 00         0
003: 33 00      STO 0
004: 33 01      STO 1
005: 33 02      STO 2
006: 33 03      STO 3
007: 33 04      STO 4
008: 33 05      STO 5
009: 33 06      STO 6
010: 33 07      STO 7
011: 33 08      STO 8
012: 33 09      STO 9


013: 32 25 11   LBL a
014: 34 09      RCL 9
015: 34 14      RCL D
016: 32 61      x != y
017: 31 22 00   GSB 0
018: 84         R/S
019: 22 05      GTO 5
020: 35 22      RTN


021: 31 25 00   LBL 0           // Roll a die
022: 35 73      pi
023: 34 12      RCL B
024: 61         +
025: 05         5
026: 35 63      y^x
027: 32 83      FRAC
028: 33 12      STO B          // B = FRAC((B+pi)^5)
029: 06         6
030: 71         x
031: 31 83      INT
032: 01         1
033: 61         +
034: 35 33      ST I           // I = random 1 - 6
035: 32 34      ISZ (i)
036: 01         1
037: 33 61 09   STO+ 9
038: 22 31 11   GTO a
039: 35 22      RTN


040: 31 25 05   LBL 5           // Copy registers 10+ and show them
041: 31 42      P<>S
042: 01         1
043: 00         0
044: 35 33      ST I
045: 34 24      RCL (i)
046: 33 00      STO 0
047: 31 22 06   GSB 6
048: 33 01      STO 1
049: 31 22 06   GSB 6
050: 33 02      STO 2
051: 31 22 06   GSB 6
052: 33 03      STO 3
053: 31 22 06   GSB 6
054: 33 04      STO 4
055: 31 22 06   GSB 6
056: 33 05      STO 5
057: 31 22 06   GSB 6
058: 33 06      STO 6
059: 31 42      P<>S
060: 09         9
061: 35 33      ST I
062: 00         0
063: 33 24      STO (i)        // Reset counter in register 9
064: 35 22      RTN


065: 31 25 06   LBL 6
066: 31 34      ISZ
067: 34 24      RCL (i)
068: 31 84      -x-
069: 35 22      RTN
070: 84         R/S
```

Re: here is the code to the backgammon link stretched vertically...

*Message #19 Posted by **Palmer O. Hanson, Jr.** on 20 Aug 2009, 9:45 a.m.,*
in response to message #18 by Paul Dale

Paul and Geoff:

Here is what I wrote about the bckgammon program back in 2004:

> Quote:
>
> Last summer I purchased an HP-67 at an estate sale. Among other items included with the calculator is a magnetic card pack labelled Backgammon. There are 36 cards in all. The cards all bear dates from 3.25.77 to 2.12.78. Cards bear labels from PGM LOGIC 1 through PGM LOGIC 5, Filling Home Base, Mask, Locke I/P Data and Locke Prgm. The remaining cards have some sort of seven digit code in formats such as 3 316103, 0 432330, etc. No instructions for playing the game accompanied the calculator. I am hoping to find someone who can provide the instructions.

The things that I do not know are:

1. Did the program really work or was it only in some stage of development. If the program really worked then it seems likely that it would have been published, particularly since there was a published program for the TI-59 in those olden days.

2. Are all 36 cards really needed for the program to run, or were some of the cards "data cards" used during the development or during runniing of the program.

If the program really worked then it was a substantial accomplishment and it would be appropriate to get it published with instructions on how to use it. Clearly, I am not the one to do that since I have never played backgammon. So I will make an offer. If either or both of you are willing to try to publish the program I am willing to send the set of cards to you with the sole provision that if you tire of the project and drop it then you will return the cards.

The cards are stored at my winter home. I expect to be there later this month. Lat me know what you might like to do.

Palmer

Re: here is the code to the backgammon link stretched vertically...

*Message #20 Posted by **Paul Dale** on 20 Aug 2009, 9:31 p.m.,*
in response to message #19 by Palmer O. Hanson, Jr.

> Quote:
>
> If either or both of you are willing to try to publish the program I am willing to send the set of cards to you with the sole provision that if you tire of the project and drop it then you will return the cards.

I'd be willing to give it a go, however I'm probably not the best choice since I don't have a 67/97 or access to one.

I do have a 41 with card reader but no way to get the programs anywhere useful without copying them by out hand.

If I could get listings (& register contents) from the cards along with the label written on them, I could work from there to decode the program. Anybody set up to extract the contents and generate a program listing?

- Pauli

Re: here is the code to the backgammon link stretched vertically...

*Message #21 Posted by **Palmer O. hanson, Jr.** on 21 Aug 2009, 10:55 a.m.,*
in response to message #20 by Paul Dale

Paul:

I have an HP-67 with an operating card reader (thanks to Viktor Toth). I will do the downloads if we can't find someone else with an HP-67 to help, but it will certainly be slow going. These 80 year old eyes struggle with the LED readouts after only a few minutes. It is certainly something to do when one has trouble sleeping.

If you want to see what the TI-59 program looks like you can find it at Viktor Toth's site as PPX program 918127 (Thanks to Gene Wright for coordinating the publication of all those old programs).

Palmer

Re: here is the code to the backgammon link stretched vertically...

*Message #22 Posted by **Dan W** on 22 Aug 2009, 2:03 a.m.,*
in response to message #21 by Palmer O. hanson, Jr.

> Quote:
>
> Paul:
>
> I have an HP-67 with an operating card reader (thanks to Viktor Toth). I will do the downloads if we can't find someone else with an HP-67 to help, but it will certainly be slow going. These 80 year old eyes struggle with the LED readouts after only a few minutes. It is certainly something to do when one has trouble sleeping.
>
> Palmer

Hi Palmer,

If you have trouble reading the 67 LED display, I recommend of course, getting a 97! The digits are almost a quarter inch high.

Also I was browsing thru the Museum DVD and in the Key Notes, Vol 1 1977, pg 11, someone had found another solution. They used a Bausch & Lomb reading glass, which is a half cylinder reading magnifier that is supposed to rest on top of a book page. It doubles the size of the digits. They cut it lengthwise to fit across the display.

Cheers,

-- Dan

Re: here is the code to the backgammon link stretched vertically...

*Message #23 Posted by **Paul Dale** on 23 Aug 2009, 6:58 a.m.,*
in response to message #22 by Dan W

> Quote:
>
> If you have trouble reading the 67 LED display, I recommend of course, getting a 97! The digits are almost a quarter inch high.

If you're going to use a 97, just print the cards out and I'll work from that...

Palmer, if you are going to suffer undue hardshhip doing this on a 67, I'll do it one my 41.

- Pauli

Re: here is the code to the backgammon link stretched vertically...

*Message #24 Posted by **Palmer O. Hanson, Jr.** on 23 Aug 2009, 1:06 p.m.,*
in response to message #23 by Paul Dale

> Quote:
>
> If you're going to use a 97, just print the cards out and I'll work from that...
>
> Palmer, if you are going to suffer undue hardshhip doing this on a 67, I'll do it one my 41.
>
> - Pauli

I don't have access to an HP-97 and don't have a card reader for my HP-41's. So, if you are willing to give it a try I am willing to send the set of cards to you. Send me a shippiing address if you want to do that.

Are the cards at risk if i send them through the mail?

Palmer

Re: here is the code to the backgammon link stretched vertically...

*Message #25 Posted by **Paul Dale** on 23 Aug 2009, 8:01 p.m.,*
in response to message #24 by Palmer O. Hanson, Jr.

Naturally there is some small risk in sending them by mail. We've had two or three packages go missing in the last 10 or so years.

The risk would be lessened if someone in (I assume) the USA was willing to read the cards. Please anyone?

- Pauli

Re: here is the code to the backgammon link stretched vertically...

*Message #26 Posted by **Dan W** on 23 Aug 2009, 8:59 p.m.,*
in response to message #25 by Paul Dale

I am in the US (Phoenix) and I have a working HP97. I'd be willing to load them and print them out, scan them to a file, then send the cards back. Send me a PM if you want to do this.

Re: here is the code to the backgammon link stretched vertically...

*Message #27 Posted by **Palmer O. Hanson, Jr.** on 24 Aug 2009, 12:58 a.m.,*

in response to message #26 by Dan W

> Quote:
>
> I am in the US (Phoenix) and I have a working HP97. I'd be willing to load them and print them out, scan them to a file, then send the cards back. Send me a PM if you want to do this.

Pauli writes separately that he thinks that may be the best idea. I need a mailing address. I have no real use for the cards other than to hold them until someone is able to try to run the program. So, when you are done printing them out you could keep them, forward them to Pauli or return them to me.

My question about mailing was not about losing them but rather whether there was a possibility that they might be damaged magnetically. What do you think?

Palmer

Re: here is the code to the backgammon link stretched vertically...

*Message #28 Posted by **Dave Shaffer (Arizona)** on 24 Aug 2009, 1:47 p.m.,*
in response to message #27 by Palmer O. Hanson, Jr.

> Quote:
>
> whether there was a possibility that they might be damaged magnetically

I very much doubt it.

I suspect they are similar to the magnetic strip on the back of all credit cards - all of which that I have ever received (and they all came in the regular mail) seem to work fine.

Re: here is the code to the backgammon link stretched vertically...

*Message #29 Posted by **Paul Dale** on 23 Aug 2009, 7:02 a.m.,*
in response to message #21 by Palmer O. hanson, Jr.

> Quote:
>
> If you want to see what the TI-59 program looks like you can find it at Viktor Toth's site as PPX program 918127 (Thanks to Gene Wright for coordinating the publication of all those old programs).

Program *918217*, in case anyone else is going to look at it.

- Pauli

Re: I scored a HP-67 for 93 dollars on eBay...

*Message #30 Posted by **Giovanni Jimenez** on 18 Aug 2009, 10:25 p.m.,*
in response to message #1 by hecube

What is the condition of the HP-67 you just got ?

Re: I scored a HP-67 for 93 dollars on eBay...

*Message #31 Posted by **hecube** on 19 Aug 2009, 1:00 a.m.,*
in response to message #30 by Giovanni Jimenez

This is the machine:

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=180396229992&ssPageName=STRK:MEWNX:IT

Re: I scored a HP-67 for 93 dollars on eBay...

*Message #32 Posted by **Dan W** on 18 Aug 2009, 10:26 p.m.,*
in response to message #1 by hecube

Excellent Jimmy. I had been watching that auction. My notes were "unpowered, untested, excellent cosmetics". I thought about bidding but I have enough on my plate right now.

Actually I am looking for an HP65 that is a total basket case to restore.

Re: I scored a HP-67 for 93 dollars on eBay...

*Message #33 Posted by **Giovanni Jimenez** on 18 Aug 2009, 10:34 p.m.,*
in response to message #1 by hecube

I am glad this thread was initiated, because I see this as a sign: I want to acquire an HP-67 myself, and I have a couple of "packages" to offer in exchange; I will post the trade offer on the classifieds section soon.

N.O.S. for $50 USd.

*Message #34 Posted by **Geoff Quickfall** on 19 Aug 2009, 12:19 a.m.,*
in response to message #1 by hecube

Firstly, let me say, GOOD JOB! Not a bad price for a classic HP-67. I know there have been better deals, but that is rare, especially at EBay.

My find:

Picked up an unused HP-67 in its original box for $50.

In the box was the following:

```
shrink wrapped prgraming pad
shrink wrapped manual
shrink wrapped HP-67 games box
shrink wrapped HP-67 statistics package and box
shrink wrapped external classic battery charger
two unused adapters (wall warts)
two PPC journal copies
the quick reference card
the original magnetic card holder
two unused (but leaked) battery packs in a zip lock from HP
```

I explained to the owner, a 97 year old archeologist, that the package should be valued around $300 plus dollars. He stated that he wanted it working, but that the new rebuilt battery pack would not power the calculator and that for $20 he bought a Casio that would do the statistics he needed for a publication. He did not want it fixed, but wanted a good home for it.

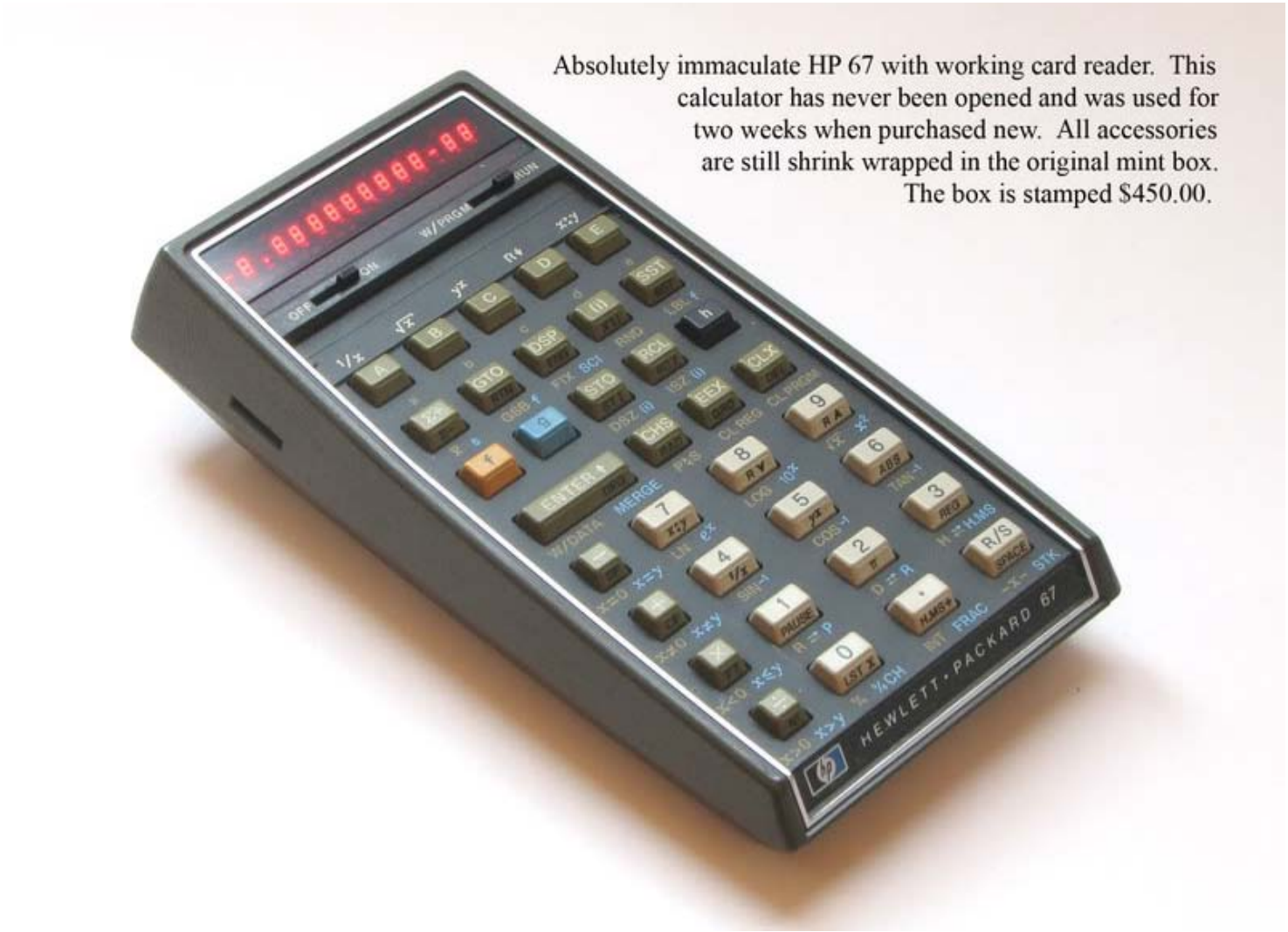
I explained that I would try to fix it but that the card reader would need a new dampening couple and pinch roller. Plus the trouble shoot to find the power supply problem. He did not want to be bothered! So I ended up giving him another $50 for a total of $100. He did not think that was necessary and gave it back to me.

I got home and found out it was the battery pack rebuild that was unservicable. I powered up the 67, tried a card, and it ran perfectly. I removed the battery pack and have kept the unit unsuded since. I did tell him that I got it working and that I

would repair it for him (the card reader) although it did work at the moment.

His response was thanks, but it's yours, enjoy.

Those of you at HCC2008 would have seen this one on display.



Cheers, Geoff

Edited: 19 Aug 2009, 11:46 a.m. after one or more responses were posted

Re: N.O.S. for $50 USd.

*Message #35 Posted by **hecube** on 19 Aug 2009, 12:53 a.m.,*
in response to message #34 by Geoff Quickfall

I recently saw a clearly defective HP-65 on eBay being bought for something like 50 or 60 dollars. I figured this was an OK price to pay for a "state unknown" HP-67.

Besides, it seems I've always had some kind of luck with my eBay purchases... they're always better than what I expect.

Re: N.O.S. for $50 USd.

*Message #36 Posted by **Geoff Quickfall** on 19 Aug 2009, 1:20 a.m.,*
in response to message #35 by hecube

I use a simple rule:

"Only buy "broken" or "as is". You are never dissappointed.

I broke that rule on the HP-41C tallnut posting below. It was described as in excellent condition. All keys function. The photo was extremely blurry, in fact, I thought it was a tall keys version with gold contact balls but did not know until it arrived.

When I got it, the right display driver was obviously shot, sending out spurious signals creating a weird display. The case was excellent with the contact hatch still presen and perfect i/o assembly. The keys were perfect and the leatherette case still had it's original foam.

So it should have been advertised as "Funny display but calculator in great PHYSICAL condition." I did not follow up with the questions I usually ask due to the short time limit I had when I found the listing.

98 is excellent for the HP 67 even if you need to repair the pinch roller and dampening couple! Enjoy it.

I have 5 now, one NOS as pictured, another from the first month of the first year in a Nearly New looking case and 3 others. All the readers have been repaired and the cases restored to as new condition.

This is still my favourite calculator, including the 41CX and the 42S which go to work every day I am in the cockpit.

Cheers, Geoff

Re: N.O.S. for $50 USd.

*Message #37 Posted by **Eric Smith** on 19 Aug 2009, 1:49 a.m.,*
in response to message #34 by Geoff Quickfall

> Quote:
>
> Those of you at HCC2009 would have seen this one on display.

Only those of us with time machines!

Ha Ha, me and my typos!

*Message #38 Posted by **Geoff Quickfall** on 19 Aug 2009, 11:46 a.m.,*
in response to message #37 by Eric Smith

nt

Re: N.O.S. for $50 USd.

*Message #39 Posted by **Martin Pinckney** on 19 Aug 2009, 9:29 a.m.,*
in response to message #34 by Geoff Quickfall

> Quote:
>
> The box is stamped $450.

Ah, the coveted HP 67. Many years ago, I worked for a small city, which shall remain nameless. My boss, the City Engineer, had a 67 which he had requested the City to purchase for his use. When he left the City's employ, the 67 turned up missing. I heard a report that he was questioned as to its whereabouts, to which he replied that it had been "stolen out of his car". Which theft he had failed to report until asked where was the calculator. I remember comments made at the time to the effect that "he just HAD to have that $450.00 calculator..."

I won't say he took it, but I can perhaps understand rationalizing that no one he left behind would have known how to use it.

Except perhaps me.

Martin, is that you!

*Message #40 Posted by **Geoff Quickfall** on 19 Aug 2009, 7:47 p.m.,*
in response to message #39 by Martin Pinckney

Just kidding, wasn't me ;-)

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HP19BII - how to fix the battery compartment

*Message #1 Posted by **eddieuk** on 18 Aug 2009, 10:38 a.m.*

I've had my HP19BII for almost 10years and have managed with a broken battery compartment for about three years by using strong carpet tape...unfortunately the tape gave way today and the last remnant of one of the plastic edges needed to hold the battery cover in place snapped off. New tape on its own was not strong enough to hold the cover.

The battery compartment on the HP19BII is on the uppermost right hand side edge, my uppermost edge of the battery cover still slides into place however the lower edge has nothing left to slide into.

To fix, I have used a small washer and a woodscrew (10 milimetre in length and 5 milimetre head) which I have screwed into the calculator case in the gap where the missing edge has snapped off. I inserted the batteries and held the cover in place whilst I tightened the screw and washer so they overlapped the battery cover but held it in place.

To create the hole in the case, I used a very sharp nail as a nail punch, held the HP19BII in between my knees (to allow movement in case I hit it too hard) and tapped the nail into the plastic until it was fully pierced. I then wriggled the nail around to make the hole big enough for the screw to enter. NOTE - don't use a long screw as it might reach too far inside and damage the electronics.

Works a treat for me! Hope this can help someone else!

P.S. I will try and add a photo, hope that works too!

Re: HP19BII - how to fix the battery compartment

*Message #2 Posted by **Peter A. Gebhardt** on 18 Aug 2009, 11:34 a.m.,*
in response to message #1 by eddieuk

Eddieuk,

just yesterday someone posted a solution that might be helpful to solve your problem too!

http://groups.google.to/group/comp.sys.hp48/browse_thread/thread/15e313dc7605875c#

Best regards,

Peter A. Gebhardt

Re: HP19BII - how to fix the battery compartment

*Message #3 Posted by **designnut** on 18 Aug 2009, 4:29 p.m.,*
in response to message #2 by Peter A. Gebhardt

I found some 2 part epoxy plastic cement that was strong enough to repair the battery door on a camera. When it was partly hardened I shaped it to fit, and extend the edge of the plastic. The repair held until some other faults damaged the camera. It did cling well and was strong enough. It was at Home Depot.

Sam

Re: HP19BII - how to fix the battery compartment

*Message #4 Posted by **eddieuk** on 19 Aug 2009, 5:20 a.m.,*
in response to message #1 by eddieuk

Photo as promised.

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HP 41 high-pitch noise

*Message #1 Posted by **Frido Bohn** on 18 Aug 2009, 8:34 a.m.*

Dear all,

I wonder whether some of you have made the same experience with an HP41CX: every time it runs a program or a function is executed I hear a noise of high frequency. This noise has its maximum at the back panel where the alphanumeric code is printed. Interestingly it is only present while the HP41CX is operating - while idle no sound. In contrast, my HP41CV does not show this. Has anyone an idea where this noise does come from? Or even better - has anyone an idea how to eliminate this?

Thanks in advance Frido

Re: HP 41 high-pitch noise

*Message #2 Posted by **Geoff Quickfall** on 18 Aug 2009, 11:32 a.m.,*
in response to message #1 by Frido Bohn

It is definitely comming from the Piezo transducer. The transducer is fixed to the back of the halfnuts and to the logic PCA of the fullnuts.

As to why it is buzzing during execution I would not know. However, try a master reset (ON + CLX) and then reload the programs. This has cleared the problem on a halfnut that 'buzzed' as soon as I reassembled it during restoration.

Hope it helps, Geoff

p.s. if the 'master clear' doesn'e work, remove the batteries and short the first and fourth battery contact. Then replace and try the 'master clear' and then reload the programs.

Re: HP 41 high-pitch noise

*Message #3 Posted by **hecube** on 18 Aug 2009, 11:54 a.m.,*
in response to message #2 by Geoff Quickfall

I used to make my HP-41 freak out back in the early 80s with various manipulations. A high-pitch noise was one of the results.

A simple master-clear should make it right. If not, I can't help any further...

The manipulation I'm talking about is to make the all-clear (clx + on) while the HP-41 is beeping, while the calculator is on. If you're lucky, the HP-41 will then squeal each time you press a key. You have to have the right timing to make it work though...

Re: HP 41 high-pitch noise

*Message #4 Posted by **Raymond DelTondo** on 18 Aug 2009, 12:00 p.m.,*

in response to message #1 by Frido Bohn

Just perform a BEEP or TONE (0..9)

This will reset the suitable CPU reg.

HTH

Raymond

Excellent suggestion Raymond.

*Message #5 Posted by **Geoff Quickfall** on 18 Aug 2009, 1:05 p.m.,*
in response to message #4 by Raymond DelTondo

Always start with the simplest, least invasive fix. In this case, as Raymond states, reset the buzzer register with an overiding new beep command.

I find that the more involved one gets the longer the fix will take when in most cases the KISS principle is the best.

Cheers, Geoff

Edited: 18 Aug 2009, 1:05 p.m.

Re: Excellent suggestion Raymond.

*Message #6 Posted by **Garth Wilson** on 18 Aug 2009, 1:41 p.m.,*
in response to message #5 by Geoff Quickfall

+1. Many of the 100+ synthetic TONEs leave the beep line high when they're done, so the power supply noise gets to the beeper. When the calc is idle, there's less power supply noise. Just BEEP or do a TONE(0...9) so the beep output will finish at ground instead of Vcc.

Re: HP 41 high-pitch noise

*Message #7 Posted by **Eric Smith** on 18 Aug 2009, 2:27 p.m.,*
in response to message #1 by Frido Bohn

You've rediscovered "buzz mode", which is present on the 41CX, and on the final ROM revision (HFF) for the 41C and 41CV.

Re: HP 41 high-pitch noise

*Message #8 Posted by **Frido Bohn** on 19 Aug 2009, 4:39 a.m.,*
in response to message #1 by Frido Bohn

Thank you for your numerous contributions!

However, I turned the HP-41CX on to perform the recommended master clear and was surprised not to hear the noise anymore. Apparently, a rest of two days was sufficient to resolve this problem spontaneously. I was trying to follow-up the cause for that noise and came to the conclusion that an overnight run of the calculator was possibly responsible for the problem. It was attached in an HP-IL loop to run as a data logger. Perhaps a charge which might have developed in the circuits was the origin of the high-pitch noise.

Nevertheless, I will have an eye on this, and the next time I will try to resolve this by the generation of a

TONE or by a master reset, and keep you informed.

Regards, Frido

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HP-41C tall nut, full nut 2025Axxxxx close up pictures.

*Message #1 Posted by **Geoff Quickfall** on 17 Aug 2009, 9:08 p.m.*

This arrived today, a NO BUGS (darn it) HP-41C Tall Nut, Half Nut. It had a totally bizarre display on the screen on power up. The display was:

```
0.0000 ' ' ' ' '
```

Executing a master clear gave this display:

```
MEMORY  L@2+
```

Clearing the memory clear message resulted in the first display. The calculator performed all functions correctly, with interpretation involvings some of the displays. In fact, with FIX 9 set there was almost no numeric problem on the display as the correct digits masked the apostrophes correctly.

Switching to Alpha mode displayed the apostrophes and these rode on top of any alpha character.

I tried the master clear, shorting the contacts and reversing the battery (yuck). No joy so I replaced the LCD with a good one from a donor PCA with cracked contact domes and two missing battery posts. Success! What followed was a thorough spa, and back together it went.

I thought you might appreciate a close up of the tall keys versus a normal keys fullnut HP-41C from 1982. These pictures were taken at the same angles for each example. Enjoy.

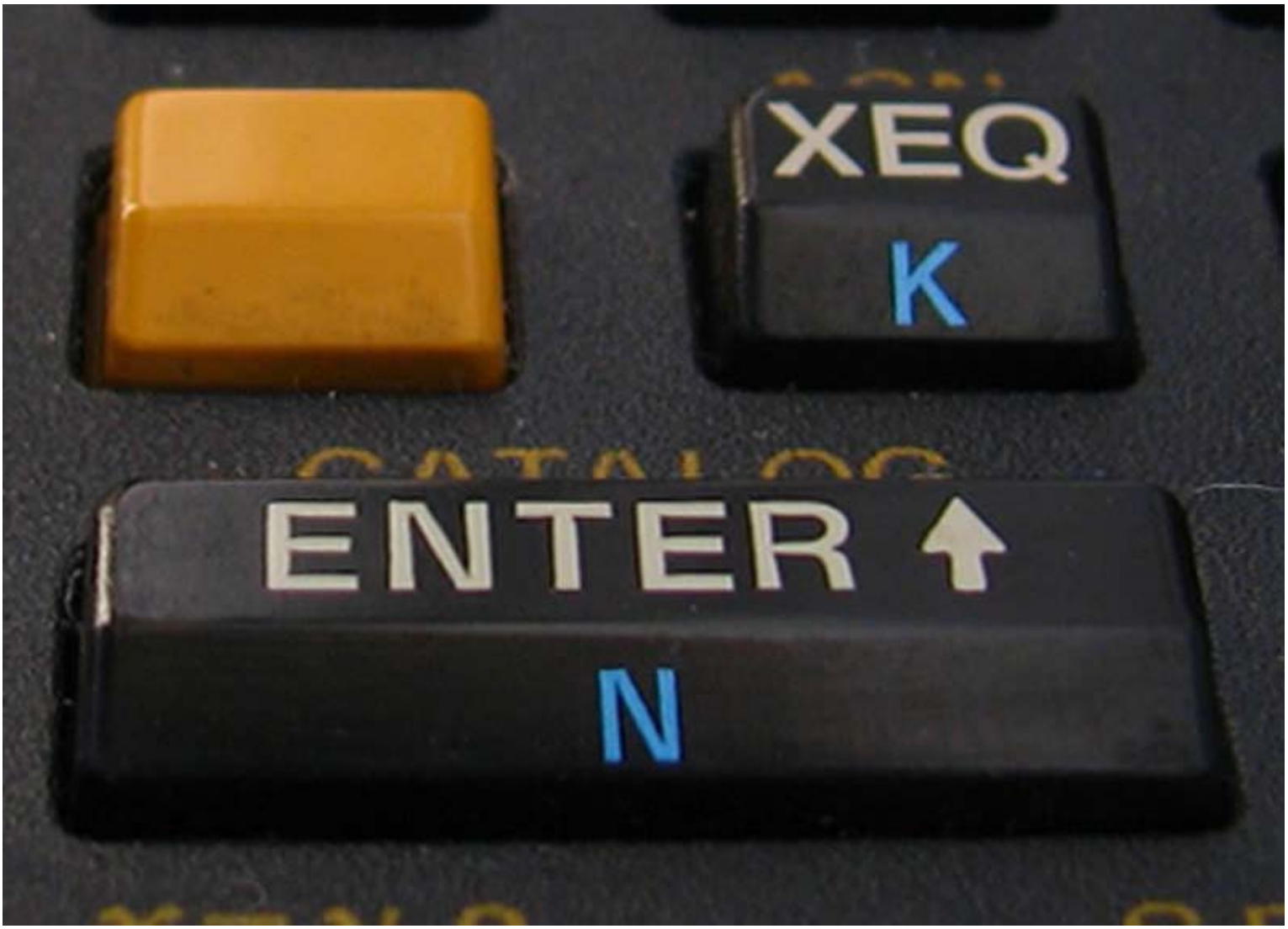
Normal keys top view, note the easily read blue labels from a vertical view:

Tall keys top view, note the hard to read blue labels from a vertical view:

Normal keys side view, note the smooth face

Tall keys side view, note the framed raised portion similar to the classics.

Normal keys front view, again the smooth face.



Tall keys front view, the framed front piece, artistic touch.

Edited: 18 Aug 2009, 11:48 a.m. after one or more responses were posted

Re: HP-41C tall nut, full nut 8025Axxxxx close up pictures.

*Message #2 Posted by **Mike Morrow** on 18 Aug 2009, 10:31 a.m.,*
in response to message #1 by Geoff Quickfall

I purchased my HP-41C in 1980 and it was identical to the one that you show. I sold it in 1984 after buying the HP-41CX that I still have.

I've always regretted a little having sold that HP-41C, specifically because of this early key configuration.

Re: HP-41C tall nut, full nut 8025Axxxxx close up pictures.

*Message #3 Posted by **fbronner** on 18 Aug 2009, 10:39 a.m.,*
in response to message #2 by Mike Morrow

Hi,

Same here. I exchanged my HP-41C for an HP-41CX in 1984, however it is equipped with the normal keys like the 41C in that picture. I find those much easier to read

And yes, I still use it at least a couple of times per week...

Edited: 18 Aug 2009, 10:43 a.m.

Tall nut keys not hard to read!

*Message #4 Posted by **Geoff Quickfall** on 18 Aug 2009, 11:55 a.m.,*
in response to message #3 by fbronner

It is interesting to note that the Tall Keys version has the same key design of every Classic and Woodstock and Spice ever made.

No one complained about hard to read keys on those versions but the HP-41C Tall Keys is refered to as a hard to read key. Personally I like the look and the added artistic design.

The photo of the 1982 normal version is my first, purchased new, and over the next 2 years it was upgraded to quad memory, x-functions, x-memory, wand, card reader, printer, HPIL, plotter, floppy drive and statistics module. Finally it got stored as a spare and replaced by a 1984 CX which I still have and is my main work calculator.

Cheers, Geoff

Re: Tall nut keys not hard to read!

*Message #5 Posted by **fbronner** on 18 Aug 2009, 12:08 p.m.,*
in response to message #4 by Geoff Quickfall

I wouldn't say they were hard to read.

But I would say the somewhat more angled keys were easier to read then the tall one. And when I'm at my father's place and I grab his old 41C, I always find mine easier to look at... :-)

And yes, he still uses it. In fact he has been using it every workday since he bought it in 1982 !!!!!

I gave him the Advantage, Math and Time modules when I sold my 41C. They have been in there ever since!

It still ticking...Better then that Energizer bunny!!

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Bug in SIMPLIFY? (hp 50g)

*Message #1 Posted by **Luca** on 17 Aug 2009, 12:41 p.m.*

I am very surprised by the behavior of SIMPLIFY. I am in a directory where I have two variables defined:

- M value 0.1
- Q value 0.8

(I have some other variables as well). I type the expression, in the equation writer:

```
 1 + M - M
-----------
 3 + M
```

I press SIMPLIFY, and I get 1 / (M + 3), which is the expected answer. Now, I try with another expression:

```
 Q * M - (Q - 1)
-----------------
 Q * M + 1
```

I hit SIMPLIFY, and I get... 0.259259259... !!!

Why in one case it simplifies only down to symbols (correctly) while in the second, it also substitutes values into variables??? I consider the second behavior a bug... can it be prevented? Why is the behavior inconsistent? This with ROM C-2.15.

Many thanks,

Luca

Re: Bug in SIMPLIFY? (hp 50g)

*Message #2 Posted by **Hal Bitton in Boise** on 18 Aug 2009, 11:50 a.m.,*
in response to message #1 by Luca

Hi again Luca,
Hmmm...When I work your scenario, I get numeric results for both equations. It's only when I purge both M and Q that I get symbolic results.
The only suggestion I could make is to be sure you're not inadvertantly mixing upper and lower case variables (ie, M and m would be two separate variables).
It's pretty much axiomatic that any variables involved must be purged if you don't want them evaluated during operations. Either that or the variables must be put in a directory where the calculator can't reach them (such as in a lower or parallel directory).
Best regards,
hal

Re: Bug in SIMPLIFY? (hp 50g)

*Message #3 Posted by **dbatiz** on 18 Aug 2009, 2:55 p.m.,*
in response to message #1 by Luca

I recommend sitting down with the manual and doing a quick read on approx -v- exact mode and the different types of numbers. Imagine "1" is handled differently than "1." Yes, the decimal tells the calculator to handle it as a value and not a number.

For example, on the stack type 1 ENT 2 / If you are in exact mode, the 50G will return 1/2

If you type 1 ENT 2. / the 50G will return .5

Once you figure out how to manage your variables, and get solid on the types of values you have stored and where they are, you'll get predictable behavior.

There are several great tutorials available through links here in the forum and at the HP site,

Very respectfully,

David

Re: Bug in SIMPLIFY? (hp 50g)

*Message #4 Posted by **Luca** on 19 Aug 2009, 12:37 a.m.,*
in response to message #3 by dbatiz

Thanks...

I don't think the problem is approx vs. exact mode.

The problem is that I think it is a very bad idea that expression simplification involves also substituting into the expression the numerical values of variables, fishing these variables from the directory and its parents in the directory tree. I think it would have been a much cleaner design to let simplify act on the expression on the stack, and reserve some other function for such substitution. After all, commands usually work on their argument, not on the argument plus extra information that they go hunting for around in the calculator.

This "bug" (which, to some, may be a feature) prevents me from using the 50g as a full-fledged calculator: either I use it to do symbolic manipulation (in which case I have to be careful not to have numeric variables), or as a numerical calculator (in which case variables are ok).

I may still find a work style that works for me, but I disagree with the design decision on SIMPLIFY.

Luca

Re: Bug in SIMPLIFY? (hp 50g)

*Message #5 Posted by **Nigel J Dowrick** on 19 Aug 2009, 5:30 p.m.,*
in response to message #4 by Luca

I've looked at this and I find it confusing too. I've defined the variables Q and M as you have. An expression containing only one of the two variables (e.g., Q^2+3) is unaffected by SIMPLIFY. However, an expression containing both (e.g., Q^2+3+M) gets converted into a number at once! I do not fully understand the reasoning behind this difference in behaviour. (Neither the "numeric" nor the "approx" mode settings are ticked.)

Of course, there are many "simplification" commands on the HP-50g: EXPAN, EXPAND, SEVAL, plus lots specific to trigonometry, powers, and logarithms. Give me a TI-89 for elementary algebra any day! Less powerful, no doubt, but it does what is expected.

To get around your problem (assuming you don't have a TI-89) you can create a subdirectory of HOME in which you store no variables. So long as you store no numeric variables in HOME either, you can simplify without risk of numeric substitutions if you change to this directory first. Not an ideal solution, and I can't help feeling that there ought to be another way around this, but it should work.

Nigel (still rather puzzled)

Re: Bug in SIMPLIFY? (hp 50g)

*Message #6 Posted by **Luca** on 20 Aug 2009, 12:41 a.m.,*
in response to message #5 by Nigel J Dowrick

Yes, indeed you are right: SIMPLIFY has a different behavior on one or two-variable expressions.

I created a directory with only two variables, T and M, which have real numbers as values.

- If I type 1/M in the equation writer, select it all, and press SIMPLIFY, nothing is simplified.
- If I type 1/(M+T) in the equation writer, select it all, and press SIMPLIFY, the expression is evaluated to a real number.

I think this can only be considered a bug, and a major one. Perhaps the 50g CAS was designed around schoolkids, who need to simplify one-variable expressions but evaluate multi-variable ones? It certainly does not make sense to me.

It is too bad, because this severely limits the usefulness of CAS, which should be the shining point of this calculator. For quick math, my 32SII is a lot faster and simpler to use (and I do not need a .pdf manual to find what I need).

I will give the TI-89 a try... I have the impression that the 50g is complicated without being really advanced.

Luca

Re: Bug in SIMPLIFY? (hp 50g)

*Message #7 Posted by **Nigel J Dowrick** on 20 Aug 2009, 5:03 p.m.,*
in response to message #6 by Luca

Just to be clear about the TI-89: it too will substitute in numeric values when a symbolic expression is entered. However:

- its behaviour in this regard is consistent
- there's an easily accessible command "Clear a-z" that clears all one-character variables in the working directory
- the "|" (substitute) function is a very convenient way to give variables numeric values. For example, "(x+y)/z | x=4 and y=5" evaluates straight to 9/z. I know the HP-50g can do this too, but the syntax is different in algebraic and RPN modes, and I can never remember how to substitute for more than one variable at a time without looking it up.

Despite my complaints, I feel that the HP-50g is far more powerful than anything that TI has produced: it has an awesome number of advanced mathematical functions and functionality programmed into it. However, I just do not find its use intuitive or memorable. The vast power is unavailable even to serious users unless they constantly consult the manual - which you only get in electronic form, unless you print out the 1000 pages yourself!

I know the TI is an algebraic machine, but its editor that lets you paste any previous entry or result into the command line gets around the usual disadvantages of algebraic logic, at least for me. As scientific calculators, I love both machines; the Multiple Equation Solver of the HP machine is truly wonderful. But for algebra or elementary calculus give me the TI any time. It just works!

Nigel

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Print in textbook format

*Message #1 Posted by **Marcelo Vanti (Brasil)** on 17 Aug 2009, 3:43 p.m.*

Hello! Does anybody have tried print a matrix or an equation in textbook format on a 82240b printer? Is that possible?
I have a hp50g, but I don't see how to do it.
Thanks for any helps/answers
Marcelo

Re: Print in textbook format

*Message #2 Posted by **Dave Britten** on 17 Aug 2009, 4:23 p.m.,*
in response to message #1 by Marcelo Vanti (Brasil)

<< 0 ->GROB PR1 >>

You'll probably need to set DELAY to 0 first - the 50g seems to have a bug regarding interpretation of that setting when printing a GROB.

Re: Print in textbook format

*Message #3 Posted by **Marcelo Vanti (Brasil)** on 18 Aug 2009, 8:57 a.m.,*
in response to message #2 by Dave Britten

Dave,
Many thanks, it works! :-)
Best Regards,
Marcelo

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HP 32SII

*Message #1 Posted by **Marnus Malan (RSA)** on 17 Aug 2009, 4:47 a.m.*

Hello! Does anybody have first hand experience of this calculator? Is it worth aquiring for day to day use, how much does it have in common with the 42s programming and how much should one be willing to cough up for a good specimen? Kind regards

Re: HP 32SII

*Message #2 Posted by **Walter B** on 17 Aug 2009, 6:28 a.m.,*
in response to message #1 by Marnus Malan (RSA)

Hello Marnus,

> Quote:
>
> Is it worth aquiring for day to day use

Depends on what you need. Please compare the features of the 32S -- it's the 32SII without fractions. Compare the two layouts, too. And there is a 35S readily available being -- well -- a 32SII in todays quality for a reasonable price. Please search this forum for a lot of information about the 35S.

> Quote:
>
> how much does it have in common with the 42s programming

A lot. Please check this museum.

> Quote:
>
> how much should one be willing to cough up for a good specimen?

Up to you d:-)

HTH,

Walter

Re: HP 32SII

*Message #3 Posted by **Andrés C. Rodríguez (Argentina)** on 17 Aug 2009, 7:01 a.m.,*
in response to message #1 by Marnus Malan (RSA)

A 42S is far more capable, but the 32S II is a nice machine to have. If you plan for everyday use, the 33S or 35S may be better... only because they are available now and you can buy a replacement if needed; if you lose

a 32S II or other old machines, you will just be sorry. Suggestion: if price is not too high, just buy it.

Re: HP 32SII

*Message #4 Posted by **Bill (Smithville, NJ)** on 17 Aug 2009, 10:46 a.m.,*
in response to message #3 by Andrés C. Rodríguez (Argentina)

> Quote:
>
> if you lose a 32S II or other old machines, you will just be sorry

But you will have had the fun of using it until you lost it. That fun is priceless.

Bill

Re: HP 32SII

*Message #5 Posted by **Andrés C. Rodríguez (Argentina)** on 18 Aug 2009, 12:40 a.m.,*
in response to message #4 by Bill (Smithville, NJ)

I agree, but prefer to leave the 42S, and even the 32S II at home, and have a 33S at my lab desk, where it can be lost, dropped, etc. So I can use RPN at work, and use the older models at home.

That said, I remember in my university days, some students (me included) carried their HP 25 with them all the time. Such calculators showed some marks of heavy use, they were certainly "not mint" by today standards; but we knew how to apply them to many problems, and they helped us learn a lot more than the then current curriculum specified. There were other students, who also had an HP 25, but never have it on their hands or hanging from their belts. These calculators looked almost new (something a collector would appreciate nowadays), but their owners only bring them to class on final exam events. Needless to say, they barely know how to turn them on, so they benefited very little from the experience of using the calculator almost every day. Of course, I'm more in the side of "users", not that much in the "keepers", but I do reflect on the chance of never being able to replace a lost or broken "oldie".

Just my 0.02$

Re: HP 32SII

*Message #6 Posted by **Jeff Kearns** on 17 Aug 2009, 8:52 a.m.,*
in response to message #1 by Marnus Malan (RSA)

> Quote:
>
> ... how much does it have in common with the 42s programming

If you search elsewhere on this site, you will see that the programming paradigms are somewhat different; the 42s is more like the 41C in that regard.

As mentioned above, there are two newer variants of the 32sII, and the one that resembles it most in terms of capabilities is the 33s - relatively ugly but a great machine nonetheless. Since you are looking for a 32sII experience, I recommend it over the 35s for reasons explained elsewhere on this site such lack of rectangular to polar conversions.

They are expensive and can cost you upwards of $200 on EBay, so unless you are adamant about getting one

right away, try one of the newer and less expensive models first.

Jeff Kearns

Re: HP 32SII

*Message #7 Posted by **Joel Setton (France)** on 18 Aug 2009, 9:55 a.m.,*
in response to message #6 by Jeff Kearns

Hello Jeff (and others, too!)

Do we have a document on this site where the "programming paradigms" are listed and compared? Or maybe I didn't look in the right place!

Thanks,

Joel Setton

Re: HP 32SII

*Message #8 Posted by **Jeff Kearns** on 18 Aug 2009, 10:44 a.m.,*
in response to message #7 by Joel Setton (France)

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=87806

The above link will provide some info on this. The best person to comment on this is Karl Schneider.

Jeff

Re: HP 32SII

*Message #9 Posted by **Pal G.** on 18 Aug 2009, 10:54 a.m.,*
in response to message #7 by Joel Setton (France)

Hi Joel,

Here at the museum is a benchmark article, by Xerxes. It features a long list of calculators (incl. non-HP calcs), their benchmark times, and source code of the various N-Queens programs used for benchmarking. By the source you can contrast or identify programming patterns across various models.

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=700

I used FIND (and NEXT FIND) and "42s" and "32sii" to get around the article quickly.

Edited: 18 Aug 2009, 11:06 a.m.

Re: HP 32SII

*Message #10 Posted by **Jeff Kearns** on 18 Aug 2009, 10:54 a.m.,*
in response to message #7 by Joel Setton (France)

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=556

Also look at this article by Karl. It is very instructive.

Jeff

Re: HP 32SII

*Message #11 Posted by **Martin Pinckney** on 17 Aug 2009, 10:20 a.m.,*
in response to message #1 by Marnus Malan (RSA)

Yes, I have one, and use it occassionally, mostly for fraction work, and as back-up for an employee who has one she uses daily.

My take is this: If you just want the functionality, the 35s is readily available brand new at a consistent price of about $60, has a lot more memory, and a two-line display vs. one-line, and thus would be a better choice. Personally, I could never get used to the ugly 33s.

However, if you, like me, prefer the look and feel of the Pioneers, and don't need the extra memory, then the 32sii is a better choice. As far as price and availability, they are always available on eBay, and can be had for as little as $80 for a used specimen in nice condition, to well over $200 for a an "as new" one, as Jeff points out. Shop smart.

Edited: 17 Aug 2009, 10:27 a.m.

Re: HP 32SII

*Message #12 Posted by **Egan Ford** on 17 Aug 2009, 10:45 a.m.,*
in response to message #1 by Marnus Malan (RSA)

> Quote:
>
> Does anybody have first hand experience of this calculator?

Yes. I acquired a 32SII after reading many positive comments here. I was very disappointed.

Personally I wouldn't spend $5 for a 32SII for daily use (I'd just resell it).

I was raised on the 15C and now use the 41CX and 42S daily (emulated on my iPhone). My 15C is on my desk, I still break it out to marvel at its design from time to time. The 32SII was a giant leap backwards. But, that is just my opinion.

If you really like the 32SII feature set, then save yourself some coin and try a 35s, its the follow-on to the 32SII/33s (unless you need it to fit in your pocket).

Re: HP 32SII

*Message #13 Posted by **Martin Pinckney** on 17 Aug 2009, 11:00 a.m.,*
in response to message #12 by Egan Ford

> Quote:
>
> Personally I wouldn't spend $5 for a 32SII for daily use (I'd just resell it).

I have a solution. Egan could sell his 32sii to Marnus. :-)

Re: HP 32SII

*Message #14 Posted by **Luca** on 17 Aug 2009, 11:33 a.m.,*
in response to message #12 by Egan Ford

Interesting; I have both a 42s and a 32SII, and the one that gets all the use is the 32SII. It is ideal for the kind of quick calculations that I need to do all the time; it is one of the very few objects that has a permanent place below my PC monitor. It has a clear, legible display, and direct access to most of the functions you are likely to use.

I have a 42s, and from an engineering point of view, I admire it, but I hardly ever use it. The display is too difficult to read in the sometimes dim light I use to work at the PC, and too much of its functionality is hidden in long menus -- it is no fun at all to have to go fish in the function catalog even the %CH (percent change) function, which I use relatively often. Yes, I could program it as one of the custom soft-keys, but then I lose access to top-level key functions...

I could never warm to the 35s. The three chief drawbacks, in my opinion, are: the STO key is shifted; when you type a long number, no "," separators are inserted while you type (only after you enter it), making it difficult to enter them correctly; and it has some bugs that decrease my confidence.

So in the end I always go back to the 32SII. It is the only calculator that, when I use it, I do not wish I were using something else.

The 42s used to be the perfect design point (or close to it) in an era when access to PCs was more difficult. Nowadays, when more complex things tend to be done on PCs, I think the 32SII is the best pocket calculator there is. Simple, fast, direct, well-engineered.

Luca

Re: HP 32SII

*Message #15 Posted by **Mike Morrow** on 17 Aug 2009, 10:48 a.m.,*
in response to message #1 by Marnus Malan (RSA)

The HP42S is far more capable and elegant. I bought an HP32SII to allow me to retire my ten year old HP-15C. I mistakenly assumed that the 32SII would be at least as capable as the much earlier 15C. Bad assumption. Calculations using or producing complex number results are extremely poorly implemented on the 32SII, for just one example. Completely ignoring any collector value, the HP42S is still the best all-round RPN calculator ever made in many people's judgement, 21 years after its introduction. IMHO, the HP-15C is next best, yet far behind, while the 32SII doesn't even rate a mention. The only things the 32SII has better is more speed and larger characters on a less informative LCD.

The later butt-ugly HP33S and the oversized HP35S also have very poor complex number support similar to the HP32SII. What is it about HP's calculator design philosophy that continues this persistent defect in all their calculators except the 15C, 42S, and the RPL models? It would only cost a little firmware development to duplicate 42S capability.

Re: HP 32SII

*Message #16 Posted by **Martin Pinckney** on 17 Aug 2009, 11:02 a.m.,*
in response to message #15 by Mike Morrow

> Quote:
>
> What is it about HP's calculator design philosophy that continues this persistent defect in all their calculators except the 15C, 42S, and the RPL models?

It's called marketing a "new" calculator model on the cheap.

Re: HP 32SII

*Message #17 Posted by **Marnus Malan (RSA)** on 17 Aug 2009, 11:19 a.m.,*
in response to message #16 by Martin Pinckney

Well, thanks to everyone.

I use a 42s and a 50g on a daily basis. (The 42s stays at home, the 50g being the real workhorse) I also do own a 33s but find the keys and layout not very practical. That said it is much faster than the 42s on similar tasks, but there is a lot the 33s can't do that the 42s can. Also, all examples in the 33s is for algebraic mode, which really sucks.

Apart from the above mentioned models, I also own a 48S and a 82240B printer.

I'll just make the guy an offer and see if I can get it fairly reasonable, then take it.

Re: HP 32SII

*Message #18 Posted by **Jeff Kearns** on 17 Aug 2009, 11:44 a.m.,*
in response to message #17 by Marnus Malan (RSA)

The following link will get you the 32sii manual so that you have all examples in RPN format. That should increase your enjoyment of the butt-ugly 33s (which I kinda like...)

http://h10025.www1.hp.com/ewfrf/wc/manualCategory?cc=us&dlc=en&product=58450&lc=en&jumpid=reg_R1002_USEN

Jeff Kearns

Re: HP 32SII

*Message #19 Posted by **Mike Morrow** on 17 Aug 2009, 1:22 p.m.,*
in response to message #17 by Marnus Malan (RSA)

Since you're accustomed to the HP42S, you'll likely find the HP32SII rather disappointing. It is several years later than the 42S, so it is faster, but only by about 50 to 100 percent depending on the operations performed. The display's characters are larger and clearer, but anything otherwise would be surprising since far less information is shown. Like the earlier HP-15C, it has no sound-making (beep) function, and it has no infrared printer output. It's quite a come down from its more accomplished older brother.

I wish they had produced an HP42SII and dropped the HP32S fifteen years ago, instead of the reverse.

Re: HP 32SII

*Message #20 Posted by **Mike Morrow** on 17 Aug 2009, 2:20 p.m.,*
in response to message #19 by Mike Morrow

> Quote:
>
> ...it is faster, but only by about 50 to 100 percent depending on the operations performed.

My numbers are wrong. I've just run some extended looping comparisons between the 32SII

and the 42S. These show a 32SII speed advantage of only about 35 percent.

Re: HP 32SII

*Message #21 Posted by **Egan Ford** on 17 Aug 2009, 2:42 p.m.,*
in response to message #20 by Mike Morrow

Many have stated that the 35s is slower than the 33s. Have you compared the speed of the 35s to the 42S?

Re: HP 32SII

*Message #22 Posted by **Mike Morrow** on 17 Aug 2009, 4:14 p.m.,*
in response to message #21 by Egan Ford

I don't have an HP35S. The firmware quirks that have been pointed out over the past two years have discouraged me, plus it is unfortunately (and unnecessarily) a little too large for a pocket calculator.

I use the very simple, well-known, and often criticized Savage Benchmark, very slightly modified, to get an initial estimate of speeds. It is a simple 2500 iteration loop equivalent of:

A = TAN(ATAN(e^LN(SQRT(A)^2)))+1

How close the final result is to 2500 gives a feel for the precision and effects of rounding errors, and how long it takes can be used for relative speed comparisons.

For the HP42S (Runs in 605 seconds):

```
01 LBL "SB"
02 2500
03 RAD
04 0
05 LBL 01
06 1
07 +
08 SQRT
09 X^2
10 LN
11 E^X
12 ATAN
13 TAN
14 DSE ST Y
15 GTO 01
16 BEEP
17 DEG
18 END
```

For the HP32SII (Runs in 460 seconds):

```
S01 LBL S
S02 2500
S03 STO A
S04 RAD
```

S05 0
A01 LBL A
A02 1
A03 +
A04 SQRT
A05 x^2
A06 LN
A07 e^x
A08 ATAN
A09 TAN
A10 DSE A
A11 GTO A
A12 DEG
A13 RTN

If someone with an HP35S programs the equivalent and reports the run time, we'd have a better feel for relative speeds.

FYI, the HP50g runs the equivalent program in USER RPL in about 64 seconds, while the HP-15C runs it in about 6100 seconds. The HP-34C requires about 7900 seconds, and the HP-41CX full-nut requires about 3300 seconds.

Edited: 17 Aug 2009, 10:03 p.m. after one or more responses were posted

Re: HP 32SII

*Message #23 Posted by **John B. Smitherman** on 17 Aug 2009, 6:15 p.m.,*
in response to message #22 by Mike Morrow

Hi Mike. I timed 635 seconds on my 35s.

Regards,

John

Re: HP 32SII

*Message #24 Posted by **Jeff Kearns** on 18 Aug 2009, 4:44 a.m.,*
in response to message #23 by John B. Smitherman

That's within a couple of seconds of what I got also - the second time while paying better attention... I missed a full minute on my watch the first time-round. JeffK

Edited: 18 Aug 2009, 4:46 a.m.

Re: HP 32SII vs 35S

*Message #25 Posted by **Jeff Kearns** on 17 Aug 2009, 6:22 p.m.,*
in response to message #22 by Mike Morrow

I did an initial run on the 35s and it took just short of 10 minutes! I will run it again later for a more accurate time but I would say between 550 and 575 seconds. Rather slow...

Jeff Kearns

Re: HP 32SII vs 35S

*Message #26 Posted by **Norris** on 17 Aug 2009, 7:11 p.m.,*
in response to message #25 by Jeff Kearns

> Quote:
>
> Many have stated that the 35s is slower than the 33s.

I entered the 32SII program above on an early-production 33S, and got a time of 7:55, or 475 seconds.

Based on the times listed above, the 33S appears to be slightly slower than the older 32SII, but significantly faster than the younger 35S.

Edited: 17 Aug 2009, 7:13 p.m.

Re: HP 32SII vs 35S

*Message #27 Posted by **John B. Smitherman** on 18 Aug 2009, 8:02 a.m.,*
in response to message #26 by Norris

Hi Norris. I timed 455 seconds on my early production 33s. I'm not sure why there is a 20 second between our times however I have noticed that this particular 33s slows down as the batteries get weaker. Could this be the case? Does your 33s have fresh batteries?

Regards,

John

Re: HP 32SII vs 35S

*Message #28 Posted by **Norris** on 18 Aug 2009, 12:42 p.m.,*
in response to message #27 by John B. Smitherman

> Quote:
>
> Does your 33s have fresh batteries?

Nope, they apparently haven't been changed since January 2006. That likely accounts for the time difference.

When I change batteries, I write the date on a piece of tape stuck to the back of the battery cover.

I took the PE exam with the 33S in early 2006, and apparently took the precaution of replacing the batteries before the exam. I have not used the 33S extensively since then. It got me through the PE exam, but I've never grown particularly attached to it. For the most part, I only pull it out of the drawer if the 11C is buried somewhere under the papers on my desktop

Edited: 18 Aug 2009, 12:44 p.m.

Re: HP 32SII

*Message #29 Posted by **Mark Edmonds** on 17 Aug 2009, 6:27 p.m.,*
in response to message #22 by Mike Morrow

Could someone run this benchmark for me please on a regular 32s? I have been puzzled by certain results I've had in the past with a 32s compared to 42s and 32sII so an independent result on this particular benchmark would be greatly appreciated.

Thanks :)

Mark

Re: HP 32SII

*Message #30 Posted by **Christoph Giesselink** on 17 Aug 2009, 8:12 p.m.,*
in response to message #29 by Mark Edmonds

HP32S Sn: 3038Sxxxxx

Execution time = 354s

Christoph

Re: HP 32SII

*Message #31 Posted by **Mark Edmonds** on 19 Aug 2009, 7:17 a.m.,*
in response to message #30 by Christoph Giesselink

> Quote:
>
> HP32S Sn: 3038Sxxxxx
>
> Execution time = 354s
>
> Christoph

Thank you Christoph. On mine, I get 391.5 seconds with result being 2499.99946106.

So, I wonder why so many of us are getting different results for the same models? Could it be something simple like battery condition? Or could it be down to the use of memory in the calcs with other variables present, etc.? I cleared all programs out before running the benchmark but I didn't clear the variables.

Mark

Re: HP 32SII

*Message #32 Posted by **Mark Edmonds** on 19 Aug 2009, 7:33 a.m.,*
in response to message #31 by Mark Edmonds

Did another attempt but this time I did a "Clear All" before typing in the program just in case memory usage could have a bearing on the result. I reasoned that Clear All would be one step away from resetting the calc.

The result.

As near as damnit, exactly the same.

So, some of us have fast 32S and some of us have slow 32S. Is it temperature related? Could it be simple manufacturing variances? Could this mean that we can't get accurate benchmark results for any calc unless we take a wide survey from many machines?

Mark

Re: HP 32SII

*Message #33 Posted by **Christoph Giesselink** on 19 Aug 2009, 8:17 a.m., in response to message #31 by Mark Edmonds*

> Quote:
>
> So, I wonder why so many of us are getting different results for the same models? Could it be something simple like battery condition? Or could it be down to the use of memory in the calcs with other variables present, etc.? I cleared all programs out before running the benchmark but I didn't clear the variables.

You question is correct. Especially the program memory usage will have an influence. IFAIK the program dispatcher can only jump forewards. At the end of program the interpreter jumps to program top and continue searching.

My 32S was totally empty before doing the benchmark.

A 2nd reason is the frequency multiplier. IFAIK all Saturn based calculators use a 32768Hz crystal oscillator. A frequency multipier generates the CPU clock out of the crytal frequency. Several physical ambient factors have an influence to the frequency multipier, mostly the ambient temperature.

That's the reason why every Lewis chip based calculator measures the CPU speed before sending data over the Redeye interface. On these calculators the complete IR pulse timing is generated by the CPU.

But how the CPU can measure there own speed? All newer Saturn based calculators have a 8192Hz timer which is directly derived from the 32768Hz crystal (dividing by 4) . When you now compare the CPU the with 8192Hz timer speed you get factor how much faster the CPU based on the 8192Hz signal is.

I hope this helps to solve some of the mysteries about speed differences.

Christoph

Re: HP 32SII

*Message #34 Posted by **Mark Edmonds** on 19 Aug 2009, 11:23 a.m.,*
in response to message #33 by Christoph Giesselink

Thanks for the details Christoph. My instinct tells me that the warmer the calc, the faster it should run and today when I did the timing tests, it is a very hot day here in the UK. But does high temp actually equate to slower speed?

Regarding memory usage, when I cleared the calc before doing another test, that test was about 1.5 seconds slower than before when I left the vars as-is and only cleared program memory. I'll run some more tests for consistency.

Mark

Re: HP 32SII

*Message #35 Posted by **Steve Perkins** on 19 Aug 2009, 1:52 p.m.,*
in response to message #30 by Christoph Giesselink

```
HP32S Sn: 2820Axxxxx
Execution time = 387s


HP32S Sn: 2901Axxxxx (50th Anniversary)
Execution time = 370s


HP32SII Sn: ID7440xxxx
Execution time = 458s


HP32SII Sn: ID0100xxxx
Execution time = 417s
Execution time = 426s (after replacing weak batteries with
fresh)
```

Did a Clear All before testing. Same numerical result.

I love the 42S for its power, memory, and 2-line display.

But for everyday use and simple programming and equation solving tasks, the 32S is simple and uncluttered. The display is very easy to read. And clearly it's a bit faster for complex tasks. It's also not too hard to obtain or replace so far.

The 32SII is obviously close, but the keyboard seems too busy after using the 32S. Just my opinion.

Re: HP 32SII

*Message #36 Posted by **Bart (UK)** on 21 Aug 2009, 7:14 a.m.,*
in response to message #35 by Steve Perkins

Interesting that fresh batteries actually slow down the calculator. I remember a similar observation on a battery operated bedside clock I had

once, it gained time when the battery started getting weak.
So if you want a fast calculator, use weak batteries with the risk that it may die just before it completes the calculation :).

I too prefer the less cluttered 32S. I like menus. When I got my 28C (later replaced by a 28S), it seemed the natural progression for calculators to add more functions to without umpteen shift buttons (eg the fictitious 67CX, although the interest in this machine seems to indicate my views may be the minority).

Re: HP 32SII

*Message #37 Posted by **Bart (UK)** on 18 Aug 2009, 10:14 a.m.,*
in response to message #29 by Mark Edmonds

32S S/N: 3038Sxxxx: 401s

20S S/N: ID747xxxxx; algebraic, keystroke programming, no DSE/ISG: 350s (I can post the code if requested).

Re: HP 32SII

*Message #38 Posted by **Mark Edmonds** on 19 Aug 2009, 7:20 a.m.,*
in response to message #37 by Bart (UK)

Bart - your 32S time is 10 seconds slower than mine but there are two other results posted that are in the ~350 second region which is a lot faster relatively than our timings.

How is it that what are meant to be identical calcs can produce such a wide variance of performance?

Mark

Re: HP 32SII

*Message #39 Posted by **Walter B** on 19 Aug 2009, 7:55 a.m.,*
in response to message #38 by Mark Edmonds

> Quote:
>
> How is it that what are meant to be identical calcs can produce such a wide variance of performance?

Those of you who ever saw 2 *identical* items, please stand up d8)
Identity (?) is the consequence of bad sight d;)

Re: HP 32SII

*Message #40 Posted by **Bart (UK)** on 19 Aug 2009, 10:50 a.m.,*
in response to message #39 by Walter B

> Quote:

> Those of you who ever saw 2 *identical* items, please stand up d8) Identity (?) is the consequence of bad sight d;)

-It's all in the eye of the beer-holder.

However: my 32S was made in the same place and the same week of the same year as Christoph's.

In the first runs I had 136B free mem. I have cleared all and retyped the prog. Now I get 369 seconds, 15s (~4%) slower than Christoph.

Another option is to try new batteries (I can't remember when last they were replaced).

Re: HP 32SII

*Message #41 Posted by **Mark Edmonds** on 19 Aug 2009, 11:19 a.m.,*
in response to message #39 by Walter B

> Quote:
>
> Those of you who ever saw 2 *identical* items, please stand up d8) Identity (?) is the consequence of bad sight d;)

I'll need to check this but I think my Voyager calc timings have been pretty consistent with those published elsewhere. Different architecture than the Saturn?

Mark

Re: HP 32SII

*Message #42 Posted by **Mark Edmonds** on 17 Aug 2009, 6:29 p.m.,*
in response to message #22 by Mike Morrow

> Quote:
>
> FYI, the HP50g runs the equivalent program in USER RPL in about 64 seconds, while the HP-15C runs it in about 6100 seconds.

Do you have the listing of that UserRPL program please?

Thanks :)

Mark

Re: HP 32SII

*Message #43 Posted by **Mike Morrow** on 17 Aug 2009, 7:47 p.m.,*

in response to message #42 by Mark Edmonds

My UserRPL Savage benchmark program is below. I store the following program as SB:

<< RAD TICKS 0. 1. 2500. START 1. + SQRT SQ LN EXP ATAN TAN NEXT SWAP TICKS SWAP - B->R 8192. / DEG 800. 2. BEEP >>

The program ends by displaying in stack level 2 the final value after 2500 iterations, and displaying in stack level 1 the time (seconds) that it took to complete the looping. This is followed by an 800 Hz tone.

Typical results for an HP50g:

2: 2499.99946106
1: 64.5230712891

In the listing above, SQRT is the square root symbol, and B->R is the binary-to-real conversion function. It is important to have the decimal points on the constants within this program, otherwise they will be treated as binary integers (bints). This this can almost double execution time!

Edited: 18 Aug 2009, 4:52 p.m.

Re: HP 32SII

*Message #44 Posted by **Reth** on 17 Aug 2009, 6:59 p.m.,*
in response to message #22 by Mike Morrow

> Quote:
>
> (Runs in 605 seconds on the HP42S)

... and only 7 seconds on the iPhone's 42s!

Edited: 19 Aug 2009, 6:58 p.m. after one or more responses were posted

Re: HP 32SII

*Message #45 Posted by **Christoph Giesselink** on 17 Aug 2009, 8:38 p.m.,*
in response to message #44 by Reth

> Quote:
>
> ... and only 7 seconds on the iPhone's 42S!

PocketPC ARM PXA310/640MHz

Emu42PPC v1.11beta2 08/18/09

HP32SII emulation = 15s

HP42S emulation = 28s

Christoph

Re: HP 32SII - Savage Benchmark vs new 12C?

*Message #46 Posted by **Bart (UK)** on 18 Aug 2009, 10:17 a.m.,*
in response to message #45 by Christoph Giesselink

I wonder what the new fast 12C would attain?

Re: HP 32SII - Savage Benchmark vs new 12C?

*Message #47 Posted by **Mike Morrow** on 18 Aug 2009, 10:35 a.m.,*
in response to message #46 by Bart (UK)

It doesn't have the trigonometric functions that are part of the standard Savage benchmark.

Re: HP 32SII - Savage Benchmark vs new 12C?

*Message #48 Posted by **Bart (UK)** on 18 Aug 2009, 11:16 a.m.,*
in response to message #47 by Mike Morrow

Oops, I forgot, it's a financial calc :(

Re: HP 32SII - Savage Benchmark vs new 12C?

*Message #49 Posted by **Katie Wasserman** on 18 Aug 2009, 9:44 p.m.,*
in response to message #48 by Bart (UK)

If you remove the trig functions, I get a time of 260 seconds (result=2499.99999938) on the 32Sii and a time of 31 seconds (result=2500.000035) on a 12C+ (with the latest firmware). This isn't a totally fair comparison though since the 12c+ doesn't have DSE and x^2 and therefore requires more commands. Here's the code I used:

```
01 2
02 5
03 0
04 0
05 STO 0
06 0
07 ENTER
08 1
09 +
10 SQRT
11 ENTER
12 x
13 LN
14 e^x
15 RCL 0
16 1
17 -
18 STO 0
19 x=0
20 GTO 23
21 Rv
22 GTO 08
23 Rv
24 GTO 00
```

-Katie

Edited: 18 Aug 2009, 9:48 p.m.

Re: HP 32SII - Savage Benchmark vs new 12C?

*Message #50 Posted by **Bart (UK)** on 19 Aug 2009, 6:54 a.m.,*
in response to message #49 by Katie Wasserman

> Quote:
>
> This isn't a totally fair comparison though...

Although it does seem to imply that that if HP were to release a 15C+ or (heaven forbid) a 42S+, it would beat the socks off the 32's.

Interesting though that my 20S does not do too badly in the Savage test (350sec) even with no stack and no DSE.

Free42/42s savage benchmark

*Message #51 Posted by **Byron Foster** on 18 Aug 2009, 2:16 p.m.,*
in response to message #45 by Christoph Giesselink

My results with Free42/42s are similar to Reth at 7 seconds, with a result of:

2500 . 00000 00000 00001 704613

I compiled up a binary math version of 42s, and it runs in less then a second (hard to tell exactly how much less), and it gets a result of:

2500 . 00000 00015 816

Re: Free42/42s savage benchmark

*Message #52 Posted by **Reth** on 19 Aug 2009, 7:00 p.m.,*
in response to message #51 by Byron Foster

... and the new just released 42s Version 2.2 (Free42 1.4.52) returns 2,500 exact for 6 second (before the BEEP)! Brilliant!
actually subtracting 2,500 from it gives 1.704613e-15

Edited: 19 Aug 2009, 10:08 p.m.

Re: HP 32SII

*Message #53 Posted by **Howard Owen** on 17 Aug 2009, 10:19 p.m.,*
in response to message #22 by Mike Morrow

Just for grins:

```
mymac> cat savage.c
#include <math.h>


int main(int argc, char *argv)
```

```
{
   float a =0.0;
   int i;


   for(i=0; i<=2500; i++)
        a=tan(atan(exp(log(pow(sqrt(a),2))))) + 1;
}
mymac> gcc -o savage savage.c
mymac> time ./savage


real    0m0.002s
user    0m0.001s
sys     0m0.001s
```

2.53 GHz Intel Core 2 Duo. Mac OS X 10.5.8

Regards,
Howard

Re: HP 32SII

*Message #54 Posted by **Paul Dale** on 17 Aug 2009, 11:13 p.m.,*
in response to message #53 by Howard Owen

The loop should terminate <2500 not <=2500.

You also need to output the result or the compiler is free to optimise the loop out of existence.

Even then, the compiler would be allowed to computer the result of the loop and just print that....

- Pauli

Re: HP 32SII

*Message #55 Posted by **Kevin Brown** on 18 Aug 2009, 7:09 a.m.,*
in response to message #54 by Paul Dale

I don't believe the compiler will do any optimization unless you use -O or one of its variants (-O2, -O3), or request specific optimizations of it (e.g., -funroll-loops).

Re: HP 32SII

*Message #56 Posted by **Paul Dale** on 18 Aug 2009, 5:54 p.m.,*
in response to message #55 by Kevin Brown

And in an albeit somewhat silly speed test, wouldn't one routinely turn the optimiser on? I know I would.

- Pauli

Re: HP 32SII

*Message #57 Posted by **Howard Owen** on 18 Aug 2009, 11:12 a.m.,*
in response to message #54 by Paul Dale

Hi, Pauli

Taking a look at the assembler code produced by gcc, it's clear the loop is structured as coded.

```
mymac> gcc -S -o savage.s savage.c
```

and a portion of the output:

```
        jmp     L2
L3:
        cvtss2sd        -16(%ebp), %xmm0
        sqrtsd  %xmm0, %xmm0
        mulsd   %xmm0, %xmm0
        movsd   %xmm0, (%esp)
        .
        .
        (calls to libm for the rest of the computation)
L2:
        cmpl    $2500, -12(%ebp)
        jle     L3
        .
        .
```

Regards,
Howard

Re: HP 32SII

*Message #58 Posted by **Jeff O.** on 18 Aug 2009, 11:42 a.m.,*
in response to message #22 by Mike Morrow

My test times (and the numeric result) are as follows:

```
HP35s:    629 seconds, 2499.99939863
HP33s:    481 seconds, 2499.99939863
HP-32Sii: 419 seconds, 2499.99946106
HP-32S:   355 seconds, 2499.99946106
HP-42S:   597 seconds, 2499.99946106
```

Note - for fun and to keep everything in the hp family, all timings were done using an hp-45 with crystal installed.

Edited: 18 Aug 2009, 11:51 a.m.

Timing for a 27S

*Message #59 Posted by **Mark Edmonds** on 19 Aug 2009, 5:32 p.m.,*
in response to message #22 by Mike Morrow

If you modify the benchmark for the 32S very slightly by making it a summation of the returned values, you can re-write it to run in the Solver. This enables timings on the 17B, 27S, 19B, etc..

Timing for a 27S at ambient temp 25C is 274 seconds. The fastest of the Pioneers!!

Mark

Re: HP 32SII

*Message #60 Posted by **Christoph Giesselink** on 19 Aug 2009, 6:58 p.m.,*
in response to message #22 by Mike Morrow

For those who cannot accept that the HP42S is slower than the HP32SII. Here's a small trick. The HP42S has a Lewis chip inside, and the Lewis chip has a RATE register controlling the CPU speed.

This register at 40300H can be modified with the internal memory scanner from 7H to FH for maximum speed. But don't exit the memory scanner with the regular <ON><SK3>. This would reset the RATE register back to 7H. Best, working on all High-End-Pioneers, is to execute address 00000H. This executes a warmstart but leave the RATE register and the memory content intact.

Pressing the <ON> key will also reset the RATE register. So start the benchmark just after the warmstart and enjoy the fastest original HP42S you ever seen. ;-)

Christoph

HP-42S speed setting

*Message #61 Posted by **Karl Schneider** on 21 Aug 2009, 2:17 a.m.,*
in response to message #60 by Christoph Giesselink

> Quote:
>
> The HP42S has a Lewis chip inside, and the Lewis chip has a RATE register controlling the CPU speed.
>
> This register at 40300H can be modified with the internal memory scanner from 7H to FH for maximum speed.

Gene Wright posted details about this procedure in 1997:

http://www.rskey.org/gene/hpgene/hp42fast.htm

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv009.cgi?read=26022

I suppose that 7 hexadecimal is the middle speed; F hexadecimal is the maximum speed. Values lower than 7 would slow it down.

Only the original versions of the HP-42S (reflective, non-recessed display window) allow the speed setting to be changed by program.

-- KS

Re: HP-42S speed setting

*Message #62 Posted by **Christoph Giesselink** on 21 Aug 2009, 7:50 a.m.,*
in response to message #61 by Karl Schneider

TNX for remembering Gene Wright's article.

The CPU speed is calculated by ((RATE + 1) * 524288 Hz) / 4.

So the nominal speed is ((7 + 1) * 524288 Hz) / 4 = 1048576 Hz

You can verify this in the single step self test mode <ON><SK4> with

<SK1>.

Christoph

Re: HP-42S speed setting

*Message #63 Posted by **Diego Diaz** on 1 Sept 2009, 11:33 a.m.,*
in response to message #62 by Christoph Giesselink

Hi all,

Or... if you're concerned about 42's speed, replace the internal 32.768KHz Xtal with a 65.536KHz one and you won't need to worry about the [ON] key ever more... (unless you still want to get it doubled again (4x) by altering H'40300 register to H'0F... regrettably, it won't go beyond H'09 - a 2.25x from original speed - figures above this will render an unreadable display.)

BTW, once opened you may also consider a memory upgrade to 32KB... ;-))

I've made these mods for several users as well as on my own 42's and they really work!

However, in my experience, both models of 42's can be speeded-up by changing reg H'40300.

Cheers.

Diego.

Edited: 1 Sept 2009, 11:34 a.m.

Re: HP 32SII

*Message #64 Posted by **Nigel J Dowrick** on 17 Aug 2009, 2:33 p.m.,*
in response to message #17 by Marnus Malan (RSA)

I own a 32SII. I would emphasize one point that others have already made: the memory is really very small indeed. Don't get the idea that you can store a library of equations there, plus a few useful programs: you can't. Apart from this, I find it to be an excellent machine for day-to-day use. However, I prefer the HP-33S because of the greater memory and the two-line display.

Nigel

Re: HP 32SII

*Message #65 Posted by **Jeff O.** on 17 Aug 2009, 12:19 p.m.,*
in response to message #15 by Mike Morrow

Quote:

The later butt-ugly HP33S and the oversized HP35S also have very poor complex number support similar to the HP32SII

Actually, the 35s has much better complex number support. Having the "i" key (with the shifted angle) was in my mind a great leap forward. The problem is that the functions which will accept a complex argument are limited, and of course the lack of either this menu:

or these these functions on the keyboard:

...

Re: HP 32SII

*Message #66 Posted by **Mike Morrow** on 17 Aug 2009, 1:01 p.m.,*
in response to message #65 by Jeff O.

I consider that real support of complex numbers only happens when complex numbers are accepted and results generated whenever they naturally occur. Examples:

sqrt(-3), -5.1^-2.7, i^i, arcsin(1.5), ln(-3.1), cos(i4.2), manipulation of matrices with complex elements, etc., etc.

AFAIK, the HP35s does NOT naturally process most of these types of operations. The HP42S and the RPL models handle them with ease. The HP-15C does too, with a little bit more effort.

There is no valid excuse for calculators such as the HP35S (and anything coming out later) not having this capability which had been beautifully implemented in calculators introduced more than two decades earlier!

Re: HP 32SII

*Message #67 Posted by **Katie Wasserman** on 17 Aug 2009, 1:24 p.m.,*
in response to message #66 by Mike Morrow

I agree that calculators that support complex number should do so all the way. However, I don't think that all scientific calculators need to support complex numbers -- certainly financial/scientific calculators like the 20b don't need them. The 32SII does a really poor job at complex number support and set a precedent for the 33S and 35S. Even though I don't often need complex numbers I still find some of what they do useful even for non-complex number manipulation. In particular, you can use the sequence <0> <ENTER> <COMPLEX +> to duplicate the last 2 entries on the stack.

Although I have and use virtually all the HP calculator models I *love* the 32SII. It's the one I use daily and keep one handy everywhere (they used to be cheap on ebay). Programming on the 32SII

is a pleasure, you have nearly instant access to all functions, memory isn't too big to keep what you're doing in your head, there are only a handful of flags to know and the display is large and easy to see in bad lighting.

Re: HP 32SII

*Message #68 Posted by **Mark Edmonds** on 17 Aug 2009, 2:12 p.m.,*
in response to message #67 by Katie Wasserman

I have to agree with Katie - I love the 32sII. It is really well-balanced calc with very little hidden, good feature set, great keyboard and ergonomics and despite the relatively small memory size, I actually like that because it encourages efficient programming that explores all the techniques and commands.

One area that people rarely mention when comparing the 32sII with the 35s is base conversion and the two calcs are very different here. With the 32sII, you set it to the base you want and carry on working with no special procedures. With the 35s, despite setting the base, you still need to specify each number to be in that base which requires totally redundant but enforced extra keystrokes. This feature drives me nuts and I cannot understand why it was implemented.

On top of that, the 35s has a poor keyboard, bad ergonomics, an ugly display and even though it has a lot lot more memory, you still only have 26 labels and have to use line addressing - hardly encouraging for writing large programs.

The 35s has a few extra useful commands (binary logic for example) but given a choice between this and the 32sII, I would pick the 32 without any hesitation. It really is a great, fun little calc.

Mark

Re: HP 32SII

*Message #69 Posted by **Ed Look** on 17 Aug 2009, 2:30 p.m.,*
in response to message #68 by Mark Edmonds

I'll have to agree with the two above posters; the 32SII is a pleasure to use, though after having used the 33s and 35s, the memory space allotted for programming might just be a tad small on the 32SII. Otherwise, it was the first calculator I reached for after my 34C went down, until recently, because I am... afraid... of wearing it down, too, so now I prefer the 33s (over the 35s).

Re: HP 32SII

*Message #70 Posted by **Jeff O.** on 17 Aug 2009, 9:38 p.m.,*
in response to message #68 by Mark Edmonds

> Quote:
>
> One area that people rarely mention when comparing the 32sII with the 35s is base conversion and the two calcs are very different here. With the 32sII, you set it to the base you want and carry on working with no special procedures. With the 35s, despite setting the base, you still need to specify each number to be in that base which requires totally redundant but enforced extra keystrokes. This feature drives me nuts and I cannot understand why it was implemented.

Although I never use the base converions, I agree that the method implemented on the 35s is baffling.

> Quote:
>
> On top of that, the 35s has a poor keyboard, bad ergonomics, an ugly display and even though it has a lot lot more memory, you still only have 26 labels and have to use line addressing - hardly encouraging for writing large programs.

I like the feel and arrangement of the 35s keyboard. I'd like it to be a bit smaller, but that is my only ergonomic complaint, unless shifted STO is an ergonomic complaint. As far as programming, I think it would be fair to say that 26 labels and 384 bytes (not sure of exact figure) of memory is also hardly encouraging for writing large programs.

> Quote:
>
> The 35s has a few extra useful commands (binary logic for example) but given a choice between this and the 32sII, I would pick the 32 without any hesitation. It really is a great, fun little calc.

Don't get me wrong, I like the 32s/sii but given the choice (a choice that I have), I pick up the 35s, primarily for the complex capabilites discussed above (or below, depending on how you view your threads.)

Re: HP 32SII

*Message #71 Posted by **Egan Ford** on 17 Aug 2009, 2:41 p.m.,*
in response to message #67 by Katie Wasserman

> Quote:
>
> However, I don't think that all scientific calculators need to support complex numbers -- certainly financial/scientific calculators like the 20b don't need them. The 32SII does a really poor job at complex number support and set a precedent for the 33S and 35S.

I also agree, but if you are going to do it, then do it right, or at least as good as before, especially if you have a history of doing so already.

Re: HP 32SII

*Message #72 Posted by **Karl Schneider** on 21 Aug 2009, 2:39 a.m.,*
in response to message #67 by Katie Wasserman

Hi, Katie --

> Quote:
>
> The 32SII does a really poor job at complex number support and set a precedent for the 33S and 35S.

Although cumbersome for interactive usage, the capabilities are still quite useful for programming:

http://www.hpmuseum.org/software/32acxfer.htm

The built-in complex-number capabilities of the HP-32SII were the same as those of the HP-32S, which apparently used the HP-41 Math Pac as a template.

> Quote:
>
> ... the 32SII *(is)* the one I use daily and keep one handy everywhere ... Programming on the 32SII is a pleasure, you have nearly instant access to all functions, ... and the display is large and easy to see in bad lighting.

Yup, I use it most routinely for those reasons. It's also about 12 times as fast as an HP-15C, and better-suited to maintaining small programs in permanent residence (easier to follow and organize).

-- KS

Re: HP 32SII

*Message #73 Posted by **Katie Wasserman** on 21 Aug 2009, 4:47 p.m.,*
in response to message #72 by Karl Schneider

KS-

Very nice program and an excellent fit on the 32Sii! Do you work in electrical power engineering?

-Katie

Re: HP 32SII

*Message #74 Posted by **Karl Schneider** on 23 Aug 2009, 2:38 p.m.,*
in response to message #73 by Katie Wasserman

> Quote:
>
> Very nice program and an excellent fit on the 32Sii! Do you work in electrical power engineering?

Katie --

Yes; at least several of us Forum participants do.

You may have noticed that several versions of my program have been uploaded, each tailored for the HP-32S, HP-32SII, HP-33s (RPN and ALG). I've also submitted versions for the HP-35s, but these were just crude, direct portings of the HP-33s programs.

The posted HP-32SII program omits a small refinement I made -- lines P29 through P33 should read as follows:

```
P29  STO P
P30  x<>y
P31  STO Q
P32  VIEW P     Show P injected into line(s)
```

```
P33  VIEW Q     Show Q injected into line(s)
```

A power-system equation I keep in the meager 384-byte memory is the following:

```
M=K*A*SQRT(3)/100/10     3-phase (MVA) = (kV)*(Amp)*sqrt(3)/1000
```

Expressing "/1000" as "/100/10" saves five bytes, because non-negative integers lower than 255 on the HP-32SII require only 1.5 bytes of storage for programs or equations.

Or, one can save a byte and gain some speed by entering a (trivially-)calculated constant in the equation:

```
M=K*A*1.73205080757E-3
```

Certainly, direct-solution programs can also be stored for this purpose (and that is what must be done on the HP-32S), but, well, there's that storage-space issue...

-- KS

Edited: 24 Aug 2009, 11:27 p.m.

Re: HP 32SII

*Message #75 Posted by **Jeff O.** on 17 Aug 2009, 9:19 p.m.,*
in response to message #66 by Mike Morrow

> Quote:
>
> I consider that real support of complex numbers only happens when complex numbers are accepted and results generated whenever they naturally occur. Examples:
>
> sqrt(-3), -5.1^-2.7, i^i, arcsin(1.5), ln(-3.1), cos(i4.2), manipulation of matrices with complex elements, etc., etc.
>
> AFAIK, the HP35s does NOT naturally process most of these types of operations. The HP42S and the RPL models handle them with ease. The HP-15C does too, with a little bit more effort.

I agree, the 35s *should* do as you say. But I would say that accepting complex inputs for all valid functions is only part of the story. The other part is entry and display of complex values. In my opinion, the 35s' method of entry is **far** superior to both the 15C and 42S, and its display is almost as good as the 42s and again superior to the 15C. Of RPN machines, the 35s is the only one in which four complex values can be naturally and easily entered onto the stack. While it certainly has shorcomings, I think the 35s deserves some credit for the things it got right.

> Quote:
>
> There is no valid excuse for calculators such as the HP35S (and anything coming out later) not having this capability which had been beautifully implemented in calculators introduced more than two decades earlier!

It is not my intention to make excuses for HP. I will note that the 35s was an extension of the 32S/32Sii/33s line. Aside from the improvements in entry and display, it also offered a full 4-value stack depth, and eliminated the need to tell the calculator you want to treat x and y (and maybe z

and t) as components of a complex value by pressing "COMPLEX" before executing a function. So, again in my opinion, I think the 35s succeeded in improving on the complex number capabilities of the 32S/32Sii/33s line.

Re: HP 32SII

*Message #76 Posted by **Martin Pinckney** on 17 Aug 2009, 2:57 p.m.,*
in response to message #1 by Marnus Malan (RSA)

Well, Marnus, you certainly have a full variety of opinions to choose from!

Re: HP 32SII

*Message #77 Posted by **Brent Hillebrenner** on 17 Aug 2009, 7:26 p.m.,*
in response to message #1 by Marnus Malan (RSA)

In my opinion the 32sii is minimalism at it's finest. Well really the 32S is but the 32sii is a close second. Especially If you can get one with a brown bezel (is that the right terminology), that would be best. It does everything that anybody living in a Newtonian world would ever need. It may be short on memory for programming and equations but as an everyday utilitarian machine it can't be beat. I own a 33s and 35s and I just don't feel the love for these two.

IMHO

Re: HP 32SII

*Message #78 Posted by **Walter B** on 18 Aug 2009, 1:19 a.m.,*
in response to message #77 by Brent Hillebrenner

> Quote:
>
> In my opinion the 32sii is minimalism at it's finest. Well really the 32S is

Agree on this. That was the reason why I recommended to Marnus to compare the keyboards of the 32S and the 32SII in my first response above.

Re: HP 32SII

*Message #79 Posted by **Marnus Malan (RSA)** on 18 Aug 2009, 5:49 a.m.,*
in response to message #78 by Walter B

Well-well, you guys certainly have been busy. I noted last night that with program execution the 33s is substantially faster when executing the same / similar programs, BUT NOT AT ALL much faster when solving equations. I used Colebrook-White/Darcy-Weissbach equation for flow in pipes and also the TVM implimentations (rewriting the 33s textbook equation so that the I%YR is entered as is, without the need to /12 beforehand).

Anyway, I've made an offer for the 32SII, thought I could always obtain a 35S later should I not like the 32SII, but the other way round would be more difficult.

Thanks for all the input

Edited: 18 Aug 2009, 10:42 a.m. after one or more responses were posted

(deleted post)

*Message #80 Posted by **deleted** on 18 Aug 2009, 5:51 a.m.,*
in response to message #79 by Marnus Malan (RSA)

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

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How to prevent automatic substitution during SIMPLIFY

*Message #1 Posted by **Luca** on 16 Aug 2009, 8:14 p.m.*

I am new to the HP-50g, and I am noticing the following problem. If I have an expression, say,

```
M * Q * (Q+1) * (Q-1) + 1
-------------------------
M + M * Q
```

and I hit SIMPLIFY, then the 50g tries to find definitions for M and Q, not only in the current directory, but (at least) in all the path from the current directory to the root. So if, say, one level above while working on something else I have variable M with value 0.3, when I click SIMPLIFY the value will be plugged into the expression, and the result will not be an expression in M and Q any more. This is true also for EXPAND. COLLECT works "correctly", just working on the equation at hand.

Is this the intended behavior? How can I prevent variable expansion from taking place? I would simply like to be able to work on an expression, regardless of what variables I might have defined at an upper level (or at the same level).

I am using the latest ROM, C-2.15, if this makes a difference. Many thanks!

Luca

Re: How to prevent automatic substitution during SIMPLIFY

*Message #2 Posted by **Jonathan Eisch** on 16 Aug 2009, 9:50 p.m.,*
in response to message #1 by Luca

Hello Luca,

Many of the users of this forum primarily use the older HP calculators. The hp-50g is based on the hp-48 series of calculators, and you will probably have better luck finding your answers on a list devoted to those, such as the comp.sys.hp48 newsgroup (easily accessible using google groups). I'd suggest using the search function, as that list has probably answered similar questions from someone in a position similar to yourself.

You can also find most of your answers in the Users Guide or the HP 50g Advanced User's Reference Manual.

Generally speaking, the answer to "Is this the intended behavior?" is "yes" as the ROMs are very mature.

-Jonathan

(edit: forgot to sign my name)

Edited: 16 Aug 2009, 9:51 p.m.

Re: How to prevent automatic substitution during SIMPLIFY

*Message #3 Posted by **Luca** on 17 Aug 2009, 2:48 a.m.,*
in response to message #2 by Jonathan Eisch

Thanks, I will follow this advice. I also usually use older calculators (the 32SII is my favorite, due to speed of operation, followed by the 42S); I got a 50g for its CAS abilities -- but I have difficulties making it work as I like.

Best, Luca.

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Help: how to get the hp-50g to work on expressions.

*Message #1 Posted by **Luca** on 16 Aug 2009, 6:55 p.m.*

I am having great troubles with my HP-50g. It seems that there is a big clash between the way I am used to working with math, and the way the 50g is able to help me. Let me tell you what I need to do, and in what ways the 50g fails me. I am hoping that my frustration is simply due to inexperience (and bad documentation)... so any help would be very much appreciated.

A typical flow for me is this. I define a few expressions, for instance (not in HP notation, does not matter),

> Quote:
>
> p1 = q / (m * (m + q^2))
> p2 = q (m + 1) / m

I then compute p1 * p2, and store it in another variable, say, p. At this point, p contains a function of m and q, which are two variable that are meaningful in the problem I am studying. I then want to simplify this expression: nothing is easier: I go into the equation editor, hit simplify, then re-store the result in p. So far, so good.

Then I hit the first bump. I would like to evaluate p, and I would like to do it in a way that resembles the equation mode of the good ol' 32SII: I would like the calculator to prompt me for values for m and q, showing me any previous value held by the variables, and then evaluate the expression p based on the new values. I don't see any quick way of doing this. The only way seems to be to create variables m and q, store values in them, then retrieve p, and hit EVAL. Is it really necessary to go through this? Is there a better way?

Once I play with p (and m and q) for a little while, I change something in the problem I am analyzing (maybe I make a change in the algorithm I am analyzing, whatever), and I get a new p2, for instance,

> Quote:
>
> p2 = (m+1) (m-1) (m-q) / (m^2 + q)

Great, I recompute p1 * p2, and store the result in p. So far so good.

But now I hit the second, and bigger, bump. When I try to simplify p, the calculator simplifies it all the way down to a real number! Just the presence of variables m and q in the directory caused the simplify algorithm to behave not only as simplify, but also as numerical substitute and evaluation!

This is absurd. If I have an equation on the stack, and call a command on that, the result should depend only on that -- not also on side factors like what other variables I have defined in that moment!!

This is also incredibly inconvenient. I want to have a simpler form of p first, so I can stare at it (and, e.g., infer by eye its asymptotic behavior, or whatnot). Only when I choose, I want to substitute the values of m and q into p and get a number!

Am I missing something?

Can I make the HP-50g work with my flow of playing with math? Many thanks!

Luca

Re: Help: how to get the hp-50g to work on expressions.

*Message #2 Posted by **dbatiz** on 17 Aug 2009, 12:19 p.m.,*
in response to message #1 by Luca

There are many ways to accomplish your goal. I believe the 50G's strength is also its weakness, it's very flexible. Some of the gurus here who can drive the equation solver will probably have other more elegant ways of addressing your concerns, but here is my first effort:

Make sure "m" and "q" are not already defined. (PURGE them)

I put your two expressions in the stack, and stored each as "p1" and "p2"

Now simply by pressing the VAR key, they appear above the soft keys. F1 F2 Multiply EVAL produces the combined expression you were after.

Leave your combined equation on the stack, or hit enter a couple of times to make however many copies you need.

Now here's where you can do all kinds of magic, this works for me: Get the following line on the stack: {q 2 m 3}

Be mindful of the spaces. Literally Bracket, no space, q, space, 2, space, m, space, 3, Bracket.

Now Right Shift Tool (it looks like a vertical line). This prompts the calculator to substitute the variables in the brackets into the equation above in the stack. Then press EVAL, you should (depending on your settings) get 16/63.

If you need to do this repeatedly, feel free to replicate the equation in the stack as needed, and consider storing the bracketed variables in a new variable (I used "v").

Once you get inside the head of the 50G, you'll be right at home!

Very respectfully,

David

Re: Help: how to get the hp-50g to work on expressions.

*Message #3 Posted by **Luca** on 17 Aug 2009, 12:39 p.m.,*
in response to message #2 by dbatiz

David, thanks, this helps a lot. The substitution tool, rather than defining variables, may be exactly what I needed. However, see also my other post on a bug in SIMPLIFY.

Luca

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Help: how to get the hp-50g to work on expressions.

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How to compute the value of symbolic expressions in HP-50g?

*Message #1 Posted by **Luca** on 16 Aug 2009, 3:37 p.m.*

I realize this must be a very simple question, but how do I evaluate expressions containing symbols? Suppose you have a simple expression, for instance:

```
X*(M-1)
-------
X*(M+1)
```

I would like to press on a key that did:

- Prompts for all the values of the symbols, such as X, M in the example, showing the previous value if any.
- Returns the value of the expression.

This seems to be rather basic functionality, similar to the equation mode, so I am sure that there is a way to do it... but which way? Many thanks... as you can see, I am a beginner with my 50g.

Luca

Re: How to compute the value of symbolic expressions in HP-50g?

*Message #2 Posted by **Hal Bitton in Boise** on 16 Aug 2009, 8:16 p.m.,*
in response to message #1 by Luca

No problem, Luca,
Just use the equation solver thusly:

Assuming your equation is on the stack level 1:
...copy it (up arrow and put the pointer on level 1, right shift, copy, enter)
...open the equation solver (right shift, num.slv, option 1 (which is Solve equation).
...with the Eq field highlighted, hit paste (right shift, paste) and enter. (note; if your equation is stored in a variable, just hit CHOOSE and navigate to your variable)
...The application will put the equation into the field, and it's variables will appear below. Select any variable and put a value into it (by keying in the number and hitting enter). Highlight the variable you want to solve for and hit solve (f6 softkey). You can put an initial guess into the variable you want to solve for prior to solving if you want to. You can change the values and or solve for any of the variables you want to.
...note that when you exit the solver application, the solution(s) found by the equation solver have automatically been put on the stack as a tagged object(s), which can then be used in subsequent calculations.
best regards,
hal

Re: How to compute the value of symbolic expressions in HP-50g?

*Message #3 Posted by **Luca** on 17 Aug 2009, 2:36 a.m.,*
in response to message #2 by Hal Bitton in Boise

Thanks! This helps.

I just wish that the numeric solver would display the value it computes when I assign values to the variables and press EXPR= , rather than just leaving the value on the stack.

I did not know I had to use the solver even for evaluating an expression, but I see that it works well. Thanks!

Luca

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ROM version C-2.15 for HP-50g: what is the benefit?

*Message #1 Posted by **Luca** on 16 Aug 2009, 5:37 a.m.*

I have an HP-50g with the standard ROM v.92 (11 Aug 2006). I read here on the forum that an upgrade is available: C-2.15. What are the benefits? What I mostly care is bug-fixes; I do not really need new features, but I would like to have as bug-free a calculator as possible... Many thanks! Luca

Re: ROM version C-2.15 for HP-50g: what is the benefit?

*Message #2 Posted by **Tim Wessman** on 16 Aug 2009, 11:05 a.m.,*
in response to message #1 by Luca

Did you look at the nice changelog included in the installation instruction document? If not, download the zip file and that will probably answer you questions. In short, it includes all the bugfixes from 2.09 ->2.10, plus adding in the new streamsmart application and making space for future additions.

TW

Re: ROM version C-2.15 for HP-50g: what is the benefit?

*Message #3 Posted by **John B. Smitherman** on 16 Aug 2009, 11:05 a.m.,*
in response to message #1 by Luca

Hi Luca. The zipped ROM update file contains an Adobe Acrobate pdf file which briefly describes all the bug fixes and enhancements.

Regards,

John

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41Z Breakthrough: 4-level Complex Stack

*Message #1 Posted by **Ángel Martin** on 16 Aug 2009, 6:52 a.m.*

Well, maybe not a *real* breakthrough but nevertheless important enough for some :)

Get ready for an enhanced revision of the 41Z module, with FOUR levels of COMPLEX Stack... made possible by ustilizing a buffer that holds the 3rd. and 4th. levels (the standard stack keeps track of the first two, of course).

The "Complex" buffer (id#=1) is created upon calc being turned on, and maintained by the module. Totally transparent to the user. If it somehow fails, a two-level stack is always available regardless. Maybe not a perfect solution but surely the PERFECT compromise!

The module functions work more or less as before, but the 4-level stack lift and drop has been implemented into all non-monadic functions of course.

My thanks go to Peter Platzer for encouragement (his MPL module proved it was possible) and to Häkan Thörngren, who wrote the base routines for buffer creation and handling tat I've built upon.

So stay tuned... I'm in programmer's paradise this weekend (which of course includes lots of Pizza), should come up with the final release pretty soon...

Best,

ÁM

PS. you said four? hmmm, no reason to go over that, provided that enough free registers exist to increase the complex buffer size...

Edited: 16 Aug 2009, 7:33 a.m.

Re: 41Z Breakthrough: 4-level Complex Stack

*Message #2 Posted by **Egan Ford** on 16 Aug 2009, 11:40 a.m.,*
in response to message #1 by Ángel Martin

Excellent news. I look forward to testing it.

Re: 41Z Breakthrough: 4-level Complex Stack

*Message #3 Posted by **PeterP** on 17 Aug 2009, 1:02 a.m.,*
in response to message #1 by Ángel Martin

Awesome Angel, you are clearly on a roll!! Looking forward to playing with it! Cheers

Peter PS: thanks for the kind words, pretty sure I don't deserve them but they are very much appreciated just the same.

Re: 41Z Breakthrough: 4-level Complex Stack

*Message #4 Posted by **Ángel Martin** on 17 Aug 2009, 7:25 a.m.,*
in response to message #3 by PeterP

Glad to see you're interested, Egan & Peter. I'm done with the changes and was about to upload the new module on TOS, but there's something that is bothering me about the whole data input process.

I'll explain. Yes the new complex stack is 4-levels deep, and has the expected functionality built into it:

- Levels 1&2 are held into the standard "real' stack.
- Levels 3&4 are held into a dedicated memory buffer. They are "created" upon CALC_On event and survive power cycles and Key assignments.
- There are three new functions to manage it: ZENTER, ZRDN, ZR^, and ZCLST.
- supports Complex stack drop upon execution of non-monadic functions, with duplication of the 4th. complex-level into the 3rd. one.
- supports complex stack lift upon data recall (from a complex storage register or LastZ).

For example, suppose we want the following complex numbers input into the stack:

L4: 4-4j
L3: 3-3j
L2: 2-2j
L1: 1-1j

Either one of the following sequences will accomplish the task:

4, CHS, ENTER^, 4, **ZENTER** ... (or: 4, CHS, ENTER^, CHS, **ZENTER**)
3, CHS, ENTER^, 3, **ZENTER** ... (or: 3, CHS, ENTER^, CHS, **ZENTER**)
2, CHS, ENTER^, 2, **ZENTER** ... (or: 2, CHS, ENTER^, CHS, **ZENTER**)
1, CHS, ENTER^, 1 ..... (or: 1, CHS, ENTER^, CHS)

The issue is the **automatic stack lift**. Say you have your complex numbers stored into the stack, and then you input any real number (into the X register). Then ***the real-stack would lift***, and as a result *the second complex level will "spill over"* - since T is gone - partially losing its value.

I checked on the 42 and it appears to me that *the same problem exists as well* - only that it'll be the fourth stack level instead of the second partially losing its content.

So what gives? Do we have 4 complex stack levels that cannot be kept without losing some information upon other events? One solution (work-around rather) is using **ZSTO** and **ZRCL** to fill the stack - which BTW are prompting functions, thus will allow an easy manipulation of memory but...)

I'd like to hear your suggestions on how to deal witht this sticky glitch - pls. let me know what you think.

Best,
ÁM

Edited: 17 Aug 2009, 7:59 a.m. after one or more responses were posted

Re: 41Z Breakthrough: 4-level Complex Stack

*Message #5 Posted by **Howard Owen** on 17 Aug 2009, 7:46 a.m.,*
in response to message #4 by Ángel Martin

You could "shadow" the entire complex stack in a buffer or two. When a destructive real stack lift

occurred, you could then tidy things back up from the shadow levels 1&2. Another way to look at it would be to regard your buffers as the genuine complex stack with the 41C's stack merely displaying the first two levels.

Regards, Howard

Re: 41Z Breakthrough: 4-level Complex Stack

*Message #6 Posted by **PeterP** on 17 Aug 2009, 4:30 p.m.,*
in response to message #4 by Ángel Martin

Just a thought: maybe set a flag to put the calc in complex mode. When in complex mode all keys have their complex function (+,-,*,/,enter, etc). This way all complex numbers will stay together all the time. This 'flag' can be a real user flag, a higher number flag or (probably preferred for compatibility reasons) just uses a byte in the header register of the buffer. A little bit trickier might be the complete reassignement. One way is to simply write a routine to assign the new functions to all keys (similar to my assugnement function in the m pl which out of lazyness I wrote in focal). The other, far more involved way would be to use the interrupt points and send any normal function to your complex equivalent if the complex mode is set (similar to the ccd modules extension of the cat and 'sto'/rcl functions.

Just a thought

Peter

Re: 41Z Breakthrough: 4-level Complex Stack

*Message #7 Posted by **Egan Ford** on 17 Aug 2009, 5:38 p.m.,*
in response to message #6 by PeterP

I like this idea. Sorta like the 15C and flag 8. I'd also add that I think the stack should work that way as well (like 15C). The stack would contain the reals and the buffers would contain the imaginary.

As for complex input, how about number i number were i = shift 4. Seriously, who uses BEEP in interactive mode. I know nothing about MCODE or the 41 internals, so this may be impossible or impracticable.

Re: 41Z Breakthrough: 4-level Complex Stack

*Message #8 Posted by **Ángel Martin** on 18 Aug 2009, 2:24 a.m.,*
in response to message #7 by Egan Ford

Great minds think alike, they say...

Sure enough I've looked at the 15C implementation, with its parallel real and imaginary stacks - the imaginary stack must also be a buffer, but the difference is that the 15C OS is written to respect its needs. For instance, when you input a number in X, both the real and the imaginary stack lift, allowing for consistent operation. The only way to do this would be (again) using the dreadful IO interrupt approach, which I won't touch with a 12-foot pole so far.

Then it's the fact that all math in the 41Z module is written using the real stack as L1 and L2 complex levels, and that would have to go away if changing to the 15C-way. Not looking forward to re-writing the whole thing!

As per the data input process, I've used SHIFT-SHIFT for complex input, but this doesn't bring

any benefits (when compared to the real ENTER^ for instance) because the stack lift continues to be active regardless of how you fill the complex stack.

The way it works now is: Im(z), ENTER^, Re(z), ZENTER.

It's hard to explain without seeing it work, let me send you the module and you see for yourselves.

Re: 41Z Breakthrough: 4-level Complex Stack

*Message #9 Posted by **Ángel Martin** on 18 Aug 2009, 2:12 a.m.,*
in response to message #6 by PeterP

Great to see you guys engaged on this, let's see if we can pull it off together.

Howard's "shadow" buffer is an excellent route, but I've got the feeling the required overhead for its management and synchronization with the real stack could be too heavy. Worth trying a proof of concept for sure. I was keeping the real stack part because all math happens using the real stack (things like [TOPOL], [TOREC], and other mainframe routines - this is how I first wrote the 41Z module, so it'd take a complete re-write from the ground up... ufff}

The "Complex flag" is what I have implicitely done, using the USER mode as the Complex mode (alas flag 27 then). As Peter, I have mapped the complex functions to the calculator keyboard (using a MCODE routine in my case, which in turn I lifted from one HP module - forget which one). This works beautifully while you stay within the assigned functions, and it is mostly compatible with the "normal" operation - save the infamous "stack lift" issue.

Since there's no way one can assign everything to user keys, the better approach is of course the interrupt vectors (a la CCD or ZenRom). This would either prevent or enhance the "normal" behavior of the calculator, respecting the complex stack all the time.

I always regarded this as equivalent to subclassing a process and replacing its code upon certain events in the windoze world (which I've used many times), but in the MCODE world however, such approach is beyond my programming skiils, I'm afraid. I remember experimenting with the IO interrupt, what a mess...

Here's the rub: just entering a number (i.e. pressing a numeric key) could damage things, sending the contents of T to limbo, and thus your L2 complex stack is also gone. How do you "prevent" for this, such a common occurrence?

And remember, the same thing happens on the 42S - albeit losing L4 is not as bad as losing L2, I agree...

If you're game I'll send you the current incarnation (including the commented source code), I'd like to get your comments once you've seen it work for yourselves, it's hard otherwise. Pls. send me your email addresses if not available.

Re: 41Z Breakthrough: 4-level Complex Stack

*Message #10 Posted by **Howard Owen** on 20 Aug 2009, 1:39 a.m.,*
in response to message #9 by Ángel Martin

> Quote:
>
> I was keeping the real stack part because all math happens using the real stack

> (things like [TOPOL], [TOREC], and other mainframe routines - this is how I first wrote the 41Z module, so it'd take a complete re-write from the ground up... ufff}

If you don't use a buffer as the authoritative stack, then it seems to me you'd have to do stack lift detection. You could then make the real stack a genuine stack, and shadow it in the buffer. If you can detect stack lift, then you ought to be able to fix things up with the backup copy in the buffer. I'm not sure if the stack lift is directly detectable in mcode though. If not, you might be able to track it with heuristics, but that would probably be ugly in assembler. (It would be in a high level language too.) But the advantage would be you wouldn't have to rewrite all your routines that operate on the standard stack.

> Quote:
>
> If you're game I'll send you the current incarnation (including the commented source code), I'd like to get your comments once you've seen it work for yourselves, it's hard otherwise. Pls. send me your email addresses if not available.

I'm back where I can program my Nov64, so I could try it out.

My address is "egbokalaka at gmail dot [the most common top level.] " :)

Regards,
Howard

Re: 41Z Breakthrough: 4-level Complex Stack

*Message #11 Posted by **Håkan Thörngren** on 17 Aug 2009, 3:49 p.m.,*
in response to message #1 by Ángel Martin

Maybe the entire Z stack could go into the buffer, along with its own stack lift flag. It would take 11 registers with some care and perhaps you want to (temporarily?) take some extra scratch registers in the buffer area if needed? You could even keep an open mind to allow for a larger stack when writing the code.

Another alternative would be to use an XMem file. That memory is of course not always available, but when it is, people will probably find it easier to part with some of it rather than the buffer area.

However, as you do not take that many registers, and it works on all machines, I think using the buffer area is the prettier solution.

Then provide some command(s) for retrieving numbers from the Z stack to the RPN stack.

P.S. I was taken a bit by surprise being mentioned. You are of course very welcome to use whatever code I wrote from long time ago. I am not even sure if I am worth the credit, or if I more or less borrowed the code from HP. It was a long time ago...

Re: 41Z Breakthrough: 4-level Complex Stack

*Message #12 Posted by **Ángel Martin** on 18 Aug 2009, 2:35 a.m.,*
in response to message #11 by Håkan Thörngren

Greetings Håkan, glad you showed up!

There's much to thank you for - regardless of whether the code you used being "inspired" by HP's the fact is you managed to put it together in new and creative ways, and at a time when it wasn't really a done deal.

This particular buffer stuff I took from your SEED/RNDM articles published on PPCCJ back in 1986 if memory serves. More impressive were your other projects on RAMED, ARCLCHR, RSTCHK and HEXIN. All of them a source of inspiration and MCODE learning...

Thanks for your ideas on the XMem file - I agree it's probably better to stick with the buffer approach for the reasons you mentioned.

So how about dusting off those MCODE skiils of yours and rolling up your sleeves on this IO interrupt thing?

Best,

ÁM

Re: 41Z Breakthrough: 4-level Complex Stack

*Message #13 Posted by **PeterP** on 18 Aug 2009, 7:38 p.m.,*
in response to message #11 by Håkan Thörngren

After some more pondering of the use of the io interrupt I must say I like this idea of all z numbers in the buffer. This would allow easy switching between complex and normal operation via the user key. I guess the recoding would be messy for all functins but not necessarily more so than trying the io route. (there would be quite a number of situations to be considered....) it might even bring some code simplificTion as stack drops now happen in continuous memory and there is no need to capture the break between z2 (in normal stack) and z3 (in buffer) one thing I used in the mpl is to store useful information in the header reg as this is the reg that gets 'found' (eg the absolute adress, number of stack levels, etc) maybe we can write some generic 'get z-number' routine that could replace the read x and read y etc functions. Anyway, I look forward to the mod and it's code, maybe we can all pitch in a little...

Cheers

Peter

Re: 41Z Breakthrough: 4-level Complex Stack

*Message #14 Posted by **Ángel Martin** on 18 Aug 2009, 2:56 a.m.,*
in response to message #1 by Ángel Martin

```
Function        Group           Description
 -HP 41Z                        Shows revision number
LASTZ           Stack           Complex LASTX
NXTLOG          Transc.         Next Ln(z)
NXTRTN          Transc.         Next Complex Root
W^Z             Transc.         Complex Y^X
X^Z             Transc.         Hybrid Y^X
Z-              Math            Complex substraction
Z*              Math            Complex multiplication
Z/              Math            Complex division
Z^2             Transc.         Complex X^2
Z^X             Transc.         Hybrid Y^X
Z+              Math            Complex addition
Z<>             Stack           Exchange Z and any register
Z<>W            Stack           Exchange Z and W
Z=0?            Comparison      Is Z=0?
Z=I?            Comparison      Is Z=I?
Z=W?            Comparison      Is Z=W?
ZACOS           Trig.           Complex ACOS
ZACOSH          Trig.           Complex Hyp. ACOS
ZALOG           Transc.         Complex 10^X
ZARG            Geometry        Argument of Z
ZASIN           Trig.           Complex ASIN
ZASINH          Trig.           Complex Hyp. ASIN
```

ZATAN	Trig.	Complex ATAN
ZATANH	Trig.	Complex Hyp. ATAN
ZAVIEW	Stack	Shows Complex Z
ZCLST	Stack	Clears Z-Stack
ZCONJ	Geometry	Changes sign of Im(Z)
ZCOS	Trig.	Complex COS
ZCOSH	Trig.	Complex Hyp. COS
ZDBL	Math	Calculates 2*Z (Doubles it)
ZENTER	Stack	Lifts Complex Stack
ZEXP	Transc.	Complex e^X
ZHALF	Math	Calculates Z/2 (halves it)
ZIN?	Comparison	Is Z inside the unit circle?
ZINV	Math	Complex Inversion
ZKEYS		Block Key Assignments
ZLN	Transc.	Complex LN
ZLOG	Transc.	Complex LOG
ZMOD	Geometry	Module of Z
ZNEG	Geometry	Complex CHS
ZNORM	Geometry	Norm of Z (I.e. square of Module)
ZOUT?	Comparison	Is Z outside the unit circle?
ZPOL	Geometry	Converts to Polar notation
ZR^	Stack	Z-Stack Roll Up
ZRCL	Stack	Complex RCL
ZRDN	Stack	Z-Stack Roll Down
ZREC	Geometry	Convers to Rectangular notation
ZSIGN	Geometry	Complex SIGN
ZSIN	Trig.	Complex SIN
ZSINH	Trig.	Complex Hyp. SIN
ZSQRT	Transc.	Complex SQRT
ZSTO	Stack	Complex STO
ZTAN	Trig.	Complex TAN
ZTANH	Trig.	Complex Hyp. TAN
ZTRP	Stack	Exchanges Re(Z) and Im(Z)
ZUNIT?	Comparison	Is Z on the unit circle?
ZVIEW	Stack	Shows Complex number
ZWANG	Geometry	Angle between Z and W
ZWCROSS	Geometry	Cross product of Z and W
ZWDET	Geometry	Determinant of Z and W
ZWDIST	Geometry	Distance between Z and W
ZWDOT	Geometry	Dot product of Z and W
ZWLINE	Geometry	Line equation defined by Z and W
ZPROOT	Focal	Roots of complex polynomials
ZQUAD	Focal	Complex Quadratic Eq. Roots
ZGAMMA	Focal	Complex Gamma
ZMTV	Focal	Multi-Value Complex functions

Re: 41Z Breakthrough: 4-level Complex Stack

*Message #15 Posted by **Ángel Martin** on 19 Aug 2009, 3:10 a.m.,*
in response to message #14 by Ángel Martin

I too am leaning towards the full complex stack solution. I *think* I have figured out all the situations where it would come to place, see if you find something missing:

Design Criteria:

1. The complex Buffer has 5 levels, from L0 (for lastZ) to L4 - plus its header. Each level holds 2 registers, thus 11 regs in total, called b0 (header) to b10 (imaginary part of L4).

2. The Mapping with the real stack is as follows: X=b3, Y=b4, Z=b5, T=b6. L=b1

3. All functions take their input from X,Y (if monadic) or [X,Y,Z,T] if dual. The output is placed also on the stack, no interaction with the buffer during the calculation phase.

4. It's upon the function to save the operand into L0 (LastZ) prior to executing the math, and to synchronize the stack with the complex buffer upon completion.

Once these criteria are defined, we need to properly structure the "Special events", as follows:

A.- ZENTER^.
1. writes (X,Y) into L1 (b3,b4)
2. buffer *normal* lift: L3->L4; L2->L3; L1->L2
3. synch: writes [b3-b6] to stack [X,Y,Z,T]
(this is for consistency with other processes, as it only requires writing (X,Y) into (T,Z).

This is the key point that solves the previous issue: now it doesn't matter what happens to the real stack (like T spilling over) because the complex buffer L2 remains untouched upon execution of ZENTER^. Naturally one must be disciplined and *ALWAYS execute ZENTER^ upon complex data input*, or otherwise the real stack and the complex buffer will de-synchronize.

B.- LASTZ.
1. buffer *long* lift: L3->L4; L2->L3; L1->L2; L0->L1
2. synch: writes [b3-b6] to stack [X,Y,Z,T]

C.- ZRDN.
1. saves L1 (b3,b4) into scratch (M,N), keeps Alpha untouched
2. buffer drop: L2->L1; L3->L2; L4->L3
3. writes scratch into L4 (b9,b10)
4. synch: writes [b3-b6] into stack [X,Y,Z,T]

D.- ZR^.
1. saves L4 (b9,b10) into scratch (M,N)
2. buffer *normal* lift: L3->L4; L2->L3;, L1->L2
3. writes scratch into L1 (b3,b4)
4. synch: writes [b3-b6] into stack [X,Y,Z,T]

E.- ZRCL__.
1. buffer *normal* lift: L3->L4; L2->L3; L1->L2
2. writes X,Y into L1
3. synch: writes [b3-b6] into stack [X,Y,Z,T]
(done like this for consistency sake, other sequences are also possible)

And here's how these are being used during the execution flow:

I. Monadic Function:
0. Save (X,Y) into LastZ [L0]- (b1,b2)
1. Execute function (all within stack)
2. write X,Y result into buffer L1
3. synch: writes [b3-b6] to stack [X,Y,Z,T]
(this is for consistency with other processes, as it's NOT really required if the function was executed right after ZENTER^, but provides more flexibility for quick-access)

II. Dual Function:
0. Save (X,Y) into LastZ [L0] - (b1,b2)
1. Execute function (all within the stack)
2. write X,Y result into buffer L1
3. perform buffer drop: L3->L2; L4->L3
4. synch: writes [b3-b6] to stack [X,Y,Z,T]
(this is for consistency with other processes, as it only requires writing L2 (b5,b6) into (Z,T)

So things are getting ***complex*** (no pun intended?). Whilst not an easy scenario it's doable just the same - if tedious sometimes. My head is spinning with RAM SELECT and READ/WRIT DATA statements, I'm going to print this out and memorize before continuing with the code writing!

Do you see any other situation missing on the above lists??

Best,
ÁM

Edited: 19 Aug 2009, 5:45 p.m.

Re: 41Z Breakthrough: 4-level Complex Stack

*Message #16 Posted by **PeterP** on 20 Aug 2009, 12:18 a.m.,*
in response to message #15 by Ángel Martin

Angel, looks good to me. Couple thoughts, for what its worth: I think the need to do ZENTER for complex number input is totally fine. Maybe assign it to the shift enter key? (as the user needs the enter key to get the two parts into x and y)

Related to this are your help-functions that work between a real number and a complex number (x^z and z^x for example). One might consider doing away with them as the user would still have to do real part of x, enter, o, zenter to enter the real number x. Personally I think this is acceptable for the user. One last question - I personally think of complex numbers as real part, complex part. So the natural way to enter them would be real part, enter, complex part, zenter. Is that how you have defined the stack? (I could not glean it from the description below) One function you might or might not have that RPN people love to use is 'X<>Y' so one might want to create a function Zx <> Zy. Depending on space availability, one could extend this (similar as to your RPN extensions from the Sandbox) to Zx <> Zz and Zx<>Zt and maybe even a RCLZ_y, RclZ_z, though I agree that some of those are very rarely used. I only mention them as given the code that has to be created anyway, they might come quite 'cheap'.

Looking forward to the module (and source if you can)!

Cheers

Peter

Re: 41Z Breakthrough: 4-level Complex Stack

*Message #17 Posted by **Garth Wilson** on 20 Aug 2009, 1:44 a.m.,*
in response to message #16 by PeterP

> Quote:
>
> So the natural way to enter them would be real part, enter, complex part, zenter

or real_part, comma, imaginary_part, enter. If you don't do the imaginary part, it's automatically 0. The comma is on the same key LASTX and "." are on. "." has to stay; but I use LASTX less than CATALOG, such that I have LASTX re-assigned to PACK, but I use that seldom enough too that making it go to the imaginary part of an entry would be fine.

To take care of various aspects like STO & RCL (including IND) and I/O functions will be an amazing accomplishment.

Re: 41Z Breakthrough: 4-level Complex Stack

*Message #18 Posted by **Egan Ford** on 20 Aug 2009, 11:26 a.m.,*
in response to message #17 by Garth Wilson

I like the comma, but its hard to get to. I recommended shift-4 (BEEP) above. Who uses BEEP in interactive mode?

Re: 41Z Breakthrough: 4-level Complex Stack

*Message #19 Posted by **Garth Wilson** on 20 Aug 2009, 1:06 p.m.,*
in response to message #18 by Egan Ford

> Quote:
>
> I like the comma, but its hard to get to. I recommended shift-4 (BEEP) above. Who uses BEEP in interactive mode?

Anyone who used the 41 regularly is bound to have half the keys re-assigned, so I think any solution will require going in and out of USER keyboard a lot. I'm not complaining, just saying that's the way it will have to be. My Catalog 6 (USER key assignments) is a list of 34 keys. In place of BEEP I have my alarmclock program assigned.

Re: 41Z Breakthrough: 4-level Complex Stack

*Message #20 Posted by **Ángel Martin** on 21 Aug 2009, 4:54 p.m.,*
in response to message #19 by Garth Wilson

my preferred way would be the same as the 35S:

Re(z) "i" Im(z) ENTER

If I were a real MCODE programmer (instead of a pattern-recognition expert... but that's a nother story) that'd be the way I'd programm it. Unfortunately the "partial key data entry" ML routines are a complete mystery to me so I'll have to live with this:

Im(z) ENTER RE(z) ZENTER

But first things first - I'll get to these enhancements after the base module is code-complete... getting very close!

Best, ÄM

Re: 41Z Breakthrough: 4-level Complex Stack

*Message #21 Posted by **Ángel Martin** on 21 Aug 2009, 5:14 p.m.,*
in response to message #17 by Garth Wilson

ZSTO__, ZRCL__, Z<>__ and ZVIEW__ are **programmable prompting functions** (uses a trick written by Doug Wilder, similar to the HEPAX implementation).

Thanks to them complex memory management is easy and convenient, just input the Complex register (pair) number at the function prompt (or add a second line in a program to take it from).

It still does not support IND__ or ST_, but maybe one day ...

Besides, ZTRP does exactly the Re<>Im swap (in XY *and* L1)

Best, ÁM

Edited: 21 Aug 2009, 5:29 p.m.

Re: 41Z Breakthrough: 4-level Complex Stack

*Message #22 Posted by **Ángel Martin** on 21 Aug 2009, 5:09 p.m.,*
in response to message #16 by PeterP

the "hybrid" functions (Z^X, x^Z, etc...) don't require any imaginary part for the "real" number. It's like a shortcut, as follows:

Im(z)
ENTER
Re(Z)
ZENTER^
x
Z^X (or other hybrid function)[n]

Upon completion, the following actions take place:

Re(z), Im(Z) are stored into L0 (lastZ level of rhe buffer)
Result is stored into both L1 and (X,Y)
L2 is copied back into T,Z for sncronization purposes.

Best, ÁM

Re: 41Z Breakthrough: 4-level Complex Stack

*Message #23 Posted by **Howard Owen** on 20 Aug 2009, 1:51 a.m.,*
in response to message #15 by Ángel Martin

Oops. I see you've gone a long way beyond the point where I made my last reply just now. What you have there sounds good to me too.

One thing: can't you always guarantee that the standard stack is in sync with the complex stack by rewriting the former with the latter at appropriate points? Would that allow you to use the regular enter key? That would only be an issue if you were supporting complex operations while not in user mode. You could reassign ENTER otherwise. If you couldn't do that, I'm just imagining how hard it would be to retrain my fingers. :)

Regards,
Howard

Re: 41Z Breakthrough: 4-level Complex Stack

*Message #24 Posted by **Ángel Martin** on 21 Aug 2009, 5:01 p.m.,*
in response to message #23 by Howard Owen

The logic is more involved that what I first thought, I must confess I was tempted to give it up many times but I think I finally managed to get in under control.

Here's how it works:- the real stack is like a scratch pad to work out the complex data input. You can use XYZT as required, and when ZENTER^ is executed it performs an update of the L1 level in the complex buffer level (copying from XY) *and* a refresh of T,Z using L2 from the complex buffer.

So it doesn't matter if T spills over (or even Z for that matter). And thus it is now a full 4-level complex stack (buffered!)

Best, ÁM

Edited: 21 Aug 2009, 5:02 p.m.

Re: 41Z Breakthrough: 4-level Complex Stack

*Message #25 Posted by **Les Wright** on 22 Aug 2009, 4:21 a.m.,*
in response to message #1 by Ángel Martin

Angel, is the 41Z module that can be downloaded from TOS as part of the default setup to i41cx+ for iPhone your work?

If so, I should make myself more familiar with it. I downloaded the existing version to my module list, but I haven't played with.

I assume other users around here burn the MOD file to Clonix or something akin to it?

Les

Re: 41Z Breakthrough: 4-level Complex Stack

*Message #26 Posted by **Egan Ford** on 22 Aug 2009, 9:57 a.m.,*
in response to message #25 by Les Wright

> Quote:
>
> is the 41Z module that can be downloaded from TOS as part of the default setup to i41cx+ for iPhone your work?

Yes. 41Z.MOD (circa 2005) is there. I have use it on my iPhone.

Re: 41Z Breakthrough: 4-level Complex Stack

*Message #27 Posted by **Angel Martin** on 22 Aug 2009, 12:52 p.m.,*
in response to message #25 by Les Wright

Don't know about the iPhone stuff but yes, the original 41Z module has been available at TOS for a few years. The posted version has only a two/level stack implememtation, however. You can read the manual to get familiar with it *also posted there(.

Best, AM

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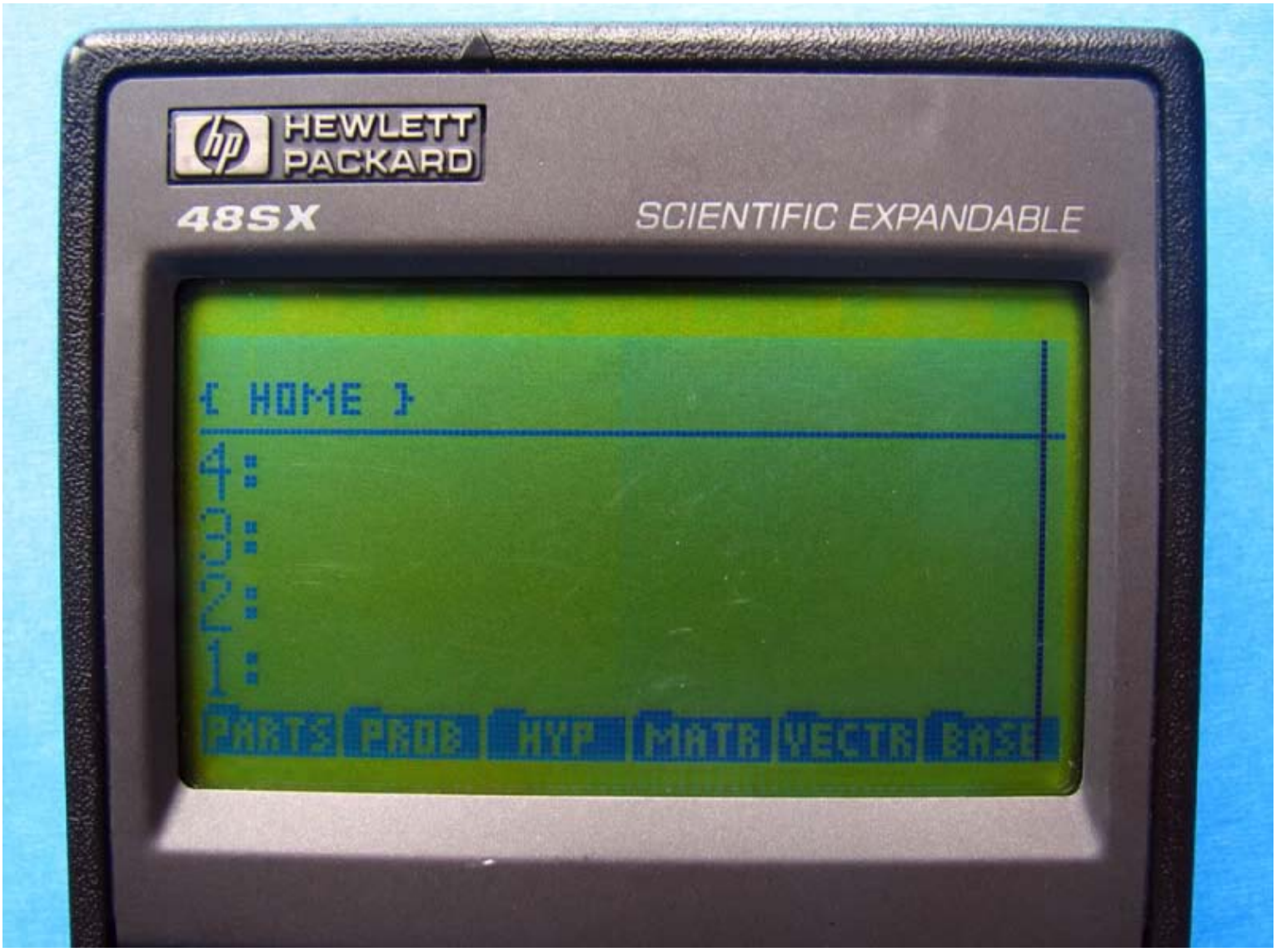
HP48SX LCD problem...

*Message #1 Posted by **Geoff Quickfall** on 15 Aug 2009, 5:06 p.m.*

I picked up a completely non functional 48SX about 5 months ago hoping it would be the deteriorated contact foam under the keyboard flex ribbon. That is the foam which holds the the keyboard flex ribbon agains the logic PCA contacts.

It was, and after disassembly, a thorough cleaning of all contacts, including the LCD zebra connectors and a new foam inser the calculator worked perfectly. In fact I removed the connectors, cleaned them, ensured no dust on the PCA contacts or connectors, and then reassembled the calculator.

I put the calculator away without batteries for 4 months. Today I picked it up, installed the batteries (using this example for Chapter 13, Stretch Pioneers) and it now powers up with a vertical line to the extreme right of the display.



Today in an effort to remove the line I have:

```
1  disassembled and cleaned all contacts again!
2  reset with the reset under the foot.
3  reset with batteries out and reset under the foot.
3  tried all the diagnostics, it passes!
```

The line is still there! Any ideas?

I found the following link which may explain the problem, alas, not fixable:

HP48SX display problem

My serial number is 3147Sxxxxx

Cheers, Geoff

Edited: 15 Aug 2009, 5:20 p.m.

Re: HP48SX LCD problem...

*Message #2 Posted by **Quan** on 15 Aug 2009, 6:17 p.m.,*
in response to message #1 by Geoff Quickfall

Since it was OK before you stored it, I would suggest taking a closer look at the contacts on the connector and the display under a magnifier.

Or the display becomes defective?

Re: HP48SX LCD problem...

*Message #3 Posted by **nacho** on 15 Aug 2009, 6:29 p.m.,*
in response to message #1 by Geoff Quickfall

Have you tested it with another 48LCD?

I replaced a faulty LCD in a 48S with a 49G LCD and it works perfect. (Black LCD).

I installed the faulty LCD in the 49G and it still is faulty.

Regards

Thanks Quan and nacho

*Message #4 Posted by **Geoff Quickfall** on 15 Aug 2009, 7:54 p.m.,*
in response to message #3 by nacho

Yes, have checked the connector strips, LCD panel and contact points on the logic PCA. I actually cleaned them again!

Every thing looks good.

The idea of swapping with a good LCD panel on the 49G never ocurred to me so thanks for that.

At the moment the location of the line is not affecting the display but it is annoying.

So I will look out for a bad 49G (as is not working) for a spare LCD replacement.

Cheers, Geoff

Re: Thanks Quan and nacho

*Message #5 Posted by **NACHO** on 16 Aug 2009, 4:35 p.m.,*
in response to message #4 by Geoff Quickfall

moment when I swaped 2 displays.

regards

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the cost of memory

*Message #1 Posted by **juan demin** on 14 Aug 2009, 10:31 p.m.*

Probably the cost and volume of memory had a strong influence in the evolution of design and programming languages (the magnetic cards writer/reader to storage programs… the RPL vs RPN…the rigid registers/programming lines of the classic calculators). I am amazed to notice that in 1980 the quad memory module for the HP-41C cost $100 (I personally bought one of them) and it had 1792 bytes….Today an 8 Gbyte SD card for the HP-50G is around $10…The rate? 48 million times cheaper!!! Probably I am wrong and I should not compare them so easily…but I am tempted to… I do not know how much a RAM card for the HP-48SX cost in 1990…But if you have any idea, please let me know.

Re: the cost of memory

*Message #2 Posted by **bill platt** on 14 Aug 2009, 11:02 p.m.,*
in response to message #1 by juan demin

Even in 1995, memory was very expensive. I spent over $150 to upgrade my 486 back then. I think I ended up with 16MB instead of 4MB.

You are correct about the importance of memory. Computing cost--and memory is a distinct significant part of that--has fallen dramatically--and was very high initially.

Of course everything was about economy of memory, or utilizing every last drop of horsepower. We really didn't have a choice.

Today's computing is a whole different ethos. There is now excess horsepower. How many watts do we just fritter away idling, or simply typing into a browser window? Calculators of the 1970s used much more of their capacity for utility on average versus modern computers, which mostly just use power for "OVERHEAD."

The consumer and small-business machines of today are similar to the automobiles of the late 1930s--huge, inefficient, powerful, imaginative, beastly dinosaurs which are merely an awkward developmental stage.

In the future, we will have much more elegant machines which do not need to "boot up" for 5 minutes, do not need to idle, do not consume 300 watts doing absolutely nothing. We will have efficient, flexible, reactive machines which handle swiftly, smoothly etc.

Re: the cost of memory

*Message #3 Posted by **Thomas Radtke** on 15 Aug 2009, 7:28 a.m.,*
in response to message #2 by bill platt

> Quote:
>
> In the future, we will have much more elegant machines which do not need to "boot up" for 5 minutes [...]

In the early 80th, my computers came up almost instantly (Sinclair ZX81, Spectrum, later the C64). Later, the 8MHz Amigas, Apples and PCs took some time to boot, but that was never a problem. Boot times went up with CPU speed and memory and have increased until now.

Hope your prophecy will come true.

Re: the cost of memory

*Message #4 Posted by **Howard Owen** on 15 Aug 2009, 2:53 p.m.,*
in response to message #3 by Thomas Radtke

Bloat, bloat, bloat. A compelling argument for burning more memory, CPU time or I/O bandwidth is that these things are increasing in capacity along an exponential curve. (At least according to the most optimistic predictions.) Moore's law still hasn't played out for CPU and RAM. For I/O, improvements have lagged, but still have experienced astonishing rates of performance improvements. Trouble is, those changes take the lid off marketeer's imaginations. They order up new products, or changes to existing ones, with the raw rate of increase in mind. But they don't allow the time it would take to implement the new products in such a way as to make efficient use of the new computing power. So engineers deliver slapped together products that are, at best, 80% finished. Not only do these travesties take more time to load, but their long list half-baked features and enormous bug list sap performance once the system is up and running, not to mention the effect on the user's productivity or peace of mind.

The 80% rule is evil, IMHO. Our beloved calculators came to market during a time when excellence took priority over marketability.

Regards,
Howard

Re: the cost of memory

*Message #5 Posted by **Martin Pinckney** on 17 Aug 2009, 11:17 a.m.,*
in response to message #2 by bill platt

> Quote:
>
> In the future, we will have much more elegant machines which do not need to "boot up" for 5 minutes, do not need to idle, do not consume 300 watts doing absolutely nothing. We will have efficient, flexible, reactive machines which handle swiftly, smoothly etc.

For that to happen, someone will have to figure out how to break Microsoft's defacto monopoly.

Re: the cost of memory

*Message #6 Posted by **Egan Ford** on 14 Aug 2009, 11:26 p.m.,*
in response to message #1 by juan demin

> Quote:
>
> I do not know how much a RAM card for the HP-48SX cost in 1990…But if you have any idea, please let me know.

I picked up a 128KB card for my 48GX sometime in the early 90s. 93/94 perhaps. I do remember it was < $500 because I used a $500 check an airline gave me for bumping me off a flight (now they just give you

credit to use on the airline). I am thinking $200 - $300 US.

I still have it in my 48GX. Great times.

Re: the cost of memory

*Message #7 Posted by **Norris** on 17 Aug 2009, 12:26 a.m.,*
in response to message #6 by Egan Ford

hpcalc.org used to compile the prices of HP48GX memory cards from a variety of sources. The oldest archived results, from October 1998, are still available here.

As the hpcalc page indicates, there was a huge price difference at that time between "official HP-approved" cards and "unofficial non-HP-approved" cards. The unofficial cards were mostly produced by small outfits in Germany.

I bought two "unofficial" Cynox cards from Germany at about that time: 128 KB and 512 KB. The Cynox cards were produced in two formats: covered on both sides (with the electronics concealed) or uncovered on one side (with the electronics exposed). I got the covered cards, which cost more. The hpcalc list indicates that Cynox charged 56 DM for a covered 128 KB card, and 95 DM for a covered 512 KB card. There were, of course, substantial additional charges for shipping from Germany to the US.

My recollection is that my total costs for 640 KB of unofficial, non-HP-approved memory cards were nearly $100. That seems in line with the Cynox prices on the hpcalc list and contemporary dollar-mark exchange rates. This was still much cheaper than equivalent HP-approved cards, which apparently would have cost around $300, based on the hpcalc list.

I still have the Cynox cards in my 48GX and they still work fine, though the batteries have been replaced several times.

Edited: 17 Aug 2009, 12:46 a.m.

Re: the cost of memory

*Message #8 Posted by **juan demin** on 18 Aug 2009, 9:09 a.m.,*
in response to message #7 by Norris

Thank you Norris!!!!

Re: the cost of memory

*Message #9 Posted by **Garth Wilson** on 15 Aug 2009, 12:56 a.m.,*
in response to message #1 by juan demin

Here's a bit from the Educalc catalog #52 which I received in '91. Battery-backed HP RAM cards for the HP-48: 32K for $70, 128K for $160 ($110 for a similar one from CMT).

When I made my first home-made computer in about 1985, an 8Kx8 SRAM IC was $40 at Jameco. I think I bought only one, and wondered if I did the right thing. Soon after, it was down to $8, and it was found that it was because the Japanese were dumping, selling at a loss in an effort to drive their competitors out of the memory business. The flash you mention of course can't be used like RAM, but even SRAM (not to mention DRAM) is a teensy fraction as expensive now as it was back then. The idea of having many megabytes seemed ridiculous, but we didn't couldn't imagine having the gigabytes necessary for digital audio recording and video which are no big deal anymore.

I remember in the Apolo 11 movie one of the astronauts was giving a tour, and said something about the prospect of having a million bits of computer memory all in one room.

Re: the cost of memory

*Message #10 Posted by **Dan W** on 15 Aug 2009, 1:23 p.m.,*
in response to message #9 by Garth Wilson

> Quote:
>
> I remember in the Apolo 11 movie one of the astronauts was giving a tour, and said something about the prospect of having a million bits of computer memory all in one room.

I remember at JSC, late 80's, in one lab we had 5 or 6 hard drives, each the size of a small top loading washing machine. Each held a 300 MB drive.

The hard drives could be swapped in and out. Each was about the diameter of an LP (a vinal record) but had a stack of perhaps five disks. To swap out the drive we'd open the top and insert a plastic cover, lock it down then lift out the whole unit like a round cake cover thingy (I'd have to ask my wife what those are called).

Then of course we had banks of half-inch tape drives to back everything up.

I liked watching the strip-chart recorders most.

Re: the cost of memory

*Message #11 Posted by **Karl Schneider** on 16 Aug 2009, 4:54 p.m.,*
in response to message #9 by Garth Wilson

> Quote:
>
> I remember in the *(Apollo 13)* movie one of the astronauts was giving a tour, and said something about the prospect of having a million bits of computer memory all in one room.

Hi, Garth --

Apollo 11 was the successful first-landing mission in July 1969, whose 40th anniversary was recently celebrated. The fine movie "Apollo 13" was about the ill-fated mission of April 1970, which incidentally was the first specific news event I remember...

Another memorable scene involving technology was where a few operators were asked to verify a calculation. One by one, they got busy on their slide rules and confirmed the result. Two years before the HP-35...

-- KS

Edited: 17 Aug 2009, 1:57 a.m.

Re: the cost of memory

*Message #12 Posted by **Michael Eckstein** on 15 Aug 2009, 5:33 a.m.,*
in response to message #1 by juan demin

If we could go back in time to the year 1957, then at that time one byte transistor flip flop costed $392, so for 8GB we should give 3 trillion US$:-) Price dropped significantly in a few years, so the same size of memory would cost as few as 40 billion US$ in 1960. Of course nobody never dreamt of such huge memory at that time, since the biggest affordable memory was 32K (IBM 1401).

Re: the cost of memory

*Message #13 Posted by **Eric Smith** on 15 Aug 2009, 12:47 p.m.,*
in response to message #12 by Michael Eckstein

I'm not sure where you got the cost of $392 per byte, but in 1957 computers did not use transistor-based flip-flops for main memory. Most computers of that time used Williams tube memory, core memory, or magnetic drum memory, all of which were substantially less expensive than any kind of flip-flop. At that time core memory cost less than $0.10 per bit, nearly a factor of 500 less expensive than your quoted cost of transistor-based flip-flops.

Re: the cost of memory

*Message #14 Posted by **Michael Eckstein** on 15 Aug 2009, 4:37 p.m.,*
in response to message #13 by Eric Smith

Hi Eric,

I don't know the purpose for which was that transistor flip plop memory used, but price for that memory was $392 in 1957, the information was acquired from the page www.jcmit.com/memoryprice.htm, where memory prices are followed from 1957 to 2009

Regards, Michael

Re: the cost of memory

*Message #15 Posted by **Eric Smith** on 15 Aug 2009, 7:00 p.m.,*
in response to message #14 by Michael Eckstein

Discrete-transistor-based flip-flops were generally used for processor registers. In high-speed computers, it was necessary for the processor registers to operate significantly faster than main memory. Typical core memory cycle times in 1957 were around 5 microseconds, while transistor-based flip-flops would operate at least ten times faster.

In 1964, the DEC PDP-6 was designed to be able to use 16 words (36 bits each) of core memory for the processor registers, but there was an optional "fast memory" that replaced those with discrete-transistor flip-flops. The "fast memory" option provided 576 bits of registers, occupied a six foot tall 19" equipment rack, and cost approximately $50,000. By comparison, the 163C core memory had 16K words (36 bits each), was only slightly larger than the "fast memory", and cost $126,000. Thus the core memory had about 1000 times the bit density and cost 1/400 as much per bit.

Re: the cost of memory

*Message #16 Posted by **Thomas Radtke** on 15 Aug 2009, 7:36 a.m.,*
in response to message #1 by juan demin

Quote:

Probably the cost and volume of memory had a strong influence in the evolution of design and

> programming languages (the magnetic cards writer/reader to storage programs… the RPL vs RPN…the rigid registers/programming lines of the classic calculators).

More memory seems to demand for more memory in the human brain also ;-). I can take any of my old calculators and start using them again at any time. To master my 48G, I'd have to immerse myself again into the manual - after only about one year since last usage.

Even the 35s is way more complex than the 32SII, just to deal with its large memory. You have to keep a lot of things in mind.

OTOH, this way it is unlikely for a manual to vanish ;-).

Re: the cost of memory

*Message #17 Posted by **juan demin** on 15 Aug 2009, 12:55 p.m.,*
in response to message #16 by Thomas Radtke

> Quote:
>
> I can take any of my old calculators and start using them again at any time. To master my 48G, I'd have to immerse myself again into the manual - after only about one year since last usage.

Right, Thomas, and that's the perfect exercise!!! much better than solving a sudoku to keep mind running... The challenge of those days was to reduce program lines not to run out of memory and to optimize speed... Look at the forum and this "days between dates challenge for 11c"...That's all about!!!!!

Re: the cost of memory

*Message #18 Posted by **Mark Edmonds** on 15 Aug 2009, 2:17 p.m.,*
in response to message #16 by Thomas Radtke

> Quote:
>
> More memory seems to demand for more memory in the human brain also ;-). I can take any of my old calculators and start using them again at any time. To master my 48G, I'd have to immerse myself again into the manual - after only about one year since last usage.

Any mental process that isn't used for a while will decay and need exercising again to get fit but I believe that the basics are like riding a bicycle - once learnt, never forgotten. The RPL calcs are vastly more powerful and complex than the older step-programmed calcs and even those of us who program RPL on a regular basis keep the AUG available on the desk. I am sure you are being hard on yourself to suggest you would forget it all in just one year!

Mark

Re: the cost of memory

*Message #19 Posted by **nacho** on 15 Aug 2009, 3:20 p.m.,*
in response to message #16 by Thomas Radtke

> Quote:

> To master my 48G, I'd have to immerse myself again into the manual - after only about one year since last usage.

Are you serious? I think 48G series are calcs that when you know how to use them is difficult to forget it.

I'm talking from my point of view, knowing where each key is (and functions) with an overlay on it.

Of course I'm workin near daily with a 48GX from 1994.

Regards

Re: the cost of memory

*Message #20 Posted by **Thomas Radtke** on 15 Aug 2009, 7:06 p.m.,*
in response to message #19 by nacho

> Quote:
>
> > Are you serious? I think 48G series are calcs that when you know how to use them is difficult to forget it.

Yes, I'm serious. IMO, RPL is not an intuitive language.

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Another days between dates challenge for 11c

*Message #1 Posted by **Don Shepherd** on 14 Aug 2009, 10:29 p.m.*

In this challenge, you are to develop an RPN program for the HP-11c that correctly calculates days between two dates. It must handle dates from Oct. 15, 1582 to Nov. 25, 4046 (same as the 12c). The evaluation criteria are the same as in an earlier thread on this subject: score = number of lines + 7*number of registers used (not including lastx or stack) + 2*number of labels used. The lowest score wins. The evaluation criteria are designed to reward those whose programs make the most economical use of scarce resources on the 11c.

Each entrant should calculate their score and post it with their code.

Re: Another days between dates challenge for 11c

*Message #2 Posted by **Katie Wasserman** on 15 Aug 2009, 2:25 a.m.,*
in response to message #1 by Don Shepherd

Here's an accurate days-between-dates 11C implementation based on this algorithm

```
01 LBL A
02  0
03 STO 0
04 Rv
05 GSB A
06 CHS
07 STO 0
08 R^
09 LBL A
10 STO I
11 INT
12  9
13 +
14  1
15  2
16  1/x
17 X<>Y
18  x
19 LASTx
20 X<>Y
21 INT
22  1
23  2
24 x
25 -
26 X<>I
27 FRAC
28 EEX
29  2
30 x
31 INT
32 STO - 0
33 Rv
34 LASTx
35 FRAC
36 EEX
37  4
38 x
39 RCL I
40  1
41  0
42 /
```

```
43 INT
44 -
45 X<>I
46  3
47  0
48  6
49  x
50  5
51  +
52  1
53  0
54  /
55 INT
56 STO - 0
57 Rv
58 RCL I
59  3
60  6
61  5
62 x
63 STO - 0
64 Rv
65 RCL I
66 4
67 /
68 INT
69 STO - 0
70 Rv
71 RCL I
72 EEX
73  2
74 /
75 INT
76 STO + 0
77 Rv
78 RCL I
79  4
80  0
81  0
82 /
83 INT
84 STO - 0
85 1
86 STO + 0
87 RCL 0
88 RTN
```

score: 88 lines, 2 registers, 1 label = 103

Edited: 15 Aug 2009, 2:28 a.m.

Re: Another days between dates challenge for 11c

*Message #3 Posted by **Gerson W. Barbosa** on 16 Aug 2009, 1:38 p.m.,*
in response to message #2 by Katie Wasserman

The following is based on the method used in the TI-59 Master Library Module (page 76). Day of the Week has also been included. The program is far from optimized: 91 + 3*7 + 3*2 = 116.

```
001-    LBL A
002-    GSB 0
003-    x<>y
004-    GSB 0
005-    -
006-    RTN
007-    LBL 0
008-    0
009-    STO 0
010-    Rv
011-    EEX
012-    2
013-    *
014-    ENTER
015-    FRAC
016-    EEX
035-    *
036-    STO+ 0
037-    Rv
038-    ENTER
039-    ENTER
040-    .
041-    4
042-    *
043-    2
044-    .
045-    3
046-    +
047-    INT
048-    STO 2
049-    Rv
050-    1
069-    RCL 1
070-    EEX
071-    2
072-    /
073-    INT
074-    1
075-    +
076-    .
077-    7
078-    5
079-    *
080-    INT
081-    STO- 0
082-    RCL 1
083-    4
084-    /
```

```
017-    4                   051-    -                   085-    INT
018-    *                   052-    3                   086-    STO+ 0
019-    STO 1               053-    1                   087-    RCL 2
020-    3                   054-    x<>y                088-    STO- 0
021-    6                   055-    *                   089-    R^
022-    5                   056-    STO+ 0              090-    RCL 0
023-    *                   057-    Rv                  091-    RTN
024-    STO+ 0              058-    1                   092-    LBL B
025-    Rv                  059-    LSTx                093-    GSB 0
026-    INT                 060-    x>y                 094-    ENTER
027-    EEX                 061-    GTO 1               095-    CHS
028-    2                   062-    x<>y                096-    7
029-    /                   063-    STO- 1              097-    /
030-    INT                 064-    CLx                 098-    INT
031-    LSTx                065-    STO 2               099-    7
032-    FRAC                066-    LBL 1               100-    *
033-    EEX                 067-    Rv                  101-    +
034-    2                   068-    Rv                  102-    RTN
```

Date format is MM.DDYYYY

GSB A: works just like DeltaDYS on the 12C.

GSB B: similar to DATE on the 12C, but requires only one argument, the date, and returns 0=Sat, 1=Sun, ... 6=Fri.

Equivalent TurboBCD program:

```
Program DaysBetweenDates;

var days, dt1, dt2: real;

function f(dt: real): real;

var d, m, y, t, x: real;

begin
  y:=1e4*(Frac(100*dt));
  m:=Int(dt);
  d:=Int(100*(Frac(dt)));
  x:=Int(0.4*m+2.3);
  t:=365*y+d+31*(m-1);
  if (m-1)<=1 then
    begin
      y:=y-1;
      x:=0
    end;
  f:=t+Int(y/4)-Int(0.75*(Int(y/100)+1))-x
end;

begin
  ReadLn(dt1,dt2);
  days:=f(dt2)-f(dt1);
  WriteLn(days:7:0)
end.

>

Running
6.011960 10.311976
   5996

>

Running
2.281900 3.011900
      1

>
```

Edited to correct a typo in line 060

Edited: 16 Aug 2009, 7:19 p.m.

Re: Another days between dates challenge for 11c

*Message #4 Posted by **Don Shepherd** on 16 Aug 2009, 8:28 p.m.,*
in response to message #3 by Gerson W. Barbosa

Hi Gerson.

Don't you mean: 102+3*7+4*2=131?

Re: Another days between dates challenge for 11c

*Message #5 Posted by **Palmer O. Hanson,, Jr.** on 16 Aug 2009, 9:30 p.m.,*
in response to message #4 by Don Shepherd

Don:

> Quote:
>
> Don't you mean: 102+3*7+4*2=131?

He is not counting the LBL B and the last eleven steps as those are for the day of the week calculation and are not needed for days between dates

Recent correspondencc from Richard Nelson tells me that at one time there was a set of biorhythm programs for the SR-56. That should have some routines for a machine with a limited repertoire similar to that of the HP-11. So far I haven't got my hands on the programs. I'm working on it.

Palmer

Re: Another days between dates challenge for 11c

*Message #6 Posted by **Don Shepherd** on 16 Aug 2009, 10:06 p.m.,*
in response to message #5 by Palmer O. Hanson,, Jr.

Oh, OK thanks Palmer. Don

Re: Another days between dates challenge for 11c

*Message #7 Posted by **Gerson W. Barbosa** on 16 Aug 2009, 11:02 p.m.,*
in response to message #4 by Don Shepherd

Hello Don,

I should have mentioned the last few steps didn't have anything to do with your requirement. Sorry! (Thanks Palmer for taking the time to explain it). As I said, my implementation is far from optimized, so there's plenty of room for improvent.

This topic was discussed here some years ago. Thanks for bringing it back:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=78807

Regards,

Gerson.

Edited: 16 Aug 2009, 11:03 p.m.

Re: Another days between dates challenge for 11c

*Message #8 Posted by **Don Shepherd** on 17 Aug 2009, 12:33 a.m.,*
in response to message #7 by Gerson W. Barbosa

Thanks for that link, Gerson. It is absolutely fascinating. Reading that thread, I see some names we haven't seen here very much recently, like Valentin Albillo and James Prange. You can always count on Valentin to defend the 15c (and the 71, as I recall), as he did in that thread. If V or James Prange are still lurking out there, I for one would welcome their regular return to this forum. We would all gain from their participation.

Re: Another days between dates challenge for 11c

*Message #9 Posted by **Bart (UK)** on 17 Aug 2009, 8:26 a.m.,*
in response to message #2 by Katie Wasserman

Hi Katie,

That formula does look more "compact" than the JD formula I based my routines on. I cannot better the code, but I have a suggestion for optimising the maths.

As (365*y) is an integer, then I assume (365*y) + INT(y/4) = INT(365*y + y/4) = INT(365.25*y)

This would save 2 steps in your program.

Perhaps maths gurus could comment on the validity of my assumption?

Bart

Re: Another days between dates challenge for 11c

*Message #10 Posted by **htom trites jr** on 18 Aug 2009, 2:20 a.m.,*
in response to message #9 by Bart (UK)

In this particular case, on this platform, I think you could get away with it, but in the general case (even an emulated hp-11) you should not (and should expect to have a horrible bug to catch!)

Re: Another days between dates challenge for 11c

*Message #11 Posted by **Bart (UK)** on 18 Aug 2009, 7:08 a.m.,*
in response to message #10 by htom trites jr

My reasoning is as follows:

The first term we know is an integer say INT1, the second term is INT2.FRAC1, the integer of which is INT2, thus the sum is INT1+INT2.

If we did not take the integer of the second term before summation, the sum will be [INT1+INT2].FRAC1, if we then take the integer part it is INT1+INT2, as before.

Some rules apply

1) One term must be an integer to start with
2) Both must be of the same sign

As far as I see, both these rules are adhered to within the scope of the implementation of this formula.

Re: Another days between dates challenge for 11c

*Message #12 Posted by **htom trites jr** on 18 Aug 2009, 9:35 a.m.,*
in response to message #11 by Bart (UK)

The problem is in the nature of the actual implementation of floating point arithmetic. Values that are the results of the division of an integer by a power of 2 are "special", in that they can sometimes have exact representations in both decimal floating point and binary floating point. In general, this is not true; in this particular case it works. Change the divisor to, say, 53, and things won't be so neat.

Re: Another days between dates challenge for 11c

*Message #13 Posted by **Bart (UK)** on 18 Aug 2009, 10:25 a.m.,*
in response to message #12 by htom trites jr

Hmmm, so what you're saying is that it all looks good in the physical world but when going to & from 1's & 0's things get hairy.

Re: Another days between dates challenge for 11c

*Message #14 Posted by **htom trites jr** on 18 Aug 2009, 1:26 p.m.,*
in response to message #13 by Bart (UK)

Hairy? Oh my, yes. The entire Broadway musical (cast, orchestra, and crew) comes along, singing and dancing through your results, leaving you scratching your head and saying "What the F..."? If you're lucky you see it happen and eventually figure it out, if you don't, you swear at both the hardware and the gods to no effect.

Please read (it will take a while, sorry) What Every Computer Scientist Should Know About Floating Point **and Users need to know too.** (Handy .PDF version that has maybe a little too much white space; double side it when printing.)

Re: Another days between dates challenge for 11c

*Message #15 Posted by **Steve Perkins** on 18 Aug 2009, 4:16 p.m.,*
in response to message #11 by Bart (UK)

Edit: This program has been shown to be incorrect. Don't try this at home.

Here's my modifications of Katie's example:

```
01 LBL A
02  0
03 STO 0
04 Rv
05 GSB A
06 CHS
07 STO 0
08 R^
09 LBL A
```

```
10 STO I
11 INT
12  9
13 +
14  1
15  2
16 /
17 FRAC
18  1
19  2
20  .
21  1
22 x
23 INT
24 X<>I
25 FRAC
26 EEX
27  2
28 x
29 INT
30 STO - 0
31 Rv
32 LASTx
33 FRAC
34 EEX
35  4
36 x
37 RCL I
38  1
39  0
40 /
41 INT
42 -
43 X<>I
44  3
45  0
46  6
47  x
48  5
49  +
50  1
51  0
52  /
53 INT
54 STO - 0
55 Rv
56 RCL I
57  3
58  6
59  5
60  .
61  2
62  4
63  2
64  5
65 x
66 INT
67 STO - 0
68 1
69 STO + 0
70 RCL 0
71 RTN
```

Score 71 lines, 2 regs, 1 label = 87

Edited: 19 Aug 2009, 4:20 p.m.

Re: Another days between dates challenge for 11c

*Message #16 Posted by **Steve Perkins** on 18 Aug 2009, 3:21 p.m.,*
in response to message #9 by Bart (UK)

An excellent observation!

If I'm not mistaken, it should save 3 lines.

And it should work on a real 11C because of the BCD math, and a simulated 11C because .25 is an inverse power of 2 as pointed out below.

It makes me wonder if we could include the other year terms in the constant on a real (or correctly emulated) HP-11C?

```
INT (y * 365.2425)
```

Certainly worth a try, right?

Edited: 18 Aug 2009, 3:34 p.m.

Re: Another days between dates challenge for 11c

*Message #17 Posted by **htom trites jr** on 18 Aug 2009, 5:56 p.m.,*
in response to message #16 by Steve Perkins

```
i := -4004
while oldmethod(i) = newmethod(i) do i := i+1 endwhile;
display ("error at", i)
```

Re: Another days between dates challenge for 11c

*Message #18 Posted by **Steve Perkins** on 18 Aug 2009, 6:26 p.m.,*
in response to message #17 by htom trites jr

Yes, upon reflection (and testing) my idea was silly.

It doesn't work in many cases.

But the original y * 365.25 is good.

Re: Another days between dates challenge for 11c

*Message #19 Posted by **Bart (UK)** on 19 Aug 2009, 6:22 a.m.,*
in response to message #18 by Steve Perkins

> Quote:
>
> Yes, upon reflection (and testing) my idea was silly.

It implicitly breaks my rule #1 :-)
edit: and #2 as the y/100 is opposite in sign

Edited: 19 Aug 2009, 6:36 a.m.

Re: Another days between dates challenge for 11c

*Message #20 Posted by **Steve Perkins** on 18 Aug 2009, 6:42 p.m.,*
in response to message #17 by htom trites jr

Here's my corrected version. I have more confidence in this one.

I don't need to recall the year to divide by 400, I use the year divided by 100 already there and

just divide that by 4!

I also shortened the (m*306 + 5)/10 part by 1 line.

I tested these improvements to be the same. If someone finds a counterexample, I'd like to know.

Score 79 lines, 2 regs, 1 label = 95

```
01 LBL A
02  0
03 STO 0
04 Rv
05 GSB A
06 CHS
07 STO 0
08 R^
09 LBL A
10 STO I
11 INT
12  9
13 +
14  1
15  2
16 /
17 FRAC
18  1
19  2
20  .
21  1
22 x
23 INT
24 X<>I
25 FRAC
26 EEX
27  2
28 x
29 INT
30 STO - 0
31 Rv
32 LASTx
33 FRAC
34 EEX
35  4
36 x
37 RCL I
38  1
39  0
40 /
41 INT
42 -
43 X<>I
44  3
45  0
46  .
47  6
48  x
49  .
50  5
51  +
52 INT
53 STO - 0
54 Rv
55 RCL I
56  3
57  6
58  5
59  .
60  2
61  5
62  x
63 INT
64 STO - 0
65 Rv
66 RCL I
67 EEX
68  2
```

```
69 /
70 INT
71 STO + 0
72  4
73  /
74 INT
75 STO - 0
76 1
77 STO + 0
78 RCL 0
79 RTN
```

Edited: 18 Aug 2009, 6:50 p.m.

Re: Another days between dates challenge for 11c

*Message #21 Posted by **Bart (UK)** on 19 Aug 2009, 6:33 a.m.,*
in response to message #20 by Steve Perkins

> Quote:
>
> I don't need to recall the year to divide by 400, I use the year divided by 100 already there and just divide that by 4!
>
> I also shortened the (m*306 + 5)/10 part by 1 line.

Now why didn't I think of that!!

One caution though, you seem to be taking INT[INT[y/100]/4], rather than INT[[y/100]/4], which may lead to errors in some cases.

Bart

Re: Another days between dates challenge for 11c

*Message #22 Posted by **Steve Perkins** on 19 Aug 2009, 11:14 a.m.,*
in response to message #21 by Bart (UK)

You are right, I am taking INT[INT[y/100]/4] intentionally. In my tests it was the same, and saved a step.

Let me know if you still think it's different, especially if you can show an example.

I wrote a 'C' program to check all year values and I think I'm OK.

A purist would have used a calculator program, but I was lazy I guess.

Re: Another days between dates challenge for 11c

*Message #23 Posted by **Bart (UK)** on 19 Aug 2009, 4:28 p.m.,*
in response to message #22 by Steve Perkins

As it is we are interested in removing the leap days of whole centuries but counting every fouth one of those.

So your formula should indeed work fine.

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HP Forum Archive 19

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HP-IL/RS-232-C Interface

*Message #1 Posted by **Bill Lafferty** on 14 Aug 2009, 8:49 p.m.*

I picked up a HP82164A through eBay some time ago. It came without an AC adaptor. Can any one tell me what I can use to connect to Australian power, which is 240V? Thanks. Bill Lafferty in Cooma

Re: HP-IL/RS-232-C Interface

*Message #2 Posted by **Raymond Del Tondo** on 14 Aug 2009, 9:12 p.m.,*
in response to message #1 by Bill Lafferty

Don't know the HP part number for the Australian adapter, but it's the same AC adapter as for the 82143A/82162A printer.
In Germany, it's always the HP 82066B for nearly all kind of peripheral stuff. It should provide about 12V AC on the secondary side terminals w/o any device connected,
and about 8V AC with a device.

HTH

Raymond

Re: HP-IL/RS-232-C Interface

*Message #3 Posted by **Howard Owen** on 14 Aug 2009, 9:25 p.m.,*
in response to message #1 by Bill Lafferty

I believe the Australian version is the HP82068B. (ref: hpcollection)

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HP-10bII

*Message #1 Posted by **hecube** on 14 Aug 2009, 6:21 p.m.*

I just received a HP-10bII I intend to use at work. I was just a wee bit apprehensive about the quality of the product. I must admit I'm impressed: the unit feels solid in the hand, it's lightweight and it's beautiful. The processor feels sluggish though...

Of course it's not RPN but it's ok.

The only head-scratching design flaw that jumps at me is having to use the shift button in order to use parenthesis...

Re: HP-10bII

*Message #2 Posted by **Gene Wright** on 14 Aug 2009, 7:04 p.m.,*
in response to message #1 by hecube

The parentheses are a carry over from the original HP 10b back in the late 1980s. This model functions EXACTLY the same as that original model in order to be an exact duplicate. Sadly, that means no algebraic hierarchy and shifted parentheses. Just the way it is.

Why didn't HP upgrade this model to add that stuff? They did...it is called the HP 20b. ;-)

Much, much more bang for your buck for the 20b than the 10bII, IMO.

Why were the parentheses shifted and why was algebraic hierarchy left off the original HP 10b? I can ONLY guess that someone inside HP felt that "business" people don't do real math or that hierarchy might confuse them.

GREAT news is that the internal HP people have been disabused of that notion. Newly designed business calculators from HP that have algebraic have hierarchy. Yay!

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HP 65 / 67 magnetic cards

*Message #1 Posted by **Juan demin** on 14 Aug 2009, 9:10 a.m.*

Do you know if they share the same magnetic cards? if yes... same application programs thru mag cards?

Re: HP 65 / 67 magnetic cards

*Message #2 Posted by **Dan W** on 14 Aug 2009, 10:44 a.m.,*
in response to message #1 by Juan demin

The magnetic cards are the same, but they cannot share programs.

Re: HP 65 / 67 magnetic cards

*Message #3 Posted by **juan demin** on 14 Aug 2009, 4:44 p.m.,*
in response to message #2 by Dan W

thanks, Dan!!!

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HP-67 with clear (transparent) back cover

*Message #1 Posted by **Giovanni Jimenez** on 14 Aug 2009, 8:59 a.m.*

Does anybody know if this type of HP-67 was actually manufactured by HP (as a pilot maybe), or is this a "customized" fix ?

http://cgi.ebay.co.uk/ws/eBayISAPI.dll?ViewItem&item=200373093484&ssPageName=ADME:X:RTQ:GB:1123

Thank you!

Giovanni

it's official

*Message #2 Posted by **Frank Boehm (Germany)** on 14 Aug 2009, 9:43 a.m.,*
in response to message #1 by Giovanni Jimenez

My understanding is, that those were manufactured as sales demo units. A serial# is barely visible, so it's very likely not a prototype unit.

Re: HP-67 with clear (transparent) back cover

*Message #3 Posted by **Walter B** on 14 Aug 2009, 10:18 a.m.,*
in response to message #1 by Giovanni Jimenez

Buenas tardes / buon giorno Giovanni,

AFAIK these were demonstration units from times when CAD was not readily available. So you could see where some space was left.

HTH,

Walter

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Weird Voyager Behavior and 12C+ issue

*Message #1 Posted by **Katie Wasserman** on 14 Aug 2009, 1:01 a.m.*

In playing with the new 12C+ latest firmware (2009-07-31) I found that there's a 2 second timeout when running the keyboard self test (ON + divide). If you wait more than 2 seconds between pressing keys you'll get an Error 9 -- the same as if you had pressed a wrong key. I thought that this was just a new 12C+ bug but all Voyagers do this, the 12C+ just does it 75 times faster than the original ones.

Furthermore, after the Error 9, the X register will display 0.1 times <the number of keys that you pressed + 1> before you timed out. However that displayed number is not-a-number, at least not a legal number. For example, if you start the keyboard self test and let it time out without pressing any keys (2 minutes 18 seconds on my 11C) then press any key, you'll see 0.1 in the X register -- now try taking the reciprocal of this and you'll get 0.0.

It's hard to imagine that this would have ever been noticed on the original Voyagers before, but it's certainly going to be noticed on the new 12C+ and I think will result it many calls to HP support for help with their broken calculator.

-Katie

Re: Weird Voyager Behavior and 12C+ issue

*Message #2 Posted by **Bart (UK)** on 14 Aug 2009, 6:10 a.m.,*
in response to message #1 by Katie Wasserman

One of those little mishaps when old software runs on faster hardware (like the Turbo Pascal 6 CRT module)

Which is why it's good to know there are peole like you testing the 12C+ to breaking point :-).

-B

Re: Weird Voyager Behavior and 12C+ issue

*Message #3 Posted by **cyrille de Brébisson** on 14 Aug 2009, 8:39 a.m.,*
in response to message #2 by Bart (UK)

hello

> Quote:
>
> One of those little mishaps when old software runs on faster hardware (like the Turbo Pascal 6 CRT module)
>
> Which is why it's good to know there are peole like you testing the 12C+ to breaking point :-).

well, this is an original 12C bug, you can not say that it's a 12C+ bug at least!!!

cyrille

Re: Weird Voyager Behavior and 12C+ issue

*Message #4 Posted by **Bart (UK)** on 14 Aug 2009, 9:57 a.m.,*
in response to message #3 by cyrille de Brébisson

Cyrille,

I'd hesitate to call it a bug. Perhaps it was a feature that if the calculator was put into test mode (on purpose or accidental) and left unattended, it would time-out. Or for some other reason (original design team thought it would be a good/sensible idea). Without a RTC the time-out would have been based on the CPU speed.

By the way, my 32S times out in about 2m 45s and first shows "KBD 01 - 00" with a warning trianle and upon ANY keypress shows "32S - FAIL 8".

Just my 2c worth.

Bart

Edit: Playing around now
32S:
Start test (ON & y^x), continue to kbd test, then leave:
2m 45s "KBD 01 - 00" with a warning trianle
2m 45s after that "32S - FAIL 8"
2m 45s after that, returns to normal operating mode.

20S:
Start test (ON & y^x), continue to kbd test, then leave:
1m "20 - FAIL 8"
15s after that, returns to normal operating mode.

20S:
Start test (ON & y^x), then leave:
1m display changes, does this about 3x
1m after that "20 - FAIL 8"
15s after that, returns to normal operating mode.

Edited: 14 Aug 2009, 11:34 a.m.

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Trivia Question

*Message #1 Posted by **Mark Edmonds** on 13 Aug 2009, 7:46 p.m.*

Sometimes, really obvious observations take a long while to happen. This is certainly true with myself and this tidbit that I have only just realised.

If you discount anything from the HP48 onwards and anything from any of the single-line calculator series, there is one particular feature unique to the Voyager series. What is it? (I'm not thinking of the landscape format).

Please don't lose any sleep over this one. If you hadn't realised it and work it out, you might think to yourself, "Oh yes, so it is!" in a slightly amused way. On the other hand, if you know what I am talking about before you've even read this far, just take a deep breath whilst the slow amongst us catch up!

Mark

Re: Trivia Question

*Message #2 Posted by **hecube** on 13 Aug 2009, 8:17 p.m.,*
in response to message #1 by Mark Edmonds

The vertical "enter" button?

Re: Trivia Question

*Message #3 Posted by **Mike Morrow** on 13 Aug 2009, 9:42 p.m.,*
in response to message #1 by Mark Edmonds

They turn off with the push of one button.

Re: Voyager-series Trivia Question

*Message #4 Posted by **Karl Schneider** on 13 Aug 2009, 10:32 p.m.,*
in response to message #1 by Mark Edmonds

> Quote:
>
> discount ... anything from any of the single-line calculator series

I'm not quite sure what is meant by that, but the HP-41 and HP-71B could be considered "single-line series".

The HP-41 has an ON/OFF button that is not shared with CLEAR (turn off in one keystroke),

The HP-71B -- which resembles an HP-15C on steroids -- also has a vertical key that serves as "ENTER", called "END LINE".

-- KS

Re: Trivia Question

*Message #5 Posted by **Paul Dale** on 13 Aug 2009, 10:57 p.m.,*
in response to message #1 by Mark Edmonds

Voyagers are on their second set of batteries? Some might even still be on their first set.

I don't understand the "single-line" comment either.

- Pauli

Re: Trivia Question

*Message #6 Posted by **Dan W** on 13 Aug 2009, 11:10 p.m.,*
in response to message #5 by Paul Dale

I think "single line" meant a single line of characters in the display.

Re: Trivia Question

*Message #7 Posted by **Raymond Del Tondo** on 14 Aug 2009, 3:23 a.m.,*
in response to message #5 by Paul Dale

I also think it's the long life of the batteries,or the overall size:
The voyager series is the most pocketable of the real HP calcs.

ON/OFF with a single key is not a unique feature of the Voyers series,
since the HP-41 has it, too, and even the older HP's with
a mechanical slider switch have it - the single ON/OFF switch.

As was already noted, landscape and vertical ENTER key are in the HP-71B, too.

Edited: 14 Aug 2009, 3:27 a.m.

Re: Trivia Question

*Message #8 Posted by **Thomas Radtke** on 14 Aug 2009, 3:46 a.m.,*
in response to message #7 by Raymond Del Tondo

> Quote:
>
> ON/OFF with a single key is not a unique feature of the Voyers series,
> since the HP-41 has it, too, and even the older HP's with
> a mechanical slider switch have it - the single ON/OFF switch.

Plus all of the financial clamshell models!

Re: Trivia Question

*Message #9 Posted by **Katie Wasserman** on 13 Aug 2009, 11:47 p.m.,*
in response to message #1 by Mark Edmonds

The way the user changes the radix point?

Re: Trivia Question

*Message #10 Posted by **Egan Ford** on 14 Aug 2009, 12:04 a.m.,*
in response to message #1 by Mark Edmonds

> Quote:
>
> one particular feature unique to the Voyager series.

Easy. The most beautiful man(person)-made objects of all time. :-)

Edited: 14 Aug 2009, 12:05 a.m.

Re: Trivia Question

*Message #11 Posted by **hecube** on 14 Aug 2009, 12:29 a.m.,*
in response to message #10 by Egan Ford

That would be a Les Paul... sorry...

Re: Trivia Question

*Message #12 Posted by **Walter B** on 14 Aug 2009, 1:22 a.m.,*
in response to message #10 by Egan Ford

> Quote:
>
> ... man(person)-made ...

Oooh, political correctness :-?

Re: Trivia Question

*Message #13 Posted by **Mark Edmonds** on 14 Aug 2009, 7:40 a.m.,*
in response to message #10 by Egan Ford

> Quote:
>
> Easy. The most beautiful man(person)-made objects of all time. :-)

Egan, these things are personal of course :) I think the Voyager series is cute and idiosyncratic but I wouldn't really consider it beautiful. For a landscape calculator that surpass the Voyagers, I would recommend you pick up a Sharp EL5100. It isn't until you actually handle one and use it that you realise how incredibly thin it is and the delicate feel of those super-soft-click buttons. Svelte is one word that suits the EL5100! If I can embed a photo in a post, I'll try and upload an image showing the thickness of an EL5100 compared to a Voyager.

Mark

Re: Trivia Question

*Message #14 Posted by **Walter B** on 14 Aug 2009, 1:19 a.m.,*
in response to message #1 by Mark Edmonds

Using "P/R" for mode switching?

Re: Trivia Question

*Message #15 Posted by **Mark Edmonds** on 14 Aug 2009, 4:44 a.m.,*
in response to message #14 by Walter B

No one has got it yet which surprises me. Maybe this isn't such a well known factoid as I thought?

The single-line comment means any series based on a single calculator such as the HP01, HP71, HP41, HP94 and so on.

Mark

Re: Trivia Question

*Message #16 Posted by **Jeff Kearns** on 14 Aug 2009, 5:42 a.m.,*
in response to message #15 by Mark Edmonds

A unique feature of the Voyager series is the form factor. The ratio of the length to the width closely approximates the 'magical' number phi, or the Golden Ratio which is 1.618.... Of course, the actual Voyager length/width ratio falls a little short of this number as I eye-ball the measurement in cm with a ruler, but it's close... The width dimension given on this website seems a little low.

So the uniqueness is the almost perfect shape!

Jeff Kearns

Edited: 14 Aug 2009, 5:55 a.m.

Re: Trivia Question

*Message #17 Posted by **Mark Edmonds** on 14 Aug 2009, 7:34 a.m.,*
in response to message #16 by Jeff Kearns

Interesting suggestion Jeff. I'll need to examine why there is this "Golden Ratio" to find out what it is about. My own measurements of a Voyager give a ratio of 1.6125 and for a Pioneer which is the closest I could think of, the ratio is 1.85.

Mark

> Quote:
>
> A unique feature of the Voyager series is the form factor. The ratio of the length to the width closely approximates the 'magical' number phi, or the Golden Ratio which is 1.618.... Of course, the actual Voyager length/width ratio falls a little short of this number as I eye-ball the measurement in cm with a ruler, but it's close... The width dimension given on this website seems a little low.
>
> So the uniqueness is the almost perfect shape!
>
> Jeff Kearns

Re: Trivia Question

*Message #18 Posted by **Bart (UK)** on 14 Aug 2009, 7:09 a.m.,*
in response to message #1 by Mark Edmonds

It has the model no. as part of the HP logo?

The first series in which every model is programmable?

Just guesses as I do not (and never have) owned a voyager.
Bart

Re: Trivia Question

*Message #19 Posted by **Mark Edmonds** on 14 Aug 2009, 7:30 a.m.,*
in response to message #18 by Bart (UK)

> Quote:
>
> The first series in which every model is programmable?
>
> Bart

Well done Bart! That was what I suddenly realised last night. Also, it wasn't just that it was the first series where every single model across the range is programmable, it was also the only series HP ever produced that had this distinction.

Now, some of you will be saying, what about the 41 series or the 48 series? That is why I added the condition to ignore series based on a single calculator. The 41 and 48 series (and 75 and 94) are just revisions of the same basic calculator. The Voyager series kept programmability across 5 separate models and that was and remains unique.

Hope it was worth the brain power everyone!

Mark

Re: Voyager Trivia Question

*Message #20 Posted by **Karl Schneider** on 15 Aug 2009, 1:59 a.m.,*
in response to message #19 by Mark Edmonds

> Quote:
>
> Also, it wasn't just that it was the first series where every single model across the range is programmable, it was also the only series HP ever produced that had this distinction.

Durn! I shoulda got that one, because I've commented on Voyager programmability issues in the past.

It should be noted that there are four basic paradigms of RPN programmability -- two of which are represented in the Voyager line.

```
        Examples
Type A: HP-41, HP-42S
Type B: HP-32S, HP-32SII, HP-33s, HP-35s
Type C: HP-67, HP-34C, HP-11C, HP-15C, HP-16C
```

```
Type D: HP-55, HP-33E/C, HP-38E/C, HP-10C, HP-12C
```

The distinction of "first all-programmable series" may be largely due to the Voyagers being the first line with Continuous Memory across the board.

The HP-12C and predecessor HP-38E/C are the only business models with RPN keystroke programmability. Later business models were based on AOS. Of those, the cheaper ones were nonprogrammable (programming was not very popular with business types anyway); the better ones had the advanced equation solver. Earlier business models used LED displays, and only the HP-38C had Continuous Memory.

The "Type C" programmability of the HP-15C (as well as the HP-34C) was *essential*, due to the need to define user functions for SOLVE and INTEG. This kind of programmability was very useful in the HP-16C for nonstandard data conversions, but was mainly a nicety in the HP-11C.

The "Type D" programming paradigm of the HP-10C and HP-12C was rather substandard, lacking insert/delete editing. I've stated before that the HP-10C ought to have been a *non-programmable with more built-in mathematical functions*. That would have made it more practical, provided greater separation from the HP-11C and HP-15C, and met the criterion of non-progammability for those users who required that.

-- KS

(Corrected per Walter's input)

Edited: 16 Aug 2009, 12:06 a.m. after one or more responses were posted

Re: Voyager Trivia Question

*Message #21 Posted by **Walter B** on 15 Aug 2009, 3:24 a.m.,*
in response to message #20 by Karl Schneider

> Quote:
>
> The HP-12C is the only business model with RPN keystroke programmability.

Pardon, AFAIK the HP-38C had this feature already 8)

Walter

Edit: Posting purged since Karl settled one topic.

Edited: 19 Aug 2009, 12:29 a.m. after one or more responses were posted

(deleted post)

*Message #22 Posted by **deleted** on 15 Aug 2009, 4:36 p.m.,*
in response to message #21 by Walter B

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: Voyager Trivia Question

*Message #23 Posted by **Walter B** on 15 Aug 2009, 5:26 p.m.,*

in response to message #22 by deleted

Karl,

> Quote:
>
> Programming is not very practical without Continuous Memory -- without it, a card reader was needed. (This was probably the impetus for turning the HP-33E into the HP-33C.)

This was probably the impetus for turning the HP-25 into the HP-25C earlier already. The 33 was just the 25 in Spice.

Walter

Edit: Posting purged since Karl settled one topic.

Edited: 19 Aug 2009, 12:27 a.m. after one or more responses were posted

(deleted post)

*Message #24 Posted by **deleted** on 15 Aug 2009, 10:36 p.m.,*
in response to message #23 by Walter B

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: Voyager Trivia Question

*Message #25 Posted by **Walter B** on 15 Aug 2009, 11:42 p.m.,*
in response to message #24 by deleted

> Quote:
>
> Note the reduction in price difference between a non-CM model (25 or 33) and its corresponding CM model.

IIRC, at the time the 25C appeared it was the first scientific using CMOS. So some extra dollars were for that revolutionary new feature. Justified or not, the customer was willing to pay them. As Dave wrote, this feature became standard pretty fast, so no more extra margin with the 33C but, as you wrote, presumably filling a niche with the 33E. Remember 20 US$ were a significant amount then.

Walter

Edit: Posting purged since Karl settled one topic.

Edited: 19 Aug 2009, 12:28 a.m. after one or more responses were posted

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Days between dates - another solution

*Message #1 Posted by **Bart (UK)** on 13 Aug 2009, 2:02 p.m.*

In the recent challenge a formula was provided for days beteen dates, but didn't work in some instances. Actually it won't work when dates include any century years not divisible by 400.

> Quote:
>
> 2.281900
> 3.011900
> --> 2 using this algorithm (incorrect)
> --> 1 on a real 12c (correct, because 1900 is not a leap year)

A single failure, ie a single time that it does not work means the program's broken.

OK, so flame me for being pedantic.

However, I offer a solution. I thought to base my solution on finding the difference between Julian Days using the Julian Day formulae:

a = INT[(14-month)/12]
y = year+4800-a
m = month + 12*a - 3

For a date in the Gregorian (current) calendar:
JD = day + INT[(153*m+2)/5] + y*365 + INT[y/4] – INT[y/100] + INT[y/400] - 32045 (this is for whole days)

Observations:
As the JD numbering starts in 4800BC, and assuming that we're only interested in 0 AD onwards, discard the 4800 in the "y" formula.
Also, as we're interested in the difference between 2 JD's and "-32045" is a common factor, discard it too.

My first implementation is on the 32S,

```
A01   LBL A        B21   +          B47   -
A02   STO A        B22   5          B48   RCL C
A03   x<>y         B23   ÷          B49   400
A04   STO B        B24   IP         B50   ÷
A05   100          B25   RCL B      B51   IP
A06   STO D        B26   RCL D      B52   +
B01   LBL B        B27   *          B53   RCL B
```

```
B02   RCL B        B28   FP          B54   FP
B03   IP           B29   RCL D       B55   RCL D
B04   +/-          B30   x^2         B56   *
B05   14           B31   *           B57   IP
B06   +            B32   RCL E       B58   +
B07   12           B33   -           B59   RCL A
B08   ÷            B34   STO C      B60   STO B
B09   IP           B35   365         B61   x<>y
B10   STO E        B36   *           B62   STO A
B11   12           B37   +           B63   x<>y
B12   *            B38   RCL C       B64   FP
B13   3            B39   4           B65   x>0?
B14   -            B40   ÷           B66   GTO B
B15   RCL B        B41   IP          B67   x<>y
B16   IP           B42   +           B68   LAST x
B17   +            B43   RCL C       B69   -
B18   153          B44   RCL D       B70   RTN
B19   *            B45   ÷
B20   2            B46   IP
```

This is 5 registers, 2 labels and 76 lines. I tried a mix of registers & code and this gives me the best combination (as numbers in lines seem to use lots of memory). 178 bytes calculated as (free mem before code and with cleared registers) subtract (free mem after coding, execution and leaving registers un-cleared).

I thought a challenge would be implementing it on a 20S. Being algebraic, it takes more steps to do things. It has a fixed 99 step memory and the register memory is separate. Unfortunately I could not find a solution without having to pre-enter data on some registers (6 to 9 see below listing).

```
01   LBL A         34   IP          67   RCL 3
02   STO 0         35   +           68   /
03   SWAP          36   1           69   4
04   STO 1         37   2           70   =
05   C (ON)        38   *           71   IP
06   LBL B         39   RCL 2       72   -
07   RCL 1         40   -           73   (
08   IP            41   3           74   RCL 3
09   +/-           42   =           75   /
10   +             43   STO 4       76   RCL 9
11   1             44   RCL 1       77   )
12   4             45   FP          78   IP
13   =             46   *           79   =
14   /             47   RCL 9       80   +
15   1             48   =           81   RCL 3
16   2             49   IP          82   /
17   =             50   +           83   RCL 6
18   IP            51   (           84   =
19   STO 2         52   RCL 8       85   IP
20   RCL 1         53   *           86   RCL 0
21   *             54   RCL 4       87   STO 1
22   RCL 9         55   +           88   FP
23   =             56   2           89   x=0?
24   FP            57   )           90   GTO D
25   *             58   /           91   LAST
26   RCL 9         59   5           92   STO 0
27   x^2           60   =           93   GTO B
28   =             61   IP          94   LBL D
29   -             62   +           95   LAST
30   RCL 2         63   RCL 7       96   -
31   =             64   *           97   RCL 0
32   STO 3         65   RCL 3       98   =
33   RCL 1         66   +           99   RTN
```

Pre-program the following numbers:
100 STO 9
153 STO 8
365 STO 7
400 STO 6

Executing:
D1 INPUT D2 XEQ A

Now I do not have an 11C, nor emulator, but I Imagine the code would look like this:

```
01   LBL A        30   5            59   RCL 3
02   STO 0        31   3            60   ÷
03   x<>y         32   *            61   INT
04   STO 1        33   2            62   -
05   1            34   +            63   RCL 2
06   0            35   5            64   4
07   0            36   ÷            65   0
08   STO 3        37   INT          66   0
09   LBL B        38   RCL 1        67   ÷
10   RCL 1        39   RCL 3        68   INT
11   INT          40   *            69   +
12   +/-          41   FRAC         70   RCL 1
13   1            42   RCL 3        71   FRAC
14   4            43   x^2          72   RCL 3
15   +            44   *            73   *
16   1            45   RCL 4        74   INT
17   2            46   -            75   +
18   ÷            47   STO 2        76   RCL 0
19   INT          48   3            77   STO 1
20   STO 4        49   6            78   x<>y
21   1            50   5            79   STO 0
22   2            51   *            80   x<>y
23   *            52   +            81   FRAC
24   3            53   RCL 2        82   x>0?
25   -            54   4            83   GTO B
26   RCL 1        55   ÷            84   x<>y
27   INT          56   INT          85   LAST x
28   +            57   +            86   -
29   1            58   RCL 2        87   RTN
```

It would get a score of 119 (87lines + 7*4registers + 2*2labels). I could probably have saved on registers but was worried about program length as I think the 11C has max 99 lines (not sure about this as it dynamically re-allocates memory between registers?).

Closing observations: a = INT[(14-month)/12] gives 1 if month is <=2 and 0 if >2. Perhaps using flags could save some lines.

I am not a great programmer, so the above could probably be optimised. It would be particularly useful to see solutions for the 20S not requiring pre-entering data in some registers.

Bart

Re: Days between dates - another solution

*Message #2 Posted by **hugh steers** on 13 Aug 2009, 2:22 p.m.,*
in response to message #1 by Bart (UK)

Hi,

you can simplify your formula a bit more. set m = month + 12*a + 1, then lose the 2/5 in the JD formula.

This is what i did for the original problem, except i also chopped the y/100 and y/400 terms so as to get the wrong answer!

-- hugh.

Re: Days between dates - another solution

*Message #3 Posted by **Don Shepherd** on 13 Aug 2009, 2:22 p.m.,*
in response to message #1 by Bart (UK)

Bart, good work.

The challenge on the other thread noted that the algorithm in the 12c manual does not handle century years correctly, but since Katie and I had already developed 11c programs for that algorithm, we wanted to limit the entries to implementations of that specific algorithm.

Here is a link to another algorithm that does work for all years. Katie found this one and it is relativey easy to implement.

Thanks for your interest. I wonder how many dbd algorithms out there acutally don't handle the century years correctly.

Re: Days between dates - another solution

*Message #4 Posted by **Palmer O. Hanson, Jr.** on 13 Aug 2009, 11:14 p.m.,*
in response to message #1 by Bart (UK)

I noted that the program for days between dates in my HP-12C correctly handles the leap year for years divisible by 100 with one exception -- the year 4000 when the modified Gregorian calendar calls for that year not to be a leap year. The program in ML-20 of the Master Library module for the TI-59 operates in the same way. I compared the equations for days between dates on pages 208-209 of the HP-12C manual with the equations on page 76 of the manual for the TI-59 Master Library module and found that they were the same except that the TI-59 version has an additional term to take care of the years divisible by 100. For March through December the additional term is

INT(.75(INT(YYYY/100)+1))

For January and February the additional term is the same except that YYYY has been decreased by one. You can look at the ML-20 documentation at either Viktor Toth's or Joerg Woerner's site.

I did down-load the ML-20 program, altered it to bypass the last terms and verified that the omission did cause a problem at years divisible by 100 but not divisible by 400.

While looking at all of this I noted that both the HP-12C and TI-59 programs implement error trapping of the input such as not allowing the number of months to be greater than 12, etc. I don't know how much memory is used in the HP-12C for input error trapping. The entire TI-59 program for days between dates is 172 steps where 68 of those steps are used for input error trapping.

Bart wrote "Flame me for being pedantic." Here's an example of really being pedantic. Way back when, some purist discovered that input error trapping in the TI-59 program limits the number of days of any month to 31, but does not limit the days of the months that do not have 31 days to the lesser number. Thus, the TI-59 program will return the number of days between January 1, 1900 and March 3, 1900 as 61 days, but will also return the number of days between January 1, 1900 and February 31, 1900 as 61 days. I suppose someone, but not me, could argue that February 31, 1900 is really the same as March 3, 1900. The HP-12C program will indicate "Error 8" if a user tries to enter a February 31 date.

Palmer

Re: Days between dates - another solution

*Message #5 Posted by **Don Shepherd** on 14 Aug 2009, 4:13 a.m.,*
in response to message #4 by Palmer O. Hanson, Jr.

Hi Palmer. Regarding the year 4000 not being a leap year, apparently that idea was never officially adopted by whomever it is that makes such rules. Reference. It seems that the Earth is slowing down somewhat, which may make that adjustment unnecessary by the time 4000 rolls around. Of course, none of us will be here to have to worry about it.

On the other hand, today's date (August 14) is a VERY special day: it's my birthday!

Re: Happy birthday Don

*Message #6 Posted by **Bart (UK)** on 14 Aug 2009, 5:24 a.m.,*
in response to message #5 by Don Shepherd

Happy 59th birthday!

I did note that from your example in the other thred :)

Re: Happy birthday Don

*Message #7 Posted by **Don Shepherd** on 14 Aug 2009, 10:23 a.m.,*
in response to message #6 by Bart (UK)

Thanks Bart. I wondered, "how did he know 59" and then I remember the dbd example I did in the other thread. The interesting thing about the 12c dbd algorithm in the manual is that it differs from the actual implementation, because the real 12c does handle years like 1900 and 1700 correctly, so it doesn't exactly follow the algorithm in its manual. In fact, the manual (in later versions) has a disclaimer beneath the algorithm: "Additional tests are performed in order to ensure that the century (but not millenium) years are not considered leap years." Unfortunately, the disclaimer is not exactly correct either; some century years are leap years (2400), and some are not (2300), and some millenium years are leap years (2000), and some are not (3000). I guess if I had to choose for either the code to be correct or the documentation, I'd choose the code. I wish HP had documented the actual algorithm they used in the manual, however.

I teach math (and social studies sometimes), and it's always fun to ask the kids why we even have leap years. I bring in a lamp (the Sun), put it in the middle of the room, turn out the lights, and then carry a globe in a circle around the room, rotating it as I go, to illustrate what really happens in the world with the southern and northern hemispheres. And I note the tilt of the Earth on its axis, which is the reason we have seasons and is the practical reason that leap years are necessary (because I want to be surfing in June, not building snowmen!).

Re: Happy birthday Don

*Message #8 Posted by **Palmer O. Hanson, Jr.** on 14 Aug 2009, 9:55 p.m.,*
in response to message #7 by Don Shepherd

Don:

First, I will add my wishes for a happy birthday.

I note that the TI-59 code does provide the desired result where years divisible by 100 are not leap years unless they are also divisible by 400 in which case the years are leap years. I have no idea whether or not the additional terms in the TI-59 implementation are optimized, and I can't recall an effort in the TI community to do so. Since the solution was in a module where memory was essentially not a limitation there would have been no real incentive to reduce keystrokes. Why not extend the challenge that Katie and you issued to include a complete solution for the HP-11C? Can such a solution be more efficient than the one that Bart

proposed?

Palmer

Re: Happy birthday Don

*Message #9 Posted by **Don Shepherd** on 14 Aug 2009, 10:23 p.m.,*
in response to message #8 by Palmer O. Hanson, Jr.

> Quote:
>
> Why not extend the challenge that Katie and you issued to include a complete solution for the HP-11C?

That's a good idea. I'll start a new thread for that purpose. Bart, you can put a link to your 11c program in this thread in the new thread. Let's see what folks can do with a "correct" algorithm, that handles century years correctly. I may not post something myself, since I tend to use more registers and I don't like to keep a close check on what's in the stack. But we'll use the same rules for evaluation: lines of code + 7*registers + 2*labels.

Bart, I think in the 11c you can actually have up to 203 program lines, but you would have no registers to work with except the index register I!

Re: Happy birthday Don

*Message #10 Posted by **Paul Dale** on 16 Aug 2009, 5:51 p.m.,*
in response to message #9 by Don Shepherd

> Quote:
>
> Bart, I think in the 11c you can actually have up to 203 program lines, but you would have no registers to work with except the index register I!

Yes, the 11c is limited to 203 lines. The 34c can goto 210. In both cases, you'd only have I left as a register. The reason for the difference? Most likely because the 11c has a random number generator which uses a register for its seed.

- Pauli

Re: Days between dates - another solution

*Message #11 Posted by **Bart (UK)** on 14 Aug 2009, 5:53 a.m.,*
in response to message #5 by Don Shepherd

Thank you all for your responses. Definitely some more food for thought - and options to try in programs.

I started this as a new thread because it did not implement the 12C manual's formula, which was the purpose of the previous thread.

In retrospect, that solution is not a problem within the scope of current affairs, i.e. 1 March 1900 to 28 Feb 2100.

However, as I find interest in working out such things on historical events (just for fun), I'd rather use a

more complete formula.

Footnote: I found the American date format actually useful here as the month is easily extracted and used for both "a" & "m".

Bart

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HP-50g Calculator Tutorial

*Message #1 Posted by **Bill (Smithville, NJ)** on 13 Aug 2009, 10:33 a.m.*

While I don't have a HP-50g, I did find this nice tutorial on using it at the following site:

HP-50g Calculator Tutorial

This is from Thiel College and consists of 32 lessons in PDF format.

Bill

Re: HP-50g Calculator Tutorial

*Message #2 Posted by **Walter B** on 13 Aug 2009, 11:34 a.m.,*
in response to message #1 by Bill (Smithville, NJ)

Bill,

Thank you for sharing. Maybe I'll learn RPL with this tutorial ;)

Walter

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Fun with the Casio fx-180p / fx-3600p

*Message #1 Posted by **Thomas Radtke** on 13 Aug 2009, 10:25 a.m.*

Recently, I shot a Casio 9850GB+ on a "different" aucion site for cheap. After playing with it for some _minutes_, I decided to put it up on eBay and asked myself, when was the last time I've been amazed by a Casio calculator. Well, it probably was when the fx-180p came out. Since then I wrote a lot of programs for it.

Today, I pulled a 3600p (one brother of the 180p) out of my drawer and found it still kept a program in memory that does something interesting. Took me quite some time to find the flow chart to this program. My question is, how would you solve the following problem on either the 180p or the 3600p (probably the programming model on the rare 190p is the same, so you can use it, too):

For any x >= 0, find the smallest y >= x that is the square of an integer.

E.g., for 0, the calculator should return 0. For 5, it should find 9

You likely have to use both P1 and P2.

Hope some of you are owning one of these wonderfull calculators and enjoy programming as mch as I do!

Re: Fun with the Casio fx-180p / fx-3600p

*Message #2 Posted by **Chuck** on 13 Aug 2009, 1:52 p.m.,*
in response to message #1 by Thomas Radtke

Unfortunately I don't have one of those calculators, but I did get an FX-9860G slim yesterday; first casio I've ever had. On this, I created the function Y1=(Intg(-sqrt(x))^2. The "Intg" is the greatest integer function, and so should work on any calculator that has this function. Just not sure how to impliment it on the aforementioned calculators. :(

CHUCK

Re: Fun with the Casio fx-180p / fx-3600p

*Message #3 Posted by **Thomas Radtke** on 13 Aug 2009, 2:50 p.m.,*
in response to message #2 by Chuck

Thank you for your interesting answer, Chuck! It's a nice idea to use the floor function on a negative number. Unfortunately, the old Casios don't have any of those integer functions, so a loop has to be considered. The problem is to keep it inside the 38 steps limit of these calculators. In addition, they offer very limited branching capabilities. And of course, you're typing in programs blindly.

Edited: 13 Aug 2009, 2:53 p.m.

Re: Fun with the Casio fx-180p / fx-3600p

*Message #4 Posted by **Xerxes** on 13 Aug 2009, 6:34 p.m.,*

in response to message #1 by Thomas Radtke

A solution in 9 steps on the FX-3900Pv with the same programming model but with an editor and 300 steps in four areas:

```
P1: Min 1 +/- M+ +
P2: 1 + x^2 x<=M
```

Re: Fun with the Casio fx-180p / fx-3600p

*Message #5 Posted by **Thomas Radtke** on 14 Aug 2009, 1:51 a.m.,*
in response to message #4 by Xerxes

> Quote:
>
> A solution in 9 steps on the FX-3900Pv with the same programming model but with an editor and 300 steps in four areas:

I have a 180p Plus, which must be a close relative to your 3900Pv. Unfortunately, none of these "late successors" seem to be able to handle fractions.

> Quote:
>
> ```
> P1: Min 1 +/- M+ +
> P2: 1 + x^2 x<=M
> ```

Much shorter than my program, thank you, Xerxes!

But there's a way to calculate it faster. For x = 1000001, my solution appears within a second, while your program takes about 30 seconds on the 180p Plus.

Any other solutions? :-)

Edited: 14 Aug 2009, 9:32 a.m.

Re: Fun with the Casio fx-180p / fx-3600p

*Message #6 Posted by **Xerxes** on 14 Aug 2009, 1:34 p.m.,*
in response to message #5 by Thomas Radtke

An even shorter version with 8 steps:

```
P1: Min 1 M- -
P2: 1 + x^2 x<=M
```

or 7 steps only, if x=0 is excluded:

```
P1: Min 1 M-
P2: 1 + x^2 x<=M
```

and a very fast solution with 14 steps excluding x=0:

```
P1: Kin1 Min 1 M- Kout1 SQR FIX0 RND NORM -
P2: 1 + x^2 x<=M
```

Re: Fun with the Casio fx-180p / fx-3600p

*Message #7 Posted by **Thomas Radtke** on 14 Aug 2009, 3:51 p.m.,*

in response to message #6 by Xerxes

> Quote:
>
> and a very fast solution with 14 steps excluding x=0:
>
> ```
> P1: Kin1 Min 1 M- Kout1 SQR FIX0 RND NORM -
> P2: 1 + x^2 x<=M
> ```

Excellent :-)

This is my solution, not optimized in any way but fast and includes 0:

```
P1: kin1 sqrt - .5 = kin2 fix0


P2: kout2 + .5 = kin2
    kout1 - kout2 rnd x^2 = x>0
    kout2 rnd x^2 nrm
```

Re: Fun with the Casio fx-180p / fx-3600p

*Message #8 Posted by **Xerxes** on 14 Aug 2009, 9:06 p.m.,*
in response to message #1 by Thomas Radtke

> Quote:
>
> (probably the programming model on the rare 190p is the same, so you can use it, too)

Due to the lack of the K vars, only the short solutions are usable on the FX-190/191.

The FX-180P was my first programmable bought in 1980, so thank you for the fun with the powerful keystroke dialect of this calculator. ;-)

Re: Fun with the Casio fx-180p / fx-3600p

*Message #9 Posted by **Thomas Radtke** on 15 Aug 2009, 7:38 a.m.,*
in response to message #8 by Xerxes

> Quote:
>
> The FX-180P was my first programmable bought in 1980, so thank you for the fun with the powerful keystroke dialect of this calculator. ;-)

It was also my first programmable :-). Thanks for participating!

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MoHPC *The Museum of HP Calculators*

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Kepler Orbits for the 42S

*Message #1 Posted by **Les Wright** on 13 Aug 2009, 2:34 a.m.*

Even though I know this won't advance the space program, I thought I would share this little routine I have put together that really seems to make excellent use of the 42S/Free42:

```
00 { 152-Byte Prgm }
01>LBL "KEPORB"
02 MVAR "PER"
03 MVAR "ECC"
04 MVAR "PH"
05 MVAR "T"
06 VARMENU "KEPORB"
07 RAD
08 STOP
09 EXITALL
10 PI
11 RCL× "T"
12 RCL÷ "PER"
13 STO+ ST X
14 STO "MA"
15 PGMSLV "KEPEQ"
16 STO "EA"
17 SOLVE "EA"
18 0.5
19 RCL× "EA"
20 TAN
21 1
22 RCL+ "ECC"
23 1
24 RCL- "ECC"
25 ÷
26 SQRT
27 ×
28 ATAN
29 STO+ ST X
30 ENTER
31 ->DEG
32 X<>Y
33 COS
34 RCL× "ECC"
35 1
36 +
37 1
38 RCL+ "ECC"
39 X<>Y
40 ÷
41 RCL× "PH"
42 RTN
43>LBL "KEPEQ"
44 RCL "MA"
45 RCL- "EA"
46 RCL "EA"
47 SIN
48 RCL× "ECC"
49 +
50 .END.
```

The routine returns the heliocentric polar coordinates of a planet's orbit given the orbital PERiod, ECCentricity, and PeriHelion (i.e, nearest to the Sun) distance at a given time T (with the understanding the T=0 is at perihelion). The program returns the distance from the sun in the X register and the angle of rotation in degrees (with the understand that the angle is zero at perihelion) in the Y register.

To use XEQ KEPORB, enter the orbital parameters for your planet (easily found all over the place--I use Wikipedia) into the menu variables PER, ECC, and PH, enter the desired T into that menu variable, hit R/S, and the result is returned as described.

Units obviously must be consistent. If the PERiod entered is in days, the T entered should also be in days. The distance returned will be in the same units as that of PeriHelion distance provided.

I like the internal programmed use of the Solver to numerically solve the transcendental Kepler equation. Those who know about this stuff will see that I use the known Mean Anomaly as a reasonable initial guess to the desired Eccentric Anomaly. In our solar system this is a pretty good approximation since the elliptical orbits are actually almost circular in most cases, and even in the exceptions like Pluto and Mercury things are still pretty close.

Info on the math is [link:http://en.wikipedia.org/wiki/Kepler's_laws_of_planetary_motion]here[/link].

The RAW file, for Free42 users, is here.

Hope someone else also finds this amusing.

Les

Edited: 13 Aug 2009, 10:01 p.m. after one or more responses were posted

Re: Kepler Orbits for the 42S

*Message #2 Posted by **Les Wright** on 13 Aug 2009, 7:15 p.m.,*
in response to message #1 by Les Wright

I took the time to enter the steps in my real 42S. It runs well, return a result in a couple of seconds, but isn't quite as accurate as on Free42 as there is usually some accuracy loss (a digit or two usually) due to rounding.

Re: Kepler Orbits for the 42S

*Message #3 Posted by **Gerson W. Barbosa** on 13 Aug 2009, 9:27 p.m.,*
in response to message #2 by Les Wright

> Quote:
>
> but isn't quite as accurate as on Free42 as there is usually some accuracy loss (a digit or two usually) due to rounding.

It's nice chain calculations on Free42 are carried out internally with 20 or more digits. On the other hand this is quite contrary to HP rounding philosophy (at least on real HP calculators) - please read the first message in this thread. For the sake of replicating the real 42S as faithfully as possible, I think Free42 should provide the classic rounding method as an option. Of course, Free42 is just great the way it is and I am glad Free42Decimal has been available since the first versions.

Edited: 13 Aug 2009, 9:28 p.m.

Re: Kepler Orbits for the 42S

*Message #4 Posted by **Reth** on 13 Aug 2009, 11:19 p.m.,*
in response to message #3 by Gerson W. Barbosa

I disagree with the idea Free42 should copy the original. Free42 is already superior to it in every possible aspect so it should go further adding more features to address the needs of the modern world

calculator users. Probably that's the only way we get (sort of) Walter's HP-43S.
Or should program storage for example be taken off to match the original?.

Regards,
Reth

Re: Kepler Orbits for the 42S

*Message #5 Posted by **Gerson W. Barbosa** on 14 Aug 2009, 11:44 a.m.,*
in response to message #4 by Reth

I didn't mean Free42 should be crippled just to match the original 42S. It just happens sometimes original features are more desirable than the enhanced ones. For instance, Free42BCD is way faster than the Decimal version but programs that depend on decimal arithmetic will not work properly on the former. I cannot think of any original HP-42S program, however, that won't work due to the extra internal digits.

Best regards,

Gerson.

Re: Kepler Orbits for the 42S

*Message #6 Posted by **Les Wright** on 15 Aug 2009, 11:58 p.m.,*
in response to message #3 by Gerson W. Barbosa

Gerson, for folks who want authentic emulation of the original I think Emu42 is the better solution.

I use Free42 in all of its incarnations precisely because its capabilities supersede the original. I have a 42S in fair condition as my collectible, but Free42 on my handhelds and PCs is what I actually use. The Achilles heal of the original is the absence of fast and convenient I/O.

Les

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41C mcode

*Message #1 Posted by **Doug** on 12 Aug 2009, 6:25 a.m.*

-DISASM- 4D is online at TOS

enjoy!

Best

Re: 41C mcode

*Message #2 Posted by **Ángel Martin** on 13 Aug 2009, 2:35 a.m.,*
in response to message #1 by Doug

Greetings Doug, and thanks for the update message. I've downloaded it and will play around with it during the week-end...

PS. Hope you didn't do away with the JN/JNC functions for good, I use them all the time! Same for the Class_1 instructions ones, I didn't see them at first inspection but I need to read your updated manual. Maybe you can have an 8-k version of the module having them back?

All the best, ÁM

Edited: 13 Aug 2009, 2:36 a.m.

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Improved Internal Accuracy in Newest Version of Free42

*Message #1 Posted by **Les Wright** on 11 Aug 2009, 10:00 p.m.*

Hugh Steers responded to me recently in some detail when I wrote to compliment and thank him for revisions to his BCD-20 library that has made Free42 even more accurate than before. It looks like transcendental and special functions (like GAMMA and !) have been improved to give 25 digits of internal accuracy within 1 ulp in most cases.

Most intriguing for me was the claimed improvements in the integration algorithm. Hugh has improved the Romberg code to incorporate the variable transformations described by Kahan in his December 1980 HP digest paper (on the MOHPC DVD). In experimenting with the pathological integral described by Kahan in that same article, I have been able to get it correct to 23 digits within 5 ulp by setting ACC to the absurd 1e-23. I was using Free42 Decimal 1.4.52 on my Palm XT, and this took a few minutes, but it worked. In previous versions of Free42, the integrator would not return a result if ACC was smaller than 1e-13 or 1e-14.

Byron Foster has told me that the next release of 42S for iPhone will incorporate this most up to date math code.

I thought this info would be of interest to those who love Free42 in its various incarnations. Numerical integration is hot topic around here occasionally and I thought that these refinements would be of great interest to some.

Les

Edited: 11 Aug 2009, 10:06 p.m.

Re: Improved Internal Accuracy in Newest Version of Free42

*Message #2 Posted by **hugh steers** on 12 Aug 2009, 10:07 a.m.,*
in response to message #1 by Les Wright

Hi, Thanks for the compliment.

This is true, although the original code still applied the transformation. This "trick" is described in the HP15c advanced function handbook page 46. you set x = u/2*(3-u^2) and integrate u. This changes the Romberg integrand into an open form and, according to the book "suppresses resonance". Unfortunately, the old code suffered from a defect in the Richardson extrapolation logic (part of the Romberg method) that meant many more function evals were being called than necessary. This has been fixed. Also, i'm hoping the error estimate returned in Y is more accurate.

Edited: 12 Aug 2009, 10:07 a.m.

Re: Improved Internal Accuracy in Newest Version of Free42

*Message #3 Posted by **Les Wright** on 12 Aug 2009, 7:01 p.m.,*
in response to message #2 by hugh steers

Quote:

> Also, i'm hoping the error estimate returned in Y is more accurate.

Hugh, I should look at the code myself and try to decipher, but could you tell me what you use for the error estimate? I am assuming the difference between the final and penultimate approximation to the integral that satisfies the relative error requirement stored in ACC?

Thanks in advance,

Les

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HP42S Addendum card.

*Message #1 Posted by **Javier Goizueta** on 11 Aug 2009, 5:21 p.m.*

Hello.

I've got an HP-42S at last :) but without manuals :(and I'm looking for a scan of the addendum card about the HP42S FCSTX bug. I've looked for it in my MoHPC DVDs (v.6) but can't find it there.

Can anybody help me find it, or provide information about the bug?

Thanks, --Javier

Re: HP42S Addendum card.

*Message #2 Posted by **Fred Lusk** on 11 Aug 2009, 8:20 p.m.,*
in response to message #1 by Javier Goizueta

Javier…

I have a PDF of the addendum card. Send me a private message with your email address and I will send you the file. I'm at work now, but can do this when I get home.

Fred Lusk

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HP48G ROM transplanted in a HP38G

*Message #1 Posted by **Thomas Chrapkiewicz** on 11 Aug 2009, 12:49 p.m.*

I have an application that requires HP48G functionality in a HP38G package.

My preliminary investigation shows that a simple ROM replacement in the HP38G should work.

Of course there will be keyboard issues as the HP38G package is missing a couple of keys (and this can be obviated with menu commands).

Has anyone tried this? I'm curious of any hardware issues.

Is there an existing HP38G schematic out there? I am aware of the fine HP48G schematic).

Thanks and Regards,

TomC

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OT: "Dekadische Nummerierung" - english translation

*Message #1 Posted by **Mike (Stgt)** on 11 Aug 2009, 10:30 a.m.*

Sorry for disturbing with this OT: Numbering items in a TOC like 1/1.1/1.1.1/1.1.2/1.2/1.2.1/2/2.1 and so on is called "dekadische Nummerierung" in german, what is a very specific expression. I looked quite a while in several sources for a translation, but I am not sure that "decimal numbering" is realy it. Who knows the exact term for it?

TIA.....Mike

Re: OT: "Dekadische Nummerierung" - english translation

*Message #2 Posted by **Walter B** on 11 Aug 2009, 12:07 p.m.,*
in response to message #1 by Mike (Stgt)

Hallo Mike,

after asking a friendly librarian, she meant "decimal classification" may be the right term. Reason: there is such a system in English libraries.

HIH (hoffe es hilft)

Walter

Re: OT: "Dekadische Nummerierung" - english translation

*Message #3 Posted by **Ken Shaw** on 11 Aug 2009, 12:29 p.m.,*
in response to message #2 by Walter B

Sounds like your librarian may be thinking of the "Dewey Decimal Classification" which is a system for classifying books by subject and discipline, not for numbering the contents.

In English, I've never encountered a specific term for numbering the contents in one particular way vs. any other way. Decimal numbering sounds like a reasonable expression.

HTH

Re: OT: "Dekadische Nummerierung" - english translation

*Message #4 Posted by **Walter B** on 11 Aug 2009, 3:34 p.m.,*
in response to message #3 by Ken Shaw

> Quote:
>
> Sounds like your librarian may be thinking of the "Dewey Decimal Classification" which is a system for classifying books by subject and discipline, not for numbering the contents.

I'm aware of Dewey. You use Dewey in libraries, but you may use similar decimal systems for other

purposes as well. E.g. for structuring topics covered in a text. If I understood it correctly, that's what Mike was looking for. Nevertheless, "decimal numbering" may be an alternative translation. Further proposals?

[rant]Dewey was not the first one using a decimal structure, so he couldn't even patent it. So you are free to apply a decimal structure elsewhere. That doesn't mean you shall copy it exactly. Think![/rant]

Edited: 11 Aug 2009, 11:32 p.m.

Re: OT: "Dekadische Nummerierung" - english translation

*Message #5 Posted by **Mike (Stgt)** on 12 Aug 2009, 5:05 a.m.,*
in response to message #4 by Walter B

Tnx 4 all answers. One reply I received off-list from Hubert who pointed me to http://en.wikipedia.org/wiki/ISO_2145 where the British Standard BS 5848:1980 is referenced. There they call it "point numbering".

Ciao.....Mike

...and UPN - Unremitting Point Numbering <G>

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Heat staked keyboards with sticky, bouncy or corrosion present keyboard PCAs

*Message #1 Posted by **Geoff Quickfall** on 10 Aug 2009, 9:30 p.m.*

Thought I would post the following which is found embedded in a previous topic soon to be lost. I hope this helps the community at large. It was in response to the question:

What did you mean by "washing" the PCA's?

When I restore a calculator with a heat staked keyboard, especially one with corrosion due to either battery leakage or out gassing I use a wash on the PCA.

```
a:  To remove any vertigris (green or white precipitate) I rinse
   (wash) the PCA with a mild vinegar solution followed by a
    distilled water rinse and then 95% anhydrous ethanol (in Canada
    thats known generically as 95% rubbing alcohol although I have
    seen it labelled isopropyl alcohol).
b:  For stickey keys, a very dilute soap and water wash with water
    rinse and anhydrous ethanol rinse
c:  If there is no corrosion or stickey keys I use the water wash
    followed by the anhydrous ethanol rinse.
```

Of course, sticky keys with corrosion would get both treatment a and b.

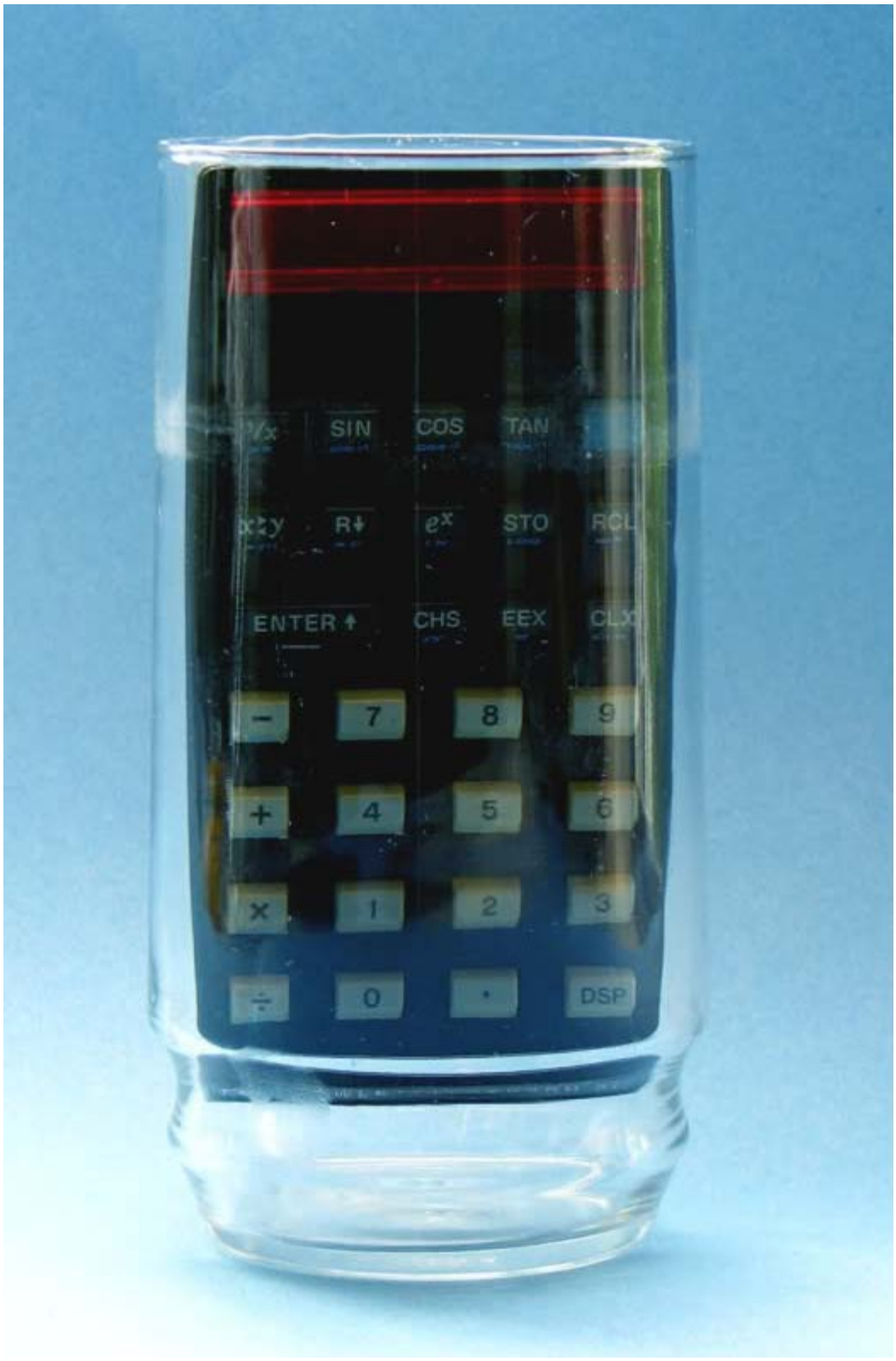
Heat staked keyboards with bouncy keys or even intermittant keys respond well to this and I have resurrected bad keyboards on:

```
Woodstocks
Coconuts
Voyagers
Pioneers
Stretch Pioneers
```

Of course the Classics and Spice keyboards can be diassembled and cleaned mechanically.

Cheers, Geoff

Fill the glass to a level below the LCD or LED if they are soldered in place. In the case of the woodstocks the LED module can be removed.



Edited: 11 Aug 2009, 4:30 a.m.

Re: Heat staked keyboards with sticky, bouncy or corrosion present keyboard PCAs

*Message #2 Posted by **Dan W** on 12 Aug 2009, 12:29 a.m.,*
in response to message #1 by Geoff Quickfall

Thanks Geoff. Very interesting. I do have one keyboard/display PCA from an HP-45 with a bit of that verdigris. A lovely aqua really. Never thought of immersing it. But you do not submerge the IC's or LED

chips?

Re: Heat staked keyboards with sticky, bouncy or corrosion present keyboard PCAs

*Message #3 Posted by **Geoff Quickfall** on 12 Aug 2009, 3:56 p.m.,*
in response to message #2 by Dan W

Dan,

I try to stay away from the ICs but if there is corrosion/vertigris present, you can be sure it is active, especially in humid environments. When present it will be a certainty that the corrosion will enter the chip via the connectors.

The LED block however has wire bonded (extremely thin) connections. These too can suffer from the outgassing or battery leakage. It is a trade off. They will also deteriorate. You have to make the decision whether to hault the corrosion and risk harming the LED block or leave the vertigris and keep the calculator dry (silica gel).

I do stay away from the LED block if corrosion is not present as the water may stain or leave a dry film (depends on the hardness of tap water, another reason to use distilled) under the block where it is seen but cannot be removed. This applies to LCD panels on heat staked calculator also.

So the thinking by me is:

```
1  include the IC's if corrosion is present around the connectors.
   the vinegar wash may be applied with a brush to limit exposure
2  include the LED if you are concerned enough with the
   possible corrosion.
3  try to keep the water and other washes clear of the LED block
   and LCD panels.
```

I had a bottle in the lab with a spout which originated in the bottom of the bottle (name?). If you can get a hold of one of these you can direct the wash at specific parts of the PCA.

Hope this helps,

Geoff.

P.S. I just completed two HP-41CX halfnuts. Soaked both keyboards with logic PCA attached in a glass of soap/water mix overnight. Followed with the rinse and a two day dry box. Instead of the dry box prop the keyboard PCA vertically and place in front of a fan for a couple of days. Both keyboards with intermittent and faulty keyboards as well as rocker switches came back to PERFECT function for both feel and logic response.

Edited: 12 Aug 2009, 3:57 p.m.

Re: Heat staked keyboards with sticky, bouncy or corrosion present keyboard PCAs

*Message #4 Posted by **Dan W** on 12 Aug 2009, 10:41 p.m.,*
in response to message #3 by Geoff Quickfall

Well Geoff, I'll give it a try. Do you let it soak in vinegar overnight, or just go at it with an old toothbrush?

Also, dumb question, what is a "heat staked" keyboard? (The only keyboard PCA's I am familiar with are the classics).

I have a candidate in mind...

Re: Heat staked keyboards with sticky, bouncy or corrosion present keyboard PCAs

*Message #5 Posted by **Geoff Quickfall** on 13 Aug 2009, 1:23 a.m.,*
in response to message #4 by Dan W

Ah, a picture is worth a thousand words.

Clean the OFF/ON contact with some alcohol to remove the silicon grease remnant.

Using a paint brush, natural bristle or a SOFT tooth brush and vinegar clean around the LED block and the ICs.

Soak overnight to just below the level of the two ICs marked 1820-1061.

If you had key contact problems, cut long strips of construction paper (heavy weight paper) wide enough to fit through the key contacts. Press down on a contact while dragging the strip through. The strips could be damp with vinegar also.

Rinse with water and alcohol.

Woodstocks, Voyagers, Pioneers and later families had the keyboard PCA heat staked (plastic welds) which preclude diassembly like the classics and spice. Removal of the heatstakes is the only way to gain access to the keys and key contacts. Once apart they are difficult to restake. Voyagers have over 40 stakes holding them together.

Of course the "book" will have some methods explained to re-stake the keyboard ;-)

Cheers, Geoff

Here is a Museum link that I wrote about a 45 restoration last year:

HP 45

I subsequently modified this to accept the Quartz crystal and enter key modification to allow easy and accurate timing.

quartz crystal

Cheers, Geoff

Results!

*Message #6 Posted by **Dan W** on 13 Aug 2009, 11:09 a.m.,*
in response to message #5 by Geoff Quickfall

I cleaned the kybd/LED PCA pictured above by soaking in a vinegar/water solution, up to the top row, for about 30 minutes, then took a toothbrush using the same solution to scrub around the chips.

The result is pictured below. The keypad cleaned up nicely. I have tested each key and I get a

good positive "HP click" and the calculator does what its supposed to do. Obviously the LED drivers and the LC circuit are all working.

The only bad news is that there is inside damage to the LED chips. This appears to get progressively worse from left to right, and the rightmost chip appears to be working fine. I do not think the damage to the LEDs was a result of the cleaning.

So, two thumbs up for the technique. Hard to believe it is the same PCA as I photographed earlier.

-- Dan

Re: Results!

*Message #7 Posted by **Geoff Quickfall** on 13 Aug 2009, 12:04 p.m.,*
in response to message #6 by Dan W

Good job!

Now find a defunct keyboard PCA and swap out the LED blocks. I just swapped an LED block from a spare HP-55 parts machine into an HP-45 and an HP 80. In fact the 45 in my pictures above had one decimal place that was not working. ONE decimal place in the 5th division, amazing, but now it works. It was to be a spare parts machine as it did not work either!

Once and awhile just the keyboard PCAs show up on Ebay or a completely dead machine shows up with no chance of resurrection. I keep these around for LED spares, drivers and etc.

Your correct, if you kept the solution clear of the LED block or if the LED block was in excellent condition and the solution was introduced the LEDs would still be functional. Judging from the amount of corrosion and the diameter of the bonding wire in the LEDs i am not surprised that some of the bonds let goe. Remember, each LED dot has a wire as opposed to the bar LEDs from later periods.

Cheers, Geoff

Edited: 13 Aug 2009, 12:15 p.m.

Re: Results!

*Message #8 Posted by **Dan W** on 13 Aug 2009, 12:54 p.m.,*
in response to message #7 by Geoff Quickfall

As it turns out I do have another PCA with bad key bubbles - cracked all the way through. But it has a good display.

I have recently been studying the LED driving technology. Very interesting, using inductors to provide the current. Usually when I put it on a scope it is fairly obvious

where the fault is. There is one problem that alludes me. I call it ghosting. It is where one LED has a 3-4 segments that are faintly lit when those same segments are lit on some other digit. Any ideas what causes this?

I have restored a number of Classics. I'll buy dead units from auction and restore them and sometimes sell. Often the problem is as simple as crud build-up on the power switch (I think they over applied the silicon lube). I've learned a lot and it helps finance my collecting habit.

Ghosting LED numbers, anyone else?

*Message #9 Posted by **Geoff Quickfall** on 13 Aug 2009, 4:18 p.m.,*
in response to message #8 by Dan W

I have one 65 that has a really minor ghost, visible at night in the dark.

I remember someone, somewhere swapped a resistor to limit current to the LED driver or Block, can't remember, and this fixed the problem.

Anyone out there with an idea and specific location for the resistor, that would be helpful.

Congratulations on reserrecting another HP-45! Something I never thought of but convenient; flipping the logic PCA over while applying power, duh, no why didn't I think of that!

;-)

Re: Ghosting LED numbers, anyone else?

*Message #10 Posted by **Dan W** on 14 Aug 2009, 2:04 p.m.,*
in response to message #9 by Geoff Quickfall

After staring at scope images of cathode and anode signals a while and coming up empty, I decided the best approach was the time honored brute force method. I swapped LED chips. The ghosting followed the chip. Therefore the problem is the LED chip itself.

I suppose it may be possible to add a resistor somewhere to mitigate the problem by dimming the LEDs, but I don't see that it would solve the problem.

I did see a minor difference in scope signals when comparing with a known working calculator.

Also in the before picture note a very slight ghosting of segment e in the digits immediately left and right of the bad digit. This disappeared after the swap. I had not even noticed these segments lit until I saw it in the photo.

I swapped the right and center LED chips. The ghosting was on the left most digit of the right chip.

Before the swap:

After the swap:

Re: Ghosting LED numbers, anyone else?

*Message #11 Posted by **Geoff Quickfall** on 14 Aug 2009, 3:31 p.m.,*
in response to message #10 by Dan W

Thanks Dan, emails to follow!

Away from home at the moment, but thanks for your email.

Looks like, as you said, a LED Block problem and not the driver. Well that is better news then the driver problem. I have not been able to find the article on the resistor addition so anyone out there who knows, that would be a help.

At least I know that I can swap the HP-65 ghost block out if need be as I do have a spare 65 blocks.

Does the scope still show a difference when compared to the 'normal' calculator. Of course, what is normal in a run of two!

Cheers, Geoff

Re: Ghosting LED numbers, anyone else?

*Message #12 Posted by **Dan W** on 14 Aug 2009, 11:32 p.m.,*
in response to message #11 by Geoff Quickfall

I think I found the post that referred to a resistor fix.

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv019.cgi?read=150663

> Quote:
>
> I decided that maybe the driver for the left digit needed to be pulled up a little. This was because it just seemed to sink current during the time that the other digits were driven, causing the cross-talk from the other digits.
>
> Indeed the problem vanished with a resistor of 150 Ohm between Vcc and k15. To avoid possible damage and to stay on the conservative side I chose to use 200 Ohm. In the pictures you can see that the display is now much better looking, though a little less bright than the other HP45 that I have.

I am thinking that some ghosting could be due to stray capacitance or a resistance path between traces due to crud. I think what he's done is attenuate the current, sort of masking the problem.

Re: Heat staked keyboards with sticky, bouncy or corrosion present keyboard PCAs

*Message #13 Posted by **Geoff Quickfall** on 15 Aug 2009, 7:55 p.m.,*
in response to message #1 by Geoff Quickfall

Dan,

I agree with the fault being in the LED block!

I have a 45 with a ghost problem and missing decimal point in the middle of the ghosting block.

Swapped with a spare 55 block and the decimal is back and the ghost gone.

Another salvaged 45!

Cheers, Geoff

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All We Wanted For Christmas....

*Message #1 Posted by **Joerg Woerner** on 10 Aug 2009, 3:05 p.m.*

Hi Calculator Aficionados,

I just received a small box from Canon (USA) and found a very, very interesting calculator inside:

At first glance it looks like their standard four-banger, maybe with solar cells, a memory or even an alarm clock. .

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Guess again!

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If you open it, a wonderful display - the crispest I ever recognized at a calculator - stares at you:

This new FN-600 allows you interactive, financial calculations and sports even a clock and calendar and performs days-between-dates calculations with ease:

I'm impressed!

And it sold for just $19.95 including free shipment...

Regards, Joerg

Re: All We Wanted For Christmas....

*Message #2 Posted by **Don Shepherd** on 10 Aug 2009, 5:07 p.m.,*
in response to message #1 by Joerg Woerner

Joerg, that's pretty cool. It reminds me of the Casio 9860g-slim. I'll have to order one. If it only had programming....

Re: All We Wanted For Christmas....

*Message #3 Posted by **db (martinez, ca.)** on 11 Aug 2009, 1:08 a.m.,*
in response to message #1 by Joerg Woerner

hey Joerg;

That screen *is* crisp and it's one of those alpha on the top / numeric on the bottom screens like the 20b.

But does that enter key work?

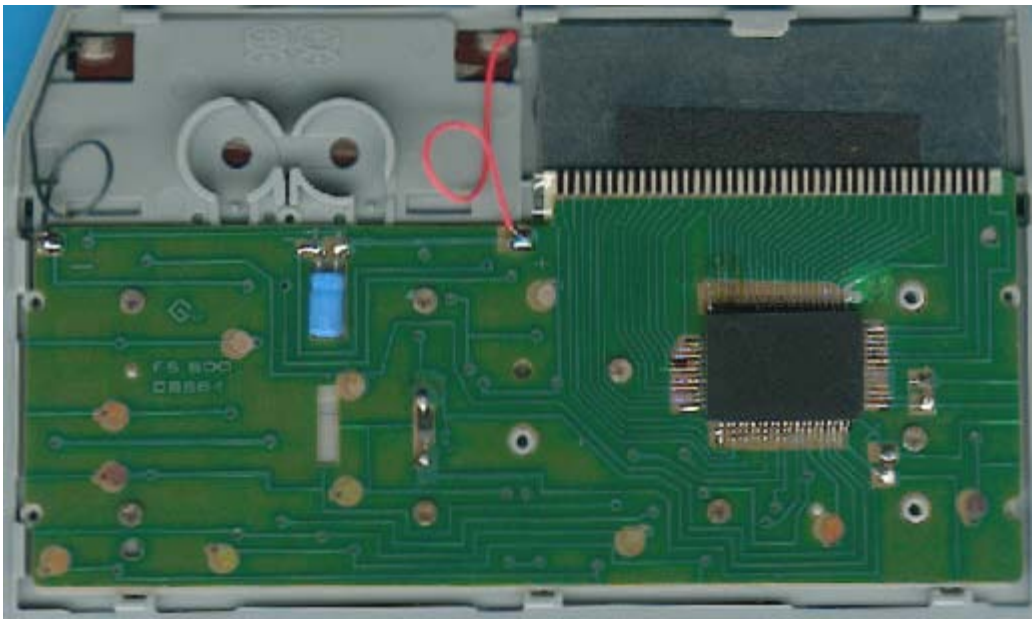
Re: All We Wanted For Christmas....

*Message #4 Posted by **Joerg Woerner** on 11 Aug 2009, 9:48 a.m.,*
in response to message #3 by db (martinez, ca.)

Dennis,

It sports even an ENTER key ;-))

I just disassembled it for you:



Regards, Joerg

Please grab a soldering iron

*Message #5 Posted by **Frank Boehm (Germany)** on 11 Aug 2009, 10:11 a.m.,*
in response to message #4 by Joerg Woerner

Looks like one could reconfigure it to display Japanese 8)

Re: Please grab a soldering iron

*Message #6 Posted by **Joerg Woerner** on 11 Aug 2009, 10:35 a.m.,*
in response to message #5 by Frank Boehm (Germany)

Frank,

Look at this:

Regards,

Joerg

Not-so-well designed

*Message #7 Posted by **Frank Boehm (Germany)** on 12 Aug 2009, 7:03 a.m.,*
in response to message #6 by Joerg Woerner

I wonder why they forgot to translate "BATTERY" :)

Btw. putting a little switch in there would be a very nice way to confuse workmates...

Re: All We Wanted For Christmas....

*Message #8 Posted by **Don Shepherd** on 13 Aug 2009, 4:55 p.m.,*
in response to message #1 by Joerg Woerner

Joerg, I ordered it a couple of days ago and it arrived today. That is one cool little gadget! It "defines" shirt pocketability: 4" x 3" x .5".

If you're the kind of person (and I think that there are a lot of them out there) who just wants to know what the monthly payment on your new car will be, having traded in your "clunker," or you want to know what your CD will be worth in 2 years, this calc was made for you. You don't have to know and/or understand the mechanics of TVM or BEG/END modes. And its display is second to none.

I think the free shipping and $10 off expire at the end of today, however.

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HP 42S - Problem

*Message #1 Posted by **Michel Lahcem** on 10 Aug 2009, 11:07 a.m.*

Hi everyboby

I’ve found in a flea market an HP 42S in excellent cosmetic conditions. When I inserted batteries and turned it on I had no display and all keys (except ON) only played a beep when pressed and screen remained empty. The only way to turn it off was to remove batteries. Pressing keys randomly I could see sometimes “Memory clear” on the first display line and the value of x register “x:0” followed by other figures I don’t remember on the second one. The batteries are good because they make an HP 12C and an HP 32S work fine. I’ve tried all tips found here (and in the archives) and no way to make it work. Things I tried were : - shorting battery terminals without batteries, - E+, XEQ ON keys sequence, - Reset key sequences as indicated in the owner manual. I must add that the top of the right battery terminal is broken. Normally it looks like a reverse P and in my case it looks like an I. However, contact is made as I can hear beeps and see that screen is powered on. Is contact surface important? Does anybody here have any idea on how to make it work?

Sincerely, Michel

Re: HP 42S - Problem

*Message #2 Posted by **hpnut** on 10 Aug 2009, 11:35 a.m.,*
in response to message #1 by Michel Lahcem

Hi Michel,

have you tried the self test?

http://www.rskey.org/~mwsebastian/selftest/hp_test.htm

Re: HP 42S - Problem

*Message #3 Posted by **Michel Lahcem** on 10 Aug 2009, 12:08 p.m.,*
in response to message #2 by hpnut

Hello,

First of all thank you for your quick answer. Indeed I have tried these tests but without result. The fact is that when I press any key I ear a beep. For instance if I press 7 I ear a beep and I don't see 7 on the display. Even, I can't turn off the calculator using keys because [SHIFT] also plays a beep. In such a case, I'm not able to know if calculator freezes at boot or not. I'm quite desperate...

Re: HP 42S - Problem

*Message #4 Posted by **Jeff O.** on 10 Aug 2009, 12:32 p.m.,*
in response to message #3 by Michel Lahcem

Michel,

I'm no expert, but it sounds like your unit has some sort of internal problem, i.e., it's not just a matter of clearing the memory or resetting it. If and when you decide that you have nothing to lose, Paul Brogger has written a couple of articles regarding how to disassemble Pioneers, see here and here. If you are lucky, perhaps it is a problem with the "zebra stripes." If you are unlucky, it is a keyboard problem.

...

Re: HP 42S - Problem

*Message #5 Posted by **Michel Lahcem** on 10 Aug 2009, 1:11 p.m.,*
in response to message #4 by Jeff O.

Thank you Jeff.

Opening the HP 42S would be the last solution because I have no skills at all in electronics (usually everything that works I open doesn't work after. I'm a kind of Attila ;-)).

Michel

Re: HP 42S - Problem

*Message #6 Posted by **Eric Smith** on 10 Aug 2009, 2:03 p.m.,*
in response to message #1 by Michel Lahcem

I have a 27S with the same problem. Leaving the battery out for more than a year didn't solve it. My best guess is that the electronics has suffered from ESD damage.

Re: HP 42S - Problem

*Message #7 Posted by **Michel Lahcem** on 11 Aug 2009, 4:05 a.m.,*
in response to message #6 by Eric Smith

Hello !!!

Is there any means (without opening) to solve this ?

Re: HP 42S - Problem

*Message #8 Posted by **Walter B** on 11 Aug 2009, 4:54 a.m.,*
in response to message #7 by Michel Lahcem

Bonjour Michel,

ESD means electrostatic discharge. If this is the cause of what you see, there is no way for you to repair this.

Cordialement,

Walter

Re: HP 42S - Problem

*Message #9 Posted by **Michel Lahcem** on 11 Aug 2009, 4:32 p.m.,*
in response to message #8 by Walter B

Hello Walter,

Thanks, so I just hope it's something else. :(

Michel

Re: HP 42S - Problem

*Message #10 Posted by **DaveJ** on 11 Aug 2009, 12:01 a.m.,*
in response to message #1 by Michel Lahcem

Perhaps the tantalum decoupling cap has gone bung and is causing odd behaviour?
Try putting a 100uF cap across the battery terminals.

Internal shot for your reference:

Dave.

Re: HP 42S - Problem

*Message #11 Posted by **Michel Lahcem** on 11 Aug 2009, 4:07 a.m.,*
in response to message #10 by DaveJ

Hello !!!

Can you be more specific because I know nothing about electronics. Should I have to solder something in case I open the case ?

Michel

Re: HP 42S - Problem

*Message #12 Posted by **DaveJ** on 11 Aug 2009, 7:56 a.m.,*
in response to message #11 by Michel Lahcem

> Quote:
>
> Can you be more specific because I know nothing about electronics. Should I have to solder something in case I open the case ?

You just need to hold the capacitor across the battery terminals. Make sure you get the correct polarity though, it should be marked with either a minus symbol on the case next to the corresponding negative

lead, like this:

Any electronic component shop should have one.

It's a long shot, but if you are out of options...

Dave.

Re: HP 42S - Problem

*Message #13 Posted by **Michel Lahcem** on 11 Aug 2009, 4:29 p.m.,*
in response to message #12 by DaveJ

Hello Dave,

Thank you. I will ask some friends of mine for capacitor.

Michel

Re: HP 42S - Problem

*Message #14 Posted by **Michel Lahcem** on 17 Aug 2009, 3:54 p.m.,*
in response to message #1 by Michel Lahcem

Hello,

I'm a lucky guy. My wife found last saturday 2 HP 10B for 10 euros at a flea market. I think I will try to open one of them and then may be will open the 42S.

Thanks for your help.

Michel

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HP-41cx "plastic film" in battery contacts

*Message #1 Posted by **Giovanni Jimenez** on 9 Aug 2009, 10:54 p.m.*

Some time ago I got a nice HP-41CX, and I noticed that there is some sort of "plastic film" covering the contacts in the battery compartment; not all of it because the calculator works fine, so obviously the batteries are making contact, but it is around these contacts and I have no idea what this film is for. It is a bit loose but I don't want to take it off, just in case it has some purpose.

I have another calc (HP-41CV) and it doesnt have that "film".

Any idea what this might be ? THX

Re: HP-41cx "plastic film" in battery contacts

*Message #2 Posted by **Eric Smith** on 10 Aug 2009, 2:01 p.m.,*
in response to message #1 by Giovanni Jimenez

Hard to say without actually seeing it, but is it possible that the flex circuit is delaminating?

Re: HP-41cx "plastic film" in battery contacts

*Message #3 Posted by **Geoff Quickfall** on 10 Aug 2009, 9:40 p.m.,*
in response to message #2 by Eric Smith

I would have to agree with Eric. Having now fixed two of these, both suffering corrosion damage there are three layers.

The film the gold is bonded to and a film that covers the gold contact. This film is bare at the contact points for the batteries and the module connections and can delaminate. As long as the gold is intact and not cracked there should be no problem.

I suppose you could glue the plastic back in place with contact cement ensuring you clean any access but it is not required.

Cheers, Geoff

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HP-41 question

*Message #1 Posted by **Monte Dalrymple** on 9 Aug 2009, 9:39 p.m.*

Does anyone have the physical specifications for the daughterboard in a fullnut?

In particular, I'd like to find out the exact location and sizes for the two holes in the circuit board that hold it in place over the zebra-strip connectors.

By my measurement, looking fron the top of the board and starting on the left side, I have 15.5mm to the edge of the first hole, a 4.5mm hole, 28mm to the edge of the second hole, another 4.5mm hole and then 14.5mm to the other edge of the board.

Obviously there's some play allowable... but I don't want to much play when mounting a board. And I _really_ don't want to end up with holes 0.1mm too small or 0.1mm too close together.

Thanks, Monte

Re: HP-41 question

*Message #2 Posted by **Eric Smith** on 9 Aug 2009, 9:53 p.m.,*
in response to message #1 by Monte Dalrymple

Even if HP was willing to turn loose of HP-41C mechanical drawings, I doubt that they could do it because the drawings most likely no longer exist. A huge amount of stuff was thrown away when responsibility for calculators moved from Corvallis to Singapore, and more thrown away when it moved from Singapore to Australia, and more when it moved from Australia to San Diego.

Measuring it is the only realistic option at this point.

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HP 48 & HP 49...1999 and 2003 releases

*Message #1 Posted by **juan demin** on 9 Aug 2009, 2:59 p.m.*

Hi, could you tell me the difference between these models? It seems that HP kept the 48 and 49 series alive making new releases of both in 1999 and 2003…

1999….HP-48 G+ and HP-49 G

2003….HP-48 GII and HP-49 G+

Thanks…

Re: HP 48 & HP 49...1999 and 2003 releases

*Message #2 Posted by **Dave Britten** on 9 Aug 2009, 6:27 p.m.,*
in response to message #1 by juan demin

The 48G+ is nothing more than a 48G with 128 KB RAM (but no expansion slots). The 49G was the first major redesign, with a significant software update (Metakernel, etc), and lots more internal RAM (512 KB, plus 2 MB flash). Plus a keyboard that is probably the worst that has ever been included on any calculator in the history of calculators.

The 49G+ (and 50G and 48GII) is a complete hardware overhaul - it runs on the ARM CPU, and simply emulates the old Saturn architecture in software. In terms of software capabilities, it's pretty much the same as the 49G, but with a much less atrocious keyboard. The 49G+ and 50G have SD card slots, though I don't think the 48GII does. The 49G+ and 50G have a somewhat taller screen, and the 48GII has the traditional 48G screen size.

Re: HP 48 & HP 49...1999 and 2003 releases

*Message #3 Posted by **juan demin** on 10 Aug 2009, 11:22 a.m.,*
in response to message #2 by Dave Britten

Thank you...Dave!!!

Re: HP 48 & HP 49...1999 and 2003 releases

*Message #4 Posted by **Mark Edmonds** on 10 Aug 2009, 3:11 p.m.,*
in response to message #2 by Dave Britten

Worth adding that the 49G doesn't have an IR port either - great shame that. I believe it came with a special cable for calc to calc transfer.

I also think that another factor which let down the 49G even further was not just the horrible tactile feel of the keyboard with its horrible (easily worn-off) painted labels, but the layout and relegation of important keys to shifted positions, eval and '. The 49G+ and 50G corrected this but still leaves the MTH and PRG menus as shifted keys. Users coming from a 48S/48G background might consider these two menus as

major functionality "gateways" (I certainly do) so having them shifted is a major PITA.

Mark

Re: HP 48 & HP 49...1999 and 2003 releases

*Message #5 Posted by **Nigel J Dowrick** on 10 Aug 2009, 5:07 p.m.,*
in response to message #2 by Dave Britten

Just to note that I have a 49G+ which has the atrocious keyboard. At least, I assume it does: I've never had a 49G, but I can't imagine that any keyboard could be worse than the one on my 49G+! So the change in the internal hardware (ARM processor, etc.) must have taken place before the keyboard was fixed. All very confusing!

Nigel

Re: HP 48 & HP 49...1999 and 2003 releases

*Message #6 Posted by **Dave Boyd** on 10 Aug 2009, 7:58 p.m.,*
in response to message #5 by Nigel J Dowrick

> Quote:
>
> Just to note that I have a 49G+ which has the atrocious keyboard. At least, I assume it does: I've never had a 49G, but I can't imagine that any keyboard could be worse than the one on my 49G+! So the change in the internal hardware (ARM processor, etc.) must have taken place before the keyboard was fixed. All very confusing!

No, no, the early atrocious version of the 49G+ keyboard was atrocious in entirely different ways than the 49G keyboard was. The 49G+ had hard plastic keys but the internal snap domes or hinges or whatever were easily broken. The 49G, on the other hand, had rubber keys; the standard (on cheap calcs, and never before an HP calc) type, except that the designers were aware that HP keyboards were supposed to be snappy, so they did their best to make... *snappy rubber domes.* Which were very stiff. And had the key legends silk-screened on. Which wore off. And some of the keys were sometimes upside down. They were unlike anything else I've ever seen. Here's a link to Joe Horn's site.

Re: HP 48 & HP 49...1999 and 2003 releases

*Message #7 Posted by **Ed Look** on 10 Aug 2009, 9:10 p.m.,*
in response to message #2 by Dave Britten

I am (sort of) still using both my 48G and G+, and my 49G+ and 50G+.

I am impressed with the I/O and memory capacity, specifically the SD card capability, of the 49G+ and 50G.

But I like the feel of the 48G and G+ in my hands...

... ... and there is a Star Trek game that exists (only) for the 48G series machines. ;)

Re: HP 48 & HP 49...1999 and 2003 releases

*Message #8 Posted by **David Hayden** on 10 Aug 2009, 1:39 p.m.,*
in response to message #1 by juan demin

Other differences between the 48Gii and the 50G: the 48Gii indeed has no SD card and it has a smaller display. Also less RAM (256K I believe) and no Equation library. I think it's a great deal for many users who'd otherwise get a 50G.

HP has actually made (at least) two versions of the 48gii that are, in my opinion, so different that they should have called them different models. The older version had no USB, only 80k of memory and used 3 AAA batteries. On the plus side, they came with a fabric case. They also came with a serial cable. The newer version has serial and USB, 256k of memory, uses 4 AAA batteries and comes with a turtle shell plastic cover (is that the right name??) and USB cable. You can tell the difference by looking for two connectors on the top edge (USB and Serial for newer version, serial only for old). If it's new in the bubble package then the top edge is hard to see, so check if it mentions USB on the package, or turn it around and look for 3 vs. 4 batteries.

Re: HP 48 & HP 49...1999 and 2003 releases

*Message #9 Posted by **juan demin** on 10 Aug 2009, 4:36 p.m.,*
in response to message #8 by David Hayden

very clear about the HP 48gII (new speed on a 48 shape...), but is there a real difference between the 49G+ and the 50G?

Re: HP 48 & HP 49...1999 and 2003 releases

*Message #10 Posted by **Nigel J Dowrick** on 10 Aug 2009, 5:12 p.m.,*
in response to message #9 by juan demin

> Quote:
>
> very clear about the HP 48gII (new speed on a 48 shape...), but is there a real difference between the 49G+ and the 50G?

I own both machines; so far as I am concerned the only difference is that the 50G has a working keyboard (actually a rather good one) and a much nicer colour scheme! I think the 50G uses 4 AAA batteries instead of 3 and it has some sort of serial port which I've never used. I think that computationally both calculators are equivalent.

Nigel

Re: HP 48 & HP 49...1999 and 2003 releases

*Message #11 Posted by **Mark Edmonds** on 10 Aug 2009, 5:39 p.m.,*
in response to message #10 by Nigel J Dowrick

> Quote:
>
> I think that computationally both calculators are equivalent.
>
> Nigel

If the emulators are anything to go by (and I assume they are), they both use the same ROM image.

Mark

Re: HP 48 & HP 49...1999 and 2003 releases

*Message #12 Posted by **Tim Wessman** on 10 Aug 2009, 10:23 p.m.,*
in response to message #11 by Mark Edmonds

The 48gII, 49g+ and 50g all run the same ROM.

TW

Re: HP 48 & HP 49...1999 and 2003 releases

*Message #13 Posted by **Jeff Kearns** on 11 Aug 2009, 5:06 a.m.,*
in response to message #9 by juan demin

Quote:

very clear about the HP 48gII (new speed on a 48 shape...), but is there a real difference between the 49G+ and the 50G?

The following link is an Australian youtube comparing the 50G with the 49G+:
http://www.youtube.com/watch?v=HxfxlVjbrkY&feature=related

For some reason, the 49g+ is slightly faster - he says something about the letters 'HLT' in the 50G upper right display. Maybe the 50G also has as SD card in it, who knows?

Jeff Kearns

Edited: 11 Aug 2009, 5:07 a.m.

Re: HP 48 & HP 49...1999 and 2003 releases

*Message #14 Posted by **Reth** on 11 Aug 2009, 6:00 a.m.,*
in response to message #9 by juan demin

Quote:

very clear about the HP 48gII (new speed on a 48 shape...)

```
Mmm, just the opposite - HP48GII is NOT HP48 but HP49 really and is NOT in the HP48
shape unfortunatelly ... That's the way I read the above.
I guess everyone here would be extremely happy with the hardware of HP48 and the
internals of HP50 but it's very unlikely to happen.
Cheers,
Reth
```

Re: HP 48 & HP 49...1999 and 2003 releases

*Message #15 Posted by **Mark Edmonds** on 11 Aug 2009, 7:39 a.m.,*
in response to message #14 by Reth

Quote:

I guess everyone here would be extremely happy with the hardware of HP48 and the internals of HP50 but it's very unlikely to happen. Cheers, Reth

It would be totally awesome if they did that. I would be in seventh-heaven! The 50G is an amazing calc really but the key layout is its main failing. Ideally, it should have stuck to a layout very similar to the 48G series with 6 keys across on the middle group which would make room for the

big enter in the correct place as well as providing an additional 4 keys.

I know that us users on this forum must represent a small faction of the total userbase but I am equally sure that there is a large number of users out there who want the RPN style keyboard on a 50G.

If this were to happen, the large 48 series community would certainly go for it and with the enhanced software and faster speed, it would surely create a surge of new user-development and a real buzz in the community.

It would be a completely killer calculator, just amazing.

How can we make HP aware of this desire so they might actually give it some thought? Rhetorical question I know but it frustrates me that this staggering combination has to live in my imagination only.

Mark

Re: HP 48 & HP 49...1999 and 2003 releases

*Message #16 Posted by **Bart (UK)** on 13 Aug 2009, 5:44 a.m.,*
in response to message #15 by Mark Edmonds

> Quote:
>
> I know that us users on this forum must represent a small faction of the total userbase but I am equally sure that there is a large number of users out there who want the RPN style keyboard on a 50G.

One just has to watch EBay, people are willing to pay more than new 50G prices for 15y+ old used 48SX/GX.

Re: HP 48 & HP 49...1999 and 2003 releases

*Message #17 Posted by **Mike Morrow** on 14 Aug 2009, 7:26 p.m.,*
in response to message #16 by Bart (UK)

They must not care that the HP48S and G-series have the worst LCD display quality ever put on a graphing calculator by anyone. The LCDs were poor brand new right out of the box. The display clarity of the HP49g+ and later is stunning by comparison. My early HP49g+ display is actually perceptibly better than that of my HP50g, when a side-by-side comparison is made.

They must not care that HP48-series LCDs are woefully unprotected and can easily be damaged with slight pressure from a sharp surface (like the edge of a stapler in a drawer).

They must not care that HP48 memory expansion cards were (and are) quirky and unreliable (as the backup battery died) and *extremely* expensive. The SD card technology for the HP49g+ and later is a tremendous feature which seems seldom to be credited the value it deserves in the HP49g+ design.

They must not care the the keyboard and labeling color scheme used in both the HP48S and G series are studies in poor contrast and legibility, and just plain left-coast artsy-campy ugliness. The HP49g+ and HP50g keyboards have far better contrast, even if one doesn't

like the colors used.

As an HP calc user for more than 35 years, IMHO the HP50g is the best handheld calculator ever made, by wide margin. Which is not to say it couldn't be improved.

Re: HP 48 & HP 49...1999 and 2003 releases

*Message #18 Posted by **juan demin** on 14 Aug 2009, 9:06 a.m.,*
in response to message #15 by Mark Edmonds

....in the inagination of many of us...!!!!

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Days between dates challenge for 11c and 34c

*Message #1 Posted by **Don Shepherd** on 9 Aug 2009, 9:56 a.m.*

Katie Wasserman and I have been extolling the virtues of the HP-11c via emails recently, and we decided to implement the days between dates algorithm found in the "Formulas Used" Appendix of the HP-12c manual. Each of us developed an RPN program on the 11-c for this algorithm, and then we shared them so we could benefit from the other's ideas. Katie thought this would be a good challenge for this community, and I agree. So here are the rules.

The goal is to develop an RPN program on either the HP-11c or HP-34c that conserves the scarce resources on these calculators as much as possible. To this end, these are the evaluation criteria to determine the "best" program. Like golf, the lowest score wins.

Evaluation criteria:

1. One point for each line of code.
2. Seven points for each register used (not including the stack and lastx).
3. Two points for each label used.

You must implement the delta-DYS (actual day basis) algorithm in the Formulas Used Appendix of the HP-12c manual. Katie and I discovered that this algorithm, as listed, does not work correctly if the date range includes century years that are not divisible by 400, such as 1800, 1900, 2100, etc. (although the 12-c does work correctly for these years, so the actual implemented algorithm is different than the printed algorithm). Nevertheless, implement the algorithm as printed in the manual.

Let's see who comes up with the lowest (best) score. I have to admit, Katie is a master at this and I will be surprized if anyone can top her effort. To the winner goes the honor of being identified as the winner in this thread!

Re: Days between dates challenge for 11c and 34c

*Message #2 Posted by **Katie Wasserman** on 9 Aug 2009, 11:50 a.m.,*
in response to message #1 by Don Shepherd

FYI, here's the formula that's to be implemented, taken from the 12C appendix:

```
Actual Day Basis
delta-days = f(DT2) – f(DT1)


where:
f(DT) = 365 (yyyy) + 31 (mm – 1) + dd + INTG (z/4) – x


and
for mm <= 2
x = 0
z = (yyyy) – 1


for mm > 2
x = INTG (0.4mm + 2.3)
z = (yyyy)
```

```
INTG = Integer portion.
```

Edited: 9 Aug 2009, 11:53 a.m.

Re: Days between dates challenge for 11c and 34c

*Message #3 Posted by **Mark Edmonds** on 9 Aug 2009, 1:46 p.m.,*
in response to message #2 by Katie Wasserman

Just one question on the scoring - with these calcs, is one line of code always the same size irrespective of what that line of code is? Although I am a big fan of the 11C, I don't program it much if at all and coming from a UserRPL perspective, I am used to variable command sizes, often with surprising results.

Mark

Re: Days between dates challenge for 11c and 34c

*Message #4 Posted by **Mark Edmonds** on 9 Aug 2009, 1:51 p.m.,*
in response to message #3 by Mark Edmonds

And another point just thinking this through - us Europeans are going to produce a different program I suspect to those Stateside due to the different date formats.

You'll need to define the date format before people start coding on DD.MMYYYY.

Mark

Re: Days between dates challenge for 11c and 34c

*Message #5 Posted by **Don Shepherd** on 9 Aug 2009, 1:56 p.m.,*
in response to message #4 by Mark Edmonds

You're right. Let's use the US standard, mm.ddyyyy. It would be interesting, however, if dd.mmyyyy might result in more efficient code. :)

Re: Days between dates challenge for 11c and 34c

*Message #6 Posted by **Don Shepherd** on 9 Aug 2009, 1:53 p.m.,*
in response to message #3 by Mark Edmonds

Mark, I'm pretty sure the answer is "yes." A line of code might be "4", or it might be ".", or it might be "x>y". I think they are all one byte long.

Re: Days between dates challenge for 11c and 34c

*Message #7 Posted by **Mark Edmonds** on 9 Aug 2009, 2:05 p.m.,*
in response to message #6 by Don Shepherd

Thanks Don. I'm pretty certain it is 1:1 now myself having just reacquainted myself with the 11C program model. In fact, as soon as I did this, I realised what a daft question it was!!

Will use US date format.... but as you say, doing it the European way would be interesting for comparison.

Mark

Re: Days between dates challenge for 11c and 34c

*Message #8 Posted by **Mark Edmonds** on 9 Aug 2009, 2:12 p.m.,*
in response to message #7 by Mark Edmonds

And another question as this might make a difference. What is the stack order, DT1 in y, DT2 in x or the other way round?

Also, are we assuming the program pointer is at 000 for running the program or do we need to define a starting label?

Mark

Re: Days between dates challenge for 11c and 34c

*Message #9 Posted by **Don Shepherd** on 9 Aug 2009, 2:55 p.m.,*
in response to message #8 by Mark Edmonds

DT1 and DT2 order in the stack, your choice, although Katie and I assumed that you would enter DT1 first, so it would be in Y. We also had LBL A as the first instruction, although you could omit that and assume you are at 00 when you R/S, I suppose, to gain 2 points on one fewer label.

Re: Days between dates challenge for 11c and 34c

*Message #10 Posted by **Mark Edmonds** on 9 Aug 2009, 4:00 p.m.,*
in response to message #9 by Don Shepherd

Me again!

Please can you post some official results so we can check our programs against them - ideally, these results should include an example where the algorithm fails as detailed above.

Thanks :)

Mark

Re: Days between dates challenge for 11c and 34c

*Message #11 Posted by **Don Shepherd** on 9 Aug 2009, 5:03 p.m.,*
in response to message #10 by Mark Edmonds

Sure, Mark, here are a couple:

```
8.141950
8.092009
--> 21545 (my age in days)


7.121960
12.042008
--> 17677


2.281900
3.011900
--> 2 using this algorithm (incorrect)
--> 1 on a real 12c (correct, because 1900 is not a leap year)
```

Re: Days between dates challenge for 11c and 34c

*Message #12 Posted by **Mark Edmonds** on 9 Aug 2009, 5:20 p.m.,*
in response to message #11 by Don Shepherd

Thanks Don :)

My first draft has weighed in with a hefty score of 103 (written on an 11C). Not sure I can reduce that by much unless I change the main algorithm.

Mark

Re: Days between dates challenge for 11c and 34c

*Message #13 Posted by **hugh steers** on 9 Aug 2009, 6:06 p.m.,*
in response to message #1 by Don Shepherd

```
01 LBL A
02 GSB 02
03 X<>Y
04 GSB 02
05 -
06 RTN
07>LBL 02
08 1
09 +
10 STO 00
11 IP
12 STO 01
13 STO- 00
14 100
15 STO× 00
16 RCL 00
17 IP
18 STO 02
19 STO- 00
20 R^
21 1E4
22 STO× 00
23 RCL 01
24 4
25 X<=Y?
26 GTO 01
27 R^
28 12
29 STO+ 01
30 1
31 STO- 00
32 ENTER
33>LBL 01
34 R^
35 RCL 01
36 30.6
37 ×
38 IP
39 STO+ 02
40 Rv
41 RCL 00
42 365
43 ×
44 RCL 00
45 4
46 ÷
47 IP
48 +
49 RCL+ 02
50 RTN
```

notes:

numbers wont be single lines as shown. Rv = roll down, R^ = roll up. havent tested on a real 11c. this was a free42 program. i just changed LBL A and GSB for the 11c. I cant remember whether the 11c has functions im using missing?

:-)

Re: Days between dates challenge for 11c and 34c

*Message #14 Posted by **hugh steers** on 9 Aug 2009, 6:19 p.m.,*
in response to message #13 by hugh steers

ok, i tried it on my 15c.

lines = 60 regs = 3 labels = 3 (including main one)

= 60 + 21 + 6 87

also, tidied, register and label names to be more 11c ish.

```
01 LBL A
02 GSB 2
03 X<>Y
04 GSB 2
05 -
06 RTN
07>LBL 2
08 1
09 +
10 STO 0
11 INT
12 STO 1
13 STO- 0
14 100
15 STO× 0
16 RCL 0
17 INT
18 STO 2
19 STO- 0
20 R^
21 1E4
22 STO× 0
23 RCL 1
24 4
25 X<=Y?
26 GTO 1
27 R^
28 12
29 STO+ 1
30 1
31 STO- 0
32 ENTER
33>LBL 1
34 R^
35 RCL 1
36 30.6
37 ×
38 INT
39 STO+ 2
40 Rv  -- roll down
41 RCL 0
42 365
43 ×
44 RCL 0
45 4
46 ÷
47 INT
48 +
49 RCL+ 2
50 RTN
```

Re: Days between dates challenge for 11c and 34c

*Message #15 Posted by **Katie Wasserman** on 9 Aug 2009, 6:30 p.m.,*
in response to message #13 by hugh steers

I haven't test it either, on an 11c the score would be: 58 lines (expanding numbers as needed) + 3 x 2 points/label + 3 x 7 points/register = 85. This would be a good score, but it doens't implement the formula as presented. My best score so far is a bit less than this: 66 lines + 1 label (it's reused) + 2 registers = 82. You could save 4 points by label reuse too since all your branches are forward.

Edited: 9 Aug 2009, 6:32 p.m.

Re: Days between dates challenge for 11c and 34c

*Message #16 Posted by **Mark Edmonds** on 9 Aug 2009, 7:08 p.m.,*
in response to message #15 by Katie Wasserman

Also, it uses recall arithmetic which the 11C doesn't have unfortunately.

I think I can see a way of reducing mine a bit which might enable me to remove a register and save a few lines. Also, if I implement Katie's label trick, I can save one label - but I am not going to do that as I didn't know that trick existed so would be cheating!

Mark

Re: Days between dates challenge for 11c and 34c

*Message #17 Posted by **Katie Wasserman** on 9 Aug 2009, 7:20 p.m.,*
in response to message #16 by Mark Edmonds

Right, the 11C and the 34c don't have RCL arithmetic.

Aside form the integrate and solve functions I think that the 11c and 34c are 100% program code compatible and have the same memory size.

Label reuse isn't a trick, it's suggested in the 11C manual!

Re: Days between dates challenge for 11c and 34c

*Message #18 Posted by **hugh steers** on 9 Aug 2009, 7:41 p.m.,*
in response to message #17 by Katie Wasserman

Sure it implements the formula presented :-) i just rearranged some of the calculation to be an equivalent form. it should get the exact same answers.

i didn't know about the rcl arithmetic. strange that's missing on the 11c really, when it's there on the 15.

Re: Days between dates challenge for 11c and 34c

*Message #19 Posted by **Katie Wasserman** on 9 Aug 2009, 8:45 p.m.,*
in response to message #18 by hugh steers

> Quote:
>
> Sure it implements the formula presented :-) i just rearranged some of the calculation to be an equivalent form. it should get the exact same answers.

You sure confused me on this. Some program commentary might help convince me that these are the same algorithms. Anyway, the final RCL+2 is easily adjusted for the 11C and I end up 59 lines (I change 100 --> EEX 2 and 1EEX4 --> EEX 4), 3 registers and you can get away with 1 label I think (even though you used 3). So your score is potentially 81, wow!

Re: Days between dates challenge for 11c and 34c

*Message #20 Posted by **Katie Wasserman** on 9 Aug 2009, 8:48 p.m.,*
in response to message #1 by Don Shepherd

Here's my entry.

Assumes dates are in the format mm.ddyyyy with starting date in Y and ending date in X. GSB A will return the days between them per the 12c manual appendix function description.

LBL A is used 3 times, this is fine as long as the program is not starting in the middle (like with a GTO .005) followed by a GSB A.

Registers I and 0 are used and will and not be restored, no other register is touched.

No flags are used and any output format is ok.

score= 82 (66 lines, 2 registers, 1 label)

```
001 LBL A --  expects Y=starting date (mm.ddyyyy), X=ending date (mm.ddyyyy)
002 0
003 STO 0 --  zero the days accumulator
004 Rv
005 GSB A --  get the negative number of days for the ending date in register 0
006 CHS  --  flip the sign of register 0
007 STO 0
008 R^ --  get the starting date -- and process the same way -- the final RTN will end the
program
009 LBL A -- reuse of 'A' expects X=mm.ddyyyy and subtracts the day count from register 0
(it also preserves Y in T)
010 STO I
011 INT
012 X<>I --  I now contains 'mm'
013 FRAC
014 EEX
015 2
016 x
017 INT
018 STO - 0 --  subtract 'dd'
019 Rv --  needed just to preserve the starting date
020 3
021 6
022 5
023 LASTx
024 FRAC
025 EEX
026 4
027 x
028 x
029 STO - 0 --  subtract 365 x 'yyyy'
030 Rv --  needed just to preserve the starting date
031 LASTx --  get back 'yyyy'
032 X<>I --  swap places with 'mm'
033 3
034 X > Y --  if 'mm'<=2 then
035 DSE --  'yyyy' - 1
036 Rv --  get 'mm' back into I
037 X<>I get 'z' into X
038 4
039 /
040 INT
```

```
041 STO - 0 --  subtract INT(z/4)
042 Rv --  needed just to preserve the starting date
043 RCL I --  get 'mm'
044 1
045 -
046 3
047 1
048 x
049 STO - 0 subtract ('mm' - 1) * 31
050 Rv --  needed just to preserve the starting date
051 2
052 RCL I
053 X<=Y --  if 'mm'<=2 no need to add anything
054 GTO A -- this is a forward branch to the next 'LBL A'
055 .
056 4
057 x
058 2
059 .
060 3
061 +
062 INT
063 STO + 0 --  add  INT('mm' x .4 + 2.3)
064 LBL A -- re-use of this label
065 RCL 0
066 RTN
```

Re: Days between dates challenge for 11c and 34c

*Message #21 Posted by **Mark Edmonds** on 11 Aug 2009, 9:20 a.m.,*
in response to message #20 by Katie Wasserman

Can we keep this open a little longer please? I have a problem with my code - when you step-run it or do it manually, it appears to work OK but when you run it properly, it fails. There is a stack-lift problem in it somewhere which is proving to be a real bloody nuisance to track down. I remember getting caught like this with an HP32S program but I wasn't using all 4 stack levels in that one so an extra enter didn't cause a problem.

I can't remember the exact code size because it is riddled with R/S commands at the moment but I think it was 66 or 67 with 1 label and 2 registers. I really want to get this fixed before we start discussing our solutions.

Thanks,

Mark

Re: Days between dates challenge for 11c and 34c

*Message #22 Posted by **Katie Wasserman** on 11 Aug 2009, 9:44 a.m.,*
in response to message #21 by Mark Edmonds

Stack problems are the worst, especially since there's variation among HP calculations models in the way they handle stack lift. A good rule of thumb to help avoid bumping stuff you need off the top of the stack is to use a roll-down before after storing a number before you start a new calculation that doens't immediately need the stored result. It's amazing what you can do with a 4-level stack with careful planning, but it's often a challenge to figure it out a a basic RPN machine -- the 41C and 42S make stack manipulation far too easy.

Re: Days between dates challenge for 11c and 34c

*Message #23 Posted by **Steve Perkins** on 11 Aug 2009, 1:20 p.m.,*
in response to message #20 by Katie Wasserman

I guess I do better at improving others marvelous efforts. I'm not so good at programming from scratch.

I improved Katie's efforts just a little. The first trick was to just clear the registers instead of storing 0 to reg 0. Not what one usually does in a program since it destroys what you might really want saved, but it is two instructions shorter.

Then I used division by 2.5 instead of multiplication by .4 so I could just test with 2.5 instead of 2. That saved just one step.

Here's my small improvement. It wouldn't exist without Katie, so she gets the credit:

```
001 LBL A --  expects Y=starting date (mm.ddyyyy), X=ending date (mm.ddyyyy)
002 CLEAR REG
003 GSB A --  get the negative number of days for the ending date in register 0
004 CHS  --  flip the sign of register 0
005 STO 0
006 R^ --  get the starting date -- and process the same way -- the final RTN will end
the program
007 LBL A -- reuse of 'A' expects X=mm.ddyyyy and subtracts the day count from register
0 (it also preserves Y in T)
008 STO I
009 INT
010 X<>I --  I now contains 'mm'
011 FRAC
012 EEX
013 2
014 x
015 INT
016 STO - 0 --  subtract 'dd'
017 Rv --  needed just to preserve the starting date
018 3
019 6
020 5
021 LASTx
022 FRAC
023 EEX
024 4
025 x
026 x
027 STO - 0 --  subtract 365 x 'yyyy'
028 Rv --  needed just to preserve the starting date
029 LASTx --  get back 'yyyy'
030 X<>I --  swap places with 'mm'
031 3
032 X > Y --  if 'mm'<=2 then
033 DSE --  'yyyy' - 1
034 Rv --  get 'mm' back into I
035 X<>I get 'z' into X
036 4
037 /
038 INT
039 STO - 0 --  subtract INT(z/4)
040 Rv --  needed just to preserve the starting date
041 RCL I --  get 'mm'
042 1
043 -
044 3
045 1
046 x
047 STO - 0 subtract ('mm' - 1) * 31
048 X<>I -- get 'mm' while preserving starting date
049 2 -- constant for test, and also possible division later
050 .
051 5
052 X > Y -- if 'mm'<=2 don't need adjustment
053 GTO A -- this is a forward branch to the next 'LBL A'
054 / -- dividing by 2.5 is the same as multiplying by 0.4
055 2
056 .
057 3
058 +
059 INT
060 STO + 0 --  add  INT('mm' x .4 + 2.3)
061 LBL A -- re-use of this label
062 RCL 0
063 RTN
```

Re: Days between dates challenge for 11c and 34c

*Message #24 Posted by **Don Shepherd** on 11 Aug 2009, 2:05 p.m.,*
in response to message #23 by Steve Perkins

Hey Steve, I'll let Katie speak for herself, but I too thought of CLR REG to save one instruction, but I'm sure Katie's point is to not alter any registers other than the two she is using, and CLR REG certainly does that!

Re: Days between dates challenge for 11c and 34c

*Message #25 Posted by **Steve Perkins** on 11 Aug 2009, 2:58 p.m.,*
in response to message #24 by Don Shepherd

I agree. It's not the prefered method at all for a real routine. One that might be used in other contexts and with a surrounding application.

It saves two lines, but it could be argued that it "uses" all the registers and thus the point penalty is extreme.

Re: Days between dates challenge for 11c and 34c

*Message #26 Posted by **Don Shepherd** on 11 Aug 2009, 3:14 p.m.,*
in response to message #25 by Steve Perkins

> Quote:
>
> It saves two lines

Actually, one, right?

0

STO 0

vs.

CLR REG

Re: Days between dates challenge for 11c and 34c

*Message #27 Posted by **Steve Perkins** on 11 Aug 2009, 5:58 p.m.,*
in response to message #26 by Don Shepherd

That one line replaces

```
002 0
003 STO 0 --  zero the days accumulator
004 Rv
```

But Katie interprets it as "using" 19 additional registers, so I withdraw it.

My tricks now only save two lines in her wonderful code. It's sure great to have nice code to start with, right?

Re: Days between dates challenge for 11c and 34c

*Message #28 Posted by **Don Shepherd** on 11 Aug 2009, 6:12 p.m.,*
in response to message #27 by Steve Perkins

Oh, I see what you are saying now, Steve. You're right.

Re Katie, I agree. I'm not even in the same league!

Re: Days between dates challenge for 11c and 34c

*Message #29 Posted by **Steve Perkins** on 11 Aug 2009, 3:10 p.m.,*
in response to message #23 by Steve Perkins

Actually, it seems that my line 40 can be deleted too. The starting date is still preserved in the top stack register where it's expected after the first call to the date numbering subroutine. With that refinement we have:

score= 78 (62 lines, 2 registers, 1 label)

Re: Days between dates challenge for 11c and 34c

*Message #30 Posted by **Katie Wasserman** on 11 Aug 2009, 5:18 p.m.,*
in response to message #29 by Steve Perkins

Steve,

Refinements of my code are most welcome and appreciated. Combining clever ideas of many of the people here can result in some amazing code.

Yes, I avoided Clear REG for the obvious reason that would count as using another 19 registers :(

Your use of 2.5 / instead of .4 * is brilliant!

I had concluded that I needed the Rv at line 40, but that may have been in a earlier version of my code and I left it in place unnecessarily.

Thanks for the improvements!

-Katie

Re: Days between dates challenge for 11c and 34c

*Message #31 Posted by **Mark Edmonds** on 12 Aug 2009, 6:57 a.m.,*
in response to message #30 by Katie Wasserman

Here is my version. I haven't looked at anyone elses' code so I don't know how it compares. This was a useful exercise for me and a lot of fun as I don't normally do any programming outside RPL. The 4 line stack and stack-lift problems caught me out a couple of times but here is the result:

64 lines, 1 label, 2 registers.

```
x SWAP I
Rdown
GSB A
x SWAP I
GSB A
```

```
RCL I
-
RTN


LBL A
INT
LASTx
FRAC
EEX
2
*
INT
STO 0
LASTx
FRAC
EEX
4
*
3
6
5
x SWAP y
*
STO+ 0
LASTx
Rup
ENTER
SF 0
1
-
3
1
*
STO+ 0
x SWAP y
3
X>Y
GTO A
Rdown
CF 0
.
4
*
2
.
3
+
INT
STO- 0
LBL A
Rup
F? 0
1
F? 0
-
4
/
INT
RCL 0
+
```

You will notice that I didn't include an opening label and I took advantage of the implied RTN at the last step. I consider both these omissions legit. It was agreed at the start that an opening label wasn't necessary and my program returns to 000 after each run so no manual re-pointing is necessary. Concerning the implied RTN, HP document this in the manuals so quite happy to use it!

However, this might give me a 2 line advantage so I'll let the adjudicators decide on that one :)

Written on 11C and thanks for the fun challenge!

Mark

PS: Living in a dd.mm.yyyy part of the world, working with mm.dd.yyyy is unbelievably confusing! It's like have to learn left is right!!

Edited: 12 Aug 2009, 7:01 a.m.

Re: Days between dates challenge for 11c and 34c

*Message #32 Posted by **Katie Wasserman** on 12 Aug 2009, 11:18 a.m.,*
in response to message #31 by Mark Edmonds

Mark,

Very nice code!

The way you use I register and the 0 flag is a great idea, much more obvious than my convoluted program.

Dropping the fist LBL and last RTN, well it's ok if nothing else is in memory, not so good if there's other code in there but Don's the contest judge....

-Katie

Re: Days between dates challenge for 11c and 34c

*Message #33 Posted by **Mark Edmonds** on 12 Aug 2009, 3:46 p.m.,*
in response to message #32 by Katie Wasserman

Thanks for the feedback Katie :) To be perfectly honest, I don't think my code is especially elegant and would be a pain to maintain if a functional change is needed.

In comparison, I thought your code was much easier to understand and works using the same resources, even less actually and as such, I consider it to be a neater solution.

I liked the clever use of DSE and the way you run into the sub on the second pass so the sub's RTN acts as the end. I thought of doing that myself but it wasn't possible the way I set things up.

Looking at your code made me realise another method of calculating the date difference by negating the actual DT1 value before passing to the sub. You wouldn't need to negate the return value and everything would be simple addition (but the month test would be more difficult).

Mark

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HP Forum Archive 19

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HP-11 book

*Message #1 Posted by **Larry (Ohio)** on 8 Aug 2009, 4:57 p.m.*

Looks like an old HP-11 book has been republished here.

http://stores.lulu.com/store.php?fAcctID=1828123

Re: HP-11 book

*Message #2 Posted by **Allen** on 9 Aug 2009, 9:30 a.m.,*
in response to message #1 by Larry (Ohio)

Interesting that someone would write a book for the 11C and not for the more superior 15C released 10 months later!

Re: HP-11 book

*Message #3 Posted by **Mad Dog ebaycalcnut** on 9 Aug 2009, 2:38 p.m.,*
in response to message #1 by Larry (Ohio)

Larry (Ohio)

Are you the author? The author's name is Larry and he too is from Ohio.

Doesn't this post belong on the classifieds section?

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HP Forum Archive 19

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Anode and cathode driver chips interchangeable on Classics?

*Message #1 Posted by **Dan W** on 8 Aug 2009, 1:45 p.m.*

Hi all,

On the classics (35, 45, 55, 70, 80, and lets include the 65 and 67) are the anode and cathode driver chips electrically interchangeable? I see that the HP part numbers changed from time to time but the pinouts appear identical in all.

TIA

-- Dan

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HP Forum Archive 19

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HP 925 main body color

*Message #1 Posted by **mark murphy** on 8 Aug 2009, 5:34 a.m.*

I'm not 2/3rds of the way through refurbishing the 9825 I have - everything is in perfect working order. The main casing is quite worn and scratched. In order to be an authentic restoration I need to know the paint method (powder, spray etc) and the pantone color or equivalent (the color today will have aged). I've spent 6 months searching high and low for any clues but nothing to date.

Any help would be appreciated - I've been to all the sites - so I'm just looking for an answer :-)

Re: HP 925 main body color

*Message #2 Posted by **Steve Leibson** on 9 Aug 2009, 11:48 a.m.,*
in response to message #1 by mark murphy

I'll check for you.

Steve

Re: HP 9825 main body color

*Message #3 Posted by **Steve Leibson** on 10 Aug 2009, 4:11 p.m.,*
in response to message #1 by mark murphy

I contacted the HP 9825's industrial designer, LeRoy LaCelle on your behalf. Here's what LeRoy wrote:

"When I was developing the design of the 9825, HP was also looking for a new color scheme for the calculator products, a little more definitive.

I worked for weeks developing many different approaches and finally came up with the direction which I applied to the 9825 model. We calibrated the color in local paint facilities and presented the direction to California.

Well the color scheme (main body) on the model was a little too yellow, so we worked with HP's Palo Alto color lab to develop a grayed down version.

They developed and specified the color there and I don't really have any references to the final color in any of my documents. Additionally, since it was a custom color developed by HP Palo Alto color labs, there would not be a Panatone equivalent color.

Regards,

LeRoy"

For detailed info on the HP 9825's industrial design, go here:
http://www.hp9825.com/html/industrial_design.html

http://www.hp9825.com/html/industrial_design.html

Edited: 10 Aug 2009, 4:15 p.m.

Re: HP 9825 main body color

*Message #4 Posted by **mark murphy** on 12 Aug 2009, 6:06 p.m.,*
in response to message #3 by Steve Leibson

Wow ! Thanks - I'll get them to do an optical match - Thanks

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HP Forum Archive 19

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I'm a bit new around here (the forum anyway)...

*Message #1 Posted by **hecube** on 8 Aug 2009, 1:46 a.m.*

I've been coming to the website for as long as I can remember (did it exist in 1996?)

The question is: is everyone in here a collector?

Re: I'm a bit new around here (the forum anyway)...

*Message #2 Posted by **Garth Wilson** on 8 Aug 2009, 4:00 a.m.,*
in response to message #1 by hecube

> Quote:
>
> The question is: is everyone in here a collector?

No. I use my 41cx and 71 because they're a functional part of my work.

Re: I'm a bit new around here (the forum anyway)...

*Message #3 Posted by **DaveJ** on 8 Aug 2009, 5:18 a.m.,*
in response to message #1 by hecube

> Quote:
>
> The question is: is everyone in here a collector?

Not really, I just like calculators, and designing them. I actually prefer Casio's (*gasp*) most of the time, but the fellow calculator enthusiasts on here is hard to beat, HP or not.

Dave.

Re: I'm a bit new around here (the forum anyway)...

*Message #4 Posted by **Nigel J Dowrick** on 8 Aug 2009, 7:34 a.m.,*
in response to message #1 by hecube

I teach Physics in a secondary school (ages 11-18) so I do need to use at least one calculator for my job. However, I definitely count as a collector as well! Although I like HP machines I collect many others too. I like the forum because there are so many interesting and knowledgeable people here. A lot of what is discussed is relevant to calculators in general, and not just HPs.

Nigel

Re: I'm a bit new around here (the forum anyway)...

*Message #5 Posted by **Andrés C. Rodríguez (Argentina)** on 8 Aug 2009, 9:03 a.m.,*
in response to message #1 by hecube

A very small collection here, most are my own units, no longer in daily use. For everyday use, I have a 33S that I will not miss if gets lost or broken. On custody, I have 2 HP25 (one from a gift, other from cheap eBay purchase), my old HP41C, my 42S, a 32Sii, a 20S from a person who no longer uses it, a 200LX, a 35S from HHC 2007, a 17Bii+ and a 12C platinum from HHC 2007 door prizes, a 48G+ bought at a local electronics shop, and not much more. In the last years I put little effort (or money) in collecting, however they seem just to get together!

The forum is a very nice place to find excellent friends and to learn more about calculators, math, electronics and many other things. The people who cames here make it great, and the MoHPC setup by Dave Hicks is superb.

Welcome and thanks for your postings, I like all space-related issues and took many interesting points from your comments and from others' answers to them.

Re: I'm a bit new around here (the forum anyway)...

*Message #6 Posted by **Martin Pinckney** on 8 Aug 2009, 1:11 p.m.,*
in response to message #1 by hecube

I am a working civil engineer. I have a small "collection" of HP calculators, which I purchased to use, not collect. But I found that I like different features on different models depending on the task at hand. I also have duplicates of my most frequently used models, as back-ups, because all of mine are older models no longer in production.

I belong to this group for the information I get about the calculators, and because the posts can be challenging, interesting, and just plain fun.

Re: I'm a bit new around here (the forum anyway)...

*Message #7 Posted by **Tim Wessman** on 8 Aug 2009, 1:50 p.m.,*
in response to message #1 by hecube

Nope. I just build them for HP.

TW

Re: I'm a bit new around here (the forum anyway)...

*Message #8 Posted by **hecube** on 8 Aug 2009, 1:54 p.m.,*
in response to message #7 by Tim Wessman

If your initials had been SW, I would have been flabbergasted...

Re: I'm a bit new around here (the forum anyway)...

*Message #9 Posted by **Fred Lusk** on 8 Aug 2009, 2:05 p.m.,*
in response to message #1 by hecube

I am also a civil engineer. My collection consists almost entirely of calculators I bought for use at school or work.

In high school, I started with an HP-35 that I bought from my dad when he upgraded to an HP-45. I bought an HP-55 a few months before graduation.

In college I purchased an HP-34C. After graduation I got an HP-41CV, then upgraded to an HP-41CX. I sold the CV to a co-worker to help fund the CX. That's the only calculator I ever sold. My dad later gave me his old HP-41C to add to my collection.

In 1988 I bought an HP-42S, which is still my everyday calculator.

Since then I have purchased an HP-48G and and HP-48G+ (both on sale for $25 and $29, respectively. The HP-48G+ is my secondary calculator and travel alarm. I bought an HP-32SII when they were being discontinued, and that was my home office desk calculator until I got an HP-35S.

I also won and HP-10B in a contest and a friend gave me a non-op HP-21.

Oh, and I have collected lots of excellent emulators and simulators for my PC, Palm TX and iPhone.

Re: I'm a bit new around here (the forum anyway)...

*Message #10 Posted by **Howard Lazerson** on 8 Aug 2009, 2:06 p.m.,*
in response to message #1 by hecube

use them almost daily for medical and astronomical calculations

Re: I'm a bit new around here (the forum anyway)...

*Message #11 Posted by **Jeff Kearns** on 8 Aug 2009, 4:06 p.m.,*
in response to message #1 by hecube

I am an engineer - first marine then general/mechanical - and bought my first HP calculator, a slightly used HP 15C in university in 1985. I have a small collection (a dozen or so - all HP with duplicates of the 15C and 42S) but they were all purchased to be used and not necessarily put on display. I keep a (relatively) discardable 33s in the office, I always have a 15C in my briefcase, and the remainder rotate through the office or are on stand-by at home. I often use my HP 21 that sits in a really nifty and well-made wooden stand as my main desktop calculator at home. Although my collection does not include a 12C, most programmables (except the 33E because it is a bit of a pain to program) have a TVM implementation at the ready.

I love math/stats and physics and do try my hand at some of the interesting 'challenges' presented on the site, but I just like the posts. I often solve practical engineering problems either for work or fun. I can't wait to get my hands on Geoff's manual when he releases it so I can keep my small collection running for years to come! I just, as in yesterday, received my very first slide rule in the mail, a Hemmi 260 Advanced Engineering Slide Rule. Something new to learn and master. Haven't quite got RPL down pat... maybe someday.

Jeff Kearns

Re: I'm a bit new around here (the forum anyway)...

*Message #12 Posted by **Keith Midson** on 9 Aug 2009, 12:16 a.m.,*
in response to message #1 by hecube

I started using HP's at University (engineering) over 20 years ago - starting with the 28S, then 48G, etc ... I have gathered a rather large collection now (well over 50!), but I still use them on a daily basis for work.

So my collecting has been a direct result of using HP's throughout my career. I think that most HP collectors start out this way as humble users, upgrade, get interested in new/old models and end up with a collection - intended or otherwise.

Cheers, Keith

Re: I'm a bit new around here (the forum anyway)...

*Message #13 Posted by **Mad Dog ebaycalcnut** on 9 Aug 2009, 2:35 p.m.,*
in response to message #1 by hecube

I'm just here for entertainment and to help educate others.

Edited: 9 Aug 2009, 2:43 p.m.

Re: I'm a bit new around here (the forum anyway)...

*Message #14 Posted by **Joel Setton (France)** on 10 Aug 2009, 12:05 p.m.,*
in response to message #13 by Mad Dog ebaycalcnut

Hi,

I'm an ex-HP employee, with a strong interest in HP's products from the 60s and 70s. I have a dozen HP calculators (classics, Spices, Topcat, and a 9815A), plus quite a few HP test instruments including 3 oscilloscopes which I use quite often.

Restoring and using vintage HP stuff is my life!!!!!

Joel Setton

Re: I'm a bit new around here (the forum anyway)...

*Message #15 Posted by **David Hayden** on 10 Aug 2009, 1:56 p.m.,*
in response to message #1 by hecube

I'm a Software Architect on UNIX machines, but first got interested in programming on calculators in the 70's. I'm what you might call an accidental collector, having used a 41CV for 20+ years and kept a couple of old TI's as well.

These days I play around with a 50G, doing moonlighting work occasionally.

Re: I'm a bit new around here (the forum anyway)...

*Message #16 Posted by **Michael Meyer** on 11 Aug 2009, 5:30 p.m.,*
in response to message #15 by David Hayden

It's a spiritual thing for me. Restoring, using, and just experiencing the most amazing computing machines of my youth. Other than an HP-25, and a friend's 19C, I could only dream of using them back then. Now, a whole collection is proudly displayed and still enjoyed. Preserved rather than disposed. It's definitely a spiritual thing.

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HP Forum Archive 19

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Classic HP SuperCharger

*Message #1 Posted by **Dan W** on 7 Aug 2009, 9:08 p.m.*

Hi all,

Often when Classic battery packs are rebuilt, we want to use modern high energy NiMH batteries. Problem is, with the original charger at about 55-60 mA, it takes forever to charge these things. Better would be 250 mA.

So for fun, I created an external "Super Charger". This is a small box with a switch that toggles either 60 mA or 250 mA. If 250 mA is selected it turns on a small 40 mm fan that has a blue LED to remind me it's on (I doubt it really needs the fan; I do recommend a visual indicator if the 250 mA is selected).

The box is connected to the accessory external charging cradle through the standard charger cable. But I don't see any problem connecting directly to the calculator since the charge current circuit is independent of the power supply.

The circuit is fairly straightforward. It uses an LM317T to supply the charge current and the switch changes the resistance that governs the output. A 7812 provides the 12V for the fan, followed by a 7805 and a diode to provide the 4.3 Vbsw.

Cheers.

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HP Forum Archive 19

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Forum Search - help!!

*Message #1 Posted by **Mark Edmonds** on 7 Aug 2009, 6:06 p.m.*

Hate to admit this but I find the forum search very awkward to use and very unintuitive.

Is there any way of searching all the archives at once?

Despite the date range function, I can only get results from the current archive unless I go to the archive list and then search in each archive individually. Obviously, this is very tedious and slow.

There have been many times when I've wanted to scan the entire forum for a topic but haven't been able to find it when I know it is there because I can't work out how to use the search feature!

If this is an intelligence test, I have failed miserably!!!

Mark

Re: Forum Search - help!!

*Message #2 Posted by **Garth Wilson** on 7 Aug 2009, 6:24 p.m.,*
in response to message #1 by Mark Edmonds

I, too, have found the forum search function to be nearly worthless. When I want to find something I know is there, I use the Yahoo search engine and specify the website I want to search. It's not ideal, but I've been able to make use of it.

For the forum search, I would like to be able to click on "search", then specify the search terms **and** the author **and** the date range, regardless of how the archives are grouped. It doesn't let you do that though.

Re: Forum Search - help!!

*Message #3 Posted by **hecube** on 7 Aug 2009, 7:14 p.m.,*
in response to message #2 by Garth Wilson

Well, Google can help of course. You just have to go to the Google advanced search page and specify hpmuseum.org in the field labeled "Search within a site or domain:".

Google has already indexed the topic below this one so it's quite up to date...

Re: Forum Search - help!!

*Message #4 Posted by **Dave Britten** on 7 Aug 2009, 8:03 p.m.,*
in response to message #3 by hecube

You can do it even more quickly by adding "site:hpmuseum.org" to your query (without the quotes, of course).

Re: Forum Search - help!!

*Message #5 Posted by **Garth Wilson** on 7 Aug 2009, 8:50 p.m.,*
in response to message #4 by Dave Britten

> Quote:
>
> You can do it even more quickly by adding "site:hpmuseum.org" to your query (without the quotes, of course).

which is what I do with Yahoo.

Re: Forum Search - help!!

*Message #6 Posted by **Reth** on 7 Aug 2009, 8:33 p.m.,*
in response to message #1 by Mark Edmonds

I have to join the choir - maybe it's me, but I find forum's searching engine next to useless too.
Reth

Re: Forum Search - help!!

*Message #7 Posted by **Katie Wasserman** on 7 Aug 2009, 10:15 p.m.,*
in response to message #6 by Reth

Dave,

Can I make a constructive suggestion that you simply add a Google search box to this page.

-Katie

Re: Forum Search - help!!

*Message #8 Posted by **Egan Ford** on 8 Aug 2009, 2:32 p.m.,*
in response to message #7 by Katie Wasserman

I 2nd that. Like a few others I use "foo bar blah site:hpmuseum.org" from Google.

Re: Forum Search - help!!

*Message #9 Posted by **Garth Wilson** on 8 Aug 2009, 4:27 p.m.,*
in response to message #8 by Egan Ford

It would still be nice if the forum search worked right too though, so you could search for certain things that you remember a particular member wrote in a particular possible range of dates.

Just to anticipate another problem or question, a frustration I have on another forum is that if you enter a phrase in the box to search for the *exact* phrase, word for word, it kicks out the "the", "of", etc., maybe separates words differently or changes punctuation, is not case-sensitive (which makes a difference when it's a rarely mentioned brand name versus 100,000 uses of the same word without the capitalization), etc., and gives you stuff that's not the exact thing you're looking for.

Edited: 8 Aug 2009, 4:28 p.m.

Re: Forum Search - help!!

*Message #10 Posted by **Mark Edmonds** on 8 Aug 2009, 5:33 p.m.,*
in response to message #9 by Garth Wilson

Well, in a silly way, I feel slightly less embarrassed that other people find the search feature difficult or not ideal.

I didn't realise you could use Google to search the site in that way so I will use that in future. Thanks for the tip! :)

However, it would be better if the site's own search feature was made a bit better, perhaps similar in functionality to a typical phpBB forum search engine as that seems to be quite a popular standard.

Mark

Re: Forum Search - help!!

*Message #11 Posted by **Mark Edmonds** on 8 Aug 2009, 5:36 p.m.,*
in response to message #10 by Mark Edmonds

Here is a quick way to set up a Google search in the forum without having to type in the domain each time.

Open Google and run a search with the text:

site:http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/forum.cgi

When the results come back, bookmark the page and rename it to something sensible like "HP Forum Google Search".

Next time you want to search the entire forum, open the bookmark link and at the beginning of the search text box, add the text you seek, leaving the rest of the search text in place.

Mark

Re: Forum Search - help!!

*Message #12 Posted by **db (martinez, ca.)** on 8 Aug 2009, 7:25 p.m.,*
in response to message #11 by Mark Edmonds

Mark; Sounds good in theory but when i try it; i get a list of museum results and this message when i click on one:

No Message!

Sorry, but the message you just tried to load doesn't exist! You may have followed an obsolete hard-coded link, or it may be that you just tried to enter the address manually, and mis-typed it. Please return to the message index or | the Daily view and try again!

Where did i go wrong?!?

Any help will be appreciated.

Forum Search -Helping Improve It

*Message #13 Posted by **db (martinez, ca.)** on 8 Aug 2009, 7:37 p.m.,*
in response to message #12 by db (martinez, ca.)

A few years ago i mentioned to Dave that i had trouble with the search function. He asked me to list when where & what so he could improve it. At the time, i had a Toshiba with so many problems that the factory rebated all us buyers 75% of the purchase price. I didn't think that any data from me would be generally applicable. If he has time now; he might still want to work on it with people who can give him good descriptions of

input vs output. I imagine that a search engine is a fascinating project for someone who writes this type of code but it would be hard to check it's efficacy yourself if you already know how to make it work.

Re: Forum Search - help!!

*Message #14 Posted by **Mark Edmonds** on 9 Aug 2009, 7:19 a.m.,*
in response to message #12 by db (martinez, ca.)

Hmmmm, I don't know what to suggest as it works OK here. Maybe it is dependent on your browser? I am using IE - which one are you using?

You are putting a space between the search text and the text that starts "site:"?

When you've made the bookmark, what exactly is the text stored in that bookmark?

Mark

> Quote:
>
> Mark; Sounds good in theory but when i try it; i get a list of museum results and this message when i click on one:
>
> No Message!
>
> Sorry, but the message you just tried to load doesn't exist! You may have followed an obsolete hard-coded link, or it may be that you just tried to enter the address manually, and mis-typed it. Please return to the message index or | the Daily view and try again!
>
> Where did i go wrong?!?
>
> Any help will be appreciated.

Re: Forum Search - help!!

*Message #15 Posted by **db (martinez, ca.)** on 9 Aug 2009, 11:02 a.m.,*
in response to message #14 by Mark Edmonds

Mark;
The bookmark is "site:http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/forum.cgi" which gives about 19,700 results. Some lead me to a museum page, some a thread, some an individual post and some the dreaded "no message" page from the museum. Then i put in a space and a subject. I tried a few, "novus" for example gave just three results, all from this forum. However when i click on any of those all i can get is that "no message" announcement from MoHPC. Maybe that is just the luck of the draw there.
I Usually use Mozilla Firefox but because of your question i tried Internet Exploder and in this case i get the same results. This computer is an IBM Thinkpad and it usually works pretty much like every one else's.
I appreciate the individual help but i realize that this may be the best i can get it to work. I've lived without a search function here for eight years and it's no big deal. However; if you have a suggestion for a refinement i'll try that.
thanks - db

Edited: 9 Aug 2009, 11:09 a.m.

Re: Forum Search - help!!

*Message #16 Posted by **Mark Edmonds** on 9 Aug 2009, 1:40 p.m.,*
in response to message #15 by db (martinez, ca.)

db - try this, it is the text stored in my bookmark. You'll need to copy the entire string without breaks, then load the page and save the bookmark again. Hopefully, it will retain the full URL. This definitely works here and links to threads correctly so if it doesn't work on yours, I'm afraid I don't know what to suggest next. Good luck!

Mark

http://www.google.co.uk/search?hl=en&as_q=&as_epq=&as_oq=&as_eq=&num=10&lr=&as_filetype=&ft=i&as_sitesearch=http%3A%2F%2Fwww.hpmuseum.org%2Fcgi-sys%2Fcgiwrap%2Fhpmuseum%2Fforum.cgi&as_qdr=all&as_rights=&as_occt=any&cr=&as_nlo=&as_nhi=&safe=images

Re: Forum Search - help!!

*Message #17 Posted by **db (martinez, ca.)** on 9 Aug 2009, 11:42 p.m.,*
in response to message #16 by Mark Edmonds

First; thanks Mark. I tried several different ways. I'm sure it works on your computer but all it got me was two of the original three correct descriptions-of-a-dead-end and two new shopping options.

To tell the truth; i'm relieved that so many people have a similar problem in using the forum search. I'm constantly having computer geniuses tell me "it's easy, you just don't understand" only to find that they can't do it either. This time i've got it in writing! Maybe this will stir up a solution to the problem. If not, at least i'm not alone in my misery :-)

Re: Forum Search - help!!

*Message #18 Posted by **Thomas Klemm** on 9 Aug 2009, 3:08 p.m.,*
in response to message #12 by db (martinez, ca.)

I guess this happens when the message was indexed by Google before it was moved to the archive. However using the link "In cache" should show up the desired content.

HTH
Thomas

Re: Forum Search - help!!

*Message #19 Posted by **db (martinez, ca.)** on 10 Aug 2009, 2:38 a.m.,*
in response to message #18 by Thomas Klemm

Thomas; Thanks for the suggestion but in this case i was using something as a test that i know would have been in the archives, from years ago. It did bring up results, it just couldn't get past the museum's error screen. It's only the internet, not mathematics; i shouldn't expect it to work the same from day to day. It's only what was a top of the line IBM brand computer running XP Pro, not a real system like a 41 that will give reliable results.

If you have another idea to try i gladly will but what works on your system may not work on mine. In my limited experience, all a complicated windows (or Windows CE) program can guarantee is that it will take 30% longer and generate 24 times the error than doing it for real. Anyway, thanks again for the answer. It may help someone with an OS, browser, etc closer to yours. - db

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HP Forum Archive 19

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Modified HP-67 Bendix Flight Computer

*Message #1 Posted by **Michael de Estrada** on 6 Aug 2009, 11:44 p.m.*

Remember when we saw the HP-67 with the mysterious rear connector and the keyboard overlay? Well, now maybe the mystery is solved:

Modified HP-67

Re: Modified HP-67 Bendix Flight Computer

*Message #2 Posted by **Martin Pinckney** on 7 Aug 2009, 1:24 a.m.,*
in response to message #1 by Michael de Estrada

Michael,

You missed the thread on this earlier:

Geoff Quickfall That is for you !

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HP Forum Archive 19

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Complex numbers - ideal display representation?

*Message #1 Posted by **Mark Edmonds** on 6 Aug 2009, 4:54 p.m.*

A question for those who are hard-core complex number users. A simple question, hopefully there is a simple answer.

What is the ideal way to display complex numbers on the stack? If you could design the format for complex numbers display, how would you do it? Don't worry about any display size limitions or character sets. If you have an area 22 characters across and 4 lines deep to play with, what would be the perfect way of displaying a complex number?

Many thanks for ideas and suggestions here. As part of a program I am writing, I want to do something similar to "Pretty Print" for complex but not being a user of them, how I would display them could be a low-budget solution!

Thank you,

Mark

Re: Complex numbers - ideal display representation?

*Message #2 Posted by **hugh steers** on 6 Aug 2009, 5:33 p.m.,*
in response to message #1 by Mark Edmonds

this came up during the uWatch complex number feature. we had a 16 char line. the problem is that this is not enough to display all of both parts of the number. The same is the case for you with 22 (although it's nearly enough). so firstly, there needs to be a "show" button that shows all the digits. Since i had 2 lines, my show feature simply displays all of both parts, one on each line.

then there was the very good idea to use custom chars to create +i and -i characters, so that 1 character is saved on the line. There were also people who wanted "j" instead of "i". this was not implemented in the end, but was a good idea. You could do the same with exponents too if you get fancy.

then there's the problem of polar forms. if you support polar forms, how do you display them. i didn't, but we did think about it.

what happened in the end is that it tries to fit as much as possible in the space. when both parts are competing, i show more of the real part than the imaginary part. something like 8 vs 5 digits. Also, i implemented a tidier that tries to compact the string representation eg 0.1 -> .1 and 1.23e-07 -> 1.23e-7 and a few things like that. this only happens when you're short of space, because when you want to display the real number 0.123, it's nice to have the "0." for clarity.

Re: Complex numbers - ideal display representation?

*Message #3 Posted by **Mark Edmonds** on 6 Aug 2009, 5:59 p.m.,*
in response to message #2 by hugh steers

Thanks Hugh - you've already given me some good points for thought.

I was banking on using 2 lines so if I did it this way, some questions:

1. Should there be a comma between the parts at the end of line 1?

2. Are thousands separators useful?

3. For the i or j, should this be a prefix or suffix on the imaginary part?

4. Space character between the number and the i or j?

5. For polar mode, if I use an angle symbol (128 CHR on a 48), use this as a prefix and again, with or without space and the number?

6. Should the both parts be enclosed in one pair of brackets?

The starting format of the number will be the current mode the 48 is set to which determines various factors and there will be no interaction once the formatting is done as this is simply for display purposes only.

Thanks,

Mark

Re: Complex numbers - ideal display representation?

*Message #4 Posted by **hugh steers** on 6 Aug 2009, 6:40 p.m.,*
in response to message #3 by Mark Edmonds

If you're using two lines, then 22 chars per line ought to be plenty without any tricks. you're going to need a way to make this visually look like one result rather than two numbers on the stack. You might like to experiment with using "i" or "j" maybe with a leading space. However, i don't have an answer for what might look best on two lines.

As Raymund has pointed out there's also the (a,b) format. I didnt use this on a single line since the brackets take up space, but on two lines, maybe it works.

Re: Complex numbers - ideal display representation?

*Message #5 Posted by **Jeff O.** on 6 Aug 2009, 9:05 p.m.,*
in response to message #3 by Mark Edmonds

> Quote:
>
> 1. Should there be a comma between the parts at the end of line 1?

No.

> Quote:
>
> 2. Are thousands separators useful?

I like them, some may not. Can't it be left as a personal choice?

> Quote:

> 3. For the i or j, should this be a prefix or suffix on the imaginary part?

Prefix.

> Quote:
>
> 4. Space character between the number and the i or j?

Hmmm. 1.2345 + i6.7890 or 1.2345 + i 6.7890. Nah, no space necessary.

> Quote:
>
> 5. For polar mode, if I use an angle symbol (128 CHR on a 48), use this as a prefix and again, with or without space and the number?

Yes prefix. No space.

> Quote:
>
> 6. Should the both parts be enclosed in one pair of brackets?

If you are going to use two lines, I guess you need to somehow identify that the two lines represent a complex number. I loathe the brackets or parentheses or whatever that the 48/49/50 insist on putting around complex values. Maybe indent the bottom line (imaginary part or angle) one space from the top line (real or magnitude.) That, plus the "i" or angle symbol on the bottom line should sufficiently identify the two values as a single complex number.

Just my two cents. For numerous posts on how complex numbers should be entered, displayed, and in general handled by the "perfect" calculator, search the archives for posts by me and/or Karl Schneider. (for example, here and here.)

edited to add links to previous threads

Edited: 7 Aug 2009, 8:35 a.m. after one or more responses were posted

Re: Complex numbers - ideal display representation?

*Message #6 Posted by **Walter B** on 7 Aug 2009, 1:39 a.m.,*
in response to message #5 by Jeff O.

I agree with Jeff on most points. Differences:

> Quote:
>
> 4. Space character between the number and the i or j?

I vote for a multiplication sign: 1,2345 + i*6,7890 or the same with "j".

> Quote:
>
> 6. Should the both parts be enclosed in one pair of brackets?

No brackets. Indentation plus "i" will do.

My 0,02 Euros only.

Re: Complex numbers - ideal display representation?

*Message #7 Posted by **Raymund Heuvel** on 6 Aug 2009, 6:20 p.m.,*
in response to message #1 by Mark Edmonds

The HP71B with Math-Pac display complex nummers like (123,456).
Furthermore FIX/SCI/ENG modi are supported.
So i:=3.1415, j:= 2.5 in SCI 2 results in (3.14E0,2.5E0).
Also entering complex values is possible in the form (i,j).

BR

Raymund

Re: Complex numbers - ideal display representation?

*Message #8 Posted by **John Cadick** on 6 Aug 2009, 8:05 p.m.,*
in response to message #1 by Mark Edmonds

I use complex numbers a lot. A couple of points:

The use of 'i' and 'j' in complex numbers is not the same as it is in vectors. In vectors the 'i' unit vector is the vector of unit length and 0 degrees. The j vector is a vector of unit length and 90 counterclockwise degrees. The 'k' vector is unit length at 90 degrees to the plane formed by 'i' and 'j' vectors.

For complex numbers, both 'i' and 'j' are unit length at 90 degrees. Mathematicians use 'i' and electrical engineers use 'j' because the letter 'i' is used for current flow.

You mentioned pretty print which would require the format a + ib (or a +jb for electrical engineers). If polar form is to be included it should be a/_30 where the /_ is the angle sign (alpha-shift-6 on the HP49G for example.

The 42S (as in Free42) uses about as the best implementation for a scientific. The 48G through 50G calcs have the overall best. (My opinion)

My $3.50 worth (that's 2 cents with inflation.)

John

Re: Complex numbers - ideal display representation?

*Message #9 Posted by **David Hayden** on 6 Aug 2009, 8:49 p.m.,*
in response to message #1 by Mark Edmonds

Here's an idea that I haven't seen mentioned.

Think of the display as a window into the real and imaginary parts of 4 numbers. So normally, it shows the real part of 4 numbers. Press a button and it shows the corresponding imaginary parts of the numbers. Press the button again and it toggles back to the real part.

In other words, the way to efficiently show complex numbers is: "DON'T". :) Instead let the user toggle back

and forth between the real and complex parts.

You could use a single character on each line to indicate that there is a complex part of the number. This would serve as a hint to the user. You'd also need an indicator to tell whether the display is currently showing the real or complex part of each number.

This doesn't help with polar representation much. I suppose you could have the display toggle between angle and magnitude, but that might be awkward.

This *does* solve the problem of using "i" vs "j" for the imaginary part since you don't need to show either. Perhaps the real/imaginary indicator could show "i" or "j" depending on the user's preference.

Dave

Re: Complex numbers - ideal display representation?

*Message #10 Posted by **Eric Smith** on 7 Aug 2009, 2:56 a.m.,*
in response to message #9 by David Hayden

> Quote:
>
> Think of the display as a window into the real and imaginary parts of 4 numbers. So normally, it shows the real part of 4 numbers. Press a button and it shows the corresponding imaginary parts of the numbers. Press the button again and it toggles back to the real part.

In fact, it's wasteful of display space to show the entire real part or entire imaginary part at once. If the precision is 12 digits, you could use a key to switch between the leftmost six digits and the right most six digits of each part.

Obviously I'm being facetious to make a point, though the Casio Mini, introduced in 1972, did exactly what I've described.

If I've got a complex number in the stack, I want to see all of it, even if that means that by default I see fewer decimal places. I don't want the imaginary part to be hidden, because that might mislead me into thinking that it is a real number.

Re: Complex numbers - ideal display representation?

*Message #11 Posted by **Egan Ford** on 7 Aug 2009, 11:00 a.m.,*
in response to message #1 by Mark Edmonds

After reading this thread it should be apparent that there is no single ideal. If you are going to implement something on something, then I'd suggest that you support 2 or 3 of the most popular and allow the user to select. You may also need sub options, e.g. I want 'i', not 'j'. For the advanced user perhaps you can allow them to store a printf/scanf format string. For me flexibility is ideal.

I suppose your next question would be, "what is the ideal way to input complex numbers?"

Re: Complex numbers - ideal display representation?

*Message #12 Posted by **Mark Edmonds** on 7 Aug 2009, 2:25 p.m.,*
in response to message #11 by Egan Ford

Thank you everyone for your input - all very useful and has given me far more insight into what people want than I would have deduced myself.

One thing I perhaps ought to clarify is that this requirement is for output only. I may not have made this clear in my original post. The intention is to display a complex number in a format that is technically correct, "textbook" style and independent of the format used for entering the values. Originally, I wasn't going to support complex numbers in the program but as the method of display used in the RPL calcs is more of a generic number pair display, I decided to include it and the code overhead isn't going to be too heavy.

Thanks again for all the help and suggestions.

Mark

Re: Complex numbers - ideal display representation?

*Message #13 Posted by **Karl Schneider** on 7 Aug 2009, 3:40 p.m.,*
in response to message #1 by Mark Edmonds

Mark --

Quite a bit of input here. Like John and Jeff, I am a power-system engineer who uses complex numbers routinely. Here is an archived post of mine:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=63415#63415

The HP-42S, in my view, offers the ideal representation of complex-valued numbers. It also has two lines and the ability to display 22 digits per line. Complete, rounded complex numbers can be displayed, even with exponentiated values. SHOW will display the full values of each part of a complex number, one part per line.

I dislike the parenthesized ordered pairs of the HP-71B and RPL-based models, because that representation is ambiguous.

Showing one part of a complex number at a time (rectangular format only) is what had to be done on the HP-15C, due to display limitations. However, it's not the ideal, as imaginary parts can be overlooked.

-- KS

Re: Complex numbers - ideal display representation?

*Message #14 Posted by **marais** on 7 Aug 2009, 3:53 p.m.,*
in response to message #13 by Karl Schneider

I think any EE would second that post.

Andreas

Re: Complex numbers - ideal display representation?

*Message #15 Posted by **Mark Edmonds** on 7 Aug 2009, 6:03 p.m.,*
in response to message #13 by Karl Schneider

Thanks Karl - I'll read and digest your thread and specification. Thanks for the details.

Using the search feature in the forum has been mentioned above a few times. I hate to admit this but I find the search facility incredibly confusing and rarely get good results from it. Time to eat humble pie and ask about how to use search! I'll do this in another thread to keep this one clean.

Mark

Re: Complex numbers - ideal display representation?

*Message #16 Posted by **John Cadick** on 7 Aug 2009, 9:16 p.m.,*
in response to message #13 by Karl Schneider

Very nice coverage of the topic, Karl. I personally am very comfortable with the ordered pair approach (48, 49, and 50); but overall I think your spec would be a brilliant way to approach it on a scientific.

John

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Memory problem on 48G+

*Message #1 Posted by **Iqbal** on 6 Aug 2009, 3:43 p.m.*

I have a program about 40KB on my 48G+. I tried to transfer another program about 44kb. It started to transfer, but I believe one had weak batteries and it stopped during the process. I tried again another day and the program was successfully transferred. So my calculator should have around 40kb remaining. However it only shows a small amount of memory available (around 6kb). I cant find this unaccounted memory anwhere. I did memory reset, and now all the memory is available. Any explanations on where that memory was hiding?

Re: Memory problem on 48G+

*Message #2 Posted by **Raymond Del Tondo** on 6 Aug 2009, 4:35 p.m.,*
in response to message #1 by Iqbal

Memory was corrupted after the broken transfer.

HTH

Raymond

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early HP-80 restoration and Tallnut HP-41C question.

*Message #1 Posted by **Geoff Quickfall** on 5 Aug 2009, 5:29 p.m.*

Hello all,

Just repaired a minty HP-80 with the metal strip below the red lens and above the numbers. I knew it was an early version with the metal strip but the lower label at the foot of the calculator stated "HEWLETT PACKARD 80" indicating a later case badging. Apparently this had never been opened as witnessed by the intact perfect label on the back.

HP-80:

```
Condition:


-  back label intact(as new)
-  functions on adapter only
-  minty although very dusty
-  lower back label states made in USA, patent pending contrary to
   my my 1973 version which has the serial number embossed on the
   lower label and made in Singapore.
-  no serial number in the battery hatch as with the early versions
-  the badge at the end says "HEWLETT PACKARD 80" which indicates
   a later version.
-  this has the metal strip between the lens and the keys above the
   OFF/ON switch


Repair:
-  clean all contacts
-  clean case
-  clean keys
-  wash logic PCA and keyboard PCA
```

Upon removing the battery hatch to gain access to the screws I noticed no serial number in the battery hatch area (early versions) or on the bottom label between the lower feet (later versions) which is typical.

The ICs are all coded 72. The clincher is that I found a small sticky label under the PCA attached to the battery frame with the follwing number: 1247A43253. That makes it one of the first made according to the HP Museum and made prior to the release date in January, 1973! Conclusion:

It would appear that this calculator with the serial number 1247Axxxxx was sent in for repair and a new back label attached as well as a new badging at the foot. The serial number was probably removed inside the hatch to indicate that this was repaired under warranty and the paper serial number added.

Any one else come across this type of serial number and rebadging after repair?

Also, when was the last year of the Tallnut key version of the HP 41C?

In any case, a lucky find, I think.

Cheers,Geoff

Edited: 5 Aug 2009, 5:32 p.m.

Re: early HP-80 restoration and Tallnut HP-41C question.
*Message #2 Posted by **Dan W** on 5 Aug 2009, 8:10 p.m.,*
in response to message #1 by Geoff Quickfall

There are people who know how to remove and replace the metal plate without leaving a trace. Also I have seen NOS back plates, as well as reproductions, on eBay - for those who can't.

It is possible you have a "Frankencalculator", one built up of spare parts. In my parts bin I even have a few of those rolled up paper serial number tags (including coincidentally, one with a 1247 datecode).

Re: early HP-80 restoration and Tallnut HP-41C question.
*Message #3 Posted by **Geoff Quickfall** on 5 Aug 2009, 9:14 p.m.,*
in response to message #2 by Dan W

I would normally agree accept that:

```
-  the PCA date codes were correct.
-  There was a dead LED block which I removed and replaced.  The
   code on the block was 1972.
-  the case top is correct; i.e. missing the raised OFF/ON markings
   the later ones have.
-  the case top is correct; i.e. the metal top bar instead of
   paint.
```

In other words, the only non-1972 stuff is the missing serial number in the battery hatch and the "HEWLETT PACKARD 80" at the foot. Both of these attached to the correct electronics, case bottom and case top.

The calculator was sold 'as is' for $35 dollars so all the work to make it a franken-calculator copy by smoothing out the original label or supplying a new one would appear to be for naught. Also why fake the serial number UNDER the PCA where it would not be seen except by a repair person.

One more point, not that I am trying to convince anyone, the logic PCA is older; 7202 versus 7210 found in my correctly serial numbered version stamped 1247-xxxxx.

I am aware of the ability to heat the label, remove it, remove the glue, then smooth it inside a vinyl card holder. This has the effect of saving the label for later use after a restoration. In fact there is a section on that in my book.

So, I am thinking that HP probably removed the metal serial number inside the battery hatch and replaced it with a type written serial number inside the calculator to indicate that it had been in for warranty work. Similar to a watch maker inscribing a code or date inside the back of the watch indicating work done and when.

The fact that you have some of the rolled up serial number tags suggests a few frankens around or some type of HP procedure to identify warranty repairs.

Just speculation at the moment.

Cheers, Geoff

Re: early HP-80 restoration and Tallnut HP-41C question.

*Message #4 Posted by **Michael de Estrada** on 6 Aug 2009, 1:33 a.m.,*
in response to message #3 by Geoff Quickfall

Geoff,

I own or have owned all 4 versions of the HP-80, to wit:

Version 1 - metal trim strip and "Hewlett Packard" on front label

Version 2 - metal trim strip and "Hewlett Packard 80" on front label

Version 3 - silver painted trim strip and "Hewlett Packard 80" on front label

Version 4 - silver painted trim strip and "Hewlett Packard 80" on front label and OFF / ON labels raised molded and not painted

Now, all 7 of these calculators have/had the serial number prefix 1247A. The only difference was in the following 5 digit sequence number. The version 1 is 07486 and the version 4s are 53367 and 58340. So this whole bit about the prefix being the year and week of manufacture is pretty much off base. I'd say the sequence number is the better indication of the manufacturing date.

The 43253 sequence number that is shown on the paper s/n in your photo is consistent with the numbers on my version 2s, which are 27000, 44973 and 50245.

I can believe that HP would replace the back label, but why bother with the front label, that does not have to be disturbed when opening.

Therefore, it appears to me that you have a version 2, not a version 1, and that nothing has been changed.

As far a Dan's comment regarding the aftermarket non-OEM back labels, I bought some of these, and they are all identifiable by their lack of the bottom text "MADE IN U.S.A., PATENT PENDING, 3.75V 500 MW". When I inquired with the seller of the label as to why he didn't include this, I was told that he didn't want to violate any laws, which helps prevent fakes from being made like the fake RED DOT that was recently on eBay.

Michael

Re: early HP-80 restoration and Tallnut HP-41C question.

*Message #5 Posted by **Geoff Quickfall** on 6 Aug 2009, 2:52 a.m.,*
in response to message #4 by Michael de Estrada

Spot on Michael,

Yep, with your numbers I have a two, three and four version.

Thanks for the insight.

Also, I was told that HP would swap out scratched labels for new labels. So although the series number puts it in version two, it would not be rare to find a version one series number with a version two badge. The example I was given was an HP-25 sent for service under warranty. It had a

scratch on the badge at the foot of the calculator "HEWLETT PACKARD 25". It came back as a "HEWLETT PACKARD 25C" which it was not!

Also the inside typed serial number was a service item done after warranty.

Cheers, Geoff

p.s i had two HP-80 that did not work this morning and now have two fully functional nice looking ones going now. Granted one of them has an HP-55 LED block inside the display now instead of the dead segments on the original.

Edited: 6 Aug 2009, 3:08 a.m.

The prefix

*Message #6 Posted by **Frank Boehm (Germany)** on 6 Aug 2009, 4:41 a.m.,*
in response to message #4 by Michael de Estrada

The prefix is a "product revision" date. For example, the 35s were made starting about 7215, still the "1143" (aka 7143) revision has been used for mass production. There even was a later 1146 revision (obviously long before public release), which hadn't been used. And remember: The 1143 represents the red dot and V2, even early Singapore units have a 1143 prefix. So using the prefix is only a rough indicator of the manufacturing date, the postfix is a much better indicator, best would be to check the chip dates, which should be very close (2-4 weeks) to actual manufacturing date.

Re: The prefix

*Message #7 Posted by **Joel Setton (France)** on 6 Aug 2009, 5:15 a.m.,*
in response to message #6 by Frank Boehm (Germany)

Folks,

The prefix is not the week the calculator was manufactured. It is the week when the *the last engineering change* was made to this specific model.

The same prefix is then used on all subsequent production of this model, until another engineering change is implemented and the prefix changes once again.

In other words, a 1247 prefix means that the calculator includes a technical change that was first implemented in the 47th week of 1972. This particular calculator with the 1247 prefix may have been manufactured in the last month of 1972, or in 1973.

In theory, two calculators with the same prefix are completely identical when they are shipped from the factory, except for their serial numbers (the postfix). Of course this may no longer be true after repairs are made.

I hope this helps!

Joel Setton

Okay, now I am confused..

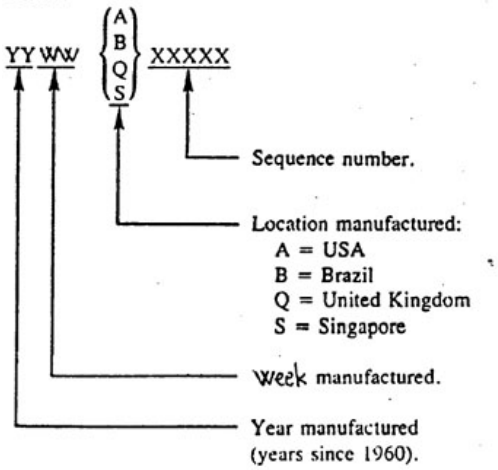
*Message #8 Posted by **Geoff Quickfall** on 6 Aug 2009, 12:46 p.m.,*
in response to message #7 by Joel Setton (France)

I accept the postfix/prefix argument as making the most sense. That is the first time I have read or seen this explanation but it would certainly explain the anomalies in case style, badge style and internal date codes.

However, here is a copy of the HP-41C manual, page 1-2 section 1.9:

1-8. IDENTIFICATION

1-9. The serial number of the calculator is used for identification and determination of warranty status. It is located on the bottom case at the upper right-hand corner, adjacent to the I/O ports. Its format is described below:



You can see it does not mention revision dates, ALTHOUGH that could be implicit in the explanation as this manual was for staff and licensed repair shops. That is, Year of manufacture may actually refer to the chip set revision.

Any more thoughts before I commit information to the book!

Cheers, and thanks to all, Geoff

Edited: 6 Aug 2009, 12:46 p.m.

Re: Okay, now I am confused..

*Message #9 Posted by **Dan W** on 6 Aug 2009, 1:14 p.m.,*
in response to message #8 by Geoff Quickfall

The HP-97 Service Manual says the first 2 digits are the years since 1960, and the second 2 digits are the MONTH manufactured (pg 1.1).

Interesting! It appears the definition of the second 2 digits has changed from time to time.

For the earlier Classics, if the second 2 digits did in fact represent weeks, we should see examples from every week. But I would wager there are only a handful of variants.

Re: Okay, now I am confused..

*Message #10 Posted by **Jeff O.** on 7 Aug 2009, 7:24 a.m.,*
in response to message #9 by Dan W

> Quote:
>
> For the earlier Classics, if the second 2 digits did in fact represent weeks, we should see examples from every week. But I would wager there are only a handful of variants.

I either own or can recall seeing HP-35 units with the following date codes:

```
1143
1230
1302
1346
```

Anybody have or know of others?

...

Re: Okay, now I am confused..

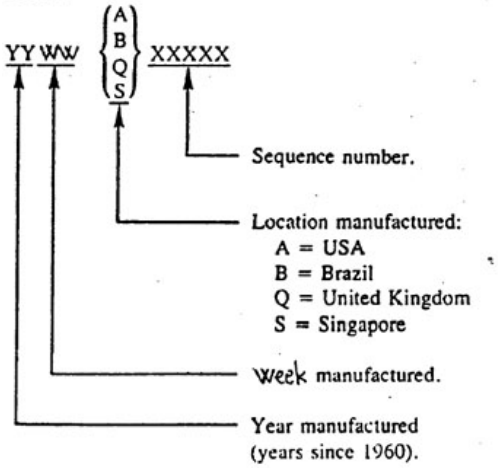
*Message #11 Posted by **Mark Edmonds** on 6 Aug 2009, 1:42 p.m.,*
in response to message #8 by Geoff Quickfall

> Quote:

However, here is a copy of the HP-41C manual, page 1-2 section 1.9:

1-8. IDENTIFICATION

1-9. The serial number of the calculator is used for identification and determination of warranty status. It is located on the bottom case at the upper right-hand corner, adjacent to the I/O ports. Its format is described below:



Geoff

That is the first time I've seen reference to UK manufactered machines (letter Q). I certainly don't have any Q calcs in my collection. As I live in the UK myself, it would be nice to acquire a UK built calc so...

Does anyone know which calcs had a UK production run please? And where was the UK factory and how long did it remain?

Thanks,

Mark

Re: Okay, now I am confused..
*Message #12 Posted by **hpnut** on 6 Aug 2009, 9:29 p.m.,*
in response to message #11 by Mark Edmonds

> Quote:
>
> That is the first time I've seen reference to UK manufactered machines (letter Q). I certainly don't have any Q calcs in my collection. As I live in the UK myself, it would be nice to acquire a UK built calc so...
>
> Does anyone know which calcs had a UK production run please? And where was the UK factory and how long did it remain?
>
> Thanks,
>
> Mark

I bought my calculator from a London store called Metyclean (don't know if they still exist). Going by the formula, my HP 41CX would have been manufactured in Singapore on 26 November 1983. (25 years and still calculating :-)

does anyone know what is HP policy with regards to production and sales of their calculators? I also have a 12C that was made in Malaysia which is where I live. Would HP sell in Malaysia a HP 12C that was made in USA or Brazil, for example? of course now, all HP calculators are made in China, AFAIK.

Re: Okay, now I am confused..
*Message #13 Posted by **Eric Smith** on 6 Aug 2009, 11:24 p.m.,*
in response to message #11 by Mark Edmonds

It's possible that no calculators were made in the UK, but that some accessories (e.g., mains adapter) were.

Re: Okay, now I am confused..
*Message #14 Posted by **Joel Setton (France)** on 7 Aug 2009, 2:56 a.m.,*

in response to message #11 by Mark Edmonds

I think this may be a typo... IIRC, products manufactured in the United Kingdom used the letter U. HP had a factory in Scotland (South Queensferry) but it made telecom-testing instruments, I don't remember any calculators being produced in that facility. Of course that was more than 25 years ago, I hope other HP old-timers have a better memory!

Joel Setton

Re: The prefix

*Message #15 Posted by **Eric Smith** on 6 Aug 2009, 12:57 p.m.,*
in response to message #7 by Joel Setton (France)

> Quote:
>
> The prefix is not the week the calculator was manufactured. It is the week when the the last engineering change was made to this specific model.

That was true of HP products other than calculators, and of early HP calculators. However, at some point they realized that the run rate for calculators was too high for that to work effectively, and they switched to using the actual manufacturing week for the prefix.

I'm not sure when that switch occurred, but I suspect that it was before or at the introduction of the Woodstock series.

Re: The prefix

*Message #16 Posted by **Geoff Quickfall** on 6 Aug 2009, 1:46 p.m.,*
in response to message #15 by Eric Smith

Hello and thanks all!

So nothing is as easy as it seems but this appears to be the timeline on the postfix/prefix deal:

```
-  non calculators    *  revision date introduction/country/sequence number.
-  early calculators  *  revision date introduction/country/sequence number.
-  calculators post classic (around the woodstock era), with a change from month to week for the second digit
pair
   some where between HP-97 and HP-41C:
                      *  manufacture date/country/sequence number.
```

Not that it is life or death but I want the introduction to be factual.

Cheers, Geoff

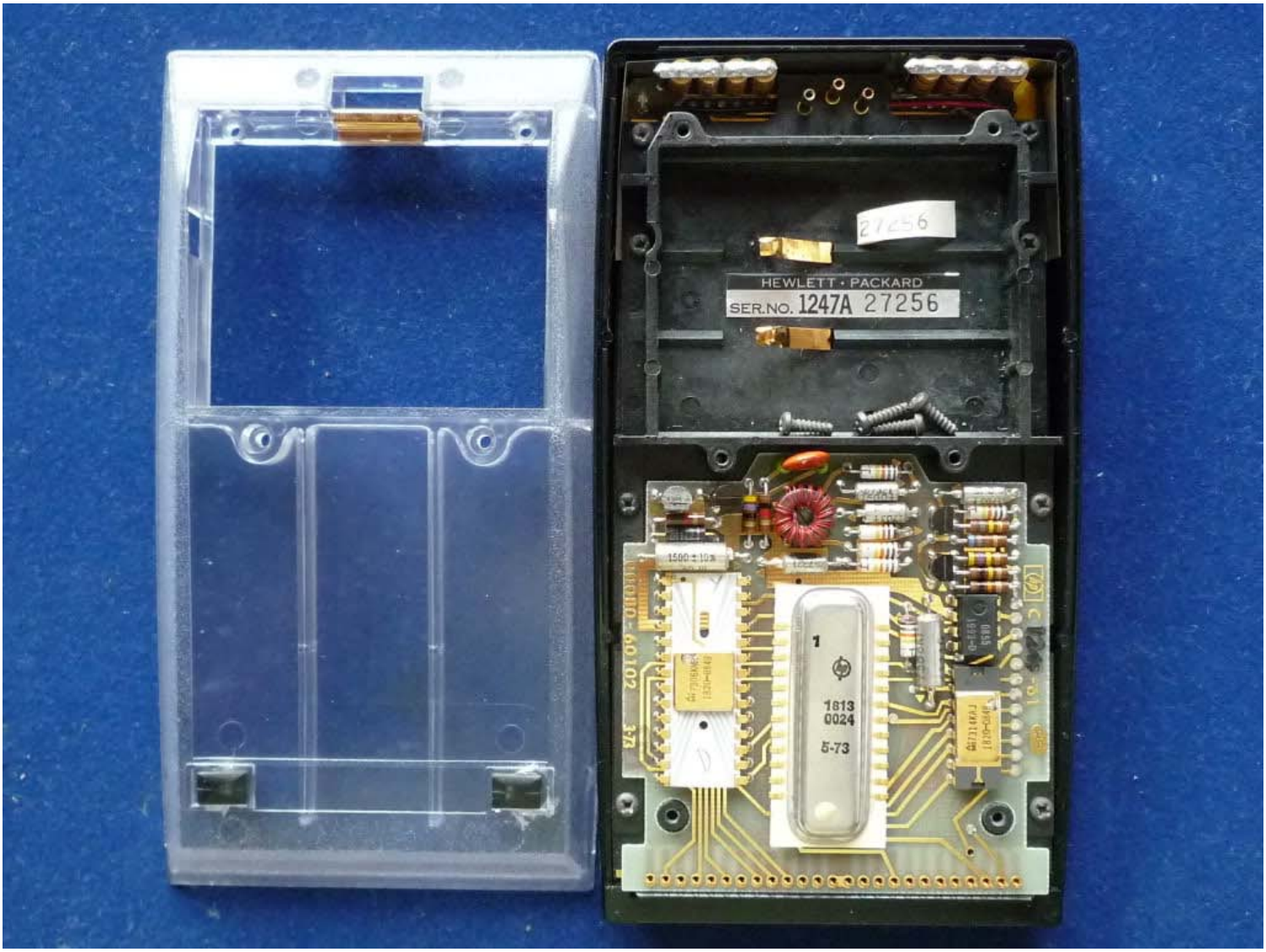
Re: early HP-80 restoration and Tallnut HP-41C question.

*Message #17 Posted by **RonaldP** on 6 Aug 2009, 2:41 p.m.,*
in response to message #1 by Geoff Quickfall

Hi Geoff,

To further confuse the numbering. I have 2 HP80's with a lower serial# but with datecode **73** on the chips.

OFF
ON
YTM
INTR
BOND
n
i
PMT
PV
FV
△%
COMPUTE
DATE
%
TL
SOD
DAY
√x
→Σ
x≷y
R↓
STO
yˣ
x̄
CLEAR
SAVE ↑
RCL
CHS
CLx
−
7
8
9
+
4
5
6
×
1
2
3
Σ−
÷
0
.
Σ+
DON GARDNER



and the other one also with a metal rim under the lens:

Both do have a the small strip of paper with the serial number (equal to the one the calc itself).

Gr

Ronald

Edited: 6 Aug 2009, 2:48 p.m.

Re: early HP-80 restoration and Tallnut HP-41C question.
*Message #18 Posted by **Joel Setton (France)** on 7 Aug 2009, 3:01 a.m.,*
in response to message #17 by RonaldP

This would simply mean that the chips were made in 1973, and the last engineering change to the calculator was in the 47th week of 1972. It makes sense, as the chips are obviously older than the calculator.

Joel Setton

Re: early HP-80 restoration and Tallnut HP-41C question.
*Message #19 Posted by **Ken Shaw** on 7 Aug 2009, 2:46 p.m.,*
in response to message #18 by Joel Setton (France)

It does make sense.

Also, it's apparent that the "1247A" part of the serial number is pre-printed on the label, with only the last 5 digits imprinted.

If "1247" was in YYWW format, this would be a very cost-inefficient method of producing the labels.

Re: early HP-80 restoration and Tallnut HP-41C question.
*Message #20 Posted by **Dan W** on 8 Aug 2009, 1:02 p.m.,*

in response to message #1 by Geoff Quickfall

> Quote:
>
> Repair: - clean all contacts - clean case - clean keys - wash logic PCA and keyboard PCA

Hi Geoff,

A little OT, but what did you mean by "washing" the PCA's?

-- Dan

Hello Dan; Washing the keyboad...

*Message #21 Posted by **geoff quickfall** on 10 Aug 2009, 2:32 p.m.,*
in response to message #20 by Dan W

When I restore a calculator, especially one with corrosion due to either battery leakage or out gassing I use a wash on the PCA.

```
a:  To remove any vertigris (green or white precipitate) I rinse
   (wash) the PCA with a mild vinegar solution followed by a
   distilled water rinse and then 95% anhydrous ethanol (in Canada
   thats known generically as 95% rubbing compound).


b:  For stickey keys, a very dilute soap and water wash with water
    rinse and anhydrous ethanol rinse


c:  If there is no corrosion or stickey keys I use the water wash
    followed by the anhydrous ethanol rinse.
```

Of course, sticky keys with corrosion would get both treatment a and b.

Heat staked keyboards with bouncy keys or even intermittant keys respond well to this and I have resurrected bad keyboards on:

```
Woodstocks
Coconuts
Voyagers
Pioneers
Stretch Pioneers
```

Of course the Classics and Spice keyboards can be diassembled and cleaned mechanically.

Cheers, Geoff

Edited: 10 Aug 2009, 9:23 p.m.

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Looking for Dan McDonald

*Message #1 Posted by **Michael Eckstein** on 5 Aug 2009, 11:21 a.m.*

I've been trying to get in touch with Dan McDonald, but not having any luck at danm@hevanet.com

Does anyone have another address for Dan. Thanks.

Re: Looking for Dan McDonald

*Message #2 Posted by **Doug** on 12 Aug 2009, 6:32 a.m.,*
in response to message #1 by Michael Eckstein

I have also been looking for Steve Livinchok (orig HP65 author) but can't find him either.

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Medical Pac 1 for HP-65

*Message #1 Posted by **Matthias Wehrli** on 5 Aug 2009, 6:11 a.m.*

Can somebody let me know the HP code? 00065-670.. Does anybody has a manual?

Thanks, Matthias

Re: Medical Pac 1 for HP-65

*Message #2 Posted by **Didier Lachieze** on 5 Aug 2009, 8:14 a.m.,*
in response to message #1 by Matthias Wehrli

According to the first number of HP Key Notes (V1N1p7) the part number of the HP-65 Medical Pac 1 is 00065-67004. I don't have the manual, but it's part number should be 00065-90211.

There is a nice presentation of some of the HP-65 Pacs HERE.

Edited: 5 Aug 2009, 8:27 a.m.

Re: Medical Pac 1 for HP-65

*Message #3 Posted by **Namir** on 5 Aug 2009, 8:41 a.m.,*
in response to message #2 by Didier Lachieze

Don't you love those old HP calculator flyers???? Ahhhh ... nostalgia. Reminds me of a special time. Getting one's hand on these programmable was a true dream.

Namir

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Geoff Quickfall That is for you !

*Message #1 Posted by **Saile (Brazil)** on 4 Aug 2009, 6:21 p.m.*

```
HP-67 Hewlett Packard Modified Flight Computer HP 67

Ebay Item number: 190326337904

Enjoy :-)
```

Thanks, but ouch the price.....

*Message #2 Posted by **Geoff Quickfall** on 4 Aug 2009, 11:28 p.m.,*
in response to message #1 by Saile (Brazil)

We saw one of these earlier last month or with in the past few months. It sure answers questions.

I would like to know where the controller is on Ebay that he is referring to!

Cheers and thanks Saile!

Geoff

Re: Thanks, but ouch the price.....

*Message #3 Posted by **Matthias Wehrli** on 5 Aug 2009, 6:14 a.m.,*
in response to message #2 by Geoff Quickfall

A agree with Geoff Quickfall. The modification in the calculator will not be very much, you could easyly do it by yourself. The problem will just be the software. as long as this is not a complete set the price is muuuuuuuuch too high.

Matthias

Re: Thanks, but ouch the price.....

*Message #4 Posted by **Maximilian Hohmann** on 5 Aug 2009, 6:24 a.m.,*
in response to message #2 by Geoff Quickfall

Hello!

> Quote:
>
> It sure answers questions.

Yes. At least we know for sure now, that it is no "flight computer", but a programming device for a specific multifunction display. I strongly doubt, that these displays are "readily available on Ebay" (or anywhere else), as the seller claims. And without the Bendix unit, the calculator is pretty much useless, isn't it? Even

as a collectibe...

Happy landings, Max

Edited: 5 Aug 2009, 6:24 a.m.

HP and Bendix and the Canadian Quickie, any other weird applications for HP out there?

*Message #5 Posted by **Geoff Quickfall** on 5 Aug 2009, 1:02 p.m.,*
in response to message #2 by Geoff Quickfall

I must say it would certainly be interesting to have the complete unit for 1500 (not that it is in my budget). But the actual Bendix colour display, the interpreter for generating alpha characters on the HP-67 and the HP-67.

I remember seeing and bidding on an alpha generator for the HP-67. The seller did not know what it was intended for and did not have the instructions for accessing keys. From what I read on the current auction the sheet of paper posting indicates that a through Z can be accessed by a series of key pushes. The alpha code can be scanned onto a card and used as "alpha" prompts for data input.

Pretty slick, an alpha numeric HP-67, MY DREAM MACHINE!

I remember being at an air show in 1986. There was an aircraft with a large canard called the Canadian Quickie (no relation!).

Canadian Quickie

In the cockpit was an HP 41CX which sat in a cradle and was hardwired through a modified module to the digital Bendix dashboard (all LEDS). This allowed the HP to access the digital data from the aircraft sensors, OAT, IAS, TAS, Temp, Altitude and etc. It provided the pilot with an flight *dynamic* management system.

Cheers All, Geoff

Edited: 5 Aug 2009, 1:30 p.m.

Re: HP and Bendix and the Canadian Quickie, any other weird applications for HP out there?

*Message #6 Posted by **Gerson W. Barbosa** on 5 Aug 2009, 5:28 p.m.,*
in response to message #5 by Geoff Quickfall

> Quote:
>
> Pretty slick, an alpha numeric HP-67, MY DREAM MACHINE!

Like this one, perhaps? ;-)

http://www.hpmuseum.org/item/product2.htm

Re: HP and Bendix and the Canadian Quickie, any other weird applications for HP out there?

*Message #7 Posted by **Geoff Quickfall** on 5 Aug 2009, 5:33 p.m.,*
in response to message #6 by Gerson W. Barbosa

Yep, love that one! Too bad it's an April fools joke....

;-)

Re: HP and Bendix and the Canadian Quickie, any other weird applications for HP out there?

*Message #8 Posted by **hpnut** on 5 Aug 2009, 9:35 p.m.,*
in response to message #6 by Gerson W. Barbosa

> Quote:
>
> Like this one, perhaps? ;-)
>
> http://www.hpmuseum.org/item/product2.htm

arrggghhhhh, my eyes, they hurt from the colours ;-)

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Cases, especially for 200LX

*Message #1 Posted by **P.Hart** on 4 Aug 2009, 10:04 a.m.*

I bought a HP 200LX second-hand about twenty years ago (and it still works fine) contained in a black leather wallet which seemed to be made to measure. The 200LX fits snugly in a pocket on one side. There are four slit pockets on that side and four on the other, each pocket able to accommodate a SRAM card for the 200LX. The two sides fold together to close and are secured with a strap with press stud. “GENUINE LEATHER” is embossed inside the wallet. There are some letters embossed very faintly on the outside in two lines within a rectangular cartouche which might read in part “ ???? POCKET”, “P S HIDE”. Does anyone know whether my case is an accessory provided by Hewlett Packard? Or what other provenance it might have?

On the subject of cases, I have bought new HP machines 71B, 41C, 48SX, 49G, 49g+ and 50g. The zipped cases for the first three could be scrunched up and stuffed in a pocket and the 49G could be held in its cover while the instrument was in use, but what do you do with the stiff, awkward cases for the last two while wandering around using the calculator? Is this yet another sign that HP calcs are no longer made by people who know how they are used?

Re: Cases, especially for 200LX

*Message #2 Posted by **Dave Britten** on 4 Aug 2009, 1:31 p.m.,*
in response to message #1 by P.Hart

That's my exact grievance with the 35s case. The stupid thing is so large and rigid that it makes the calculator no more portable than a 48! But of course, they did make the calculator just a tiny bit larger, so that it doesn't *quite* fit properly in a Pioneer case. Ho hum.

Re: Cases, especially for 200LX

*Message #3 Posted by **Hal Bitton in Boise** on 4 Aug 2009, 1:39 p.m.,*
in response to message #1 by P.Hart

With the 50G case, you could tuck the open flap under your belt, or into your waistband. In the days when there were belt loops on calculator cases, this was a non-issue. In the late 70's, I carried my HP-29C everywhere on my belt and thought nothing of it. Doing so today draws uproarious laughter from my wife and son ;(
Best regards, Hal

Re: Cases, especially for 200LX

*Message #4 Posted by **Martin Pinckney** on 4 Aug 2009, 9:22 p.m.,*
in response to message #3 by Hal Bitton in Boise

> Quote:
>
> In the late 70's, I carried my HP-29C everywhere on my belt and thought nothing of it. Doing so today draws uproarious laughter from my wife and son ;(
> Best regards, Hal

I can imagine what would happen if I wore my Post Versalog in its gorgeous maroon leather case. I don't, but I do walk around with various Leathermans on my belt, with occasional humorous but kind comments from my wife.

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What's so special about this 71B?

*Message #1 Posted by **Keith Midson** on 4 Aug 2009, 6:20 a.m.*

This ebay listing is going crazy - item: 220460807506. Up to USD510. Does anyone know if there is a logical reason for this? Is it something rare, is the math module something special? Or is it just a bidding war? I'm curious. Cheers, Keith

Re: What's so special about this 71B?

*Message #2 Posted by **Walter B** on 4 Aug 2009, 6:31 a.m.,*
in response to message #1 by Keith Midson

Well, the math module is something special, but no reason to go that high IMHO. I'd have guessed a total of 200 US$ being reasonable still. Anything exceeding this must have other "reasons".

Re: What's so special about this 71B?

*Message #3 Posted by **Howard Owen** on 4 Aug 2009, 10:19 a.m.,*
in response to message #1 by Keith Midson

It's in unusually nice condition, too, if the photographs can be trusted. Still the current value has me scratching my head.

Regards,
Howard

Re: What's so special about this 71B?

*Message #4 Posted by **Geoff Quickfall** on 4 Aug 2009, 12:04 p.m.,*
in response to message #1 by Keith Midson

I don't get it either, unless someone REALLY wants a clean version. What is surprising is no HPIL either!

The math module and the faux leather case are both rare and the unit looks clean but still, 200 would suffice on a normal day!

Cheers, Geoff

Re: What's so special about this 71B?

*Message #5 Posted by **PeterP** on 4 Aug 2009, 1:34 p.m.,*
in response to message #4 by Geoff Quickfall

the bidders are all very new (0 feedback etc)....

Re: What's so special about this 71B?

*Message #6 Posted by **Giovanni Jimenez** on 4 Aug 2009, 2:23 p.m.,*
in response to message #4 by Geoff Quickfall

Recently an HP-71B + access sold for $700 !! (item number 200363174461)

I am still trying to figure out if the owner was included in the package :)

Re: It's not a Casio calculator

*Message #7 Posted by **Joerg Woerner** on 4 Aug 2009, 3:08 p.m.,*
in response to message #1 by Keith Midson

In a time where even a Casio LCD calculator fetches more than USD 200:

CASIO CM-100

Regards, Joerg

Re: It's not a Casio calculator

*Message #8 Posted by **Mark Edmonds** on 4 Aug 2009, 3:47 p.m.,*
in response to message #7 by Joerg Woerner

These prices are completely crazy. There is a Casio that I can understand going for a high price (successor to the 602P) but even $200 for that would be high. What on earth is going on?! Wish I had something like that to sell!

I saw an HP go recently for an eye-popping price that made no sense. There is also a manufacturer of camera filters that I attempt to bid on sometimes but recently, people have been paying more than shop prices for second-hand filters or near-new prices for filters with scratches on them. Total madness, especially when all they've got to do is place an on-line order with a dealer to get brand-new.

If anyone knows the trick to get people into obsessive bidding-wars on listings, please let me know! I want to exploit that myself :)

Mark

Re: It's not a Casio calculator

*Message #9 Posted by **hecube** on 4 Aug 2009, 4:26 p.m.,*
in response to message #8 by Mark Edmonds

That kinds of put a damper on my quest to acquire a HP-71B...

Re: It's not a Casio calculator

*Message #10 Posted by **Egan Ford** on 4 Aug 2009, 6:27 p.m.,*
in response to message #9 by hecube

> Quote:
>
> That kinds of put a damper on my quest to acquire a HP-71B...

The 71B is an awesome machine. A must have. I strongly recommend the Math ROM and if you like Forth/RPN the 41 Translator ROM. Don't give up. I have had good luck with eBay and the

museum classifieds (http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/adforum.cgi).

For eBay use Auction Sniper and create a bid group. Each time you see a 71B you like put it in your bid group with the max price you are willing to pay for each different 71B (don't forget to set the max number of wins to 1, or you could end up with too many 71Bs).

As for the classifieds here, you can post a request or make an offer. There are 71Bs there now. The classifieds prices are fair (better than eBay).

In the short term get EMU71. It can use any ROM image. It's exactly the same, just faster, and runs on any platform (even Linux and OS/X).

Re: It's not a Casio calculator

*Message #11 Posted by **John Robinson** on 4 Aug 2009, 11:30 p.m.,*
in response to message #7 by Joerg Woerner

I don't know alot about Casios, but I understand the CM-100 is the 16C of the Casio world, albeit non-programmable.

Cheers, John

Re: Up to US$660 with 2 days to go ...

*Message #12 Posted by **Keith Midson** on 6 Aug 2009, 2:25 a.m.,*
in response to message #11 by John Robinson

This is quite entertaining. Who wants to guess a final price?

Re: Up to US$660 with 2 days to go ...

*Message #13 Posted by **hecube** on 6 Aug 2009, 8:44 a.m.,*
in response to message #12 by Keith Midson

If I was not chicken, I would bid it up... just because...

Re: Up to US$660 with 2 days to go ...

*Message #14 Posted by **Walter B** on 6 Aug 2009, 9:07 a.m.,*
in response to message #13 by hecube

> Quote:
>
> If I was not chicken, I would bid it up... just because...

... of what? d;)

Re: Up to US$660 with 2 days to go ...

*Message #15 Posted by **DaveJ** on 7 Aug 2009, 6:17 p.m.,*
in response to message #13 by hecube

> Quote:
>
> If I was not chicken, I would bid it up... just because...

One can feel remarkably secure from an anonymous Internet Cafe ;-)

Dave.

Re: It's not a Casio calculator

*Message #16 Posted by **Mark Edmonds** on 6 Aug 2009, 1:34 p.m.,*
in response to message #11 by John Robinson

Here is a link with photo. It does seem to be a 16C equivalent but with a much smaller feature set. Elsewhere, I saw it listed as being released in 1986.

http://www.devidts.com/be-calc/poc_13622.html

If the 1986 date is accurate, the following year, HP released the 28C which does everything that the CM100 appears to do in terms of binary maths.

Mark

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Early HP-41C PCA picture as well as memory problem...

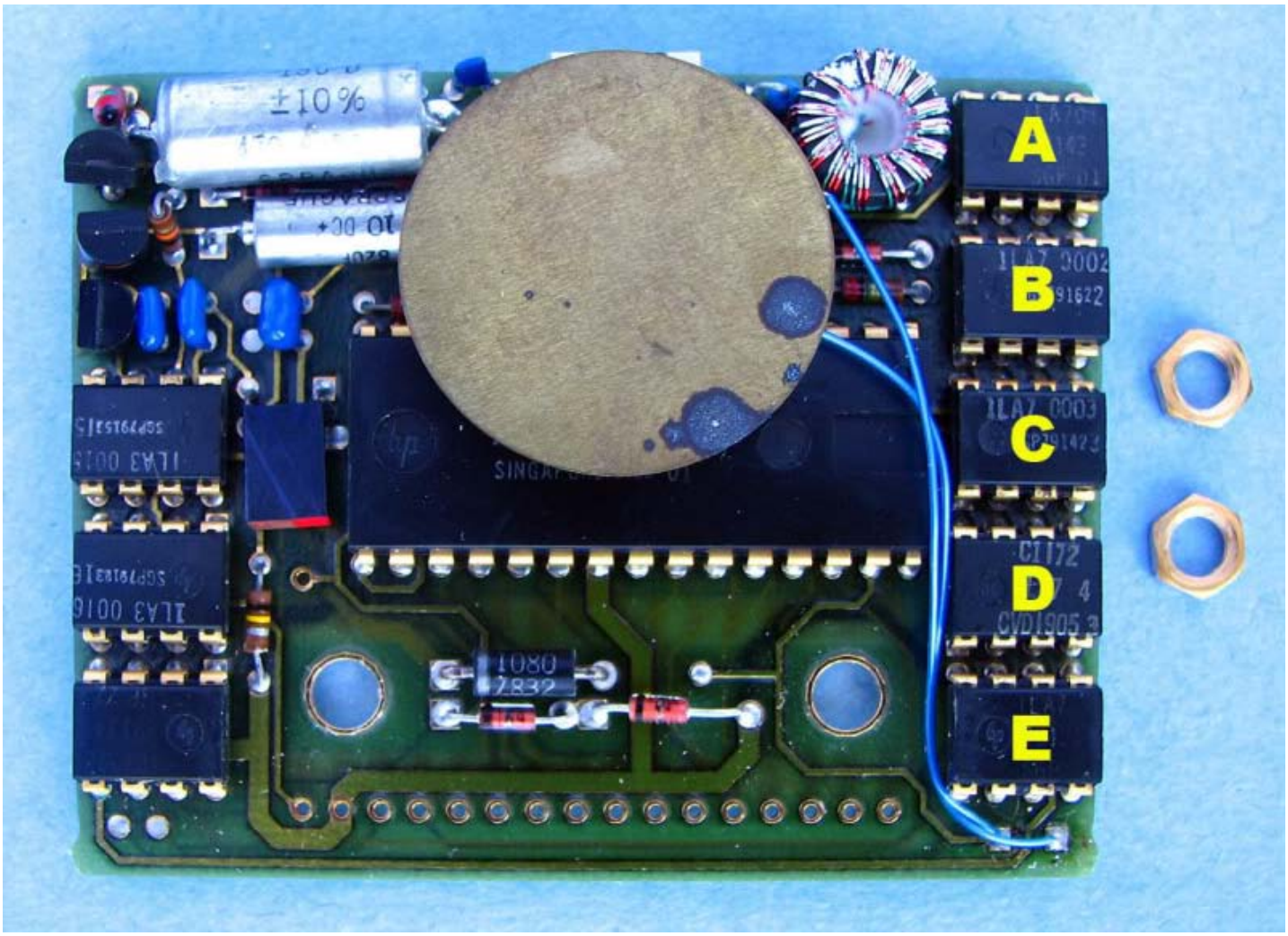
*Message #1 Posted by **Geoff Quickfall** on 3 Aug 2009, 8:06 p.m.*

HP-41C 7931Axxxxx tall keys with ac contact balls and all the bugs! Just one problem:

Setting size equals zero results in program memory totalling 47 instead of 63. Obviously one of the D/S chips is shot as each chip is 16 56-bit registers. Which one though? All programs function in the allotted memory. The machine acts normally except 47 registers instead of 63. Since the curtain moves between program memory-registers and machine memory could it be the last D/S chip that is unserviceable?

Here is a shot of the PCA with the defunct D/S chip. Since I do not have a service module (anyone out there willing to throw one at me for free ;-) am I correct in my assumptions that:

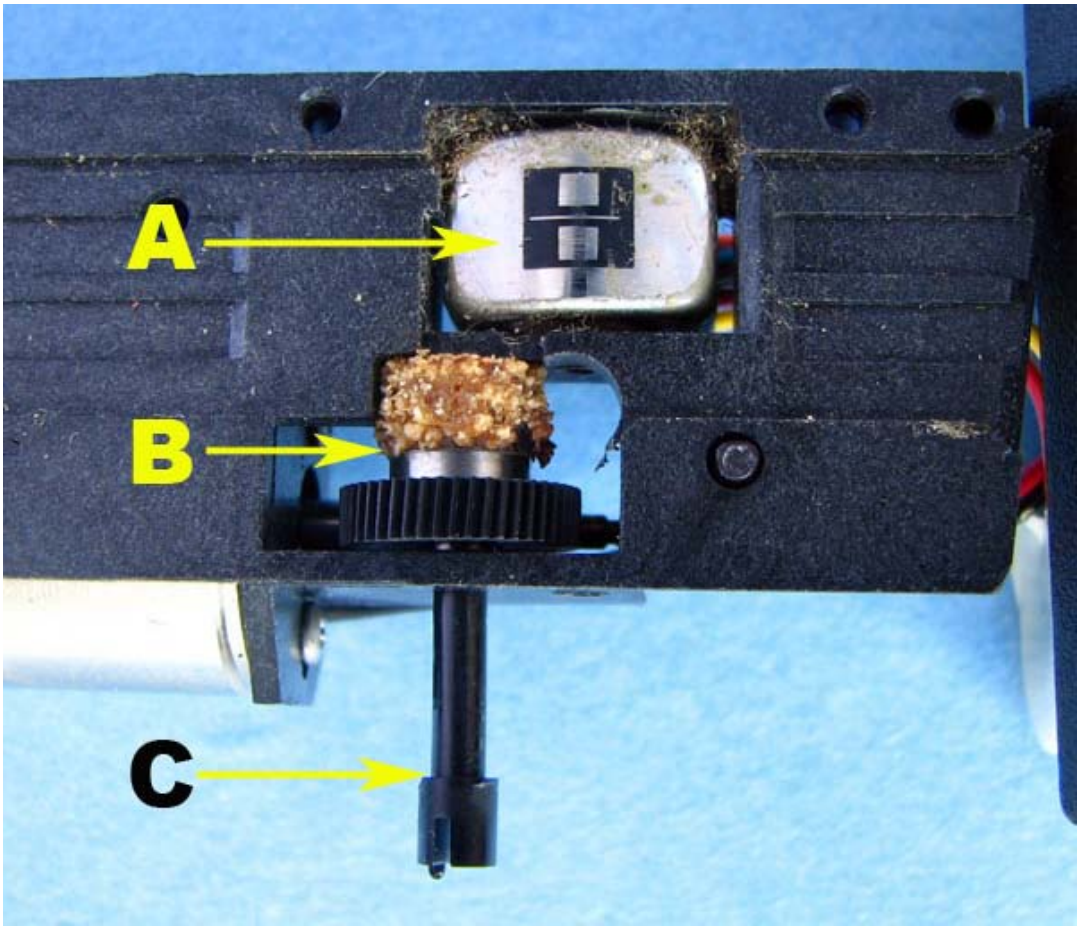
```
a.     it is the last 16 bit D/S chip (63-47=16)that is shot and
b.     it is chip marked E in the figure below.
```

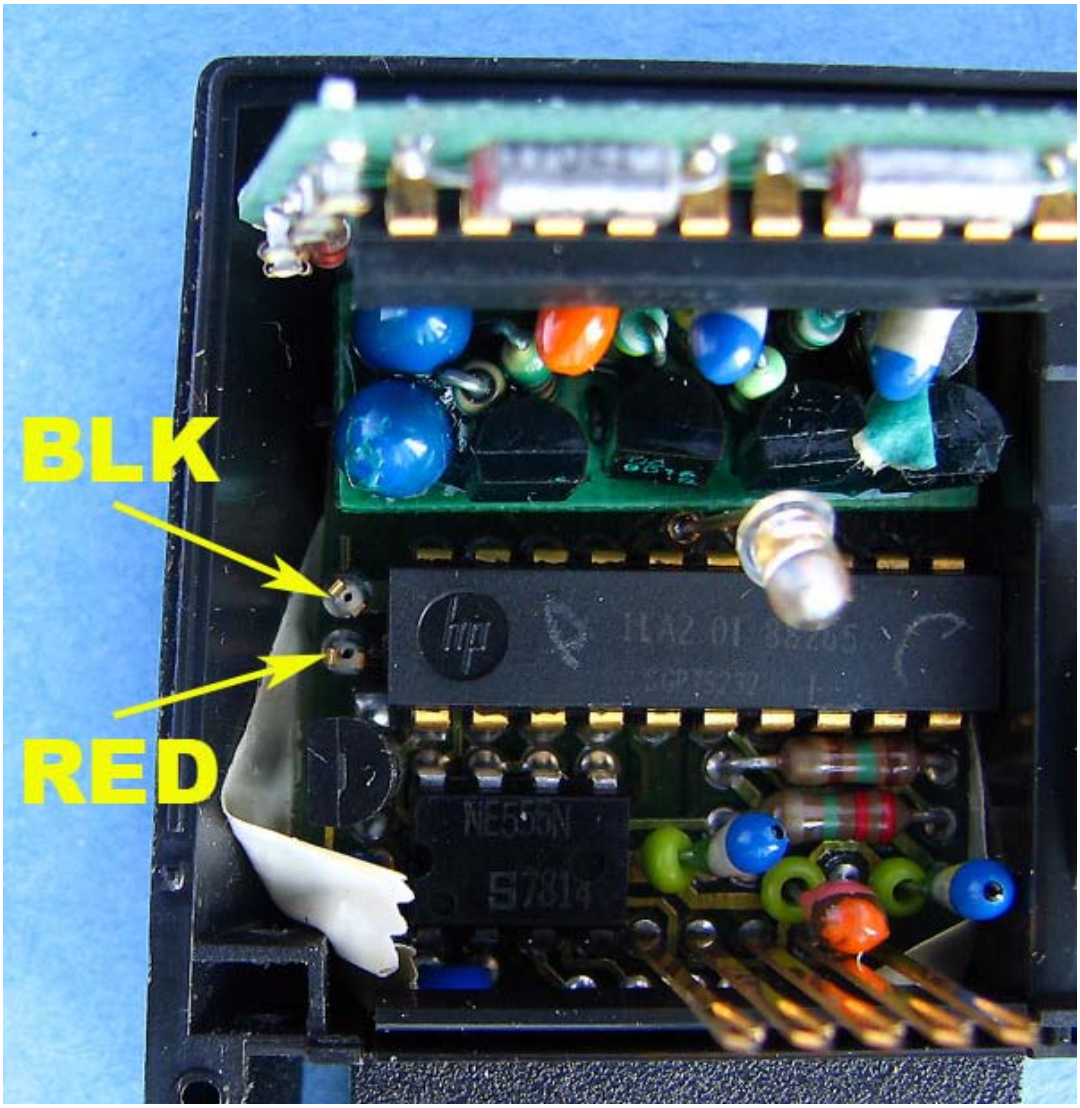


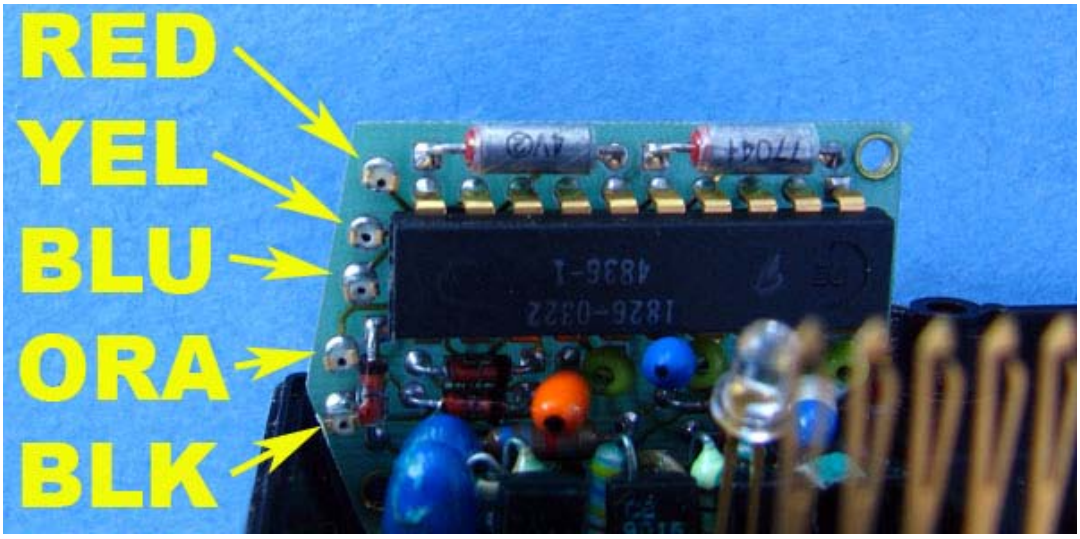
Note the hex nuts that hold this in place!

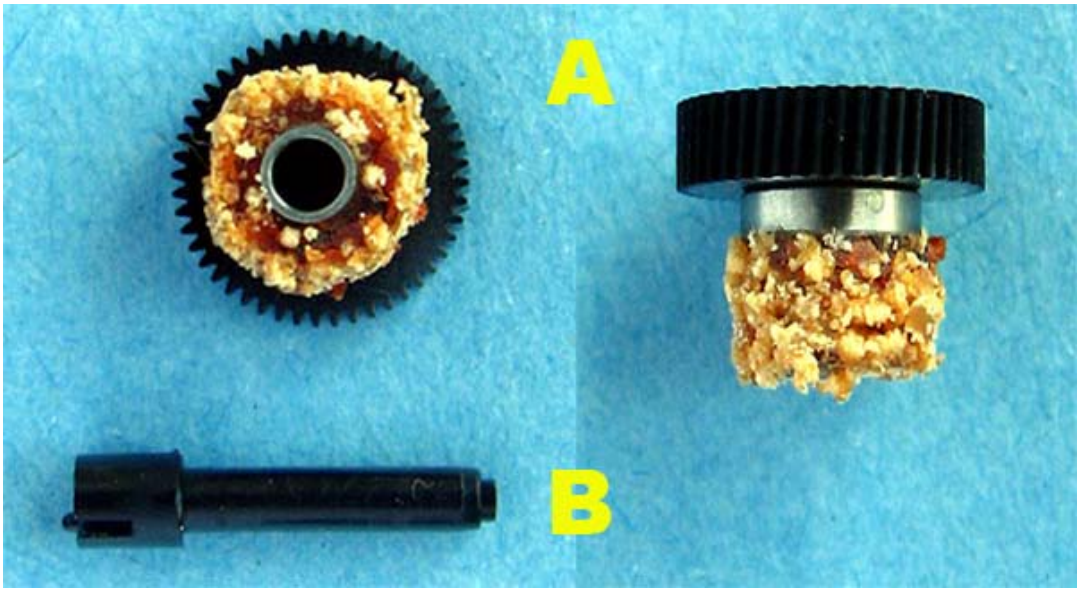
Here are some off topic pictures of the card reader internals going into the manual. Just trying to pique your interest.

By the way, what is the correct term for the wire connectors pictured in the second and third pictures below, I think the term starts with a Z (zygat)?




BLK
RED


RED
YEL
BLU
ORA
BLK



Edited: 3 Aug 2009, 8:13 p.m.

Re: Early HP-41C PCA picture as well as memory problem...

*Message #2 Posted by **hpnut** on 3 Aug 2009, 9:30 p.m.,*
in response to message #1 by Geoff Quickfall

Nice pictures of gummy wheel. looks like crusted cereal to me :-)

Re: Early HP-41C PCA picture as well as memory problem...

*Message #3 Posted by **Namir** on 3 Aug 2009, 11:22 p.m.,*
in response to message #2 by hpnut

Mmmmmmmm ... tres delish ... like to have some for breakfast!!!

```
:
:      oo
:      oo              ==
:                        |
:==================      |
:                        |
:      oo                |
:      oo              ==
:
```

Namir

Edited: 3 Aug 2009, 11:22 p.m.

Re: Early HP-41C PCA picture as well as memory problem...

*Message #4 Posted by **Geoff Quickfall** on 3 Aug 2009, 11:59 p.m.,*
in response to message #3 by Namir

THATS NOT GUMMY WHEEL!

I dropped the drive roller in some Kentucky fried chicken batter!

Cheers, Geoff

I'll bring some to Ft. Collins!

Edited: 4 Aug 2009, 12:00 a.m.

Re: Early HP-41C PCA picture as well as memory problem...

*Message #5 Posted by **Didier Lachieze** on 4 Aug 2009, 3:44 a.m.,*
in response to message #4 by Geoff Quickfall

> Quote:
>
> I dropped the drive roller in some Kentucky fried chicken batter!

Is this a brand new repair method that you're experimenting? ;-)

Anyone have ideas on the memory problem here?

*Message #6 Posted by **Gene Wright** on 4 Aug 2009, 1:31 p.m.,*
in response to message #1 by Geoff Quickfall

?

You have mail!

*Message #7 Posted by **Geoff Quickfall** on 4 Aug 2009, 1:49 p.m.,*
in response to message #6 by Gene Wright

nt

Re: Early HP-41C PCA picture as well as memory problem...

*Message #8 Posted by **Eric Smith** on 4 Aug 2009, 3:54 p.m.,*
in response to message #1 by Geoff Quickfall

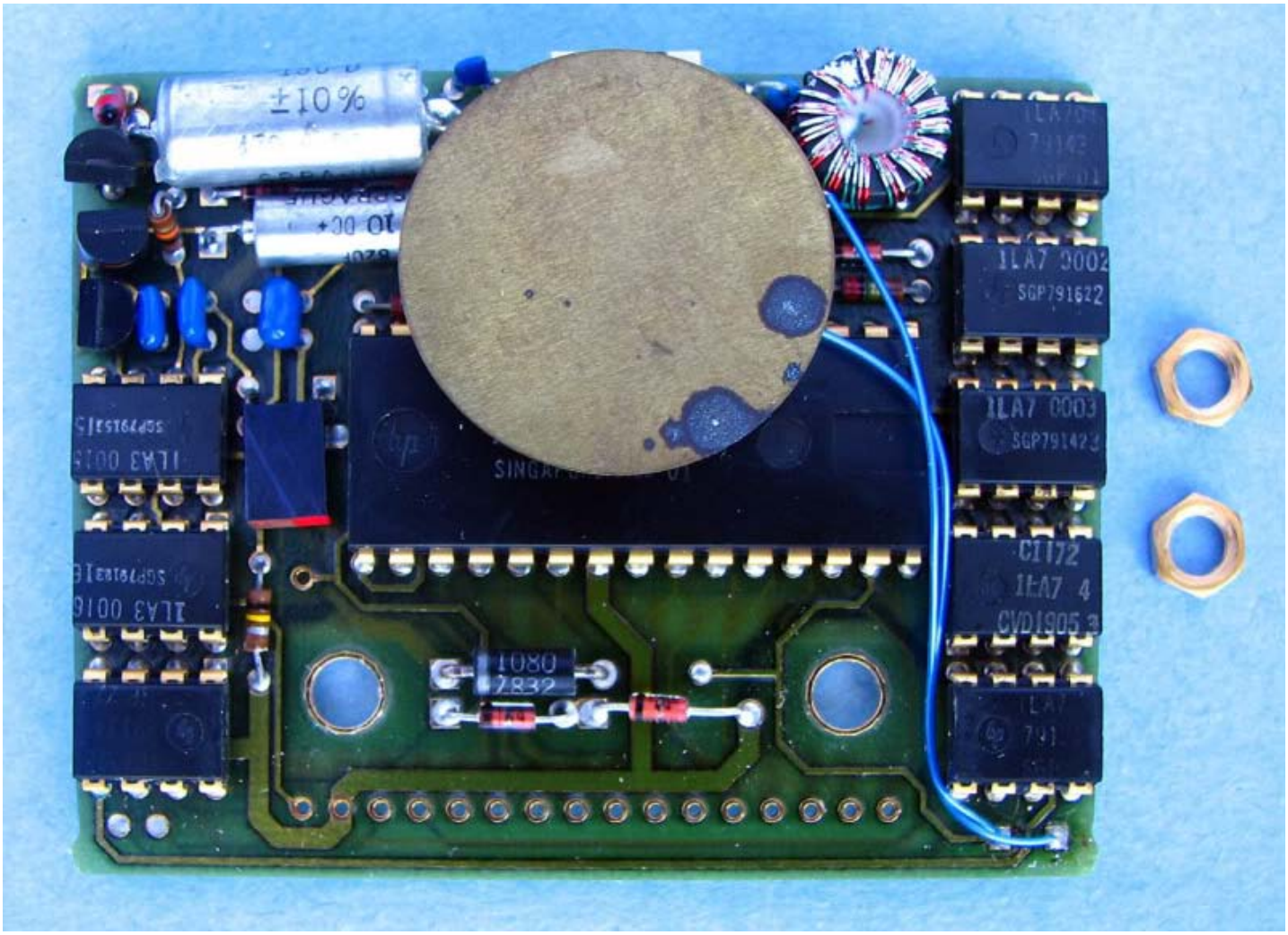
The bad chip should be the one marked 1LA7-0005 (or 1LA7-05). I can't read the markings on the chip you labeled "E", but that's probably it.

If you do a "0 SIZE" and plug in one or more memory modules (starting with port 1) or a single quad memory module, you should be able to address their registers starting at register number 16. There will be a gap from 0-15 for the bad chip.

You could replace the complete set of 1LA7-0002 through 1LA7-0005 with a single 1LE7-0001 or 1LH5-0001 (but keep the 1LA7-0001). If you also added the 1LE7-0002 through -0005 (or 1LH5), the result would be a CV.

Re: Early HP-41C PCA picture as well as memory problem...

*Message #9 Posted by **Geoff Quickfall** on 4 Aug 2009, 5:27 p.m.,*
in response to message #8 by Eric Smith



Thanks Eric, still not clear but yes the one labelled E is 1LA7-005.

So the repair has now entered a new realm. To create an early HP-41C and creat a hybrid CV board.

That would be Gene's call as it is his machine! What to do eh Gene?

Now to source some spare D/S chips so labelled!

Cheers, Geoff

Re: Early HP-41C PCA picture as well as memory problem...

*Message #10 Posted by **Diego Diaz** on 4 Aug 2009, 6:59 p.m.,*
in response to message #9 by Geoff Quickfall

Hi all,

Geoff, although the faulty IC has already been identified as 1LA7 005, you can always configure your Clonix as any of the service modules available:

ET-11966: for HP-41C and Card Reader test

5061-7221: for HP-41C, CV and CX test

ET-11968: for 82143-A printer test

The required files are available at my web, under "Download" on the left.

Best wishes.

Diego

Diego, great idea but I...

*Message #11 Posted by **Geoff Quickfall** on 4 Aug 2009, 10:31 p.m.,*
in response to message #10 by Diego Diaz

don't want to mess with the clonix that I have as it set up with my own ROM images as well as CCD and PPC.

So, I guess I should order another Clonix with the ROM images of the test modules.

Another email to follow!

Geoff

Re: Early HP-41C PCA picture as well as memory problem...

*Message #12 Posted by **Eric Smith** on 4 Aug 2009, 7:41 p.m.,*
in response to message #9 by Geoff Quickfall

I read 1LA3-0015 and 1LA3-0016 for the top two ROMs. Can you make out the designation on the bottom one? Is it 1LA3-0017?

Does this unit have bugs 1-4? I'm guessing that without the service module you don't know the firmware version, but I'd like to try to correlate ROM versions to part numbers.

Re: Early HP-41C PCA picture as well as memory problem...

*Message #13 Posted by **Geoff Quickfall** on 4 Aug 2009, 7:42 p.m.,*
in response to message #12 by Eric Smith

Hi Eric,

Let me take a look under good light and a magnifying lens, but it does have ALL the bugs so version one would be a good guess.

Yep 1LA7 005 production date 7924

Edited: 5 Aug 2009, 12:23 a.m. after one or more responses were posted

Re: Early HP-41C PCA picture as well as memory problem...

*Message #14 Posted by **Eric Smith** on 4 Aug 2009, 8:14 p.m.,*
in response to message #13 by Geoff Quickfall

Sorry, I don't think my request was as clear as it should have been. I'm interested in the markings on the ROM chip at the bottom left of the photo. I think it's probably 1LA3-0022, the earliest rev listed in the service manual.

Eric and Gene

*Message #15 Posted by **Geoff Quickfall** on 4 Aug 2009, 10:28 p.m.,*
in response to message #14 by Eric Smith

Eric

ILA322: date code 7917.

Wasn't you Eric, I have been running a limo service here all day for family, and catch the museum in between runs!

Missed the nuance of the question and just assumed it was about the D/S chips.

Gene, I am game, just have to find some donor D/S as Eric has described!

Also one could hard wire a Quad directly into the board if we can only find a replacement for the bad chip.

Cheers, Geoff

Re: Early HP-41C PCA picture as well as memory problem...

*Message #16 Posted by **Gene Wright** on 4 Aug 2009, 7:56 p.m.,*
in response to message #9 by Geoff Quickfall

Well, it will already be a repaired machine, so it isn't vintage, is it? :-)

So, sure... why bother having to have a QUAD module in this machine if it can already have the full memory? I'll drop the QUAD into the other all bugs machine I have. :-)

So, if we can bump it to the full memory, by all means... if it works and if it still has all my bugs! ha!

(Would the other all bugs machine be of interest to you two to be disassembled to check on stuff? It is a 1932A S/N while the one pictured here is a 1931A S/N)

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EMU41, Hdrive1 and a 9114

*Message #1 Posted by **Gerry Schultz** on 3 Aug 2009, 3:14 p.m.*

Hello:

Now that I've gotten EMU41 to run properly under XP on my P4 machine, I've begun moving my programs from magnetic cards to both floppy and PC storage. Moving files to and from the 9114B using EMU41 works great. I've left the hdrive1 declaration in the EMU41.INI file to try to save files to virtual mass storage file but that hasn't worked for me.

I tried renaming the hdrive1 file but that made no difference as well as deleting and generating a new hdrive1 file via NEWM 100. Finally, I commented out the XIL 300 in the INI file and then EMU41 would properly save files the virtual mass storage device in the hdrive1 file.

It appears to be some kind of conflict between virtual mass stroage and the 9114B though that doesn't make sense as J-F planned for both internal and external HP-IL devices and they both have separate address IDs and you can have multiple mass storage devices on same HP-IL loop. Has anyone seen this behavior before? I've sent an email to J-F yesterday but I haven't heard back from him yet. I also searched the HP Museum website but found no specific mention of storage issues between virtual and real mass storage devices in EMU41.

It's very possible that J-F never saw any reason to have both virtual and real mass storage devices in use at the same time when he wrote EMU41. If you have a real disk drive connected to the PC, why would you ever need virtual storage? This is a pure guess on my part though. My reasoning for wanting to save files to both devices is that as useful the floppy storage is, I believe strongly in backing up files. I'm thinking of having multiple hdrive1 files with all my programs on them so that in addition to my floppies, I can back up the hrive1 files when I do a PC backup. Also, the 9114B floppy file format is non-standard with Window or Mac PCs so I can't use a regular floppy drive to copy the files to a PC.

Finally, I could just be doing something wrong. I don't have a copy of my EMU41.INI file with me but it's a standard HP-41CX setup with Extended Functions, Time, Printer and HPIL controller along with the Advantage ROM. My declared HP-IL devices are Display, HDRIVE1, FDRIVE1, LPRTER1, DOSLINK and XIL 300.

Any insights are appreciated.

Thanks everyone,

Gerry

Edited: 3 Aug 2009, 3:16 p.m.

Re: EMU41, Hdrive1 and a 9114

*Message #2 Posted by **Christoph Klug** on 4 Aug 2009, 3:51 a.m.,*
in response to message #1 by Gerry Schultz

Dear Gerry,

nice to hear from you and your EMU41 & HP-IL activities :-)

I work with EMU41 and HDRIVE1 and external IL-Cass Drive without problems, I think there is no system limitation working with virtual drives and real drives in combination.

May be you get some trouble form the virtual FDRIVE1. This works only correct when you insert a floppy disk (= medium). Without inserted medium you will get trouble. For older floppy drives the firmware is compatible to read the medium from the IL-Disk-Drive 9114, but unfortunately this is not possible for the modern floppy drives. Therefore the best solution is to disactivate the FDRIVE1 in the EMU41.INI file :-)

May be you have the CCD-Module available. If not in real hardware you can use it as rom image file for EMU41. The CCD-Module includes the CAT 0 command, which lists you the virtual and real IL devices on the PC screen: Execute SF15 than CAT 0 and you get the complete list of IL-Devices... The star indicates the primary IL-device.

For some IL-Devices it is better to operate them in the MANIO mode (for example a Printer).

In my IL2000 Interface System manual you find some advanced samples and software routines for HP-41 to operate EMU41 and external IL-devices...

Best wishes - Christoph Klug

Re: EMU41, Hdrive1 and a 9114

*Message #3 Posted by **J-F Garnier** on 4 Aug 2009, 4:11 p.m.,*
in response to message #1 by Gerry Schultz

Hi Gerry,

Using multiple mass storage units with the HP41 can be quite tricky! And many HP41 users are not used to manage multiple units, due to the cost involved at the time.

Excerpt from Emu41 documentation:

Note about the use of multiple mass storage units:
If more than one HDRIVE1, HDRIVE2 and FDRIVE1 drives are simultaneously declared, the Emu41 (like the HP-41) behaviour is such as this: in AUTOIO mode, Emu41 searches on all drives for the file to read or write. Espacially:
You can't know on which drive the HP-41 will write in AUTOIO mode! In case of no disc in the FDRIVE1 floppy drive, an error is returned, even if the operation was targeted to the HDRIVE1 or HDRIVE2 drive!
So it is recommended to use both HDRIVE1 et HDRIVE2 with care, and to declare FDRIVE1 only when it is needed.
Look at the HP82160 manual under "Using Multiple Mass Storage Devices", page 39 in the english edition (feb.81).
This note also applies when using external drives (HP9114, HP82161), or when using an external HP41C.

And as Christoph mentionned, FDRIVE1 doesn't work on WinXP.

Hope this helps, otherwise give me more details on the errors.

J-F

Re: EMU41, Hdrive1 and a 9114

*Message #4 Posted by **Gerry Schultz** on 4 Aug 2009, 9:07 p.m.,*

in response to message #3 by J-F Garnier

Thanks Christoph and J-F for your feedback.

I have been a little reluctant to modify the INI file anymore than necessary with all the issues I've had with it. I have wondered about the FDRIVE1 declaration and I will comment it out tonight to see if that changes the symptoms.

Christoph, I have seen your references to the CCD-Module in your book and I started looking for the BIN file in Warren's DVD on Sunday but it wasn't there. I would like to locate it and put it on my EMU41 as I wanted to use that CAT 0 command to see what actually shows up on the HP-IL loop. It's the perfect troubleshooting tool for this situation. I also started looking for exactly what flag 15 does, but in the 41CX manual, it says flags 12 through 20 are for external device control and to refer to the appropriate manual for details. Which manual?

If it hasn't been obvious, I'm learning HP-IL from scratch and it's a steep learning curve and I'm also learning EMU41 at the same time. I don't understand AutoIO or ManIO yet so I haven't played with them to see what happens and how it affects access to peripherals. There's a lot to absorb and I get confused as to where to look for information and filter it through how the emulator works.

J-F, I agree, using multiple mass storage devices can be tricky. What's so hard for me is that I keep trying to determine that status and location of devices in the loop and I get weird responses. I've been using the SELECT and DIR commands assigned to keys to see what responds as I move up and down the loop. For instance, HDRIVE1 shows up at both address location 1 and 2, with addresses 3, 4 and 5 all being my 9114B. I hadn't started troubleshooting that issue as I was just glad to see EMU41 consistently accessing the 9114. I'm not sure if the DISPLAY declaration puts an actual device on the HP-IL loop but I think it does but I don't know how it would show up in the DOS window. There are many questions that come up when I work on the EMU41 but I'm trying to take it one small piece at a time to see how things work. I'm hoping as time goes on I will gain experience and understanding of the HP-IL loop which I can apply to the real devices through the HP-41. I also have an HP-71B with an HP-IL interface but I've shelved it until I understand HP-IL better. I never got into HP-IL back in the 1980s as it was just too expensive for my use.

Last Sunday night, after I wrote you J-F, I sat down with your EMU41 documentation and read the part you referenced. I completely misinterpreted your first line as I thought it meant if you declared multiple HDRIVE1s, HDRIVE2s or FDRIVE1s at once in the EMU41.INI file which made no sense to me. I thought I was just not understanding what you were talking about. Now I think what you meant was that if you declare HDRIVE1, HDRIVE2 and FDRIVE1 together in the INI file, EMU41 goes out to try to read or all those devices.

Thank you again for your feedback. I will try to implement your ideas tonight or over the next few days and let you know what I find.

I should mention that I did buy another 9114B Sunday and I should see it next week. I still like rotating media like floppy drives. There's something satisfying when I hear the disk spin and know that I made it do that (for better or worse).

Gerry

Edited: 5 Aug 2009, 1:52 p.m. after one or more responses were posted

Re: EMU41, Hdrive1 and a 9114

*Message #5 Posted by **Christoph Klug** on 5 Aug 2009, 2:19 a.m.,*
in response to message #4 by Gerry Schultz

Dear Gerry,

please give me your email address :-) And refer to IL2000 System Interface manual page IX.47. May be this helps to operate the 9114 IL-Disk-Drive...

Best wishes - Christoph Klug

Re: EMU41, Hdrive1 and a 9114

*Message #6 Posted by **Gerry Schultz** on 5 Aug 2009, 1:55 p.m.,*
in response to message #5 by Christoph Klug

First of all, a correction. The FDRIVE1 declaration is NOT in any of my EMU41.INI flies. Here is a copy of the INI file I'm presently using:

```
; emu41.ini        emu41 init file


[MODULES]
; page size filename
0  12 rom41cx.bin
3   4 cxfcn2d.bin
5   8 cxtime2c.bin
6   4 prter1e.bin
7   4 hpil1h.bin
; ------------
8  12 adv41b.bin
10  4 xio1a.bin


[DEVICES]
DISPLAY
HDRIVE1
LPRTER1
DOSLINK
XIL 300
```

As far as I know, this is a standard EMU41.INI file yet the internal mass storage device shows up at addresses 1 and 2 and the 9114B shows up at addresses 3 and 4. I tried commenting out DISPLAY, LPRTER1 and DOSLINK and it changed the device addresses on the loop but I'm not sure to what.

There must be something I'm missing because I'm getting really confused on how to configure EMU41.

J-F, the EMU41.INI files you supply with your distributions are fine. I was wrong about what I said and have removed my comments from my original post. My apologies.

Gerry

Edited: 5 Aug 2009, 1:59 p.m.

Re: EMU41, Hdrive1 and a 9114

*Message #7 Posted by **Christoph Klug** on 6 Aug 2009, 3:15 a.m.,*
in response to message #6 by Gerry Schultz

Dear Gerry,

please correct the sequence of your virtual IL-devices in the DEVICES section.

Have a look to my EMU.INI file below as reference, this file includes some helfpully comments. This sample is an extractet / shortet version of the EMI41.INI file I add to the HP-

IL/PC Interface card..

Regards - Christoph

[MODULES] ; ; ; HP-41CX Rom-Modules : ; 0 12 rom41cx.bin 3 4 cxfcn2d.bin 5 8 cxtime2c.bin ; ; HP-IL Module : hard addressed module to port 6 + 7 ; 6 4 ilprin2e.bin ; Printer system rom XROM 29 7 4 ilmass1h.bin ; Mass Storage system rom XROM 28 ; ; Advanced-Modules : ; ;8 12 adv41b.bin ; Advantage XROM XX bank switched module 8 8 ccd1b.bin ; CCD vers.B XROM 09 + XROM 11 ; ; HP-IL Accessory Modules : ; 10 4 extio1a.bin ; EXT-I/O XROM 23 ;X 8 ildev.bin ; Devel XROM 22 + XROM 24 ;X 4 extil.bin ; EXT-IL-ROM XROM 27 ;11 4 extil2.bin ; EXT-IL-ROM XROM 30 version 2 ;11 4 exilplus.rom ; EXT-IL+ROM XROM 27 version + (with new functions = IL2000 Interface System - book edition 2008) ;12 4 skwidbc.bin ; Barcode Plott XROM 08

; RAM-BOX / MLDL : ; ;8 16 hepax1d.bin ; HEPAX XROM 07 bank switched module, needs 3 pages ;14 8 mbkprof.bin ; MBK PROFISET XROM 27 + XROM 31 version 2G ;10 4 rambox.bin ; W&W RAMBOX XROM 31 32KByte version ;8 64 ramboxii.dat ; W&W RAMBOXII XROM 31 64KByte version bank switched bank a+b = HP41CY ;12 8 MLDLRAM.DAT ; 8KByte RAM ;8 96 es_rsu.dat ; ERAMCO RSU 96KByte RAM = 4 banks of 24KByte in page 8 to 13 ;14 8 rsu_os.rom ; ERAMCO RSU operating system on page 14 + 15 XROM XX + XROM YY ; ; [DEVICES] ; DISPLAY LPRTER1 HDRIVE1 ;HDRIVE2 SERIAL1 1,E3 ;SERIAL2 2,E3 ;FDRIVE1 ; insert a LIF DD floppy for correct function. Not available for modern PCs. DOSLINK ;XIL 300 ; HP-IL/PC Interface Card - 700 default address / 300 address for WIN2000/NT/XP ;

Edited: 6 Aug 2009, 3:16 a.m.

Re: EMU41, Hdrive1 and a 9114

*Message #8 Posted by **Raymond Del Tondo** on 6 Aug 2009, 4:48 a.m.,*
in response to message #7 by Christoph Klug

Hi Christoph,

please use the [Pre] -formatted tags for listings;-)

Regards

Raymond

(deleted post)

*Message #9 Posted by **deleted** on 6 Aug 2009, 5:59 a.m.,*
in response to message #8 by Raymond Del Tondo

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: EMU41, Hdrive1 and a 9114

*Message #10 Posted by **Howard Owen** on 6 Aug 2009, 6:58 a.m.,*
in response to message #9 by deleted

```
[MODULES]
;
;
; HP-41CX Rom-Modules :
;
0 12 rom41cx.bin
3  4 cxfcn2d.bin
5  8 cxtime2c.bin
;
; HP-IL Module : hard addressed module to port 6 + 7
;
6  4 ilprin2e.bin  ;   Printer        system rom XROM 29
7  4 ilmass1h.bin  ;   Mass Storage   system rom XROM 28
;
; Advanced-Modules :
;
;8 12 adv41b.bin    ;  Advantage      XROM XX  bank switched module
8 8 ccd1b.bin      ;  CCD vers.B      XROM 09 + XROM 11
;
; HP-IL Accessory Modules :
;
10 4 extio1a.bin   ;   EXT-I/O        XROM 23
;X 8 ildev.bin     ;   Devel          XROM 22 + XROM 24
;X 4 extil.bin     ;   EXT-IL-ROM     XROM 27
;11 4 extil2.bin    ;   EXT-IL-ROM     XROM 30 version 2
;11 4 exilplus.rom   ;   EXT-IL+ROM     XROM 27 version + (with new
functions = IL2000 Interface System - book edition 2008)
;12 4 skwidbc.bin   ;   Barcode Plott  XROM 08


; RAM-BOX / MLDL   :
;
;8 16 hepax1d.bin   ;  HEPAX          XROM 07 bank switched module,
needs 3 pages
;14 8 mbkprof.bin   ;  MBK PROFISET   XROM 27 + XROM 31 version 2G
;10 4 rambox.bin    ;  W&W RAMBOX     XROM 31 32KByte version
;8 64 ramboxii.dat  ;  W&W RAMBOXII   XROM 31 64KByte version bank
switched bank a+b = HP41CY
;12 8 MLDLRAM.DAT   ;  8KByte RAM
;8 96 es_rsu.dat    ;  ERAMCO RSU     96KByte RAM = 4 banks of
24KByte in page 8 to 13
;14 8 rsu_os.rom    ;  ERAMCO RSU     operating system on page 14 +
15  XROM XX + XROM YY
;
;
[DEVICES]
;
DISPLAY
LPRTER1
HDRIVE1
;HDRIVE2
SERIAL1 1,E3
;SERIAL2 2,E3
;FDRIVE1          ;   insert a LIF DD floppy for correct function.
Not available for modern PCs.
DOSLINK
;XIL 300          ;   HP-IL/PC Interface Card - 700 default address
/ 300 address for WIN2000/NT/XP
;
```

Re: EMU41, Hdrive1 and a 9114

*Message #11 Posted by **Gerry Schultz** on 6 Aug 2009, 1:03 p.m.,*
in response to message #10 by Howard Owen

All I can say is WOW, now that's an EMU41.INI file. Thank you Christoph for posting this and to Howard for reformatting it to make it readable.

At first blush, my thought is to not remove any lines from the file, only comment out any lines that are not in my version of the INI file. Then I can see how

functionality has changed and if the device addressing stabilizes. Now that I have the CCD1B.BIN file, I can use CAT 0 to get a clearer look at what devices are defined and where they are located in the loop. I will need to review the CCD documentation to see what other gems there are to help learn how to control HP-IL.

Even though I have Warren's HP-41C CD, I don't know if it contains all the BIN files listed. I will do some searching and start enabling the newer functionality as I get more comfortable with the application. I am concerned that once I get use to all these new functions, I'm going to have to buy the real thing for my 41s. Oh my aching wallet.:-)

Finally, is there a specific version of EMU41 recommended? I noticed that 2.40 and 2.47 are available on J-F's website. In the What's New page he identifies 2.47 as beta and that it fixes slow access to internal devices from an external HP-41 due to PIL-Box support. With what I'm presently doing, should I stick to 2.40 or move up to 2.47?

Thank you for your support,

Gerry

Re: EMU41, Hdrive1 and a 9114

*Message #12 Posted by **J-F Garnier** on 6 Aug 2009, 1:11 p.m.,*
in response to message #11 by Gerry Schultz

is there a specific version of EMU41 recommended?

If version 2.47 works for you, then use it. I kept version 2.40 available as a backup, since the HPIL ISA board support of version 2.47 failed on some systems (but version 2.40 works), and Christoph and myself were unable to identify the problem.

Version 2.47 doesn't add any new features, except the experimental support of the PILBox.

J-F

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Hypothetical calculator with USB ports

*Message #1 Posted by **hecube** on 2 Aug 2009, 11:59 p.m.*

I wonder why HP, or other calculator makers, don't make calculators with USB ports.

It would seem logical and I would imagine that it would be a hit...

Real calculator with USB port

*Message #2 Posted by **Raymond Del Tondo** on 3 Aug 2009, 12:18 a.m.,*
in response to message #1 by hecube

The 50g features an USB port...

If it only had a better keyboard layout, that would be a hit;-)

Re: Real calculator with USB port

*Message #3 Posted by **Mark Edmonds** on 3 Aug 2009, 8:11 a.m.,*
in response to message #2 by Raymond Del Tondo

> Quote:
>
> The 50g features an USB port...
>
> If it only had a better keyboard layout, that would be a hit;-)

Yes, a 50G with a keyboard layout design simliar to the 48GX and the same perfect feel to the keys would be a STUNNING calculator. It almost makes me weep to see all the superb enhancements on the 50G but coupled with a keyboard layout that just doesn't suit RPN/RPL. Why can't HP realise this and do something about it?!?!?!?

Mark

Re: Real calculator with USB port

*Message #4 Posted by **Patrick Rendulic** on 4 Aug 2009, 10:59 a.m.,*
in response to message #3 by Mark Edmonds

I have been reluctant to buy a 49G+ or a 50 G for several years, using primarly an 48GX (and a 49G ...). The main reason why I did so were all those negative descriptions I heard here and there.

Sure, in comparision to an 48, the calculator feels cheap, but, it is a pleasure to use it !!!

The keyboard is much, much better than I expected, the screen is wonderful and with the SD-port, no more playing around with annoying file transfers over RS-232 plus USB adapter and those annoying

128kb memory cards ... .

There are certainly things to improve, but believe me, I do regret that I did not buy that 50G earlier.

Re: Hypothetical calculator with USB ports

*Message #5 Posted by **hpnut** on 3 Aug 2009, 4:45 a.m.,*
in response to message #1 by hecube

I think an SD card slot is more useful than an USB port.

Re: Hypothetical calculator with USB ports

*Message #6 Posted by **Walter B** on 3 Aug 2009, 5:16 a.m.,*
in response to message #5 by hpnut

The 50G features both, USB and SD d:)

The only drawbacks are its RPL and too large for a pocket calc.

Ceterum censeo: HP, launch a 43S.

Walter

Re: Hypothetical calculator with USB ports

*Message #7 Posted by **J-F Garnier** on 3 Aug 2009, 5:36 a.m.,*
in response to message #6 by Walter B

Maybe Hecube was thinking to calculators with USB host capability, to access USB keys, instruments, etc... Personnaly, I would like it very much!

J-F

Re: Hypothetical calculator with USB ports

*Message #8 Posted by **hecube** on 3 Aug 2009, 7:24 a.m.,*
in response to message #7 by J-F Garnier

Exactly.

Re: Hypothetical calculator with USB ports

*Message #9 Posted by **Mark Edmonds** on 3 Aug 2009, 8:06 a.m.,*
in response to message #8 by hecube

Don't any of the top TI calcs offer USB support for measuring/data acquisition? I just had it in the back of my mind that they offer an add-on system for this.

Personally, just for the fun of it, I'd like HP-IL or HP-IB on the back of any of the RPL calcs to conncect disk drives, printers and stuff. Unfortunately, I suppose that both these interfaces are pretty well dead and I'm not even sure a PCI card exists for either type for PC use.

Mark

Re: Hypothetical calculator with USB ports

*Message #10 Posted by **Don Shepherd** on 3 Aug 2009, 8:28 a.m.,*
in response to message #9 by Mark Edmonds

Yes, the TI-83 and 84 series have an interface to a data acquisition system. I've seen it used in the classroom before. I'm not sure it is USB but it might be because the cable that connects these calcs to the PC is mini-usb on the calc side and regular usb on the computer side.

Re: Hypothetical calculator with USB ports

*Message #11 Posted by **Katie Wasserman** on 3 Aug 2009, 1:03 p.m.,*
in response to message #10 by Don Shepherd

Casio offers this too, the EA-200, it interfaces to several of their high-end calcs and the latest fx-9860g has a built-in app that makes using this device easy. However, even though the fx-9860g has a USB port I think that EA-200 uses the custom serial port on the calculator instead.

Actually, HP offers something similar as well, the StreamSmart 400, but it only interfaces with the HP-39gs and HP-40gs. Which is probably why it's never discussed on this forum.

Re: Hypothetical calculator with USB ports

*Message #12 Posted by **Tim Wessman** on 3 Aug 2009, 1:38 p.m.,*
in response to message #11 by Katie Wasserman

50g as well. And HP's graphing emulator software.

TW

Re: Hypothetical calculator with USB ports

*Message #13 Posted by **Katie Wasserman** on 3 Aug 2009, 2:26 p.m.,*
in response to message #12 by Tim Wessman

I didn't know that. You should change your documentation to say that:

StreamSmart 400 Data Sheet

Re: Hypothetical calculator with USB ports

*Message #14 Posted by **Mike Morrow** on 3 Aug 2009, 10:55 p.m.,*
in response to message #12 by Tim Wessman

But only after firmware version 2.15 has been installed. And only if you can find some place selling the StreamSmart box and accessories.

Re: Hypothetical calculator with USB ports

*Message #15 Posted by **Egan Ford** on 3 Aug 2009, 11:08 a.m.,*
in response to message #9 by Mark Edmonds

Quote:

> Personally, just for the fun of it, I'd like HP-IL or HP-IB on the back of any of the RPL calcs to conncect disk drives, printers and stuff. Unfortunately, I suppose that both these interfaces are pretty well dead and I'm not even sure a PCI card exists for either type for PC use.

It's not dead yet. JFG above has created the PILBox, an USB to HP-IL gateway for modern computers. The PILBox can changed to serial as well. Since the 50g has a serial port, it should be possible to create the solution you are looking for with a little bit of effort.

HrastProgrammer has done complete HP-IL implementations for the 48 series. It would not take much to port to the 50g serial port.

All of the pieces are there. Someone just has to want it enough to do something about it.

Re: Hypothetical calculator with USB ports

*Message #16 Posted by **cyrille de Brébisson** on 3 Aug 2009, 8:31 a.m.,*
in response to message #7 by J-F Garnier

hello,

the problem is not to offer USB Host capability... that is easy... the problem is to have the drivers and applications to support that capability... I would doubt that USB gizmo makers will be creating drivers and apps for HP calculators for their stuff... I mean, they most of the time don't even do it for macs... so, you would end up with a great host capability that is unusable :-(

cyrille

Re: Hypothetical calculator with USB ports

*Message #17 Posted by **Arnaud Amiel** on 4 Aug 2009, 3:28 a.m.,*
in response to message #7 by J-F Garnier

I remember long time ago Cyrille saying that one of the problem would be that to comply to USB specs, the calc would have to be able to provide quite a lot of current to the USB interface.

Arnaud

Edited: 4 Aug 2009, 3:29 a.m.

Re: Hypothetical calculator with USB ports

*Message #18 Posted by **David Hayden** on 3 Aug 2009, 1:44 p.m.,*
in response to message #1 by hecube

I think all of the programmables should have access to external storage - either via USB or a memory card. The lack of this I/O is what prevents me from getting a 35S. After all, who wants to have to key in every program??

I think HP would do a lot better if they went back to expandable calculators. Get the customer into the calculator and then get them to purchase the add-ons. This worked great with the 41's, at least it did for me (I bought memory cards, printer, card reader, modules, oops, time to upgrade from 41C to 41CV...)

Finally, I think that with high-end calculators so complex these days, they really should have keyboard overlays available. User mode isn't helpful when there's no simple way to know what function is assigned to

what key. Since most people will use a small fraction of the capabilities most of the time, I think they'd be happy to reassign the keys so that the functions they use most were easily accessible. It would greatly improve the usability.

Just my $0.02 worth.

Dave

Re: Hypothetical calculator with USB ports

*Message #19 Posted by **hecube** on 3 Aug 2009, 4:16 p.m.,*
in response to message #18 by David Hayden

I think you nailed the unwritten assumption of my first post. For my life, I can't understand all the hoopla about the HP-42S because information can not be easily transferred back and forth.

There's a reason why the HP-65, 67, 41 and 71 were successful: you could exchange information rapidly from machine to machine.

Re: Hypothetical calculator with USB ports

*Message #20 Posted by **Jake Schwartz** on 3 Aug 2009, 4:40 p.m.,*
in response to message #19 by hecube

> Quote:
>
> For my life, I can't understand all the hoopla about the HP-42S because information can not be easily transferred back and forth.

I would say that the hoopla is because of all the significant extensions to the 41 programming language which the 42 provided with soft keys, alpha variables, multi-line display, etc. It is simply a shame that this level of advanced RPN programming was not ported to a box with I/O and/or a memory card. There is still an opportunity, if HP can be convinced that enough would sell to make such a box profitable.

Jake

P.S. - See you at the HHC2009 conference on 10/3-4/09 in Fort Collins, CO. For more info on HHC2009, see http://holyjoe.net/hhc2009/.

Re: Hypothetical calculator with USB ports

*Message #21 Posted by **htom trites jr** on 3 Aug 2009, 5:29 p.m.,*
in response to message #20 by Jake Schwartz

Three great ideas, all of which need to meet in one calculator.

Four SDHD slots (#0 of which is the calculator's personality ROM), keyboard overlays (the base and keytop labels are for a "no personality", basic RPN machine), and both USB device and USB host ports (so that the calculator can read/write flash drives, etc, and also be read and written as one.) Bluetooth could be accessed via an SD card plugin, as could wireless b/g.

Re: Hypothetical calculator with USB ports

*Message #22 Posted by **Howard Owen** on 3 Aug 2009, 7:54 p.m.,*

in response to message #20 by Jake Schwartz

> Quote:
>
> I would say that the hoopla is because of all the significant extensions to the 41 programming language which the 42 provided ..

Yes! The 42S represented the highest level RPN keystroke programming ever reached. I view the 32S as a step backward, jettisoning alpha, matrices and much else. But the 32S is the line that went forward.

I recognize that what I want is to turn back the clock. The Pioneer series represented a turning away from calculator-as-computer. The 41C was the last complete calculator/computer system HP produced. The later 48 machines pushed a lot of the systems features back onto the PC. And of course, the rise of the PC is why the Pioneer series made the turn toward calculator-as-appliance.

What I want is the history that never happened. You know that history, the one where the PC never came to dominate general purpose computing. I want the machine that was produced by 20 years of development of calculator-as-computer beyond the 41C. In my dreams, this machine's RPN keystroke programming would be advanced in surprising and original ways, but it would have followed the sign posts past the 42S on its way to fantasy modernity.

I'll never get that, of course. So what I'll settle for, if I get the chance, is a RPN machine at least as capable as the 42S, using similar or identical keystroke programming (but feel free to improve that) and with I/O so I can store and load programs. A large memory that can store lots of these programs, which I'll undoubtedly crib from my fellow enthusiasts, or write myself, would be nice too. A faster processor would be fine, but that's less important to me than battery life. Simple.

I just don't get why HP doesn't wave a wand and create my dream machine.

:)

Regards,
Howard

Edited: 3 Aug 2009, 7:59 p.m.

Re: Hypothetical calculator with USB ports

*Message #23 Posted by **Martin Pinckney** on 3 Aug 2009, 8:04 p.m.,*
in response to message #22 by Howard Owen

> Quote:
>
> So what I'll settle for, if I get the chance, is a RPN machine at least as capable as the 42S, using similar or identical keystroke programming (but feel free to improve that) and with I/O so I can store and load programs. A large memory that can store lots of these programs, ... A faster processor would be fine, but that's less important to me than battery life. Simple.
>
> I just don't get why HP doesn't wave a wand and create my dream machine.
>
> :)

Regards,
Howard

Sounds just like Walter's 43s...

Re: Hypothetical calculator with USB ports

*Message #24 Posted by **hecube** on 3 Aug 2009, 9:02 p.m.,*
in response to message #23 by Martin Pinckney

I'm sure there's a market for an instant-on programmable scientific/programmable calculator. The problem is that HP does too well with their other businesses to care.

The calculator business should have been spun-off with Agilent.

Re: Hypothetical calculator with USB ports

*Message #25 Posted by **Hugh Evans** on 5 Aug 2009, 1:19 a.m.,*
in response to message #1 by hecube

There are plenty of calculators with USB capabilities. If you're asking about function as a USB host, that's another story. USB devices tend to be somewhat power-hungry, at least from a portable device standpoint, and they require drivers for the host device. So if HP wanted to make a bunch of USB devices they could certainly do it, but who wants to carry around a lead-acid battery backpack to keep the thing running all day? (only a sight exaggeration)

Re: Hypothetical calculator with USB ports

*Message #26 Posted by **Garth Wilson** on 5 Aug 2009, 2:40 a.m.,*
in response to message #25 by Hugh Evans

So they just need to bring back HPIL and the various interface converters. The new version would be much faster, but same idea.

USB is also a misnomer. It's not a true bus, in that you can't connect one port to lots of devices simultaneously unless you have an external hub. HPIL could go to 31 devices with primary-only addressing, and over 900 with secondary addressing.

Edited: 5 Aug 2009, 2:43 a.m.

Re: Hypothetical calculator with USB ports

*Message #27 Posted by **Marcus von Cube, Germany** on 10 Aug 2009, 10:33 a.m.,*
in response to message #1 by hecube

I'll try to answer a few posts in one shot here:

USB device connectivity is useful for data exchange with the PC. USB host connectivity might help with a few standard devices like memory sticks, keyboards, data aquisition units and, most important, a companion calc of the same or similar bread for data exchange. The later can be accomplished with a hybrid port that can switch to host mode if neccessary. AFAIK, this exists and is called USB-to-go or something similar. Modern TIs can connect this way vie their USB ports.

TI's data aquisition with the CBL (calculator based laboratory) is via a serial custom connection, the same that

is used for calc-to-calc and calc-to-PC transfers. It's a little like I C. I've just bought a Vernier Lab Pro (a "super CBL" by the original manufacturer) with USB connetivity. I've yet to find out what it offers more then a standard CBL.

For a portable device that stores some valuable information (be it telephone numbers or programs) removable storage is the key. In order to ease data transfers, Bluetooth seems to be a viable option.

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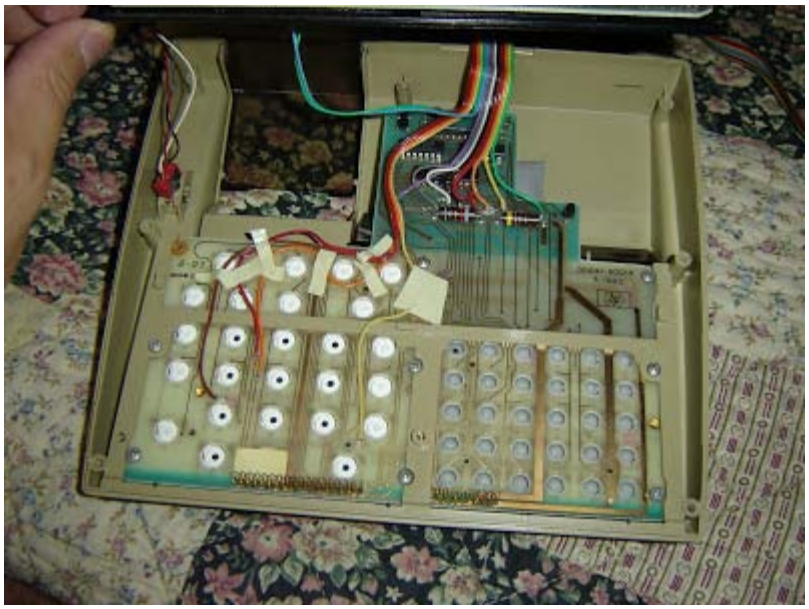
Los Alamos HP-97: what do you make of this cable?

*Message #1 Posted by **hecube** on 2 Aug 2009, 1:56 p.m.*

I bought this HP-97 on eBay a couple of weeks ago. I still haven't powered it up. I was thinking of removing the cable and putting it back in its original state but the connections inside give me pause.

I think the calculator may have been rigged to act as a controller. Why else would some of the keys be wired?

Here are some pics:



Blue and green wires going up are routed to this circuit board:

Edited: 2 Aug 2009, 1:58 p.m.

Re: Los Alamos HP-97: what do you make of this cable?

*Message #2 Posted by **Katie Wasserman** on 2 Aug 2009, 3:28 p.m.,*
in response to message #1 by hecube

This 97 was made before HP offered the 97S, you can tell them from the layout of the main circuit board. The wiring looks to me like someone wanted to bring the same control lines out of this 97 as are brought out from the standard 97S. Most of the control lines are indeed accessible from the keyboard/display circuit board and that's why most of the wires go there. Furthermore, there seem to be 4 column scan lines going to the keyboard matrix and that's exactly what's needed for external keypad-like input.

So, this appears to be an early 97 that was retrofitted to interface to something like a 97S i/o pod.

Edited: 3 Aug 2009, 1:41 a.m.

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Thermal Paper - blue print?

*Message #1 Posted by **Dan W** on 1 Aug 2009, 10:59 p.m.*

I have been looking for thermal paper for my HP-97, and I would like to find paper that prints blue as the original did (part 82045A & B). Seems all modern paper prints black only. Anyone know where I can find blue printing paper, if at all?

Thx.

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16C Manual - different version?

*Message #1 Posted by **Mark Edmonds** on 31 July 2009, 6:47 p.m.*

A few years ago, I sold my 16C (dumb move but I wanted the money for another project).

The manual I had with that 16C had a different cover to the usual 16C manual and I have never ever seen the manual cover I had since.

The cover was a cream colour with grey filled rectangles of different shades, a large dark grey rectangle across the top, a smaller medium shade grey rectangle down the right hand side, a smaller still blue-grey rectangle partially along the bottom side and a very small horizontal red rectangle on the left edge.

If anyone is familiar with this manual type, does it signify a particular production run of the 16C? I don't know what the serial number was unfortunately.

Did I make the mistake of selling something that was quite rare or was this manual style typical for 16Cs from one of the factories or a certain time frame?

This has been a mystery I've often wondered about so I'd like to clear it up!

Thanks if anyone can shed any light on this...

Mark

Re: 16C Manual - different version?

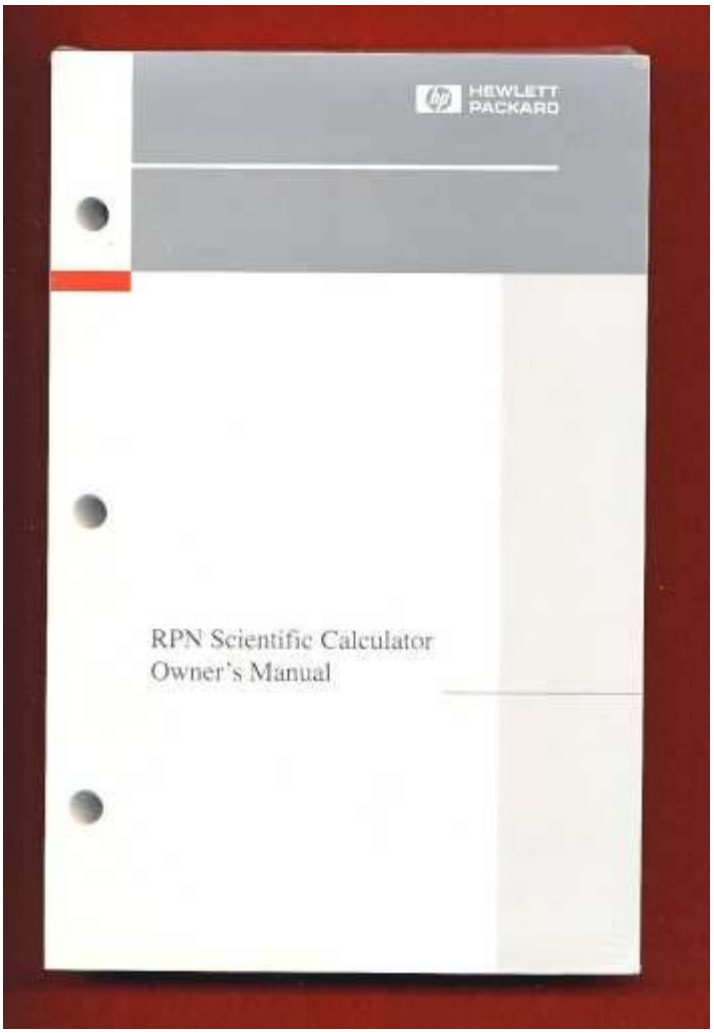
*Message #2 Posted by **Allen** on 31 July 2009, 7:20 p.m.,*
in response to message #1 by Mark Edmonds

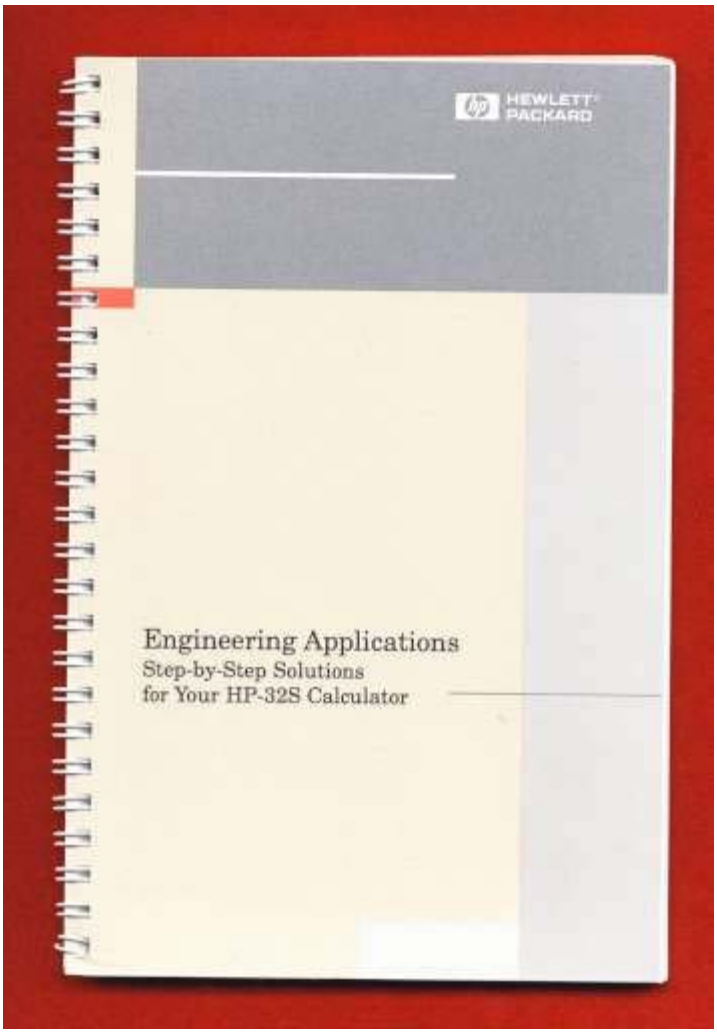
The manuals with that design on the front are HP reprints- I think mostly at the end of production. Pictures to follow.

Re: 16C Manual - different version?

*Message #3 Posted by **Allen** on 31 July 2009, 7:36 p.m.,*
in response to message #2 by Allen

Did it look something like these?


HEWLETT
PACKARD
RPN Scientific Calculator
Owner's Manual



Edited: 31 July 2009, 7:39 p.m.

Re: 16C Manual - different version?

*Message #4 Posted by **Mark Edmonds** on 31 July 2009, 8:14 p.m.,*
in response to message #3 by Allen

Thanks Allen - those are very similar but not exactly the same. So they are reprints then? Presumably done after the original manual print had run out? I remember the text being almost as if it had come off a line-printer and in a very plain format. Actually, it gave the manual a really nice low-level techy style, minimal diagrams or clip-art, just paragraphs of pure text. Yummy! :)

At least I didn't sell something unusual or "rare".

It was 2005 when I sold it and I got 150GBP for it which wasn't bad and the funds enabled me to buy a D-SLR but in hindsight, I regret it badly. Live and learn...

Mark

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Strange 15C behavior

*Message #1 Posted by **cyrille de Brébisson** on 31 July 2009, 3:56 p.m.*

hello,

A question for you who know everything...

on the 15C, when you do an operation that results in an overflow (like 999 Y^x 999), the screen displays 9999999 99 and blinks...

but the strange thing is that how do you turn the blink OFF after that? it seems to just stay on blink until you do a OFF ON cycle...

regards, cyrille

Re: Strange 15C behavior

*Message #2 Posted by **Walter B** on 31 July 2009, 4:10 p.m.,*
in response to message #1 by cyrille de Brébisson

Hello Cyrille,

please clear flag 9. A simple <- (i.e. delete, left arrow) will do as well d8)

Ceterum censeo: HP, launch a 43S.

Walter

Edited: 31 July 2009, 4:16 p.m.

Re: Strange 15C behavior

*Message #3 Posted by **Marcus von Cube, Germany** on 31 July 2009, 4:19 p.m.,*
in response to message #2 by Walter B

A wild guess: Cyrille is working on something. ;)

Re: Strange 15C behavior

*Message #4 Posted by **Walter B** on 31 July 2009, 4:26 p.m.,*
in response to message #3 by Marcus von Cube, Germany

Surprise! d;)

Expecting a state-of-the-art display at least -- wanting to read commands instead of key codes in programs. And IIRC there were some more items on the wishlist.

Re: Strange 15C behavior

*Message #5 Posted by **Andrés C. Rodríguez (Argentina)** on 31 July 2009, 4:39 p.m.,*
in response to message #3 by Marcus von Cube, Germany

... and he don't asked about "Error" or "OF".

I would welcome questions about "Global Span"!

Re: Strange 15C behavior

*Message #6 Posted by **Mark Edmonds** on 31 July 2009, 5:08 p.m.,*
in response to message #5 by Andrés C. Rodríguez (Argentina)

15C+ here we come!

I know that the following idea is pie-in-the-sky but I would really like to see the 11C get reissued as well. So many aspects of the 11C are so spot-on that I consider it one of the most elegant machines HP ever came up with. It might seem rather primitive compared to the all-singing, all-dancing machines of today but I like to believe there is still demand for the simpler and more immediately intuitive calculator which the 11C typifies.

Mark

Re: Strange 15C behavior

*Message #7 Posted by **Katie Wasserman** on 31 July 2009, 5:51 p.m.,*
in response to message #6 by Mark Edmonds

Mark,

I like the 11C as well for the same reasons that you mention. However, if you ignore the features on the 15C that the 11C does not have (matrix operations, complex math, etc.) the only usability differences are that most of the tests (x<0, etc.) on the 15C have to be looked up on the back of the calculator. All of the un-shifted and most of the shifted functions are assigned to the same keys on both calculators. I'll be happy with the 15C+ even though I like the 11C for it's simplicity.

-Katie

Re: Strange 15C behavior

*Message #8 Posted by **Mark Edmonds** on 31 July 2009, 7:12 p.m.,*
in response to message #7 by Katie Wasserman

Katie - yes, very valid points you raise and there isn't much I can add! I just have a soft spot for the 11C for reasons already stated but I would also be very happy with a new 15C+.

Mark

Re: Strange 15C behavior

*Message #9 Posted by **bill platt** on 31 July 2009, 11:59 p.m.,*
in response to message #7 by Katie Wasserman

If I had gotten a 15c rather than an 11c way back in 82, I wonder if I would have become

much more interested in using Matrices to solve equations, and if that might have led to even more proficiency, which might have led to a degree in mathematics, which might have....

too many what ifs.

But I like the 11c, too. It was my first love :-)

HP-15C, and the improvement over the HP-11C

*Message #10 Posted by **Karl Schneider** on 2 Aug 2009, 3:28 a.m.,*
in response to message #7 by Katie Wasserman

> Quote:
>
> However, if you ignore the features on the 15C that the 11C does not have (matrix operations, complex math, etc.) the only usability differences are that most of the tests (x<0, etc.) on the 15C have to be looked up on the back of the calculator. All of the un-shifted and most of the shifted functions are assigned to the same keys on both calculators.

Hi, Katie --

Yes, that's exactly right. H-P actually managed to slightly improve the arrangment of functions on the keyboard of the HP-15C over the HP-11C, even as four major elements of functionality were added using the same keyboard. Great thinking and engineering!

The broad set of functions on the on the HP-15C required intelligent use of two-byte operation codes where necessary. (The HP-11C and HP-34C used only one-byte keycodes, which explains why some reasonable functions were curiously missing from each.)

A thread from 2006 with many contributors:

HP-34C/11C instruction codes (corrected)

Essentially, when the HP-15C was introduced, the fine HP-11C was eclipsed, superseded, and supplanted, except maybe to occupy a price niche.

Here's a detailed discussion from three years ago:

HP-15C functionality and keyboard layout

-- KS

Edited: 2 Aug 2009, 3:42 a.m.

Re: Strange 15C behavior

*Message #11 Posted by **Seth Morabito** on 31 July 2009, 5:12 p.m.,*
in response to message #3 by Marcus von Cube, Germany

Uh oh... and here come dozens of responses jumping to wild conclusions based on one tiny little question!! Poor Cyrille! ;-)

Ah well, it doesn't hurt anything to hope and dream!

Re: Strange 15C behavior

*Message #12 Posted by **Namir** on 31 July 2009, 9:24 p.m.,*
in response to message #11 by Seth Morabito

Maybe so ... or maybe he is asking about the HP15C to throw us off ... cause he might be working on a resurrected HP41C??? After all, this is the 30th anniversary of that machine.

Namir

Re: Strange 15C behavior

*Message #13 Posted by **John B. Smitherman** on 31 July 2009, 9:52 p.m.,*
in response to message #12 by Namir

I would be happy if someone found some time to "fix up" the 35s. It's got potential.

Regards,

John

Re: Strange 15C behavior

*Message #14 Posted by **Thomas Radtke** on 1 Aug 2009, 7:46 a.m.,*
in response to message #13 by John B. Smitherman

> Quote:
>
> I would be happy if someone found some time to "fix up" the 35s. It's got potential.
>
> Regards,
>
> John

Yes, thank you for this message.

The 32SII was a popular machine for good reasons, and here we have a worthy successor - if it weren't for those bugs. I bought one but dislike using it, since I have to keep too many problems with it in mind. I'd buy an updated version that includes a R<>P conversion.

Re: Strange 15C behavior

*Message #15 Posted by **Reth** on 1 Aug 2009, 8:35 a.m.,*
in response to message #14 by Thomas Radtke

> Quote:
>
> I'd buy an updated version that includes a R<>P conversion

I wouldn't. Not before they fix the keyboard and add connectivity at least.
I miss to see the point of reissuing the 15c without the above plus mnemonic commands and more memory
Regards

Re: Strange 15C behavior

*Message #16 Posted by **Thomas Radtke** on 1 Aug 2009, 10:00 a.m.,*
in response to message #15 by Reth

Still no keyboard problems on my side (except for what I consider a firmware bug), but I'd welcome a micro SD card slot and would prefer that much over USB :-).

Re: Strange 15C behavior

*Message #17 Posted by **Katie Wasserman** on 1 Aug 2009, 10:57 a.m.,*
in response to message #15 by Reth

> Quote:
>
> miss to see the point of reissuing the 15c without the above plus mnemonic commands and more memory

These would be nice to have for sure. But the 15C+ seems like it will be 150 times faster than the original 15C which will allow for programs that were impractical before. Slow running solve, integrate or matrix functions will be instantaneous.

I really appreciate the speed improvements on the 12C+ over the original 12C. It's really nice to not have to wait for an answer on a TVM calculation.

Re: Strange 15C behavior

*Message #18 Posted by **Michael de Estrada** on 1 Aug 2009, 11:43 a.m.,*
in response to message #17 by Katie Wasserman

> Quote:
>
> But the 15C+ seems like it will be 150 times faster than the original 15C which will allow for programs that were impractical before. Slow running solve, integrate or matrix functions will be instantaneous.

Well, I don't know about "instantaneous", but I do have a program to solve for eigenvalues using matrix operations and the root solver, which takes about 5 minutes on average to execute. I guess it would run in about 2 seconds, which is pretty awesome.

Edited: 1 Aug 2009, 4:25 p.m.

Re: Strange 15C behavior

*Message #19 Posted by **bill platt** on 1 Aug 2009, 12:00 a.m.,*
in response to message #11 by Seth Morabito

Well at least he gets a good laugh out of us from time to time:-)

Re: Strange 15C behavior

*Message #20 Posted by **Tim Wessman** on 1 Aug 2009, 10:39 a.m.,*
in response to message #19 by bill platt

Actually, we don't actually work on anything. Rather, we sit around and talk about what we can do to completely misdirect everyone for giggles.

TW

Re: Strange 15C behavior --- yep, the 15c iPhone emulator!

*Message #21 Posted by **Gene Wright** on 1 Aug 2009, 10:41 a.m.,*
in response to message #3 by Marcus von Cube, Germany

HP's selling those on the app store, must be a problem with them.

Speaking of iPhone emulators...

I'm playing with a very fun TI-59 emulator running on the iPHone.

Hilarious putting in the LBL A + 1 = RST program and having it count to over 1,000,000 in a minute. :-)

Re: Strange 15C behavior --- yep, the 15c iPhone emulator!

*Message #22 Posted by **Howard Owen** on 1 Aug 2009, 4:18 p.m.,*
in response to message #21 by Gene Wright

> Quote:
>
> HP's selling those on the app store, must be a problem with them.

Dang! Party Pooper :)

Regards,
Howard

Re: Strange 15C behavior --- yep, the 15c iPhone emulator!

*Message #23 Posted by **Palmer O. Hanson, Jr.** on 1 Aug 2009, 10:53 p.m.,*
in response to message #21 by Gene Wright

Gene:

You wrote:

> Quote:
>
> I'm playing with a very fun TI-59 emulator running on the iPHone.
>
> Hilarious putting in the LBL A + 1 = RST program and having it count to over 1,000,000 in a minute. :-)

It should count substantially faster if you shorten the program to + 1 RST and press RST R/S to start the program. With a real TI-59 the count for a minute increases from 507 to 658 for a minute.

Palmer

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Open up HP12cp?

*Message #1 Posted by **Mike (Florida)** on 31 July 2009, 7:42 a.m.*

Is it possible, okay to open up HP12cp? My understanding is the procedure to do it on regular 12c is to remove battery door / battery and rubber strips on feet then 5 screws. I have an HP12cp that appears to have some "artifact" or debris between the clear cover on case and actual LCD. In doing some research, I found that one calc repair place would not work on the HP12cp stating they were not designed to be opened up. Had anyone opened one up? Does it cause any irrepairable damage? Pictures? Any thoughts are appreciated. I would like to try and open it up to see if I can remove that artifact in there. And in case you are questioning it, it does appear to be some little bit in there and not a problem with LCD itself. Thanks for any information you can provide!

Re: Open up HP12cp?

*Message #2 Posted by **cyrille de Brébisson** on 31 July 2009, 8:48 a.m.,*
in response to message #1 by Mike (Florida)

hello,

removing these debits will be realy hard because, althrough you can open the 12C, you can not detach the PCB from the top case without causing hard to fix damages...

maybe it's time to get one of these new super fast 12C :-)

However, if what you have IS a new super fast 12C, then you should be able to open and clean the issue as the PCB has changed.

regards, cyrille

Re: Open up HP12cp?

*Message #3 Posted by **Mike (Florida)** on 31 July 2009, 11:10 a.m.,*
in response to message #2 by cyrille de Brébisson

Yes, for clarification I do have the new Platinum version. I was disappointed that a blemish like that would get past HP QC, which I guess no longer exists. Too bad.

Re: Open up HP12cp?

*Message #4 Posted by **Don Shepherd** on 31 July 2009, 11:36 a.m.,*
in response to message #3 by Mike (Florida)

Mike, the new platinum version is not the same as the new super-fast 12c Cyrille is talking about. If yours is the platinum, it is not the new ARM-based 12c, what is being called the 12c+ now.

Re: Open up HP12cp?

*Message #5 Posted by **bill platt** on 31 July 2009, 12:15 p.m.,*

in response to message #3 by Mike (Florida)

Well, to be fair, HP is no longer producing these in Corvallis, and the unit price is about what, say 33% of what it was when originally issued, in real dollars?

That is not to say that there shouldn't be QC. But it isn't the same thing is it?

Really, with these sorts of very low-cost technical devices, there isn't enough money to do "QC" the old way. Rather it has to be SPC/SQC of the manufacturing system. This means that some finite number of flawed devices will come through the line ,undetected--and that you them minimize the total cost by accepting some finite number of warranty trades for less expensive processing....and by statistically tracking the warranty issues, you then improve the process to reduce the statistically significant flaws.

Lots of gobbledygook but the fact is that any significant handwork is out of the question....

Edited: 31 July 2009, 12:17 p.m.

Re: Open up HP12cp?

*Message #6 Posted by **cyrille de Brébisson** on 31 July 2009, 3:55 p.m.,*
in response to message #5 by bill platt

hello,

As a mater of fact, they are QC, and if indeed there is dirt in the screen, it should not have passed QC...

can you send a picture?

regards, cyrille

Re: Open up HP12cp?

*Message #7 Posted by **Marcus von Cube, Germany** on 31 July 2009, 4:18 p.m.,*
in response to message #6 by cyrille de Brébisson

If the dirt has crept in after manufacture (from you pockets?) it should be possible to blow it out with some canned air.

Re: Open up HP12cp?

*Message #8 Posted by **Vladan Dugaric** on 1 Aug 2009, 6:08 a.m.,*
in response to message #6 by cyrille de Brébisson

My 12c (latest pre-ARM version) that I bought last year also has a few specks of dust under the display cover (had them since day 1 when they emerged after a few hours of use). They are pretty annoying.

I tried canned air, but it did not dislodge any of them (nor did it introduce new ones). I suppose that there aren't any significant gaps between the display and the case.

Vladan

Edited: 1 Aug 2009, 6:18 a.m.

Re: Open up HP12cp?

*Message #9 Posted by **Seth Morabito** on 31 July 2009, 4:38 p.m.,*
in response to message #5 by bill platt

> Quote:
>
> Well, to be fair, HP is no longer producing these in Corvallis, and the unit price is about what, say 33% of what it was when originally issued, in real dollars?

This made me curious, so I just looked up the original MSRP ($150 in 1981) in the CPI Inflation Calculator. In today's dollars, the original 12C would cost US $355.93. The new 12C is available today for US $66.00 at some retailers, so it's really only 19% of its original cost, and many times faster! That's quite something if you think about it.

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hp100lx

*Message #1 Posted by **Charles Oxford** on 31 July 2009, 12:13 a.m.*

I recently bought a 100lx and already have 200lx manuals. I've looked all over the web for 100lx stuff but find only 95lx and 200lx.

Thx.

ceo

Re: hp100lx

*Message #2 Posted by **Marcus von Cube, Germany** on 31 July 2009, 4:01 a.m.,*
in response to message #1 by Charles Oxford

The 100lx is closer to the 200lx than to the 95lx: same screen resolution and GUI, just some internal 200lx apps are missing from the 100lx. It should be tighter on memory than its bigger brother.

Re: hp100lx

*Message #3 Posted by **Dave Britten** on 31 July 2009, 7:36 a.m.,*
in response to message #1 by Charles Oxford

A 95LX manual would actually be a good resource to have, as there's a fairly extensive section on Lotus 123 that was left out of the 100LX and 200LX manuals.

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48GX - screen is all black - please help!

*Message #1 Posted by **Kath** on 30 July 2009, 2:06 p.m.*

Hit the 'on' button on the 48GX this morning and the whole screen is displaying all black pixels except for one vertical stripe down the middle. It's not responding to the 'off' command. Took out the batteries and replaced them with all new batteries, and the all-black screen displayed immediately, without even hitting the 'on' button. It's 10-yrs old, barely used during the past 5 years or so, never been dropped, worked fine yesterday... too old for HP to service. Any ideas on how to get it up 'n running again? Please help!! Thanks in advance, ~~Kath

Re: 48GX - screen is all black - please help!

*Message #2 Posted by **Raymond Del Tondo** on 30 July 2009, 4:03 p.m.,*
in response to message #1 by Kath

There are different things you could try, given you have batteries installed:

- NEVER PUT IN THE BATTERIES IN THE WRONG DIRECTION!

- ON+C

If that doesn't work, then

- If you turn the HP-48GX around, the upper right rubber foot hides a reset hole. CAREFULLY stick a needle into it until it hits ground, then remove the needle.

About the battery polarity warning: There's a big chance that you will fry the zener diode if you put in batteries with the wrong polarity.

HTH

Re: 48GX - screen is all black - please help!

*Message #3 Posted by **Kath** on 30 July 2009, 4:19 p.m.,*
in response to message #2 by Raymond Del Tondo

The reset button worked! I had no idea there was a reset button. Thanks for your help; it is much appreciated!!! ~~Kath

Re: 48GX - screen is all black - please help!

*Message #4 Posted by **Raymond Del Tondo** on 31 July 2009, 8:47 p.m.,*
in response to message #3 by Kath

Glad you could revive your HP-48GX:-)

And if you want to speed up your HP-48 to the max, you could try SpeedUI, available on www.hpcalc.org

HTH

Raymond

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free42 for the HTC touch pro 2

*Message #1 Posted by **hugh steers** on 30 July 2009, 1:39 p.m.*

Hi,

I got a touch pro 2 today. it has an 800x480 screen. so i thought i'd compile up a version of free42 for it.

looks like this (there is only the one skin):

i put a copy of the installation CAB here for anyone who's interested

NOTE: not very tested!

Re: free42 for the HTC touch pro 2

*Message #2 Posted by **hugh steers** on 30 July 2009, 1:41 p.m.,*
in response to message #1 by hugh steers

forgot to mention, it's pretty good with fingers in this size.

Re: free42 for the HTC touch pro 2

*Message #3 Posted by **John Cadick** on 30 July 2009, 4:56 p.m.,*
in response to message #2 by hugh steers

I've been running the pocket PC version on TouchPro. Looks the same as your photo and works great.

John

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free42 for the HTC touch pro 2

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Good programming environment for a 200LX?

*Message #1 Posted by **Dave Britten** on 30 July 2009, 9:18 a.m.*

I've got a 200LX that I quite like, though I don't use it nearly as much as I would if I had a decent semi-interactive programming environment for it. I'm not looking to create full-blown desktop applications on the thing, but something high-level like programming a 28S/48G would be great.

A DOS version of Free42 would be fantastic, but that might be asking too much. :) What do the other 200LX fans use to fill the niche of programmable calculator? Aside from just pulling out the 48GX, of course...

Re: Good programming environment for a 200LX?

*Message #2 Posted by **Marcus von Cube, Germany** on 30 July 2009, 9:56 a.m.,*
in response to message #1 by Dave Britten

The old Borland tools, Turbo C and Turbo Pascal for DOS should run fine on the LX. There are libraries around which mimic the GUI so your applications look simililar to the built in PIM software. Google for the S.U.P.E.R. site if it still exists.

Re: Good programming environment for a 200LX?

*Message #3 Posted by **Bill (Smithville, NJ)** on 30 July 2009, 10:10 a.m.,*
in response to message #1 by Dave Britten

Hi Dave,

I second Marcus recommendation of the old Borland programming languages. I have used Turbo Pascal on the HP-200LX and it works great.

If you are looking for HP Calculator emulations, I think that both emu41 and emu71 work on the 200LX. You won't have the pretty calculator image, but you will have the calculator environment.

Bill

Re: Good programming environment for a 200LX?

*Message #4 Posted by **Thomas Chrapkiewicz** on 30 July 2009, 11:09 a.m.,*
in response to message #3 by Bill (Smithville, NJ)

I've used and/or recommend on a 200LX:

1. The aforementioned Borland languages. 2. QBASIC/Quick BASIC 3. PowerBASIC 3. bigcalc (a high/variable-precision DOS rpn emulator) 4. Derive (DOS version of course)

TomC

Re: Good programming environment for a 200LX?

*Message #5 Posted by **Mark Edmonds** on 30 July 2009, 11:38 a.m.,*
in response to message #4 by Thomas Chrapkiewicz

Another interesting one to look at is Clipper. I don't know about availability, nor to be honest whether it would work on the 200LX but off hand, I can't think of any reason why not.

Altough Clipper was designed to be a compiler for dBase applications, there is much more to it than that and I remember one particularly handy feature was the ability to effectively compile code on the fly from strings. This made for some interesting techniques in building dynamic code, substituting values for variables and so on.

For its time, I always thought it was quite a neat language that would have been better off shedding its dBase compiler image. Many many many years since I used it in anger though so I hope my recollections are accurate!

Mark

Re: Good programming environment for a 200LX?

*Message #6 Posted by **John Pierce** on 30 July 2009, 11:44 a.m.,*
in response to message #1 by Dave Britten

If you have some interest in the FORTH language you might want to try Pygmy Forth or CMPFORTH at www.hp200lx/super6.html.

Re: Good programming environment for a 200LX?

*Message #7 Posted by **Katie Wasserman** on 30 July 2009, 1:54 p.m.,*
in response to message #1 by Dave Britten

I really like programming in AWK on the 200LX, there are several versions that run under DOS including GAWK. I usually run GAWK 3.0.6.

Re: Good programming environment for a 200LX?

*Message #8 Posted by **Andrés C. Rodríguez (Argentina)** on 31 July 2009, 2:33 p.m.,*
in response to message #7 by Katie Wasserman

Kind of symmetry: KW AWK... has it something to do with your initials? :-) (I know about Aho, Weinberger and Kernighan, but...)

Re: Good programming environment for a 200LX?

*Message #9 Posted by **Katie Wasserman** on 31 July 2009, 3:28 p.m.,*
in response to message #8 by Andrés C. Rodríguez (Argentina)

Thanks for pointing that out. I knew that there was a reason why I liked this archaic language so much!

Re: Good programming environment for a 200LX?

*Message #10 Posted by **Dave Britten** on 30 July 2009, 2:09 p.m.,*
in response to message #1 by Dave Britten

I like the sound of some of these suggestions - I'll have to try a few out. I've got about 210 MB left on my CF

card, so why not! Turbo Pascal sounds like it could be of some use. I think I'll steer clear of C in this case, since there's usually a much larger time investment to get a working program (and I don't need the performance gain that C would afford). Might be nice to keep around just in case, but I don't anticipate heavy use.

I'd prefer to find something simpler and more akin to a programmable calculator, though. I don't intend to pound out any lengthy applications on these little keys.

I've been playing around with Lotus 123 macros a bit, and they're more flexible than I expected, but having only one "sheet" per .wk1 file, and having to jam your macros in there beside your data is kind of a pain. If you stash them in extra columns off to the right, inserting rows in your main data columns will break the macros... Any Lotus pros have suggestions for effective macro storage?

Re: Good programming environment for a 200LX?

*Message #11 Posted by **Katie Wasserman** on 30 July 2009, 2:39 p.m.,*
in response to message #10 by Dave Britten

There's always the Solver in the built-in calculator app. I think it's by far the best version of the solver HP ever implemented and it has extensions that link to Excel. Look at the bottom of this thread for an example of what you can do with it.

Re: Good programming environment for a 200LX?

*Message #12 Posted by **Marcus von Cube, Germany** on 30 July 2009, 4:12 p.m.,*
in response to message #11 by Katie Wasserman

Not to Excel, to 1-2-3. Otherwise you're correct.

Re: Good programming environment for a 200LX?

*Message #13 Posted by **Katie Wasserman** on 30 July 2009, 6:18 p.m.,*
in response to message #12 by Marcus von Cube, Germany

Right, thank you for the correction! Old age stinks, at least I didn't say VisiCalc :(

Re: Good programming environment for a 200LX?

*Message #14 Posted by **Dave Britten** on 30 July 2009, 7:57 p.m.,*
in response to message #13 by Katie Wasserman

I suppose I *could* load Excel on it, but dropping out of System Manager, connecting a mouse, and starting up Windows 3.0 probably isn't worth the trouble. :)

But that's never stopped me before!

Re: Good programming environment for a 200LX?

*Message #15 Posted by **Marcus von Cube, Germany** on 31 July 2009, 3:58 a.m.,*
in response to message #14 by Dave Britten

You can try Multiplan instead. ;)

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HP 33e repair

*Message #1 Posted by **Lincoln R.** on 29 July 2009, 9:05 p.m.*

I recently acquired an HP 33e (serial #1835A08027) that hadn't been used in some years. The positive battery contact was broken off, but I was able to power on the machine with a bench power supply. At first, almost none of the keyboard keys worked, and the display was very dim and displayed nothing but fives. I disassembled the entire calculator, and cleaned all the ICs and the flexible circuit board with contact cleaner.

After that, the display now works properly and is bright, but some of the keys will only work if you squeeze the unit together or push down on the faceplate near the key. Any suggestions on this? I've thought of trying to bend out the legs on the ICs a little bit but am afraid that one would break off. Would throwing a piece of cardboard into the back help? Also, for the battery contact, I have suitable metal, but does anyone know where I might find a screw and nut of the right size? The only sources I've found so far have a minimum order of around 100, way more than I need.

Re: HP 33e repair

*Message #2 Posted by **Michael de Estrada** on 29 July 2009, 9:30 p.m.,*
in response to message #1 by Lincoln R.

Does it pass the STO ENTER self-test? Usually if the problem is bad contact between the IC terminals and the keyboard traces you will get an Error 9 instead of all 8's. The problem could be in the snap dome circuit traces, which sometimes crack or the solder connections between the snap dome sheet and the keyboard. I tried re-soldering a bad connection once and ended up ruining the keyboard, but my soldering skills are not very good.

Re: HP 33e repair

*Message #3 Posted by **Lincoln R.** on 29 July 2009, 9:55 p.m.,*
in response to message #2 by Michael de Estrada

Yeah, it passes the STO ENTER test. When I do that, the screen goes blank for about a second, then all 8s, commas, and the negative sign on the far left appear. Also, the keys that act up are very random, it's not always the same keys, it's never one line of keys straight down or anything, all the keys work at least some of the time, and pushing down or pressing the key harder will make it go, which makes me think that possibly there is too much space between the snap disks and the keyboard, caused by old foam.

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Question on MLDL2k Bankswitching

*Message #1 Posted by **Ángel Martin** on 29 July 2009, 2:54 p.m.*

I'm having trouble getting the Advantage rom configured on my MLDL2k. I'm not sure if there's any known issues , not that I'm aware of for a simple 2-bank situation (I know of the bank2 vs. vs bank3 blues but that should not be the case).

I tried many user register combinations, both on SRAM and FLASH, but to no avail. When calling any of the bank-switched functions the calc goes to see the wizard (aka freezes off, no display, no response).

Ironically the HEPAX module seems to work quite well (using the tricks published in Howard Owen's article). I have not upgraded to the latest firmware revision, but somehow I don't think that's the problem, given that the Hepax emulation works.

Any ideas would be appreciated, hope I don;t have a defective unit.

Best, ÄM

Re: Question on MLDL2k Bankswitching

*Message #2 Posted by **Ángel Martin** on 30 July 2009, 1:08 a.m.,*
in response to message #1 by Ángel Martin

Well it appears that I'll have to upgrade the firmware - but can't do it using the update tool because my unit has revision 1.0 and the tool requires 1.5 or later...

Meindert, you around or (likely) on vacation? No rush.. :)

Re: Question on MLDL2k Bankswitching

*Message #3 Posted by **Meindert Kuipers** on 30 July 2009, 3:46 a.m.,*
in response to message #2 by Ángel Martin

Hi Angel,

I was travelling this week, therefore the late answer. The firmware upgrade is recommended, but not really needed. If HEPAX works, then Advantage should also work. Keep in mind that a Bankswitch will switch the banks of both the odd and the even page, so the optimum configuration for Advantage that shoudl always work is:

```
Page $8                 Page $9
Bank 1: AdvL1-1B.rom    Bank 1: AdvU1-1B.rom
Bank 2: AdvL1-1B.rom    Bank 2: AdvU2-1B.rom
Bank 3: AdvL1-1B.rom    Bank 3: AdvU2-1B.rom
Bank 4: AdvL1-1B.rom    Bank 4: AdvU2-1B.rom
```

In your firmware version banks 2 and 3 are probably interchanged, but that is not relevant here (it does matter for HEPAX!)

If you want to update firmware, just download the latest M2kM and firmware file, this should normally work. If it does not, send me an email and we can setup a remote session so I can assist you there.

Meindert

Re: Question on MLDL2k Bankswitching

*Message #4 Posted by **Ángel Martin** on 30 July 2009, 4:59 a.m.,*
in response to message #3 by Meindert Kuipers

Hi Meindert, many thanks for responding so quickly. Indeed it was a "user misunderstanding", I wasn't aware that I had to FILL the four pages up with rom images - I was only using the first bank within page1, I guess that was my issue.

So just a RTFM problem, shame on me :)

Thanks again, now it's time to do some math crunching on the MLDL with my SandMath - which of course uses the Advantage...

All the best, ÁM

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MoHPC *The Museum of HP Calculators*

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Curve fitting question (OT)

*Message #1 Posted by **Walter B** on 29 July 2009, 9:30 a.m.*

Hi experts,

So far, I thought I know some statistical data analysis, but here's something strange leaving me confused:

Fitting a model curve to measured data points, i.e. data with errors > 0 , reduced chi square (RC2) is one method to assess the goodness of fit. Browsing some textbooks and the net, I find just one-sided tests for RC2. I.e. it is said to be a good fit model if RC2 is less than or approximately equal to 1, and a bad fit model if RC2 >> 1. Why isn't this a two-sided test?

Reasoning: The model curve hitting all data points right in the middle is very improbable for physical data. So it should be a two-sided test for RC2, excluding very low values of RC2, too. OTOH, fitting is done minimizing the sum of squared distances from all data points to the curve, so zero would be optimum.

You see me confused. What's wrong? Help is appreciated.

Walter

Re: Curve fitting question (OT)

*Message #2 Posted by **Namir** on 29 July 2009, 1:35 p.m.,*
in response to message #1 by Walter B

Hi Walter,

Most books use R-square and the F statistics to measure goodness of fit. One popular tool is found in the Excel Data Analysis add-in. It generates an ANOVA table that shows the F statistics and its significance. Also, the tool calculates and shows the R-square and its adjusted value. Finally the output also shows the standard error, student-t, and significance of student-t for each regression coefficient (and intercept).

I rely on the regression ANOVA table and other statistics displayed by the Excel Data Analysis add-in more than just the Chi-square.

If you want to examine the relevance of yoru curve fit I highly recommend Excel's tool and the richness of the output.

Namir

Re: Curve fitting question (OT)

*Message #3 Posted by **Walter B** on 30 July 2009, 6:02 p.m.,*
in response to message #2 by Namir

Hi Namir,

Thanks for your friendly advise. I know and use this tool already. It is just that almost every author I see demonstrating simple Chi Square tests uses **single** sided tests to measure goodness of fit, while the same authors have no problems with double sided t-tests, for example. That's what puzzles me. Maybe a bit academic, but I just want to understand it.

Walter

Re: Curve fitting question (OT)

*Message #4 Posted by **Paul Dale** on 29 July 2009, 5:45 p.m.,*
in response to message #1 by Walter B

> Quote:
>
> Why isn't this a two-sided test?

You're squaring the differences so the closer to zero you get the better the fit. Thus no need for the other side. Or am I missing something in the question?

- Pauli

Re: Curve fitting question (OT)

*Message #5 Posted by **Walter B** on 29 July 2009, 6:09 p.m.,*
in response to message #4 by Paul Dale

Hi Pauli,

> Quote:
>
> Or am I missing something in the question?

Maybe. Please check my "reasoning" above and Dave's answer below. IMHO a contradiction remains.

Walter

Edited: 30 July 2009, 3:03 a.m.

Re: Curve fitting question (OT)

*Message #6 Posted by **Paul Dale** on 30 July 2009, 5:09 p.m.,*
in response to message #5 by Walter B

Missed that bit for some reason -- probably my own stupidity and haste :-(

I've never heard of a test for a too-good fit of the data. That has always been a cause for great rejoicing not concern. However, if you are interested in that why not do another test at the 99.9999% (or whatever) level and reject if that accepts the fit?

- Pauli

Re: Curve fitting question (OT)

*Message #7 Posted by **Dave Shaffer (Arizona)** on 29 July 2009, 6:02 p.m.,*
in response to message #1 by Walter B

> Quote:
>
> so zero would be optimum.

Not really! Reduced chi-square includes the estimated size of your errors, so if you have estimated your errors correctly (sometimes a task in itself for real-world data), the fit value should be near 1. If it is much below one, either your error estimates are not good (too pessimistic), or you are fitting to too many variables or the wrong equation(s) and fooling yourself that you know what is going on!

Re: Curve fitting question (OT)

*Message #8 Posted by **Walter B** on 30 July 2009, 6:16 p.m.,*
in response to message #7 by Dave Shaffer (Arizona)

Hi Dave,

What you state matches what I remember from the old days, too. But it doesn't seem to be very popular, does it? So maybe I miss an important reason for single sided testing here, being so simple nobody thinks its worth explaining?

Re: Curve fitting question (OT)

*Message #9 Posted by **Bart (UK)** on 30 July 2009, 6:17 a.m.,*
in response to message #1 by Walter B

The Reduced Chi Square test is the Chi Square devided by the degrees of freedom. So it seems to me to be a "normalised" Chi Square, hence 1 being the optimum value. This makes it easier to present results without the reader having to worry about D.O.F., number of samples etc.

The Chi Square test itself can be either a one sided (upper or lower) test, or a two sided test. However, only the upper one-sided test lends itself to the Reduced Chi Square.

Bart

Re: Curve fitting question (OT)

*Message #10 Posted by **Walter B** on 30 July 2009, 5:07 p.m.,*
in response to message #9 by Bart (UK)

Hi Bart,

I agree with everything you wrote but the last sentence. Nothing prevents me from dividing a lower Chi Square by its DF.

Walter

Re: Curve fitting question (OT)

*Message #11 Posted by **Bart (UK)** on 30 July 2009, 6:24 p.m.,*
in response to message #10 by Walter B

Hi Walter

The problem at the lower tail of the CS is that except for very large DOF, CS/DOF < 1, even if it is a

bad fit.

Bart

Re: Curve fitting question (OT)

*Message #12 Posted by **Walter B** on 30 July 2009, 6:51 p.m.,*
in response to message #11 by Bart (UK)

Hi Bart,

CS/DOF will *always* stay <1 for the lower tail, as well as it will stay >1 for the upper tail d8)
Both values will approach 1 for large DOF.

Walter

Re: Curve fitting question (OT)

*Message #13 Posted by **Bart (UK)** on 30 July 2009, 8:04 p.m.,*
in response to message #12 by Walter B

Hi Walter,

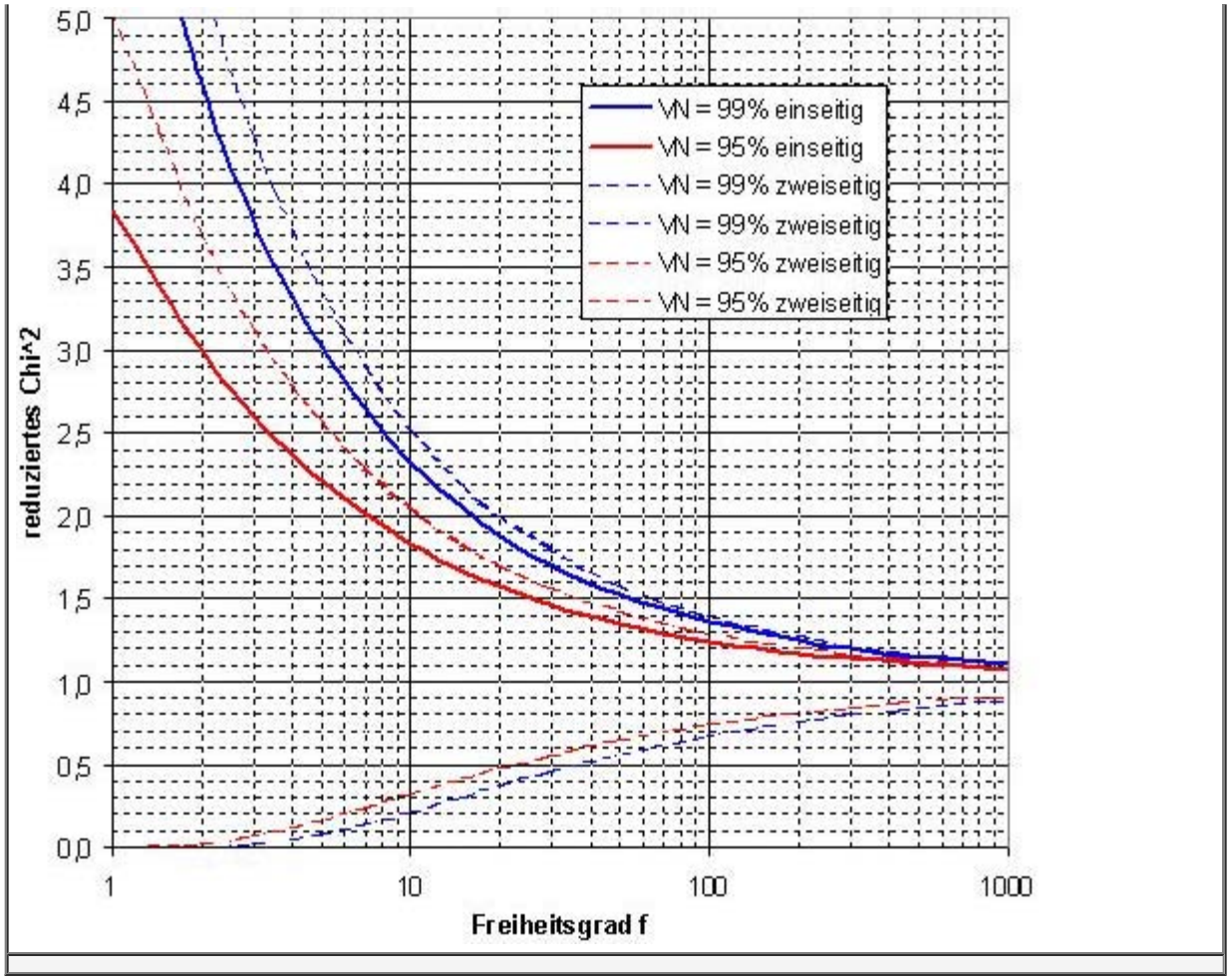
Sorry, I seem to have the wrong end of the "tail", RC2 is more suited for a lower tail GOF check, if <=1 is to be the acceptance criteria.
However, as CS/DOF=1 is around the 60th percentile, the RC2 seems a very loose check for goodness of fit. As the 5th percentile is a more acceptable criteria, then RC2 < 0.78 for 100 DOF or <0.5 for 20 DOF.

Let me add that I've used the Chi2 and looked into the RC2 when I saw your question this morning.

Re: Curve fitting question (OT)

*Message #14 Posted by **Walter B** on 1 Aug 2009, 5:21 p.m.,*
in response to message #13 by Bart (UK)

Just to illustrate what we are talking about: This is a diagram of Reduced Chi Square over Degrees Of Freedom. The lines are for different confidence levels and number of sides, and "einseitig" means single sided, while "zweiseitig" means (surprise!) double sided. Solid lines are for single sided, blue lines are for 99%, so broken lines are for double sided, and red lines are for 95%.



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HP 12C/15C emulators for iPhone by HP

*Message #1 Posted by **Peter Heberer** on 28 July 2009, 7:22 p.m.*

Hi,

I just noticed that there's a couple of HP calculator emulators available as iPhone apps.

Some are made by HP itself, some by others.

Here's a link to the HP page with links to the apps: HP emulators (by HP)

Regards, Peter

Re: HP 12C/15C emulators for iPhone by HP

*Message #2 Posted by **Reth** on 29 July 2009, 6:44 a.m.,*
in response to message #1 by Peter Heberer

$36AU? HP must be joking. Unless the hardware is included in the price.

Re: HP 12C/15C emulators for iPhone by HP

*Message #3 Posted by **Raymond Del Tondo** on 29 July 2009, 7:22 a.m.,*
in response to message #2 by Reth

Ahem, that's 36 Australian dollars...or about 20 Euros, so where's the problem?

HTH

Raymond

Re: HP 12C/15C emulators for iPhone by HP

*Message #4 Posted by **Reth** on 29 July 2009, 11:49 p.m.,*
in response to message #3 by Raymond Del Tondo

For one, 42S for iPhone is AU$6 and offers heaps more in every aspect not only as a calculator but as features added to the original
Regards

Re: HP 12C/15C emulators for iPhone by HP

*Message #5 Posted by **Les Wright** on 8 Aug 2009, 1:37 a.m.,*
in response to message #4 by Reth

I think the proprietary HP apps are pricey, given that the Tom Fors versions are somewhat cheaper and seem fine to me. I have SCI15C, though I must confess I use it little.

Some have suggested that by spending the extra and supporting the HP app we may encourage HP to release the 15C anew by showing interest. I must admit that I don't know if I buy into that logic.

And, yes, Reth, the 42s simulator, particularly in its most recent release, is so much more pleasurable to use, and cheaper too. The program I/O is the deal breaker for me. i41cx+ is a bit more expensive, but just keeps getting better, and is a must have for the aficionado. But for daily use, 42s is my fave.

Les

42s emulator for iPhone is brilliant and getting better all the time!

*Message #6 Posted by **Reth** on 9 Aug 2009, 1:14 a.m.,*
in response to message #5 by Les Wright

IMO 42s is on its way to its second life, with the 4 line display (+ 4 line AVIEW is on Thomas' to-do list) and dynamic overlay keys plus practically unlimited memory and great speed and already excellent IO cappabilities, it's my favorite too. What's more - it's a living thing and I believe future improvements will follow.
I take the opportunity to recommend it to all iPhone/iPod Touch owners among HPCalc fans who still don't have it.
Cheers,
Reth

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HP or Texas? The difficult decision.

*Message #1 Posted by **Saile (Brazil)** on 28 July 2009, 6:52 p.m.*

"The document is an old Science & Vie article (circa 1980) though. In French, of course."

Thank's Gerson

Link Megaupload (PDF)

Edited: 29 July 2009, 11:15 a.m. after one or more responses were posted

Re: HP or Texas? The difficult decision.

*Message #2 Posted by **Garth Wilson** on 28 July 2009, 7:36 p.m.,*
in response to message #1 by Saile (Brazil)

This does not appear to have anything at all to do with calculators. Is this spam??

Re: HP or Texas? The difficult decision.

*Message #3 Posted by **Paul Dale** on 28 July 2009, 7:42 p.m.,*
in response to message #2 by Garth Wilson

Download the link and you get a document about calculators. There is a 30 second delay to encourage subscription but after that it is good.

- Pauli

Re: HP or Texas? The difficult decision.

*Message #4 Posted by **Gerson W. Barbosa** on 28 July 2009, 8:06 p.m.,*
in response to message #3 by Paul Dale

The document is an old Science & Vie article (circa 1980) though. In French, of course.

Gerson.

Re: HP or Texas? The difficult decision.

*Message #5 Posted by **Garth Wilson** on 28 July 2009, 10:03 p.m.,*
in response to message #4 by Gerson W. Barbosa

Unlike the first time, the page now says it has reached its 10-download limit, and I can't download it. I did get it just before I posted above however, and there was nothing on it about calculators.

Re: HP or Texas? The difficult decision.

*Message #6 Posted by **Thomas Radtke** on 29 July 2009, 6:32 a.m.,*
in response to message #1 by Saile (Brazil)

I don't bother downloading a PDF if there's no other content in your message except that link. But I'll answer the message title: The dicision is difficult only if you don't know what you want. The features offered by HP and TI calculators are not secret, manuals and additional information are available online.

Re: HP or Texas? The difficult decision.

*Message #7 Posted by **Marcus von Cube, Germany** on 29 July 2009, 9:42 a.m.,*
in response to message #1 by Saile (Brazil)

Saile, can you upload the file again. Its no longer available. Or can someone who has already downloaded the file put it somewhere else? (e.g. MegaUpload.com, where I have an account). I'll be happy to host it on my site if I can get it.

Re: HP or Texas? The difficult decision.

*Message #8 Posted by **Marcus von Cube, Germany** on 29 July 2009, 11:44 a.m.,*
in response to message #1 by Saile (Brazil)

I've uploaded the document to my site:

http://www.mvcsys.de/download/Sience_et_Vie-748-Hewlett_ou_Texas.pdf

Re: HP or Texas? The difficult decision.

*Message #9 Posted by **Arnaud Amiel** on 29 July 2009, 11:51 a.m.,*
in response to message #8 by Marcus von Cube, Germany

Thanks, just read the last paragraph and the conclusion is that the TI is more accurate and the hp easier to use...

Re: HP or Texas? The difficult decision.

*Message #10 Posted by **Don Shepherd** on 29 July 2009, 12:21 p.m.,*
in response to message #9 by Arnaud Amiel

> Quote:
>
> the conclusion is that the TI is more accurate and the hp easier to use...

Funny, I would think it would be just the opposite.

Re: HP or Texas? summary

*Message #11 Posted by **marais** on 29 July 2009, 2:48 p.m.,*
in response to message #10 by Don Shepherd

If you want an executive summary of the article, here you go:

- HP's build quality is superior to TI's

- HP's documentation for the 25 was quite good, the 33's user guide is poor, the 67 not much better,

the 34 however is appreciated. The TI documentation, on the other hand, is boring and lacks didactical quality. Clear win for HP, although only because TI's documentation is so poorly written.

- RPN is superior compared to AOL

- RPN programs are shorter: 1 line of RPN equals 1.5 to 2 with AOL

- TI internal precision is 11 decimals, HP seems to be only 8. TI wins in this (quite important) category.

I found the article quite amusing and worth reading.

Andreas

Edited: 29 July 2009, 2:48 p.m.

Re: HP or Texas? summary

*Message #12 Posted by **Gerson W. Barbosa** on 29 July 2009, 3:49 p.m.,*
in response to message #11 by marais

> Quote:
>
> - TI internal precision is 11 decimals, HP seems to be only 8. TI wins in this (quite important) category.

Nice article, but perhaps the author did not put the calculators to the right tests. What calculators would perform better in Savage Benchmark, for instance?

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=103356

Regards,

Gerson.

HP calculators don't perform well in repetitive tests, like squaring 1.0000001 27 times (see link below - results in the first column, %errors in the next one) because the results are rounded to the number of digits in the display (internally the computations are carried out to 2 or 3 more guarding digits though).

http://www.asahi-net.or.jp/~li6s-ysmr/argovent/argove6.html

Edited: 29 July 2009, 4:44 p.m.

Re: HP or Texas? The difficult decision.

*Message #13 Posted by **Garth Wilson** on 29 July 2009, 4:19 p.m.,*
in response to message #8 by Marcus von Cube, Germany

Thanks Marcus. I can finally see it. What I saw in my first download effort which I mentioned above was unrelated. French is my third language and I can't read it nearly as fast as English, but I'm anxious to get to it when I can give it the time.

Re: HP or Texas? The difficult decision.

*Message #14 Posted by **hecube** on 29 July 2009, 5:58 p.m.,*
in response to message #1 by Saile (Brazil)

Oh boy... I remember that issue of Science & Vie and I remember reading that article when IT CAME OUT!

I'm old...

Re: HP or Texas? The difficult decision.

*Message #15 Posted by **Philippe Lasnier** on 30 July 2009, 6:07 a.m.,*
in response to message #14 by hecube

Gosh. Science & Vie No 748 Jan/1980... I may even *have* it ;-)

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RPL: Binary to "long ints"?

*Message #1 Posted by **Mark Edmonds** on 28 July 2009, 4:48 p.m.*

I have to admit that I am slightly confused by the exact/approx modes of machines from the 49G onwards. I also find it slightly frustrating in that porting programs over that use display formatting get messed up by the extra decimal point.

Anyway, here is the question.

With Exact mode set ON, I don't understand why doing this doesn't result in an exact mode integer that preserves all digits:

\<< TICKS B\->R \>>

The only way round this I've found so far is to convert the result from TICKS into a string, edit out the # and base indicator and then use OBJ-\> to get it to the correct integer.

It would be a lot neater and more efficient if this conversion could be done with a single command.

Does anyone know how this would be done please?

Thanks!

Mark

Re: RPL: Binary to "long ints"?

*Message #2 Posted by **Tim Wessman** on 28 July 2009, 6:54 p.m.,*
in response to message #1 by Mark Edmonds

It would help a little to know what you are trying to do, but I don't think there is any way to change a hex value directly into an integer. It has always converted into a real number AFAIK.

As to the rest, use R->I commands in your display program and everything will work fine.

TW

Re: RPL: Binary to "long ints"?

*Message #3 Posted by **Mark Edmonds** on 28 July 2009, 7:30 p.m.,*
in response to message #2 by Tim Wessman

Thanks for the tip Tim! I didn't even know about the R->I command and I was wondering how that conversion was done.

Mark

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Voyager series, logic PCA and keyboard PCA

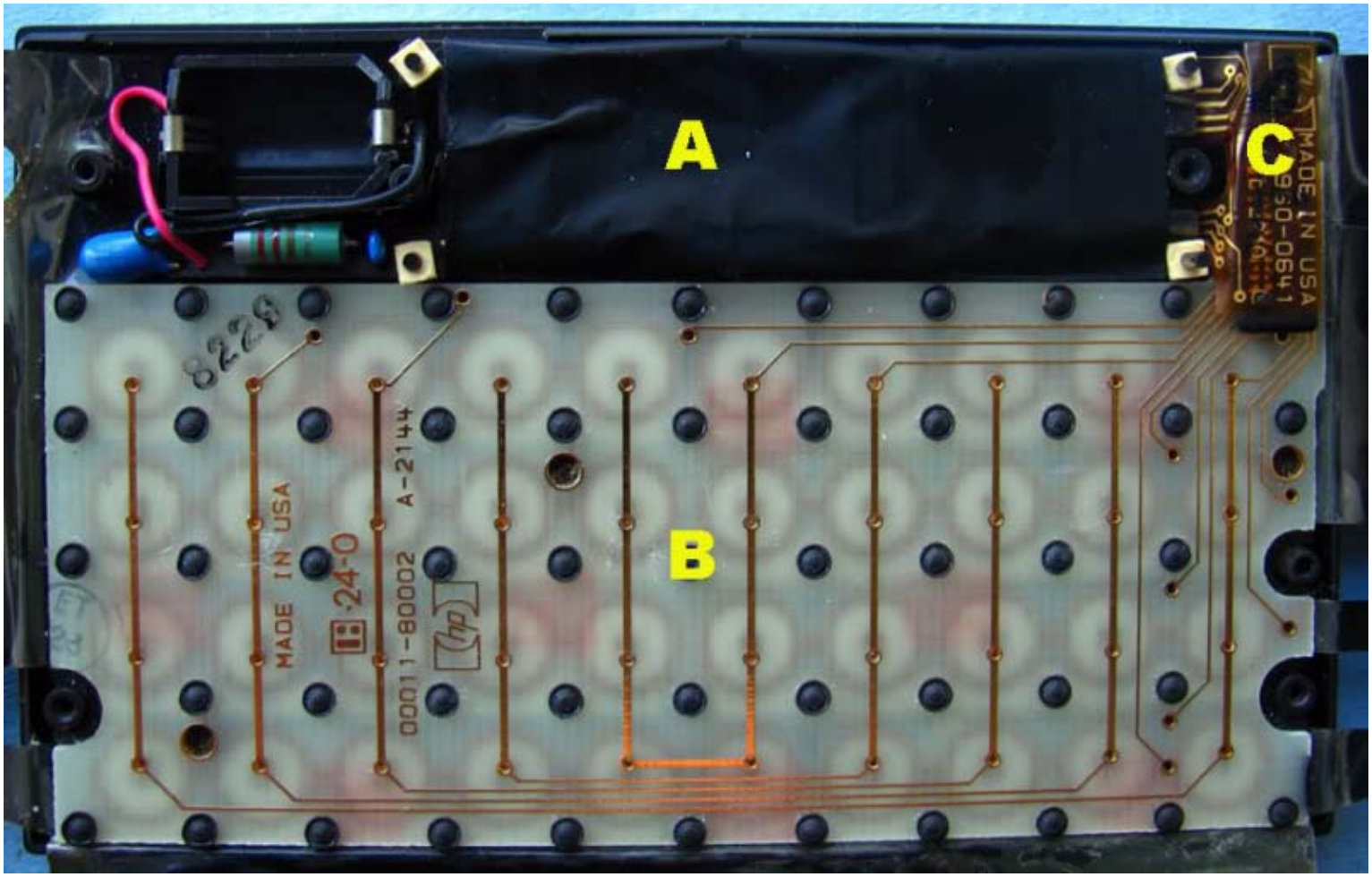
*Message #1 Posted by **Geoff Quickfall** on 28 July 2009, 2:19 p.m.*

Hello and thanks for the help in advance.

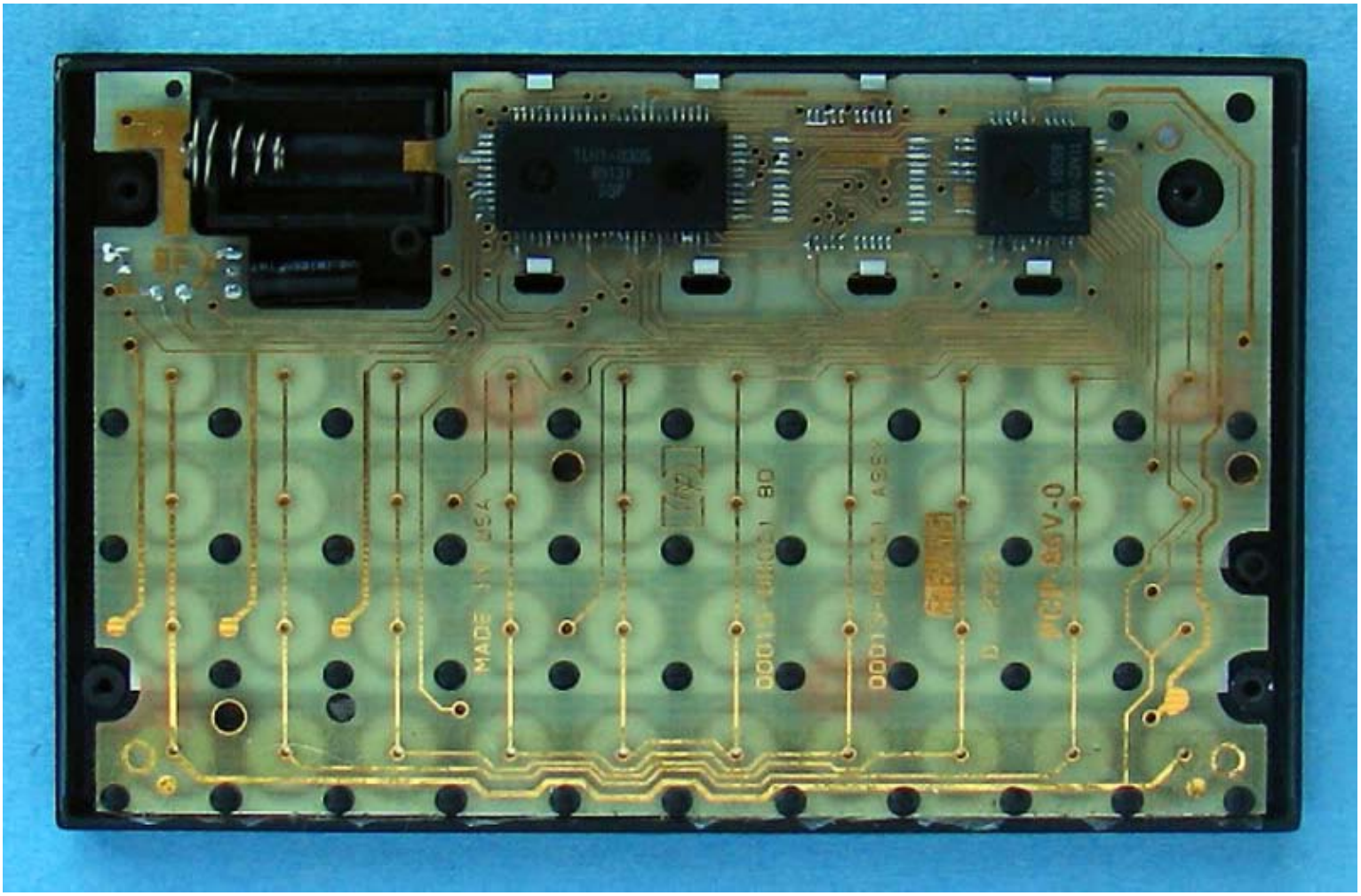
Pictured are the three PCA versions I have in my collection (ignoring all the 12C variations of late!). These are the ones during the production run of the Voyagers from 1980 to about 1989.

```
-3 variations of the 11C circuit board
    *the early two-piece-PCA; logic/LCD flex PCA and keyboard PCA
     (1980)
    *the early one-piece-PCA-two-ICs
     (1985)
    *the one-piece-PCA-one-IC
    (1989)
```

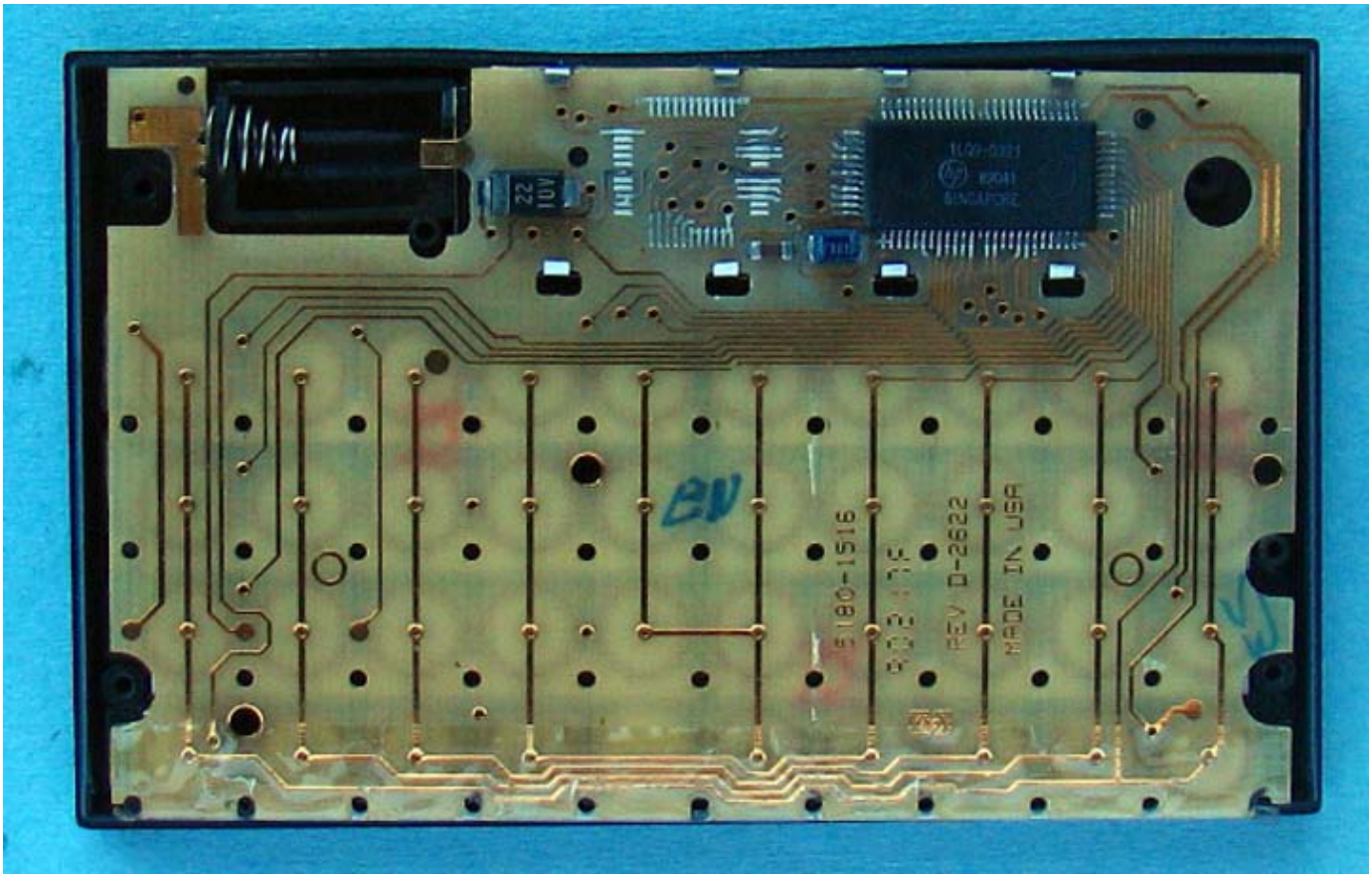
Here is an HP-10C early version two-piece-PCA (I have an 11C with the a similar board):



Here is an early one-piece-two-ICs HP-11C:



Here is the one-piece-PCA-one-IC HP-11C:



My questions are,

- Were all the early versions of the 10C to 16C a two-piece-PCA system (I have only two examples; a 1980 11C and a 1982 10C). First picture.

- Was the one-piece-two-ICs an intermediate between the two-piece-PCA and the one-piece-one-IC version? Second picture.

- Was the final iteration the one-piece-PCA-one-IC pictured? Third picture.

Cheers, and thanks.

Edited: 28 July 2009, 3:08 p.m. after one or more responses were posted

Re: Voyager series, logic PCA and keyboard PCA

*Message #2 Posted by **Eric Smith** on 28 July 2009, 2:40 p.m.,*
in response to message #1 by Geoff Quickfall

I. Yes. I've seen all five models in the two-PCA form. (I've never seen a 10C in single-PCA form.)

II. Yes

III. There were multiple "one-chip" variants. The 11C, 12C, 15C, and possibly the 16C had a variant using the 1LQ9 chip (with a 1LH1 in the 15C). The 12C went through two further single-chip revisions prior to the recent ARM-based platform, using the 1RR2 and 2AF1 chips.

Note that the 15C always has one more IC than the other Voyagers, so the "one-chip" 15C variant has two chips.

Many thanks Eric! Will you be there on October?

*Message #3 Posted by **Geoff Quickfall** on 28 July 2009, 3:06 p.m.,*
in response to message #2 by Eric Smith

;-)

Re: Many thanks Eric! Will you be there on October?

*Message #4 Posted by **Jake Schwartz** on 28 July 2009, 3:50 p.m.,*
in response to message #3 by Geoff Quickfall

Well, the conference registration list at http://holyjoe.net/hhc2009/reglist.htm seems to indicate that Eric is already registered for HHC2009. He's been to just about every one in the past ten or so years, so I'd bet the answer to be "yes".

Jake

P.S. - 27 people have now registered....

I should have checked, oops

*Message #5 Posted by **Geoff Quickfall** on 28 July 2009, 3:55 p.m.,*
in response to message #4 by Jake Schwartz

Or maybe that was a plug for the conference ;-)

Re: Many thanks Eric! Will you be there on October?

*Message #6 Posted by **Eric Smith** on 28 July 2009, 4:18 p.m.,*
in response to message #3 by Geoff Quickfall

Yes, barring some unforeseen catastrophe, I expect to be there. I have in fact experienced several unforeseen catastrophes recently, but perhaps it is good fortune to have gotten them all out of the way well in advance of the conference.

Re: Voyager series, logic PCA and keyboard PCA

*Message #7 Posted by **Mark Edmonds** on 28 July 2009, 3:06 p.m.,*
in response to message #2 by Eric Smith

Just out of interest, is there any difference in current draw between the 1 and 2 chip versions?

Mark

Re: Voyager series, logic PCA and keyboard PCA

*Message #8 Posted by **Eric Smith** on 28 July 2009, 4:20 p.m.,*
in response to message #7 by Mark Edmonds

I haven't measured them, but I'd be surprised if the 1LQ9 version didn't have slightly lower current drain than the earlier versions. The 2AF1 version that ran on a single CR2032 probably had even lower current drain than the 1LQ9.

Edited: 28 July 2009, 4:21 p.m.

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HP-41cx 'Memeory Lost' for Stefan Vorkoetter

*Message #1 Posted by **Steven Benedict** on 28 July 2009, 7:24 a.m.*

Hi Stefan,

I have found your article re above ('Repairing an HP-41CX posted on 2 Apr 2000)and I wonder if you are still interested in helping with the problems in my case a ‘Memory Lost’ the LCD shows 0.0000000 but is frozen as pressing any keys there is no respons.I have lots of overlays and modulus you can have free. I have had my 41cx since 1984 and it has been my best friend so would not like to lose it.

Hope you can help,

Steven Benedict

smbenedict@bigpond.com

Stefan I tried to email you but no go.

Re: HP-41cx 'Memeory Lost' for Stefan Vorkoetter

*Message #2 Posted by **Ignazio Cara (Italy)** on 28 July 2009, 8:43 a.m.,*
in response to message #1 by Steven Benedict

Hi Steven,

Read this post,

regards

Ignazio

Stephen, you have email!

*Message #3 Posted by **Geoff Quickfall** on 28 July 2009, 12:10 p.m.,*
in response to message #1 by Steven Benedict

;-)

Re: HP-41cx 'Memeory Lost' for Stefan Vorkoetter

*Message #4 Posted by **John Robinson** on 28 July 2009, 7:14 p.m.,*
in response to message #1 by Steven Benedict

Hi Stephen, I might be able to help - drop me an email. I am in the same country as you !!

Cheers, John Robinson

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HP17bII+ Solver - Payback Period formula

*Message #1 Posted by **RMIER** on 27 July 2009, 3:24 p.m.*

Here is an accurate but long first attempt at a payback period formula for the HP17bII+ Solver.

If anyone has a shorter, more elegant version please feel free to share.

Background: Payback Period is number of years required to recover the invested capital in terms of free cash flows. By definition it ignores time value of money hence it is less useful than IRR and NPV, but it is sometimes used. http://www.investopedia.com/terms/p/paybackperiod.asp

For example, an investment of -$300,000 (Cash Flow 0) that generates free cash flows of $200,000 in Year 1 (Cash Flow 1) and $160,000 in year 2 has a payback period of 1.625 years (wish all my investments were like this).

In other words, it takes the entire first year and a fraction of the second year to recover the investment. The fraction of the second year is given by: (absolute value of accumulated cash flow Year 1/Cash Flow Year 2), or ($100,000/$160,000) = 0.625

Notes:

- Cash flow list has been named "CFLIS". FIN - CFLO - NAME - CFLIS - This works for 16 cash flows, cash flow in year 0 is negative (the investment). For more cash flows you'll have to adjust the formula. - Assumes cash is earned uniformly within each year (if I make $100,000 free cash flow in a year, by the end of month 9 of the same year I would have $75,000) - For clarity I am including line breaks, but when entering the formula everything should be one single line of code without spaces. - If for some reason the payback exceeds year 16, the answer will be 101 years, as in why bother with the project if it takes so long. The why bother limit of 16 years is of course at your discretion. - The calculator takes a little to compute the answer. Hence the ask for a faster, more elegant solution.

Here we go:

PAYBK=L(S1:FLOW(CFLIS:0)+FLOW(CFLIS:1))*0+ L(S2:S1+FLOW(CFLIS:2))*0+
L(S3:S2+FLOW(CFLIS:3))*0+ L(S4:S3+FLOW(CFLIS:4))*0+ L(S5:S4+FLOW(CFLIS:5))*0+
L(S6:S5+FLOW(CFLIS:6))*0+ L(S7:S6+FLOW(CFLIS:7))*0+ L(S8:S7+FLOW(CFLIS:8))*0+
L(S9:S8+FLOW(CFLIS:9))*0+ L(S10:S9+FLOW(CFLIS:10))*0+ L(S11:S10+FLOW(CFLIS:11))*0+
L(S12:S11+FLOW(CFLIS:12))*0+ L(S13:S12+FLOW(CFLIS:13))*0+ L(S14:S13+FLOW(CFLIS:14))*0+
L(S15:S14+FLOW(CFLIS:15))*0+ L(S16:S15+FLOW(CFLIS:16))*0+

IF(S1>=0:1-(S1/FLOW(CFLIS:1)): IF(S2>=0:2-(S2/FLOW(CFLIS:2)): IF(S3>=0:3-(S3/FLOW(CFLIS:3)):
IF(S4>=0:4-(S4/FLOW(CFLIS:4)): IF(S5>=0:5-(S5/FLOW(CFLIS:5)): IF(S6>=0:6-(S6/FLOW(CFLIS:6)):
IF(S7>=0:7-(S7/FLOW(CFLIS:7)): IF(S8>=0:8-(S8/FLOW(CFLIS:8)): IF(S9>=0:9-(S9/FLOW(CFLIS:9)):
IF(S10>=0:10-(S10/FLOW(CFLIS:10)): IF(S11>=0:11-(S11/FLOW(CFLIS:11)): IF(S12>=0:12-
(S12/FLOW(CFLIS:12)): IF(S13>=0:13-(S13/FLOW(CFLIS:13)): IF(S14>=0:14-(S14/FLOW(CFLIS:14)):
IF(S15>=0:15-(S15/FLOW(CFLIS:15)): IF(S16>=0:16-(S16/FLOW(CFLIS16)):101)

Re: HP17bII+ Solver - Payback Period formula

*Message #2 Posted by **Katie Wasserman** on 28 July 2009, 12:58 a.m.,*
in response to message #1 by RMIER

Wow, that's a long equation.

Disclaimer: I wrote and tested this on a 17bii not a 17bii+

Here's a simpler, more general solution that will work for any length cash flow list and follows your assumptions. It's doesn't stop at year 16 however.

```
PAYBK =
0 x L(X:FLOW(CFLIS:0)) +
Sigma(I:1:SIZEC(CFLIS):1:
0 x L(Y:FLOW(CFLIS:I)) x L(X:G(X)+G(Y)) +
IF(G(X)<=0:1:IF(G(X)<G(Y):(G(Y)-G(X))/G(Y):0)))
```

- Sigma is the summation symbol on the 17BII

- G(..) simply gets the value of the variable but does it without trying to solve for it and without showing it as a variable in the menu.

Edited: 28 July 2009, 1:06 a.m.

Re: HP17bII+ Solver - Payback Period formula

*Message #3 Posted by **Marcus von Cube, Germany** on 28 July 2009, 2:47 a.m.,*
in response to message #2 by Katie Wasserman

Katie, the problem is the case where the sum of cash flows is negative. The formula will spit out the number of cash flows but no error indication is given.

Re: HP17bII+ Solver - Payback Period formula

*Message #4 Posted by **Katie Wasserman** on 28 July 2009, 9:41 a.m.,*
in response to message #3 by Marcus von Cube, Germany

That's correct, there's no check to see if total doesn't end up as a positive number and therefore it will just terminate showing the total number of cash flows. But it's simple to correct that:

```
PAYBK =
0 x L(X:FLOW(CFLIS:0)) +
Sigma(I:1:SIZEC(CFLIS):1:
0 x L(Y:FLOW(CFLIS:I)) x L(X:G(X)+G(Y)) +
IF(G(X)<0:IF(I=SIZEC(CFLIS):9E499:1):IF(G(X)<G(Y):(G(Y)-G(X))/G(Y):0)))
```

The above formula will return a 9E499 if the sum of the cash flows never turns positive.

Re: HP17bII+ Solver - Payback Period formula

*Message #5 Posted by **RMIER** on 2 Aug 2009, 1:45 p.m.,*
in response to message #4 by Katie Wasserman

Katie, thanks for the elegant and short solution, clever use of sigma, SIZEC and G(X) to get the job done. It works well on the 17bII+.

Marcus, thanks for your comment also, it resulted in an improvement to the solution.

Much appreciated, Rafael.

Re: HP17bII+ Solver - Payback Period formula

*Message #6 Posted by **Marcus von Cube, Germany** on 28 July 2009, 2:50 a.m.,*
in response to message #1 by RMIER

Your formula doesn't check the total number of cas flows and will (probably, I haven't checked) error out if the sum of all cash flows is negative.

Re: HP17bII+ Solver - Payback Period formula

*Message #7 Posted by **Peter A. Gebhardt** on 2 Aug 2009, 5:36 p.m.,*
in response to message #1 by RMIER

In addition to Katie's solution, here is my Discounted Payback Solution (from a 200LX) which takes into account that:

1) SAF% == 0 (Opportunity Cost per Period) results in Payback Periods instead of Discounted Payback Periods

2) Grouped CFs are possible

```
0*SAF%
+DPB
-G(D)                       ! see PS below !
=
0*(
    L(CF$:0)
   +L(DPB$:FLOW($:0))
   +L(N:1)
   +L(D:9E99)               ! see PS below !
)
+
0*
SIGMA(G
     :1:SIZEC($):1
     :0*L(CF$:FLOW($:G))
      *SIGMA(T
            :1:#T($:G):1
            :IF((G(DPB$)+G(CF$)*SPPV(SAF%:G(N)))>=1E-15
                 :L(D
                   :G(N)-1
                    +IF(G(CF$)<>0
                        :ABS(G(DPB$))/(G(CF$)*SPPV(SAF%:G(N)))
                        :0
                        )
                   )
                 :L(DPB$
                   :G(DPB$)
                    +G(CF$)*SPPV(SAF%:G(N))
                   )
                  +0*L(N:G(N)+1)
                 )
           )
      )
```

To reduce the number of characters to be typed into your 17bII+ finetuning of the above code should be possible still. As examples: Somebody might reduce the code in the init section or might play around with some clever MIN/MAX usage instead of IF's ...

Best regards,

Peter A. Gebhardt

PS (3-Aug-2009,10:46 MESZ): The following code, which was thought of covering the case of sum of the CFs being negative, gave spurious erroneous results.

Therefore I replaced

```
-if(G(DPB$)<0:L(D:9E99):G(D))
with
-G(D)


and


+L(D:0)
with
+L(D:9E99)
```

Edited: 3 Aug 2009, 4:56 a.m.

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Voyager HP-10C restoration and bezel replacement. and the book.

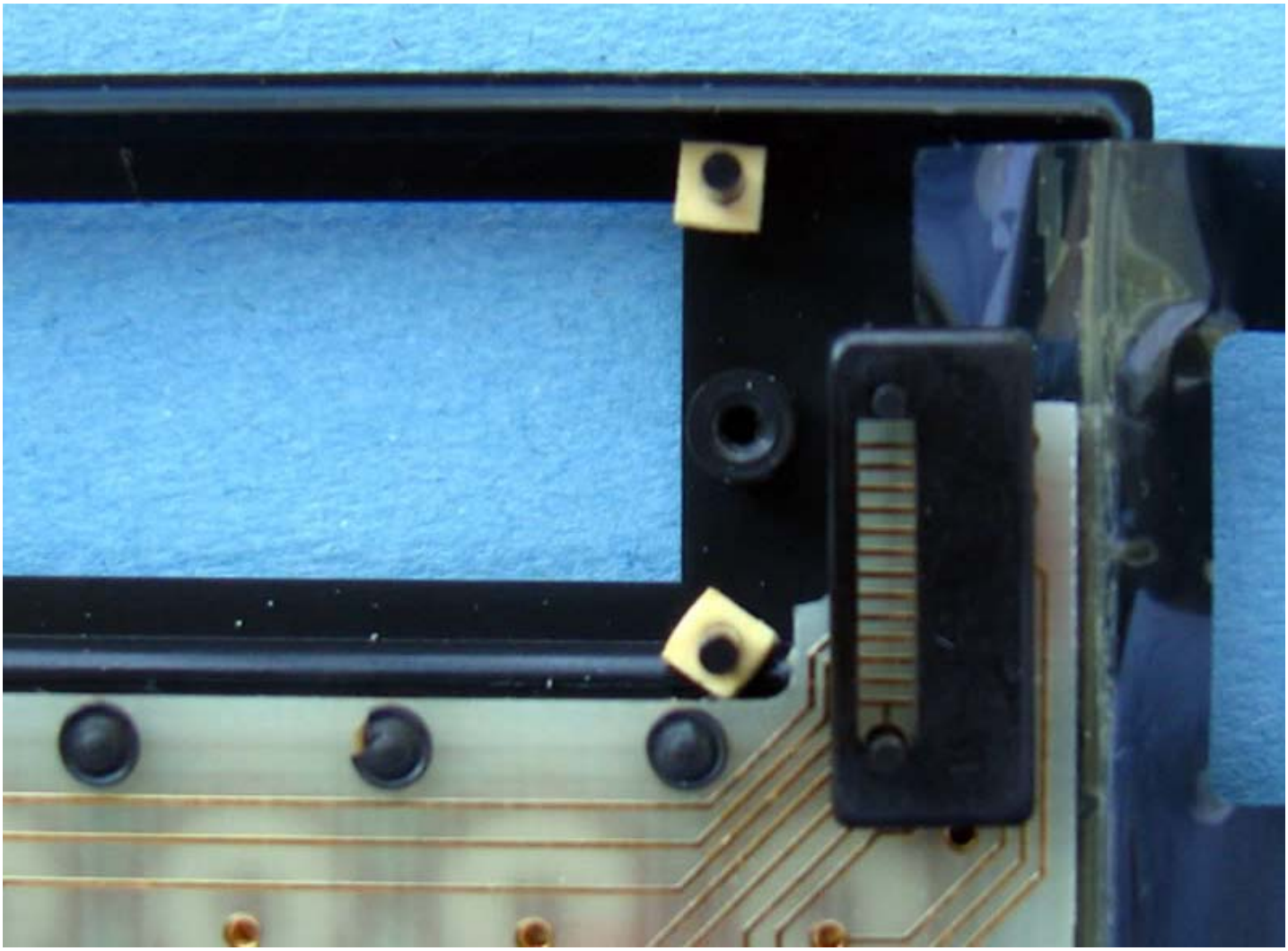
*Message #1 Posted by **Geoff Quickfall** on 27 July 2009, 12:37 a.m.*

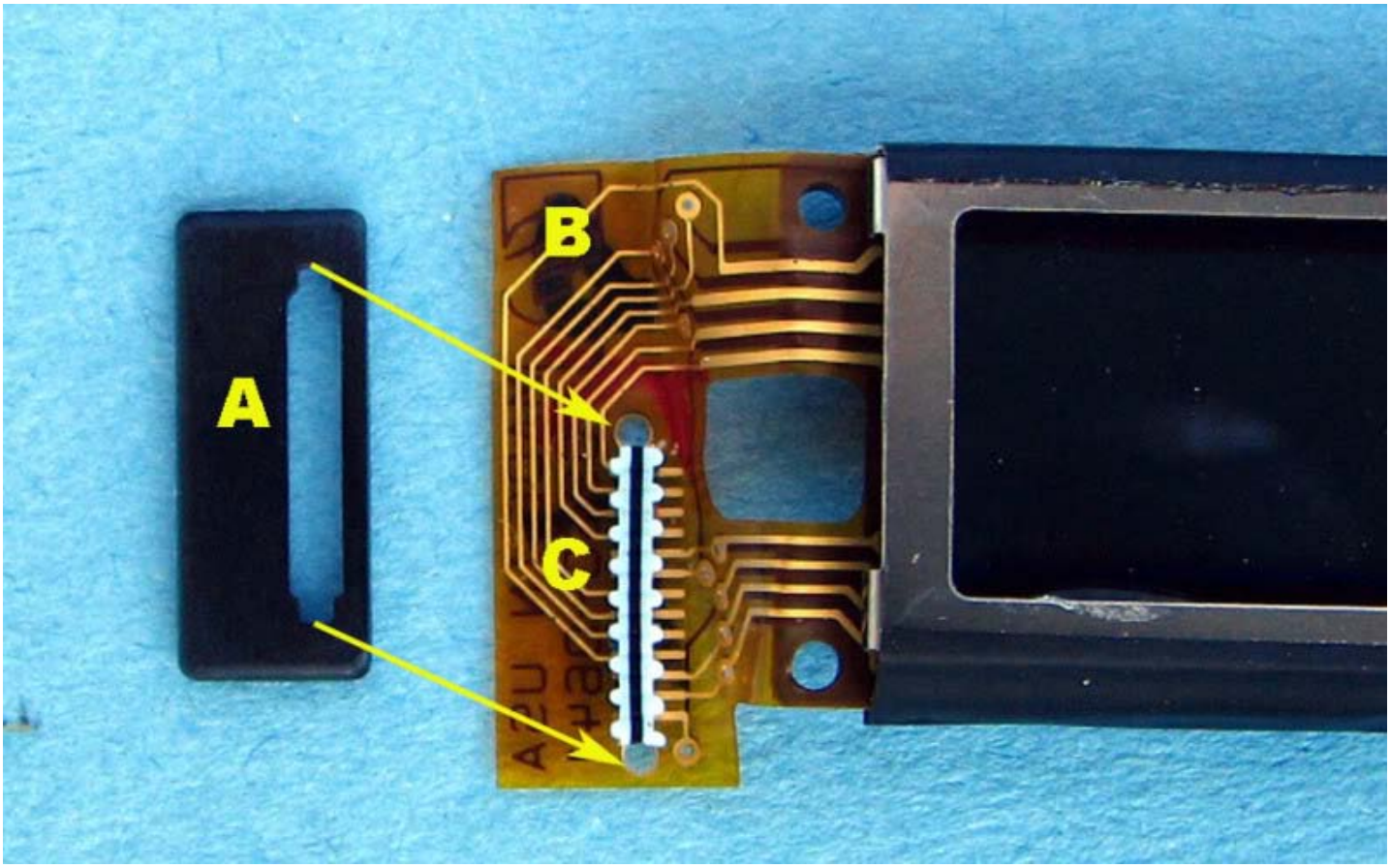
Hello all,

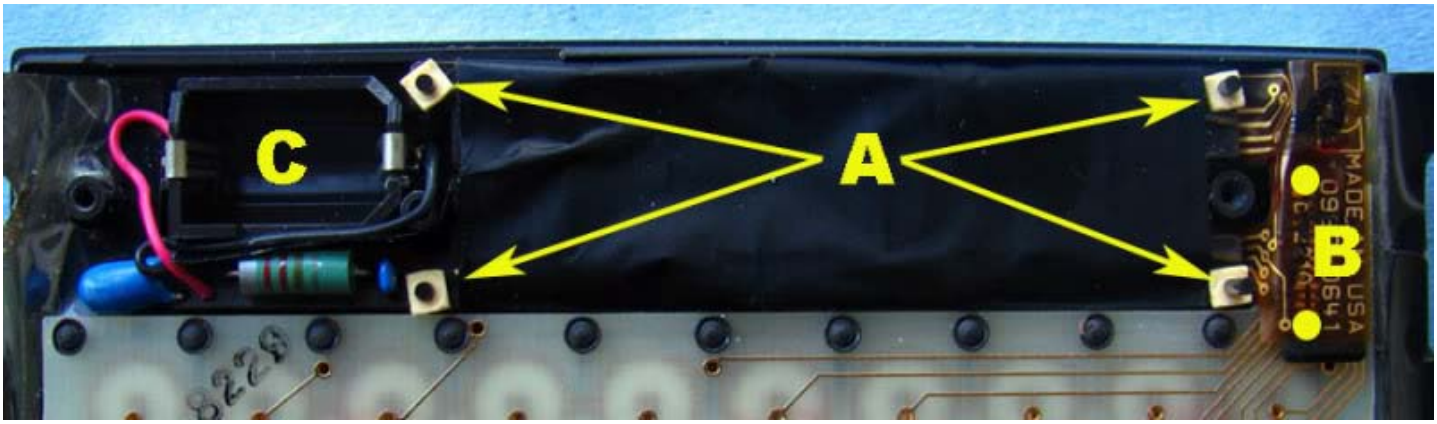
Here is a shot of a 10C that I did today and the restoration techniques used comprise the bulk of chapter 9 "Voyagers". The aluminum bezel was replaced with an undented donor that I restored to it's brushed finish. The keyboard is now functional, in fact this one did not work due to a broken solder joint and dirty logic pca zebra connector. This is an early version with the separate logic pca and LCD panel.

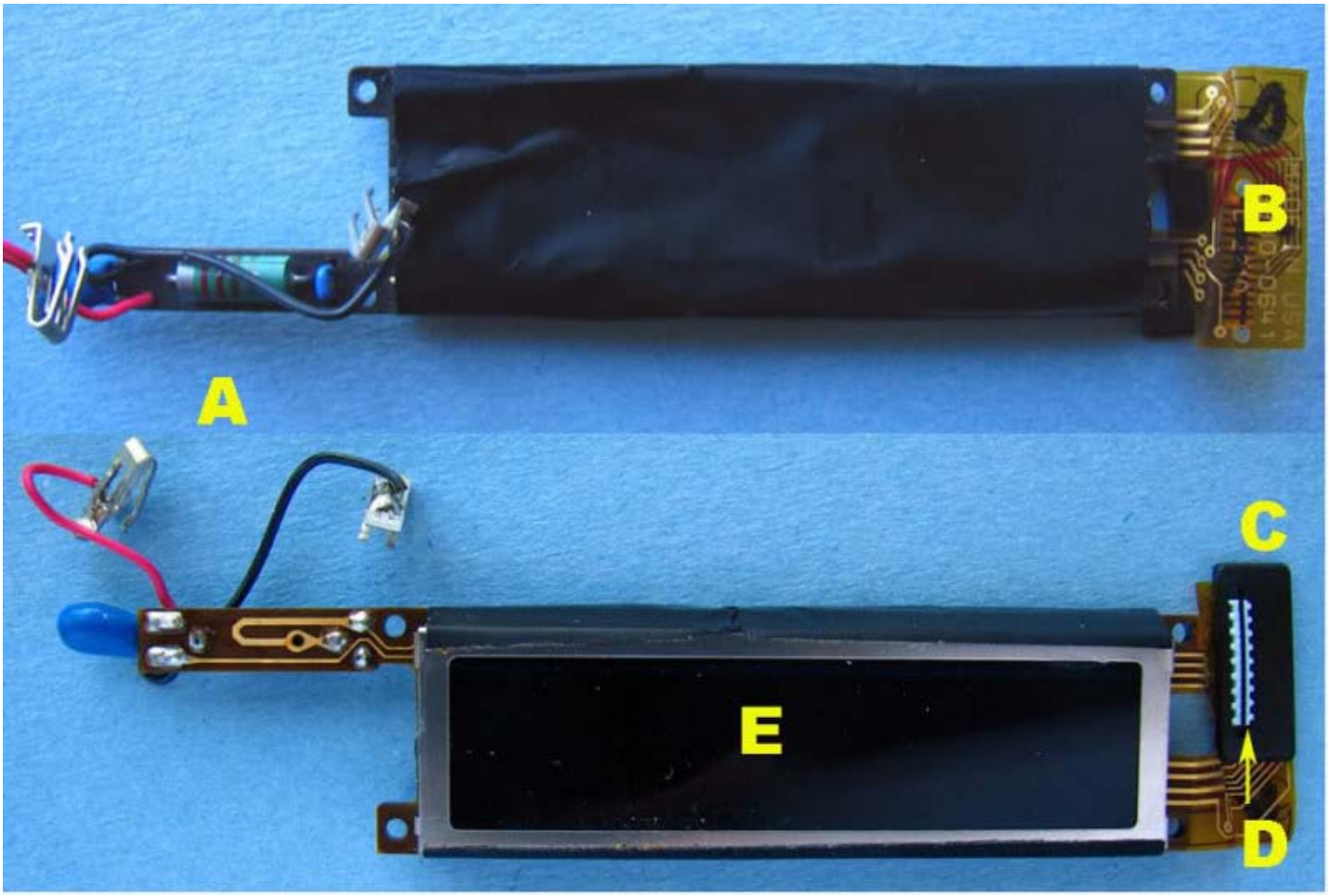
The second half of chapter 9 will feature a complete strip down of an 11C and removal of the keyboard from the case. The book is up to 105 pages and should top out at 230 pages when completed. So far there are 144 figures all referenced to the text in a step by step restoration process, similar to the following:

Voyager HP-10C restoration and bezel replacement. and the book.




A
B
C


C
A
B



So far the following chapters/appendices are completed:

Introduction
Acknowledgements
Contents
Chapter 1 About Restorations
Chapter 2 Classics 34 figures
HP-65
HP-45
HP-55
Chapter 3 Woodstocks 8 figures
HP-29C
Chapter 6 Cricket 25 figures
Chapter 8 Coconut 55 figures
HP-41CX halfnut
HP-41CV fullnut
Card reader
Rechargeable battery pack
Double x-memory module
Chapter 9 Voyager 25 figures
HP-10C early version with separate logic PCA 1982
HP-11C late version 1989
Appendix A Tools and Materials
Appendix B Battery Pack Substitute 20 figures
Drying boxes
Overlay labels for the HP 41
Rubber feet fabrication
Static Electricity protection techniques
Appendix C Diagnostic programs for various early calculators
Appendix D Terms and definitions
Appendix E Links to the Web

The following need to be completed:

Chapter 4 TopCat
HP-97
Chapter 5 Sting
HP-19C
HP-10C
Chapter 7 Spice
HP-34C unsoldered

```
Chapter 10    Titan
              Early version HP-71B
              Late version HP-71B
Chapter 11    Clamshell
              to be annouced (possible an HP28C)
Chapter 12    Pioneer
              to be announced (possible an HP42S with memory
              enhancement)
Chapter 13    Charlemagne
              HP48SX
```

I am hoping to have this ready for HCC2009 but we shall see if life gets in the way. In fact, most of the uncompleted chapters have been photo documented but the text needs doing so they should flow rather well.

I hope some one out there would like a copy. It will be spiral bound, full colour 8.5 by 11 inches in size so that the photo/figures are easily readable.

Thats all for now!

Edited: 27 July 2009, 1:09 p.m. after one or more responses were posted

Re: Voyager HP-10C restoration and bezel replacement. and the book.

*Message #2 Posted by **Walter B** on 27 July 2009, 1:38 a.m.,*
in response to message #1 by Geoff Quickfall

Hi Geoff,

Great work!

> Quote:
>
> I hope some one out there would like a copy. It will be spiral bound, full colour 8.5 by 11 inches in size so that the photo/figures are easily readable.

For sure they will :) Any idea about the price?

Re: Voyager HP-10C restoration and bezel replacement. and the book.

*Message #3 Posted by **Geoff Quickfall** on 27 July 2009, 1:09 p.m.,*
in response to message #2 by Walter B

Don't know the costs yet! That of course is based on the quality of paper, number of colour photos and etc. Once the book gets closer to completion I will have a handle on the cost.

I would like to cover the costs to produce the copies and of course shipping and at the end of it all, take my wife out for dinner based on the profit ;-)

Cheers, Geoff

Re: Voyager HP-10C restoration and bezel replacement. and the book.

*Message #4 Posted by **Marcus von Cube, Germany** on 27 July 2009, 5:53 a.m.,*
in response to message #1 by Geoff Quickfall

Put me on the list, even if I will never be nearly as proficient as many others here. The book will possibly prevent me from killing one of my precious HPs.

Re: Voyager HP-10C restoration and bezel replacement. and the book.

*Message #5 Posted by **Gerry Schultz** on 27 July 2009, 3:27 p.m.,*
in response to message #4 by Marcus von Cube, Germany

Count me in too, Geoff. If you bring copies to HHC 2009, I will buy one. From what I've seen in your postings, I am very impressed by all the work you put into this, so save me a copy.

See you in Ft. Collins!

Gerry

Re: Voyager HP-10C restoration and bezel replacement. and the book.

*Message #6 Posted by **RonaldP** on 27 July 2009, 7:34 a.m.,*
in response to message #1 by Geoff Quickfall

Hi Geoff

Very nice, I certainly like to have a copy when available.

I suggest you also add a chapter on the HP10 / HP 19C.

I can suply you with pictures from the insde when needed.

Br

Ronald

Re: Voyager HP-10C restoration and bezel replacement. and the book.

*Message #7 Posted by **Geoff Quickfall** on 27 July 2009, 11:58 a.m.,*
in response to message #6 by RonaldP

Hello Ronald,

Chapter 5, "Sting" is both the 10 and 19C printer calculators. Wlodek Mier-Jedrzejowicz has lent me both the 10 and 19C for disassembly for the book.

I will be picking them up on my next London layover, but will keep your kind offer in mind. However I would appreciate a set of your photos. I am trying to keep the photo consistent (blue background for printing) and also part of the novelty of the book is that I have done all the restorations and repairs. Each step is photo documented with labels and text references so consistency is a requirement!

I am using a lot of resources including service manuals, the museum articles and archives as well as HP employees and consultants from the past.

Cheers, Geoff

Re: Voyager HP-10C restoration and bezel replacement. and the book.

*Message #8 Posted by **Richard J. Nelson** on 27 July 2009, 1:15 p.m.,*
in response to message #7 by Geoff Quickfall

Hello,

We saw many examples of Geoff's restoration skills at HHC 2008 and read about them in *HP Solve*.

He will demonstrate his restoration techniques for the HP-41 at HHC 2009 in Ft. Collins CO. See details at:

HHC Websites

When HP provides their facilities to hold the conference we have a special situation in terms of keeping cost down and the benefit/cost ratio is exceptionally high. See the Conference reports at the above link. We have only had this situation during a small percentage of our Conferences since the first in 1979. With everything changing so fast these days the future is evermore unpredictable. If you have been putting off attending and you have a special interest in the future (and sell/buy/swap the 30 year old HP-41 system) this should be the year you attend. With HP selling off their campuses we may not have these opportunities as often in the future.

X < > Y,

Richard

Re: Voyager HP-10C restoration and bezel replacement. and the book.

*Message #9 Posted by **Giovanni Jimenez** on 12 Aug 2009, 11:21 a.m.,*
in response to message #1 by Geoff Quickfall

Please save a copy for me, and a question for you:

I have a nice working HP-15C, but the aluminum bezel is scratched. In your opinion, is it worth restoring the bezel to bring the calc close to perfection, or are there any risks (collaterla damage) to the functionality of the calc in doing this ?

Thank you !

Bezel restoration in place with pictures and glimpse of what the book includes:

*Message #10 Posted by **Geoff Quickfall** on 12 Aug 2009, 5:48 p.m.,*
in response to message #9 by Giovanni Jimenez

Hello all

Any one wondering what will be in the book can look forward to a variety of techniques for restoring the calculator from electronics to physical shape. Here are some steps found in the Voyager section (in point form here, not quite as in depth) with accompanying pictures. The text will have many more intermediary photos with accompanying explanations.

I have designed the book to help the (like me) non technically oriented to restore the basic problems in mechanical design as well as the most frequent, fixable electronic problems (LED block replacement, contact cleaning, substitutes in foam inserts and etc.)

```
In a nutshell the book is:

1.      about 250 pages

2.      over 300 photo illustrations with accompanying text for all
        thirteen calculator families up to and including the
        Stretch Pioneers.

3.      130 pages completed so far including chapter 8, the HP-41C
        series

        a.      HP halfnut restoration

        b.      HP fullnut restoration

        c.      Rechargeable battery pack reconditioning

        d.      Memory enhancement (2X-memory)

4.      Hoping to be done for HCC2009 in October but it still has
        to be peer reviewed by the committee.

5.      Expecting to be on demand publishing but I should have some
        copies made up prior to that (don't know the cost yet).
```

Hello Giovanni!

Thanks for the order, now to complete the book (half way and counting).

There are two methods to restoring the Bezel.

"REPLACING" OR "RESTORING while in place."

I am going to consider that the bezel is scratched and not dented, i.e. you would rather remove the scratches and refinish

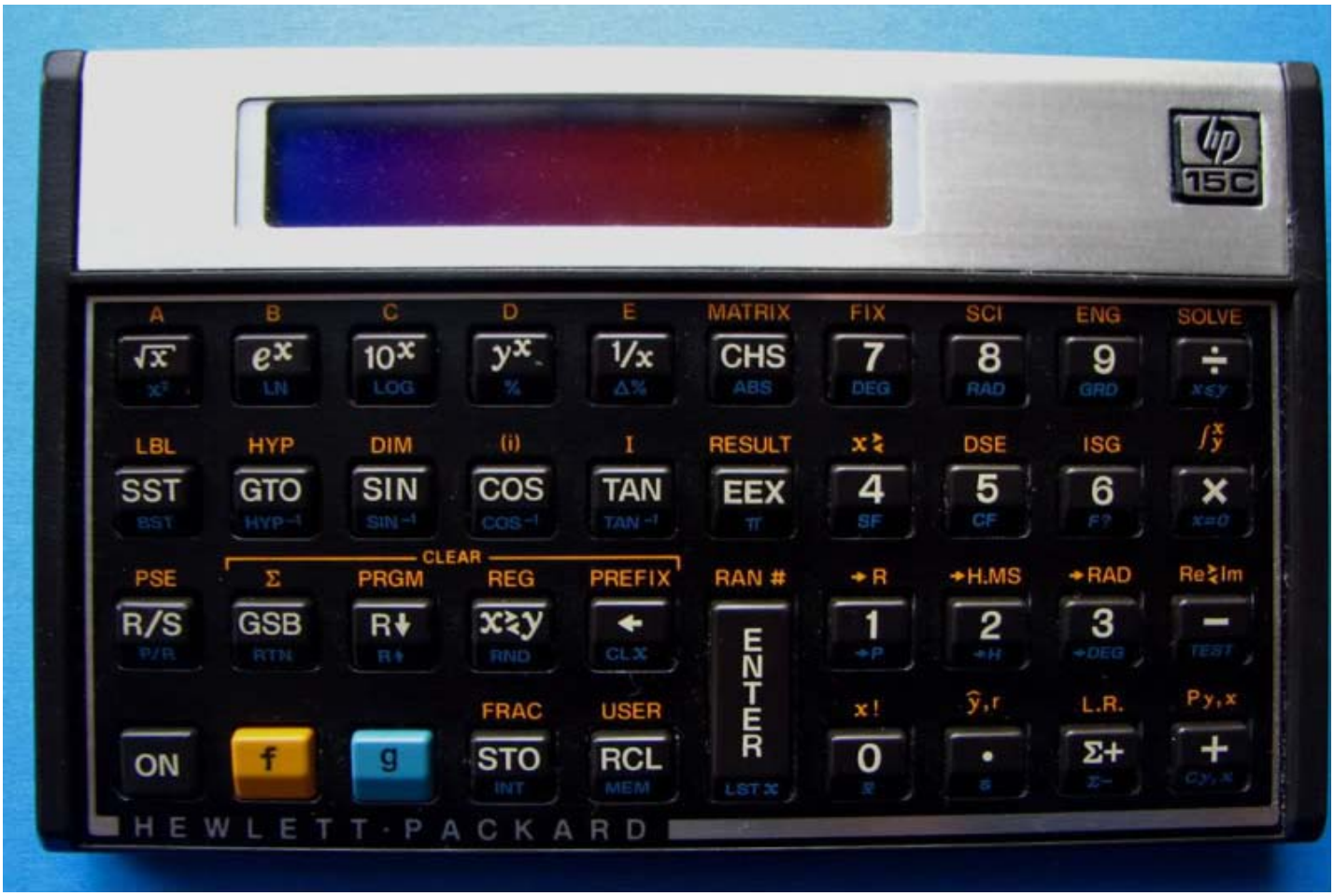
with a brushed finish with the bezel **in place.**

```
1  cover the clear plastic lens with a non sticky piece of paper
   which covers the lens only and not the two depressed bezel
   pieces at either end.  Any application of a sticky mask to the
   lens and subsequent removal may only serve to remove part of the
   anti reflective coating.  Hold this in place with a piece of
   masking tape long enough to attach to the two depressed bezel
   pieces at either end.
2  if the HP15C badge is metal (pre 1982?) then mask it, other wise
   remove it by applying heat to the badge with a hair dryer then
   gently prying it off.
3  mask the entire calculator seen in the picture below.
4  once masked, secure a piece of 400 grit wet dry sand paper,
   green plastic pot scrubber (scotch brite), alcohol and gloss
   lacquer spray can.
5  using a parallel motion, be as accurate as possible, use a
   stroking motion with the sand paper parallel to the
   longitudinal axis of the calculator until the old lacquer is
   completely removed as well as the scratches.
6  to remove the harshness of the finish, repeat step 5 with the
   plastic pot scrubber material.
7  clean with alcohol to remove any oily residue and remask the
   lens if required.
8  spray the lacquer according to the manufactures requirements,
   many light coats as opposed to a runny heavy coat.
9  let dry overnight.
10 heat the masking tape until warm to the touch to soften the
   adhesive prior to removing the tape.  This IS IMPORTANT!!!!
   The heat softens the adhesive and when removing from the back
   of the calculator it, when warm, will release without removing
   any labelling on the instructions.
11 Reglue the badge in place with contact cement.
```

Removing the bezel is a long process that must be carefully done with precautions. It requires lots of heat so the LCD must be removed in the early two piece versions (HP-15 I don't think was ever the two piece PCA) or protection of the LCD panel with cloth. You will have to wait for the book for that! If the bezel is just scratched and not dented then refinish the bezel in place.

HP-15C MASKED FOR REFINISHING AND LACQUERING IN PLACE WITH NEW OLD STOCK METAL BADGE MASKED:

HP-15C WITH REFINISHED BEZEL WHILE BEZEL WAS IN PLACE (dark LCD lens due to polarizer on camera interfering with polarizer on LCD panel):



HP-10C BEZEL BEFORE BEZEL REMOVAL PICTURING THE THREE DENTS ON THE RIGHT SIDE WHICH COULD NOT BE SANDED OUT:

HP-10C BEZEL REPLACED WITH AN HP-11C DONOR THAT WAS REFINISHED AFTER REMOVING IT:

BEFORE AND AFTER BEZEL REPLACEMENT ON THE HP-10C:

Hope this helps!

Cheers, Geoff

Edited: 12 Aug 2009, 6:03 p.m.

Re: Bezel restoration in place with pictures and glimpse of what the book includes:
*Message #11 Posted by **Ignazio Cara (Italy)** on 13 Aug 2009, 3:59 a.m.,*
in response to message #10 by Geoff Quickfall

Wow, you are a big wizard. And yes, I wish to buy a copy of your great manual when it will be available.

Regards

Ignazio

Re: Bezel restoration in place with pictures and glimpse of what the book includes:
*Message #12 Posted by **Giovanni Jimenez** on 13 Aug 2009, 2:33 p.m.,*
in response to message #10 by Geoff Quickfall

Thank you Geoff...very informative; I might even buy 2 copies of the book :)

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BATTERY LONGEVITY

*Message #1 Posted by **Howard Lazerson** on 26 July 2009, 11:06 p.m.*

I use an 11c daily and the batteries last forever [well at least it seems that way]. Is that true for the newer 12c?

Re: BATTERY LONGEVITY

*Message #2 Posted by **Don Shepherd** on 26 July 2009, 11:18 p.m.,*
in response to message #1 by Howard Lazerson

Howard, I can't tell if it will be forever, I only received my ARM-based unit a couple of months ago, but so far so good. I use it every day, mostly running programs on it, and the batteries are fine so far.

Re: BATTERY LONGEVITY

*Message #3 Posted by **DaveJ** on 27 July 2009, 4:40 a.m.,*
in response to message #1 by Howard Lazerson

> Quote:
>
> I use an 11c daily and the batteries last forever [well at least it seems that way]. Is that true for the newer 12c?

No, absolutely not. See HERE and HERE

The 20B with the same basic architecture is rated for a battery life of around 9 months, Cyrille has implied the new 12C should be a bit better than this this. That's the general figure HP quote.

But it could be as low as a few months if you really used it hard.

Technically speaking, if you had a program loop running continuously (Katie gives an example of a "long amortization function"), the batteries would be dead within 20 hours. And that's being generous, that figure does not include various losses.

Dave.

Re: BATTERY LONGEVITY

*Message #4 Posted by **Katie Wasserman** on 27 July 2009, 11:04 a.m.,*
in response to message #3 by DaveJ

To take this a step further....

Even if you never turned on the new 12c(12c+) the batteries would run out in around 12 years based on 220maH capacity is each CR2032 cell. The original 12c with original silver oxide batteries could last a lot longer than that. If you had the 12c+ on but weren't entering numbers or running any functions the batteries would last just about one year. Of course it does have an auto power off function so that this won't happen.

Re: BATTERY LONGEVITY

*Message #5 Posted by **Michael de Estrada** on 27 July 2009, 11:41 a.m.,*
in response to message #4 by Katie Wasserman

Pretty much my experience with the HP-33s and HP-35s. The original batteries in my HP-15c lasted over 20 years!

Re: BATTERY LONGEVITY

*Message #6 Posted by **Quan** on 27 July 2009, 5:12 p.m.,*
in response to message #5 by Michael de Estrada

I agree on the 33s (CNA 815xxxxx) which I bought a couple months ago new in box. Batteries had already expired before I turned the calc on.

I imagine the 35s which I bought ealier this year will experience the same.

Regards,

-Quan

Re: BATTERY LONGEVITY

*Message #7 Posted by **hugh steers** on 27 July 2009, 6:56 p.m.,*
in response to message #6 by Quan

Conceptually, this is what you guys want. I'd buy one!

the idea would be better than solar since it would be more capable of retaining a program than a solar model. or maybe it would be to power the LEDs, so that it works in the dark??

:-)

Re: BATTERY LONGEVITY

*Message #8 Posted by **John B. Smitherman** on 30 July 2009, 9:56 p.m.,*
in response to message #7 by hugh steers

Hi Hugh. I actually prefer

Regards,

John

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(deleted post)

*Message #1 Posted by **deleted** on 26 July 2009, 11:59 a.m.*

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: Board Policy Ideas

*Message #2 Posted by **Donald Williams** on 26 July 2009, 1:56 p.m.,*
in response to message #1 by deleted

Please read "Terms of Use" in the headings of the message index page. It is so often ignored, or abused, that I am very hesitant to post much lately.

Edited: 26 July 2009, 1:57 p.m.

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Repaired HP41CV hangs on error.

*Message #1 Posted by **Dan Koller** on 25 July 2009, 2:33 p.m.*

Hi folks,

I've recently rebuilt the posts on my old HP 41CV calculator. I gave each of the contacts on all the boards a good cleaning with an alcohol swap and blew dry with air and re-assembled the calculator.

The calculator now appears to work fine (whereas it wouldn't even turn on before) but there is a problem. Upon any error, e.g. divide by 0 or Log(0), the display goes blank and the calculator appears to hang up. CLX or <- do not restore the display. The ON button does not respond. Sometimes holding the CLX key while toggling the ON button results in a CLX command and the calculator continues to function normally until the next error. The calculator is clearly on because I do not get a MEMORY LOST message in this scenario.

...and on further investigation, in PGRM mode, hitting the SST key results in the SHFT flag in the display being show, and the calculator also hangs up. So there are other problems.

Does anyone have any suggestions on how to procede to fix this?

Thanks much, and I love this museum!! If all else fails, I will revert to the HP25C emulator on the links page. Very nice!

Dan

Re: Repaired HP41CV hangs on error.

*Message #2 Posted by **Randy** on 26 July 2009, 2:17 p.m.,*
in response to message #1 by Dan Koller

It does sound like a bad ROM. But, crud can cause similar behavior so I would recommend you clean the processor board with isopropyl on both sides and let it dry well. If there is any flux on the solder side, get it completely cleaned off.

That might cure it but if not, again, it is most likely a bad ROM.

Re: Repaired HP41CV hangs on error.

*Message #3 Posted by **Geoff Quickfall** on 26 July 2009, 5:38 p.m.,*
in response to message #1 by Dan Koller

Hi there,

firstly, Randy is the guru here so I bow to his diagnosis but before you lose all hope read on!

I have just restored two HP 41CX halfnuts and a 41CV fullnut. These too required repaired screw posts:

(battery post repair

All three also needed bottom shell washer reconstruction:

washer posting

Now to the crux of this posting. The two CX's failed to respond after a thorough cleaning, repairing and reassembly. If I was lucky I got nothing but strange characters, other times no display at all.

I tried the memory lost salute, removing the batteries and shorting the far left battery contact with the far right, master clear with batteries removed and all the other methods to reset that are available. I ultimately **left the calculators with batteries removed for 4 days** as I happened to leave for a trip.

When I came back, I installed the batteries (new) and tried both calculators starting with the memory lost keys (ON and back arrow). I got the memory lost display which I cleared with the back arrow key and they both **WORKED** and have ever since! I remembered that this was one of the ways to reset the HP 41 series in the event of a severe Synthetic programming mistake.

So try removing the batteries and leaving the unit for a couple of days.

Cheers, Geoff

Edited: 26 July 2009, 6:06 p.m.

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HP-IL I/F Card on a New(er) PC - Part IV - SUCCESS!!

*Message #1 Posted by **Gerry Schultz** on 25 July 2009, 6:02 p.m.*

To All:

Complete success with some questions. Using EMU41 version 2.45, I can talk directly to my 9114B disk drive under XP on a P4 2.66 GHz PC. Here's what happened.

Last weekend, I started working on why running EMU41 version 2.40 booting from floppy would not see the 9114B. I swapped out the rev A 82973A I/F card with the rev C card and it worked. I found that I had set the I/O address on the rev A card to 3000 hex instead of 300 hex. With EMU41 now working under DOS, I knew all the hardware was functioning.

I installed UserPort on the P4 and EMU41 would NOT see my 9114B. UserPort can be installed two ways. You can run UserPort from a DOS prompt and manually start the UserPort.sys driver from the UserPort.exe frontend whenever you want. Or you can copy the UserPort.sys driver into c:\windows\windows32\drivers subdirectory and have it startup automatically whenever XP starts up. Christoph recommends the latter in his book but the manual loading of the driver works fine and I think is more secure since I can control when it starts.

Now, why didn't EMU41 not see my 9114B connected to the I/F card? It appears to be a version issue. I have three versions of EMU41 installed; 2.40, 2.45 and 2.47. I've been using 2.40 for all my testing but it can't see the external HP-IL loop. It does work correctly under DOS as this is the version I put on my floppy. Version 2.45 DOES see the external HP-IL loop and reads the disk catalog from the 9114B just fine. 2.47 also does not see the external HP-IL loop. Perhaps J-F can clarify the why.

One last question and I'm done. When I swapped the 82973A I/F card between my two PCs, I had something weird happen. The rev C version of the PC I/F card had been in my PII 233 MHz with its I/O address set to 300 hex and it booted fine. When I swapped in the rev A card and set its address to 300 hex, the PII 233 hung during booting. I changed it's address to 1700 hex and the PC now boots fine. Is there a hardware difference between the two revisions to account for this?

Thanks for the help and I look forward to your comments.

Gerry

Edited: 26 July 2009, 7:45 p.m.

Re: HP-IL I/F Card on a New(er) PC - Part IV - SUCCESS!!

*Message #2 Posted by **Gerry Schultz** on 26 July 2009, 9:50 p.m.,*
in response to message #1 by Gerry Schultz

EMU41 versions 2.40, and 2.47 do work correctly on the P4 PC under XP. All three versions see the external HP-IL loop and my 9114B disk drive. It was my error with commenting out the XIL 300 line in the respective ini files from all of my previous testing.

Sorry for the confusion.

Gerry

Edited: 26 July 2009, 9:51 p.m.

Re: HP-IL I/F Card on a New(er) PC - Part IV - SUCCESS!!

*Message #3 Posted by **J-F Garnier** on 27 July 2009, 4:18 a.m.,*
in response to message #2 by Gerry Schultz

Hi Gerry,

Thanks for your extensive tests of Emu41 and the HPIL board with Win XP. I'm happy that you suceeded to make it work.

I confirm what you reported: when using XIL in case of missing HPIL board (or not at the right address), the HPIL loop can be completly disturbed including internal devices.

Emu41 normally bypasses the HPIL board in case the external loop is open to give access to internal devices, but doesn't check if the board is actually here. If the value returned at the supposed board address is such Emu41 thinks a frame is received, and if this frame is not the same that Emu41 sent (it is generally the case), then Emu41 considers the loop as completly broken.

J-F

Edited: 27 July 2009, 4:19 a.m.

Re: HP-IL I/F Card on a New(er) PC - Part IV - SUCCESS!!

*Message #4 Posted by **Christoph Klug** on 27 July 2009, 5:36 a.m.,*
in response to message #3 by J-F Garnier

Hi Gerry

GRATULATION - Now your system works :-)

Enjoy HP-41 and EMU41

best regards - Christoph

(author of the HP-41 Input/Output Board & IL2000 System Interface manual)

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Government surplus HP-97

*Message #1 Posted by **hecube** on 24 July 2009, 2:43 p.m.*

It seems my unit got to work on interesting stuff (read just below the bar-code)...

Re: Government surplus HP-97

*Message #2 Posted by **Howard Owen** on 24 July 2009, 3:33 p.m.,*
in response to message #1 by hecube

I bought two 97s from that seller some years ago. One had a Los Alamos sticker on it. Apparently the National Lab used 97s extensively.

Regards,
Howard

Re: Government surplus HP-97

*Message #3 Posted by **Namir** on 24 July 2009, 4:05 p.m.,*
in response to message #2 by Howard Owen

Hi Howard,

What were their conditions (0 = not working, 10 = like new)?

Namir

Re: Government surplus HP-97

*Message #4 Posted by **Howard Owen** on 24 July 2009, 4:26 p.m.,*
in response to message #3 by Namir

One was a 5 - scarred a bit, working printer, gummy wheeled card reader. The other was a 4 - scarred a bit, jammed printer, gummy wheeled card reader. Both were otherwise functional and I repaired both. Neither was advertised as working in any way.

Regards,
Howard

Re: Government surplus HP-97

*Message #5 Posted by **Mike Morrow** on 24 July 2009, 4:24 p.m.,*
in response to message #1 by hecube

It's good that some of these government-owned units were dispositioned as surplus rather than as trash.

When I was an engineering department officer on a US nuclear submarine 35 years ago, I got the ship to purchase a SR-52 mag card calculator and PC-100 printer for rad-chem lab use. (The SR-52 was considerably more capable than the HP-65, particularly with the support of the PC-100 printer.)

Then the HP-67/97 appeared. I used my new personal HP-67 for other reactor plant calculations. After that turned out to be so useful, I got the ship to purchase an HP-97. I had tried using the much more "featured" TI-59 with PC-100C, but after going through three TI-59s and two PC-100Cs in less than a year, I concluded that the latest TI gear was too unreliable for military use.

I'd love to know how long these units survived in service, and what ultimately happened to them (the boat was decommissioned in 1994). I suspect they most likely wound up in the trash long before that, and long before anyone valued old calculators.

I wouldn't mind having that HP-97 today!

Edited: 24 July 2009, 4:33 p.m.

Re: Government surplus Humans

*Message #6 Posted by **db (martinez, ca.)** on 24 July 2009, 11:29 p.m.,*
in response to message #5 by Mike Morrow

Mike; Which boats? I had my grimy little fingers in most everything that got fixed at Mare Island in the late 70's and early 80's. It was good work if one could forget the ultimate purpose of the boomers. The only drawback was that working for Rickover's Navy as a youth pretty much ruined me for jobs anywhere in private enterprise. Aiming for perfection is not a habit most middle managers want their subordinates to have.

Re: Government surplus Humans

*Message #7 Posted by **Mike Morrow** on 25 July 2009, 2:42 a.m.,*
in response to message #6 by db (martinez, ca.)

db:

I attended nuclear power school at Mare Island in 1974. I spent four years on the USS Daniel Boone (built at Mare Island, but operating from Scotland). Ballistic missile boats were top defense department priority during the cold war...they did not lack any funding for design, engineering, construction, operation, and upkeep. These boats and their missile/warhead systems are magnificent examples of applied science and engineering. IMHO, the integrated SLBM system easily required technological development efforts exceeding that expended for the manned lunar landing program. I'm fonder of that lunar program!

Rickover was a very mixed blessing. He was forced out (under Reagan!) in 1982 after 60 years of active duty. I think he should have [been] retired 20 years earlier. He groomed his officers to be more like engineers and technicians than like naval combat leaders. For a navy, that's generally a bad idea.

Re: Government surplus Humans

*Message #8 Posted by **hecube** on 25 July 2009, 11:07 a.m.,*
in response to message #7 by Mike Morrow

Be thankful they were groomed as engineers or else the floor of the ocean might be littered with rotting nuclear cores.

Re: Government surplus Humans

*Message #9 Posted by **db (martinez, ca.)** on 28 July 2009, 1:28 a.m.,*
in response to message #7 by Mike Morrow

Mike;
So we probably never crossed paths. I started at the Island in '76 after a couple of years repairing surface craft. I got to work on the 598, 599, 601, 621, the Sea Wolf, the "Triple Nickle" (that was a cool boat), the ice breaker Point Loma and a couple of others i can't remember. Good times working for and with good people who showed up at the job expecting to do the best quality work that was humanly possible. Doing less on a sub was unthinkable. I got into surveying (and RPN) by doing optical tooling for the nav, then moved to Nevada which as you can guess killed any chance of working at another shipyard while i was there.
I know what you mean about the difference between engineers / technicians and naval combat leaders. While i can't name any politician that i have more respect for than Jimmy Carter; he *does* have the "engineers disease". It's cool that you got to be there when you were, to invent a place for our favorite machines in those regrettable necessities.
I agree with you about the lunar program. I believe that was the greatest thing the human race ever did, and it was done in our time, and our countrymen did it. Still, now, i think our money today will be better spent on the space station and better ascent vehicles to get into low earth orbit. We have to learn to live in space where help is near before we go sailing off into blue water.

Re: Government surplus HP-97

*Message #10 Posted by **Dan W** on 24 July 2009, 5:05 p.m.,*
in response to message #1 by hecube

What is that ribbon cable used for?

Re: Government surplus HP-97

*Message #11 Posted by **hecube** on 24 July 2009, 5:31 p.m.,*
in response to message #10 by Dan W

I have no idea. I just disassembled it and the cable disappears between the the top cover and the plastic board inside the calculator. This would have required further disassembly and I was not in the mood to do that right now.

The guy who sold it advertised it as B-. After some cleaning, I would classify it as a strong B+ on appearance alone. I can't power it up right now so next step is acquiring some means of powering it up.

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More 41 birthday fun.

*Message #1 Posted by **Egan Ford** on 24 July 2009, 2:03 p.m.*

Ladies, Gents, and others, here is a simple programming challenge:

What are my lottery numbers?

To find my lottery numbers you just need to find all the positive integers such that $x^2 - x + n$ is a prime number for $x = 0, 1, ..., n - 1$. (NOTE: 1 is *not* a prime number.)

Rules:

1. 41C, 41CV, 41CX RPN only.
2. No modules.
3. Enter as many times as you like. I like community/group solutions where speed and size gets optimized over time.

Prizes:

Well, *if* I win the lottery, then the authors of the shortest and the fastest programs will get a cut. The lottery drawing is July 31st.

Edit: typo

Edited: 24 July 2009, 6:00 p.m. after one or more responses were posted

Re: More 41 birthday fun.

*Message #2 Posted by **Howard Owen** on 24 July 2009, 4:40 p.m.,*
in response to message #1 by Egan Ford

Is that for *n* in 0,1, ..., ***x***-1? And is that for *all n* in that range?

Re: More 41 birthday fun.

*Message #3 Posted by **Egan Ford** on 24 July 2009, 6:11 p.m.,*
in response to message #2 by Howard Owen

Oops! I see the typo, fixed. To be clear, here is an example:

Take $n = 2$, therefore $x = 0, 1$:

```
x = 0, 0 - 0 + 2, prime, passed
x = 1, 1 - 1 + 2, prime, passed
```

All passed. 2 is one of the 6 numbers. What are the other 5?

Take $n = 7$, therefore $x = 0, 1, ..., 6$:

```
x = 0, 0 - 0 + 7, prime, passed
x = 1, 1 - 1 + 7, prime, passed
x = 2, 4 - 2 + 7, not prime, fails
```

If any one test fails, then *n* is not a solution.

Edited: 24 July 2009, 6:15 p.m.

Re: More 41 birthday fun.

*Message #4 Posted by **hugh steers** on 24 July 2009, 6:38 p.m.,*
in response to message #3 by Egan Ford

well; 2,3,5 and 11 are apparent without a calculator.

Re: More 41 birthday fun.

*Message #5 Posted by **Walter B** on 24 July 2009, 6:50 p.m.,*
in response to message #3 by Egan Ford

Well, I don't have my 41 here, but I get the first 4 numbers with paper and pencil easily. Time to go to bed ;)

Edit: Ooops, Hugh was faster than me.

Edited: 24 July 2009, 6:50 p.m.

Re: More 41 birthday fun.

*Message #6 Posted by **hugh steers** on 24 July 2009, 10:28 p.m.,*
in response to message #5 by Walter B

now, i remember where i've seen that polynomial before. turns out it's not easy to prove there are only 6 solutions in general (although 49 is a given max for the problem here).

looks like the easiest way to prime test is trial division because the numbers are small.

Re: More 41 birthday fun.

*Message #7 Posted by **Gerson W. Barbosa** on 24 July 2009, 11:31 p.m.,*
in response to message #1 by Egan Ford

Well, neither the shortest nor the fastest, but it's a start.

I haven't tried it on the 41CX yet. This was done on Free42.

Gerson.

```
00 { 69-Byte Prgm }
01LBL "HP41BDF"
02 STO 04
03 2
04 STO 05
05LBL 01
06 RCL 05
07 1
08 -
09 STO 06
10 1
11 STO 07
12LBL 02
```

```
13 RCL 07
14 ENTER
15 1
16 -
17 *
18 RCL+ 05
19 XEQ "ISPRIM?"
20 X=0?
21 GTO 03
22 1
23 STO+ 07
24 RCL 06
25 RCL 07
26 X<=Y?
27 GTO 02
28 RCL 05
29 PRX
30LBL 03
31 1
32 STO+ 05
33 RCL 04
34 RCL 05
35 X<=Y?
36 GTO 01
37 RTN
38 .END.


00 { 70-Byte Prgm }
01LBL "ISPRIM?"
02 3
03 X<>Y
04 X>=Y?
05 GTO 00
06 1/X           ; Lines 06 and 07 by Tony Duell - On the 42S they may be replaced by   "3
XOR"
07 STO+ ST X     ; http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=74095
(see message #4)
08LBL 00
09 STO 00
10 SQRT
11 STO 01
12 0
13 STO 02
14 2
15 STO 03
16LBL 01
17 RCL 00
18 RCL/ 03
19 IP
20 RCL 00
21 1
22 -
23 RCL/ 03
24 IP
25 -
26 STO+ 02
27 1
28 STO+ 03
29 RCL 01
30 RCL 03
31 X<=Y?
32 GTO 01
33 RCL 02
34 +/-
35 RCL 00
36 /
37 XEQ "INT"
38 1
39 +
40 RTN
41 END


00 { 19-Byte Prgm }
01LBL "INT"
02 ENTER
03 IP
04 X<=Y?
05 GTO 01
```

```
06 1
07 -
08LBL 01
09 X<>Y
10 Rv
11 RTN
12 END



50 XEQ HP41BDF ->

                2    ***
                3    ***
                5    ***
               11    ***
               17    ***
               41    ***
```

IsPrime(x) function by Sebastián Martín-Ruiz:

http://en.wikipedia.org/wiki/Formula_for_primes

Edited: 24 July 2009, 11:43 p.m.

Re: More 41 birthday fun.

*Message #8 Posted by **Mark Edmonds** on 25 July 2009, 8:32 a.m.,*
in response to message #7 by Gerson W. Barbosa

I know this is meant to be 41 RPN only but I thought I'd submit a RPL version just in case it has any interest. It uses ISPRIME? so only works on any CAS equiped RPL machine. Note that I always work with a 48GX so don't have to deal with the exact/approx mode in the later machines. Consequently, there might be flags that need setting - putting it into approx mode for example - and I am not familiar with testing in this manner (2. <> 2) etc.. Note that the SEQ and SigmaLIST commands can probably be combined into a single Sigma command.

I accept that performance wise, this is not the most efficient as it evaluates the entire sequence for each value of n but using SEQ keeps the code simpler and this program is a one-off anyway.

```
\<< {} 2 \-> r n
  \<<
    DO
      \<< x SQ x - n + ISPRIME? \>> 'x' 0 n 1 - 1 SEQ
      SigmaLIST
      n ==
      \<< n 'r' STO+ \>> IFT
      'n' INCR DROP
    UNTIL
      r SIZE 6 ==
    END
    r
  \>>
\>>
```

The program returns a list with the lottery numbers in it as:

{ 41 17 11 5 3 2 }

If any RPL people can suggest ways of improving the code, I'd be glad to hear it!

Mark

Edited: 25 July 2009, 8:46 a.m.

Re: More 41 birthday fun.

*Message #9 Posted by **Dave Britten** on 25 July 2009, 9:02 a.m.,*
in response to message #8 by Mark Edmonds

I whipped up an RPL version too, just for the hell of it. It's pretty verbose and unoptimized, but here we go:

```
\<< 0 1 0 1 \-> t n c p
  \<<
    WHILE t 6 <
    REPEAT 0 'c' STO 1
'p' STO
      WHILE p c n < AND
      REPEAT c n \-> X N
'SQ(X)-X+N' ISPRIME? 'p'
STO 'c' INCR DROP
      END
      IF p
      THEN n DUP 1 DISP
't' INCR DROP
      END 'n' INCR DROP
    END t \->LIST
  \>>
\>>
```

I did it on my 48GX, so I had to make my own ISPRIME?. It's a fairly naive algorithm, but it gives the correct results for -1, 0, 1, and 2.

```
\<< ABS 0 1 2 \-> X SX p n
  \<<
    CASE X 1 ==
      THEN 0
      END X 2 ==
      THEN 1
      END X 2 MOD NOT
      THEN 0
      END X \SQRT IP 'SX'
STO
      WHILE p n SX \<= AND
      REPEAT X n MOD 'p'
STO 2 'n' STO+
      END p SIGN
    END
  \>>
\>>
```

Re: More 41 birthday fun.

*Message #10 Posted by **Thomas Klemm** on 1 Aug 2009, 3:57 p.m.,*
in response to message #9 by Dave Britten

1. Your program ISPRIME? didn't work on my 48GX. I had to replace \SQRT by \v/ which translated to SQRT.

2. When running your main program I get the following list:

```
{ 2 3 5 7 9 11 }
```

This is **not** the solution I think we should get.

3. According to your program ISPRIME? all the numbers 9, 15, 21, 27, ... are considered primes.

Re: More 41 birthday fun.

*Message #11 Posted by **Thomas Klemm** on 2 Aug 2009, 3:01 p.m.,*
in response to message #8 by Mark Edmonds

Not that I consider myself a RPL expert but you run the code to check whether the numbers are prime over the whole sequence. But as soon as one item fails you could stop and reject that number. I'm afraid you can't do that with SEQ. An optimization would be to use only primes as n. Another would be to use only prime twins. But then you're already on your way to roll up your program.

Besides being a little slow a very elegant solution.

Re: More 41 birthday fun.

*Message #12 Posted by **Gerson W. Barbosa** on 25 July 2009, 9:32 p.m.,*
in response to message #1 by Egan Ford

A couple of obvious optimizations but still rather slow: 14min 09s on the HP-41CV. Definitely LOG and 10^x in the floor function routine is not a good idea, even thought they don't appear to take too long for those arguments. Also, a faster primality test would help...

Anyway, compared to the other 41 birthday challenge, this is a piece of cake :-)

```
01LBL'41BD
02 0
03 STO 08
04 1
05 STO 04
06 2
07 STO 05
08LBL 01
09 RCL 05
10 XEQ'ISPR?
11 X=0?
12 GTO 03
13 RCL 05
14 1
15 -
16 STO 06
17 1
18 STO 07
19LBL 02
20 RCL 07
21 ENTER^
22 1
23 -
24 *
25 RCL 05
26 +
27 XEQ'ISPR?
28 X=0?
29 GTO 03
30 1
31 ST+ 07
32 RCL 06
33 RCL 07
34 X<=Y?
35 GTO 02
36 RCL 05
```

```
37 VIEW X
38 1
39 ST+ 08
40LBL 03
41 RCL 04
42 ST+ 05
43 2
44 STO 04
45 5
46 RCL 08
47 X<=Y?
48 GTO 01
49 RTN
50 END


01LBL'ISPR?
02 3
03 X<>Y
04 X>Y?
05 GTO 00
06 1/X
07 ST+ X
08LBL 00
09 STO 00
10 SQRT
11 STO 01
12 0
13 STO 02
14 2
15 STO 03
16LBL 01
17 RCL 00
18 RCL 03
19 /
20 INT
21 RCL 00
22 1
23 -
24 RCL 03
25 /
26 INT
27 -
28 ST+ 02
29 1
30 ST+ 03
31 RCL 01
32 RCL 03
33 X<=Y?
34 GTO 01
35 RCL 02
36 CHS
37 RCL 00
38 /
39 0
40 X>Y?
41 10^X
42 10^X
43 LOG
44 -
45 INT
46 1
47 +
48 RTN
49 END
```

Edit to fix some typos

Edited: 25 July 2009, 9:41 p.m.

Re: More 41 birthday fun.

*Message #13 Posted by **Gerson W. Barbosa** on 26 July 2009, 5:04 p.m.,*
in response to message #12 by Gerson W. Barbosa

Slightly less slow and shorter:

```
01LBL'41BD
02 2
03 VIEW X
04 1
05 STO 04
06 3
07 STO 05
08LBL 01
09 RCL 05
10 XEQ'ISPR?
11 X=0?
12 GTO 03
13 2
14 STO 06
15-LBL 02
16 RCL 06
17 X^2
18 LASTx
19
20 RCL 05
21 +
22 XEQ'ISPR?
23 X=0?
24 GTO 03
25 1
26 ST+ 06
27 RCL 06
28 RCL 05
29 X#Y?
30 GTO 02
31 RCL 05
32 VIEW X
33 1
34 ST+ 04
35-LBL 03
36 2
37 ST+ 05
38 5
39 RCL 04
40 X<=Y?
41 GTO 01
42 END


01LBL'ISPR?
02 3
03 X<>Y
04 X>Y?
05 GTO 00
06 1/X
07 ST+ X
08LBL 00
09 STO 00
10 SQRT
11 STO 01
12 0
13 STO 02
14 2
15 STO 03
16LBL 01
17 RCL 00
18 RCL 03
19 /
20 INT
21 RCL 00
22 1
23 -
24 RCL 03
25 /
26 INT
27 -
28 ST+ 02
29 1
30 ST+ 03
31 RCL 01
32 RCL 03
33 X<=Y?
34 GTO 01
```

```
35 RCL 02
36 RCL 00
37 /
38 X<=0?
39 GTO 02
40 1
41 +
42-LBL 02
43 CHS
44 INT
45 1
46 +
47 RTN
48 END


         2   00min 00s
         3   00min 04s
         5   00min 14s
        11   01min 02s
        17   02min 46s
        41   12min 51s
```

Re: More 41 birthday fun.

*Message #14 Posted by **hugh steers** on 26 July 2009, 8:25 p.m.,*
in response to message #13 by Gerson W. Barbosa

Hi, I'm glad to see an 41 implementation. I was going to point out that no one had entered an _actual_ 41 program, although i am also guilty :-)

Looking into the prime test, the smallness of the numbers means we can get away with trivial division. here's a short LUA program where i've rolled all the stages together into 3 loops,

LUA syntax is pretty easy to see what's going on. the only non-obvious syntax is n\k means floor(n/k).

```
function findlots2()
   -- condensed into one function
   for i = 2,49 do
      ok = true
      for j = 0, i - 1 do
         n = j*j - j + i
         for k = 2,math.sqrt(n) do
            if n\k * k == n then ok = false; break end
         end
         if not ok then break end
      end
      if ok then print(i) end
   end
end
```

i would think this would code up to a fairly short 41 program, especially since there is an extra test to escape the middle loop which could actually just be a goto.

Re: More 41 birthday fun.

*Message #15 Posted by **Gerson W. Barbosa** on 27 July 2009, 7:14 a.m.,*
in response to message #14 by hugh steers

Your concise algorithm fits even the HP-12C! I tried it on the newest 12C+. It takes 25 seconds to run or about 25 minutes on a normal 12C (and under 10 minutes on the 41CX, I estimate). Although the Pascal code works, on the 12C 2 doesn't show up. I have to find out what's gone wrong with that.

Regards,

Gerson.

```
01  2                   ; for i:=2 to 49 do
02  STO 0               ; begin
03-   0
04    STO 4             ;   ok:=true
05    1                 ;   for j:=1 to i-1 do
06    STO 1             ;   begin
07-     RCL 1
08      ENTER
09      ENTER
10      1
11      -
12      *
13      RCL 0
14      +
15      STO 3           ;     n:=j*(j-1)+i
16      2               ;     for k:=2 to Sqrt(n) do
17      STO 2           ;     begin
18-       RCL 3
19        RCL 2
20        /
21        INTG
22        RCL 2
23        *
24        RCL 3
25        -
26        x=0           ;       if (n div k)*k = n then
27          GTO 29      ;         ok:=false
28        GTO 32
29-         1
30          STO 4
31          GTO 39      ;         exit loop
32-       1
33        STO+ 2
34        RCL 3
35        SQRT
36        RCL 2
37        X<=Y          ;     end
38      GTO 18
39-     RCL 4           ;     if not ok then
40      x=0
41      GTO 43
42        GTO 51        ;       exit loop
43-     1
44      STO+ 1
45      RCL 0
46      1
47      -
48      RCL 1
49      x<=y
50    GTO 07            ;   end
51-   RCL 4
52    X=0               ;   if ok then
53      GTO 55          ;
54    GTO 57
55-     RCL 0
56      PSE             ;     Write(i)
57-   1
58    STO+ 0
59    4
60    9
61    RCL 0
62    x<=y
63  GTO 03              ; end
```

```
Program HP41BD;
var         ok: boolean;
    i, j, k, n: integer;
begin
  for i:=2 to 49 do
  begin
    ok:=true;
    for j:=1 to i-1 do
    begin
      n:=j*j-j+i;
```

```
      for k:=2 to Trunc(Sqrt(n)) do
        if n div k * k = n then ok:=false;
      if not ok then ;
    end;
    if ok then WriteLn(i:3);
  end
end.


Running
  2
  3
  5
 11
 17
 41
```

Re: More 41 birthday fun.

*Message #16 Posted by **hugh steers** on 27 July 2009, 6:27 p.m.,*
in response to message #15 by Gerson W. Barbosa

I like it!

congrats to you. I think you deserve to win the competition as no one else (including myself) has an actual 41 program.

it does show just how slow the real 41 is though. 25 seconds vs 10 mins. hmmm.

Re: More 41 birthday fun.

*Message #17 Posted by **Mark Edmonds** on 27 July 2009, 7:20 p.m.,*
in response to message #16 by hugh steers

As I was guilty of posting a non-41 RPN program, I have to confess I had an ulterior motive behind posting that RPL program.

With so many people not being fans of RPL, I wanted to show that RPL could solve this problem in a fairly elegant manner with quite a simple program and I also wanted to use lists in the solution as that is a key part of the language.

Mark

Re: More 41 birthday fun.

*Message #18 Posted by **Gerson W. Barbosa** on 27 July 2009, 10:47 p.m.,*
in response to message #17 by Mark Edmonds

I think there is no problem posting non-41 solutions. There's always a chance the algorithms may be interesting and useful. I thought of posting an RPL version solution too but I don't think it would be any better than the ones you have already posted.

Gerson.

Re: More 41 birthday fun.

*Message #19 Posted by **Gerson W. Barbosa** on 27 July 2009, 9:35 p.m.,*
in response to message #16 by hugh steers

Exactly 10min 22s on the HP-41CX, but the credit goes to you because of the algorithm. Anyway, the odds of Egan's numbers winning the lottery are very dim :-)

Since 2 is very obvious, it is displayed at once, then only the odd numbers are tested (but the increase in speed should not be significant because of this). I don't know the 41 enough to try further speed optimizations though.

```
          2   00min 00s
          3   00min 04s
          5   00min 11s
         11   00min 48s
         17   02min 12s
         41   10min 22s
```

I cannot post the program: I've been receiving the message "Sorry, data too long for this forum" but the program is only 68 stepts long. I'll try later.

```
01LBL "HP41BD"
02 3.04902
03 STO 00
04 2
05 VIEW X
06LBL 01
07 0
08 STO 04
09 1
10 STO 01
11LBL 02
12 RCL 01
13 ENTER
14 ENTER
15 1
16 -
17 *
18 RCL 00
19 INT
20 +
21 STO 03
22 2
23 STO 02
24LBL 03
25 RCL 03
26 RCL 02
27 /
28 INT
29 RCL 02
30 *
31 RCL 03
32 X#Y?
33 GTO 05
34 1
35 STO 04
36 GTO 06
37LBL 05
38 1
39 ST+ 02
40 RCL 03
41 SQRT
42 RCL 02
43 X<=Y?
44 GTO 03
45LBL 06
46 RCL 04
47 X#0?
48 GTO 08
49 1
50 ST+ 01
51 RCL 00
52 INT
53 1
54 -
55 RCL 01
56 X<=Y?
57 GTO 02
58LBL 08
59 RCL 04
```

```
60 X#0?
61 GTO 09
62 RCL 00
63 INT
64 VIEW X
65LBL 09
66 ISG 00
67 GTO 01
68 .END.
```

Edited to include program.

Edited: 27 July 2009, 10:48 p.m. after one or more responses were posted

Re: More 41 birthday fun.

*Message #20 Posted by **Paul Dale** on 27 July 2009, 9:52 p.m.,*
in response to message #19 by Gerson W. Barbosa

Another optimisation would be to only test primes instead of odd numbers. Don't know if this can be incorporated easily or not.

In this case this would be equivalent to testing for divisibility by 2, 3 & 5. Add 7 if your lotto includes 49. Doing the even optimisation which is already there, one 3 & 5 need to be checked.

- Pauli

Re: More 41 birthday fun.

*Message #21 Posted by **Gerson W. Barbosa** on 27 July 2009, 10:32 p.m.,*
in response to message #20 by Paul Dale

What really takes time are the primality tests required for $x^2 - x + n$, for $x = 1, 2, ..., n - 1$. For instance, when $n = 41$, 40 tests have to be performed. Skipping the few non-primes in the range 2..49 would have a very low effect in the reduction of the overall running time.

Gerson.

Re: More 41 birthday fun.

*Message #22 Posted by **PeterP** on 28 July 2009, 1:30 p.m.,*
in response to message #19 by Gerson W. Barbosa

Gerson,

beautiful as always! Having done my own little code, I now have the pleasure to see the gems posted already.

Really nifty prime checking algorithm, not the clunky thing I have!

I wonder how much your speed would increase if you replace the numbers with registers. Digits really are very slow on the hp41. Another 'expensive' calculation on the 41 is SQRT so I tried to not have it in a loop. I can't quite tell if you recalc it more than once, but probably not :-)

Also, I saw that Paul suggested to only test for prime numbers as I do in my code.

However I do think that makes a difference in run-time. For example, 49 gets very quickly abandoned without ever checking a single x.

Lastly, I think that starting the x^2-x+n test with n-1 is advantagious. It is the largest number to be tested for prime and hence has the highest chance to be not prime, at which point no further tests have to be done. This is why I started from 49 -> 2 rather then the other way around.

Cheers

Peter

Re: More 41 birthday fun.

*Message #23 Posted by **Gerson W. Barbosa** on 28 July 2009, 1:50 p.m.,*
in response to message #22 by PeterP

> Quote:
>
> Really nifty prime checking algorithm,

Thats Hugh Steer's algorithm, to whom the compliments go. I just ported his Lua code to the 41, not in an efficient way though as I've never been an HP-41 user (back in the day I had a 15C). Your optimization tips are very much appreciated, thanks!

Gerson.

Re: More 41 birthday fun.

*Message #24 Posted by **Gerson W. Barbosa** on 29 July 2009, 5:21 p.m.,*
in response to message #22 by PeterP

> Quote:
>
> Also, I saw that Paul suggested to only test for prime numbers as I do in my code. However I do think that makes a difference in run-time. For example, 49 gets very quickly abandoned without ever checking a single x.

I did this in my first 41 program (Edited: 25 July 2009, 9:41 p.m.). I remember the running time dropped from 14m50s to 14m09s, not a significant gain to justify the extra steps, I think.

Regards,

Gerson.

Edited: 29 July 2009, 5:29 p.m.

Re: More 41 birthday fun.

*Message #25 Posted by **Paul Dale** on 29 July 2009, 5:58 p.m.,*
in response to message #24 by Gerson W. Barbosa

I fiddled a bit and an subroutine to do a full check for being prime doesn't seem to help any (actually, it hurts).

Just checking for divisibility by 3 and 5 ought to help a little, however the first evaluation of the polynomial will catch these out anyway so the saving will likely be slight.

Storing the first dozen or so primes in registers and using these for both the outer loop and the primality tester might be a win.

The other thing that looks bad in the inner loop is the square root which should also be avoidable. I'm thinking along the lines of
if $s_n = \text{sqrt}(n^2 - n + p)$ then, $s_{n+1} = 1 + s_n$ and start s_0 as sqrt(p).

- Pauli

Re: More 41 birthday fun.

*Message #26 Posted by **PeterP** on 30 July 2009, 1:33 p.m.,*
in response to message #24 by Gerson W. Barbosa

I stand corrected. doing a similar test no my machine when starting with x=1 it takes longer to have the extra prime test.

Re: More 41 birthday fun.

*Message #27 Posted by **Steve Perkins** on 28 July 2009, 1:36 p.m.,*
in response to message #19 by Gerson W. Barbosa

I like the new compact algorithm.

The improvement I would make is to only use odd numbers for the trial division. Since we're only testing odd n, and x*(x-1) + n must be odd, we don't need to divide by 2 (or other even numbers).

I only modified Gerson's code slightly, but it executed in just over 6 minutes on my HP-41 CX.

```
          2   00min 00s
          3   00min 04s
          5   00min 10s
         11   00min 36s
         17   01min 26s
         41   06min 06s
```

```
01 LBL "HP41BD"
02 3.04902
03 STO 00
04 2
05 VIEW X
06 LBL 01
07 0
08 STO 04
09 1
10 STO 01
11 LBL 02
12 RCL 01
13 ENTER
14 ENTER
15 1
16 -
17 *
```

```
18 RCL 00
19 INT
20 +
21 STO 03
22 1
23 STO 02
24 GTO 05
25 LBL 03
26 RCL 03
27 RCL 02
28 /
29 INT
30 RCL 02
31 *
32 RCL 03
33 X#Y?
34 GTO 05
35 1
36 STO 04
37 GTO 06
38 LBL 05
39 2
40 ST+ 02
41 RCL 03
42 SQRT
43 RCL 02
44 X<=Y?
45 GTO 03
46 LBL 06
47 RCL 04
48 X#0?
49 GTO 08
50 1
51 ST+ 01
52 RCL 00
53 INT
54 1
55 -
56 RCL 01
57 X<=Y?
58 GTO 02
59 LBL 08
60 RCL 04
61 X#0?
62 GTO 09
63 RCL 00
64 INT
65 VIEW X
66 LBL 09
67 ISG 00
68 GTO 01
69 BEEP
70 .END.
```

(edited to correct listing to be what was in calculator)

Edited: 28 July 2009, 4:01 p.m. after one or more responses were posted

Re: More 41 birthday fun.

*Message #28 Posted by **Gerson W. Barbosa** on 28 July 2009, 2:00 p.m.,*
in response to message #27 by Steve Perkins

Hi Steve,

> Quote:
>
> I like the new compact algorithm.

Courtesy of Hugh Steers :-)

I do appreciate you efforts in reducing the running time. The first program I

submitted would take about 15 minutes to run (provided the compability issues are resolved).

Avoiding repeatedly used numbers in program lines as Peter has suggest will help and should be easy to implement.

Gerson.

Edited: 28 July 2009, 2:01 p.m.

Re: More 41 birthday fun.

*Message #29 Posted by **Steve Perkins** on 28 July 2009, 4:44 p.m.,*
in response to message #27 by Steve Perkins

Here are my improvements.

1. Calculate the sqrt once and store for testing.

2. Get rid of the OK flag. Not needed with GTOs.

3. Clean up the logic and use numbers already on the stack.

I kept the test from low to high because as is it gives us a free prime test for n when x=1. The code is much shorter, but not as efficient as calling a prime testing subroutine twice as PeterP has shown us.

Final execution time is now 4m 26s.

Suggestions and improvements are welcome. It wouldn't exist without the ideas of Gerson and PeterP, so my thanks to them.

```
1  LBL "HP41BD"
2  3.04902
3  STO 00
4  2
5  VIEW X
6  LBL 01
7  1
8  STO 01
9  LBL 02
10 RCL 01
11 ENTER
12 ENTER
13 1
14 -
15 *
16 RCL 00
17 INT
18 +
19 STO 03
20 SQRT
21 STO 05
22 3
23 STO 02
24 LBL 03
25 RCL 05
26 RCL 02
27 X>Y?
28 GTO 05
29 RCL 03
30 X<>Y
31 /
32 FRC
33 X=0?
34 GTO 09
35 2
```

```
36 ST+ 02
37 GTO 03
38 LBL 05
39 1
40 ST+ 01
41 RCL 00
42 X<>Y
43 -
44 RCL 01
45 X<=Y?
46 GTO 02
47 VIEW X
48 LBL 09
49 ISG 00
50 GTO 01
51 BEEP
52 END
```

Re: More 41 birthday fun.

*Message #30 Posted by **Gerson W. Barbosa** on 28 July 2009, 10:11 p.m.,*
in response to message #29 by Steve Perkins

> Quote:
>
> Final execution time is now 4m 26s.

By replacing lines 11 through 18 with the ones below you can save 6 seconds and 2 steps:

```
11 X^2
12 LASTx
13 -
14 RCL 00
15 INT
16 +
```

Re: More 41 birthday fun.

*Message #31 Posted by **Steve Perkins** on 29 July 2009, 12:58 p.m.,*
in response to message #30 by Gerson W. Barbosa

Nice.

My gut feeling was stack operations would be faster than X^2, so I used your original method.

Empirical evidence wins! Shorter and faster is better.

Thanks for the improvement.

Re: More 41 birthday fun.

*Message #32 Posted by **Gerson W. Barbosa** on 29 July 2009, 2:35 p.m.,*
in response to message #31 by Steve Perkins

> Quote:
>
> My gut feeling was stack operations would be faster

So was mine. The following modification saves one more step and two registers (R02 and R05) and is even faster: 3 minutes and 57 seconds to

run.

```
01 LBL 'BD
02 3.04902
03 STO 00
04 2
05 VIEW X
06 LBL 01
07 1
08 STO 01
09 LBL 02
10 RCL 01
11 X^2
12 LASTx
13 -
14 RCL 00
15 INT
16 +
17 STO 03
18 SQRT
19 3
20 LBL 03
21 X>Y?
22 GTO 05
23 RCL 03
24 X<>Y
25 /
26 LASTx
27 X<>Y
28 FRC
29 X=0?
30 GTO 09
31 RDN
32 2
33 +
34 GTO 03
35 LBL 05
36 1
37 ST+ 01
38 RCL 00
39 X<>Y
40 -
41 RCL 01
42 X<=Y?
43 GTO 02
44 VIEW X
45 LBL 09
46 ISG 00
47 GTO 01
48 BEEP
49 END
```

P.S.: If line 36 is changed to

```
36 SIGN
```

as per Peter's advice, the total running time drops to 3m 54s.

Edited: 29 July 2009, 3:20 p.m.

Re: More 41 birthday fun.

*Message #33 Posted by **Steve Perkins** on 29 July 2009, 5:40 p.m.,*
in response to message #32 by Gerson W. Barbosa

Nice use of the stack instead of registers. Great idea.

I incorporated your ideas with my latest changes. Most significant was I realized the HP-41 has a MOD command. That replaces the divide and FRC sequence and saves a bunch in the inner loop. I also got rid

of a redundant RCL after LBL 02, and used register 04 to hold the constant 2 following PeterP's idea.

Since I couldn't get PeterP's code to run on my simulator, I think this is the current leader.

The code now executes in 3min 0sec.

```
1  LBL "41BD"
2  3.04902
3  STO 00
4  2
5  VIEW X
6  STO 04
7  LBL 01
8  1
9  STO 01
10 LBL 02
11 X^2
12 LASTx
13 -
14 RCL 00
15 INT
16 +
17 STO 03
18 SQRT
19 3
20 LBL 03
21 X>Y?
22 GTO 05
23 RCL 03
24 X<>Y
25 MOD
26 X=0?
27 GTO 09
28 RDN
29 LASTx
30 RCL 04
31 +
32 GTO 03
33 LBL 05
34 SIGN
35 ST+ 01
36 RCL 00
37 X<>Y
38 -
39 RCL 01
40 X<=Y?
41 GTO 02
42 VIEW X
43 LBL 09
44 ISG 00
45 GTO 01
46 BEEP
47 END
```

Re: More 41 birthday fun.

*Message #34 Posted by **Gerson W. Barbosa** on 29 July 2009, 6:19 p.m.,*
in response to message #33 by Steve Perkins

Great improvements, congratulations!

It appears we can break the 3-minute barrier if we change line 28 to:

```
28 X<>Y
```

2min 55sec

I've been using a real 41CX (SN 2819S21701). Notice both parts of the serial number are primes! Even S is prime, being the 19th letter :-)

Gerson.

Edited: 29 July 2009, 6:39 p.m.

Re: More 41 birthday fun.

*Message #35 Posted by **Steve Perkins** on 30 July 2009, 12:59 p.m.,*
in response to message #34 by Gerson W. Barbosa

I was able to shave a second or two by replacing lines 28 and 29 in the inner loop with

```
28 X<> L
```

The code is also now only 46 lines long. I've also saved a little bit with a change to the code at LBL 05, but it makes little overall difference. LBL 02 has to move before the STO 01:

```
8  1
9  LBL 02
10 STO 01
...
32 LBL 05
33 SIGN
34 RCL 01
35 +
36 RCL 00
37 INT
38 X<>Y
39 X#Y?
40 GTO 02
41 VIEW X
42 LBL 09
...
```

I hope this makes sense. My calculator may be a bit slower than yours. The SN is 2850S22061, so it's clearly not optimized for prime testing.

We could also save a little bit using synthetic registers, but I think it's nicer to use instructions that any HP-41 user can enter and try. I've relearned a lot about this nice machine in the last few days.

Re: More 41 birthday fun.

*Message #36 Posted by **PeterP** on 30 July 2009, 1:31 p.m.,*
in response to message #35 by Steve Perkins

I love this collaboration! Using all the great improvements posted and incorporated I made one more change to the above code. Namely starting from x = n-1 rather than x = 1. I also added a couple of lines to replace the number 3 with a Rcl. Last but not least I used synthetic registers.

Using Steve's run-times as a benchmark I would think that

the code below should execute on his machine in **61 seconds**. (The last number, 41, should appear after about 51 seconds as it takes another 10 to check that there is no number between 41 and 49)

I wonder if we can drop below the 1min barrier?

Cheers

Peter

```
LBL EFv3
  3.04902
  STO 00 ;(n)
  INT
  STO a  ;(3)
  2
  VIEW X
  STO M  ;(2)
  STO N  ;(x)
  LBL 02 ;Loop over x
    RCL N ;(x)
    x^2
    LastX
    -
    RCL 00 ;(n)
    INT
    +
    STO O ;(x^2-x+n)
    SQRT
    RCL a ;(3)
    LBL 03 ;primeality test
      X>Y?
      GTO 05 ;->it is prime
      RCL O ;(x^2-x+n)
      X<>Y
      MOD
      x=0?
      GTO 09 ;->not prime
      X<>L
      RCL M ;(2)
      +
    GTO 03
 LBL 05 ;next x
   DSE N ;(x)
   GTO 02
 RCL 00 ;(n)
 INT
 View X ;all were prime, show result
 STO N ;(prep next max x)
 SIGN
 ST- N
 LBL 09 ;loop over n
   ISG 00
   GTO 02
 BEEP
 END


46 lines
```

Edited: 30 July 2009, 3:16 p.m.

Re: More 41 birthday fun.

*Message #37 Posted by **Steve Perkins** on 30 July 2009, 3:42 p.m.,*
in response to message #36 by PeterP

Wow!

That's impressive. I clock the code at 1m 04s on my emulator (which set at lowest speed matches my HP-41CX as close as my watch and fingers can tell).

I'm using the wonderful V41 emulator by Warren Furlow for these sythetic ones. I use the HP41UC User Code file converter by Leo Duran to compile the text to RAW format.

I check my own code on my real HP-41CX, but I can't do synthetics on it right now. I need to get my card reader working with a good rechargable battery for that.

I'm still looking at what you did to try to understand it, but I'm impressed.

Re: More 41 birthday fun.

*Message #38 Posted by **Steve Perkins** on 30 July 2009, 4:32 p.m.,*
in response to message #36 by PeterP

I think there is a bug in your code. Can code be buggy that produces the proper output? Hmmm.

I guess we could write code that merely displays the numbers we know we want with no calculations, but that wouldn't satisfy the requirement, right?

The problem seems to be that register N only gets set to n-1 when we successfully find and show the values that pass. It should also be set to the new n-1 when we find a non-prime and increment n for the next set of trials.

I made a fix and your code is still the fastest we have seen so far. 2m 41s.

I've included my changes to the end of your code. I really like the way you indent and comment to make the code readable, by the way. Did I missunderstand, or do you have a different idea how this should go?

```
LBL 05 ;next x
  DSE N ;(x)
  GTO 02
RCL 00 ;(n)
INT
View X ;all were prime, show result
LBL 09 ;loop over n
  RCL 00 ;(n)
  INT
  STO N ;(prep next max x)
  ISG 00
  GTO 02
BEEP
END
```

Re: More 41 birthday fun.

*Message #39 Posted by **PeterP** on 30 July 2009, 4:38 p.m.,*
in response to message #38 by Steve Perkins

yes, indeed you are right, my bad! Great fix!

Just for kicks and giggles, we can shave off 1 sec by replacing 'BEEP' with a synthetic tone 7 (BEEP takes a bit over a second and tone 7 about 1/10th of a second)

I wonder if there is a way to get rid of the repeated RCL 00, INT sequence. INT is not very expensive, but somewhat... But then we have to find an elegant way to do the ISG...

Cheers

Peter

Edited: 30 July 2009, 4:39 p.m.

Re: More 41 birthday fun.

*Message #40 Posted by **Paul Dale** on 30 July 2009, 5:16 p.m.,*
in response to message #39 by PeterP

Use a second register to mirror the integer part of the counter?

Probably more fuss that it is worth though.

- Pauli

Re: More 41 birthday fun.

*Message #41 Posted by **Steve Perkins** on 30 July 2009, 7:00 p.m.,*
in response to message #39 by PeterP

Now my turn to admit to a bug.

I intialized the next x for testing to n-2. It should start at n-1.

This equation is quite forgiving. For n which don't pass, it usually fails for lots of values of x!

Re: More 41 birthday fun.

*Message #42 Posted by **Gerson W. Barbosa** on 30 July 2009, 11:37 p.m.,*

in response to message #35 by Steve Perkins

> Quote:
>
> I was able to shave a second or two

Actually 4 and a half: now it runs in 2m 50.5s. Yet another second is gained when changing line 08 to

```
08 SIGN
```

Now, changing the outer loop, as Peter has suggested:

```
01 LBL 'HP41BD2
02 2
03 VIEW X
04 STO 04
05 49
06 STO 02
07 3
08 STO 00
09 LBL 01
10 SIGN
11 LBL 02
12 STO 01
13 X^2
14 LASTx
15 -
16 RCL 00
17 +
18 STO 03
19 SQRT
20 3
21 LBL 03
22 X>Y?
23 GTO 05
24 RCL 03
25 X<>Y
26 MOD
27 X=0?
28 GTO 09
29 X<>L
30 RCL 04
31 +
32 GTO 03
33 LBL 05
34 SIGN
35 RCL 01
36 +
37 RCL 00
38 X<>Y
39 X#Y?
40 GTO 02
41 VIEW X
42 LBL 09
43 RCL 04
44 ST+ 00
45 RCL 00
46 RCL 02
47 X>Y?
48 GTO 01
49 BEEP
50 END


-> 2m 47s
```

Or, if we want to save one step:

```
45 RCL 00
46 X<=NN?
47 GTO 01
48 BEEP
49 END
```

But then the running time rises to 2m 49s...

Just smalls steps though. Looking forward to the giant leaps you, Peter and others have been making :-)

Re: More 41 birthday fun.

*Message #43 Posted by **Steve Perkins** on 31 July 2009, 12:09 p.m.,*
in response to message #42 by Gerson W. Barbosa

Very nice routine.

I was working on removing the ISG myself, in order to avoid all (2 here) of the INT instructions, especially in the inner loop. I couldn't get it to work as well as I hoped in the backwards testing case following Peter's code.

There is one quibble I'd make with your implementation. It looks like you're skipping the test for n=49, since in step 47 you use the X>Y test with 49 in X so all odd values stictly less than 49 get tested. This is different than what we have been doing with the ISG code, so I don't think it was intentional.

In my testing using 51 in register 02 instead of 49 only added 1 second to the code. You could also change the test to X#Y? with the 51 value, but this is the outer loop, so it only saves 24 * 14ms or 1/3 second. Yes, I did obtain a table of HP-41 function times. I'm probably working way too hard for small incremental gains.

To save the last little bit of time we could save the constant 3 in register 05, and RCL 05 at your line 20 to save a little more time but make the code 51 steps.

I'm now starting to be confused about which registers are used for which constants. Just to confound the issue, I've changed so the following apply:

```
REG  Usage
 00   trial n
 01   trial x
 02   2
 03   3
 04   p = x^2 - x + n
 05   51
```

Acording to my HP-41CX and my fingers on my wristwatch it takes 2m 44s. I guess I need to add stopwatch code to be more precise.

Here's my code as it currently stands:

```
1  LBL "41BD2"
```

```
2  2
3  VIEW X
4  STO 02
5  51
6  STO 05
7  3
8  STO 00
9  STO 03
10 LBL 01
11 SIGN
12 LBL 02
13 STO 01
14 X^2
15 LASTX
16 -
17 RCL 00
18 +
19 STO 04
20 SQRT
21 RCL 03
22 LBL 03
23 X>Y?
24 GTO 05
25 RCL 04
26 X<>Y
27 MOD
28 X=0?
29 GTO 09
30 X<> L
31 RCL 02
32 +
33 GTO 03
34 LBL 05
35 SIGN
36 RCL 01
37 +
38 RCL 00
39 X<>Y
40 X#Y?
41 GTO 02
42 VIEW X
43 LBL 09
44 RCL 02
45 ST+ 00
46 RCL 00
47 RCL 05
48 X#Y?
49 GTO 01
50 BEEP
51 END
```

P.S. Using the internal Stopwatch, I get 2m 44.5s (stopping before the beep).

Edited: 31 July 2009, 12:23 p.m.

Re: More 41 birthday fun.

*Message #44 Posted by **Gerson W. Barbosa** on 31 July 2009, 1:13 p.m.,*
in response to message #43 by Steve Perkins

> Quote:
>
> There is one quibble I'd make with your implementation. It looks like you're skipping the test for n=49, since in step 47 you use the X>Y test with 49 in X so all odd values stictly less than 49 get tested. This is different than what we have been doing with the

> ISG code, so I don't think it was intentional.

You're right! I used to inspect register 00 after program execution to see if 51 was there, but I may have forgotten to do it after this change. My feeling was X<Y was faster than X<=Y as the test is evidently simpler.

> Quote:
>
> Using the internal Stopwatch, I get 2m 44.5s (stopping before the beep).

2m 42.5s on mine! That's 5.5 seconds faster than the previous (corrected) program. Quite another leap! Actual measurements: 2m 42.48s, 2m 42.47s, 2m 48s. Leave or take some milliseconds due to distance from ear to HP-41 buzzer. Temperature (51.8 °F) and air humidity (87 %) might affect timing also :-)

Edited: 31 July 2009, 1:24 p.m.

Re: More 41 birthday fun.

*Message #45 Posted by **Gerson W. Barbosa** on 31 July 2009, 4:32 p.m.,*
in response to message #43 by Steve Perkins

Now it takes 2m 39.5s (2m 39.39s, 2m 39.45s; 50°F, 93% :-) It's like trying to milk a stone...

```
01 LBL '41BDN
02 2
03 VIEW X
04 STO 04
05 51
06 STO 02
07 3
08 STO 00
09 STO 03
10 LBL 01
11 SIGN
12 LBL 02
13 STO 01
14 X^2
15 LASTX
16 -
17 RCL 00
18 +
19 ENTER
20 SQRT
21 RCL 03
22 LBL 03
23 X>Y?
24 GTO 05
25 RCL Z
26 X<>Y
27 MOD
28 X=0?
29 GTO 09
30 X<> L
31 RCL 04
```

```
32 +
33 GTO 03
34 LBL 05
35 SIGN
36 RCL 01
37 +
38 RCL 00
39 X<>Y
40 X#Y?
41 GTO 02
42 VIEW X
43 LBL 09
44 RCL 04
45 ST+ 00
46 RCL 00
47 RCL 02
48 X#Y?
49 GTO 01
50 BEEP
51 END


REG  Usage
 00   trial n
 01   trial x
 02   51
 03   3
 04   2
```

I know the register usage is a bit confusing but I wanted to try X#NN? (this ended up being half a second slower). Better revert to the original usage in your next improvement.

Re: More 41 birthday fun.

*Message #46 Posted by **Steve Perkins** on 31 July 2009, 6:00 p.m.,*
in response to message #45 by Gerson W. Barbosa

I'm unfamiliar with the X#NN? instruction. Perhaps it's from an extension module that I don't have, or something? Likely something they added on the CX that I'm not familiar with.

Nice usage of the stack to save a memory register and tighten the inner loop!

I actually tried doing it backwards as Peter originally did, with the starting value given to the program in X. In my emulator it was faster, but on the real HP-41CX it wasn't. It spends the vast majority of the time verifying that 41 passes. All the other values fail quickly or pass quicker (being smaller). It took nearly 2 minutes just to display 41! It saved a memory register and made the code a bit smaller, but not as fun to watch, unless you like the flying "goose".

Re: More 41 birthday fun.

*Message #47 Posted by **Gerson W. Barbosa** on 31 July 2009, 6:29 p.m.,*
in response to message #46 by Steve Perkins

> Quote:
>
> I'm unfamiliar with the X#NN? instruction. Perhaps it's from an extension module that I don't have, or something? Likely something they added on the CX that I'm not familiar with.

From HP-41CX Quick Reference Guide, page 25:

```
X=NN?      \
X#NN?       | Conditional: Uses
contents of
X<NN?       | Rnn (NN specified in
Y-register)
X<=NN?      | for comparison. If not
true, skips
X>NN?       | next program line.
X>=NN?     /
```

Re: More 41 birthday fun.

*Message #48 Posted by **Steve Perkins** on 31 July 2009, 7:08 p.m.,*
in response to message #47 by Gerson W. Barbosa

Thanks for the insight.

I guess the lottery is today. Perhaps we share the winnings with Peter, OK?

Re: More 41 birthday fun.

*Message #49 Posted by **Gerson W. Barbosa** on 31 July 2009, 8:53 p.m.,*
in response to message #48 by Steve Perkins

Let's not forget Hugh, who gave us the first version of the algorithm... provided of, course, anyone doesn't come up with a faster program. But since all Egan's numbers are odd, the odds of winning are very unlikely! Anyway, I'm pleased with what I have learned here lately :-)

Re: More 41 birthday fun.

*Message #50 Posted by **Steve Perkins** on 31 July 2009, 6:54 p.m.,*
in response to message #45 by Gerson W. Barbosa

I decided to look at your clever stack usage one last time. If we put P=x^2-x+n both in Z and T to enter the loop at LBL 03, we can use R^ instead of RCL Z. It saves a whole 8ms, but requires that we do a double ENTER to start the loop. The auto dup of register T when doing the MOD and + instructions keeps the stack the same for the next loop.

I think I'm getting too obsessed with this, but it should save about 2 seconds. Who knew a stone could be milked?

This time I included my stopwatch code. Leave it out for a non-CX.

```
1  LBL "41BD2"
2  CLX
3  SETSW
4  RUNSW
5  2
6  VIEW X
7  STO 02
8  51
9  STO 05
10 3
11 STO 00
12 STO 03
13 LBL 01
14 SIGN
15 LBL 02
16 STO 01
17 X^2
18 LASTX
19 -
20 RCL 00
21 +
22 ENTER
23 ENTER
24 SQRT
25 RCL 03
26 LBL 03
27 X>Y?
28 GTO 05
29 R^
30 X<>Y
31 MOD
32 X=0?
33 GTO 09
34 X<> L
35 RCL 02
36 +
37 GTO 03
38 LBL 05
39 SIGN
40 RCL 01
41 +
42 RCL 00
43 X<>Y
44 X#Y?
45 GTO 02
46 VIEW X
47 LBL 09
48 RCL 02
49 ST+ 00
50 RCL 00
51 RCL 05
52 X#Y?
53 GTO 01
54 STOPSW
55 BEEP
56 RCLSW
57 END
```

Re: More 41 birthday fun.

*Message #51 Posted by **Gerson W. Barbosa** on 31 July 2009, 8:40 p.m.,*
in response to message #50 by Steve Perkins

> Quote:
>
> I think I'm getting too obsessed with this, but it should save about 2 seconds.

Indeed! 2m 37.77s according to the HP-41CX stopwatch.

Congratulations for yet another faster version!

Edited: 31 July 2009, 9:06 p.m.

Re: More 41 birthday fun.

*Message #52 Posted by **PeterP** on 30 July 2009, 1:39 p.m.,*
in response to message #33 by Steve Perkins

brilliant idea the MOD!!!

Re: More 41 birthday fun.

*Message #53 Posted by **PeterP** on 28 July 2009, 1:29 p.m.,*
in response to message #19 by Gerson W. Barbosa

Gerson,

beautiful as always!Having done my own little code, I now have the pleasure to see the gems posted already.

Really nifty prime checking algorithm, not the clunky thing I have!

I wonder how much your speed would increase if you replace the numbers with registers. Digits really are very slow on the hp41. Another 'expensive' calculation on the 41 is SQRT so I tried to not have it in a loop. I can't quite tell if you recalc it more than once, but probably not :-)

Also, I saw that Paul suggested to only test for prime numbers as I do in my code. However I do think that makes a difference in run-time. For example, 49 gets very quickly abandoned without ever checking a single x.

Lastly, I think that starting the x^2-x+n test with n-1 is advantagious. It is the largest number to be tested for prime and hence has the highest chance to be not prime, at which point no further tests have to be done. This is why I started from 49 -> 2 rather then the other way around.

Cheers

Peter

Re: More 41 birthday fun.

*Message #54 Posted by **Paul Dale** on 28 July 2009, 12:04 a.m.,*
in response to message #1 by Egan Ford

Can anyone prove that there are no such numbers > 41? If not, can a counter example be found?

I rather doubt the second is likely given the massive increase in the number of numbers to validate as things get large. However, the first would be interesting.

- Pauli

Re: More 41 birthday fun.

*Message #55 Posted by **PeterP** on 28 July 2009, 1:18 p.m.,*
in response to message #1 by Egan Ford

late to the party I just saw this a few hours ago -> productivity went rapidly to zero to produce the code below. It is not the shortest but it seems to find the numbers in about 3' flat on a normal CX (i41cx on default speed). I must have made some mistake...

Here are my thoughts about the code:

- as $1^2 - 1 + n$ has to be a prime, n has to be a prime. This is used by only checking odd n and doing a primality test on n itself first. If that test fails, that n is discarded and the next n = n-2 is checked
- as n is odd, $x^2 - x + n$ is also always odd. So the primality test does not check for 2
- The primality test uses division by 3 and 5 directly and then starts by checking divisors <= sqrt(number_to_be_checked). Speed could improve if one were to start with smaller divisors towards sqrt(n), but I have not implemented this.
- as digits are the slowest things on the 41, often used numbers are stored in registers. To give you a sense how incredibly slow numbers are, the sequence clx, sign is faster than '1'! And times for numbers are linear with the digits
- Status registers (incl M,N,O) are used as they are slightly faster than normal registers.
- last but not least, 2 is simply displayed as the last result, given that it was already provided as a solution

Usage: enter the highest possible number, 49, and press R/S. In about 3 minutes 02 seconds the sequence 41, 17, 11, 5, 3, 2 is displayed.

Registers:

- STO N: number n currently tested
- STO M: x currently tested, x e[1,n-1]
- STO O: 1
- STO 00: 2
- STO 01: 3
- STO 02: 5
- STO 03: current divisor
- STO 04: number tested for primality (either n or x^2-x+n)

Sub-routines

- Lbl 00: Main loop fro testing n, starting with the value the user entered to start the program

- LBL 01: Loop to check for all x that x^2-x+n is prime
- Lbl 05: primality test
- Lbl 06: show n as a valid result
- Lbl 02: move to next n -> current n-2

Code:

```
LBL 'EF3'
  STO N ;n
  SIGN
  STO O ;1
  Enter
  +
  Sto 00 ;2
  LastX
  +
  Sto 01 ;3
  Rcl 00
  +
  Sto 02 ;5
  Lbl 00
    Rcl N ;n
    Xeq 05 ;primality test
    Rcl N ;we only return here if prime
    Rcl O ;1
    -
    Sto M
    Lbl 01 ;loop to check x^2-x-n
      Rcl M
      X^2
      LastX
      -
      Rcl N
      +
      Xeq 05
      DSE M
    Gto 01 ;check next x
      Gto 06 ;all prime, show n


Lbl 05 ;primality test
  Sto 04
  Rcl 01 ;3 no need to check 2 as only odd numbers here
  X=y?
  Rtn ;is prime
  /
  FRC
  X=0? ;is not prime?
    GTO 02 ;next prime
  Rcl 04
  Rcl 02 ;5
  X=y?
  RTN
  /
  FRC
  X=0?
    GTO 02
  RCL 04
  SQRT  ;find max divisor
  INT   ;make sure it is odd
  Rcl 00
  /
  INT
  Rcl 00
  *
  RCL 0
  +
  Sto 03 ;divisor
  Lbl 03
    Rcl 02 ;make sure it is > 5
    X>=Y?
      RTN ; is prime
    RCL 04
    Rcl Z ;divisor
    /
    FRC
    X=0?
```

```
      GTO 02; not prime
    Rcl 03
    Rcl 00 ;2
    -
    Sto 03 ;next divisor
  Gto 03


Lbl 06 ;show n
  View N
Lbl 02 ;next n to test
  Rcl N
  Rcl O
  -
  Sto N
  Rcl 01 ;is it >=3?
  X<=Y?
  Gto 00 ;yes, test next n
View 00 ;no. show 2 and stop
Stop
```

Edited: 28 July 2009, 2:13 p.m.

Re: More 41 birthday fun.

*Message #56 Posted by **Steve Perkins** on 28 July 2009, 3:11 p.m.,*
in response to message #55 by PeterP

A very nice entry, and I like your ideas.

Especially sweet as you apparently didn't look at what others had tried before your attempt!

I'm impressed with your knowledge of what operations are faster on the HP-41 and your use of synthetic register operations. It's been a while since I've done such programming, but it was lots of fun back when I had the time and energy to study it. When I get home, perhaps I can find my table of execution times for instructions.

The biggest speed improvement may be the backward testing, from high to low, as you mention above. We'll see if I can find time from work to tweak my code.

Re: More 41 birthday fun.

*Message #57 Posted by **PeterP** on 28 July 2009, 3:31 p.m.,*
in response to message #56 by Steve Perkins

> Quote:
>
> A very nice entry, and I like your ideas.

Thanks Steve for the kind words.

> Quote:
>
> Especially sweet as you apparently didn't look at what others had tried before your attempt!

Learned this from Valentine's challenges. There are thunderous intellects on this forum and so peeking ahead would rob the average Joe, I mean, Peter, from all the fun in solving things on my own.

> Quote:

> I'm impressed with your knowledge of what operations are faster on the HP-41 and your use of synthetic register operations. It's been a while since I've done such programming, but it was lots of fun back when I had the time and energy to study it. When I get home, perhaps I can find my table of execution times for instructions.

Don't be. The only calc I know something about is the 41 and I always liked speed improvements. You can actually still buy the Synthetix Pocket Reference guide which has execution time tables towards the end IIRC.

> Quote:
>
> The biggest speed improvement may be the backward testing, from high to low, as you mention above. We'll see if I can find time from work to tweak my code.

That would be great. I think if we combine the ideas that we have come up and incorporate it into the sleek algorithm from you/Hugh/Gerson we might have quite a speedy little program.

Cheers

Peter

Edited: 28 July 2009, 3:32 p.m.

Re: More 41 birthday fun.

*Message #58 Posted by **Mark Edmonds** on 28 July 2009, 7:26 p.m.,*
in response to message #57 by PeterP

Timing for my RPL version above using an emulated 49G+ set to authentic speed is 18.7 seconds. I can chop that in half with one simple modification (using NEXTPRIME instead of INCR).

The reason why I was looking at improving the speed is to find the 7th number. So far, even after leaving the emu running at max speed for over 10 minutes, it hasn't been found yet. At max speed, the basic 6 number requirement takes 0.6 seconds so is about 29 times faster. That means that at real speed, finding the 7th number is going to take over 4h 50m !

Mark

Re: More 41 birthday fun.

*Message #59 Posted by **Paul Dale** on 28 July 2009, 7:31 p.m.,*
in response to message #58 by Mark Edmonds

Is there a 7th number?

Not under 100,000,000 there isn't.

Pauli

Re: More 41 birthday fun.

*Message #60 Posted by **PeterP** on 29 July 2009, 10:54 a.m.,*
in response to message #59 by Paul Dale

The Lucky Numbers of Euler (by F. Le Lionnais)

Now that we have the programs, I started some digging to find out more about this sequence. I'm sure Egan will fill us in with far more clarity, but this is what I have learned so far.

Our little problem is related to Eulers Polynomial, even though Egan has disguised it a little. Note that the sequence x^2-x gives the same result as x^2+x just with the addition of 0 at the start, namely (0),2,6,12,20,30,...

Below is the quotation from wikipedia which talkes about a Heegener Number, something I have never heard off. Here is the link to Heegener numbers at Wolframs

It would appear that Rabinowitz proved that there is no result >41. The article is in german and I was not able to find a link to a free version on the internet.

> Quote:
>
> *...from Wikipedia*
>
> **Euler's prime-generating polynomial**
>
> $n^2 + n + 41$,
>
> which gives (distinct) primes for n=0,...,39, is related to the Heegner number 163 = 4*41 - 1.
>
> Rabinowitz[1] proved that
>
> $n^2 + n + p$
>
> gives primes for n=0,...,p-2 if and only if its discriminant 1-4p equals minus a Heegner number.
>
> (Note that p-1 yields p^2, so p-2 is maximal.) 1, 2, and 3 are not of the required form, so the Heegner numbers that work are 7,11,19,43,67,163, yielding prime generating functions of Euler's form for 2,3,5,11,17,41; these latter numbers are called lucky numbers of Euler by F. Le Lionnais.[2]

Edited: 29 July 2009, 11:04 a.m.

Re: More 41 birthday fun.

*Message #61 Posted by **hugh steers** on 29 July 2009, 11:38 a.m.,*
in response to message #60 by PeterP

It's to do with the class number of the imaginary quadratic field being 1. This is only the case for a few discriminants; Q[sqrt(-d)], for d in 3,4,7,8,11,19,43,67,163. if d = 1-4q, then we have q in; 2,3,5,11,17 and 41.

I originally wondered if there is a quick way to determine the class number h(1-4q) for small q. This would solve the problem, but it appears to need d = 1-4q to be factored (for the kronecker symbol see "class number" on mathworld).

if the class number is 2 we get some other polynomials

```
2x^2 + p, p in {3,5,11,29} all prime for x = 0,..p-1
2x^2+2x + n, n in {3,7,19} prime for x = 0,1,..n-2
px^2+px + n for pairs (p,n) in
(3,2),(3,5),(3,11),(3,23),(5,3),(5,7),(5,13),(7,5),(7,17),(11,7),(13,11)
prime for x = 0,1,..n-2
```

[from the "book of prime number records"]

Re: More 41 birthday fun.

*Message #62 Posted by **Paul Dale** on 29 July 2009, 5:15 p.m.,*
in response to message #60 by PeterP

Nice response, thanks. I recognised the '41' as being Euler's polynomial but didn't remember the Euler bit and didn't notice the harmless change from $x^2 + x$ to $x^2 - x$.

I guess my question is properly answered.

- Pauli

Re: More 41 birthday fun.

*Message #63 Posted by **Steve Perkins** on 29 July 2009, 5:55 p.m.,*
in response to message #1 by Egan Ford

Egan, this has been a very enjoyable challenge.

Just right for my level of skill and understanding, and of course the number 41 shows up prominently!

I appreciate the effort it takes to craft a challenge like this and present it to the community.

And it gave me an excuse to try out my recently acquired HP-41CX!

Thanks! And keep up the good work.

P.S. Oh, and good luck in the lottery too!

Edited: 29 July 2009, 5:56 p.m.

Re: More 41 birthday fun.

*Message #64 Posted by **PeterP** on 30 July 2009, 1:36 p.m.,*
in response to message #63 by Steve Perkins

Just want to echo Steve's words - thanks Egan, this has been most enjoyable. Especially due to the really fun code collaboration!

Thanks everyone, as usually, I learned a lot:-)

Cheers

Peter

Re: More 41 birthday fun.

*Message #65 Posted by **Thomas Klemm** on 1 Aug 2009, 2:18 p.m.,*
in response to message #1 by Egan Ford

I know I was not allowed to do so but first I wrote a program in UserRPL:

```
\<< { } 1 ROT
    FOR n
        n DUP
        IFERR
            1 OVER 1 -
            FOR i
                IF DUP PRIM? NOT
                THEN DOERR
                END
                i 2 * +
            NEXT
        THEN DROP
        ELSE DROP +
        END
    NEXT
\>>
```

Run it with a number bigger than 41 and you will get:

```
{ 2 3 5 11 17 41 }
```

Then I used a Perl-script "rpl2focal.pl" to translate it into the following listing. Nah, just kidding. Of course I had to use my brain. Without modules there's no such thing as PRIM?. So we have to do that on our own. My goal was to make the innermost loop as short as possible. That's why I keep the list of divisors in registers. It might be faster though to keep only primes in that list but then it's not so easy to calculate the upper bound in lines 46-51.

So here's my contribution. Now I'm going to read all the other solutions.
Egan, thanks a lot for the fun I had thanks to your challenge.

Best regards
Thomas Klemm

Listing

```
01 LBL A            26 LBL B            51 +                71 LBL C
02  E3              27  E3              52  E3              72 ENTER
03 /                28 /                53 /                73 ENTER
04 STO M            29 STO M            54 STO O            74 SQRT
05 2                30 LBL 02           55 LBL 04           75 3
06 STO IND M        31 RCL IND M        56 RDN              76 /
07 ISG M            32 RCL X            57 RCL IND O        77 INT
08 ENTER            33 2                58 MOD              78 1
09 X^2              34 -                59 X=0?             79 +
10 3                35  E3              60 GTO 05           80  E3
11 STO IND M        36 /                61 ISG O            81 /
12 ISG M            37 STO N            62 GTO 04           82 STO M
13 LASTX            38 RDN              63 RDN              83 LBL 06
14 +                39 LBL 03           64 ISG N            84 RDN
15 GTO 00           40 RCL N            65 GTO 03           85 RCL IND M
16 LBL 01           41 INT              66 VIEW IND M       86 MOD
17 RCL Z            42 ST+ X            67 LBL 05           87 X=0?
18 X<>Y             43 +                68 ISG M            88 RTN
19 R^               44 ENTER            69 GTO 02           89 ISG M
20 +                45 ENTER            70 RTN              90 GTO 06
21 LBL 00           46 SQRT                                 91 END
22 STO IND M        47 3
23 ISG M            48 /
24 GTO 01           49 INT
25 RTN              50 1
```

A Initialization

```
14
XEQ A
```

This program will fill the registers R00 - R14 with the following values:

```
R00:    2
R01:    3
R02:    5
R03:    7
R04:   11
R05:   13
R06:   17
R07:   19
R08:   23
R09:   25
R10:   29
R11:   31
R12:   35
R13:   37
R14:   41
```

You may have noticed that this is not exactly the list of primes. It takes 0'02" to complete on an emulated HP-41CX.

B Lottery Numbers

```
14
XEQ B
```

This program will display the following numbers:

```
 5.0000
11.0000
17.0000
41.0000
```

It takes 1'45" to complete on an emulated HP-41CX. So what about 2 and 3 you may ask and I must admit that's a bug. But it's quiet easy to fix that: just add X#Y? after line 57. After that it took 1'50" to complete.

C Is it a prime?

This program isn't really needed but you can use it to check whether a number is a prime or not. Unless it is a prime 0 will be returned, otherwise a value > 0.

Assuming the size is big enough you might run:

```
200
XEQ A
```

Now you can check numbers up to 358,801 = 599^2. However it's probably not the fastest method. It may work for bigger numbers too though for some it may not.

```
76543
XEQ C
91.0000
```

Hence it is a prime.

```
181663
XEQ C
0.0000
```

Hence it is not a prime. You can find the smallest factor in LAST x:

```
LASTX
389.0000
```

Re: More 41 birthday fun.

*Message #66 Posted by **Steve Perkins** on 1 Aug 2009, 10:27 p.m.,*
in response to message #65 by Thomas Klemm

A wonderful entry!

I like the way you used counts of prime candidates. I've been trying to put together something similar, skipping multiples of 3 as you did, but my efforts so far have taken 2m 50s or so.

I increased the number tested to 17 to get up to 49 as we did, since this is up to the assumed possible lottery numbers. It ran in 2m 10s at default emulator speed.

In my tests, turning the V41 emulator speed down to minimum most closely matched my genuine HP-41CX. It takes about twice as long to run at that setting on my computer at home. I'm not sure if that's exactly the same or not.

A very nice first attempt! I'm impressed.

P.S. My home computer is a bit slower than the one I was using earlier. Hard to calibrate these things precisely, I guess.

Edited: 1 Aug 2009, 11:42 p.m.

Re: More 41 birthday fun.

*Message #67 Posted by **Steve Perkins** on 2 Aug 2009, 2:21 p.m.,*
in response to message #65 by Thomas Klemm

I finally produced an acceptable version that stores an array to skip odd numbers divisible by 3.

It runs on my real HP-41CX in 2m 29.3s, but your mileage may vary.

As usual, improvements are welcome. Of course the challenge is officially over and my wife would like me to return to earth, so...

```
01 LBL "41BD3"
02 CLX
03 SETSW
04 RUNSW
05 2
06 VIEW X
07 STO 02
08 XEQ 06
09 7.022
10 STO 05
11 3
12 STO 00
13 STO 03
14 LBL 01
15 SIGN
16 LBL 02
17 STO 01
18 X^2
19 LASTX
20 -
21 RCL 00
22 +
23 ENTER
24 ENTER
25 SQRT
```

```
26 RCL 03
27 STO 04
28 ST+ 04
29 LBL 03
30 X>Y?
31 GTO 05
32 R^
33 X<>Y
34 MOD
35 X=0?
36 GTO 09
37 SIGN
38 ST+ 04
39 CLX
40 RCL IND 04
41 GTO 03
42 LBL 05
43 SIGN
44 RCL 01
45 +
46 RCL 00
47 X<>Y
48 X#Y?
49 GTO 02
50 VIEW X
51 LBL 09
52 RCL IND 05
53 STO 00
54 ISG 05
55 GTO 01
56 STOPSW
57 BEEP
58 RCLSW
59 STOP
60 LBL 06
61 4
62 STO 03
63 22
64 49
65 LBL 07
66 STO IND Y
67 RCL 02
68 -
69 X<0?
70 RTN
71 DSE Y
72 STO IND Y
73 RCL 03
74 -
75 DSE Y
76 GTO 07
77 END
```

Re: More 41 birthday fun.

*Message #68 Posted by **Thomas Klemm** on 2 Aug 2009, 2:39 p.m.,*
in response to message #65 by Thomas Klemm

Quotations

> Quote:
>
> although 49 is a given max for the problem here
>
> Quote:
>
> ```
> 02 3.04902
> 03 STO 00
> ```

I wasn't aware of this fact. But I realized that there are no solutions bigger than 41. That's why I considered

that as an upper limit. From now on I will do my timing based on 49. IIRC the Swiss lottery used 6 out of 42. Now they are using 45.

Quote:

- as n is odd, x^2-x + n is also always odd. So the primality test does not check for 2

That saved nearly 100 tests I guess. So my list is starting now with 3, 5, 7, ...

Quote:

```
04 2
05 VIEW X
```

I consider that a little cheating. But I'm sure I can use that trick as well since 2 and 3 are missing now in my solution.

Quote:

- as digits are the slowest things on the 41, often used numbers are stored in registers

Quote:

```
  STO a  ;(3)
```

I wasn't aware that I could use register *a* without harm. Or probably I just forgot about that. But since I'm not using subroutines I'm on the safe side. Using register *P* is probably a bad idea, I guess.

Quote:

Another optimisation would be to only test primes instead of odd numbers.

Not exactly what I did but a little closer. I'm using only 17 numbers instead of 24 of which only 25, 35 and 49 are composite.

Quote:

Lastly, I think that starting the x^2-x+n test with n-1 is advantageous. It is the largest number to be tested for prime and hence has the highest chance to be not prime, at which point no further tests have to be done.

I'm not sure whether I understood that correctly but if you suggest to count x down from n-1 to 0 then there are certain cases where you start testing a big prime but you could find the smallest composite much faster.

E.g. n = 37

ascending:
37 is a prime, therefore you have to check 3 and 5 to find out
39 is composite, divisible by 3

3 checks needed to reject 37

descending:
1297 is a prime, therefore you have to check 3, 5, 7, ..., 35 to find out
1227 is composite, divisible by 3

18 checks needed to reject 37

Here are the other cases:

```
  7:  37
 15: 197
 21: 401
 25: 577
 27: 677
```

However as you may see from the following table there's only one case (namely 29) where you'd have to check more than on prime prior to find the first composite. Primes are marked with a sharp #.

```
  3:    3#    5#
  5:    5#    7#   11#   17#
  7:    7#    9    13#   19#   27    37#
  9:    9    11#   15    21    29#   39    51    65
 11:   11#   13#   17#   23#   31#   41#   53#   67#   83#  101#
 13:   13#   15    19#   25    33    43#   55    69    85   103#  123   145
 15:   15    17#   21    27    35    45    57    71#   87   105   125   147   171
197#
 17:   17#   19#   23#   29#   37#   47#   59#   73#   89#  107#  127#  149#  173#
199#  227#  257#
 19:   19#   21    25    31#   39    49    61#   75    91   109#  129   151#  175
201   229#  259   291   325
 21:   21    23#   27    33    41#   51    63    77    93   111   131#  153   177
203   231   261   293#  327   363   401#
 23:   23#   25    29#   35    43#   53#   65    79#   95   113#  133   155   179#
205   233#  263#  295   329   365   403   443#  485
 25:   25    27    31#   37#   45    55    67#   81    97#  115   135   157#  181#
207   235   265   297   331#  367#  405   445   487#  531   577#
 27:   27    29#   33    39    47#   57    69    83#   99   117   137#  159   183
209   237   267   299   333   369   407   447   489   533   579   627   677#
 29:   29#   31#   35    41#   49    59#   71#   85   101#  119   139#  161   185
211#  239#  269#  301   335   371   409#  449#  491#  535   581   629   679   731   785
 31:   31#   33    37#   43#   51    61#   73#   87   103#  121   141   163#  187
213   241#  271#  303   337#  373#  411   451   493   537   583   631#  681   733#
787#  843   901
 33:   33    35    39    45    53#   63    75    89#  105   123   143   165   189
215   243   273   305   339   375   413   453   495   539   585   633   683#  735   789
845   903   963  1025
 35:   35    37#   41#   47#   55    65    77    91   107#  125   145   167#  191#
217   245   275   307#  341   377   415   455   497   541#  587#  635   685   737   791
847   905   965  1027  1091# 1157
 37:   37#   39    43#   49    57    67#   79#   93   109#  127#  147   169   193#
219   247   277#  309   343   379#  417   457#  499#  543   589   637   687   739#  793
849   907#  967# 1029  1093# 1159  1227  1297#
 39:   39    41#   45    51    59#   69    81    95   111   129   149#  171   195
221   249   279   311#  345   381   419#  459   501   545   591   639   689   741   795
851   909   969  1031# 1095  1161  1229# 1299  1371  1445
 41:   41#   43#   47#   53#   61#   71#   83#   97#  113#  131#  151#  173#  197#
223#  251#  281#  313#  347#  383#  421#  461#  503#  547#  593#  641#  691#  743#
797#  853#  911#  971# 1033# 1097# 1163# 1231# 1301# 1373# 1447# 1523# 1601#
 43:   43#   45    49    55    63    73#   85    99   115   133   153   175   199#
225   253   283#  315   349#  385   423   463#  505   549   595   643#  693   745   799
855   913   973  1035  1099  1165  1233  1303# 1375  1449  1525  1603  1683  1765
 45:   45    47#   51    57    65    75    87   101#  117   135   155   177   201
227#  255   285   317#  351   387   425   465   507   551   597   645   695   747   801
857#  915   975  1037  1101  1167  1235  1305  1377  1451# 1527  1605  1685  1767  1851
1937
```

```
  47:   47#   49    53#   59#   67#   77    89#  103#  119   137#  157#  179#  203
229#  257#  287   319   353#  389#  427   467#  509#  553   599#  647#  697   749   803
859#  917   977# 1039# 1103# 1169  1237# 1307# 1379  1453# 1529  1607# 1687  1769  1853
1939  2027# 2117
  49:   49    51    55    61#   69    79#   91   105   121   139#  159   181#  205
231   259   289   321   355   391   429   469   511   555   601#  649   699   751#  805
861   919#  979  1041  1105  1171# 1239  1309  1381# 1455  1531# 1609# 1689  1771  1855
1941  2029# 2119  2211  2305
```

So I agree with you that chances are lower that bigger numbers are primes. However if you run into one it takes much longer to prove it is one.

Listing

```
 01 LBL A
 02  E3
 03 /
 04 STO M
 05 2
 06 ENTER
 07 X^2
 08 3
 09 STO IND M
 10 ISG M
 11 LASTX
 12 +
 13 GTO 00
 14 LBL 01
 15 RCL Z
 16 X<>Y
 17 R^
 18 +
 19 LBL 00
 20 STO IND M
 21 ISG M
 22 GTO 01
 23 RTN
 24 LBL B
 25  E3
 26 STO a
 27 /
 28 STO M
 29 LBL 02
 30 RCL IND M
 31 RCL X
 32 2
 33 -
 34 RCL a
 35 /
 36 STO N
 37 RDN
 38 LBL 03
 39 RCL N
 40 INT
 41 ST+ X
 42 +
 43 ENTER
 44 ENTER
 45 SQRT
 46 3
 47 /
 48 INT
 49 RCL a
 50 /
 51 STO O
 52 LBL 04
 53 RDN
 54 RCL IND O
 55 MOD
 56 X=0?
 57 GTO 05
 58 ISG O
 59 GTO 04
 60 RDN
 61 ISG N
 62 GTO 03
 63 VIEW IND M
 64 LBL 05
 65 ISG M
 66 GTO 02
 67 END
```

Timing

```
16 XEQ A:     0'02.06"
16 XEQ B:     1'27.56"
```

Conclusions

I realized that my calculation of the upper bound in lines 45-48 could be improved:

```
 45 SQRT
 46 1
 47 -
 48 3
 49 /
 50 INT
```

This would save around 30 tests in the innermost loop. But since these lines are executed about 90 times the saving of time is nullified.

What I might try is to reverse all the indexes and use DSE instead of ISG. This would save the division by E3. But then I'd have to solve the problem that 0 is skipped.

Just wanted to thank you for all the contributions so far. They have been a great help. Nevertheless I don't think that I can beat Peter's solution. It seems that caching the numbers isn't suitable in this situation. Most of the numbers can be rejected by simply trying 3, 5 or 7 as divisors. But for exactly these cases my list doesn't differ from what he's using.

Best regards
Thomas

Re: More 41 birthday fun.

*Message #69 Posted by **Thomas Klemm** on 2 Aug 2009, 6:36 p.m.,*
in response to message #65 by Thomas Klemm

Only now I realized that I compared my program to Peter's buggy version from message #36. Compared to the fixed version in message #38 it isn't that bad. So I've concatenated my formerly separate parts A and B, added the missing view of 2 and 3, replaced subtraction of 2 with DSE, used register Q to store the number 3 and added the same stopwatch-code as in message #67 to measure the time.

Listing

```
01 LBL A
02 0
03 SETSW
04 X<>Y
05 RUNSW
06  E3
07 STO a
08 /
09 STO M
10 STO O
11 2
12 VIEW X
13 ENTER
14 X^2
15 3
16 VIEW X
17 STO Q
18 STO IND O
19 ISG O
20 LASTX
21 +
22 GTO 00
23 LBL 01
24 RCL Z
25 X<>Y
26 R^
27 +
28 LBL 00
29 STO IND O
30 ISG O
31 GTO 01
32 LBL 02
33 RCL IND M
34 ENTER
35 DSE X
36 DSE X
37 RCL a
38 /
39 STO N
40 RDN
41 LBL 03
42 RCL N
43 INT
44 ST+ X
45 +
46 ENTER
47 ENTER
48 SQRT
49 RCL Q
50 /
51 INT
52 RCL a
53 /
54 STO O
55 LBL 04
56 RDN
57 RCL IND O
58 MOD
59 X=0?
60 GTO 05
61 ISG O
62 GTO 04
63 RDN
64 ISG N
65 GTO 03
66 VIEW IND M
67 LBL 05
68 ISG M
69 GTO 02
70 STOPSW
71 RCLSW
72 END
```

Timing

I used to pack the programs and ran them at least twice using the 2nd reading.

```
Peter's (#36+#38) : 01'38"
Steve's (#67)     : 01'33"
mine (#69)        : 01'28"
Egan's (#70)      : 02'09"
```

Measured on a HP-41CX emulator. Maybe somebody could do that on a real calculator?

Edited: 2 Aug 2009, 10:08 p.m.

Re: More 41 birthday fun.

*Message #70 Posted by **Steve Perkins** on 3 Aug 2009, 12:58 p.m.,*
in response to message #69 by Thomas Klemm

I've been trying to benchmark and understand your code better. I'm having trouble in two spots. The main one is where you seem to be calculating the polynomial to test for primality:

```
42 RCL N
43 INT
44 ST+ X
```

```
 45 +
```

We've been testing for prime candidates P=x^2-x+N for given N. If I'm not mistaken you're testing P=x*2+N. When I made the change to your code, however, it did't seem to work. Probably I've missed something that should be obvious, or my programming changes were bad:

```
 42 RCL N
 43 INT
 44 X^2
 45 LASTx
 46 -
 47 +
```

I'm also partly responsible for another possible problem area. In my suggested fix for Peter's entry, my code tested all x from 1 to N-2. As stated originally we should be testing from 0 (or 1) to N-1. This seems to be reflected in the code:

```
 35 DSE X
 36 DSE X
```

I hope you can clarify these issues, or help me understand your ideas better. Thanks!

Steve

Re: More 41 birthday fun.

*Message #71 Posted by **Thomas Klemm** on 4 Aug 2009, 5:11 a.m.,*
in response to message #70 by Steve Perkins

> Quote:
>
> If I'm not mistaken you're testing P=x*2+N.

I'm calculating the sequence recursively, thus saving the multiplication:

dP(x) = P(x+1) - P(x) = 2x = x + x

What might be confusing is the fact that register *N* keeps track of x and **not** N. P(x) is kept only on the stack.

> Quote:
>
> As stated originally we should be testing from 0 (or 1) to N-1.

My code tests all x from 1 to N-1, however the counter in register *N* runs from 0 to N-2.

```
 x    dP(x)        P(x+1)
-----------------------
 0        0         0 + N
 1        2         2 + N
 2        4         6 + N
 3        6        12 + N
 4        8        20 + N
(...)
```

Hope this clarifies the issues.

Kind regards
Thomas

Edited: 4 Aug 2009, 8:20 a.m.

Re: More 41 birthday fun.

*Message #72 Posted by **Steve Perkins** on 3 Aug 2009, 2:10 p.m.,*
in response to message #69 by Thomas Klemm

It looks to me like there's a problem handling the stack in the loop at LBL 04.

I think you're trying to maintain the value P=x^2-x+N that we're checking for primality on the stack, but you've lost N that you need when you decide P is prime and loop to LBL 03 to check the next value of x.

I'm still trying to understand and see if there's an easy fix.

Edited: 3 Aug 2009, 2:21 p.m.

Re: More 41 birthday fun.

*Message #73 Posted by **Thomas Klemm** on 4 Aug 2009, 8:06 a.m.,*
in response to message #72 by Steve Perkins

> Quote:
>
> I think you're trying to maintain the value P=x^2-x+N that we're checking for primality on the stack

That's true.

> Quote:
>
> but you've lost N that you need when you decide P is prime and loop to LBL 03 to check the next value of x.

That's the other advantage of using recursion: N is kept hidden in P(x). Therefore no need to keep that value separately on the stack. Otherwise I couldn't take the full advantage of the most convenient feature that T is copied and not only moved to Z when executing MOD in line 58. The counter of the innermost loop (55-62) is kept outside the stack in register *O* thus not interfering. I can't think of a tighter solution.

Edited: 4 Aug 2009, 8:15 a.m.

Re: More 41 birthday fun.

*Message #74 Posted by **Steve Perkins** on 4 Aug 2009, 11:29 a.m.,*
in response to message #73 by Thomas Klemm

Very clever, Thomas!

Thanks for clearing that up.

I couldn't understand how you were getting the right answers without seeming to use the specified equation, but you've explained it well.

Sorry for being slow and assuming mistakes where there weren't any.

My "corrected version" isn't needed now, obviously.

Re: More 41 birthday fun.

*Message #75 Posted by **Thomas Klemm** on 4 Aug 2009, 12:28 p.m.,*
in response to message #74 by Steve Perkins

I had better commented my code as Gerson and Peter did. Most probably even I will have difficulties to understand my program in half a year.

Re: More 41 birthday fun. Lottery results.

*Message #76 Posted by **Egan Ford** on 2 Aug 2009, 7:48 p.m.,*
in response to message #1 by Egan Ford

So what were my lottery numbers?

Steve was correct in assuming I selected this problem because it had a 41 in it. I also selected the lottery theme, as Peter and others have pointed out, because they are the only 6 known Euler Lucky Numbers (Fascinating!) and they happen to fall within most (if not all) lottery ranges. However they are not Egan's Lucky Numbers. That's right. I lost. Only one of the 6 (17) was *lucky*. I am a dollar poorer, but much wiser after reading this fascinating thread. Thank you all.

My solution was neither short, speedy, or sexy (read synthetic). I made no attempts to optimize after my initial proof-of-concept. I tip my party hat to all of you that participated with your brief, quick, and exotic solutions.

My solution was built on the following assumptions:

1. If $x^2 - x + n$ is a prime number for $x = 0, 1, ..., n - 1$, then n must also be prime for the simple fact that when $x = 0$ or 1, then $x^2 - x = 0$. So only prime n need be checked.
2. Because of #1, there is only the need to check the range $x = 2, 3, ..., n - 1$.
3. Because of #2, $n = 2$ can be a given (trivial), and it was given in my 2nd post. So you only need to find 5 odd prime numbers.

First I needed to generate a list of primes to be used as the candidates and for trial division. When I started on my prime number generator I started with the assumption that 2 was prime, I also knew that 3, 5, and 7 were also prime, but then so was 11. Before I knew it I had coded all 16 primes < 56 into my 41CX. It's amazing that being forced to memorize times-tables as a child that you were also indirectly memorizing a list of trivial primes. So I stuck with the bloated prime table method.

Now why < 56? I didn't give a range for the lottery because most range from 1-50 or greater. And the answer for any lottery known to me would have been the same. But, given that some searched from top down I should have given a range. I assumed that all would search from bottom up. So, back to why < 56? Well that was the range for the lottery I entered.

Once I had my prime table, my program simply processed each odd prime (#3), with the range in (#2). I used MOD instead of divide to check primality.

My program takes an embarrassingly 3.5 minutes on a 41CX with a printer attached (should run a bit faster without it). But the fun for me was watching others play.

BTW, I did dig a bit deeper into the mystery of Euler's Lucky Numbers, but did not find any quick or elegant tricks to mathematically make this problem easier to code. Such is life when working with prime numbers.

Again, thank you all for your participation.

Code:

```
01 LBL "BDC2"       28 STO 10           55 RCL 18           82 ISG 18
02 0                29 37               56 INT              83 GTO 01
03 SETSW            30 STO 11           57 X^2              84 RCL IND 17
04 FIX 00           31 41               58 LASTX            85 PRX
05 CF 29            32 STO 12           59 -                86 RCL 16
06 RUNSW            33 43               60 RCL IND 17       87 5
07 2                34 STO 13           61 +                88 X=Y?
08 STO 00           35 47               62 STO 19           89 GTO 05
09 3                36 STO 14           63 SQRT             90 1
10 STO 01           37 53               64 INT              91 ST+ 16
11 5                38 STO 15           65 STO 20           92 LBL 04
12 STO 02           39 2                66 0                93 ISG 17
13 7                40 PRX              67 STO 21           94 GTO 00
14 STO 03           41 1                68 LBL 02           95 LBL 05
15 11               42 STO 16           69 RCL 20           96 ADV
16 STO 04           43 1.01500          70 RCL IND 21       97 STOPSW
17 13               44 STO 17           71 X>Y?             98 FIX 06
18 STO 05           45 LBL 00           72 GTO 03           99 RCLSW
19 17               46 2                73 RCL 19          100 "TIME: "
20 STO 06           47 RCL IND 17       74 RCL IND 21      101 ATIME24
21 19               48 1                75 MOD             102 PRA
22 STO 07           49 -                76 X=0?            103 FIX 09
23 23               50 1000             77 GTO 04          104 SF 29
24 STO 08           51 /                78 1               105 END
25 29               52 +                79 ST+ 21
26 STO 09           53 STO 18           80 GTO 02
27 31               54 LBL 01           81 LBL 03
```

Edited: 2 Aug 2009, 7:50 p.m.

The sad irony of the HP-41 and Lottery games

*Message #77 Posted by **Karl Schneider** on 2 Aug 2009, 8:17 p.m.,*
in response to message #76 by Egan Ford

Hi, Egan --

The losing Illinois Lottery Mega Millions ticket whose image you displayed -- and I doubt that you would have posted a winning one for the world to see -- seems to be one panel of the "pick six" Lotto Game type. 41 was your chosen "money ball" number.

According to the Illinois Lottery's website, the probability (not "odds", as is commonly misrepresented) of matching six unique numbers from 1 through 52 inclusive is 1:20,358,520.

> Quote:
>
> *Lotto Game Panel - That area of an Official On-Line Lotto Game ticket identified by an alpha character, A through J, containing six (6) two-digit player or computer-selected numbers.*
>
> *Lotto Game Winning Numbers - Six (6) two-digit numbers, from one (01) through fifty-two (52), randomly selected at each Lotto Game drawing, which shall be used to determine the winning Lotto plays contained on Official On-Line Lotto Game tickets.*

http://www.illinoislottery.com/Games/OnLineRules.htm#_Toc123708150

20,358,520 is the statistical combination of 52 and 6.

The irony? Unfortunately, the HP-41 does not have statistical combination or permutation built-in, and the factorial function must be spelled out as "FACT". The HP-41 Stat Pac doesn't have 'em, either.

Re: The sad irony of the HP-41 and Lottery games

*Message #78 Posted by **Egan Ford** on 3 Aug 2009, 11:19 a.m.,*
in response to message #77 by Karl Schneider

Hello Karl,

IIRC, the Mega Millions is a multistate lottery with nearly 200 million combinations. The first 5 numbers are in the range 1-56 and the Mega Ball is in the range of 1-46. So, C(56,5)*46.

> Quote:
>
> The irony? Unfortunately, the HP-41 does not have statistical combination or permutation built-in, and the factorial function must be spelled out as "FACT". The HP-41 Stat Pac doesn't have 'em, either.

I commented on this in my last challenge. I was unable to find any HP41 ware that had COMB and building one from FACT was inaccurate for integer work. Quite a mystery to me that HP's flagship product for many years never had this function.

The good news is that HP41 development is not dead. SandMath 5 recently released with nCr and nPr.

Re: The sad irony of the HP-41 and Lottery games

*Message #79 Posted by **PeterP** on 4 Aug 2009, 11:14 a.m.,*

in response to message #78 by Egan Ford

Angel Martin heard you with his new sandmath which has a mcode comb & perm!

cheers

peter

Re: The sad irony of the HP-41 and Lottery games

*Message #80 Posted by **Steve Perkins** on 3 Aug 2009, 11:29 a.m.,*
in response to message #77 by Karl Schneider

This seems strange to me.

Looking at the lottery ticket printed, I get the impression that the payout is $77 million. But the probability of getting all 6 numbers correct is only 1 in 21 million!

That would seem like a good bet to make. However, it is well known that lottery payouts, on average, are terrible. Much worse than casino gambling for example. Usually the expected return is something like 50%. That's why it's such a money maker for whoever is funding the lottery (and those who take there cut along the way).

I'm sure I'm missing something. Can someone clear this up for me before I become a gambler?

Re: The sad irony of the HP-41 and Lottery games

*Message #81 Posted by **Egan Ford** on 3 Aug 2009, 11:38 a.m.,*
in response to message #80 by Steve Perkins

From above, its 1 in C(56,5)*46 or 194,810,616.

Re: The sad irony of the HP-41 and Lottery games

*Message #82 Posted by **Walter B** on 3 Aug 2009, 1:00 p.m.,*
in response to message #81 by Egan Ford

Hmmh, my 15C as well as my 42S concur, displaying 175.711.536 = 1,76E8 instead.

Re: The sad irony of the HP-41 and Lottery games

*Message #83 Posted by **Egan Ford** on 3 Aug 2009, 1:46 p.m.,*
in response to message #82 by Walter B

Oops. You are correct. Unsure where I got it wrong on Free42/iPhone. There is a risk to not having real keys.

Edit: Found it. It was an old calculation on the stack and I assumed was the value I precomputed earlier. C(56,6)*6 was the value assuming all six balls were 1-56 and that the power ball was the last drawn. 1/C(56,6) is the probability of getting all 6 balls correct with a 1/6 chance of selecting the correct ball as the power ball. C(56,5)*51 is the same.

Edited: 3 Aug 2009, 1:53 p.m.

Re: The sad irony of the HP-41 and Lottery games

*Message #84 Posted by **Mark Edmonds** on 3 Aug 2009, 1:52 p.m.,*
in response to message #82 by Walter B

194,810,616 is C(56,5)*51

Mark

Re: The sad irony of the HP-41 and Lottery games

*Message #85 Posted by **Egan Ford** on 3 Aug 2009, 2:05 p.m.,*
in response to message #84 by Mark Edmonds

The power ball is a duplicate ball in the range 1-46. Something I failed to report earlier in my summary. I'm clearly a novice at this lottery stuff. I live in a state with no lottery (Utah). When I staged the challenge I knew I was going to be in Chicago that week. So, I made a mental note to get a ticket for a lottery ending on the 31st as I said I would in the challenge.

There were many lotteries to choose from, but I liked the size of the pot for the Mega Millions and it also allowed me to choose 41 as a position of prominence.

So the combinations are C(56,5) for the main 5 balls and 46 for the mega ball. With a total of C(56,5)*46. Apparently the two sets can intersect as seen if you Google for Mega Millions past numbers.

Edited: 3 Aug 2009, 2:06 p.m.

Re: The sad irony of the HP-41 and Lottery games

*Message #86 Posted by **Katie Wasserman** on 3 Aug 2009, 1:18 p.m.,*
in response to message #80 by Steve Perkins

At $77M Mega Millions is a mega-bad bet, but there are times in most lottery games where the bet becomes favorable in that your expected payout is greater is greater than your bet. The problem is that lotteries don't publish information on their current take so you can't accurately figure this out. You know the prize and you know the odds of winning but you don't know your odds of having to share that prize.

Still, I often join the throngs of idiots playing the lottery in the hope of winning enough money to acquire an HP-95C some day :)

Re: The sad irony of the HP-41 and Lottery games

*Message #87 Posted by **Michael Meyer** on 3 Aug 2009, 1:40 p.m.,*
in response to message #86 by Katie Wasserman

I buy a ticket now and then as well. I figure that buying a ticket increases my odds of winning, but not by much. There's a still a much greater chance of getting struck by lightning, which is still free. I'd rather win the lottery, so I figure a ticket improves my odds relative to either winning the lottery or being struck by lightning....

Re: The sad irony of the HP-41 and Lottery games

*Message #88 Posted by **Steve Perkins** on 3 Aug 2009, 1:51 p.m.,*
in response to message #86 by Katie Wasserman

All lotteries are a bad bet. Even when the pot gets big so that it starts to seem like a good idea, the reason it is getting that big is there are a lot of tickets purchased! Therefore your odds of having to share the pot increase proportionally.

Those who run the system are not stupid. They don't let the odds get in the players favor, even when they make it seem like it is.

I just wanted to make sure everyone is clear on that. It can be fun to play, but you shouldn't ever bet a lot assuming your expectation of winning is good enough to justify the expense. Fund your IRA or 401K or make other sound investments instead. It's what anyone who understands math does.

Lottery games

*Message #89 Posted by **Byron Foster** on 7 Aug 2009, 8:25 p.m.,*
in response to message #88 by Steve Perkins

> Quote:
>
> Those who run the system are not stupid. They don't let the odds get in the players favor, even when they make it seem like it is.

I agree with your advice that the money should simply go to savings/investments. I've never played a lottery.

However, from an analysis point of view the expected value for your $1 lotto ticket does increase as the jackpot rolls over, and the interesting question is when is the expected value at least $1 for your purchased ticket.

The lotto people are not stupid, as you say, they get a fixed amount of money from the sale of tickets, usually just under 50%, this is true even with the fixed payout prizes since the fixed payouts are deducted from the jackpot. So regardless of increasing player expected value, the lotto people get their money always, and consistently!

Exploring the point at which the expected value reaches at least $1 would take into account adjusting the jackpot amount with:

```
 * Roll over jackpot amount
 * Number of tickets purchased on current go around.
 * Chance the jackpot needs to be split (derived from above)
 * During the current game how much money goes toward the jackpot with each
ticket (Probably about 48%).
 * The Jackpot cash payout.. not the annuity (the cash payout is about half
the reported jackpot)
 * Taxes
```

My feeling is that the point at which the expected value is equal or greater to the purchase price for a ticket is much higher then people think. Something for me to work on on a rainy day :)

Re: Lottery games -- "expected value"?

*Message #90 Posted by **Paul Brogger** on 9 Aug 2009, 10:13 a.m.,*
in response to message #89 by Byron Foster

How about "fantasized value" or "perceived payoff"?

Being told of an even *larger* pot of gold at the end of the rainbow doesn't make the search any more likely to succeed. (It's an imperfect analogy, but not by much!)

Re: Lottery games -- "expected value"?

*Message #91 Posted by **Byron Foster** on 9 Aug 2009, 7:06 p.m.,*
in response to message #90 by Paul Brogger

> Quote:
>
> How about "fantasized value" or "perceived payoff"?

http://en.wikipedia.org/wiki/Expected_value

Edited: 9 Aug 2009, 7:09 p.m.

Re: The sad irony of the HP-41 and Lottery games

*Message #92 Posted by **Egan Ford** on 3 Aug 2009, 2:07 p.m.,*
in response to message #86 by Katie Wasserman

> Quote:
>
> Still, I often join the throngs of idiots playing the lottery in the hope of winning enough money to acquire an HP-95C some day :)

Isn't that what an eBay watch list is for? :-)

Re: The sad irony of the HP-41 and Lottery games

*Message #93 Posted by **Paul Dale** on 3 Aug 2009, 7:53 p.m.,*
in response to message #86 by Katie Wasserman

I view lotteries as a tax on the innumerate and lots of people participating is good -- I pay less other tax.

- Pauli

Re: More 41 birthday fun. Lottery results.

*Message #94 Posted by **Thomas Klemm** on 6 Aug 2009, 5:59 p.m.,*
in response to message #76 by Egan Ford

Inspired by your table of primes I wondered whether I could use that to make my program faster.
The biggest problem was to determine the upper bound for the innermost loop (73-78). This might be improved since there are still cycles that could be avoided.
Using + to create the primes turned out to be nearly a second faster than just entering them.

Listing

```
 01 LBL "BD"                    26 +                           51 +
76 RCL 00   ; 3
 02 0                           27 STO 03   ; 11               52 STO 12   ; 43
77 /
 03 SETSW                       28 +                           53 +
```

```
78 INT
 04 X<>Y                    29 STO 04   ; 13            54 +
79 RCL 15   ; 1000
 05 RUNSW                   30 +                        55 STO 13   ; 47
80 /
 06  E3                     31 +                        56 LBL 02
81 STO O
 07 STO 15   ; 1000         32 STO 05   ; 17            57 RCL IND M
82 LBL 04
 08 /                       33 +                        58 RCL a    ; 2
83 RDN
 09 STO M                   34 STO 06   ; 19            59 -
84 RCL IND O
 10 SIGN                    35 +                        60 RCL 15   ; 1000
85 INT
 11 STO 14   ; 1            36 +                        61 /
86 MOD
 12 ENTER                   37 STO 07   ; 23            62 RCL 14   ; 1
87 X=0?
 13 +                       38 +                        63 +
88 GTO 05
 14 ENTER                   39 +                        64 STO N
89 ISG O
 15 ENTER                   40 +                        65 RCL IND M
90 GTO 04
 16 STO a    ; 2            41 STO 08   ; 29            66 LBL 03
91 RDN
 17 VIEW X                  42 +                        67 RCL N
92 ISG N
 18 LASTX                   43 STO 09   ; 31            68 INT
93 GTO 03
 19 +                       44 +                        69 ST+ X
94 VIEW IND M
 20 STO 00   ; 3            45 +                        70 +
95 LBL 05
 21 +                       46 +                        71 ENTER
96 ISG M
 22 STO 01   ; 5            47 STO 10   ; 37            72 ENTER
97 GTO 02
 23 +                       48 +                        73 SQRT
98 STOPSW
 24 STO 02   ; 7            49 +                        74 RCL 14   ; 1
99 RCLSW
 25 +                       50 STO 11   ; 41            75 -
100 END

13
XEQ "BD"
```

Timimg: 01'22.19"

Re: More 41 birthday fun. Lottery results.

*Message #95 Posted by **Egan Ford** on 7 Aug 2009, 11:04 a.m.,*
in response to message #94 by Thomas Klemm

> Quote:
>
> Using + to create the primes turned out to be nearly a second faster than just entering them.

Interesting that there is a penalty when storing constants in 41 RPN code.

Re: More 41 birthday fun. Lottery results.

*Message #96 Posted by **Thomas Klemm** on 7 Aug 2009, 12:30 p.m.,*
in response to message #95 by Egan Ford

As Peter stated:

> Quote:
>
> Digits really are very slow on the hp41.

Re: More 41 birthday fun. Lottery results.

*Message #97 Posted by **Gerson W. Barbosa** on 8 Aug 2009, 12:09 p.m.,*
in response to message #76 by Egan Ford

Just a curiosity: lines 07 through 22 can be replaced with the code below, thus saving three steps.

```
07 .00701
08 STO 17
09 2.566543832
10 LBL 05
11 ENTER
12 INT
13 STO IND 17
14 /
15 1
16 -
17 1/X
18 ISG 17
19 GTO 05
```

Edited: 8 Aug 2009, 12:19 p.m.

Re: More 41 birthday fun. Lottery results.

*Message #98 Posted by **Egan Ford** on 8 Aug 2009, 2:34 p.m.,*
in response to message #97 by Gerson W. Barbosa

After what Peter and Thomas have stated about *numbers* in 41 RPN code, I expect that it will run faster too.

I have another challenge brewing and it will require many more prime numbers. I guess I'll have to write one after all.

Re: More 41 birthday fun. Lottery results.

*Message #99 Posted by **Gerson W. Barbosa** on 8 Aug 2009, 4:34 p.m.,*
in response to message #98 by Egan Ford

> Quote:
>
> After what Peter and Thomas have stated about *numbers* in 41 RPN code, I expect that it will run faster too.

I don't believe so because of the constant in line 09. I remember Peter told something about number length too. This makes sense because on the 15C, for instance, that constant alone would take up eleven steps. Anyway, this is just an exotic way to generate a (somewhat limited) prime table (http://hypography.com/forums/physics-and-mathematics/17006-the-holy-grail-of-mathematics-8.html).

In fact, your program could be seven steps shorter, but it would require a little more time to run, as we can see by the output:

More 41 birthday fun.

```
 01 LBL "BD"          28 2                 37 RCL 18            64 ISG 18
 02 0                 29 RCL IND 17        38 INT               65 GTO 01
 03 SETSW             30 1                 39 X^2               66 RCL IND 17
 04 FIX 0             31 -                 40 LASTX             67 PRX
 05 CF 29             32 1000              41 -                 68 RCL 16
 06 RUNSW             33 /                 42 RCL IND 17        69 5
 07 .00701            34 +                 43 +                 70 X=Y?
 08 STO 17            35 STO 18            44 STO 19            71 GTO 05
 09 2.566543832       36 LBL 01            45 SQRT              72 1
 10 XEQ "PT"          -------------        46 INT               73 ST+ 16
 11 1.36280923                             47 STO 20            74 LBL 04
 12 +                                      48 0                 75 ISG 17
 13 .006                                   49 STO 21            76 GTO 00
 14 ST+ 17                                 50 LBL 02            77 LBL 05
 15 x<>y                                   51 RCL 20            78 ADV
 16 XEQ "PT"          -------------        52 RCL IND 21        79 STOPSW
 17 47                01 LBL "PT"          53 X>Y?              80 FIX 6
 18 STO 14            02 ENTER             54 GTO 03            81 RCLSW
 19 53                03 INT               55 RCL 19            82 "TIME: "
 20 STO 15            04 STO IND 17        56 RCL IND 21        83 ATIME24
 21 2                 05 /                 57 MOD               84 PRA
 22 PRX               06 1                 58 X=0?              85 FIX 9
 23 1                 07 -                 59 GTO 04            86 SF 29
 24 STO 16            08 1/X               60 1                 87 END
 25 1.01500           09 ISG 17            61 ST+ 21
 26 STO 17            10 GTO "PT"          62 GTO 02
 27 LBL 00            11 END               63 LBL 03


-------------------------


                2    ***
                3    ***
                5    ***
               11    ***
               17    ***
               41    ***


TIME: 00:04:08.89


-------------------------
```

Edited: 8 Aug 2009, 4:41 p.m.

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smartassed ebaby seller

*Message #1 Posted by **db (martinez, ca.)** on 24 July 2009, 2:16 a.m.*

I've seen some complaints here about unscrupulous ebay sellers. Yes; some are dishonest, some are liars, some are sneak thieves, some are internet versions of used car salesmen. Sometimes the problem is just someone not knowing the exact English word to describe what he honestly means. I just saw a new benchmark set in PETTY larceny today: kind of like that guy in about 2001 who would sell a calculator and it's battery door in separate auctions.

http://cgi.ebay.com/HP-Prism-Frame-Survey-Construction-Engineer-Target-NR_W0QQitemZ110413331070QQcmdZViewItemQQptZLH_DefaultDomain_0?hash=item19b525ba7e&_trksid=p3286.c0.m14&_trkparms=65%3A13|66%3A2|39%3A1|293%3A1|294%3A50 was sold on 7/14. This just came on the market and was buy-it-now'd, from the same pickpocket / er, seller. I watch for these because as folks at the San Diego HHC saw; I have one of the old HP survey instruments (yes i've used it at work), and want a triple bucket for it. I didn't even bother bidding because i had no interest in just a frame.

Little did I (or the "winner") know; this jerk was parting it out, even though nothing was wrong with it except the missing target. He clearly just thought he would get more money for it this way. He didn't. They go for about $60 or $70, when complete. He got $20 total for the pieces and no doubt had to bother boxing and shipping them separately. Don't you just love it when one of "the smartest guys in the room" shorts himself?

Re: smartassed ebaby seller

*Message #2 Posted by **Bill (Smithville, NJ)** on 24 July 2009, 6:54 a.m.,*
in response to message #1 by db (martinez, ca.)

Reminds me of my days selling at Ham Radio Hmfests. I'd arrive really early, usually before daylight. I would put my stuff out on the table and in under 15 minutes sale about 75% of it to OTHER VENDERS.

Each were sure they could sell it at a higher price and make a nice profit.

I always enjoyed walking around at the end of the day seeing all my stuff that I had sold "too low" still on the tables unsold at a much higher price. Sometimes I would see these same venders at the next hamfest still trying to sell my stuff at their overpriced markup.

Of course I never was very good at finances :)

Bill

Re: smartassed ebaby seller-

*Message #3 Posted by **Allen** on 25 July 2009, 4:58 p.m.,*
in response to message #1 by db (martinez, ca.)

This is a libelous posting. Offensive, pointless, and illegal- e.g. pointless criticism (defamation). It does not conform to the museum terms of use regarding anonymous attacks on specific ebay sellers.

If you are going to accuse someone in a public of petty larceny, he has a right to know, and possibly a right to legal recourse against you and/or the museum for defamation.

Re: smartassed ebaby seller-

*Message #4 Posted by **db (martinez, ca.)** on 26 July 2009, 2:12 a.m.,*
in response to message #3 by Allen

If the seller was not trying to pull a fast one; he would have said: "as soon as this first piece sells, i will auction off the rest of the parts which i took off - you know: the ones you will need to make it work." He didn't. His loss. He could have gotten about three times the price of the pieces if he had offered it as what it is: surveying gear. People still use hp glass. It's as good as anything made today and what HP set it at became, and still is, the most common offset. Treating it as just another hp collectible to be flogged off at the highest possible price by any means cost this "power seller" about 40 gollies. That's funny. Really.

As far as the schoolyard lawyer stuff is concerned: You can use my initials to find my name on an HHC roster, look my name up in an old phone book from my little town, and pay some schister attorney to write me vaguely threatening letters. I just don't know why you'd bother. Me, I won't comment on this seller in the future; I wouldn't want to give some tool a reason to sue the museum.

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Two questions: 38g/39gs aplets and HP ODU

*Message #1 Posted by **bbeamer** on 23 July 2009, 4:07 p.m.*

Will aplets for the 39gs run on a 38g? I thought I could save some frustration if the answer is no.

Also, with the HP overhead display unit, can I use the cable for the unit that has the 10 pin adapter for the 38g and 49g with this

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&ssPageName=STRK:MEWNX:IT&item=330344807098

and connect the unit to the serial port on a 48s or 48g?

Thanks,

Brian

Edited: 25 July 2009, 11:37 p.m.

Re: Two questions: 38g/39gs aplets and HP ODU

*Message #2 Posted by **Marcus von Cube, Germany** on 26 July 2009, 12:16 p.m.,*
in response to message #1 by bbeamer

Not answering the second question, sorry.

The applet format has changed between the 38G and it successors, they are not directly compatible. I can't tell from the top of my head whether there is a conversion utility.

Re: Two questions: 38g/39gs aplets and HP ODU

*Message #3 Posted by **bbeamer** on 26 July 2009, 4:18 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Thanks.

The adapter is on its way to me. I'll give it a try with the ODU and post the results.

Brian

Re: Two questions: 38g/39gs aplets and HP ODU

*Message #4 Posted by **bbeamer** on 28 July 2009, 6:00 p.m.,*
in response to message #1 by bbeamer

Just in case anyone was wondering, I tried the above adapter today. It does not allow the 48s/g to work with the ODU directly from the serial port.

Brian

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More on the new 12C

*Message #1 Posted by **Katie Wasserman** on 23 July 2009, 2:37 p.m.*

In playing with the new new ARM-based 12C I found that it has two functions that don't work as the older models do and yet the documentation says that they do. Holding down the SST (single step) key when trying to debug a program doesn't show you the program step that's about to be executed. This makes program debugging much more difficult. Also, when in program mode, holding down SST or BST won't advance through the program lines at the rate of about 1 per second. It just does one step no matter how long the key is held down. I still love the super fast speed, but programming it is not quite as much fun.

Re: More on the new 12C

*Message #2 Posted by **Dave Britten** on 23 July 2009, 3:35 p.m.,*
in response to message #1 by Katie Wasserman

Interesting. Maybe the keyboard routines aren't interpreting separate key-down/key-up events for the emulator to handle. What happens if you do Clear Prefix (which also functions as Show)? Does it continue displaying the full precision if you hold down the key, or does it revert quickly back to the standard display?

Re: More on the new 12C

*Message #3 Posted by **Katie Wasserman** on 23 July 2009, 5:57 p.m.,*
in response to message #2 by Dave Britten

Clear Prefix works as it does on the old 12C, so the emulator can detect held-down keys properly.

Re: More on the new 12C

*Message #4 Posted by **Don Shepherd** on 23 July 2009, 5:08 p.m.,*
in response to message #1 by Katie Wasserman

Good catch Katie. They fixed one problem (no RUNNING display if program has CLR SIGMA) but removed the functionality you described.

Re: More on the new 12C

*Message #5 Posted by **hugh steers** on 23 July 2009, 5:57 p.m.,*
in response to message #4 by Don Shepherd

Sounds like a timing issue. The original code probably did all the delays with a busy loop and these features were probably disabled by patching the original ROM so as to make emulation work.

Re: More on the new 12C

*Message #6 Posted by **Katie Wasserman** on 23 July 2009, 6:04 p.m.,*
in response to message #5 by hugh steers

> Quote:
>
> The original code probably did all the delays with a busy loop and these features were probably disabled by patching the original ROM so as to make emulation work.

That could very well be the case. But they must have patched the "PSE" instruction because that works just fine. I see no obvious reason why SST/BST couldn't have been patched the same way, but I don't have their source nor even the object code. I don't know if this was an oversight or just too hard to implement. In any case, the documentation should be updated to match the functionality -- or vice-versa.

Re: More on the new 12C

*Message #7 Posted by **Don Shepherd** on 23 July 2009, 7:33 p.m.,*
in response to message #6 by Katie Wasserman

Hmmm, for what it's worth, these two errors that Katie found in the new 12c also exist in the new Windows 12c $19.99 emulator. And the problem I identified a month ago regarding the Windows emulator was also, I think, related to the PSE command. That problem has been fixed in the Windows emulator.

Re: More on the new 12C

*Message #8 Posted by **Tim Wessman** on 23 July 2009, 11:06 p.m.,*
in response to message #6 by Katie Wasserman

I think the long key press handling had to be individually patched in various locations and it was missed for those. That is why some work and others don't. I really don't know for certain though.

TW

Re: More on the new 12C

*Message #9 Posted by **cyrille de Brébisson** on 24 July 2009, 8:28 a.m.,*
in response to message #1 by Katie Wasserman

hello,

it's always interesting to see you guys speculations on these issues :-)

anyhow, I did not know about this so I did not do any special allowances to patch it...

the 12C emulator, in order to try to preserve power usually tells the calculator that the keys are released instantaneously. this avoid a dead loop waiting for the key to release in the 12C ROM and the power use associated with that...

Of course, the PREFIX and MEM keys are handle slightly differently to deal with the issue... but since I did not know about SST I did not do anything for that :-)

look for a new software release if I manage to fix it...

regards, cyrille

Re: More on the new 12C

*Message #10 Posted by **Katie Wasserman** on 25 July 2009, 12:16 a.m.,*
in response to message #9 by cyrille de Brébisson

About 20 hours after I posted my finding about this problem I had in my email a modified version of the firmware from Cyrille. The new firmware not only fixes these issues but has the original self-test functionality restored and is another factor of 2.5 times faster due to code optimization.

I now have a 12C+ that's in every way (that I've been able to check) identical to the original 12C but runs about 150 times faster. I have to keep a fire extinguisher handy when it's on :)

As before, it fixes the Clear-Sigma LCD blanking bug in the original 12C and it adds some extended self-tests using ON+g and ON+g+ENTER.

Totally AWESOME!

Cyrille, thank you again.

-Katie

Re: More on the new 12C

*Message #11 Posted by **Gerson W. Barbosa** on 25 July 2009, 12:56 a.m.,*
in response to message #10 by Katie Wasserman

> Quote:
>
> The new firmware not only fixes these issues but has the original self-test functionality restored

Perhaps this is the most important update. As I said in another occasion I had trouble finding a 12C+ in São Paulo as most vendors did not want to sell it because prospective buyers would not trust the new model - exactly because the self tests did not work like they expected them to.

After more than one hour searching through the stores I eventualy found one (CNA 83816873)

Gerson.

Re: More on the new 12C

*Message #12 Posted by **Pal G.** on 25 July 2009, 1:33 a.m.,*
in response to message #10 by Katie Wasserman

Katie,

Were you somehow able to update the firmware of a physical hp12c(+)? JTAG?

Or are you talking about the windows simulator/emulator?

Thanks.

Re: More on the new 12C

*Message #13 Posted by **Katie Wasserman** on 25 July 2009, 2:00 a.m.,*
in response to message #12 by Pal G.

The physical 12C+.

There's no JTAG connection but there is a serial port connection in the battery compartment and I have a cable that HP supplied for work on re-purposing. If HP were to make the object code publicly available it would still be a challenge to install it.

The firmware flashing code is free from ATMEL, SAM-BA version 2.6. However, the cable would be difficult to make. The logic-level translation for the serial port is simple enough (and might not even be needed) as are the reset and erase buttons. The real challenge is finding the right 6-pin connector, I've never seen anything like it -- 6 spring-loaded pins in a 2 x 3 configuration with 2mm pitch and a asymmetric tabbed attachment.

Re: More on the new 12C

*Message #14 Posted by **Quan** on 25 July 2009, 8:07 p.m.,*
in response to message #13 by Katie Wasserman

It would still be nice if HP were to offer the cable interface as an option for those who wish to do the update themselves.

I have one of these latest arm-based 12c and I know I wouldn't mind giving it a shot. :)

Ah, well!

Re: More on the new 12C

*Message #15 Posted by **Quan** on 25 July 2009, 1:47 p.m.,*
in response to message #10 by Katie Wasserman

HI Katie,

Does it mean there is no change in battery life with the increase in speed?

-Quan

Re: More on the new 12C

*Message #16 Posted by **Eric Smith** on 25 July 2009, 2:21 p.m.,*
in response to message #15 by Quan

There shouldn't be. The CPU is running at the same speed, but the firmware has been optimized.

Re: More on the new 12C

*Message #17 Posted by **Katie Wasserman** on 25 July 2009, 11:51 p.m.,*
in response to message #16 by Eric Smith

Surprisingly current consumption has increased a bit with the latest firmware. I had made earlier measurements and posted to this forum and I've now re-tested using the exact same setup and confirmed on two different 12C+ calculators.

Here's what I found:

Condition	Old firmware	New firmware
power off	4uA	4uA

power on, static display, no keystrokes	45uA	45uA
continuous keystrokes (number entry)	1mA	2mA
long amortization function	15mA	20mA
tight program loop	15mA	20mA
continuous self-test ([ON]+[+]):	4mA	12mA
extended test modes ([ON]+[g] and [ON]+[g]+[ENTER]) static display	1.8mA	2.5mA

When running, the average clock speed must be higher, a lot higher when running the continuous self test. I say average clock speed because I believe that the firmware frequently changes the clock speed.

Cyrille and Eric, do these current measurements make sense to you?

Thanks, Katie

Edited: 25 July 2009, 11:52 p.m.

Re: More on the new 12C

*Message #18 Posted by **cyrille de Brébisson** on 27 July 2009, 8:10 a.m.,*
in response to message #17 by Katie Wasserman

hello,

these numbers are strange, the power consumption should be lower on the new Firmware.

For example, your numbers when running the (new) auto test show 1.5 to 2mA consumption increase, but in both cases the CPU runs at it's default speed of 2Mhz...

the 2 mains differences in the SW are: - code optimization - the cpu speed is put at only 17Mhz when the key executed is NOT n-FV, RS/SST, DDays or a bond key. Ie, when the key presses is NOT one of the 'long'/'slow' functions, it runs at 1/2 speed to conserve power.

regards, cyrille

Re: More on the new 12C

*Message #19 Posted by **Katie Wasserman** on 27 July 2009, 10:51 a.m.,*
in response to message #18 by cyrille de Brébisson

I was surprised by this too, so I doubled checked all the measurements and the fact that the off state and idle state currents are the same as before confirms that my measurement setup is correct. Is it possible that some other part of the CPU is switched on by mistake in the new firmware, like the serial interface?

Re: More on the new 12C

*Message #20 Posted by **tony(nz)** on 13 Aug 2009, 2:18 a.m.,*
in response to message #19 by Katie Wasserman

Hi Katie, I don't know if this has been mentioned - debugging on the fast 12c via SST in run mode doesn't recognise that pressing and holding SST is supposed to show the line of code and releasing shows the result. The fast 12c merely shows the result. Cheers, Tony

Re: More on the new 12C

*Message #21 Posted by **Katie Wasserman** on 13 Aug 2009, 11:14 a.m.,*
in response to message #20 by tony(nz)

Tony,

We discussed this bug here earlier but I can't find the thread any more. In addition to not showing the step about to execute, SST/BST doens't auto repeat in program mode.

The result was that Cyrille fixed those problems and in the process a new bug cropped up. That's been fixed now too the thread on this is here.

-Katie

Edited: 13 Aug 2009, 11:18 a.m.

Re: More on the new 12C

*Message #22 Posted by **John Cadick** on 13 Aug 2009, 8:27 p.m.,*
in response to message #21 by Katie Wasserman

I read the first thread, but I can't find where to buy the new 12C. I do recall that you (Katie) described how to tell the difference but I forgot. Help?

John

Re: More on the new 12C

*Message #23 Posted by **Don Shepherd** on 13 Aug 2009, 9:13 p.m.,*
in response to message #22 by John Cadick

John here is a link to Katie's excellent review. See the picture of the battery cover on the new 12c; it is much bigger than the old battery cover (because it encloses two 2032 cells, not one), and it is visible from the shrinkwrap package, so you can tell in the store whether a unit is the old one or the new one.

Re: More on the new 12C

*Message #24 Posted by **John Cadick** on 14 Aug 2009, 2:29 a.m.,*
in response to message #23 by Don Shepherd

Thanks, Don. Now why couldn't I find it before? Doh!!

John

Re: More on the new 12C

*Message #25 Posted by **Tim Wessman** on 14 Aug 2009, 12:18 a.m.,*
in response to message #22 by John Cadick

I think amazon has them according to reviews I've seen, but that could be risky. I'd check local university bookstores.

TW

Re: More on the new 12C

*Message #26 Posted by **John Cadick** on 14 Aug 2009, 2:30 a.m.,*
in response to message #25 by Tim Wessman

Thanks, Tim. In fact I have a meeting at a nearby community college on Monday. I'll check there.

John

Re: More on the new 12C

*Message #27 Posted by **Katie Wasserman** on 30 July 2009, 1:44 p.m.,*
in response to message #9 by cyrille de Brébisson

Cyrille,

I found a critical bug in the latest 12C+ firmware.

In program mode: If you press a number key after hitting SST or BST it will enter a STO instruction not the number! The STO will be either to register 0 - 9 or .0 - .9 depending on the instruction that is being overwritten.

I'm pretty sure that this bug was introduced when you fixed the original SST/BST problem.

-Katie

Re: More on the new 12C

*Message #28 Posted by **Don Shepherd** on 30 July 2009, 3:52 p.m.,*
in response to message #27 by Katie Wasserman

> Quote:
>
> I'm pretty sure that this bug was introduced when you fixed the original SST/BST problem.

I verified this. It works correctly on the first ROM release.

Re: More on the new 12C

*Message #29 Posted by **Katie Wasserman** on 31 July 2009, 1:57 p.m.,*
in response to message #28 by Don Shepherd

Cyrille sent me a quick firmware fix for this problem.

I'm going to keep playing and trying to make sure that the latest 12C+ is now really 100% functionality identical to the original 12C.

-Katie

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New SandMath-5 Module available

*Message #1 Posted by **Ángel Martin** on 23 July 2009, 2:06 p.m.*

For those of you interested (you know who you are :-) version_5 of the SandMath module is now available at TOS.

It includes a few new MCODE functions, many improvements to old ones (error handling and general ruggedness), plus lots of program optimization. But better to take a look at the QRG to see what's on it -

While working on this update I discovered how quickly one gets rusty on MCODE, not sure that I'll be able to do it for much longer, even the simplest thing becomes a tough feat!

Hope you enjoy it, let me know what you think.

Best, ÁM

Edited: 23 July 2009, 2:12 p.m.

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Here is something to port to a 41

*Message #1 Posted by **Frank Boehm (Germany)** on 23 July 2009, 10:49 a.m.*

http://googlecode.blogspot.com/2009/07/apollo-11-missions-40th-anniversary-one.html

Additional challenge: Port to HP65 :)

Re: Here is something to port to a 41

*Message #2 Posted by **Mark Edmonds** on 23 July 2009, 11:03 a.m.,*
in response to message #1 by Frank Boehm (Germany)

Interesting link - thanks!

I hope someone is going to patch it so if both radars are switched on, it doesn't give 1202/1201 alarms.

Mark

Re: Here is something to port to a 41

*Message #3 Posted by **Maximilian Hohmann** on 24 July 2009, 8:43 a.m.,*
in response to message #1 by Frank Boehm (Germany)

Hello!

> Quote:
>
> Additional challenge: Port to HP65 :)

I've been playing with this thing for a few days now (it runs on the Macintosh :-)) and am still truly amazed. It was designed nearly 10 years before the HP65, but is much more powerful. It interfaces to the spacecraft systems, is fully multitasking capable, has two kilowords of RAM (magnetic cores!) and had to run for nearly two weeks continuously in a very hostile environment. One of the true milestones of technological development, the ancestor of the flight management system of evey modern aeroplane.

Greetings, Max

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SPAM

*Message #1 Posted by **Howard Owen** on 22 July 2009, 6:11 p.m.*

Anyone else receive unsolicited commercial email with the subject "Fwd: Hewlett Packard HP 42S RPN Scientific Calculator"? It was sent by a member of this community, who I will not name. But let me point out two things:

1. The email addresses of all the targets of this mailing are included in the headers of the message you sent. Some of us (but not including me) might not want that information shared without their consent.
2. Another name for SPAM is Unsolicited Commercial Email (UCE). A mailing is SPAM if the recipients didn't ask you for it. The size of the SPAM is not relevant.

Please take my name off the list for any future commercial mailings. I also suggest you think about it before you do this again.

Regards,
Howard

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(O.T.) Happy Pi Approximation Day! 'e*XROOT(12,e^(-3*4)+5.6789)' (N.T.)

*Message #1 Posted by **Gerson W. Barbosa** on 22 July 2009, 5:04 p.m.*

Re: (O.T.) Happy Pi Approximation Day! 'e*XROOT(12,e^(-3*4)+5.6789)' (N.T.)

*Message #2 Posted by **Paul Dale** on 22 July 2009, 5:32 p.m.,*
in response to message #1 by Gerson W. Barbosa

Very nice.

- Pauli

Re: (O.T.) Happy Pi Approximation Day! 'e*XROOT(12,e^(-3*4)+5.6789)' (N.T.)

*Message #3 Posted by **Gerson W. Barbosa** on 22 July 2009, 6:02 p.m.,*
in response to message #2 by Paul Dale

Thanks!

It took me only five minutes or so to find this one on the 12C:

```
3.141592654
ENTER
1 e^x /
ENTER ENTER ENTER


; now press * n times until something interesting shows on the display:


*  => 1.335705708  not close enough to sqrt(sqrt(pi)) -> ignore
*  => 1.543711618  don't recognize -> ignore
*  => 1.784109737  not close enough to sqrt(pi) -> ignore
*     and so on...
*
*
*  => 3.183047554  From memory, close to 10/pi -> near idendity (pi/e)^8 ~ 10/pi, but
useless for my purpose
*
*
*
*  => 5.678906136 -> =(pi/e)^12. Since I have 12 and 56789, decide to try a pandigital
approximation (only 3 and 4 missing).
                      Luckily e^-12 = e^(-3*4) does the job nicely! :-)
```

Gerson.

Re: (O.T.) Happy Pi Approximation Day! 'e*XROOT(12,e^(-3*4)+5.6789)' (N.T.)

*Message #4 Posted by **Mark Edmonds** on 22 July 2009, 6:37 p.m.,*
in response to message #3 by Gerson W. Barbosa

Five seconds on a 48G gave me this: 1146408/364913

The old regular 22/7 is a bit easier to remember.

Mark

Re: (O.T.) Happy Pi Approximation Day! 'e*XROOT(12,e^(-3*4)+5.6789)' (N.T.)

*Message #5 Posted by **Paul Dale** on 22 July 2009, 7:10 p.m.,*
in response to message #4 by Mark Edmonds

But neither of them use the digits 1 through 9 in order :-)

- Pauli

Re: (O.T.) Happy Pi Approximation Day! 'e*XROOT(12,e^(-3*4)+5.6789)' (N.T.)

*Message #6 Posted by **Gerson W. Barbosa** on 22 July 2009, 7:25 p.m.,*
in response to message #4 by Mark Edmonds

Archimedes' upper bound for Pi is better because it was obtained by reasoning rather than sheer luck.

MathWord has plenty of Pi approximations to choose from:

http://mathworld.wolfram.com/PiApproximations.html

Regards,

Gerson.

P. S.: The 33s gives instantly this even better and still easy to remember approximation:-)

$$\pi \sim \frac{355}{113}$$

Edited: 22 July 2009, 7:35 p.m.

Re: (O.T.) Happy Pi Approximation Day! 'e*XROOT(12,e^(-3*4)+5.6789)' (N.T.)

*Message #7 Posted by **Thomas Radtke** on 23 July 2009, 3:18 a.m.,*
in response to message #6 by Gerson W. Barbosa

> Quote:
>
> P. S.: The 33s gives instantly this even better and still easy to remember approximation:-)
>
> $$355$$

```
Pi ~  ---
      113
```

HP-35 users knew that one before (mentioned in its manual) ;^).

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Where do all the manuals go?

*Message #1 Posted by **Mark Edmonds** on 22 July 2009, 3:36 p.m.*

I know this is a bit of a rhetorical question but it never ceases to amaze me how high the proportion of calculators sold without any manuals is against those sold with manuals on the second-hand market.

I gather that there are lots of 21S out there without manuals and that was how they were supplied but for surely all other machines, they came with manuals, and in typical HP style, comprehensive manuals too with supplements and other information.

I find it hard to believe that people simply throw the manuals in the bin or are so slack with things that they just get "lost". Losing a book as actually quite difficult.

Let's not forget as well that many of these manuals date from the time when people really did RTFM and use them for reference.

So how is it that thousands and thousands and thousands of HP manuals have simply disappeared over the years?

Maybe there is a magical planet out there where all the HP manuals gradually float off to?

Mark

Re: Where do all the manuals go?

*Message #2 Posted by **Don Shepherd** on 22 July 2009, 4:16 p.m.,*
in response to message #1 by Mark Edmonds

Mark, I suspect that, believe it or not, this is due to HP's legendary quality. You buy an HP calculator as a student at the university. Then you graduate, get married, get a job, move a few times, then come the kids, you get other jobs, etc. You keep the calc because it still works (on the same set of batteries!), but the manual is misplaced over the years and is eventually offered at your parents yard sale, and doesn't sell so your parents trash it. That's probably what happened to all my old Beatles albums that I wish I had today.

On the other hand, I've seen many auctions where the manual is not included (because the seller can't find it), but after the item sells the seller finds the manual while poring through old boxes and sends it to the buyer. That happened to me once and I was very greatful.

Re: Where do all the manuals go?

*Message #3 Posted by **Eric Smith** on 22 July 2009, 4:27 p.m.,*
in response to message #1 by Mark Edmonds

Not just for calculators, either. Almost all used test equipment is sold without manuals. And often without other accessories that the equipment came with.

When I've looked for used HP 428A or HP 428B clip-on milliammeters, they almost always come without the probe, despite the fact that the probe ONLY works with the 428, is of no use with anything else, and that

there's usually no reason to ever disconnect it.

The 428A/B was a great instrument, and it's a shame that they discontinued it since I've never found anything better to replace it, but don't buy one without the probe!

Re: Where do all the manuals go?

*Message #4 Posted by **Mark Edmonds** on 22 July 2009, 6:26 p.m.,*
in response to message #3 by Eric Smith

Well, on Ebay, some people put the manuals up in a separate auction to the calculator - and I must admit that annoys me quite a lot! Actually, I think that fairly recently, I saw one where the seller had split it into multiple auctions - calculator, psu, case and maybe battery cover as well! I believe he got bids on each item as well.

I am pleased to hear of Don's experience though when the seller found the manual later on and sent it to the buyer. That is good.

Mark

Re: Where do all the manuals go?

*Message #5 Posted by **Don Shepherd** on 22 July 2009, 8:27 p.m.,*
in response to message #4 by Mark Edmonds

Yeah, I think it was a 17bii on Ebay a couple of years ago. She found the manual after I won the auction and before she shipped, so she included it in the box. That was great, and of course I gave her super-good feedback.

Surprise, the 428 milliammeter is still in production

*Message #6 Posted by **Steve Leibson** on 22 July 2009, 7:29 p.m.,*
in response to message #3 by Eric Smith

Yup, HP discontinued it and Agilent doesn't make it. But I'm in the middle of a job search and a little Bay area company named Applied Physics Systems was advertising for a tech writer. I jogged to their Web site and saw something very familiar, a milliammeter probe that looked positively 1960s attached to a digital metering box dubbed the 428D. HP made the 428A and B with this same probe, which I discovered contains a device with my all-time favorite name: a flux-gate magnetometer. It looks like Applied Physics has the tooling or the same supplier for that probe and has updated the instrumentation electronics for it. Still waiting to hear from the company about the job application.
http://www.appliedphysics.com/milliammeters.html

Re: Surprise, the 428 milliammeter is still in production

*Message #7 Posted by **Eric Smith** on 22 July 2009, 9:59 p.m.,*
in response to message #6 by Steve Leibson

Cool, thanks for bringing that to my attention! The only thing wrong with it as compared to the 428B is that it doesn't have a proper meter, only a seven-segment display. Oh well, you can't have everything.

Re: Surprise, the 428 milliammeter is still in production

*Message #8 Posted by **Martin Pinckney** on 22 July 2009, 10:40 p.m.,*
in response to message #6 by Steve Leibson

> Quote:
>
> ...my all-time favorite name: a flux-gate magnetometer...

It's what makes time travel possible ;-)

time travel

*Message #9 Posted by **Eric Smith** on 22 July 2009, 10:52 p.m.,*
in response to message #8 by Martin Pinckney

No, for time travel you need a Welgunzer!

Re: Where do all the manuals go?

*Message #10 Posted by **Katie Wasserman** on 22 July 2009, 9:06 p.m.,*
in response to message #1 by Mark Edmonds

It's not just HP calculator manuals that get lost in that alternate universe with the magical planet, all calculator manuals end up there apparently. That's what prompted me to start scanning what I had and what many other people have contributed and put them together on my website.

So let me unabashedly take this opportunity to ask for more pre-LCD, non-HP, non-TI calculators manual contributions for scanning.

Thanks, Katie

Re: Where do all the manuals go?

*Message #11 Posted by **Palmer O. Hanson, Jr.** on 22 July 2009, 9:43 p.m.,*
in response to message #1 by Mark Edmonds

I, too, find that manuals are typically not available when buying a used calculator. It is even worse in the slide rule world, but there is a reason for that. In the olden days no self-respecting engineering student would be caught looking at a slide rule manual.

Re: Where do all the manuals go?

*Message #12 Posted by **designnut** on 23 July 2009, 2:49 p.m.,*
in response to message #11 by Palmer O. Hanson, Jr.

The GI bill provided us EE's with a Kk77E log-log duplex decitrig rule known as the fog -fog gooflex guessitrig. In class with ME students we were finished with the tests while the ME's were staring at their rules with a glazed expression.I made good use of the Ohmite and Centralab cardboard slide rules, sufficient accuracy and no decimal point worries. Sam 80

Re: Where do all the manuals go?

*Message #13 Posted by **Palmer O. Hanson, Jr.** on 23 July 2009, 10:48 p.m.,*
in response to message #12 by designnut

My recollection at the University of Minnesota was that in 1946 every engineering student on the GI bill got a K&E Log Log Duplex Decitrig (or Trig) or an equivalent Pickett. There weren't enough to satisfy all those who qualified so some were back-ordered and not delivered in 1947. I was not a GI and the bookstores simply wouldn't sell one of the high end slide rules to me. In 1947 I belatedly

realized that I might be able to get a K&E at the store in downtown Minneapolis. They didn't have one but referred me to the St. Paul store. After a two hour ride on the streetcar I had my log log duplex decitrig in hand. I told the other non-GI students and they quickly cleaned out the St. Paul store.

There was a reason for all of this. The bookstores were allowed to add a substantial processing fee to the GI Bill orders so they supplied everything the law would allow and more. One arts college friend got five or six colors of ink the first quarter. Every GI Bill student automatically got more railroad manila for scratch paper than could possibly be used. They gave what they didn't need to non GI Bill students.

That sort of excess was one of the reasons that the Korean GI Bill operated differently. The student could use the monthly compensation however he saw fit -- there were no vouchers for books and supplies.

Palmer

Re: Where do all the manuals go?

*Message #14 Posted by **Garth Wilson** on 24 July 2009, 12:24 a.m.,*
in response to message #13 by Palmer O. Hanson, Jr.

Much to my delight when I was 18 or 20 and was always designing and building stereo and amateur radio projects, I inherited a K&E Log Log Duplex Trig, model N4080-3 with beautiful leather case from my grandfather, and used it all the time until I needed something programmable and initially got a TI-58c. I know he didn't get the K&E as a GI though because he was just slightly too old to be drafted in WWII and he became an accountant anyway. It says "Copyright 1947" on it, but it has a couple of vertical numbers on the left end, and I'm wondering if one of them is a serial number, and if that could be matched to a manufacturing date. On the trig side the slide has the number 806858. The body has the number 858 on it. And yes, I still have the manual. I still have manuals to virtually everything I've ever bought, even after the products went in the trash.

Edited: 24 July 2009, 12:26 a.m.

Re: Where do all the manuals go?

*Message #15 Posted by **Saile (Brazil)** on 24 July 2009, 7:11 a.m.,*
in response to message #1 by Mark Edmonds

```
If somebody has interest and money :-)

Item number: 370220890450 (ebay)
```

Edited: 24 July 2009, 7:15 a.m.

Re: Where do all the manuals go?

*Message #16 Posted by **hpnut** on 24 July 2009, 11:00 a.m.,*
in response to message #15 by Saile (Brazil)

[quote]

```
If somebody has interest and money :-)

Item number: 370220890450 (ebay)
```

The seller forgot to tell buyers that an HP 97 (mint, NIB) is included with the $379 magazine :-)

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Is this a 97S on ebay?

*Message #1 Posted by **Mark Edmonds** on 21 July 2009, 1:03 p.m.*

Have a look at item number 360172881797.

It is labelled as a normal 97 but there is a ribbon cable coming out the back where the cable does on a 97S. As there is no other reason that I know of for any external cable of this type on a 97, I can only assume this 97 has 97S internals although no interface unit.

Does anyone agree with that conclusion or have any other ideas?

Mark

Re: Is this a 97S on ebay?

*Message #2 Posted by **Katie Wasserman** on 21 July 2009, 1:36 p.m.,*
in response to message #1 by Mark Edmonds

There are no internal differences between the later model 97 calculator and the 97S calculator. The layout of the circuit board changed from the original 97 to accommodate a 16 pin connector for the cable going to the i/o pod but I think that any 97 can be used with the i/o pod if you connected to the needed control lines in the calculator.

The logic in the pod is pretty complicated but you can do external keypad input relatively easily without the pod if that's all you need. Perhaps that's what this cable was used for.

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The meaning of "Mint" in Portugese

*Message #1 Posted by **Michael de Estrada** on 20 July 2009, 9:46 a.m.*

I found this auction for an HP-55 in which the Brazilian seller describes the calculator as being in "Mint" condition. I guess the adjective "Mint" has a different meaning in Portugese.

http://cgi.ebay.com/Calculator-Hewlett-Packard-HP-55-MINT-CONDITION-W-CASE_W0QQitemZ230358975094QQcmdZViewItemQQptZCalculators?hash=item35a2770276&_trksid=p3286.c0.m14&_trkparms=65%3A1%7C66%3A2%7C39%3A1%7C293%3A1%7C294%3A50

Re: The meaning of "Mint" in Portugese

*Message #2 Posted by **Mike Reed** on 20 July 2009, 10:05 a.m.,*
in response to message #1 by Michael de Estrada

Michael, the government facilities, here in the USA, that print our money and stamp out our coins are called mints. To say something is in mint condition means that it is now as it was when it was brand new, unused, never opened, etc. - it is "fresh from the mint" and hasn't had time to acquire wear. Hope that helps. It has nothing to do with the herb!

polarbear Mike

The meaning of "Mint" in any language...

*Message #3 Posted by **Jeff Kearns** on 20 July 2009, 10:24 a.m.,*
in response to message #2 by Mike Reed

The seller is rather liberal in his/her interpretation of the word 'Mint'. This calculator is used and has been subjected to noticeable wear and tear, as has its case.

JeffK

New looking but witouth box for instance.

*Message #4 Posted by **jbssm** on 21 July 2009, 6:28 a.m.,*
in response to message #2 by Mike Reed

Ok, this is obviously not MINT for sure.

But what about a unit that is new in appearance but without all the accessories, for instance the box?

Re: New looking but witouth box for instance.

*Message #5 Posted by **Michael de Estrada** on 21 July 2009, 8:53 a.m.,*
in response to message #4 by jbssm

Well, sure, the calculator itself could be "mint", however, it simply would not be a "complete" set. I have a few calculators that I found by themselves without any accessories that look like they are new with no visible signs of wear, and work perfectly. I would accept someone describing them as "mint", although I personally do not like to use such terms. I tend to use terms like "excellent" and "no visible wear" when rating the calculators in my collection. This is different from NIB (new in box), which suggests that the item is complete and has never been used. I have never seen an HP that fits this description, however, I do have a few non-HP calculators that were truly NIB. I think that some people do interpret the term "mint" to be synonymous with NIB.

Re: New looking but witouth box for instance.

*Message #6 Posted by **Bart (UK)** on 21 July 2009, 4:33 p.m.,*
in response to message #5 by Michael de Estrada

Hi Michael,

Would this fit your MINT and NIB? I guess this person kept it especially for auctioning off as a collector's piece.

Disclaimer: I am not the seller of this item. I do not know the seller of this item and have no interest in its sale.

Bart

Re: New looking but witouth box for instance.

*Message #7 Posted by **Michael de Estrada** on 21 July 2009, 11:16 p.m.,*
in response to message #6 by Bart (UK)

Yes. Note that the manual is still in its wrapping. I am not interested in these newer vintage HPs from a collector's standpoint. Mainly my interest ends with the HP-41, although I do own and use many of the new models. I have yet to see a truly NIB classic for example.

Re: The meaning of "Mint" in Portugese

*Message #8 Posted by **Quan** on 20 July 2009, 10:28 a.m.,*
in response to message #1 by Michael de Estrada

The word "Mint" is the most often abused word on eBay, in my experience, in describing the conditions of a HP calculator product.

However, often in these cases, the pictures are worth thousand words. Then some.

Good chuckles, though. ;)

Re: The meaning of "Mint" in Portugese

*Message #9 Posted by **BruceH** on 20 July 2009, 6:07 p.m.,*
in response to message #8 by Quan

Surely the most abused word in eBay is "rare" ;-)

Re: The meaning of "Mint" in Portugese

*Message #10 Posted by **Geoff Quickfall** on 20 July 2009, 6:28 p.m.,*
in response to message #9 by BruceH

Then by extension a "rare mint" would be the hardest to find?

;-)

Re: The meaning of "Mint" in Portugese

*Message #11 Posted by **Mark Edmonds** on 20 July 2009, 6:43 p.m.,*
in response to message #9 by BruceH

Quote:

> Surely the most abused word in eBay is "rare" ;-)

God yes! Ebay ought to charge a fee each time that word is used. One unused AA battery - ultra rare!

Mark

Re: The meaning of "Ultra Rare" in English

*Message #12 Posted by **Bart (UK)** on 21 July 2009, 5:17 p.m.,*
in response to message #11 by Mark Edmonds

I just noted a 48GX described as "ultra rare". I guess one appearing at least once every 2 months on UK Ebay alone makes some sellers think it to be ultra rare? Compared to the AA battery, I suppose it is :)

Re: The meaning of "Mint" in Portugese

*Message #13 Posted by **Raymond Del Tondo** on 20 July 2009, 8:34 p.m.,*
in response to message #1 by Michael de Estrada

Hi,

the auction description is incorrect in various places.
Given that the pictures are of the unit on offer, the calc is far from mint.
On the contrary, it has seen intensive use.
The "chrome edging" as the seller calls the silver trim, has been washed out on different areas.
And one of the springs in the battery compartment is badly corroded.
That one will break in the near future.
The rear label has many scratches on the edges.

And the answers to questions to the seller are somewhat irritating;-)

HTH

Raymond

ebaby dictionary

*Message #14 Posted by **db (martinez, ca.)** on 20 July 2009, 10:13 p.m.,*
in response to message #1 by Michael de Estrada

Michael; About eight years ago someone posted most of this here. I added a bit and include it on the page when i eBay something. The funny thing is how often someone who doesn't speak English will take me to task over how it can't be all those things and i'm lying or how i'm breaking eBay rules. I tell them that they're just too smart for me and to not bid on this fraudulent auction. Sometimes someone will ask permission to use it on his auctions. To that i answer "ask the guy who *I* stole it from. - db

-EBAYese to English DICTIONARY-
Hard to Find = It's the only one I'm auctioning today.
Rare = "It's the only one I'm auctioning this week.
Very Rare = It's the only one I'm auctioning this month.
Unique = It's the only one I'm willing to sell.
Seller Prefers PayPal = I want your money and I want it NOW.
Mint = It looks more-or-less like it did when I bought/inherited/salvaged/found/stole it.
Minty = It's mint (q.v.), except for the funny green sauce I dribbled on it while eating lamb chops the other night.
M.I.B. = Mint In Box, but the item and box got slammed in the tailgate at the flea market.
New in Box (NIB) = I bought this with the sole intent of selling it for many times what I paid for it.
Nice = Looks great - doesn't work.
Complete = Except for the valuable, hard-to-find bits required to make it work.
Not Tested/Sold As-Is = 12VDC? 120VAC? There's a difference?

Like New = Like running over it with a car could really be that bad for it.
With Extras = I didn't feel like auctioning the manual, battery door, and case separately.
Buyer protection on eBay = We have your money. What's your problem?"
I'm no expert on this.... = broken
I don't have batteries to test it = broken
I don't know how to test it = broken
It worked last time my dad used it = broken
Reserve Price = Cost of an item in Heaven - the SELLERS Heaven.
No Reserve = none needed in light of the outrageous miniium bid.
Buy It Now = ...for twice what it's worth, or risk paying three times as much to stave off snipers.

Re: ebaby dictionary

*Message #15 Posted by **Michael de Estrada** on 20 July 2009, 11:35 p.m.,*
in response to message #14 by db (martinez, ca.)

Dennis,

I remember seeing this on an auction several years back. Maybe it was yours? I think I almost passed out laughing! Sometimes the coyness of some sellers is unbelievable. Ain't the internet a wonderful thing?

Edited: 20 July 2009, 11:37 p.m.

Re: ebaby dictionary

*Message #16 Posted by **Martin Pinckney** on 21 July 2009, 9:19 a.m.,*
in response to message #14 by db (martinez, ca.)

That word "rare" really bugs me. The funny thing is, I wonder who do these sellers think they are fooling?

1. If a true collector views the auction, he will know what is rare and what is not. So telling the collector it is rare is pointless.

2. What newbie will buy something he knows nothing about just because the seller tells him its rare? If one set out to buy up rare items for resale, wouldn't one first do some research? If so, then one would at least have some idea of the rarity. So again, stating that it is rare seems pointless.

So in the end, the seller is only fooling himself.

Re: ebaby dictionary

*Message #17 Posted by **Quan** on 21 July 2009, 11:26 a.m.,*
in response to message #16 by Martin Pinckney

Hi Martin,

I think the word "rare" or any catching word is probably for the search engine, although I don't know if one can do searching in the description.

Knowledgeable and experienced buyers can filter out the junk from the real thing. Most of the time.

It's always make me smile when "mint" or "rare" just doesn't go hand-in-hand with the pictures the sellers so proudly present them. :)

On the other hand, English is a very rich language... I am told.

Re: ebaby dictionary

*Message #18 Posted by **db (martinez, ca.)** on 21 July 2009, 9:33 p.m.,*
in response to message #17 by Quan

English **is** a rich language. That's because we stole the best words from every other language on earth, and we're not giving them back.

We especially like the dirty ones.

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I41CX - new version 3.0

*Message #1 Posted by **Nigel Bamber** on 20 July 2009, 8:39 a.m.*

Antonio has posted a major new version which is now showing on the Appstore.

It has some significant new features :

1. 24 new functions 2. New VERY modern skin desgned by a 41 guru, Lewis Dickens - its a sort of HP 41CX Disco Version ! 3. Ability to programme your own new characters to show on the screen. 4. Double tap copy/paste of printout/registers/flags/screen etc. onto main Iphone/Itouch clipboard.

The application just gets better and better.

Nigel

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20b keys

*Message #1 Posted by **Paul Dale** on 20 July 2009, 2:44 a.m.*

Just noticed something on the 20b's keys. They've got their primary function embossed on the back. So e.g. the INPUT key has "input" on the inside. The shift key has "shift" etc.

Not having much luck wiping the writing off them. Washing did nothing (as expected), ammonia (window cleaner) didn't touch it. I'm sure I could sand them off but that would look horrible. Perhaps caustic soda will be my next try.

- Pauli

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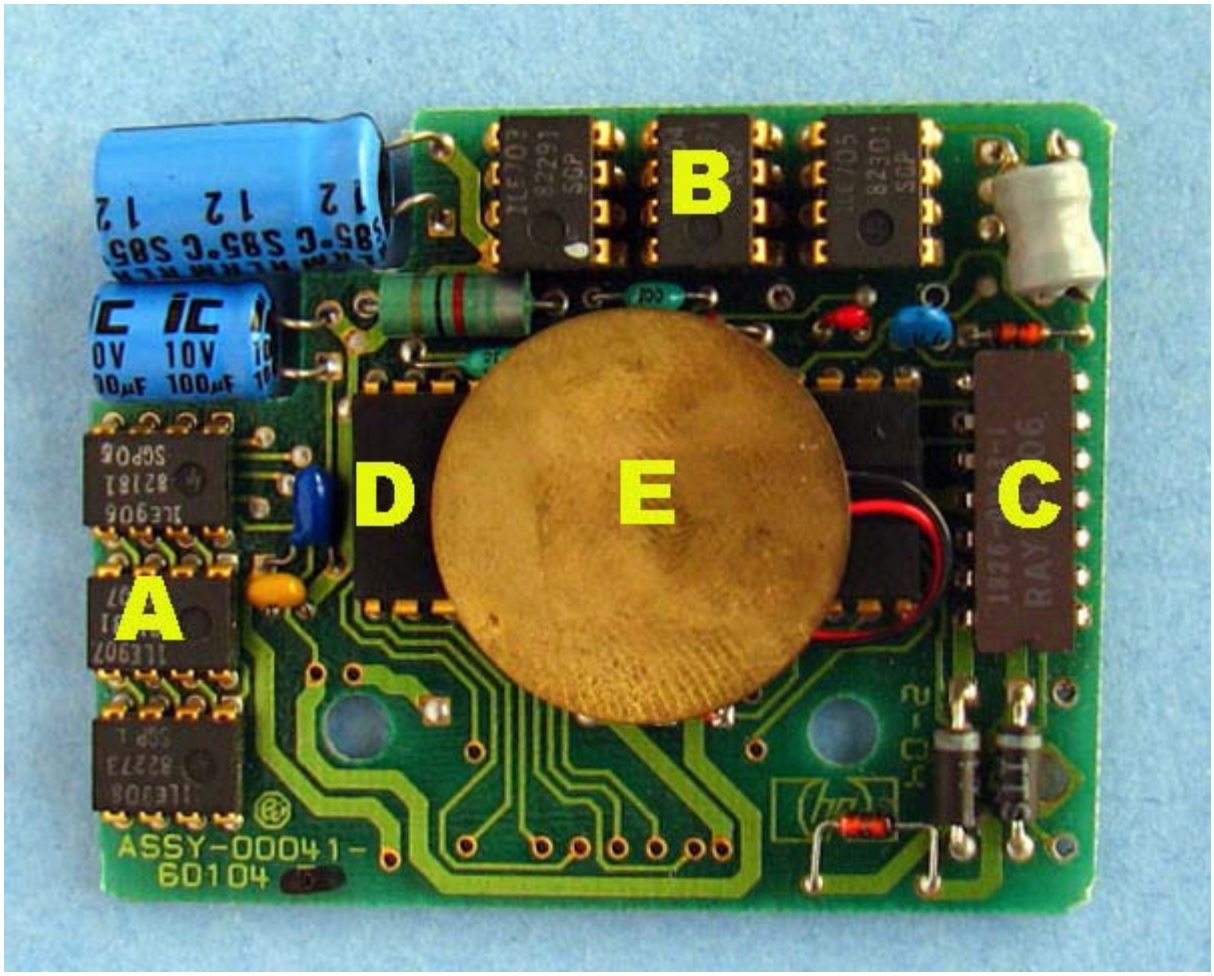
Technical question; HP-41CV logic PCA

*Message #1 Posted by **Geoff Quickfall** on 19 July 2009, 1:59 p.m.*



Pictured above is the Logic PCA from a fullnut HP41-CV circa 1984. I have the manual for the HP-41C of which there are similarities. However I am trying to identify specific chips.

INSCRIPTION	YELLOW LABEL	TYPE?
ILE 906 ILE 907 ILE 908	A	ROM
ILE 703 ILE 704 ILE 705	B	DISPLAY
RAYT8306	C	POWER SUPPLY
N/A	D	CPU

```
N/A                    E          PEIZO TRANSDUCER
```

Do I have A, B, and C correct?

Cheers, Geoff

edited to correct the CX reference .

Edited: 19 July 2009, 8:42 p.m. after one or more responses were posted

Re: Technical question; HP-41CX logic PCA

*Message #2 Posted by **Monte Dalrymple** on 19 July 2009, 3:36 p.m.,*
in response to message #1 by Geoff Quickfall

B are the data storage (RAM) devices. Everything else is correct.

Monte

Re: Technical question; HP-41CX logic PCA

*Message #3 Posted by **Geoff Quickfall** on 19 July 2009, 3:46 p.m.,*
in response to message #2 by Monte Dalrymple

Thanks Monte!

Re: Technical question; HP-41CX logic PCA

*Message #4 Posted by **Monte Dalrymple** on 21 July 2009, 7:44 p.m.,*
in response to message #3 by Geoff Quickfall

My pleasure.

I've been staring at (and carefully measuring dimensions) of exactly this board for a couple of weeks. It's a marvel of miniaturization given the technology of the day. I especially like the capacitors mounted sideways, and on later versions the stacked 8-pin DIPs.

Trying to squeeze an FPGA, a CPLD, a Flash memory and a static RAM, plus power supply and voltage translation circuitry on a board with these physical dimensions is "an interesting intellectual exercise" to say the least. Finding capacitors and an inductor that met the height restriction was a royal pain.

Monte

Re: Technical question; HP-41CX logic PCA

*Message #5 Posted by **Randy** on 19 July 2009, 7:52 p.m.,*
in response to message #1 by Geoff Quickfall

That is not a CX board, it is a either a C or CV as the board part number (on opposite this view) is 5081-5563.

There were a total of six different board layouts used in the life cycle of the 41, this was the fifth variant. The next board in sequence was 5081-5564 which was the only CX capable board. It was also used for the C and CV variants by installing the corresponding ROM and D/S parts. The CX added the timer IC 1LF6-0001.

OOOPS, sorry, it is a CV logic PCA...

*Message #6 Posted by **Geoff Quickfall** on 19 July 2009, 8:41 p.m.,*
in response to message #5 by Randy

Got my photos mixed up! I was working on a CX halfnut board when I typed the posting and I meant to say CV but CX was stuck in my head, REALLY ;-)

Thanks Randy,

Cheers, Geoff

Edited: 19 July 2009, 8:43 p.m.

Re: OOOPS, sorry, it is a CV logic PCA...

*Message #7 Posted by **Etienne Victoria** on 20 July 2009, 12:48 a.m.,*
in response to message #6 by Geoff Quickfall

Hi Geoff,

Diego Diaz has a nice page showing the successive CPU boards on his Clonix-41 website

This can be helpful identifying boards & components.

Cheers

Etienne

Edited: 20 July 2009, 12:48 a.m.

Re: OOOPS, sorry, it is a CV logic PCA...

*Message #8 Posted by **Geoff Quickfall** on 20 July 2009, 1:47 a.m.,*
in response to message #7 by Etienne Victoria

There are no coincidences,

I was just on my way to Deigos site to copy his I/O-assembly flex-PCB pad instructions and thought to visit here first.

So coincidence? off to Deigos,

Cheers, Geoff

The only manual I have is of the original HP-41C with screwed down logic PCA.

Re: Technical question; HP-41CV logic PCA

*Message #9 Posted by **Eric Smith** on 21 July 2009, 7:31 p.m.,*
in response to message #1 by Geoff Quickfall

FYI, the RAYT8306 line on the ceramic chip C is the vendor and date code, not the part number. The part number is the on first line, probably 1820-0953. The -1 suffix is most likely a minor manufacturing variation such as the case type, as any significant functional change would have resulted in a new part number assignment. Earlier 41s used the 1820-0566.

Re: Technical question; HP-41CV logic PCA

*Message #10 Posted by **Randy** on 21 July 2009, 8:12 p.m.,*
in response to message #9 by Eric Smith

The 1820-0953 replaced the original 1820-0566. The new part eliminated two resistors, R2 (100k) and R3 (1m) which were moved onto the die. The parts are otherwise interchangeable, so long as the resistor issue is addressed with the swap.

Thanks guys, thanks to Randy I am

*Message #11 Posted by **Geoff Quickfall** on 22 July 2009, 1:07 a.m.,*
in response to message #10 by Randy

digging up my hp 41C service manual and digging through the PCAs I have.

Eric, some of us have bad eyesight and I thought the brand name would be easier to see as opposed to the discriptive label.

Thanks for the help.

Cheers, Geoff

Re: Thanks guys, thanks to Randy I am

*Message #12 Posted by **Eric Smith** on 22 July 2009, 1:22 a.m.,*
in response to message #11 by Geoff Quickfall

> Quote:
>
> Eric, some of us have bad eyesight

I'm one of 'em.

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Hawkeye: Remember this one? (1/?)

*Message #1 Posted by **Etienne Victoria** on 19 July 2009, 12:00 p.m.*

Remember this one??

The Hawkeye with an additional connector!

It was not exactly pretty:

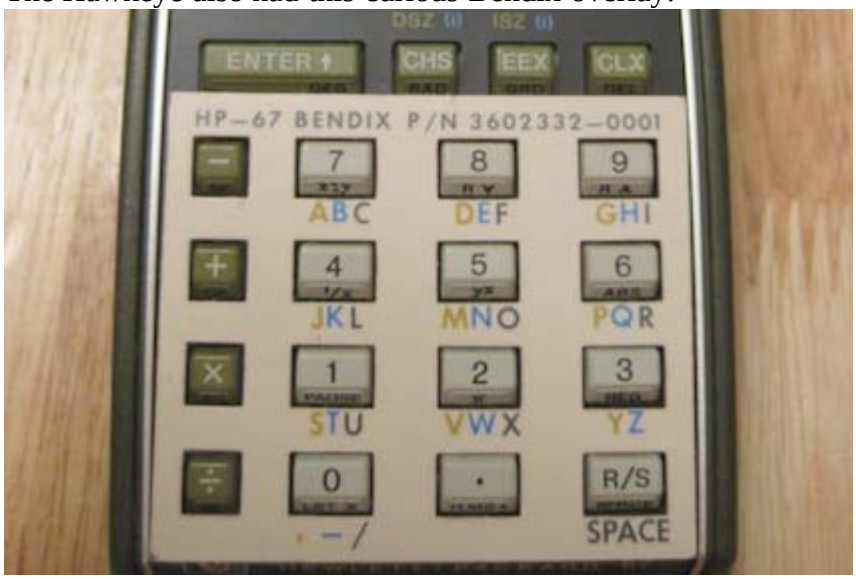
with a missing battery connector and corrosion all over the place...

Nevertheless, I purchased it:

- hoping to find some parts to repair a friends HP-67...

- and, out of curiosity, to check this:

The Hawkeye also had this curious Bendix overlay:



Before opening it, let's check the connector with close-ups:

This 7 holes connector is marked :

- on the top side: MIKM0-1-7SH003, that is a Microminiature Circular 7 pins connector. The MIKM series has a steel shell and improved ruggedness (Source is The ITT Industries website) .

- on the bottom side: ITT 7938.

We'll check it further after powering up and opening the calculator.

After cleanup, the battery compartment confirms the poor condition and corrosion of the connectors:

After checking the serial number, it appears the Hawkeye was built in 1980 and in Singapore:

which is pretty late for a Hawkeye, considering that the 41C was launched in 1979 (but we know from the Museum that the Hp-67 was discontinued as late as 1982).

Warning: do not power-up an Hp-67 and operate the card reader without a known good battery pack correctly connected.

...and know some good news:

Let's power up:

- it works :-)))))

- the keyboard is immaculate (but I hate those legends below the keys)

- the card reader is goeey (but this is good news as I like repairing them).

In the upcoming messages, I will update you on my investigations and findings.

Don't expect:

- frequent postings: I'm quite busy...

- High-res pics: I don't want to clutter Dave's server as I use the guest directory,

- complete reverse engineering: we would need the HIR for this ("Hacker In Residence", Tony, are you here ?)

Just to share the fun.

See you in the next post and have a nice summer!

Etienne

Edited: because, after all those years, I still cannot get a post nicely formatted first shot.

Edited: 19 July 2009, 12:47 p.m.

Re: Hawkeye: Remember this one? (1/?)

*Message #2 Posted by **Katie Wasserman** on 19 July 2009, 1:22 p.m.,*
in response to message #1 by Etienne Victoria

Etienne,

Thanks for the followup information and pictures! I'm glad you posted it as it was an interesting topic for discussion earlier that we can continue now..... Here's my guess:

I've been looking at the the 97S connection its pod and I'll bet that this connector is a subset of that one using just the lines needed for keystroke input. In particular:

```
Ground (the shell)
Vcc
KBA
KBC
KBD
KBE
STR
RCD
```

The keyboard is arranged in a 14 x 4 matrix. A 1-of-14 counter is reset by the RCD line and incremented by the STR line. The KBA, KBC, KBD and KBE are the outputs. Whatever plugged into this MIKM series connector had to have a good bit of logic to make sure that the correct KBx line was at logic 0 (I think) at the correct time. This is exactly what the 97S pod does in addition to decoding some of the 97S instructions.

-Katie

Edited: 19 July 2009, 1:26 p.m.

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In what year was your HP lust kindled?

*Message #1 Posted by **hecube** on 19 July 2009, 12:03 a.m.*

For me, it was in either in 1981 or 1982. I already had had a Sharp PC-1211 and a Radio Shack pocket computer (was it the PC-1?). Anyway, I read an article in french science magazine Science & Vie about which was the fastest pocket computer. The shoot-out was between the HP-67, the HP-41 and I'm pretty sure the above-mentioned Radio Shack (or Sharp equivalent). The method to determine the fastest was a program to calculate something like the first 500 decimals of Pi or thereabouts...

The HP-41 came out on top. I had to get one then and there. I finally got one a year later and I still have it...

Re: In what year was your HP lust kindled?

*Message #2 Posted by **Martin Pinckney** on 19 July 2009, 12:56 a.m.,*
in response to message #1 by hecube

I got my first HP (20s) in 1993 to replace my failing TI. But it was just a tool. Later (about 2003), admiring my associates 48GX's, I bought a 38G for the big display. The "lust", as you term it, did not begin until after I found this site, and learned about the many other models available. Maybe 2006.

Re: In what year was your HP lust kindled?

*Message #3 Posted by **designnut** on 19 July 2009, 1:15 a.m.,*
in response to message #2 by Martin Pinckney

A Scientific American came with a cardboard punch-out that made a mock HP-35. I played with it 2 days and decided I could use it for my Electronic solutions. With 3 memories and a 4 stack I tried every way I could to get better use of it. In idle time I played with it and discovered a shortcut to a somewhat laborious problem. I bought each new model and sold the old one. RPN was all I knew and I changed the book formulas into keystroke sequences. I was able to simplify all the EE formulas to easy to remember routines. I decry using book formulas and algebraic as backwards and inefficient. Once you change them to suit your use you speed your work and I discovered previously unknown relations that had not been noticed because they did not have the tools for computation I had. Sam 80

Re: In what year was your HP lust kindled?

*Message #4 Posted by **hpnut** on 19 July 2009, 1:15 a.m.,*
in response to message #1 by hecube

I got my first HP, a HP-10C scientific as a student on tight budget in 1979. a few months later I traded-in (to my utter regret now) for an HP-41CX which I still have today.

HP's latest scientific the HP SmartCalc 300S is disappointing. it's not even theirs, it being a generic calculator with HP's badge.

Re: In what year was your HP lust kindled?

*Message #5 Posted by **Eric Smith** on 19 July 2009, 8:56 p.m.,*
in response to message #4 by hpnut

The 10C was introduced in 1982, and the 41CX in 1983. Maybe you were thinking of different models, or a different year?

Edited: 19 July 2009, 9:11 p.m.

Re: In what year was your HP lust kindled?

*Message #6 Posted by **Les Bell** on 19 July 2009, 2:04 a.m.,*
in response to message #1 by hecube

It was 1974. I built a Sinclair Scientific from a kit, but it had a faulty clock chip and when finally fixed, I was frustrated by its 3-level stack and lack of an x<>y key. One of the labs at my university had an HP-35 in a security cradle, so I wrote to HP and they sent back some product brochures, including one for the HP-45.

Lust barely begins to describe it.

I worked as a bartender for the Easter holiday break, in order to make enough money to buy an HP-45. I've always had HP calcs since then.

Best,

--- Les
[http://www.lesbell.com.au]

Re: In what year was your HP lust kindled?

*Message #7 Posted by **Geoff Quickfall** on 19 July 2009, 2:21 a.m.,*
in response to message #6 by Les Bell

For me, my HP-25 in 1977 at university.

The moon landing program snagged my interest!

Cheers, Geoff

Re: In what year was your HP lust kindled?

*Message #8 Posted by **Michael Lopez** on 19 July 2009, 4:53 a.m.,*
in response to message #1 by hecube

For me it was about 1980-81 when I heard about the HP41C & decided to buy one as I was finishing my Engineering Degree. Then moved onto the the 48GX & now the 50G. I still have my original 48GX which is in excellent condition & recently purchased a 41CV & 41CX (both in perfect condition) for old times sake. Also purchased a new 35S earlier this year for my daughter who recently started at Uni.

Must say I still love the feel of the 41 series calculators & enjoy using them for simpler calcs but when I need for flexibility & power out comes the 50G.

Cheers,

Michael

Re: In what year was your HP lust kindled?

*Message #9 Posted by **Walter B** on 19 July 2009, 5:15 a.m.,*
in response to message #1 by hecube

For me, it was a refurbished HP-25C in 1977. I easily sold my first calculator then, a TI SR 50 I bought 2 years earlier since HP was way (!) too expensive for me as a student at university. I remember when I first saw an ad of the HP-45 it was priced >1200 DM. I leave it to the experts to calculate this in today's currencies.

There were many internal debates in mid-seventies in physics classes about the "best" scientific calculators one could buy. It was only between TI and HP then, the other brands available were rated "cheap scrap". At that time, build quality and durability of HP's keyboards was exceeding TI's by far. So, yes, it was a kind of "lust" (German) to use one of those, though it was a bare necessity for me.

5 years later I replaced it with a 11C. A 15C or 41C was too expensive, and the 11C had all I really needed -- even L.R.! It was great progress compared to the 25C, so I enjoyed it.

I had to buy a replacement 8 years after this. And I bought an HP again, a 32S (42S was too expensive), but I don't remember a "lust" then. It was a tool, nothing more. I still have it today. My collection started many years later, when I saw an old HP-97 at work.

Re: In what year was your HP lust kindled?

*Message #10 Posted by **DK2ZA** on 19 July 2009, 6:01 a.m.,*
in response to message #9 by Walter B

1972, HP-35 (for about 900 DM. I was the first among my colleagues to get rid of the slide rule), sold it. Then came a HP-25 (learned to program in a very tight space), sold it. Then came a HP-67 (a big machine, but no letters), sold it. Then came a HP-41C (built two memory modules INTO the case), sold it. Then came a HP-48SX (after many years some keys failed), took it apart. Then came a HP-50g (very good machine, but lousy manual), still have it.

Greetings, DK2ZA

Re: In what year was your HP lust kindled?

*Message #11 Posted by **bill platt** on 19 July 2009, 6:52 p.m.,*
in response to message #10 by DK2ZA

1981

de N3LPX

Re: In what year was your HP lust kindled?

*Message #12 Posted by **JDonley** on 19 July 2009, 4:05 p.m.,*
in response to message #1 by hecube

1979....from a computer shop in Billings, Mt. called "The Computer Store". They carried HP and Apple products.....When I saw the 41C, I had to own it for $325 approximately (does that sound right?). Learned to program in basic on the 41C and that lead me to buy an HP85 (desktop) and later an HP9816 desktop. Over the years have bought several 41CX's and all of my 41's are in use every day. Don't hold your breath thinking HP will ever produce a product like the 41 and all the other calcs we have come to admire, anymore than GM will produce a vehicle as sexy as the 57 Chevy.

don

Re: In what year was your HP lust kindled?

*Message #13 Posted by **Mike T.** on 19 July 2009, 7:33 p.m.,*
in response to message #1 by hecube

1976 - My playing Lunar Lander on father's HP97 to pass away the time on a transatlantic flight.

Actually this machine kick started my whole interest in computers and programming, and I think I used it more than my father did until I got my own HP33C (which I still have today) in 1978 but I never took to the later models in quite the same way.

Mike T.

PS - I do remember being rather disappointed when I discovered that 'real' computers could only cope with integers 0 - 255.

Re: In what year was your HP lust kindled?

*Message #14 Posted by **Nigel Bamber** on 20 July 2009, 8:44 a.m.,*
in response to message #13 by Mike T.

OK I'm a newbie around here !

2009 - after downloading the excellent I41CX Itouch application.

In May of this year got my hands on my first real HP calculator , 41 CV.

But my interest in calculators was sparked by my maths master at Prep school showing off his non-HP one in 1974.

Nigel

Re: In what year was your HP lust kindled?

*Message #15 Posted by **Mark Edmonds** on 20 July 2009, 2:45 p.m.,*
in response to message #14 by Nigel Bamber

I was always aware of HPs and very curious about them but they were always far too expensive for me to consider. I survived with loaned Casios and bought a Tandy/Sharp PC1 and later another Sharp programmable which was horrible. Eventually, I got so fed up with the Sharp and as I was in work and earning money, I went up to town to do some research with the intention of coming back with the best calc I could get.

That turned out to be a 48SX which was an amazing eye-opener!

I didn't get into collecting until a little later but still before the internet became readily available so HPCC got me my first additions. Then I went completely off it all for many years until something triggered the interest again. Still seeking the holy grail, a 9100B...

Mark

Re: In what year was your HP lust kindled?

*Message #16 Posted by **David Hayden** on 20 July 2009, 4:16 p.m.,*
in response to message #1 by hecube

Around 1978. I'd become fascinated with programmable calculators after seeing a TI 52(?) owned by a friend of my parents. My brother got an HP 25C and around 1978, I convinced my father to buy me a 29C. I tried to get him to spring for the 19C, which had a built-in printer but I couldn't justify it.

A couple of years later a got a 41C, then memory modules, card reader, math module printer... I replaced the 41C with a 421CV in college in 1982 I believe. That was my main calculator until 2 years ago when my daughter needed a TI 83 and I started to wonder what had happened in the world of HP calculators in the intervening 25 years. Bought a 50G and learned to program it. I'm still learning the functions in this nifty little machine and I've been writing code in system RPL and C/C++ for it.

Got a side gig writing software for a 48gii, which is a nice less-expensive alternative to the 50g.

Re: In what year was your HP lust kindled?

*Message #17 Posted by **Bart (UK)** on 21 July 2009, 5:41 p.m.,*
in response to message #1 by hecube

1988 when I got a 28C. It only had 2k RAM, so I was soon tempted by a Casio fx-850P because it had more RAM.

I soon found that I wasted most of it reprogramming calculator functions! I got to hate the Casio. On the 28 everything was integrated and just about all keyboard functions were available for programming. RPL was just more efficent and flowed so much easier.

I trashed the Casio (it ended up under the wheel of my car) and got a 28S. I still use it to this day. Unfortunately the battery door is broken. Since then it's been only HP's for me. Although stuck on RPN, I find the 20S quite an amazing little unit.

I do not have a "lust" in the collector sense, I just can't imagine using any other calculator.

Bart

Re: In what year was your HP lust kindled?

*Message #18 Posted by **Johnny Bjoern Rasmussen** on 22 July 2009, 11:44 a.m.,*
in response to message #17 by Bart (UK)

My elder brother introduced me to his HP-41. I thought this so called reverse polish notation was a bit confusing, but I could spot out some nice things about it too. Still I had my beloved Casio PB-100 and my Sinclair ZX-81, both basic programmable so they were perfect mates. But later on I got an HP-42S as a present from my brother. That was how it all started. I bought an HP-48SX in 1992 and sold the HP-42S to a classmate (most regretfully). Today I have more than 40 different HP's...

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HP classic latches

*Message #1 Posted by **Tim** on 18 July 2009, 11:58 p.m.*

Does any on know where to get a latch for the HP 45 door?

Re: HP classic latches

*Message #2 Posted by **Dan W** on 19 July 2009, 1:30 a.m.,*
in response to message #1 by Tim

From an HP45?

No I'm serious. Spare doors or latches for the Classics seem hard to come by. I could use a few myself. Best bet is to probably wait until a non-functional Classic shows up on auction and try to buy the whole thing for cheap. The 35, 45, 55, and 80 all use the same door (the 70 is the wrong color). There's a door thief out there, probably related to the sock thief.

Edited: 19 July 2009, 1:32 a.m. after one or more responses were posted

Re: HP classic latches

*Message #3 Posted by **Tim** on 19 July 2009, 3:07 p.m.,*
in response to message #2 by Dan W

That's just it. They are not cheap. I have an HP 45 it has one latch that is broken in half. Most fixit calculators are missing the door. I thought maybe veteran collectos would have spare latches but they probably fixed up thiers and thus their is a short supply of them.

Re: HP classic latches

*Message #4 Posted by **Michael de Estrada** on 19 July 2009, 8:36 p.m.,*
in response to message #2 by Dan W

The HP-55 is also a different color, sort of a khaki green. Although I have on occasion seen classic battery doors for sale, the prices have always been exorbitant. Fortunately, all my working classics have doors with good latches.

Re: HP classic latches

*Message #5 Posted by **Jonathan Eisch** on 20 July 2009, 11:54 a.m.,*
in response to message #4 by Michael de Estrada

I sent my latches to someone on this list a while back, as they offered to try to fabricate some new ones for me. Don't remember what ever happened with that, but it sounds like if they got around to it, there are enough people here to make their time worth while.

-Jonathan

Re: HP classic latches

*Message #6 Posted by **Tim** on 20 July 2009, 5:32 p.m.,*
in response to message #5 by Jonathan Eisch

That would be an excellent idea. They are plastic. You wouldn't think it would take much to fabricate for someone who works with plastics.

Re: HP classic latches

*Message #7 Posted by **Randy** on 20 July 2009, 6:16 p.m.,*
in response to message #6 by Tim

> Quote:
>
> That would be an excellent idea. They are plastic. You wouldn't think it would take much to fabricate for someone who works with plastics.

I guess you've never seen what it takes to make a molded plastic part... molds are anything but easy.

To recreate those latches it would be unbelievably expensive to make in quantity. Several thousand dollars would be good starting point for the tooling since there are two molds involved, one for the slide, one for the rubber foot insert. That latch system relies on some tight tolerance molding and good material, not a good match to try on a small, limited scale.

There was a guy around a couple of years ago that talked about this. He did make some knock-off classic battery shells. He sold them for a short while on eBay then promptly disappeared from sight when they stopped selling. IMO, they were pretty awful.

Re: HP classic latches

*Message #8 Posted by **Dan W** on 20 July 2009, 8:53 p.m.,*
in response to message #7 by Randy

That was Don Shaffer. I thought they were pretty good, and bought a number to build battery packs and sell on that_site with rebuilt calculators. Of course they weren't as good as the originals, but they were much better than not having a shell at all.

Re: HP classic latches

*Message #9 Posted by **Randy** on 20 July 2009, 9:08 p.m.,*
in response to message #8 by Dan W

> Quote:
>
> Of course they weren't as good as the originals, but they were much better than not having a shell at all.

I cannot agree with you. Never had problem one with a Mark Hoskins battery and I've bought at least thirty of them. They may not be pretty but they always work. I bought five of the other brand and I had to trim the case on two to get them to work, a third was never 100% reliable as the case was warped due to too much hot glue and never fit quite right in the calculator.

Your mileage was obviously different...

Re: HP classic latches

*Message #10 Posted by **Dan W** on 20 July 2009, 10:24 p.m.,*
in response to message #9 by Randy

I can't comment on the battery packs. I only bought the plastic frames, then built up my own packs.

Re: HP classic latches

*Message #11 Posted by **Michael de Estrada** on 20 July 2009, 11:23 p.m.,*
in response to message #10 by Dan W

Don Shaffer is selling his classic battery packs again. He has changed his assembly technique from hot glue to heat staking, and they now fit properly inside the calculator. They cost more than Mark Hoskins' battery packs, and since Mark has now upgraded his packs to 1000 mAH cells, there is less reason to buy Don's anymore. Also, Mark is the only one that I know of that sells replacement battery packs for the HP Spice series.

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Printing statistics calc // 46

*Message #1 Posted by **Walter B** on 18 July 2009, 5:28 p.m.*

Hi all,

here's an auction showing a print of something called "model 5" looking like an HP 46 but with different keys. I haven't seen this model before, at least I don't remember. Does anybody know more about it? The photo of the relevant page is too blurred to read anything there :(

Look here.

Salvatory clause: I'm not linked to the seller.

Walter

Re: Printing statistics calc // 46

*Message #2 Posted by **Thomas Radtke** on 18 July 2009, 5:50 p.m.,*
in response to message #1 by Walter B

Could be the 9805, maybe in France just labeled 5?

Edited: 18 July 2009, 5:51 p.m.

Re: Printing statistics calc // 46

*Message #3 Posted by **Walter B** on 18 July 2009, 6:10 p.m.,*
in response to message #2 by Thomas Radtke

Thomas, thanks for the hint. You must be right. I just checked the "9805 Expanded Stat Guide" on Dave's DVD, and it even states "Model 5" on its first page. So, not only in France ...

Re: Printing statistics calc // 46

*Message #4 Posted by **Mark Edmonds** on 18 July 2009, 8:25 p.m.,*
in response to message #3 by Walter B

Yep, easy to identify from the 46 or 81 by its swappable left hand keyblock. I love the way they printed the graphs on those keys and used such "wordy" key labels! I've never seen any alternative keyblocks other than the standard one though - has anyone got any pictures or descriptions of any others please?

Mark

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Sanmath-5 ?

*Message #1 Posted by **Geir Isene** on 18 July 2009, 3:37 p.m.*

Over at TOS, Angel Martin has released Sandmath-5. But still with manuals from Sandmath-III.

Angel; What is the changes in 5?

Re: SandMath-5 ?

*Message #2 Posted by **Angel Martin** on 19 July 2009, 1:34 a.m.,*
in response to message #1 by Geir Isene

Good things happen to those who wait...

My personal contribution to the 30th. anniversary (say celebrate?) is this updated version of the SandMath Module.

More changes still happening, rather wait until the final version is posted on July 21st...

What's different:-

a.- 4 new MCODE functions replace the FOCAL programs from previous versions (GCD, LCM, nPr, nCr)

b.- Error handling added to GAMMA, BETA, and other MCODE functions likely to get beyond range.

c.- corrected a bug in KNBS (Bessel K) and added support for negative integer indexes to all of them (In, Jn, Kn, Yn).

d.- lots of small code improvements and code compacting, allowing more functions to be staffed into the ROM.

An updated version of the QRG, as well as new blueprints will also be posted on July 21st.

Best, AM

Edited: 19 July 2009, 1:35 a.m.

Re: SandMath-5 ?

*Message #3 Posted by **PeterP** on 19 July 2009, 6:36 p.m.,*
in response to message #2 by Angel Martin

Awesome! Based on Egan's last challenge I started to work on a nPn and nCn mcode function, glad I did not finish them!

Thanks a lot angel, I still have. Virtually all of the calcs I use at home, office, iPhone etc with sandbox/sandmath configurations!

Cheers

Peter

Re: SandMath-5 ?

*Message #4 Posted by **Ángel Martin** on 21 July 2009, 1:27 a.m.,*
in response to message #3 by PeterP

Hi Peter,

Well, today's the day... 30th. anniversary of the 41 launch, 40th. aniversary of the Moon landing, and 50th. anniversary of your's truly (I rather say that version 5.0 of the OS is just installed :-). [Let's see, 30-40-50... isn't that a natural series of some kind?)

To whet your appetite here's the listing of nPr and nCr, I'm sure you can improve on them so go ahead and send feedback. Enjoy!

Best, ÁM

```
092     "R"
003     "C"             nPr = PROD{n-k} ,
00E     "N"             k=0,1,…,(r-2),(r-1)
108     SETF 8          nCr entry point
02B     JNC +05
092     "R"
010     "P"             nCr= nPr / r!
00E     "N"
104     CLRF 8          nPr entry point
0B8     READ 2(Y)       n
2FE     ?C#0 MS         Carry Set if Negative
04F     JC +09
2EE     ?C#0 ALL        Carry set if NOT Zero
03B     JNC +07
10E     A=C ALL
0F8     READ 3(X)       r
2FE     ?C#0 MS         Carry Set if Negative
01F     JC +03
2EE     ?C#0 ALL        Carry set if NOT Zero
01F     JC +03
30D     ?NC GO
062     ->18C3  [ERR0]
351     ?NC XQ          (includes SETDEC)
050     ->14D4  [CHK_NO_S1]
04E     C=0 ALL
35C     PT= 12          builds "1" in C
050     LD@PT- 1
268     WRIT 9(Q)       initial product
0F8     READ 3(X)       r
088     SETF 5          Take Integer part
0ED     ?NC XQ
064     ->193B  [INTFRC]
10E     A=C ALL         Int(r)
04E     C=0 ALL
2DC     PT= 13          Builds "-1" in C
250     LD@PT- 9        -
050     LD@PT- 1        1
01D     ?NC XQ          Adds normalized A and C
060     ->1807  [AD2_10]
070     N=C ALL         (r-k)-1
2BE     C=-C-1 MS       -[(r-k)-1]
3C4     ST=0            Clears Carry if set
10E     A=C ALL
0B8     READ 2(Y)       n
0AE     A<>C ALL
01D     ?NC XQ          Adds normalized A and C
060     ->1807  [AD2_10]
10E     A=C ALL         n-[(r-k)-1]
278     READ 9(Q)       partial product PP
135     ?NC XQ          it *uses* M !!
060     ->184D  [MP2_10]
2F6     ?C#0 XS         See if we overflow?
```

```
289     ?C GO           "Out of Range"
003     ->00A2  [ERROF]
268     WRIT 9(Q)       PP*{n-[(r-k)-1)]}
0B0     C=N ALL         (r-k)-1
2EE     ?C#0 ALL
33F     JC -19          loop back
278     READ 9(Q)
10C     ?FSET 8
04B     JNC +09
0F8     READ 3(X)       r
3B1     ?NC XQ          Calculates Factorial
060     ->18EC  [XFT100]
10E     A=C ALL
278     READ 9(Q)
0AE     A<>C ALL
261     ?NC XQ          Divides A over C
060     ->1898  [DV2_10]
0EE     B<>C ALL        final solution
391     ?NC GO          (REQUIRES Value in B)
002     ->00E4  [DROPST]
```

Edited: 21 July 2009, 1:36 a.m.

Re: SandMath-5 ?

*Message #5 Posted by **Egan Ford** on 21 July 2009, 11:20 a.m.,*
in response to message #2 by Angel Martin

> Quote:
>
> a.- 4 new MCODE functions replace the FOCAL programs from previous versions (GCD, LCM, nPr, nCr)

I get NONEXITENT with NPR and NCR.

Re: SandMath-5 ?

*Message #6 Posted by **Ángel Martin** on 21 July 2009, 3:11 p.m.,*
in response to message #5 by Egan Ford

Weird. Such an error message isn´t part of the error handling of the routine. I suggest you download the module (when posted) and check the code from there.

Best, ÁM

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What company now embodies the qualities of the HP of old?

*Message #1 Posted by **hecube** on 18 July 2009, 2:37 p.m.*

And where is the chinese equivalent of HP? Where is the indian equivalent of HP? or Russia's? These countries are experiencing construction (and the associated engineering) boom.

They must have need for portable computational power like HP provided in the 70s and 80s?

Where is all that?

Re: What company now embodies the qualities of the HP of old?

*Message #2 Posted by **Don Shepherd** on 18 July 2009, 2:55 p.m.,*
in response to message #1 by hecube

PC

Re: What company now embodies the qualities of the HP of old?

*Message #3 Posted by **hecube** on 18 July 2009, 3:00 p.m.,*
in response to message #2 by Don Shepherd

I know... I'm a romantic... I was hoping for another answer.

Re: What company now embodies the qualities of the HP of old?

*Message #4 Posted by **Marcus von Cube, Germany** on 18 July 2009, 5:48 p.m.,*
in response to message #3 by hecube

I think it's the mobile phone, not the calculator.

Re: What company now embodies the qualities of the HP of old?

*Message #5 Posted by **Mike T.** on 19 July 2009, 7:20 p.m.,*
in response to message #1 by hecube

Personally I'd say Apple's iPod, iPhone, and MacBook show that Apple has the qualities of Innovation, Design and 'Quality' that were associated with the older HP1x, HP2x and HP4x series machines. Perhaps surprisingly you could even make a case for HP themselves based on products like the HP digital pen and HP printing system, HP2133 netbook, and high end products like the HP2465 - except that though very good the HP products were not all the first to appear in each segment of the market.

Of course only of one of these the two still makes an RPN calculator.

Perhaps in today's consumer market place it should not be a surprise that none of these products feel quite as special as the old machines did in the '70s and '80s , but these days you do get a lot more for your money...

Mike T.

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the top programmable calculators

*Message #1 Posted by **juan demin** on 18 July 2009, 2:29 p.m.*

Hi, I wonder how to follow the list of top hp programmable calculators: hp-65, hp-67, hp-41.... What's your oppinion? Thanks

Not including the graphing calculators and sticking with RPN:

*Message #2 Posted by **Geoff Quickfall** on 18 July 2009, 3:58 p.m.,*
in response to message #1 by juan demin

My list, in order of introduction:

```
HP-65      after all, it was the first.
HP-67      after all, it was the second and for expanded capability.
HP-97      a 67 with a printer, easy documentation.
HP-29C     small, portable, and 98 lines of programming.
HP-19C     as above but with the convenience of a printer.
HP-34C     has the minimum number of registers in my opinion for a
           truly handy machine.
HP-41C,    the ultimate of course in RPN
CV, CX
HP-15C     the size, programming and pocket factor.  To bad it
           didn't have LEDs.
HP-42S     the second ultimate but I need my clock!


HP35S      excellent come back but I need polar functions and a
           clock.
```

HEWLETT-PACKARD 65
HEWLETT-PACKARD 65

Continuous Memory
Continuous Memory

FIX DEG SCI RAD ENG GRD
A B GSB f g
x≷1 R↓ R↑ I DSE (i) ISG
x≷y GTO STO RCL h
MEM PREFIX CLEAR PRGM REG Σ
ENTER↑ CHS EEX CLX
x≤y x<0 SIN⁻¹ COS⁻¹ TAN⁻¹
− 7 8 9
x>y x>0 →R →P →D →R →H.MS →H
+ 4 5 6
x≠y x≠0 LN eˣ LOG 10ˣ √x x²
× 1 2 3
x=y x=0 ∫ SOLVE Σ+ Σ−
÷ 0 . R/S
HEWLETT PACKARD 34C

quickfall yvrops

HEWLETT PACKARD
RPN SCIENTIFIC
32SII
HEWLETT PACKARD
RPN SCIENTIFIC
42S

Re: Not including the graphing calculators and sticking with RPN:
*Message #3 Posted by **db (martinez, ca.)** on 18 July 2009, 8:23 p.m.,*
in response to message #2 by Geoff Quickfall

George; Is that a keyboard map for one of your programs on the wallet in the photo with the 41s?

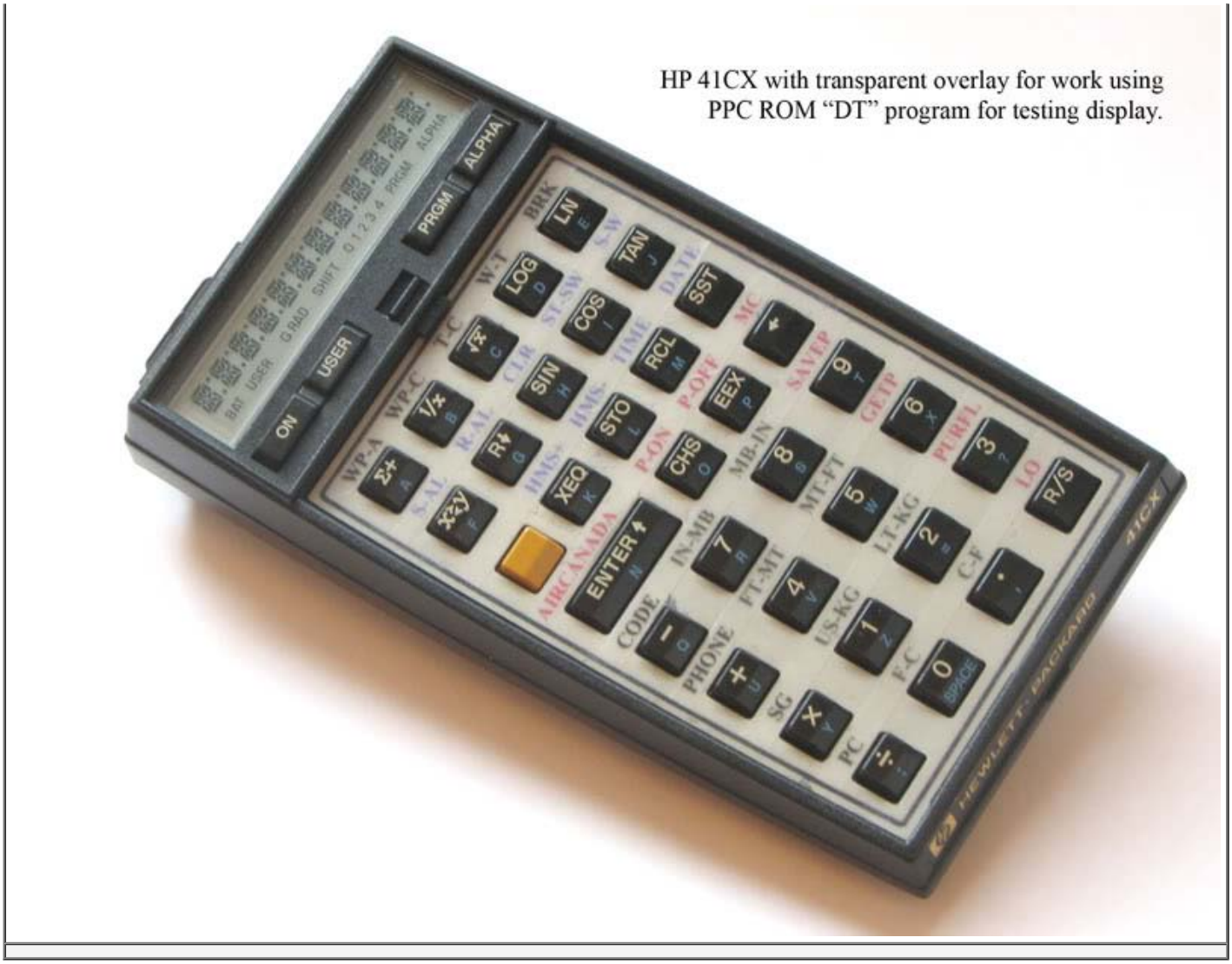
My list:
1)Prologue
2)41c
3)41cv
4)41cx
5)Decadence

I wonder how Viktor Toth would answer this thread?

Re: Not including the graphing calculators and sticking with RPN:
*Message #4 Posted by **Geoff Quickfall** on 18 July 2009, 8:38 p.m.,*
in response to message #3 by db (martinez, ca.)

Yup,

I used that until i figured out how to create labels for blank overlays such as this:



Re: the top programmable calculators

*Message #5 Posted by **Saile (Brazil)** on 18 July 2009, 4:31 p.m.,*
in response to message #1 by juan demin

```
The best:

HP-67/97 LED Wonderful

Sharp PC-1600 LCD Not HP But... Fantastic !!!!

Geoff Quickfall you are the number 1 in photographing our girls in sensual positions ;-)
When I can create PlayCalc (Playboy of the calculators) you will be the photographer number 1. :-)
```

Edited: 18 July 2009, 4:39 p.m.

Re: the top programmable calculators

*Message #6 Posted by **Geoff Quickfall** on 18 July 2009, 8:54 p.m.,*
in response to message #5 by Saile (Brazil)

Saile,

;-)

Re: the top programmable calculators

*Message #7 Posted by **juan demin** on 18 July 2009, 6:48 p.m.,*

in response to message #1 by juan demin

yessss...play calc with these old ladies...!!!!! But look, I know each one is unique and wonderful...but... would you say that the hp 29c (that was born one year later) is in the line aftewr the ho 67?... same thing with 34c.... What is the line with only the "top" in programming capabilities?

Re: the top programmable calculators

*Message #8 Posted by **Mark Edmonds** on 18 July 2009, 7:30 p.m.,*
in response to message #7 by juan demin

I am really amazed at some of the replies here! What criteria are you using to make these selections? I think it is necessary to set a few baseline specifications to appreciate what does make a great programmable rather than picking the best model of each generation.

Also, not one of you has mentioned the HP that I think is the closest they got to the "perfect pocket programmable". Actually, I've been meaning to start a thread on the "perfect HP" to get this being discussed but haven't finished my opening text yet. Maybe tomorrow...

Mark

Re: the top programmable calculators

*Message #9 Posted by **juan demin** on 18 July 2009, 8:44 p.m.,*
in response to message #8 by Mark Edmonds

You are right Mike..!! An maybe this could be a nice debate once we can settle the basis to compare each model... Which one are ypou talking about?

Mark, there were/are no criteria! That's the fun. But seriously..

*Message #10 Posted by **Geoff Quickfall** on 18 July 2009, 8:46 p.m.,*
in response to message #8 by Mark Edmonds

Give me some criteria and I will narrow the list down.

Obviously, for me, the most important calculators, as evidenced by their use by me, are in this order:

```
HP-41CX
HP-42S
HP-01
```

They accompany me to work. I wish the 42S had a clock, it would actually replace the 41CX if it did. I don't use the modules or HPIL as much as I used to and its profile is much slimmer for my flight bag.

On another note, what would the criteria be:

```
BEST LED PROGRAMMABLE
BEST LCD GRAPHING
BEST LCD NON GRAPHING
BEST HPIL CAPABLE CALCULATOR
BEST TIMING FUNCTION CALCULATOR
BEST CONTROLLER
BEST CALCULATOR THAT IS EASY TO USE
BEST CALCULATOR IN EACH FAMILY
BEST OVER ALL CALCULATOR THAT HP EVER BUILT
BEST RESTORABLE OR FIXABLE CALCULATOR
...
```

This could go on forever, but for me, each calculator that I mentioned in the first post twig my interest and have their reasons for being in my expanded list. Of course that is all personal by definition.

Cheers, Geoff

Edited: 18 July 2009, 8:54 p.m.

Re: Mark, there were/are no criteria! That's the fun. But seriously..

*Message #11 Posted by **juan demin** on 18 July 2009, 11:30 p.m.,*

in response to message #10 by Geoff Quickfall

Agree with Geoff... this is the funny thing.. and probably the driver to make us write here... but please, let´s go on beacuse at the end of the line we will be closer to understrand some interesting aspects of our own choices... Mark, you put the seed and now is growing...

Re: Mark, there were/are no criteria! That's the fun. But seriously..

*Message #12 Posted by **juan demin** on 18 July 2009, 11:33 p.m.,*
in response to message #11 by juan demin

I would simplify: increase power no matter costs, instead of producing cheaper calcs for more people. Thanks

Re: Mark, there were/are no criteria! That's the fun. But seriously..

*Message #13 Posted by **Mark Edmonds** on 20 July 2009, 2:16 p.m.,*
in response to message #11 by juan demin

Well, briefly, the sort of things I would be thinking of are:

Does it have step insert/delete? Does it have label addressing? Does it have subroutines? Does it have continuous memory or offline storage?

Those are only a small part of my "master list" for the "perfect HP" and I would want all of them to be true for a particular model before I would consider it in my top programmables list. However, I would make an exception on the last point if the step memory was small and as a consequence, only small programs were possible. You will note that I am not including anything like "historical significance" or "personal significance" because they can be more subjective.

By the way, one of the reasons why I said I was surprised by the original nominations is that no one included an RPL machine! I know why RPL isn't popular but even if you don't like it, you can't deny its power and the massive feature set built into the 48 models and onwards. By most definitions, those machines would be the ultimates - although my nomination for the perfect HP is not one of them by a long shot!

Mark

Re: Mark, there were/are no criteria! That's the fun. But seriously..

*Message #14 Posted by **Les Bell** on 20 July 2009, 8:03 p.m.,*
in response to message #13 by Mark Edmonds

> Quote:
>
> By the way, one of the reasons why I said I was surprised by the original nominations is that no one included an RPL machine!

I think that's because we don't actually rate them that highly, Mark. Powerful, yes, but too complex, a design that places orthogonality/consistency over convenience, too big, not a great keyboard, unengaging documentation. Fine for a maths teacher or a schoolkid who's got no alternative, but not for engineers and scientists.

Nope, when I want to do some computing, I use a computer, but when I want to do some calculating, I reach for my trusty 41.

Best,

--- Les
[http://www.lesbell.com.au]

Re: Mark, there were/are no criteria! That's the fun. But seriously..

*Message #15 Posted by **Paul Dale** on 20 July 2009, 8:18 p.m.,*
in response to message #14 by Les Bell

I am quite a fan of the 28S.

Plenty of memory for most purposes. Very nice keyboard and layout.

Really awful battery door.

Pauli

Re: Mark, there were/are no criteria! That's the fun. But seriously..

*Message #16 Posted by **Les Bell** on 20 July 2009, 9:34 p.m.,*
in response to message #15 by Paul Dale

I'm in partial agreement with you there, Paul. The 28S's form factor was comparatively uncluttered - although I never had one, I was quite fond of my wife's 18C which was similarly laid out. Plus, it came with much better (imho) manuals than the later 48 series - in fact, I found some of the 28 books quite useful in getting my head around some of the subtleties of the 48's.

Best,

--- Les
[http://www.lesbell.com.au]

Re: Mark, there were/are no criteria! That's the fun. But seriously..

*Message #17 Posted by **Frank Rottgardt** on 21 July 2009, 11:15 a.m.,*
in response to message #15 by Paul Dale

Yes, the 28s is a good calculator. Like its very felxible RPL and good conversion library. The 48 familie is to bulky and often and to hard to use/learn with many bells and jingles. Only the absence of I/O is something I really miss on the 28. Almost everything later used in the 48 came from the 28. It is a milestone in the HP-history and after 20+ years still compatible IMHO.

Re: the top programmable calculators

*Message #18 Posted by **Les Bell** on 18 July 2009, 11:48 p.m.,*
in response to message #1 by juan demin

Oh, easy. In terms of absolute power with maximum ease of use, it's the HP-41CX. In terms of engineering design - both mechanical quality and keyboard layout, it's the -67.

Just my 2c, of course.

Best,

--- Les
[http://www.lesbell.com.au]

Re: the top programmable calculators

*Message #19 Posted by **Mark Edmonds** on 20 July 2009, 2:27 p.m.,*
in response to message #18 by Les Bell

> Quote:
>
> Oh, easy. In terms of absolute power with maximum ease of use, it's the HP-41CX. Les

Cough!!!

Ignoring the machines with their computer bias like the 71B, surely the 41 series have the distinction of having the largest feature set that needs to be typed in character by character and therefore, the smallest proportion of functions that can be entered directly from the keyboard?

Also, the Alpha key has that nasty pivot mechanism which means you have to push it down on the right hand side and for people with large fingers, you actually need to angle your finger to push it with the narrow tip to get full travel. I am not a fan of that key and I don't really understand why HP didn't make all those top keys individual with normal travel because the 41 has a lovely keyboard otherwise.

I know the 41 series are very popular and I understand some of the reasons behind that but ease of use? No, I don't think it deserves plaudits in that direction.

Mark

Re: the top programmable calculators

*Message #20 Posted by **Les Bell** on 20 July 2009, 8:10 p.m.,*
in response to message #19 by Mark Edmonds

> Quote:
>
> I know the 41 series are very popular and I understand some of the reasons behind that but ease of use?

It was significantly easier to use because it displayed program steps as alphanumerics, rather than the row/column code used by the non-alpha machines. Coupled with the ability to fit many more functions by the use of the [alpha] key you so revile, it was a significant leap forward in ease of use. Pretty much the sweet spot, for many of us.

Best,

--- Les
[http://www.lesbell.com.au]

Re: the top programmable calculators

*Message #21 Posted by **Howard Owen** on 20 July 2009, 8:21 p.m.,*
in response to message #20 by Les Bell

> Quote:
>
> It was significantly easier to use because it displayed program steps as alphanumerics, rather than the row/column code used by the non-alpha machines.

Right. In it's context, the 41C was *very* easy to use. So I guess it's a matter of whether you allow the historical context to be taken into consideration when compiling a list like this. Another way to say that might be whether you live in the past or not. :) (Like me, btw)

Regards,
Howard

Re: the top programmable calculators

*Message #22 Posted by **Jeff Kearns** on 20 July 2009, 8:30 p.m.,*
in response to message #21 by Howard Owen

I'll bet there are a number of us nostalgic calculator aficionados who live in the past. I see nothing wrong with that ;-) -- JeffK

Re: the top programmable calculators

*Message #23 Posted by **Howard Owen** on 20 July 2009, 8:42 p.m.,*
in response to message #22 by Jeff Kearns

Indeed. It's almost a requirement for hanging out here. :)

Regards,
Howard

Re: the top programmable calculators

*Message #24 Posted by **Les Bell** on 20 July 2009, 8:39 p.m.,*
in response to message #21 by Howard Owen

> Quote:
>
> Right. In it's context, the 41C was very easy to use. So I guess it's a matter of whether you allow the historical context to be taken into consideration when compiling a list like this.

No, I'm saying it *absolutely* has a better capabilities/awkwardness ratio than the RPL machines. I have a 48GX, and I've *tried* to love it, really I have, but life's too short and I've got things to do. The 48GX stays mostly in the drawer, while the 41CX is always on top of my desk, right by the keyboard.

Best,

--- Les
[http://www.lesbell.com.au]

Re: the top programmable calculators

*Message #25 Posted by **Howard Owen** on 20 July 2009, 9:05 p.m.,*
in response to message #24 by Les Bell

Ahh, gotcha.

I guess I agree. The 48GX isn't easy to use for a beginner. Neither was the 41C, but you didn't have to go as far to learn to program it.

I sense a RPN/RPL flame war, one of the perennial topics here, hovering in the wings. Perhaps we should create a new thread if we want to pursue that :)

Regards,
Howard

Re: the top programmable calculators

*Message #26 Posted by **Les Bell** on 20 July 2009, 9:28 p.m.,*
in response to message #25 by Howard Owen

> Quote:
>
> I sense a RPN/RPL flame war

Naww. I can admire the elegance and orthogonality of RPL, its object-oriented approach, etc. It's a Thing of Beauty and a Joy Forever, as they say. It's just that most of my *calculating* needs don't merit all that sophistication or the learning effort. I think it's the same for most engineering/scientific types, and the resultant impedance mismatch between HP's RPL designs and user needs partially accounts for HP's decline in market share.

Best,

--- Les
[http://www.lesbell.com.au]

Re: the top programmable calculators

*Message #27 Posted by **Mark Edmonds** on 21 July 2009, 12:21 a.m.,*
in response to message #25 by Howard Owen

No, please! I didn't want to start a RPL/RPN war at all. I didn't know it was a regular topic here either. All I was wanting to say was that in terms of sheer functionality, RPL can go places where none of the RPN

machines can go. Whether it goes there elegantly or not comes down to personal viewpoint.

Mark

Re: the top programmable calculators

*Message #28 Posted by **Les Bell** on 21 July 2009, 1:49 a.m.,*
in response to message #27 by Mark Edmonds

> Quote:
>
> No, please!

Mark, I said "Naww", and I meant "Naww".

Best,

--- Les
[http://www.lesbell.com.au]

Re: the top programmable calculators

*Message #29 Posted by **Howard Owen** on 21 July 2009, 8:54 a.m.,*
in response to message #27 by Mark Edmonds

When I said "flame war" it may have given the wrong impression. Maybe this would be better: "RPN vs RPL is one of the topics people seem to enjoy discussing with vigor around here." I think such discussions reveal a lot about why people love the old calculators. But "Naww" is cool for me too :) (However what I would prefer in a discussion carries weight here only so far as my own contributions go.)

Regards
Howard

48GX

*Message #30 Posted by **Frank Boehm (Germany)** on 22 July 2009, 9:13 a.m.,*
in response to message #24 by Les Bell

The 48GX replaced my 28C (which replaced my Casio fx-7000G) - boy, what a difference. It saved me more than once in thermodynamics and maths (well, we could use and bring in whatever books and tools we liked - doing a quick numerical test on a symbolic solution helped for sure). I think this was the most advanced calculator (a pimped up 48SX), even compared to the 41/65/67, and other than speed issues and maybe size, I did not find a lot to complain about :)

Re: the top programmable calculators

*Message #31 Posted by **Howard Owen** on 20 July 2009, 8:38 p.m.,*
in response to message #20 by Les Bell

And here's my list:

1. HP-41C, because it was a *system*, complete with a network and mass storage. And because its longevity and popularity gave rise to a vibrant community that produced tons of applications and hardware and software hacks. That community is still chugging along, with the PIL box the latest episode in a distinguished history of such creative hacking.
2. HP-42S, for representing the highest degree of refinement RPN keystroke programming ever reached.
3. HP-97, for being a marvelous, tough, compact, ergonomic little feline.
4. HP-48GX, for being such a complicated and rich beast. The nerd in me loved learning RPL on my 48GX. It's also got some elements of a complete computing system, but fewer cool geehaws than the 41C. No doubt this is because PCs had thoroughly obliterated most low cost alternative computing systems by then.

If this list was about hand held computing devices from HP, the 71B would be right there next to the 41C, at the top.

Regards,
Howard

Re: the top programmable calculators

*Message #32 Posted by **juan demin** on 21 July 2009, 10:50 a.m.,*
in response to message #31 by Howard Owen

In my oppinion, considering only handhelds (and no business programmable calculators), in 1988 HP split in RPL and RPN (2 first columns below). In the 3rd column: those models that, again in my oppinion, coul not replace previous released models...

State Who Not able to of the stick replace previous art to RPN? models

1974 HP-65 1975 HP-55, HP-25 1976 HP-67 HP-25C 1977 HP-29C 1978 HP-33E 1979 HP-41C HP-33C, HP-34C 1980 HP-41CV 1981 HP-11C 1982 HP-15C HP-10C, HP-16C 1983 HP-41CX 1984 HP-71B 1987 HP-28C 1988 HP-28S HP-42S HP-32S 1990 HP-48SX 1991 HP-32SII HP-48S 1993 HP-48GX HP-48G 1999 HP-49G HP-48G+ 2003 HP-49G+ HP-48GII 2004 HP-33S 2006 HP-50G 2007 HP-35S

Re: the top programmable calculators

*Message #33 Posted by **juan demin** on 21 July 2009, 11:02 a.m.,*
in response to message #32 by juan demin

Again, the previous table was destroid.... Let´s see now From 1988 on, RPL an RPN were two different lanes... This is my list of top programmable calcs (handheld and scientific)

1974 HP-65 1976 HP-67 1979 HP-41C 1980 HP-41CV 1982 HP-15C 1983 HP-41CX 1988 HP-28S HP-42S 1990 HP-48SX 1991 HP-32SII 1993 HP-48GX 1999 HP-49G 2003 HP-49G+ 2004 HP-33S 2006 HP-50G 2007 HP-35S

Re: the top programmable calculators

*Message #34 Posted by **Jeff O.** on 21 July 2009, 12:09 p.m.,*
in response to message #33 by juan demin

Juan,
You need to surround your formatted text with [pre] and [/pre]:

first message:

In my oppinion, considering only handhelds (and no business programmable calculators), in 1988 HP split in RPL and RPN (2 first columns below). In the 3rd column: those models that, again in my oppinion, coul not replace previous released models...

```
        State   Who       Not able to
        of the  stick     replace previous
        art     to RPN?   models


1974    HP-65
1975                      HP-55, HP-25
1976    HP-67             HP-25C
1977                      HP-29C
1978                      HP-33E
1979    HP-41C            HP-33C, HP-34C
1980    HP-41CV
1981                      HP-11C
1982    HP-15C            HP-10C, HP-16C
1983    HP-41CX
1984                      HP-71B
1987                      HP-28C
1988    HP-28S  HP-42S    HP-32S
1990    HP-48SX
1991            HP-32SII  HP-48S
1993    HP-48GX           HP-48G
1999    HP-49G            HP-48G+
2003    HP-49G+           HP-48GII
2004            HP-33S
2006    HP-50G
2007            HP-35S
```

second message:

Again, the previous table was destroid.... Let´s see now From 1988 on, RPL an RPN were two different lanes... This is my list of top programmable calcs (handheld and scientific)

```
1974    HP-65
1976    HP-67
1979    HP-41C
1980    HP-41CV
1982    HP-15C
1983    HP-41CX
1988    HP-28S  HP-42S
1990    HP-48SX
1991            HP-32SII
1993    HP-48GX
1999    HP-49G
2003    HP-49G+
2004            HP-33S
2006    HP-50G
2007            HP-35S

.....
```

Re: the top programmable calculators

*Message #35 Posted by **juan demin** on 22 July 2009, 5:05 a.m.,*
in response to message #34 by Jeff O.

thank you Jeff...!!!

Re: the top programmable calculators

*Message #36 Posted by **Mark Edmonds** on 21 July 2009, 12:16 a.m.,*
in response to message #20 by Les Bell

One feature that HP later included in the 28S (and C?) that would have helped usability or ease of entry in the 41 was the ability to select commands/functions from the catalog. I hope I am correct in that fact - you can't use the 41 series catalog to enter commands can you? I would rate entry on the 41 series a little higher if this is possible.

A little side question if I may - I haven't found this in the manuals but is there a 41 series equivalent to the 48 series TICKS command? I ended up writing a program on the 48 instead of the 41 because of this when it probably would have been a simpler programming job on the 41.

Back to the main topic, I really must knuckle down and finish the text off for my "perfect hp" thread. Only then will it be clear why I am making the comments I am and the basis for my criticisms.

Mark

Re: the top programmable calculators

*Message #37 Posted by **Garth Wilson** on 22 July 2009, 10:28 p.m.,*
in response to message #19 by Mark Edmonds

> Quote:
>
> Ignoring the machines with their computer bias like the 71B,

Although I'm a big fan of the 71B, I don't really consider it a calculator, but rather a hand-held computer. When I want a calculator, I reach for my 41cx.

> Quote:
>
> surely the 41 series have the distinction of having the largest feature set that needs to be typed in character by character and therefore, the smallest proportion of functions that can be entered directly from the keyboard?

That's what the user keyboard is for. It had to be that way because of all the functions that would be coming that hadn't even been thought of yet, by way of plug-in modules and user-written programs. I seldom spell out a function or program name on the 41. It would be nice though if different user keyboards could be swapped out more nimbly like they

can on the 71, for different applications.

> Quote:
>
> Also, the Alpha key has that nasty pivot mechanism which means you have to push it down on the right hand side and for people with large fingers, you actually need to angle your finger to push it with the narrow tip to get full travel. I am not a fan of that key and I don't really understand why HP didn't make all those top keys individual with normal travel because the 41 has a lovely keyboard otherwise.

I too have wondered why they put those on rockers, but I've never heard any complaint about their operation. When I press the ALPHA key, I push it to the right, not just straight down. Works perfectly.

Re: the top programmable calculators

*Message #38 Posted by **juan demin** on 20 July 2009, 2:28 p.m.,*
in response to message #18 by Les Bell

here is my list:

hp-65 the first one hp-67 the next to follow, same concept hp-41.. alpha hp-15c hp-28c RPL but powerfull hp-42s hp-48sx same RPL hp-48g hp-49g hp-50g hp-35s

Re: the top programmable calculators

*Message #39 Posted by **Ed Look** on 22 July 2009, 11:10 p.m.,*
in response to message #1 by juan demin

I am partial to the 34C. I have used it, the 20S, 32SII, 48G, 48G+, 49g+, 33s, 35s, and 50g.

I agree that the 48G series and 49g series machines are incredibly powerful and have been very useful to me many times, but I tend to like the smaller not so incredibly powerful but still very powerful scientific RPN programmables. This is because they are more easily carried, held, used, and stored, and yet still have a lot of calculating power.

At the time, the HP-34C offered just about the maximum handheld programming space, storage space, and some very powerful keyboard or keystroke accessible functions, like SOLVE and integration! Programming it, including debugging, after frequent use familiarized me with the keyboard, was very easy, especially after writing several programs.

For me, it did not begin to physically fail until about two decades later after I bought and used the stuffing out of it. And my only complaint was that the aesthetically beautiful LED display drained the Ni-Cd batteries all too quickly, but that was a symptom of the technology of the time. Also, a complaint still today, is that your "normal" small form factor scientific programmable has no I/O; I don't think anything fancy is required, only the usual USB connector would be more than super.

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Either he was swindled or he's trying to swindle someone...

*Message #1 Posted by **hecube** on 17 July 2009, 8:43 p.m.*

http://cgi.ebay.com/HP-41c-Calcuator-Memory-Module-Instructions-Accessories_W0QQitemZ220453594458QQcmdZViewItemQQptZCalculators?hash=item33540ee55a&_trksid=p3286.c0.m14&_trkparms=65%3A10|66%3A2|39%3A1|293%3A1|294%3A50

Edited: 17 July 2009, 8:43 p.m.

or he doesn't realize the calc he has does not go with the manuals

*Message #2 Posted by **Don Shepherd** on 17 July 2009, 9:14 p.m.,*
in response to message #1 by hecube

Why not ask him?

Re: Either he was swindled or he's trying to swindle someone...

*Message #3 Posted by **Raymond Del Tondo** on 17 July 2009, 9:17 p.m.,*
in response to message #1 by hecube

What did the seller tell you?

Excerpt from the auction text: "..Please ask any and all questions prior to bidding.."

(I'm not the seller)

Re: Either he was swindled or he's trying to swindle someone...

*Message #4 Posted by **Dan W** on 17 July 2009, 10:33 p.m.,*
in response to message #3 by Raymond Del Tondo

I wrote him a note, and suggested perhaps he had uploaded the wrong photo.

He responded that he had, and has now changed the photo.

If you have a lot of auctions simultaneously, this kind of mistake is pretty easy to do.

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HP calculators and space exploration

*Message #1 Posted by **hecube** on 17 July 2009, 12:03 p.m.*

I just put up a blog about the use of HP calculators in relation to space exploration. This intersects two topics that are of high interest to me.

I just put it up yesterday so it's still a bit rough around the edges. References to sources will be included, so no need to flame me about this.

I read earlier last week a post, in this forum, of a guy working in the space program and discussing the HP-42S so that's why there's already a pic of the 42 in there.

It's a safe bet to assume that all HP calculators over the years were used in the space program. I am aiming for documented use here and pictures if possible.

Here's the link: http://hpinspace.wordpress.com/

Edited: 17 July 2009, 12:04 p.m.

Re: HP calculators and space exploration

*Message #2 Posted by **Dan W** on 17 July 2009, 12:51 p.m.,*
in response to message #1 by hecube

That's a pretty good web page. If you want I could give you a little more anecdotal detail on what I used the 42S for, and more importantly, why it was such a valuable tool at the time.

Re: HP calculators and space exploration

*Message #3 Posted by **hecube** on 17 July 2009, 1:29 p.m.,*
in response to message #2 by Dan W

I'd be very grateful.

Re: HP calculators and space exploration

*Message #4 Posted by **Dan W** on 18 July 2009, 4:03 p.m.,*
in response to message #3 by hecube

I sent you an email message. I put together a short document in Word (or PDF if you want) and I have a photo of the 42s. I also have a couple other photos of HP's in space, one with Sally Ride, one of the HP41 in a museum. I found these on the internet some time ago. If you respond to the email I will send it all.

Re: HP calculators and space exploration

*Message #5 Posted by **hecube** on 18 July 2009, 5:36 p.m.,*

in response to message #4 by Dan W

Got it and answered back.

Re: HP calculators and space exploration

*Message #6 Posted by **Paul Dale** on 18 July 2009, 5:56 a.m.,*
in response to message #2 by Dan W

Yes please, more details are welcome.

- Pauli

Re: HP calculators and space exploration

*Message #7 Posted by **Thomas Chrapkiewicz** on 18 July 2009, 12:20 p.m.,*
in response to message #1 by hecube

There was a picture I believe in USA today showing the crew of STS 107 (final Columbia Flight) with a HP48 floating in front of them. I cannot find this pic in any NASA archives. I have a photocopy somewhere...I'll try to find it.

TomC

Re: HP calculators and space exploration

*Message #8 Posted by **Thomas Chrapkiewicz** on 18 July 2009, 12:24 p.m.,*
in response to message #7 by Thomas Chrapkiewicz

Found an image in Time:

http://www.time.com/time/covers/1101030210/gallery/

TomC

Re: HP calculators and space exploration

*Message #9 Posted by **hecube** on 18 July 2009, 2:49 p.m.,*
in response to message #8 by Thomas Chrapkiewicz

Very appreciated.

Thanks!

Re: HP calculators and space exploration

*Message #10 Posted by **hpnut** on 19 July 2009, 1:36 a.m.,*
in response to message #8 by Thomas Chrapkiewicz

So the last HP calculator used in space was the HP 48?

Re: HP calculators and space exploration

*Message #11 Posted by **hecube** on 19 July 2009, 1:47 a.m.,*
in response to message #10 by hpnut

Unless someone can provide additional information...

Re: HP calculators and space exploration

*Message #12 Posted by **Mark Edmonds** on 20 July 2009, 2:37 p.m.,*
in response to message #10 by hpnut

And one of the G series judging by the colours.

If they take one up on every Shuttle, I wonder how many they have and what will happen to them in "the gap"?

Mark

Using pictures from other sites

*Message #13 Posted by **Juergen Keller** on 19 July 2009, 1:01 p.m.,*
in response to message #1 by hecube

Thank you for your interesting work. Just a short note: I saw that you used one of my pictures (the 42S picture, copyright fjk.ch). This is not really a problem as the picture is used on a HP related site, but often, my pictures are used on eBay to advertise HP calculators. I think that's a real problem because then the picture does not show the actual item (and normally, the seller gives no hint about that fact). That's why I normally put the copyright notice on my pictures.

Cheers, Juergen

Re: Using pictures from other sites

*Message #14 Posted by **hecube** on 19 July 2009, 2:02 p.m.,*
in response to message #13 by Juergen Keller

Hello Juergen, thanks for the heads up. As I wrote earlier, I intend to properly credit all texts and pictures. I had the idea for this blog this week-end and threw it quickly together.

The blog is not intended for a commercial purpose and no ads will ever be placed in it.

Because I'm going camping for the next few days, proper credits will not be placed until next week-end at least.

Edited: 19 July 2009, 2:03 p.m.

Re: Using pictures from other sites

*Message #15 Posted by **Juergen Keller** on 20 July 2009, 3:56 p.m.,*
in response to message #14 by hecube

That's OK for me, as the site hosts interesting information for the HP community. Enjoy your vacation, as I currently do in South of France :-)

Best Regards, Juergen

Re: HP calculators and space exploration

*Message #16 Posted by **Bill (Smithville, NJ)** on 21 July 2009, 8:06 a.m.,*
in response to message #1 by hecube

Great Blog - good to see one central location about the HP calculators and space.

As to the HP-41, I have a copy of NASA document HP41/SPOC 2102, dated November 1985, titled:

Hewlett-Packard 41 Calculator/Shuttle Portable Onboard Computer Training Manual.

This manual covers both the HP-41 and the Shuttle Portable Onboard Computer (SPOC) which is a GRID computer. Sections in the manual are:

```
Section 1: Introduction
Section 2: HP-41
Section 3: HP-41 Mode Control
Section 4: HP-41 Display & Keyboard
Section 5: HP-41 Program Loading
This section covers using the Digital Cassette Drive to load
programs.  No metion is given of using a card reader.


Section 6: HP-41 Flight Programs
Brief overview of each of the Shuttle flight programs used
by the HP-41 calculator.


Programs are:
Center of Gravity
Orbit
Alarm/Hex
Landing
Proximity Operations
Tail


NOTE:  THe Alarm/Hex program makes use of a special Module,
which looks a lot like the Card Reader (in size).
This module is "HP-41 Tone Amplifier".


Section 7: Shuttle Portable Onboard Computer
Section 8: Shuttle Portable Onboard Computer Flight Programs


Programs are:
Launch Time Update
State Vector Update
Set Grennwich Mean Time
World Map
Deorbit
Orbital Refueling System
Crew Controlled Free Drift


Appendix A: Reverse Polish Notation
Appendix B: HP-41 Maintenance and Service
Appendix C: HP-41 Troubleshooting
Appendix D: HP-41 Error and Status Messages
Appendix E: HP-41 Function Index
Appendix F: HP-41 Calculator
```

Following is quote from manual:

"Because the HP-41 is being used by the crew as a program monitoring device rather than a programming tool, programming aspects of the calculator will not be covered in the training manual."

Interesting that cassette tape rather than cards were used.

Another quote:

"However, the HP-41 and SPOC Flight Procedure Handbooks shoud be referred to for detailed information

concering the latest set of programs."

and

"For deatails on each program, refer to the HP-41 Flight Procedure Handbook."

I haven't been able to locate a copy of the Flight Procedure Handbooks.

Another quote:

"The large capacity HP-41CVs are flown onboard the Space Shuttle and the lesser HP-41Cs, formerly flown, are now used for training at the Shuttle Mission Simulator (SMS). The SMS HP-41s, however, have had their memories expanded top make them equivalent to HP-CVs."

So both HV-41C and HP-41C have flown.

The Training manual is only 45 pages long and doessn't give a lot of info but does help to complete the picture of HP-41 in space.

Bill

Re: HP calculators and space exploration

*Message #17 Posted by **hecube** on 7 Aug 2009, 8:15 p.m.,*
in response to message #16 by Bill (Smithville, NJ)

I hope I haven't missed anymore of these few isolated posts.

Thanks again!

Re: HP & Space - Found in Akron Library

*Message #18 Posted by **Bill (Smithville, NJ)** on 21 July 2009, 10:35 a.m.,*
in response to message #1 by hecube

Doing some searches, I found the following link:

Judith Resnick Material

This is archival material at the University of Akron in Ohio.

Go down to Box 3 on the web page and you'll find:

"HP-41 Computer Handbook: Basic Flight Operations Directorate"

Judith Resnick was one of the Astronauts who was on the Challenger.

Maybe someone who lives close to Akron could review the archives at Akron and see what this handbook is.

Bill

Re: HP & Space - Found in Akron Library

*Message #19 Posted by **hecube** on 7 Aug 2009, 8:13 p.m.,*
in response to message #18 by Bill (Smithville, NJ)

Thanks Bill. I'll be sure to look this up!

Re: HP calculators and space exploration: Apollo-Soyuz & HP-65

*Message #20 Posted by **Etienne Victoria** on 23 July 2009, 9:04 a.m.,*
in response to message #1 by hecube

Hecube,

On the use of the Hp-65 during the Apollo-Soyuz space mission (aka ASTP):

- The HP-65 was used in both normal calculation for approach and positioning and also in case of onboard system failures.

- IIRC this is documented in the ASTP CSM RENDEZ-VOUS BOOK (June 1975): I have to dig out my copy.

- The Rendezvous book gives the input for the programs but does not provide the listings.

- Source for this document should be published by the NASA archives as I believe it is declassified.

I'll try to find it out. However, will have to check the copyright status and am not sure of the way/confitions it can be published.

...all this info to be crosschecked because this is rocket science which I do not claim to be an expert in :-)

All the best!

Etienne

Edited: 25 July 2009, 8:08 a.m.

Re: HP calculators and space exploration: Apollo-Soyuz & HP-65

*Message #21 Posted by **hecube** on 7 Aug 2009, 8:12 p.m.,*
in response to message #20 by Etienne Victoria

Bonjour Étienne,

I just found your post!

Is there anyone in here who is a REAL rocket scientist?

In fact, there are some true rocket scientists in here. This is humbling...

Edited: 7 Aug 2009, 8:16 p.m.

Re: HP calculators and space exploration

*Message #22 Posted by **Thomas Chrapkiewicz** on 25 July 2009, 1:26 p.m.,*
in response to message #1 by hecube

Here's another page I 'stumbled' into today which mentions the usage of the HP65:

http://www.absoluteastronomy.com/topics/Apollo_Guidance_Computer

TomC

Re: HP calculators and space exploration

*Message #23 Posted by **hecube** on 7 Aug 2009, 8:12 p.m.,*
in response to message #22 by Thomas Chrapkiewicz

Thanks Tom.

I missed a few isolated posts like this one regarding my pet project.

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The 43c? :-)

*Message #1 Posted by **Egan Ford** on 17 July 2009, 9:53 a.m.*

http://gizmodo.com/5316067/then-and-now-the-hewlett+packard-family

Re: The 43c? :-)

*Message #2 Posted by **Dave Britten** on 17 July 2009, 11:09 a.m.,*
in response to message #1 by Egan Ford

> Quote:
>
> HP **12c** Calculator iPhone App Full **scientific** and math functions

Wow, it's like I'm actually reading a shoddy online auction! Ever since that whole "let's post tubgirl over on Kotaku" incident, I've not thought very highly of Gizmodo.

(If you don't know what tubgirl is, DO NOT google it. It's a pretty standard disgusting shock image. If you do know what it is, well, you have my sympathies.)

Re: The 43c? :-)

*Message #3 Posted by **Howard Owen** on 17 July 2009, 1:03 p.m.,*
in response to message #1 by Egan Ford

What is this, a "count the errors" quiz? :)

Regards,
Howard

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HP calculators / space flights

*Message #1 Posted by **hecube** on 17 July 2009, 2:35 a.m.*

Are HP calculators still taken up in shuttle flights?

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HP Forum Archive 19

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Happy Birthday, HP-41C !!!

*Message #1 Posted by **Massimo Gnerucci (Italy)** on 16 July 2009, 1:22 p.m.*

So, hopefully, everyone's pleased now...

:-)

Greetings,
Massimo

Re: Happy Birthday, HP-41C !!!

*Message #2 Posted by **Juergen Keller** on 16 July 2009, 5:37 p.m.,*
in response to message #1 by Massimo Gnerucci (Italy)

```
HAPPY BIRTHDAY
AVIEW
BEEP
```

Re: Happy Birthday, HP-41C !!!- A surprise program....

*Message #3 Posted by **Allen** on 16 July 2009, 7:25 p.m.,*
in response to message #2 by Juergen Keller

Here is a specially modified version of the HP demo program for the HP 41 written/used by their marketing department.

Note: Requires a Computer to read this site, a PDF reader to open the file, (laser) printer, HP 82153A Wand, and a HP 41 with 32 Memory Registers Free!

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How much will this Red Dot sell for?

*Message #1 Posted by **Michael de Estrada** on 16 July 2009, 10:37 a.m.*

This is the latest HP-35 Red Dot for sale, and it looks very clean and complete. I think the last one for sale fetched $875, and wondered what you thought this one would get. I'm thinking this may get over $1000.

Legal disclaimer: I am not the seller of this item. I do not know the seller of this item and have no interest in its sale.

Red Dot for sale

Re: How much will this Red Dot sell for?

*Message #2 Posted by **Massimo Gnerucci (Italy)** on 16 July 2009, 12:42 p.m.,*
in response to message #1 by Michael de Estrada

Manual is from a later version...

Being a Red Dot owner I hope that it gets as much as it can! ;-)

Greetings,
Massimo

Re: How much will this Red Dot sell for?

*Message #3 Posted by **Michael de Estrada** on 16 July 2009, 1:29 p.m.,*
in response to message #2 by Massimo Gnerucci (Italy)

> Quote:
>
> Manual is from a later version...

I pulled mine out and looked at it, and I see what you mean. You are very observant! There was another subtle difference that I noticed, and will send you an email to see what you think.

Best regards from a fellow Red Dot owner,

Michael

Re: How much will this Red Dot sell for?

*Message #4 Posted by **Michael Eckstein** on 16 July 2009, 4:00 p.m.,*
in response to message #2 by Massimo Gnerucci (Italy)

Except the manual there are at least three other signs from versions two and higher. S/N is not known, too. If this is a Red Dot, then it's not in its original state.

Re: How much will this Red Dot sell for?

*Message #5 Posted by **Michael de Estrada** on 16 July 2009, 4:16 p.m.,*
in response to message #4 by Michael Eckstein

Agreed. Massimo and I have confirmed two differences on the calculator. I think I know what the third one is.

Very suspicious.

Re: How much will this Red Dot sell for?

*Message #6 Posted by **Mark Edmonds** on 16 July 2009, 5:07 p.m.,*
in response to message #5 by Michael de Estrada

Well, I am no 35 expert - I haven't even got one so I can only guess what you might be seeing based on photos I have seen on the museum site.

So, taking a stab in the dark:

1. The hole diameter looks too big 2. The insert red plastic is recessed and not flush. 3. The red dot looks like it could be a red piece of plastic, not the material used for the display area or shining an LED through. 4. White screws inside the case look unusual to me.

Are you thinking that someone has opened up a MK3, drilled a hole in it and stuck a piece of red plastic underneath the hole?!

Mark

Re: How much will this Red Dot sell for?

*Message #7 Posted by **Michael de Estrada** on 16 July 2009, 6:45 p.m.,*
in response to message #6 by Mark Edmonds

Mark,

Several Red Dot owners and I have noted a number of anomalies, which make it highly improbable that this is a genuine original Red Dot. We choose not to divulge the specifics of these observations, lest someone go to school on how to build a fake.

Michael

Edited: 16 July 2009, 6:47 p.m.

Re: How much will this Red Dot sell for?

*Message #8 Posted by **Mark Edmonds** on 16 July 2009, 8:36 p.m.,*
in response to message #7 by Michael de Estrada

I understand Michael and share your concern. However, I could also argue that by keeping this information private, people wont know what to look for when making sure they are getting the real-deal.

On the balance of things, someone making a fake might stand more chance of getting away with it if the key information for spotting a fake isn't readily available in places like this. Although that same information can help a faker, it would still increase awareness of the problem and hopefully make potential buyers more careful.

It is still a difficult call though...

Mark

> Quote:
>
> Mark,
>
> Several Red Dot owners and I have noted a number of anomalies, which make it highly improbable that this is a genuine original Red Dot. We choose not to divulge the specifics of these observations, lest someone go to school on how to build a fake.

Michael

Re: How much will this Red Dot sell for?

*Message #9 Posted by **Dan W** on 16 July 2009, 8:59 p.m.,*
in response to message #8 by Mark Edmonds

I reluctantly agree. It would be too tempting, and too easy, if someone knew the exact dimensions of the hole, and knew exactly how the red was created (painted, or plastic). I figured out how to remove and replace the metal backing without leaving a trace and I am very reluctant to talk about it because of the potential of mix and matching parts to create what appears to be a working, unrepaired calculator. Am I being ridiculous?

Re: How much will this Red Dot sell for?

*Message #10 Posted by **Michael de Estrada** on 16 July 2009, 9:00 p.m.,*
in response to message #8 by Mark Edmonds

Mark,

I think the mere fact that we have raised these red flags are sufficient to alert any auction bidders who might visit this site. In this instance, there were initially 3 bids on this item, and the highest bid was $595, which met the reserve price. I now see that apparently this bid has been retracted, and the next highest bid is only $255, which does not meet the reserve price. Since we are actual owners who can physically examine the item, and there is more than one of us to corroborate our findings, we should have sufficient credibility to make these assertions without having to disclose the specifics. I understand your intellectual curiosity in this matter, however, I feel that I must invoke the Red Dot secrecy act on this one.

Regards,

Michael

Re: How much will this Red Dot sell for?

*Message #11 Posted by **Dan W** on 16 July 2009, 9:08 p.m.,*
in response to message #6 by Mark Edmonds

Comparing the auction photo with the one from the HP museum, the hole looks too big to me, and slightly off-center. [EDIT: I have found some photos on the web, and several look just the same.]

It would really help if someone would post a closeup quality photo of a real red dot version (hint hint). But I am about 90% sure this one is not real.

Edited: 16 July 2009, 9:21 p.m.

Re: How much will this Red Dot sell for?

*Message #12 Posted by **Michael de Estrada** on 16 July 2009, 9:32 p.m.,*
in response to message #11 by Dan W

I'm more like 99.9% sure it's a fake. There are many other issues, some pretty glaring, but like I said to Mark, I think discretion is the best policy here. I sent a message to the seller asking for additional information/photos to check out other identifiers for a legitimate Red Dot. I didn't alert him of my suspicions, so it will be interesting to see if he/she replies. The seller is clearly not the owner (said it was obtained from an estate sale), so may be totally unaware of these issues.

Re: How much will this Red Dot sell for?

*Message #13 Posted by **Mike Morrow** on 18 July 2009, 12:41 a.m.,*
in response to message #4 by Michael Eckstein

I got my red-dot HP-35 from its original owner in exchange for a new TI-58, in 1978. (I think that was a good trade, for me.) I didn't know anything was special about red-dots until 25 years later. Unfortunately, the owner had HP correct the firmware errors.

The leather calculator case that is shown is not appropriate for a red-dot. The red-dot case is much simpler. The one shown is like the one for the HP-65. I bought one as an option for my HP-67 in 1977.

The red hole on the auction example is definitely bogus.

Re: How much will this Red Dot sell for?

*Message #14 Posted by **Michael de Estrada** on 18 July 2009, 12:59 a.m.,*
in response to message #13 by Mike Morrow

> Quote:
>
> The leather calculator case that is shown is not appropriate for a red-dot. The red-dot case is much simpler. The one shown is like the one for the HP-65.

Wow. It just keeps getting better. First the manual is not correct, then the calculator has a bunch of bogus issues, and now you point out that even the soft case is wrong. Actually, the case would be wrong for any version of the HP-35 or for any classic other than the HP-65. It's bigger to accommodate the larger HP-65 housing and has a pocket to hold a case of magnetic cards in addition to the pocket for the Quick Reference Guide. The HP-45 and HP-80 soft cases have QR Guide pockets. The HP-35 soft case does not have any little pockets.

I guess in 1978 you got shortchanged in the deal, but now you can laugh all the way to the bank.

Re: How much will this Red Dot sell for?

*Message #15 Posted by **Mike Morrow** on 18 July 2009, 7:01 a.m.,*
in response to message #14 by Michael de Estrada

> Quote:
>
> Actually, the case would be wrong for any version of the HP-35 or for any classic other than the HP-65. It's bigger to accommodate the larger HP-65 housing and has a pocket to hold a case of magnetic cards in addition to the pocket for the Quick Reference Guide.
>
> I guess in 1978 you got shortchanged in the deal, but now you can laugh all the way to the bank.

I considered it a great trade for me, because the HP-35 held nostalgia value for me even as early as 1978. I couldn't begin to think of buying one as a Ga. Tech sophomore when it came out in 1972.

That incorrect for HP Classic leather soft case is the best case ever made for the HP-41 without card reader. The two front pockets are great for holding several ROM modules, and also several module quick reference guides. I don't think HP ever advertised it for the HP-41...in fact I don't believe it was still available by the time that the HP-67 was discontinued in favor of the HP-41.

But it's definitely not for the auctioned HP-35.

Re: How much will this Red Dot sell for?

*Message #16 Posted by **Dan W** on 18 July 2009, 1:46 p.m.,*
in response to message #13 by Mike Morrow

You are correct about the case; it is for the HP-65. So clearly the seller has cobbled together a bunch of pieces to create a set. Also the users manual doesn't show a red dot on the cover.

It is also obvious to me that the chrome decorative surround has been touched up. I have done this on a few Classics too. But I would be very hesitant to do that to a red dot.

I am curious about the accessory catalog shown. Was the locking cradle available when the red dot came out?

Re: How much will this Red Dot sell for?

*Message #17 Posted by **Michael de Estrada** on 18 July 2009, 2:34 p.m.,*
in response to message #16 by Dan W

> Quote:
>
> I am curious about the accessory catalog shown. Was the locking cradle available when the red dot came out?

If you look very closely at the photo, the calculator held in the cradle appears to be a Red Dot. However, the Accessory Order Card included with my Red Dot makes no mention of it. Furtheremore, it has a note that the Battery Holder W/Battery Pack (reserve power pack) will be available in April 1972, and it is not listed as a currently available accessory.

All of this is a moot point, since the calculator itself is clearly a fake.

This is certainly a fake - buyer beware.

*Message #18 Posted by **Frank Boehm (Germany)** on 17 July 2009, 5:30 a.m.,*
in response to message #1 by Michael de Estrada

There is one sign of it being fake - something that is impossible to falsify, but obvious even with these blurry pictures. The red dot hole looks a bit too large too, but you can't fully trust low res pictures there...
And it's not the white screws, those are not uncommon, as this is simply corrosion from leaked batteries (zinc covered screws + leaking batteries = bad).

Buyer beware - you don't get what you (might) pay for.

I notified ebay about this auction, lets see if they pull it...

Re: This is certainly a fake - buyer beware.

*Message #19 Posted by **Thomas Radtke** on 17 July 2009, 7:00 a.m.,*
in response to message #18 by Frank Boehm (Germany)

Interesting, even the center is vertically out of position (the top image is stolen from this site ;-).

Edited: 17 July 2009, 7:01 a.m.

that's not a hint :)

*Message #20 Posted by **Frank Boehm (Germany)** on 17 July 2009, 9:04 a.m.,*
in response to message #19 by Thomas Radtke

I'd say the "dot" is not aligned to anything, neither the switch nor the printing (the position of the printed lettering will differ due to manufacturing tolerance) - but I agree that the dot looks too large. Might be due to strange lightning, but since it's a fake anyway, that's probably not important <g>

The whole world now knows it's a fake.

*Message #21 Posted by **Michael de Estrada** on 17 July 2009, 9:39 p.m.,*
in response to message #20 by Frank Boehm (Germany)

A German bidder has retracted his bid in this auction. His reason:

Falscher Gebotsbetrag eingegeben

I wonder why.

Re: The whole world now knows it's a fake.

*Message #22 Posted by **Walter B** on 22 July 2009, 4:51 p.m.,*
in response to message #21 by Michael de Estrada

Actually, two bidders have retracted for the same reason. But now enough fools are there :(

Re: The whole world now knows it's a fake.

*Message #23 Posted by **Michael de Estrada** on 22 July 2009, 5:57 p.m.,*
in response to message #22 by Walter B

I think the current high bidder is Italian. There is a little over an hour to go in the auction, and the reserve price has still not been met. I sent a message to the seller requesting the serial number and some additional photos, but he/she did not reply. Since eBay changed their policy regarding identifying the bidders while the auction is still in progress, it is no longer possible to alert them about this, so someone is going to be defrauded. I really don't think eBay cares; they just want to make their commission.

Edited: 22 July 2009, 5:58 p.m.

Re: The whole world now knows it's a fake.

*Message #24 Posted by **Michael Eckstein** on 22 July 2009, 7:37 p.m.,*
in response to message #23 by Michael de Estrada

Sold for $776, hard to believe ...

Re: The whole world now knows it's a fake.

*Message #25 Posted by **Dan W** on 22 July 2009, 8:51 p.m.,*
in response to message #23 by Michael de Estrada

Did everyone here who had reason to believe it was fake report it to ebay? There is a mechanism for this and they will pull an auction if it is reported. Sometimes anyway.

My wife bought a fake Louis Vitton purse some years ago and later went on a crusade to report every such fake bag. She learned all the little details and can spot one very quickly. Believe me, virtually all of them are fake.

Over time she did it enough that they gave her a special phone number to call if she wants, and they will pull an auction she reports 99% of the time within 10 minutes.

Point is that if those of us who are expert report these often enough, I wager ebay will eventually pay attention.

On the other hand, HP is probably not threatening to sue them.

Re: The whole world now knows it's a fake.

*Message #26 Posted by **Michael de Estrada** on 22 July 2009, 9:10 p.m.,*
in response to message #25 by Dan W

Dan,

Frank Boehm says he reported this back on July 17. I was not aware of a reporting mechanism, otherwise I would have done so as well. Could you PM me on this? Like you said, this is a different situation, since the claimant is not the manufacturer but the buyer instead.

Michael

There is no "proper" way to report these items.

*Message #27 Posted by **Frank Boehm (Germany)** on 23 July 2009, 7:24 a.m.,*
in response to message #26 by Michael de Estrada

ebay pretty much insists that all thinkable problems can be categorized into 2 dozens of issues. There is no way to report faked hardware or general fakes - unless you chose the closest option. I guess the whole customer service system is a. My issue number has been mailed through "charity@ebay.com", my additional complaint was confirmed twice within seconds. I don't think there is much hope to protect the buyer from being ripped off :(

Re: The whole world now knows it's a fake.

*Message #28 Posted by **Massimo Gnerucci (Italy)** on 23 July 2009, 4:20 a.m.,*
in response to message #23 by Michael de Estrada

> Quote:
>
> I think the current high bidder is Italian

I didn't spot (as far as this is feasible now) italians on the top bidders; actually I hoped that it went to t***d... for historical reasons :-)

Greetings,
Massimo

Re: The whole world now knows it's a fake.

*Message #29 Posted by **Michael Eckstein** on 23 July 2009, 5:46 a.m.,*
in response to message #28 by Massimo Gnerucci (Italy)

I don't know the winner, but I wonder why -***h and t***d were bidding so high at this item, since I probably correctly guessed their identity, they both well know HP 35 Red Dot and I suppose they were aware of most differences.

Re: The whole world now knows it's a fake.

*Message #30 Posted by **Michael de Estrada** on 23 July 2009, 8:36 a.m.,*
in response to message #28 by Massimo Gnerucci (Italy)

Massimo,

Although it is no longer possible to positively identify the nationality of a bidder, you can infer it by the language used in items listed in the bid history for the bidder. For example, the bidder I was referring to had mostly bid on items in Italian on the eBay Italy site, such as "Informatica e Palmari > Calcolatrici". Other bidders had primarily bid in German, so there is a high likelihood they are German. This primarily applies to non-English speaking European bidders, since there is no way to differenciate bidders living in countries such as the UK where English is spoken and they also bid on other European eBay sites.

Anyway, hopefully this fraud will eventually be exposed and the perpetrator revealed so as to protect the sanctity of Red Dot.

Regards, Michael

Re: The whole world now knows it's a fake.

*Message #31 Posted by **Massimo Gnerucci (Italy)** on 24 July 2009, 4:11 a.m.,*
in response to message #30 by Michael de Estrada

Hello Michael,
sure: if you saw that I must concur with your observations; I quickly scanned the topmost bidders and didn't find such info... my fault.

> Quote:
>
> to protect the sanctity of Red Dot

LOL!

Greetings,
Massimo

Re: The whole world now knows it's a fake.

*Message #32 Posted by **Don Shepherd** on 23 July 2009, 5:10 a.m.,*
in response to message #23 by Michael de Estrada

I notice that the winning bidder has 3 bid retractions in the last 6 months. Not a good sign. He may weasel out of this one too.

Mine is genuine... Not for sale, sorry! ;-)

*Message #33 Posted by **Gerson W. Barbosa** on 22 July 2009, 5:29 p.m.,*
in response to message #21 by Michael de Estrada

I do have one of these and I have no doubt it is authentic:

http://ep.yimg.com/ca/I/yhst-87573559068483_2059_75493.jpg

Re: Mine is genuine... Not for sale, sorry! ;-)

*Message #34 Posted by **Walter B** on 22 July 2009, 5:38 p.m.,*
in response to message #33 by Gerson W. Barbosa

d:-))

Made in China?

Re: Mine is genuine... Not for sale, sorry! ;-)

*Message #35 Posted by **Gerson W. Barbosa** on 22 July 2009, 6:17 p.m.,*
in response to message #34 by Walter B

> Quote:
>
> Made in China?

Made in Brazil (I hope).

http://www.mundial-sa.com.br/por/index.asp

Re: How much will this Red Dot sell for?

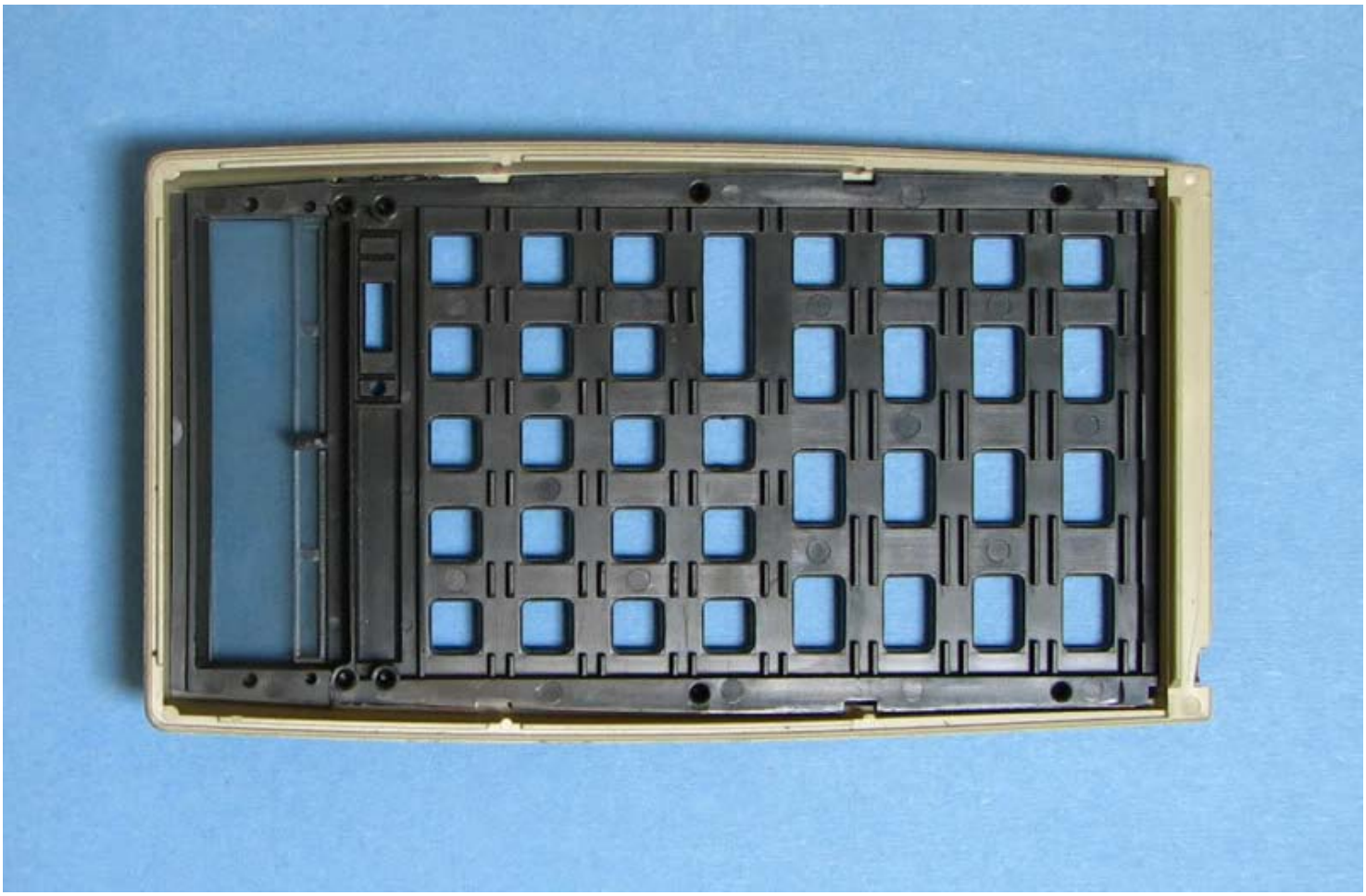
*Message #36 Posted by **Ron G.** on 17 July 2009, 2:22 p.m.,*
in response to message #1 by Michael de Estrada

The last one I saw, got no bids, at $300 opening bid. It may have been faked, as well. I don't know how to tell the difference.

Here is a red dot prototype case with type one keys.

*Message #37 Posted by **Geoff Quickfall** on 17 July 2009, 7:05 p.m.,*
in response to message #1 by Michael de Estrada

How much will this Red Dot sell for?



The red dot shown certainly looks rigged to me! In these two shots you can see the position of the hole versus the switch. The inside view certainly tells the picture! The RED DOT for sale certainly looks, if real, like shoddy workmanship on HPs part which I am sure it is not!

Cheers, Geoff

Edited: 17 July 2009, 10:31 p.m.

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NEWT processor update

*Message #1 Posted by **Klaus** on 16 July 2009, 3:20 a.m.*

The forum at TOS contains a thread in "General discussion->HP-41 30th Year Anniversary":

> Quote:
>
> Here is an update on that project [the NEWT processor]. See the NEWT Manual at the link. The idea is to send him your machine/board and he swaps it out. Now speed (my biggest complaint) won't be an issue). OK serious 41ers what do you think? Is there interest?

Any feedback from you? I am not sure if I would do that to my HP-41CX, since speed is acceptable for the programs I run. But I understand NEWT simply as a faster NUT-CPU, but the manual indicates that it has some more I/O?

This may be the wrong forum to discuss that, but there is little activity on the TOS-forum.

Re: NEWT processor update

*Message #2 Posted by **Meindert Kuipers** on 16 July 2009, 12:27 p.m.,*
in response to message #1 by Klaus

For those who are interested, this discussion is continued on the HCC email discussion list. I would prefer to have the discussion here, since this forum have more visibility. I will ask the initiator of the thread to come visit us here as well,

Meindert

Re: NEWT processor update

*Message #3 Posted by **Geir Isene** on 17 July 2009, 10:51 a.m.,*
in response to message #2 by Meindert Kuipers

I would love to see the NEWT project seen to fruition with compatibility with HEPAX/NoV-64. I would give an arm to get my upgrade.

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Rounding Revisited

*Message #1 Posted by **Rodger Rosenbaum** on 16 July 2009, 2:06 a.m.*

There was a mini-challenge involving rounding back in 2003:

MC: round up/down

I said at the time:

"It should be noted that the reason some of these various algorithms are failing with the test values of Meyers and Prange is due to a property of the floating point system on the HP48. There is a largest odd number that can be represented on the 48 and that is 999999999999. Numbers greater than this are all even integers; their fractional parts are zero. Adding one to a number greater than 999999999999 on the 48 will not change it from even to odd (these remarks don't apply to internal 15 form numbers; their threshold is higher). Any algorithm that expects this property (change of parity with addition of unity) to hold for all integers may fail."

There are probably some on this forum who didn't see or participate in that topic. It might be interesting to look at it again.

Re: Rounding Revisited

*Message #2 Posted by **Werner** on 18 July 2009, 1:36 p.m.,*
in response to message #1 by Rodger Rosenbaum

Following the link, apparently no correct program that handled any input was ever produced?

here's my first try, then ;-)

```
@ Round to Odd
@ 50.5 bytes
@ # 7FB5h
\<<
  DUP 2 MOD
  SWAP OVER - SWAP
  500000000001 DUP ROT
  + - -
\>>
```

Re: Rounding Revisited

*Message #3 Posted by **Werner** on 19 July 2009, 5:21 a.m.,*
in response to message #1 by Rodger Rosenbaum

Followed by a second try ;-)

```
40.5 # 165Ch
\<<
 DUP 2 MOD
 100000000001
 DUP2
 + -
 + -
\>>
```

Re: Rounding Revisited

*Message #4 Posted by **Rodger Rosenbaum** on 21 July 2009, 11:57 p.m.,*
in response to message #3 by Werner

Here's one I came up with that works (I think) on all positive integers, including near the EOPR (defined above):

35.0 bytes

Round to odd integer

<< DUP 2 MOD 3 2 / == - 0 RND >>

It doesn't work for negative integers.

It seems to me that you can find very short routines that work for all positive and negative numbers, but that fail near the EOPR. Or, you can find short routines that work for only positive (or negative) numbers, and don't fail near the EOPR. But you can't (so far) find short routines that work for both positive and negative numbers, and don't fail near the EOPR.

Re: Rounding Revisited

*Message #5 Posted by **Werner** on 22 July 2009, 2:49 a.m.,*
in response to message #4 by Rodger Rosenbaum

40.5 bytes for a routine that works for any input vs. 35 for one that works for positive inputs only is not so bad, is it?

Re: Rounding Revisited

*Message #6 Posted by **Rodger Rosenbaum** on 22 July 2009, 2:29 p.m.,*
in response to message #5 by Werner

No, it's not bad at all. In reality I suppose if I really needed to do this function, I'd just take one of the examples from that long ago thread and add a test to take care of the exceptions. But, that's not as much fun.

I was just commenting that it's annoying that the EOPR causes such trouble. One of my professors used to say that the "perversity of the universe is maximized".

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I'm back!

*Message #1 Posted by **Dan W** on 15 July 2009, 10:49 p.m.*

Hi folks,

I just posted a question to the forum, and decided I should re-introduce myself.

I'm back after 2 years. 2 years ago I was actively buying, selling, collecting, and repairing the classic series, and the 67/97 models. One day I was looking at my 42s and remembered how I always wanted an HP in my younger days, but never could afford one. I was in Junior High when the 35 came out. By the time I could afford one, the HP-11c was out. Later I bought a 42s, and still use it. Back in the day I had programmed part of the Space Shuttle ascent guidance system on the 42s. Yes, I am in fact, a rocket scientist.

Over a few months I collected a 35, 45, 65, 67, 97, and an 80. Never could find an affordable 55, 70 or the 91. To fund my hobby I learned to repair just about anything that typically goes wrong with these.

I even thought about starting a little side business repairing these, but I doubt I could earn a living off of it. But one never knows; I'll probably get laid off soon, so the skill may come in handy.

Anyway, its good to see many of the same names here from 2 years ago. Hopefully I can contribute a bit, but I have to relearn a few things.

Cheers

Dan W

Re: I'm back!

*Message #2 Posted by **Nigel Bamber** on 16 July 2009, 1:21 a.m.,*
in response to message #1 by Dan W

Interesting !

I knew that 41CVs were used on the Space Shuttle program but you are implying the 42s was as well.

Some more questions if I may .

Do you have copies of your program you could share ? Or maybe they aren't publically available ? Do they still need or use calculators on the lates shuttle missions and if so which ones.

Cheers

Nigel

Re: I'm back!

*Message #3 Posted by **Dan W** on 16 July 2009, 10:14 a.m.,*

in response to message #2 by Nigel Bamber

I used the 42s while designing a new shuttle ascent guidance algorithm called "TAL Droop". Getting time on the mainframe simulation was slow so I found it a lot easier to do all the prototype work on the 42s. Only after I verified the equations of motion, did I code it into the main simulation.

I also used the thermal printer to create a graph of the shuttle altitude. I'd end up with graphs about 6 inches long showing the altitude going up, then drooping down, then up again.

TAL Droop was a scenario where 2 SSMEs fail sometime soon after SRB sep. The T/W was so low that the vehicle would begin to loose altitude. After a while it would burn enough fuel to begin rising again. The altitude it drooped to was critical. If too low, thermal stress on the ET would cause the tank to explode. I had to predict that altitude well ahead of time so the crew would know to either ride it out hoping for a TAL landing, or get off the tank before it was too late and ditch.

I kept the program on the 42s for a few years, then I printed it, taped it to paper and photocopied it. I probably have it in my records somewhere.

Edited: 16 July 2009, 10:15 a.m.

Re: I'm back!

*Message #4 Posted by **Katie Wasserman** on 16 July 2009, 10:41 a.m.,*
in response to message #3 by Dan W

Dan,

Very interesting! I always wondered about the "single engine press to MECO" call and what were the crew's options if they didn't get to that point. Thanks for giving us a bit of insider history on that.

I found this recent paper that seems to describe what you mentioned in more detail for the potential Orion missions.

-Katie

Edited: 16 July 2009, 2:19 p.m.

Re: I'm back!

*Message #5 Posted by **Dan W** on 16 July 2009, 8:43 p.m.,*
in response to message #4 by Katie Wasserman

Hi Katie,

Yea the abort mode I developed was part of a larger activity to create "contingency aborts" that started after the Challenger disaster. We looked seriously at multiple SSME failures and wanted to keep the crew alive in the event of a ditch in the ocean. The bailout was created during this time. This is where they open the hatch and slide out on a pole. The pole was required because without it, the crewmember would probably hit the wing by just jumping out. A bailout was required because structural analysis showed that in the event of a ditch, whatever was in the payload bay would come through the cockpit when it hit the water.

By the way, I used your idler gear replacement idea on one HP-97 printer. Thanks! Worked like a charm.

Re: I'm back!

*Message #6 Posted by **Nigel Bamber** on 16 July 2009, 10:42 a.m.,*
in response to message #3 by Dan W

Thanks. That's more than enough information for a non rocket scientist ! I suspect the maths/physics equations used in your program would go someway beyond my A Level Maths/Physics knowledge now long forgotten anyway.

Nigel

Re: I'm back!

*Message #7 Posted by **Jeff O.** on 16 July 2009, 7:21 a.m.,*
in response to message #1 by Dan W

Welcome back!

Is your potential near-term unemployment related to the winding-down and impending retirement of the STS, or just the general economy? (Obviously you may provide as much or little information on your personal situation as you like.)

...

Re: I'm back!

*Message #8 Posted by **Dan W** on 16 July 2009, 8:46 p.m.,*
in response to message #7 by Jeff O.

I don't work for the space program any more. I left out of frustration with the inability to do long term planning, and I thought the space station was of little scientific value. They could have done so much more were it not for politics. I could go into a lot of detail here, but I'm not sure I want to get up on my soap box at the moment. I hope one day to go back. Space is my first love.

Re: I'm back!

*Message #9 Posted by **Don Shepherd** on 16 July 2009, 9:58 p.m.,*
in response to message #8 by Dan W

Dan, since you worked for NASA, did you ever see any of the listings or documentation for the programs that were written for the HP65's that were used in the Apollo-Soyuz Test Project? If not, do you know anyone that might have info on these? I've been trying to get that information for years (along with others), with no success. I even wrote Sol Liebergot, EECOM on Apollo 13, and he tried but came up short too.

Re: I'm back!

*Message #10 Posted by **Dan W** on 16 July 2009, 10:51 p.m.,*
in response to message #9 by Don Shepherd

Hi Don,

At the time I worked there I wasn't especially interested in the classic HP's. The Johnson Space Center has a great technical library. All of the records would be there on microfiche.

Once I was tasked to develop a precision lunar lander algorithm for a robotic explorer (which was

canceled, like most of the really interesting stuff back then). At any rate I asked around JSC: Who knows how to land on the moon?

Guess what! No one did. The technology had been forgotten. This still amazes me, it is very possible to loose the knowledge to do things, like land on the moon, or build pyramids. Fortunately I had the library. I scrounged around in there for a week or so and dug up a bunch of Apollo technical documents, some of the original algorithm designs as far back as 1963. I am indebted to an engineer named George W. Cherry who did the initial design work.

So I am confident the documentation is there somewhere on microfiche. They were good about documenting everything. It may be hard to find though.

I've been gone long enough that I don't really have any contacts there now. Let me think about it. It may be very possible to get guest access too, if someone is in Clear Lake.

Re: I'm back!

*Message #11 Posted by **Don Shepherd** on 16 July 2009, 11:44 p.m.,*
in response to message #10 by Dan W

Thanks, Dan.

I did contact some library researcher at JSC a few years ago, and she checked some data base and couldn't find anything about those HP65 programs, but I'd bet there is something there, like you say, on microfiche. If I lived there, instead of Louisville KY, I'd go myself and try to find the info.

Yes, if you do find something, please let me know. Wow, today is the 40th anniversary of Apollo 11 liftoff. I was there, ten miles away in a post office parking lot in Titusville FL, with my super-8 movie camera. I transferred the film to DVD a few years ago and show it to all my math students. They love those old cars!

Re: I'm back!

*Message #12 Posted by **hecube** on 17 July 2009, 1:40 p.m.,*
in response to message #11 by Don Shepherd

Have you uploaded it to Youtube?

Re: I'm back!

*Message #13 Posted by **Don Shepherd** on 17 July 2009, 2:13 p.m.,*
in response to message #12 by hecube

I don't do youtube, or facebook, or twitter, or any of that kind of stuff. I'll leave all that for the younger generation.

The file on the dvd is big, 88 mb. The video clip is only about 3 or 4 minutes long, and it shows cars in the parking lot around where I was parked, and an Army helicopter that flew by right before launch. The actual launch pad was 10 miles away, but you can see the ignition and flames and liftoff. It's home movie quality, and I have no objections with sharing it with anyone who is interested, but I think it's too big to upload anywhere and I've never copied DVD's before, although I "think" my computer can do that.

Re: I'm back!

*Message #14 Posted by **Marcus von Cube, Germany** on 18 July 2009, 5:48 a.m.,*
in response to message #13 by Don Shepherd

Don, the free file sharing platforms like MegaUpload.com or RapidShare.com (free for the uploader and the occasional downloader, fee based for the downloader who wants maximum speed, like me) provide massive space. An 88MB file is of moderate size. You need some uploading power (most Internet lines have asymmetric bandwidth) or you must be patient while uploading. If you upload the file I can put it on my MegaUpload account so that it will not expire.

Re: I'm back!

*Message #15 Posted by **Don Shepherd** on 20 July 2009, 9:10 a.m.,*
in response to message #14 by Marcus von Cube, Germany

OK, thanks to Marcus, the video is uploaded here. You will need the DivX codec to view it, if you don't have that already.

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Odd sign problem with HP-97

*Message #1 Posted by **Dan W** on 15 July 2009, 9:05 p.m.*

I have an odd problem with the CHS key on my HP-97 I have never seen before.

When I enter a number and hit the CHS key, a minus sign shows twice, at the left where expected, and at the right where it is used for the EE component. However the number is still correct (a negative number). The extra minus sign stays after hitting ENTER. If I do a calculation that results in a negative number, both sign segments show.

When I enter a number with an exponent and try to change the sign of the exponent, no minus sign shows, although the number is entered correctly. However even though the number has a negative exponent, the minus sign does not show.

Also if I do a calculation that results in a number with a minus exponent, the minus does not show, but the number is correct.

The problem is with the LED display only, the numbers print with the correct signs and the math is right. It passes the HP97 diagnostics program.

So it seems the problem might be with the LED display drivers. Any ideas on how to debug this, and determine if it is an IC or a problem with a discrete component of the PCB? Anyone else ever seen such a problem?

Thanks, -- Dan

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Key presses and running programs

*Message #1 Posted by **Mike T.** on 15 July 2009, 5:05 p.m.*

I'm after a bit more information on the way the HP67, HP29, and HP25 machines behave when a key is pressed while a program is executing.

The HP33 and HP34 both simply stop executing the program and stop at the current instruction (even if it is a pause) and otherwise ignore the keystroke.

Unfortunately I can't check the behaviour of the other models myself.

I believe that an HP67 will execute the keystroke if pressed while a pause instruction is executing but can't remember what happens if a key is pressed while a program is running. I did have some information but can't find my old notes at the moment.

I suspect that behaviour of the HP29 may be the same as the HP67 as they are both similar but I have no idea what happens on an HP25.

I'd really like to know if my assumptions are correct and what really happens on these models both when a key is pressed while a program is running (including a label key or GSB) and when a key is pressed during a pause instruction.

It might be interesting to compare this to the behaviour of current models like the HP20b so see which scheme 'won'..

Thanks

Mike T.

Re: Key presses and running programs

*Message #2 Posted by **Don Shepherd** on 15 July 2009, 10:18 p.m.,*
in response to message #1 by Mike T.

> Quote:
>
> It might be interesting to compare this to the behaviour of current models like the HP20b so see which scheme 'won'..

I don't think the 20b is programmable, nor does it have a solver.

Re: Key presses and running programs

*Message #3 Posted by **Mike T.** on 19 July 2009, 7:40 p.m.,*
in response to message #1 by Mike T.

Any HP29C owners out there..?

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integrating on the HP35s

*Message #1 Posted by **ezoob** on 15 July 2009, 3:38 p.m.*

I'm an old HP15c user and I'm used to integrating by entering a program with a label and just integrating the program.

I just bought a 35s, and I can't integrate on it the same way as with my 15c. When I try to integrate a program it prompts for an integration variable. How can I just integrate the program without entering an "equation" specifically? Is there a way I can do it like I used to on my 15C?

Thnx in advance.

Re: integrating on the HP35s

*Message #2 Posted by **Gene Wright** on 15 July 2009, 3:55 p.m.,*
in response to message #1 by ezoob

Try the learning modules found here:

Numeric integration on the 35s

And, the 35s manual has a rather large section on integrating. Reading it is usually a good first step. ;-)

All of the 35s modules can be found on this page:

All 35s modules

Re: integrating on the HP35s

*Message #3 Posted by **ezoob** on 15 July 2009, 4:14 p.m.,*
in response to message #2 by Gene Wright

I read the manual. The section on integrating programs states on page 15-7:

"Integrating a Program

In chapter 8 you saw how you can enter an equation (or expression) — it's added to the list of equations — and then integrate it with respect to any variable. You can also enter a program that calculates a function, and then integrate it with respect to any variable. This is especially useful if the function you're integrating changes for certain conditions or if it requires repeated calculations."

My question is: Can the calculator still integrate the program without me having to specify a variable? i.e. can it integrate the way my HP15C does, without having to specify a variable?

Re: integrating on the HP35s

*Message #4 Posted by **Jeff Kearns** on 15 July 2009, 6:12 p.m.,*

in response to message #3 by ezoob

You must specify a variable, but so what? It is 'one' line of programming and one keystroke during integration. And it's no problem at all once you get the hang of it. It is not much different from the 15C and can be mastered very quickly.

Here is a simple example: Integrate 5x^2-3, from x=0 to x=2. (The answer is 7.33)

On the 15C, you would write a simple program:
001 LBL 1
002 x^2
003 5
004 *
005 3
006 -
007 RTN
Then you enter your limits of integration, 0 ENTER 2, and Integrate whatever program label contains the equation.

On the 35s, the procedure is as follows:
Write a program with the same equation as above, but call it LBL I as an example. Here goes...
I001 LBL I
I002 INPUT X
I003 x^2
I004 5
I005 *
I006 3
I007 -
I008 RTN
Then press LS FN= 'I' to specify the program label to be executed/integrated, enter the limits of integration as per the 15C, and Integrate 'X'. That's all there is to it.

Jeff

Edited: 15 July 2009, 6:19 p.m.

Re: integrating on the HP35s

*Message #5 Posted by **ezoob** on 15 July 2009, 6:24 p.m.,*
in response to message #4 by Jeff Kearns

Thank you both. That answers my question. Thanks esp for the example.

Re: integrating on the HP35s

*Message #6 Posted by **Karl Schneider** on 16 July 2009, 1:26 a.m.,*
in response to message #3 by ezoob

"ezoob" --

Integration on the HP-32S, HP-32SII, HP-33s, and HP-35s requires that a single-letter storage location be specified as the dummy variable of integration. Unlike the HP-34C, HP-15C, and HP-41 Advantage Pac, variables are passed to the user by register, not through the stack.

Philosophy of implementation is discussed in my MoHPC article concerning SOLVE/INTEG on RPN-

based models:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=556

-- KS

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20b - Observations

*Message #1 Posted by **Thomas Radtke** on 15 July 2009, 9:04 a.m.*

It appears, the 20b acts partially like a RPL calculator: 1 ENTER 2 ENTER + results in 3 instead of 4. OTOH, a percentage operation a b % leaves a on the stack, as opposed to RPL calculators like the 48 series. Quite confusing, but I like it.

An interesting bug: Some error conditions apparently leave an invalid number on the stack. Try e.g.:

```
CE
TVM reset
N I/YR PV (ignore errors)
```

Now cycle through the stack, some entries are missing. These are maybe invalid numbers.

Re: 20b - Observations

*Message #2 Posted by **Gene Wright** on 15 July 2009, 10:50 a.m.,*
in response to message #1 by Thomas Radtke

Hi Thomas!

1) Yes, the 20b uses a "command line" approach as an input to the stack. Your addition example points out the effect quite well. Another result can be that if you have a stack full of 4 values and begin typing another number, if you press ON/CE, you still have all 4 values. On a "true RPN" machine, you would have lost the value in T. On the 20b, T is lost only if you do something with the value you are keying it. ON/CE is an "abort" button.

2) The % operation works as "RPN" does.

So, a bit of a hybrid, probably because it reuses the RPL approach to inputs on the stack.

3) If you're referring to an apparently blank display, then yes, this is a non-normalized number aka error result. I know HP is aware of this. Of course, a blank display should never be returned to the user, so this is a bug.

What ROM revision is on your 20b?

Re: 20b - Observations

*Message #3 Posted by **Thomas Radtke** on 15 July 2009, 11:28 a.m.,*
in response to message #2 by Gene Wright

Hi Gene,

> Quote:
>
> What ROM revision is on your 20b?

How to find it out?

Re: 20b - Observations

*Message #4 Posted by **Tim Wessman** on 15 July 2009, 11:40 a.m.,*
in response to message #3 by Thomas Radtke

On-PMT opens the hidden menu. Scroll up and down and you will see it in there.

Also, can you give the example that returns the blank screen so I can check it is fixed? Thanks.

TW

Re: 20b - Observations

*Message #5 Posted by **Thomas Radtke** on 15 July 2009, 11:56 a.m.,*
in response to message #4 by Tim Wessman

> Quote:
>
> On-PMT opens the hidden menu. Scroll up and down and you will see it in there.

SW Version shows 8 01 2008

> Quote:
>
> Also, can you give the example that returns the blank screen so I can check it is fixed? Thanks.

As a more simple approach to get one blank entry, press

```
CE
N
I/YR
Arrow down (4 times)
```

Re: 20b - Observations

*Message #6 Posted by **Walter B** on 15 July 2009, 3:44 p.m.,*
in response to message #4 by Tim Wessman

FWIW, SW Version 6 17 2008 shows the same bug.

Re: 20b - Observations

*Message #7 Posted by **Gene Wright** on 15 July 2009, 3:53 p.m.,*
in response to message #6 by Walter B

Of course, since that is an earlier firmware, it means it had not been fixed by August of last year. :-)

Hopefully, unlike some software companies, updated HP firmware does not break things that used to work!

Re: 20b - Observations

*Message #8 Posted by **Walter B** on 15 July 2009, 4:07 p.m.,*
in response to message #7 by Gene Wright

> Quote:
>
> Hopefully, unlike some software companies, updated HP firmware does not break things that used to work!

Hopefully, but not for sure ;)

> Quote:
>
> Of course, since that is an earlier firmware, it means it had not been fixed by August of last year. :-)

Oh, that was M DD YYYY :(Sorry I didn't recognize that.

Re: 20b - Observations

*Message #9 Posted by **Gene Wright** on 15 July 2009, 5:56 p.m.,*
in response to message #8 by Walter B

Oops. Tough to know when the digits don't indicate where the day is located, isn't it?

Re: 20b - Observations

*Message #10 Posted by **cyrille de Brébisson** on 16 July 2009, 8:37 a.m.,*
in response to message #1 by Thomas Radtke

hello,

it's not an 'invalid number', which would be a serious bug, it's a perfectly normalized NaN number...

the problem is that the UI does not realy know how to handle NaNs...

I am trying to remove all occurrences of such problems.

regards, cyrille

Re: 20b - Observations

*Message #11 Posted by **Thomas Radtke** on 16 July 2009, 9:06 a.m.,*
in response to message #10 by cyrille de Brébisson

Great, allthough this bug doesn't seem to affect normal operation. May I be so cheeky to ask whether someone is debugging the 35s? :^)

Re: 20b - Observations

*Message #12 Posted by **Marcus von Cube, Germany** on 17 July 2009, 2:40 a.m.,*
in response to message #11 by Thomas Radtke

I guess, the 20b software is a one man show and we are lucky he is here on the forum. :)

Re: 20b - Observations

*Message #13 Posted by **bill platt** on 17 July 2009, 1:34 p.m.,*
in response to message #12 by Marcus von Cube, Germany

Yes, that is true.

And of course never overestimate how man people are behind the curtain! (It is always amazing to realize how much one motivated and talented person can do).

I lurk most of the time on these issues but find it interesting to follow them.

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LINUX LIF tools error

*Message #1 Posted by **Sean Connor** on 15 July 2009, 6:02 a.m.*

Hi All,

I have been trying to use Mr Duell's excellent looking LIF utils on a new DELL Optiplex 755 at work. The disks are initialised with a volume header (I think) on my 71b/9114a with say

Initialize TEST:1

I then try to use the LIF utils running under MINT 2.6.28-11-generic

Whatever I do , the disk spins for a while and I get the same error:

mint@mint ~/Desktop/LIF $ ./lifdir /dev/fd0 Error on recalibrate

Any ideas ?

Best Regards

Sean Connor

Re: LINUX LIF tools error

*Message #2 Posted by **Marcus von Cube, Germany** on 15 July 2009, 7:52 a.m.,*
in response to message #1 by Sean Connor

The error looks quite low level as if the drive or controller were unable to adjust themselves to the physical disk format (sector size, density and such.)

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20b display problem

*Message #1 Posted by **Paul Dale** on 15 July 2009, 4:20 a.m.*

I've got a 20b with a display problem. Some of the pixels don't go dark. Anyway, I've opened it up and have located the problem. The zebra strip connecting the main PCB and the display has detached at one end (two tracks maybe three are broken). If I press down lightly, the display comes good.

Do any of the restorers have a suggestion as to how to reattach it?

- Pauli

Re: 20b display problem

*Message #2 Posted by **Marcus von Cube, Germany** on 15 July 2009, 7:53 a.m.,*
in response to message #1 by Paul Dale

The 20b should still be under warranty. Try to contact HP or your dealer.

Re: 20b display problem

*Message #3 Posted by **cyrille de Brébisson** on 16 July 2009, 8:35 a.m.,*
in response to message #1 by Paul Dale

hello,

contact 1 800 HP INVENT and get your product replaced under warranty.

Else, use no melt solder tape and place it on the strip, then use a soldering iron to re-heat glue the strip on the contacts.

cyrille

Re: 20b display problem

*Message #4 Posted by **Paul Dale** on 16 July 2009, 6:40 p.m.,*
in response to message #3 by cyrille de Brébisson

I don't think that phone number will help in Australia (although I did buy the unit from the US).

I'll try the solder tape.

This one is somewhat sacrificial: I've drilled out the four plastic mushroom rivets so I can get to the keys and relabel them :)

- Pauli

Edited: 16 July 2009, 6:40 p.m.

Re: 20b display problem

*Message #5 Posted by **Paul Dale** on 20 July 2009, 2:31 a.m.,*
in response to message #1 by Paul Dale

Fixed the problem.

Examined under magnification, the problem is the end conductor or three on the Zebra strip hadn't seated down properly. The obvious solution is to re-melt it in place.

Then the complication, the unlike other such strips which solder fairly nicely, this zebra strip melts instantly on contact with a soldering iron and by the time I'd figured this out, it had melted past the end of the PCB. Not to worry, a short piece of solid wire can be placed on the pad on the PCB in such a way that it pokes into the zebra strip. Solder the wire to the PCB quickly and the heat imparted to the wire seems to melt the zebra strip in place. In fact, the wire ended up poking through the zebra strip. Be careful here or you'll melt the adjacent conductor on the zebra and the process will have to be repeated. When done and verified, cover the whole thing with a generous blob of epoxy -- I used 90 second Araldite but any should work.

If you're very quick, it is possible to lightly tap the zebra at the bottom most end with the soldering iron and this will melt it onto the pad okay, you do have to be very quick though.

I don't know if this has been mentioned before or not, but the 20b runs fine on one battery.

Now to figure out how to best re-label the keys and attach the debugger pins.

- Pauli

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HP-25 turns itself off

*Message #1 Posted by **Des McPherson** on 14 July 2009, 5:04 p.m.*

Ok, here's a strange one. I was playing around with my HP-25 the other day making sure all the buttons work. I went through each number and pressed it over and over until it filled the display. When I got to the number 7, I pressed it 5 times and the calculator turned off. It turned back on again after sliding the switch to off and then on. Here's some of the patterns that turn the unit off.

77777 177777 2277777 3337773377

You get the idea. Any help would be appreciated.

Re: HP-25 turns itself off

*Message #2 Posted by **Geoff Quickfall** on 14 July 2009, 6:28 p.m.,*
in response to message #1 by Des McPherson

I would like to say that entering five '7's in a sequence or over the 10s display is the "secret off code" for the HP 25 but I can't!

Sounds like a memory and display problem. The x register is a memory. Did any of the other keys when entered five times in a row or any sequence of five presses over the 10s display cause a similar fault. Also try:

388885 ENTER 5 /

this should develop 77777,

Does it turn off when it generates the 5 sevens.

Cheers, Geoff

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HP-41CV retiring / HP-20b entering active duty

*Message #1 Posted by **hecube** on 14 July 2009, 4:19 p.m.*

I bought my HP-41CV brand new back in 1983. I loved this calculator so much. I was already a HP calc fan back then.

The PRGM key has been cranky for the last few years and I decided to enshrine the calculator. I have a HP-48SX I bought used for 20 dollars 10 years ago but I never felt the connection I had with the 41.

I've been looking for a HP calc that might take the place of the 41 and the HP-20b has me excited. It seems that HP has got many things right in a long long time with this model...

Re: HP-41CV retiring / HP-20b entering active duty

*Message #2 Posted by **DaveJ** on 14 July 2009, 5:04 p.m.,*
in response to message #1 by hecube

> Quote:
>
> I've been looking for a HP calc that might take the place of the 41 and the HP-20b has me excited. It seems that HP has got many things right in a long long time with this model...

Well, except for the fact that it's a financial calculator :->

If they bought out a proper scientific model it might be a tad more exciting, but I reckon it needs more keys anyway.

Dave.

Re: HP-41CV retiring / HP-20b entering active duty

*Message #3 Posted by **Walter B** on 14 July 2009, 5:10 p.m.,*
in response to message #1 by hecube

You won't be happy with the keyboard. No tactile feedback as you know it.

Ceterum censeo: HP, launch a 43S.

Walter

Re: HP-41CV retiring / HP-20b entering active duty

*Message #4 Posted by **Dave Britten** on 14 July 2009, 7:46 p.m.,*
in response to message #1 by hecube

You could always take the extravagant route and pick up an iPod Touch. I understand there are some rather good 41C/42S simulators available for that and the iPhone.

I hear it can also do some other things, too. :)

Re: HP-41CV retiring / HP-20b entering active duty

*Message #5 Posted by **hecube** on 14 July 2009, 8:05 p.m.,*
in response to message #4 by Dave Britten

I plan to get both the Touch and the HP-20b. I'm aiming for this kind of clutter:

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Emu48 update v1.48 / v1.17

*Message #1 Posted by **Christoph Giesselink** on 14 July 2009, 3:25 p.m.*

Hello together,

it's quite a long time ago that I published my latest Emu48 version.

My latest version can be downloaded at http://hp.giesselink.com/.

Emu48 v1.48 (classic edition without Apple series support)

- symbolic entries in assembler debugging
- RPL object viewer
- PCO code detection in debugger
- GIF image support for background bitmap
- the usual collection of bugfixes

Emu48 for Pocket PC v1.17

- redesign of dialogs, work on portrait, landscape or on square screens now
- GIF image support for background bitmap
- the usual collection of bugfixes

Cheers

Christoph

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Appcelerator could bring iphone Calculator emulators to T-mobile G1 phones...

*Message #1 Posted by **Allen** on 13 July 2009, 11:30 p.m.*

Another plug for the open development Google Android series of phones. Resist the Fruit.

http://androinica.com/2009/06/11/appcelerator-offers-one-stop-iphoneandroid-development-tool/

Re: Appcelerator could bring iphone Calculator emulators to T-mobile G1 phones...

*Message #2 Posted by **Eric Smith** on 13 July 2009, 11:52 p.m.,*
in response to message #1 by Allen

I've considered it, but I've already done most of the translation to Java for Android.

Re: Appcelerator could bring iphone Calculator emulators to T-mobile G1 phones...

*Message #3 Posted by **Byron Foster** on 14 July 2009, 4:39 a.m.,*
in response to message #1 by Allen

Ehh, it's a little short on details... It says it uses "HTML, JavaScript, and CSS to build native apps for Android and iPhone". I think this is more of a "native" web application type of thing, like the early iPhone apps.. but cross platform.

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Piezoelectric transducers and the 41C

*Message #1 Posted by **Geoff Quickfall** on 13 July 2009, 12:56 p.m.*

Does anyone know the electrical specifications the HP-41C piezoelectric tansducer requires. I have 3 CXs that need new ones due to some hackers soldering attempts, not me ;-)

Also looking for a supplier in North America, perferably Canada. I did find what I was looking for on the web in the UK but I don't know the voltage requirement.

link to piezoelectric transducers in UK

```
Version one at the above site


Specifications:
Piezo Transducer 27mm/18kHz
Resonant frequency: 18kHz ±05kHz
Impedance at resonance: 800Ù
Capacitance: 25nF ±30%
Maximum input voltage: 30V p-p
Operating temperature: -20C to +70C


Version two also at the above site


Piezo Transducer 27mm/42kHz
Resonant frequency: 42kHz ±05kHz
Impedance at resonance: 500Ù
Capacitance: 14nF ±30%
Maximum input voltage: 30V p-p
Operating temperature: -20C to +70C
```

The original transducer is 27mm and appear identical but of course appearances can be decieving!

Cheers, Geoff

Edited: 13 July 2009, 1:02 p.m.

Re: Piezoelectric transducers and the 41C

*Message #2 Posted by **Randy** on 13 July 2009, 2:12 p.m.,*
in response to message #1 by Geoff Quickfall

I have no idea what the specs are but I do have a boxful of them on hand. Shoot me an email with your postal address and you'll have some old fashioned mail :)

Email sent in trade for snail mail ;-)

*Message #3 Posted by **Geoff Quickfall** on 13 July 2009, 6:32 p.m.,*
in response to message #2 by Randy

Thanks!

Re: Piezoelectric transducers and the 41C

*Message #4 Posted by **Garth Wilson** on 13 July 2009, 8:09 p.m.,*
in response to message #1 by Geoff Quickfall

see the thread at http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv019.cgi?read=147367

Edit: BTW, your resonant frequencies are missing a decimal point. They should be in the range of a few kHz, not a few tens of kHz (which would be ultrasonic).

Edited: 13 July 2009, 8:12 p.m.

Re: Piezoelectric transducers and the 41C

*Message #5 Posted by **Geoff Quickfall** on 14 July 2009, 3:57 a.m.,*
in response to message #4 by Garth Wilson

Excellent thread Garth,

Learnt a lot more then just about the transducer. The decimal point came from the web site advertising, OOPS on them!

Cheers, Geoff

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HP-IL I/F Card on a New(er) PC - Part III

*Message #1 Posted by **Gerry Schultz** on 12 July 2009, 9:24 p.m.*

Hello All:

Last week I posted that putting the HP-IL I/F card in 2.66 GHz P4 D845GECL MB PC hangs up during the boot process. I started a new post as last week's entries are pretty far down the page. Earlier this week I cut the IRQ 7 strap on the card and it booted into XP!

I've got EMU41 version 2.40 up and running in a DOS window. I've set up the emu41.ini set up as follows:

[Modules] 0 12 rom41cx.bin 3 4 cxfcn2d.bin 5 8 cxtime2c.bin 6 4 prter1e.bin 7 4 hpil1h.bin

8 12 adv41b.bin 10 4 xiola.bin

[Devices] DISPLAY HDRIVE1 LPRTER1 DOSLINK XIL 300

The 82973A I/F card is set to 300 (revision A) as explained by HP's documentation. I have my 9114B connected to the I/F card with a formatted floppy in it and has a one program stored on the floppy. The directory with EMU41.EXE has the original HDRIVE1.DAT included in the distribution.

What I'm confused about now is that when I use SELECT to access any HP-IL device and try to do a directory (virtual or real), the EMU41 reports NO DRIVE.

Okay, first what's the best and easiest way to test the HP-IL I/F card to see if it can be seen by EMU41? Second, how does EMU 41 assign HP-IL addresses to internal and external devices? I did modify EMU41.INI to indlude FDRIVE1 to see if I could access the 3 1/2 floppy disk drive on the PC from EMU41 without success.

What am I doing wrong?

Gerry

Re: HP-IL I/F Card on a New(er) PC - Part III

*Message #2 Posted by **Marcus von Cube, Germany** on 13 July 2009, 6:13 a.m.,*
in response to message #1 by Gerry Schultz

Gerry if you enclose your config file citations with PRE tags (in square brackets) the line breaks will be preserved for easier reading:

```
[Modules]
0  12  rom41cx.bin
3   4  cxfcn2d.bin
5   8  cxtime2c.bin
6   4  prter1e.bin
7   4  hpil1h.bin


8  12  adv41b.bin
10  4  xiola.bin
```

```
[Devices]
DISPLAY
HDRIVE1
LPRTER1
DOSLINK
XIL 300
```

Now to your question: XP does not allow a DOS box to access I/O ports directly. You will need some port redirection device driver (which has been mentioned here in the forum) to make this work.

Re: HP-IL I/F Card on a New(er) PC - Part III

*Message #3 Posted by **Gerry Schultz** on 13 July 2009, 5:33 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Thank you Marcus for reformatting my EMU41.ini file. I am confused and a little frustrated with what you are saying as it is different from other sources. In Christoph Klug's HP Article 311, "HP41 - PC Gateway & Emulator" and his book do not mention any need for a port redirection device driver to make EMU41 work on XP. What he seems to stress was that the HP-IL I/F card's I/O address needs to be set to 300 hex, which I've done. I have searched for EMU41 and XP restricting Google's search to the HP Museum website and found, so far, no mention of EMU41 needing anything special to run properly on XP.

I went into this little project thinking that the EMU41 software took XP's NT roots into account and that it works correctly under XP. When I ran it under Win98, it worked and responded as expected and I was able to talk to my 9114 floppy drive through EMU41. So, with it responding with NO DRIVE no matter what HP-IL storage device I try and talk to, I thought I had done something wrong. If XP is interfering with EMU41 accessing the hardware, can this be solved? Does EMU41 or for that matter EMU71 run properly under Windows XP with both internal, virtual HP-IL devices and external HP-IL devices connected through the HP82973A HP-IL interface card?

I intend to continue working on this and I hope the HP Museum community can shed some light on this to help expedite my efforts. There are a lot of variables in this situation from the PC BIOS to the interface card to EMU41 software. I'm hoping someone has already faced this as I think it related to the EMU41 software and XP. Since I can't get the virtual, internal HP-IL storage devices to work, either it's a configuration issue or an initial setup issue and the EMU41 documentation is not especially clear on how it assigns HP-IL addresses to devices. An example of strange behavior I have noticed is that I could not get EMU41 to save the state of the 41 at first when I shut down using F1. When I changed the name of the mem41.dat file to something else, EMU41 then saved the state of the 41 to a new mem41.dat file and now that file is updated whenever I quit using F1. Do I need to purge the HDRIVE.dat file included with the EMU41 distribution and have it build a new file, then use the new media command to format it? I don't remember doing that with Win98 so that may be a dead end.

Sorry that I'm rambling on so much. I hope you have some suggestions or insights.

Thanks,

Gerry

Re: HP-IL I/F Card on a New(er) PC - Part III

*Message #4 Posted by **Egan Ford** on 13 July 2009, 8:01 p.m.,*
in response to message #3 by Gerry Schultz

> Quote:
>
> Thank you Marcus for reformatting my EMU41.ini file. I am confused and a little

> frustrated with what you are saying as it is different from other sources. In Christoph Klug's HP Article 311, "HP41 - PC Gateway & Emulator" and his book do not mention any need for a port redirection device driver to make EMU41 work on XP. What he seems to stress was that the HP-IL I/F card's I/O address needs to be set to 300 hex, which I've done. I have searched for EMU41 and XP restricting Google's search to the HP Museum website and found, so far, no mention of EMU41 needing anything special to run properly on XP.

AFAIK, you cannot access I/O ports directly with XP. I do not have Klug's book with me so I have no idea what trick is used for XP to access the HP-IL ISA adapter.

You may want to give CrackNT a try (http://www.it.hs-esslingen.de/~zimmerma/software/index_uk.html). CrackNT has a tool to unlock I/O port ranges (you should only need to unlock 0x300 - 0x301, however I think on Linux I am unlocking 8 bytes). It may or may not work. As for direct floppy access, same issue.

If you have not already I would suggest booting up a DOS diskette with EMU41 and verify that EMU41 works with your mod card and address 0x300. IIRC, EMU41 enumerates the internal devices before the external devices, however, that may be because XIL is last in the device list. To avoid any ambiguity while testing comment out HDRIVE so that all DIR, WRTP, READP commands will default to the 9114B.

Good luck.

P.S. Ubuntu Linux is not a bad alternative to Windows. DOSEMU has an option to allow direct access to HW. I use Linux/DOSEMU with my ISA adapter. Works great.

Re: HP-IL I/F Card on a New(er) PC - Part III

*Message #5 Posted by **Howard Owen** on 13 July 2009, 9:33 p.m.,*
in response to message #3 by Gerry Schultz

I believe JF's documentation mentions that access to modern floppy drives from EMU41 doesn't work due to the smaller sector size on the 9114 disks.

I use DOSEMU on Linux to run EMU41 also. There you have to make provisions to allow the emulators to access the I/O memory directly. DOS is primitive in that way, allowing any old program to bang directly on the hardware.

<humor>

Since Windows up through WinME was really just DOS with an elaborate, broken windowing shell, those versions also took a cavalier attitude toward access to critical hardware resources. It wasn't until Windows NT came along that Microsoft started to make half hearted, ineffectual attempts to write reliabilty into their operating systems. That effort has largely failed, but, one side effect is that you have to make special provisions in order to do dangerous things like writing and reading directly to and from memory mapped hardware. Unlike a real operating system, Windows doesn't provide a standard way to allow such dangerous access, leaving the implementation to third parties who name their software things like "Hack and Slash my Windows Box Until it Rolls Over and Dies." Despite the scary names, these third party programs doubtless do a far better job of implementing the scary access than the clowns in Redmond ever could.

</humor>

Kidding aside, the inability to write directly to memory is a feature of any "real" operating system. You absolutely need some way to get around that to make EMU41 work with the ISA card. If Egan recommends the "Hackomatic" program, you can rest assured the solution is among the better ones available. He's a professional, and is occasionally forced to work with Windows. :)

Regards,
Howard

Re: HP-IL I/F Card on a New(er) PC - Part III

*Message #6 Posted by **Egan Ford** on 14 July 2009, 12:05 p.m.,*
in response to message #5 by Howard Owen

> Quote:
>
> I believe JF's documentation mentions that access to modern floppy drives from EMU41 doesn't work due to the smaller sector size on the 9114 disks.

I've wondered about that. My HP-IL ISA Box is an old 66/200 Mhz Overdrive circa 1995 mini tower, with 32 MB RAM and Linux. I have no problems using various DOS-based tools to read/write 9114B floppies. However both this old junker and my circa 2004 IBM server have no problem reading and writing 9114B disks using Tony Duell's Linux LIF tools. I have not tested DOS/LIFUTIL/EMU41 on my server, so I cannot confirm that it works with *modern* floppy drives. If Linux can do it, I'd suspect that DOS can too. Perhaps my server works because it truly is 100% IBM Compatible. :-) BTW, when did *modern* start?

> Quote:
>
> He's a professional, and is occasionally forced to work with Windows. :)

Ha!

Re: HP-IL I/F Card on a New(er) PC - Part III

*Message #7 Posted by **Howard Owen** on 14 July 2009, 5:31 p.m.,*
in response to message #6 by Egan Ford

> Quote:
>
> However both this old junker and my circa 2004 IBM server have no problem reading and writing 9114B disks using Tony Duell's Linux LIF tools.

Wow, brain fade here. I've used LIF utils to access 9114 floppies too. Of course, the issue here is whether you can do it in EMU41. Here's what JF has to say about that in the EMU41 documentation

```
    Note: This emulation doesn't work on some modern PC. Reason is that this
emulation relies on
    low level BIOS calls to manage LIF formatted discs (256 bytes/sector).
These calls are historic
    (there are not used by DOS/Windows) and seem to have been removed (or at
least are no more
    supported) in modern PC BIOS.
```

That says he ran into trouble with BIOS calls that used to work for him, presumably under DOS on a "modern" PC. (No idea when "modern" started. :) Tony's source code is available, but may not be easily applicable given the differences in I/O models between DOS and Linux, i.e. Tony is making syscalls into the floppy driver, which in turn makes the low level BIOS calls. The driver source is available too, of course.

Regards,
Howard

Re: HP-IL I/F Card on a New(er) PC - Part III

*Message #8 Posted by **J-F Garnier** on 15 July 2009, 6:09 a.m.,*
in response to message #7 by Howard Owen

Hi,

"Modern" here means OS that came after pure text mode DOS and command line interface :-)

The main point regarding this subject is that it's not a hardware limitation; when booting a "modern" PC with a DOS disk (or a Win9x if you wish), LIF disc can be read using the PC internal floppy. This question by itself is almost obsolete since laptops don't have a floppy drive anymore...

Of course, LIF discs can still be read using a 9114 connected with the HPIL ISA board or the PILBox (to anticipate the next question: no, there is not yet a LIFutil-like software to do that with the PILBox - but it is possible).

J-F

Re: HP-IL I/F Card on a New(er) PC - Part III

*Message #9 Posted by **Marcus von Cube, Germany** on 14 July 2009, 8:51 a.m.,*
in response to message #3 by Gerry Schultz

Here is an article describing the problem and methods around it. Linux seems to be the better choice. BTW, OS/2 is a possible option, too. Its DOS box is closer to a real PC than Windows'. I will have to try it out one day. There is an old OS/2-PC somewhere around here. :)

By far the best way would be a custom device driver for the HP-IL card which does all the hardware and timing sensitive stuff. This could then emulate a serial port for access through any application, including emulated DOS. The new USB-HP-IL box works in this way. But instead of providing a custom driver, it uses a standard Serial-USB chip and its corresponding driver and does all the tricky stuff with an embedded controller. What's left is a modification to EMU41's HP-IL code to make use of a (pseudo) serial device.

Edited: 14 July 2009, 8:54 a.m.

Re: HP-IL I/F Card on a New(er) PC - Part III

*Message #10 Posted by **Gerry Schultz** on 14 July 2009, 1:20 p.m.,*
in response to message #9 by Marcus von Cube, Germany

Egan, I've never thought about not trusting your writings (a double negative in this case seems correct). I've already downloaded CrackNT and read the documentation. It is the perfect answer to

having direct access o the hardware but I'll have to experiment with how large the I/O window should be.

Howard, when I was reading the humorist entry in your post, I had this image of Yosemite Sam popping up in my mind saying (in his Mel Blanc's voice) "I hate Windows." I too use Windows a lot in my work so I'm very familiar with it. But I cut my teeth on Apple IIs and at home I have two Macs as well as PCs. There are many days when I say "I hate Windows."

Marcus, I'll take a look at the article you recommend when I get some time. What I'm thinking about is a single, integrated PC that I can do all my Windows related work on without having specialized PCs for specific projects, like EMU41. I deal a lot with HP products here at Fox (Fox has a special deal with them) so we have several HP Blade Servers as well as a lot of other printers and desktop PCs. HP is so PC centric, I never think of using Linux or OS X with their products.

I sent an email yesterday to Jean-François Garnier yesterday to see about purchasing a PILBox. From Egan's postings I'm quite excited about using it. In that email, I asked Jean-François Garnier about EMU41 running on XP but I haven't heard back from him yet. He will have the definitive answer on this since he wrote EMU41.

Finally, I have a confession to make. I mentioned last weekend that there was another HP-IL I/F card up for auction on that unmentionable website. At the time, with my suspicion of my card having a problem, I won the auction for that newer card. I got it late last week and since it had no IRQ strapping, it confirmed that that was the problem. It's a REV C version of the I/F card and I think it works fine even though I haven't had to test it yet.

Now that the PILBox is shipping, I feel a bit foolish for getting it. I don't know what I'm going to do with it yet. I have a tendency to collect hardware, not get rid of it. Just ask my wife.

Thanks,

Gerry

Re: HP-IL I/F Card on a New(er) PC - Part III

*Message #11 Posted by **Gerry Schultz** on 14 July 2009, 8:10 p.m.,*
in response to message #10 by Gerry Schultz

I got a response from Jean-Francois this afternoon. Here is what he said:

And don't throw your HPIL ISA board away! It is still a valuable board, actually with higher performance than my PILBox! I don't use the ISA board with XP, I just know that a special driver for I/O access is needed and Christoph Klug is the right person for advices. Personnaly, I'm keeping an old computer and OS (maximum Win98) for it.

Interesting...

Gerry

Re: HP-IL I/F Card on a New(er) PC - Part III

*Message #12 Posted by **Howard Owen** on 14 July 2009, 9:00 p.m.,*
in response to message #11 by Gerry Schultz

Hmm. Wonder why WinMe doesn't work.

Re: HP-IL I/F Card on a New(er) PC - Part III

*Message #13 Posted by **Marcus von Cube, Germany** on 15 July 2009, 2:35 a.m.,*
in response to message #12 by Howard Owen

WinME should, at least in theory. It's a '9x variant.

Re: HP-IL I/F Card on a New(er) PC - Part III

*Message #14 Posted by **J-F Garnier** on 15 July 2009, 3:18 p.m.,*
in response to message #9 by Marcus von Cube, Germany

Hi Marcus,

What's left is a modification to EMU41's HP-IL code to make use of a (pseudo) serial device.

This is an excellent idea! Actually, Emu41 already supports HPIL through a serial port (starting from Emu41 2.47): instead of declaring XIL 300 (for instance), use XIL COM4. This is for the (experimental) support of the PIL-Box.

The problem I'm facing with Emu41 is that it's a DOS application that uses the BIOS INT 14 interface to communicate with the serial port. It works very well on pure DOS systems but it is VERY unreliable in Wondows environment, characters are lost from time to time and I don't know how to solve it. That's why I recommend to use ILPer, a native Wondows program, as a gateway between Emu41 and the PILBox.

J-F

Re: HP-IL I/F Card on a New(er) PC - Part III

*Message #15 Posted by **Marcus von Cube, Germany** on 17 July 2009, 2:45 a.m.,*
in response to message #14 by J-F Garnier

J-F, have you tried to access the virtual COM port as a regular file? Or is INT14 just that?

Re: HP-IL I/F Card on a New(er) PC - Part III

*Message #16 Posted by **J-F Garnier** on 19 July 2009, 4:45 a.m.,*
in response to message #15 by Marcus von Cube, Germany

I tested several methods some years ago when I added serial port support to Emu41/71 and got acceptable but not 100% reliable results. This is the limit of the DOS Emu41/71 implementations.

If a driver for the HPIL board through a virtual COM port is developed, main interest will be to a have a common access method for both the ISA board and PILBox, and new software (ILper for instance) could be used for both.

J-F

Re: HP-IL I/F Card on a New(er) PC - Part III

*Message #17 Posted by **Gerry Schultz** on 15 July 2009, 8:18 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Marcus:

I owe you an apology. I went back to Christoph Klug's post from last week and found this:

> Quote:
>
> For WIN XP operating system you need the address setting 300 by dip switches plus the address routing software tool, described in my book.

Last night, for some bedtime reading, I started scouring his book "HP-41 Input/Output Board" to see what I could find. On page XV.18, Christoph talks about installing the UserPort software tool for running the HP-IL/PC Interface Card and Trans41 or EMU41 under WIN2000/NT/XP. It's just like what Egan was talking about with CrackNT and from the picture Christoph includes at the bottom of the page, UserPort has a GUI interface. Also, I now understand why he insists that the I/O range address for the I/F card needs to be changed to 300 hex when used under NT based OSes. The UserPort utility only accepts arguments up to 3FF hex so it can't access 1700 hex. Finally, in UserPort's window graphic, Christoph shows by example that he opens 300 hex through 308 hex for the I/F card to work, just like what Egan was talking about.

I remember reading this but at the time I didn't understand what Christoph was talking about or how it related to running EMU41. I'm feeling pretty sheepish right about now.

I now have a clearer understanding of what I must work on so I will keep working on this. Thanks to everyone for your contributions.

Gerry

Edited: 15 July 2009, 8:36 a.m.

Re: HP-IL I/F Card on a New(er) PC - Part III

*Message #18 Posted by **Marcus von Cube, Germany** on 15 July 2009, 8:37 a.m.,*
in response to message #17 by Gerry Schultz

Keep us posted!

Re: HP-IL I/F Card on a New(er) PC - Part III

*Message #19 Posted by **Gerry Schultz** on 20 July 2009, 6:11 p.m.,*
in response to message #18 by Marcus von Cube, Germany

Hello All:

A minor update this week. I figured out the problem with the NO DRIVE issue with EMU41 reporting all internal and external devices as NO DRIVE when I SELECTed them and tried to do a DIR. First, I built a bootable floppy and put the 2.40 version of EMU41 in a subdirectory and when I ran it from the floppy, it still reported NO DRIVE for all HP-IL peripherals. So, I cranked up my old P2 233MHz machine with Win98 and it showed the same problem. That machine didn't have the HP-IL I/F card in it since I had moved it over to the P4 machine. So, I grabbed the newer HP-IL I/F card I had recently received and plugged it in. I also added my 9114B disk drive to the external HP-IL loop and it worked as expected. Back on the P4 machine, I commented out the XIL 300 line and that fixed the problem. Apparently, having the XIL 300 line in the INI file confuses EMU41 if it can't find the I/F card in the machine. What I still need to figure out is why EMU41 didn't see the HP-IL I/F card when I booted from a floppy disk running DOS. I wonder if the external loop needs to be complete before EMU will function properly. I will have to try that next.

I didn't have as much time as I expected this weekend so I didn't get to play with modifying XP yet to directly access the hardware. I did install a KVM switch so I can work on either PC from one

location. I'll let you know what I find.

Gerry

Re: HP-IL I/F Card on a New(er) PC - Part III

*Message #20 Posted by **Gerry Schultz** on 20 July 2009, 6:26 p.m.,*
in response to message #19 by Gerry Schultz

I would also like to note that J-F did suggest that I disable interrupts on the HP-IL I/F card before I figured it out. In the process of troubleshooting this problem, I lost track of J-F's suggestion and forgot about it. If I had gone back and re-read the posts, I would have saved myself a lot of consternation.

I would like to thank J-F for his help as well as everyone else as you all have a lot more experience than I do with this HP-IL hardware. I will do better in the future at reading your suggestions. I know I can get pretty excited about new hardware and software as well as trying to resolve problems and issues as I run into them. If you notice me getting off track again, please don't hesitate to throw a tomato (gently, please!) at me in the form of a comment. It is fun to be actively involved in this group as I have lurked for years but made few comments until now.

Thank you for your patience.

Gerry

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PILBox initial testing. HP-IL Lives!

*Message #1 Posted by **Egan Ford** on 12 July 2009, 3:41 p.m.*

I received my PILBox (http://www.jeffcalc.hp41.eu/hpil/index.html) yesterday and assembled it using the solderless instructions. Essentially it does work as advertised. I was able to use ILPer as an HP9114B drive and as an HP83163 32 column video adapter with my 41CX via HP-IL. Sweet! The PILBox really opens up the possibility for PCs to emulate any HP-IL device.

I write all my 41CX programs on my laptop and compile with HP41UC and test with Nonpareil. To get into a physical 41CX I print barcodes and wand it in. This is faster than booting up my 200Mhz PC so that I can do electronic transfers with my HP-IL ISA adapter. With the PILBox I now use HP41UC to create a disk image and then use that with ILPer. That's laptop -> PILBox -> 41CX. Nice!

Given that I am an OS/X user I had to do all of this with VMware. No problems, the USB pass-through worked just fine.

Presently I am unable to use the PILBox as an ISA HP-IL replacement with EMU41. This support is experimental and still being worked on. A better solution would be for modern emulators to use the PILBox directly. I'll be attempting to get Nonpareil to do this (when I find time). 99% of the work is already done (http://pagesperso-orange.fr/kdntl/hp41/nonpareil-patch-doc.html).

HP-IL Lives!

Edited: 12 July 2009, 3:44 p.m.

Re: PILBox initial testing. HP-IL Lives!

*Message #2 Posted by **Etienne Victoria** on 12 July 2009, 3:57 p.m.,*
in response to message #1 by Egan Ford

Hi Egan, all,

Glad to know it works great also for you!

Success also here with the PIL-Box connected to my Hp-71Bs!

Normal speed works great, both :HDRIVE1 & :DISPLAY +scope and on any port.

It even works with Virtual Pc (I'm also a Mac user).

I still did not succeed in activating high speed with JP3 + port at 115kbs (Ilper answers "pas de réponse de la PIL-Box) but this feature is still experimental as per JFG site.

And the case is nice too. I had secured an Hp-IL printer enclosure to fit the circuit in but it is much more transportable in the case provided by Jean-François.

Definitely an awesome job from Jean-François Garnier.

Best regards from France!

Etienne

Re: PILBox initial testing. HP-IL Lives!

*Message #3 Posted by **Matthias Wehrli** on 14 July 2009, 8:57 a.m.,*
in response to message #2 by Etienne Victoria

Just wanted to show you my PIL-Box with a standard HP-IL Connector unstead of cables.....

Matthias

Re: PILBox initial testing. HP-IL Lives!

*Message #4 Posted by **Marcus von Cube, Germany** on 14 July 2009, 12:57 p.m.,*
in response to message #3 by Matthias Wehrli

Not bad! Do you have a part number? ;)

Re: PILBox initial testing. HP-IL Lives!

*Message #5 Posted by **Matthias Wehrli** on 14 July 2009, 3:36 p.m.,*
in response to message #4 by Marcus von Cube, Germany

One moment, it's all in my brain: 82166-60020 (or use a dead interface HP-IB <-> HP-IL, ...)

Yours Matthias

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rubber bands hp 41

*Message #1 Posted by **ulisse-quadri** on 12 July 2009, 10:01 a.m.*

the rubber bands of the support of the batteries of my hp 41 are oxidized

it is possible to find her of exchange?

Thanks

Ulisse

Re: rubber bands hp 41

*Message #2 Posted by **Ignazio Cara (Italy)** on 12 July 2009, 2:14 p.m.,*
in response to message #1 by ulisse-quadri

Hi, you have mail on your address.

Regards

Ignazio

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OT: Casio FT-7

*Message #1 Posted by **Saile (Brazil)** on 12 July 2009, 7:54 a.m.*

I need the manual in any other language (English or Spanish) less in Japanese. Thank's

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Is this Ebay auction breaking any copyright?

*Message #1 Posted by **Mark Edmonds** on 9 July 2009, 12:26 p.m.*

Please have a look at auction item #330343462507.

Someone is selling the HP15C manual in PDF format with a buy it now price.

I am really not sure where the copyright of these old manuals lies. Presumably HP still own it and have given permission for this museum site to make them available. So where does that leave people selling individual copies on Ebay?

Policing Ebay is not my style but if someone is going to pay money for a PDF manual copy, I'd rather they pay it here than on Ebay!

Mark

Re: Is this Ebay auction breaking any copyright?

*Message #2 Posted by **bill platt** on 9 July 2009, 1:32 p.m.,*
in response to message #1 by Mark Edmonds

This has been discussed before and I remember the consensus being that it is illegal to sell PDF copies of the manual (except for the agreement worked out specifically between Dave and HP for the museum).

No longer listed... funny that!

*Message #3 Posted by **Jeff Kearns** on 10 July 2009, 11:35 a.m.,*
in response to message #2 by bill platt

I wonder if enough members of this forum (me included) who sent 'questions' to this seller, had an effect? --- JeffK

Re: No longer listed... funny that!

*Message #4 Posted by **jotne** on 10 July 2009, 3:32 p.m.,*
in response to message #3 by Jeff Kearns

There may be different rules that apply to copyright. HP can change it and say that since this is old and obsoleted material that the copyright no longer apply.

Re: No longer listed... funny that!

*Message #5 Posted by **Namir** on 10 July 2009, 8:15 p.m.,*
in response to message #4 by jotne

Any lawyer on this site who can clarify things?

Namir

Re: No longer listed... funny that!

*Message #6 Posted by **Patrick Rendulic** on 11 July 2009, 11:12 a.m.,*
in response to message #5 by Namir

What about the manuals which are available for download at HP. Can you include them on a CD when you sell a calculator?

Example: you have an HP50 with an english manual and include a german one on CD, so that the buyer does not need to download it. Is that legal?

Re: No longer listed... funny that!

*Message #7 Posted by **Namir** on 11 July 2009, 2:39 p.m.,*
in response to message #6 by Patrick Rendulic

Selling electronic manuals (in any media) for recent calculator models IS DEFINITELY ILLEGAL. The copyright and ownership belongs to HP. They can sell it, give it away, or whatever. It's their product and they can do what they see fit. No one else can sell HP manuals without their permission.

Namir

Re: No longer listed... funny that!

*Message #8 Posted by **DaveJ** on 11 July 2009, 7:11 p.m.,*
in response to message #7 by Namir

> Quote:
>
> Selling electronic manuals (in any media) for recent calculator models IS DEFINITELY ILLEGAL. The copyright and ownership belongs to HP. They can sell it, give it away, or whatever. It's their product and they can do what they see fit. No one else can sell HP manuals without their permission.

If it's clear you are not selling the actual material, but are selling the *service* of putting publicly downloadable information on a CD, then it's not illegal.
That's how the Shareware industry used to work in the days before the Internet, and still works in some niche areas. e.g. many companies sell CD's full of service manuals or datasheets, it's quite common.
There are laws about modifying the document though.

Dave.

Re: No longer listed... funny that!

*Message #9 Posted by **Don Shepherd** on 11 July 2009, 8:55 p.m.,*
in response to message #8 by DaveJ

> Quote:
>
> If it's clear you are not selling the actual material, but are selling the *service* of putting publicly downloadable information on a CD, then it's not illegal.

That's no distinction; if you accept money, you are selling the materials.

Are you a lawyer? Why do I think HP would have a problem with someone taking their products and selling them to other people; in other words, profiting for doing no real work? I think HP lawyers would be all over that, and rightfully so.

Re: No longer listed... funny that!

*Message #10 Posted by **DaveJ** on 11 July 2009, 9:51 p.m.,*
in response to message #9 by Don Shepherd

> Quote:
>
> That's no distinction; if you accept money, you are selling the materials.
>
> Are you a lawyer? Why do I think HP would have a problem with someone taking their products and selling them to other people; in other words, profiting for doing no real work? I think HP lawyers would be all over that, and rightfully so.

There is a big distinction between selling material like a scanned hard copy manual for example, and including a CD of an exact publicly available PDF file that HP have on their website as part of an ebay auction for that product.

No I am not a lawyer, but there are plenty of examples of people having done this *legally* (past and present) e.g. shareware programs, Linux distributions, datasheet archives etc.
Although much less common these days though with the widespread adoption of broadband Internet.

HP couldn't give a rats if you give someone an exact copy of a PDF manual they already have on their website. This is what Partick was asking.

Dave.

Edited: 11 July 2009, 9:59 p.m.

Re: No longer listed... funny that!

*Message #11 Posted by **Les Bell** on 11 July 2009, 10:12 p.m.,*
in response to message #10 by DaveJ

> Quote:
>
> There is a big distinction between selling material like a scanned hard copy manual for example, and including a CD of an exact publicly available PDF file that HP have on their website as part of an ebay auction for that product.

That's not my understanding of copyright law, Dave. Can you point to a specific provision of either legislation (e.g. the Copyright Act, in Australia) or case law, that makes this distinction? In both cases, you are breaching the copyright of the original author, publisher or their assignee. HP, as owner of the copyright is free to make material available on their website - or withdraw it, as they see fit. Anyone else is not.

> Quote:
>
> No I am not a lawyer, but there are plenty of examples of people having done this *legally* (past and present) e.g. shareware programs, Linux distributions, datasheet archives etc.
> Although much less common these days though with the widespread

> adoption of broadband Internet.

Note that, with the exception of public domain software, the above is subject to copyright - which gives the copyright owner the ability to enforce a licence controlling redistribution (or even *requiring* redistribution, as in the case of the GPL). You can't just unilaterally make up your own rules or ignore copyright.

> Quote:
>
> HP couldn't give a rats if you give someone an exact copy of a PDF manual they already have on their website. This is what Partick was asking.

That's *probably* true - however one should beware of a requirement in law for a copyright holder to defend their rights or see them lapse. In other words, HP may be effectively forced to pursue their rights in the face of an egregious violation. So it's best to keep one's head down.

Best,

--- Les
[http://www.lesbell.com.au]

Re: No longer listed... funny that!

*Message #12 Posted by **Don Shepherd** on 11 July 2009, 10:25 p.m.,*
in response to message #10 by DaveJ

I concur with Namir's advice above: anyone considering distributing or selling HPs copyrighted materials should consult an attorney prior to doing that.

By the way, I can find no HP official website that offers downloads of the 15c manual.

Re: No longer listed... funny that!

*Message #13 Posted by **DaveJ** on 12 July 2009, 12:06 a.m.,*
in response to message #12 by Don Shepherd

> Quote:
>
> I concur with Namir's advice above: anyone considering distributing or selling HPs copyrighted materials should consult an attorney prior to doing that.

Not for 1-off ebay auction of a PDF that Hp have already publicly released, that's just insane.
Remember what we are talking about here.

From HP's own 50G PDF manual you can download:
"Reproduction, adaptation, or translation of this manual is prohibited without prior written permission of Hewlett-Packard Company, except as allowed under the copyright laws."

The only thing being violated there is the "reproduction" part, and oops, I just did that when I downloaded the PDF to my computer, I made a copy of it.

Be realistic guys. Including an exact copy of a publicly downloadable PDF to someone on disk on a 1-off basis as a courtesy is so far from copyright infringement it's laughable.

Dave.

Re: No longer listed... funny that!

*Message #14 Posted by **Les Bell** on 12 July 2009, 12:50 a.m.,*
in response to message #13 by DaveJ

> Quote:
>
> Be realistic guys. Including an exact copy of a publicly downloadable PDF to someone on disk on a 1-off basis as a courtesy is so far from copyright infringement it's laughable.

Unfortunately, that's not what the law says. While I'm not a copyright lawyer, I've hired them a few times over a long career as a writer, etc. and I do have a copy of the relevant Act on my bookshelf. It's an infringement of HP's rights, pure and simple. In Australia, it's a breach of S.36 of the Copyright Act, 1968. It's probably also a breach of S.132AD, since the copy may well be made with the intention of "obtaining a commercial advantage or profit". Notice that this is a criminal offence.

You might think it laughable, but court proceedings often end in tears.

I wouldn't redistribute HP's manuals without a licence to do so, in writing (which I understand Dave Hicks has for the Museum, for example) and I certainly couldn't advise anyone else to do so.

Best,

--- Les
[http://www.lesbell.com.au]

Re: No longer listed... funny that!

*Message #15 Posted by **Don Shepherd** on 12 July 2009, 1:27 a.m.,*
in response to message #14 by Les Bell

Les, you're wasting your time with this idiot. He thinks the law doesn't apply to him. The prisons are full of such people.

Re: No longer listed... funny that!

*Message #16 Posted by **Les Bell** on 12 July 2009, 1:44 a.m.,*
in response to message #15 by Don Shepherd

Oh, Dave's a bright lad, Don - I think he's just been misinformed and when he looks into it, he'll understand. My reason for posting is for the lurkers - I'd hate anyone to get the wrong idea and wind up in trouble.

Incidentally, although I've made reference to Australian law - that's my primary concern, since that's where I live, as does Dave - it's broadly similar around the world, since most countries are

signatories to the Berne Convention on copyright. And actually, Australia's law is partially harmonised with that of the US, due to the terms of the Australia-US Free Trade Agreement.

Finally, there's some interesting (Australia-specific, but useful background) reading at http://www.copyright.org.au/g056.pdf. Note specifically the section, "When might you infringe copyright?" as well as "Can I copy material from the internet for my clients?".

Best,

--- Les
[http://www.lesbell.com.au]

Re: No longer listed... funny that!

*Message #17 Posted by **Howard Owen** on 12 July 2009, 2:05 a.m.,*
in response to message #16 by Les Bell

IANL

As far as I know, criminal copyright is rarely enforced against individual, small-scale violations in the US. In fact, apart from the RIAA and the peer-to-peer debacles, I'm unaware of any such actions. (Since IANL, I could be badly misinformed on this. But I *am* a member of the EFF, and they tend to make a big deal out of that kind of thing - and tell their members about it.) Civil actions for copyright violations are a lot more common. But in that context, you have to show a tort. How exactly is HP harmed in this instance? To what monetary extent?

As to the letter of the law, it may be that this use violates statutes. But as a practical matter, to expect actual consequences from that in a single instance of the reproduction of a manual for a machine that HP no longer sells - that is over the top in my non-lawyerly opinion.

Regards,
Howard

Re: No longer listed... funny that!

*Message #18 Posted by **Les Bell** on 12 July 2009, 2:17 a.m.,*
in response to message #17 by Howard Owen

As a practical matter, I agree with you, Howard. I wouldn't expect HP to care one way or another. However, nor can I say "Go ahead and copy it", and especially I can't say "Go ahead - it's legal to copy it". It isn't. The "debacles" you allude to are often the result of people not understanding that.

Incidentally, in Australia there have been several criminal convictions over illegal music file-sharing.

Best,

--- Les

[http://www.lesbell.com.au]

Re: No longer listed... funny that!

*Message #19 Posted by **DaveJ** on 12 July 2009, 2:16 a.m.,*
in response to message #15 by Don Shepherd

> Quote:
>
> Les, you're wasting your time with this idiot. He thinks the law doesn't apply to him. The prisons are full of such people.

Wow, it didn't take any time at all for you to resort to name calling, a very sad reflection on your character Don, really.

Take a few deep breaths fella's, and keep in context Patrick's original question.

The law is far from "pure and simple" as Les put it, there are limitless defences and precedences etc. Lawyers could spend countless dollars and years on something as "trivial" as this issue, or some law student could do their thesis on it. Who cares?

There are many innocent things we do in our everyday lives that could be technically "illegal" in some way shape or form if it actually came down to that, getting up tight and worried about them is just silly. If Patrick wants to innocently give someone a CD with a publicly downloadable PDF file on it then he can do that, no one is going to care.

Dave.

Re: No longer listed... funny that!

*Message #20 Posted by **Les Bell** on 12 July 2009, 3:25 a.m.,*
in response to message #19 by DaveJ

> Quote:
>
> Take a few deep breaths fella's, and keep in context Patrick's original question.

Patrick's original question is:

> Quote:
>
> Is that legal?

The answer is: No, it is not (though the practical consequence of this is another matter).

I don't know why you have stated in this thread - both explicitly ("I would be absolutely amazed if that is illegal in any way") and implicitly - that it is, or that there are ways around it ("not selling the actual material, but are selling the *service* ..."). I'm just

worried that someone acting on your advice could end up in trouble.

The law is quite clear on this.

Best,

--- Les
[http://www.lesbell.com.au]

Re: No longer listed... funny that!

*Message #21 Posted by **DaveJ** on 12 July 2009, 4:09 a.m., in response to message #20 by Les Bell*

> Quote:
>
> The answer is: No, it is not (though the practical consequence of this is another matter).

Given that you are not a lawyer who specialises in copyright law, you have absolutely no basis for claiming it is clear cut illegal. There are many and varied circumstances in any case like this, not the least of which you actually own the calculator and manual you are selling as used goods, likely across country boundries. That complicates and muddles things, a lot.

> Quote:
>
> I don't know why you have stated in this thread - both explicitly ("I would be absolutely amazed if that is illegal in any way") and implicitly - that it is, or that there are ways around it ("not selling the actual material, but are selling the *service* ..."). I'm just worried that someone acting on your advice could end up in trouble.
>
> The law is quite clear on this.

The complications of law are never clear cut, that's why many law suits take years. That's why you can get professional legal advice on something and still find yourself on the wrong side of a ruling etc etc etc

I mentioned the "service" part because a LOT of people do that kind of thing, such as in examples I mentioned, and there are plenty more similar examples.

I'm not encouraging "breaking the law" and making a profit out of it, I'm just helping make Partick feel at ease that it's ok for a 1-off private 2nd hand ebay sale. No one will care. It's not the big deal people are making it out to be, not even close. The technicalities of it being "illegal" will always be moot unless it actually went to court and got ruled on. And really, who cares?

Have fun debating the legal technicalities all you like, if I want to do that I'll join a legal newsgroup, thanks.

Dave.

Re: No longer listed... funny that!

*Message #22 Posted by **Les Bell** on 12 July 2009, 4:33 a.m.,*
in response to message #21 by DaveJ

> Quote:
>
> Given that you are not a lawyer who specialises in copyright law, you have absolutely no basis for claiming it is clear cut illegal.

Go and read the Copyright Act or the information sheet I linked to, Dave. Those are the basis.

> Quote:
>
> There are many and varied circumstances in any case like this, not the least of which you actually own the calculator and manual you are selling as used goods

You do not have the rights to reproduce a downloaded PDF, which is the case under discussion. Sell an original, by all means - copyright has nothing to do with this. Go and re-read the copyright statement in the manual, then read the Copyright Act or the information sheet I linked to, Dave.

> Quote:
>
> The technicalities of it being "illegal" will always be moot unless it actually went to court and got ruled on. And really, who cares?

The people who you told that it *was* legal (and on what basis?). At least look at the Copyright Act, Dave. At least S.31, on what copyright *is*.

In any case, I'm sure everyone else reading this has got the point by now. Sheesh . . .

Best,

--- Les
[http://www.lesbell.com.au]

Re: No longer listed... funny that!

*Message #23 Posted by **DaveJ** on 12 July 2009, 4:49 a.m.,*
in response to message #22 by Les Bell

> Quote:
>
> The people who you told that it *was* legal (and on what basis?).

Ok, I should have phrased that less succinctly.

> Quote:
>
> At least look at the Copyright Act, Dave. At least S.31, on what copyright *is*.
>
> In any case, I'm sure everyone else reading this has got the point by now. Sheesh . . .

That anyone should have to go read the copyright act for such a trivial innocent thing gets a "Sheesh" from me also!
Let's keep things simple, life's complicated enough.
Best location of the ENTER key anyone?

Dave.

Re: No longer listed... funny that!

*Message #24 Posted by **Les Bell** on 12 July 2009, 5:34 a.m.,*
in response to message #23 by DaveJ

> Quote:
>
> That anyone should have to go read the copyright act for such a trivial innocent thing gets a "Sheesh" from me also!

Well, it's cheaper than asking a lawyer. :) In my own case, we covered it as part of night school at Sydney Tech College. I remember we had to buy the Copyright Act but the Government Printing Office was out of stock, so one of the guys on the course, who was a printer, offered to run off some copies for us. . . .

Next time you're passing Macquarie Uni, give me a buzz (I'm not hard to track down) and I'll buy you a beer at the U Bar - if it's open (we're out of semester time right now).

Best,

--- Les
[http://www.lesbell.com.au]

Re: No longer listed... funny that!

*Message #25 Posted by **Don Shepherd** on 12 July 2009, 1:31 p.m.,*
in response to message #19 by DaveJ

OK, Dave, it was wrong of me to refer to you in that way, and I apologize. But, in spite of all the comments in this thread to the contrary--from very knowledgeable people, although not lawyers--you still persist in thinking that it is OK to make copies, distribute, and even sell other people's work, and I just think that's wrong. I suspect several people on this forum have obtained copyrights on work they have done, and they expect those copyrights to be honored. I myself obtained a copyright in 1988 for an air traffic control program I developed for the Macintosh computer. This was a copyright for "the textual expression of a computer program," and I interpreted that to mean that no one else could use my code (MS compiled QuickBasic) as the basis for their own ATC simulator. Had that happened and I knew it, I undoubtedly would have taken action to enforce the copyright. So this wasn't about documentation or manuals. I just wanted to protect my work.

I think those individuals, or companies, that produce things of value have a right to ensure that no one else profits from those products. Yes, if HP makes available ON ITS WEBSITE the owner's manual for the 12c, I think they know that people will download it and use it; fair enough. But I don't think they would approve of someone trying to sell it, or even include it on a CD for an EBay auction for a real 12c they own, but they don't have the printed manual anymore.

And I agree with what some others have posted here: assuming that HP will not enforce their copyrights in the future is a risky way to live.

Re: No longer listed... funny that!

*Message #26 Posted by **DaveJ** on 12 July 2009, 6:29 p.m.,*
in response to message #25 by Don Shepherd

> Quote:
>
> OK, Dave, it was wrong of me to refer to you in that way, and I apologize. But, in spite of all the comments in this thread to the contrary--from very knowledgeable people, although not lawyers--you still persist in thinking that it is OK to make copies, distribute, and even sell other people's work, and I just think that's wrong.

Apology accepted, no worries.
I still think you are reading too much into my position on

this. I do not think it's ok to sell other peoples work and profit from it. I'm simply being realistic when I talk about the distribution of a publicly available PDF document, this happens how many 10's of millions of times a day with all sorts of products?. If it meant anything at all to HP they would not have made it available for public download in the first place, they would have simply included it on a disk with the product. And in that case I would *not* be ok with re-distributing it as a "courtesy service" if you don't have the original.

> Quote:
>
> I suspect several people on this forum have obtained copyrights on work they have done, and they expect those copyrights to be honored. I myself obtained a copyright in 1988 for an air traffic control program I developed for the Macintosh computer. This was a copyright for "the textual expression of a computer program," and I interpreted that to mean that no one else could use my code (MS compiled QuickBasic) as the basis for their own ATC simulator. Had that happened and I knew it, I undoubtedly would have taken action to enforce the copyright. So this wasn't about documentation or manuals. I just wanted to protect my work.

Actually, you don't "obtain" a copyright, you automatically get it (or can assert it) as the creator of a work. At least under Australian law. I believe it's the same in most countries though.

> Quote:
>
> I think those individuals, or companies, that produce things of value have a right to ensure that no one else profits from those products. [quote]
>
> So do I, very enthusiastically, as the creator of many products and content over the years.
>
> [quote] Yes, if HP makes available ON ITS WEBSITE the owner's manual for the 12c, I think they know that people will download it and use it; fair enough. But I don't think they would approve of someone trying to sell it

Nor do I, selling direct is different from an incidental "courtesy service" as part of a 1-off eBay auction in my view.

> Quote:
>
> or even include it on a CD for an EBay auction

> for a real 12c they own, but they don't have the printed manual anymore.

On that point I think you are wrong. But hey, if everyone agreed on everything, forums would be boring!

In fact I'd like to think HP would actually support it, giving the user the manual so they can better make use of their fine product. If I worked for HP and wrote that manual, that's certainly what I'd want.

> Quote:
>
> And I agree with what some others have posted here: assuming that HP will not enforce their copyrights in the future is a risky way to live.

I see absolutely zero risk in this particular trivial case.

Dave.

Edited: 12 July 2009, 6:47 p.m.

Re: No longer listed... funny that!

*Message #27 Posted by **Eric Smith** on 12 July 2009, 3:06 p.m.,*
in response to message #9 by Don Shepherd

> Quote:
>
> That's no distinction; if you accept money, you are selling the materials.

Yes, but whether it is copyright violation doesn't depend on whether money changes hands, though that can affect damage awards.

Re: No longer listed... funny that!

*Message #28 Posted by **Howard Owen** on 11 July 2009, 9:54 p.m.,*
in response to message #8 by DaveJ

Auctions like this one are common as dirt on eBay, and have been for years and years, That certainly doesn't prove the practice doesn't violate copyright laws, but it does suggest that HP may not be aggressively pursuing their copyrights in these materials. That makes sense to me when you consider that the intellectual property in the manuals is not HP's primary product. The hardware and software the manuals document are the primary products.

This community's perspective on manuals - collectible treasures as valuable as the calculators themselves - is not the common view. To most a manual is a necessary evil that helps you use a piece of hardware/software. On balance. I think HP is glad to let people learn how the publicly exposed portions of their hardware and software work, however they come by the information.

Regards,
Howard

Re: No longer listed... funny that!

*Message #29 Posted by **DaveJ** on 11 July 2009, 10:08 p.m.,*
in response to message #28 by Howard Owen

> Quote:
>
> Auctions like this one are common as dirt on eBay, and have been for years and years, That certainly doesn't prove the practice doesn't violate copyright laws, but it does suggest that HP may not be aggressively pursuing their copyrights in these materials.

That is a different case to what Patric was asking.
He is talking about including (as a courtesy service) an exact copy of a PDF file that HP already have on their website for public download. I would be absolutely amazed if that is illegal in any way, let alone HP actually batting an eyelid or even anyone on this forum getting their knickers in knot over it.

The one you point out is scans of printed manuals that HP have not made publicly available, different case entirely. But even then, as you say, that practice has been going on for decades without HP or any other manufactures ever batting an eyelid. They simply don't care.

Dave.

Copyright violations are illegal

*Message #30 Posted by **Steve Leibson** on 12 July 2009, 2:09 a.m.,*
in response to message #29 by DaveJ

I'm not a lawyer, so you'll have to settle for the opinion of a 3-time editor-in-chief. Every article on cnn.com, msnbc.com, abc.com, etc. is publicly downloadable as soon as you point your browser there. Make a copy, stick it on a CD and include it with something you sell and that's a direct violation of copyright law. Exceptions are made for use of small portions of a copyrighted document for quoting or criticism or other journalistic purposes. Small numbers of copies can be made for educational purposes in academic situations. Whether or not HP has provided the download on their site is not material to whether or not you're in violation. Just because HP hasn't pursued small fish doesn't mean it's legal. I've quoted many parts of HP's HP Journal on my history site (www.hp9825.com) and I keep a document posted by HP Labs that gave express permission to do that.

Re: Copyright violations are illegal

*Message #31 Posted by **DaveJ** on 12 July 2009, 2:53 a.m.,*
in response to message #30 by Steve Leibson

> Quote:
>
> I'm not a lawyer, so you'll have to settle for the opinion of a 3-time editor-in-chief. Every article on cnn.com, msnbc.com, abc.com, etc. is publicly downloadable as soon as you point your browser there. Make a copy, stick it on a CD and include it with something you sell and that's a direct violation of copyright law. Exceptions are made for use of small portions of a copyrighted document for quoting or criticism or other journalistic purposes. Small numbers of copies can be made for educational purposes in academic situations. Whether or not HP has provided the download on their

site is not material to whether or not you're in violation.

I do wonder how Google et.al and internet archive sites get away with hoarding and redistributing all that content then, and making an indirect profit from the ads to boot!
That's gotta be worth a blog or two Steve!

Dave.

Re: Copyright violations are illegal

*Message #32 Posted by **Geir Isene** on 12 July 2009, 5:48 a.m.,*
in response to message #31 by DaveJ

I'll put some gasoline on the fire here :-)

Read my blog post on copyrights and Battle for Ant Hill

Also, there is a site that is worth taking a look at: questioncopyright.org

And, finally there is a book that I would heartily recommend: Against Intellectual Monopoly

Just my 2 øre (Norwegian currency)

Re: Copyright violations are illegal

*Message #33 Posted by **Howard Owen** on 12 July 2009, 10:15 a.m.,*
in response to message #31 by DaveJ

For the most part, Google doesn't host content they don't have permission for. They aggregate other people's content in their news offering, for example. It's true that their search results return snippets of copyrighted content, and these don't fall under any of the traditional "fair use" categories. I believe the law is unsettled around this question. It's possible a new fair use exception for this sort of thing could emerge, or maybe not.

Most people like having their sites returned in Google searches, but the company has run into trouble with their news aggregation. I believe a European press agency sued them over the use of their content in tags on the news page. I vaguely recall they settled - it was more about ad revenue than copyright. Google also ran into a forest of copyright buzz saws when they tried to make every book on earth searchable. Their idea was to return the search results with some context. You could argue that this is could fall under the fair use exception for research. But again, the law is not completely settled on this point.

The balance between copyright protection and free flow of information has been challenged by the rise of digital technologies, particularly the Internet. The initial response in the US was to enact some rather draconian laws to try and hold the lid down on the misappropriation of intellectual property. I think that was a gross overreaction, and I'm not alone in that opinion. I could continue to wander farther off-topic in this direction talking about the specifics of why the DMCA is a terrible law, but I'd be repeating arguments others have made far more eloquently. I'll spare all of us that journey. :)

Regards,

Howard

Re: Copyright violations are illegal

*Message #34 Posted by **DaveJ** on 12 July 2009, 6:02 p.m.,*
in response to message #33 by Howard Owen

> Quote:
>
> For the most part, Google doesn't host content they don't have permission for. They aggregate other people's content in their news offering, for example. It's true that their search results return snippets of copyrighted content, and these don't fall under any of the traditional "fair use" categories. I believe the law is unsettled around this question. It's possible a new fair use exception for this sort of thing could emerge, or maybe not.
>
> Most people like having their sites returned in Google searches

It wasn't always that way.
When Google were still operating from Stanford University (and for some time after too I think) they were almost forced to shut down by companies not happy with the concept of them "stealing" their data from their website en masse.

Similar thing still happens with the likes of the Internet Archive who archive your complete website on a periodic basis without your knowing, and make it all publicly available.

The content aggregate part is interesting, as you are not only "redistributing" but also "modifying" the work.

Someone actually did this to me recently. I have a freely downloadable PDF eBook released, with the copyright proviso that it only be redistributed in it's original and complete PDF form. and I found someone had extracted the data and turned it into HTML and rehosted it. They have since taken it down after I complained though.

Dave.

Re: Copyright violations are illegal

*Message #35 Posted by **Howard Owen** on 12 July 2009, 8:59 p.m.,*
in response to message #34 by DaveJ

Yep, the Wayback machine has been purged of a lot of content due to DMCA complaints from copyright holders. That shows the basic conflict between free flow of information and copyright. Both archive.org and google.com demonstrate the value of freely available information. How that impinges on copyrights, and how the balance should be drawn are very much unsettled questions.

In the US, the DMCA provides the rules for copyrights in digital form. It weighs heavily in favor of copyright holders. For example, if you host some content and a copyright holder claims you are

violating their rights, they can give you notice, and the content must immediately be removed. At some level this seems reasonable until you realize that the legal system is completely disconnected at that point. Any old troublemaker can claim a DMCA violation, without any legal process other than a form letter, and a content provider must honor the takedown order. This is one problem of many in the DMCA.

All this is made worse by the fact that the developed world keeps extending the term over which copyrights are enforced. In the US, Congress extends terms every time the copyright for Mickey Mouse is due to expire. (This is only half a joke. Disney is always at the forefront of lobbying efforts in favor of copyright extensions.) The US Constitution says that copyrights should be granted for limited terms, but if those limits keep getting lengthened, are they truly limits at all? The US Supreme Court has declined to second guess Congress in this matter, so it's a purely political issue now. And the big copyright holders like Disney have had a good handle on the politics so far.

It's my view that both freedom of information and copyright are necessary, and that the current balance tilts too far in the direction of copyright holders. However the fact that Google and the Internet Archive can do business at all shows that there have been adjustments made in practice to the letter of the law. These adjustments are made because strictly enforcing copyright everywhere would grind those services, and many, many others to a halt. The economic value of something like Google is abundantly clear, even to Walt Disney, so the service thrives. Because of this, I predict that legal interpretations, and code changes, will continue to evolve toward a more balanced system.

Aaaak! Pardon my Pontification. :)

Regards, Howard

Re: Copyright violations are illegal

*Message #36 Posted by **Geir Isene** on 13 July 2009, 3:53 a.m.,*
in response to message #35 by Howard Owen

Howard Owen: I agree - up to the point of copyright being necessary. I believe it is not. It is a monopoly granted by the state to individuals and corporations and thus a thorn in the side of a truly free market. The book by Michele Boldrin and David K. Levine covers this well.

Re: Copyright violations are illegal

*Message #37 Posted by **Les Bell** on 13 July 2009, 4:09 a.m.,*
in response to message #36 by Geir Isene

I'd be interested to read that book, Geir. Where can I download a free copy?

Best,

--- Les

[http://www.lesbell.com.au]

Against Intellectual Monopoly

*Message #38 Posted by **Geir Isene** on 13 July 2009, 4:17 a.m.,*
in response to message #37 by Les Bell

Against Intellectual Monopoly

Re: Against Intellectual Monopoly

*Message #39 Posted by **Les Bell** on 13 July 2009, 4:23 a.m.,*
in response to message #38 by Geir Isene

Thanks!

Best,

--- Les
[http://www.lesbell.com.au]

Re: Against Intellectual Monopoly

*Message #40 Posted by **Les Bell** on 14 July 2009, 2:32 a.m.,*
in response to message #38 by Geir Isene

Geir, I've downloaded that and quickly read the first chapter and skimmed a few more, as well as obtaining Selgin & Turner's response to their opening argument about Boulton and Watt. I'm unimpressed, I'm afraid, but this is not the place to go into the reasons. Thanks again for the pointer to it, though.

Best,

--- Les
[http://www.lesbell.com.au]

Re: Copyright violations are illegal

*Message #41 Posted by **Howard Owen** on 13 July 2009, 10:09 p.m.,*
in response to message #36 by Geir Isene

Every law is a restriction on freedom of action in some way.

Here's a sonnet I wrote on a related topic back in 2003. The last couplet pretty much sums up my attitude on this issue, and many others.

Regards
Howard

Re: No longer listed... funny that!

*Message #42 Posted by **DaveJ** on 11 July 2009, 7:14 p.m.,*
in response to message #6 by Patrick Rendulic

> Quote:
>
> What about the manuals which are available for download at HP. Can you include them on a CD when you sell a calculator?
>
> Example: you have an HP50 with an english manual and include a german one on CD, so that the buyer does not need to download it. Is that legal?

Yes. Simply put a clause along the lines of "I will provide an exact copy of the downloadable manual on CD as a free service" and also provide the link for those that want to download it. Nothing wrong with that at all.

Dave.

Re: No longer listed... funny that!

*Message #43 Posted by **Quan** on 12 July 2009, 2:13 a.m.,*
in response to message #6 by Patrick Rendulic

Hi Patrick,

I think some of these responses are off the mark to your question.

I am not a lawyer but I believe it is perfectly legal for you to include the pdf manual with the calculator.

My reasons: The calculator and the manual are yours. When you sell the calculator/manual combo, the only requirement I can think of is that you must destroy any copy except the one you sell to the new owner.

Think of it as transferring ownership. It was yours. Now it belongs to a new owner. Provided that you no longer retain any copy of the manual, printed or otherwise. Except when you own more than one HP50g. :)

There is no law against selling used HP calcs. Sites like eBay wouldn't be where it is today. :)

Otherwise, I believe it is illegal to sell or distribute copyright materials that you don't own without permission. Period.

That's my 3-cent worth.

Re: No longer listed... funny that!

*Message #44 Posted by **DaveJ** on 12 July 2009, 2:49 a.m.,*
in response to message #43 by Quan

> Quote:
>
> Hi Patrick,
>
> I think some of these responses are off the mark to your question.
>
> I am not a lawyer but I believe it is perfectly legal for you to include the pdf manual with the calculator.

> My reasons: The calculator and the manual are yours. When you sell the calculator/manual combo, the only requirement I can think of is that you must destroy any copy except the one you sell to the new owner.

Even then, there is nothing stopping Patrick or anyone else downloading the manual from HP's site and having a personal copy of that PDF file without owning the calculator.

Dave.

Re: No longer listed... funny that!

*Message #45 Posted by **Patrick Rendulic** on 12 July 2009, 10:08 a.m.,*
in response to message #44 by DaveJ

Thanks for all your answers!

It wasn't my intention to trigger a "law war" ;).

Copyright triggers emotions

*Message #46 Posted by **Geir Isene** on 12 July 2009, 10:18 a.m.,*
in response to message #45 by Patrick Rendulic

We've seen this on the forum before - a discussion on copyrights are a source of strong emotions... for some reason.

Re: Copyright triggers emotions

*Message #47 Posted by **DaveJ** on 12 July 2009, 6:08 p.m.,*
in response to message #46 by Geir Isene

> Quote:
>
> We've seen this on the forum before - a discussion on copyrights are a source of strong emotions... for some reason.

Yes, that does happen, I noticed a tad of "HP emotion" in it all!
I doubt it would have reached the same level if the subject was about an LM555 PDF datasheet (which is no different :->).

Dave.

Re: Copyright triggers emotions

*Message #48 Posted by **Les Bell** on 12 July 2009, 8:49 p.m.,*
in response to message #46 by Geir Isene

> Quote:
>
> We've seen this on the forum before - a discussion on copyrights are a source of strong emotions... for some reason.

Perhaps it's because writers, artists, songwriters and others who create copyrightable material inevitably feel some personal attachment to their creations. Even programmers feel this way - as Fred Brooks wrote in "The Mythical Man-Month":

"The programmer, like the poet, works only slightly removed from pure thought-stuff. He builds his castles in the air, from air, creating by exertion of the imagination. Few media of creation are so flexible, so easy to polish and rework, so readily capable of realizing grand conceptual structures."

In this sense, software is a creation of craftsmanship and inevitably reflects the personality of its creator.

This is one reason why programmers are sometimes willing to release their work as FLOSS: pride, satisfaction, etc. Copyright is important to these programmers so that their work is attributed correctly, even if they don't seek payment for it.

In the context of HP manuals, the early calculator manuals are obviously more than the simple bare minimum required to document the calculator functionality - in terms of graphic design, artwork, and even the creation of the curious characters who inhabit some of the example problems, they are clearly artistic creations.

Best,

--- Les
[http://www.lesbell.com.au]

Re: Copyright triggers emotions

*Message #49 Posted by **Howard Owen** on 12 July 2009, 9:04 p.m.,*
in response to message #48 by Les Bell

> Quote:
>
> .. in terms of graphic design, artwork, and even the creation of the curious characters who inhabit some of the example problems, they are clearly artistic creations.

The marvelous thing about that is the manual's artistry is part and parcel of the art of the machines. They complement each other wonderfully.

Regards,
Howard

Re: Copyright triggers emotions

*Message #50 Posted by **Les Bell** on 12 July 2009, 9:22 p.m.,*
in response to message #49 by Howard Owen

Too true, Howard. I remember that when I bought my HP-65, back in the mid-70's, I was living in Toronto and reading "Zen and the Art of Motorcycle Maintenance" while commuting. The theme of the book is the nature of quality, and I remember that my experience with the 45 and 65 contributed enormously to my interpretation of Persig's book.

Best,

--- Les
[http://www.lesbell.com.au]

Re: Copyright triggers emotions

*Message #51 Posted by **Geir Isene** on 13 July 2009, 4:00 a.m.,*
in response to message #48 by Les Bell

> Quote:
>
> This is one reason why programmers are sometimes willing to release their work as FLOSS: pride, satisfaction, etc. Copyright is important to these programmers so that their work is attributed correctly, even if they don't seek payment for it.

Copyrights and Rights of Attribution (or Credit Rights) are two different rights. The history of copyrights muddies the border - but we could abolish copyright and enforce Credit Rights. One could envision a world without Patents and Copyright but with Credit Rights and Trade Marks to ensure attribution and authenticity of works (ant thus limit forgery).

Re: Copyright triggers emotions

*Message #52 Posted by **DaveJ** on 13 July 2009, 8:10 a.m.,*
in response to message #51 by Geir Isene

> Quote:
>
> Copyrights and Rights of Attribution (or Credit Rights) are two different rights. The history of copyrights muddies the border - but we could abolish copyright and enforce Credit Rights. One could envision a world without Patents

But the Patent system is an endless source of amusement!

Dave.

Re: Copyright triggers emotions

*Message #53 Posted by **Geir Isene** on 13 July 2009, 8:50 a.m.,*
in response to message #52 by DaveJ

Nice :-)

And it can be argued that the patent system is the single most innovation stifling factor - despite the many hilarious patents awarded .

Re: Patents

*Message #54 Posted by **Byron Foster** on 13 July 2009, 11:30 a.m.,*
in response to message #53 by Geir Isene

> Quote:
>
> And it can be argued that the patent system is the single most innovation stifling factor - despite the many hilarious patents awarded .

The modern reality is that non-trivial programs can no longer be created without violating a patent, if not many, which makes most acts of software development illegal.

Show me a program with a few hundred lines of code or more, and I'll find a patent that it violates. I'm not completely anti-patent, but yes, it's ridiculous.

Patents and Copyrights

*Message #55 Posted by **Geir Isene** on 13 July 2009, 11:56 a.m.,*
in response to message #54 by Byron Foster

I was originally pro patents and pro copyright. I even tried to patent a Role-Playing Game back in 1987.

About 5 years ago, I decided to research patents to the bone to really make up my mind about it as I was confronted by arguments that I found hard to argue against. After two years of study, I came to the conclusion that I am against all patents. The patent system needs to go.

Having done away with patents, I was still confronted by similar arguments that where hard to refute in the area of copyright. Another 2 year stint and I concluded that copyright must be abolished.

I am pro free market, anti patents, anti copyright, pro trade marks and pro credit rights.

I am pro Ant Hill Innovation - Wikipedia being an example of this.

Re: Patents and Copyrights

*Message #56 Posted by **Jon S Canale** on 13 July 2009, 4:06 p.m.,*
in response to message #55 by Geir Isene

"In today's world, it's hard to sneeze near an abacus without infringing on someone's patent."

From someone's byline on another software forum. I love it (and hate it at the same time)!

Re: Patents and Copyrights

*Message #57 Posted by **Don Shepherd** on 13 July 2009, 5:40 p.m.,*
in response to message #56 by Jon S Canale

I don't get it.

Re: Patents and Copyrights

*Message #58 Posted by **Eric Smith** on 14 July 2009, 12:00 a.m.,*
in response to message #55 by Geir Isene

I'm undecided on patents. I believe the public still does derive benefits from the disclosure inherent in the patent process, as opposed to trade secrets. I oppose software

patents, but it's very hard to draw the line. Perhaps simply making the term of all computer-related patents shorter, say 5 years rather than 20, would solve a lot of the problems.

I think that copyrights are a good thing, and that they should be renewable indefinitely. However, the cost to renew should increase exponentially with time. Perhaps divide the potential term into four year intervals, start the first interval at just over the cost of administration, perhaps $50, and make every subsequent interval cost four times as much as the previous. Then Disney can keep Mickey Mouse in copyright for as long as they want (and can afford).

Re: Patents and Copyrights

*Message #59 Posted by **Les Bell** on 14 July 2009, 1:05 a.m.,*
in response to message #58 by Eric Smith

I'm with you, Eric. I wrote a paper a couple of years ago taking a strong stand against software patents and arguing that copyright is a far more appropriate form of protection for programmers (primarily on the basis that copyright allows for independent authorship and invention, where patent law does not). I'm not sure about the benefit of disclosure; having tried to read - for example - the patent in the Kodak vs Sun case a few years ago, I found that the writing style used in the patent seemed quite opaque (and there are obvious reasons for that).

However, I'm still of the view that despite the flaws in the patent system (the limited resources available to patent examiners, the activities of patent trolls, the exceptionally low bar of the non-obviousness test) patents are still the best form of protection for the independent or small-business inventor.

Similarly, when I examine the rights of authors and artists from a Kantian perspective (Kant's Categorical Imperative essentially asks "How would you like it if someone did it to you?") then I'm forced to conclude copyright is the best approach. It certainly isn't a "monopoly on ideas", for several reasons, not least of which is the fact that anyone else is free to express the same ideas differently. It's not as if the first artist to paint a landscape prevented all the others who followed.

Best,

--- Les
[http://www.lesbell.com.au]

Re: Patents and Copyrights

*Message #60 Posted by **DaveJ** on 14 July 2009, 4:08 a.m.,*
in response to message #59 by Les Bell

Quote:

I'm with you, Eric. I wrote a paper a couple of years ago taking a strong stand against software patents and arguing that copyright is a far more appropriate form of protection for programmers (primarily on the basis that copyright allows for independent authorship and invention, where patent law does not). I'm not sure about the benefit of disclosure; having tried to read - for example - the patent in the Kodak vs Sun case a few years ago, I found that the writing style used in the patent seemed quite opaque (and there are obvious reasons for that).

However, I'm still of the view that despite the flaws in the patent system (the limited resources available to patent examiners, the activities of patent trolls, the exceptionally low bar of the non-obviousness test) patents are still the best form of protection for the independent or small-business inventor.

In most cases they aren't actually, but it depends on what you intend to do with the idea and what it is. Small time inventors and business people think that a patent protects them from someone ripping off their idea, it doesn't, as patents are easily beat (trivially so in most cases). All a patent does is effectively give you the leverage to sue someone if they try. But if you don't have at least a million dollars for the law suit, don't bother.

That's why for the small time inventor/business person, unless you think you can sell the patent to someone, it's essentially a waste of money. You are much better off getting your product out the door and staying one step ahead of your competition.

For those that haven't seen it, Don Lancasters classic: www.tinaja.com/glib/casagpat.pdf

Dave.

Re: Patents and Copyrights

*Message #61 Posted by **Howard Owen** on 14 July 2009, 5:33 a.m.,*
in response to message #60 by DaveJ

I think software patents are a bad idea too, but that doesn't stop me from seeing where the patent system helps people. Beyond the obvious and

pervasive use of patents as offensive and defensive weapons in corporate warfare, there are instances where the little guy wins with patents. Two old friends of mine hired me on to a startup they had going in 1999. One of them, the primary technological genius, had patented quite a few novel ideas having to do with virtual private networks and and OS level virtualization. (He was an early pioneer in that sort of thing, having ported 4.2 BSD to the VAX - on top of VMS!) When Nokia bought the company in 1999, those patents made my friends instant millionaires. (The principals all got to cash in at the time of sale. Low level people like me had to sit on our options, and they got wiped out in the crash.)

Those patents are now part of Nokia's strategic patent portfolio, where they serve what I consider to be pernicious purposes. But I applaud patents when they work as intended by the framers of the US Constitution - to promote the arts, including technology. My friend deserved his millions, and patents were how he got them.

Regards,
Howard

Re: Patents and Copyrights

*Message #62 Posted by **DaveJ** on 14 July 2009, 6:35 a.m.,*
in response to message #61 by Howard Owen

Definitely, there are times when the little guys wins with patents just like he/she deserves too, but it's an unmeasurably small percentage of the cases.

Sadly, patent lawyers and those dodgy "invention help" organisations won't tell you the real value of a patent in your specific circumstance, and will happily take your money, and lots of it.

I humored my patent attorney brother-in-law by letting him write me a software patent a few years back, paid my $70 for the one years provisional but then wasn't silly enough to fork out the $5K!

Dave.

Re: Patents and Copyrights

*Message #63 Posted by **Byron Foster** on 14 July 2009, 8:57 a.m.,*
in response to message #61 by Howard Owen

> Quote:
>
> When Nokia bought the company in 1999, those patents made my friends instant millionaires

I don't disagree with your point, but I think your example may be flawed. 1999 was a "special" time in tech startups. I knew several people who became instant millionaires with nothing but vaporware. I'm willing to bet that your friends would have become financially successful with our without patents, especially given that they actually had useful, novel software.

Re: Patents and Copyrights

*Message #64 Posted by **Howard Owen** on 14 July 2009, 9:35 p.m.,*
in response to message #63 by Byron Foster

Nonsense. The pace of acquisitions was frantic in those years, and ideas (including many awful ones) had a premium, but ideas have always been and will always be valuable. Patents are, among other things, a mechanism to secure part of that value to the person or entity that came up with them. The specific value of a particular idea is dependent on the business climate, but the general principle is not.

The "among other things" is a zinger though. As the distance between pure thought and it's embodiment has shortened, in some places to zero, more and more areas of human thought have fallen under the terms of the patent laws, as interpreted by the courts. "Business method" patents are an especially pernicious example of that, but software in general is problematic in that regard. (Fortunately, the patent system seems to be taking a step back from the travesty of business method patents.) It's also possible to freeze innovation in an area the patent owner doesn't want developed. "Submarine" patents can surface in the middle of international standards, forcing changes or the addition of an additional tax on the use of the standard. Frivolous patents get granted by clueless inspectors that end up encumbering idea factories and the court system. And any innovator is faced with legal uncertainty about the patent status of her inventions. Big companies maintain defensive patent portfolios and can afford the legal staff to

wield them effectively. But the small guy is at a big disadvantage here. And if that small guy happens to be writing Free Software, there's a basic legal and moral conflict that is unavoidable.

So I think patents should go, on balance. But it won't do to disregard the positive effects the patent system has *when it works as originally intended.* Any overhaul of the system needs to take this into account, and preserve that benefit somehow.

Regards,
Howard

Re: Patents and Copyrights

*Message #65 Posted by **Thomas Okken** on 14 July 2009, 11:10 p.m.,*
in response to message #61 by Howard Owen

> Quote:
>
> there are instances where the little guy wins with patents. Two old friends of mine hired me on to a startup they had going in 1999. One of them, the primary technological genius, had patented quite a few novel ideas having to do with virtual private networks and and OS level virtualization. (He was an early pioneer in that sort of thing, having ported 4.2 BSD to the VAX - on top of VMS!) When Nokia bought the company in 1999, those patents made my friends instant millionaires

I'm very uncomfortable with the general notion that X is a good idea because X occasionally makes some little guy a millionaire. Not that I begrudge anyone their good fortune, but I'd much rather support policies that benefit people *in general*, rather than those that allow people to win some big jackpot that they haven't actually done anything much to deserve.

I mean, sure, if Y creates some product or service that becomes wildly popular, and makes Y filthy rich, well, more power to Y. This is the main selling point of capitalism. I have no problem with that whatsoever.

What does trouble me, though, is when that Y uses a patent to prevent others from selling the same kind of product or service. If Y's product took lots of time and money to develop, patent protection seems fair; if the only merit of Y's idea is that Y happened to be the first one to think of it, it doesn't seem fair. Not to me, anyway.

Pharmaceutical companies often have to invest astronomical amounts in developing medicines; allowing others to simply copy their products would take the economical incentive out of developing them, and innovation in that area would stop, unless governments or other not-for-profit subsidizers would step up and fincance the process instead. (Note that I'm not trying to imply that one approach is inherently superior to the other; only that this is the kind of choice you'll have to make.)

I have yet to see a software patent that comes anywhere near being justified like pharmaceutical patents. Compared to the millions that pharma has to spend on the development of any single product, software patents tend to cover things that any reasonably competent programmer could have figured out in at most a few months' time, representing an investment of maybe a few tens of thousands of dollars at most.

The way they're used at present, software patents seem to me like the business equivalent of a child yelling "dibs on the front seat" when the family gets ready to get into the car for a holiday trip. People reap huge rewards simply for being first, while what the patent system *should* be doing is rewarding those who make large investments in developing things that are truly new, orignal, and non-obvious.

I totally disagree with Geir's point that patents and copyrights should be abolished. Patents are important because they allow people to recoup the costs of developing innovative products, and copyrights allow people to make a living from being genuinely creative. It seems to me that most of the controversy surrounding patents nowadays stems from patent examiners' lack of reluctance to grant patents on things that are obvious (which in turn is caused by the insane idea that the patent office should be funded by the income from patent applications), and from the way

that some record companies are seeking excessive damages from people who infringe copyrights on the Internet... The excesses are bad and should be fixed, but the basic ideas are sound, and, in my humble opinion, important.

- Thomas

Re: Patents and Copyrights

*Message #66 Posted by **Howard Owen** on 14 July 2009, 11:36 p.m.,*
in response to message #65 by Thomas Okken

> Quote:
>
> I'm very uncomfortable with the general notion that X is a good idea because X occasionally makes some little guy a millionaire.

I didn't actually make that argument; see above. I'm opposed to software patents.

Also, I probably should have made more clear the following: I think it's cool my friends became millionaires, but that's not why I think it was a good outcome based on patents. Those guys worked really, really hard for over 20 years to achieve their success. Their first company was wiped out by Microsoft and bought for a pittance by Cisco Systems. Their second try made them, and many of their friends rich. In the meantime, they were driven to create new and valuable technologies, and to employ lots of really bright people. They had a positive economic impact through these actions, and an equally positive impact on the society they are a part of. It's a capitalist success story, alright, but not because of the money. The money was just a driver for the energy these guys put into their professional lives. This is why "promoting the useful arts" is a good thing for governments to do - it has benefits far beyond the enrichment of a few inventors.

Regards,
Howard

Edited: 14 July 2009, 11:38 p.m.

Re: Patents and Copyrights

*Message #67 Posted by **Thomas Okken** on 15*

July 2009, 1:26 a.m.,
in response to message #66 by Howard Owen

> Quote:
>
> > Quote:
> >
> > I'm very uncomfortable with the general notion that X is a good idea because X occasionally makes some little guy a millionaire.
>
> I didn't actually make that argument; see above.

See where above? Quoting from the post that I was responding to (emphasis mine):

> Quote:
>
> I think software patents are a bad idea too, *but that doesn't stop me from seeing where the patent system helps people.* Beyond the obvious and pervasive use of patents as offensive and defensive weapons in corporate warfare, *there are instances where the little guy wins with patents.* Two old friends of mine hired me on to a startup they had going in 1999. One of them, the primary technological genius, *had patented quite a few novel ideas having to do with virtual private networks and and OS level virtualization.* (He was an early pioneer in that sort of thing, having ported 4.2 BSD to the VAX - on top of VMS!) When Nokia bought the company in 1999, *those patents made my friends instant millionaires.*

Sounds to me like you were making exactly the argument I implied you were making.

> Quote:
>
> I'm opposed to software patents.

So you said before, but your actual anecdote sounds like the exact opposite.

Quote:

> Also, I probably should have made more clear the following: I think it's cool my friends became millionaires, but that's not why I think it was a good outcome based on patents. Those guys worked really, really hard for over 20 years to achieve their success. Their first company was wiped out by Microsoft and bought for a pittance by Cisco Systems. Their second try made them, and many of their friends rich. In the meantime, they were driven to create new and valuable technologies , and to employ lots of really bright people. They had a positive economic impact through these actions, and an equally positive impact on the society they are a part of. It's a capitalist success story, alright, but not because of the money. The money was just a driver for the energy these guys put into their professional lives. This is why "promoting the useful arts" is a good thing for governments to do - it has benefits far beyond the enrichment of a few inventors.

In other words, your friends ended up rich thanks to their hard work, but this had nothing to do with their patent portfolio? I'm at a complete loss as to what kind of point your story is supposed to make!

- Thomas

Re: Patents and Copyrights

*Message #68 Posted by **Howard Owen** on 15 July 2009, 3:21 a.m.,*
in response to message #67 by Thomas Okken

Quote:

> I'm very uncomfortable with the general notion that *X is a good idea because X occasionally makes some little guy a millionaire.*

I don't think software patents are a good idea,

so I didn't make this point. My argument was summarized by:

> Quote:
>
> So I think patents should go, on balance. But it won't do to disregard the positive effects the patent system has when it works as originally intended. Any overhaul of the system needs to take this into account, and preserve that benefit somehow.

So that's more like "X is a bad idea, but it sometimes enriches a little guy or two. Let's see if we can preserve that salutary effect of an otherwise flawed system."

I'm sorry if this seems confusing. It's a case of "X" being a complicated phenomenon with multiple effects.

Finally, in response to your post, I added the observation that the benefit isn't merely that people get rich. Many folks do useful things, both in economic and social terms, in response to the incentive the prospect of getting rich provides. That was certainly true in the case of my friends.

Regards,
Howard

Re: Patents and Copyrights

*Message #69 Posted by **Les Bell** on 14 July 2009, 7:14 a.m.,*
in response to message #60 by DaveJ

> Quote:
>
> In most cases they aren't actually, but it depends on what you intend to do with the idea and what it is.

That's why I'd rather keep the option there. Sure, there are cases where keeping an idea as a trade secret might be the way to go, but there are also times when it's not. And I'd also welcome a review of anti-trust law at the same time as a review of the patent process - the two go together.

Best,

--- Les
[http://www.lesbell.com.au]

Re: Patents and Copyrights

*Message #70 Posted by **Geir Isene** on 14 July 2009, 2:12 a.m.,*
in response to message #58 by Eric Smith

> Quote:
>
> I believe the public still does derive benefits from the disclosure inherent in the patent process, as opposed to trade secrets.

I have come to the conclusion that for patents and copyrights to be abolished, reverse engineering must be allowed.

As a side note; The original sales pitch for patents was "for the greater good". And to keep with that focus: Wikipedia and FOSS have emerged very successful *despite* patents and copyrights.

More recommended reading; Free Culture by Lawrence Lessig.

Re: Patents and Copyrights

*Message #71 Posted by **Paul Dale** on 14 July 2009, 4:52 p.m.,*
in response to message #58 by Eric Smith

> Quote:
>
> Perhaps divide the potential term into four year intervals, start the first interval at just over the cost of administration, perhaps $50, and make every subsequent interval cost four times as much as the previous.

And in about 150 years, Disney would be paying all of our taxes for us :-)

- Pauli

A law shouldn't be blindly followed.

*Message #72 Posted by **jbssm** on 14 July 2009, 10:57 a.m.,*
in response to message #1 by Mark Edmonds

About if it's legal or not, well, that depends on the country it happens.

For instance, in Sweden it is not illegal, in fact it's not even copyrighted material, since to be copyrighted it must be a creative work ... and a product manual is not a creative work.

Then you must see how it goes with other laws. In some countries (EU countries for instance) when a product is

sold, it must have a manual ... so, how does it fit here? The manual it's actually considered a part of the product, so when you (or someone before you) bought the product, you already paid for having the manual with it so do you really have to pay for it again in case you loose it? Which is something similar to buying a music CD, then losing the original ... are you entitled to ask a copy from a friend, since you already paid for the copyrighted material? Well, in most of EU at least for now, fortunately you are. But if in your country you aren't allowed what are you going to do? Buy the CD again?

If everyone keeps following blindly the most stupid rules, then of course the state is going to impose more and more unfair rules upon you.

You may just choose not to follow the law in cases where it is absurd ... it's called "civil disobedience" and helped shape the society for better many times in the past. Many people think it's time for that to happen with copyrighted material now.

Re: A law shouldn't be blindly followed.

*Message #73 Posted by **Steve Leibson** on 14 July 2009, 1:27 p.m.,*
in response to message #72 by jbssm

"... and a product manual is not a creative work."

What pure, unmitigated claptrap, albeit one person's opinion. Read the posts above this one and see the respect many people have for the effort and care that's gone into the creation of these manuals. I find it galling to deny them the adjective of "creative." Why, because that have no sex scenes?

Re: A law shouldn't be blindly followed.

*Message #74 Posted by **BruceH** on 14 July 2009, 5:29 p.m.,*
in response to message #73 by Steve Leibson

Save your electrons Steve.

He, she or its knowledge of Sweden clearly starts and ends with the chef from Sesame Street so why expect anything more knowledgeable about manual writing?

Re: A law shouldn't be blindly followed.

*Message #75 Posted by **Bill Platt** on 14 July 2009, 5:40 p.m.,*
in response to message #74 by BruceH

This is all about Sverige:

http://www.youtube.com/watch?v=sY_Yf4zz-yo

Re: A law shouldn't be blindly followed.

*Message #76 Posted by **Les Bell** on 14 July 2009, 5:43 p.m.,*
in response to message #73 by Steve Leibson

> Quote:
>
> What pure, unmitigated claptrap, albeit one person's opinion

Amen, Steve. I don't know about Sweden, obviously, but the Copyright Act, 1968, here in Australia, *specifically* mentions manuals as an example of a creative work. Because of the Berne Convention and the resultant harmonization of copyright law internationally, I would expect Sweden to be similar.

> While I agree that one shouldn't necessarily blindly follow the law, the first step is at least to know what the law is.
>
> Someone's been swallowing too much Pirate Party bilgewater.
>
> Best,
>
> --- Les
> [http://www.lesbell.com.au]

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HHC2009 Conference Update

*Message #1 Posted by **Namir** on 9 July 2009, 7:36 a.m.*

Hi All,

Joe Horn has updated the information for the HHC2009 (location and hotel information). Click here to see the update information.

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White spirit for cleaning?

*Message #1 Posted by **Mark Edmonds** on 8 July 2009, 10:35 a.m.*

I recently got a great deal on a 41CX but the card reader has the gummy wheel problem. All the repair guides talk about using isopropyl alcohol but I can't get that round here except from hi-fi shops where they charge silly amounts for a small bottle (a few cc).

How about using white spirit instead? I've used it for cleaning all kinds of things in the past and it works great but I'm not sure about using it on electronics other than bare wire. I've got a hunch it might be corrosive on some plastics so I am concerned about the card reader internals.

Does anyone know - can I use white spirit or would this be a big mistake?

Thanks for any advice here...

Mark

Re: White spirit for cleaning?

*Message #2 Posted by **Geoff Quickfall** on 8 July 2009, 1:47 p.m.,*
in response to message #1 by Mark Edmonds

Try it on a hidden piece of plastic to see but I would suggest a big NO on any petroleum product.

The HP plastic does not age well and becomes porous and brittle with age. The only products I use on the plastic is lemon oil glue remover, alcohol and water.

Did you try your local drug store. Rubbing alcohol (isopropyl alcohol) is an excellent substitute and comes in 75% and 95%. I use the 95% and it dissolves the gummy wheel rubber quickly.

While you are in the guts of the reader replace the dampening couple (incorrectly referred to a the clutch).

Cheers, Geoff

Re: White spirit for cleaning?

*Message #3 Posted by **Mark Edmonds** on 8 July 2009, 2:08 p.m.,*
in response to message #2 by Geoff Quickfall

Thanks Geoff. I'll try my local chemist - I had never thought about that as a source. You have also confirmed my gut reaction to using white spirit.

Mark

Re: White spirit for cleaning?

*Message #4 Posted by **Thomas Chrapkiewicz** on 8 July 2009, 3:44 p.m.,*

in response to message #3 by Mark Edmonds

Be aware - rubbing alcohol is a combination of isopropryl alcohol and lanolin. The lanolin is added to prevent drying of the (human) skin. The lanolin is not required and is certainly detrimental to using on electronic/mechanical parts as it will leave a residue. Isopropyl alcohol is readily available at any local pharmacy/drug/department store.

TomC

Re: White spirit for cleaning?

*Message #5 Posted by **Geoff Quickfall** on 9 July 2009, 5:02 a.m.,*
in response to message #4 by Thomas Chrapkiewicz

Interesting,

I would suspect that each country has it's definition. The rubbing alcohol bottle I have states 99% iso propyl alcohol and absolutely nothing else including lanolin.

So the caveat here is to read the label first incase your bottle has different ingredients.

I have been using the 99% stated above for about 12 years with no adverse affects on electronics or plastics.

Cheers, Geoff

Re: White spirit for cleaning?

*Message #6 Posted by **bill platt** on 9 July 2009, 2:38 p.m.,*
in response to message #5 by Geoff Quickfall

In the US where I live it is hard to find "rubbing alcohol" with more ahn 70% isopropyl. I used to get 90% ethyl but can't find it any more.

You can buy "Everclear" 190 proof grain alcohol from your local lush-enabler. That is pure as pure can be except for 5% water.

Edited: 9 July 2009, 2:41 p.m.

Re: White spirit for cleaning?

*Message #7 Posted by **Mike T.** on 8 July 2009, 4:29 p.m.,*
in response to message #3 by Mark Edmonds

In the UK the closest my chemist was able to offer was surgical spirit but I'm not sure how pure that is or what may have been added to it. Suspect it may be a mix of alcohol and methanol but don't know as there aren't any clear indications on the bottle (Contents 100% surgical spirit - which isn't terribly helpful)

Re: White spirit for cleaning?

*Message #8 Posted by **Martin Pinckney** on 8 July 2009, 6:57 p.m.,*
in response to message #7 by Mike T.

In the U.S. we have "denatured" alcohol, which is simply ethanol (Ethyl alcohol) with something (methanol?) added to make it undrinkable (hence no liquor taxes or other regulation). Available at

hardware and do-it-yourself stores.

I am not familiar with the term "surgical" alcohol, but I suspect it is pure isopropal, since I believe that is the type used for sterilization. Perhaps someone in the medical field can chime in on this.

Re: White spirit for cleaning?

*Message #9 Posted by **Nigel J Dowrick** on 9 July 2009, 3:53 a.m.,*
in response to message #8 by Martin Pinckney

I have a bottle of "industrial methylated spirit" which I obtained from my chemist to use to sterilize medical equipment and injection sites. I don't know whether this is the same as "surgical spirit", but it certainly isn't the same as isopropyl alcohol: the smell is quite different. Don't use industrial meths on any part of a calculator that you care about: I tried to clean the green plastic "display screen" of a 1970s Commodore calculator with it, and the plastic fell to pieces!

Nigel (in the UK)

Re: White spirit for cleaning?

*Message #10 Posted by **Mike T.** on 9 July 2009, 4:44 p.m.,*
in response to message #9 by Nigel J Dowrick

Surgical spirit is defiantly not the same as methylated spirit - I know from experience not to try cleaning cleaning plastic with methylated spirit as it will discolour it at the very least...

Does anyone know if 'Goo Gone' is sold under a different trade name in the UK or Europe?

Mike T.

Re: White spirit for cleaning?

*Message #11 Posted by **Michael de Estrada** on 8 July 2009, 4:22 p.m.,*
in response to message #1 by Mark Edmonds

Mark,

A product I've used to remove gummy residue as well as soft adhesives goes by the trade name "Goo Gone" and is normally available in a pump spray bottle. It is very safe with plastics and I've even used it to clean the LED/LCD bezel without any adverse effects. It is manufactured in the USA by Magic American. I don't know if it is available in the UK.

Regards,

Michael

<Goo Gone>

Re: White spirit for cleaning?

*Message #12 Posted by **Mark Edmonds** on 9 July 2009, 7:14 a.m.,*
in response to message #11 by Michael de Estrada

Thank you very much for all the help here.

Just to clarify the solutions I have already:

White Spirit is listed as "Naphta (petroleum) hydroesufurised heavy UN No 1300 Turpentine Substitute (White Spirit)"

and Methylated Spirits is listed as "Ethanol and Methanol UN No 1170 Ethanol Solution"

I remember from my early modelling days that meths had a nasty habit of decaying plastic so I wont be using that!

I think meths is the same as denatured alcohol.

I am going to see what the local chemists have along the lines advised in posts above and I'll report back what I find. I am not a chemist so it can get very confusing with all these names, especially when different countries use different identifiers!

Mark

Re: White spirit for cleaning?

*Message #13 Posted by **Mark Edmonds** on 9 July 2009, 12:13 p.m.,*
in response to message #12 by Mark Edmonds

RIght, update on this is that I went to my local chemist/pharmacy/drug store and asked for isopropyl alcohol. They didn't have it in stock but have it ordered for collection tomorrow. I am getting a 0.5 litre bottle of 100% isopropyl alcohol for about 5.50GBP which seems quite a reasonable price to me, especially given the over-inflated prices you can pay for it in small quantities on some markets. So for UK people, given that all chemists should be able to get the same range, this is probably the best way to buy it in bulk and easily.

Mark

Re: White spirit for cleaning?

*Message #14 Posted by **Mike T.** on 9 July 2009, 4:56 p.m.,*
in response to message #13 by Mark Edmonds

Which chemist did you go to?

Only a couple of weeks ago I tried to buy some Isopropyl Alcohol in the UK, asking for it by that name. However, both Lloyds Chemists and Boots told me that they didn't sell it...

Unfortunately (or perhaps fortunately) I don't have a rare vintage HP calculator that needs cleaning, but I do want something to clean some model railway track that won't leave any residue.

Mike T.

Re: White spirit for cleaning?

*Message #15 Posted by **Vladan Dugaric** on 9 July 2009, 5:22 p.m.,*
in response to message #14 by Mike T.

Maplin sells 1 liter cans of Isopropyl alcohol for cleaning printed circuit boards for £10.99. They usually have a couple of cans in stock in most stores. They also have a 400 ml spray can for £7.29.

Edited: 9 July 2009, 5:24 p.m.

Re: White spirit for cleaning?

*Message #16 Posted by **Mark Edmonds** on 10 July 2009, 7:22 a.m.,*
in response to message #14 by Mike T.

Mike - it wasn't one of the main chains. I think it is run by a family and they only have this one local branch. The chap there didn't bat an eyelid when I asked for the stuff and went straight onto his computer to order it so it clearly wasn't as if I had asked for something unusual. He also gave me various purity options of which I selected the 100% type. So why Boots and others don't sell something so basic, I don't know - probably being lazy to find out if it is available when you asked for it.

Mark

> Quote:
>
> Which chemist did you go to?
>
> Only a couple of weeks ago I tried to buy some Isopropyl Alcohol in the UK, asking for it by that name. However, both Lloyds Chemists and Boots told me that they didn't sell it...
>
> Unfortunately (or perhaps fortunately) I don't have a rare vintage HP calculator that needs cleaning, but I do want something to clean some model railway track that won't leave any residue.
>
> Mike T.

Re: White spirit for cleaning?

*Message #17 Posted by **Mike T.** on 10 July 2009, 4:13 p.m.,*
in response to message #16 by Mark Edmonds

Thank you to both of you for that information - there is a Maplin's in Basingstoke I might try next week.

Mike T.

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OT: Keyboard with potential

*Message #1 Posted by **Egan Ford** on 8 July 2009, 10:05 a.m.*

I am not a fan of external keyboards. I prefer using my notebook keyboard only. But this new keyboard has some very nice possibilities: http://www.engadget.com/tag/eee%20keyboard. E.g. calculator emulators that can have X sent to the PC application.

I've asked for this feature in i41CX and I'll also ask that Free42 for the iPhone also have this feature. There are keypad applications for the iPhone already. If the two ideas could be merged, then my iPhone could be my smart calc extension to my keyboard.

Re: OT: Keyboard with potential

*Message #2 Posted by **Mark Edmonds** on 8 July 2009, 10:28 a.m.,*
in response to message #1 by Egan Ford

Holy smoke! That could be awesome!

I would want to have it as a normal keyboard with the built-in display operating as a mini-screen for dedicated applications - such as an HP EMU of course. Being a touch-screen, it would be ideal for this.

For my studio work, this would also have huge potential for providing a mini-keyboard dedicated to the current area of the main application being worked on. I don't know if any of you know about the hardware X-Keys unit, but imagine an extended keyboard in touch-screen form. It could also be used to control plugins and transport.

I do hope ASUS don't limit this keyboard to a "PC in a keyboard" and offer its undoubted benefits for use with a normal full PC by removing the internal computer. Let's hope so...

Mark

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Free42 for Mac OS X

*Message #1 Posted by **Les Wright** on 7 July 2009, 6:46 a.m.*

Just wanted to share that Thomas Okken is close to finishing a port to the Mac OS. I have an almost complete beta and it is very nice.

I will gladly share the interim beta executable with Intel Mac users who want to give it a go. Please to NOT bug Thomas directly--he is very busy and I for one would like him to finish up this Mac port and post it sourceforge AND his iPhone port and get it to the App Store.

I am sure Thomas would not mind me sharing this executable in progress. It is open source, after all!

I can be reached at leslie dot wright at rogers dot blackberry dot net.

Les

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Saving i41cx+ states and configurations--what's the difference?

*Message #1 Posted by **Les Wright** on 7 July 2009, 3:27 a.m.*

S.L. says it all. The newer iterations of the app allow one to save the calculator State or Configuration, and for the life of me I can't find in the online material anything that explains the difference.

I suppose I should email Antonio directly (FYI, if I bring a concern or bug report to him he always writes me when it is addressed in a subsequent release), but with a few contented users I thought I should start here first.

Les

Re: Saving i41cx+ states and configurations--what's the difference?

*Message #2 Posted by **Chuck** on 7 July 2009, 11:58 a.m.,*
in response to message #1 by Les Wright

I haven't looked into it much, but when I looked at the two different saves sent to my email, the "State" save email contained about 5 times more code than the "Configuration" code. My guess is that the config save is a subset of the state save. Just a shot in the dark.

[edit]I think the size difference has to do with the embedded image. So disregard my shot in the dark. :(

Edited: 7 July 2009, 12:02 p.m.

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Hey hey what can I say? FACEBOOK!

*Message #1 Posted by **Mad Dog ebaycalcnut** on 6 July 2009, 10:04 p.m.*

Hey,

When I type in "HP Calculator" on facebook search, there are over 10 groups of hp calculator fans.

What's the cool group to be a member of?

Re: Hey hey what can I say? FACEBOOK!

*Message #2 Posted by **DaveJ** on 7 July 2009, 1:16 a.m.,*
in response to message #1 by Mad Dog ebaycalcnut

There is also a uWatch Facebook group that just started the other day!

Dave.

Re: Hey hey what can I say? FACEBOOK!

*Message #3 Posted by **Mad Dog ebaycalcnut** on 9 July 2009, 8:21 a.m.,*
in response to message #2 by DaveJ

I will be a'joinin!

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Math module d´ont works

*Message #1 Posted by **Marcelo Vanti (Brasil)** on 6 July 2009, 6:25 p.m.*

Hi all I did buy an math module hp 00041 - 14023 but it seems d´ont work. Some times, my 41c LCD blinks and shows a very weird behaviour, and keep so until to stop completely. When i pres the program key i see 00 REG 05 ?! Other times it d´ont turn on at all, and i was forced to remove the batteries a couple of times. Are there anything i doing wrong? I have tried the ports 2,3, and 4, and the only memory module is in port 1. Thanks for any help, and sorry my poor English Marcelo

Re: Math module d´ont works

*Message #2 Posted by **Walter B** on 6 July 2009, 6:46 p.m.,*
in response to message #1 by Marcelo Vanti (Brasil)

Boa tarde, Marcelo!

First thing I recommend: Press <gold> <CATALOG> 2 and check if you get the functions of your MATH module displayed.

Boa sorte!

Edited: 6 July 2009, 6:49 p.m.

Re: Math module d´ont works

*Message #3 Posted by **Saile (Brazil)** on 6 July 2009, 7:04 p.m.,*
in response to message #2 by Walter B

Did you try other modules?

Re: Math module d´ont works

*Message #4 Posted by **Marcelo Vanti (Brasil)** on 6 July 2009, 7:18 p.m.,*
in response to message #3 by Saile (Brazil)

> Quote:
>
> Did you try other modules?

Yes, I have a quad memory installed in port 1, and I did test successfully in the other three ports.
I have a card reader that works fine too.
Marcelo

Re: Math module d´ont works

*Message #5 Posted by **Marcelo Vanti (Brasil)** on 6 July 2009, 7:11 p.m.,*
in response to message #2 by Walter B

> Quote:
>
> First thing I recommend: Press <gold> <CATALOG> 2 and check if you get the functions of your MATH module displayed.

Thanks by your answer,
but I can´t do nothing when i try turn on the calculator.
The keyboard does not respond at all, or respond badly for any key I press. I think the better is throw away that module before I finish to kill my calculator :)
Marcelo

Re: Math module d´ont works

*Message #6 Posted by **Saile (Brazil)** on 6 July 2009, 7:29 p.m.,*
in response to message #5 by Marcelo Vanti (Brasil)

Marcelo email please ?

Re: Math module d´ont works

*Message #7 Posted by **Mad Dog ebaycalcnut** on 6 July 2009, 9:32 p.m.,*
in response to message #1 by Marcelo Vanti (Brasil)

Hey! If you bought it on eBay you ought to get your seller to pony back some money!

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Mental juggling: Calculating the day of week

*Message #1 Posted by **Thomas Klemm** on 6 July 2009, 4:47 p.m.*

My father has a quirk: When he meets someone new, he asks after the date of birth and then after a few seconds of reflection, he says the corresponding day of the week.
I do not know exactly how he makes, but he knows many of the weekday data from memory. This is used to calculate the difference to this particular day.
Though there are algorithms to do that with a computer or a programmable calculator I was trying to find a way to do it in my mind. However mental arithmetic is not one of my skills.

Let me explain it first with an example: 22.06.1955

```
Day   22      -> 1
Month  6      -> 4
Year  55      -> 5
                --
                10 -> 3 -> Wednesday
```

Day

This one is easy: it's calculating the remainder after division by 7.

```
Example: 22 = 3 * 7 + 1
```

Actually you don't have to divide by 7. You just need to know the closest multiple of 7 which is smaller or equal and then calculate the difference:

```
22 - 21 = 1
```

Month

Here you don't have to calculate anything but keep a table in your mind:

```
Month           1  2  3  4  5  6  7  8  9 10 11 12
Magic number    1  4  3  6  1  4  6  2  5  0  3  5
```

As I can't remember such a table very well I rearranged it a little:

```
Month          Magic number


 1  2  3       1  4  3
 4  5  6       6  1  4
 7  8  9       6  2  5
10 11 12       0  3  5
```

For Januray and March the mapping is identity, for October it is 0 which means it can be ignored. Then you can see that the 2nd and 3rd line both start with 6. In the 2nd line 1 4 from the first line is repeated but shifted by 1 whereas in the 3rd line 1 is added giving 2 5. Well, the last line: 10 is 0 and 1 added to 2 gives 3 and 5 is keept. But I'm sure you'll find a different way to memorize this table.

How did I calculate this mapping?
Starting with March which is set to 3 either 31 or 30 is added depending on how many days the previous month has:

month	# days	sum	% 7
3	31	3	3
4	30	34	6
5	31	64	1
6	30	95	4
7	31	125	6
8	31	156	2
9	30	187	5
10	31	217	0
11	30	248	3
12	31	278	5
1	31	309	1
2	*	340	4

(*) Since February is the last month in the list we don't have to take leap years into account here. This is the reason why we started with March.

Year

Leap years make things complicated. Here again we have a mapping table:

0 :	00	06		17	23	28	34		45	51	56	62		73	79	84	90		101	107
1 :	01	07	12	18		29	35	40	46		57	63	68	74		85	91	96	102	
2 :	02		13	19	24	30		41	47	52	58		69	75	80	86		97	103	108
3 :	03	08	14		25	31	36	42		53	59	64	70		81	87	92	98		109
4 :		09	15	20	26		37	43	48	54		65	71	76	82		93	99	104	110
5 :	04	10		21	27	32	38		49	55	60	66		77	83	88	94		105	111
6 :	05	11	16	22		33	39	44	50		61	67	72	78		89	95	100	106	

Search the year (- 1900) in the table and find the corresponding number in the leftmost column.
Now this is something I don't want to learn by heart. However you may notice that the pattern repeates after 28 years so we just need to remember the first 28 years. Unfortunately calculating modulo 28 isn't something I can do easily in my mind.

This is the easiest way I came up to calculate the number:

1. Find the closest multiple of 4 smaller or equal to the year. Keep the difference.
2. Divide that multiple of 4 by 2.
3. Find the difference to the closest multiple of 7 bigger or equal to that number.
4. Add this to the difference from step 2.

```
Example: 55 = 52 + 3
              52 : 2 = 26
              26 + 2 = 28
              3 + 2 = 5
```

As the calculations are carried out modulo 7 we can also subtract the difference to the closest multiple of 7 smaller than that number in steps 3 and 4.

```
Example: 46 = 44 + 2
              44 : 2 = 22
              22 - 1 = 21
              2 - 1 = 1
```

Shortcut for years that are a multiple of 7:

1. Find the remainder after dividing by 4
2. Multiply that number by 5

```
Example: 49 = 48 + 1
                  1 * 5 = 5
```

```
        91 = 88 + 3
                 3 * 5 = 15 = 1 (7)
```

Important note: You may have noticed that the mapping table for the months starts with March. Thus January and February belong to the year before the actual year. Therefore for these two months the year has to be reduced by 1 before any calculations.

There are different ways to do that calculation. But it turned out that I can calculate n modulo 4 quiet fast while I have difficulties to divide a number by 4 if it's bigger than say 50. On the other I find no trouble to divide a number by 2. Probably it's all a question of training. However it seems I just don't do enough divisions by 12 to use Lewis Carroll's method:

> Quote:
>
> Add together the number of dozens, the overplus, and the number of 4s in the overplus.

Day of the week

The following table is used to map the resulting number to the day of the week:

```
0  Sunday
1  Monday
2  Tuesday
3  Wednesday
4  Thursday
5  Friday
6  Saturday
```

Explanation

What we actually do is calculating the difference of the date to 28.02.1900 modulo 7. This interval is split into three parts from which modulo 7 can be found easier:

```
22.06.1955
            22                 = 1 (7)
 0.06.1955
            31 + 30 + 31 = 92  = 1 (7)
 0.03.1955
            55 + 13 = 68       = 5 (7)       // 55 : 4 = 13 leap years
 0.03.1900
28.02.1900                     = 3
                                --
                                10 = 3 (7)
```

Since 28.02.1900 was a Wednesday the mapping table of the months starts with 3.

What remains unexplained are the two formulas to calculate the mapping of the year:

```
Let's assume y = 4n + r  ; 0 <= r < 4
Then d = 365y + n = y + n (7)   // since 365 = 1 (7)
                  = 4n + r + n = r + 5n = r - 2n (7)
2n = 4n / 2


d = r - 4n / 2 (7)    // here we use that 2 | 4n
```

Last not least the case where the year is a multiple of 7:

```
y = 4n + r = 7k = 0 (7)
r = -4n = 3n (7)      // multiply both sides by 5
5r = 15n = n (7)
d = y + n = 0 + 5r (7)
```

Restriction

The method described here works only for dates from 01.03.1900 to 28.02.2100. However it could easily be adjusted.

Examples

6 July 1979

```
79 - 76 = 3
76 / 2 = 38
38 - 3 = 35
3 - 3 = 0


July -> 6


0 + 6 + 6 = 12 = 5 (7)
```

or shortened

```
79 76  3
38 35 -3
       0 6 -1 5 -> Friday
```

December 7th, 1941

```
41 - 40 = 1
40 / 2 = 20
20 + 1 = 21
1 + 1 = 2


Dec -> 5


2 + 5 + 7 = 14 = 0 (7)
```

or shortened

```
41 40 1
20 21 1
      2 5 0 -> Sunday
```

20.02.1964

```
63 - 60 = 3
3 * 5 = 15 = 1 (7)


Feb -> 4


1 + 4 + 20 = 25 = 4 (7)
```

or shortened

```
63 60 3
     15
      1 4 -1 4 -> Thursday
```

Programming

How about a training program for your favorite HP calculator that displays a random date and asks you to enter the appropriate day of the week?

Edited: 7 July 2009, 1:40 p.m. after one or more responses were posted

Re: Mental juggling: Calculting the day of week

*Message #2 Posted by **Allen** on 6 July 2009, 5:43 p.m.,*
in response to message #1 by Thomas Klemm

This is a great write up.. I recommend making an article of the same title and also posting there. :)

Re: Mental juggling: Calculting the day of week

*Message #3 Posted by **Mad Dog ebaycalcnut** on 6 July 2009, 9:40 p.m.,*
in response to message #2 by Allen

Pretty cool trick.

Do people get suspicious of identity theft when asking their birthdate?

Re: Mental juggling: Calculting the day of week

*Message #4 Posted by **Thomas Klemm** on 7 July 2009, 2:04 p.m.,*
in response to message #3 by Mad Dog ebaycalcnut

Your question is interesting since people are indeed sometimes irritated. But usually they just tell their date of birth. However someone turned the table on him and told him only birthday and weekday and asked him to tell the year. He had a little longer and guessed the person too young but the result would have been possible.

I remember a similar irritation when traveling in Viet Nam since people always ask you how old you are. Yet they need to know because they call you different depending on whether you are older or younger than they are.

So I assume that identity theft isn't the main concern but simply the fact that somebody asks something personal.

Re: Mental juggling: Calculting the day of week

*Message #5 Posted by **PeterP** on 6 July 2009, 10:52 p.m.,*
in response to message #1 by Thomas Klemm

Awesome post Thomas, please make it an article!

Cheers

Peter

Re: Mental juggling: Calculting the day of week

*Message #6 Posted by **Thomas Klemm** on 7 July 2009, 1:42 p.m.,*
in response to message #5 by PeterP

cf. 926: Mental juggling: Calculating the day of week

Re: Mental juggling: Calculting the day of week

*Message #7 Posted by **Juergen Keller** on 7 July 2009, 5:38 p.m.,*
in response to message #6 by Thomas Klemm

Great article, thank you! This remembers me of the R500/7T relay computer which a colleague of mine has built. He usually demonstrates the computer by running the 'day of the week' program. The program runs for about 20 seconds!

Juergen

Re: Mental juggling: Calculating the day of week

*Message #8 Posted by **Bernard Rochlin** on 9 July 2009, 7:26 a.m.,*
in response to message #1 by Thomas Klemm

See the formula by John Horton Conway called the 'Doomsday Rule'

http://en.wikipedia.org/wiki/Doomsday_algorithm

http://rudy.ca/doomsday.html

Edited: 9 July 2009, 7:45 a.m.

Re: Mental juggling: Calculating the day of week

*Message #9 Posted by **Thomas Klemm** on 9 July 2009, 11:14 a.m.,*
in response to message #8 by Bernard Rochlin

> Quote:
>
> For any year 19YY, using the YY part of the year, calculate:
>
> 1. the number of 12's in the YY part of the year
> 2. the remainder of step 1
> 3. the number of 4's in the remainder of step 1

This is Lewis Carroll's method already mentioned. So you can also combine my method (for the year) with Doomsday Algorithm if you like. Then you don't have to memorize the mapping table for the months.

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a question of cases ...

*Message #1 Posted by **Glenn Becker** on 6 July 2009, 12:31 p.m.*

Hi all -

I recently won an HP at ... some auction site or other, and it came complete with the original brown [fake?] leather zip up case.

More pertinently, when I received it, the calc was _inside_ this case, and when I opened the case up ... the unit was filthy! It had this crumbly, dark brown grud all over it.

Cleaning it was not difficult, but I soon established that the grud (my portmanteau word for grime/crud) in question had come off the inside of the case. There is a black mesh on the inside of that case, and beyond that is the inner wall of the [p]leather, which when rubbed releases the grud.

I guess I am wondering - are these cases known for this sort of material breakdown? Or perhaps this is a kind of mold? Perhaps it is because of the conditions in which it was kept (the unit came from Texas)? Just wondering too if it is worth trying to clean the case (can I just throw it into a washing machine by itself?) ...

Thanks,

GB

Re: a question of cases ...

*Message #2 Posted by **Jeff O.** on 6 July 2009, 12:37 p.m.,*
in response to message #1 by Glenn Becker

That is a common problem, particularly with the HP-41 case. I have remedied the problem with at least one such case by turning it inside out and tossing in the washing machine with a general load of laundry. Your mileage may vary, of course.

...

Re: a question of cases ...

*Message #3 Posted by **Randy** on 6 July 2009, 12:42 p.m.,*
in response to message #1 by Glenn Becker

It's referred to as "dry rot". The Spice and 41 cases are the most commonly affected. Excess heat is the most likely cause.

Washing them does work if they aren't too far gone.

Re: a question of cases ...

*Message #4 Posted by **Gerson W. Barbosa** on 6 July 2009, 1:27 p.m.,*

in response to message #1 by Glenn Becker

> Quote:
>
> when I opened the case up ... the unit was filthy! It had this crumbly, dark brown grud all over it.

Just like when I received my 71B case. At first I thought of throwing it in the trash bin but then I decided to wash it in a powder soap and some Vanish stain remover solution. I rinsed it twice or three times and let it dry overnight. It became like new!

Gerson.

Re: a question of cases ...

*Message #5 Posted by **Mad Dog ebaycalcnut** on 6 July 2009, 9:42 p.m.,*
in response to message #1 by Glenn Becker

Who was the seller?

Re: a question of cases ...

*Message #6 Posted by **Glenn Becker** on 7 July 2009, 1:19 p.m.,*
in response to message #5 by Mad Dog ebaycalcnut

Sorry, but I'd rather not go there. I somehow doubt they knew, anyway.

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How do I disassemble a hex number with Jazz?

*Message #1 Posted by **Matti Övermark** on 6 July 2009, 9:31 a.m.*

I have started to study the Art of SysRpl using my HP48 GX and Jazz 6.8. I would like to know how to disassemble a commmand using the Hexadecimal number as input, if I know that.

I do get results when I take, for instance, #7D27h DOB =>

"LABEL STO CON(5) (*)+5 ST=0 0 . . . "

and that above is not SysRpl. I think it is system assembly.

The DIS command (#7D27h DIS) just returns "HXS 10 72D7000000000000"

Any help appreciated!

Regards, Matti

Re: How do I disassemble a hex number with Jazz?

*Message #2 Posted by **Christoph Giesselink** on 7 July 2009, 7:30 p.m.,*
in response to message #1 by Matti Övermark

> Quote:
>
> I do get results when I take, for instance, #7D27h DOB =>
>
> ```
> "LABEL STO
> CON(5)   (*)+5
> ST=0     0
> .
> .
> "
> ```

This is the correct answer. STO is a so called PCO (Primitive Code Object), special assembler code which can be directly called from RPL code.

The construct *CON(5) (*)+5* is the preamble for such an object located in ROM. You should have a look at James Donnelly's book Introduction to System RPL and Assembly Language.

TNX to Eric Rechlin making this book electronically available.

The basic for SysRPL programming is still RPLMan from Goodies Disk 4.

Another book is Programming in System RPL (PDF) from Eduardo M. Kalinowski.

And finally for the hard core programmers the assembler code tutorial Introduction to Saturn Assembly Language (PDF) Third Edition.

I hope that I don't forgot to mention any other important books. If so, add them to this thread.

Cheers

Christoph

Re: How do I disassemble a hex number with Jazz?

*Message #3 Posted by **Matti Övermark** on 8 July 2009, 1:04 p.m.,*
in response to message #2 by Christoph Giesselink

Thanks Christoph!

/Matti

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OT: Integrated Circuit 50th Birthday

*Message #1 Posted by **Egan Ford** on 6 July 2009, 1:25 a.m.*

http://gizmodo.com/5306644/the-first-integrated-circuit-chip-celebrating-the-50th-anniversary

Re: OT: Integrated Circuit 50th Birthday

*Message #2 Posted by **DaveJ** on 6 July 2009, 1:48 a.m.,*
in response to message #1 by Egan Ford

Speaking of the Computer History Museum, for those who haven't been there you really need to make the effort, it is nothing short of superb. They even have a collection of HP calcs:

http://www.alternatezone.com/images/HPcalcs1.jpg

http://www.alternatezone.com/images/HPcalcs2.jpg

Dave.

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Hp50g Serial Number

*Message #1 Posted by **Quan** on 5 July 2009, 1:57 p.m.*

While performing the ROM upgrade for the first time, ever, via SD card yesterday, I noticed the serial number display after releasing the [+][-] keys to be different from the one on the sticker on the back. The format of the serials is identical.

Is this the actual serial or it means something else?

Thanks.

Re: Hp50g Serial Number

*Message #2 Posted by **Mike Morrow** on 5 July 2009, 10:16 p.m.,*
in response to message #1 by Quan

The same thing can be seen on the HP49g+. They are always different, though the time differential between them seems to vary significantly. On my HP49g+, the internal number is three weeks later than the external. On my HP50g, the internal number is three weeks before the external.

On the HP49g+ and HP50g, if the Development Library has been activated (set system flag -86, then warm restart with a ON+F3), the SERIAL command will be available. When executed, it returns the internal serial number.

Re: Hp50g Serial Number

*Message #3 Posted by **Michael de Estrada** on 5 July 2009, 11:22 p.m.,*
in response to message #2 by Mike Morrow

And on my HP-50g, the internal S/N is also 3 weeks earlier than the external S/N (717 vs 720). So, maybe the internal S/N relates to when the EPROM was burned and the external S/N relates to when the housing was made?

Re: Hp50g Serial Number

*Message #4 Posted by **Quan** on 5 July 2009, 11:57 p.m.,*
in response to message #3 by Michael de Estrada

Thanks all!

I found similar explanation from comp.sys.hp48, which I completely forgotten about when I posted this question.

I only searched the forum but didn't see anything. Nevertheless, it was interesting that they don't match.

The reason I was curious was because I used to work in a cell phone manufacturing facility. The serial number from the bar code sticker always matched the internal serial number. Whenever a repair was

done, a new bar code sticker must be re-printed so it matched the internal serial number. I believe this was done to prevent phony warranty claims.

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HP-67 Power trouble

*Message #1 Posted by **benitoprat** on 5 July 2009, 9:34 a.m.*

Hi If I turn off the Off/On switch and put it On again, the HP-67 doesn´t work. Npt a single dot appears. If I remove the battery and put it on againwith the Off/On switch to ON it starts and works perfect, (even the Card Reader)

Please if someone knows how to fix this I would be very grateful

Best regards

Re: HP-67 Power trouble

*Message #2 Posted by **Michael de Estrada** on 5 July 2009, 10:50 a.m.,*
in response to message #1 by benitoprat

Try again with the AC adapter/charger plugged in. Could be battery not fully charged or poor battery connection. Also, could be dirty OFF/ON switch contacts.

Re: HP-67 Power trouble

*Message #3 Posted by **benitoprat** on 6 July 2009, 9:02 a.m.,*
in response to message #2 by Michael de Estrada

Thank you for your answer. I tried with the AC adapter/charger plugged in and with a fresh charged battery (I have an external HP battery charger) and still have the problem. Best regards Daniel

Re: HP-67 Power trouble

*Message #4 Posted by **Michael de Estrada** on 6 July 2009, 9:56 a.m.,*
in response to message #3 by benitoprat

There are others on this forum who have a greater knowledge of this, and may have some ideas. The only thing I can think of is that the capacitors that are used in the LED circuit may be weak, and although the calculator ICs are getting powered, the LEDs are not. Why removal and then re-installation of the battery pack fixes this I do not know. Then again, I could be completely wrong on this, so it is just idle speculation.

Edited: 7 July 2009, 9:52 a.m.

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HP 71B versions

*Message #1 Posted by **Keith Midson** on 5 July 2009, 1:28 a.m.*

Hi HP world, Can someone please tell me what versions of the 71B are out there? I know of 1BBBB, 2CCCC & 2CDCC. Also what are the differences (memory, speed, features, etc)? Many thanks, Keith

Re: HP 71B versions

*Message #2 Posted by **Allen** on 5 July 2009, 2:13 p.m.,*
in response to message #1 by Keith Midson

Keith, Go to google.com and search on "71b versions".

Re: HP 71B versions

*Message #3 Posted by **Olivier (Wa)** on 5 July 2009, 10:36 p.m.,*
in response to message #2 by Allen

Even faster: Search Here (Sorry, 'could not resist!).

Re: HP 71B versions

*Message #4 Posted by **Keith Midson** on 6 July 2009, 4:43 a.m.,*
in response to message #3 by Olivier (Wa)

Thanks guys - glad that's sorted. I just got "SYNTAX ERROR" when I typed "Google 71B versions" in the 71B! Haha. Keith

Re: HP 71B versions

*Message #5 Posted by **Marcus von Cube, Germany** on 6 July 2009, 1:31 p.m.,*
in response to message #4 by Keith Midson

That's no problem. Just connect your HP-IL WLAN bridge and download Firefox onto your HP-71. You'll probably need a video interface for easier viewing of the results.

;)

Re: HP 71B versions

*Message #6 Posted by **Allen** on 6 July 2009, 5:37 p.m.,*
in response to message #5 by Marcus von Cube, Germany

Actually if they can do it with a 300 buad modem (with youtube posting) it should be possible with an acoustic coupler and a video display using a 71b.

Re: HP 71B versions

*Message #7 Posted by **Garth Wilson** on 6 July 2009, 6:02 p.m.,*
in response to message #6 by Allen

There were 300bps and 1200bps HPIL modems from Firmware Specialists, Inc. (FSI). I pulled out one of my old Educalc catalogs (1987) to get the dope on it:

<quote> Modem 1200 Brand New, and Fast! Print-through software included Free!

Automate your telecommunications, gather remote data! Direct-connect, 300/1200 baud, AC/DC rechargable [sic] auto-dial/auto-answer-- all with integral HP-IL interface and Hayes command set.

Tone or pulse, full or half duplex mode, baud rate, 7 or 8 data bits, 1 or 2 stop bits, odd or even or no parity (program-selectable). Senses speed at which incoming data is being received and adjusts itself accordingly.

Stock #IL-796 [Modem 1200] List $349.....$299.95 <end quote>

Of course since you could also get HPIL-to-RS232 interface converters (HP82164A or FSI164A), you could connect one of those to a more-modern, faster dial-up modem too. I've even seen Commodore 64's being used as web servers, so it's not out of the question.

Edited: 6 July 2009, 6:04 p.m.

Re: HP 71B versions

*Message #8 Posted by **Eric Smith** on 6 July 2009, 5:27 p.m.,*
in response to message #1 by Keith Midson

Those were the only three versions released to production. The differences are bug fixes, although 2CCCC introduced a nasty bug that resulted in the minor update to 2CDCC.

Re: HP 71B versions

*Message #9 Posted by **Keith Midson** on 6 July 2009, 10:14 p.m.,*
in response to message #8 by Eric Smith

The best web site I found that explained it all was this: http://www.jeffcalc.hp41.eu/emu71/bug71.html
I was hoping that there were features that made the differences between the version akin to the 41C/CV/CX series, but it's all about bugs, bugs and bugs. AND there isn't even a version with a red dot ... It hasn't stopped me from getting 1BBBB, 2CCCC & 2CDCC though.

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HP-12c Windows emulator shortcut keys

*Message #1 Posted by **Don Shepherd** on 4 July 2009, 9:19 p.m.*

Through trial-and-error, I discovered these shortcut keys on the PC keyboard, for those who may be interested in using PC macro programs with this emulator. Unfortunately, I couldn't find any keys for y^x or x<->y (or %, which I've never used). The top line of each cell is the 12c keycap, the bottom line the corresponding PC keyboard key.

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Any other non-HP published "How To" books out there?

*Message #1 Posted by **Larry (Ohio)** on 4 July 2009, 7:12 p.m.*

Does anyone know of other books written over the years like this one for the older generations of HP calculators? Thanks

http://www.lulu.com/content/paperback-book/hp-11c-programmable-calculator/7293092

Re: Any other non-HP published "How To" books out there?

*Message #2 Posted by **Jeff O.** on 4 July 2009, 7:33 p.m.,*
in response to message #1 by Larry (Ohio)

Quite a few "Easy Course in using..." books were written.

Re: Any other non-HP published "How To" books out there?

*Message #3 Posted by **Katie Wasserman** on 5 July 2009, 12:11 a.m.,*
in response to message #1 by Larry (Ohio)

Available on the DVD sold on this site are all these. There are more that either no one has scanned yet or Dave can't get the copyright holder's permission to put them on the DVD.

Edited: 5 July 2009, 12:12 a.m.

Re: Any other non-HP published "How To" books out there?

*Message #4 Posted by **db (martinez, ca.)** on 5 July 2009, 1:57 a.m.,*
in response to message #1 by Larry (Ohio)

There are some great programming examples in the D'zign books for the 41 & 42 that Katie mentioned, and some good basic trig & geometry routines too. The Museum discs are the best deal going. Also: Katie's site has an RPN program library listed under the Sinclair programmable and a whole book with an overview of RPN listed with the Corvus 500.

Yo LARRY!

*Message #5 Posted by **Mad Dog ebaycalcnut** on 6 July 2009, 9:34 p.m.,*
in response to message #1 by Larry (Ohio)

Are you the author?

Same first name as the author after all....

Edited: 6 July 2009, 9:47 p.m.

Any other non-HP published "How To" books out there?

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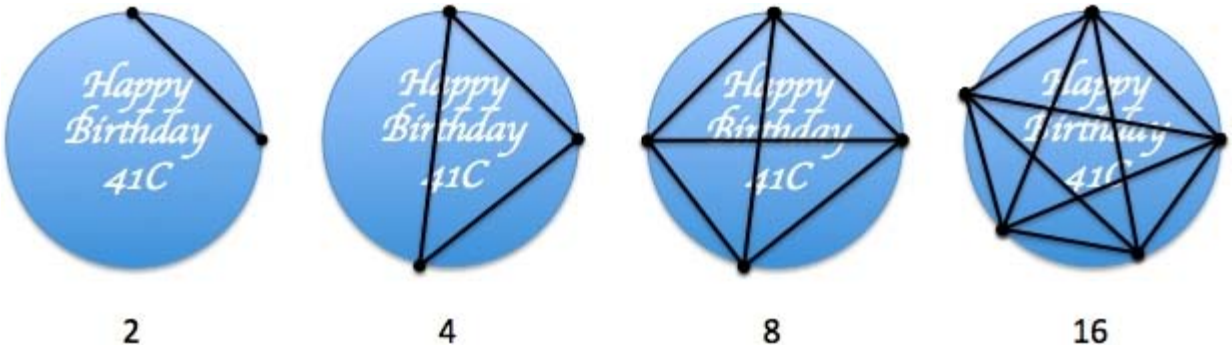
41C 30th Birthday Game

*Message #1 Posted by **Egan Ford** on 4 July 2009, 5:28 p.m.*

The 30th anniversary of the 41C is almost upon us. So dust of your 41 and give this simple challenge a try. What? No 41C? No worries, any calculator will do.



Above is a classic round birthday cake. As I was placing the candles around the cake I imagined that each candle was connected to each other candle with a line. I then wondered, “If I cut the cake following these lines, how many pieces will I have?” To answer this I drew the above four diagrams representing 2, 3, 4, and 5 candles. Remarkably, this divided the cake into 2, 4, 8, and 16 pieces. With all 30 candles around the edge and the cake divided along the imaginary lines what will be the *maximum* number of pieces?

Edit: Emphasized (italicized) maximum.

Edited: 7 July 2009, 12:46 a.m. after one or more responses were posted

Re: 41C 30th Birthday Game

*Message #2 Posted by **Don Shepherd** on 4 July 2009, 5:50 p.m.,*
in response to message #1 by Egan Ford

2^30= 1,073,741,824

Re: 41C 30th Birthday Game

*Message #3 Posted by **Jeff Kearns** on 4 July 2009, 5:58 p.m.,*
in response to message #2 by Don Shepherd

I would say 2^29 = 536,870,912 pieces

Re: 41C 30th Birthday Game

*Message #4 Posted by **Walter B** on 4 July 2009, 5:55 p.m.,*
in response to message #1 by Egan Ford

2^29 = 536,870,912

Re: 41C 30th Birthday Game

*Message #5 Posted by **Don Shepherd** on 4 July 2009, 6:05 p.m.,*
in response to message #1 by Egan Ford

OK, I see, they are right, 2^29. Mybad.

Re: 41C 30th Birthday Game *** Spoiler ***

*Message #6 Posted by **Gerson W. Barbosa** on 4 July 2009, 6:35 p.m.,*
in response to message #1 by Egan Ford

> Quote:
>
> Remarkably, this divided the cake into 2, 4, 8, and 16 pieces.

Unfortunately this scheme fails when we have six candles or more. For six candles, there are 9 diagonals and 24 regions comprised among them, so we'll have 30 pieces, 24 + 6, not 32. Not willing to think, I made a table for a few cases and looked up in OEIS:

```
number of  number of  internal external  number of
candles    diagonals  regions  regions    pieces
    4          2          4        4          8
    5          5         11        5         16
    6          9         24        6         30
```

Searching for the sequence 4, 11, 24, I found

A007678. From a link there, I found 21480 for n=30. Therefore we'll have 21510 pieces (21480 + 30).

Gerson.

Edited: 4 July 2009, 6:39 p.m.

Re: 41C 30th Birthday Game *** Spoiler *** Not Quite

*Message #7 Posted by **Egan Ford** on 4 July 2009, 7:59 p.m.,*
in response to message #6 by Gerson W. Barbosa

Nope, but close.

Re: 41C 30th Birthday Game *** Spoiler *** Not Quite

*Message #8 Posted by **Gerson W. Barbosa** on 4 July 2009, 8:46 p.m.,*
in response to message #7 by Egan Ford

Well, I've just checked this heptagon:

I've counted all the pieces and have found 50 of them which added to the 7 outer pieces make up 57 pieces, in accordance with this table:

n	d	in	ex	pieces
3	0	1	3	4
4	2	4	4	8
5	5	11	5	16
6	9	24	6	30
7	14	50	7	57
8	20	80	8	88
9	27	154	9	163
10	35	220	10	230
11	44	375	11	386
12	54	444	12	456
13	65	781	13	794
14	77	952	14	966
15	90	1456	15	1471
16	104	1696	16	1712
17	119	2500	17	2517
18	135	2466	18	2484
19	152	4029	19	4048
20	170	4500	20	4520
21	189	6175	21	6196
22	209	6820	22	6842
23	230	9086	23	9109
24	252	9024	24	9048
25	275	12926	25	12951
26	299	13988	26	14014
27	324	17875	27	17902
28	350	19180	28	19208
29	377	24129	29	24158
30	405	21480	30	21510

The third column was taken from OEIS A007678 - Number of regions in regular n-gon with all diagonals drawn. So 21510 appears to be the solution. Of course I may be wrong...

P.S.:

There's another OEIS seguence: A006533:

1, 2, 4, 8, 16, 30, 57, 88, 163, 230, 386, 456, 794, 966, 1471, 1712, 2517, 2484, 4048, 4520, 6196, 6842, 9109, 9048, 12951, 14014, 17902, 19208, 24158, **21510**, 31931, 33888...

Edited: 4 July 2009, 9:02 p.m.

Re: 41C 30th Birthday Game *** Spoiler *** Not Quite

*Message #9 Posted by **Egan Ford** on 5 July 2009, 11:15 a.m.,*
in response to message #8 by Gerson W. Barbosa

Great looking picture. It looks like a birthday cake too. I edited the original problem to emphasize the requirement for the *maximum* number of pieces.

BTW, your odd number results are correct.

Re: 41C 30th Birthday Game *** Spoiler *** Not Quite

*Message #10 Posted by **Gerson W. Barbosa** on 5 July 2009, 11:55 a.m.,*
in response to message #9 by Egan Ford

> Quote:
>
> I edited the original problem to emphasize the requirement for the *maximum* number of pieces.

You're right! I overlooked the word *maximum*, something I used to do during examinations... For n=6 for instance it is easy to see the maximum number of pieces will be 31, rather than 30, when the candles are not equally spaced around the cake. It's hard to compute the differences for large n though...

Edited: 5 July 2009, 11:56 a.m.

Re: 41C 30th Birthday Game

*Message #11 Posted by **Mark Edmonds** on 4 July 2009, 8:51 p.m.,*
in response to message #1 by Egan Ford

Interesting problem!

I haven't read anything added to the thread so I don't know if the solution has been posted. I did accidentally read the first couple of replies. To be honest, I don't think this is a 2^n type problem as the numbers just seem in the wrong ball-park to me.

However, my method is far from certain and short of drawing out the diagram, I don't know how to prove it and I think my solution only works for an even number of candles.

This answer is dependent on equal spacing of each candle round the perimeter. With non-equal spacing, you can't actually answer the question. So...

My result which I am far from confident on is: 5940. (give or take 30 maybe).

Mark

Re: 41C 30th Birthday Game

*Message #12 Posted by **Egan Ford** on 5 July 2009, 11:17 a.m.,*
in response to message #11 by Mark Edmonds

> Quote:
>
> To be honest, I don't think this is a 2^n type problem as the numbers just seem in the wrong

> ball-park to me.

Your instinct serves your well.

> Quote:
>
> With non-equal spacing, you can't actually answer the question.

Actually, you can.

Re: 41C 30th Birthday Game

*Message #13 Posted by **Mark Edmonds** on 5 July 2009, 3:39 p.m.,*
in response to message #12 by Egan Ford

> Quote:
>
> Actually, you can.

Yes, it was a silly thing to say and I've realised that now but at the time, I was thinking that intersections that didn't meet would form a number of additional sections which would be extremely difficult to calculate.

I would like to see an explanation for how the example 15C programs calculate the correct result please. The method I tried using was based on dividing the circle into a number of triangles where you could easily calculate the number of intersections and then the number of individual portions. However, this only worked up to a point because it then left a polygon in the middle and my attempt to find a way of counting portions in that polygon failed.

So a friendly explanation would be much appreciated!

Mark

Re: 41C 30th Birthday Game

*Message #14 Posted by **Gerson W. Barbosa** on 5 July 2009, 4:21 p.m.,*
in response to message #13 by Mark Edmonds

There's an OEIS sequence, A055795, which replicates the table generated by Valentin's program when 1 is added to each term. The sequence is called *Binomial(n,4)+binomial(n,2)*, hence the HP-15C program. Of course this doesn't answer your question. The exact sequence related to this problem is OEIS A000127. You can find some links therein, like this one: Regions of a circle Cut by Chords to n points, which may be of help.

It is interesting to notice Egan's pictures suggested the candles did not have to be equally spaced, which was nice. Cutting along all those diagonal is not an easy task, now imagine placing all thoses candles on the edge of the cake so they make up a regular polygon...

Congratulations for trying to solve the problem by yourself! (unlike me)

Gerson.

Edited: 5 July 2009, 4:34 p.m.

Re: 41C 30th Birthday Game

*Message #15 Posted by **Egan Ford** on 5 July 2009, 8:05 p.m.,*
in response to message #13 by Mark Edmonds

Mark,

I'll provide an explanation of both Valentin's and Gerson's solutions shortly. However, if you want to figure it out, then I would suggest that you start with any circle with at least four points and then draw the chords slowly and write down all your observations. You'll *see* it.

Re: 41C 30th Birthday Game

*Message #16 Posted by **Valentin Albillo** on 5 July 2009, 10:27 a.m.,*
in response to message #1 by Egan Ford

```
10 DEF FNF(N)=1+(N^4-6*N^3+23*N^2-18*N)/24

>FOR N=1 TO 30 @ N;FNF(N)@ NEXT N
```

1	**1**
2	**2**
3	**4**
4	**8**
5	**16**
6	31
7	57
8	99
9	163
10	256
11	386
12	562
13	794
14	1093
15	1471
16	1941
17	2517
18	3214
19	4048
20	5036
21	6196
22	7547
23	9109
24	10903
25	12951
26	15276
27	17902
28	20854
29	24158
30	**27841**

Best regards from V.

Re: 41C 30th Birthday Game

*Message #17 Posted by **Gerson W. Barbosa** on 5 July 2009, 12:37 p.m.,*
in response to message #16 by Valentin Albillo

Hello Valentin,

On the 15C:

```
001  LBL A
002  ENTER
003  ENTER
```

```
004  4
005  Cy,x
006  x<>y
007  2
008  Cx,y
009  +
010  1
011  +
012  RTN


30 GSB A => 27841
```

Best regards,

Gerson.

Re: 41C 30th Birthday Game

*Message #18 Posted by **Marcus von Cube, Germany** on 6 July 2009, 2:59 a.m.,*
in response to message #16 by Valentin Albillo

Hello Valentin,

nice formula! But I'd prefer an explanation over an implementation. I don't even see easily why the polynomial always produces an integer result.

Re: 41C 30th Birthday Game

*Message #19 Posted by **hugh steers** on 6 July 2009, 7:47 p.m.,*
in response to message #18 by Marcus von Cube, Germany

This form of the result seems quite elegant, R(n) the number of cake regions:

I've been trying to think of whether it makes the result any easier to understand. for example, it's the sum of combinations of pairs, triangles and quads for all points except one. but why?

Also, in a variation, if you didnt want to cut all the combinations of points but just wanted to make 15 cuts across the cake. can you achieve `n' new pieces for each nth cut, so that the total after n cuts = n(n+1)/2+1

Further, suppose you could place the candles anywhere on the cake (but not co-linear), but wanted to minimise the number of pieces.

so, for 6, instead of:

Click and discover Imageshack.

you have,

You would then have the rectilinear crossing number of intersections. eg for 6 point K6 (above) this is 3. is the RCN related to the number of regions created and if so does this mean the number of pieces is NP-complete to calculate.

?

Re: 41C 30th Birthday Game

*Message #20 Posted by **Egan Ford** on 6 July 2009, 8:20 p.m.,*
in response to message #19 by hugh steers

Quote:

Didn't you want min?

Re: 41C 30th Birthday Game

*Message #21 Posted by **hugh steers** on 7 July 2009, 4:23 a.m.,*
in response to message #20 by Egan Ford

sorry, yes min.

Re: 41C 30th Birthday Game

*Message #22 Posted by **Egan Ford** on 7 July 2009, 2:26 a.m.,*
in response to message #19 by hugh steers

Quote:

This form of the result seems quite elegant, R(n) the number of cake regions:

I've been trying to think of whether it makes the result any easier to understand. for example, it's the sum of combinations of pairs, triangles and quads for all points except one. but why?

I've shown below that R(n) = 1 + C(n,2) + C(n,4). You have shown that:

```
R(n) = C(n-1,0) +  C(n-1,1) + C(n-1,2)  +  C(n-1,3) + C(n-1,4)
```

So,

```
R(n) =     1    + (C(n-1,1) + C(n-1,2)) + (C(n-1,3) + C(n-1,4))
```

```
R(n) =     1    +         C(n,2)        +         C(n,4)
```

It's the only relationship I see.

Re: 41C 30th Birthday Game

*Message #23 Posted by **Gerson W. Barbosa** on 6 July 2009, 10:33 p.m.,*
in response to message #18 by Marcus von Cube, Germany

> Quote:
>
> I don't even see easily why the polynomial always produces an integer result.

Here Dr. Math explains the formula 1 + C(n,2) + C(n,4), which clearly produces integer results. It is equivalent to

```
1 + n!/(2!(n - 2)!)) + n!/(4!(n - 4)!)) =

1 + n(n-1)/2 + n(n-1)(n-2)(n-3)/24 =

1 + (n^4 - 6n^3 + 23n^2 - 18n)/24
```

Regards,

Gerson.

Re: 41C 30th Birthday Game -- Solution

*Message #24 Posted by **Egan Ford** on 6 July 2009, 11:53 p.m.,*
in response to message #1 by Egan Ford

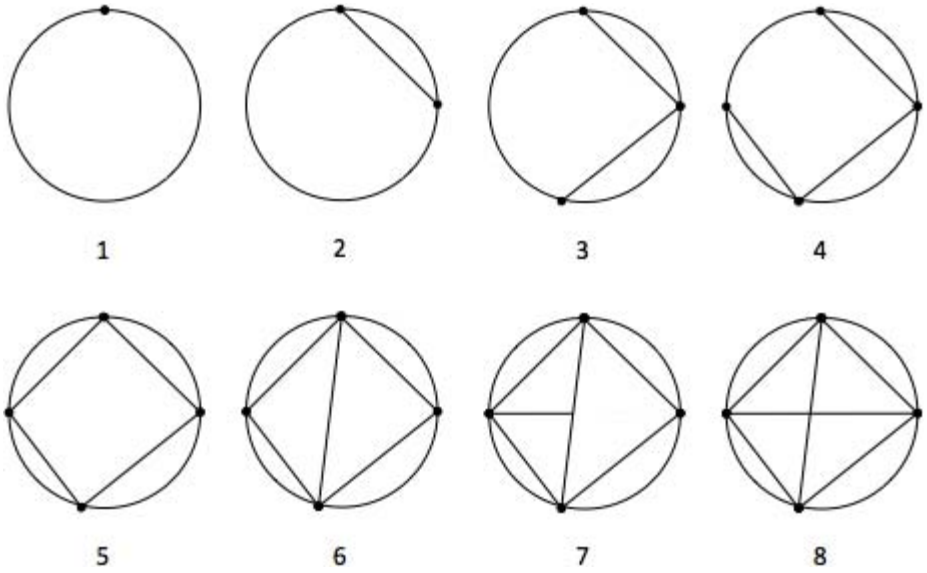
> Quote:
>
> With all 30 candles around the edge and the cake divided the along the imaginary lines what will be the *maximum* number of pieces?

The answer is 27,841.

The number of pieces for any *n* number of candles is:

$$1 + C(n,2) + C(n,4)$$

This formula can be obtain from the following observations:



With one point there is one region. Each time a chord is added an existing region is split into two and the overall region count is increased by one. For steps 1-6 above this should be straightforward.

When a chord intersects with another chord, the chord still splits a region in two, however it also splits any region that has the intersected chord as an edge. (Follow step 7 to 8).

That's it, so the number of regions is:

initial regions + number of chords + number of intersections

The *initial regions* is 1. Since all points connect to all points the number of chords is the number of unique combinations of point pairs or C(*n*,2). And, since two unique chords make a unique intersection and four unique points make two unique chords, then the number of intersections is the number of unique combinations of four points or C(*n*,4). Therefore: regions = 1 + C(*n*,2) + C(*n*,4). And that is the formula used in Gerson's 15C solution.

Unfortunately the 41C does not have a combination function, and for large *n* such as 30, you cannot create your own using *n*!/*k*!(*n*!-*k*!). The only 41C module I could find that had a combination function was the PPC ROM and its implementation hoses Z making chain calculations challenging. However there is a better COMB function by Werner Huysegoms that can be obtained from here http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv013.cgi?read=39655 message #13. With this COMB loaded into my 41C, I can use the following program to compute the number of pieces created by 30 candles:

```
01 LBL "BDAY"      13 ST- Y           25 LASTX
02 STO 00          14 X>Y?            26 INT
03 4               15 X<>Y            27 ST/ Z
04 XEQ "COMB"      16 +               28 RDN
05 RCL 00          17 1 E-3           29 DSE X
06 2               18 ST* L           30 ISG L
07 XEQ "COMB"      19 X<>Y            31 GTO 02
08 +               20 ISG L           32 LBL 00
09 1               21 X=0?            33 RDN
10 +               22 GTO 00          34 1 E3
11 RTN             23 LBL 02          35 *
12 LBL "COMB"      24 ST* Y           36 END
```

An alternative would be to expand 1 + C(*n*,2) + C(*n*,4) to:

$$1 + n(n-1)/2 + n(n-1)(n-2)(n-3)/24$$

and then simplify to (the lazy may just want to cut and paste into Wolfram Alpha):

$$(n^4 - 6n^3 + 23n^2 - 18n + 24)/24$$

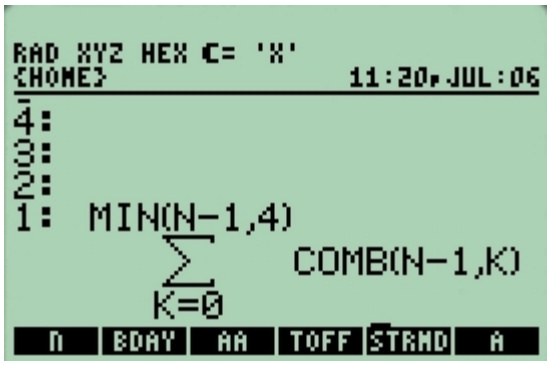
Look familiar? This was the approach taken by Valentin. Here is my 41C version using the same:

```
01 LBL "BDAY2"      14 X^2
02 ENTER^           15 23
03 ENTER^           16 *
04 ENTER^           17 +
05 4                18 X<>Y
06 Y^X              19 18
07 X<>Y             20 *
08 3                21 -
09 Y^X              22 24
10 6                23 +
11 *                24 LASTX
12 -                25 /
13 X<>Y             26 END
```

Hugh also pointed out an interesting relationship to the sum of the first five values of the n^{th} line of Pascal's Triangle:

```
n =  1                        1                              R(n) = 1
n =  2                     1     1                           R(n) = 2
n =  3                  1     2     1                        R(n) = 4
n =  4               1     3     3     1                     R(n) = 8
n =  5            1     4     6     4     1                  R(n) = 16
n =  6         1     5    10    10     5     1               R(n) = 31
n =  7      1     6    15    20    15     6     1            R(n) = 57
n =  8   1     7    21    35    35    21     7     1         R(n) = 99
n =  9 1     8    28    56    70    56    28     8     1      R(n) = 163
n = 10   1     9    36    84   126   126    84    36     9     1   R(n) = 256
```

For grins, expand Hugh's equation and then simplify. You'll get the same equation Valentin used. Or just use as-is, here is my 50g version:



What I like best about this challenge is that it is so easy to get mislead. 2^{n-1} is a common answer to this problem. And, if you assume a perfectly even distribution of points, then you get the minimum for even numbers, not the requested maximum. My drawings were intentionally unevenly distributed as a hint.

Thanks to all that participated in this birthday challenge.

Edited: 7 July 2009, 1:58 a.m.

Re: 41C 30th Birthday Game -- Solution

*Message #25 Posted by **Valentin Albillo** on 7 July 2009, 5:39 a.m.,*
in response to message #24 by Egan Ford

Hi, Egan:

Egan posted:

"(n4 - 6n3 + 23n2 - 18n + 24)/24

Look familiar? This was the approach taken by Valentin. Here is my 41C version using the same:

```
01 LBL "BDAY2"      14 X^2
02 ENTER^           15 23
03 ENTER^           16 *
04 ENTER^           17 +
05 4                18 X<>Y
06 Y^X              19 18
07 X<>Y             20 *
08 3                21 -
09 Y^X              22 24
10 6                23 +
11 *                24 LASTX
12 -                25 /
13 X<>Y             26 END
```

"

First of all, thanks for the challenge and your very detailed, thorough solution, and most especially for the considerable time and effort you generously put in it, much welcomed and appreciated.

Now, that said, and in regard with your quoted 41C RPN solution above ... **Egan, please !!!**

It hurts the eyes, man !! ... :-)

Didn't you ever heard of **Horner's Rule** as a particularly efficient way to quickly and accurately evaluate polynomials which further is uncannily suited to RPN and which was *mentioned, demonstrated, and heartily recommended in each and every HP classic calculator's manual since the very beginning*, even for non-programmable models ?

The obvious plain-vanilla RPN solution for the HP-41C (or any RPN model for that matter) using it is as follows:

```
01  LBL "VBDAY"
02  ENTER
03  ENTER
04  ENTER
05   6
06   -
07   *
08   23
09   +
10   *
11   18
12   -
13   *
14   24
15   +
16  LASTX
17   /
18  END
```

which is *8 steps shorter* (31 %), simpler, clearer, and much faster as well !

Taking into account your extreme proficiency when solving my past S&SMC challenges, I'm really surprised indeed ! ... :-)

Were you one of my students you'd be getting an **F-** for this and a severe reprimand as well ...

Best regards from V.

Edit: typo

Edited: 7 July 2009, 5:49 a.m.

Re: 41C 30th Birthday Game -- Solution

*Message #26 Posted by **Egan Ford** on 7 July 2009, 9:35 a.m.,*
in response to message #25 by Valentin Albillo

Good Morning Valentin,

> Quote:
>
> Didn't you ever heard of **Horner's Rule** as a particularly efficient way to quickly and accurately evaluate polynomials which further is uncannily suited to RPN and which was *mentioned, demonstrated, and heartily recommended in each and every HP classic calculator's manual since the very beginning*, even for non-programmable models ?

Sheez! What was I thinking?! I wasn't...

To be perfectly honest I lazily typed the expansion into Alpha, scrolled down to the *Alternate form:* and proceeded to enter the polynomial into my 41 emulator from left to right. It never occurred to me to use *Horner's Rule*. Most amateurish. Ah, the shame... :-)

Now I assure you that if this polynomial had be longer, then a deeper laziness would have kicked in (you know, that type of laziness where much more time is spent thinking about it so that much less time can be done doing it. Often the total time is greater as is the satisfaction).

> Quote:
>
> Taking into account your extreme proficiency when solving my past S&SMC challenges, I'm really surprised indeed ! ... :-)

It'll never happen again as long as my stack (short term memory) gets checked into my registers (long term memory).

> Quote:
>
> Were you one of my students you'd be getting an **F-** for this and a severe reprimand as well ...

Man, Dad will be disappointed. It's going to be a long day, and its starting to rain here in Toronto. Good grief. :-)

Re: 41C 30th Birthday Game -- Solution

*Message #27 Posted by **Gerson W. Barbosa** on 7 July 2009, 11:16 a.m.,*
in response to message #26 by Egan Ford

Actually, for the program to fit in 18 steps Horner is not necessary in this case. If we rewrite the polynomial as

$(24 + n(n - 1)((n - 2)(n - 3) + 12))/24 =$

$(24 + (n^2 - n)((n-2)^2 - (n-2)) + 12))/24$

then one possible HP-41 program will be

```
01  LBL "BDAY3"
02   x^2
03  LASTX
04   -
05  LASTX
06   2
07   -
08   x^2
09  LASTX
10   -
11   12
12   +
13   *
14   24
15   +
16  LASTX
17   /
18  RTN
```

Horner is more efficient though as it will require less operations (two multiplications and two subtractions versus three of each kind here).

Gerson.

Re: 41C 30th Birthday Game -- Solution

*Message #28 Posted by **Gerson W. Barbosa** on 7 July 2009, 9:08 a.m.,*
in response to message #24 by Egan Ford

Thank you for presenting both the problem and the magistral solution.

When the date arrives I would suggest a rectangular cake, like the one below, with two number-shaped candles on it so it doesn't elicit more problems :-)

Re: 41C 30th Birthday Game -- Solution

*Message #29 Posted by **Mark Edmonds** on 7 July 2009, 2:26 p.m.,*
in response to message #28 by Gerson W. Barbosa

Yes, many thanks for the details everyone and a fun thread too! :)

Mark

Re: 41C 30th Birthday Game -- Solution

*Message #30 Posted by **BruceH** on 7 July 2009, 6:25 p.m.,*
in response to message #28 by Gerson W. Barbosa

Mmm. Too late to respond to the thread but that cake was yummy. :-)

Re: 41C 30th Birthday Game -- Solution

*Message #31 Posted by **Dave Shaffer (Arizona)** on 7 July 2009, 6:46 p.m.,*
in response to message #30 by BruceH

> Quote:
>
> Mmm. Too late to respond to the thread but that cake was yummy. :-)

All 27,841 pieces of it! (Bite size, to say the least.)

Re: 41C 30th Birthday Game -- Solution

*Message #32 Posted by **Marcus von Cube, Germany** on 8 July 2009, 5:31 a.m.,*
in response to message #31 by Dave Shaffer (Arizona)

Egan and all who replied: Thanks for the challenge and the very good explanations. I'm impressed.

Re: 41C 30th Birthday Game -- Solution

*Message #33 Posted by **Jake Schwartz** on 8 July 2009, 2:02 p.m.,*
in response to message #30 by BruceH

> Quote:
>
> Mmm. Too late to respond to the thread but that cake was yummy. :-)

Yes, and if I recall correctly, Frank Kingswood got the Pi key and I commented that he was now able to have his cake and eat his pi too!

Jake

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(O.T.) Happy 'XROOT(9,10561572*EXP(2))/sqrtLN(pi)' ! (N.T.)

*Message #1 Posted by **Gerson W. Barbosa** on 4 July 2009, 2:39 p.m.*

Re: (O.T.) Happy 'XROOT(9,10561572*EXP(2))/sqrtLN(pi)' ! (N.T.)

*Message #2 Posted by **Eddie W. Shore** on 4 July 2009, 4:04 p.m.,*
in response to message #1 by Gerson W. Barbosa

HAPPY 4TH OF JULY!

Happy July 4th, 2009 as "identified" by my HP-71B IDENTIFY !!!

*Message #3 Posted by **Valentin Albillo** on 5 July 2009, 11:15 a.m.,*
in response to message #1 by Gerson W. Barbosa

$$\sin^{-1}\left(\sqrt[8]{\frac{83\log^7 2}{2^7-1}}\right)+2\pi$$

$$= 7.042009\ (000...)$$

... correct to **10** digits ! ... **:-)**

Best regards from V.

Re: Happy July 4th, 2009 as "identified" by my HP-71B IDENTIFY !!!

*Message #4 Posted by **Gerson W. Barbosa** on 5 July 2009, 12:47 p.m.,*
in response to message #3 by Valentin Albillo

Hi Valentin,

7.042009002 on the 15C and 7.04200900084 on the 33s.

Yes, I know your HP-71B IDENTIFY. Should have used it. Anyway, I spent no more than 5 minutes doing it by hand on the 33s. By the way, I tried 7.04000000001 on Plouffe's inverter but it wouldn't find anything closer...

Best regards,

Gerson.

P.S.: Another one just worked out to celebrate the 30th birthday of the HP-41C:

'(45/2+1/47075)/pi' => 7.1619792009

Edited: 5 July 2009, 1:27 p.m.

Re: (O.T.) Happy 'XROOT(9,10561572*EXP(2))/sqrtLN(pi)' ! (N.T.)

*Message #5 Posted by **Paul Dale** on 5 July 2009, 7:28 p.m.,*
in response to message #1 by Gerson W. Barbosa

Not that it is of any relevance to where I live of course, but how about these two gems:

```
4 SIN e^x ->H.MS 6 +
4 LN 3 3 / 7 +
```

The first is good in degrees mode on many/most scientific models. The second works on a 12c and is only one operation longer. Both need FIX 6 set.

- Pauli

Re: (O.T.) Happy 'XROOT(9,10561572*EXP(2))/sqrtLN(pi)' ! (N.T.)

*Message #6 Posted by **Gerson W. Barbosa** on 5 July 2009, 8:12 p.m.,*
in response to message #5 by Paul Dale

Getting them in just a few steps is very hard. I would guess you have written a special software to find them... If such is the case, it is interesting just the same.

Twice as much steps on the 12c but relevant to where I live:

```
EEX 2 12x ENTER 7 e^x EEX 3 / LN - LN
```

It works with the 12c default FIX 2 (but would work up to FIX 7). Our national date in our date format, DD.MM... :-)

Regards,

Gerson.

P.S.: Not so exact but works with FIX 2 and takes the same number of steps it would need to just writing the date:

```
EEX 2 12x LN
```

Edited: 5 July 2009, 8:27 p.m.

Re: (O.T.) Happy 'XROOT(9,10561572*EXP(2))/sqrtLN(pi)' ! (N.T.)

*Message #7 Posted by **Paul Dale** on 5 July 2009, 8:56 p.m.,*
in response to message #6 by Gerson W. Barbosa

> Quote:
>
> I would guess you have written a special software to find them... If such is the case, it is interesting just the same.

Yes, I do have a little helper program that simplifies searching for these :) It started off just applying a set of functions to a value and printing the nearer misses. Later, it grew to allow several function applications. Now it is closer to a mini-rpn calculator that does a real search. My goal is to ultimately have it do an automatic search.

I've been meaning to finish it and clean it up so I can post it online for one and all to use. When I get some time and motivation...

- Pauli

Re: (O.T.) Happy 'XROOT(9,10561572*EXP(2))/sqrtLN(pi)' ! (N.T.)

*Message #8 Posted by **Gerson W. Barbosa** on 6 July 2009, 12:54 p.m.,*
in response to message #7 by Paul Dale

> Quote:
>
> I've been meaning to finish it and clean it up so I can post it online for one and all to use.

Looking forward to it! Quite useful when one wishes to save some steps when entering constants in programs. For other applications, Inverse Symbolic Calculator might be an option. It correctly identifies 7.04200892003 as '7+2/33*LN(2)' but doesn't simplify it (Advanced lookup). However it fails for 7.04200900084: it just returns "*Wow, really found nothing.*" That'll require Valentin's HP-71B program (Datafile V26N2P24, March/April 2007).

Regards,

Gerson.

Re: (O.T.) Happy 'XROOT(9,10561572*EXP(2))/sqrtLN(pi)' ! (N.T.)

*Message #9 Posted by **Valentin Albillo** on 7 July 2009, 7:05 a.m.,*
in response to message #8 by Gerson W. Barbosa

Hi, Gerson:

> Gerson posted:
>
> > *"However it fails for 7.04200900084: it just returns "Wow, really found nothing." That'll require Valentin's HP-71B program (Datafile V26N2P24, March/April 2007)."*
>
> If using the European date format instead of the US one, i.e., **4.072009**, my HP-71B IDENTIFY program provides:

$$\pi + \sin^{-1}\sqrt[8]{\frac{493}{3\,\pi^6}}$$

which is correct to 11 digits.

Best regards from V.

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hp 45 charger

*Message #1 Posted by **asher levy** on 4 July 2009, 1:20 p.m.*

i have a hp-45 with a broken charger and wish to buy one. anyone can hepl?

Re: hp 45 charger

*Message #2 Posted by **Thomas Radtke** on 4 July 2009, 2:47 p.m.,*
in response to message #1 by asher levy

This might help:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv007.cgi?read=15604

Re: hp 45 charger

*Message #3 Posted by **asher levy** on 4 July 2009, 11:28 p.m.,*
in response to message #2 by Thomas Radtke

thanks Thomas

Re: hp 45 charger

*Message #4 Posted by **Randy** on 4 July 2009, 3:56 p.m.,*
in response to message #1 by asher levy

Don't start cutting it apart assuming it is a failure of the plug. The easiest check is to measure the resistance from the center pin to either outer pin. If either measurement is infinite, yes, the wire has most likely failed at the plug. But, it is just as common for the 400uf capacitor to fail. There is a schematic online here:

Classic charger schematic

PS: If repair is out of the question, list a want to buy in the classifieds here. Beyond that, eBay is about the only source.

Edited: 4 July 2009, 4:30 p.m.

Re: hp 45 charger

*Message #5 Posted by **asher levy** on 4 July 2009, 11:25 p.m.,*
in response to message #4 by Randy

thanks Randy

Re: hp 45 charger

*Message #6 Posted by **Gerry Schultz** on 6 July 2009, 4:56 p.m.,*

in response to message #5 by asher levy

I repaired the AC charger for my HP-55 quite easily. In this case, the charger would run the 55 on AC but never charge the battery. I bought a generic PNP power transistor (I would have to go home to look) from Radio Shack, traced out the schematic from the circuit board layout and replaced it. You do have to be care for the Base, Emitter and Collector layout as the replacement part is different from the original. There is plenty of space inside of the case for the new part. Now it works great.

If the cord is bad at the connector end, I have seen replacement cord kits show up on eBay periodically. I got one for when my cord fails. If the cord it bad at the PS side, then just cut out the bad section and re-solder. As Randy suggests, do some continuity tests first to figure out where the problem is.

Oh, I almost forgot, when you pull the power supply case apart, be sure to keep track of the 120v/240v switch parts so you can put it back together properly. I think some people have hard-wired the switch to 120v, but I think that reduces the value of the PS. I just cleaned the contacts for more reliable operation.

I'll look up the parts I bought and post them.

Good Luck,

Gerry

Re: hp 45 charger

*Message #7 Posted by **Les Wright** on 7 July 2009, 3:33 a.m.,*
in response to message #1 by asher levy

Not long ago I would've sold you one cheaply, but as I am left with only two I want to keep both (one to use, one as backup) to charge my 45, 65, 67, and 80.

These adapters are fortunately not rare and can be had for a price via The Auction Site That Must Not Be Named.

I advice against cutting these things open, as Randy can attest, given that he usually is the one to correct my "experiments". Unlike many here, I am dangerous with a soldering iron.

Les

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HP-35s simulator: Alternate skins?

*Message #1 Posted by **Dan Greil** on 4 July 2009, 11:41 a.m.*

I was surprised HP made the Voyager simulators realistic yet slapped a gimmicky skin on the HP-35s. They already have great images to work with - like the image they used on the back of the HP-35s packaging.

Anyway, before I pay $30 for this simulator, I had a few questions for those that already have:

1) Does the HP-35s simulator support alternate skins?

2) If so, is the skinning self-contained in the executable or can we create and apply our own skins?

3) Are there any noteworthy features in the Windows menu bar (i.e. the File, Edit, View, Tool, Help menus)?

4) Is there a 'Check for Updates' menu option or something similar? Just curious if there's any hint we're to anticipate updates or not.

Thanks,

Dan

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Rounding conventions

*Message #1 Posted by **Wayne Best** on 4 July 2009, 9:16 a.m.*

Dear All,

I'm sure this must have been discussed before but I couldn't find it so apologies if it's a repeat.

When trained as a scientist many years ago I was taught that when rounding numbers the convention was to round 5's to the nearest even number, thereby averaging out any introduced error when working with data. Everything I've seen and done in science in the last 30 years has reinforced this convention. I've only just found out that rounding away from zero (i.e., rounding up for positive numbers) is also an acceptable convention according to IEEE Standard Arithmetic. While this may be ok for accounting and finance, it introduces a bias when rounding data sets, and would appear to be unsuitable for many scientific applications especially those involving sets of data. I've used numerous calculators (nearly all HP) and they all round away from zero even calculators clearly designed for scientists and engineers like the 41C and 15C. I've also looked through a few of my manuals and I can't find any real discussion on the subject and there doesn't seem to be any setting or flag to allow the user to choose between the rounding methods. This is very inconvenient because it means that the number displayed is not the true rounded number (according the the scientific round to even method).

So, my question is, why do all these calculators, even the scientific ones, use this round away from zero method, and is there any way around the problem (other than witting a program)? Are there any calculators on the market that round "properly" for a scientist?

Thanks, Wayne

Re: Rounding conventions

*Message #2 Posted by **Gerson W. Barbosa** on 4 July 2009, 11:53 a.m.,*
in response to message #1 by Wayne Best

On the HP-71B you can choose one out of four rounding methods:

```
OPTION ROUND NEAR  (default)
OPTION ROUND ZERO  rounds towards zero
OPTION ROUND POS   rounds up
OPTION ROUNT NEG   rounds down
```

These can also be selected by clearing or setting the appropriate flags (-11 and -12).

See HP-71B Owner's Manual, pages 56 and 198.

For more on HP rounding philosophy refer to

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=103151

and

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=103356

Regards,

Gerson.

Edited: 4 July 2009, 11:54 a.m.

Re: Rounding conventions

*Message #3 Posted by **Wayne Best** on 4 July 2009, 12:22 p.m.,*
in response to message #2 by Gerson W. Barbosa

Thanks Gerson,

I have a 71B and this still doesn't round the display "properly". The 71B (like other calcs) still appears to use "round away from zero" for the display when the last digit is 5. For example, enter 2.005 with a fixed 2 decimal place format and it will show 2.01 instead of what most scientists would want, 2.00. It seems to me from checking p56 of the manual that "OPTION ROUND NEAR" only dictates how the 71B rounds the final 12th digit, not how it rounds the currently viewed display (eg, fixed 2).

Cheers Wayne

Re: Rounding conventions

*Message #4 Posted by **Quan** on 4 July 2009, 1:03 p.m.,*
in response to message #3 by Wayne Best

Hi Wayne,

I am curious as to why you or most scientists would want to round down to 2.00 instead round up to 2.01?

If there was a reason, I surely cannot recall as I can only remember to round up. Last year I helped my niece (3rd grade) with her homework, and the school also taught rounding up.

Thanks.

Quan

Re: Rounding conventions

*Message #5 Posted by **Gerson W. Barbosa** on 4 July 2009, 1:45 p.m.,*
in response to message #4 by Quan

> Quote:
>
> I am curious as to why you or most scientists would want to round down to 2.00 instead round up to 2.01?

Please follow the link below and take a look at **Round-to-even method**:

http://en.wikipedia.org/wiki/Rounding

Regards,

Gerson.

Re: Rounding conventions

*Message #6 Posted by **Don Shepherd** on 4 July 2009, 1:45 p.m.,*
in response to message #1 by Wayne Best

Schools teach it this way: if the digit to the right is 0, 1, 2, 3, or 4, leave the rounding-to digit alone; if the digit to the right is 5, 6, 7, 8, or 9, add 1 to the rounding-to digit. So, five digits go one way, five digit go the other way. Sounds fair to me. I thought that is how all calculators do it too.

Re: Rounding conventions

*Message #7 Posted by **Thomas Radtke** on 4 July 2009, 2:55 p.m.,*
in response to message #6 by Don Shepherd

Don, 0.5 is the average of 0 and 1. If you always round it up, you'll introduce a bias. If your rounding depends on whether the INT is even or odd, you get rid of the bias in most cases. That's how I understand it. I might be wrong though :^).

Re: Rounding conventions

*Message #8 Posted by **Walter B** on 4 July 2009, 5:45 p.m.,*
in response to message #7 by Thomas Radtke

That's what I like at this forum: There's a good chance I learn something I didn't know before. I admit I had no idea about round-to-even and the reasons for it (or have forgotten that completely), though having a Ph.D. in physics and having worked with large data sets (way back).

IMHO, in real life the error introduced by rounding 5 up (as I did it so far all the time) seems neglectable as long as you discard more than one digit in rounding.

Re: Rounding conventions

*Message #9 Posted by **Don Shepherd** on 4 July 2009, 6:12 p.m.,*
in response to message #7 by Thomas Radtke

So, 92.5 would be rounded to 92 (nearest even number). OK, one of you engineers will have to come to my math class and explain to my students why a 92.5 average results in a B now, rather than an A, on their report cards (standard range for A is 93-100). Jeesh, no wonder kids hate math! :)

Re: Rounding conventions

*Message #10 Posted by **Rodger Rosenbaum** on 4 July 2009, 7:05 p.m.,*
in response to message #9 by Don Shepherd

> Quote:
>
> So, 92.5 would be rounded to 92 (nearest even number). OK, one of you engineers will have to come to my math class and explain to my students why a 92.5 average results in a B now, rather than an A, on their report cards (standard range for A is 93-100). Jeesh, no wonder kids hate math! :)

A 92.5 average *should* get a B, rather than an A, shouldn't it?

They don't hate averaging, do they? Rounding is easier than averaging.

You can't round to 2 digits before you do the comparison "IF score < 93 THEN grade = B.

Re: Rounding conventions

*Message #11 Posted by **Katie Wasserman** on 4 July 2009, 3:27 p.m.,*
in response to message #1 by Wayne Best

Actually, I'm not so sure that it's ok in finance either. I work on wall street and I've never personally seen any programs using the round-to-even method, but they call it "Banker's Rounding" here which must mean that some financial places do that.

I can't think of a single hand-held calculator (not even the HP-50g) that has round-to-even as a possible rounding method. But some large math packages have this; Mathematica's "rint" function, for example.

Edited: 6 July 2009, 2:25 p.m. after one or more responses were posted

Re: Rounding conventions

*Message #12 Posted by **Rodger Rosenbaum** on 4 July 2009, 7:08 p.m.,*
in response to message #11 by Katie Wasserman

> Quote:
>
> Actually, I'm not so sure sure that it's ok in finance either. I work on wall street and I've never personally seen any programs using the round-to-even method, but they call it "Banker's Rounding" here which must mean that some financial places do that.
>
> I can't think of a single hand-held calculator (not even the HP-50g) that has round-to-even as a possible rounding method. But some large math packages have this; Mathematica's "rint" function, for example.

All the Saturn based calcs do round-to-even arithmetic (except the HP71 can do something else if selected); it's just the display rounding that isn't round-to-even

Re: Rounding conventions

*Message #13 Posted by **Katie Wasserman** on 5 July 2009, 12:25 a.m.,*
in response to message #12 by Rodger Rosenbaum

I thought that we're talking about display rounding in this thread. The original post said:

> Quote:
>
> While this may be ok for accounting and finance, it introduces a bias when rounding data sets, and would appear to be unsuitable for many scientific applications especially those involving sets of data.

The "data sets" imply that the data was from an experiment or whatever and input into the calculator. So I thought that the discussion has been about display rounding on input not rounding of the internal functions to their maximum accuracy.

Edited: 5 July 2009, 12:31 a.m.

Re: Rounding conventions

*Message #14 Posted by **Rodger Rosenbaum** on 5 July 2009, 3:51 a.m.,*
in response to message #13 by Katie Wasserman

But display rounding on input has no effect on the data that ends up in a data set in the calc (to be processed further, presumably).

The data could have been captured from an HPIL device, such an HP3468 voltmeter. In that case, clearly display rounding has no effect on the captured data.

Even if the data were typed in, the fact that the typed-in data appears different in the display doesn't change what is stored in a variable.

For example, if the calc is in FIX 2 mode and you type in 2.005, it doesn't matter that the display shows 2.01; the number upon which arithmetic will be performed is still 2.005

The display rounding only matters when the human operator is looking at the final result.

Re: Rounding conventions

*Message #15 Posted by **Katie Wasserman** on 5 July 2009, 12:28 p.m.,*
in response to message #14 by Rodger Rosenbaum

How about if assume that the user enters the data via a program (keystroke entry or HP-IL device) and that the program uses the Round Function in the calculator (usually marked as RND on HP calculators) to force the data to N decimal places as set by the display format. I think that this would be a likely scenario for entering data into a calculator and display rounding is important since RND works based on display rounding.

Re: Rounding conventions

*Message #16 Posted by **Wayne Best** on 6 July 2009, 8:05 a.m.,*
in response to message #14 by Rodger Rosenbaum

Just to put this into the context of my real life situation. I was using my calculator to calculate the purity of a number of samples of a chemical. There are a number measurements (weight, volume, detector response, etc) for each purity calculation which I manually enter into the calculator to produce the answer. The number of significant figures I need (based on errors involved in the measurements) is 4, ie xx.xx% So I set my calculator to FIX 2, and just read off the (rounded) answers. I report these individual purity measurements separately. At this point all the answers have been rounded up which is probably no real issue but then I want to average these purities and this is when the bias introduced by rounding up (rather than to even) becomes an issue because the average purity will be slightly higher than it really should because all the 5's have been rounded up. I realise the error will be small but it could (and should) be removed entirely by simply rounding to even. I hope this makes sense and explains why this is a real problem. You may well ask why didn't I just use a spreadsheet for the whole process but this is another story .....

Re: Rounding conventions

*Message #17 Posted by **Garth Wilson** on 6 July 2009, 3:08 p.m.,*
in response to message #16 by Wayne Best

Makes sense; but even if you don't want the calculator to keep all the values simultaneously and then average them at the end, you could still have the calc keep a running average and

avoid the problem. One register keeps the total of the results, and another one keeps the number of results added together to get that total, so at any time you can divide one by the other to get the average so far, to as many digits as you want, even if individual purities were dispalyed in only FIX 2.

Re: Rounding conventions

*Message #18 Posted by **Wayne Best** on 7 July 2009, 10:42 a.m.,*
in response to message #17 by Garth Wilson

Thanks Garth

That would certainly solve the problem in many cases. But there are a couple of issues that still remain. I should also point out that as well as needing the average, I also needed the standard deviation because I had to multiply this by a factor (based on the number of samples) to give an error to a 95% confidence limit.

Firstly, I was using a HP21 which, with only 1 memory register and no Stats, wasn't capable of doing what you suggest. Ok, I could have reached into my calculator cupboard and pulled out any number of calculators which could have handled this easily so it's not really much of an excuse.

Secondly, and this is my main concern, I have collaborations with biologists, pharmacologists, computational chemists, and other disciplines. We routinely exchange data sets back and forth for various types of analysis. Naturally, we only send/receive the data with the appropriate number of significant figures, ie rounded data. So now we have (or sent) a biased data set which then gets used in further analysis. I accept that any errors will be small and in most circumstances will not have a material effect on the results. But I think the point is that, if the rounding were done "properly" then there would be no issue at all.

Thirdly, and this is the actual event which highlighted the issue to me. I had to report the data and the average result to the client. So the option was to report the average of the rounded data (even though this was slightly higher than the real average) or report the real average based on the unrounded data even though this wasn't exactly the average of the reported results. It sounds rather pedantic but the report was to be presented in court in relation to a patent dispute. If the report had even a minor inconsistency like this, it could impact on our credibility as an expert witness. In the end I just manually rounded the data using the round to even method and that was fine. But it did strike me as odd that scientific calculators couldn't round "properly" and hence my post on this forum. I was hoping that there might be some undocumented trick such as setting a flag but it seems not. I'll be the first in line to buy the first calculator than can round to even!

It's true that most of our "number crunching" these days is done in spreadsheets but there's nothing quite like running the numbers through a calculator yourself to really have faith in the answer.

Re: Rounding conventions

*Message #19 Posted by **Gerry Schultz** on 7 July 2009, 1:07 p.m.,*
in response to message #18 by Wayne Best

Wayne:

I have been reading this thread for the last couple of days. It has made me think

about rounding conventions after many years and this morning I was struck with the thought of why are you using an HP calculator to process this data? I can understand wanting to use an HP calculator to manually process the data sets to confirm what an Excel spreadsheet has done, but in this discussion, you have implied that you are passing data processed in the calculator on to your coworkers.

I am the first to admit that I know nothing about what you do or how careful you need to be with your data. But, if this data is going to be used in a legal proceeding and any question is raised by an attorney about how you reached you expert conclusions, I would think you would want a well documented trail to deflect any question of credibility. I lived with an attorney for 5 years and she always looked for any means to discredit an expert witness in a trial.

My thought, in my tiny mind, is that an HP calculator should be used as an independent means to confirm the validity of your Excel processed data sets which increases you confidence when on the stand and if asked if you confirmed this data you have that HP calculator ace in your back pocket and have dealt with any potential rounding errors.

It's not that HP calculators are not "good" enough to do this work, it's that if your legal opponent catches wind that you used a calculator to process this data and he was technical enough (and some attorneys are) he could ask about rounding errors during cross-examination and place doubt in the eyes of a naive jury. Just ask any criminal attorney about what the CSI TV shows have done to the public's perspective on how crime scenes are processed. Then stand back and be prepared to cover your ears.

Others in this thread have covered well the issue of rounding errors and your posts show that you are rightly thinking about this issue. I've enjoyed this thread as it has made me think about things I have taken for granted or forgotten. I always look forward to the next posted question. What else we will all learn?

Gerry

Re: Rounding conventions

*Message #20 Posted by **Jeff Kearns** on 7 July 2009, 1:50 p.m.,*
in response to message #18 by Wayne Best

I too have been following this thread with interest and I found it odd that the data sets are not analyzed in Excel or even better, a proper statistical analysis package like Minitab or Statistica.

On the one hand, there is the issue of expert witness credibility and on the other hand the desire (for whatever reason, albeit not fully explained) to use a time-consuming handheld calculator, with no 'paper trail' to show exactly how the data were processed.

For your sake, I hope that there are not more a handful of data pairs... Would you be willing to share examples of the data with the forum in such a fashion that we are unable to determine the units or purpose - just for discussion purposes?

Jeff Kearns

Re: Rounding conventions

*Message #21 Posted by **Jeff Kearns** on 7 July 2009, 1:59 p.m.,*
in response to message #20 by Jeff Kearns

My curiosity is really piqued now...

I have analyzed some rather interesting data sets in my day (LeanSigma practitioner) and have always been impressed with the rapidity and reliability of a HP 49G+ or a 50G to calculate summary statistics, confidence intervals and conduct hypothesis testing on relatively small data sets (>20 pairs).

Just how many of your data points end in 5's anyway? What is the worst case difference (statistically speaking) in mean values between the two rounding methods for your data sets? It seems to me that the difference would be negligible. I need to see the data!!!

Jeff

Edited: 7 July 2009, 2:03 p.m.

Re: Rounding conventions

*Message #22 Posted by **Wayne Best** on 8 July 2009, 12:14 p.m.,*
in response to message #21 by Jeff Kearns

Dear Jeff and others

Thanks for your comments. I was trying to keep my description of the problem and how it arose simple so as not to confuse or bore people but here is a bit more background for those that are interested in the origin.

Unfortunately, we don't have any nice stat packages and we probably couldn't justify the cost as most of our number crunching is pretty basic stuff. And no, I'm neither a troglodyte nor masochist, I do most of this sort of work in a spreadsheet, not a calculator :) I use OpenOffice not MS Excel but I don't think there's much difference. OpenOffice, like the calculators, does not round to even but rather rounds all the 5's up. In my "real life" example

The actual data to be analysed was relatively small, 6 standards (in triplicate) to calculate a standard response (by linear regression) and then 8 samples (in triplicate) which were fitted to the regression to calculate concentration from which purity was finally calculated. There was several stages involved in the calculations with the early stages being manually recorded in a lab book before being transferred to a spreadsheet for further calculations and linear regression. The final spreadsheet was then brought to me for checking. I like to check results ab initio by an independent process rather than just check what has been done. As the data set was relatively small I thought I'd just check a few selected preliminary calculations manually by calculator (HP21) and then check the regression and line fitting for which I pulled out my 48GX (I wasn't aware that it could calculate confidence limits so thanks for the tip, I'll look into that). This is the point at which the saga began to unfold because my 8 manually calculated purity results did not agree with the spreadsheet. It took some time to find the source of the discrepancy between the two methods which had nothing to do with rounding up versus rounding to even but an inappropriate manual rounding of the slope and intercept in

the spreadsheet was part of the problem. However, in tracking down the problem I started to take a closer look at potential sources of error and the rounding issue arose. I think the maximum error is only 1 in the final significant digit. So if you have 4 significant digits the error should only be between 1 in 1,000 to 1 in 9,999 but if you are rounding to only 2 significant figures it could in theory be as high as 1 in 10 (it's just gone midnight here and my mind is getting a little fuzzy so you might want to check that :))

From this simple data set (2.05, 2.15, 2.25, 2.35, 2.45, 2.55) you can see that the error is 0.1 in 2.3 or just over 4%, not insignificant at all. Ok, it does contain a lot of 5s. You ask "how many numbers end in 5 anyway" and this really does depend on where the numbers come from and how many significant digits you drop off a t a time. I guess from normal calculated numbers one would expect only 10% of numbers would end in five but for some visual measurements 5s are very common, for example melting points are normally given to the nearest 1/2 degree so every second measurement might end in 5.

I need to look into this a bit more and see what the typical error might be in a more typical data set and significant figure reduction. I suspect it only really becomes significant if one reduces to 1 (not very usual) or 2 (not uncommon) significant figures. Ironically, I think the problem is worse when you only drop one figure because 1 in 10 are 5s whereas if you drop 2 at a time the number of 50's is only 1 in 100. I hope that makes sense.

Also, I think I have found one example of round to even....the HP-95LX has a RND function which seems to do this but I need to look at this in more detail as I don't have a manual for this calc.

Thanks all

Re: Rounding conventions

*Message #23 Posted by **Katie Wasserman** on 8 July 2009, 1:27 p.m.,*
in response to message #22 by Wayne Best

I tried the RND function on my 95LX and 200LX and I don't think that it works any differently than the RND function on all the other HP calculators that I've tried. Perhaps I'm doing something wrong, is there a particular reason why you think it does a round-to-even on the 95LX?

-Katie

Re: Rounding conventions

*Message #24 Posted by **Wayne Best** on 9 July 2009, 8:52 a.m.,*
in response to message #23 by Katie Wasserman

Hi Katie

I'm pretty sure my 95LX is using "round to even" . I am using the calculator feature of the device and have the format set to FIX 2. If I input 2.005 and presse ENTER the display shows 2.01 as all the other calculators do (of course the number is still 2.005). If I then press the RND function (F2) the display changes to 2.00, ie it has actually

rounded down to even. The only downside of this is that it actually changes the number and not just the way it's displayed. It would be nice to keep the original number but just changed the display rounding. When I try the same procedure using the RND feature of the 41CV or 15C the result is 2.01 not 2.00 so it seems that the 95LX is the odd one out here. I wonder why this is? Perhaps it has something to do with it running on a DOS system? Unfortunately, I don't have a manual for the 95LX. Give it a try and let me know if it works for you, perhaps there is an option on the 95LX for this?

Regards Wayne

Re: Rounding conventions

*Message #25 Posted by **Thomas Radtke** on 9 July 2009, 3:02 p.m.,*
in response to message #24 by Wayne Best

It appears to be the default method of the 95LX calculator application. Interesting.

Edit: I almost forgot I have the manual. The RND description is wrong. It states that the number is rounded to correspond with the number displayed.

Edit 2: Serial ABD3128A03721

Edited: 11 July 2009, 3:44 a.m.

Re: Rounding conventions

*Message #26 Posted by **Katie Wasserman** on 10 July 2009, 9:31 p.m.,*
in response to message #24 by Wayne Best

Wayne,

I just tried your example on my 95LX and it doesn't work as yours does. Setting format Fix 2 and entering 2.005 will show 2.01 certainly. But when I press RND (F2 on the MATH menu) the X register stays at 2.01. I get the same results in ALG mode as I do in RPN mode I don't think that there are any other options that can be set in the calculator that would effect rounding. Could your 95LX and mine be different ROM versions with a changed Calc program?

My 95LX is the last release based on the information found here. The serial numbering prefix found on this same page does not agree with the number of my machine, it's SG30300278 which indicates that it was made early in 1993 I think.

-Katie

Re: Rounding conventions

*Message #27 Posted by **Wayne Best** on 11 July 2009, 7:15 a.m.,*
in response to message #26 by Katie Wasserman

Hi Katie

Gee, that's really odd. Mine is a USA made model S/N ABA3139A00067 and is the early 512k version. I understand (from the excllent link in your post) that the calculator applet is based on the 19BII which also rounds up not even. I wonder if mine is an earlier version which came with round to even which was "fixed" in later models. Or perhaps mine is broken or I'm doing something wrong? I'd be interested to hear from other 95lx owners about the behaviour of theirs.

Regards Wayne

Re: Rounding conventions

*Message #28 Posted by **Rodger Rosenbaum** on 7 July 2009, 3:31 p.m.,*
in response to message #18 by Wayne Best

> Quote:
>
> It's true that most of our "number crunching" these days is done in spreadsheets but there's nothing quite like running the numbers through a calculator yourself to really have faith in the answer.

Does Excel round-to-even?

The answer to your original question is that HP calcs don't do what you want when display rounding is in effect.

However, if you want a properly rounded-to-even result with a fixed 2 digits after the decimal point that will also display properly when the calc is in FIX 2 mode, 6 keystrokes will do it on a Saturn based calc:

EEX 9 + EEX 9 -

You could assign this as a tiny program to a used defined key, if the calc has that ability. Otherwise, just remember it.

And, of course, if you want a different number of digits after the decimal point, adjust the constant 9.

Re: Rounding conventions

*Message #29 Posted by **Katie Wasserman** on 10 July 2009, 9:42 p.m.,*
in response to message #28 by Rodger Rosenbaum

> Quote:
>
> Does Excel round-to-even?

No. Microsoft calls in banker's rounding. Read this quite extensive writeup about rounding in VBA, Excel and in general.

Edited: 10 July 2009, 9:44 p.m.

Re: Rounding conventions

*Message #30 Posted by **Rodger Rosenbaum** on 11 July 2009, 12:47 a.m.,*
in response to message #29 by Katie Wasserman

What I see on that page is:

```
Product                                 Implementation
   ---------------------------------------------------------------
----------
   Visual Basic for Applications 6.0    Banker's Rounding
   Excel Worksheet                      Symmetric Arithmetic
Rounding
   SQL Server                           Either Symmetric
Arithmetic Rounding
                                        or Symmetric Round Down
(Fix)
                                        depending on arguments


   Java Math library                    Asymmetric Arithmetic
Rounding
```

It looks to me like you would only get Banker's rounding in Excel within a VBA application.

Do you read it differently?

Re: Rounding conventions

*Message #31 Posted by **Katie Wasserman** on 11 July 2009, 2:38 a.m.,*
in response to message #30 by Rodger Rosenbaum

Exactly, you'd have to write in VBA to get banker's rounding in Excel. There's no function within Excel itself for that, although it does have ROUNDUP, ROUNDDOWN and regular ROUND.

Re: Rounding conventions

*Message #32 Posted by **Werner** on 13 July 2009, 7:28 a.m.,*
in response to message #28 by Rodger Rosenbaum

or, as I use it:

```
2 E9
+
LASTX
-
```

Cheers, Werner

Re: Rounding conventions

*Message #33 Posted by **Rodger Rosenbaum** on 14 July 2009, 1:14 p.m.,*
in response to message #32 by Werner

Why 2 E9 rather than 1 E9?

Re: Rounding conventions

*Message #34 Posted by **Werner** on 15 July 2009, 1:33 p.m.,*
in response to message #33 by Rodger Rosenbaum

so that it works for negative numbers as well, eg:

```
-55.451 + 1e9 - 1e9 => -55.451
but
-55.451 + 2e9 - 2e9 => -55.45
```

Cheers, Werner

Re: Rounding conventions

*Message #35 Posted by **Rodger Rosenbaum** on 16 July 2009, 2:02 a.m.,*
in response to message #34 by Werner

Of course.

I assumed without good reason that he would be rounding positive data. I should have mentioned that for negative numbers, he should use the sequence EEX 9 - EEX 9 +.

I do all my calculator programming on an HP50 these days, and to enter 2E9 takes 1 more keystroke than to enter 1E9; that is, 2 EEX 9 versus EEX 9.

And, the HP50 has no LASTX key; LASTARG isn't available as a key on the non-user-shifted keyboard.

I happened to look at an old thread on rounding from 2003, and I think it might be fun to revisit it. I'll start a new thread.

Re: Rounding conventions

*Message #36 Posted by **Wayne Best** on 4 July 2009, 8:43 p.m.,*
in response to message #11 by Katie Wasserman

Thanks Katie

I'ver never heard it called Banker's rounding before but now I have a new respect for the financial sector. I thought the banks would always want to claim that extra half cent for themselves :)

Regards, Wayne

Re: Rounding conventions

*Message #37 Posted by **Rodger Rosenbaum** on 4 July 2009, 6:48 p.m.,*
in response to message #1 by Wayne Best

You said:

> Quote:

> While this may be ok for accounting and finance, it introduces a bias when rounding data sets, and would appear to be unsuitable for many scientific applications especially those involving sets of data.

The HP71 and later Saturn based calcs round-to-even (unless you set the rounding mode in the HP71 to something else) during arithmetic calculations, so this problem only shows up in the *display* of final results. One way around it without doing any programming is to set your calculator to display all 12 digits in the result and do the rounding to a smaller number of significant digits yourself.

Or, if you have a large number of final results to print at some lower number of significant digits, you can cause that number of digits to be rounded-to-even using a technique I described on comp.sys.hp48 in 2004:

Imagine that you want to round a number on your calculator to a reduced number of digits, smaller than the calculator's full precision, with proper rounding (round-to-even, that is!). If the calculator does N digit arithmetic and you want a K digit rounded result, R, the formula:

R = value - value * 10^(N-K) + value * 10^(N-K)

or

R = value + value * 10^(N-K) - value * 10^(N-K)

gives the K digit properly rounded result where "value" is the original full-precision number you want to round to K digits. These formulas use Dekker's method, and only work correctly if the calculator does proper rounding during arithmetic.

For example, on the HP48, if we have the number 123450000001 in the display and want to round this to 4 digits, we compute:

123450000001 - 123450000001 * 1E8 + 123450000001 * 1E8

and we get: 123500000000

But if my starting value is 123450000000 and I compute:

123450000000 - 123450000000 * 1E8 + 123450000000 * 1E8

we get: 123400000000

The result is rounded to even. Now start with 123550000000 and compute:

123550000000 - 123550000000 * 1E8 + 123550000000 * 1E8

we get 12360000000, and we see that the result is rounded to even, as it should be because the discarded digits were 50000000..., that is, a 5 followed by only zeroes.

Try reversing the order of the addition and subtraction in the last example:

123550000000 + 123550000000 * 1E8 - 123550000000 * 1E8

we still get: 123600000000

Now try this with a TI86 calculator:

123550000000 - 123550000000 * 1E10 + 123550000000 * 1E10

(use 1E10 as the multiplier because the TI is a "14" digit machine) we get 123500000000 (only 12 digits are shown)

But if we try:

123550000000 + 123550000000 * 1E10 - 123550000000 * 1E10

we get 123600000000 on the TI86. So Dekker's method fails on the TI.

Re: Rounding conventions

*Message #38 Posted by **Wayne Best** on 4 July 2009, 9:17 p.m.,*
in response to message #37 by Rodger Rosenbaum

Thanks Rodger

Yes, you're right, it's all about the rounding on the display. As a user, that's all I see. I take it for granted (perhaps naively) that the precision of the calculations are fine and I cannot recall a single real life example where I've needed all the precision of a modern calculator. So I guess most of us set the display for the number of significant figures we need (for me that's rarely more than 4 decimal places). Once I set the display, I expect (would like) that when I average data that the display shows the "properly" rounded average but this is not so. Sure, I can set the calculator to display all the digits and do the rounding myself but this introduces human errors and, to be honest, I expect the calculator to do this for me and not present me with the "wrong" number. Ok, it's not really wrong but it's not really right either.

Regards, Wayne

Re: Rounding conventions

*Message #39 Posted by **Rodger Rosenbaum** on 5 July 2009, 4:39 a.m.,*
in response to message #38 by Wayne Best

You asked in the first post "... is there any way around the problem (other than writing a program)?". If you don't want to look at all 12 digits and do the rounding-to-even yourself, then the answer is no.

Presumably, you've been doing some arithmetic on a data set. This probably was the result of a program. It doesn't take much extra programming to use Dekker's method to round the final result(s) to K digits. Then with the display set to show K digits, you'll see the result rounded-to-even.

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20b - ABS?

*Message #1 Posted by **Thomas Radtke** on 4 July 2009, 5:01 a.m.*

Thanks to Dave Shaffer, I'm now an owner of the new 20b :-).

After some successful surgery (gluing the bottom of the LCD to the faceplate to make the top row keys not sticking anymore), I was ready to explore it. Besides the excellent display, finding the ABS function in the math menu came very much as a surprise. Has a macro functionality, as indicated by some erroneous entries in the manual, originally been considered for the 20b? What else could be the reason to have the ABS function available?

Does anyone know if a new firmware is planned to support macros?

Thomas

Re: 20b - ABS?

*Message #2 Posted by **Paul Dale** on 5 July 2009, 5:30 p.m.,*
in response to message #1 by Thomas Radtke

> Quote:
>
> Does anyone know if a new firmware is planned to support macros?

I've been working (on and off) on new firmware for the 20b, the 34s. Been more off than on for the recent past but I'm still making slow progress.

Highlights include 500 programming steps, 100 registers, comprehensive suite of scientific functions, better binary suite than the 16c.

Slightly dated source code available from the 20b repurposing wiki. Current version available on request.

- Pauli

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Proprietary HP Brand 15C and 12C iPhone emulators

*Message #1 Posted by **Les Wright** on 3 July 2009, 10:27 p.m.*

Just noticed these in the App Store, even though they have been out for awhile.

They are quite pricey compared to the open source alternatives from Tom Fors & Eric Smith and RLM.

Anyone splurge on either? Any benefits over the cheaper choices, besides just the reassurances of the Official HP imprimatur?

Les

Re: Proprietary HP Brand 15C and 12C iPhone emulators

*Message #2 Posted by **Howard Owen** on 4 July 2009, 5:50 a.m.,*
in response to message #1 by Les Wright

Yes and yes, though that second affirmative is probably not what you'd expect. Yes, I bought the 15C emulator, and the differences between it and SCI-15C are minor. Both feature a flip over quick reference diagram when you touch the 15C logo. Both reproduce what's on the back of a real 15C. HP's is more readable because it's larger. You flick-scroll to see successive parts of the much more legible guide. SCI-15's QRG looks just like the real one, but doesn't scroll. The HP emulator will do portrait mode as well as landscape. Because of those two features, you could say the HP emulator is better adapted to the iPhone. But other than those things, which are pretty minor, the machines both appear to be very faithful simulations of the real thing.

I bought the HP15C emulator because I want to vote with my dollars for an official HP product involving a classic calculator. If HP sees there's a market for an HP-15C at $30.00, they might be more likely to bring out other products based around old machines. On the other hand, if this community won't pay $30.00 for such a thing, then I'd guess the chances of a 15C+ or 43S are even slimmer than they seemed to be before these programs appeared.

Regards,
Howard

Re: Proprietary HP Brand 15C and 12C iPhone emulators

*Message #3 Posted by **Byron Foster** on 4 July 2009, 7:48 p.m.,*
in response to message #1 by Les Wright

> Quote:
>
> They are quite pricey compared to the open source alternatives from Tom Fors & Eric Smith and RLM.

I don't think these calculators are open source.

Re: Proprietary HP Brand 15C and 12C iPhone emulators

*Message #4 Posted by **Les Wright** on 5 July 2009, 4:08 p.m.,*
in response to message #3 by Byron Foster

I stand mostly corrected.

The RLM programs are of course not open source.

However, I thought the Nonpareil basis of Tom Fors' series of emulators WAS, and that the issues with proprietariness has to do with the ROMs, not the UIs.

I still have the long-since-pulled Crimson Research emulators, but the only one I actually keep on the iPod is the curious 16C emulator.

Les

Re: Proprietary HP Brand 15C and 12C iPhone emulators

*Message #5 Posted by **Byron Foster** on 5 July 2009, 10:47 p.m.,*
in response to message #4 by Les Wright

The source to Thomas Fors' binaries available through iTunes are not available.

I'm not aware of any open source calculators, other then Free42/42s, offered through the iTunes appstore. However, given that there are a bazillion calculators I'm sure there are others.

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Upgraded iPhone Simulators in App Store today

*Message #1 Posted by **Les Wright** on 3 July 2009, 8:28 p.m.*

RLM's 12C Classic v. 3.0 is OS 3.0 ready, has a lot more options (my favourite is the option to turn off the annoying auto orientation feature), and just downright looks and responds better.

Byron Fosters 42S is in v. 2.1 and has incorporated some changes, my personal favourite is the automatic exportation of the printer output as a text file. Getting at this text file is not clearly documented, but it is there--one logs into the web server over wifi at the given URL as one does to import or export programs, and the file is simply print.txt in the root directory and can be easily viewed in the web browser, saved to desktop, etc.

I think both of these upgrades are OS 3.0 dependent, so if you haven't splurged the ten bucks for the upgrade I don't think you can use them.

Antonio Lagana recently advised me that i41cx+ v. 2.3 has been submitted, but the approval turnaround time has been slow. The fix here that I am interested in is synchronization with the iPhone clock. This feature was broken with OS 3.0 and a workaround had to be implemented.

Hope this is of interest.

Les

Re: Any feel for community interest in Andriod -compatible calcs?

*Message #2 Posted by **Allen** on 3 July 2009, 9:35 p.m.,*
in response to message #1 by Les Wright

With T-mobile and other claims that more than a Million G1/Android Phones already on the market, do you forsee enough demand for 20b/42s/41c/12c emulators compatible for the Andriod?

Re: Any feel for community interest in Andriod -compatible calcs?

*Message #3 Posted by **Les Wright** on 3 July 2009, 10:24 p.m.,*
in response to message #2 by Allen

I do know that here in Canada Rogers Wireless is marketing the new HTC phone up the ying yang, ostensibly as an alternative to iPhone and BlackBerry. I don't know much about the interface or developement issues, but it would be interesting to ask someone like Eric Smith or Thomas Okken whether they see it worthwhile porting their work to that platform.

Re: Any feel for community interest in Andriod -compatible calcs?

*Message #4 Posted by **Thomas Okken** on 5 July 2009, 3:27 a.m.,*
in response to message #3 by Les Wright

When it comes to calculator emulators/simulators for the new mobile platforms, I can only comment on Free42; here are my thoughts:

Regarding Android, the last time I checked (admittedly, a while ago), that platform only supported Java for application development. I like Java a lot, but when it comes to porting Free42, being limited to *only* Java is a big problem; Free42 relies heavily on C++ operator overloading (for the Decimal version only), and, to a lesser but still significant degree, on C unions (for both the Decimal and Binary versions); neither of these features are available in Java, and working around that would be a major effort -- read, hundreds of hours.
More recently, I have heard rumors that support for C/C++ application development for Android is in the works; maybe it is even available already. If so, that would remove the major stumbling blocks.

Having said all that, the other major issue when porting something as nontrivial as Free42 is motivation. The reasons I wrote Free42 for Unix/X11/Motif, PalmOS, and Windows, are (1) I like the HP-42S enough to make the effort, and (2) I was using those 3 target platforms regularly myself.
The Free42 ports I did for Unix/X11/GTK, PalmOS/ARM, and Pocket PC, were not motivated by my own needs; I did those in response to requests from users, *and* I agreed to do them because they weren't terribly hard to do. The GTK port was easy because almost everything Motif allows you to do, GTK lets you do more easily; the PalmOS ARM port was easy because all I had to do was deal with the nasty details of compiling and integrating ARM code in a PalmOS application; and the Pocket PC port was easy to do because that environment has APIs that are mostly identical to those of Windows.

The first major port to a *completely* new environment was the iPhone port, which was something I wasn't particularly interested in at all... but others were, specifically, Byron Foster and Susan Mackay both created initial basic iPhone ports, and Byron's port has since matured into a very nearly complete one (and in some ways even better than any of my own versions). I'm cooperating with Byron, but he has done almost all of the heavy lifting, while I have contributed mainly suggestions, bug fixes, and only a small part of actual functionality (i.e. the HTTP server for program import and export).

While I still enjoy the results of all of these porting efforts, it is getting to be harder and harder to justify all the time and effort that it takes. There is not a lot of money in the calculator emulator/simulator business; you may be able to make some money from it, through donations, or iPhone App Store revenues, but it is *not* a living; if I divide my income from Free42 by the hours I have spent on it, I arrive at something like Chinese sweatshop wages -- which would be OK if I were living in China, but with the cost of living in New Jersey, it's a different story.

Don't get me wrong; I'm not complaining! I have enjoyed writing Free42, and porting it (and helping port it) to several platforms in addition to the original three, and I still get a big kick out of all the feedback I get; not just the compliments, donations and iTunes payments, but also the complaints, bug reports, and suggestions; *all* of these kinds of feedback, positive *and* negative, tell me that there are people out there who are actually using Free42, or just having fun with it, and that is perhaps the greatest reward of all.

My problem lies in the diversity of *mobile* platforms. When it comes to computers, there's really only Windows, Mac OS X, and Linux (and other Unixes) to worry about; in the mobile arena, on the other hand, there's PalmOS, Pocket PC (or Windows CE), Symbian, BlackBerry, Java ME, Android, iPhone, and WebOS, and maybe others as well. Making *everybody* happy would be awesome, but life is too short support all those platforms in my spare time... and doing these kinds of ports *commercially* does not appear to be feasible because calculator emulators/simulators just aren't much of a market. HP-12C clones, maybe; HP-42S clones, no.

I would love for the mobile arena to settle on just one or two OSes, and if those platforms support C++ application development, I'll be happy to port Free42 to them... But until them, trying to support everything is a lot like fighting the Hydra.

So, my plans for the future of Free42 are: once I'm happy with the state of Free42 on the iPhone (meaning, Byron's and/or my own port) and the Mac (my own port which is one or two weeks from

completion), I am going to stop creating any new ports, and focus only on maintaining the existing ones. Between the Windows, Pocket PC, PalmOS, PalmOS ARM, Unix/X11/Motif, Unix/X11/GTK, iPhone, Mac OS X, and Mac OS X Dasboard versions, there's enough there to keep me occupied.

I'll be happy to collaborate with anyone who wants to port Free42 to a new platform, but I am reluctant to commit to taking the lead in any such ports.

For a project I do just for the love of it, this is becoming too much work, and for something I'd do for a living, there's not enough demand for it to pay my bills.
I'm still glad I did this project, still happy to support it, but I just don't have the time or energy to expand the scope of the project any further, at least not any time soon.

Edited: 5 July 2009, 4:01 a.m.

Re: Any feel for community interest in Andriod -compatible calcs?

*Message #5 Posted by **Egan Ford** on 5 July 2009, 11:05 a.m.,*
in response to message #4 by Thomas Okken

Thanks for Free42 and all its versions, and thanks for making it open source so that others can contribute.

Re: Any feel for community interest in Andriod -compatible calcs?

*Message #6 Posted by **Les Wright** on 5 July 2009, 3:19 p.m.,*
in response to message #4 by Thomas Okken

Thomas, I do think it is more than fair for you to draw a firm line about taking the lead in expanding the project to accommodate every handheld operating environment that keeps popping up.

I am primarily a BB user as my handheld communication device--phone, SMS, email--and after weeks of careful experimentation, research, and deliberation I chose it over the iPhone. But I still tote around my first gen. iPod touch, now getting dinged and scratched, as my media player of choice and a handheld computational machine loaded up with all of the finest--Foster's 42S, i41cx+, SCI-15C, RLM's 12C classic. I recall that in my pre-BB days I would have no problem toting around two handheld devices (usually a simple cell phone and my Palm TX for calendar, address book, and Free42), so this is no more cumbersome, and actually gives me more handheld gizmo power in my pockets or bag or on my belt.

I can appreciate the BB Storm or Android user yearning for the all inclusive one device experience of the iPhone user, but so far my arrangement keeps me content. I don't think there is yet an ideal "do it all" handheld system out there. Some may argue that the iPhone 3GS comes close, but I have tried one and for the life of me I can type nearly as quickly on the touch screen as I can on the real QWERTY of my 8900 Curve.

I know many cannot justify the expense, but for those willing to splurge I have no trouble suggesting to the BB, Symbian, or Android user that picking up at least the entry level iPod touch is a much faster, effective, and gratifying way of accessing all of these great simulators and emulators than waiting around for a port to their handheld OS of choice.

Les

Re: Upgraded iPhone Simulators in App Store today

*Message #7 Posted by **Egan Ford** on 4 July 2009, 10:23 a.m.,*
in response to message #1 by Les Wright

> Quote:
>
> Byron Fosters 42S is in v. 2.1 and has incorporated some changes, my personal favourite is the automatic exportation of the printer output as a text file. Getting at this text file is not clearly documented, but it is there--one logs into the web server over wifi at the given URL as one does to import or export programs, and the file is simply print.txt in the root directory and can be easily viewed in the web browser, saved to desktop, etc.

Copy was also added. Double tap to copy X or X,Y,Z,T or printout to clipboard.

Key click was also fixed.

Re: Upgraded iPhone Simulators in App Store today

*Message #8 Posted by **Byron Foster** on 4 July 2009, 7:31 p.m.,*
in response to message #1 by Les Wright

I like what RLM did on the 12C with highlighting the label keys when active. I think it's an effective use of the iPhone interface. I also like how the portrait mode is full featured with all the buttons. I may be biased, but I bet portrait mode will become the mode of choice among most users of RLM's 12c.

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OT: Value of a desire II

*Message #1 Posted by **Saile (Brazil)** on 3 July 2009, 4:11 p.m.*

If a watch can cost this value because a hp cannot cost 600 or more?

Link "Value of a desire"

Edited: 5 July 2009, 2:15 p.m. after one or more responses were posted

Re: OT: Value of a desire

*Message #2 Posted by **Quan** on 3 July 2009, 6:57 p.m.,*
in response to message #1 by Saile (Brazil)

$100 Shipping?

Either the case, the watch, or both must weigh a ton!

Or a typo?

Re: OT: Value of a desire

*Message #3 Posted by **DaveJ** on 3 July 2009, 10:34 p.m.,*
in response to message #2 by Quan

> Quote:
>
> $100 Shipping?
>
> Either the case, the watch, or both must weigh a ton!
>
> Or a typo?

No, that's normal. It's using UPS courier, probably their top service with insurance for "valuables". That would be expected on a product like this.

Would you want your $30K watch shipped by USPS parcel post?

Dave.

Re: OT: Value of a desire

*Message #4 Posted by **Quan** on 4 July 2009, 9:38 a.m.,*
in response to message #3 by DaveJ

I know there are watches that cost lots of money, such as Rolex. But the sticker shock still hit me when I saw it, nonetheless.

You are right about the shipping insurance.

I just can't imagine paying $30K for a watch. Even I ever won a lottery.

But that's just me. :)

Re: OT: Value of a desire

*Message #5 Posted by **Howard Owen** on 3 July 2009, 9:06 p.m.,*
in response to message #1 by Saile (Brazil)

One feels incredulity when one encounters the excesses of another's collecting passion.

Not that I ever did, but I will never feel guilty for paying $200.00 for a 30 year old calculator again.

Regards,
Howard

Re: OT: Value of a desire

*Message #6 Posted by **Eddie W. Shore** on 3 July 2009, 9:15 p.m.,*
in response to message #5 by Howard Owen

Having just bought a (used) 15C for $158 off ebay and received it a few days ago, I totally agree with you, Howard. I can see why everyone wants the 15C to be reintroduced back in the calcualtor, and just a iPhone app.

Eddie

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HP 50g Programming

*Message #1 Posted by **Brian Wort** on 3 July 2009, 11:03 a.m.*

I have a new HP 50g, and am working on a small program that displays a definite integral on the screen. The one I am working on now is the definite integral for the area of a circle. With the push of a button, I'd like the program to display the unsimplified definite integral, followed by the simplified version (pi*r^2). Problem is, if I enter the equation in memory, it only displays the simplified version. I need some help on how to write a small program to do this for me. Thanks!

Re: HP 50g Programming

*Message #2 Posted by **Pal G.** on 6 July 2009, 6:26 p.m.,*
in response to message #1 by Brian Wort

Brian,

Try comp.sys.hp48 if you haven't already..

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HP75 Accessories as new - any value or should I just use them?

*Message #1 Posted by **Tony de Groot** on 3 July 2009, 9:28 a.m.*

Hi, I bought an HP75 on eBay in as new condition. When I received it, it was almost new. The HP75 itself has been dropped so it has sprung in one corner, and the LCD has a black mark at the bottom at one end. I put a battery in it and it all works OK, except that when the case springs apart a bit, it shuts down. Hold the case together and it seems fine. It also came with the original cards in a tube, unopened, the manual, still shrink wrapped, and the carry case, still in the plastic bag. What I was looking for were some cards for my other (very used) HP75, plus a backup machine etc. The question is, do the wrapped/unused items have any value to a collector, or should I just go ahead and use them. I do not need pristine bits, but do like to preserve older HP gear and I think that since these is still in new condition, may be worth preserving by someone more dedicated than me. I am putting together a small test system (and have an HP71 plus peripherals, and an HP85 plus instruments) but am missing mass storage devices (that work) so would be happy to trade.

Thanks,

Tony.

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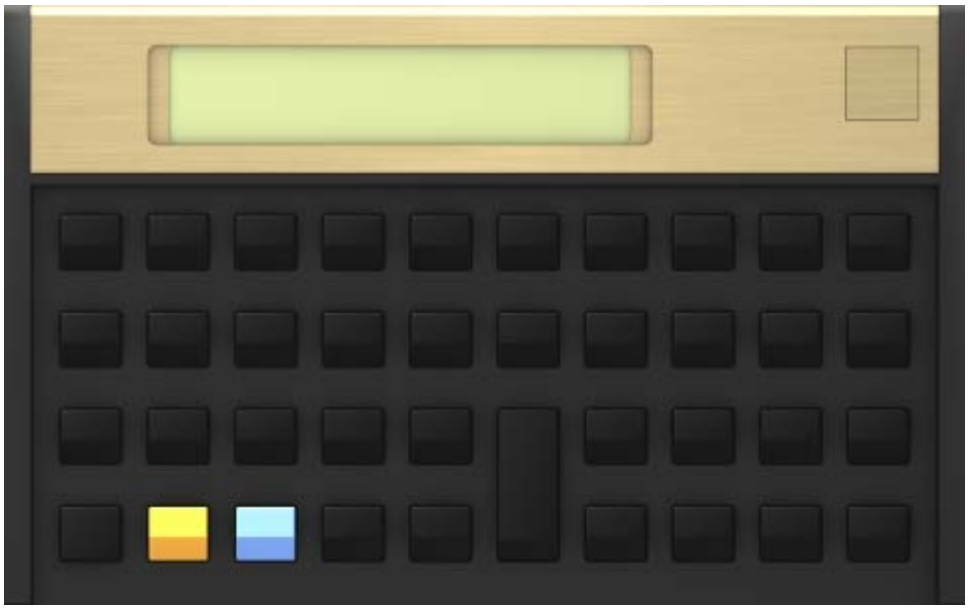
WIP: hp12c iphone skin.

*Message #1 Posted by **Pal G.** on 3 July 2009, 2:16 a.m.*

Tim,

I sent you an email a few days ago, but haven't heard back. I am not certain whether or not you cared for virtual 12c & 15c skins, versus photos, for emulators. I mentioned I would model Voyagers if there was interest. My friend from Italy said 'do it', so I did. Please note, much can be changed with lighting and texturing, to achieve your preferred look.

(Silkscreening is next)



Best regards,
PG

Re: WIP: hp12c iphone skin.

*Message #2 Posted by **Gene Wright** on 3 July 2009, 8:21 a.m.,*
in response to message #1 by Pal G.

I would have guessed real photos, not simulations. Plenty of those on the app store already. :-)

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The HP Restoration Guide, progress report

*Message #1 Posted by **Geoff Quickfall** on 2 July 2009, 9:25 p.m.*

Boy, there is a lot of research to do and so many aspects of each family to cover. In any case the intro, chapter one, two, three and six are complete. only 9 more chapters to go. The saving grace is that most of the photography is done. I have a few donor calculators on their way so that I can document them. I am including at the moment 5 appendices ranging from tools, battery pack rebuilds, drying box design, glossary, citations, sources for parts and URLs, how to make special tools.

Here are some preliminary pages to let you see the format and depth of explanation. 52 pages are completed so I figure about 200 pages should do it in a 8.5 by 11 inch format and the book will be spiral bound for ease of use. The larger size is for the inclusion of bigger pictures! There are a ton of photos all in colour with full explanations. Chapter two "Classics" alone has 35 photos and includes the 65, 45 and 55 restorations. I have included a couple of pages of chapter six which has 35 photos also.

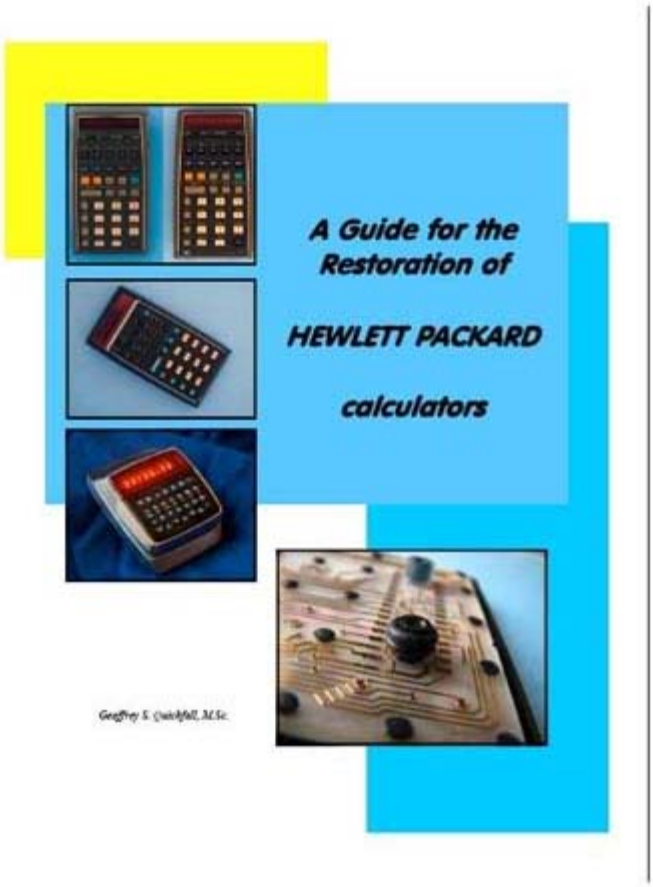
I suspect the HP 41 chapter (eight) to be rather large as it encompasses the calculator, card reader and memory enhancements (double x). Those of you attending Fort Collins may have an opportunity to purchase the book (don't have a cost as it is not completed yet but I am not looking to make a profit). Also if the book is not done, the presentation will be Chapter Eight from the book so you will get a highlight of what the completed guide will look like.

In any case let me know what you think (I reserve the right to ignore it ;-)

Also, I keep finding things out after research, for example I had completely forgotten the radix jumper in the spice so of course now I have to add it to Spice chapter! Love this site.

Cheers, Geoff

THE COVER



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Chapter 6, the HP 01 (only the first two pages for this post)

Chapter Six

The HP 01 "Cricket"

6.1 Description:

Figure 8.1

My all time favourite, most used HP calculator while in or out of the office! The HP 01 'Cricket' is HP's only attempt at a watch. The watch comes in two case versions; stainless steel and gold plaque. There are a combination of keyboard colours and key colours however the same functions appear on all the watches. What sets this apart from other HP calculators is the Algebraic input versus RPN. What sets this apart from other calculator watches is the *dynamic time functions*. The timing function is integrated with the calculator, allowing for a running display while in *stopwatch mode* of; rates. These can fuel flow (pilots), manufacturing numbers (plant managers) or money per second (long distance phone calls).

6.2 Disassembly:

The following three figures illustrate the parts to the tripartite case:

Figure 8.2

figure 8.2:

- **A** case top
- **B** main body
- **C** case back

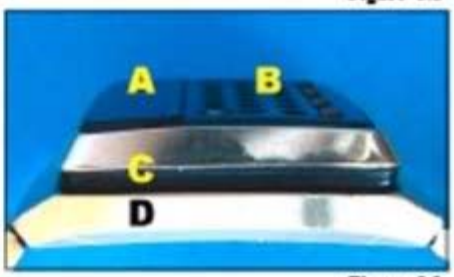


Figure 8.3

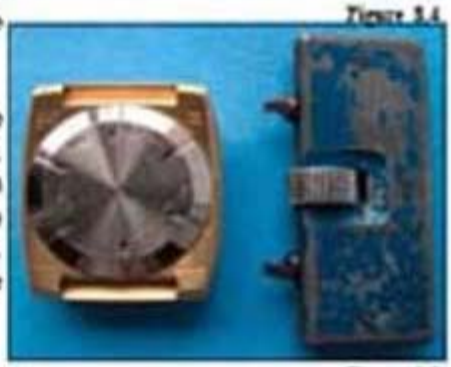
figure 8.3:

- **A** the LED mineral crystal
- **B** keyboard surround and keys
- **C** the keyboard bezel
- **D** the main body.

figure 8.4

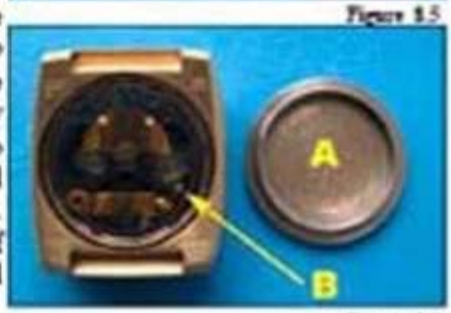
- circular case back o-ring
- square gasket for main body and keyboard interface .

The electronics are found inside the watch and are made up of the PCA, two retaining rings and the battery holder.



For ease of access and case restoration the strap should be removed. On some watches in disrepair this can be a problem as the pins can become contaminated with dirt, debris and rust. The lug pins are standard and can be removed with a fine screw driver.

Once the strap is removed the case back can be unscrewed. The best way is to purchase or borrow a case wrench, **figure 8.5**. Of course if you have the battery holder it contains a case wrench! If you do not have a wrench then your local watchmaker will loosen the back for you. If you attempt the removal with a pair of needle nose pliers, be careful as these will slip and scar the case back.



With the case back off the battery holder will be exposed, **figure 8.6**. The inside portion of the case back contains the piezo electric buzzer, A. The circuit is completed by the raised button on the battery holder, B.

Close examination of the interface of the black plastic battery holder and case will reveal two circular rings with

Edited: 2 July 2009, 9:37 p.m.

Re: The HP Restoration Guide, progress report

*Message #2 Posted by **Marcus von Cube, Germany** on 3 July 2009, 2:58 a.m.,*
in response to message #1 by Geoff Quickfall

You'll need to ship your books overseas! :)

I'm wondering why you do not start with "the" classic HP-35 or a combined 35/45 chapter? The chapters should follow the line from "easy" to "advanced". This makes the book a better reading from cover to cover.

Marcus, who's self made battery packs tend to look a little "Frankenstein'sch" ;)

Re: The HP Restoration Guide, progress report

*Message #3 Posted by **Geoff Quickfall** on 3 July 2009, 10:12 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Hello Marcus,

That idea was in my mind but when I started the book I decided to break the guide into the families starting with the Classics. Next I had to think about the best way to show encompass the most detail in a specific restoration that could be applied to the entire family.

By selecting the HP 65, I have a pictoral essay that encompasses not only how to enter a 'classic' including the 35 and others, but also the card reader. Once the complete restoration of the 65 was written there was only a need to include any calculator in that family that had a variance in restoration as compared to the example I used.

So in chapter 2 "the classics" once the essay on the HP 65 was completed the only other two calculators that need to be talked about were the HP 45 quartz crystal modification and the HP 55 quartz crystal replacement. For continuity I selected a 'complete' restoration on the HP 65 and then a follow up on the 45 and 55 differences. Once the 65 was described I had covered:

```
1  how to enter a classic
2  how to repair a card reader
3  how to add a quartz crystal
4  how to replace a quartz crystal
```

in effect all the classics were now covered and onto chapter 3.

I guess the best way to put is:

by describing the HP 65 restoration I had covered the 35, 70, and 80 restorations inclusive, the woodstock 67 and only had to add the differences with respect to the 45 and 55 timing functions.

I hope this elucidates my convoluted thinking!

Cheers, Geoff

Re: The HP Restoration Guide, progress report

*Message #4 Posted by **Marcus von Cube, Germany** on 5 July 2009, 3:44 a.m.,*
in response to message #3 by Geoff Quickfall

Geoff, that sounds well thought out.

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HP-IL I/F Card on a New(er) PC - Part II

*Message #1 Posted by **Gerry Schultz** on 2 July 2009, 5:42 p.m.*

As an update to putting an HP-IL I/F card in a P4 PC, I haven't had any success. I pulled Christoph's book on the HP-IL and tried both addresses 300 and 700 without success and yes I have printed copies of HP documentation on how to configure the I/F card. Any addresses I tried hung the booting of the PC before it ever got to starting XP. I went into the PnP setting in the BIOS but was surprised to find very little control of PnP; either it was off or on and the PC hung regardless of the setting. Of course the PC boots fine without the I?F card installed. Could it be the ISA slot? I doubt it given that the rest of the MB works fine.

I will continue to research this but my hope is fading that there will be a successful solution to this situation. I am reading Scott Mueller's Upgrading and Repairing PCs (18th edition) and there are sections on interrupts and PnP BIOSes. I hope this will give me some clues.

For those of you who are curious, the Motherboard I am playing with is an Intel D845GECL which is an OEM board made by Intel and I've had a very hard time finding any documentation for it. The obvious reason I chose this board is that it has an ISA slot to plug the HP-IL I/F card into it.

If anyone has some insights into what else to do, I'm all ears.

Thanks for your time and feedback,

Gerry

Re: HP-IL I/F Card on a New(er) PC - Part II

*Message #2 Posted by **Egan Ford** on 2 July 2009, 7:58 p.m.,*
in response to message #1 by Gerry Schultz

I have wanted to do the same for sometime. I.e. replace my old 200MHz Pentium Overdrive PC with something a bit snappier. Like you, I need an ISA slot. I've been looking at small form factor PCs with ISA slots so that I can still have HP-IL, but given your trials and the availability of the new PILBox, I think I will abandon that idea.

I've ordered my PILBox and am eagerly awaiting its arrival so I can give it a go with my laptop. I'll let you know how it goes.

Re: HP-IL I/F Card on a New(er) PC - Part II

*Message #3 Posted by **Katie Wasserman** on 2 July 2009, 9:33 p.m.,*
in response to message #2 by Egan Ford

I found this USB to ISA-Bus motherboard. It's a bit expensive but sounds like it offers an reasonable way to keep using all those old ISA cards, including the HP82973A. Has anyone here tried it?

-Katie

Re: HP-IL I/F Card on a New(er) PC - Part II

*Message #4 Posted by **PeterP** on 2 July 2009, 11:20 p.m.,*
in response to message #3 by Katie Wasserman

Katie,

For what its worth, I think there was a short thread about this a couple years back where I had tried to make this thing to work.. I got stuck in various problems that have to do mostly with security. Basically giving the direct access the HP-IL card needs via USB is pretty much blocked in windows XP and I think also Win98. And dont even think about Vista...

Clearly I'm not an expert in all of this, but it is an expensive 'test' to do and unfortunately is less easy and direct as their ads would make it seem...

cheers

Peter

Re: HP-IL I/F Card on a New(er) PC - Part II

*Message #5 Posted by **Marcus von Cube, Germany** on 3 July 2009, 3:08 a.m.,*
in response to message #3 by Katie Wasserman

Katie,

> Quote:
>
> We currently offer support for DOS under *Widows* operating systems.

:)

The main problem is the virtualisation layer: DOS software assumes full control over the hardware with direct access to I/O ports, interrupts and so on. It's probably easier to add support for such a board in Virtual Box (an open source DOS emulator) than in the built in DOS boxes of Windows or Linux. A different (and better in my opinion) approach would be to give up DOS and code directly against the USB layer. That would mean a little work for JF. ;)

Re: HP-IL I/F Card on a New(er) PC - Part II

*Message #6 Posted by **Katie Wasserman** on 3 July 2009, 10:54 a.m.,*
in response to message #5 by Marcus von Cube, Germany

> Quote:
>
> A different (and better in my opinion) approach would be to give up DOS and code directly against the USB layer.

ARS Technologies sells an SDK for their board too. That might make your suggestion a bit easier to implement. They also sell a single board USB to ISA adapter, for $35 less than the triple board adapter.

In any event it sounds like a complete HP-IL to USB solution is going to require some work, probably developing this from scratch would be the best way to go. Which is exactly what Jeff has done with his PIL-Box, awesome!

-Katie

Re: HP-IL I/F Card on a New(er) PC - Part II

*Message #7 Posted by **Egan Ford** on 3 July 2009, 1:26 p.m.,*
in response to message #3 by Katie Wasserman

> Quote:
>
> I found this USB to ISA-Bus motherboard. It's a bit expensive but sounds like it offers an reasonable way to keep using all those old ISA cards, including the HP82973A. Has anyone here tried it?

Yes. Like Peter, no luck. I tried both Windows and Linux. Their technical support is abysmal. With Linux I could never get a kernel module to see the ISA adapter. With Windows I was able to chat with the adapter using their debug tool, but had no luck with EMU41 or EMU71 using their DOS shim. According to their documentation it *should* work.

Even if it did work, it is still a non-solution. Their software replaced the standard USB Windows support breaking other USB device compatibility. So, I gave up. If another wants to give this a shot for the good of the community, let me know and I'll send you mine (if I can track it down).

My objective was to get it working with Linux and DOSEMU so that I could reduce the size of my Linux-based HP-IL gateway. The new PILBox gives me hope for a much better solution. Drivers are available for Windows, Linux, and OS/X. Its compact and modern, and the technical support is undeniably superior. And, the SDK is free and source is included.

Re: HP-IL I/F Card on a New(er) PC - Part II

*Message #8 Posted by **Angel Martin** on 3 July 2009, 10:51 a.m.,*
in response to message #2 by Egan Ford

Hi Egan,

Have you ordered the Pill-Box already? I didn;t know it was done yet, can you share the details on the availability? Did J-F announce it in the Forum and I missed it?

BEst, AM

Re: HP-IL I/F Card on a New(er) PC - Part II

*Message #9 Posted by **Egan Ford** on 3 July 2009, 1:14 p.m.,*
in response to message #8 by Angel Martin

JFG announced the PILBox sometime ago, but I do not know if availability was announced. I simply emailed JFG months ago with a commitment to purchased when available. ~2 weeks ago I got an emailed invoice. I just got word today that it has shipped.

Re: HP-IL I/F Card on a New(er) PC - Part II

*Message #10 Posted by **Jeff Davis** on 3 July 2009, 2:43 p.m.,*
in response to message #9 by Egan Ford

How much was the unit?

Re: HP-IL I/F Card on a New(er) PC - Part II

*Message #11 Posted by **Egan Ford** on 4 July 2009, 10:18 a.m.,*
in response to message #10 by Jeff Davis

> Quote:
>
> How much was the unit?

97 euros + 15 euros shipping to US + 3 euros Paypal fee.

Re: HP-IL I/F Card on a New(er) PC - Part II

*Message #12 Posted by **Marcus von Cube, Germany** on 5 July 2009, 3:41 a.m.,*
in response to message #11 by Egan Ford

I want one!

Re: HP-IL I/F Card on a New(er) PC - Part II

*Message #13 Posted by **Doug** on 5 July 2009, 10:03 a.m.,*
in response to message #12 by Marcus von Cube, Germany

Me Too!

Re: HP-IL I/F Card on a New(er) PC - Part II

*Message #14 Posted by **Egan Ford** on 5 July 2009, 11:02 a.m.,*
in response to message #13 by Doug

Go to http://www.jeffcalc.hp41.eu/hpil/index.html for more info, then email JFG.

Re: HP-IL I/F Card on a New(er) PC - Part II

*Message #15 Posted by **Gerry Schultz** on 5 July 2009, 10:50 p.m.,*
in response to message #14 by Egan Ford

Hello and thank you for your responses.

I've been doing research on this issue this afternoon and have made some progress but also have some questions. First, I found that I was using the wrong version of the 82973A's Owner's Manual. My card is a revision A, which is not covered in Edition 4 of the Owner's Manual, dated May 1987. I ended up using Edition 3, dated November 1985, and it covers revision A and the I/O range address switches are identified properly. Edition 4 of the Owner's manual covers revisions after A and those address switches are labeled differently.

Second, I've been looking at my card it is set to use IRQ 7 which isn't talked about anywhere in the Owner's manual. It can be set via jumpers to any IRQ between 2 and 7. Is an interupt required for this card to work properly? If it doesn't this might help resolve the conflicts with this PC motherboard.

I found another HP-IL I/F card pictured on that unmentionable site today and the picture of that I/F card shows that it is strapped for no interrupts and this pictured

version of the card actually connects to different lines on the address bus in the ISA connector. My card uses address lines 0, 1, 2, and 8 through 15. In the other card's picture, it uses address lines 0 through 10 as far as I can tell. I don't know if it makes any difference which address lines the card accesses but I find it curious as I also have Christoph's book on how to build the HP-IL I/F card and I would like to figure out how he designed his card. I haven't done this yet as I have spent the rest of my time today working on this problem by adjusting the settings in the PC BIOS.

I disabled the MB from stopping booting on any errors and I was able to get the PC to boot once with the I/F card plugged in. It hasn't happened since but in comparing the I/O ranges and interrupts in use by the hardware through XP, IRQ 7 and I/O range 1700 looks like a good choice.

I'll keep chasing this down and if you have any insights into this mystery, I would appreciate it.

Gerry

Re: HP-IL I/F Card on a New(er) PC - Part II

*Message #16 Posted by **christoph klug** on 6 July 2009, 4:22 a.m.,*
in response to message #15 by Gerry Schultz

Dear Garry,

no IRQ is needed for the HP-IL/PC Interface Card.

For WIN XP operating system you need the address setting 300 by dip switches plus the address routing software tool, described in my book.

The latest hardware version of the HP-IL/PC Interface Card is available from me.

Best regards - Christoph Klug

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Popularity of the HP-41C Calculator

*Message #1 Posted by **Gerry Schultz** on 2 July 2009, 5:19 p.m.*

To All:

I originally bought a 41C back in 1979 because I thought it was a cool calculator with a lot of promise. HP backed up that promise by releasing lots of modules and peripherals that allowed anyone to do just about anything with it, limited only by your imagination.

One thing I've never seen or heard discussed was how popular the 41C was in relation to its competitors of the time. Did sales figures show that it was the most popular high-end scientific calculator or did it end up a niche machine for HP fanboys like us? Was this machine the pinnacle of HP's penetration into the calculator market or was that later with the HP-48GX (a guess on my part)?

At that time, I didn't give a crap about how popular the 41C was as I just liked the machine. Now that I'm older, I'm wondering just how successful HP was with this product.

Thanks in advance for your comments.

Gerry

Re: Popularity of the HP-41C Calculator

*Message #2 Posted by **Thomas Okken** on 2 July 2009, 5:54 p.m.,*
in response to message #1 by Gerry Schultz

Hi Gerry,

I've never seen sales figures for the 41C -- I think most manufacturers are pretty secretive about this kind of information. However, when it comes to the 41C specifically, I'm pretty sure it was a resounding success, for two reasons: one, it was a killer machine, not just better than anything HP had built before but also competing with the TI-58 and TI-59 in terms of price/performance, and two, TI threw in the towel in the high-end calculator market, 4 years after the HP-41C was introduced, when they discontinued the TI-58 and TI-59 after 6 years of production, without introducing any successors or replacements. The HP-41 line, on the other hand, lasted 11 years, and was succeeded by even more powerful machines.

- Thomas

Re: Popularity of the HP-41C Calculator

*Message #3 Posted by **Palmer O. Hanson, Jr.** on 2 July 2009, 9:44 p.m.,*
in response to message #2 by Thomas Okken

> Quote:
>
> TI threw in the towel in the high-end calculator market, 4 years after the HP-41C was introduced, when they discontinued the TI-58 and TI-59 after 6 years of production, without

> introducing any successors or replacements. The HP-41 line, on the other hand, lasted 11 years, and was succeeded by even more powerful machines.

It isn't really correct to say that "TI threw in the towel... ... when they discontined the TI-58 and TI-59 ..." There was the debacle of the TI-88 which was strongly promoted and then suddenly withdrawn just before the TI-59 production was ended. That was followed by the TI-66, the CC-40, the TI-74, the TI-95 and the graphhics. TI had initiated a newsletter supporting the TI-74 and TI-95 and then suddenly withdrew it and started a new newsletter "It's About T.I.M.E." which was dedicated to the use of graphic calculators in education. I can't pinpoint the exact year as I don't have my files with me. But, from that point on it would be accurate to say that TI had thrown in the towel in the high-end, non-graphical market. Considering their domination of the education market in subsequent years I would have to say that was a correct business decision.

Re: Popularity of the HP-41C Calculator

*Message #4 Posted by **Mark Edmonds** on 3 July 2009, 5:05 a.m.,*
in response to message #3 by Palmer O. Hanson, Jr.

Machines likes their Voyage 200 are pretty impressive and in some ways, out-strip functionality in HPs, at least up to and including the 49g series (I'm not entirely sure about the 50 and close relative 49s). I'm not going to quote specifics here because I can't remember but download the manual and look at the TI-basic language to see some aspects of what I mean.

Another massive benefit and wise move TI made was to use the M68000 CPU so if you want to get into assembler, you have a very elegant chip to work with.

However....., yes, there has to be a catch....

I find the Voyage 200 to be a strangely uninvolving experience, very boring, the Basic is slow and it has a confusing "file system" and a confusing front-end which doesn't leave you feeling in total control.

I think there is also a RPN suite for the machine too.

So I would also say that TI did not throw in the towel, they just went off in a different direction and if they sorted out a few aspects of operating their current top end calcs, they would be killer machines.

Mark

Re: Popularity of the HP-41C Calculator

*Message #5 Posted by **reth** on 3 July 2009, 8:30 a.m.,*
in response to message #1 by Gerry Schultz

in surveyor's world HP-41 was huge, simply wiped out any competitors hands down; this lasted up until HP-48 came up. HP is still the calculator of choice for surveyors.

Re: Popularity of the HP-41C Calculator

*Message #6 Posted by **Doug** on 5 July 2009, 9:56 a.m.,*
in response to message #5 by reth

And the 41C was done in 1979 not 1989. Simple switch to program and do what you do to calculate and it is automated (adding a global label for reference if you like or just press R/S to compute again). No complex language, just repeat the keystrokes in PRGM mode.

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Surveyors in LA?

*Message #1 Posted by **Doug** on 2 July 2009, 6:17 a.m.*

My property melted in the Sayre Fires 11/08. Killed my equipment, all melted. Now trying to rebuild and dirt is odd terrain. Any local members who are capable of doing 3D drainage and survey of dirt/lines? Drop me a mail but only if you love the HP41C.

Doug

Re: Surveyors in LA?

*Message #2 Posted by **Howard Boardman** on 2 July 2009, 1:19 p.m.,*
in response to message #1 by Doug

Sounds like you need a civil engineer if you are doing any drainage design. If you are planning on recording an official map and setting property corners you need a licensed surveyor. Look in the phone book or internet. Lots of surveying and civil engineering firms with licensed people.

Re: Surveyors in LA?

*Message #3 Posted by **Doug** on 5 July 2009, 10:23 a.m.,*
in response to message #2 by Howard Boardman

Thanks! And may all your property drainage be proper during flood.

Best

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HP calculators on sale - HP 20b excluded

*Message #1 Posted by **Joerg Woerner** on 1 July 2009, 10:12 a.m.*

Just received from HP Marketing this wonderful July 4th eMail offering 15% discount and free shipping and was in the BUY mode.

I'm still looking for a HP 20b to compare it with the BAII Plus Professional - but it disappeared from the HOME & HOME OFFICE website.

Regards, Joreg

Re: HP calculators on sale - HP 20b excluded

*Message #2 Posted by **Tim Wessman** on 1 July 2009, 10:39 a.m.,*
in response to message #1 by Joerg Woerner

Compared to the BAII+prof it wins because of features, but loses simply because of the keyboard. It wins on features, screen, ease of use, and speed. Compared to the BAII+ (identical to the professional except the build quality) it wins hands down (except on price).

Someone just wrote a decent review a short while ago (first one on the top). Not sure who wrote it. I'd like to know who though and see if they will post it to amazon.

http://h10010.www1.hp.com/wwpc/us/en/sm/WF05a/215348-215348-64232-20036-215349-3732534.html#reviews

TW

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Happy Birthday, HP-41C !!!

*Message #1 Posted by **Massimo Gnerucci (Italy)** on 1 July 2009, 4:52 a.m.*

You're thirty now...

Thanks for all those memories.

Massimo

00 REG 319;-)

*Message #2 Posted by **Raymond Del Tondo** on 1 July 2009, 7:18 a.m.,*
in response to message #1 by Massimo Gnerucci (Italy)

Congrats to the HP-41C from me, too;-)

Re: Happy Birthday, HP-41C !!!

*Message #3 Posted by **Eddie W. Shore** on 1 July 2009, 8:12 a.m.,*
in response to message #1 by Massimo Gnerucci (Italy)

Happy Birthday HP 41! XEQ BEEP

And Sony Walkman turns 30, too!

*Message #4 Posted by **Massimo Gnerucci (Italy)** on 1 July 2009, 8:43 a.m.,*
in response to message #1 by Massimo Gnerucci (Italy)

N.T.

Re: Happy Birthday, HP-41C !!!

*Message #5 Posted by **Prabhu Bhooplapur** on 1 July 2009, 11:15 a.m.,*
in response to message #1 by Massimo Gnerucci (Italy)

Sweet memories of HP41CX which I have with me since 1985. Long Live HP41C and its variants. Prabhu

Re: Happy Birthday, HP-41C !!!

*Message #6 Posted by **Didier Lachieze** on 1 July 2009, 12:24 p.m.,*
in response to message #1 by Massimo Gnerucci (Italy)

Wasn't the HP-41C announced on July 16, 1979?

Re: Happy Birthday, HP-41C !!!

*Message #7 Posted by **John B. Smitherman** on 1 July 2009, 1:43 p.m.,*

in response to message #6 by Didier Lachieze

Hi Didier. According to Craig Finseth's web site it was released on July 1, 1979.

Link

Regards,

John

Re: Happy Birthday, HP-41C !!!

*Message #8 Posted by **Egan Ford** on 1 July 2009, 2:34 p.m.,*
in response to message #7 by John B. Smitherman

According to PPC Journal V6 N4 Page 6 July 1979 column one paragraph two, its July 16th 1979.

IIRC, this has been discussed in the past, and I do not recall if the matter was truly settled.

A random selection of late 70s'/early 80s' entries on Craig's site has the first of the month used as the introduction date. I speculate that it is an estimate. IMHO, PPC Journal has more street cred.

Edited: 1 July 2009, 2:39 p.m.

HP41C Intro Date

*Message #9 Posted by **Jake Schwartz** on 1 July 2009, 7:59 p.m.,*
in response to message #7 by John B. Smitherman

> Quote:
>
> Wasn't the HP-41C announced on July 16, 1979?

Hi,

July 16th is correct. I remember it like it was yesterday and I couldn't get a machine until 7/31....it was a frustrating two weeks' wait. Here is a copy of the HP press release, as published in the PPC Journal, Volume 6, Number 4, page 8:

[link:http://www.pahhc.org/2009/HP41C Press Release.jpg]HP41C Press Release[/link]

Jake Schwartz

HP41C Intro Date

*Message #10 Posted by **Jake Schwartz** on 1 July 2009, 8:20 p.m.,*
in response to message #9 by Jake Schwartz

I sure messed up that image link. Is this any better?

[img:http://www.pahhc.org/2009/HP41C Press Release.jpg]

Jake

Re: HP41C Intro Date

*Message #11 Posted by **Pal G.** on 2 July 2009, 12:02 a.m.,*
in response to message #10 by Jake Schwartz

Here we go:

NEWS RELEASES

NEWS FOR BUSINESS WIRE

PALO ALTO, Calif., July 16 -- A new advanced hand-held calculator that can be customized to fit user needs was introduced today by Hewlett-Packard Company. By plugging in a series of companion devices such as extra memory, a magnetic card reader, a printer, and special application 'modules', a user can create a powerful system for specific individual applications in areas such as business, finance, and engineering.

The $295 HP-41C is the most advanced and versatile calculator HP has ever developed. In addition to 130 preprogrammed scientific and mathematical functions, the continuous-memory, alphanumeric, liquid-crystal-display machine can be tailored to perform many other calculations through programs written by the user or through plug-in applications software available from HP. It is available immediately.

"The HP-41C establishes a new standard in portable, personal computation," said Richard Moore, general manager of HP's Corvallis Division, which designs, manufactures, and markets advanced personal calculators. "Both keyboard and memory can be customized to meet the requirements of the user, and plug-in modules and peripherals can expand the basic machine into a system as powerful as some small computers.

"Although it is the most advanced personal calculator on the market, the HP-41C is easy to operate by technical and business professionals who spend a little time to familiarize themselves with its capabilities," Moore said.

The HP-41C becomes a powerful calculating system with the addition of a series of options that can be connected to the basic machine through four 'ports' on the top.

Up to four memory modules ($45* each) can be added, increasing available program memory or data storage by 400 percent.

A card reader ($195*) allows the user to record and read programs on magnetic cards.

A portable thermal printer ($350*) provides permanent records of calculations. It is also capable of high-resolution plotting.

An optical wand (available early 1980) will read and enter programs and data from printed bar codes.

Plug-in application modules ($45* each) offer preprogrammed solutions to problems in specific areas.

*U. S. prices only.

Thanks for posting, Jake.

Cheers.

Re: Happy Birthday, HP-41C !!!

*Message #12 Posted by **Geir Isene** on 1 July 2009, 12:47 p.m.,*
in response to message #1 by Massimo Gnerucci (Italy)

Thanks for all the memories....

....and for still being my daily work horse and passion :-)

Re: Happy Birthday, HP-41C !!!

*Message #13 Posted by **Mark Edmonds** on 3 July 2009, 7:57 a.m.,*
in response to message #12 by Geir Isene

I bet most of you are using CXs though!

(Sorry, silly post!)

Mark

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Now this is really ridiculous!

*Message #1 Posted by **Michael de Estrada** on 30 June 2009, 11:42 p.m.*

<see here>

Re: Now this is really ridiculous!

*Message #2 Posted by **Thomas Okken** on 1 July 2009, 12:18 a.m.,*
in response to message #1 by Michael de Estrada

The Buy It Now price seems high for this model, but then again, for a complete set, in excellent condition? Also, note that this auction has a "best offer" option, so you can bid less if you want.

Re: Now this is really ridiculous!

*Message #3 Posted by **Thomas Radtke** on 1 July 2009, 3:23 a.m.,*
in response to message #1 by Michael de Estrada

Allthough the source is quoted, I find it quite insolent to use that much of this sites text in the auction.

Re: Now this is really ridiculous!

*Message #4 Posted by **Howard Owen** on 1 July 2009, 3:48 a.m.,*
in response to message #1 by Michael de Estrada

Ah, I see eBay continues to provide "auction porn" for this audience. :)

Regards,
Howard

Re: Now this is really ridiculous!

*Message #5 Posted by **jbssm** on 1 July 2009, 3:46 p.m.,*
in response to message #1 by Michael de Estrada

What I find ridiculous is living in EU and USA, these group of countries that constantly tell us that the communists are the bogey man and try to impose them their "free, everyone save-yourself market" and then coming here to blame on someone that set the price they very well please to sell a good they rightfully own.

The last time I checked the free market wasn't only for Microsoft, General Electric, Shell, ExxonMobil, JPMorgan and others ... now that, well that I find ridiculous, who you can stand the obscene money these people make but come here to point your finger at someone that is trying to earn less that $1000.

Re: Now this is really ridiculous!

*Message #6 Posted by **Thomas Okken** on 1 July 2009, 6:10 p.m.,*
in response to message #5 by jbssm

Whoa, dude, calm down, this is a forum for calculator enthusiasts, not a right-wing think tank. Methinks your anger is misdirected.

- Thomas

Re: Now this is really ridiculous!

*Message #7 Posted by **Don Shepherd** on 1 July 2009, 7:29 p.m.,*
in response to message #1 by Michael de Estrada

Ridiculous? Not if he actually sells it for his BIN price. Not if someone wants it bad enough to pay that, and most of us on this forum would pay top dollar for a model we are especially fond of, in pristine condition, right? Heck, I paid $350 for an HP-65 a couple of years ago, and many would have considered that rather outrageous, but it was worth it to me. Now, would I have paid $900? No, but who knows, someone might have.

Re: Now this is really ridiculous!

*Message #8 Posted by **Michael de Estrada** on 1 July 2009, 8:22 p.m.,*
in response to message #7 by Don Shepherd

> Quote:
>
> Ridiculous? Not if he actually sells it for his BIN price. Not if someone wants it bad enough to pay that

"There's a sucker born every minute" - David Hannum

BTW, the $350 you paid for the HP-65 is perfectly reasonable for that model, even $500 would be reasonable for a complete set in good cosmetic and working condition. The HP-80 is a much less significant model, and routinely sells as a complete set in the $100 to $200 range (I have 4 very good to excellent sets). If the one in the auction were completely new in the box, then perhaps it might be worth that, but it's not. In fact, the manuals are in only fair cosmetic condition and I think that the word "mint" used by the seller is hyperboly and unjustified. Certainly, it is not pristine. Note that a photo of the battery compartment is not provided.

It will be interesting to see if anyone bites on this.

Edited: 1 July 2009, 8:25 p.m.

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Some collecting questions

*Message #1 Posted by **Palmer O. Hanson, Jr.** on 30 June 2009, 9:55 p.m.*

1. I have two working HP-27's and a non-working HP-22 and a non-working HP-25. I have opened the HP-22 and HP-25 and have found that the top has popped off the module which is supposed to be damaged if the charger is applied without the battery pack installed. Does it make sense to remove the module from one of the HP-27's and install it in one of the other machines or is the risk too great?

2. I am in my summer home in western North Carolina. In past years there has always been a number of slide rules for sale in antique stores. One store in particular typically had eight or ten slide rules priced in the twenty dollar range -- typically out of my price range but once in a while I would buy one I REALLY wanted; e.g., when I bought one of the slide rules with an Addiator on the back. This year the store which typically had several slide rules doesn't have a single one. The only slide rule I have seen is a Post Versalog 1460 with a leather case but the plastic somewhat yellowed offered for 52 dollars. Does anyone know if the slide rule market has somehow heated up for some reason? If my memory is correct there was a jump in prices back in the 1990's when the New York Times published an article declaring that slide rules were collectibles.

Re: Some collecting questions

*Message #2 Posted by **Thomas Okken** on 30 June 2009, 10:46 p.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

I'm no expert but I'd expect that the market for slide rules has cooled down, not heated up. When the economy is bad and people are reluctant to spend money on non-essentials, it makes sense to hold on to your collectibles and wait for the market to recover, when you'll probably be able to get better prices as a seller.

Regarding swapping parts from an HP-27 to an HP-22: I think I read somewhere that the electronics in the HP-27 are not compatible with those in the other Woodstock models because they use NMOS technology, as opposed to PMOS in the earlier models and CMOS in the 25C and 29C. I googled a bit and found this link to an old HP Forum thread that may help shed some light on the issue.

Apart from the PMOS vs. NMOS question, I don't think you should gut a working HP-27 to repair an HP-22 or 25; the HP-27 is much rarer, you should treasure it, or sell it and get an HP-25 to gut, there are plenty of those -- although I personally have great nostalgia for the HP-25 and would not do this myself. :-)

- Thomas

Re: Some collecting questions

*Message #3 Posted by **Tony Duell** on 2 July 2009, 4:03 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

> Quote:
>
> 1. I have two working HP-27's and a non-working HP-22 and a non-working HP-25. I have opened the HP-22 and HP-25 and have found that the top has popped off the module which is supposed to be damaged if the charger is applied without the battery pack installed. Does it make

> sense to remove the module from one of the HP-27's and install it in one of the other machines or is the risk too great?

I don't know what you mean by 'module' here, but you need to be aware that the HP27 is very different internally to all other Woodstocks. All other Woodstocks (and for that matter classics, topcats, the HP19C, hp67, etc) use PMOS ics. The HP27 uses NMOS. For this reason the supply voltages are totally different. None of the ICs can be swapped between a 27 and any other machine AFAIK.

In general it's only the -C (continuous memory) machines that are damaged by being connected to the charger without a battery pack fitted. I wouldn't risk it, though.

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HP 35s: Killed by software?

*Message #1 Posted by **Peter Niessen** on 30 June 2009, 12:20 p.m.*

Hi, malheur de malheur:

I just typed

SOLVE R

on it, the busy indicator went on, after a few seconds the display went dark and can't be switched on again.

Similar experiences?

Cheers, Peter.

Re: HP 35s: Killed by software?

*Message #2 Posted by **Quan** on 30 June 2009, 12:35 p.m.,*
in response to message #1 by Peter Niessen

Dead batteries?

Re: HP 35s: Killed by software?

*Message #3 Posted by **Peter Niessen** on 30 June 2009, 12:42 p.m.,*
in response to message #2 by Quan

Took batteries out and in again, came back with memory clear message. Seems to be fine now.

Re: HP 35s: Killed by software?

*Message #4 Posted by **Quan** on 30 June 2009, 1:04 p.m.,*
in response to message #3 by Peter Niessen

If the batteries are not new, I think it's possible that the batteries are weakened to a point where heavy-duty computations draw more current than the batteries can handle, causing a blackout that would require a reset.

Good to know your 35s wasn't killed by software... like virus. :)

BTW, if this happens again, try the RESET hole on the back. It might save removing/re-inserting the batteries.

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HP calculators on sale w/free shipping.
*Message #1 Posted by **Martin Pinckney** on 29 June 2009, 8:22 a.m.*

All the calculators are 15% off. There is apparently no minimum purchase to get the free shipping during this sale.

The (in)famous Smartcalc 300s for only $12.74 delivered.

Re: HP calculators on sale w/free shipping.
*Message #2 Posted by **John Stark** on 29 June 2009, 11:04 a.m.,*
in response to message #1 by Martin Pinckney

New models may be warming up in the bullpen !

Sure hope so ;)

John

Re: HP calculators on sale w/free shipping.
*Message #3 Posted by **Quan** on 29 June 2009, 1:24 p.m.,*
in response to message #1 by Martin Pinckney

I have observed this HP 15% off every 3 or 4 weeks. It seems.

So, there is nothing really excited about it.

On the other hand, if HP were to release an updated 15C+ or 43S or 50gii with the ENTER key in the usual spot, then excitement might hit the roof...

I say the roof, but it could be the exosphere if the update were perfectly executed.

I just couldn't help dreaming...

Re: HP calculators on sale w/free shipping.
*Message #4 Posted by **designnut** on 29 June 2009, 2:01 p.m.,*
in response to message #3 by Quan

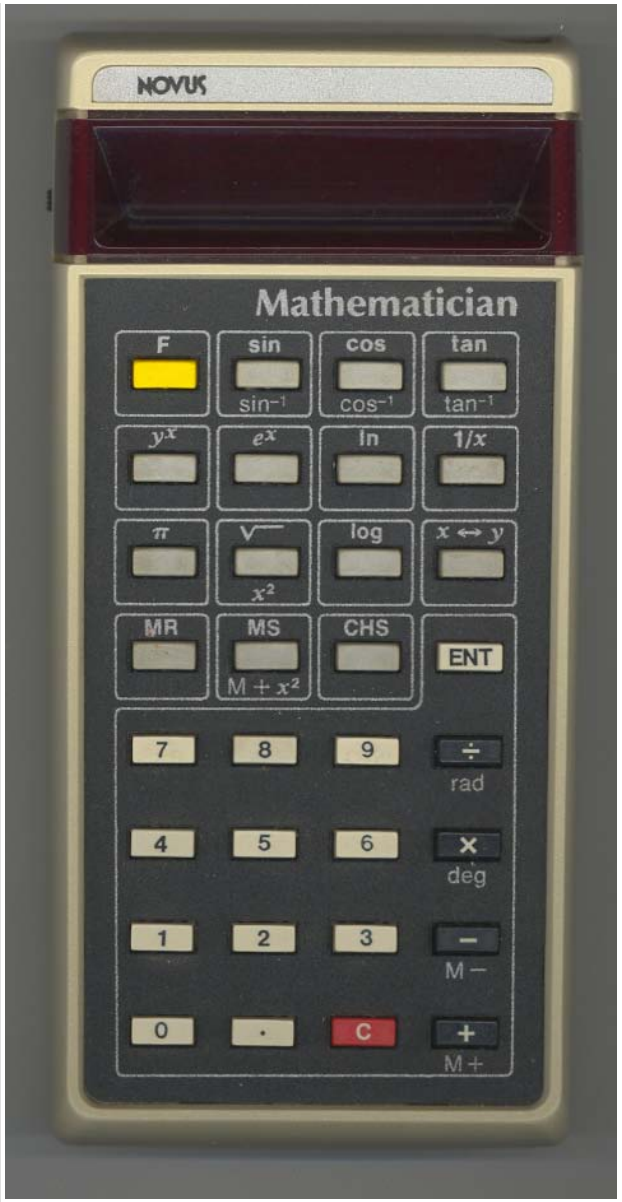
To me the problem is to to be consistent in key locations. The enter is up and left in this model, then it is low and right. There may be an ideal location but more is to be gained by consistency so you can establish a kinesthetic sense of location. Sam

Re: HP calculators on sale w/free shipping.
*Message #5 Posted by **bill platt** on 29 June 2009, 2:02 p.m.,*
in response to message #4 by designnut

That is a way too nerdy requirement. Adapt or die :-)

Re: HP calculators on sale w/free shipping.
*Message #6 Posted by **Michael de Estrada** on 29 June 2009, 2:49 p.m.,*
in response to message #3 by Quan

I have owned HP's since the beginning with the HP-35, and while I did become accustomed to the ENTER key in the "usual" location above the numeric keypad and to the left, I much preferred finding it to the right and directly above the operators as in my NOVUS (National Semiconductor) RPN calcs (Mathematician, 4640 etc.). Early HP's had the operators on the left, so it made some sense to also have the ENTER key there, but once they were moved to the right, that did not make sense, which is why I think it was moved to the right on models like the HP-50g. Unfortunately, it was placed at the bottom, which I find awkward.



Edited: 29 June 2009, 2:53 p.m.

Re: HP calculators on sale w/free shipping.
*Message #7 Posted by **Quan** on 29 June 2009, 3:06 p.m.,*
in response to message #6 by Michael de Estrada

I notice the CHS (I assume it means change sign) key in this model. I also see this in the 12C series, 15c, and maybe others.

Who was the first to use it? When did it switch to -/+ or +/-? Why?

Just curious.

Re: HP calculators on sale w/free shipping.
*Message #8 Posted by **Michael de Estrada** on 29 June 2009, 3:30 p.m.,*
in response to message #7 by Quan

Yes, CHS means "change sign" and is the same as +/-. AFAIK, HP used the CHS convention on all its RPN models from the HP-35 and including the HP-28 through the late 1980's. My 1990 HP-48SX is the first model I have that uses +/- instead of CHS. I have also seen the CHS convention used on non-HP RPN calcs such as the CORVUS 500. OTOH, non-RPN (algebraic) calcs like my LED TI Business Analyst from the late 1970s and various Sharps and Casios all use the +/- convention. So, I am speculating that HP wanted to become consistent with the convention used by the non-RPN calcs, which represented increasingly the majority of the market.

Re: HP calculators on sale w/free shipping.
*Message #9 Posted by **Robissimo** on 29 June 2009, 4:28 p.m.,*
in response to message #8 by Michael de Estrada

My guess is because +/- is a more global symbol and that [C][H]ange [S]ign is more locale specific since it is derived from an english phrase.

CHS vs. +/-
*Message #10 Posted by **Walter B** on 29 June 2009, 5:33 p.m.,*
in response to message #9 by Robissimo

I concur. After all, mathematical symbols are recognized internationally -- that's one of their benefits. Kind of a global language with an equal chance for all people, regardless of their mother tongue.

Ceterum censeo: HP, launch a 43S.

Walter

Re: CHS vs. +/-
*Message #11 Posted by **Michael de Estrada** on 29 June 2009, 5:51 p.m.,*
in response to message #10 by Walter B

I also have one of these. Can you guess which key is +/- ? Also, bonus points if you can guess which keys are ENTER, STO, RCL. Finally, can you tell what the right slider switch settings mean? Hint: It helps to know the pronunciation of the cyrillic alphabet.

HP calculators on sale w/free shipping.

Re: CHS vs. +/-
*Message #12 Posted by **Walter B** on 29 June 2009, 6:17 p.m.,*
in response to message #11 by Michael de Estrada

Don't want to spoil the challenge. We did discuss this some days ago already.

Re: CHS vs. +/-
*Message #13 Posted by **Quan** on 29 June 2009, 7:08 p.m.,*
in response to message #11 by Michael de Estrada

Totally guessing:

Going from bottom-to-top and left-to-right:

+/- ---> 13 ENTER ---> 55 STO ---> 53 RCL ---> 52

Right slider switch = Polar <-> Rectangular. If this is correct, I further guess:

To rectangular --> 61 To polar --> 62

HP calculators on sale w/free shipping.

Re: CHS vs. +/-
*Message #14 Posted by **Thomas Okken** on 29 June 2009, 7:20 p.m.,*
in response to message #13 by Quan

I don't know Russian, but from what I do know of the Cyrillic alphabet, the right slider switch is rad/grad/deg.
As for the number entry and stack manipulation, I'd guess that the /-/ key is +/-, the two-headed arrow is X<>Y, and B^ is ENTER.

What do I win? ;-)

Re: CHS vs. +/-
*Message #15 Posted by **Michael de Estrada** on 29 June 2009, 7:53 p.m.,*
in response to message #14 by Thomas Okken

Correct on all counts! You win a free trip to the Garden State. ;>)

Re: CHS vs. +/-
*Message #16 Posted by **Michael de Estrada** on 29 June 2009, 8:00 p.m.,*
in response to message #13 by Quan

Yes, No, Yes, Yes, No

ENTER is 25 (B^) and the right slider switch is to set angular units (RAD, GRAD, DEG).

Re: CHS vs. +/-
*Message #17 Posted by **Egan Ford** on 29 June 2009, 7:17 p.m.,*
in response to message #11 by Michael de Estrada

My guess:

```
CHS = /-/
Enter = CX
STO/RCL under L2/L3
Slider Prog/Run
```

Edit: fixed formatting.

Edited: 29 June 2009, 7:17 p.m.

Re: CHS vs. +/-
*Message #18 Posted by **Michael de Estrada** on 29 June 2009, 8:10 p.m.,*
in response to message #17 by Egan Ford

Yes on CHS, no on the rest. B^ (up arrow) is ENTER, CX is clear X. STO = x>n and RCL is n>x, where n is the register number. The slider switch is for angular units (RAD,GRAD,DEG). Program / RUN modes are set by keys.

Re: CHS vs. +/-
*Message #19 Posted by **ZOleg** on 29 June 2009, 8:09 p.m.,*
in response to message #11 by Michael de Estrada

I live in Russia and have MK-61, because 100% true:
- ON/OFF switch
- Rad/Grad/Deg switch
- SST without execute step
- BST without execute step
- RTN from subprogram or GTO 01 if not in subprogram
- START/STOP program
- RCL [0-9,a-e]
- STO [0-9,a-e]
- GTO
- GSB in program mode, SST with execute step in Run mode
- X<->Y

- ENTER
- CHS (+/-)
- EEX
- to Run mode
- to Program mode

Edited: 29 June 2009, 8:19 p.m.

Great deciphering (Was: CHS vs. +/-)
*Message #20 Posted by **Geir Isene** on 30 June 2009, 3:48 a.m.,*
in response to message #19 by ZOleg

> Quote:
>
> - SST without execute step
> - GSB in program mode, SST with execute step in Run mode

Impressive explanation - pictures and all.

I like the idea of single-step with/without execution.

Re: CHS vs. +/-
*Message #21 Posted by **Ren** on 30 June 2009, 10:11 a.m.,*
in response to message #11 by Michael de Estrada

It would be good for a laugh to ask a math(s) instructor for help entering an equation and then hand him/her the Russian calc!

Ren

dona nobis pacem

Re: CHS vs. +/-
*Message #22 Posted by **Dave Shaffer (Arizona)** on 30 June 2009, 11:11 a.m.,*
in response to message #21 by Ren

Many of the math instructors I had in college were of Slavic heritage. They probably wouldn't bat an eye at your challenge!

Re: HP calculators on sale w/free shipping.
*Message #23 Posted by **Quan** on 29 June 2009, 7:13 p.m.,*
in response to message #9 by Robissimo

The international mathematical symbols make sense.

Think the 18c was the first with +/-
*Message #24 Posted by **Gene Wright** on 29 June 2009, 4:34 p.m.,*
in response to message #8 by Michael de Estrada

Not sure anything earlier than that used it. That would make it 1986.

Re: Think the 18c was the first with +/-
*Message #25 Posted by **Maximilian Hohmann** on 29 June 2009, 4:44 p.m.,*
in response to message #24 by Gene Wright

> Quote:
>
> Not sure anything earlier than that used it. That would make it 1986.

HP01. 1977. But labelled "-/+" and not "+/-" if that counts...

Greetings, Max

Re: Think the 18c was the first with +/-
*Message #26 Posted by **Katie Wasserman** on 29 June 2009, 5:29 p.m.,*
in response to message #25 by Maximilian Hohmann

The HP-9815A had a (+ <--> -) key in 1976.

SR-10 - November 1972
*Message #27 Posted by **Joerg Woerner** on 29 June 2009, 8:21 p.m.,*
in response to message #26 by Katie Wasserman

Re: SR-10 - November 1972
*Message #28 Posted by **Katie Wasserman** on 29 June 2009, 9:04 p.m.,*
in response to message #27 by Joerg Woerner

Joerg,

Not to take away from TI's very popular and innovative SR-10, but I think that the topic was the first HP calculator to use +/-. Most of the other manufacturers used this all along -- once they realized that a change sign key was important to have.

I have to look around to see if I have anything prior to the SR-10 that uses a +/- key.

-Katie

Re: HP calculators on sale w/free shipping.
*Message #29 Posted by **Palmer O. Hanson, Jr.** on 29 June 2009, 10:09 p.m.,*
in response to message #8 by Michael de Estrada

> Quote:
>
> I am speculating that HP wanted to become consistent with the convention used by the non-RPN calcs, which represented increasingly the majority of the market.

HP made another more important change for consistency with the convention used by the non-HP world when they changed the sequence of the arithmetic keys (reading from the top of the calculator) from - +

x / to / x - + . That change was implemented after the HP-41.

Re: HP calculators on sale w/free shipping.
*Message #30 Posted by **Michael de Estrada** on 29 June 2009, 10:44 p.m.,*
in response to message #29 by Palmer O. Hanson, Jr.

...and they also moved the column of arithmetic operators from the left side of the numerical keypad to the right side, which is consistent with most of the other brands.

Re: HP calculators on sale w/free shipping.
*Message #31 Posted by **Eddie W. Shore** on 1 July 2009, 8:15 a.m.,*
in response to message #30 by Michael de Estrada

Any idea of why the first configuration?

HP keyboard layout
*Message #32 Posted by **Michael de Estrada** on 1 July 2009, 8:57 a.m.,*
in response to message #31 by Eddie W. Shore

What I find interesting is that HP used a conventional layout on the predecessors to the pocket calculators, such as the HP 9815A.

Edited: 1 July 2009, 9:00 a.m.

Re: HP calculators on sale w/free shipping.
*Message #33 Posted by **Mike Morrow** on 29 June 2009, 10:10 p.m.,*
in response to message #6 by Michael de Estrada

I agree completely with your observations on the location of the ENTER key. When HP changed the column containing /*-+ to the right, it was illogical and inefficient to have left the ENTER key on the opposite side. I too wish the hp50g had the ENTER above the / key. As it is, the / key being pushed into the sixth key row just doesn't look right.

It doesn't bother me that the hp50g ENTER key isn't oversized. It does bother me that the four arrow keys are arranged to take up the space of six keys. I'd rather see an arrangement such as found on the HP48GX, which frees up space for two more keys. That would allow an oversized ENTER key and still have one new key for other assignments.

Walmart locally has the hp10bii on clearance. One store has it for $17 and another has it for $11.

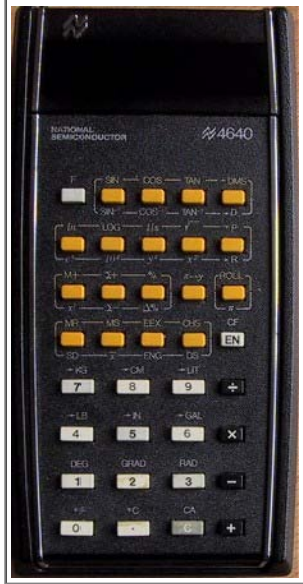
Re: HP calculators on sale w/free shipping.
*Message #34 Posted by **Egan Ford** on 30 June 2009, 9:10 a.m.,*
in response to message #33 by Mike Morrow

> Quote:
>
> It doesn't bother me that the hp50g ENTER key isn't oversized. It does bother me that the four arrow keys are arranged to take up the space of six keys. I'd rather see an arrangement such as found on the HP48GX, which frees up space for two more keys. That would allow an oversized ENTER key and still have one new key for other assignments.

That extra key would also free up the letter 'Z' from the '/' key. I would like to see the 5th row from the bottom more like the 48 (ENTER EEX CHS DEL BS).

Re: HP calculators on sale w/free shipping.
*Message #35 Posted by **Michael de Estrada** on 30 June 2009, 9:34 a.m.,*
in response to message #34 by Egan Ford

Well, except that would again place the ENTER key on the left, whereas the arithmetic operators are on the right. Somehow, the ENTER key needs to migrate to the right *above* the operators, as per....



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HP 50G LCD problem

*Message #1 Posted by **macbxx** on 28 June 2009, 6:47 p.m.*

I bought a used 50G, and was testing and did a soft reset, only to find the previous owner had installed a password application(SDP 2.2, good program). Instead of calling him, I tried to reset it multiple times, and at last left it without batteries overnight. Since it didn't work, I just called the seller like I should have from the beginning, and the password worked, but now I have a row of "dead" pixels in the middle of the soft menu. I don't think they're really dead, since making a vertical line in the graph window makes the pixels show, but nothing else makes them work. Could I fix it changing the lcd, or is the cause something else? Thank you.

Re: HP 50G LCD problem

*Message #2 Posted by **Bart (UK)** on 28 June 2009, 8:20 p.m.,*
in response to message #1 by macbxx

I had the same problem with my 50G about 2 years ago. Received a 2nd hand unit with clean memory. It was fine for a few months, then lost a horizontal line of pixels through the soft menu, soon after a second line did the same. I contacted HP support and they said to try leaving it without batteries for a few days. It didn't work. They offered to replace it but I chose to open it. The flexi tracks seemed to be "glued" to the PCB on which the screen is mounted. I could see no physical reason for the problem. In the meantime more lines have stopped working (everything else is fine). I also recently upgraded the ROM, but it didn't help. If you can get it replaced by HP, I suggest you do.

Any suggestions for repair are welcome.

Bart

Re: HP 50G LCD problem

*Message #3 Posted by **macbxx** on 29 June 2009, 6:17 p.m.,*
in response to message #2 by Bart (UK)

Well, the technical support guy says it's a "common" problem and that "probably" it won't get worse, and offered to get a new LCD for a huge fee, but since the pixels show up under some circumstances I'm not even sure it's the LCD, so I'm leaving it like it is for the moment, but will probably open it if it worsens. Is there any place to buy the LCD part online, by the way?

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Exporting Table Values to Stack

*Message #1 Posted by **Hal Bitton in Boise** on 28 June 2009, 11:31 a.m.*

Hi folks.
I'm trying to figure out how to export the plot function table to the stack on my 50g. In the table setup screen, the file field seems to let me link a variable with the domain of the function, but I want to be able to put the whole table onto the stack...domain and range. Is there no way to do this?
Any ideas much appreciated.
Hal

Re: Exporting Table Values to Stack

*Message #2 Posted by **Tim Wessman** on 28 June 2009, 10:19 p.m.,*
in response to message #1 by Hal Bitton in Boise

I don't think so. Some hacking would do it, but nothing easy and supported.

You can just use the auto-generated function on a list. That would do it.

TW

Edited: 28 June 2009, 10:20 p.m.

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OT: Mathematica Home Edition

*Message #1 Posted by **Howard Owen** on 28 June 2009, 5:32 a.m.*

I could never justify paying for Mathematica. I have no professional requirement, and $1200.00+ for a hobbyist interest in math was just too much for me. All that has changed now.

Regards,
Howard

Re: OT: Mathematica Home Edition

*Message #2 Posted by **Quan** on 28 June 2009, 12:17 p.m.,*
in response to message #1 by Howard Owen

I am curious how freely available math software like maxima, sagemath, etc. compared to Mathematica since I have never used it when I was in school.

No questions that Mathematica is a powerful math software that it is often being compared to.

Back then I was aware of Mathematica and how expensive it was for students like on budget. I kinda wanted but could never justify to own a copy, even if a student edition were available (which I can't recall). There were, I believe, other math software like Maple, Mathlab, but HP calculators were all I ever needed for the undergrad study. Any other software, if needed for the course, was usually provided or available to students at very low cost.

If my understanding is correct, the difference between the professional and home/student editions is mainly the license restrictions. No other differences in terms functionality.

Am I right?

Thanks.

Re: OT: Mathematica Home Edition

*Message #3 Posted by **Howard Owen** on 28 June 2009, 1:13 p.m.,*
in response to message #2 by Quan

That's right. There are restrictions on the license that say you can't even think about making money while using the home edition. I suspect listening to coins clinking while running the program might violate the license as written. :)

I first saw Mathematica back in 1988 when it was introduced. It was a flashy application then, and the physicists I worked for seemed to like it quite a lot. It was more interactive, powerful and nice looking than Maxsyma, which was the standard tool my customers had used up until then. I remember taking a tour of the program and being impressed with its capabilities, so much so that I've wanted a copy ever since.

Based on a day or so of use, my quick impression of Mathematica 7 is that the software differs from freely

available alternatives in two respects. First, the program is a lot easier to use than Maxima et. al. It's not a given that free software should be inferior in this regard, but it seems to be so for this particular program. Second, and more important, Wolfram has an unbelievable support system behind Mathematica. It's not just the depth and breadth of the documentation, which is marvelous, it's the enormous body of supporting material, from video and interactive tutorials, to source code for applications to high quality scientific databases. Free software alternatives no doubt have similar resources available, but not from one source, and therefore not as accessible or well organized.

I come to a similar judgment when comparing GIMP to Photoshop, for example. I've used GIMP since 1998, early in its life. It's a very powerful program that will do practically anything you want a 2D graphics editor to do. Finding out how to do things can be challenging though. If I had to start from scratch learning it today, I'm sure I'd have a tough time. Photoshop on the other hand comes with huge resources, both from Adobe and third parties, which make learning the program much easier. I find the UI differences to be not so significant with these two programs, but that may be due to my 10+ years of experience with GIMP.

Of course the other big difference, for both these programs as compared to their Free alternatives is the cost..

Regards,
Howard

Re: OT: Mathematica Home Edition

*Message #4 Posted by **Don Shepherd** on 28 June 2009, 1:26 p.m.,*
in response to message #2 by Quan

I have had the student version of Mathematica (version 4) since I was a student a few years ago. I still have it although I rarely use it these days. I think it cost about $120 or $130 as I recall, something students could afford. Functionally, it is the same as the regular Mathematica. I also bought the 1500-page Mathematica book, from Wolfram, which cost almost as much as the software, as I recall. I would highly recommend that book too.

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Spice - asterisk in serial - means?

*Message #1 Posted by **Mark Edmonds** on 27 June 2009, 4:21 p.m.*

I've got a Spice which has an asterisk stamped on the left of the serial number. I've also seen photos of other Spices with this.

Does anyone know what this means?

I've searched the forum and googled this but can't find anything.

I have a tentative theory what it might mean but there is probably something more sensible or rational.

The example I have is a 37E and the serial number reads *2109S...

The reason for the asterisk is????

Thanks,

Mark

Re: Spice - asterisk in serial - means?

*Message #2 Posted by **Mark Edmonds** on 27 June 2009, 6:28 p.m.,*
in response to message #1 by Mark Edmonds

Stupidly, I didn't say what I think the asterisk might mean.

This is a hunch based on a very small sample size!

Could it identify Spices which are hardwired to display the radix mark as a comma and thousands separators displayed as a full stop (or period)?

This is certainly how my 37E works and I can't find any magic key combination that switches the display to the alternative. Maybe there is a jumper inside the calc that can be set although I can't find any reference to this in the hardware description pages.

If anyone else has a Spice series with an asterisk on the left of the serial number, please can you check whether it displays commas or full stops/periods for the decimal point?

Thanks,

Mark

Re: Spice - asterisk in serial - means?

*Message #3 Posted by **Randy** on 27 June 2009, 6:53 p.m.,*
in response to message #2 by Mark Edmonds

While I cannot shed any light on your asterisk theory, I can tell you that the radix point is controlled by a wire jumper presence or absence.

Re: Spice - asterisk in serial - means?

*Message #4 Posted by **Mark Edmonds** on 28 June 2009, 6:24 a.m.,*
in response to message #3 by Randy

Thanks Randy - very useful to know and in a way, this is all tentatively fitting together to confirm my theory. Early days as yet though and I'd rather have a much larger sample size before getting too confident!

Mark

Re: Spice - asterisk in serial - means?

*Message #5 Posted by **Gerson W. Barbosa** on 27 June 2009, 9:38 p.m.,*
in response to message #2 by Mark Edmonds

> Quote:
>
> If anyone else has a Spice series with an asterisk on the left of the serial number, please can you check whether it displays commas or full stops/periods for the decimal point?

My Brazilian-made 33C has the asterisk while my 34C, which was made in Singapore, has not. The radix mark on both are commas, but on the latter I cut the jumper Randy has mentioned. I remember someone said an asterisk before the serial number meant the calculator was a replacement unit, but I am not sure of that.

You'll find links to a couple of pictures here:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv008.cgi?read=20346

Gerson.

Re: Spice - asterisk in serial - means?

*Message #6 Posted by **Mark Edmonds** on 28 June 2009, 6:21 a.m.,*
in response to message #5 by Gerson W. Barbosa

So that actually confirms my theory. Thanks for the information.

Does anyone else have an asterisk Spice for checking please?

Mark

Re: Spice - asterisk in serial - means?

*Message #7 Posted by **Ignazio Cara (Italy)** on 29 June 2009, 12:06 p.m.,*
in response to message #6 by Mark Edmonds

Hi, you can find an answer about the presence of the asterisk at the beginning of some serial number of the Spice/Spike serial calculator at page 64 of the 'A guide to HP Handheld Calculator and computers' Fifth edition, HHC 2007. It is related to the keyboard redesigned after the failures in the first serie (heavy calculator). It's reported that the calculator with the new keyboard have an

asterisk at the beginning of the serial number.

I hope this can help you. Regards

Ignazio

Re: Spice - asterisk in serial - means?

*Message #8 Posted by **Mark Edmonds** on 30 June 2009, 6:14 p.m.,*
in response to message #7 by Ignazio Cara (Italy)

Thanks Ignazio.

I don't have that publication so does it identify the source of the information?

I am a little surprised to read that is what the asterisk means given that haven't other series had significant component changes in their production run and never had similar treatment of the serial number? However, it does seem logical to me for it to indicate machines that have a jumper installed or not as they would be intended for different market areas and the jumper affects the way the calculator works. I need to collect more data on this to prove to myself that I am wrong with my theory!

Mark

Re: Spice - asterisk in serial - means?

*Message #9 Posted by **Ignazio Cara (Italy)** on 2 July 2009, 11:20 a.m.,*
in response to message #8 by Mark Edmonds

Sorry, but I can't identify the source of this information. I have merely reported what I have read in the pubblication of W.A.C. Mier-Jedrzejowicz. Neither more or less...

Regards

Ignazio

Edited: 2 July 2009, 11:22 a.m.

Re: Spice - asterisk in serial - means?

*Message #10 Posted by **Nigel J Dowrick** on 3 July 2009, 4:49 a.m.,*
in response to message #6 by Mark Edmonds

I have a HP-34C with an asterisk: the serial number is *1850S38178. It is made in Singapore; it displays a comma for the decimal point, and a decimal point as a thousands separator. The serial number suggests that it was made towards the end of 1978: wouldn't this be too early for the machine to have been fitted with an improved keyboard, as another poster has suggested?

I don't know whether the machine has ever been serviced. It's working fine still!

Nigel

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Nominal power supply for an HP-75D and question about batteries

*Message #1 Posted by **Tomás (España)** on 27 June 2009, 2:20 p.m.*

Hello all.

I am new here, and also new at the HP calculators world (I've been using for 25 years Casio's ones)

I have got an used HP-75D but it came without cable cord nor power supply. I guess my friend had it retired for several years, probably since he left the USA.

My questions are:

1) Which power supply does this unit need to work? (there is no signal nor label indicating it) (I have dismounted the calc from the pod too, to check) I am in Spain now, and here we have AC 220V@50Hz, moving towards 230~240V@50Hz. Also, don't know if there was a power transformer and then the unit needs DC at, let's say, 12V or so.

Reading http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=910 it seems it is 110V@60Hz minimum 2A, but would like to be sure to avoid damaging the HP-75D.

2) At the back of the pod there are 2 empty slots. Inside both, one can read: "PROPER OPERATION REQUIRES BATTERY IN THIS LOCATION". My doubts are:

a) are they really needed to work, or they are only needed if you don't want to lose your programs/data stored in the RAM if you un-plug the power cord?

b) if they are needed, could you give me the technical details or model of that batteries to look for them?

I find rare there is no written indication of these data in the calculator.

Excuse my poor english, and nice meeting you in this nice site!

Tomás.

Re: Nominal power supply for an HP-75D and question about batteries

*Message #2 Posted by **Michael de Estrada** on 27 June 2009, 4:50 p.m.,*
in response to message #1 by Tomás (España)

Tomas,

I copied the following from this site:

Computers HP-75/D Battery HP 82001B, Chargers HP 82059B/C/D - not A, (82066B, 82068B 240 VAC only)

You should be able to use any classic series (e.g. HP-35) battery. There are several vendors of replicas on ebay. You will want to use one of the 240 Vac model chargers.

Regards,

Michael

Re: Nominal power supply for an HP-75D and question about batteries

*Message #3 Posted by **Tomás (España)** on 28 June 2009, 5:45 a.m.,*
in response to message #2 by Michael de Estrada

Thank you very much, Michael.

Your comment has guided me in the correct way, and I will look at eBay for those replacements. Yes, I have to go for the 82066B (EUR) or 82068B (AUS) 240 VAC chargers.

But a doubt still remains...

Are the batteries pack mandatory to 'test' the unit? I am not going to use in day-to-day basis, but only to 'play around', try programming and so on, few hours/days. What happens if there are no batteries but the power supply is pluged? Does it works but when turning off or disconnecting from the AC power it loses the memory and data? Or it just doesn't work?

Regards,

Tomás

Re: Nominal power supply for an HP-75D and question about batteries

*Message #4 Posted by **Tomás (España)** on 28 June 2009, 6:37 a.m.,*
in response to message #3 by Tomás (España)

Hello again.

I think I have found the answer to my last doubt here: HP Battery Information

It says:

"**Warning!** Most models can be damaged if run from the charger without good batteries installed. Only the manuals for the HP 35 and 45 models say that it's OK to run without batteries, but many collectors feel that even those should have batteries installed for maximum protection and long life."

So I understand I should never try to run the HP-75D whithout the 2 batteries HP 82001B, using only the charge adaptor 82066B or 82068B. Rigth?

Thank you very much for the help.

Tomás

Re: Nominal power supply for an HP-75D and question about batteries

*Message #5 Posted by **Nigel J Dowrick** on 28 June 2009, 6:57 a.m.,*
in response to message #4 by Tomás (España)

Tomas,

I also have a used HP-75 without battery packs or charger. I have managed to run it by wiring a 4.5V dc (regulated) power source directly to the terminals in one of the battery compartments. I

used photographs of the battery packs on this website to decide which terminal was positive and which was negative. It worked fine; it was only necessary to power one of the two compartments.

Depending on your needs, this might be an easier way to go than obtaining a charger and battery pack. My plan is to obtain a triple AAA battery holder: this will provide the 4.5V needed, and the AAA cells in their holder should be small enough to fit inside one of the battery compartments. I intend to solder the leads from the holder direct to the battery compartment terminals.

Hope this helps,

Nigel

Re: Nominal power supply for an HP-75D and question about batteries

*Message #6 Posted by **Tomás (España)** on 28 June 2009, 11:22 a.m.,*
in response to message #5 by Nigel J Dowrick

Hello Nigel,

Thank you for your suggestion. But when I read it, I had already done something similar: I have connected 2 x 3R12C. The 3R12C is a 4.5V Zinc Chloride, I think they are the same or equivalent to those 3R12 shown on List of battery sizes

With that, the system seems to work nicely. I have not try to connect just one battery slot as you did. Nevertheless, I have just try to store a short BASIC program and run it.

Anyway, I will try to get an adaptor and 2 battery sets. What I wonder is how yours can work. I expected the two slots were connected in serial, so to give (in my case) an overall voltage of 2x4.5=9V (and crossing my fingers that it didn't harm the unit, as the charger is 8V DC)

If your setup works with only 4.5V then why does the unit needs an 8V charger? I am not good on electrics ;)

Tomás

Edited: 28 June 2009, 11:30 a.m.

Re: Nominal power supply for an HP-75D and question about batteries

*Message #7 Posted by **Nigel J Dowrick** on 28 June 2009, 4:04 p.m.,*
in response to message #6 by Tomás (España)

Dear Tomas,

On my machine the two battery holders are wired in parallel, so even with a battery in each only 4.5V would be provided! This arrangement doubles battery life, and allows the packs to be changed one at a time without total loss of power, I suppose.

Incidentally, according to this link (www.rskey.org) the power pack for the HP-75C/D supplies 8VAC, not 8VDC! I haven't got the power pack so I don't know whether this is correct.

Good luck!

Nigel

Re: Nominal power supply for an HP-75D and question about batteries

*Message #8 Posted by **Tomás (España)** on 30 June 2009, 6:15 p.m.,*
in response to message #7 by Nigel J Dowrick

Nigel, thank you for your comments.

Yes, I didn't noticed, but you are rigth pointing out the charger supplies 8VAC... I will try to buy a pair of battery packs, and eventually, an original charger.

Tomás

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HHC2009 Change of venue

*Message #1 Posted by **BruceH** on 27 June 2009, 9:36 a.m.*

Joe Horn posted the following on comp.sys.hp48 but I don't see any similar message here.

> Quote:
>
> Due to unforeseen circumstances out of our control, the location of HHC 2009 must change. HP has informed us that the fate of the Vancouver facility is up in the air and they had to back out on allowing us to use the conference space there -- but they offered Fort Collins, Colorado, as an alternative -- so we have no choice but to move the conference. Make no travel or hotel reservations until the details appear on the HHC 2009 website: http://holyjoe.net/hhc2009/description.htm
>
> -Joe-

Move it to Raddison Hotel, San Jose!!!

*Message #2 Posted by **Namir** on 27 June 2009, 2:01 p.m.,*
in response to message #1 by BruceH

That's a real bummer!

I say let's move it to San Joe's Radisson hotel, like we used to hae. HP has dropped he ball.

Namir

Edited: 27 June 2009, 2:25 p.m.

Re: Move it to Raddison Hotel, San Jose!!!

*Message #3 Posted by **Howard Owen** on 27 June 2009, 7:00 p.m.,*
in response to message #2 by Namir

That has my vote, since I live in San Mateo. What about Palo Alto?

Regards,
Howard.

Edited: 27 June 2009, 7:02 p.m.

Fort Collins...

*Message #4 Posted by **Gene Wright** on 27 June 2009, 7:20 p.m.,*
in response to message #3 by Howard Owen

HP has invited us to their Fort Collins campus. Having HP participate is VERY important. That's why we've had the conferences where we have the last several years.

Fort Collins it is!

Gene

Re: Fort Collins...

*Message #5 Posted by **Howard Owen** on 27 June 2009, 8:42 p.m.,*
in response to message #4 by Gene Wright

Well, I can live with that.

I hope it ends up back in the Bay Area one of these years. Corporate *is* in Palo Alto, after all.

Regards,
Howard

Re: Fort Collins...

*Message #6 Posted by **Bruce Bergman** on 28 June 2009, 12:35 a.m.,*
in response to message #4 by Gene Wright

Although I am FINE with the San Jose option, has anyone (either on the board or at HP) considered San Diego? I don't imagine this campus is going away any time.

[In light of full disclosure, I am biased towards San Diego because I like it and I live here... :-)]

thanks, bruce

Re: Fort Collins...

*Message #7 Posted by **Eddie W. Shore** on 1 July 2009, 8:17 a.m.,*
in response to message #6 by Bruce Bergman

Put me in as another vote for San Diego. I live in Los Angeles.

Re: HHC2009 Change of venue

*Message #8 Posted by **Karl Schneider** on 27 June 2009, 6:07 p.m.,*
in response to message #1 by BruceH

> Quote:
>
> Due to unforeseen circumstances out of our control, the location of HHC 2009 must change. HP has informed us that the fate of the Vancouver facility is up in the air...

Here's the rest of the story -- the banner headline on one of my morning papers:

Shin-Etsu buys H-P Vancouver campus

-- KS

Re: HHC2009 Change of venue

*Message #9 Posted by **Allen** on 27 June 2009, 8:41 p.m.,*
in response to message #8 by Karl Schneider

I like Ft. Collins... hopefully I can change my tickets without much penalty (using frequent flyer miles). It does have a good benefit of being more 'central' in the USA.

If you're not flying into Ft. Collins directly, I suggest Denver Airport and driving. It's a nice ride, and the schedules into Denver from anywhere in the country are much, MUCH better than Portland.

Re: HHC2009 Change of venue

*Message #10 Posted by **Tim Wessman** on 27 June 2009, 9:09 p.m.,*
in response to message #9 by Allen

I live in and work in Ft Collins (at least I will be back there 1 mo from now).

Fly into denver. You could possibly fly into the loveland airport (I think they still have a few commercial flights still), but the denver airport is a 40 min shuttle ride for 30$.

TW

Re: HHC2009 Change of venue (Ft. Collins, CO)

*Message #11 Posted by **Karl Schneider** on 27 June 2009, 11:00 p.m.,*
in response to message #9 by Allen

> Quote:
>
> ... the schedules into Denver from anywhere in the country are much, MUCH better than Portland.

That's 'cuz Denver International Airport (DIA) is a hub, while Portland International Airport (PDX) isn't. Some controversy ensued when DIA replaced Stapleton in the 1990's. Some critics asserted that, with direct flights increasing in poularity, Denver had built the airport of the 1980's.

It is a fairly long drive east from downtown Denver to DIA. I almost missed a flight in 1996, not taking that fully into account.

A connection to HP calculators: The seller of the pristine HP-10C I bought a few years ago claimed to have used it in his work designing DIA.

BTW: A conference in Fort Collins perhaps ought to include an optional group side trip to WWV, if possible.

-- KS

Edited: 27 June 2009, 11:02 p.m.

Re: HHC2009 Change of venue (Ft. Collins, CO)

*Message #12 Posted by **Howard Owen** on 27 June 2009, 11:55 p.m.,*
in response to message #11 by Karl Schneider

Now *that* is a nerdy destination! :)

I wonder how many things still rely on the broadcast time ticks, given NTP and cell networks? Offshore applications come to mind.

Regards,
Howard

Re: HHC2009 Change of venue (Ft. Collins, CO)

*Message #13 Posted by **Katie Wasserman** on 28 June 2009, 1:53 a.m.,*
in response to message #12 by Howard Owen

> Quote:
>
> I wonder how many things still rely on the broadcast time ticks, given NTP and cell networks?

Probably not a whole lot of people listen to WWV these days, nerdy hams like some of us here excepted. But there are a zillion "atomic" clocks, watches, weather stations, etc. that get time from WWVB which is also broadcast from the same location.

I would love to get a tour of the NIST site in Fort Collins. While their web site has an near infinite amount of information about WWV/WWVH/WWVB and the clocks they use, there's no indication that they give tours of the place. Does anyone here know if they do?

-Katie

Re: HHC2009 Change of venue (Ft. Collins, CO)

*Message #14 Posted by **Ren** on 2 July 2009, 10:48 a.m.,*
in response to message #13 by Katie Wasserman

> Quote:
>
> I would love to get a tour of the NIST site in Fort Collins. While their web site has an near infinite amount of information about WWV/WWVH/WWVB and the clocks they use, there's no indication that they give tours of the place. Does anyone here know if they do?
>
> -Katie

The NIST Atomic clock is in Boulder! about 45 miles SW of Ft. Collins. I don't recall how they get the signal from Boulder to WWV or how they compensate propagation delays, etc.

When I visited NIST in the late '90's they had a huge quartz crystal in the lobby (about 90cm tall). Down the hall you could see the two cesium clocks and a few predecessors (including a pendulum clock, IIRC).

Fool Disclosure: I have a friend that works for a former HP entity in Ft. Collins.

Re: HHC2009 Change of venue (Ft. Collins, CO)

*Message #15 Posted by **Dave Shaffer (Arizona)** on 28 June 2009, 1:44 p.m.,*

in response to message #12 by Howard Owen

Folks who need good time (like us VLBI radio astronomers - we can tell the relative time between sites AFTER an experiment to the picosecond level (1e-12), and prefer sub-microsecond a priori time) all use GPS these days. It delivers tens of nanosecond time accuracy with no effort.

Re: HHC2009 Change of venue (Ft. Collins, CO)

*Message #16 Posted by **Karl Schneider** on 28 June 2009, 4:50 p.m.,*
in response to message #12 by Howard Owen

> Quote:
>
> Now that *(NIST/WWV in Fort Collins)* is a nerdy destination! :)

Regarding WWV: In the northwestern part of the US during the early 1980's, I was able to hear the 5.0-MHz WWV/WWVH broadcast at night on a Sanyo shortwave, when the stations belonged to the National Bureau of Standards. Also easy to get was Radio Moscow and Voice of America.

That radio is no longer working properly, but my recently-acquired Zenith Trans-Oceanic can receive WWV at 5 MHz. With major political changes, though, the others are hard to find now...

-- KS

Edited: 8 July 2009, 10:27 p.m. after one or more responses were posted

Hello Karl!

*Message #17 Posted by **Geoff Quickfall** on 28 June 2009, 5:49 p.m.,*
in response to message #16 by Karl Schneider

Yes the Zenith Oceanic is great.

Radio Havana Cuba, Radio Nederlands in Hilversum (sp?) as well as Fort Collins and Hawaii, NRC time signals in Ottawa. Lots of DXing in the old days.

Most aircraft today (10 years or older) without GPS will have their clocks updated by the master clock and a time signal. Usually we use WWV or WWVB in Hawaii.

Even with the GPS and SAT NAV systems today I always do a time check in case of hidden software updating problems.

Cheers, and happy DXing...

Geoff

P.S. I was going to bring down in the station wagon a whole bunch of free vintage calculators to Vancouver, Wa. but now that I have to fly into Denver and rent a car it looks like they will be left at home. Oh well!!!!

(just kidding about the free vintage HP calculators)!!!!!

Hi, Geoff!

*Message #18 Posted by **Karl Schneider** on 30 June 2009, 1:11 a.m.,*
in response to message #17 by Geoff Quickfall

> Quote:
>
> Cheers, and happy DXing...

I have to admit, I wouldn't try serious shortwave DX'ing on the third-generation Royal D7000 unless I connected a 'real' antenna to its terminals -- although the built-in whip is fairly good.

AM and FM reception are excellent.

Not sure if I'll be attending this year with the change of venue from Vancouver, USA. I had a 2.5-hour direct flight and family in San Diego (2007); Corvallis (2008) was only a several-hour drive away; Vancouver is home. Fort Collins? Hmm...

-- KS

Re: HHC2009 Change of venue

*Message #19 Posted by **Paul Brogger** on 2 July 2009, 1:42 p.m.,*
in response to message #1 by BruceH

Bummer. -- from Oly, WA area.

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To Dave Hicks -- others, please ignore

*Message #1 Posted by **Thomas Okken** on 27 June 2009, 2:00 a.m.*

Hi Dave,

I'm trying to get in touch with you; I sent a message using the contact page (http://www.hpmuseum.org/contactf.htm) a while ago, but I haven't heard back from you since.
There's no rush; in case you've simply been away, or too busy, I apologize; but in case there's been a glitch in the message system, I thought I should try this route.
You can contact me via the forum's message system or at thomas_okken at yahoo.com.

Thanks!

- Thomas

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SPICE question - repost

*Message #1 Posted by **Michael de Estrada** on 26 June 2009, 9:56 p.m.*

I asked this question previously, but received no replies, so I'm going to try again. I know somebody knows the answer.

I am quite familiar with the construction and repair of Spice type 1 series calculators (HP3xE/C) with the un-soldered press-fit design, having fully disassembled/reassembled 8 different units. Most of the "repairs" have consisted of swapping interchangeable parts from different units. One of the most common problems is broken/damaged battery contacts and/or charger circuit board traces. Another less common problem is a damaged ribbon connector between the contacts board and the power circuitry board. On the Spice Type 1 series, the battery/charger contact assembly terminates at a ribbon connector extension to the power circuitry board, which is press-fit to the main circuit board. Therefore, it is possible to swap a bad assembly with a good one sourced from a different calculator.

My question is whether this is possible with the later type 2 series with the soldered construction, or is the battery/charger contact assembly integral with the main circuit board?

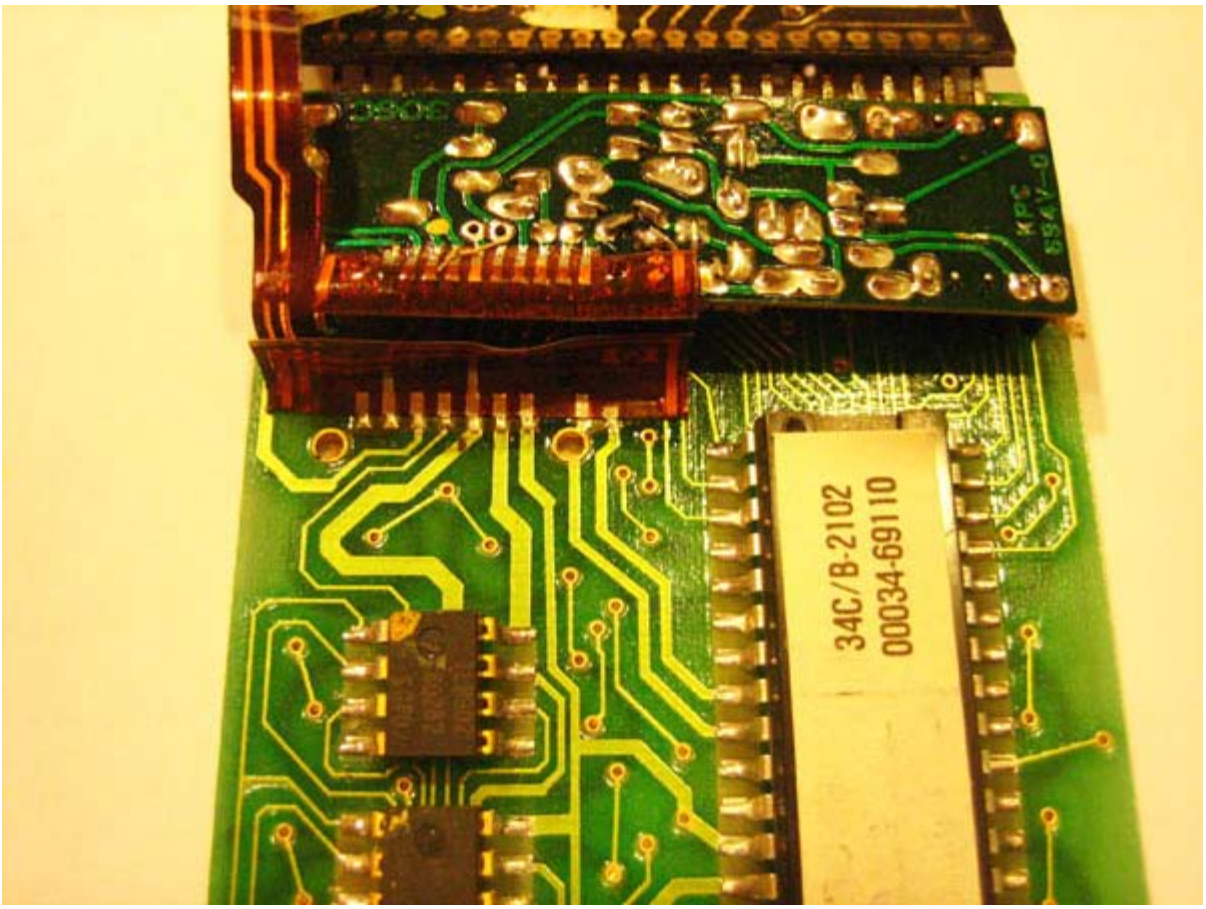
Thank you for your assistance,

Michael

Re: SPICE question - repost

*Message #2 Posted by **Randy** on 27 June 2009, 9:58 a.m.,*
in response to message #1 by Michael de Estrada

The same battery connection contacts and flex circuit are used but in the case of type 2 units, it is soldered to the main board.



Re: SPICE question - repost

*Message #3 Posted by **Michael de Estrada** on 27 June 2009, 10:16 a.m.,*
in response to message #2 by Randy

Thank you. I was afraid that was the case. It appears from your photo that the LED array is soldered as well. This is beyond my soldering skills.

Re: SPICE question - repost

*Message #4 Posted by **Randy** on 27 June 2009, 10:31 a.m.,*
in response to message #3 by Michael de Estrada

Yes, everything is soldered. The power supply module is very difficult to remove/replace and I would normally repair the battery contacts in almost all cases unless the charger contacts are damaged.

On units with bad LED arrays (which is very common, especially the right most digit) I simply cut all the pins individually then unsolder each one once the board is gone. Very easy to do.

Trying to remove a good LED from a soldered unit for reuse is again, very difficult.

Re: SPICE question - repost

*Message #5 Posted by **Hal Bitton in Boise** on 27 June 2009, 10:23 a.m.,*
in response to message #1 by Michael de Estrada

Hi Michael,
I repaired my "type 2" soldered machine about 2 years ago (a 34C)...there is indeed a ribbon connector between the two boards to which you referred.

I seem to recall, however, that both ends of the ribbon connector's traces were all attached with what looked like tiny hollow rivets.
Best regards, Hal

Re: SPICE question - repost

*Message #6 Posted by **Randy** on 27 June 2009, 5:23 p.m.,*
in response to message #5 by Hal Bitton in Boise

There are three hollow rivets on the battery connection board. Two hold the battery contacts in place, all three hold the flex circuit traces in contact with the pc board. On the other end, it is all solder connections as shown in the photo, no rivets there.

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Seeking 42S Inspiration

*Message #1 Posted by **Mark Edmonds** on 26 June 2009, 3:26 p.m.*

If someone here can come up with the right idea, I'll be really grateful!

Situation is that I've had a 42S for a couple of months now and the only programs I've written have been noddy programs to check I understand how it works.

But now I've really got the urge to write a proper program and ideally, I want to write a game. Problem is, I can't think of anything suitable! I don't want to re-hash all the old ideas or regular candidates for calculator games. I want something that will be worth playing and fun. It will have to be turn based of course (unless there is a secret way of scanning the keyboard without halting program flow) and with nearly 7K available and limited graphics, there has to be something good out there.

Anyone able to come up with a cracking idea please?

Put your thinking-caps on please Ladies and Gentlemen!

Sincere thanks in advance for any suggestions :)

Mark

Re: Seeking 42S Inspiration

*Message #2 Posted by **Geir Isene** on 26 June 2009, 3:42 p.m.,*
in response to message #1 by Mark Edmonds

A full blown gladiator game where you build a character, win money, buy new weapons and armor, and where the real game is in the close combat tactics of attack/parry combinations.

I've been wanting to make such a game for the HP-41. If you start, I will pitch in :-)

Re: Seeking 42S Inspiration

*Message #3 Posted by **Mark Edmonds** on 26 June 2009, 4:31 p.m.,*
in response to message #2 by Geir Isene

Thanks for the idea Geir. I am having trouble seeing how this type of game would work in a turn-based setup. I've seen games that are similar to what you describe but they have been realtime, arcade type games. Is there a well known existing game that does what you are suggesting that I can look up and examine? Thanks :)

Mark

Re: Seeking 42S Inspiration

*Message #4 Posted by **Martin Pinckney** on 26 June 2009, 4:44 p.m.,*

in response to message #3 by Mark Edmonds

Methinks Geir spoke with tongue in cheek.

Re: Seeking 42S Inspiration

*Message #5 Posted by **Geir Isene** on 26 June 2009, 4:54 p.m.,*
in response to message #4 by Martin Pinckney

Nope, I was dead serious. And with the advent of the NoV-64 & ICEBOX.ROM, we have an enormous amount of memory available to accomplish stuff that you needed a C64 to do in the ole' days :-)

Re: Seeking 42S Inspiration

*Message #6 Posted by **Geir Isene** on 26 June 2009, 4:51 p.m.,*
in response to message #3 by Mark Edmonds

A turn based gladiator game could be as good as a real time time one IMO.

Remember the good old Dungeons & Dragons Role-Playing game? Or with a better combat system, we have the Amar RPG . Be inspired :-)

I once played an around-the-table Role-Playing game called... Gladiator (can't find it now) - and this is where I got this games idea from. Nowadays, we have the flash equivalents (but nowhere near as good a game system as the aforementioned Gladiator RPG): Galdiator2 flash game

Re: Seeking 42S Inspiration

*Message #7 Posted by **J Grim** on 27 June 2009, 12:53 a.m.,*
in response to message #3 by Mark Edmonds

Greetings. I have long followed the forum here but never posted. Thank you, Mr. Hicks for creating this museum for us to enjoy. I also enjoyed the pics of your various world travels. :-)

I think I have a source of inspiration for a game of this nature. My first computer was an Apple IIe and on that machine we had a game called Arena of Octos. It was a turn based gladiator game set in a sci-fi setting.

Mark, good luck in creating your game.

Re: Seeking 42S Inspiration

*Message #8 Posted by **Howard Owen** on 26 June 2009, 10:13 p.m.,*
in response to message #1 by Mark Edmonds

OK, use printing functions on the 42S to send game update data via IR to an external box. This box would coordinate game play among several calculators, and update a shared display. The 42S would do control input and have local state displayed. Presto - real time multiplayer. :)

You didn't say it had to be *practical* :)

Regards,
Howard

Re: Seeking 42S Inspiration

*Message #9 Posted by **Mark Edmonds** on 27 June 2009, 7:29 a.m.,*
in response to message #8 by Howard Owen

Howard - Thanks for the idea! Another practical idea - how about a pinball simulator? The program continuously calculates where the ball should be on the table and reports this using distance from a base point. The player then uses a tape measure to position the ball on the table and keeps this updated as the program calculates each new position. I'd call it something like "Slowball".

Mark

> Quote:
>
> OK, use printing functions on the 42S to send game update data via IR to an external box. This box would coordinate game play among several calculators, and update a shared display. The 42S would do control input and have local state displayed. Presto - real time multiplayer. :)
>
> You didn't say it had to be *practical* :)
>
> Regards,
> Howard

Re: Seeking 42S Inspiration

*Message #10 Posted by **Thomas Okken** on 27 June 2009, 12:08 a.m.,*
in response to message #1 by Mark Edmonds

Chess!

Re: Seeking 42S Inspiration

*Message #11 Posted by **Egan Ford** on 27 June 2009, 2:18 a.m.,*
in response to message #1 by Mark Edmonds

Texas Hold'em. Could be interesting AI work.

Slot machine. Brain dead simple.

Re: Seeking 42S Inspiration

*Message #12 Posted by **Mark Edmonds** on 27 June 2009, 7:18 a.m.,*
in response to message #11 by Egan Ford

Thanks everyone for the interesting ideas!!! :)

I'm sorry to say that I am not going to do anything remotely like a Dungeons and Dragons game. My feelings towards that game are not printable. Nothing personal and not trying to sound ungrateful for the ideas but "D&D" is a no-go area. If I roll my special one-sided dice, it says "run like hell!!".

Chess - now that is interesting. I had thought about that and a simple one-move lookahead might be feasable. However, lots of available moves need lots of available memory and I'm not sure how this would work out. Still not discounting it though.

Slot Machine - another interesting idea but I don't know much about how they work as I've never played one! Presumably, just a low probability of winning?

Other areas I am trying to think of involve card games or board games where the program would report a move which the player updates on a real board. Chess would be an example but maybe someone can think of a good board game where moves can easily be described.

In terms of program speed, I realise the 42s is not exactly a racehorse so the intended fallback is Thomas Okken's emulator or Christoph's one if I can work the 42s ROM dump.

Any more ideas hugely welcome! :)

Mark

Re: Seeking 42S Inspiration

*Message #13 Posted by **Katie Wasserman** on 27 June 2009, 10:14 a.m.,*
in response to message #12 by Mark Edmonds

Years ago I taught an intro programming course and assigned games as the coursework. The "big" project was to implement the game called Black Box where the computer would randomly hide N balls in an 8x8 grid and you had to guess the location by probing from the edge of the board. Probes had one of three results: hit, reflection or exit out of a different edge location, Wikipedia has all the details.

It's a good programming exercise and a fun game to play. It's likely impossible to play it all in your head but easy to print it out or write it out on scratch paper as you play.

-Katie

Re: Seeking 42S Inspiration

*Message #14 Posted by **Mark Edmonds** on 27 June 2009, 2:14 p.m.,*
in response to message #13 by Katie Wasserman

Very interesting idea, I like it! Thanks Katie. One thing that isn't clear to me from the rules though is when you get a hit, is the ball location revealed? Or do you just get told it is a hit with no ball revealed?

One aspect concerns me with doing this on a 42S is the limited vertical display height. Although I have never played it, I get the impression that being able to see the entire board is quite important. If you include the row/column results, that means finding a way of representing a 10x10 board on a display with 16 vertical pixels. I've got a few ideas on this though...

Thanks again for the great suggestion!

Mark

Re: Seeking 42S Inspiration

*Message #15 Posted by **Katie Wasserman** on 28 June 2009, 11:58 a.m.,*
in response to message #14 by Mark Edmonds

A hit is simply indicated by marking the edge position that you probed from. The balls are only revealed at the end of the game. You need to have some mechanism to tell the computer/calculator where you think the balls are. When you're satisfied that you have them all

located correctly you then tell the machine that you're done -- it revels the true location and scores how you did based on how many probes you made and if you have any incorrect guesses (this is described in the wikipedia).

Yes, you really do need to see the board all at once. A 10x10 (including edge labels) is needed and you need to allow for some way the player can indicate where he/she thinks the balls are located within the grid. You might be able to do a very little bit of vertical scrolling to allow the user to see more than a couple of bits for each location in the grid. Too much scrolling will make this very difficult to play. It's going to be a challenge to do this on a 16 bit display. A printer output option would be very useful.

Edited: 15 July 2009, 2:39 a.m. after one or more responses were posted

Re: Seeking 42S Inspiration

*Message #16 Posted by **Mark Edmonds** on 30 June 2009, 5:57 p.m.,*
in response to message #15 by Katie Wasserman

Thanks Katie. I did read through the Wiki page on this game but it left quite a few holes in exact mechanics of the game. Be patient please - I will have some more questions. Thanks!

Mark

Re: Seeking 42S Inspiration

*Message #17 Posted by **David Hayden** on 27 June 2009, 9:12 a.m.,*
in response to message #1 by Mark Edmonds

How about Sudoku? You could do it in 3 stages:

1. User inputs the known values, then guesses the unknowns. The program validates each guess and (of course) tells them when they've solved the puzzle
2. Use inputs the known values and the program solves the puzzle. There are plenty of sites that describes algorithms for solving the puzzle and I can provide C++ source code for my own if you like.
3. Program creates a board for the user (or program!) to solve.

Re: Seeking 42S Inspiration

*Message #18 Posted by **Mark Edmonds** on 27 June 2009, 2:25 p.m.,*
in response to message #17 by David Hayden

Thanks for the idea David. I can see a nice way of implementing a sodoku board in 3x3 blocks on the 42s display. Certainly one to give some serious consideration - but if I did it, I would have to write my own solving algorithms, no cribbing! It would be a matter of principle to work out how to do it, especially as I have never ever played the game (but I know the rules).

Mark

Re: Seeking 42S Inspiration

*Message #19 Posted by **Don Shepherd** on 27 June 2009, 9:38 a.m.,*
in response to message #1 by Mark Edmonds

How about the Fifty Game?

Two players (or one player and the computer) take turns, each entering a number from 1 to 6. A running total is established. The person who hits exactly 50 is the winner.

If you analyze the game, you will realize that the player who goes first will always win if he/she knows the "secret" and doesn't make a mistake. If the first player does not know the secret, but the second player (computer, in this case) does, then there is a very high probability that the second player will win.

My middle school kids love this game, and I always tape a one dollar bill above the board and offer it to whomever can beat me (I go second). I always end up losing the dollar when one of the bright ones figures out the secret.

Re: Seeking 42S Inspiration

*Message #20 Posted by **Egan Ford** on 27 June 2009, 10:53 a.m.,*
in response to message #19 by Don Shepherd

Sounds like Nim (http://en.wikipedia.org/wiki/Nim). IIRC, there are a few RPN versions of this around.

Mathematics Magazine a few months back had a great article on non-transitive dice games. Basically there are 4 dice, each has different numbers on the sides. Each dice has a probability of besting the other dice, e.g. A > B > C > D, however D > A. So in this game it is the person that goes 2nd that has the upper hand. Play that with your kids, best of ten, each time allow them to pick any dice first, you'll win *almost* every time. Even if you alternate you'll still have the advantage.

Now if they can figure out how that works, well then you truly have a gifted student.

Edited: 27 June 2009, 11:49 a.m.

Re: Seeking 42S Inspiration

*Message #21 Posted by **Mark Edmonds** on 27 June 2009, 2:19 p.m.,*
in response to message #19 by Don Shepherd

Thanks Don. As Egan has already said, this looks a bit like a Nim variation. Is that correct or have I misunderstood the concept? Certainly, the idea is a really good one for a calculator and as it isn't the classic matchstick Nim game, it would be new and worth doing. I shall consider this one. Thanks for the suggestion!

Mark

Re: Seeking 42S Inspiration

*Message #22 Posted by **Don Shepherd** on 27 June 2009, 3:05 p.m.,*
in response to message #21 by Mark Edmonds

Yeah, Egan is right, it is similar to Nim. I programmed the 50 game on my 12c in 67 steps. If you win, the final display says 55178 ("bliss" upside-down). If the calculator wins it says 3507.1 ("I lose"). I got that idea from an old HP-65 NIM game!

Re: Seeking 42S Inspiration

*Message #23 Posted by **Dave Britten** on 28 June 2009, 9:21 a.m.,*
in response to message #1 by Mark Edmonds

I've always enjoyed the game Daleks. It's a very simple turn-based strategy game, but quite engaging. I'd

explain further, but I'm typing this on my phone - Google should turn up numerous implementations and explanations. The 42s graphics capabilities would probably be just enough to pull it off.

Re: Seeking 42S Inspiration

*Message #24 Posted by **Egan Ford** on 28 June 2009, 10:04 a.m.,*
in response to message #23 by Dave Britten

Great game. It was also called Robots. I built the BSD "robots" version for my Mac. Given all today's gaming choices, its the simple games that I find most enjoyable.

I tried to create a 41CX version using the 32 column HP-IL Video interface, but screen updates were too slow and the 41CX is just too slow for interactive games. I may try a 71B version using the 80 column HP-IL Video interface. Versions exist for the 50g.

There are a number of Star Trek turn-based games available that may also workout well. Graphics are not necessary, but providing updates on a printer may be nice (see example below). Think of "Trek" as a much more engaging version of the board game Battleship. There are many C-based (e.g. BSD) and BASIC versions around to base an RPN version on. Actually there is an RPN version already for the 41CX (http://www.rskey.org/gene/calcgene/trek41.htm). Build on that.

Example BSD printer output:

```
Short range sensor scan
  0 1 2 3 4 5 6 7 8 9
0 . . . . # . . @ . . 0   stardate       2800.05
1 . . . . . . . . . . 1   condition      GREEN
2 . . . . . . . . . . 2   position       5,6/5,5
3 . . . . . . . . . . 3   warp factor    5.0
4 . . . . . . . . * . 4   total energy   5000
5 * . . . . E . * . * 5   torpedoes      10
6 . . . . . . . . . . 6   shields        up, 100%
7 . . . . . . . . . . 7   Klingons left  6
8 . . * . . . . . . . 8   time left      7.95
9 . . . . . . . * . . 9   life support   active
  0 1 2 3 4 5 6 7 8 9
Starsystem Beta III
```

For the most part BSD Trek is like the 41CX Trek, but with more options and strategy. Both versions are line oriented, but the BSD version has short range and long range sensor commands than print the above output.

A 42S version of this would be very nice.

Edited: 28 June 2009, 10:12 a.m.

Re: Seeking 42S Inspiration

*Message #25 Posted by **Mark Edmonds** on 30 June 2009, 6:04 p.m.,*
in response to message #24 by Egan Ford

I just want to say a huge thank you to everyone who came up with ideas here. Lots of interesting thoughts including some which will translate on other machines (need to spend some time on the 85).

I had to select one idea of course and the one I've selected is Katie's Black Box suggestion. Currently, I am working on testing out a few program mechanics to find out how I am going to implement the program with the 42s functionality as well as mapping out all the features I want to implement. I've got a clear vision for how I want it to look and work at least. Displaying the board is going to be main contentious area but I think my solution will work.

Anyway, time to start work :)

Mark

Re: Seeking 42S Inspiration

*Message #26 Posted by **David Hayden** on 1 July 2009, 11:36 a.m.,*
in response to message #25 by Mark Edmonds

That sounds great, Mark. Good luck, and please post the results when you're done so we can all marvel at your work :)

Re: Seeking 42S Inspiration

*Message #27 Posted by **PeterP** on 1 July 2009, 3:57 p.m.,*
in response to message #25 by Mark Edmonds

Mark,

looking forward to your game implementation, it looks like a great idea. One more to throw in which would definitely be above the capabilities of the display is Risk. Thinking of students, it might be interesting to play a game of risk say with the 50 states. Clearly the players would have to have a map of the US in their head. The better you know the map, the higher your chances of winning. Extensions to different maps (Americas, world, even the stars with a number of constellations as the 'map') are possible. It could be a fun game to play and teach something at the same point.

Cheers

Peter

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HP SmartCalc 300s customer complaint

*Message #1 Posted by **hpnut** on 26 June 2009, 5:20 a.m.*

I never knew it was difficult to send my complaint to hp. Obviously, first I got an automated response. next, a HP person told me I must bring the complaint to the HP office in my region. I emailed HP Malaysia using their automated email by product group. sure, there is no email address for complaints about the HP SmartCalc yet, so I chose the closest product group. next, the eSupport engineer tells me to call HP Calculator support in Malaysia. The number is dead, so I sent another email to eSupport. I also emailed my complaint to the HP reseller. they forwarded that complaint to HP Singapore. sheesh..

anyone has direct access to HP Calculator Division (or are they non-existent?)

I recently bought an HP SmartCalc 300s serial no. 4CR XXXXXXXX.

I feel disappointed (and cheated) that HP saw it fit to use a 3rd party calculator and stick the HP badge on it. The Casio fx-115ES has more calculation modes. For example, these are missing from the HP:

1. Complex numbers 2. Base-N 3. Equations 4. Matrix 5. Vectors

If you examine the HP SmartCalc 300s display carefully, you can find these annunciators CMPLX, MAT, VCT, these are dimmed and presumably disabled. Why did HP disable these functions in a scientific calculator?

I have been an HP calculator user since 1979 with the HP 41CX, and I am always excited by new calculators from HP. Are the days of HP innovations and quality over? They appear happy to repackage someone else's calculators, not even improving them and certainly in the case of the SmartCalc, even crippling them. I bought the SmartCalc because I thought that it had the potential to be an innovative calculator such as the HP 20b Business Consultant (its J-tag connector may open up new possibilities). Even the SmartCalc's chassis is similar to the HP 20b, which is by no means an ideal calculator (mushy keyboard comes to mind).

I would appreciate a response from HP on these issues. Thank you.

Re: HP SmartCalc 300s customer complaint

*Message #2 Posted by **Mark Edmonds** on 26 June 2009, 9:00 a.m.,*
in response to message #1 by hpnut

Maybe the deal HP negotiated with Casio forced them to offer the calculator with certain functions switched-off?

Casio would know that the HP badge has more cachet value than their own so a calculator with identical functionality, the HP badge and a lower price would be damaging for them.

This is all guessing of course and is it certain that the HP is a re-badged Casio?

Also, I am sure I have seen re-badged clones with reduced functionality in other fields even if I can't think of one right now.

Mark

Re: HP SmartCalc 300s customer complaint

*Message #3 Posted by **Palmer O. Hanson, Jr.** on 26 June 2009, 9:40 p.m.,*
in response to message #2 by Mark Edmonds

> Quote:
>
> Also, I am sure I have seen re-badged clones with reduced functionality in other fields even if I can't think of one right now.

I am not sure just how narrowly you define a "re-badged clone"; however, the Durabrand 828 was a machine that was packaged differently from the old Casio fx-7000G but mimicked the functionality of the fx-7000G. The 828 manual had nearly identical text to the manual of the fx-7000G and even had the same sample problems but with some typographical errors.

One major difference was that the 828 keyboard suggested that the SD2 and LR2 functions were available. A user could even get the display indicating the start of the mode; e.g., MODE SHIFT X would bring SD2 to the display, but the actual functions of SD2 weren't available.

Re: HP SmartCalc 300s customer complaint

*Message #4 Posted by **Martin Pinckney** on 26 June 2009, 9:01 a.m.,*
in response to message #1 by hpnut

> Quote:
>
> anyone has direct access to HP Calculator Division...?

You do. There are at least two HP calculator folks on this forum.

Re: HP SmartCalc 300s customer complaint

*Message #5 Posted by **Gerson W. Barbosa** on 26 June 2009, 9:31 a.m.,*
in response to message #1 by hpnut

> Quote:
>
> If you examine the HP SmartCalc 300s display carefully, you can find these annunciators CMPLX, MAT, VCT, these are dimmed and presumably disabled. Why did HP disable these functions in a scientific calculator?

This means both calculators most likely share the same display. For instance, the display in my 15C has D.MY and BEGIN annunciators which show up in the self test. There would be no point saying the financial functions are disabled on it.

Gerson.

Re: HP SmartCalc 300s customer complaint

*Message #6 Posted by **Michael de Estrada** on 26 June 2009, 9:40 a.m.,*
in response to message #5 by Gerson W. Barbosa

You are right! I ran the self-test on my HP-15C (2234A), and sure enough, it has the BEGIN and D.MY annunciators. I had never even noticed this before. By the same token, my HP-12C (2732A) has GRAD and C annunciators, which are unused on that model. After all these years, I am still learning new things about my old HP calcs.

Michael

Re: HP SmartCalc 300s customer complaint

*Message #7 Posted by **Gerson W. Barbosa** on 26 June 2009, 10:17 a.m.,*
in response to message #6 by Michael de Estrada

It appears C annunciator is meaningful on the 12C, but I don't remember now what it might be.

Regards,

Gerson.

Re: HP SmartCalc 300s customer complaint

*Message #8 Posted by **Don Shepherd** on 26 June 2009, 10:31 a.m.,*
in response to message #7 by Gerson W. Barbosa

Gerson, it has to do with calculating either compound or simple interest accruing during an odd period. You turn on the C annunciator (which means compound interest) via STO EEX. I've never used that particular function, but that's what it is for.

Re: HP SmartCalc 300s customer complaint

*Message #9 Posted by **Gerson W. Barbosa** on 26 June 2009, 10:47 a.m.,*
in response to message #8 by Don Shepherd

Thanks for the information, Don. I only use TVM functions on the 12c... and occasionally something not related any financial function at all, as in my updated post below :-)

Regards,

Gerson.

Re: HP SmartCalc 300s customer complaint

*Message #10 Posted by **Michael de Estrada** on 26 June 2009, 10:33 a.m.,*
in response to message #7 by Gerson W. Barbosa

Compound interest mode (manual page 59). When C is off, it is simple interest mode. On the HP-15C, it stands for Complex number mode.

Michael

Voyager models: "C" and "G" annunciators

*Message #11 Posted by **Karl Schneider** on 26 June 2009, 11:43 p.m.,*
in response to message #10 by Michael de Estrada

> Quote:

> *(HP-12C)* Compound interest mode (manual page 59). When C is off, it is simple interest mode. On the HP-15C, it stands for Complex number mode.

And on the HP-16C, "C" stands for carry bit. On the HP-10C and HP-11C, it doesn't mean a darn thing.

"G" changes RAD to GRAD on the HP-15C, HP-11C, and HP-10C; it indicates a binary/octal/decimal/hexadecimal result out of ranGe on the HP-16C.

-- KS

Edited: 26 June 2009, 11:54 p.m.

What issues?

*Message #12 Posted by **Gene Wright** on 26 June 2009, 10:37 a.m.,*
in response to message #1 by hpnut

You bought an HP product that you could have researched before the purchase to see if it did complex, matrix, base, vector calculations, but you did not, it seems. You even say you bought it because it might have the potential to be ... but again, you paid next to nothing for this (retail is $15) on a hope...and you did not research enough before purchase.

After your purchase, you find it is different from a competitor. Caveat Emptor.

Several CHEAPER HP's bear a resemblance to other machines and HAVE for the last several years. If you have been watching HP calculators for more than a few months, you would know this. I assume HP corporate has decided to do this. Who knows? Perhaps it is to finance other higher end machines.

Are the days of HP innovation over? Apparently not - since HP has produced several distinct calculators over the last couple of years.

What exactly did you expect for your $15? Give me a break! If you like the casio so much, please buy one. It is a nice little machine.

Sorry, but I'd probably not respond in such a snippy manner if I hadn't read this posted to several locations.

P.S. the "C" indicator on the 12c is used to show the mode for computing interest - simple or complex for partial periods.

Edited: 26 June 2009, 10:40 a.m.

Re: What issues?

*Message #13 Posted by **Sancerre (Phoenix)** on 26 June 2009, 11:06 a.m.,*
in response to message #12 by Gene Wright

I'll have to agree with Gene's reply. I purchased a 300s, but certainly didn't expect to get a 15c. In fact, my daughter is happily using the calculator and considers it to be an upgrade on her TI 34II.

Re: HP SmartCalc 300s customer complaint

*Message #14 Posted by **Mike Morrow** on 26 June 2009, 12:04 p.m.,*
in response to message #1 by hpnut

I see no listing of what you have identified as failing to function according to the advertised specifications of this machine. What is the basis for complaint to HP?

Re: HP SmartCalc 300s customer complaint

*Message #15 Posted by **Richard J. Nelson** on 6 July 2009, 3:57 p.m.,*
in response to message #14 by Mike Morrow

Hello,

I don't believe that anybody would agree that rebadging/rebranding other designs and putting HP's name on them is a good thing. Some of the reasons that this is being done have been mentioned. If you want to put this topic more into perspective see an article at:

http://holyjoe.net/hhc2009/Recent%20Changes%20at%20HP%20Calculators.pdf

As explained in the article HP is trying to provide a broad product line and they need to start somewhere. The annual HP Handheld Conference, HHC, (first weekend of October this year) addresses these and other issues. Some years are more significant than others. Examples are 2002 and 2007. I believe that 2009 will be historically counted as one of these milestone years.

X < > Y,

Richard J. Nelson

Re: HP SmartCalc 300s customer complaint

*Message #16 Posted by **Mike Morrow** on 8 July 2009, 10:46 a.m.,*
in response to message #15 by Richard J. Nelson

I'm only interested in the *specifics* of how this machine fails its *advertised* specifications. That would be rational basis for complaint...the *only* rational basis for complaint.

Re: HP SmartCalc 300s customer complaint

*Message #17 Posted by **Bart (UK)** on 8 July 2009, 11:16 a.m.,*
in response to message #16 by Mike Morrow

The HP SmartCalc 300s is *advertised* on the HP-UK website. I have looked at all the listed resellers (and more) and not found it available anywhere in the UK. Thus I cannot use *any* of the *advertised* specifications.

HP is saying "Look at this, do you like it? Well you can't have it because we don't **feel** like selling it in your country even though we say we are." (Note: It is not listed as "out of stock" on the HP-UK website).

I think this is quite a *rational* basis for complaint. Why advertise it if they do not **wish** to sell it?

Re: HP SmartCalc 300s customer complaint - I can't get it in the UK

*Message #18 Posted by **Bart (UK)** on 8 July 2009, 9:31 a.m.,*
in response to message #14 by Mike Morrow

I have a complaint about the 300s.

I CAN NOT FIND IT FOR SALE IN THE UK, even though HP UK list it on their website.

I have submitted a complaint to HP also asking when & where it will be available in the UK, without response.

Does any-one on this forum know where I can get one in the UK?

Bart

Re: HP SmartCalc 300s customer complaint - I can't get it in the UK

*Message #19 Posted by **Mark Edmonds** on 8 July 2009, 11:35 a.m.,*
in response to message #18 by Bart (UK)

Try this link. They say it isn't available until July 13th:

http://shop.wfsleath.co.uk/hp300s-scientific-calculator-f2240aaaba-1495-no-stock-due-week-commencing-13th-july-251-p.asp

Mark

Re: HP SmartCalc 300s customer complaint - I can't get it in the UK

*Message #20 Posted by **Gene Wright** on 8 July 2009, 1:22 p.m.,*
in response to message #18 by Bart (UK)

Start holding your breath - I'm sure they will be right back to you personally on an irrational complaint.

A quick look at this link:

SmartCalc 300 specifications advertised on HP's site

shows a list of specifications. If the SmartCalc 300 does not do what is advertised here on the HP UK website, then a rational basis exists for the complaint.

Here is a link to the definition of the word "advertised":

Advertised

You'll note that what HP has done on their UK webpage falls into this usage.

1. To make public announcement of, especially to proclaim the qualities or advantages of (a product or business) so as to increase sales.

2. To make known; call attention to.

Sigh.

Re: HP SmartCalc 300s customer complaint - I can't get it in the UK

*Message #21 Posted by **Bart (UK)** on 9 July 2009, 5:29 a.m.,*
in response to message #20 by Gene Wright

I wish to thank Mark for the one useful reply. This is the first mention of it that I can find on a UK commercial website. I had browsed Sleaths before but not come across it.

Now for more useless blurb: (I usually say "if you have nothing useful to say, don't say it" - however I now feel oblidged to defend myself)
Why did HP not have the courtesy to reply with the info of when they intended to ship to the UK when I queried them a few weeks ago? Actually they should have put this on their UK website. I had pretty much given up as it has been for sale in other countries.

> Quote:
>
> You'll note that what HP has done on their UK webpage falls into this usage.
>
> 1. To make public announcement of, especially to proclaim the qualities or advantages of (a product or business) **so as to increase sales.**

I actually think they failed on point 1 - how can they increase sales if it's not made available to buy? If you cross reference various sources on the definition of "advertise" you'll see the crux is: to make known in order to sell. How can you attempt to sell what you don't provide? Whether it be a part of a product, a function of a product or a whole product - they are not delivering what they advertise! And then not have the courtesy to reply to a customer query on this.

The first post in this thread is an irrational complaint because the user got what was advertised.
I can not get what is advertised, therefore my complaint is rational.

Again thanks to Mark and no thanks to others that replied with useless info as to what they see as a "rational complaint" from within the boundaries of their technical pigeon-holes.

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HP48s/x connectivity

*Message #1 Posted by **bbeamer** on 25 June 2009, 11:10 a.m.*

I recently acquired a 48s and 48sx. They both pass all their self tests and are in good shape. I'm trying to get them connected to my computer and am having problems. One of the calculators came with the HP serial cable and I am using the HPComm 3.0r4 software downloaded from educalc.net. I follow all the directions and prompts and the computer cannot connect to either calculator. What might I be missing?

I would also like to find out about testing the cable with my multimeter to make sure it's not the problem.

Thanks

Brian

Edited: 25 June 2009, 11:11 a.m.

Re: HP48s/x connectivity

*Message #2 Posted by **Mark Edmonds** on 25 June 2009, 11:19 a.m.,*
in response to message #1 by bbeamer

Make sure you've got the calcs to transmit over wire and not i/r. Go to leftshift+I/O then Setup.

I use the HP Serial Connectivity kit and Kermit for comms between PC and calc - if you want to consider downloading that from hpcalc.org, I could help get things setup. I haven't used HPComm so I don't know how that works.

Mark

Re: HP48s/x connectivity

*Message #3 Posted by **Dave Britten** on 25 June 2009, 12:51 p.m.,*
in response to message #1 by bbeamer

Try just doing a standard Kermit file transfer with, say, HyperTerminal (or your favorite serial comms package). Make sure hardware handshaking is off, as the 48 doesn't do this. Use the RECV command on the 48 (in the I/O menu), and the calculator will await a Kermit transfer.

You should also be able to use the XMIT and SRECV commands to send and receive strings directly over the serial port for more testing. Use CLOSEIO afterward.

Re: HP48s/x connectivity

*Message #4 Posted by **bbeamer** on 26 June 2009, 11:33 a.m.,*
in response to message #3 by Dave Britten

Thanks for the tips.

I tried doing a Kermit file transfer with Hyperteminal and that didn't work either. I'm pretty sure I've got the serial port configured properly. I could access the port, I just couldn't connect to the calculator.

I had no problem doing an IR transfer form calculator to calculator.

I tested the cable, and I've only got continuity in three of the four wires in the cable from the calculator. I'm guessing this is the problem. I'll try ordering a new cable. I just wanted to try everything, since the cable cost more than I paid for the calculators!

Any other advice would be appreciated.

Thanks again,

Brian

Edited: 26 June 2009, 11:34 a.m.

Re: HP48s/x connectivity

*Message #5 Posted by **Egan Ford** on 26 June 2009, 1:10 p.m.,*
in response to message #4 by bbeamer

Only 3 wires are required for RS-232 communications. Rx, Tx, Signal Ground. IIRC, pins 2, 3, and 5 on a DB9.

Re: HP48s/x connectivity

*Message #6 Posted by **Dave Britten** on 26 June 2009, 1:47 p.m.,*
in response to message #4 by bbeamer

Hmm, sounds like something isn't jiving right, config-wise. Here's how I set things up to get my 48GX and 48SX talking to HyperTerminal:

In HyperTerminal, select the serial port in the "Connect using" box, and hit Configure.
Bits per second: 9600 (or whatever you set on the calc)
Data bits: 8
Parity: None
Stop bits: 1
Flow control: None

On the 48, use these settings:
IR/wire: wire
ASCII/binary: Depends on what you're transferring, but I usually choose ASCII for UserRPL programs.
baud: 9600
parity: none 0
checksum type: 3
translate code: 1 (Again, depends on what format you want the files sent in. I think this is ignored for binary transfers.)

If all the settings match, you should be able to execute "HELLO" XMIT on the 48, and see "HELLO" appear in the HyperTerminal window. If you still don't get anything, try another computer. I've seen serial ports go bad, uncommon as it may be.

Re: HP48s/x connectivity

*Message #7 Posted by **bbeamer** on 26 June 2009, 5:07 p.m.,*
in response to message #6 by Dave Britten

Well, thanks to all the help I got, my calculators and computer are talking. I followed your instructions, Dave, and everything worked fine. I'm not sure what I did differently yesterday, but I obviously did something wrong.

The kicker is that now, after I was able to communicate using HyperTerminal, I can connect using the HPcomm software also, without making any changes to the calculator or the software. I must have had some setting incorrect.

Thanks for the info on the serial cable Egan, that saved $30 on an unneeded item. That's why my first thought is always operator error when something doesn't work for me.

Brian

Edited: 26 June 2009, 5:08 p.m.

Re: HP48s/x connectivity

*Message #8 Posted by **bbeamer** on 28 June 2009, 4:07 p.m.,*
in response to message #7 by bbeamer

Along these same lines, does anyone have any experience using a serial to USB adapter for HP calculators?

Thanks,

Brian

Re: HP48s/x connectivity

*Message #9 Posted by **Egan Ford** on 28 June 2009, 4:42 p.m.,*
in response to message #8 by bbeamer

Yes. Works just fine.

Re: HP48s/x connectivity

*Message #10 Posted by **bbeamer** on 28 June 2009, 5:30 p.m.,*
in response to message #9 by Egan Ford

Thanks

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12C+ Gamma

*Message #1 Posted by **Gerson W. Barbosa** on 25 June 2009, 10:49 a.m.*

```
Gamma(x+1)   (0 <= x <= 39.4)


01 STO 0         24 RCL 2
02 .             25 y^x
03 6             26 /
04 y^x           27 STO+ 3
05 1             28 1
06 9             29 STO+ 2
07 *             30 GTO 12
08 STO 1         31 RCL 3
09 0             32 2
10 STO 2         33 SQRTx
11 STO 3         34 LASTx
12 RCL 2         35 /
13 RCL 1         36 /
14 x<=y          37 2
15 GTO 31        38 ENTER
16 x<>y          39 LN
17 2             40 /
18 *             41 RCL 0
19 1             42 1
20 +             43 +
21 RCL 0         44 y^x
22 y^x           45 /
23 2             46 GTO 00


12.12 R/S => 648,976,950.1 after 3.5 seconds (HP-12C+)


On the 15C,


12.12 x!  => 648,976,950.9
```

This is based on the following approximation I've come up with:

Gamma(x+1) ~ SUM(k=0,inf,(2*k+1)^x/2^k)/(sqrt2/2*(2/ln(2))^(x+1))

Obviously, this is not the proper way to compute the Gamma function. It's just an example of what can be done on the fast 12C+. Just for an idea, it would take about 7 minutes to compute Gamma(40) on a normal 12C using this method.

Gerson.

The approximation is being used reversely, that is, it is meant to approximate this integer sequence, not the Gamma function:

```
an ~ n!/(2*sqrt2)*(2/ln(2))^(n+1)
```

I found it when thinking about John Smitherman's math joke turned into a problem. The numbers 2, 6, 34, 294...

(which showed as the problem was getting progressively more complex) ought to mean something... I couldn't find it at OEIS but I found 1, 3, 17, 147..., the halved sequence. Eventually I found out the original sequence is the row sums of Sierpinski-Pascal-MacMahon triangle, whatever this might be. Next time someone starts a joke I'll try to just laugh, as everybody else :-)

I just intended to put a computationally intensive programming problem to the 12C+ to see how it performed. For computing Gamma function on the 12C+ or the normal 12C and 12c Platinum there isn't anything better than Egan Ford's program:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=100275

See message #6.

Edited: 26 June 2009, 10:30 a.m.

Re: 12C+ Gamma

*Message #2 Posted by **Bart (UK)** on 29 June 2009, 9:10 a.m.,*
in response to message #1 by Gerson W. Barbosa

Just for fun I thought I'd try it on the new 35s to see how it did (considering it's slighly(?) old CPU).

12.12 XEQ is about 30.5s with an answer of 648,976,950.899 (FIX = ALL).
40 XEQ is about 1 min.

Bart

Re: 12C+ Gamma

*Message #3 Posted by **Gerson W. Barbosa** on 29 June 2009, 10:57 a.m.,*
in response to message #2 by Bart (UK)

13 and 23 seconds, respectively, on the 33s which used to be my fastest RPN calculator. I wonder how nice it would be if they released a new 15C+. If it were as fast as the new 12C+, **60.5 CHS x!** would take about 200 ms to display -1.527756e-97 instead of current 13 seconds.

Gerson.

Re: 12C+ Gamma

*Message #4 Posted by **Bart (UK)** on 30 June 2009, 11:00 a.m.,*
in response to message #3 by Gerson W. Barbosa

A fast 15C would be a dream come true.

I tried a HP-20S implementation:

```
01 LBL A        23 2            45 1/x
02 STO 0        24 +            46 *
03 y^x          25 1            47 2
04 .            26 =            48 =
05 6            27 y^x          49 y^x
06 =            28 RCL 0        50 (
07 *            29 =            51 RCL 0
08 1            30 2            52 +
09 9            31 y^x          53 1
10 =            32 RCL 2        54 )
11 STO 1        33 =            55 =
12 0            34 1/x          56 *
13 STO 2        35 *            57 2
```

```
14 STO 3        36 LAST         58 SQRT
15 LBL B        37 =            59 /
16 RCL 2        38 STO+ 3       60 2
17 INPUT        39 1            61 =
18 RCL 1        40 STO+ 2       62 1/x
19 x<=y?        41 GTO B        63 *
20 GTO C        42 LBL C        64 RCL 3
21 RCL 2        43 2            65 =
22 *            44 LN           66 RTN
```

Compared to the original post, one can see the advantage of RPN here. Although this is probably not the most optimum.

12.12 XEQ A, 15.5s; 648,976,950.9
40 XEQ A, 30s

Considering the program is 50% longer, that makes the 20S 3x faster than the 35s. Possibly the advantage of simple data types?

Bart

edited to try and make listing more readable

Edited: 30 June 2009, 11:09 a.m.

Re: 12C+ Gamma

*Message #5 Posted by **Raymund Heuvel** on 29 June 2009, 6:35 p.m.,*
in response to message #1 by Gerson W. Barbosa

HP-71B with Math Pack

a=time @ GAMMA(13.12); @ time-a
results in
648976950.903 .23
thus 0.23 seconds ....
The good old HP-71B ...
BR Raymund

Edited: 29 June 2009, 6:37 p.m.

Re: 12C+ Gamma

*Message #6 Posted by **Gerson W. Barbosa** on 29 June 2009, 7:50 p.m.,*
in response to message #5 by Raymund Heuvel

> Quote:
>
> 648976950.903 .23 thus 0.23 seconds ....

Haven't you missed a "1" before ".23"? 1.22 seconds on mine...

...and 2.04 seconds for GAMMA(-68.5).

Gerson.

Re: 12C+ Gamma

*Message #7 Posted by **Raymund Heuvel** on 29 June 2009, 10:18 p.m.,*
in response to message #6 by Gerson W. Barbosa

a=time @ GAMMA(13.12); @ time-a
execution time between 0.22 up to 0.26
a=time @ GAMMA(-68.5); @ time-a
result = -1.527757e-97 execution time 1.01 (10 runs)

FYI VER$ => HP71:1BBBB HPIL:1A MATH:1A FTH:1A EDT:A KBD:B

I've tested it on three 71-B's with different memory sizes (16K up to 144K Ram), all about the same. Maybe you have a Plug-In or Lex File causing a lot of Interrupts or Polls?

BR

Ray

Re: 12C+ Gamma

*Message #8 Posted by **Marcus von Cube, Germany** on 30 June 2009, 4:42 a.m.,*
in response to message #7 by Raymund Heuvel

Mine must be on steroids:

.09 seconds for GAMMA(13.12).

It appears to be a very inaccurate measurement because several tries resulted in vastly disparate timing results, a few outcomes even with a negative sign.

Re: 12C+ Gamma

*Message #9 Posted by **Gerson W. Barbosa** on 30 June 2009, 7:51 a.m.,*
in response to message #7 by Raymund Heuvel

I was doing a=time @ GAMMA(13.12) @ time-a (without semicollon).

Now I get 0.21 to 0.22 and 1.02 to 1.05 for GAMMA(-68.5).

1BBBB version also with a 32K RAM module and card reader. They have no effect on timing though.

Thanks!

Gerson.

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Which came first? 19B or 27S?

*Message #1 Posted by **Mark Edmonds** on 25 June 2009, 7:49 a.m.*

I can't find out the exact release dates of these machines. Their first appearance in an HP Catalog is in 1989 yet they were both available in 1988.

I have two downloaded brochures, one dated September 1988 which features the 19B and one dated November 1988 which features the 27S but these brochures are based on financial/scientific criteria and I wouldn't infer any release dates from them.

The lowest known serial numbers for the machines show a lead by a few weeks for the 27S (2747 vs 2801) but date of manufacture doesn't necessarily indicate availability in the shops or official release dates.

So is the official release date for each machine available anywhere please? I've gone through all the on-line sources I can find but without any luck.

Thanks,

Mark

Re: Which came first? 19B or 27S?

*Message #2 Posted by **John B. Smitherman** on 25 June 2009, 8:14 a.m.,*
in response to message #1 by Mark Edmonds

Hi Mark. According to Craig Finseth's HP database they were released on the same date in 1988:

Link

Regards,

John

Re: Which came first? 19B or 27S?

*Message #3 Posted by **Mark Edmonds** on 25 June 2009, 9:41 a.m.,*
in response to message #2 by John B. Smitherman

Great, thanks John :) Useful site that too!

Mark

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Which came first? 19B or 27S?

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HP-41CX Frozen Up

*Message #1 Posted by **Jeff Davis** on 24 June 2009, 9:57 p.m.*

I have a frozen HP-41CX. Does anyone have any ideas? I have tried the MEMORY LOST reset and no go. Please let me know if you know any other tricks.

Re: HP-41CX Frozen Up

*Message #2 Posted by **John Robinson** on 24 June 2009, 11:38 p.m.,*
in response to message #1 by Jeff Davis

Try shorting the battery terminals for a while, the outter two that is. Just connect them together for a while, i.e. minutes, if not hours and try again.

This assumes the calc was working at some stage recently ?

Cheers, John

Ask and ye shall receive: [HP-41CX Frozen Up]

*Message #3 Posted by **Karl Schneider** on 25 June 2009, 1:19 a.m.,*
in response to message #1 by Jeff Davis

An anecdote describing a minor misadventure of a few years ago...

HP-41CX back to life using X-Function "PCLPS"

-- KS

Re: Ask and ye shall receive: [HP-41CX Frozen Up]

*Message #4 Posted by **Jeff Davis** on 25 June 2009, 6:46 p.m.,*
in response to message #3 by Karl Schneider

Well, Shorting the terminals did not work either. It was working just the other night when I started having problems with my MLDL2000. I was trying to program the HEPAX and all of a sudden it stopped working. Help!

Re: Ask and ye shall receive: [HP-41CX Frozen Up]

*Message #5 Posted by **Jeff Davis** on 25 June 2009, 6:52 p.m.,*
in response to message #4 by Jeff Davis

Got it! I remembered once that someone told me to reverse the battery polarity and press and hold the on button for ten seconds. The old babe sparked back to life with "MEMORY LOST"

Thanks for all the comments.

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Torsten Manz 15c emulator errors...?

*Message #1 Posted by **McBenney** on 24 June 2009, 12:16 p.m.*

Maybe I'm doing something stupid but using Torsten Manz's fine 15C emulator occasionally results in obvious and bizarre errors. For example, right now I'm dividing 3,750 by 76,700 and it's returning 0.181132872. That's clearly wrong. What gives? I've also encountered errors using the sin cos and tan functions. Can anyone replicate this?

Thanks!

Re: Torsten Manz 15c emulator errors...?

*Message #2 Posted by **Thomas Okken** on 24 June 2009, 9:52 p.m.,*
in response to message #1 by McBenney

I had never heard of this particular emulator until now, but if it is giving you incorrect results, you should probably send Mr. Manz a bug report. It sounds like his floating-point code is buggy.

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HP releases multiple emulators for PCs, iPhone, iPod touch

*Message #1 Posted by **Steve Leibson** on 24 June 2009, 8:52 a.m.*

Today, HP announced several virtual calculators that run on PCs or Apple's iPhone and iPod Touch. Photos and more info here in my blog.

Steve

Re: HP releases multiple emulators for PCs, iPhone, iPod touch

*Message #2 Posted by **Mark Edmonds** on 24 June 2009, 9:22 a.m.,*
in response to message #1 by Steve Leibson

The fact that they have made a 15C emulator must surely point to a re-issue of the calculator coming out at some point. If it has the speed increase the new 12C has too, that should make for a very interesting machine! I suppose that if it is a completely strict emulator, there wont be any extra memory added.

If this does happen, there are going to be an awful lot of very happy people! Wonder how it would affect prices of original 15Cs?

Mark

Re: HP releases multiple emulators for PCs, iPhone, iPod touch

*Message #3 Posted by **Didier Lachieze** on 24 June 2009, 9:30 a.m.,*
in response to message #2 by Mark Edmonds

It seems possible to upgrade the 15C memory with little modifications to the original code as discussed some time ago on this forum: Anyone interested in HP-15C memory upgrade?.

I would definitively be interested to buy a new 15C with the new 12C speed and more memory.

Btw, I've not found the new virtual calculators on hp.com.

Edited: 24 June 2009, 9:32 a.m.

Re: HP releases multiple emulators for PCs, iPhone, iPod touch

*Message #4 Posted by **Don Shepherd** on 24 June 2009, 9:38 a.m.,*
in response to message #3 by Didier Lachieze

here

click on windows version

Re: HP releases multiple emulators for PCs, iPhone, iPod touch

*Message #5 Posted by **Don Shepherd** on 24 June 2009, 9:41 a.m.,*
in response to message #3 by Didier Lachieze

Well, it was there one minute and gone the next.

Re: HP releases multiple emulators for PCs, iPhone, iPod touch

*Message #6 Posted by **Bill (Smithville, NJ)** on 24 June 2009, 11:22 a.m.,*
in response to message #5 by Don Shepherd

Hi Don,

> Quote:
>
> Well, it was there one minute and gone the next

And now it's back!!

Bill

Re: HP releases multiple emulators for PCs, iPhone, iPod touch

*Message #7 Posted by **Frank Rottgardt** on 24 June 2009, 1:12 p.m.,*
in response to message #2 by Mark Edmonds

New 15c - a dream that would come true.

I would like to have a backlit two-line alpha display, more speed, simple on screen menus, unlimited stack, decent solver (with real editing functions), some extra bytes of memory and multiple character labels. Oh, a good database with unit-conversions would also be great. But then it wouldn´t be a classic anymore.

If ever, I don´t think HP will come out with a simple 15c "copy". There must be some more Hi-Fi about the new thing. My main concern is keyboard quality. Will HP (Kinpo) ever come out with decent keys? (decent = work still flawlessly after 6 month)

I/O support - certainly a dream only. HP needs to keep the thing fit for professional exams. And without this option there is no need for more than 8 KB or so. Who wants to re-enter 32 KB of code if batteries should fail?

Re: HP releases multiple emulators for PCs, iPhone, iPod touch

*Message #8 Posted by **Tim Wessman** on 24 June 2009, 2:16 p.m.,*
in response to message #7 by Frank Rottgardt

Doesn't all of what you want turn it into a completely new unit rather than a 15c? Just asking. . . ;-)

I don't think there have been people complaining about the KBs on the 12Cs sold in the past 5 years, have they?

TW

Re: HP releases multiple emulators for PCs, iPhone, iPod touch

*Message #9 Posted by **Raymond Del Tondo** on 24 June 2009, 4:24 p.m.,*
in response to message #8 by Tim Wessman

> Quote:
>
> I don't think there have been people complaining about the KBs on the 12Cs sold in the past 5 years, have they?

This may be your secret wish;-)

Seriously, this could be due to the fact that most 12C users don't even know that this forum exists...

Apart from that: I also have a 12cp Anniversary, and like the normal 12cp, it misses key strokes (even the ON key) in a reproducable manner. I'm sure there were related posts here in the forum.

HTH

Raymond

Re: HP releases multiple emulators for PCs, iPhone, iPod touch

*Message #10 Posted by **Dusan Zivkovic** on 25 June 2009, 6:28 a.m.,*
in response to message #9 by Raymond Del Tondo

I have a CNA746xxxx 12C (classic, not platinum), and no keyboard complaints whatsoever. I bash it every day at work - it is not treated like a "collector's treasure". A colleague has an eight years old 12C, and the keyboard is much worse (even with less use). I am not surprised about the number of complaints on 12C from this period. The keys on the recent 12C are not an exact replica of 80s Voyager keys, but still they have a very positive click and no missed keystrokes. 12CP is another story... it doesn't miss keystrokes because of the keyboard, but firmware. ON key is especially infuriating.

Re: HP releases multiple emulators for PCs, iPhone, iPod touch

*Message #11 Posted by **Mark Edmonds** on 24 June 2009, 5:55 p.m.,*
in response to message #7 by Frank Rottgardt

My guess would be that HP would do exactly a clone of the 15C - if they do re-issue the real thing.

The basic hardware components already exist in the new version of the 12C.

The software is already done for the emulator. They could modify this of course with some extras but to start enhancing it by modifying the original emulated code would be a potentially awkward and expensive proposition. To make a super 15C with all those extras might just be simpler to rewrite the whole thing from scratch.

So if HP keep things simple and use what they already have, it makes sense to me for them to release a pure 15C clone. An enhanced version with the extras you listed could actually form the basis of a completely new calc.

Mark

> Quote:
>
> New 15c - a dream that would come true.
>
> I would like to have a backlit two-line alpha display, more speed, simple on screen menus, unlimited stack, decent solver (with real editing functions), some extra bytes of memory

> and multiple character labels. Oh, a good database with unit-conversions would also be great. But then it wouldn´t be a classic anymore.
>
> If ever, I don´t think HP will come out with a simple 15c "copy". There must be some more Hi-Fi about the new thing. My main concern is keyboard quality. Will HP (Kinpo) ever come out with decent keys? (decent = work still flawlessly after 6 month)
>
> I/O support - certainly a dream only. HP needs to keep the thing fit for professional exams. And without this option there is no need for more than 8 KB or so. Who wants to re-enter 32 KB of code if batteries should fail?

Re: HP releases multiple emulators for PCs, iPhone, iPod touch

*Message #12 Posted by **DaveJ** on 24 June 2009, 6:05 p.m.,*
in response to message #7 by Frank Rottgardt

> Quote:
>
> ---
>
> New 15c - a dream that would come true.
>
> I would like to have a backlit two-line alpha display, more speed, simple on screen menus, unlimited stack, decent solver (with real editing functions), some extra bytes of memory and multiple character labels. Oh, a good database with unit-conversions would also be great. But then it wouldn´t be a classic anymore.
>
> If ever, I don´t think HP will come out with a simple 15c "copy".
>
> ---

Wanna bet.
All the signs point toward a direct emulated copy of the 15C, just like the new ARM based 12C.
The hardware would be identical to the current 12C, only the faceplate is different. A new different 15C would require re-engineered hardware and a massive software effort, something HP likely don't really have the resources to dedicate on what would be a niche market machine.
A new "copy" of the original 15C would however be very simple (I bet you Cyrille already has one on his desk) and a no-brainer solution for a high margin niche retro market.

Dave.

Re: HP releases multiple emulators for PCs, iPhone, iPod touch

*Message #13 Posted by **Frank Rottgardt** on 25 June 2009, 6:19 a.m.,*
in response to message #12 by DaveJ

OK, be sure I will also buy a "simple" 15c clone. This old lady is after all still an attractive package for daily number crunching that won´t let you (me) down in 99,9% of all mathematical problems I can imagine to face during my entire professional career. The only thing I got used to that I realy would miss is a second line. Just to have more control over what happens on the stack.

Re: HP releases multiple emulators for PCs, iPhone, iPod touch

*Message #14 Posted by **DaveJ** on 25 June 2009, 7:02 a.m.,*
in response to message #13 by Frank Rottgardt

> Quote:
>
> OK, be sure I will also buy a "simple" 15c clone.

If you believe this site, there are at least 50,000 guaranteed sales for HP:

http://hp15c.org/

Dave.

Re: HP releases multiple emulators for PCs, iPhone, iPod touch

*Message #15 Posted by **Massimo Gnerucci (Italy)** on 24 June 2009, 10:04 a.m.,*
in response to message #1 by Steve Leibson

> Quote:
>
> The original HP 12c and HP 15c calculators were based on HP's proprietary 4-bit **Saturn** calculator microprocessor

Tsk, tsk... ;-)

Greetings,
Massimo

Very interesting thing... vertical format 4-function extras...

*Message #16 Posted by **Gene Wright** on 24 June 2009, 10:36 a.m.,*
in response to message #1 by Steve Leibson

On the iPhone or iPod Touch, if you orient the phone/iPod vertically, you get a 4 function RPN calculator presented for the 12c, 12cp, and 15c. The 12c and 15c vertical formats are exactly the same except for the gold/silver color differences. The 12cp is different to allow for algebraic and a few other additions.

I use these all the time for simple math.

Re: Very interesting thing... vertical format 4-function extras...

*Message #17 Posted by **Pal G.** on 24 June 2009, 1:02 p.m.,*
in response to message #16 by Gene Wright

That 12c (portrait) skin hurts my eyes. Looks like someone spent 20 minutes coloring over the lower button labels with MS Paint. (I wish HP would contact someone around here with graphic skills. Most would do it for nothing, knowing their work is out there among the masses).

And what's with the brushed aluminum plastic in the hp35s simulator? It looks ridiculous and it's distracting.

Virtual HP35s with bad skin.

(Image link stolen without permission from Mr. Liebson's article. Will remove upon complaint.)

Also stealing from Steve Liebson's blog, this quote:

> Quote:
>
> "We just felt that HP calculator emulators should really come from HP," said HP's Director of Calculator Product Development Sam Kim.

I agree with Mr. Kim. Emulators and simulators from HP is a cool proposition. But their software, in my opinion, needs to look better than amateur. In an organization that large, the software developer should not be responsible for creating the artwork. (I hope their graphic artist did not create these. And I suspect

Marketing had a hand in that hp35s simulator skin).

IMHO,
PG

ps - Sorry for being harsh. Sometimes you have to be firm with those you care about (calculator division).

Re: Very interesting thing... vertical format 4-function extras...

*Message #18 Posted by **Gene Wright** on 24 June 2009, 1:07 p.m.,*
in response to message #17 by Pal G.

Given that the image I pasted is fully 2X wider and taller than the actual image on the screen, you don't notice the graphics very much.

They are fine on the iPhone and touch.

Re: Very interesting thing... vertical format 4-function extras...

*Message #19 Posted by **Pal G.** on 24 June 2009, 1:23 p.m.,*
in response to message #18 by Gene Wright

Well, I saved your image to my iPhone Camera Roll and had a look at it full screen (brightness set at ~50%). I agree it's a little better, but I am still not terribly impressed.

Btw, actually seeing it on the phone I realize they could have easily added another row or two of keys. But I won't go there...

Re: Very interesting thing... vertical format 4-function extras...

*Message #20 Posted by **Tim Wessman** on 24 June 2009, 2:08 p.m.,*
in response to message #19 by Pal G.

Some nice, high def pictures of a 12c and 15c would go a long way for improving the look. Send them to me at my gmail account if you have one (timwessman at gmail). I am sure there are plenty around. The big issue is just having consistent lighting and correct looking shadowing, so a nice selection for me to pick for my base would be appreciated. I didn't do the graphics for those 2 models unfortunately.

I will be updating the graphics when I get some time though, so those pictures would be appreciated.

TW

Edited: 24 June 2009, 2:13 p.m.

Re: Very interesting thing... vertical format 4-function extras...

*Message #21 Posted by **Pal G.** on 25 June 2009, 12:01 p.m.,*
in response to message #20 by Tim Wessman

Tim,

Here is an example of what I had in mind. A 3d model rendered with an orthographic camera. No time spent in Photoshop. All four were rendered within minutes of each other. I slightly adjusted the textures/lights for each shot, for different looks.

This calc has the fictional 15cg keyboard layout and multi-line lcd, so I would need to model a 15c and 12c if you are interested.

Thanks,
PG

edit: was three images, added one more.

Edited: 25 June 2009, 2:28 p.m. after one or more responses were posted

Re: Very interesting thing... vertical format 4-function extras...

*Message #22 Posted by **Antonio Maschio (Italy)** on 25 June 2009, 12:07 p.m.,*
in response to message #21 by Pal G.

Do it!

-- Antonio

Re: HP releases multiple emulators for PCs, iPhone, iPod touch

*Message #23 Posted by **Bill (Smithville, NJ)** on 24 June 2009, 10:41 a.m.,*
in response to message #1 by Steve Leibson

Just checked iTunes store and they have the HP-12C from HP for 14.99 and the HP-15C for 29.99. Be interesting to see what the relative speed of each is. Also be intersting to know if they went outside or developed the emulation inside. Pricing is on the high side. I probally won't buy them.

The real question - Now that HP has released their emulations, will they be going after other people who have developed HP emulations and try to shut them down? I hope not.

Bill

12c iPhone speed test

*Message #24 Posted by **Gene Wright** on 24 June 2009, 10:44 a.m.,*
in response to message #23 by Bill (Smithville, NJ)

Running on a first generation iPhone.

Program is a counter: + then GTO 01. Stack has 1 in Y, Z and T and 0 in X.

60 second test counts to:

387,583.

Pretty quick, eh?

Re: 12c iPhone speed test

*Message #25 Posted by **Don Asmus** on 26 June 2009, 11:56 p.m.,*
in response to message #24 by Gene Wright

Just tried the same speed test with the 42s RPN Calculator app

On the 1st gen iPhone - count = 1,785,502 On the 2nd gen touch - count = 2,468,953

Approximately 5 times faster at 1/6 the cost. I also think the 42s is vastly superior to the 12c or 15c. I hope HP does not go after or scare away the other HP calc apps on the app store.

Give the 42s a try, I think you will be pleased.

> Quote:
>
> Running on a first generation iPhone.
>
> Program is a counter: + then GTO 01. Stack has 1 in Y, Z and T and 0 in X.
>
> 60 second test counts to:
>
> 387,583.
>
> Pretty quick, eh?

Re: 12c iPhone speed test

*Message #26 Posted by **John B. Smitherman** on 27 June 2009, 7:22 p.m.,*
in response to message #25 by Don Asmus

Hi Don. I agree that 42s is fast. I'm getting a result of 1.5 - 1.6 million on a 1st gen iPod Touch with version 2.2.1 OS and version 2 of 42s.

I've nevered owned a 42s and am enjoying learning of it's capabilities through 42s and Free42. So far, so good but I may need to buy a copy of the owner's manual from the museum.

Regards,

John

Re: 12c iPhone speed test

*Message #27 Posted by **Thomas Okken** on 27 June 2009, 10:20 p.m.,*
in response to message #26 by John B. Smitherman

Hi John,

I would certainly recommend getting the HP-42S manual from the museum, but if you just want to find out a bit more about the 42S without spending any money, you may also want to take a look at José Lauro Strapasson's alternative manual. It's at the Free42 web site, in the Documentation section, near the bottom of the page.
José's manual is pretty brief, only 33 pages, so it's no match for the excellent 358-page original, but nonetheless, it can be helpful for getting started with the 42S' niftiest features -- complex numbers, matrices, and the numerical solver and integrator.

- Thomas

Re: 12c iPhone speed test

*Message #28 Posted by **John B. Smitherman** on 1 July 2009, 12:22 a.m.,*
in response to message #27 by Thomas Okken

Thanks Thomas. The 42s is extremely powerful. Thus far, I've only scratched the surface. This will help.

Regards,

John

Re: HP releases multiple emulators for PCs, iPhone, iPod touch

*Message #29 Posted by **Donald Ingram** on 24 June 2009, 2:24 p.m.,*
in response to message #23 by Bill (Smithville, NJ)

Quote:

Just checked iTunes store and they have the HP-12C from HP for 14.99 and the HP-15C for 29.99. ... Bill

---

Am I being stupid here, but why does it cost twice as much to run the HP-15C code under emulation than the HP-12C code ?

Re: HP releases multiple emulators for PCs, iPhone, iPod touch

*Message #30 Posted by **Frank Rottgardt** on 25 June 2009, 6:31 a.m.,*
in response to message #29 by Donald Ingram

Just have a look on the ....bay prices for a 12c and a 15c. Why shouldn´t HP have its share of this 15c demand? And time will tell them. If the turn over of the 15c emulator should be to low they always can lower the price.

Or (please let me be wrong) the emulator is a test case before they decide to launch a hardware-clone to the market. So everybody please buy the emulator ;-)

Re: HP releases multiple emulators for PCs, iPhone, iPod touch

*Message #31 Posted by **Thomas Radtke** on 25 June 2009, 7:36 a.m.,*
in response to message #30 by Frank Rottgardt

> Quote:
>
> Or (please let me be wrong) the emulator is a test case before they decide to launch a hardware-clone to the market. So everybody please buy the emulator ;-)

There's no 15C emulator offered at the site the above link points to. I found a 35s emulator at 22,64 Euro. If that's the price for the 15C software too, I won't consider buying it.

Re: HP releases multiple emulators for PCs, iPhone, iPod touch

*Message #32 Posted by **Donald Ingram** on 25 June 2009, 11:48 a.m.,*
in response to message #30 by Frank Rottgardt

> Quote:
>
> Or (please let me be wrong) the emulator is a test case before they decide to launch a hardware-clone to the market. So everybody please buy the emulator ;-)

That's what's really worrying me : they will deem the demand for the HP-15C (physical remake) low due to low demand for the virtual machine. As we all know the real thing is much more desirable and tactile.

Given I've already got a real HP-15C and a virtual HP-41CX, the price would have to be low to justify a virtual HP-15C.

However I would really like a second physical HP-15C to keep at home, and would be prepared to pay much more for that.

Re: HP releases multiple emulators for PCs, iPhone, iPod touch

*Message #33 Posted by **DaveJ** on 24 June 2009, 6:12 p.m.,*
in response to message #23 by Bill (Smithville, NJ)

> Quote:

> Just checked iTunes store and they have the HP-12C from HP for 14.99 and the HP-15C for 29.99.

Why the insane price difference?
I'm not familiar with iPhones apps, but isn't that very expensive for an iPhone app?

I wonder if Eric gets a royalty fee or took a one-off payment?

Dave.

Re: HP releases multiple emulators for PCs, iPhone, iPod touch

*Message #34 Posted by **Paul Dale** on 24 June 2009, 6:21 p.m.,*
in response to message #33 by DaveJ

> Quote:
>
> Why the insane price difference?

Maybe it is an evil plan to attempt to *demonstrate* that there really isn't a market for a physical 15c.

- Pauli

Re: HP releases multiple emulators for PCs, iPhone, iPod touch

*Message #35 Posted by **Eric Smith** on 25 June 2009, 2:13 a.m.,*
in response to message #33 by DaveJ

I was not directly involved in the development of HP's iPhone applications, and don't receive any payments of any kind from HP.

Re: HP releases multiple emulators for PCs, iPhone, iPod touch

*Message #36 Posted by **Marcus von Cube, Germany** on 24 June 2009, 11:09 a.m.,*
in response to message #1 by Steve Leibson

No Windows version of the 15c :(

And where is MacOS? Should be easy given the iPhone versions are available.

Re: HP releases multiple emulators for PCs, iPhone, iPod touch

*Message #37 Posted by **Tim Wessman** on 24 June 2009, 12:57 p.m.,*
in response to message #36 by Marcus von Cube, Germany

15C version? I have one. . .

Going from the windows version to an OSX version isn't trivial. The iphone versions were essentially rewritten from scratch. It is probably easier to go from iphone->OSX, but there is still a lot of work to get all the same features back in that are on the windows versions.

TW

Re: HP releases multiple emulators for PCs, iPhone, iPod touch

*Message #38 Posted by **Thomas Okken** on 24 June 2009, 7:01 p.m.,*
in response to message #37 by Tim Wessman

Porting between OS X and iPhone is actually pretty easy. I'm in the middle of porting my iPhone version of Free42 to OS X, and it's a breeze; comparable to porting code between Windows and Pocket PC. There are the obvious differences in the UI classes, but everything else is pretty much the same.

Windows Version of the HP-15C

*Message #39 Posted by **Mike (Stgt)** on 25 June 2009, 3:03 p.m.,*
in response to message #36 by Marcus von Cube, Germany

No, I do not have a windows-only version, but if you have access from your PC to a host running IBM's VM - with all this ifs and buts I may help you. See here. Well, if you realy _do_ need it.

What I am still looking for: the ROM of the HP-10C as file.

Ciao.....Mike

Re: HP releases multiple emulators for PCs, iPhone, iPod touch

*Message #40 Posted by **Quan** on 24 June 2009, 2:07 p.m.,*
in response to message #1 by Steve Leibson

Does anybody know if these emulators run on WINE in Linux?

Thanks.

Re: HP releases multiple emulators for PCs, iPhone, iPod touch

*Message #41 Posted by **Tim Wessman** on 24 June 2009, 3:04 p.m.,*
in response to message #40 by Quan

Just tested with ubuntu 9.04, latest wine and no go. Not sure why thought. I thought it would. :-(

Tim Wessman

Re: HP releases multiple emulators for PCs, iPhone, iPod touch

*Message #42 Posted by **Kevin Kitts** on 24 June 2009, 5:15 p.m.,*
in response to message #41 by Tim Wessman

Someone needs to do a speed/feature comparison review between the HP 15C emulator and the one that is already available for the iPhone/iTouch.

How do you guys think that they compare?

Re: HP releases multiple emulators for PCs, iPhone, iPod touch

*Message #43 Posted by **Egan Ford** on 24 June 2009, 5:23 p.m.,*
in response to message #42 by Kevin Kitts

Sure. Send me $50US.

Re: HP releases multiple emulators for PCs, iPhone, iPod touch

*Message #44 Posted by **Quan** on 24 June 2009, 9:48 p.m.,*
in response to message #41 by Tim Wessman

Thanks for doing the test.

I was afraid that would happens. I hope eventually someone figure out how to make it run under WINE for the Windows version.

Quan

Need some details before ordering

*Message #45 Posted by **Don Shepherd** on 24 June 2009, 5:49 p.m.,*
in response to message #1 by Steve Leibson

Does anyone know if the 12c emulator honors the "c" in 12c and keeps your programs intact between executions? As an educator, I already have the 12cp emulator, from a couple of years ago, and it does not. From HPs web site there is no way to determine this information. It would be nice if they described exactly what you are buying before you buy it. I'll wait and see.

Re: Need some details before ordering

*Message #46 Posted by **Tim Wessman** on 25 June 2009, 2:18 p.m.,*
in response to message #45 by Don Shepherd

All memory remains intact when you close and open the program. Same on the 12cp emulator. I have no idea what it did years ago, but it works fine now.

TW

Re: Need some details before ordering

*Message #47 Posted by **Don Shepherd** on 25 June 2009, 2:42 p.m.,*
in response to message #46 by Tim Wessman

OK, thanks Tim.

Re: Need some details before ordering

*Message #48 Posted by **Don Shepherd** on 25 June 2009, 3:34 p.m.,*
in response to message #46 by Tim Wessman

Tim, the 12c Windows emulator does not execute programs correctly. Prime factor finder:

```
01 sto 0
02 2
03 sto 1
04 1
05 sto 2
06 rcl 0
07 rcl 1
08 /
09 frac
10 x=0
11 goto 13
12 goto 17
13 rcl 1
14 pse
15 sto / 0
```

```
16 goto 06
17 rcl 2
18 sto + 1
19 2
20 sto 2
21 rcl 0
22 rcl 1
23 enter
24 x
25 x <= y
26 goto 06
27 rcl 0
28 goto 00
```

Put 30 on stack and R/S. Should display 2, 3, 5 after pauses.

The emulator displays this:

```
01 44 0
r u n n
5.00
```

Not exactly a great launch.

Don Shepherd

Re: Need some details before ordering

*Message #49 Posted by **Vladan Dugaric** on 25 June 2009, 7:27 p.m.,*
in response to message #48 by Don Shepherd

It works on my iPod Touch 2G with OS 3.0. It displays 2 3 5 as it should.

Re: Need some details before ordering

*Message #50 Posted by **Tim Wessman** on 25 June 2009, 7:41 p.m.,*
in response to message #49 by Vladan Dugaric

Hmm. . .very strange. We are investigating and it will be fixed.

TW

Re: Need some details before ordering

*Message #51 Posted by **Don Shepherd** on 25 June 2009, 8:31 p.m.,*
in response to message #50 by Tim Wessman

Thanks Tim. You da man! Don

Re: Need some details before ordering

*Message #52 Posted by **Tim Wessman** on 26 June 2009, 4:47 p.m.,*
in response to message #51 by Don Shepherd

There were two issues. First was the program as posted has a problem in one of the steps. Once that was fixed, it ran fine, but the display was not updating properly.

Turns out one of the optimizations to not update the screen when under 10ms was causing it.

TW

Re: Need some details before ordering

*Message #53 Posted by **cyrille de Brébisson** on 28 June 2009, 4:33 p.m.,*
in response to message #48 by Don Shepherd

hello your program does not seem to work on a real 12C either... but if you remove lines 23 and 24, it does...

however, it still does not work on the emulator... however, if you send me your email, I will send you an updated version where it does work!

01 sto 0 02 2 03 sto 1 04 1 05 sto 2 06 rcl 0 07 rcl 1 08 / 09 frac 10 x=0 11 goto 13 12 goto 17 13 rcl 1 14 pse 15 sto / 0 16 goto 06 17 rcl 2 18 sto + 1 19 2 20 sto 2 21 rcl 0 22 rcl 1 23 x <= y 24 goto 06 25 rcl 0 26 goto 00

regards, cyrille

Re: Need some details before ordering

*Message #54 Posted by **Don Shepherd** on 28 June 2009, 7:50 p.m.,*
in response to message #53 by cyrille de Brébisson

Cyrille and Tim, what's going on here? The program, as written and as listed, does indeed work. It works on a 12c from 8 years ago, it works on a 12cp 25th anniversary edition, it works on the new ARM-based 12c, and it works on the 12cp emulator that educators get. It works on all those machines. And another user pointed out above that it works on the iphone. The only place it doesn't work, is your new 12c emulator.

Please fix.

Don Shepherd

Re: Need some details before ordering

*Message #55 Posted by **Katie Wasserman** on 28 June 2009, 8:06 p.m.,*
in response to message #54 by Don Shepherd

I concur, it works for me too on all the *real* 12C's I've tried.

-Katie

Re: Need some details before ordering

*Message #56 Posted by **Thomas Okken** on 29 June 2009, 3:38 a.m.,*
in response to message #55 by Katie Wasserman

At the risk of beating a dead horse, I also tried it on my HP-25; I had to change

```
21 rcl 0
22 rcl 1
23 enter
24 x
25 x <= y
```

to

```
21 rcl 1
```

```
22 enter
23 x
24 rcl 0
25 x >= y
```

for obvious reasons.
The algorithm and the program are fine. Sounds like the emulator is not.

- Thomas

Re: Need some details before ordering

*Message #57 Posted by **Don Shepherd** on 29 June 2009, 6:22 a.m.,*
in response to message #56 by Thomas Okken

Thanks Katie and Thomas. Waiting for HP response.....

Re: Need some details before ordering

*Message #58 Posted by **Tim Wessman** on 30 June 2009, 1:18 a.m.,*
in response to message #57 by Don Shepherd

We've sent you private messages and emails to get you a working version but have received no response. . . :-(

TW

ps - I have never programmed a 12c. Is step 'x' in there supposed to be last x or something else?

Edited: 30 June 2009, 1:19 a.m.

Re: Need some details before ordering

*Message #59 Posted by **Katie Wasserman** on 30 June 2009, 1:52 a.m.,*
in response to message #58 by Tim Wessman

'x' = multiply

Re: Need some details before ordering

*Message #60 Posted by **Don Shepherd** on 30 June 2009, 7:59 a.m.,*
in response to message #58 by Tim Wessman

> Quote:
>
> We've sent you private messages and emails to get you a working version but have received no response. . . :-(

Tim and Cyrille, I responded to each email you and Cyrille sent me. Tim on June 26 and Cyrille on June 29. I forwarded these to both of you just now.

Are you reading your email?

Don Shepherd

Re: Need some details before ordering

*Message #61 Posted by **Don Shepherd** on 1 July 2009, 5:54 a.m.,*
in response to message #57 by Don Shepherd

OK, HP provided a new 12c emulator that fixes this problem. There were a couple of email failures, apparently, and a misunderstanding about the "x" command, but everything is OK now.

Re: Need some details before ordering

*Message #62 Posted by **Byron Foster** on 29 June 2009, 7:21 p.m.,*
in response to message #53 by cyrille de Brébisson

You've substituted:

```
21 rcl 0
22 rcl 1
23 enter
24 x
25 x <= y
```

with:

```
21 rcl 0
22 rcl 1
23 x <= y
```

Which while still correct, removes the optimization that recognizes that all prime factors of Y, except for the final prime factor, will be less than or equal to the square root of Y, making your version less efficient.

Edited: 30 June 2009, 4:00 p.m.

Re: HP releases multiple emulators for PCs, iPhone, iPod touch

*Message #63 Posted by **Alain Mellan** on 24 June 2009, 6:24 p.m.,*
in response to message #1 by Steve Leibson

30 bucks for another 15C seems a bit steep. But running the same emulator both on an iPhone and a Windows or MacOS (hopefully in the future) should allow things like using the iPhone keyboard to control the emulator running on a PC, sending programs from iPhone to PC and vice-versa, saving/loading programs as source code, etc.

Otherwise, there's not much incentive for me to fork $30, apart from supporting HP's calculator division :-)

Re: HP releases multiple emulators for PCs, iPhone, iPod touch

*Message #64 Posted by **Egan Ford** on 24 June 2009, 11:04 p.m.,*
in response to message #63 by Alain Mellan

> Quote:
>
> 30 bucks for another 15C seems a bit steep.

It is, especially since you can get a 15C using the same ROM for $20. For $30 you can get SpaceTime and do symbolic math and plots and for free you can do symbolics and plots with Safari/Wolfram Alpha.

Heck for $20 you can get i41CX+ AND Free42. Both support program/data transfer and printers and just

as calculators have a super set of the 15C features (i41CX+ will need a few modules).

I'd thought about getting the $20 15C just to support Eric, but it is unclear to me how much of that $14 (Apple gets $6) goes to Eric. I'd prefer to just send Eric $20 because he's a nice guy.

Re: HP releases multiple emulators for PCs, iPhone, iPod touch

*Message #65 Posted by **Alain Mellan** on 25 June 2009, 1:55 a.m.,*
in response to message #64 by Egan Ford

> Quote:
>
> It is, especially since you can get a 15C using the same ROM for $20.

Did that. I paid the $20 already, it's a nice calculator.

> Quote:
>
> Heck for $20 you can get i41CX+ AND Free42. Both support program/data transfer and printers and just as calculators have a super set of the 15C features (i41CX+ will need a few modules).

did that too. Both very nice apps at very decent price.

> Quote:
>
> I'd thought about getting the $20 15C just to support Eric, but it is unclear to me how much of that $14 (Apple gets $6) goes to Eric. I'd prefer to just send Eric $20 because he's a nice guy.

Yep. I guess some of the remaining $14 go to HP as well for the license to the 15C ROM. I don't know what happened to the GPL code though, because my understanding is only the ROM is (c) HP, but nonpareil is GPL, right?

Re: HP releases multiple emulators for PCs, iPhone, iPod touch

*Message #66 Posted by **Eric Smith** on 25 June 2009, 4:48 a.m.,*
in response to message #65 by Alain Mellan

The original Nonpareil source code is still GPL'd, though the various ROM images are not, and it was a mistake for me to not make that clear in the Nonpareil documentation and packaging.

While some of the source code for the iPhone calculator apps from Thomas Fors LLC and from AL Software is derived from Nonpareil source code, they are using it persuant to separately negotiated non-GPL licenses.

Re: HP releases multiple emulators for PCs, iPhone, iPod touch

*Message #67 Posted by **DaveJ** on 25 June 2009, 2:47 a.m.,*
in response to message #64 by Egan Ford

> Quote:
>
> I'd thought about getting the $20 15C just to support Eric, but it is unclear to me how much

> of that $14 (Apple gets $6) goes to Eric. I'd prefer to just send Eric $20 because he's a nice guy.

Eric doesn't get a cent. His reply elsewhere in this thread:
"I was not directly involved in the development of HP's iPhone applications, and don't receive any payments of any kind from HP."

Dave.

Re: HP releases multiple emulators for PCs, iPhone, iPod touch

*Message #68 Posted by **Eric Smith** on 25 June 2009, 3:56 a.m.,*
in response to message #67 by DaveJ

I only said that I don't get money from HP. Egan Ford was talking about the SCI-15C app published by Thomas Fors LLC.

Re: HP releases multiple emulators for PCs, iPhone, iPod touch

*Message #69 Posted by **Eric Smith** on 25 June 2009, 3:53 a.m.,*
in response to message #64 by Egan Ford

> Quote:
>
> I'd thought about getting the $20 15C just to support Eric, but it is unclear to me how much of that $14 (Apple gets $6) goes to Eric. I'd prefer to just send Eric $20 because he's a nice guy.

Thanks for the thought. All I should say about the iPhone apps is that I am perfectly happy for people to buy the apps from Thomas Fors LLC and AL Software. I think both of them have great apps. I'm sure everyone is aware of the cool new features that have recently been added to the i41CX and i41CX+ apps. While I can't promise anything, I think there will also be some nice new features in the SCI-11C, FIN-12C, SCI-15C, and PRG-16C apps in the future.

I have not yet used HP's iPhone calculator apps very much, but I'm sure that they must be fine quality products as well.

Re: HP releases multiple emulators for PCs, iPhone, iPod touch

*Message #70 Posted by **Egan Ford** on 25 June 2009, 10:13 p.m.,*
in response to message #1 by Steve Leibson

Feedback from Gizmodo. Summary: price too high.

http://gizmodo.com/5302633/hp-invents-time-machine-converts-iphone-into-classic-calculator

Re: HP releases multiple emulators for PCs, iPhone, iPod touch

*Message #71 Posted by **Martin Pinckney** on 26 June 2009, 8:56 a.m.,*
in response to message #70 by Egan Ford

> Quote:
>
> Feedback from Gizmodo. Summary: price too high.

Odd. I get just the opposite out of the article: "Yes, get the iPhone version because the actual financial calculator is $80 and the 15C doesn't even exist anymore—and newer models are more expensive".

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a strange '35

*Message #1 Posted by **Dana Bingham** on 23 June 2009, 3:13 p.m.*

hi

i quote: _____ "Only the first version had a red dot that showed when the calculator was on. It also had a raised spot on the "5" key. The serial number was on the back between the rubber feet. The serial number on these starts with 1143A.

The second version looked like the first but omitted the red dot. Early samples of this version still had a raised spot on the "5" key. The serial number was moved inside the battery compartment. Some of these also have serial numbers starting with 1143A." _____

i have a '35 which is neither... no red dot, but serial number is between the feet. of course, serial of 1143A.

i think it is special... i think it is a red dot at the very tail end of that production run, and as the "red dot" top plates ran out, someone on the production line grabbed a new "top plate" from the coming run of second version. but the serial was placed as this was a red dot run.

i bet this '35 is near unique. dana

Re: a strange '35

*Message #2 Posted by **Michael de Estrada** on 23 June 2009, 3:22 p.m.,*
in response to message #1 by Dana Bingham

Is the rear label intact (never been opened)? Do you have a dated sales receipt?

Re: a strange '35

*Message #3 Posted by **Katie Wasserman** on 23 June 2009, 4:04 p.m.,*
in response to message #1 by Dana Bingham

It's not unique, I've got one exactly like that too. It appears to be all original labeling and has the early ROM bugs. Serial number: 1143A (in small type) 29273.

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28/48 used to validate scientific library

*Message #1 Posted by **Egan Ford** on 23 June 2009, 11:08 a.m.*

Last night I was helping an HPGCC user build GSL (GNU Scientific Library) for the 50g. After I got it compiled I needed to create a simple test case and opted for a complex square root. When I read the documentation (http://www.gnu.org/software/gsl/manual/html_node/Complex-Numbers.html) this gem was present:

> Quote:
>
> For multiple-valued functions the branch cuts have been chosen to follow the conventions of Abramowitz and Stegun in the *Handbook of Mathematical Functions*. The functions return principal values which are the same as those in GNU Calc, which in turn are the same as those in *Common Lisp, The Language (Second Edition)* and the **HP-28/48 series of calculators**.

The 28/48 was not the only source of validation, but interesting that it is mentioned and possibly implied as a trusted source.

Re: 28/48 used to validate scientific library

*Message #2 Posted by **Thomas Okken** on 23 June 2009, 2:09 p.m.,*
in response to message #1 by Egan Ford

That's interesting. When I implemented the complex functions in Free42, I simply went with whichever branch cut was easiest to implement, and there may well be discrepancies between that and what the real HP-42S does. I wonder if its complex functions have the same behavior as the 28/48 series?
I'll have to study this. Fortunately one can download Abramowitz & Stegun nowadays!

- Thomas

Re: 28/48 used to validate scientific library

*Message #3 Posted by **hugh steers** on 23 June 2009, 2:24 p.m.,*
in response to message #1 by Egan Ford

The complex numbers in Reckon and the uWatch take the branch cuts that agree with the hp15c (presumably the same as the 48).

the 15c manual claims these cuts were chosen so as to make the trigs and their inverses composed return the same original values.

Re: 28/48 used to validate scientific library

*Message #4 Posted by **Nigel J Dowrick** on 24 June 2009, 3:47 a.m.,*
in response to message #3 by hugh steers

Same with CasioRPN (another RPN calculator for the Casio FX-9860 series). I'm lucky enough to have a

paper copy of the HP-42 manual; I checked it against the HP-28 manual on the museum disk and the cuts / branch points chosen appeared identical in each. From a programming point of view I don't recall that they were all the most natural; it's unlikely that simply choosing cuts / branch points as one goes along would lead to the same results.

Nigel

Re: 28/48 used to validate scientific library

*Message #5 Posted by **Thomas Okken** on 24 June 2009, 4:56 a.m.,*
in response to message #4 by Nigel J Dowrick

Nigel, are you referring to chapter 6 of the HP-42S manual? Could you point me to any specific examples in the manual that would give a clue as to which branch cuts the 42S uses?
In my 42S simulator, I chose the cuts that seemed the most natural, and I believe that my implementation returns results that are mathematically correct, but I would like to make sure that my implementation is faithful to the original calculator as well.

- Thomas

Re: 28/48 used to validate scientific library

*Message #6 Posted by **Nigel J Dowrick** on 24 June 2009, 5:18 a.m.,*
in response to message #5 by Thomas Okken

My memory must be going! You are quite correct - although I do own the HP-42S manual (and the calculator), the information about branch points / cuts is not in there. I actually used the information in the HP-15C "Advanced Functions" manual. Comparing this with my HP-42S showed that the same branch points / cuts were used by both calculators, and also by the HP-28S.

Sorry for any confusion.

Nigel

Re: 28/48 used to validate scientific library

*Message #7 Posted by **Thomas Okken** on 24 June 2009, 7:05 p.m.,*
in response to message #6 by Nigel J Dowrick

Thanks for the information! I don't have any paper manuals for the 15C but the PDF versions on the Museum DVD will do. :-)
I guess it makes sense for complex math to be consistent between all complex-capable HP models, but it's good to have confirmation.

- Thomas

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Casio - nice on-line calc, worth looking at

*Message #1 Posted by **Mark Edmonds** on 23 June 2009, 7:24 a.m.*

Apologies if this is old news but Casio have recently setup an on-line calculator with some interesting features including a full library of pre-programmed applications, a C style programming language and an absolutely huge range for calculations.

So if you have ever wondered what the result of 10,000,000! is to 50 decimal places, pop over to this link to find out:

http://keisan.casio.com/

Mark

Re: Casio - nice on-line calc, worth looking at

*Message #2 Posted by **Mark Edmonds** on 23 June 2009, 7:51 a.m.,*
in response to message #1 by Mark Edmonds

I think it supports a 27bit exponent with the msb being the sign.

Mark

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HP-IL I/F Module and a New(er) PC

*Message #1 Posted by **Gerry Schultz** on 22 June 2009, 9:41 p.m.*

Hello Everyone:

I'm sad and here is my tale of woe. Perhaps some wise man (or woman) can show me the way. A while back my old Gateway PIII 933 Mhz (no ISA slots) died a quiet death. My wife bought it for my birthday back in 1999 and I upgraded it to WinXP Home.

My PC prior to that is a Pentium 233Mhz with ISA slots (I built it myself.) and the HP-IL I/F card works fine and it runs Win98. I thought I could rebuild my dead PIII myself (Ha! I'm so smart!) with a later MotherBoard (MB) and microprocessor (uP) as long as it had an ISA slot for the HP-IL card. Then I could combine my HP-IL card with a new(er) PC and run an OS that is still being supported. I thought I was being so cool. But nooooooo, I get shown that not all PC ISA slots and BIOSes are equal.

I hadn't built a PC since the Pentium 233 but with Google and my Laptop, I could overcome any obstacle. I searched that unspeakable website and found an Intel D845GECL OEM MB which included a P4 2.66 GHz and it has one ISA slot. To get it running, I purchased a P4 heatsink and 2 GBs of RAM. After I got the MB it became obvious that the old PIII power supply didn't have the proper ATX power connectors for a P4 MB so I bought a new PS. Then I found that the Gateway case wasn't built to mount a P4 ATX PS, so instead of messing around with cutting and drilling, I bought a new PC case sans a PS.

This weekend, it was time to build my PC ISA masterpiece. Everything worked and I installed my old XP Home OS with no issues. Last night, I put in the HP-IL card and the Phoenix BIOS hangs at the display screen. AAAAAAAH! I take it out and the box boots like a champ.

I know there isn't much to the card but perhaps the UPnP BIOS doesn't like this card. Any suggestions how I should configure the HP-IL card address to not conflict with the BIOS? Can this card live in harmony with a P4 MB?

Thanks for listening (it's a form of geek therapy for me). It's a fast machine and I like it. Another surprise I ran into was that the BIOS doesn't support a B: drive or a 5 1/4" floppy disk drive. Crap! Another idea down the drain!

Gerry

Re: HP-IL I/F Module and a New(er) PC

*Message #2 Posted by **Christoph Klug** on 23 June 2009, 3:34 a.m.,*
in response to message #1 by Gerry Schultz

Dear Gerry,

does the PC start correctly when you change the address dip switches of the IL-card to address setting 300? (The standard address setting is 1700). Furthermore for XP you need a special address routing software tool - which is described in my "IL2000 Interface System" book. Which software you use for the IL-card ?

Regards - Christoph

Edited: 23 June 2009, 8:05 a.m.

Re: HP-IL I/F Module and a New(er) PC

*Message #3 Posted by **Gerry Schultz** on 23 June 2009, 6:15 p.m.,*
in response to message #2 by Christoph Klug

Hi Christoph:

I have a copy of your book so I will take a look. Given how thick it is, what chapter or page is it on? I believe I'm using 300 for the base address and I do remember reading something about using 1700. Perhaps I read it in your book.

I'm using EMU41 on my Pentium 233 Mhz machine. I'm looking to consolidate PCs as I don't have the room to leave the Pentium 233 set up just for EMU41. With the HP-IL I/F card, I can use the EMU41 to move 41 programs between the PC, the 9114b and my real 41s.

I was thinking about this last night and the BIOS uses PnP to dynamically assign interrupts and addressing to peripherals. Since the HP-IL card has fixed addressing, perhaps the BIOS is assigning another device to the same address and when it tries to interrogate that device, data is corrupted which hangs the boot process. Does that make sense or am I blowing smoke? Perhaps a solution is to go into the BIOS and block out the address range associated with the HP-IL card so PnP will avoid the HP-IL card all together.

Knowing me, I'm over-thinking the problem. I'll check your book and change the base address to 1700 to see if that fixes the problem.

Thanks, Gerry

Re: HP-IL I/F Module and a New(er) PC

*Message #4 Posted by **Howard Owen** on 23 June 2009, 7:04 p.m.,*
in response to message #3 by Gerry Schultz

That makes perfect sense. The HP/IL ISA card is NOT plug and play. You can probably tweak the PnP settings in the BIOS, maybe even to the extent of turning PnP off, or move the card's address around with the DIP switches to an unused address. I hope that's all that is wrong with your setup.

This sort of problem was typical with the ISA bus. PCI was a big step up in this regard, and USB even more so.

If you get it working, please let us know. Using HP/IL on a relatively modern PC with an ISA slot would be nice to have while waiting for JF's USB solution.

Regards,
Howard

Re: HP-IL I/F Module and a New(er) PC

*Message #5 Posted by **J-F Garnier** on 24 June 2009, 6:02 a.m.,*
in response to message #3 by Gerry Schultz

One source of problem may be the interrupt level. You can try to disable it on the HP-IL board (unsolder or just cut the strap). Interrupts are not used in Emu41/71, or (AFAIK) in other software for the HP-IL board.

And yes, the USB PIL-Box IS the solution to connect HP-IL to modern computers :-)

J-F

Re: HP-IL I/F Module and a New(er) PC

*Message #6 Posted by **Gerry Schultz** on 26 June 2009, 1:08 p.m.,*
in response to message #5 by J-F Garnier

Thanks for your responses. I haven't had much time during the week to work on this but I should have time this weekend depending how many honeydos I have assigned to me. I'm in the process, when I can squeeze it in, to install all my apps to make the PC useful for things other than a pretty GUI. Last night, I had to troubleshoot why WMP 11 would play a DVD without audio but WinDVD 9 worked fine. I found I needed to install an AC3 codec from the web even though WMP 11 can use WinDVD's MPEG 2 codec to play the video. Windows is weird.

I'll let you know,

Gerry

Re: HP-IL I/F Module and a New(er) PC

*Message #7 Posted by **Ángel Martin** on 27 June 2009, 7:45 a.m.,*
in response to message #5 by J-F Garnier

Hi J-F,

Speaking of the Pill-Box, what's the status of such a great project?? Needless to say it's anxiously awaited :-)

Best, ÁM

Re: HP-IL I/F Module and a New(er) PC

*Message #8 Posted by **Doug** on 2 July 2009, 6:25 a.m.,*
in response to message #7 by Ángel Martin

I agree, maybe I won't have to do that code, it's hairy. I was working on the same sort of thing when my property all went poof and it is difficult! At least 5 protocols simulaineously. I was building the code in MCS51 but of course PIC will do, involves a LOT of libraries and top down from 30 years ago. I could maybe help with some macros, my mainframe was saved from the fires, no hardware was saved however (my brother gave me a CV afterwards). Aside: would anybody like to try -DISASM- 4D?

Edited: 2 July 2009, 6:56 a.m.

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The Dumbest Generation: AOS vs RPN

*Message #1 Posted by **Joerg Woerner** on 22 June 2009, 3:10 p.m.*

This weekend I was reading both a book review:

The Dumbest Generation: How the Digital Age Stupefies Young Americans and Jeopardizes Our Future (Or, Don't Trust Anyone Under 30)

And a TI calculator brochure dated 1976:

Fast and easy. No calculator in its class is so easy to master.

The SR-50A lets you key the problem just as you would state it. A unique register system provides a sum-of-products capability directly at the keyboard. This ability to store the first product while the second is being calculated is in addition to the memory accessed by the memory keys. The efficiencies are suggested by this simple problem:

(2 x 3) + (4 x 5) = 26

TI’s Algebraic Entry Method:

2 [x] 3 [+] 4 [x] 5 [=] 26

Reverse Polish Entry Method

2 [^] 3 [x] 4 [^] 5 [x] [+] 26

It is easy to predict: "RPN is almost dead!"

Regards, Joerg

BTW: My four kids use TI-84 Plus Silver Editions, a requirement of the local schools. And I sold my [ENTER] keys to db ;-))

Re: The Dumbest Generation: AOS vs RPN

*Message #2 Posted by **Hal Bitton in Boise** on 22 June 2009, 8:15 p.m.,*
in response to message #1 by Joerg Woerner

> Quote:
>
> The SR-50A lets you key the problem just as you would state it. A unique register system provides a sum-of-products capability directly at the keyboard. This ability to store the first product while the second is being calculated is in addition to the memory accessed by the memory keys. The efficiencies are suggested by this simple problem:
>
> (2 x 3) + (4 x 5) = 2

I note that what TI omitted from the above was a methodology for handling the *product of sums*, or any other departure from mathematical hierarchy...as indeed there was virtually no such methodology on the SR-50A (apart from user ingenuity and it's lone memory register), it being an AOS machine with no parenthesis.
No wonder most TI engineers of that era used HP calculators.
...hal

Re: The Dumbest Generation: AOS vs RPN

*Message #3 Posted by **Les Wright** on 23 June 2009, 1:31 a.m.,*
in response to message #1 by Joerg Woerner

I find an equals key stupefies me :)

Trying to do any basic arithmetic on the 4-banger on my Blackberry is a torturous experience of clearing and reentering over and over again, given my automatic tendency to put the operands in the wrong place.

I am equally stupefied in a car with auto transmission. My unoccupied left foot just hovers around itching to get into trouble....

Les

Re: The Dumbest Generation: AOS vs RPN

*Message #4 Posted by **Eric Smith** on 23 June 2009, 3:10 a.m.,*
in response to message #3 by Les Wright

The only calculators I have more trouble with than algebraic calculators (or "algebraic" calculators) is trying to use the desktop printing calculators that use "adding machine logic".

In those, addition and subtraction are postfix, and multiplication and division are infix!

Re: The Dumbest Generation: AOS vs RPN

*Message #5 Posted by **Mark Edmonds** on 23 June 2009, 4:42 a.m.,*
in response to message #4 by Eric Smith

And I bet the SR50A uses postfix for trigs and logs.

The first calcs I used were algebraic except for those functions so for example, the sqrt of sin 45 was done entirely RPN style: 45 sin sqrt.

Now we have more modern AOS calcs that prefix functions and force brackets round them - a system which completely throws me even if technically, it is more logical.

Yes, I prefer RPN but I still have a theory that the only reason HP selected the method was because it made writing the OS in the 9100 easier. It is obviously far easier to let the user deal with hierachy on a stack than have to write potentially awkward routines to sort it out.

Keystroke saving in RPN is slightly over-hyped. Its main benefit originally was ease of system programming.

Do I need a flame-proof suit for that?!

Mark

Re: The Dumbest Generation: AOS vs RPN

*Message #6 Posted by **Reth** on 23 June 2009, 7:29 a.m.,*
in response to message #5 by Mark Edmonds

Whatever the reason, everyone I know once got familiar with the RPN never went back. AOS makes me sick.

Re: The Dumbest Generation: AOS vs RPN

*Message #7 Posted by **Thomas Okken** on 23 June 2009, 1:25 p.m.,*
in response to message #3 by Les Wright

> Quote:
>
> I am equally stupefied in a car with auto transmission. My unoccupied left foot just hovers around itching to get into trouble....

The first time I drove an automatic, I somehow managed to stall the engine while the car was already rolling. Intending to press the clutch in preparation for restarting the engine, my left foot pressed the leftmost pedal all the way to the floor, as it was trained to do. Burnt rubber ensued; fortunately no one was close behind me at the time.
My passenger (grandpa) was not amused. :-)

- Thomas

Re: The Dumbest Generation: AOS vs RPN

*Message #8 Posted by **Doug** on 2 July 2009, 6:59 a.m.,*
in response to message #3 by Les Wright

Yes, but i just bought a "scientific" at the local 99 cent store for $2 + tax. How can RPN compete with $2? We are doomed.

Edited: 2 July 2009, 7:01 a.m.

Re: The Dumbest Generation: AOS vs RPN

*Message #9 Posted by **Don Shepherd** on 23 June 2009, 9:42 a.m.,*
in response to message #1 by Joerg Woerner

> Quote:
>
> It is easy to predict: "RPN is almost dead!"

From a marketing perspective, I'm sure TI wished this to be true. Has it happened, in 2009? Is RPN "almost dead?" By whatever indicator we attempt to evaluate this, if we're going to be honest, isn't the answer "yes?"

Indicators:

- number of people who actually use (and understand) RPN
- number of calculator manufacturers who build RPN machines
- number of books describing how to use RPN
- number of classes that teach RPN

sales of RPN calculators versus AOS and others

Now, members of this forum like RPN for many different reasons. Personally, I like it because it enables me to exercise my mind by writing programs for HP calculators to solve problems. I find RPN keystroke programming very similar to assembly language, which was the first programming language I learned way back in 1968 for the IBM 360. I loved assembly language because of its logic and because it required you to understand the actual hardware to a degree that higher-level languages did not. When I went to work in the industry, however, I never used assembly language; I used FORTRAN and COBOL. So my appreciation of RPN is based upon my affection for assembly language.

HP has always touted RPN as the "natural" way to do calculating, based upon how we do it manually and as we were taught in school. But I have always had a problem with that. We are taught to do pencil and paper math this way:

```
  12
+  3
____
  15
```

That is, we write down the first number, go down to the next line and write a +, write the second number on the same line as the +, then draw a line and do our actual work under that line. The operator doesn't come last, it actually comes before the second number. The last line we draw corresponds, essentially, to the = key. And that's how AOS calculators work, which is probably why they outnumber RPN calculators by a rather large factor.

I appreciate RPN because it provides a logic system that enables keystroke programming to work, and I enjoy keystroke programming. But if anyone actually believes that teaching RPN to school kids is what we need to do to save the newest generation from itself, I think that is wrong.

As a teacher for the past few years, I am keenly aware of how kids are more interested in their ipods than in learning long division. But when I was in junior high school, I was more interested in the Beatles than world history too. But most of us did OK in the world, and I believe that will happen to the current generation also.

Re: The Dumbest Generation: AOS vs RPN

*Message #10 Posted by **Mark Edmonds** on 23 June 2009, 10:22 a.m.,*
in response to message #9 by Don Shepherd

> Quote:
>
> But if anyone actually believes that teaching RPN to school kids is what we need to do to save the newest generation from itself, I think that is wrong.

And I completely agree with that. RPN seems totally counter-intuitive when you have only had exposure to traditional means of solving calculations, ie 1+2=3 etc..

My school era was when calculators were still quite exclusive and all without exception were algebraic. The only person in the entire school who had an HP was our computer science teacher. He was obviously very proud of it and showed and explained how it worked during one lesson (I think it was a Spice). None of us could understand the benefit of RPN even when the teacher kept trying to tell us how elegant it was.

None of us could remotely afford an HP anyway but coupled with the use of RPN, Casio mainly and TI ruled the roost as they worked the way we did.

If had we been taught RPN instead, would it have improved our understanding of maths? I seriously doubt it. My pride and joy - a Ti57 was stolen - so I had to borrow a Casio for my exams. In both O and A level,

I hardly used it. At A level, I honestly don't think I touched it at all.

Nowadays, it seems that calculators are allowed at any level and all the time and by that, I would hunch that there is less attention to understanding methods and more emphasis on pure numeric results. Understanding RPN wouldn't change this for the better.

I often think back to that line from the Simpsons where Mrs. Krabappel asks her class, "now whose calculator can tell me what 2+2 is?" to which various comic answers are given.

If modern maths education is being reduced to a black-box process, it wont matter which method of calculation is used if people don't learn a basic feel for numbers.

Apologies for sounding like an old fogey.

Mark

Re: The Dumbest Generation: AOS vs RPN

*Message #11 Posted by **Mike Morrow** on 23 June 2009, 10:39 a.m.,*
in response to message #9 by Don Shepherd

> Quote:
>
> I find RPN keystroke programming very similar to assembly language, which was the first programming language I learned way back in 1968 for the IBM 360.

Honk if you love JCL!

I grew up with Univac 1108 Exec 8 Level 27 OS and Fortran, and a little Bourroughs B6500 Algol (Now *that* was really a stack machine!)

> Quote:
>
> HP has always touted RPN as the "natural" way to do calculating, based upon how we do it manually and as we were taught in school. But I have always had a problem with that. We are taught to do pencil and paper math this way:
>
> ```
>   12
> +  3
> ____
>   15
> ```
>
> That is, we write down the first number, go down to the next line and write a +, write the second number on the same line as the +, then draw a line and do our actual work under that line. The operator doesn't come last, it actually comes before the second number. The last line we draw corresponds, essentially, to the = key.

When I manually add two numbers, I write down the first number, I write down the second number, then I perform the operation. That is exactly how the RPN stack works. I see the AOS sequence as an "un-natural" procedure, in comparison. I never start adding the second number to the first until both numbers are present in toto. To me, the "natural" claim some make for AOS fails completely, so AOS proponents must fall back on the claim that AOS is performed on an expression "just like it is written in a book." Weak!

> Quote:

> I appreciate RPN because it provides a logic system that enables keystroke programming to work, and I enjoy keystroke programming. But if anyone actually believes that teaching RPN to school kids is what we need to do to save the newest generation from itself, I think that is wrong.

No argument from me on any of that.

I appreciate RPN for its efficiency, and HP for its reliability. In 1977, I bought an HP-67 and a TI-59. The TI-59 was actually quite a technical advance over the HP-67, with much greater memory, precision, speed, innovative solid-state software modules, and the PC-100C print cradle. But typically, programming a non-trivial function in the TI-59 took about 40 percent more memory steps than did the HP-67. The real problem was reliability. I used the HP-67 (and later an HP-97) for real-life professional needs in a submarine nuclear propulsion plant. I did not use the TI-59 because I couldn't keep the TI hardware working for more than about six months before it would fail.

I remember admiring the "technical" achievement of TI's AOS, even though it was a very real and significant impediment to effective and efficient program creation on the TI-59.

Re: The Dumbest Generation: AOS vs RPN

*Message #12 Posted by **designnut** on 23 June 2009, 11:17 a.m.,*
in response to message #11 by Mike Morrow

My first calculator experience was with the first HP-35 so RPN was no problem for me. BUT, I quickly found the formulas written in books (and copied from book to book) were awkward in RPN, Indeed I think awkward with any calculator. I had to rewrite formulas to be handy for my calculator. I used keystroke sequences instead of formulas that were easy to remember and fast to do. some I wanted to do over and over at one frequency so having 2PiF in the repeating t register was my answer for easy usage. It wseemed important to do this when I saw people programming solutions that were rapid keystrokes for me. Thus I ask, do we need to be tied to the past by awkward formulas "as written in texts? Or can we do it better today, I can. sam 80

Re: The Dumbest Generation: AOS vs RPN

*Message #13 Posted by **Marcus von Cube, Germany** on 23 June 2009, 11:43 a.m.,*
in response to message #12 by designnut

I will not advocate either RPN, AOS or EOS. For quick calculations (mostly additions, sometimes a few multiplications and/or divisions), I get used to the calculator a hand very quickly. When it comes to more elaborate formulas, EOS with a history has advantages over RPN/RPL and over AOS, because I keep my input while getting the result. A quick cursor up lets me check and or modify the formula and reexecute it. On my RPL machines, I've often the problem that is much less intuitive to back out from a mistake or to repeat a calculation: I see myself hitting ENTER a few times to save some copies of what is on the command line or in stack level 1.

Re: The Dumbest Generation: AOS vs RPN

*Message #14 Posted by **Eric Smith** on 23 June 2009, 6:05 p.m.,*
in response to message #11 by Mike Morrow

> Quote:
>
> Honk if you love JCL!

FORTH LOVE IF HONK THEN

(Are there people who love JCL? The mind boggles!)

Re: The Dumbest Generation: AOS vs RPN

*Message #15 Posted by **Dave Shaffer (Arizona)** on 23 June 2009, 7:00 p.m.,*
in response to message #14 by Eric Smith

> Quote:
>
> (Are there people who love JCL? The mind boggles!)

I wouldn't exactly say I loved it, but since I had to read and write mag tapes (7 and 9 track for you afficionados) in all sorts of formats, I got pretty good at it!

Re: The Dumbest Generation: AOS vs RPN

*Message #16 Posted by **Don Shepherd** on 23 June 2009, 7:31 p.m.,*
in response to message #15 by Dave Shaffer (Arizona)

Yeah, I learned enough about JCL to do the task at hand. Like Mike Morrow above, my first real programming job was with a Univac 1108 using FORTRAN-V and the Exec 8 operating system, which was a lot more intuitive than JCL. The 1108 was a workhorse.

I always kind of wished that I had a chance to work for a company that used one of the smaller IBM systems, like the System 3. It would have been fun to use assembler with such a small system.

Re: The Dumbest Generation: AOS vs RPN

*Message #17 Posted by **Palmer O. Hanson, Jr.** on 23 June 2009, 10:20 p.m.,*
in response to message #11 by Mike Morrow

> Quote:
>
> I appreciate RPN for its efficiency, and HP for its reliability.

My first HP machine was an HP-11C. My second was an HP-41C. After using those machines I was inclined to believe all the HP hoopla about quality and reliability. But then I started collecting and became acquainted with machines such as the HP-2X's and HP-3X's. When I couldn't get them to work the "old hands" gave me comments such as "twist the case and see if that helps" and "did you connect the charger without being sure that the battery pack was in place and making contact." I changed my impression of the HP. They have been as capable as everyone else of delivering inferior machinery to the customer, and not just recently.

Teaching AOS vs RPN & the Raven scripting language

*Message #18 Posted by **Geir Isene** on 23 June 2009, 12:22 p.m.,*
in response to message #9 by Don Shepherd

> Quote:
>
> I appreciate RPN because it provides a logic system that enables keystroke programming to

> work, and I enjoy keystroke programming. But if anyone actually believes that teaching RPN to school kids is what we need to do to save the newest generation from itself, I think that is wrong.

My experience in teaching my oldest kid calculators and math from he was 6 (he is now 10) is that it doesn't matter much which methodology I teach him. He picks 'em up with equal speed.

Teaching him programming, however... then it seemed very easy to teach him Raven, a stack based programming language, RPN-ish with a good set of math functions.

Re: The Dumbest Generation: AOS vs RPN

*Message #19 Posted by **Thomas Okken** on 23 June 2009, 1:36 p.m.,*
in response to message #9 by Don Shepherd

> Quote:
>
> We are taught to do pencil and paper math this way:
>
> ```
>   12
> +  3
> ____
>   15
> ```

Not all of us! I was taught to write it like this:

```
 12
  3
____ +
 15
```

-- I think that's the standard way in the Netherlands, maybe elsewhere in Europe as well.
Now to try to fit long division into this picture. :-)

- Thomas

Re: The Dumbest Generation: AOS vs RPN

*Message #20 Posted by **Don Shepherd** on 23 June 2009, 11:12 p.m.,*
in response to message #19 by Thomas Okken

Wow! That's exactly RPN. So do schools in the Netherlands use HP RPN calculators, since kids are taught this way?

Re: The Dumbest Generation: AOS vs RPN

*Message #21 Posted by **Thomas Okken** on 24 June 2009, 12:51 a.m.,*
in response to message #20 by Don Shepherd

> Quote:
>
> Wow! That's exactly RPN. So do schools in the Netherlands use HP RPN calculators, since kids are taught this way?

I wouldn't make too much of the notation -- we just put the "+" sign in a different location than they do in U.S. high schools, but the mechanics of addition on paper are the same regardless!

Regarding calculators in schools... I attended High School in the early 1980s, just as calculators were starting to be accepted for school use. There were some government guidelines on the issue, as I recall, but the details were left up to the schools themselves; my HS went from "disallowing calculators altogether" to "allowing" them; they recommended a small number, including some TI-30 model and some Casios; their main concern was that the calculators should have logarithmic and trigonometric functions, and, most importantly, be affordable, which the TIs and Casios were, but the HPs... not so much.

I had HP calculators back then, and I was allowed to use them during Math and Physics tests, but as far as I know, there were only 2 or 3 students using HP calculators in the entire school (about 600 students total, grades 7 through 12).
Apart from being easy to use, in my experience the other main advantage of RPN was that nobody would ask to borrow my calculator more than once; they'd go "where's the equals key" and zone out when I tried to explain how it did work...

Re: The Dumbest Generation: AOS vs RPN

*Message #22 Posted by **Marcus von Cube, Germany** on 24 June 2009, 5:55 a.m.,*
in response to message #21 by Thomas Okken

> Quote:
>
> Apart from being easy to use, in my experience the other main advantage of RPN was that nobody would ask to borrow my calculator more than once; they'd go "where's the equals key" and zone out when I tried to explain how it did work...

This matches my experience back in the seventies when I had the one time chance to carry a friend's HP-35 for one day at school: The calc that always gave PI as the result.

Re: The Dumbest Generation: AOS vs RPN

*Message #23 Posted by **Hal Bitton in Boise** on 23 June 2009, 1:33 p.m.,*
in response to message #1 by Joerg Woerner

> Quote:
>
> ...But if anyone actually believes that teaching RPN to school kids is what we need to do to save the newest generation from itself, I think that is wrong.

I would counter with an excerpt from Mark Edmonds response:

> Quote:
>
> ...It is obviously far easier to let the user deal with hierachy on a stack than have to write potentially awkward routines to sort it out.

Indeed, while RPN may not save the latest generation from itself, it would at the very least force them to know and employ mathematical precedence, and in general be more involved in the calculation at hand. My 13 year old son, while compelled to use the school's TI84 classroom set from time to time, still prefers his HP 33s (in RPN mode). I really do think it's been of benefit to him to learn RPN.
Best regards, Hal

Re: The Dumbest Generation: AOS vs RPN

*Message #24 Posted by **Egan Ford** on 23 June 2009, 2:26 p.m.,*
in response to message #23 by Hal Bitton in Boise

> Quote:
>
> Indeed, while RPN may not save the latest generation from itself, it would at the very least force them to know and employ mathematical precedence, and in general be more involved in the calculation at hand.

This statement rings true to me. I do not know if it having to learn mathematics without the aid of symbolic calculators/computers or my choice to start using RPN in 1985, but I always break equations into parts and never just read from left to right. RPN is great training.

Re: The Dumbest Generation: AOS vs RPN

*Message #25 Posted by **Mark Edmonds** on 23 June 2009, 2:50 p.m.,*
in response to message #24 by Egan Ford

Well, I am going to do a complete U-turn on my earlier comments when I said that teaching RPN wouldn't be any benefit.

If I think back to how I adjusted to RPN and what happened after that, it was obviously a benefit.

It was about 15 years after school that I got my first HP. I was expecting a real tussle with converting to RPN but much to my surprise, I found I adapted really quickly and then when I became fluent, I realised that I was approaching problems in a much more analytical manner than before. Rather than treating problems in a strictly linear left to right manner, I was breaking them down and thinking more about what exactly I was doing. It also made me appreciate precedence more so that in whatever high level language I was programming at the time, I started writing simpler more elegant expressions where use of brackets was rare.

Couple this with the unlimited stack in UserRPL and making efficient use of the stack rather than dumping values in variables as well as other programming benefits of a stack, RPN provides a programming solution that ticks all the right boxes; efficient, elegant, simple and fast.

So if I can be permitted to make this complete U-turn, I don't think RPN is going to save the educational system (!) but it should open up minds to its different approach which in turn should trigger more appreciation of number manipulation as well as important programming techniques.

Mark

Re: The Dumbest Generation: AOS vs RPN

*Message #26 Posted by **Marcus von Cube, Germany** on 23 June 2009, 4:36 p.m.,*
in response to message #25 by Mark Edmonds

> Quote:
>
> Couple this with the unlimited stack in UserRPL and making efficient use of the stack rather than dumping values in variables as well as other programming benefits of a stack, RPN provides a programming solution that ticks all the right boxes; efficient, elegant, simple and fast.

I'd like to disagree. Having the stack as a means of transferring arguments and results back and forth between routines is a huge benefit over the way this had to be done with AOS TIs. It's just a clean interface.

But as soon as you start juggling the stack with OVERs, ROLLs and PICKs, your programs tend to become "write only".

Re: The Dumbest Generation: AOS vs RPN

*Message #27 Posted by **Eric Smith** on 23 June 2009, 6:08 p.m.,*
in response to message #26 by Marcus von Cube, Germany

> Quote:
>
> But as soon as you start juggling the stack with OVERs, ROLLs and PICKs, your programs tend to become "write only".

Definitely! I find that I wind up drawing stack diagrams on scratch paper to untangle things. This is presumably why RPL introduced local variables. Sure, they have more run-time overhead, but I rarely use the calculator for such heavy-duty compute-bound tasks that it matters. In fact, since around 1984 or so, rarely in this case means never.

Re: The Dumbest Generation: AOS vs RPN

*Message #28 Posted by **Palmer O. Hanson, Jr.** on 24 June 2009, 9:58 p.m.,*
in response to message #27 by Eric Smith

> Quote:
>
> But as soon as you start juggling the stack with OVERs, ROLLs and PICKs, your programs tend to be "write only".

And, of course, messing with stores, recalls, rollups and rolldowns is exactly what one has to do if one writes any but the simplest kind of programs with the machines with a limited stack.

> Quote:
>
> Definitely! I find that I wind up drawing stack diagrams on scratch paper to untangle things. This is presumably why RPL introduced local variables. Sure, they have more run-time overhead, but I rarely use the calculator for such heavy-duty compute-bound tasks that it matters. In fact, since around 1984 or so, rarely in this case means never.

I also found that I needed to draw stack diagrams if I had the slightest suspicion that I might push data out the top of the stack. Working with stack diagrams is a real pain -- similar but not quite as bad as the pain with POS sheets that we had to live with when programming drum machines in the early 1960's.

The worst part for the novice RPNer was that there is no indication that pushout is occurring and the manuals aren't very good at warning the novice about that. By comparison the AOS machines all gave an error indication if the user exceeded the parentheses or pending operation limitations.

Re: The Dumbest Generation: AOS vs RPN

*Message #29 Posted by **Garth Wilson** on 24 June 2009, 11:21 p.m.,*
in response to message #26 by Marcus von Cube, Germany

> Quote:
>
> But as soon as you start juggling the stack with OVERs, ROLLs and PICKs, your programs tend to become "write only".

Extreme stack gymnastics does make things confusing, but a "write-only" result is still the programmer's fault. In those situations I like to put in the comment portion of each line what is on the stack after the line is executed, in addition to the normal comments. I still get more first-time-running success and fewer bugs with reverse polish than with algebraic languages.

RPN TKOs AOS RFN

*Message #30 Posted by **db (martinez, ca.)** on 25 June 2009, 3:05 a.m.,*
in response to message #1 by Joerg Woerner

Joerg;
I agree that "the digital age stupefies Americans" but not just young ones. Don't underestimate the ability of one mediocre programmer to sell half baked programs to know-nothing middle managers so that their mathaphobe drinking buddies can almost do, sometimes, what real thinking humans used to do every day. Trash like this is what makes people in general stupider each year. Neither AOS or RPN "Jeopardizes Our Future" (OK; AOS jeopardizes it just a little ;-)).
Still; you would probably have made more money off me if you had figured the correct value of those beautiful calculators you sold me on an hp12c instead of one of the TI BA series. I practically stole them. Thanks. And BTW: why are you selling your Garrett RPN on ebaby? You might need to impress some nerd someday. What TI will do that? We're talking an enter key **and** cabinetry here. Get with it man, cancel that auction. Give that big German desk of yours some class.

Re: RPN TKOs AOS RFN

*Message #31 Posted by **Joerg Woerner** on 25 June 2009, 8:25 a.m.,*
in response to message #30 by db (martinez, ca.)

Dennis,

Oops - I sold the ITM2 already last week to a collector in France ;-)) (Here in Upstate New York we have Canadian neighbors and still talk to French people.) But you mentioned on your website that you don't like the chicklet keyboard.

This week I have the Garrett 2000 on auction, nice Panaplex with ENTER key.

The real thing will be on auction next week, a wonderful operating Garrett 2002, this translates to 2 lbs american trees, the large Panaplex display glowing in warm orange, a full alarm clock and the ENTER key.

I have the auction pictures already on the server, view them here:

No, I won't cancel these auctions. I'm selling off some of my non- TI stuff, last inventory (after our minor flooding in the basement) revealed more than 3,500 calculators - time to say goodbye to at least 1,000 of them over the next years.

And, by the way, when we moved from Germany to Rochester, NY exactly 3 years and 1 day ago (we celebrated yesterday our 3rd year in this great country) it was a hot summer. Our 40-ft container was stored about 3 weeks w/o airconditioning in the full sun and most of the furniture didn't survive! The only THREE pieces that survived were the Garrett calculators ;-))

My nice desk is a piece of IKEA manufactured in China.

Greetings from Sunny-Rochester,

Joerg

PS: Thanks for your nice comments about the HP calcs - you don't have to feel guilty! I'm still figuring out what your TI-30 based terminal is doing - that was a great gift from you - worth at least my HP 21S ;-))

PSPS: Just browsed your pictures next to the software calculator, how is your Robotron baby doing? Still only used as a cup holder?

Re: RPN TKOs AOS RFN

*Message #32 Posted by **db (martinez, ca.)** on 26 June 2009, 2:05 a.m.,*
in response to message #31 by Joerg Woerner

Joerg; Yes, sadly, the Robotron is still just an RPN cup holder - but for fine California beer. Everything else runs, though my first 41 could use some work. Please let me know if you go to sell an RPN that i don't have. I'll bid like a maniac. But you should really keep a couple of them. You might have to do some engineering again someday ;-)
Took my first time off in eight months last weekend and walked up the Whitney glacier on Mt. Shasta - and met a German on the peak. You guys are everywhere. We didn't talk calculators but i did cut him a slice of watermelon. That surprised him so much he just about forgot his English. - db

Re: RPN TKOs AOS RFN

*Message #33 Posted by **Joerg Woerner** on 26 June 2009, 2:28 p.m.,*
in response to message #32 by db (martinez, ca.)

Dennis,

Keep in mind:

30 days vacation per year - and the Dollar is cheap for them (since one year we have the Greencard, otherwise I would write "for us") at an exchange rate of 1.40.

I compared last week the German vs US pricing of the Volkswagen Passat CC. There are different flavors in each regions, but I found one version (VW Passat CC - TSI, Tiptronic 2.0l, 200 PS) identical on both markets:

US / NY: $28,200 + Tax = $30,456

GERMANY: EUR 35,375 = $49,525

WOW - but know it from HP calculators ;-))

Regards, Joerg

BTW: And NO - I didn't bought a Volkswagen.

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HP 16c - needs cleaning?

*Message #1 Posted by **Glenn Becker** on 22 June 2009, 12:12 p.m.*

I just received an HP 16c in cosmetically VG condition. It works fine, too ... except that the ENTER key has a strange, reluctant, "mushy" feel to it, almost as if there is dirt in there or something.

I have never opened a calculator in my life. How difficult would it be to open this unit up and clean it? And what is a safe method of cleaning?

Maybe I should just send to fixthatcalc, even though they have a big backlog/wait period.

Advice is welcomed. %^D

GB

Re: HP 16c - needs cleaning?

*Message #2 Posted by **Mark Edmonds** on 22 June 2009, 1:44 p.m.,*
in response to message #1 by Glenn Becker

I don't want to sound fatalistic about it, but from what I've learnt through recent experience of opening an 11C, I'd advise against attempting this as it is a seriously major job that involves breaking certain elements of the calc's construction.

My thread is just a few below this one:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/forum.cgi?read=151913#151913

It contains some sage advice from other members as well as links to various pages with pictures and instructions. Access to the keyboard involves breaking over 40 "heat stakes" that hold the main PCB to the keyboard assmebly. If I was going to try this, I wouldn't do it on any Voyager that is in good condition!

I am sure that more experienced members can add to this to verify what I've written.

Indicentally, I used to have a 16C with a mushy On key yet never had mushy keys on my other Voyagers. Is this a strange feature of 16Cs?

Mark

Re: HP 16c - needs cleaning?

*Message #3 Posted by **Glenn Becker** on 22 June 2009, 5:04 p.m.,*
in response to message #2 by Mark Edmonds

Darn. Well, I wrote fixthatcalc -- we'll see what they say. Thanks for the response.

Re: HP 16c - needs cleaning?

*Message #4 Posted by **Michael de Estrada** on 22 June 2009, 5:31 p.m.,*
in response to message #3 by Glenn Becker

Actually, FixThatCalc is a contributor to this forum, so maybe he will respond to you here later today.

Re: HP 16c - needs cleaning?

*Message #5 Posted by **Glenn Becker** on 22 June 2009, 10:16 p.m.,*
in response to message #3 by Glenn Becker

Got a nice informative email from FixThatCalc re: the 'feel' of the ENTER key. Apparently it is due to the construction of the longer key & is quite normal.

But I was just playing around with the lil' beast and the display blanked out & doesn't appear to want to return. I'm hopeful it is just a matter of batteries, but who knows ... :(

GB

Re: HP 16c - needs cleaning?

*Message #6 Posted by **Glenn Becker** on 23 June 2009, 8:05 a.m.,*
in response to message #5 by Glenn Becker

... not batteries.

I checked the "Self Tests" section of the manual and pressing 'D' and 'ON' simultaneously, then releasing them, brought the monster back.

Re: HP 16c - needs cleaning?

*Message #7 Posted by **Mark Edmonds** on 23 June 2009, 8:23 a.m.,*
in response to message #6 by Glenn Becker

Regarding the "heat stakes" and breaking/removing them, has anyone tried melting them with a fine-tip solder iron? I am just wondering off the top of my head if it is possible to soften the plastic to make it easier to cut the "head" off and when it comes to reassembly, using a pastic adhesive to re-seal them? Feasable or not?

Mark

Re: HP 16c - needs cleansing?

*Message #8 Posted by **Klaus** on 24 June 2009, 8:03 a.m.,*
in response to message #7 by Mark Edmonds

I tried it with a HP-71b. I used a swiss army knive. Push the blade under the heatstake, then twist the knive. The edge of the mushroom-form will break off, but the center will remain intact. That means that after this procedure, the heatstakes are still as high as they were before, only the diameter of the mushroom head is reduced.

I put some foam in the case back to apply pressure towards the keyboard, works good enough now for me. I thought about re-melting a few heatstakes, there seems to be enough material left for that, but I did not test it.

Re: HP 16c - needs cleansing?

*Message #9 Posted by **Mark Edmonds** on 24 June 2009, 9:26 a.m.,*
in response to message #8 by Klaus

Thanks for describing that. Using foam as padding sounds like quite a sensible way of doing things and keeps it possible to do future maintenance without having to break re-sealed heat stakes.

Mark

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SmartCalc 300s manual

*Message #1 Posted by **hpnut** on 22 June 2009, 10:57 a.m.*

Hi everyone,

I just got my HP SmartCalc 300s today.

going through the fine manual, I found this piece of gem:

"Handling Precautions - Be sure to press the ON key before using the calculator for the first time."

my goodness, the quality level of HP manuals has gone down the drain, groan :-(

Re: SmartCalc 300s manual

*Message #2 Posted by **Quan** on 22 June 2009, 11:24 a.m.,*
in response to message #1 by hpnut

"Handling Precautions - Be sure to press the ON key before using the calculator for the first time."

Wait a second! (Checking the pdf file of CASIO fx-115ES User's Guide ...)

Holy cow! I knew it!

There it is! On page 6 is a verbatim.

So, it is a CASIO in an HP suite.

Edited: 22 June 2009, 11:26 a.m.

Re: SmartCalc 300s manual

*Message #3 Posted by **Tim Wessman** on 22 June 2009, 7:09 p.m.,*
in response to message #2 by Quan

Actually, it is a 3rd party unit repackaged into both CASIO and HP. HP's actually has more accuracy and is slightly faster though. . .

TW

Re: SmartCalc 300s manual

*Message #4 Posted by **Quan** on 23 June 2009, 2:34 p.m.,*
in response to message #3 by Tim Wessman

Hi Tim,

Thanks for the info. Good to know.

It's only proven that it's not the real HP.

At least with the 35s/50g, HP calculator feels are still present even though they are now ALG/RPN dual mode.

I wish HP never sold these 3rd party calculators with HP name on them.

Regards,

Quan

Re: SmartCalc 300s manual

*Message #5 Posted by **hpnut** on 24 June 2009, 4:19 a.m.,*
in response to message #3 by Tim Wessman

> Quote:
>
> Actually, it is a 3rd party unit repackaged into both CASIO and HP. HP's actually has more accuracy and is slightly faster though. . .
>
> TW

Tim et al,

I feel disappointed (and cheated) that HP saw it fit to use a 3rd party calculator and stick the HP badge on it. The Casio fx-115ES has more calculation modes. For example, these are missing from the HP:

1. Complex numbers 2. Base-N 3. Equations 4. Matrix 5. Vectors

If you examine the HP SmartCalc 300s display carefully, you can find these annunciators CMPLX, MAT, VCT, these are dimmed and presumably disabled. Why did HP disable these functions in a scientific calculator?

I have been an HP calculator user since 1979 with the HP 41CX, and I am always excited by new calculators from HP. Are the days of HP innovations and quality over? They appear happy to repackage someone else's calculators, not even improving them and certainly in the case of the SmartCalc, even crippling them. I bought the SmartCalc because I thought that it had the potential to be an innovative calculator such as the HP 20b Business Consultant (its J-tag connector may open up new possibilities). Even the SmartCalc's chassis is similar to the HP 20b, which is by no means an ideal calculator (mushy keyboard comes to mind). I plan to write s strongly worded protest email to HP.

I hope other MOHPC members who bought this calculator also speak up of their experience, good or otherwise.

hpnut in Malaysia

Edited: 24 June 2009, 6:22 a.m.

Re: SmartCalc 300s manual

*Message #6 Posted by **bbeamer** on 22 June 2009, 11:42 a.m.,*
in response to message #1 by hpnut

Aha! No wonder I have so many problems with my calculator!

Edited: 22 June 2009, 11:43 a.m.

Re: SmartCalc 300s manual

*Message #7 Posted by **Jean-Michel** on 22 June 2009, 4:22 p.m.,*
in response to message #6 by bbeamer

Hi guys,

Keep in mind you live in a world where McDo has to mention nowadays that hot coffee... is hot! Still have the impression they take us for dumb people, even if we all know the reasons that pushes every manufacturer to take all these incredible precautions.

Fortunately we can live at home aside from all of this with our good old calcs made in the 70's and 80's, and their manuals were such foolish sentences can not be seen!

Carpe diem, though...

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Spice type 2 question

*Message #1 Posted by **Michael de Estrada** on 22 June 2009, 9:18 a.m.*

I am quite familiar with the construction and repair of Spice type 1 series calculators (HP3xE/C) with the un-soldered press-fit design, having fully disassembled/reassembled 8 different units. Most of the "repairs" have consisted of swapping interchangeable parts from different units. One of the most common problems is broken/damaged battery contacts and/or charger circuit board traces. Another less common problem is a damaged ribbon connector between the contacts board and the power circuitry board. On the Spice Type 1 series, the battery/charger contact assembly terminates at a ribbon connector extension to the power circuitry board, which is press-fit to the main circuit board. Therefore, it is possible to swap a bad assembly with a good one sourced from a different calculator.

My question is whether this is possible with the later type 2 series, or is the battery/charger assembly integral with the main circuit board?

Thank you for your assistance,

Michael

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HP 15c COMLEX MODE

*Message #1 Posted by **David Stone** on 22 June 2009, 12:53 a.m.*

How do you get out of complex mode,"c" is displayed at the bottom of the screen, when the HP15c is inadvertently put into complex mode?

Re: HP 15c COMLEX MODE

*Message #2 Posted by **Donald Ingram** on 22 June 2009, 2:06 a.m.,*
in response to message #1 by David Stone

g CF 8

Re: HP 15c COMLEX MODE

*Message #3 Posted by **David Stone** on 22 June 2009, 4:05 a.m.,*
in response to message #2 by Donald Ingram

Thks Donald

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HP17bii+ v HP12CP

*Message #1 Posted by **Paul** on 21 June 2009, 2:22 p.m.*

I have an excellent HP17bii+ (silver) where even the keyboard works. However, I do like the look of the HP12CP - does it provide any additional functionality over teh HP17Bii+ to justify buying, or would it just be one to add to a collection?

Re: HP17bii+ v HP12CP

*Message #2 Posted by **Dave Britten** on 21 June 2009, 6:06 p.m.,*
in response to message #1 by Paul

I find that the 17b series improves on the 12c in nearly every area. The one advantage the 12c has is programmability vs. the 17b's (extremely versatile) HP Solve, though the 12c's programming capabilities are quite limited. You don't get any flow control besides GTO and R/S - there's no LBL or GSB/XEQ, and the only conditionals are x=0? and x<=y?. Plus, the 17b is just loads faster than the 12c (though the new ARM-based 12c may have changed that).

That being said, I've got a 12c (original, not Platinum), and it's a nice little machine to have around for doing household finances, though I regard my 17bii as being the much more capable machine. The ability to store multiple stat or cash flow lists, and a bunch of formulas/programs in the solver is enough to sway me. And the alarm functionality is nice too. :)

Re: HP17bii+ v HP12CP

*Message #3 Posted by **Eric Smith** on 21 June 2009, 9:46 p.m.,*
in response to message #2 by Dave Britten

The 12c Platinum doesn't use the ARM, so the current-model 12c should be *much* faster than either the Platinum, 17B, or 17BII.

Re: HP17bii+ v HP12CP

*Message #4 Posted by **Don Shepherd** on 21 June 2009, 11:37 p.m.,*
in response to message #3 by Eric Smith

In tests I have run, the 12cp (25th anniversary edition) is about 2.4 times the speed of the original 12c. The new ARM-based 12c is exactly 60 times the speed of the original 12c. So if speed is important, you want the ARM-based unit, if you can find one.

I haven't compared the speeds of the solver-based 17b to the RPN-based 12c, but my experience is that the 17b (and 17bii) are significantly faster than the 17bii+ (both gold and silver models) in executing solver equations. And all 17b machines (17b, 17bii, 17bii+) are faster than the original 12c and much slower than the ARM-based 12c.

Re: HP17bii+ v HP12CP

*Message #5 Posted by **Martin Pinckney** on 22 June 2009, 8:57 a.m.,*
in response to message #1 by Paul

I have the original 17b (two of them). I find it a joy to use (except for the stupid chain logic). But I find the alpha prompts, operator display, and menu style easier to use. You might say the 17b series is a display-oriented device. The 12c series, on the other hand, is a keyboard-oriented device. Really a personal preference. I bought a 12cp 25th myself, then got rid of it.

Same difference between, say, the 27s and 20s (I am speaking of the type of interface). 20s was my first HP, but after discovering the joys of the 27s, it has been relegated to "keep in the truck for emergency" status.

Re: HP17bii+ v HP12CP

*Message #6 Posted by **Dave Britten** on 22 June 2009, 9:28 a.m.,*
in response to message #5 by Martin Pinckney

> Quote:
>
> I have the original 17b (two of them). I find it a joy to use (except for the stupid chain logic).

Sounds like you'd be the perfect candidate for a 17bii, which added RPN back in. They can be found surprisingly cheap, too.

Re: HP17bii+ v HP12CP

*Message #7 Posted by **Don Shepherd** on 22 June 2009, 9:31 a.m.,*
in response to message #1 by Paul

Martin is correct about the basic human interface for the 12c and 17b. The 17b uses alpha menus to prompt you for values for variables in solver equations, while the 12c is just a plain old-fashioned pure RPN machine. So the 17b is more "human-friendly," while the 12c's RPN provides a more powerful programming environment (with limitations, of course) than the 17b's solver.

My principal problem with the original 12c was its speed, but that has been fixed with the ARM-based version, again, if you can find it.

The 12c does have this advantage over the 17b: it fits in your pocket!

Re: HP17bii+ v HP12CP

*Message #8 Posted by **Mark Edmonds** on 22 June 2009, 10:49 a.m.,*
in response to message #7 by Don Shepherd

And if you don't mind the clamshell, the 19B is even better than the 17B by a long way - 19BII even better still. I really don't understand why this machine doesn't have a wide fan-base. HP could have easily made the perfect non-programmable Pioneer by putting the 19BII functionality into a Pioneer "19S". The 19BII is under-rated for reasons I just don't understand.

Mark

Re: HP17bii+ v HP12CP

*Message #9 Posted by **Quan** on 22 June 2009, 11:37 a.m.,*
in response to message #8 by Mark Edmonds

I think because the 19B/BII and 28C/28S suffer the poorly designed battery door. The problem wasn't correct until much later when HP decided to move the battery door to the back on the latest 19BII.

Functionally, I agree it is a much better financial calculator than the 12C and 17B series. It also includes the not-often-use trig functions. And 4-line display. Etc.

Also, maybe it was quite expensive at the time. The 12c and the 17bii probably got what most people need for much less cost.

Re: HP17bii+ v HP12CP

*Message #10 Posted by **Dave Britten** on 22 June 2009, 11:39 a.m.,*
in response to message #8 by Mark Edmonds

> Quote:
>
> HP could have easily made the perfect non-programmable Pioneer by putting the 19BII functionality into a Pioneer "19S".

Isn't that pretty much a 27s? :)

I think the reason the clamshell models didn't really catch on is that they're not very handheld-friendly. They work great on a desk surface, though.

Re: HP17bii+ v HP12CP

*Message #11 Posted by **Mark Edmonds** on 22 June 2009, 1:47 p.m.,*
in response to message #10 by Dave Britten

> Quote:
>
> Isn't that pretty much a 27s? :)
>
> I think the reason the clamshell models didn't really catch on is that they're not very handheld-friendly. They work great on a desk surface, though.

Well, I don't want to be too pedantic about it but there are quite a few big differences between the 19B and the 27S. Overall in functional terms, the 19B wins but ergonomically, the 27S is far better which is why I keep one handy, mainly for the Solver and Base conversion.

Mark

Re: HP17bii+ v HP12CP

*Message #12 Posted by **Paul** on 22 June 2009, 4:44 p.m.,*
in response to message #11 by Mark Edmonds

Thanks for all your responses - most helpfull. I do find the menu attributes of the 17Bii+ helpful and the solver is easy albeit scrolling through a long list of conversions can become tedious - pitty there isn't a way to group equations into a hierarchy.

Re: HP17bii+ v HP12CP

*Message #13 Posted by **Martin Pinckney** on 22 June 2009, 8:16 p.m.,*
in response to message #12 by Paul

> Quote:
>
> scrolling through a long list ... can become tedious - pity there isn't a way to group equations into a hierarchy.

Agreed, however, there is a way to make the list a little more user-friendly, using the solver's equation-naming ability. You can name the first equation that you want grouped together with a suitable group name separated from the first equation by a colon. Follow with other equations in that group w/o the group name. In fact, if you want the list to LOOK hierarchical, you can actually "name" the following equations with a bunch of spaces, the colon, then the equation.

Then name the first equation in the next group, and so on.

Clear as mud?

Re: HP17bii+ v HP12CP

*Message #14 Posted by **Paul** on 23 June 2009, 5:01 p.m.,*
in response to message #13 by Martin Pinckney

Excellent idea, very neat, thank you

Re: HP17bii+ v HP12CP

*Message #15 Posted by **Sancerre (Phoenix)** on 23 June 2009, 6:00 p.m.,*
in response to message #1 by Paul

I am likely to get the new 12C, but that will really be just for my collection. I am a software developer by trade (and a geek by nature). But when it comes down to practical application, I strongly suggest sticking with the 17BII over the 12C. I have not used the 17BII+, but the 17BII was a very strong performer during my studies over the past two years. The ability to enter formulas with the solver is brilliant. Yes, you could achieve the same with keystroke programming. But for all but the most dedicated, entering a formula is going to prove a lot more useful then keying in an RPN program.

For what it is worth, my 50G is my day-to-day workhorse; I only use the 17BII when I am strictly in the financial world.

just my two cents...

--Tod

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HP70 transgenic

*Message #1 Posted by **Alberto Fenini** on 21 June 2009, 5:16 p.m.*

Hello everybody, I'm sure most of the folks around this forum knew it, but neverless, it may be of help to someone, if not, please forgive me for publishing this.

I have recently purchased an HP70 in non working condition. Now, the "non working condition" definition leave room for MANY (too many) meanings, nad this unit was in the possibly worst situation.

Even after the "vinegar" procedure, the keyboard part (including the display and the display drivers) was in a non usable condition. At the same time I had purchased for spare parts a logic-less HP45.

To my surprise, the keyboard unit is exactly the same, and this made my day.

Does anybody know of other possible combinations between similar machines ? Thanks for help and keep up with the excellent work.

Take care everybody, Alberto

Re: HP70 transgenic

*Message #2 Posted by **Eric Smith** on 21 June 2009, 9:48 p.m.,*
in response to message #1 by Alberto Fenini

> Quote:
>
> Does anybody know of other possible combinations between similar machines ?

Too numerous to count. HP generally didn't waste any money on engineering two hardware variants where one would do. That said, occasionally they did have hardware differences for no apparent reason.

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UPDATE: FOCAL coding standard

*Message #1 Posted by **Geir Isene** on 21 June 2009, 4:08 p.m.*

Made a few improvements to the FOCAL (HP-41) coding standard:

UC-41 website: FOCAL coding standard

Your input is welcome :-)

(Edit: fixed the link)

Edited: 21 June 2009, 5:25 p.m. after one or more responses were posted

Re: UPDATE: FOCAL coding standard

*Message #2 Posted by **Winfried Maschke** on 21 June 2009, 4:55 p.m.,*
in response to message #1 by Geir Isene

This link should work.

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UPDATE: HP-41 VIM filetype plugin

*Message #1 Posted by **Geir Isene** on 21 June 2009, 4:03 p.m.*

The HP-41 filetype plugin for the VIM editor is updated:

VIM script: HP-41 filetype plugin

This new version fixes the bug that rendered the script unusable for FOCAL programs longer than 50 lines (it was veeery sloooow and slowing down by the line). The plugin now renumbers the lines very quickly. Thanks to Dasn for the fix.

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OT: Casio fx-9860g updates

*Message #1 Posted by **Katie Wasserman** on 20 June 2009, 2:12 p.m.*

Although somewhat OT, we've discussed the Casio fx-9860g here on and off so I thought I post this.

Casio released a new version of their fx-9860g calculator a few months ago it has substantially updated firmware and a back light on the vertical format machine that is the same that they have on the "slim" format machine. They've dubbed this the fx-9860gII.

The new version adds:

- complex value matrix calculations (excellent)

- strings in their programming language (finally!)

- conversions (they could do more with this)

- more functions: various random distributions, mod functions, etc.

- support for their analog data collection module (would be nice to have, but the EA-200 is pretty expensive)

- new, alternative entry system (but sadly no RPN support)

What's really great about this upgraded machine is that you don't need to buy it. If you have the old version (like the fx-9860g slim) you can download the new firmware here and you'll have all the new functionality for free!

Edited: 20 June 2009, 2:37 p.m.

Re: OT: Casio fx-9860g updates

*Message #2 Posted by **Donald Williams** on 20 June 2009, 4:26 p.m.,*
in response to message #1 by Katie Wasserman

Thanks for the "heads up". I just got an iPhone 3GS for fathers day, and suddenly, I have too many gadgets to play with. Only a temporary condition of course.

Re: OT: Casio fx-9860g updates

*Message #3 Posted by **Marcus von Cube, Germany** on 21 June 2009, 7:42 a.m.,*
in response to message #1 by Katie Wasserman

Hugh's Reckon no longer works. :(

Re: OT: Casio fx-9860g updates

*Message #4 Posted by **hugh steers** on 21 June 2009, 9:05 a.m.,*
in response to message #3 by Marcus von Cube, Germany

I'll try to get a fix out for this asap.

it's because i use the OS version number to determine the slim vs non-slim key mapping. this is a bit hacky but, there no official call to tell the two models apart.

should be a quick fix tho'

incidentally, i've been working on a major rev of reckon. i'm hoping to add a programming language to it. however, right now im having trouble with the file IO.

Re: OT: Casio fx-9860g updates

*Message #5 Posted by **Marcus von Cube, Germany** on 21 June 2009, 9:19 a.m.,*
in response to message #4 by hugh steers

Thanks for your efforts.

I've just made some tests for the MySilicium forum: The BASIC like programming is slower then with version 1 of the operating system.

http://www.silicium.org/forum/viewtopic.php?p=296182#296182

Re: OT: Casio fx-9860g updates

*Message #6 Posted by **hugh steers** on 21 June 2009, 11:46 a.m.,*
in response to message #5 by Marcus von Cube, Germany

here's the fixed version,

http://www.voidware.com/reckon/RECKON.G1A

FYI, the Casio gurus over at casiokingdom have given me a better way to detect the slim vs non-slim editions, which it now uses. ive tried it on:

1.X slim 1.X non slim emulator 2.0 slim

so far, so good.

Re: OT: Casio fx-9860g updates

*Message #7 Posted by **Dave Boyd** on 21 June 2009, 12:52 p.m.,*
in response to message #6 by hugh steers

That does seem to have fixed it. The only other bug in Reckon that I notice is the scroll bug, where, if an integer that takes two lines to display (say, 12345678901234567890123456789O) is on the stack, starting a new entry underneath it causes the display to scroll up two lines instead of one, until ENTER is pressed. Minor, really.

Re: OT: Casio fx-9860g updates

*Message #8 Posted by **hugh steers** on 21 June 2009, 1:03 p.m.,*
in response to message #7 by Dave Boyd

Thanks for the bug report. i've added it to the list. At some point i am going to have a bug scrub and fix all these.

Also, here's something i just got working on the Casio,

program:

```
let rec fac n =
   if n < 2 then 1 else n*fac (n-1)
;;


begin
 print_string "hello world, 6! = ";
 print_int (fac 6)
end
;;
```

Still a lot to do before a release tho'. I'm hoping to integrate ML into Reckon.

:-)

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HP 50G Matrix Writer

*Message #1 Posted by **Benning** on 19 June 2009, 6:11 a.m.*

Hello

I have to make a Matrix Table in the Matrix Editor to use it with a ANOVA Programm (Statistic). My problem is now that i have Tables with different Lenghts.

eg:

1 2 3 4

5 6 7 8

9 8 7

2 3

If i use this matrix, HP 50g fills in all the empty data points with a 0 (Zero). This makes a wrong result. Can you help me?

grats

Re: HP 50G Matrix Writer

*Message #2 Posted by **Namir** on 19 June 2009, 11:32 a.m.,*
in response to message #1 by Benning

Sounds like you need to use Excel and the Data Analysis pack.

Namir

Re: HP 50G Matrix Writer

*Message #3 Posted by **Benning** on 19 June 2009, 4:18 p.m.,*
in response to message #2 by Namir

Okay and where can i find this?

Thanks

Re: HP 50G Matrix Writer

*Message #4 Posted by **Gene Wright** on 19 June 2009, 4:51 p.m.,*
in response to message #3 by Benning

Try Google.

Search for "Excel data analysis pack"

and you get lots of hits. Here is the first one:

Link

"The Data Analysis pack is a powerful set of tools used to figure out the variance, correlation and covariance of data as well as other features. Although the Data Analysis pack is a standard feature that comes with Excel, it may not be loaded into Excel. It is usually found under the Tools menu."

To buy Excel, there are lots of options. Amazon, a local store, etc.

Re: HP 50G Matrix Writer

*Message #5 Posted by **Dave Britten** on 19 June 2009, 5:58 p.m.,*
in response to message #1 by Benning

Arrays are required to have rectangular dimensions. You'll get syntax errors if you try to input ragged dimensions from the command line as well.

Flag -91, when set, will cause the Matrix Writer to output a list containing each row as a list. You're still mostly limited to rectangular dimensions, however blank cells will be returned as NOVAL, and you can write programs to ignore/remove these null values.

Not sure if that helps you any with the ANOVA program, but maybe there's a partial solution in there somewhere.

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HP 8S ?? What's this? Australia only?

*Message #1 Posted by **Mark Edmonds** on 19 June 2009, 8:26 a.m.*

I found a listing on Ebay for an HP 8S which I had never seen before. I couldn't find it on the US and UK HP sites but did find it on the Australia site.

It probably isn't a "true" HP anyway but is this a new machine which will make it worldwide eventually or is it limited to a specific market? If the latter, have there been any other examples of limited availability?

Just curious...

Mark

Re: HP 8S ?? What's this? Australia only?

*Message #2 Posted by **Michael de Estrada** on 19 June 2009, 10:08 a.m.,*
in response to message #1 by Mark Edmonds

It appears to be legitimate, Australia only:

(See this link)

Yes, and learning modules too...

*Message #3 Posted by **Gene Wright** on 19 June 2009, 1:37 p.m.,*
in response to message #2 by Michael de Estrada

Modules

Re: HP 8S ?? What's this? Australia only?

*Message #4 Posted by **John Stark** on 19 June 2009, 1:48 p.m.,*
in response to message #2 by Michael de Estrada

Looks like another Casio repack.

Truly a pity.....:(

John Stark

Re: HP 8S ?? What's this? Australia only?

*Message #5 Posted by **Mark Edmonds** on 19 June 2009, 2:08 p.m.,*
in response to message #4 by John Stark

> Quote:

> Looks like another Casio repack.
>
> Truly a pity.....:(
>
> John Stark
>
> ---

Such a thing is an unthinkable nightmare. Ten years ago, if someone predicted that HP would be re-badging Casio, they would have been laughed out of town. However, I fear you might be right. The HP8S could be a Casio FX85ES Scientific Calculator in disguise.

Casio aren't that bad of course. They have done a lot of good models and I have fond memories of the old VFD FX series but somehow, HP doing this seems really cheap and tacky.

Mark

Re: HP 8S ?? What's this? Australia only?

*Message #6 Posted by **Les Bell** on 19 June 2009, 9:12 p.m.,*
in response to message #2 by Michael de Estrada

At first glance, it looks rather like the Casio FX-82au, which seems to have "captured" the school system, at least here in New South Wales. See http://www.schoolstationery.com.au/calculators/fx82au.htm for an example - I haven't compared the keyboards, but they look superficially pretty similar, as does the construction with a sliding cover to protect the calculator when closed.

It's no HP, at least in the classical sense of quality and use of RPN, but I can't fault the company for making a buck by introducing something that's compatible with the classroom instructional materials and techniques of an entrenched competitor.

Best,

--- Les
[http://www.lesbell.com.au]

Re: HP 8S ?? What's this? Australia only?

*Message #7 Posted by **Didier Lachieze** on 20 June 2009, 3:03 a.m.,*
in response to message #6 by Les Bell

For me it looks like an HP 10s in a new case: same key functions, same training modules ...

Re: HP 8S ?? What's this? Australia only?

*Message #8 Posted by **Joerg Woerner** on 19 June 2009, 10:10 a.m.,*
in response to message #1 by Mark Edmonds

I simply love the speification:

"HP 8s has a LCD view area of 61 x 18.8 pixels with 2 display lines."

Regards, Joerg

Re: HP 8S ?? What's this? Australia only?

*Message #9 Posted by **Michael de Estrada** on 19 June 2009, 10:30 a.m.,*

in response to message #8 by Joerg Woerner

I am speculating that it is a typo, and should be "mm" rather than "pixels". I am seeing a lot of this sort of error in current HP literature and documentation, given that apparently they no longer have any educated staff to review it.

Re: HP 8S ?? What's this? Australia only?

*Message #10 Posted by **Mark Edmonds** on 19 June 2009, 11:20 a.m.,*
in response to message #9 by Michael de Estrada

Interestingly, HP's specifications page for this machine states that the display size is "64x24x2.7mm". Rather odd.

Mark

Re: HP 8S ?? What's this? Australia only?

*Message #11 Posted by **Michael de Estrada** on 19 June 2009, 12:00 p.m.,*
in response to message #10 by Mark Edmonds

Curious. When I first looked at the HP Australia site, I saw the "pixels" description. Now it's gone. Perhaps I spoke too soon, and they have fixed it.

Re: HP 8S ?? What's this? Australia only?

*Message #12 Posted by **Tim Wessman** on 19 June 2009, 11:37 a.m.,*
in response to message #9 by Michael de Estrada

Hey now. . . that's not very nice.

TW

Re: HP 8S ?? What's this? Australia only?

*Message #13 Posted by **Michael de Estrada** on 19 June 2009, 12:13 p.m.,*
in response to message #12 by Tim Wessman

I agree. I'm in a grumpy mood today, but should not take it out on the generally good folks at HP. So, I officially retract my editorial comment.

Re: HP 8S ?? What's this? Australia only?

*Message #14 Posted by **Dave Britten** on 19 June 2009, 2:02 p.m.,*
in response to message #1 by Mark Edmonds

Looks to be functionally identical to this guy: Ativa AT 30SX

That would mean they're both Kinpos, not surprisingly. I think Datexx and likely Citizen have released their own versions of this model.

Re: HP 8S ?? What's this? Australia only?

*Message #15 Posted by **Joerg Woerner** on 19 June 2009, 2:35 p.m.,*
in response to message #14 by Dave Britten

Dave,

The Ativa AT 30SX sports a dot-matrix display and is a sibbling of the SmartCalc 300s while the HP 8S is a "two-liner".

It is very close to different Casio products, I guess Kinpo / Citizen / Casio is a good place to start ;-))

Regards, Joerg

BTW: voidware.com:

HP 8s Hits The Streets

Contributed by hugh

Friday, 30 December 2005

THAT'S MORE THAN 3 YEARS!!!

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Voyager - opening up - small questions please

*Message #1 Posted by **Mark Edmonds** on 19 June 2009, 7:41 a.m.*

I've recently got an 11C that essentially is in excellent condition but needs a clean to make it near-mint.

I have searched and found instructions on how to open it up and what to expect but a few details remain which I need clarification on please.

The main area of dirt is behind the front glass. What has happened is that there is a small gap between the front metal and the glass on the top side of the glass. If you imagine there is adhesive between the two and pressure has been applied at some time in the past which has opened a gap.

Now, what isn't clear to me from the instructions and pictures for opening the machine is whether the front glass is attached to the top half of the case or whether it is attached directly on top of the LCD itself. In other words, when I take the top off, will there be a hole where the display goes in the top half or will there be a glass rectangle attached to the top case?

The serial number is 2143Axxxxx so it is a 1981 American machine and therefore, I suspect the display assembly is separate from the keyboard but can this be confirmed from the serial number before I open it up? I am very anxious about doing this for obvious reasons so want to make sure I know exactly what to expect before I commit.

Concerning the rubber sheet between the keys and pcb, does this come off cleanly or should I expect resistance either through adhesive or the nature of rubber and time? Is there any danger I can actually damage or rip it?

Finally for now, the keys themselves - do they just sit in the holes in the front case and drop out if inverted? I would like to separate the front case completely for cleaning in the edges round the front metal panel.

Maybe I am making a fuss out of an easy process but with the value of these machines and the basic condition this one is in, I would be livid with myself if I messed up. For someone with basic handy-man skills (but all the right tools), is this a safe job or am I opening myself to disaster?

Thanks very much for any help and advice here. This isn't a job I would tackle without getting some guidance and support!

:)

Mark

Re: Voyager - opening up - small questions please

*Message #2 Posted by **Jeff O.** on 19 June 2009, 3:28 p.m.,*
in response to message #1 by Mark Edmonds

Mark,
I took apart an 11C a long time ago. I'll try to provide some information from memory.

> Quote:

> Now, what isn't clear to me from the instructions and pictures for opening the machine is whether the front glass is attached to the top half of the case or whether it is attached directly on top of the LCD itself. In other words, when I take the top off, will there be a hole where the display goes in the top half or will there be a glass rectangle attached to the top case?

Sorry, I do not recall. I never put mine back together, if I can find it I will check and let you know.

> Quote:
>
> The serial number is 2143Axxxxx so it is a 1981 American machine and therefore, I suspect the display assembly is separate from the keyboard but can this be confirmed from the serial number before I open it up? I am very anxious about doing this for obvious reasons so want to make sure I know exactly what to expect before I commit.

I'm no expert on the construction details of the various vintages. Again, if I can find mine, I'll tell you the S/N and how it is put together.

> Quote:
>
> Concerning the rubber sheet between the keys and pcb, does this come off cleanly or should I expect resistance either through adhesive or the nature of rubber and time? Is there any danger I can actually damage or rip it?

My recollection is that there was nothing adhering the rubber sheet to the pcb, it came off easily and it did not seem to be overly fragile.

> Quote:
>
> Finally for now, the keys themselves - do they just sit in the holes in the front case and drop out if inverted? I would like to separate the front case completely for cleaning in the edges round the front metal panel.

My recollection is that the keys just sit in holes and will drop out.

The above is probably not particularly useful without me verifying the information by finding my unit. I'll try to remember to try to find it. Unfortunately, either task (remembering or finding) may be beyond my capabilities!

The reason mine was never reassembled was because I had no confidence in my ability to re-attach the heat stakes. I read of various methods, including re-melting them, or gluing them, either of which would require some means to firmly hold things together while working on 40 or 50 heat stakes. Screwing things back together sounded appealing, but where to find 40 to 50 tiny screws of the proper specifications? So all the parts went into a bag, then into storage. Do you have a plan for reassembling the pcb to the front of the case?

Good luck,

Jeff

...

Re: Voyager - opening up - small questions please

*Message #3 Posted by **Didier Lachieze** on 19 June 2009, 5:11 p.m.,*
in response to message #2 by Jeff O.

> Quote:
>
> Do you have a plan for reassembling the pcb to the front of the case?

Here is a link showing a way to re-attach the heat stakes on a 15C using the pins of an old CPU (68030): Original page in French and Google translation

Edited: 19 June 2009, 5:20 p.m.

Re: Voyager - opening up - small questions please

*Message #4 Posted by **Mark Edmonds** on 19 June 2009, 6:05 p.m.,*
in response to message #3 by Didier Lachieze

Thanks for your help chaps.

I am rather worried now. This business with the "heat stakes" is the problem. On the page I found which showed an 11C being taken apart, there was no mention of this. It seemed that the PCB just lifted out. In effect, I was left with this impression of what happens:

1. You undo the screws and remove the back.

2. You peel off the rubber backing.

3. You lift out the PCB leaving access to the front glass.

However, with the heat stake problem, I clearly need to check this much further, especially given the number of them. I was moderately optimistic that I could do this job earlier today - now I am not!!!

Just as well I posted the thread and thanks for making me aware of this :)

Mark

Re: Early Voyager display access

*Message #5 Posted by **Randy** on 19 June 2009, 8:38 p.m.,*
in response to message #4 by Mark Edmonds

In the case of SN 2143Axxxxx, keyboard heat stakes are not an issue when accessing the display and window. The photos on this very website detail exactly what you will find inside your 11C. http://www.hpmuseum.org/tech10.htm

Once you remove the back and peel back the "black diaper" (an easily reversed process) you can lift out the logic module and clean to your hearts content.

Pulling the heat stakes off to clean is calculator homicide, don't make this harder than it needs to be which isn't hard at all...

Start with some canned air to remove the big bits (safety glasses mandatory) then hit with a light mist of glass cleaner, scrub softly with very soft brush, finish with a soft cloth to dry. Repeat if necessary and do a final finish with canned air.

Edited: 19 June 2009, 9:04 p.m. after one or more responses were posted

Re: Early Voyager display access

*Message #6 Posted by **Mark Edmonds** on 20 June 2009, 12:56 p.m.,*
in response to message #5 by Randy

Thanks Randy, I appreciate your help. I was confused by the heat stake problem as my initial research had suggested it wasn't a problem. Now with your confirmation of this, I shall go ahead with the job, perhaps this evening.

Mark

Re: Early Voyager display access

*Message #7 Posted by **Randy** on 20 June 2009, 5:10 p.m.,*
in response to message #6 by Mark Edmonds

The only HP's that can be "field stripped" for cleaning are the Classics and Spices. Everything else is heat staked or assembled in such a manner that external cleaning is the only option.

Some Voyagers get crud building up around the keys. This is due to small areas of exposed adhesive that attaches the aluminum legend plate to the plastic case front. Crap falls in, sticks to the adhesive on the back of the plate. Tough to really get clean in an absolute way.

Re: Early Voyager display access

*Message #8 Posted by **Mark Edmonds** on 21 June 2009, 11:39 a.m.,*
in response to message #7 by Randy

Right, well this has been done now and appears to have been successful. However, it wasn't without a major heart-stopping moment and only time will tell whether that turns out to be a problem or not.

A few points to note:

1. The pictures I found elsewhere which showed an 11C being opened with the internals attached to the back half of the case were rather misleading. When you undo the screws and take the thing apart, the internals are attached to the top half of the case and the back half comes off cleanly.

2. When removing the pastic envelope, I found that there was a slab of double-sided adhesive foam between the PCB and the envelope. This slab was nearly as wide as the PCB and about 1.5cm on the other axis. Obviously, this made opening the pastic envelope rather difficult and no matter how slowly and how carefully I did it, I couldn't help have a couple of small sections of foam detach.

3. There are two little springs you need to keep an eye on when removing the back. The longer one goes near the battery pack and the shorter on the right hand side as you look at the back of the calc.

4. To remove the main board and display section, I pulled off the four white "washers" that sat on the mounting pins and then removed the battery connectors. After that, it was a case of carefully lifting up the assembly keeping it parallel to the mounting pins and without putting too much strain on the flexi connecter area.

5. And this is when I had a horrible moment when I thought I had totally killed the machine. As I was lifting up the display assembly, the connecting area between this and the keyboard suddenly pinged loose leaving a strange looking connector on the display side. On the keyboard side, the pcb was completely clean with no sign of where this had attached. The only connectors I am familiar with have nice solid male/female mating so this strange thing looked broken to me and I couldn't see what hope in hell I had of lining it up again, yet alone fixing it back on the pcb.

6. Convinced I had killed the calc, I proceeded to clean everything up and pop the front glass back into its groove. Then I put it all back together again apart from the back case, stuck the batteries in and tried to operate it.

7. Nothing. Yep - killed it so I thought. However, I pushed down on where this connecter appeared to have broken and much to my huge relief, the keys started working and I could complete calculations.

8. I had intended to do much more cleaning but after this event, I thought I had better quit whilst ahead so put the screws back in and tidied up.

Thankfully, everything still appears to be OK. All the keys are working so whether that connector will be troublesome in the future or not, who knows.

Anyway, I've now got a better machine than I had but not as immaculately clean as I was wanting to achieve. Maybe another day.

Thanks again for all the help and advice that gave me the confidence to tackle this process.

Mark

Re: Early Voyager display access

*Message #9 Posted by **Randy** on 21 June 2009, 2:22 p.m.,*
in response to message #8 by Mark Edmonds

That little blue/black piece is an elastomeric connector a.k.a. a "zebra". These are very common in modern electronics and are most often seen used to connect LCD's. They need to be in compression to work, the back of the calculator provides the pressure points so without the back in place and a screw in the upper right position, the keyboard does not make connection and therefore will not turn on.

The double sided foam is easily handled with a few drops of heptane which is sold in craft stores as UN-DU adhesive remover.

Re: Early Voyager display access

*Message #10 Posted by **Mark Edmonds** on 22 June 2009, 10:43 a.m.,*
in response to message #9 by Randy

Randy - regarding the zebra connector, so it is actually designed to make contact purely by compression and I didn't damage it or break anything? That is very useful to know because it means I can take it apart again without any worry. Thanks very much for the info!

Mark

> Quote:
>
> That little blue/black piece is an elastomeric connector a.k.a. a "zebra". These are very common in modern electronics and are most often seen used to connect LCD's. They need to be in compression to work, the back of the calculator provides the pressure points so without the back in place and a screw in the upper right position, the keyboard does not make connection and therefore will not turn on.
>
> The double sided foam is easily handled with a few drops of heptane which is sold in craft stores as UN-DU adhesive remover.

Re: Early Voyager display access

*Message #11 Posted by **Mike Morrow** on 21 June 2009, 4:04 p.m.,*
in response to message #7 by Randy

Randy, isn't it also true that the "under LCD window" cleaning that is the subject of this thread is almost impossible to do with the later Voyagers, which have everything mounted on one PCB heat-staked to the top cover assembly?

I disassembled one of my HP-15C units that had what appeared to be a hairline crack in the corner of the LCD. I could see no way to easily access the under surface of the LCD window. Fortunately, the "crack" was truely hairline...it was only a fine hair that had found its way there. Still, it took the strongest vacuum machine I could find to pull it out.

Had anything else been between the LCD and the window, I suspect I'd have been SOL.

Re: Early Voyager display access

*Message #12 Posted by **Randy** on 21 June 2009, 8:40 p.m.,*
in response to message #11 by Mike Morrow

Yes, beginning somewhere very late 1984 or early '85, the Voyager hardware packaging changed considerably.

Instead of the removable logic module built on a flexible film carrier, which was done to provide shock isolation for the LCD, everything was built on a single piece of FR4 that contained the keyboard, logic board and LCD as a single assembly.

I suspect this change was very close to or concurrent with the 41 changeover to the halfnut - which marked the first solidly mounted LCD design with a "unitized" keyboard/logic board/LCD combination in both product lines.

As a result, access to the LCD in both the later Voyagers and Halfnut 41's is only by removing the heat stake mushroom tops and pulling the complete board assembly out of the unit.

It the case of your 15C, you can carefully lift (pry) the logic board up a small bit to allow small bits of debris to come out with a vacuum. I would not recommend

blasting canned air into the gap or around the LCD as one of the things that does happen is for the anti-reflective coating to start to peel away on the inside of the polycarbonate window. You really, really don't want that to happen.

Re: Early Voyager display access

*Message #13 Posted by **Mike Morrow** on 22 June 2009, 7:49 a.m.,*
in response to message #12 by Randy

Thanks very much for the detailed information, Randy. Just by luck, as opposed to skill and knowledge, I had done exactly what you recommended and was successful.

On several websites I had seen some pictures of these later version PCBs removed from the Voyager case. I initially thought that was an indication that the PCB could be fairly easily removed from the case, only I couldn't figure out how. Now, I'm glad I didn't try the impossible.

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i41cx+ Time and Date

*Message #1 Posted by **Les Wright** on 18 June 2009, 10:15 p.m.*

Does anyone here set and use the time and date functions in this App?

I am trying to set and maintain accurate time by turning on the Keep Time and Synchronize Time options, but everytime I load the app it seems that time starts afresh at midnight.

Any help to offer?

I am running the newest version under iPhone OS 3.0 on a first generation iPod touch.

Many thanks.

Les

Re: i41cx+ Time and Date

*Message #2 Posted by **Les Wright** on 18 June 2009, 10:55 p.m.,*
in response to message #1 by Les Wright

So far, I only can get this to work if I set Synchronize Time OFF and Keep Time ON, and set the time and date manually in the calc. Any other combo of thes options clears the time every time I relaunch. Can't get the time to sync exactly with the system clock....

Re: i41cx+ Time and Date

*Message #3 Posted by **Egan Ford** on 18 June 2009, 11:50 p.m.,*
in response to message #1 by Les Wright

I have no problem with iPhone 3G/2.2.1 with latest i41CX+. I'll test with 3.0 this weekend.

Re: i41cx+ Time and Date

*Message #4 Posted by **Les Wright** on 18 June 2009, 11:50 p.m.,*
in response to message #1 by Les Wright

Antonio Lagana just wrote me back to advise that a bug in OS 3.0 interferes with proper time synching.

Until this is rectified (a workaround is due in i41cx+ 2.3), it seems that time must be set manually, Keep Time set ON, Synchronize Time set OFF. And even then I am finding trouble with getting i41cx+ to keep correct time....

grrrr. First OS 3.0 bug for me....

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HP49 with 48series KB...

*Message #1 Posted by **nacho** on 18 June 2009, 5:43 p.m.*

Hi everyone,

someone will think that it is something strange but today I opened a 49g and extracted the electronic module (CPU) and put it in a 48g+ body.

Of course I know the KB layout isn't the same and just only works the ON key.

Where can I find 49G KB layout to adapt a little bit it to my 48G+ body? it's just for fun purpose.

When I press ON key (direct to Saturn processor) it shows Try to recover memory and YES/NO

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iPhone 3.0 OS update does not seem to break 42s or i41cx+

*Message #1 Posted by **Les Wright** on 17 June 2009, 5:10 p.m.*

Just did the upgrade today on my first gen iPod touch, and so far alle ist gut.

Very interested to hear of bug reports from more discriminating users.

Les

Re: iPhone 3.0 OS update does not seem to break 42s or i41cx+

*Message #2 Posted by **Olivier TREGER** on 17 June 2009, 7:49 p.m.,*
in response to message #1 by Les Wright

I use i41cx+ with no prob on 3.0

Re: iPhone 3.0 OS update does not seem to break 42s or i41cx+

*Message #3 Posted by **Les Wright** on 23 June 2009, 1:39 a.m.,*
in response to message #2 by Olivier TREGER

Antonio Lagana has advised me directly that that the i41cx+ clock will not sync properly with the system clock. This is due to a fresh bug in the 3.0 OS. Antonio has submitted a workaround to the App Store and the issue should be fixed in i41cx+ v. 2.3

Les

Re: iPhone 3.0 OS update does not seem to break 42s or i41cx+

*Message #4 Posted by **Thomas Okken** on 17 June 2009, 11:05 p.m.,*
in response to message #1 by Les Wright

I updated my 2nd generation iPod touch today, and 42S works just fine -- better than under 2.*, in fact; the R/S problem seems to have gone away, and it also seems to be faster than before.

But, Les, your German leaves something to be desired. I'd recommend "alles ist in Ordnung" or "alles ist in Butter". :-)

Re: iPhone 3.0 OS update does not seem to break 42s or i41cx+

*Message #5 Posted by **Hugh Evans** on 22 June 2009, 2:23 a.m.,*
in response to message #4 by Thomas Okken

Same result here, it does feel marginally faster. Sci-15c also still works like a charm.

Re: iPhone 3.0 OS update does not seem to break 42s or i41cx+

*Message #6 Posted by **Les Wright** on 23 June 2009, 1:37 a.m.,*
in response to message #5 by Hugh Evans

SCI-15C is the most expensive calculator app I purchased, and I agree it works well.

But, doggone it, I run the risk of offending voyageur fanatics by admitting I just don't use it. The lack of program I/O, both in the emulator and in the actual calc (I have a near mint one that I am afraid to look at funny) is a big limitation.

The Crimson Research free suite of nonpareil based Voyageurs has never reappeared.

Les

Re: iPhone 3.0 OS update does not seem to break 42s or i41cx+

*Message #7 Posted by **Byron Foster** on 23 June 2009, 6:51 p.m.,*
in response to message #6 by Les Wright

20 bucks for the 15C, and with the price of other comparable iPhone calcs, I'm beginning to doubt the price of the 42s at $5.

Re: iPhone 3.0 OS update does not seem to break 42s or i41cx+

*Message #8 Posted by **Eric Smith** on 23 June 2009, 9:02 p.m.,*
in response to message #7 by Byron Foster

Hard to say. It's entirely possible that the 15C would make more money at a lower price, since the demand curve is nonlinear.

Re: iPhone 3.0 OS update does not seem to break 42s or i41cx+

*Message #9 Posted by **Les Wright** on 23 June 2009, 9:04 p.m.,*
in response to message #7 by Byron Foster

Antonio Lagana doubled the price of i41cx+ and it still has a devout following.

42s is modestly priced indeed. I would've paid more quite cheerfully.

Les

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Does the HP-IL module for the HP-41C break the loop?

*Message #1 Posted by **Klaus** on 17 June 2009, 10:37 a.m.*

Hello, does the HP-IL module for the HP-41C break the loop when it is unplugged or the HP-41C is powered off?

I have a HP-IL device with a built-in HP-41C IL-Module. Since I know nothing about the device, I want to hook up a HP-71B to get the device id using DEVID$(1). Simply connected (via the 2 cables, so the loop should be complete with just these three devices [HP-71B, device, HP-IL module]) to the device, the HP-71B takes a long time (about 30 seconds), then displays "HP-IL Error: loop broken". Is this because the IL-module does not close the loop if the HP-41C is turned off?

I have a HP-41CX for using the device, however, I don't see how I could obtain any information about the device without the IL-extension module or the I/O module. So I want to try it with the HP-71B.

Re: Does the HP-IL module for the HP-41C break the loop?

*Message #2 Posted by **Eric Smith** on 17 June 2009, 1:13 p.m.,*
in response to message #1 by Klaus

Yes. AFAIK, all of the HP products using HP-IL break the loop when they are powered down. Some of them have a standby state in which loop activity will wake them up, but until they have awakened the loop is broken.

The 41 also "breaks the loop" when you have it in the loop with another controller (e.g., 71B), because the 41 doesn't support multiple loop controllers. (Exception - when you use the HP-IL development module to make the 41 act as a loop monitor only.)

Thanks (nt)

*Message #3 Posted by **Klaus** on 18 June 2009, 2:39 a.m.,*
in response to message #2 by Eric Smith

NT

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pet peeves: documentation and thermal printed receipts

*Message #1 Posted by **Don Shepherd** on 16 June 2009, 9:15 p.m.*

We have all bemoaned the fact that few products, calculators included, come with decent quality, readable documentation. To its credit, HP includes a good printed manual with every 12c and 17bii, and also the 35s (at least when I bought mine a couple of years ago; I understand they may not do that now; pity).

I bought a cheapo calculator at Walgreens earlier this year and the documentation consisted of a single multi-fold sheet on which the printing was so small as to make it virtually unreadable. I had to use my copier with a magnification factor of 200% and it was still almost unreadable at that. So kudos to HP, and lets encourage good quality printed manuals for all future products.

My other pet peeve is store cash registers that issue receipts on thermal paper because those receipts fade away, sometimes before the warranty even expires. How can you prove when you bought something if the receipt is unreadable? The best receipts are printed with real ink, which seems to hold up after many years in my experience.

Re: pet peeves: documentation and thermal printed receipts

*Message #2 Posted by **Mike Reed** on 17 June 2009, 10:12 a.m.,*
in response to message #1 by Don Shepherd

Photocopy those receipts while they are still fresh and legible and save the photocopies along with the original receipts. If the warranty requires you to submit the original as proof, you can then do so along with the readable copy (save a readable copy for yourself though!)

Re: pet peeves: documentation and thermal printed receipts

*Message #3 Posted by **Martin Pinckney** on 17 June 2009, 10:19 a.m.,*
in response to message #1 by Don Shepherd

> Quote:
>
> ...those receipts fade away, sometimes before the warranty even expires. How can you prove when you bought something if the receipt is unreadable?

Perhaps not the original intent, but definitely a side benefit to the retailer/manufacturer.

Re: pet peeves: documentation and thermal printed receipts

*Message #4 Posted by **Ken Shaw** on 17 June 2009, 11:45 a.m.,*
in response to message #1 by Don Shepherd

I've had the same problem with thermal receipts.

For those receipts that I need to keep, I now scan them so I can print a copy if necessary...

Re: pet peeves: documentation and thermal printed receipts

*Message #5 Posted by **Juergen Keller** on 17 June 2009, 5:33 p.m.,*
in response to message #1 by Don Shepherd

Here in Switzerland they normally only provide a 1 year warranty so fading receipts are not a real problem. What is the standard warranty period in your country?

Cheers, Juergen

Re: pet peeves: documentation and thermal printed receipts

*Message #6 Posted by **Don Shepherd** on 17 June 2009, 7:32 p.m.,*
in response to message #5 by Juergen Keller

Juergen, the warranties in the US are typically 1 year also, although it depends upon the product. Some cars have warranties for 5 years or more, and some small appliances have much shorter warranties, like 30 or 90 days. I bought a service contract for a treadmill a few years ago for three years. It failed after two years and when I went to invoke the contract, the receipt was so faded that you could not read the date on it; it was printed on thermal paper. Fortunately, they honored the contract since they had records when I purchased it.

they may fade sooner

*Message #7 Posted by **Frank Boehm (Germany)** on 18 June 2009, 9:05 a.m.,*
in response to message #5 by Juergen Keller

When exposed to sunlight, the receipt might turn into a plain white (yellow) sheet of paper within one or two months. On the other hand, if you glue your receipt to a sheet to store it away (as a business document e.g.), it might turn your receipt black, due to solvants used for the glue. Be careful when selecting a glue. Either way, a copy (laser/toner) is a good solution. (In Germany, a business has to keep book records for 10 years, of course including receipts etc. Receipts printed on thermal paper are quite a problem, since they *will* fade away within a couple of years, even when stored in a dry and cold and dark place.)

Re: they may fade sooner

*Message #8 Posted by **Don Shepherd** on 18 June 2009, 10:14 a.m.,*
in response to message #7 by Frank Boehm (Germany)

I've also noticed that if you take a copy (from a toner copier) and put the page in a binder as the first page (so that the toner on the paper copy is against the plastic back of the binder cover), that gets goofed up too. We put a man on the moon 40 years ago next month, why can't we solve these simple problems?

you did buy some cheap stuff :)

*Message #9 Posted by **Frank Boehm (Germany)** on 18 June 2009, 10:57 a.m.,*
in response to message #8 by Don Shepherd

This is the case with non-"document safe"-stuff. The flexibilizer used in cheap plastics will diffund into surrounding material, which of course does include plastics-based toner particels, loosening the particles and make them sticky. There are document-safe sheet protectors, which don't use flexibilizer and are recommended for anything of importance. Usually, these are more expensive than the standard sheet protectors and stating this feature. As for the binder: just use a paper-binder (pre war quality). These are more expensive (by factor 2-3), but will probably last forever. No

plastic to degrade in there 8)

Re: they may fade sooner

*Message #10 Posted by **KenH** on 20 June 2009, 2:46 p.m.,*
in response to message #8 by Don Shepherd

Hi Don,

It is because the binders contains PVC (poly vinyl chloride) with plasticizers which make the plastic soft. This softener will interact with your copy and smear or copy them off the paper as you mention.

To prevent this you need to use archival safe binders and sheet protectors and they are available at no significant extra cost over standard binders. Often these products are made in polypropylene.

You can read more at keepfiling web site about archival safety and archival safe binders I have attached a few links for your review.

Re: pet peeves: documentation and thermal printed receipts

*Message #11 Posted by **Andrés C. Rodríguez (Argentina)** on 19 June 2009, 11:55 a.m.,*
in response to message #1 by Don Shepherd

Don: In the past years I worked for the systems division of a large retail company; and we faced the problem of thermal receipts reliability. Local tax laws require the merchant to keep the copy-paper roll of the cash registers for many years. Thermal paper is not safe enough (there are certified thermal papers with longer stability, but the cost is high for such an operation); that brought dot matrix impact printers back to the Point Of Sale terminals, and sent thermal printers home, even with speed, reliability and noise advantages.

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need help from surveyor or property laywer...

*Message #1 Posted by **cyrille de Brébisson** on 16 June 2009, 5:28 p.m.*

Hello,

I have a question that I hope some of you might be able to answer...

if a surveyor made a mistake 50~60 years ago in placing property lines (in this case, 5 parcels are affected), and everybody builds to these lines and uses these lines with no questions... what happen 60 years later when the error is discovered and someone complains? is everyone supposed to move to the 'real' property line (possibly destroying structures while doing so), or do the currently used, but erroneous, property lines take force of law and become the new property lines?

thanks, Cyrille (BTW, this is in Idaho)...

Re: need help from surveyor or property laywer...

*Message #2 Posted by **Frank Rottgardt** on 16 June 2009, 7:13 p.m.,*
in response to message #1 by cyrille de Brébisson

Without knowing anything about survey rules in the US:

The first question I have: what makes the actual property lines in the field to be regarded as "incorrect"?

Who and based on which data is declaring the lines to be wrong?

Re: need help from surveyor or property laywer...

*Message #3 Posted by **Steve Keeley** on 16 June 2009, 8:25 p.m.,*
in response to message #1 by cyrille de Brébisson

I'm neither a surveror nor a lawyer, so bear that in mind.

I'm pretty certain that a mistake that's gone unnoticed for 50 years is not rectifiable. The principle in law is called "laches."

Basically, you have to be vigilant in protecting your rights. For instance, if your neighbor builds and extension to his house that infringes on your property, and you wait until after he's completed the extension, lanscaped the area, and furnished the extension to complain, you're out of luck.

That's why you'll often see companies filing what seems like frivolous claims of copyright infringement. If they can be shown to have failed to act on a prior infringement, they could lose a subsequent, more serious case.

Re: need help from surveyor or property laywer...

*Message #4 Posted by **Brent Hillebrenner** on 16 June 2009, 8:50 p.m.,*

in response to message #1 by cyrille de Brébisson

Cyrille,

A quick search turned up the following about what is called "Adverse Possession:"

From Wikipedia

Re: need help from surveyor or property laywer...

*Message #5 Posted by **db (martinez, ca.)** on 17 June 2009, 12:16 a.m.,*
in response to message #1 by cyrille de Brébisson

Cyrille; You'll have mail as soon as i'm through babbling here. I'll send you the email address of the man to talk to - he's a licensed surveyor in Idaho along with a couple of other states and he uses HP calculators too. First though, a couple of things:
* This has nothing to do with adverse possession - that is legal thievery, your problem is an old error.
*I've never heard of "laches". I don't think it applies here. Most, if not all states have a "discovery clause" in statute or case law which states that SOMETIMES no matter how old a mistake is; property lines may be adjusted if the case is pressed within a certain number of years after discovery of the problem, usually seven or so.
*The age of the original survey may not be that important. What might be more pertinent to the outcome is if the 5 or 6 parcels were created simultaneously as a subdivision or if one was divided then one of those was divided etc. so you have senior rights to contend with. If there are old sectionalized land (aliquot parts) boundaries involved; you just added a whole other pile of complications to this.
*In the end: the only person who can decide where a property line actually is is a judge, and he will use testimony about math, history, intent of the original owner/subdivideor, lines of occupation, wording of the deed, common surveying practice in the area at the time of the mistake and more but all that may not matter much. His finding might be based solely on "gastronomic jurisprudence".
*Anyway; as Brown & Eldrige said: "The opposite may be shown". - den

addendum:
Don't loose too much sleep on this yet. If there is a problem; these things **can** be resolved relatively painlessly, with just a little application of money (like everything). If acreage is the problem and everyone (or the judge) decides to; you can probably do (in California you can do) a "lot line adjustment" where you hold the lines of occupation where there are improvements and adjust the property lines "down on the back 40" where only the cows will know that you've evened out the areas. Just be sure that a Land Surveyor and not a lawyer writes any new deeds. Even if Idaho allows lawyers to write legal descriptions; all they will do is to make sure that *your* kids will be back in court some day and that *his* kids will be on retainer to one side or the other.

Edited: 17 June 2009, 1:19 a.m.

Re: need help from surveyor or property laywer...

*Message #6 Posted by **Mike Reed** on 17 June 2009, 10:04 a.m.,*
in response to message #5 by db (martinez, ca.)

I'm polarbear Mike Reed, PLS 6049 (Ca). Essentially, I agree with what DB just wrote above. The laws are very different in each state, though. Make sure the surveyor you contact is licensed to practice in the state where the problem is! In California, even though the lines of occupation are not the same as the lines of ownership, the lines of ownership are still valid legally until/unless a lotline adjustment is agreed to or a judge settles their location and rules. Once the judge rules, they are and will forever remain where HE says they are. Also, as DB stated, money cures all evils! E-mail me privately if you want - polarbear_mike @ yahoo.com (no spaces)

Re: need help from surveyor or property laywer...

*Message #7 Posted by **Martin Pinckney** on 17 June 2009, 11:35 a.m.,*
in response to message #5 by db (martinez, ca.)

> Quote:
>
> *In the end: the only person who can decide where a property line actually is is a judge, and he will use testimony about math, history, intent of the original owner/subdivideor, lines of occupation, wording of the deed, common surveying practice in the area at the time of the mistake and more but all that may not matter much. His finding might be based solely on "gastronomic jurisprudence".

Cyrille, regarding the issues with your five parcels, you might find this article interesting about lines of occupation affecting four very large "parcels".

Re: need help from surveyor or property laywer...

*Message #8 Posted by **Jeff** on 17 June 2009, 9:23 a.m.,*
in response to message #1 by cyrille de Brébisson

> Quote:
>
> Hello,
>
> I have a question that I hope some of you might be able to answer...
>
> if a surveyor made a mistake 50~60 years ago in placing property lines (in this case, 5 parcels are affected), and everybody builds to these lines and uses these lines with no questions... what happen 60 years later when the error is discovered and someone complains? is everyone supposed to move to the 'real' property line (possibly destroying structures while doing so), or do the currently used, but erroneous, property lines take force of law and become the new property lines?
>
> thanks, Cyrille (BTW, this is in Idaho)...

What does this have to do with HP calculators?

Re: need help from surveyor or property laywer...

*Message #9 Posted by **Martin Pinckney** on 17 June 2009, 10:13 a.m.,*
in response to message #8 by Jeff

> Quote:
>
> What does this have to do with HP calculators?

Most likely, if the original surveyor had had an HP calculator, he would not have made the mistake in the first place...

Re: need help from surveyor or property laywer...

*Message #10 Posted by **Quan** on 17 June 2009, 11:42 a.m.,*

in response to message #9 by Martin Pinckney

> Quote:
>
> Most likely, if the original surveyor had had an HP calculator, he would not have made the mistake in the first place...

Unfortunately, the original surveyor couldn't help it. HP calculators were nowhere to be found... 60 years ago.

Except in dreams.

Re: need help from surveyor or property laywer...

*Message #11 Posted by **David Hayden** on 17 June 2009, 11:36 a.m.,*
in response to message #1 by cyrille de Brébisson

Cyrille,

First of all, hire a licensed, reputable surveyor to verify the error. My next-door neighbor tore down a barn because the former owner of my house had a survey that said part of the barn was on his land. As it turned out, the survey was incorrect, but now my neighbor doesn't have a barn....

Assuming that the mistake is real, talk to a lawyer who's knowledgeable about this stuff and see what he/she says. Actually, there's a good chance that the surveyor will be able to tell you about the laws in your state.

Finally, once you know the facts (from the survey) and the law, get all the people together and see if you can come to a friendly solution. If you can, then get the lawyer and/or surveyor to write up whatever legal docs are necessary. If you can't come to a resolution, then you'll have to argue the case before a judge I fear.

I'm not a surveyor, but I'm good friends with one and, for what it's worth, he's said on may occasions that after enough years, the agreed-upon property lines become legally effective, even if they aren't where they should have been, so I wouldn't worry that the property line will be redrawn through someone's bedroom.... :)

Re: need help from surveyor or property laywer...

*Message #12 Posted by **cyrille de Brébisson** on 17 June 2009, 6:54 p.m.,*
in response to message #1 by cyrille de Brébisson

hello,

First of all, thanks for your help...

To answer one of the question: what does that have to do with calculators... well, nothing, BUT I know that they are a bunch of surveyor on this forum and I knew that they would be able to help me. finding a surveying forum in which I am a total stranger would probably have been a whole lot less productive!

anyhow, for those of you interested in what I have found:

It looks like, in my case, an old surveyor pin does give the position of the corner of my property. the fact that this pin might have been misplaced is secondary to the fact that this 'monument' is now, because no one ever contested it, by definition the property boundary regardless of being properly or improperly placed...

If for some reason, a Judge rules otherwise and his judgment hold, I could then use an 'adverse possession' defence to still hold on the property, BUT this would mean that I admit that I do encroach on the other guy's

property (which I will not do unless a final judgement forces me to).

thanks for your help, Cyrille

Re: need help from surveyor or property laywer...

*Message #13 Posted by **Iqbal** on 17 June 2009, 7:40 p.m.,*
in response to message #12 by cyrille de Brébisson

There is an old English law that says that if you occupy a piece of private land for a period of time with the owner's knowledge, then, you have certain rights over the land (Adverse possession). This situation reminds me of an old saying " Whereas doctors bury their mistakes, surveyor's dig them up ". I just discovered a mistake made by a very respected surveyor where he ran a boundary line 16 metres by 125 metres into someone else's property. The surveyor did the work in 1992 and now is 2009. To make matters worst, he died about 5 years ago also. The statutory period in my country (16 years) has passed, so I guess my clients dont have much of a case. Still, it is the job of the surveyor to pick up evidence and let the final say rest with a Judge. So while the law is clear, I am sure there is a lawyer who will gladly take my client's money and fight their case.

Re: need help from surveyor or property laywer...

*Message #14 Posted by **db (martinez, ca.)** on 18 June 2009, 2:40 a.m.,*
in response to message #13 by Iqbal

Hi Iqbal;
In California, and pretty much the rest of the states, we added a twist to the common law concept of adverse possession. The legalese here says that the thief must be open and notorious about his use of the land he is stealing and it must be used exclusively for himself and not for the rightful owner. That's probably just like your country. Here, in almost all of the very rare adverse possession cases; the thief fences the owner out of his land and he must have paid taxes on it for a specified number of years in order to gain title. Our "prescription" is closer to what these people here are talking about but that's not it either. If this is real; it's just a mistake and like the one you discovered; they happen all the time.
To your "doctors bury their mistakes" we add lawyers visit theirs in prison. We have another too. It goes: architects and lunatics are certified, engineers and sex offenders are registered, dogs and surveyors are licensed. Woof.

Re: need help from surveyor or property laywer...

*Message #15 Posted by **Namir** on 17 June 2009, 10:05 p.m.,*
in response to message #12 by cyrille de Brébisson

Cyrille,

We can hold HHC2010 on your property. Once your neighbor sees all us "geeks" roaming in the yard with antique calculators and talking RPN, he will be happy to sell you his property for a real low price, so he will never have to see us again!!!

Namir

Re: need help from surveyor or property laywer...

*Message #16 Posted by **Tim Wessman** on 18 June 2009, 3:16 p.m.,*
in response to message #15 by Namir

Having been in cyrille's back yard a few times I can tell you that I am certain we'd not fit. . .

TW

Re: need help from surveyor or property laywer...

*Message #17 Posted by **Namir** on 18 June 2009, 7:44 p.m.,*
in response to message #16 by Tim Wessman

We're THAT GOOD!!!!?????

:-)

Namir

PS: I was thinking more of the SHOCK and AWE effect!!!

Edited: 18 June 2009, 7:45 p.m.

Re: need help from surveyor or property laywer...

*Message #18 Posted by **Dan Grelinger** on 18 June 2009, 11:42 p.m.,*
in response to message #12 by cyrille de Brébisson

This happened to my parents many years ago (in Kansas), only probably in reverse. The neighbor had a survey done so that he could build a fence. The surveyor placed the flags marking the property boundary eight feet into my parents yard (out of a 100 foot wide lot). A fence existed between the properties. The error seemed to originate from a problem with determining the otherside of the neighbor's lot, which butted up against undeveloped land that used to be a railway right of way, but had not been in used for years (30-50). My parents were afraid the neighbor would build his new fence 8 feet on their side of the old one, and they consulted a lawyer. The lawyer said that if the neighbor decided to build the fence, they would have to get their own survey done, and contest the action in court. But, if they could only wait a few more years (for a total of 15, 17, 20, I can't remember), then all they had to do was prove the fence existed that long without being contested, and it would become the legal property boundary. This was from the mid-70's.

In the end, the neighbor was a good neighbor, and did not move the existing fence. The property had sold several times before that, and several times since then, and no other issues ever came up with the boundary. That original fence still stands today, almost 50 years after it was put in.

Dan

Edited: 18 June 2009, 11:44 p.m.

Re: need help from surveyor or property laywer...

*Message #19 Posted by **Doug** on 2 July 2009, 7:28 a.m.,*
in response to message #1 by cyrille de Brébisson

I am considering the same sort of thing on my property. The Magna Carta defines these rules but mostly one must just try to come to mutual agreement with neightbors (try to be frendly in negoations). It's just what is just is just. Maybe your guy says "I will not release that land but i will lease it to you for $1 per year for the next 100 years, pay me $100 and it's solved".

Edit Note: in 100 years all the structures will be gone. Don't try to take anyones rights and be friendly.

Edited: 2 July 2009, 7:46 a.m.

need help from surveyor or property laywer...

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82143A Printer Output Confirmation Requested

*Message #1 Posted by **Egan Ford** on 16 June 2009, 12:41 p.m.*

Could some kind soul please confirm that the following program produces the following output character for character on a real 82143A with a real 41CX?

Thanks.

Program:

```
01 LBL "CHARS2"         17 ACA                 33 0.01500
02 FIX 00               18 "--------"          34 STO 01
03 CF 29                19 ACA                 35 RDN
04 " CHARS2"            20 PRBUF               36 LBL 01
05 ACA                  21 0.00700             37 ACCHR
06 PRBUF                22 STO 00              38 1
07 " ------"            23 RDN                 39 +
08 ACA                  24 LBL 00              40 ISG 01
09 PRBUF                25 CLA                 41 GTO 01
10 ADV                  26 RCL 00              42 PRBUF
11 "  |01234567"        27 INT                 43 ISG 00
12 ACA                  28 ACX                 44 GTO 00
13 "89ABCDEF"           29 >"|"                45 FIX 09
14 ACA                  30 ACA                 46 SF 29
15 PRBUF                31 16                  47 END
16 " -+--------"        32 *
```

Barcode:

http://www.hpmuseum.org/guest/eganford/chars2.pdf

RAW:

http://sense.net/~egan/41cx/chars2.raw

Output:

Edited: 16 June 2009, 12:49 p.m.

yes. [NT]
*Message #2 Posted by **PeterP** on 16 June 2009, 11:34 p.m.,*
in response to message #1 by Egan Ford

Cheers

Peter

Re: yes. [NT]
*Message #3 Posted by **Egan Ford** on 17 June 2009, 9:42 a.m.,*
in response to message #2 by PeterP

Peter,

Many thanks.

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HP-41: Release: ICEBOX.ROM version 1E: News for NoV Users :-)

*Message #1 Posted by **Geir Isene** on 16 June 2009, 8:20 a.m.*

From the UC-41 page:

"In version 1E, swtching between HEPAX RAM blocks in the NoV-32 or the NoV-64 became really easy. I added the functions N100, N101, N102 and N103 to switch directly to the desired ram block. "

The updated 10 page user manual will give you the insides.

WROM is still there for generic write-to-hepax-ram. But now you don't need any FOCAL program to code/decode address/word for switching ram pages on the NoV-32 and NoV-64. You can very easily switch the ram blocks - even inside a program.

Someone wants to write a 64K chess program for the HP-41?

Edited: 17 June 2009, 11:08 a.m.

Re: HP-41: Release: ICEBOX.ROM version 1E: News for NoV Users :-)

*Message #2 Posted by **Geir Isene** on 20 June 2009, 12:01 p.m.,*
in response to message #1 by Geir Isene

Added info:

With the functions N100, N101, N102 and N103 assigned to different keys, it is now lightning fast to switch between the various HEPAX RAM blocks.

Re: HP-41: Release: ICEBOX.ROM version 1E: News for NoV Users :-)

*Message #3 Posted by **Ángel Martin** on 22 June 2009, 8:19 a.m.,*
in response to message #2 by Geir Isene

Geir,

Believe it or not I don't own any NoVRAM-32/64 to try these new functions on, but sure it sounds like a much-needed enhancement. I'll try with the MLDL2K, should also work, right?

I'll eventually complete the blank entries in your ICEBOX documentation, but time is at a real premium right now so don't hold your breath :-)

Best, ÁM

Edited: 22 June 2009, 8:20 a.m.

Re: HP-41: Release: ICEBOX.ROM version 1E: News for NoV Users :-)

*Message #4 Posted by **Meindert Kuipers** on 22 June 2009, 9:59 a.m.,*

in response to message #3 by Ángel Martin

Angel,

Please be aware that the MLDL2000 does support HEPAX in a very special configuration, because the native HEPAX commands for switching and moving the banks are not supported. I do not know how ICEBOX does the switching, so be careful, it might not work the same as NoVRAM, and let us know your results,

Meindert

Re: HP-41: Release: ICEBOX.ROM version 1E: News for NoV Users :-)

*Message #5 Posted by **Ángel Martin** on 23 June 2009, 2:14 a.m.,*
in response to message #4 by Meindert Kuipers

No worries Meindert, I´m aware of the idiosyncrasies of the ML2k - what a fine piece of artwork you produced my friend, I´m enjoying mine now after I finally got the knack of it.

If I only had the time I might even look into adapting Geir´s method to the ML2k, but it´ll have to wait for greener pastures...

Best, ÁM

Edited: 23 June 2009, 2:15 a.m.

Re: HP-41: Release: ICEBOX.ROM version 1E: News for NoV Users :-)

*Message #6 Posted by **ZOleg** on 20 June 2009, 8:58 p.m.,*
in response to message #1 by Geir Isene

Bravo Geir!!!

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HP 46080A HP-IL Extension module

*Message #1 Posted by **ZOleg** on 15 June 2009, 8:49 p.m.*

How and where used HP 46080A HP-IL Extension module and there is documentation on it?

Re: HP 46080A HP-IL Extension module

*Message #2 Posted by **Eric Smith** on 15 June 2009, 9:30 p.m.,*
in response to message #1 by ZOleg

The HP 46080A is not an HP-IL extension module; it is an HP-HIL extension module. HP-IL and HP-HIL are two entirely different things. HP-HIL was mainly used to hook up keyboards, mice, and other relatively low-speed I/O devices to HP's "big computers" like the HP 9000 systems. HP-HIL is similar in purpose to low-speed or full-speed USB, though completely different in details.

Re: HP 46080A HP-IL Extension module

*Message #3 Posted by **ZOleg** on 15 June 2009, 9:42 p.m.,*
in response to message #2 by Eric Smith

Thanks for info!

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Another way to restore the silver trim?

*Message #1 Posted by **Dave Shaffer (Arizona)** on 15 June 2009, 2:34 p.m.*

Looking through one of my photo magazines, I came across this

Gold/silver "pen"

It appears to be heated and uses gold or silver foil that transfers to the surface being written on. They claim it works on plastic. Maybe just the thing for restoring worn silver finishes on calculators.

Has anybody tried it?

Re: Another way to restore the silver trim?

*Message #2 Posted by **Michael Meyer** on 15 June 2009, 3:20 p.m.,*
in response to message #1 by Dave Shaffer (Arizona)

Looks very interesting.... I've used silver and gold markers, model paint, etc... nothing really holds up to any kind of handling. You'll have to try it and let us know!

Re: Another way to restore the silver trim?

*Message #3 Posted by **Dave Shaffer (Arizona)** on 15 June 2009, 3:48 p.m.,*
in response to message #2 by Michael Meyer

> Quote:
>
> You'll have to try it and let us know!

Well,.... I wasn't really planning on trying it myself (I can live with my HP35 the way it is), just letting everybody else know.

Re: Another way to restore the silver trim?

*Message #4 Posted by **Dave Boyd** on 15 June 2009, 4:39 p.m.,*
in response to message #1 by Dave Shaffer (Arizona)

> Quote:
>
> It appears to be heated and uses gold or silver foil that transfers to the surface being written on. They claim it works on plastic. Maybe just the thing for restoring worn silver finishes on calculators.
>
> Has anybody tried it?

I haven't, but a close reading of the advertisement reveals that the "foil" is "gold (colored)" and "satin finish",

as is the "silver". It appears to be a heated ball-point stylus, and you'd write with it on the back of the foil with the "metal" surface of the foil facing the work -- like using carbon paper. That would probably make it difficult to use on a surface like the top of the silver bar on the calc -- the pen would keep falling of the edge, I'd think. Also, it's a satin finish, instead of the shiny aluminum finish that metalized plastic usually sports. Of course, a satin finish might be more appropriate to the restoration, depending.

A cheap way to test it would be to simply buy some of the foil, and use a heated flat or slightly rounded utensil, like the head of polished steel rivet or carriage bolt held in a pair of vise-grips over a heat source (but not hot enough to melt plastic, of course)... As long as you were applying it to a raised surface, such as a worn-down HP-15C logo, it might look fine.

Re: Another way to restore the silver trim?

*Message #5 Posted by **Geoff Quickfall** on 15 June 2009, 9:31 p.m.,*
in response to message #1 by Dave Shaffer (Arizona)

Haven't tried it, and in it's present form (ball point) I warrant it would not the right tool for the job.

Pretty well the only way to get the original look would be to strip the calculator down, and present the bezel to an automotive detailer (one with a vacumm chrome applicator).

Maybe something to look into for the guide this summer.

Cheers, Geoff

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Byron Foster's 42s for iPhone v. 2 upgrade in App Store

*Message #1 Posted by **Les Wright** on 15 June 2009, 2:29 p.m.*

Subject line says it all. Much improved over v. 1, though I for one am looking for "the Original" from Thomas Okken himself, as though the fellow isn't under enough pressure already!

As an aside, Antonio Lagana has provided yet another update of i41cx+ with even more groovy features (though as an iPod touch user many of them I can't use!)

hope this is of interest to some.

Les

Re: Byron Foster's 42s for iPhone v. 2 upgrade in App Store

*Message #2 Posted by **Alain Mellan** on 15 June 2009, 2:34 p.m.,*
in response to message #1 by Les Wright

It sure is!

Today is a good day: i41CX+, 42S RPN and PCalc RPN updates. 3 updated calcs to play with. Not bad.

Re: Byron Foster's 42s for iPhone v. 2 upgrade in App Store

*Message #3 Posted by **John B. Smitherman** on 15 June 2009, 2:54 p.m.,*
in response to message #2 by Alain Mellan

Now, if we could only get an updated 35s ! (Hitting head on brick wall)

Regards,

John

Re: Byron Foster's 42s for iPhone v. 2 upgrade in App Store

*Message #4 Posted by **Egan Ford** on 15 June 2009, 6:19 p.m.,*
in response to message #1 by Les Wright

Feedback/Issues:

1. PRLCD fixed, however PRLCD only prints the top 2 rows in 4 line mode. I am unsure if graphics in 4 line mode have also been extended. Perhaps another can test.
2. Import/export requires a WiFi connection so that it can act as an HTTP server. Given how spoiled I have been with i41CX+, this level of import/export is very minimal, however better than nothing.
3. The new overlay labels are a nice touch. Very nice touch.
4. Love the 4 line mode, however I am disappointed that the keyboard is not adjusted for 4 lines. IMHO, a different keyboard should be provided in 4 line mode. I can think of a number of ways to do this. E.g.

smaller keys, smaller LCD font, or both, or perhaps dump the 20 pixel status line above and shift the keyboard down a bit. To please all, it should be user selectable. At least the toggle is quick and natural, so if you need the top row keys you swipe up and your thumb is already where it needs to be. A few minutes retraining my brain and I'll be set.

5. Left swipe the LCD to get to printer, however printer does not have a right swipe to return (gotta press a button). Feature request.
6. How about 5 line mode? Include L. Feature request.
7. Key click as annoying as ever (and too loud). Fortunately it is optional. Any chance for an option to use the default key click sound? And or have an option to adjust the volume of the key click? Again spoiled by i41CX+.
8. Feature request. Printer output save.
9. Still open source. You have the power to change it yourself. That is, if you have OS/X and $99.

As just a 42S+printer replacement its perfect without all the extras. However the import/export is what makes this a 42S+. I still give it 5 of 5 stars.

Thanks!

Edited: 15 June 2009, 6:29 p.m.

Re: Byron Foster's 42s for iPhone v. 2 upgrade in App Store

*Message #5 Posted by **Egan Ford** on 15 June 2009, 7:58 p.m.,*
in response to message #4 by Egan Ford

I just noticed that you can scroll the stack and program listing using the right side of the LCD. Very nice, its just like the thumb wheel feature I've always wanted. In stack mode it is the same as rolling up/down. In program mode its faster than the arrows. BTW 5 line program mode is very nice. 5 line stack with L should be easy.

Edited: 15 June 2009, 8:12 p.m.

Re: Byron Foster's 42s for iPhone v. 2 upgrade in App Store

*Message #6 Posted by **Byron Foster** on 16 June 2009, 7:33 a.m.,*
in response to message #5 by Egan Ford

> Quote:
>
> I just noticed that you can scroll the stack and program listing using the right side of the LCD

This was kind of a last minute thing and maybe I should have waited for another release before putting it in so it would be more robust.. but what the hell.

It's currently implemented by issuing up/down key presses. Of course this breaks when the menu is up, needs fixin. I want to implement the cool little iPhone watermark scrollbar on the right so you can tell where in the program you are. I would also like to implement momentum similiar to standard iPhone scrolling, and suggested by Thomas. Finally, I don't like how it rolls over at the begin or end. I think this method works when using key presses, but when scrolling it's confusion, and also counter to familiar iPhone scroll behavior.

Re: Byron Foster's 42s for iPhone v. 2 upgrade in App Store

*Message #7 Posted by **Egan Ford** on 16 June 2009, 1:15 p.m.,*

in response to message #6 by Byron Foster

> Quote:
>
> Finally, I don't like how it rolls over at the begin or end.

I do. Getting from the bottom to the top of a long program is only a flick away. Perhaps it can be optional.

For the stack, well it should roll, right?

Thanks again.

Re: Byron Foster's 42s for iPhone v. 2 upgrade in App Store

*Message #8 Posted by **Byron Foster** on 18 June 2009, 1:51 a.m.,*
in response to message #7 by Egan Ford

> Quote:
>
> I do. Getting from the bottom to the top of a long program is only a flick away. Perhaps it can be optional. For the stack, well it should roll, right?

Yea, the stack behavior will stay the same.

With momentum it will be faster to move through the program, so getting to the beginning and end should pretty easy, and there is always the key up/down to move back to the top and bottom. None of this stuff is set in stone however.

Re: Byron Foster's 42s for iPhone v. 2 upgrade in App Store

*Message #9 Posted by **Les Wright** on 15 June 2009, 8:38 p.m.,*
in response to message #4 by Egan Ford

As an iPod touch user, WiFi is all I have and I rather like the web-based interface. A lot simpler to use than the reverse arrangement with i41cx+, that requires me to run my Mac as a webserver to move my program files onto to i41cx+, with still no way to get them off in a format usable in, say, V41 or Free42. Antonio has the nifty email feature but the files are importable only by other i41cx+ users. the 42s interface really is two-way--import files from desktop via web server upload, download by clicking on links in web interface and saving the files, which are good old fashioned raw files that can be used in Free42 or even V41 (and i41cx+) if one adheres to just 41C commands.

I like it. Tomayto tomahto.

I agree with your other comments, but as I have a first gen. iPod touch the key click issue is only relevant with headphones, and to my ears i quite faint compared with the sounds out of i41cx+.

As I have mentioned elsewhere, Byron has improved the speed, but the "R/S sometimes won't stop running program" bug comes up in pathological and unrealistic situations (e.g. LBL 00 BEEP GTO 00). This bothers me not one fig. In normal programs that converge to a result, the simulator is so fast that the R/S bug is irrelevant. Fair trade off.

Now if we only had a decent RPN calc for Blackberry. I have something called 10C, but it is limited in features, hard to use, and relatively expensive!

Les

Re: Byron Foster's 42s for iPhone v. 2 upgrade in App Store

*Message #10 Posted by **Thomas Okken** on 15 June 2009, 9:09 p.m.,*
in response to message #9 by Les Wright

> Quote:
>
> as I have a first gen. iPod touch the key click issue is only relevant with headphones

Note that the next release will have the "standard" key click, which also works on the 1st generation iPod touch without headphones. It also has TONE and BEEP implementations that are truer to the original.
Once I have finished printer emulation in my own iPhone port, I will also help Byron with print spooling (capturing printer output in text and GIF files) -- I expect both versions will be virtually identical as far as printing is concerned.
The curious who have the iPhone SDK set up with an ad hoc development certificate can run the latest and greatest code from http://free42iphone.googlecode.com/.

- Thomas

Re: Byron Foster's 42s for iPhone v. 2 upgrade in App Store

*Message #11 Posted by **Egan Ford** on 15 June 2009, 9:22 p.m.,*
in response to message #10 by Thomas Okken

> Quote:
>
> The curious who have the iPhone SDK set up with an ad hoc development certificate can run the latest and greatest code from http://free42iphone.googlecode.com/.

Very nice. I did not know that both versions were in the same SVN repo. I just built your version. Nice. Thanks.

Re: Byron Foster's 42s for iPhone v. 2 upgrade in App Store

*Message #12 Posted by **Egan Ford** on 15 June 2009, 9:16 p.m.,*
in response to message #9 by Les Wright

> Quote:
>
> As an iPod touch user, WiFi is all I have and I rather like the web-based interface. A lot simpler to use than the reverse arrangement with i41cx+, that requires me to run my Mac as a webserver to move my program files onto to i41cx+, with still no way to get them off in a format usable in, say, V41 or Free42. Antonio has the nifty email feature but the files are importable only by other i41cx+ users. the 42s interface really is two-way--import files from desktop via web server upload, download by clicking on links in web interface and saving the files, which are good old fashioned raw files that can be used in Free42 or even V41 (and i41cx+) if one adheres to just 41C commands.

Actually, I'd like both. As an OS/X/Linux/UNIX user I am accustom to building, installing, and testing 41/42 code with "make" from the command line. And, given that I have a full time web site, "make

test; make install" works great for me and makes it easy for me to share 41CX code with others. Of course, those of us with OS/X, Linux, or Cygwin can simply type:

```
python -m SimpleHTTPServer
```

and have instant private access to all of our 41CX programs for i41CX+ browsing.

Sharing 42S code requires that the user download to a PC and then upload via HTTP to Free42iPhone. Not really an issue if the user knows how to network both PC and iPhone. Like you said:

> Quote:
>
> Tomayto tomahto.

Something that I started working on that I will not have ready for sometime is an i41CX+ app store. Basically you visit the site, pick your 41CX app from mobile Safari and it automatically launches and loads into i41CX+. Here is a quick and dirty example to demonstrate how it works: http://sense.net/~egan/41cx/chars.html.

A 42S version of this would be nice too don't you think?

Re: Byron Foster's 42s for iPhone v. 2 upgrade in App Store

*Message #13 Posted by **Thomas Okken** on 15 June 2009, 9:23 p.m.,*
in response to message #12 by Egan Ford

> Quote:
>
> Something that I started working on that I will not have ready for sometime is an i41CX+ app store. Basically you visit the site, pick your 41CX app from mobile Safari and it automatically launches and loads into i41CX+. Here is a quick and dirty example to demonstrate how it works: http://sense.net/~egan/41cx/chars.html.

Whoa! You can install your own protocol in Safari on the iPhone, and have it be handled by an external app? I had no idea.
Now I'll have to find out how to do that. :-)

Re: Byron Foster's 42s for iPhone v. 2 upgrade in App Store

*Message #14 Posted by **Byron Foster** on 16 June 2009, 7:55 a.m.,*
in response to message #13 by Thomas Okken

> Quote:
>
> Whoa! You can install your own protocol in Safari on the iPhone, and have it be handled by an external app? I had no idea.

I just looked into this, and it doesn't appear that you can, unless I'm missing something.

However, what you can do is run UIWebView in application, and you can install handlers for hyperlinks, Which is probably the implementation that Egan is referring to.

I really like Egan's suggestion, and I was thinking about something like this in general terms some months ago, but this focuses on a reasonable implementation path. Bonus, this would

provide a nice way to associate documentation with programs for in-calc reference. This would be nothing more complicated then a quick reference page for the program.

Re: Byron Foster's 42s for iPhone v. 2 upgrade in App Store

*Message #15 Posted by **Les Wright** on 17 June 2009, 11:58 a.m.,*
in response to message #12 by Egan Ford

Egan, I have to admit that is way cool, the the web-based "store" idea with programs loadable using the customized i41cx// protocol.

On reflection, I have to admit I would love both in Free42 and iPhone42s--Byron's & Thomas' implementation where the handheld is the server, and Antonio's where the desktop or website is.

But let's face it, even with their limitations, Byron, Thomas, and Antonio (and Eric and others before them) have given us wonderful and useful little programs cheaply. I was one of the lucky ones who jumped onto i41cx+ at half the present price. And I have read some criticisms in the US App Store that 42S is too expensive at five bucks. C'mon! Some of us around here have spent a small fortune collecting the actual calculators!

Les

Re: Byron Foster's 42s for iPhone v. 2 upgrade in App Store

*Message #16 Posted by **Thomas Okken** on 17 June 2009, 10:41 p.m.,*
in response to message #15 by Les Wright

> Quote:
>
> I have read some criticisms in the US App Store that 42S is too expensive at five bucks.

There's just no pleasing some people. Judging by the reviews for the various Voyager emulators and simulators in the iTunes App Store, if the price for 42S/iPhone would have been $20 or more, there would have been no complaints whatsoever. Or maybe it's just that the Voyager fans are more fanatical than the Pioneer fans. :-D

But seriously -- I read a lot of on-line news, and I see complaints about open-source software on a daily basis; I'll bet you anything that the people who complain the loudest are exactly those who *enjoy* the benefits of free software while never (yet) having actually *created*, never mind *supported* any -- where "supported" means "donated dozens of hours of work or more" or "hundreds of dollars or more".

They, too, will grow up eventually. :-)

Re: Byron Foster's 42s for iPhone v. 2 upgrade in App Store

*Message #17 Posted by **Les Wright** on 18 June 2009, 12:56 p.m.,*
in response to message #16 by Thomas Okken

Thomas, I think I donated a measly thirty bucks to Free42 a couple of years ago and you advised me that that was generous as open source freeware users are not terribly munificent. I was mortified to hear that. Over the years, your extensive personal attention to my interest in Free42 has certainly given me my money's worth :)

Edited: 18 June 2009, 1:11 p.m.

Re: Byron Foster's 42s for iPhone v. 2 upgrade in App Store

*Message #18 Posted by **Thomas Okken** on 18 June 2009, 1:13 p.m.,*
in response to message #17 by Les Wright

Well, my top priority was and is to make sure that there will always be an HP-42S simulator available to everyone who needs or wants one, without having to rely on proprietary stuff which may be abandoned and then end up in software limbo -- hence my use of the GPL.
I would *also* like to make a ton of money from Free42, but those two goals are not compatible, because of the GPL.
I'm not complaining, though; Free42 has paid for a couple of vacations already and sales for the iPhone look like they'll pay for a third (I mean, for the Mac I had to buy to be able to do iPhone development in the first place!). Given that money wasn't my incentive for writing it in the first place, every penny I receive is a bonus. :-)

Re: Byron Foster's 42s for iPhone v. 2 upgrade in App Store

*Message #19 Posted by **Byron Foster** on 16 June 2009, 7:17 a.m.,*
in response to message #4 by Egan Ford

Hi Egan, Thanks for your feedback and your five stars!. The best place from a development standpoint for enhancement suggestions and bugs is at:

http://code.google.com/p/free42iphone/issues/list

about PRLCD in 4 line mode, yea... there are probably several cases like this that 4 lines doesn't handle yet. In fact it was Thomas that fixed the original PRLCD issue. On the other hand, there are a few cases that it kind of falls out nicely, for example "SHOW" which operates unaware of 4 line mode, result in a nice effect such that it displays above the X and Y stack lines.

> Quote:
>
> Import/export requires a WiFi connection so that it can act as an HTTP server. Given how spoiled I have been with i41CX+, this level of import/export is very minimal, however better than nothing.

Better than nothing? :) I would agree with you there, I would add it is even better than something. I think the web server solution is consistent across platforms, a minimal amount of fuss for most use cases, and familiar/intuitive, in my subjective point of view. I even like this solution more then placing files in a directory system somewhere, say for example if the iPhone allowed you to network file browse, it's harder to get wrong this way.

Kudos to Thomas Okken for writing the Free42 web server that provides this functionality. It is actually more capable then demonstrated in 42s in that it will actually upload and download files and store them on the local directory system, and also navigate a filesystem. This functionality is not exposed at the moment. Initial implementations of it allowed you to browse the entire iPhone directory system from root down and download files.

Anyway, I think this whole scheme will pay dividends in future releases by providing a consistent general purpose way for moving data files around.

Re: Byron Foster's 42s for iPhone v. 2 upgrade in App Store

*Message #20 Posted by **Egan Ford** on 16 June 2009, 1:22 p.m.,*
in response to message #19 by Byron Foster

> Quote:
>
> http://code.google.com/p/free42iphone/issues/list

Thanks. I'll follow up there.

> Quote:
>
> I think the web server solution is consistent across platforms, a minimal amount of fuss for most use cases, and familiar/intuitive, in my subjective point of view. I even like this solution more then placing files in a directory system somewhere, say for example if the iPhone allowed you to network file browse, it's harder to get wrong this way.

True. Eventually I'd like the option for both. But its not critical, just a nice to have. If you get 42S://post?... working like the aformentioned i41CX+ example, then that would actually be better for supplying apps to unteathered (WiFi to PC) iPhones.

> Quote:
>
> Kudos to Thomas Okken for writing the Free42 web server that provides this functionality. It is actually more capable then demonstrated in 42s in that it will actually upload and download files and store them on the local directory system, and also navigate a filesystem. This functionality is not exposed at the moment. Initial implementations of it allowed you to browse the entire iPhone directory system from root down and download files.

Look forward to the updates.

Thanks again.

Re: Byron Foster's 42s for iPhone v. 2 upgrade IS NOT YET IN UK STORE

*Message #21 Posted by **Nigel Bamber** on 17 June 2009, 7:25 p.m.,*
in response to message #1 by Les Wright

no upgrade yet appeared in the UK store ?

Nigel

Re: Byron Foster's 42s for iPhone v. 2 upgrade IS NOT YET IN UK STORE

*Message #22 Posted by **Les Wright** on 17 June 2009, 8:55 p.m.,*
in response to message #21 by Nigel Bamber

I just switched my default store to the UK one and version 2 is indeed there, for 2.99 pounds.

Les

Re: Byron Foster's 42s for iPhone v. 2 upgrade IS NOT YET IN UK STORE

*Message #23 Posted by **John B. Smitherman** on 17 June 2009, 11:48 p.m.,*
in response to message #22 by Les Wright

Les, I've got 42s installed on my iPod touch but can't determine which version. Any hints?

Regards,

John

Re: Byron Foster's 42s for iPhone v. 2 upgrade IS NOT YET IN UK STORE

*Message #24 Posted by **Les Wright** on 18 June 2009, 2:02 a.m.,*
in response to message #23 by John B. Smitherman

Shift-OPTIONS. If you have a button labels "Import/Export Programs", you have version 2. If not, you still have version 1.

Re: Byron Foster's 42s for iPhone v. 2 upgrade IS NOT YET IN UK STORE

*Message #25 Posted by **Les Wright** on 18 June 2009, 12:52 p.m.,*
in response to message #23 by John B. Smitherman

John, this is one thing that is missing from 42s that Thomas has always had in Free42--access to "About" information that can confirm the version. As it stands now, the only way you know you have v. 1 or v. 2 is taking note of the slightly improved skin graphics, the much better speed, and the the extra functionality. Both i41cx+ and the Free42 build from source code I am playing with have version info very clearly available somewhere. This could be another request to Mr. Foster via Google Code.

Re: Byron Foster's 42s for iPhone v. 2 upgrade IS NOT YET IN UK STORE

*Message #26 Posted by **Byron Foster** on 19 June 2009, 12:24 a.m.,*
in response to message #25 by Les Wright

You're right, it's kinda silly there is no way to know what version of the application you are using. I'll fix that.

Re: Byron Foster's 42s for iPhone v. 2 upgrade IS NOT YET IN UK STORE

*Message #27 Posted by **Chuck** on 19 June 2009, 1:43 a.m.,*
in response to message #26 by Byron Foster

When pressing "shift modes", the 4th soft menu button is blank. Could that be a hidden version button?

Re: Byron Foster's 42s for iPhone v. 2 upgrade IS NOT YET IN UK STORE

*Message #28 Posted by **Nigel Bamber** on 18 June 2009, 2:00 a.m.,*
in response to message #22 by Les Wright

Perhaps the issue is that I don't have the latest 2.2 Itouch software installed (let alone version 3).

However the 42s version 2 post date on the UK store is Jan 2009 not June 2009 and I purchased Byron's app in Feb/March of this year.

So I remain a little confused.

Nigel

Edited: 18 June 2009, 4:00 a.m.

Re: Byron Foster's 42s for iPhone v. 2 upgrade IS NOT YET IN UK STORE

*Message #29 Posted by **Thomas Okken** on 18 June 2009, 9:19 a.m.,*
in response to message #28 by Nigel Bamber

You should be able to get 42S version 2.0 even with an older version of the OS; it does not require 3.0. (The next release probably will, though.)

Re: Byron Foster's 42s for iPhone v. 2 upgrade IS NOT YET IN UK STORE

*Message #30 Posted by **Les Wright** on 18 June 2009, 12:48 p.m.,*
in response to message #28 by Nigel Bamber

The App Store is not consistent with this. In some listings the post date reflects the date of the most recent release. In others, as in this case, the post date is that of the original v. 1 release to the App Store. What gives this away as the most recent release is that it is declared as v. 2, and in the right side bar you can read "What's new in this release" to see the various enhancements.

If you are having trouble with this showing up as an automatic upgrade in your Applications panel in iTunes, you may, as I did, have to manually remove 42s from the iPod, re-download 42s from the App Store (it will, eventually, tell you that this is free, so when it asks "would you like to purchase?" it is safe to say yes), and on resyncing the new version is written over to the iPod. Alas, this loses any existing data in 42s v. 1, so maybe you should try to sync first and see if that overwrites with the new version before removing the old version manually. I had to remove my old version manually since it was a build of the source code and as far as iTunes was concerned I was already updated! However, for completeness, I wanted the official App Store version, though I am sure Mr. Foster would indicate there was no difference.

Bottom line is this: you are seeing the newest version in the UK store and you can download for free. The Jan 2009 date is a bit misleading.

Les

Re: Byron Foster's 42s for iPhone v. 2 upgrade IS NOT YET IN UK STORE

*Message #31 Posted by **Nigel Bamber** on 18 June 2009, 1:10 p.m.,*
in response to message #30 by Les Wright

I will be updating my Itouch with version 3.0 software tonight and will then see if the new version 2.0 shows as an update.

If not I will remove and re install.

Thanks for your suggestion. I will also post a review on the UK store as there doesn't appear to be any reviews as yet there.

Nigel

Re: Byron Foster's 42s for iPhone v. 2 upgrade IS NOT YET IN UK STORE

*Message #32 Posted by **John B. Smitherman** on 19 June 2009, 12:38 a.m.,*
in response to message #31 by Nigel Bamber

Thanks for the feedback Les.

With version 1 of 42s installed on my iPod Touch I noticed that version 2 wasn't showing up as update. I went ahead and updated my iPod Touch OS to version 2.2.1. 42s version 2 still wouldn't show up as an update so I went ahead and paid another $5 for version 2. I don't know if I was supposed to pay for the update but software such as 42s is worth it.

Thanks Byron and Thomas.

John

Re: Byron Foster's 42s for iPhone v. 2 upgrade IS NOT YET IN UK STORE

*Message #33 Posted by **Byron Foster** on 19 June 2009, 8:58 a.m.,*
in response to message #32 by John B. Smitherman

> Quote:
>
> I went ahead and paid another $5 for version 2. I don't know if I was supposed to pay for the update but software such as 42s is worth it.

Uhg, I'm sorry you had to pay for it twice, you shouldn't have to do that. I don't know what the deal is with the updates. Maybe this stuff rolls out slowly, or it's just simply bugged!

From the developer portal point of view, where versions are submitted, I don't see version 1.0 anymore (it was removed as soon as 2.0 passed review). Strange that version 1.0 is still "floating" around.

Re: Byron Foster's 42s for iPhone v. 2 upgrade IS NOT YET IN UK STORE

*Message #34 Posted by **Les Wright** on 19 June 2009, 6:51 p.m.,*
in response to message #32 by John B. Smitherman

That's a glitch.

Write iTunes customer support and get your extra five bucks back. They were very good with me when I double-download a CD due to my own error. So if this not your error they should be even more flexible. You have proof in the system of owning the software and updates are supposed to be free.

Les

Re: Byron Foster's 42s for iPhone v. 2 upgrade IS NOT YET IN UK STORE

*Message #35 Posted by **Les Wright** on 19 June 2009, 8:09 p.m.,*
in response to message #32 by John B. Smitherman

I wonder if the failure to update the release date is the issue. Maybe iTunes uses this, and not just the version number, to discern that an update is due.

I think the release date is supposed to be corrected. Look at the page for i41cx+ 2.2. Says June 15th, 2009, like it should. Have never missed an update of that software.

Updating should not be such a hassle! Typically, it isn't.

Hope you get your fiver back.

Les

Re: Byron Foster's 42s for iPhone v. 2 upgrade IS NOT YET IN UK STORE

*Message #36 Posted by **Nigel Bamber** on 19 June 2009, 1:57 a.m.,*
in response to message #31 by Nigel Bamber

Went to Version 3.0 (Apple Software). No update showing.Deleted 42s and then reinstalled.

Nigel

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HP 35s checksum repeatability observed

*Message #1 Posted by **JJB299** on 15 June 2009, 10:06 a.m.*

I have had the opportunity to work with a few 35s models in recent months. The well documented checksum problem with the 35s is a great disappointment, but I have seen some repeatability when programming multiple 35s calculators. I have 2 calculators (SNs: CNA 8380xxxx and CNA 8310xxxx) that show the SAME checksums for a set of programs I entered in.

Here's what I know so far:

-The calculators were brand new and have never been programmed before I programmed them.

-No variables (direct, indirect, statistics) were stored before I programmed them.

-I took care to enter the programs in correctly, but was still able to delete lines and variables and still get repeatability.

-I never ran the programs while programming.

-I didn't switch between RPN and ALG modes while programming.

Has anyone else seen this before? I'm no expert, but I think the checksum problem is rooted somewhere in the indirect addressing.

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HP48G Problem

*Message #1 Posted by **Jno. Greenslet** on 14 June 2009, 11:53 p.m.*

Hi,

I have been reading and enjoying this forum for some time now. My wife thought that it was very strange of me, but she also realized that I like HP calculators. When she found the old HP48G that she bought 25 years ago, she gave it to me instead of throwing it away.

I put in fresh batteries and hit the ON button, but nothing happened. I tried the ON-C warm reset, and it came to life. "Great," I thought, "I have a new toy." But then I tried to turn it off.

At this moment, I can only turn the calculator on with ON-C or ON-A-F, and I can only turn it off by sticking a pin in the reset hole under the foot on the back (or leaving it for a while until it turns itself off). The only odd behavior I see (other than the on and off issue) is that none of the shifted ON commands work, and I cannot adjust the contrast with ON-+ or ON--.

Any ideas or suggestions to bring it back to normal? Thanks for your consideration.

Cheers,

Jno.

jno.greenslet@earthlink.net

Re: HP48G Problem

*Message #2 Posted by **Jean-Michel** on 15 June 2009, 4:29 p.m.,*
in response to message #1 by Jno. Greenslet

Hi Jno.

I don't know if it can help, but I have a similar problem with a 48SX, which I can turn on only by pressing above the row of soft keys while pressing the ON key. Same when using the shifted ON functions. This problem is well documented in this forum. Kind regards. JM

Re: HP48G Problem

*Message #3 Posted by **Ron G.** on 15 June 2009, 4:31 p.m.,*
in response to message #1 by Jno. Greenslet

Try pressing on the bezel, below the display, while you press the ON key. The rubber support inside, tends to get lazy as it gets older.

Re: HP48G Problem

*Message #4 Posted by **Jno. Greenslet** on 15 June 2009, 8:01 p.m.,*

in response to message #3 by Ron G.

Thanks Jean-Michel and Ron,

I appreciate your responses. Ron, your suggestion worked like a charm. I can turn the HP48G on and off now without resorting to any resets. Hooray.

Thanks again,

Jno.

Re: HP48G Problem

*Message #5 Posted by **Geoff Quickfall** on 15 June 2009, 11:14 p.m.,*
in response to message #4 by Jno. Greenslet

There is a reason for the failure and in time it may do it again:

Check out this posting for an explanation:

HP 48SX keyboard

Cheers, Geoff

Edited: 15 June 2009, 11:15 p.m.

Re: HP48G Problem

*Message #6 Posted by **Jno. Greenslet** on 16 June 2009, 1:08 p.m.,*
in response to message #5 by Geoff Quickfall

Hi Geoff,

Thanks. The source of my problem never really went away, but Ron's message showed me how to work around it.

I'd like to tackle the source next. Would you be kind enough to describe how you took the case apart (or maybe point me to some directions online)? I came across directions for getting in from the front, but if I can avoid prying off the faceplate and drilling out rivets, I'd rather go that way. Thanks.

Cheers,

Jno.

Re: HP48G Problem

*Message #7 Posted by **Jean-Michel** on 17 June 2009, 4:23 p.m.,*
in response to message #6 by Jno. Greenslet

Hi Jno,

It seems you didn't notice that Ron and me were giving the same advice in different words...Above the row of soft keys, that's exactly on the bezel below the screen, but no matter. Try "Openning HP-48" or something similar on Google and you may find a very well detailed site explaining with pictures how to open this calc, but if you let me give you an humble advice,

do not open your calc if it turns on with the simple trick Ron and me told you. You may brake something you will regret after. That's what prevented me to try anything. I consider it's a minor problem one can live with. Anyway, after having read the full openning procedure, you'll have your own opinion! Kind regards.

Re: HP48G Problem

*Message #8 Posted by **Jno. Greenslet** on 17 June 2009, 8:31 p.m.,*
in response to message #7 by Jean-Michel

Jean-Michel,

You are absolutely right. Sorry I missed that when I read your message the first time.

And you are right, too, about opening it up. I have been doing some reading up on the different methods people have come up with for disassembling the HP48 calculators. The methods that involve cutting the case and slicing rivets are a bit troubling. I think I should practice on a few TIs first.

Thanks for your advice.

Cheers,

Jno.

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HP-97S Pod Schematic

*Message #1 Posted by **Katie Wasserman** on 14 June 2009, 12:31 p.m.*

I'm working with a friend on repairing a broken 97S pod, I also have another 97S with no attached pod and am considering building a replacement pod. I've mapped out how it interfaces to the calculator and it's fairly complicated, it does some partial instruction decoding and uses all the basic control lines inside the calc. There are some 45 mostly 4000 series CMOS chips on two 4-layer boards inside the pod so it's not that easy to reverse engineer but it is easy to find replacement parts for it. Does anyone have a schematic for this?

Thanks, Katie

Re: HP-97S Pod Schematic

*Message #2 Posted by **Eric Smith** on 14 June 2009, 6:55 p.m.,*
in response to message #1 by Katie Wasserman

Tony Duell reverse-engineered schematics, which are on the HPCC Calculator Schematics CD-ROM.

Re: HP-97S Pod Schematic

*Message #3 Posted by **Katie Wasserman** on 15 June 2009, 12:38 a.m.,*
in response to message #2 by Eric Smith

Eric,

Thanks! I forgot to check those, I got them several years ago and filed them away. Tony did a amazing amount of work tracing all those connections and they're quite helpful in tracking down specific problems.

It sure would be nice to see them woven together so that you can get a feel for the whole circuit.

-Katie

Re: HP-97S Pod Schematic

*Message #4 Posted by **Thomas Chrapkiewicz** on 29 June 2009, 11:20 a.m.,*
in response to message #3 by Katie Wasserman

Does anyone know how to determine (via the serial number) whether a HP97 can accept external wiring - like for the 97s 'pod'?

Are the ROMs in the 97s the same as in the 97?

Thanks, TomC

Re: HP-97S Pod Schematic

*Message #5 Posted by **Katie Wasserman** on 29 June 2009, 5:53 p.m.,*

in response to message #4 by Thomas Chrapkiewicz

The 97 and the 97S are identical as far as the ROM's are concerned. The logic in the pod does all the special work by reading the control lines and placing the data on the bus at the correct time. Similarly, it partially decods the instructions to figure out when the flags are set or cleared.

The circuit board in the 97S differs slightly from the early 97 models to allow the connection of the pod easily using a 16-pin IDC header. I believe that HP changed the boards for all 97 calculators once the 97S was released.

There should be a cutoff date after which all 97 calculators are convertible to 97S calculators. If you figure this out, the serial number should be all you need to look at. My guess is that it should be something around 1730Axxxxx and after. This, of course, is the serial number etched into the plastic not the one stuck on when they added the pod.

Re: HP-97S Pod Schematic

*Message #6 Posted by **Thomas Chrapkiewicz** on 29 June 2009, 8:37 p.m.,*
in response to message #5 by Katie Wasserman

Thanks for the details. I was not aware that this was how the pod interface operated.

I do not have a 97s; just a few old 97s and was wondering how difficult it would be to make one a simple controller.

I will have to get the schematics and understand the logic further.

Regards, TomC

Re: HP-97S Pod Schematic

*Message #7 Posted by **Katie Wasserman** on 29 June 2009, 9:30 p.m.,*
in response to message #6 by Thomas Chrapkiewicz

I was thinking about that myself, it's not simple. Tony's schematics will be a help certainly. There are 40+ mostly 4000's series IC's in there and some resistor networks. I suppose you could just follow the schematics but they are hand drawn and only show a tiny fraction of the wiring on any one page.

I think a much better/more interesting approach would be to figure out the control lines that the 97 uses along with the flag set/clear instructions and create a more usable interface in firmware on a PIC, AVR, whatever you like. There aren't too many control lines but you definitely need a logic analyzer. I say "more usable interface" because the pod implements this rather awkward -- in today's world -- multi-digit BCD number capture. Almost anything else would be more general purpose, but with a firmware solution you could have several different interfaces implemented: straight binary, I^2C, USB, etc..

If you want a partner in this endeavor let me know and I'll do my best to help. I think it would be of value to everyone who likes the 97.

-Katie

Re: HP-97S Pod Schematic

*Message #8 Posted by **Thomas Chrapkiewicz** on 29 June 2009, 9:47 p.m.,*

in response to message #7 by Katie Wasserman

Thanks. I've done a bit of work with some PICs, so I was considering this approach.

I have found that the 97's that I have are both after date code 1812, so I presume that the pinouts are available. After I determine the operational status of these, I will then open one and study these lines. I have many questions and must do more studying - and this project is certainly not right at the top of my priority list.

Thanks again for your info.

TomC

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HP 92198A video interface problem

*Message #1 Posted by **Ilyas B.** on 14 June 2009, 7:54 a.m.*

Hello! I've some problems with connection between HP-71b and video interface. After connection I got blinking cursor on the TV screen only. I try to print some symbols but nothing happens, just cursor blink. I tried to send some initialize commands also. I don't know, the problem in HP-IL interface or in Video interface. Somebody can help to recognize this problem and send a little procedure or list of commands to instant connection. With respect, Ilyas

Re: HP 92198A video interface problem

*Message #2 Posted by **Raymond Del Tondo** on 14 June 2009, 8:39 a.m.,*
in response to message #1 by Ilyas B.

Hello,

have you tried DISPLAY IS: "HP92198A" ?

HTH

Raymond

Re: HP 92198A video interface problem

*Message #3 Posted by **Ilyas B.** on 14 June 2009, 4:43 p.m.,*
in response to message #2 by Raymond Del Tondo

Hello Raymond! Thank you for your responce. Fortunatelly it start to work! The problem was in sequence connection. First power on Video and after computer. With respect, Ilyas

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A tribute to the old manuals (again :)

*Message #1 Posted by **Geir Isene** on 14 June 2009, 4:07 a.m.*

Working on a really big statistical analysis program based on the Multiple Curve Fitting by Kolb, I am including analysis on moments, kurtosis and skewness. Having searched for a while on the net, I did'nt find the simple formulas I needed for my program. I remembered that I did indeed see the formulas presented somewhere. I checked the HP-41 stat pac manual - and there it was. This is but one such example of easy formula presentation in our old trusted manuals. The HP-65, HP-67/97 and the HP-41 manuals have helped me out like this many times. Just letting someone know my sentiments here :-)

Re: A tribute to the old manuals (again :)

*Message #2 Posted by **Mad Dog ebaycalcnut** on 14 June 2009, 6:21 a.m.,*
in response to message #1 by Geir Isene

People used to have to think before using computers/calculators and thus spend a little time simplifying formulae analytically before touching a keypad or keyboard due to RAM or CPU constraints.

Nowadays, as powerful as computers are, they can be sloppy with code, and it doesn't matter. It's a shame.

Also, people just used canned stuff and thus need to think even less..

Edited: 14 June 2009, 6:23 a.m.

Re: A tribute to the old manuals (again :)

*Message #3 Posted by **Mark Edmonds** on 14 June 2009, 9:09 a.m.,*
in response to message #2 by Mad Dog ebaycalcnut

I agree that losing the understanding of the basics is a sad and undesirable problem.

Ultimately though, the consequence that people write sloppy code and get away with it due to sheer CPU/RAM horsepower is more of an academic problem than a functional problem these days. Programmers aren't paid to write beautiful code. They are paid to write code that gets the results even if it does it in the most ugly manner possible. The customer buys the result, not the method.

Additionally, it can also be argued that with so many ready-made solutions available these days, people can tackle greater problems because they spend less time working out the smaller steps.

So even if the tools are potentially more inefficient, even if the quality of engineering is reduced and even if the solution is an ugly behemoth, if the hardware power makes it work and keep prices down, it is difficult to argue that this is a "bad thing".

It is not a situation I like at all but one that needs to be accepted because certain skills that might have been important twenty years ago simply don't matter any more.

Mark

Re: A tribute to the old manuals (again :)

*Message #4 Posted by **Ron Ross** on 14 June 2009, 9:42 a.m.,*
in response to message #3 by Mark Edmonds

Except that it violates the basic principles of KISS.

And any time someone violates basic rules, trouble can result. If there are two ways to do something, the simpler method is less prone to problems either in errors or later in having to correct errors. Logic flow is much easier to trace in 5 steps vs 50 steps.

Admittedly, I have indulged in poor code on more than one occassion, but have found that my simpler more compact code was always easier to use and modify on future applications.

Re: A tribute to the old manuals (again :)

*Message #5 Posted by **designnut** on 14 June 2009, 10:34 a.m.,*
in response to message #4 by Ron Ross

When I first started using the HP-35 I realized the formulas were written for pen and pencil math and copied from book to book through the years. I rearranged and rethought all the formulas to be amenable to keystroke procedures. I discovered relationships between variables that had not been explored before as they did not have the tools I had. It made a real impact when I found people programming solutions that I could do with a few keystrokes and keep repeating with different values as I had used the t register to supply part of the equation, namely 2PiF. Sam

Re: A tribute to the old manuals (again :)

*Message #6 Posted by **Don Shepherd** on 14 June 2009, 11:33 a.m.,*
in response to message #3 by Mark Edmonds

> Quote:
>
> skills that might have been important twenty years ago simply don't matter any more

Mark, if you're talking about skills such as keeping the code as simple and as clear as possible--not to mention using plenty of good quality comments in the code--then I have to, respectfully, disagree. As most programmers know, code can get extremely complex very quickly. Without some good standards and quality review procedures, even the best programmer can generate code that has hidden flaws. I would maintain that the likelihood of catching those hidden flaws decreases as code becomes more complex.

Sure, the code may work in 99% of the circumstances, but what about that other 1%? Does it really matter? You bet it matters. People can get killed due to hidden flaws in code. I worked many years in testing air traffic control software. If that code does not work correctly 100% of the time, in all different situations, targets may not show up at the right place on the controller's display, or may not show up at all, and lives are at stake. You just cannot take a chance on that code not working 100% of the time.

Regarding the recent tragic Air France crash in the Atlantic, I hope they find the black boxes because that is probably the only way they will know what caused that crash.

Re: A tribute to the old manuals (again :)

*Message #7 Posted by **Antonio Maschio (Italy)** on 23 June 2009, 4:10 a.m.,*
in response to message #6 by Don Shepherd

I generally follow any post on this Forum regarding manuals and documentation, both because I love old HP manuals and because I always hope someone write here "Hp manuals are back!".

But, no surprise, instead of good news, I read reports about inconsistencies, errors and even fun facts.

What I like best, in old HP manuals, is that you find everything you need when you are a beginner and have to learn how to use your calculator, but years after, any manual turns into a book of mathematics, that can be read as it is, with no calculator aside, just to refresh some knowledge and/or for the pleasure of reading it (for instance the HP34C manuals, the HP15C manuals, the HP48g manuals and, I'm sure but have no experience in it, the HP41C and the HP42S manuals).

My little contribute.

-- Antonio

Re: A tribute to the old manuals (again :)

*Message #8 Posted by **Mike Morrow** on 23 June 2009, 9:55 a.m.,*
in response to message #7 by Antonio Maschio (Italy)

IMHO, the best manual set *ever* for any calculator is the HP-15C Owner's Handbook with the optional HP-15C Advanced Functions Handbook, both spiral bound. This set is perfection and has never been bettered, not even by HP-41 or HP48 manuals. It's too bad these manuals didn't set the pattern for all later high-end HP calculators.

The HP42S Owner's Manual is acceptable...really not bad overall, especially the early spiral-bound version. Still, it's a very long way from matching the appeal of HP-15C manuals. In fairness, an HP42S manual in the style of the HP-15C manual and as comprehensive with examples and helpful appendices would be huge, due to the many additional features of the HP42S.

Re: A tribute to the old manuals (again :)

*Message #9 Posted by **Antonio Maschio (Italy)** on 23 June 2009, 11:01 a.m.,*
in response to message #8 by Mike Morrow

That's it. I have never read a HP41/42 manual. But I own the original HP15C manual and a printed copy of the advanced manual and I agree with you they are the best (as far as my experience can say).

-- Antonio

Re: A tribute to the old manuals (again :)

*Message #10 Posted by **Michael de Estrada** on 23 June 2009, 11:06 a.m.,*
in response to message #8 by Mike Morrow

I certainly agree with you regarding the HP-15C manuals. The HP-11C and original HP-12C manuals are also excellent. I also very much like the spiral bound manuals for the HP-48SX, and found them very useful when I bought my HP-50g.

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OT calculator vidio

*Message #1 Posted by **db (martinez, ca.)** on 13 June 2009, 11:00 p.m.*

OK, so this is not about HP or RPN but it is on a surviving American calculator company.

Re: OT calculator vidio

*Message #2 Posted by **Charles Oxford** on 14 June 2009, 3:04 a.m.,*
in response to message #1 by db (martinez, ca.)

My all time favorite calculator is the big electromechanical model of 1962 and the small hand cranked model for field use.

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Missing keystrokes

*Message #1 Posted by **Quan** on 13 June 2009, 3:18 p.m.*

Had it ever been determined the problem with missing keystrokes was hardware or firmware related in the current versions of 17bii+ silver and 35s? Maybe both?

I tried to read through the numerous posts here and other places, and what I got from these were that some have problem and some don't.

I did the simple test suggested in other posted by adding up single digit numbers consecutively, keying them in fast enough to cause the problem to occur on both my 17bii+ silver (CNA751...) and the 35s (CNA833...).

At first I thought the keyboards were the cause since I read so many complaints about their older siblings, but then I tried to punch the number keys only to see if they are registered. Neither calcs fail to record the keystrokes.

I performed these tests with both hands holding the calcs and using my thumbs for quickly entering the numbers and the add key.

The test seemed to fail only when doing (+ - * /). My guess is that they would fail for other function keys as well but since their locations are further away from the number keys, I didn't run the test on them. Somewhere in the sequence of number-add-number, one of these keys was missed or not registered.

I know at the end, as far as the users are concern, the problem is still summarized as annoying missing keystrokes, but I wonder if they could be fixed with a firmware update for the next production run. Or the problem is not that simple.

BTW, the tactile is quite good on the 35s, though not the same as the older 32sii/48sx I have. Also, none of the older brothers have missing keystrokes problem, no matter how quickly I hit the keys. They worked every time.

Re: Missing keystrokes

*Message #2 Posted by **Mark Edmonds** on 13 June 2009, 7:39 p.m.,*
in response to message #1 by Quan

Key weight is just about OK on the 35s but I don't like the key profile in relation to the pivot point, nor the feel of the matt surface. Given how absolutely perfect the keys on the Pioneers and 48 series are, it is such a shame that such an important part of the design has degraded so much.

I haven't read much about the verdict on the new 20b keys - are they similar to the 35s?

Mark

Re: Missing keystrokes

*Message #3 Posted by **Thomas Chrapkiewicz** on 14 June 2009, 12:38 p.m.,*
in response to message #2 by Mark Edmonds

I've recently received a 20b and am VERY let down. It is not even close to the 35s. Further, keypresses result in a scraping/scuffing sound - not certain if the key is rubbing on the edge of the hole or what exactly is causing this. Pressure and throw are also unacceptable. I was expecting the feel to be closer to the 35s.

My 'point of reference' by the way goes back to the 45/65 through the 48 series - all of which I have found to be ideal. I use a 35s and 48 daily.

I certainly hope that newer machines are closer to the 48 or at the very least the 35s.

Regards, TomC

Re: Missing keystrokes

*Message #4 Posted by **John B. Smitherman** on 14 June 2009, 1:17 p.m.,*
in response to message #1 by Quan

Hi Quan. I assume that you are referring to the test in Joel Koltner's post at link

Using Joel's test I'm unable to get the 35s to calculate the correct answer consistently regardless of whether I'm using +, -, x or /. However, if I only enter numbers as fast as I can it makes no mistakes.

I've noticed that when I use the +, -, x or / in a sequence that the "B" symbol comes on in the display which means that the calculator is "Busy". I'm guessing that our missed keystrokes are due to the calculator being busy after certain function keys are used.

My conclusion is that HP should be able to fix this problem with software improvements.

Regards,

John

Re: Missing keystrokes

*Message #5 Posted by **Don Shepherd** on 14 June 2009, 1:40 p.m.,*
in response to message #4 by John B. Smitherman

> Quote:
>
> the "B" symbol comes on in the display which means that the calculator is "Busy".

John, it has always been obvious that there is a substantial speed difference between the 35s and the 33s; the 33s being much faster. While I have never seen a definitive reason for this speed difference, we do know that the 35s allows several different formats of data in its registers, such as vectors, complex numbers, etc. Since it takes some processing time for it to figure out what exactly it has in the registers, that always seemed to me to be a possible reason for its slowness relative to the 33s. And this could be a reason for the "B" annunciator.

Re: Missing keystrokes

*Message #6 Posted by **Mark Edmonds** on 14 June 2009, 3:12 p.m.,*
in response to message #5 by Don Shepherd

It is almost as if the 35s doesn't implement a keyboard buffer or an interupt driven handler so it can only detect keystrokes when it is in the main-prompt idle state. Having said that, you can break out of

programs quickly but maybe the On key is a special exception? Lots of armchair guessing here!

One thing for certain:

In the Pioneers and 48s, you can pound away on the keyboard and all the keystrokes get buffered so you can watch them being processed as the calculator catches up.

On the 35S, fast keystrokes whilst the "B" (broken?) indicator is on get missed as well as the extra problem of physical contact failure causing intermittent keystroke loss. Not a happy combination for not a happy calculator.

Mark

Re: Missing keystrokes

*Message #7 Posted by **Quan** on 14 June 2009, 10:36 p.m.,*
in response to message #6 by Mark Edmonds

> Quote:
>
> One thing for certain:
>
> In the Pioneers and 48s, you can pound away on the keyboard and all the keystrokes get buffered so you can watch them being processed as the calculator catches up.
>
> . . .
>
> Mark

Hi Mark!

This was exactly what happen when I ran the test on the old 17bii. On the 42s the results were displayed as soon as the keys were pressed.

The 17bii and the 35s are still very usable. In their case, slow is better.

Re: Missing keystrokes

*Message #8 Posted by **Quan** on 14 June 2009, 10:29 p.m.,*
in response to message #4 by John B. Smitherman

> Quote:
>
> Hi Quan. I assume that you are referring to the test in Joel Koltner's post at link

Hi John!

Yes, that was the test I ran because it was so simple.

> Quote:
>
> Using Joel's test I'm unable to get the 35s to calculate the correct answer consistently regardless of whether I'm using +, -, x or /. However, if I only enter numbers as fast as I can it

> makes no mistakes.

Exactly my experience.

> Quote:
>
> I've noticed that when I use the +, -, x or / in a sequence that the "B" symbol comes on in the display which means that the calculator is "Busy". I'm guessing that our missed keystrokes are due to the calculator being busy after certain function keys are used.

You said it better than I did.

> Quote:
>
> My conclusion is that HP should be able to fix this problem with software improvements.
>
> Regards,
>
> John

That's what I hope as well. But all we can really do is hurry up and wait. :)

Regards,

Quan

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Brand new HP-35 for sale on eBay $1489

*Message #1 Posted by **jotne** on 13 June 2009, 1:18 p.m.*

If any ha a load of money, they can get a brand new HP 35 for $1489. h**p://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=270407799805

Also, brand new HP-80 for $1289

*Message #2 Posted by **Michael de Estrada** on 13 June 2009, 1:50 p.m.,*
in response to message #1 by jotne

Personally, I don't think they are worth it, since they are both extremely common models. The HP-35 is a version 3, which is the most common HP-35. I own some complete HP calc sets, which are in "like new" condition, and paid far less.

Edited: 13 June 2009, 1:55 p.m.

Re: Also, brand new HP-80 for $1289

*Message #3 Posted by **Ronald P** on 13 June 2009, 3:11 p.m.,*
in response to message #2 by Michael de Estrada

Hi,

Are you sure it is the type 3? As far as I can see on the picture the front label is only Hewlett Packard which would make it a mark 2 to me.

Br

Ronald

Re: Also, brand new HP-80 for $1289

*Message #4 Posted by **Walter B** on 13 June 2009, 3:27 p.m.,*
in response to message #3 by Ronald P

Anyway type 2 is seen often, too. IMO, you can get very nice specimens for far less than offered here.

Ceterum censeo: HP, launch a 43S.

Walter

Re: Also, brand new HP-80 for $1289

*Message #5 Posted by **Michael de Estrada** on 13 June 2009, 3:45 p.m.,*

in response to message #3 by Ronald P

Hard to see, but I think you are correct. The S/N 1230Axxxxx would make it a late production type 2, which would not have any of the ROM bugs. Although not as common as the type 3, the later non-bug type 2 is still relatively common as compared to the type 4 or early type 2 S/N 1143Axxxx with the ROM bug. I'll admit that I have seen several "mint" type 3s, but never a mint type 2. Of course, you can't even compare it to a type 1 RED DOT.

Re: Also, brand new HP-80 for $1289

*Message #6 Posted by **Mark Edmonds** on 13 June 2009, 7:27 p.m.,*
in response to message #5 by Michael de Estrada

Personally I think those prices are totally mad but what worries me is someone could be crazy enough to buy them - and then probably never take them out of the boxes so they never get used! Gloves included :)

Can't blame the seller for trying I suppose.

Out of interest, if one had the money spare for buying a single HP and not including the HP01, which machine would justify that sort of expense? Difficult to rationalise under any circumstances.

Mark

Re: Also, brand new HP-80 for $1289

*Message #7 Posted by **Michael de Estrada** on 13 June 2009, 8:41 p.m.,*
in response to message #6 by Mark Edmonds

For me, the only model that might justify such a price would be an HP35 type 1 RED DOT, assuming it was absolutely new and complete. Also, it would assume the owner had the good sense to remove the battery pack before storage. I paid the original owner of a complete RED DOT $700, and it included all the original accessories, the shipping box, invoice with his name, address and calculator S/N, unopened paperwork, and HP apology letter for the ROM bugs. The calculator is in excellent condition with only minor silver trim wear and display scratches. One key has lost some of its click probably due to a cracked snap dome. So, a perfect RED DOT, assuming such an animal exists, might be worth twice as much.

Re: Also, brand new HP-80 for $1289

*Message #8 Posted by **Reth** on 14 June 2009, 4:34 a.m.,*
in response to message #2 by Michael de Estrada

these are worth as much as someone is ready to pay for them; they are collectors items these days and the market will determine their price.
cheers

Re: Brand new HP-35 for sale on eBay $1489

*Message #9 Posted by **db (martinez, ca.)** on 13 June 2009, 10:15 p.m.,*
in response to message #1 by jotne

disclaimer: i'm not selling this. i'm not buying this. i'm not not planing on selling one or buying another. however; i was curious so i looked up the price here and found that a 35 without the extras this one has, adjusted for inflation, may be worth about 2000 gollies.

i'll be playing golf with a former boss next tuesday, the man who gave me my 35 when he retired. now that i know what these things are going for; i might just "let" John win.

Re: Brand new HP-35 for sale on eBay $1489

Message #10 Posted by ***Massimo Gnerucci (Italy)*** *on 14 June 2009, 12:39 p.m.,*
in response to message #1 by jotne

Both already gone!
One deserves a *nastygram* (this should trigger something to some of us...)

Greetings,
Massimo

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82104A card reader current measurements?

*Message #1 Posted by **Eric Smith** on 10 June 2009, 4:03 p.m.*

Does anyone happen to have measurements of the current consumption of the card reader while reading or writing a card? Or the total of the 41 and card reader?

Re: 82104A card reader current measurements?

*Message #2 Posted by **marais** on 10 June 2009, 4:16 p.m.,*
in response to message #1 by Eric Smith

I only recall a measurement of the motor alone, between 7 and 9mA.

Andreas

Re: 82104A card reader current measurements?

*Message #3 Posted by **Michael de Estrada** on 10 June 2009, 4:48 p.m.,*
in response to message #1 by Eric Smith

I think you can hook up a regulated DC power supply with a DC ammeter in series to the battery terminals to do this. I have done this with a number of calculators, although never with one that included a card reader. You have peaked my interest so maybe I'll try it with one of card reader calcs (HP65/HP67/HP97). I own two HP41CV's but no card reader. I think they all use the same DC card reader motor, so I'd expect comparable current draw.

Michael

Re: 82104A card reader current measurements?

*Message #4 Posted by **Eric Smith** on 10 June 2009, 5:25 p.m.,*
in response to message #3 by Michael de Estrada

Yes, I could measure it myself, if I had a card reader. I don't, and thus the request.

Re: 82104A card reader current measurements?

*Message #5 Posted by **Michael de Estrada** on 10 June 2009, 5:56 p.m.,*
in response to message #4 by Eric Smith

Here's some preliminary info based on a HP65:

Applied voltage at battery terminals - 3.75 Vdc

1) Calculator powered on and idle - display 0.00 - 140 mA

2) Calculator during a card read - 300 mA

3) Net current draw of card reader = 160 mA

Note that the current draw initially peaks as high as 450 mA as the motor does extra work grabbing the card and overcoming initial static friction (sliding friction is less). Also, I imagine this will vary between different card readers based on the tightness of the drive roller. If you are interested, I will test other calculators as I have 3 HP65's, 2 HP67s and a HP97. Also, all of these have been refurbished, so I have no baseline to the original.

Edited: 10 June 2009, 6:02 p.m.

Re: 82104A card reader current measurements?

*Message #6 Posted by **Eric Smith** on 10 June 2009, 6:15 p.m.,*
in response to message #5 by Michael de Estrada

Thanks for taking those measurements. I'm assuming that the HP-67 measurements will probably be similar, and that will help with another one of my mad scientist projects that I hope to show off at HHC 2010. (I've got a different mad scientist project in the works that I hope to show at HHC 2009.)

Re: 82104A card reader current measurements?

*Message #7 Posted by **Eric Smith** on 10 June 2009, 6:09 p.m.,*
in response to message #1 by Eric Smith

Found the information in the archives, while looking for something else. Summary: 150-200mA continuous (while in operation), with peak current of up to 1A.

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv007.cgi?read=13849

Re: 82104A card reader current measurements?

*Message #8 Posted by **Michael de Estrada** on 10 June 2009, 6:20 p.m.,*
in response to message #7 by Eric Smith

Seems consistent with my results.

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SpeedUI units bug?

*Message #1 Posted by **Mark Edmonds** on 10 June 2009, 12:58 p.m.*

I recently installed SpeedUI 9.05 but now I find I can't perform left-shift unit conversions in the normal manner. Is anyone with SpeedUI installed able to confirm this please?

Example sequence:

Go to the Unit menu and select Length.

Enter 1_m Press left shift ft to convert to feet. Nothing happens.

To convert, you need to specify the second unit and use the Convert command which is not so nice as the left shift option!

Thanks,

Mark

Re: SpeedUI units bug?

*Message #2 Posted by **Raymond Del Tondo** on 10 June 2009, 4:46 p.m.,*
in response to message #1 by Mark Edmonds

Hello Mark,

many thanks for trying SpeedUI:-)

It seems you have found a bug, or limitation in
the key handling mechanism of the current UI lib.

As far as I can see, this problem is limited
to the leftshift and rightshift direct conversion
functions in the UNITS submenus.

I'll fix this ASAP. It may take some days,
but this issue has highest priority, of course.

Meanwhile, I hope you like the remaining parts of SpeedUI;-)

Regards

Raymond

Re: SpeedUI units bug?

*Message #3 Posted by **Mark Edmonds** on 12 June 2009, 4:50 p.m.,*

in response to message #2 by Raymond Del Tondo

Thanks Raymond :) Yes - enjoying SpeedUI a great deal and I've switched over to it and now use it without even thinking about it.

If anyone is considering SpeedUI, I highly recommend it. Yes, it does have a heavy memory footprint but the speed benefits are huge - totally excellent.

Mark

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Help with Free42 + T3 + Ehrling42sm = cut off image?

*Message #1 Posted by **htom trites jr** on 10 June 2009, 9:52 a.m.*

Hi, Thomas (and other Free42 on Palm Tn things.) I've recently acquired a Palm T3 (ver 5.2.1, app ver 4.5.1P) and installed Free42 (decimal, 1.4.49). It works great except that when I put on the Ehrling42sm skin the Graffiti2 area doesn't disappear when the device is opened (and it doesn't shrink when it's closed, but I'm not sure it was supposed to do that?) I tried setting the maximum gif size to 450 and 480 from 256, but that appeared to have no effect. Help?

Re: Help with Free42 + T3 + Ehrling42sm = cut off image?

*Message #2 Posted by **Thomas Okken** on 10 June 2009, 6:11 p.m.,*
in response to message #1 by htom trites jr

You should be able to collapse the graffiti area manually by clicking on the arrow in the bottom right corner of the screen. Once you've done that, the input area will expand and collapse automatically as needed, like when you select a different skin, or when dialog boxes are presented or dismissed.
Whether the graffiti area is expanded or collapsed is a global setting, not application-specific; Free42 will collapse the graffiti area when Ehrling42sm is selected, *if* it was collapsed when Free42 was launched.
Think of it this way: the graffiti area can be in two states, expanded or collapsed. When a fixed-size window is presented, the input area is forced into its expanded state (if the window is square) or into its collapsed state (if the window is tall, like the print-out window), but the user-selected state is remembered, and is restored when a resizable window becomes topmost again. You can tell which state the input area is in by looking for the arrow in the bottom-right corner: if it is missing, the current window is fixed size; if it is present, the current window supports both small and large sizes.
Allowing the graffiti area to expand when a 320x450 skin is selected is a feature, not a bug; this allows the use of graffiti in ALPHA mode.

(The "maximum GIF height" setting specifies the maximum height of the GIF files generated when printer output is captured. This has nothing to do with skins.)

- Thomas

Edited: 10 June 2009, 6:51 p.m.

Re: Help with Free42 + T3 + Ehrling42sm = cut off image?

*Message #3 Posted by **htom trites jr** on 10 June 2009, 7:02 p.m.,*
in response to message #2 by Thomas Okken

If I open free42+Ehrling42sm from the expanded Home with no Graffiti input showing, the first thing that shows is "Loading", with the Graffiti area, and then the Ehrling skin under that. The Graffiti close icon is greyed out, with any skin.

Re: Help with Free42 + T3 + Ehrling42sm = cut off image?

*Message #4 Posted by **Thomas Okken** on 10 June 2009, 9:20 p.m.,*

in response to message #3 by htom trites jr

Could you try uninstalling Free42, then hard-resetting the Palm, then reinstalling? Does that make a difference? Also, what does the print-out window look like?

Re: Help with Free42 + T3 + Ehrling42sm = cut off image?

*Message #5 Posted by **htom trites jr** on 10 June 2009, 10:25 p.m.,*
in response to message #4 by Thomas Okken

Currently a grey square (probably half the pixels white, half black); doing a print stack, the four lines at the top are white, T= value, ... X= value, then the rest grey. Keying 1 ^ 2 ^ 3 ^ 4 print stack, those values are now below the others. Hot Syncing ... Hard Reset ... Hot Sync ... problem has not gone away. I'm a little surprised that both Free42 and EatWatch were automaticly reloaded. I'll try deleteing them from both places and trying again tomorrow. Is there some update to the T3 that might change this? The only one I saw was something to do with SD cards, and I'm not using those.

Re: Help with Free42 + T3 + Ehrling42sm = cut off image?

*Message #6 Posted by **Thomas Okken** on 10 June 2009, 10:38 p.m.,*
in response to message #5 by htom trites jr

I believe there is an OS update for the T3, but I don't know what it does - the link to it at palmone.com is broken.
So, the arrow is disabled on the print-out screen, too (disabled or missing?). Strange, it's like the OS does recognize that the main screen is resizable, but for some reason it refuses to collapse the graffiti area. I'll have to look into the API docs to check if that version of the OS requires any special treatment. I thought that the dynamic input area was introduced in 5.3; I may be doing something wrong with the OS capability checks.

Feel free to contact me off-line if you want to continue this discussion outside of the forum. If hard-resetting and reinstalling doesn't fix this, this may require some actual debugging, and that could become a bit boring for the rest of the forum participants.

- Thomas

Re: Help with Free42 + T3 + Ehrling42sm = cut off image?

*Message #7 Posted by **htom trites jr** on 11 June 2009, 5:41 p.m.,*
in response to message #6 by Thomas Okken

Will do. I'm sure it's something about the differences between the T and T3 and T5, we just have to figure out what it is. We'll report back when we succeed.

Free42 runs fine on the very old HandSpring Visors, btw.

Fixed; directions here

*Message #8 Posted by **htom trites jr** on 15 June 2009, 2:11 p.m.,*
in response to message #7 by htom trites jr

Fixed, unpublicized Palm T3 software update.

There are a pair of files (AppSlipRotate.prc and StatusBarLib.prc) distributed with several apps that are for "!!! T3 only !!!"; upon installing this pair prior to installing

Pimlico's DateBK6 which requires them on a T3, the screen now properly shows the shrink graffiti icon, and it works as expected.

Thomas, you should probably put a note in the install docs for Free42 that these are needed for Tungsten T3 use.

Re: Fixed; directions here

*Message #9 Posted by **Thomas Okken** on 15 June 2009, 9:37 p.m.,*
in response to message #8 by htom trites jr

That's good to hear -- thanks for figuring this out!
Do you know if those two prc files are freely redistributable? If so, I'd like to include them in Free42PalmOS.zip, or maybe offer them as a separate download at free42.sourceforge.net.

Re: Fixed; directions here

*Message #10 Posted by **htom trites jr** on 16 June 2009, 1:48 p.m.,*
in response to message #9 by Thomas Okken

Quoting from http://fitaly.com/fitalyvirtual3/readthisfirst.htm

---

T3 Dynamic Input Area libraries

FitalyVirtual requires the presence of two libraries — AppSlipRotate.prc and StatusBarLib.prc — for the Dynamic Input Area of the Tungsten T3 to work properly. Installing these libraries will override built-in ROM libraries and will require that you do a Reset at the end of the Hotsync. (This is normal and does not cause any data loss. It only occurs once when you install these libraries.)

These libraries are provided by PalmOne who endorses their use. You may find other third-party applications also asking you to install these same libraries but you only need to do it once. Note that reinstalling them does no harm: the Hotsync log will include a message telling you that they are already present. Finally, if you attempt to enable FitalyVirtual without having installed these libraries, enabling will fail and you will get a warning message asking you to install them.

These libraries should never be installed on a T5 or a LifeDrive.

The other places I've seen the files have similar messages; provided by PalmOne, needed on T3, dire results if they are installed on any other Palm, or if they are not installed together. Finding "official" news about these is difficult, at least for me. If you have access to the old Palm developer docs you might find some info there.

I hot-synced, dragged the two into the install box, hot-synced, got a soft-reset, opened Free42, and it was working.

---

http://www.handshigh.com/html/tungstent3.html

http://www.red-mercury.com/t3.html

are two other sites with similar info. Seems the T3 shipped without something, and for some reason they didn't put it into the flash update that came along later.

Edited: 16 June 2009, 1:55 p.m.

Re: Fixed; directions here

*Message #11 Posted by **Thomas Okken** on 16 June 2009, 6:01 p.m.,*
in response to message #10 by htom trites jr

That agrees with a few other web sites I found -- simply googling for AppSlipRotate.prc turns up several sites that have these prc files for the T3. OK, since those files are pretty small, I'll just add them to the Free42PalmOS.zip package, with an additional README file to explain what they're for.

Re: Help with Free42 + T3 + Ehrling42sm = cut off image?

*Message #12 Posted by **Les Wright** on 10 June 2009, 11:26 p.m.,*
in response to message #1 by htom trites jr

Sorry you are having trouble with this. I use Free42 on a Palm TX (indeed, Free42 was the main reason I got that particular Palm a few years ago) and that skin is my skin of choice. Never any problems.

I am suspecting you have some specific issue with your Palm model or the OS. I hope you you sort it out. Free42 really works well on Palms, and the flash card storage makes program I/O a piece of cake. Free42 is the only reason I keep my old Sony Clie and Palm TX in commission.

Les

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HP-15C Mini-Challenge: Magic squares !

*Message #1 Posted by **Valentin Albillo** on 10 June 2009, 6:28 a.m.*

Hi all:

Since these next four days will be a loooong weekend here in Madrid, I feel like concocting a brand new ***HP-15C Mini-Challenge***™ for you to try, namely:

A **magic square** is a square arrangement of numbers such that *each* row, column, and main diagonals add up to the *same* value, say **K**, which is called the magic square's *constant*.

Now let's say you're given an *arbitrary 3rd order magic square* which has some (not given) value **K** as its constant. You must write a routine which takes the given magic square as its input and then computes the elements of *another* magic square of the same order but having $\mathbf{K^3}$ as its constant instead.

You don't need to include any input or output procedures in your routine, it may assume that the given magic square is already stored in memory in any way you find convenient (such as sequential numeric registers, or a matrix, or whatever) and it just needs to *compute* the elements of the new magic square and leave them stored in memory, no need to actually output them to the display.

For example, if given the following magic square:

```
 71   89    17
  5   59   113
101   29    47
```

which has **K = 177** (all rows, columns, and main diagonals add up to **177**) you must compute and store the elements of another magic square of the same order but having **K** = 177^3 = **5,545,233**.

You must optimize for program length, the shorter the better. Not counting label and return, it can be done in the number of steps corresponding to a very famous integer traditionally considered having to do with luck (whether good or bad is up to you ...), and further an additional step can be shaved off with one little proviso.

I'll provide my solution and comments next Monday or so, maybe earlier if someone stumbles upon it. Have a nice weekend and all that, and

Best regards from V.

Edited for typos

Edited: 10 June 2009, 6:39 a.m.

Re: HP-15C Mini-Challenge: Magic squares !

*Message #2 Posted by **Eamonn** on 10 June 2009, 11:13 a.m.,*
in response to message #1 by Valentin Albillo

Hi Valentin,

Great to see another 15c Mini challenge.

Here is my solution - 4 steps excluding the LBL and RTN. The solution assumes that the magic square is stored in a Matrix and that the Matrix descriptor is in the X-register before being called.

```
LBL A
ENTER
f MATRIX 7
x^2
*
RTN
```

It could be reduced to 3 steps if the matrix descriptor is in both the X and Y registers before the routine is called. In this case the first ENTER can be removed.

The only caveat is that it does not work for magic squares which have negative entries for some of the elements.

Best regards,

Eamonn.

Re: HP-15C Mini-Challenge: Magic squares !

*Message #3 Posted by **Didier Lachieze** on 10 June 2009, 12:45 p.m.,*
in response to message #2 by Eamonn

Great to see a mini challenge I can solve !! :-)

My solution, assuming that the magic square is in matrix A: 7 steps excluding LBL and RTN, should work for all magic squares.

```
01 LBL A
02 f RESULT B
03 RCL MATRIX A
04 ENTER
05 *
06 f RESULT C
07 RCL MATRIX A
08 *
09 RTN
```

Result is in matrix C and is different from the one obtained with Eamonn solution.

Edited: 10 June 2009, 12:47 p.m.

Re: HP-15C Mini-Challenge: Magic squares !

*Message #4 Posted by **Eamonn** on 10 June 2009, 7:57 p.m.,*
in response to message #3 by Didier Lachieze

Hi Didier,

I like your solution. I was not aware that the third power of a magic square matrix is itself a magic square matrix with a magic sum that is the third power of the magic sum of the original matrix. Very nice result.

I played around with some more ideas and here is another seven step solution (not including the LBL

and RTN) that I believe solves the challenge as stated and generates a solution that is different to the earlier posted solutions.

This solution requires that the original magic square be stored in the 3x3 Matrix A, with the center square stored in A(1,1). The other values from the original square can be stored in any order in A that is convenient for the user.

```
LBL A
f MATRIX 1
RCL A
3
y^x
9
*
STO MATRIX A
RTN
```

The result is returned in the Matrix A, with the very magic property that the new magic square can be read from Matrix A in conventional fashion (i.e. the center of the new magic square ends up in A(2,2), the top left value is in A(1,1), etc. This solution should work for all 3x3 magic squares, even those with a mix of positive and negative values, always returning a square in which all the rows and columns and the main diagonals sum to the cube of the magic number of the original square.

Best regards,

Eamonn.

Re: HP-15C Mini-Challenge: Magic squares !

*Message #5 Posted by **Didier Lachieze** on 10 June 2009, 9:53 p.m.,*
in response to message #4 by Eamonn

Well, I realize that I've been a bit quick to jump to a solution. I found it quite intuitively and I've verified it for several magic squares but I don't have a complete demonstration ...

Here are some explanations: let's take two 3x3 magic squares X, constant K and Y, constant L

$$X = \begin{pmatrix} a, & b, & c \\ d, & e, & f \\ g, & h, & i \end{pmatrix} \qquad Y = \begin{pmatrix} r, & s, & t \\ u, & v, & w \\ x, & y, & z \end{pmatrix}$$

then

$$X*Y = \begin{pmatrix} ar + bu + cx, & as + bv + cy, & at + bw + cz \\ dr + eu + fx, & ds + ev + fy, & dt + ew + fz \\ gr + hu + ix, & gs + hv + iy, & gt + hw + iz \end{pmatrix}$$

the sum of the first column is:

$$(a+d+g)r + (b+e+h)u + (c+f+i)x = Kr + Ku + Kx = K(r+u+x) = K*L$$

and you can see in the same way (using only rows and columns constant property) that the result is the also K*L for all rows and columns.

However I've not found a way to prove it's the same for the main diagonals ... btw it's not true as on a few examples I've tried the diagonal constant is not K*L.

If we suppose that the rows and columns constant of X*Y is K*L then for X*X it's K^2 and for X*X*X it's K^3; and strangely this last one is also true for the diagonals for the different magic squares I've tried so far.

So I still have to prove that the constant for the diagonals of X*X*X is K^3...

Now, to add something else to this incomplete and potentially wrong solution, and as Valentin has expressed previously his interest in the old Sharp Pocket Computers, here is a program for the Sharp PC-1403 using the Matrix functions entry points described earlier on this forum in this thread:

The Sharp PC-1403 uses 3 matrix: X and Y for calculation, M for memory.

The program below assumes that the magic square is in X and return the result of X^3 in X.

```
10:"A":CALL 26191:REM X->M
20:CALL 26186: REM X^2->X
30:CALL 26163: REM X<>Y
40:CALL 26199: REM M->X
50:CALL 26119: REM X*Y->X
60:PRINT X(0,0)+X(1,1)+X(2,2),X(0,2)+X(1,1)+X(2,0)
```

Example:

```
CALC mode
SHIFT down                  'to enter in Matrix mode
3 ENTER 3 ENTER             'to dimension matrix X as 3x3
 71 ENTER 89 ENTER  17 ENTER 'enter first row
  5 ENTER 59 ENTER 113 ENTER 'enter second row
101 ENTER 29 ENTER  47 ENTER 'enter third row
3 ENTER 3 ENTER             'to dimension matrix Y as 3x3
ENTER (9 times)             'until you get MATRIX OPERATIONS on the display
BASIC mode
DEF A                       'to run the program
```

It ends by printing the constant for the 2 main diagonals, so you can verify it's K^3. For the example above it shows:

```
5545233.       5545233.
```

Edited to add some precisions to the explanations.

Edited: 11 June 2009, 3:25 a.m.

Re: HP-15C Mini-Challenge: Magic squares !

*Message #6 Posted by **Eamonn** on 12 June 2009, 1:18 p.m.,*
in response to message #5 by Didier Lachieze

Hi Didier,

Section 8 of the book "Mathematical Explorations with MATLAB" deals with Magic squares. Part of exercise (v) on Page 104 is to prove the the product of an odd number of magic squares is also a magic square. The relevant sections are viewable in Google books (here is a link: Mathematical Explorations with MATLAB).

So, it appears that your solution is good.

Best regards,

Eamonn.

Re: HP-15C Mini-Challenge: Magic squares !

*Message #7 Posted by **Didier Lachieze** on 12 June 2009, 5:42 p.m.,*
in response to message #6 by Eamonn

Eamonn, thanks for the link, I will check it. I've prepared my solution below before seeing your post so I'm posting it anyway as it reflect my findings.

Introduction

To provide some formal content to my 15C program submitted above, here is a complete demonstration showing that if **M** is a 3x3 magic square having **K** as its constant, then $\mathbf{M}^3$ is also a magic square with $\mathbf{K}^3$ as its constant.
I suppose there are some smarter and nicer demonstrations as mine is a bit on the "brute force" side, being based on the direct calculation of each term of $\mathbf{M}^3$.

The trick

After several tries, I've come to the conclusion that I needed to take advantage of the magic square properties to reduce the number of variables to a minimum.

As I was manipulating 3x3 magic squares I've found an interesting property:

```
    ( r, s, t )
M = ( u, v, w )
    ( x, y, z )
```

being a magic square with K as it's constant, we can write using the rows properties:

```
3K = (r+s+t) + (u+v+w) + (x+y+z)
```

Rearranging the terms to use also the diagonals properties we have:

```
3K = (r+v+z) + (x+v+t) + (s+u+w+y) -v
3K = (r+v+z) + (x+v+t) + (s+v+y -v + u+v+w -v) -v
3K = (r+v+z) + (x+v+t) + (s+v+y) + (u+v+w) -3v
3K = 4K -3v
3v = K
```

So: **v = K/3**

This tell us one thing about 3x3 magic squares: their constant is always a multiple of 3.

Having a direct relation between the magic square constant **K** and the center value, we can now write **M** differently:
let's name **a** the central value and use it as a reference, expressing each value as **a** + or - something:

```
    ( a+b   a-b-c  a+c   )
M = ( a-b+c   a    a+b-c )
    ( a-c   a+b+c  a-b   )
```

Now we have an expression of **M** using only the central value **a** (which is equal to one third of the constant **K**) plus 2 others parameters **b** & **c** that can be positive or negative and are sufficient to completely define the magic square.

Calculating M^2

If we calculate **M*M**, for the first element (top left) we have:

$$
\begin{array}{lll}
(a+b)(a+b) & a^2 + ab + ab + b^2 \\
+ (a-b-c)(a-b+c) & = + a^2 - ab + ac - ab + b^2 - bc - ac + bc - c^2 \\
+ (a+c)(a-c) & + a^2 - ac + ac - c^2 \\
 & = 3a^2 + 2b^2 - 2c^2
\end{array}
$$

after calculating all terms we get the following matrix:

$$
M*M = \begin{pmatrix} 3a^2+2b^2-2c^2 & 3a^2-b^2+c^2 & 3a^2-b^2+c^2 \\ 3a^2-b^2+c^2 & 3a^2+2b^2-2c^2 & 3a^2-b^2+c^2 \\ 3a^2-b^2+c^2 & 3a^2-b^2+c^2 & 3a^2+2b^2-2c^2 \end{pmatrix}
$$

We can see that for $\mathbf{M^2}$ each row and column as well as the diagonal bottom left to top right has the same sum which is $\mathbf{9a^2 = K^2}$ (remember: **a = K/3**) , but the remaining diagonal (top left to bottom right) has a different sum so $\mathbf{M^2}$ is not a magic square.

Calculating M^3

Now let's calculate $\mathbf{M^2*M}$.

First, what's the center value of $\mathbf{M^3}$:

$$
\begin{array}{lll}
(3a^2-b^2+c^2)(a-b-c) & 3a^3 - ab^2 + ac^2 - 3a^2b + b^3 + bc^2 - 3a^2c + b^2c - c^3 \\
+ (3a^2+2b^2-2c^2)a & = + 3a^3 + 2ab^2 - 2ac^2 \\
+ (3a^2-b^2+c^2)(a+b+c) & + 3a^3 - ab^2 + ac^2 + 3a^2b - b^3 - bc^2 + 3a^2c - b^2c + c^3 \\
 & = 9a^3 \quad \text{(we can simplify a lot of terms above)} \\
 & = 9(K/3)^3 \\
 & = \mathbf{K^3/3}
\end{array}
$$

That starts to look interesting as we want to prove that $\mathbf{M^3}$ is a magic square with $\mathbf{K^3}$ as constant...

Let's continue with all terms (it took me some time to get it right ...) and we have:

$$
M^3 = \begin{pmatrix} 9a^3+3b^3-3bc^2 & 9a^3-3b^3+3c^3+3bc^2-3b^2c & 9a^3-3c^3+3b^2c \\ 9a^3-3b^3-3c^3+3bc^2+3b^2c & 9a^3 & 9a^3+3b^3+3c^3-3bc^2-3b^2c \\ 9a^3+3c^3-3b^2c & 9a^3+3b^3-3c^3-3bc^2+3b^2c & 9a^3-3b^3+3bc^2 \end{pmatrix}
$$

If we add up each row, column or diagonal we can see now that $\mathbf{M^3}$ is a magic square with a constant of: $27a^3 = 27(K/3)^3 = \mathbf{K^3}$, so we are done !!!

Conclusion

As a conclusion, many thanks to Valentin for crafting the Mini-challenges. This one has been for me both challenging and rewarding as I've been able to solve it practically with the requested 15C program based on my intuitions and theoretically with a formal demonstration. Overall this was an excellent brain exercise !

Edited to fix a few typos.

Edited: 12 June 2009, 7:00 p.m.

Re: HP-15C Mini-Challenge: Magic squares !

*Message #8 Posted by **Valentin Albillo** on 16 June 2009, 8:26 a.m.,*
in response to message #7 by Didier Lachieze

Hi, Didier:

Thanks for your appreciation and congratulations for your correct solution and excellent further exposition.

My original solution was the following 7-step HP-15C code:

```
RCL MATRIX A
ENTER
ENTER
RESULT B
 *
RESULT C
 *
```

which could be shortened by one step by making A one of the result matrices (instead of B or C) and taking advantage of the fact that after a memory reset the A matrix is the default result matrix, but that's too specific and contrived and would work just once, unlike the general, repeatable 7-step solution above.

When applied to

```
6  1  8
7  5  3   K = magic constant = 15
2  9  4
```

the above code quickly produces:

```
1101  1221  1053
1077  1125  1173    K2 = magic constant = K^3 = 15^3 = 3375
1197  1029  1149
```

as required.

Just in case you're interested in trying some more of my HP-related challenges, here you are, some links to most of the ones I posted to this forum in the past years, complete with all contributions and full commented solutions:

Short & Sweet Math Challenge #20

Short & Sweet Math Challenge #19

Short & Sweet Math Challenge #18

Short & Sweet Math Challenge #17

Short & Sweet Math Challenge #16

Short & Sweet Math Challenge #15

Short & Sweet Math Challenge #14

Short & Sweet Math Challenge #13

Short & Sweet Math Challenge #12

Short & Sweet Math Challenge #11

Short & Sweet Math Challenge #10

Short & Sweet Math Challenge #9

Short & Sweet Math Challenge #8

Short & Sweet Math Challenge #7

Short & Sweet Math Challenge #6

Short & Sweet Math Challenge #5

Short & Sweet Math Challenge #4

Short & Sweet Math Challenge #3

Short & Sweet Math Challenge #2

Short & Sweet Math Challenge #1

Valentine's Day 2008 Mini-Challenge

Valentine's Day Mini-Challenges

HP-15C Mini-challenge

HP-15C Mini-challenge

HP-15C Mini-challenge

HP-15C Mini-challenge

Mini-Challenge

Arguably useful Mini-challenge

A little HP-71B challenge

HP42S Mini-challenge

A little classical RPN challenge

A new small HP-15C challenge

Really really small HP-15C Mini-challenge

New HP-15C Mini-challenge

HP-15C Mini-challenge

A little HP-15C challenge

A little HP-15C challenge

Two little RPN challenges

Again, thanks to everyone for your appreciation and your contrubutions, glad you liked it, and

Best regards from V.

Re: HP-15C Mini-Challenge: Magic squares !

*Message #9 Posted by **Egan Ford** on 16 June 2009, 9:55 a.m.,*
in response to message #8 by Valentin Albillo

Valentin, thanks for contriving this challenge. I look forward to many more.

Re: HP-15C Mini-Challenge: Magic squares !

*Message #10 Posted by **Didier Lachieze** on 16 June 2009, 12:08 p.m.,*
in response to message #8 by Valentin Albillo

Hi Valentin,

I find your original solution nicer than mine, even if they do the same thing in the same number of steps. Yours is more elegant with a similar structure for the two operations and looks simpler.

This is, I suppose, the Zen of RPN coding:

1) Operand:

```
RCL MATRIX A
ENTER
ENTER
```

2) First operation:

```
RESULT B
 *
```

2) Second operation:

```
RESULT C
 *
```

While my solution is mixing data, operations and result assignments and at the end seems more complex and less elegant (at least to me):

```
RESULT B
RCL MATRIX A
ENTER
*
RESULT C
RCL MATRIX A
*
```

... a lot could be learned from even the smallest code.

The list of your HP-related challenges is amazing ! I've not realized there were so

many as I'm quite a newbie on this forum (I've been hooked again on HP calculators last year when I got a 11C and a 35s, nearly 30 years after my 41C).

Didier

Re: HP-15C Mini-Challenge: Magic squares !

*Message #11 Posted by **Marcus von Cube, Germany** on 16 June 2009, 1:41 p.m.,*
in response to message #8 by Valentin Albillo

Hi Valentin,

I didn't try your challenge but I've learned something by walking through this thread. Thanks for your efforts and ideas! Could you create an article with just the link list from this post. It could serve as a reference.

Marcus

Re: HP-15C Mini-Challenge: Magic squares !

*Message #12 Posted by **PeterP** on 16 June 2009, 4:46 p.m.,*
in response to message #11 by Marcus von Cube, Germany

I'd like to second all of Markus' comments, an article with all the links would be most fabulous.

(I had come across that particular questions for magic squares when I was high-school and part of a little news-paper editor group with magic squares and the like where I had to come up with new magic squares on a regular basis... Without an HP calcs unfortunately, but a TI 52-II with I think 12 steps or something the like)

Thanks for your postings, its good to see you more around again!

Cheers

Peter

Re: HP-15C Mini-Challenge: Magic squares !

*Message #13 Posted by **Bruno Férard** on 21 June 2009, 8:53 a.m.,*
in response to message #8 by Valentin Albillo

It's again a real pleasure to ponder over your challenge. It was both entertaining and instructive.

Many thanks, I am looking forward to trying the next one. (I am going to bookmark the index of former challenges)

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HP-41 w/NoV-64: Funny module conflict

*Message #1 Posted by **Geir Isene** on 9 June 2009, 10:55 a.m.*

I have the following setup active in NoV-64 (XROM numbers in parenthesis - verified by HEXEDIT addresses X000):

```
ROM:
  Bank1 (Regular):
    ICEBOX (4)
    CCD OS/X (5)
    (empty - cater for 8K modules)
    (empty - cater for 8K modules)
RAM:
  Bank1 (Math):
    (Hepax ram)
    (Hepax ram)
    SandMath III L (3)
    SandMath III U (2)
```

The other ROM-bank and the other 3 HEPAX RAM banks give me no trouble - but the above gives a loss of functionality: The additional characters available through the CCD OS/X are gone. When I Use the following setup (HEPAX RAM bank 0 active, the characters are appearing as they are supposed to:

```
ROM:
  Bank1 (Regular):
    ICEBOX (4)
    CCD OS/X (5)
    (empty - cater for 8K modules)
    (empty - cater for 8K modules)
RAM:
  Bank0 (Time):
    (Hepax ram)
    (Hepax ram)
    (Hepax ram)
    (Hepax ram)
```

Why is this?

Edit: I even tried to change the XROM numbers of SandMath III since that module is the only difference between the two setups - but the problem persists; No access to CCD's special characters (when Flag 27 is cleared).

Edited: 9 June 2009, 11:07 a.m.

Re: HP-41 w/NoV-64: Funny module conflict

*Message #2 Posted by **Raymond Del Tondo** on 9 June 2009, 3:12 p.m.,*
in response to message #1 by Geir Isene

Hi,

I don't know what the SandMath does, but maybe that ROM also catches key strokes in ALPHA mode.
You could try to load the CCD OS/X into a lower page than the SandMath.

Do the docs of the SandMath mention any extended keyboard features?

HTH

Raymond

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Symbolic integration

*Message #1 Posted by **Valentin Albillo** on 9 June 2009, 9:37 a.m.*

Hi all,

Quite an interesting subject, most especially for small handhelds with symbolic integration capabilities.

For those who don't know about it, this on-line symbolic integrator might be of interest to try some cases and check the results and capabilities against those of your favourite handheld:

Wolfram Online Integrator

I suggest you try this example I've concocted, to see why many times straight numerical approximations are far more preferable than using an exact symbolic expression, even if it exists in terms of elementary functions:

1/(1+x^1024)

You won't get a "Traditional Form" so try either the "Input Form" or "Output Form" and be astonished at the result. How does your handheld fare with my example ?

If it doesn't fare, try reducing the exponent from 1024 to 512, 256, 128, 64, ... , until it can cope.

Another nice example to try, this time resulting in no trigonometrics at all, is:

1/(1+x^(1/4096))

Again, marvel at the result's length and complexity, most especially when compared to those of the input, a mere 16-character in length.

Best regards from V.

Edited: 9 June 2009, 9:53 a.m.

Re: Symbolic integration

*Message #2 Posted by **Jorge I. Rodriguez (Pasadena, CA)** on 9 June 2009, 2:07 p.m.,*
in response to message #1 by Valentin Albillo

Very nice integrals. I will check them out in both the HP-50g and the HP-35s and see what happens.

Re: Symbolic integration

*Message #3 Posted by **Quan** on 9 June 2009, 2:29 p.m.,*
in response to message #2 by Jorge I. Rodriguez (Pasadena, CA)

> Quote:
>
> Very nice integrals. I will check them out in both the HP-50g and the HP-35s and see what

happens.

If I understand correctly, the 35s doesn't do symbolic integration.

Am I wrong?

Re: Symbolic integration

*Message #4 Posted by **Egan Ford** on 9 June 2009, 4:23 p.m.,*
in response to message #2 by Jorge I. Rodriguez (Pasadena, CA)

Your 50g will run out of memory. It does work on another handheld. The iPhone.

Re: Symbolic integration

*Message #5 Posted by **Jorge I. Rodriguez (Pasadena, CA)** on 9 June 2009, 4:34 p.m.,*
in response to message #4 by Egan Ford

You are right the HP35s does not do symbolic integration, but I can try putting limits on the integrand and do numerical integration to see if the answer matches what HP-50g gives or what Mathematica gives.

Re: Symbolic integration

*Message #6 Posted by **Karl Schneider** on 10 June 2009, 1:29 a.m.,*
in response to message #1 by Valentin Albillo

Welcome back, Valentin!

For integrands of the form

```
1/(1+x^n)
```

those who remember their calculus should be able to easily solve the integral for n = 1 or 2. For n = 3 or n = 4, looking up the closed-form solutions of cubic and quartic equations, substituting the roots into the denominator, expressing the integrand as a sum of partial fractions, and performing the elementary integrations should provide the answer. However, this gets tedious right away.

For the symbolic solutions for n > 4, I suppose that Mathematica is doing something like the following procedure found at the following link:

http://mathforum.org/library/drmath/view/53784.html

With n as an integer power of 2, there might possibly be simplifications, but maybe not. The sin, cos, sec, and csc terms are present for every solution with n >= 7, as far as I looked.

The number of terms in the integral generally equals the order of the polynomial, as might be expected from the basic approach described above. Exception: When one term is a scalar multiple of $\tan^{-1}(x)$, as with n = 2, 6, 10, ...(?), there are only n-1 terms in the solution.

-- KS

Edited: 10 June 2009, 3:36 a.m.

Re: Symbolic integration

*Message #7 Posted by **Marcus von Cube, Germany** on 10 June 2009, 1:55 a.m.,*
in response to message #1 by Valentin Albillo

Hi Valentin,

I could not resist and put it into Derive 6. At least, Derive is capable of solving the integral. On my iMac (with Windows XP in a Parallels virtual machine), processing time was 276 seconds!

I'll probably check with the TI Nspire later.

Edit: I'll probably leave the Nspire alone. ;) I'm just trying with the Nspire software on my iMac which is busily working on the n=16 case for a few minutes now without a result so far. The same case is solved by Derive almost instantaneously, even while the Nspire software is eating resources.

Edited: 10 June 2009, 2:50 a.m.

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New Iphone & Itouch calculator - Access RPN and Active RPN

*Message #1 Posted by **Nigel Bamber** on 9 June 2009, 8:22 a.m.*

A new application has been uppoaded to the App Store. Access RPN is free and and shows how RPN works by showing the numbers moving up/down the stack.

It is an intuitive application and very appealing to use.

Active RPN has more functions, programming ability and costs, but I haven't tried this yet.

Access RPN and Active RPN webpage

Nigel

Re: New Iphone & Itouch calculator - Access RPN and Active RPN

*Message #2 Posted by **Jean-Michel** on 10 June 2009, 4:13 p.m.,*
in response to message #1 by Nigel Bamber

Hi Nigel!

Thanks for the link. I downloaded it just after having read your thread. It's a nice calc, and more to say it also has a nice design, but to my opinion, what makes it remarkable is the stack, visible and living! Kind regards. JM.

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HP cassette mass storage device...

*Message #1 Posted by **Geoff Quickfall** on 9 June 2009, 1:18 a.m.*

Just wondering, the manual states that the device can record the calculators full statis including memory modules, flags, registers and display.

The term memory modules would apply to the HP 41C with up to a quad memory module or the CV and CX with the standard 319 registers.

Is there anyway to use the WRTA command to record the state of the extended memory?

I have a lot of programs and ascii files residing in my double ex memory module that are never included in the write all WRTA command be it the 9114B or the cassette storage device. Instead the backups reside on magnetic cards and are transferred to extended memory from the card to main memory and from main memory to extended via a READ and WRITE program.

Cheers, Geoff

Edited: 9 June 2009, 1:36 a.m.

Re: HP cassette mass storage device...

*Message #2 Posted by **Raymond Del Tondo** on 9 June 2009, 3:01 a.m.,*
in response to message #1 by Geoff Quickfall

> Quote:
>
> [..]**Is there anyway to use the WRTA command to record the state of the extended memory?**[..]

Hi,

the Extended IL ROM and the ExtIL+ ROM offer functions to save and restore XM contents to and from HP-IL mass media.

HTH

Cheers

Raymond

Edited: 9 June 2009, 3:02 a.m.

Thanks Raymond,

*Message #3 Posted by **Geoff Quickfall** on 9 June 2009, 12:04 p.m.,*
in response to message #2 by Raymond Del Tondo

I will put the Extended IL ROM in the Clonix.

Cheers, Geoff

Re: HP cassette mass storage device...

*Message #4 Posted by **Eric Smith** on 9 June 2009, 3:05 a.m.,*
in response to message #1 by Geoff Quickfall

No, unfortunately WRTA can't be used to write extended memory to HP-IL mass storage devices. You have to transfer the XM files individually. For ASCII files, the SAVEAS and GETAS functions can be used to transfer between XM and mass storage. HP didn't provide any easy functions to do that for other kinds of files.

The third-party "Extended IL" ROM by SKWID INK apparently has functions for file transfers between XM and mass storage. Not to be confused with HP's 82183A Extended IO ROM, which is entirely different.

Re: HP cassette mass storage device...

*Message #5 Posted by **Ángel Martin** on 9 June 2009, 3:38 a.m.,*
in response to message #1 by Geoff Quickfall

I believe also the PANAME rom includes some functions to Write/Read the whole XMemory at once, but I'll have to dig it out to be sure about it.

I *vaguely* remember looking at such functions MCODE a few years ago, but didn't fully succeed in copying them to the SandBox.

Best, ÁM

Re: HP cassette mass storage device...

*Message #6 Posted by **Geoff Quickfall** on 9 June 2009, 11:18 a.m.,*
in response to message #5 by Ángel Martin

Thanks all

I didn't think there was an ability without synthetics or third party. I just thought, maybe I was missing something.

I use a program with synthetics by Kieth Jarrett which work for magnetic cards but not for cassette storage.

I will check the Paname module and see if that will load into the clonix and the Extended IL" ROM. At the moment it is not a tedious job when the machine crashes!

Cheers, Geoff

Re: HP cassette mass storage device...

*Message #7 Posted by **PeterP** on 10 June 2009, 1:13 a.m.,*
in response to message #6 by Geoff Quickfall

geoff, IIRC, there are synthetics programs which basically wrap the while xm registers into one large ASCII file which then can be written to hpil. I'm away from home this week so I can't look it up but maybe someone else can confirm/correct me...

Cheers

Peter

Re: HP cassette mass storage device...

*Message #8 Posted by **Raymond Del Tondo** on 10 June 2009, 4:06 a.m.,*
in response to message #7 by PeterP

Or as an alternative, you could change the file type of the individual XM files to ASCII/TEXT using the CCD module POKE,
or some synthetic method, and then simply save those file(s) to HP-IL using SAVEAS.

HTH

Raymond

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Byron Fosters 42s for iPhone version 2 submitted to Apple App Store

*Message #1 Posted by **Les Wright** on 9 June 2009, 12:53 a.m.*

Click here

Hopefully, version 1 owners will see it in the App Store soon.

A programmer acquaintance compiled the source for me and I have been able to play with version 2 in advance. I/O support with a web interface, somewhat different from i41cx+, is now in place. Shifted label font is a little bigger. There is ability to display a four line stack, to rotate the stack with a swipe of the finger, and to scroll program listings with finger swiping. And the overall speed seems much improved--I noticed in some of my iterative programs v. 1 was much slower. Great little app. Alas, unlike with i41cx+, there is no way to export or forward printer output as text or images. Maybe in a future upgrade?

I hear that Thomas Okken's Free42 "original" is actively in the works and we should see it up on the App Store in a few weeks.

Great little simulators these are. I love i41cx+ for it's complexity and fidelity to the beloved 41CX original. But for importing and running 41C programs with greater speed and accuracy, these 42S simulators have a great edge.

Les

Re: Byron Fosters 42s for iPhone version 2 submitted to Apple App Store

*Message #2 Posted by **Pal G.** on 9 June 2009, 1:06 p.m.,*
in response to message #1 by Les Wright

Les (or Thomas),

Can someone clear up how many Free42 ports are eventually going to be on the iTunes App Store? A day before this thread was started, I purchased the Byron Forster version, and now there is a mention of Thomas' "original" version. And an old post mentions a Susan Mackay version.

I thought these folks were assisting Thomas with the iPhone port, and that the Foster version is the official Free42 release.

Thanks,
PG

Edited: 9 June 2009, 1:07 p.m.

Re: Byron Fosters 42s for iPhone version 2 submitted to Apple App Store

*Message #3 Posted by **Thomas Okken** on 9 June 2009, 2:56 p.m.,*
in response to message #2 by Pal G.

Quote:

> Can someone clear up how many Free42 ports are eventually going to be on the iTunes App Store?

Short version: at least one, probably two, possibly more.

Long version: Byron made some design choices in his iPhone port that are different from how I wanted to approach it, and I started working on my own version as a result. Mostly these have to do with the UI; Byron's skin code, in particular, is completely different from how the existing ports work, while my own iPhone port is basically a port of the Motif version.

Both approaches have their benefits: Byron's code lends itself better to nifty UI enhancements, such as 4-line display, and displaying menus on the keyboard. My code does not support these features, but it does support user-selectable skins, which Byron's does not.

There will be other differences in the UI as well, with my version being closely modeled after the PalmOS version. In other respects, I expect both versions will converge in terms of functionality, so you will have the same functionality offered on all the other platforms (including print spooling, which is the only thing missing from Byron's version 2.0) -- regardless of whose port you may be using.

For the time being, of course, my version is vaporware; I have a couple of weekends of coding left to do, and I haven't had the time to work on it lately. Hopefully I'll be able to submit the first release before the end of the month, but I can't make any promises.
Byron's version, on the other hand, is out now, and his next version (2.0) is in the submission pipeline at the iTunes App Store as we speak; it addresses the two most common complaints about 1.0, namely, a facility to import and export "raw" program files, and an improved skin with larger shifted key labels, and it also has the nifty UI enhancements mentioned above.

Susan Mackay's version is not available at the app store, and Susan has no plans to publish it; she shared her code with Byron and me, and some of it was used in Byron's version.

Perhaps there will be additional Free42 ports for the iPhone sometime -- part of the fun of publishing open source software is that you never know. :-) I wouldn't count on it, though, since porting Free42 is more work than you might think, and porting it to a hand-held platform, with its constraints on the UI, is harder still.

- Thomas

Re: Byron Fosters 42s for iPhone version 2 submitted to Apple App Store

*Message #4 Posted by **Les Wright** on 13 June 2009, 7:03 a.m.,*
in response to message #3 by Thomas Okken

Thanks for the info, Thomas.

Byron's version 2 still isn't up on the App Store almost two weeks after submission. If you get your initial submission in during the summer, count on a similar delay. It's a shame that Byron's revision is taking so long to show up, because I suspect that fans who went nuts for v. 1 will really approve of the improved skin and speed, program I/O, and UI enhancements of v. 2.

FYI, the "R/S sometimes won't stop running program" bug persists in Byron's version 2. I think he removed some "pause" code to improve speed. Fortunately, for practical purposes this isn't a big deal, and it is hoped the problem will go away entirely when iPhone OS 3 is out.

Les

Re: Byron Fosters 42s for iPhone version 2 submitted to Apple App Store

*Message #5 Posted by **Thomas Okken** on 14 June 2009, 9:53 a.m.,*
in response to message #4 by Les Wright

The problem with R/S sometimes being ignored is pretty frustrating, but it goes back to poor design of the iPhone's event handling API. Some background:

The Free42 core was designed to be single-threaded; it has to be, in order to work on operating systems without thread support, like PalmOS.

In a single-threaded calculator simulator, you have to somehow be able to execute programs, while still keeping the UI responsive -- it should still respond to mouse and keyboard events, repaint requests, etc. Most environments support this by providing a function that lets a program poll the event queue without actually invoking any event handlers: PeekMessage() in Win32, XtAppPending() in the X toolkit, g_main_context_pending() in GTK, EvtEventAvail() in PalmOS. While executing a program, Free42 simply calls the appropriate event queue polling function after finishing each program line; polling the event queue is a very cheap operation, so programs can run with little overhead, and still respond very quickly to events.
When Free42 detects that an event is pending, it returns control to the application framework. In order to be able to resume program execution once the application framework is done handling events, Free42 needs some way to schedule a function call to take place when the framework is otherwise idle; in Win32 and PalmOS, this is easy because the main event loop is part of the application itself, so it is a simple matter of inserting the call to run the program there; in more modern, callback-based environments like the X toolkit and GTK, you can use XtAppAddWorkProc() and g_idle_add(), respectively.

The iPhone makes this type of programming style difficult to impossible. First, there is no facility for peeking ahead in the event queue, so a single-threaded program has no choice but to drop out of the program execution loop at regular intervals and return to the application framework.
But it gets worse: in order for program execution to resume once the application framework has finished handling events, Free42 again needs some mechanism to schedule execution, but the only available mechanism is performSelectorOnMainThread, which will execute its target at the earliest opportunity, instead of being deferred until the event queue is empty. There is no mechanism for scheduling any activity to take place if and only if there are no pending events.

Byron has so far tried to work around the iPhone API limitations using straightforward hacks like inserting small delays in which the event queue can be emptied; in the latest code, this is working pretty well; you really have to try hard to get it into a state where the keyboard becomes unresponsive, and even when that does happen, it is easier to get out of that state than it was before. Still, the situation is not ideal, and stupid programs like LBL 00 BEEP GTO 00 can still cause the problem to occur fairly easily.
In my version, I chose a different approach, using a secondary thread for running programs, while the main thread stays in control of the UI and thus never becomes unresponsive. This has proven to be robust, but the code is very hairy, and the overhead from thread-to-thread context switching is considerable.

Byron has indicated to me that iPhone OS 3.0 has an improved event handling API, and that he thinks we'll be able to do Free42 "right" with it. I haven't studied the 3.0 APIs yet myself, so I can't confirm this, but, assuming the shortcomings of the existing API have indeed been remedied, I'd expect a point release to take advantage very quickly.

Of course "very quickly" can mean "one day for us to make the code changes, then two weeks or more of being stuck in the iTunes App Store submission queue". Such is life in iPhone developer

land.

- Thomas

Re: Byron Fosters 42s for iPhone version 2 submitted to Apple App Store

*Message #6 Posted by **Eric Smith** on 14 June 2009, 6:59 p.m.,*
in response to message #5 by Thomas Okken

I have generally found that even on platforms that have decent event management APIs, it still tends to work best to run simulations in a separate thread from the UI thread. (Assuming, of course, that the platform supports threads.)

Re: Byron Fosters 42s for iPhone version 2 submitted to Apple App Store

*Message #7 Posted by **Thomas Okken** on 15 June 2009, 9:11 a.m.,*
in response to message #6 by Eric Smith

> Quote:
>
> I have generally found that even on platforms that have decent event management APIs, it still tends to work best to run simulations in a separate thread from the UI thread.

I'm sure that's true, but not all simulations are created equal. :-) In particular, simulating a calculator at the user-code level is a bit different than simulating it at the hardware level. One advantage of the former is that you always know exactly what state the simulator core is in; the basic flow is simply idle -> key press -> execute the appropriate function -> update the display -> idle.
This is very simple to implement and has zero overhead.
Things get tricky only when you are simulating a programmable calculator; then you have to somehow run the program and handle events concurrently. Threads are an elegant solution for this kind of problem in principle but can be hairy in reality, because of the need to synchronize access to shared resources etc. In a single-threaded app, reentrancy is much easier to avoid or manage.
Polling the event queue from the program execution loop may not be architecturally elegant, but it is actually very efficient. I was pretty annoyed to find that the iPhone has zero support for this programming style; while I was able to get things to work reliably using threads, I ended up having to spend several days ironing out all the wrinkles -- several days that I never had to spend on any of my single-threaded implementations.

Re: Byron Fosters 42s for iPhone version 2 submitted to Apple App Store

*Message #8 Posted by **Egan Ford** on 15 June 2009, 12:50 p.m.,*
in response to message #5 by Thomas Okken

> Quote:
>
> Of course "very quickly" can mean "one day for us to make the code changes, then two weeks or more of being stuck in the iTunes App Store submission queue". Such is life in iPhone developer land.

Updates are probably sorted by popularity and not FIFO. E.g. the *twitpocalypse* broke a very popular iPhone Twitter app. The developers fixed this *and* had it available for app store download all within 48 hours.

Re: Byron Fosters 42s for iPhone version 2 submitted to Apple App Store

*Message #9 Posted by **Egan Ford** on 15 June 2009, 1:20 p.m.,*
in response to message #8 by Egan Ford

42S 2.0 is now out. Interesting that 3 calculator apps including i41CX+ also updated. Perhaps the *calculator* app store czar was behind.

Re: Byron Fosters 42s for iPhone version 2 submitted to Apple App Store

*Message #10 Posted by **Les Wright** on 15 June 2009, 2:30 p.m.,*
in response to message #9 by Egan Ford

What's the third one?

Les

Re: Byron Fosters 42s for iPhone version 2 submitted to Apple App Store

*Message #11 Posted by **Egan Ford** on 15 June 2009, 4:04 p.m.,*
in response to message #10 by Les Wright

pcalc. I do not use it anymore.

Re: Byron Fosters 42s for iPhone version 2 submitted to Apple App Store

*Message #12 Posted by **bt_schmidt** on 15 June 2009, 4:31 p.m.,*
in response to message #10 by Les Wright

> Quote:
>
> What's the third one?
>
> Les

4th RPN Calc iphone app updated today: MAcalc/MAcalc Pro by Márcio Almeida, http://www.ttrix.com/

Re: Byron Fosters 42s for iPhone version 2 submitted to Apple App Store

*Message #13 Posted by **Pal G.** on 18 June 2009, 9:53 p.m.,*
in response to message #12 by bt_schmidt

Has anyone played with Lua on MAcalc?!

It must be watered down and/or flying under the radar to be on iTunes. I believe Apple still has a "no programming languages allowed" law. Maybe the calc app czars thought MAcalc is RPN programmable or this version of Lua harmless. (After all, it is stuck inside MAcalc).

Here is a blurb regarding languages on iPhone.

"Javascript is an interpreted programming language, and thus forbidden as per Apple's terms of service.

Also banned from the iPhone: programming languages Ruby, Python, Perl, and Java. Quake, the video game engine ported to practically every platform (including Google's Android), as well as Microsoft's Word, Excel, and .NET are also persona non grata."

(year old link: http://news.cnet.com/8301-13739_3-9889159-46.html)

I like Lua. Any user experiences with MAcalc and Lua would be appreciated.

Cheers,
PG

Re: Byron Fosters 42s for iPhone version 2 submitted to Apple App Store

*Message #14 Posted by **Thomas Okken** on 18 June 2009, 10:06 p.m.,*
in response to message #13 by Pal G.

I'm pretty sure that the idea behind the "no programming languages" rule is to prevent application developers bypassing the App Store. In order for a language to make that possible, it has to provide access to the iPhone APIs for creating windows and UI components, etc; language interpreters that don't provide such access, can't be used to build unauthorized applications and are therefore not considered a problem.

Note: I'm not an Apple representative; the above is just my take on the underlying rationale behind the "no programming languages" rule. I am encouraged by the fact that Apple do not seem to have a problem with the many programmable calculators available on the App Store; I'd expect them not to object to spreadsheet macro languages etc. either.

Re: Byron Fosters 42s for iPhone version 2 submitted to Apple App Store

*Message #15 Posted by **Egan Ford** on 18 June 2009, 11:54 p.m.,*
in response to message #13 by Pal G.

> Quote:
>
> "Javascript is an interpreted programming language, and thus forbidden as per Apple's terms of service.

Until the app store came along all apps were Safari based and written in

Javascript. And, you can still create and use Javascript apps for Safari.

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HP Forum Archive 19

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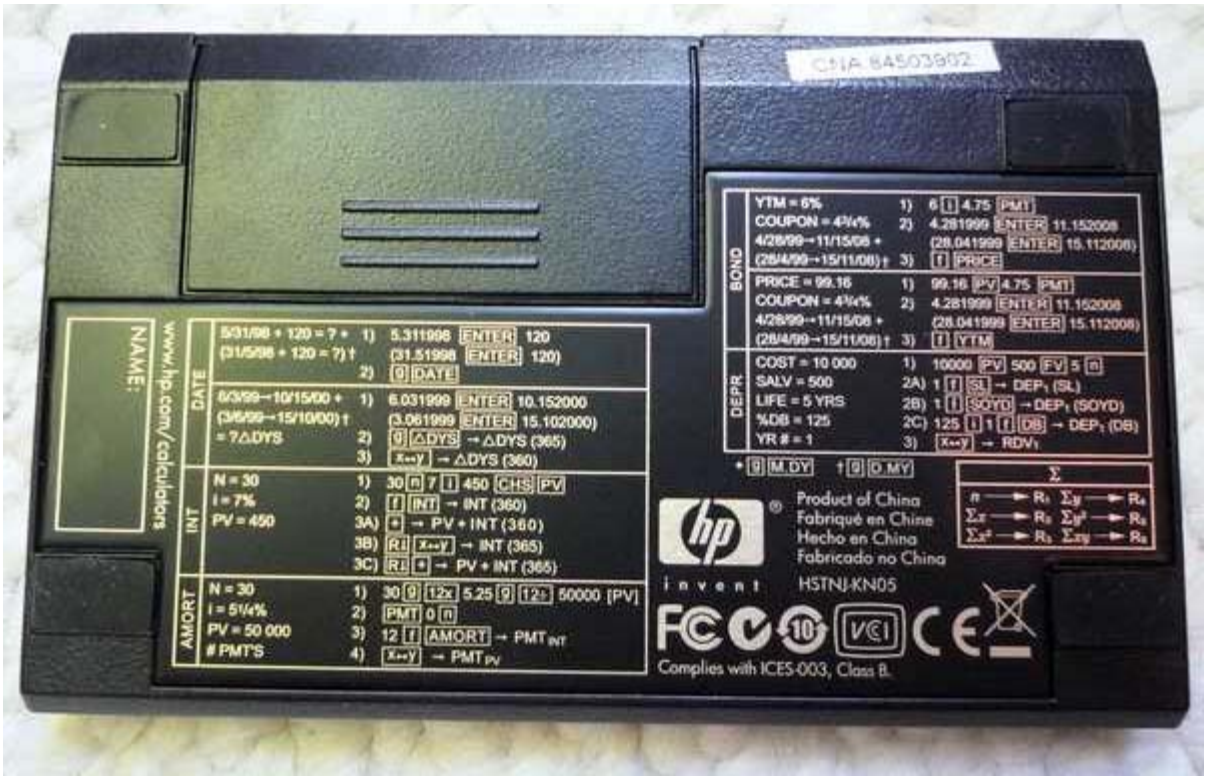
HP-12C+ .... the mistake is back on the back!

*Message #1 Posted by **Katie Wasserman** on 8 June 2009, 10:25 p.m.*

I was blindly staring at the back of the new HP-12C+ thinking about what to repurpose this for (more info here) when I saw that the D.MY mistake is back! The calculator label shows that 31/5/1998 is to be entered as 31.51998. This is an old mistake (more here and here) that was fixed on the Anniversary edition.



Edited: 8 June 2009, 10:29 p.m.

Re: HP-12C+ .... the mistake is back on the back!

*Message #2 Posted by **Jeff O.** on 9 June 2009, 7:32 a.m.,*
in response to message #1 by Katie Wasserman

Hi Katie, Thanks for the links. I had a couple of observations not really related to the subject.

First, I wish Luiz C. Vieira still posted here. He provided a kind, steady, reasoned voice to the discourse.

Second, I found this post by the legendary Norm to be unusually prescient:

> Quote:
>
> Coyote ugly, business vs. engineers Message #15 Posted by Norm on 13 May 2003, 1:23 p.m., in response to message #13 by Raymond Del Tondo

> Maybe Carly is on our side after all.
>
> They released the business major's latest calculator with yellow lettering on yellow metal ?? WELL, maybe they want to cause the business majors to make plenty of mistakes while they are calculating their option strike prices and the takeover target price and the puts and calls and the return on equity.
>
> Then when they screw it all up, they go broke instead of ransacking another $20 Billion from Ma & Pa Buick out of their 401K. So U see, that latest 'platinum' 12C calculator design is the best friend of decent Americans and the engineering dep't, who are in high need of seeing all these business crooks go broke for a change, and management like Mr. Hewlett and Mr. Packard re-instated. A "rigged" 12C that makes mistakes will help get the job done.

I believe you work in the financial area Katie, no offense intended. I'm sure that you were not responsible for our recent economic meltdown :-)

....

Re: HP-12C+ .... the mistake is back on the back!

*Message #3 Posted by **Katie Wasserman** on 9 June 2009, 9:31 a.m.,*
in response to message #2 by Jeff O.

> Quote:
>
> I'm sure that you were not responsible for our recent economic meltdown :-)

I hope not, I don't think I could stand the stress of being in front of those congressional committees.

Re: HP-12C+ .... the mistake is back on the back!

*Message #4 Posted by **Gerson W. Barbosa** on 9 June 2009, 9:44 a.m.,*
in response to message #1 by Katie Wasserman

Yet another mistake on the back, actually a typo:

```
Fabricado no China
```

should read

```
Fabricado na China
```

This is inconsequential but might make buyers here (in Brazil) think it is a fake product. I bought one in São Paulo last Saturday. I had some trouble to find it. According to one seller the new model hasn't been reordered because buyers don't trust it, not because they are faster but because the self tests don't work as expected. The new battery comparment is shown in the Portuguese manual but the self tests section hasn't been updated.

Regards,

Gerson.

Re: HP-12C+ .... the mistake is back on the back!

*Message #5 Posted by **Katie Wasserman** on 9 June 2009, 8:36 p.m.,*

in response to message #4 by Gerson W. Barbosa

Gerson,

This makes sense to me. Even being a serious calculator nerd, I was bothered by the self tests not working as documented. The whole point of the self tests is to give you confidence in the calculator and many people that bother to read the manual or know the older version of the 12C will try them out only to have their confidence completely shaken.

That said, I have found no basic functionality flaws in this machine. I'm really beating up on it -- repurposing included -- and it's been perfectly reliable.

BTW, the English version of the manual is the same -- new battery section followed by old (and wrong) self-test section.

-Katie

Re: HP-12C+ .... the mistake is back on the back!

*Message #6 Posted by **Michael de Estrada** on 9 June 2009, 10:08 p.m.,*
in response to message #5 by Katie Wasserman

What I really miss in all these modern HP products is the wonderful printed documentation of the originals. My HP-12C is an original USA made (S/N 2732Axxxxx), which came with a 246 page spriral-bound manual with heavy paper stock pages that is magnificently written. Even though I'm an engineer, and only used a fraction of its capabilities, I thoroughly enjoyed reading the Owner's Handbook cover to cover. It's much more than simply a handbook; it's a textbook that even non-financial types can understand.

Re: HP-12C+ .... the mistake is back on the back!

*Message #7 Posted by **Quan** on 9 June 2009, 12:48 p.m.,*
in response to message #1 by Katie Wasserman

This, to me, is another example of pathetic quality control in the current HP calculator products.

How can something like this even passed quality check is beyond comprehension.

I don't want to come off negatively about HP, but I just couldn't get past the depressing feeling I had whenever I read repeatedly about the little mistakes like these.

For me, the most disturbing of all is the numerous mistakes or typo or whatever found in the manuals. It seemed no one really went through the pages and actually performed these exercise examples.

I have been a frequent, if not everyday, visitor to this site and comp.system.hp48 since started taking an interest in HP calculator late last year.

Excellent site, BTW. Very informative. I really enjoy coming here. :):):)

From all my reading and my own experience, the one problem seems to stand out above the rest was the missing keystrokes. It also appeared that HP is really trying to correct the problem as seen in the production of 35s, 17bii+, and 50g. But only the 50g shows sign of success. The 17bii+ and the 35s, both of which I have, still have problem in regard to missing keystrokes.

On the other hand, the 35s, 17bii+, and 50g show signs that maybe HP is working to rebuild its image. There is hope, I think.

I am also hoping HP continue to make corrections so that their next releases will be what I come to expect from HP: the calculators that not only look like professional tools, but also work flawlessly. Of course, that means the manuals are also more complete with very little or hard to find errors. Tough but it can be done.

OK, I switch to dream mode now.

Thanks :)

Re: HP-12C+ .... the mistake is back on the back!

*Message #8 Posted by **DaveJ** on 10 June 2009, 12:38 a.m.,*
in response to message #7 by Quan

There are many many pressures on engineering and product design groups these days to get products out the door, all with ever declining human (and financial) resources. Mistakes like these are bound to creep in, it's the nature of the game. So I wouldn't beat-up on HP too much here, I can imagine the calculator group being very small indeed.

If HP were smart though, they would make use of the fantastic community of calculator nerds to beta test products and manuals etc (under NDA) well before they hit production. You simply cannot beat the power of the enthusiastic nerd :->

Dave.

Re: HP-12C+ .... the mistake is back on the back!

*Message #9 Posted by **Quan** on 10 June 2009, 12:00 p.m.,*
in response to message #8 by DaveJ

> Quote:
>
> If HP were smart though, they would make use of the fantastic community of calculator nerds to beta test products and manuals etc (under NDA) well before they hit production. You simply cannot beat the power of the enthusiastic nerd :->
>
> Dave.

It would be fantastic.

Nerdy or not, who wouldn't like playing with a new e-toys? :)

Re: HP-12C+ .... the mistake is back on the back!

*Message #10 Posted by **Thomas Radtke** on 10 June 2009, 2:38 a.m.,*
in response to message #1 by Katie Wasserman

Katie, Gerson,

I currently work as a technical writer myself (german only). It makes me wonder why some companies still refuse to employ technical writes to maintain their documents and organize localizations. We're quite inexpensive when offsetting credibility.

Thomas

Re: HP-12C+ .... the mistake is back on the back!

*Message #11 Posted by **DaveJ** on 10 June 2009, 4:29 a.m.,*
in response to message #10 by Thomas Radtke

> Quote:
>
> I currently work as a technical writer myself (german only). It makes me wonder why some companies still refuse to employ technical writes to maintain their documents and organize localizations. We're quite inexpensive when offsetting credibility.

Most likely because when it comes to most consumer goods these days the quality of the documentation really doesn't matter all that much. In most markets you don't loose market share or market credibility because you have bad documentation. And conversely, good documentation won't really increase your market share. That's just the reality of it, like it or not. So good documentation is something that is usually driven by an internal desire and not by a need, and that is often a hard sell in internal company politics.

For what it's worth though, I agree with you, a good technical writer is worth their weight in gold.

Dave.

Re: HP-12C+ .... the mistake is back on the back!

*Message #12 Posted by **Thomas Radtke** on 10 June 2009, 8:11 a.m.,*
in response to message #11 by DaveJ

Don't forget the legal consequences especially in the US when it comes to problems due to faulty instructions. At least, the disclaimer has to be perfect ;-). And that's what a technical writer is also responsible for.

Edited: 10 June 2009, 8:12 a.m.

Re: HP-12C+ .... the mistake is back on the back!

*Message #13 Posted by **db (martinez, ca.)** on 11 June 2009, 2:09 a.m.,*
in response to message #11 by DaveJ

Hi Dave;
I wish you weren't right, but you obviously are. Me; I think it's worse. It's like worthless techies try to make systems un-usable. If it does work at all; one needs to download the bits that made it worth buying- from the website, in an unknown file type, using a de-compressor one can't find, that only runs in vista and can't be accessed using firefox. This may be one reason that so many of us still use 30 year old technology (or the u-watch!): the manual shows how to do what the sales blurb says it will do, and it does it, every time, not just on odd numbered Tuesdays in a leap year.
Mostly gone are the days when developers like Ted Kerber (D'zign), who spends as much time on his manuals as on his programs, were the norm.

Edited: 11 June 2009, 2:12 a.m.

Re: HP-12C+ .... the mistake is back on the back!

*Message #14 Posted by **Michael de Estrada** on 11 June 2009, 9:42 a.m.,*
in response to message #11 by DaveJ

Sad, but true. Please see my post above in reply to Katie. Yes, there still are a few persons like myself

who remember the good old days of great printed documentation, but we represent an insignificant part of the consumer market. I don't just blame the manufacturer's for this, but also us as consumer's who have become a society of mindless button-pushers instead of thinkers and problem-solvers. We don't try to understand a problem, and instead just look for some device that will give us a quick and easy answer.

Re: HP-12C+ .... the mistake is back on the back!

*Message #15 Posted by **Don Shepherd** on 11 June 2009, 10:46 a.m.,*
in response to message #14 by Michael de Estrada

We have come to the point where we rely too much on our machines. We do that because (a) it is convenient and (b) the machines work pretty well, most of the time. But when the machine fails, we are vulnerable to the consequences. One of my favorite movies of all time is "Fail Safe" from 1964 which shows what could happen if we rely too much on our machines.

Now I must go to the ATM to get some money.

Re: HP-12C+ .... the mistake is back on the back!

*Message #16 Posted by **Michael de Estrada** on 11 June 2009, 12:15 p.m.,*
in response to message #15 by Don Shepherd

The problem with machines is that they are subject to GIGO (garbage in garbage out). If the human user doesn't have a good understanding of the problem, then it's possible to accept bad results without question. I remember a rather unpleasant experience in the early 1970s with a young manager at the engineering firm where I worked, who informed us engineers that we were going to be largely replaced with computers that would automate design, and render us obsolete. Fortunately, this was proven to be wrong; we continued to do our design work and he eventually left the firm and became a stock broker.

I am rather disheartened at the current batch of engineering graduates that I have been interviewing. They seem to have retained very little of their technical course material from college, and don't seem to see the importance of it either. They just figure we'll train them to use some magic computer software that will figure everything out.

You mentioned "Fail Safe" as an example, but I would suggest a real-world example to be "Miracle on the Hudson." The airplane was saved because of the pilot's experience, rather than any technology on the airplane. The airplane's computer could not advise the pilot of the preferred course of action; it could only tell him that things were very abnormal. Captain Sollenberger testified that the airline industry is at risk of reducing safety as it continues to hire less experienced pilots who only meet the basic inadequate FAA certification requirements. Personally, I fly as little as possible, and will never fly on a regional "puddle-jumper" airline.

Well, I better stop here before I digress any more from the subject of this thread.

Re: HP-12C+ .... the mistake is back on the back!

*Message #17 Posted by **Steve Keeley** on 11 June 2009, 4:05 p.m.,*
in response to message #15 by Don Shepherd

After figuring out how to use my HP 50g, despite being thrilled with its capabilities I started to feel I was relying on it too much.

So lately I've been re-learning how to use a slide rule and doing most rough calculations using

my trusty Hemmi 260. (It's more handy for doing rectangular to polar conversions than most calculators.)

But if I have to deal with matrices I grab the 50g. I'm only willing to take machine independence so far...

Re: HP-12C+ .... the mistake is back on the back!

*Message #18 Posted by **Don Shepherd** on 11 June 2009, 8:26 p.m.,*
in response to message #17 by Steve Keeley

Steve, what challenges me is taking a simple problem, thinking about it and kicking it around for awhile using pencil and paper, then solving it using something like the 12c or 65, with limited programming capabilities.

For instance, consider this problem (I learned in education school preparing to become a middle school math teacher): you have an unlimited supply of .05 and .08 stamps. For which postage values under $1.00 can you NOT represent the postage using combinations of these stamps? Simple problem. Kids will try to solve it using all sorts of methods: draw pictures, make tables, investigate factors, investigate combinations, use manipulatives, etc. I would choose to write an RPN program on the 12c (I have the new one that is FAST!). I think this is one of the keys to good quality education: let the kids solve it their way. If they do that, they will learn it for life. If you force them to do it your way, they will forget it in about 3 seconds.

Re: HP-12C+ .... the mistake is back on the back!

*Message #19 Posted by **Frank Rottgardt** on 12 June 2009, 6:31 a.m.,*
in response to message #17 by Steve Keeley

Even I use a slide rule at times when I feel for it. Just for fun. Use to have an scientific Aristo pocket slide rule in my jacket. And this cute thing makes one really to check results! All the way down longer calculations you need to make estimations in order to figure out where to place the comma or if you have made your reading on the wrong scale. So half the time you are sitting and wondering "can this be true?" Now I can understand what a relief it must have been back in 72 when the HP-35 became available.

Re: HP-12C+ .... the mistake is back on the back!

*Message #20 Posted by **Palmer O. Hanson, Jr.** on 17 June 2009, 1:39 a.m.,*
in response to message #19 by Frank Rottgardt

Frank:

You wrote:

> Quote:
>
> All the way down longer calculations you need to make estimations in order to figure out where to place the comma or if you have made your reading on the wrong scale. So half the time you are sitting and wondering "can this be true?"

In the "olden days" we had a way to keep track of the decimal point without doing all of

the estimating. The method was fairly easy to remember as it was equivalent to the manipulations of the characteristic and mantissa when doing multiplication and division with logarithms and pencil and paper.

Palmer

Re: HP-12C+ .... the mistake is back on the back!

*Message #21 Posted by **Ed Austin** on 17 June 2009, 5:58 p.m.,*
in response to message #20 by Palmer O. Hanson, Jr.

Lets all face the facts. The Old "HP", the old 200+ Odd Page Printed Color Manuals and the printed Advanced User Guides as well as Quick Ref are a thing of the past.

"HP" as is now is not an Engineering but Marketing firm.. as was reflected perhaps by two pivotal events (in my mind)

1) When the 39g/49g replaced the 48GX of the 48 series - the last great HP Calcs (imho). The 38G was kind of caught in the middle of this transition.

2) When Alg replaced RPN (at the same time).

I'll never forget the excitement of my youth and opening that big HP41C box... and those beautiful manuals... and fiddling with a custom overlay for my programs. Its all now history. I don't look twice at any Post 1995 HP Calculator.

Re: HP-12C+ .... the mistake is back on the back!

*Message #22 Posted by **Mike Morrow** on 18 June 2009, 10:00 a.m.,*
in response to message #21 by Ed Austin

> Quote:
>
> I don't look twice at any Post 1995 HP Calculator.

That's too bad.

I've used HP calcs since the HP-35 appeared in 1972. (I couldn't afford one of my own until 1976, after I'd been an EE grad for two years!)

The HP50g is a remarkable machine, easily the best overall by large margin of my 30-plus HP calcs. It it the only machine that displaces my all-time RPN favorite, the HP42S.

I have one HP48SX and two HP48GX machines, all purchased for work, not for collecting. They are real dogs in comparison. The HP48-series is extremely unsatisfactory if for no reason other than having the poorest LCD quality of any graphing calculator ever made by anyone. The HP48 LCD is also one of the easiest displays to damage with modest work-environment handling. I'll give up an oversized ENTER key any second for HP50g LCD quality. (But there are many many other advantages to the HP50g. It has the best performance-to-price ratio of any calculator ever made.)

IMHO, of course.

Re: HP-12C+ .... the mistake is back on the back!

*Message #23 Posted by **Michael de Estrada** on 18 June 2009, 11:33 a.m.,*
in response to message #22 by Mike Morrow

The issue here is not the quality of the new generation calculators, themselves, but the quality of the documentation. After owning an HP50g for about 6 months, I am only now beginning to appreciate its capabilities. In fact, when I first bought it, the printed documentation made no mention of it's I/O capabilities, and I needed several postings on this forum before I could figure out how to do IR output to a printer. Indeed, the HP50g has now replaced my 19 year old HP48SX, which as you mentioned, has an absolutely awful LCD display. The overall quality is quite good, certainly as compared to the cheaper HP35S, and I can live with the somewhat stiff and high-effort key buttons; at least they are reliable.

Edited: 18 June 2009, 5:47 p.m.

Re: HP-12C+ .... the mistake is back on the back!

*Message #24 Posted by **Mike Morrow** on 19 June 2009, 7:14 a.m.,*
in response to message #23 by Michael de Estrada

> Quote:
>
> The issue here is not the quality of the new generation calculators, themselves, but the quality of the documentation.

No, my response was directed specifically at the quoted segment of Ed's post. I doubt that Ed disdains post-1995 HP calcs due *only* to the documentation issue. I think there is a perception, demonstrably inaccurate, that the era of acceptable calculator *hardware* and *firmware* made by HP ended with the HP48GX.

Even the documentation issue is NOT that bad. If one downloads all the official HP documents associated with an HP49g+/HP50G, including the tutorials, he will have about 2000 pages of information. That seems a pretty decent effort to me, for a device that's bound to have little profit margin and less than broad market volume.

I've as *long* a history of HP calculator usage as anyone except the original designers of the HP-35, and on that slim basis alone I feel safe in my assessment that the HP50g is easily the best overall machine HP has ever made. It's not perfect (what is?), but its designers need feel nothing but pride.

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HP41CV with missing registers

*Message #1 Posted by **Jorge I. Rodriguez (Pasadena, CA)** on 8 June 2009, 5:05 p.m.*

Hello everyone

I just received an HP-41CV that I won in an auction on that famous auction site. The calculator seems to be in excellent condition except that there is some corrosion in the battery terminals. Further, after installing the batteries I found out that in program mode it shows 46 registers instead of the 319 that you see when everything is okay. There are no programs stored in memory in case you are wondering, and when I installed the batteries the first thing I saw was the dreaded "Memory Lost" message.

My question is this. Is it possible that the corrosion is affecting the internal ram chips? Is that something that can be repaired by cleaning the corrosion with alcohol or some other chemical? I read somewhere after purchasing the calculator that corrosion can spread to other components internally. I wish I had read that article before hand. I will probably take it apart just to find out, but I want to know from someone that knows if that is the case. The calculator does not seem to have any broken posts since it is pretty snugg. My guess is that corrosion is the culprit please let me know if I am wrong.

Re: HP41CV with missing registers

*Message #2 Posted by **Thomas Okken** on 8 June 2009, 7:37 p.m.,*
in response to message #1 by Jorge I. Rodriguez (Pasadena, CA)

What happens when you do SIZE 00? What does the register count in program mode show then? (Bear in mind that the number displayed on line 00 represents the number of registers available for programs; it does not include the number of registers currently allocated for data registers.)

- Thomas

Re: HP41CV with missing registers

*Message #3 Posted by **Jorge I. Rodriguez (Pasadena, CA)** on 8 June 2009, 8:27 p.m.,*
in response to message #2 by Thomas Okken

I see Reg 319. Mystery solved. It is been a while since I used an HP-41 calculator. Now I remember that Size partitions program memory with storage registers. Thanks for your quick response. By the way, I opened up the calculator and saw that the corrosion is only in the two middle battery connectors. I did that because soon after I started using it, the calculator would not come back on. I found out that the inside is in perfect condition except for the corrosion in those two terminals. I used a couple of small pieces of aluminum foil to create a temporary fix. It seems that did the trick and the calculator now powers up, but the terminals need to be fixed permanently. I saw an article on the forum title "Repairing an HP-41CX" that describes such procedure, but I need to go purchase a couple of things like the glue and the brass strip to attend such a repair. Otherwise, the calculator is just better than what I expected to find.

Re: HP41CV with missing registers

*Message #4 Posted by **Juergen Keller** on 9 June 2009, 2:46 p.m.,*

in response to message #3 by Jorge I. Rodriguez (Pasadena, CA)

Sometimes these battery connectors are offered on eBay. Another way to fix it was developed by Diego Diaz:

Replacement Flex PCB

Don't know if the replacement flex PCB is still available from Diego.

Good luck and enjoy your 41CV,
Juergen

Re: HP41CV with missing registers

*Message #5 Posted by **Jorge I. Rodriguez (Pasadena, CA)** on 9 June 2009, 4:37 p.m.,*
in response to message #4 by Juergen Keller

Thanks for the info. I will give it a try.

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HP48 I/R comms with PC?

*Message #1 Posted by **Mark Edmonds** on 8 June 2009, 4:16 p.m.*

I've searched the forum on this but can't find anything.

I would like to try linking a 48 with a PC using IRDA. I think I know how to set the 48 OK but finding a solution for the PC is a bit unknown.

I see that today you can buy USB IRDA adaptors. Here is an example:

http://www.b2cshop24.com/en/wireless-usb-to-irda-infrared-red-adapter-ir-dongle-new.html

Has anyone ever used one of these? How do they appear as a device within Windows XP? Are they another serial port (in which case, I presume tranfer is quite simple)?

I know that using IR is much slower than cable but for logistical reasons, using IR is more convenient for me than a serial cable.

Grateful for any sage words on this please!

Thanks,

Mark

Re: HP48 I/R comms with PC?

*Message #2 Posted by **Christoph Giesselink** on 8 June 2009, 5:00 p.m.,*
in response to message #1 by Mark Edmonds

The communication between a HP48 and a PC over an IrDA adapter was a topic in the usenet comp.sys.hp48 years ago.

From this time there's a summary of my experinces published at http://www.hpcalc.org/details.php?id=4856.

For further information look at the discussions at comp.sys.hp48 please.

Cheers

Christoph

Re: HP48 I/R comms with PC?

*Message #3 Posted by **Mark Edmonds** on 8 June 2009, 6:29 p.m.,*
in response to message #2 by Christoph Giesselink

Thanks for your help Christoph :)

Having looked at the documentation for a couple of these current adaptors, there might be a major problem

in WinXP anyway. It seems that in Win 9x, the IrDA gets installed as a new serial port so presumably, it wouldn't be a problem to get old programs like the serial link kit to communicate over it. However, in W2K and XP, the IrDA device appears to be a new device class in its own right so how you would get an old DOS program to talk over it is beyond my knowledge.

Bearing in mind the problems you highlighted in your own research, I'll have to pass on this one. Aside from the fun of doing comms over IR, the main reason I wanted to use this technique was to save having to route a lengthy serial lead from the machine room through a badly accessible cable duct.

Mark

Re: HP48 I/R comms with PC?

*Message #4 Posted by **Marcus von Cube, Germany** on 9 June 2009, 2:20 a.m.,*
in response to message #3 by Mark Edmonds

This web page may help: http://www.ircomm2k.de/English/

IRCOMM2K is a virtual COM port driver for W2K and XP. The last update is five years old. But how old is our equipment? ;) So you could at least give it a try!

Re: HP48 I/R comms with PC?

*Message #5 Posted by **Frank Rottgardt** on 9 June 2009, 6:28 a.m.,*
in response to message #2 by Christoph Giesselink

Did not check the link nor did I read the articles. Wonder if it is possible to link up an HP-28s with a PC (Windows XP) using the internal IR-link? I might be wrong, but I guess I read somewhere that HPs IR-protocol is not compatible with the usual industry IR standard? Do one need special receivers or "translation" software?

I know about the HP-28s COM but are not keen on opening my beloved calculator. IR would be more comfortable. Maybe a dumb question: is the 28 IR-link one-way only? (send)

Re: HP48 I/R comms with PC?

*Message #6 Posted by **Marcus von Cube, Germany** on 9 June 2009, 9:21 a.m.,*
in response to message #5 by Frank Rottgardt

The HP-28s IR port is transmit only with a proprietary protocol, understood just by the printer (or the HP-48 with special software). So no way to use it for general communications.

The later models have a bidirectional IR port that can talk IRDA. As far as I know not the OBEX protocol for file exchange but the IRCOMM serial port emulation. X-Modem and Kermit are running on top of IRCOMM.

Re: HP48 I/R comms with PC?

*Message #7 Posted by **Christoph Giesselink** on 9 June 2009, 6:38 p.m.,*
in response to message #5 by Frank Rottgardt

Like Marcus wrote, the HP28S build in IR protocol for the HP82240 printer isn't compatible with "normal" one.

Nevertheless the HP28S has full support to execute self written assembler code. So it's possible to write

your own protocoll by directly accessing the IR-transmitter LED. But you still have the same problem finding a capable IR-receiver on the PC side.

So to your last question, yes the HP28S supports only one way IR-communication by default.

But the hardware port inside the HP28, which controls the IR-LED, is bidirectional. I opened a HP28S, removed the IR-LED and connected a simple hand made signal level adjuster with a COM port interface to the calculator. With self written assembler software on the calculator I'm able to do serial communication with 2400 baud in both directions.

Cheers

Christoph

Re: HP48 I/R comms with PC?

*Message #8 Posted by **Frank Rottgardt** on 10 June 2009, 6:49 a.m.,*
in response to message #7 by Christoph Giesselink

So with this in mind one can only wonder why the he.. HP did not decide to implement this bidirectional IR when the were going from 28C to 28S (as last chance)? Almost everything was there. Would have been a simple and cheap? way to introduce communication possibilities. Would it have been to much work to rewrite the IR-functions and add a new IR tranceiver? How many of us did not see KB of programs vanish when batteries were changed, without any possibility to get it back. I still can feel the sweat every time the battery indicator came up :-(I am convinced many of the 28s users would gladly have given away some dollars for a special PC-IR-link if only HP had made one. Maybe HP did not want potential 41 customers to go for a HP28-"IR com" (so I am not sure when the 41 has been put out of production)

Re: HP48 I/R comms with PC?

*Message #9 Posted by **Mark Edmonds** on 10 June 2009, 7:02 a.m.,*
in response to message #7 by Christoph Giesselink

It never ceases to amaze me how much skill and thought so many of you apply to your HPs. Some of the things you do are so beyond anything I can think of, it is on a different level!

With the RPL machines for example, the kick for me is becoming expert at UserRPL and writing the most elegant code possible within the supplied confines. For the rest of you though, a task like controlling the rods in a nuclear power station with your HP48 represents a worthwhile achievement!

Mark

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35S for $32.95 at Buy.com

*Message #1 Posted by **Jeff O.** on 8 June 2009, 8:55 a.m.*

35S for $32.95 at Buy.com

Cheapest I've seen. Better hurry, there is a limit of 100 per customer :-)

Re: 35S for $32.95 at Buy.com

*Message #2 Posted by **Thomas Radtke** on 8 June 2009, 9:13 a.m.,*
in response to message #1 by Jeff O.

They don't ship to Europe, otherwise I'd have ordered a 20b from them.

The prices in Europe are ridiculous :-(.

Re: 35S for $32.95 at Buy.com

*Message #3 Posted by **Mike Reed** on 8 June 2009, 10:26 a.m.,*
in response to message #1 by Jeff O.

There is also an offer for HP-50g for $84.95 USD.

http://www.buy.com/prod/hp-50g-graphing-calculator-hp-50g-graphing-calculator-2300-functions/q/loc/101/202944544.html?adid=17070&dcaid=17070

Re: 35S for $32.95 at Buy.com

*Message #4 Posted by **Mark Edmonds** on 8 June 2009, 1:56 p.m.,*
in response to message #3 by Mike Reed

Wow. That price for the 50g is almost exactly half the cost in Europe. Real shame they don't ship internationally.

Mark

> Quote:
>
> There is also an offer for HP-50g for $84.95 USD.
>
> http://www.buy.com/prod/hp-50g-graphing-calculator-hp-50g-graphing-calculator-2300-functions/q/loc/101/202944544.html?adid=17070&dcaid=17070

Re: 35S for $32.95 at Buy.com

35S for $32.95 at Buy.com

*Message #5 Posted by **John Stark** on 8 June 2009, 11:18 a.m.,*
in response to message #1 by Jeff O.

Hmmmm..

New models may be on the way.

Remember the price drops on 33s just before 35S appeared ?

Looking forward to HP press releases next couple of months.

John

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HHC2008 HP Calc Calendar for 2009 Is Now Half Price

*Message #1 Posted by **Jake Schwartz** on 6 June 2009, 1:01 p.m.*

Hi,

Since the year is half over and there are remaining copies of the HHC2008 HP Calculator year-2009 calendar, they are now for sale for half price. For information, please consult http://www.pahhc.org/2009/Calendar.htm.

Thanks,

Jake Schwartz

P.S. - See you on 3-4 October at the HHC2009 HP conference in Vancouver, WA. For conference information, check http://holyjoe.net/hhc2009/

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HP-41CX Bug?

*Message #1 Posted by **Namir** on 5 June 2009, 5:55 p.m.*

Hi All,

Using my HP-41CX, I happened to execute CAT IND followed by the decimal and a stack register name (such as X or Y), expecting the command to use the value in the references stack register. Instead the calculator behaved like I entered CAT 0. Is this a know bug? Is it a bug at all? Am I missing something?

Namir

Re: HP-41CX Bug?

*Message #2 Posted by **Vladan Dugaric** on 5 June 2009, 6:17 p.m.,*
in response to message #1 by Namir

My HP-41CX exhibits the identical behaviour, V41 too. If I put 2 into register 00 for example, CAT IND 00 performs CAT 2. If I put 2 into a stack register (any of them), CAT IND ST X (or Y or Z or T) performs CAT 0. Strange.

Another interesting thing: i41CX+ does not allow CAT IND. When CAT is pressed, it comes out as CAT' and SHIFT key is ignored after that.

Edited: 5 June 2009, 6:22 p.m.

Re: HP-41CX Bug?

*Message #3 Posted by **Nigel Bamber** on 6 June 2009, 10:30 a.m.,*
in response to message #2 by Vladan Dugaric

Regarding the I41CX and CAT ' , you probably have CCD installed. Without CCD, it does allow you to enter CAT IND etc.

Nigel

Re: HP-41CX Bug?

*Message #4 Posted by **Dan Grelinger** on 6 June 2009, 4:54 p.m.,*
in response to message #3 by Nigel Bamber

Nigel, I believe that you are wrong. I have an HP-41C (early, all bugs version), an HP-41CV 'fullnut', an HP-41CX 'fullnut' and an HP-41CX 'halfnut'.

All four instruments allow me to execute a CAT IND X, with no modules of any kind installed.

The result is the same for all of them, regardless of what resides in the X register. The HP-41 executes a CAT 3.

Dan

Re: HP-41CX Bug?

*Message #5 Posted by **Eric Smith** on 5 June 2009, 8:22 p.m.,*
in response to message #1 by Namir

Got any modules installed? ZenROM, CCD, and maybe other ROMs affect the way "partial key sequence" entry works.

Re: HP-41CX Bug?

*Message #6 Posted by **Namir** on 6 June 2009, 6:33 a.m.,*
in response to message #5 by Eric Smith

I have the IR printer module and an X-Mem module in my HP-41CX.

Re: HP-41CX Bug?

*Message #7 Posted by **Vladan Dugaric** on 6 June 2009, 6:04 p.m.,*
in response to message #5 by Eric Smith

You're right. After I removed CCD, Advantage, Math, and PPC modules, I now can execute CAT IND. However, as stated in a post below, the bug appears to be identical to the one on V41 and real HP-41.

Re: HP-41CX Bug?

*Message #8 Posted by **Dan Grelinger** on 6 June 2009, 10:29 a.m.,*
in response to message #1 by Namir

If memory serves me correctly, this 'bug' has been documented in at least one of the popular '3rd party' HP-41 books (Extend your HP-41?) It exists in all the HP-41 versions. It was omitted from almost all 'bug lists' because it was inconsequential. There was no real application for CAT IND (X-T), (CAT is not programmable) so the design and engineering effort was never expended by HP to 'fix' it.

Dan

Re: HP-41CX Bug?

*Message #9 Posted by **Namir** on 7 June 2009, 4:44 p.m.,*
in response to message #8 by Dan Grelinger

Thanks Dan. I just wanted to know if I was just "re-visiting" a previously known bug.

Namir

Edited: 7 June 2009, 4:44 p.m.

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Why is complex number support so essential to some of you?

*Message #1 Posted by **Mark Edmonds** on 5 June 2009, 3:47 p.m.*

This is something I have been puzzling about for a while. For many of you, complex number support is essential and the elegant solution in the 15C makes it the prime choice whilst other machines that I rate highly but do not support complex numbers so well get dismissed.

Since my educational days, I've never touched or gone near complex numbers. Perhaps that was down to the way it was taught. For me it was 1980 GCE A-Level (UK people will understand) and having just looked at my original maths notes, we didn't do much other than the basic methods: +, -, *, /, Argand diagrams, modulus and argument and *nothing* to show real-life usage.

So.... I was wondering if those of you who need complex number support could give me some feel for their usage, the type of solutions you are looking for and the field of use?

If I can understand actual usage of complex numbers more, maybe I can find ways of using them programaticaly or at least round-out my education!

Thanks for any replies here :)

Mark

Re: Why is complex number support so essential to some of you?

*Message #2 Posted by **Jeff Kearns** on 5 June 2009, 4:25 p.m.,*
in response to message #1 by Mark Edmonds

Aside from the requirement of many of the forum members to solve polynomial equations that have complex roots, imaginary numbers are used extensively by the electrical engineering and aeronautics communities. I, myself am a mechanical engineer... Handling vector quantities necessitates the use of complex numbers for adequate mathematical treatment of the problem (which involves magnitude and direction). You must bear in mind that real numbers as well as imaginary numbers are are only special cases of the complex number set, so the ability to easily handle these complex numbers on a calculator can be of trememdous importance to users.

To really answer your question would take a lot of space and I would much rather refer you to an excellent book entitled: "An Imaginary Tale; The Story of the square root of minus 1", by Paul Nahin ISBN-10: 0-691-12798-0. --- JeffK

OT: Some Basic Algebra Help (was: Re: Why is complex number support so essential to some of you?)

*Message #3 Posted by **Les Bell** on 6 June 2009, 9:38 p.m.,*
in response to message #2 by Jeff Kearns

> Quote:
>
> To really answer your question would take a lot of space and I would much rather refer you to

> an excellent book entitled: "An Imaginary Tale; The Story of the square root of minus 1", by Paul Nahin ISBN-10: 0-691-12798-0. --- JeffK

Can I crave everyone's indulgence and drag this thread off topic a bit? I'm part-way through this book and hugely enjoying it, but I tripped up slightly on p.5 - Diophantus's solution to finding the sides of a right triangle given its area and perimeter. After showing how Diophantus cleverly reformulates the problem to solving for one variable, Nahin continues:

"The first equation reduces to the identity 14 = 14, and the second to:

1/x + 14x + sqrt(1/(x^2)+196x^2) = 12

which is easily put into the form given above,

172x = 336x^2 + 24"

Now, for the life of me, I can't see how he gets from the first form to the second. I've played around with paper and pencil for ages, but am just not seeing it. In my defence, it's well over thirty years since I studied basic algebra, but he says this is easy!

Can somebody please point me to the basic technique I'm missing, and put me out of my misery? ;)

Best,

--- Les
[http://www.lesbell.com.au]

Re: OT: Some Basic Algebra Help (was: Re: Why is complex number support so essential to some of you?)

*Message #4 Posted by **Egan Ford** on 6 June 2009, 10:48 p.m.,*
in response to message #3 by Les Bell

> Quote:
>
> 1/x + 14x + sqrt(1/(x^2)+196x^2) = 12
>
> which is easily put into the form given above,
>
> 172x = 336x^2 + 24"
>
> Now, for the life of me, I can't see how he gets from the first form to the second.

```
1/x + 14x + sqrt(1/(x^2)+196x^2) = 12

sqrt(1/(x^2)+196x^2) = 12 - 1/x - 14x

Square both sides (hint: (a+b+c)(a+b+c) = a(a+b+c)+b(a+b+c)+c(a+b+c)):

1/(x^2) + 196x^2 = 196x^2 + 1/(x^2) - 336x - 24/x + 172

0 = - 336x - 24/x + 172
```

```
0x = -336x^2 - 24 + 172x

-172x = -336x^2 - 24

172x = 336x^2 + 24
```

Edited: 6 June 2009, 10:55 p.m.

Re: OT: Some Basic Algebra Help (was: Re: Why is complex number support so essential to some of you?)

*Message #5 Posted by **Don Shepherd** on 6 June 2009, 11:33 p.m.,*
in response to message #4 by Egan Ford

Egan, you are "da man"!

Re: OT: Some Basic Algebra Help (was: Re: Why is complex number support so essential to some of you?)

*Message #6 Posted by **Les Bell** on 6 June 2009, 11:38 p.m.,*
in response to message #4 by Egan Ford

Ding!

Thanks, Egan - your hint made all the difference, and it's obvious, now. I'll be able to enjoy the rest of the book without feeling quite so daft. . .

Best,

--- Les
[http://www.lesbell.com.au]

Re: Why is complex number support so essential to some of you?

*Message #7 Posted by **Maximilian Hohmann** on 5 June 2009, 4:30 p.m.,*
in response to message #1 by Mark Edmonds

Hello!

> Quote:
>
> So.... I was wondering if those of you who need complex number support could give me some feel for their usage, the type of solutions you are looking for and the field of use?

For some years I did research work on radar imaging. This involves a lot calculations on electromagnetic wave propagation, where both the signal amplitude and phase were measured and processed. Complex numbers were essential to that kind of computation! An Hp-15 would have been no great help however, as millions of multiplications and additions had to be performed for every image. (I did this work in the early nineties and one of the fastest desktop comupters then awailable, the Sun SparcStation, usually needed a whole night for an 800 x 800 pixel image. The Hp-15 would have taken several thousand years for the same job...)

Since then, I haven't seen complex numbers again, I'm afraid.

Greetings, Max

Re: Why is complex number support so essential to some of you?

*Message #8 Posted by **Michael de Estrada** on 5 June 2009, 4:32 p.m.,*
in response to message #1 by Mark Edmonds

Mark,

I am an engineer, not a mathematician, and I use complex numbers simply because they afford solutions to many practical problems. Any mechanical or electrical problem in which both magnitude and phase are required can be handled easily using complex numbers. Most common mathematical functions have complex results in certain ranges, such as the square root of X < 0 or the Arc Sine of X > 1 or X < -1. The fact is that all general numbers are complex, with a real and imaginary part, and only special problem cases can be solved using only the real part. For example, the solution to a second order ordinary differential equation is ultimately complex, although the solution can be expressed as two apparently real parts.

Michael

Re: Why is complex number support so essential to some of you?

*Message #9 Posted by **Garth Wilson** on 5 June 2009, 4:32 p.m.,*
in response to message #1 by Mark Edmonds

To simplify it almost to the point of lying, aside from simple DC circuit analysis, complex numbers are inseparable from virtually any electronics engineeiring work. Capacitors and inductors that are constantly either storing or releasing energy as a voltage or current changes throughout any waveform shift the phase, and off we go, leaving real-number-only calculations behind. Take that into mechanical engineering, and resonances and so on give you the same kind of thing.

Re: Why is complex number support so essential to some of you?

*Message #10 Posted by **DaveJ** on 6 June 2009, 11:04 p.m.,*
in response to message #9 by Garth Wilson

> Quote:
>
> To simplify it almost to the point of lying, aside from simple DC circuit analysis, complex numbers are inseparable from virtually any electronics engineeiring work. Capacitors and inductors that are constantly either storing or releasing energy as a voltage or current changes throughout any waveform shift the phase, and off we go, leaving real-number-only calculations behind. Take that into mechanical engineering, and resonances and so on give you the same kind of thing.

Depends entirely on what aspect of electronics engineering. I've been doing practical electronics engineering design for over 20 years and have rarely had the need to use complex numbers. When I have it's usually heavier data set computational stuff as others have mentioned, so in the realm of computers and not calculators.

Engineering school theory is different however, complex numbers are commonly used in learning many theoretical aspect. But as with most electronics engineering theory you learn, it's not so common to actually use in practice.

YMMV of course.

Dave.

Re: Why is complex number support so essential to some of you?

*Message #11 Posted by **marais** on 5 June 2009, 4:59 p.m.,*
in response to message #1 by Mark Edmonds

I'm an EE, and I think it is our discipline that is responsable for the demand for complex number calculations. I remember programming the basic operations in my Casio FX-602, which of course was far from the comfort that was offered by the 15C or later the 28C. In circuit analysis, complex numbers are essential, as has been said in several replys. Today I work in non-destructive evaluation, and in eddy-current signal analysis, we need complex numbers all the time. Being able to carry out these calculations on a pocket calculator is quite useful in the field, or sometimes in a meeting. I wrote programs to calculate some of the post-processing treatments when multi-frequency eddy-current is used. It's an EE thing I'd say.

Re: Why is complex number support so essential to some of you?

*Message #12 Posted by **Nigel J Dowrick** on 6 June 2009, 7:06 a.m.,*
in response to message #1 by Mark Edmonds

Don't forget quantum mechanics - quantum amplitudes are complex numbers and although all observable quantities are real, to calculate probabilities these complex amplitudes have to be added together (usually by integration). Many operators (matrices) will have complex eigenvalues and eigenvectors too, and this will be true in engineering as well.

A more down-to-earth use is simply to use complex numbers as a convenient representation of 2-D vectors, to make them easy to add and to subtract without fiddling with R<->P conversions.

And so on! There are a *huge* number of applications of complex numbers!

Nigel

Re: Why is complex number support so essential to some of you?

*Message #13 Posted by **Mark Edmonds** on 6 June 2009, 7:59 a.m.,*
in response to message #12 by Nigel J Dowrick

Thank you all very much for the informative replies. I'm not into EE or the other fields although one area I work in gets close occasionally in a related way - audio engineering. I do this at the production and testing level rather than circuit or DSP algorithm design levels. Sometimes though when a new product is in development, it helps to try to understand a bit of what is going on under the hood. From what I have read above and the directions it has pushed me to look elsewhere on the net, I can see that complex numbers are a vital part of the mathematics. I doubt I'll ever get to the stage of being able to program my own DSP routines though.

Regarding use as vectors, yes, when being taught CNs it was difficult for me not to think of them in this way and always struck me as being a rather sledgehammer method to crack a simple nut but then perhaps that betrays my superficial understanding of complex numbers.

Interesting to read all your comments - thanks for the help and I hope it didn't seem too basic a question!

Mark

Re: Why is complex number support so essential to some of you?

*Message #14 Posted by **Dave Shaffer (Arizona)** on 6 June 2009, 4:29 p.m.,*
in response to message #13 by Mark Edmonds

> Quote:
>
> Regarding use as vectors, yes, when being taught CNs it was difficult for me not to think of them in this way and always struck me as being a rather sledgehammer method to crack a simple nut but then perhaps that betrays my superficial understanding of complex numbers.
>
> As the EEs have explained above, and elsewhere (as a radio astronomer who does interferometry, I use a lot of Fourier transforms) the complex numbers undergo a lot of multiplication - as long as they are complex, you just go ahead and (complex) multiply and the answer comes out OK. Try thinking about how you'd do that in vector space - perhaps 1e6 rotations! Makes my head hurt!

Re: Why is complex number support so essential to some of you?

*Message #15 Posted by **Egan Ford** on 6 June 2009, 10:34 a.m.,*
in response to message #1 by Mark Edmonds

Would it be too nerdy to say, "I just like complex numbers?"

The book mentioned above is a great read. If you want a little bit of everything with a *complex* ending checkout the book *Prime Obsession*.

Re: Why is complex number support so essential to some of you?

*Message #16 Posted by **designnut** on 6 June 2009, 3:37 p.m.,*
in response to message #15 by Egan Ford

Whenever you use magnitude at an angle it is a complex number whether expressed as real and imaginary components. These appear through electronics and mechanics. When adding vectors it is convenient to use their real and imaginary parts separately. Being at right angles they do not interact. Sam

Re: Why is complex number support so essential to some of you?

*Message #17 Posted by **John Cadick** on 7 June 2009, 1:06 p.m.,*
in response to message #1 by Mark Edmonds

Electric Power Engineers use complex numbers extensively in areas such as network analysis for power systems, power system stability, short circuit analysis, load flow, Power factor analysis and correction, generator and transformer design, power system protection; and a whole host of others.

John

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Hp 42s memory upgrade

*Message #1 Posted by **Raul de Roux** on 5 June 2009, 3:30 p.m.*

I am looking for a place where I can send my calculator to have a memory upgrade to 32k I am afraid to do it myself because I could damage it.

Will apreciate if someone can give me that information.

Re: Hp 42s memory upgrade

*Message #2 Posted by **Diego Diaz** on 8 June 2009, 1:03 p.m.,*
in response to message #1 by Raul de Roux

Hi Raul,

First of all, you may want to move your post to the ads section (Service Wanted) as it seems more appropriate for the subject.

Anyhow, if you're not in a hurry (I won't get back home until early August) just drop me a line.

Cheers from the Caribbean Sea.

Diego.

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HP-15c Powering on

*Message #1 Posted by **Giuseppe Marullo** on 4 June 2009, 4:19 p.m.*

Hi all, just bought a 15c that seems okay, just the on button does require a little tough pressure to activate. The calculator has not been used in several years, self tests are okay.

Do you have any suggestion to fix it? will a little exercise take care of the problem?

TIA,

Giuseppe Marullo giuseppe.marullo@NOSPAMiname.com

PS: I am in dire need of the advanced functions pdf, so if any good soul...

Re: HP-15c Powering on

*Message #2 Posted by **Jeff Kearns** on 4 June 2009, 4:46 p.m.,*
in response to message #1 by Giuseppe Marullo

I cannot advise wrt the sticky 'ON' button, for that you need Randy or Geoff Q. But I can tell you that the Advanced Functions manual is available for purchase on CD or DVD from this very site. Good luck! -- JeffK

Re: HP-15c Powering on

*Message #3 Posted by **Giuseppe Marullo** on 5 June 2009, 5:10 p.m.,*
in response to message #2 by Jeff Kearns

Many thanks for your information, but acquiring DVD will cause me to buy more HP calcs, I already have way more stuff I can reasonably use...anyway I "solved" thanks.

Still have to understand how to deal with the sticky on button...

Giuseppe Marullo

Re: HP-15c Powering on

*Message #4 Posted by **Thomas Klemm** on 5 June 2009, 2:40 p.m.,*
in response to message #1 by Giuseppe Marullo

> Quote:
>
> I am in dire need of the advanced functions pdf, so if any good soul...

here

here you go Giuseppe, also emailed you!

*Message #5 Posted by **Geoff Quickfall** on 7 June 2009, 2:51 p.m.,*
in response to message #1 by Giuseppe Marullo

Hello Giuseppe!

I am sorry I did not get in touch earlier but I was away in London, England when you posted.

Try this link posted awhile ago at the hpmuseum:

After reading that try this step first. Take an eyedropper with 99% alcohol and place a drop on the ON key (or any sticky key). Exercise the key by repeated pressing. Let the alcohol dry by using forced air or passively by letting dry over time. This should cleanup any oil residue.

sticky key 15C

If this did not work, take an eyedropper of water and place the drop on the ON key (or any sticky key). Again exercise the key and then allow to dry. Use a dropper of alcohol after the water to expedite the drying process. This will clean up the sugar residues.

Let us know how it works out.

Cheers,

Re: here you go Giuseppe, also emailed you!

*Message #6 Posted by **Giuseppe Marullo** on 7 June 2009, 3:48 p.m.,*
in response to message #5 by Geoff Quickfall

Hi Geoff, sorry to bother you with this, I already saw your article, just wondering if this is a case of dirt or something else, I will try the alchool eyedropper trick and report any progress here.

Do I have to remove batteries? Suppose I don't have a dyer box, how many days should I allow it to dry?

The key always registers, is the huge pressure I need to perform to make it happen tha puzzles me.

Giuseppe

Dirt or contact or rivet problem...

*Message #7 Posted by **Geoff Quickfall** on 7 June 2009, 4:56 p.m.,*
in response to message #6 by Giuseppe Marullo

The water and alcohol should remove grime that seeps under the key domes. Dirt, grit and etc that is physically stuck will require the wash technique as described in the linked posting.

Try the water and alcohol dropper solution with the batteries out. Shake the water and alcohol out after exercising the key. If you have a hair dryer warm the area around the key. Not to hot but bursts of heat. The idea is not to heat up the calculator but to accelerate the drying.

If you just air dry but are thorough about shaking the water out then a couple of hours should be fine. In fact, if the water drops are confined to the key itself then the shaking or blowing and blotting of the key should suffice for a quick test with the batteries in within minutes of doing the cleaning. Confirm it works then let dry overnight.

If you end up soaking and washing the keyboard under water then the drying period would be a couple of days without a drying box.

Second point about pressure on the key.

Open the back of the calculator. Looking at the calculator inside front at the Circuit Board (CB). Find the area associated with the ON key. Press the key and observe the plastic rivets surrounding the ON key area on the CB. Are these rivets secure or is the CB flexing outward, that is, do the rivets hold the CB in place? If not then it is the rivets which are allowing to much travel for the ON key prior to it contacting the CB. Try pushing on the area of the CB near or at the ON key and simutaneously press the ON key ON, batteries in place. See if this helps in contact. If the rivets flex and the pressing action on the inside of the calculator works then read on.

To fix this, you will have to press down on the Circuit Board and melt the heads of the loose rivets with a flat soldering iron element or hot knife. Heat just enough to soften the rivets, not melt them. Do this while applying pressure.

Another way to enhance the contact between key and board is to place a thin foam cushion in the vicinity of the offending key and the screw the back of the case in place. This to will add pressure and help hold the CB against the keyboard contacts.

Cheers, Geoff

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O.T. XP RAM utilization

*Message #1 Posted by **designnut** on 4 June 2009, 11:48 a.m.*

I recently had 2GB of RAM installed which is recognized in my 2001 computer, and 2 new hard drives. It is faster by far, but the system never uses more than 25% of the RAM. Everything it has pagefiled and cached and swapped would easily fit in RAM, yet it doesn't use it. I use Everest to look into my computer and can see all this. Does anyone know of a fix to get XP out of the beta stage? Sam

Re: O.T. XP RAM utilization

*Message #2 Posted by **Dave Britten** on 4 June 2009, 12:06 p.m.,*
in response to message #1 by designnut

If you're looking at Task Manager, the "PF Usage" label is a bit misleading. It really means, "This is how much memory is allocated". If that amount happens to be within the size of your physical memory, there shouldn't be any paging going on. If it's larger, then you're going to see some paging. I recall they changed that label to indicate what the figure actually reflects in Vista.

The System Cache number just tells you how much RAM is being used to cache disk I/O, and probably some other stuff. This RAM is relinquished if a process needs it, but Windows figures it might as well put it to some use if nobody else is using it, and so it uses it for caching to improve performance.

I'm not familiar with Everest, so I don't know what kind of metrics it provides. What sort of numbers is it showing you?

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Discussion on RPN in French forum

*Message #1 Posted by **Marcus von Cube, Germany** on 4 June 2009, 9:55 a.m.*

It's in French but maybe Google can help: http://www.silicium.org/forum/viewtopic.php?t=23402

Edited: 4 June 2009, 9:55 a.m.

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hp 35s emulator

*Message #1 Posted by **Michele Signorini** on 4 June 2009, 7:13 a.m.*

I was looking for disassemblying instructions of the hp35s (google: open hp 35s) and I found this link:
http://www.downloadatoz.com/miscellaneous_directory/hp-35s-scientific-calculator-software/
Unfortunately the Free Download [evaluation] link is not working...
Is this the Calculator Emulator Software for Educators offered by HP?

maybe

*Message #2 Posted by **Frank Boehm (Germany)** on 4 June 2009, 9:39 a.m.,*
in response to message #1 by Michele Signorini

reading helps 8)
"This product doesn't provide a free demo/trial version download link or the download links are broken."

Re: hp 35s emulator

*Message #3 Posted by **Tim Wessman** on 4 June 2009, 10:35 a.m.,*
in response to message #1 by Michele Signorini

It is a more recent version than what has been given out to educators exclusively in the past. This is a commercialized version. There are the 12C and 12CP up as well.

TW

Re: hp 35s emulator

*Message #4 Posted by **Earl Kubaskie** on 5 June 2009, 11:39 p.m.,*
in response to message #3 by Tim Wessman

So is this REALLY available to the general public?

I can't find anyplace on HP's site to buy it - but the linked website lists HP as the publisher?

I'd certainly expect a legit emulator to show up there, here, or at least be a pretty easy search on Google!

Re: hp 35s emulator

*Message #5 Posted by **Tim Wessman** on 6 June 2009, 12:57 a.m.,*
in response to message #4 by Earl Kubaskie

It is legit. I know because I made the screenshots. I actually had to redo them all because I forgot about the window transparency and there was a slightly fuzzy firefox logo showing in all of the title bars. :-)

As to why it isn't on the HP site yet. . .red tape can take a while to cut. Same reason the ROM updates that were ready a month ago aren't up yet.

Tim Wessman

Re: hp 35s emulator

*Message #6 Posted by **Pal G.** on 6 June 2009, 2:38 a.m.,*
in response to message #5 by Tim Wessman

Speaking of ROMs, does anyone know if the hp 35s ROM running in the simulator is the same as we all have in our machines? Is there key sequence that reveals revision?

I wonder if HP has thought about using the proceeds from simulator sales to pay a software engineer to update the hp 35s

ROM.

Re: hp 35s emulator

*Message #7 Posted by **Eric Smith** on 7 June 2009, 5:05 a.m.,*
in response to message #6 by Pal G.

Most likely it is compiled to native x86 code from mostly the same source code that is used for the actual calculator. But not the same actual executable, if that's the question.

However, I don't have it, so I could be wrong.

Re: hp 35s emulator

*Message #8 Posted by **Pal G.** on 8 June 2009, 12:22 a.m.,*
in response to message #7 by Eric Smith

I see. I was thinking fundamentally the hp 35s and the simulator have a "rom.bin" inside, kinda like all the emulators we've used over the years, including yours.

But instead, if I'm correct, HP has several well preserved .c or .asm files, with a bunch of routines that haven't been looked at in a while, that were a long time ago written and compiled for the hp 41 Math Pac, then compiled for the hp 32s/ii, then the hp 33, and now finally the hp 35s, and the simulator.

I don't know enough about what's going on under the hood. I am just trying to figure out how easy/difficult it is to fix current calculator bugs, regardless of economic decisions. In essence, could/does a bug free version of the hp 35s exist, even if HP is not interested in updating manufactured units, and would work in the simulator? Or is fixing the legacy code itself too monumental a task?

Re: hp 35s emulator

*Message #9 Posted by **Eric Smith** on 8 June 2009, 1:06 a.m.,*
in response to message #8 by Pal G.

At past HHC conferences, Cyrille has explained that relatively recent HP calculator models such as the 33s, 35s, 20b, and 12c Platinum are compiled from C source code that is of recent origin. While some of the source code for older Saturn-based calculators was undoubtedly used as a reference (e.g., for the "Napier" floating point library, and the TVM algorithms), none of the original code was directly usable for the new calculators.

Re: hp 35s emulator

*Message #10 Posted by **Earl Kubaskie** on 9 June 2009, 1:00 a.m.,*
in response to message #5 by Tim Wessman

I see it available on other shareware sites today. Think I'll give it a shot...

I like emulators, too. Especially since the standard Windoze calc is so awful.

Re: hp 35s emulator

*Message #11 Posted by **Quan** on 6 June 2009, 10:32 a.m.,*
in response to message #3 by Tim Wessman

> Quote:
>
> It is a more recent version than what has been given out to educators exclusively in the past. This is a commercialized version. There are the 12C and 12CP up as well.
>
> TW

Do you know what the differences are between this commercial version and the educational version? Does it mean the ROM has been updated?

On a side note, would it be to HP benefit to release their emulators free of charge so more users can give feedback on how to improve them before the next product update, given the fact there aren't enough people in their calculator department to do quality control on usability?

Just wonder.

Re: hp 35s emulator

*Message #12 Posted by **Namir** on 6 June 2009, 2:46 p.m.,*
in response to message #11 by Quan

I think HP is concerned that people with emulators will not buy the physical calculators. After all with the emulator, you can save data to your PC and load it back. Try that with the physical calculator!

Namir

Re: hp 35s emulator

*Message #13 Posted by **Earl Kubaskie** on 6 June 2009, 11:16 p.m.,*
in response to message #12 by Namir

I think HP is concerned with making a buck. Overall, I'd bet emulator sales would actually INCREASE physical unit sales. And vice versa.

Re: hp 35s emulator

*Message #14 Posted by **George Bailey (Bedford Falls)** on 7 June 2009, 2:38 a.m.,*
in response to message #12 by Namir

> Quote:
>
> I think HP is concerned that people with emulators will not buy the physical calculators. After all with the emulator, you can save data to your PC and load it back. Try that with the physical calculator!
>
> Namir

Who in the world - apart from us nerds on this forum - would use a calculator emulator instead of a spread sheet or a dedicated application? ;-) I guess most people who use calculators have a need to use it away from their PC: at the client's home, in the field, on the plane. And even nerds do buy the real thing: why else would prices of 15c, 42s etc. be so high? I have seen plenty of photos of calculator collections on this forum. But not a single photo of a PC Desktop showcasing the guy's emulator collection! ;-)

Re: hp 35s emulator

*Message #15 Posted by **Dave** on 8 June 2009, 1:34 p.m.,*
in response to message #14 by George Bailey (Bedford Falls)

Au contraire. Christoph has posted this here before.

Re: hp 35s emulator

Message #16 Posted by ***George Bailey (Bedford Falls)*** *on 9 June 2009, 3:32 a.m.,*
in response to message #15 by Dave

> Quote:
>
> Au contraire. Christoph has posted this here before.

I humbly admit that I did not know that, nor did I think it possible. ;-)

Edited: 9 June 2009, 3:32 a.m.

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Celestial Observations: A Brief History of Elgin, Knowles & Senne and their Ephemerides

*Message #1 Posted by **Robert Haefele (AUT)** on 4 June 2009, 2:30 a.m.*

Article in todays "American Surveyor Magazine" It has a brief reference to HP-41 and their ASTRO ROM.

http://www.amerisurv.com/content/view/6273/

regards,

Robert

Re: Celestial Observations: A Brief History of Elgin, Knowles & Senne and their Ephemerides

*Message #2 Posted by **Egan Ford** on 4 June 2009, 4:42 p.m.,*
in response to message #1 by Robert Haefele (AUT)

Does any have the book *2008 Sokkia Celestial Observation Handbook and Ephemeris* mentioned in the article?

I tried to download it using the link provided on their web site, but the URL (http://www.rollanet.org/~eksi/2008%20Ephem.pdf) is bad, as is their contact URL.

Re: Celestial Observations: A Brief History of Elgin, Knowles & Senne and their Ephemerides

*Message #3 Posted by **Glenn Becker** on 5 June 2009, 6:38 a.m.,*
in response to message #2 by Egan Ford

The '%20' in the URL resolves to a space, which just doesn't work IIRC.

I found my way here:

http://www.rollanet.org/~eksi/Handbook.htm

but the link to the PDF is encoded the same way there. There is a "contacts" link on that page.

Re: Celestial Observations: A Brief History of Elgin, Knowles & Senne and their Ephemerides

*Message #4 Posted by **Glenn Becker** on 5 June 2009, 6:42 a.m.,*
in response to message #3 by Glenn Becker

Oh, and the 'contacts' link on the page I posted ... it works if you alter the initial 'C' in 'Contact.htm' to a lower case 'c':

http://www.rollanet.org/~eksi/contact.htm

Sloppy HTMLing, to be sure.

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HP "Virtual Tech Museum" contest

*Message #1 Posted by **Eric Smith** on 3 June 2009, 7:10 p.m.*

I got some unsolicited email yesterday that I almost deleted, from someone at a company Waggener Edstrom, claiming to be representing HP. Apparently HP is running a contest for a HP Virtual Tech Museum and soliciting entries. They're looking for the oldest powered computing or entertainment devices, with photos and stories.

I have several items that I'd submit, but the contest is only open to the Asia Pacific region. See the contest rules on the web site for details.

Re: HP "Virtual Tech Museum" contest

*Message #2 Posted by **Egan Ford** on 3 June 2009, 10:16 p.m.,*
in response to message #1 by Eric Smith

I say we have our own right here. I'd really like to see what you have and hear your story.

Re: HP "Virtual Tech Museum" contest

*Message #3 Posted by **hpnut** on 3 June 2009, 11:58 p.m.,*
in response to message #1 by Eric Smith

> Quote:
>
> I have several items that I'd submit, but the contest is only open to the Asia Pacific region. See the contest rules on the web site for details.

you ought to qualify. The USA has a Pacific coast, right?

Asia Pacific - not Pacific Rim

*Message #4 Posted by **Jeff Kearns** on 4 June 2009, 4:52 a.m.,*
in response to message #3 by hpnut

"This contest is open only to residents residing in the following countries: Australia, China, Hong Kong, India, Indonesia, Korea, Malaysia, Singapore, Taiwan, Thailand, Vietnam and prizes may vary across the Asia Pacific region". - JK

Re: Asia Pacific - not Pacific Rim

*Message #5 Posted by **Thomas Okken** on 4 June 2009, 9:57 a.m.,*
in response to message #4 by Jeff Kearns

How bizarre -- a contest for the Asia Pacific region and the list of countries doesn't even include Japan and the Philippines?

Re: Asia Pacific - not Pacific Rim

*Message #6 Posted by **Les Bell** on 4 June 2009, 6:08 p.m.,*
in response to message #5 by Thomas Okken

And it includes Australia but not New Zealand. A little odd, especially since the Australian Constitution provides for New Zealand to become a state eventually.

Anyone want to rent my spare room so they can enter? ;)

Best,

--- Les
[http://www.lesbell.com.au]

OT: Cancel the BarB, mate!

*Message #7 Posted by **Jeff Kearns** on 4 June 2009, 6:16 p.m.,*
in response to message #6 by Les Bell

Les,

Your post reminded me of the following:

Understanding International Security Levels

The British are feeling the pinch in relation to recent terrorist threats in Islamabad and have raised their security level from "Miffed" to "Peeved." Soon, though, security levels may be raised yet again to "Irritated" or even "A Bit Cross." Brits have not been "A Bit Cross" since the blitz in 1940 when tea supplies all but ran out. Terrorists have been re-categorised from "Tiresome" to a "Bloody Nuisance." The last time the British issued a "Bloody Nuisance" warning level was during the great fire of 1666.

The French government announced yesterday that it has raised its terror alert level from "Run" to "Hide". The only two higher levels in France are "Collaborate" and "Surrender." The rise was precipitated by a recent fire that destroyed France's white flag factory, effectively paralyzing the country's military capability.

It's not only the French who are on a heightened level of alert. Italy has increased the alert level from "Shout loudly and excitedly" to "Elaborate Military Posturing." Two more levels remain: "Ineffective Combat Operations" and "Change Sides."

The Germans also increased their alert state from "Disdainful Arrogance" to "Dress in Uniform and Sing Marching Songs." They also have two higher levels: "Invade a Neighbour" and "Lose".

Belgians, on the other hand, are all on holiday as usual, and the only threat they are worried about is NATO pulling out of Brussels.

The Spanish are all excited to see their new submarines ready to deploy. These beautifully designed subs have glass bottoms so the new Spanish navy can get a really good look at the old Spanish navy.

Americans meanwhile are carrying out pre-emptive strikes, on all of their allies, just in case.

In the Antipodes...

New Zealand has also raised its security levels - from "baaa" to "BAAAA!". Due to continuing defence cutbacks (the airforce being a squadron of spotty teenagers flying paper aeroplanes and the navy some toy boats in the Prime Minister's bath), New Zealand only has one more level of escalation, which is "crap, I hope Australia will come end rescue us". In the event of invasion, New Zealanders will be asked to gather together in a strategic defensive position called "Sydney".

Australia, meanwhile, has raised its security level from "No worries" to "Fair dinkum, mate". Three more escalation levels remain, "Crikey!', "I think we'll need to cancel the barbie this weekend" and "The barbie is cancelled". There has not been a situation yet that has warranted the use of the final escalation level.

Re: OT: Cancel the BarB, mate!

*Message #8 Posted by **Ron Ross** on 4 June 2009, 8:01 p.m.,*
in response to message #7 by Jeff Kearns

As a Frenchman, I would slap you across the face with my white glove, but that would mean I would have to remove it from my flag pole!!!

8^)

Re: OT: Cancel the BarB, mate!

*Message #9 Posted by **Ken Shaw** on 5 June 2009, 11:10 a.m.,*
in response to message #7 by Jeff Kearns

Take no prisoners!

:-))

Re: OT: Cancel the BarB, mate!

*Message #10 Posted by **Les Bell** on 6 June 2009, 10:20 p.m.,*
in response to message #7 by Jeff Kearns

Love it!

Best,

--- Les
[http://www.lesbell.com.au]

Re: Asia Pacific - not Pacific Rim

*Message #11 Posted by **Pal G.** on 4 June 2009, 10:06 p.m.,*
in response to message #4 by Jeff Kearns

What about Guam??

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OT: Gratuitous non-HP calculator picture

*Message #1 Posted by **hugh steers** on 31 May 2009, 10:06 a.m.*

took this picture yesterday.

I confess that i'd never heard of this model until recently when tony duell told me about it. I have established, the C interpreter supports pointers as well as structures. looks like the usual C lib is available and implicitly included. you don't include any headers.

the c_lang.zip here describes the C implementation, although this particular file is for a different machine. i'm hoping they are very similar. http://www.silrun.info/casio/pb2000/pb2000.htm

there's another one on ebay.

Re: OT: Gratuitous non-HP calculator picture

*Message #2 Posted by **Marcus von Cube, Germany** on 31 May 2009, 1:36 p.m.,*
in response to message #1 by hugh steers

It's in my collection. :)

The VX-4 lacks graphics commands and has no file system, so there is no fopen and the like. The C itself does not support ANSI style declarations and is quite slow.

The PB-2000C has a file system and graphics but otherwise the C translator/interpreter system is equivalent.

If you want a faster machine, the Casio Z-1 (or its FX-890P sibling) is an option. It offers more memory (installed and maximum) as well.

In the MySilicium forum is a recent discussion about Sharp's offering in the C arena, the PC-G850 in various subversions (S, V). The C is considerably faster then the Casio implementation.

Re: OT: Gratuitous non-HP calculator picture

*Message #3 Posted by **Bart (UK)** on 1 June 2009, 5:24 p.m.,*

in response to message #1 by hugh steers

Aaaah, can't bear to look at it, reminds me too much of an FX-850P I used to have. Absolutely LOATHED it.

Re: OT: Gratuitous non-HP calculator picture

*Message #4 Posted by **Marcus von Cube, Germany** on 2 June 2009, 2:49 a.m.,*
in response to message #3 by Bart (UK)

850s or 880s can be found easily on the auction site for reasonable prices. If you need some BASIC information, you can consult my BASIC Comparison Sheet. Utilities to handle tape recordings for Casio calculators can be found here.

Edited: 2 June 2009, 2:50 a.m.

Re: OT: Gratuitous non-HP calculator picture

*Message #5 Posted by **Johnny Bjoern Rasmussen** on 4 June 2009, 3:26 a.m.,*
in response to message #4 by Marcus von Cube, Germany

I had an Casio PB-100. It was a fine little thing. I would like to get an PB-2000C or VX-4 though as I think the programming in C is quite nifty.

Johnny

Edited: 4 June 2009, 3:30 a.m.

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New HP 41CX

*Message #1 Posted by **Nigel Bamber** on 30 May 2009, 4:25 p.m.*

A new HP41CX is for sale on EBAY right now for US$650. Three questions :

1. Is it for real ?

2. Have there been other new ones for sale before ?

2. If it is real, is it worth it ?

What does everyone think?

Nigel

Edited: 30 May 2009, 5:07 p.m.

Re: New HP 41CX

*Message #2 Posted by **Dan Grelinger** on 30 May 2009, 5:27 p.m.,*
in response to message #1 by Nigel Bamber

That same seller has attempted to sell these units (they have 7 of them listed, correct?) before, with no takers that I am aware of. So, in answer to your question as to whether they are worth it, it appears that the voting buyers have answered with a resounding.... no. They are bare (few accessories) and may be refurbished units from HP that have been in storage. I would guess they are good condition, fully functional units, and based upon past ebay sales for such, would be worth about $300, maybe a bit more, in an international auction. As with many such "Buy-it-Now" listings, I interpret it as "For Sale, To Those with More Money than Brains".

Dan Grelinger

Re: New HP 41CX

*Message #3 Posted by **Michael de Estrada** on 30 May 2009, 5:42 p.m.,*
in response to message #2 by Dan Grelinger

BIN = 2 X TV

where:

BIN = Buy It Now

TV = True Value

Note: This formula does not apply to Coburlin.

Re: New HP 41CX

*Message #4 Posted by **Michael Meyer** on 31 May 2009, 3:19 p.m.,*
in response to message #3 by Michael de Estrada

I know that someone in England found a pallet of brand new ones 6 or 7 years ago. I bought two of them early on for about $50 each... the last ones ended up selling towards the end for closer to $300, if I remember correctly. The two I have, are indeed, brand new and unused. I don't think they're refurbished. I've never used mine. I don't know if they'll be worth anything more in the future, but they're the only unused units in my collection. Except for one unused HP-71B.....

Edited: 31 May 2009, 3:22 p.m.

Re: New HP 41CX

*Message #5 Posted by **Randy** on 31 May 2009, 3:59 p.m.,*
in response to message #4 by Michael Meyer

Actually, several crossed the $700 mark before he ran out... I think one hit $850 or so during the Christmas season. Early on, $200-$300 was the range once people heard they where in fact as advertised. Initially he was selling multiple units at the same time but soon learned to do one at a time.

I bought several. Sold all but one that I have in safe keeping :)

IMO $650 isn't out of line.

Re: New HP 41CX

*Message #6 Posted by **Nigel Bamber** on 31 May 2009, 4:41 p.m.,*
in response to message #5 by Randy

If it is new, I tend to agree that such an item that should be 30 years old , but sort of isn't, is worth a premium.

As a matter of interest would the electronics within such a machine be 'as good as new' or would they be susceptible to sudden failure , as a used model might ?

Nigel ' slightly tempted by one ' Bamber

PS $50 - what a bargain !

Re: New HP 41CX

*Message #7 Posted by **Glenn Becker** on 5 June 2009, 11:11 a.m.,*
in response to message #1 by Nigel Bamber

I hope this isn't too boneheaded a question. I will soon be getting reimbursed for a training course I took this spring, and have decided I would like to use a bit of the money to try and get myself a 41CX. However, experience has taught me that I'm not awfully good at winning things on eBay, partly because I often don't know what my bidding limit "should" be for a particular item.

What would a reasonable price be for a 41CX with, say, manuals and a couple of modules included, in good working condition?

I appreciate any input.

Re: New HP 41CX

*Message #8 Posted by **Egan Ford** on 5 June 2009, 1:33 p.m.,*
in response to message #7 by Glenn Becker

$250 if in great condition.

My advice:

1. Track down 10 that you like. Put them on your watch list, see what they sell for.
2. Open up an Auction Sniper account.
3. Track down another 10 that you like. Decide what you are willing to pay for each one. Some may only be worth $100 to you, others more.
4. In Auction Sniper create a bid group. Put all 10 in there and the price you are willing to pay for each. Also put in the bid group to quit after wining just one. AND, be very careful that the end times for all 10 are separated by a few minutes. (You do not want to win more that one).

If the above fails, then you need to spend more. Take your time, no rush, there are always 41CXes for sale. Start cheap, and if you like it, get a better one later, and then put your old one back out in to the community for others.

Just my $0.02 US.

Re: New HP 41CX

*Message #9 Posted by **Glenn Becker** on 5 June 2009, 1:39 p.m.,*
in response to message #8 by Egan Ford

Thank you, that is succinct, doable & helpful! :)

Re: New HP 41CX

*Message #10 Posted by **Thomas Okken** on 5 June 2009, 5:30 p.m.,*
in response to message #8 by Egan Ford

I'd definitely second the sniping suggestion. Although I have never used automatic auction sniping services, I have won a few auctions by simply logging in a few minutes before the auction I was watching ended, and then, with seconds left on the clock, entered my maximum bid. This worked pretty well for me (although it will probably become less and less successful as automatic sniping becomes more common). Bidding earlier just gives other bidders more time to respond.

The advantage of sniping is that you don't announce your willingness to bid any earlier than necessary. As long as eBay auctions have a fixed duration, there is zero advantage to *you* of bidding any earlier than necessary. But, whether you're sniping or not, it is advisable to decide how much you're willing to pay for a particular item, and stick to that maximum no matter what. It is easy to get excited and spend an amount you end up regretting -- I think psychologically speaking, it's similar to what happens to some people in casinos (hint: bring however much you can afford to lose, in cash, and leave your checks and credit cards at home).

Tip: if you see something that looks really interesting but that nobody has bid on at all yet, you may want to make a very low initial bid. That bid is virtually guaranteed to get beaten (and if it doesn't, you'll get the item at a ridiculously low price!), but it has the effect of preventing the seller from withdrawing the auction or changing its terms. This prevents some annoying practices by certain people we all know and love. ;-)

Happy collecting!

- Thomas

Edited: 5 June 2009, 5:36 p.m.

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The xth root of y on the hp 35s

*Message #1 Posted by **Quan** on 30 May 2009, 2:46 p.m.*

While quickly going through the first few chapters of the manual to get acquainted with the 35s, I came across an example on page 4-3 which shows the calculation of 3th root of -125 to be -5.

This perked my interest since I was under the impression that taking any xth root of a negative number is not possible on the 35s.

I performed the example, then tried calculating the xth of a handful of negative numbers.

Conclusion?

It only works if x is odd (and y can be any negative real numbers). If x is even, it will fail.

The only condition mentioned on the page is that for y<0, x must be an integer.

Can someone tell me why?

My guess is that the condition should be for y<0, x must be an even integer.

Thanks.

Re: The xth root of y on the hp 35s

*Message #2 Posted by **Karl Schneider** on 30 May 2009, 4:22 p.m.,*
in response to message #1 by Quan

Quan --

"x-th root of y" on the HP-35s (and its predecessors HP-33s and HP-32SII) has a real-valued range and real-valued domain of x and y. The negative real-valued odd root of a negative number can be obtained. However, complex-valued roots cannot be obtained with the function, and complex-valued inputs are invalid.

The domain and range of "y^x" do encompass complex numbers, but there are some peculiarities. Please see the following archived posts:

"x_root_y" and real vs. complex roots

35s complex-number functionality

-- KS

Edited: 30 May 2009, 11:12 p.m.

xth root of y

*Message #3 Posted by **Hal Bitton in Boise** on 31 May 2009, 11:39 a.m.,*

in response to message #1 by Quan

Hi Quan
Since real valued roots are (apparently) all the 35S will return, and since a negative real number has 1 real odd root, that's what is returned. Since that same negative real has no real valued even roots (they're all complex), nothing is returned. All the even or odd roots of any number, real or complex, are relatively easy to come up with (DeMoivre's Theorum), but it would be nice if the calculator would just give them to you. If the 35s will solve for the zero's of a polynomial (I don't have a 35s, so I don't know), a workaround would be to transform to polynomial form and get the roots that way (cube root -8 would be (x^3 + 8), and the three cube roots (ie zero's) returned would be (in polar form) 2@60deg, 2@180deg (ie,-2), and 2@-60deg.

Best regards, Hal

Re: xth root of y

*Message #4 Posted by **Quan** on 1 June 2009, 12:59 p.m.,*
in response to message #3 by Hal Bitton in Boise

Karl, Hal:

Thanks for the informative responses.

I sometimes forgot and expected more from HP calculators to give me the answers.

Regards,

Quan

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HP Forum Archive 19

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the experience of programming: old vs. new

*Message #1 Posted by **Glenn Becker** on 30 May 2009, 1:43 p.m.*

Good day, all.

I hope this doesn't come out sounding heretical. ;) I have spent some time the past few weeks slavering over 'Net sales / auctions of classic HPs like the 41C/CV/CX ... but if I am honest with myself, I must admit I really don't have the handy cash to become a collector - if I did have it, I would jump.

So with that in mind I have also given the 35s a look, and it appears (and according to some reviews, does have) a good deal of resemblance to an 'old classic.' I find myself wondering, outside of the obvious differences in build quality, number of available registers, etc., will I have a comparable experience programming something like the new 35s as I would if I broke the bank and got an old model from the 70s?

I'm not questioning whether money spent on a classic calc would be "worth it," I just don't think it would be wise for me. But I would like to have roughly the same experience I would have had back in the 1970s if I'd been a) more aware and b) more true to myself.

Thanks for any impressions/opinions.

Regards,

Glenn

Re: the experience of programming: old vs. new

*Message #2 Posted by **Don Shepherd** on 30 May 2009, 1:54 p.m.,*
in response to message #1 by Glenn Becker

Glenn, if what you are interested in is pure RPN programming, get a 33s. It is significantly faster than the 35s, its functions work better, and it does not have any "bugs" that I am aware of.

If you don't need scientific functions, get a 12c, especially if you can find one of the newer "60 times faster than the original 12c" ones.

Re: the experience of programming: old vs. new

*Message #3 Posted by **Glenn Becker** on 30 May 2009, 1:59 p.m.,*
in response to message #2 by Don Shepherd

Interesting. I hadn't heard the 33s was faster ... of course it is tough to get past all the complaints about the keyboard design! :D

Re: the experience of programming: old vs. new

*Message #4 Posted by **Don Shepherd** on 30 May 2009, 2:15 p.m.,*
in response to message #3 by Glenn Becker

Keyboard design schmeeboard design. It works. All the keys you need are there.

Re: the experience of programming: old vs. new

*Message #5 Posted by **Thomas Chrapkiewicz** on 31 May 2009, 11:00 a.m.,*
in response to message #1 by Glenn Becker

Glenn:

I believe I understand your desire to have a machine with the older/'classic'/simple feel.

Firstly, I must precede the following by saying that I am not familiar with, nor have I tried the 33s.

I have used the 35s quite a bit and do find it does truly have the 'feel' - both in programming and esthetics of the old/classic HP Programmables (I have used a HP65 since 1974 and have programmed the 25, 67 41 through the 48 series).

1. With the 35s, the ENTER^ key is properly sized and positioned. Personally, I find using any RPN/RPL machines (like the 49/50 series) with the 'newer' ENTER^ key size/position to be quite disturbing.

2. The programming is very 'comfortable' compared to the older line-oriented RPN machine.

3. The keyboard feel is quite close to the classic feel (I've recently been let down by the feel of the 20b - mushy and scratchy).

You may find the code listings on my webpage of interest: http://tchrapkiewicz.googlepages.com/hp35s I oonfigured the machine with 100 data registers, and some of the code on my page demonstrates some functionality with that register set.

Good luck - for the price, I believe it's worth trying the 35s.

Regards, TomC

Re: the experience of programming: old vs. new

*Message #6 Posted by **Glenn Becker** on 31 May 2009, 11:54 a.m.,*
in response to message #5 by Thomas Chrapkiewicz

Thank you, Tom - your post pushed me over the edge. ;^D Just ordered a 35s. GB

Re: the experience of programming: old vs. new

*Message #7 Posted by **Egan Ford** on 31 May 2009, 12:52 p.m.,*
in response to message #1 by Glenn Becker

Why not start with a few emulators? There are 41 and 42 emulators for just about every platform including PDAs/iPhones.

Re: the experience of programming: old vs. new

*Message #8 Posted by **Glenn Becker** on 31 May 2009, 1:06 p.m.,*
in response to message #7 by Egan Ford

I have one of the 41 emulators on a Windows install somewhere. I don't know, I am very fond of the actual physical artifact as opposed to an emulation. That sounds foofier than I mean it. :)

Of course a good emulator _would_ give me and idea of what the process of programming was like on, say, a 41C.

Re: the experience of programming: old vs. new

*Message #9 Posted by **Egan Ford** on 31 May 2009, 1:22 p.m.,*
in response to message #8 by Glenn Becker

That was the point. Before you spend a lot of $, give it a test drive first.

For programming I find that the 41 and 42 have the most to offer. There is no publicly available 35s emulator. Cost wise it is a low risk.

Re: the experience of programming: old vs. new

*Message #10 Posted by **Mark Edmonds** on 5 June 2009, 1:13 a.m.,*
in response to message #9 by Egan Ford

Too late now perhaps but one machine I rate very highly that is far better than most people give it credit is the 32sII. Not only does it have the superb Pioneer series ergonomics, it has one feature that is closer to the older machines than the 35s - a lack of memory!

But it still has enough memory to write serious programs and I'd rather have a machine which feels designed for the size of memory it has instead of a new machine that has huge memory but due to its programming model, it is almost impossible to take advantage of the large memory size.

The 32sII should definitely have its own feature page in the museum and I hope one day, will be regarded as a classic. It does nearly everything the 35s does (the 35s is actually like the 32 with a few extra functions), has hugely better ergonomics and because it is such a relatively new machine, prices are not as mad as the older machines.

My 35s sits on a shelf unused. My 32sII remains on my desk. It is a fun machine.

Mark

Re: the experience of programming: old vs. new

*Message #11 Posted by **Egan Ford** on 5 June 2009, 9:48 a.m.,*
in response to message #10 by Mark Edmonds

Both my 35s and 32SII sit unused. I obtained a 32SII because of the positive hype, and now I know where the 35s got its brain dead complex number support.

For pure RPN and portability its the 15C and 42S for me.

Edited: 5 June 2009, 9:48 a.m.

Re: the experience of programming: old vs. new

*Message #12 Posted by **Mark Edmonds** on 5 June 2009, 1:10 p.m.,*
in response to message #11 by Egan Ford

I must admit to being very curious as to why complex number support is so important to so many people. I'll start a new thread.

I suppose with the 32sII you have to say that complex number support is a bonus rather than

something that seems to have been an essential design consideration from the start (ie, 15C).

Mark

Re: the experience of programming: old vs. new

*Message #13 Posted by **Jeff Kearns** on 5 June 2009, 6:22 p.m.,*
in response to message #11 by Egan Ford

> Quote:
>
> Both my 35s and 32SII sit unused. I obtained a 32SII because of the positive hype, and now I know where the 35s got its brain dead complex number support.
>
> For pure RPN and portability its the 15C and 42S for me.

The 32sii actually has a few features that are superior to the 35s: (1) Polar to Rectangular conversions (2) faster integrator and solver (3) better interface and footprint (3) better overall build quality with no missed keystrokes. -- I am sure there are others.

As for the complex number support; it may be lacking compared to the 15C and 42S, but it serves most purposes. It is a great little machine nonetheless and arguably easier to keystroke program (or at least edit programs) that the 15C. The only downside for me is its limited memory!

JeffK

Re: the experience of programming: old vs. new

*Message #14 Posted by **Mark Edmonds** on 6 June 2009, 8:26 a.m.,*
in response to message #13 by Jeff Kearns

One benefit the 35 has with P->R conversion is that you can convert immediately on input.

However, I've just realised I don't know how to split the result. The 32 returns two results but the 35 is one so if I've just done a conversion and got 3*i*4, how do I isolate them?

Another area where the 32 totally blows away the 35 is base conversion. I need this a lot. I detest the way the 35 works with explicitly needing to specify the base each time. Absolutley daft design. I honestly cannot find a single advantage for the 35's method over the tried and trusted methods in all previous calcs.

The 35 does have logic operations though which is a big plus.

Mark

Re: the experience of programming: old vs. new

*Message #15 Posted by **Thomas Radtke** on 6 June 2009, 8:43 a.m.,*
in response to message #14 by Mark Edmonds

> Quote:

> However, I've just realised I don't know how to split the result.

Have you been successful composing them in polar notation in any other way than just typing them in? Say, you have r in register x and phi in register y. How would you compose them? This is on of the weakest points of the 35s.

Re: the experience of programming: old vs. new

*Message #16 Posted by **Jeff O.** on 7 June 2009, 10:33 a.m.,*
in response to message #14 by Mark Edmonds

> Quote:
>
> However, I've just realised I don't know how to split the result. The 32 returns two results but the 35 is one so if I've just done a conversion and got 3i4, how do I isolate them?

The deficient abilities of the rectangular to polar, polar to rectangular and related functions on the HP 35s were discussed at length in the summer of 2007 upon its release. A search of Archive 17 will yield lots of information, for example see this thread.

The following program will convert a complex number to its rectangular components.

```
Z001    LBL Z
Z002    SF 10
Z003    eqn CPLX->RECT
Z004    PSE
Z005    CF 10
Z006    ABS
Z007    CLx
Z008    eqn ABS(LASTx)*SIN(ARG(LASTx))
Z009    eqn ABS(LASTx)*COS(ARG(LASTx))
Z010    RTN
```

...

Re: the experience of programming: old vs. new

*Message #17 Posted by **Thomas Radtke** on 6 June 2009, 9:35 a.m.,*
in response to message #13 by Jeff Kearns

> Quote:
>
> The 32sii actually has a few features that are superior to the 35s: (1) Polar to Rectangular conversions (2) faster integrator and solver (3) better interface and footprint (3) better overall build quality with no missed keystrokes. -- I am sure there are others.

The display of the 35s is quite dissapointing. A less reflective cover and some space between annunciators and border would have been geat.

It's about time for a 35sII :^).

Re: the experience of programming: old vs. new

*Message #18 Posted by **Egan Ford** on 6 June 2009, 10:39 a.m.,*
in response to message #13 by Jeff Kearns

> Quote:
>
> The 32sii actually has a few features that are superior to the 35s: (1) Polar to Rectangular conversions (2) faster integrator and solver (3) better interface and footprint (3) better overall build quality with no missed keystrokes. -- I am sure there are others.

All true and that it why I wanted one, but I expected it to be a 15C++, not an 11C++. My bad. So I'll just be happy with my 15C/42S and emulators. Emulators will live forever.

Re: the experience of programming: old vs. new

*Message #19 Posted by **Mark Edmonds** on 6 June 2009, 1:25 p.m.,*
in response to message #18 by Egan Ford

> Quote:
>
> So I'll just be happy with my 15C/42S and emulators. Emulators will live forever.

True, they will and the development of emulators to preserve our computing heritage is a wonderful thing ... but in terms of devices like pocket calculators, don't you find them a strangely detached experience and very removed from operating the real thing?

Myself, I use emu48 for quick calculations but when I want to program something, I always grab the real thing. For some reason, I just cannot get into programming an emulation.

Mark

Re: the experience of programming: old vs. new

*Message #20 Posted by **Thomas Okken** on 6 June 2009, 2:18 p.m.,*
in response to message #19 by Mark Edmonds

> Quote:
>
> > Quote:
> >
> > So I'll just be happy with my 15C/42S and emulators. Emulators will live forever.
>
> True, they will and the development of emulators to preserve our computing heritage is a wonderful thing ... but in terms of devices like pocket calculators, don't you find them a strangely detached experience and very removed from operating the real thing?

> Myself, I use emu48 for quick calculations but when I want to program something, I always grab the real thing. For some reason, I just cannot get into programming an emulation.

It's a matter of perspective, I guess. My experience seems to be the opposite of yours: I regard my real HP-42S as a museum piece, cherished but rarely used, kept around more for old times' sake than anything else; when I need to use a calculator in everyday life, I use an emulator on whatever device is close at hand.

At work, I always have a PC (I'm a computer programmer so PC availability is an occupational hazard). At home, my iPod touch is never far away... And when I'm travelling, I always have my Palm with me. I have and use these devices anyway; installing calculator emulators on them means I have a calculator with me at all times, too, without needing to carry Yet Another Physical Device -- and without having to worry that my hard-to-replace vintage HP will break or get stolen.

I do miss the HP-42S keyboard sometimes, but my virtual calculators run on commodity hardware, and can always be ported to new hardware should the need arise... The HP-42S, on the other hand, is slowly dying out. That reality, sad as it may be, makes using the real HP-42S feel like a detached experience, and it makes using an emulator feel more like the real thing -- for better or worse. ;-)

- Thomas

Re: the experience of programming: old vs. new

*Message #21 Posted by **Egan Ford** on 6 June 2009, 7:10 p.m.,*
in response to message #19 by Mark Edmonds

> Quote:
>
> > True, they will and the development of emulators to preserve our computing heritage is a wonderful thing ... but in terms of devices like pocket calculators, don't you find them a strangely detached experience and very removed from operating the real thing?

Not really. But when I go back to using the real thing there is a noticeable improvement, but not enough to make me switch back.

I travel frequently, and used to carry a 48GX/50g (for my programs) and a 15C (small and quick). Now that I have an iPhone with 15C/42S/41CX and my MacBook with x49gp (50g emulator with ARM support, i.e. I can run my C programs too), I opted to reduce space and weight by leaving them behind.

> Quote:
>
> > Myself, I use emu48 for quick calculations but when I want to program something, I always grab the real thing. For some reason, I just cannot get into programming an emulation.

I know what you mean, however if you get use to the keymap its not that bad. I

find with RPL programming that alpha entering commands is very fast on a QUERTY keyboard.

HP-35s and HP-32SII complex-number support

*Message #22 Posted by **Karl Schneider** on 6 June 2009, 4:01 p.m.,*
in response to message #11 by Egan Ford

Hi, Egan --

> Quote:
>
> I obtained a 32SII because of the positive hype, and now I know where the 35s got its brain dead complex number support.

It goes back further than that, as indicated in this archived thread from 2007:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv017.cgi?read=119576#119576

A self-quote from the thread:

"The complex-number functionality of the HP-32S, HP-32SII, HP-33s, and now apparently the HP-35s, was essentially a porting of the HP-41 Math Pac's RPN routines."

-- KS

Edited: 6 June 2009, 4:02 p.m.

Re: HP-35s and HP-32SII complex-number support

*Message #23 Posted by **Mark Edmonds** on 6 June 2009, 4:35 p.m.,*
in response to message #22 by Karl Schneider

So for all the hardcore complex number users, what is the general verdict on the way the 48 series deals with them? It looks relatively elegant to me but I can see that having to enter the brackets each time can be a nuisance - although it wouldn't be difficult to setup a user-Enter key to combine lvls 1 and 2 into a CN automatically. Anyway, is the 15C still preferred to the 48 series?

Mark

Re: HP-35s and HP-32SII complex-number support

*Message #24 Posted by **Egan Ford** on 6 June 2009, 7:12 p.m.,*
in response to message #23 by Mark Edmonds

The 15C, 42S, and 48/50 all do complex numbers a bit different in terms of input and presentation, however I have no difficult with any of them. At least its there and complete.

Re: HP-48 complex-number support

*Message #25 Posted by **Karl Schneider** on 6 June 2009, 9:39 p.m.,*
in response to message #23 by Mark Edmonds

Mark --

> Quote:
>
> So for all the hardcore complex number users, what is the general verdict on the way the 48 series deals with them? It looks relatively elegant to me but I can see that having to enter the brackets each time can be a nuisance - although it wouldn't be difficult to setup a user-Enter key to combine lvls 1 and 2 into a CN automatically.

Complex-number support for the HP-48 series and beyond is mathematically complete. Numbers can be entered and displayed in polar mode (unlike the HP-28 series). However, I also dislike representing a complex number as an ordered *parenthesized* pair, which could also be a point on a graph, a pair of statistical data, or an open range of numbers.

The "R->C" function on RPL-based calc's combines levels 1 and 2 into a complex number. However, it differs from "COMPLEX" with two reals on an HP-42S, in that R->C always treats the two reals as the components of a complex number in rectangular format. COMPLEX treats the two reals as the components of a complex number in the selected format.

More on the general topic from the Archives:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=63415#63415

-- KS

Re: HP-48 complex-number support

*Message #26 Posted by **Egan Ford** on 6 June 2009, 10:56 p.m.,*
in response to message #25 by Karl Schneider

> Quote:
>
> Complex-number support for the HP-48 series and beyond is mathematically complete.

I guess I should have said, *relatively complete*.

Re: HP-48 complex-number support

*Message #27 Posted by **Mark Edmonds** on 7 June 2009, 12:48 p.m.,*
in response to message #25 by Karl Schneider

> Quote:
>
> The "R->C" function on RPL-based calc's combines levels 1 and 2 into a complex number. However, it differs from "COMPLEX" with two reals on an HP-42S, in that R->C always treats the two reals as the components of a complex number in rectangular format. COMPLEX treats the two reals as the components of a complex number in the selected format.

Karl - there is a solution to this problem in the 48 series which enables you to enter levels 1 and 2 and have them combined into a complex number of the currently selected format. It doesn't involve any programming, just a different command and a flag.

Please try this:

1. Set flag -19.
2. Put the machine into Polar.
3. Enter for example 5 and 53.1 in levels 2 and 1.
4. Goto MTH/VECTR and press ->V2
5. You now have a complex number in the correct format.

Obviously this also works in rectangular mode. I agree it isn't as neat as being able to do it with a single shift+key in the 42s but at least the solution does exist in the 48 machines and if you keep the Vector menu open in the 48, it is still very immediate.

Flag -19 sets between creating a vector or a complex number with the ->V2 command.

Mark

Edited: 7 June 2009, 12:49 p.m.

Re: HP-35s and HP-32SII complex-number support

*Message #28 Posted by **Egan Ford** on 6 June 2009, 7:11 p.m.,*
in response to message #22 by Karl Schneider

Karl,

Thanks. Now I remember.

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HHC2009 HP Conf Attendance 20 and Counting

*Message #1 Posted by **Jake Schwartz** on 30 May 2009, 10:32 a.m.*

Hi,

With around four months until the HHC2009 HP Calc conference at HP's Vancouver, Washington facility in October 3-4, we now have reached 20 registrants. For those on the fence, it's always an enjoyable time with usually something new for everyone to learn and probably something "old" for everyone to rediscover as well. For the third time in as many years, the U.S. conference will be held at an HP facility, thanks to the current calculator development group, and this eliminates significant cost and complications which usually plague the organizers. Come meet those people whom you've only known by the typed name on the computer screen or reconnect with old friends...you won't regret it. For more info on HHC2009, consult http://holyjoe.net/hhc2009/ or to see info on the past decade of conferences, check http://holyjoe.net/hhc/.

See you in Vancouver,

Jake Schwartz

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Restoration Guide, ideas, help, suggestions and etc....

*Message #1 Posted by **Geoff Quickfall** on 30 May 2009, 12:40 a.m.*

Hello all!

I have been thinking of a publication project and want to know if it would be recieved by the HP community. I am looking to cover production only and shipping only.

Also, I will be floating some ideas out there and want to make sure credit is given where it is due. For example, Katie's HP 97 printer gear solution or Karls dental floss spice opening technique, Card reader o-rings or tube solutions and etc.

I know for a fact that I am not the only one that has independently, or with research, come across an idea for restoration and I want to make sure I acknowledge the originators.

There will probably be an extensive bibliography!!! I am, however, going to, or have done all the projects myself that will be included. All photos will be original by me for consistency of publication.

I have quite a collection of restoration photos made up now. Raw images and labeled all done on the blue background. I do this intentionally so that any booklet will have matching photos throughout.

So far the book will include:

1. HP 65 ground up restoration complete with about 25 labled figures including PCB, Card Reader, exterior finish, etc. This will be the most in depth restoration it explains all that can go wrong with a classic, and many subsequent models designs.

2. HP 97 gear replacement, cleaning, case restoration and a light focus on the specific card reader and printer removal. The rest of the techniques would be covered on the HP 65.

3. Woodstock restoration including keys, switches, (non invasive techniques for cleaning and restoring)

4. Spice opening and restoration as in this posting

5. Voyager opening, keyboard repair as well as keyboard dis-assembly, yes the dreaded rivet removal and replacement

6. Pioneer repairs as well as case opening and memory enhancement of the 42S and quartz timing crystal installation (?)

7. Stretch Pioneer repairs, case opening and etc

8. HP 01 cricket repairs and case restorations

9. HP 9825A tape deck repair and printer repair as well as the typical case restoration and etc.

10. HP 71B opening and ribbon repair, aluminum bezel finish restoration, keyboard resurrection....

11. TDS memory card battery change.

12. and of course every thing to do with the HP 41 and it's card reader including battery post problems, corrosion problems keyboards and etc. (thanks for reminding me that I forgot to include the 41 especially this year).

Of course there will be overlap so after the HP 65 main restoration topic, the other chapters will be specific to the challenges that each series/family present to the restorer.

Many appendixes with tool lists, polish and compound used for cleaning, cleaning solutions that have been successfully tested and etc.

There will be many colour pictures, which will increase the cost but as this is an 'on demand publication' the costs will be kept lower.

What will not be included at this time is an in depth electronic repair section, not my forte. However this may change with help from you, the community, as the project matures.

So the question is:

Is there an interest in a 50 to 100 page book full of how to illustrations, before and after photos, labelled figures, tool requirements and restoration techniques with appendices including diagnostic programs for the 65, 67 and 97?

Let me know as I will be doing this anyway, for me! (in fact the 20 page HP 65 restoration section is already completed) and the photos for 90% of the book project have all ready been taken.

Hope to hear from you all,

Geoff

Edited: 30 May 2009, 4:18 a.m. after one or more responses were posted

Re: Restoration Guide, ideas, help, suggestions and etc....

*Message #2 Posted by **Steve Leibson** on 30 May 2009, 2:06 a.m.,*
in response to message #1 by Geoff Quickfall

The HP 9825 tape repair techniques probably ought to be in a separate book. (I'd want it.) In fact, each calculator series might be in its own ebook. You could probably charge $9.95 for each ebook with a discount for the entire library.

Re: Restoration Guide, ideas, help, suggestions and etc....

*Message #3 Posted by **Geoff Quickfall** on 30 May 2009, 4:21 a.m.,*
in response to message #2 by Steve Leibson

Steve, get some sleep.

The E book sounds like an interesting idea.! And the HP9825A might be more your forte, especially the tape drive. I will proceed as far as I can go and document the steps in any case.

Cheers, Geoff

P.S. your link to the HP 45 restoration has been broken. I should stick it in the articles section but will have to find it in the archives again.

Cheers again, Geoff

Edited: 30 May 2009, 4:23 a.m.

Re: Restoration Guide, ideas, help, suggestions and etc....

*Message #4 Posted by **Jeff Kearns** on 30 May 2009, 9:47 a.m.,*
in response to message #3 by Geoff Quickfall

Geoff - Greetings from the NCR

I would definitely be interested in your booklet. I have successfully (i.e. no damage that I am aware of) opened up Spice units half a dozen times using the method described at www.voidware.com/calcs/spicerepair.htm. But understand how it can be a risky understaking... It's funny, but I remember trying Karl's floss method a couple of years ago and was unsuccessful at that one (maybe the floss was too thin).

Anyway, I own at least one Woodstock, Spice, Voyager, HP-41, Pioneer series calculator so I could benefit from your manual. Great photos and enviable collection, by the way! I want to 'memory enhance' one of my 42's!

JeffK

Re: Restoration Guide, ideas, help, suggestions and etc....

*Message #5 Posted by **hugh steers** on 31 May 2009, 9:49 a.m.,*

in response to message #4 by Jeff Kearns

Hi,

the method described here (as mentioned) http://www.voidware.com/calcs/spicerepair.htm

was shown to me by Tony Duell. He gets the credit for this method. I tried the floss method, but it didnt work for me. perhaps my floss was too thin/weak etc. not sure.

Tony's spice opening method involves applying pressure in a certain way that is difficult to describe in words, you have to really see it and try it.

one other thing. i've been told my scraping the contact method to clean them is not recommended!

:-)

Edited: 31 May 2009, 9:50 a.m.

Re: Restoration Guide, ideas, help, suggestions and etc....

*Message #6 Posted by **Geoff Quickfall** on 1 June 2009, 10:48 a.m.,*
in response to message #5 by hugh steers

Hello Hugh,

That was my preferred method until I found 5 of these spices in a box all exhibiting the same intermittant LED faults. It involved simutaneously pulling the bottom shell towards you while pushing the top shell away.

The method was dependent on the stiffness of the latch and whether or not the bottom shell would slide out of the lip it resides in on the top shell.

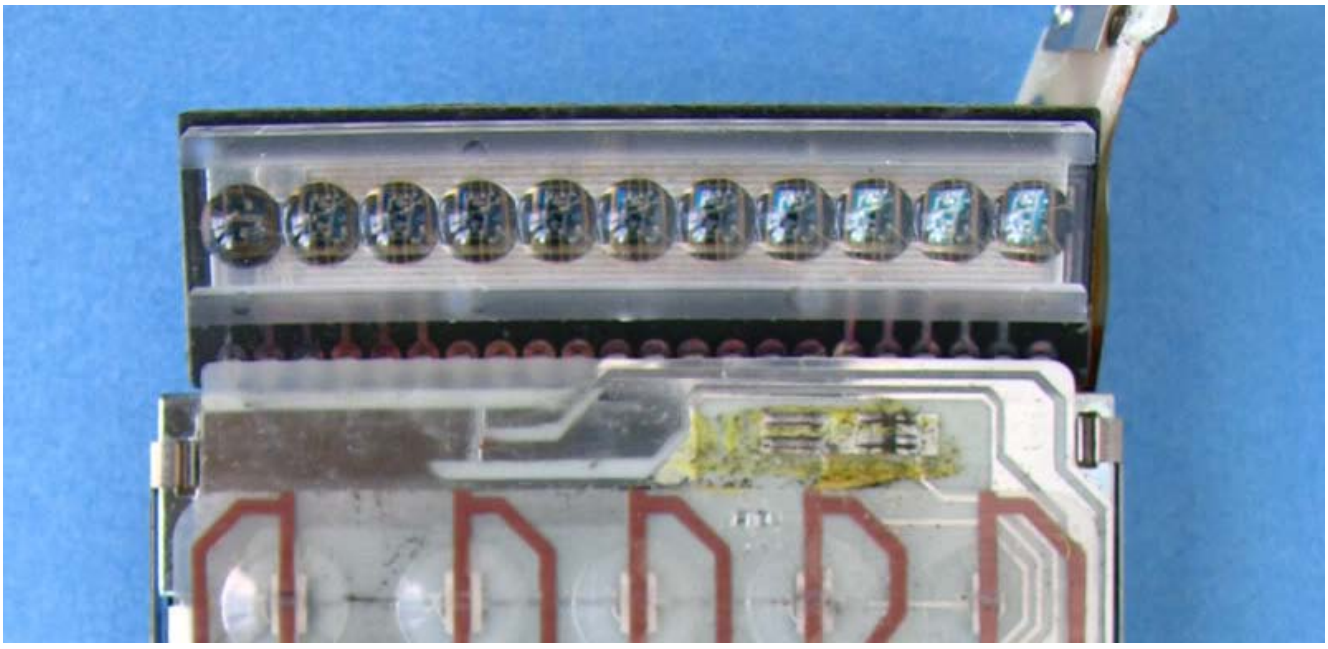
Although better than the " brute force method " one could still damage the lip and latch.

I am not saying I have perfected the method, but the method I have illustrated takes into consideration the lip and latch and requires minimal effort, just a little finesse.

The force used in the "push pull technique" you refer to is again almost extreme, unless you can leverage the bottom shell out of the lip in the top shell while pushing and pulling at the same time!

Wednesday, pub crawl, see you there, Geoff

P.S. clean the oxide of grit with a brush and alcohol. I then use a fibre glass pen with alcohol and top it off with a film of silicon grease for slide contacts



Edited: 1 June 2009, 10:59 a.m.

Re: Restoration Guide, ideas, help, suggestions and etc....

*Message #7 Posted by **Joel Setton (France)** on 30 May 2009, 12:10 p.m.,*
in response to message #3 by Geoff Quickfall

Geoff, I'd definitely order a copy. Having an e-book per series (i.e. one for Classics, one for Spices and so on) sounds like a good idea if the price is right. How about including it in a future release of the MoHPC DVDs?

Joel Setton

Re: Restoration Guide, ideas, help, suggestions and etc....

*Message #8 Posted by **Rainer Wiedemann (Germany)** on 31 May 2009, 7:19 p.m.,*
in response to message #1 by Geoff Quickfall

Quote:

Is there an interest in a 50 to 100 page book full of how to illustrations, before and after photos, labelled figures, tool requirements and restoration techniques with appendices including diagnostic programs for the 65, 67 and 97?

Geoff, my answer is Y E S . I will order a copy as soon as you will have published this book.

I read all of your excellent restoration postings and would like to own them in printed form.

By the way, including schematics of 65, 67 and 97 would be highly appreciated.

Regards,

Rainer

Thanks for the responses, the project is going ahead.

*Message #9 Posted by **Geoff Quickfall** on 1 June 2009, 10:51 a.m.,*
in response to message #8 by Rainer Wiedemann (Germany)

I want to make sure that the credits are given for various techniques, so I will be posting various descriptions of the techniques used.

I would appreciate help as to the original authors if possible. The archives here are fantastic and I will try to have at least most of the booklet done for HCC2009.

Of course the London chapter of the HPCC may get an early look also!

Cheers, Geoff

Repairing HP67 / HP41C Links

*Message #10 Posted by **Saile (Brazil)** on 1 June 2009, 5:24 p.m.,*
in response to message #9 by Geoff Quickfall

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Repairing HP67
Repairing HP41C
```

Edited: 1 June 2009, 5:24 p.m.

Re: Repairing HP67 / HP41C Links

*Message #11 Posted by **Michael de Estrada** on 1 June 2009, 5:42 p.m.,*
in response to message #10 by Saile (Brazil)

Saile,

There is one problem with the HP67 repair that you show. The epoxy fix for the motor to worm gear coupling effectively disables the clutch feature, which limits the torque that can be transmitted from the motor to the worm gear in the event of a card jam or some other problem that could stall the motor and damage it. Geoff has a fix using wire insulation that effectively preserves the clutch feature, while providing efficient transfer of torque under normal circumstances. Hopefully, Geoff will include his clutch fix in his repair treatise for the HP65/67/97/41 card readers.

Michael

Saile and Michael, thanks for the inputs,....

*Message #12 Posted by **Geoff Quickfall** on 1 June 2009, 6:06 p.m.,*
in response to message #11 by Michael de Estrada

As the input from any other interested members progresses, I will know who or whom to credit with the original concept.

I intend to document the most efficient/extensive repairs that have been created by the group as well as myself. To that extent, thanks for the links Saile! Each repair will be done by me (most have already!) and then assembled into the booklet so keep the links comming.

Hello Michael, the HP 65 booklet has already been created and covers 22 pages with full colour matched and labeled photos. In that repair the pinch wheel and clutch have been covered as well as PCB cleaning, contact cleaning, case restorations, diagnostics, battery holder surgery and etc.

I will include in the 67 section some basic differences to the restorations. The 97 will include printer restorations as well as printer and card reader removals. Since the roller and clutch are similar it would not be cost effective to show the same repair for the 67 and 97.

The HP 41 card reader is a different animal with respect to reaching the roller. I will show the steps for disassembly and reassembly of course. The same repair for the HP 67 et al will apply.

Also the HP 41C dissection will in itself be a large section covering as many of the differing keyboards to PCB connections that I can find. So far I have 3 differing PCB's, one of which (Singapore 1986 CX halfnut) does not even need any of the screw posts or screws at all to function correctly. I.E. a couple of elastic bands to hold the shells together!!!!!!

The 41C section will be an offshoot of the paper at the October HCC2009 conference.

The other families have their own quirks, but mostly it involves the safe separation of the halves; especially the latter LCD voyagers, pioneers and stretch pioneers as well as the spice documented earlier at the museum.

Section on keyboard repairs (non-invasive) and invasive techniques. As we know some keyboards are riveted in place and preclude and easy dissassembly. I have an 11C here in need of a new LCD panel so for the heck of it I removed the rivet heads to gain access. It works now, however it is time to find a final fix for the rivets, small screws, melted plastic, epoxy.....

In conclusion

Now many of the repairs have been done before but again for the sake of consistency I will be documenting each repair step by step.

There will be two major repairs, the HP 65 and the HP 41. These will cover keyboard repairs, screw posts, connections, electronics, case restorations, label printing on home computer, label restorations.

The rest of the families will differ in access to the internal sections, keyboard differences, display differences, case restoration differences etc. In effect, this will be a differences section with a photo essay of diassembly of each family or series; photo documentation of fixes that would differ from the 65 or 41 section.

Cheers, Geoff

<sigh> clutch torque limit = urban legend

*Message #13 Posted by **Hans Brueggemann** on 6 June 2009, 8:28 a.m.,*
in response to message #11 by Michael de Estrada

micheal, can you provide us the HP-approved value to which the torque limt should be set when repairing "THE CLUTCH"?
that would be surely of greatest help to all 67/97... restorators in the forum!
cheers,
hans

Re: <sigh> clutch torque limit = urban legend

*Message #14 Posted by **Randy** on 7 June 2009, 5:55 p.m.,*
in response to message #13 by Hans Brueggemann

Hans:

Bravo! I could not think of a kind way to state (once again) it isn't a clutch. Thank you for a most elegant way to prove that fact...

Re: <sigh> clutch torque limit = urban legend

*Message #15 Posted by **Michael de Estrada** on 7 June 2009, 8:26 p.m.,*
in response to message #14 by Randy

I found your original deleted reply much more than unkind. It was plainly rude and insulting. And the reply by Hans is sarcastic and arrogant. Regardless of the merits of your respective opinions, enlightened people simply state the reasons for their positions, and do not resort to personal attack. My reply to Saile above did exactly that, no less or more. I did not question his wisdom or intelligence. So, if you want to challenge my or anyone else's statements or positions, just do so factually without engaging in unnecessary vitriol.

Michael

I've certainly hijacked this thread...

*Message #16 Posted by **Randy** on 8 June 2009, 9:45 a.m.,*
in response to message #15 by Michael de Estrada

Which was not my intent and why I deleted my original post as I felt the topic didn't warrant further comment. I think it was up for no more than a minute before I deleted it.

If you felt it was rude and insulting, that's unfortunate as it was only an expression of my frustration with bad information being propagated. Personal attack? I don't see any names mentioned or implied. Harsh, yes, but personal? Not in my view. Believe me, I did that once on this board a long time ago and I've never repeated it.

Since you've now seen fit to mention something not seen by everyone, in the interest of fairness, here it is again.

[begin deleted post]

... because if somebody tells you an HP card reader has a clutch, don't believe them. It is never referred to in the HP documentation as a clutch because it isn't one.

The lead screw and motor combo was a complete assembly and in a functional, factory original reader, the screw is quite firmly attached to the motor shaft. The "clutch" action comes from the card slipping against the drive wheel.

To anybody that says otherwise is only parroting what they've read on the Internet. The proof is the 97 and 82104A service manuals. So is the proper motor adjustment procedure. You don't just adjust the eccentric until the the thing works... Do you really think that's how HP did it at the factory?

It is amazing to me how much bad information is out there that just keeps turning up again and again. Very sad. Let's not propagate it any further here, okay?

[end deleted post]

I believe I now understand why David Smith no longer posts... :(

Not really! this is the desire of the thread creator, accuracies for the book, not myths...

*Message #17 Posted by **Geoff Quickfall** on 8 June 2009, 11:48 a.m.,*
in response to message #16 by Randy

Aside from any frustrations with inaccuracies, urban myths postings and etc, the factually basis of the responses was the reason for the posting in the first place.

For example, the "clutch". What was the reason for the addition of the coupler from the motor shaft to the worm gear shaft:

```
1.  could the shaft and worm gear not have been one piece?
2.  was the coupler in the form of a rubber sleeve been used as a
    noise damper
3.  was the coupler in the form of a rubber sleeve been used as a
    vibration damper.
3.  was it used to allow slippage for a jammed card, (since 1981
    that has never happened to me and I use mine every day.
```

The 97 repair manual does not mention the reason for the coupling so urban legends are created. Also, not many of the originals designers around.

I have an HP67 new in box and the rubber coupler does not give, I haven't forced it! It is the original rubber, not glued or one piece. That has to lead to questions about replacement. Intuitively one would like to replace it with the actual material. In reality, that would lead to disintegrating rubber in 5 to 10 years necessitating another repair. That is why the 'insulation used as a replacement' idea was created.

The eccentric cam, as it is correctly called, yes it is adjusted after the system works although in C of the trouble shooting section figure 29 (refering to paragraph 4-40) it is used to adjust card reader speed.

Rotating the eccentric cam after assembly and with a reader that writes only or reads only has remedied many read/write problems, again, done by people after the repair and without manuals. On some machines the original rubber still functions, yes I have a 41C and HP 67 with functional original rollers. Both these had card reader read problems, not write problems. This may have been due the speed of the motor changing over time (lubrication?).

Randy and Hans, keep the 'Accuracies' coming, email me in person, better yet, write a small essay on the inaccuracies that you perceive are being perpetrated on the net and here. Post that in the articles section where it will not dissappear beyond the current page and maybe that info will be propagated. With permission I will add this to an appendix titled "truths" or something like that.

With respect to the word 'CLUTCH' you both are correct. There is no reference in the HP 97 manual to the CLUTCH, however, there is no reference to the motor 'CLUTCH' system. Even the exploded view does not refer to the more correctly called 'coupling' between the motor shaft and the worm gear. CLUTCH does appear, even if incorrectly, as the name given in popular literature.

This would probably mean the entire motor system was replaced as one piece and therefore did not warrant any mention of individual components, hence the made up name CLUTCH. Of course, I must say I have not read everypage of the 97 repair manual so if you could point out the reference to the correct name I would appreciate it. I will be calling it a coupling and still advocating an insulation repair which closely simulates the original properties of the the system. This may be a case where to much thinking has been applied to the system and this was the cheapest method to link a Swiss produced motor to a shaft at HP. That is, it requires no damping, slipping properties at all.

For Eric, I too, after a lot of research on the 'Internet' was led to believe it to be a 'clutch'. Although when I first saw the design, I was inclined to believe it to be a damper. It certainly removes vibration and noise from the system versus a 'glued' option which simulates a 'one piece axel'. My insulation replacement will much more accurately, in my mind, replace the design concept behind the rubber coupling. It can do that without knowing the 'reason or name' given to the disintigrated rubber coupling. But for the sake of the book, I want and need to be factual and therefore accurate.

There, the thread is back on track.

Geoff

Edited: 8 June 2009, 2:02 p.m.

Re: Not really! this is the desire of the thread creator, accuracies for the book,

not myths...

*Message #18 Posted by **Michael de Estrada** on 8 June 2009, 2:50 p.m.,*
in response to message #17 by Geoff Quickfall

Geoff,

I used the term "clutch" only because it seemed to be common usage that everyone would recognize. In fact, it could not be truly a clutch, since a clutch is a device which gradually equalizes the speed between between a motor and some driven system such as a transmission in a car. A more appropriate description would have been an elastomeric torque-limiting slip coupling, which at some point would permit slippage between the motor shaft and the inner bore of the elastic coupling material. The slippage point would be determined by the tightness of the press-fit. Devices like this do in fact exist in the real world, and are used as safety-devices to protect electric motors from being stalled under power when some malfunction occurs such as a seized bearing. I assumed that HP had done this on purpose, whereas it now appears I was mis-informed.

I had absolutely no problem with Randy or Hans correcting me on this point; just the way they chose to do it. I have been politely corrected numerous times on this forum for my mis-statements, and will readilly acknowledge such errors without being offended. Suggesting that I or others are no more intelligent than a parrot is rude and insulting to me. Perhaps I'm a little too thin skinned to participate in a form such as this, where I may be subjected to such treatment dare I not do exhaustive research before posting my opinions.

Edited: 8 June 2009, 2:57 p.m. after one or more responses were posted

Michael see my post below!

*Message #19 Posted by **Geoff Quickfall** on 8 June 2009, 2:57 p.m.,*
in response to message #18 by Michael de Estrada

I agree with you, as explained below.

The Popular term is clutch for right or wrong. It would seem that I will need an appendix which translates popular terms to correct terms, unfortunately in this case, clutch, damper, or coupler may be the correct term and function!

The fact is the entire assembly was replaced and the manuals do not refer at all to the components! So as far as I am concerned clutch can suffice although I would add the damper and coupling terms.

I am awaiting more orignial info by mail from some of the period designers at HP. Of course I will also raise this in October.

As far as your postings, and any postings, information helps. Unfortunately we can never tell if sarcasm is nasty or humorous as we cannot read the facial expressions of the poster. I also missed the original posting that was edited so I missed the 'parrot' term.

I too think that with the above limit in postings, that sarcasm be kept at a minimum and corrective information be kept at a maximum.

Cheers, Geoff

Edited: 8 June 2009, 2:59 p.m.

This is an opinion?

*Message #20 Posted by **Randy** on 8 June 2009, 3:14 p.m.,*
in response to message #18 by Michael de Estrada

> Quote:
>
> There is one problem with the HP67 repair that you show. The epoxy fix for the motor to worm gear coupling effectively disables the clutch feature, which limits the torque that can be transmitted from the motor to the worm gear in the event of a card jam or some other problem that could stall the motor and damage it. Geoff has a fix using wire insulation that effectively preserves the clutch feature, while providing efficient transfer of torque under normal circumstances. Hopefully, Geoff will include his clutch fix in his repair treatise for the HP65/67/97/41 card readers.

I view that as a presentation of fact. Hence, my response.

Re: This is an opinion?

*Message #21 Posted by **Michael de Estrada** on 8 June 2009, 3:29 p.m.,*
in response to message #20 by Randy

As stated below in my response to Geoff, I have no problem with your statements correcting the facts....just the way you did it.

an addendum to the CLUTCH myth

*Message #22 Posted by **Geoff Quickfall** on 8 June 2009, 2:51 p.m.,*
in response to message #17 by Geoff Quickfall

It would seem after careful reading of the 97 manual that HP replaced the entire motor assembly. Therefore they either:

```
a  did not think to add a design explanation to the coupling or
b  the coupling is just that, a coupling of two components produced
   at two differing sites that needed to be linked.
```

This fact coupled with the information that the motor was supplied from a swiss manufacturer and not specific for the HP designs MIGHT lead to the following conclusions (any original concept people from HP on the card reader out there? as it would seem everything else would be speculation).

```
1  melding an off the shelf motor with an in house designed system
   would create an coupling problem for the engineer.
2  either ask the motor to producer to create the shaft - worm gear
   as one piece or formulate a coupling in house.
3  since there are no specifications on TORQUE the assumption is
   that it is not a 'clutch', the popular common assumption.
4  there is no mention of damping or noise suppression characters
   either in the manual, this could be due to the fact that the
   unit is replaced in one piece and therefore the design
   specifications are not required.
```

Suffice to say, just because the TORQUE info is not supplied might just be an artifact of the idea that the repairer need not have the info as the entire motor worm gear assembly is provided as a replacement from the factory and the repairer need not know the parameters to affect a repair.

Again all this is speculating in a vacuum unless an original concept designer from the project can elucidate. I have a few feelers out there and am awaiting a definitive answer.

Until then the word 'coupling' may be appropriate although 'clutch' cannot be ruled out just because it is not mentioned in the repair manual. As stated this may just be as a result that the info was not required as the repair for the 'clutch' was a replacement of the entire "motor assembly" see table 6.4 of the repair manual.

Of course the assembly and component is mentioned in HP notes as a 'couple that dampens'. Oh well, who new!!!

Just a thought,

Cheers, Geoff

Edited: 8 June 2009, 6:30 p.m. after one or more responses were posted

Re: an addendum to the CLUTCH myth

*Message #23 Posted by **Randy** on 8 June 2009, 3:05 p.m.,*
in response to message #22 by Geoff Quickfall

Some background info from the patent hosted on Eric's site:

http://www.brouhaha.com/~eric/hpcalc/patents/3893173.pdf

Some additional info here:

http://www.hpmuseum.org/techclas.htm

And the best description I'm aware, available on the HP labs archive:

Designing a tiny magnetic card reader Jump ahead to page 15.

FWIW, we could just ask the designer:

Bob Taggart, CEO & Chairman Chaparral Communications, Inc. San Jose, CA 95128

Randy,
*Message #24 Posted by **Geoff Quickfall** on 8 June 2009, 4:08 p.m.,*
in response to message #23 by Randy

the info provided is helpful.

The way it was presented to me was also appreciated. The component is referred to as a couple in the patent with no explanation as to it's design intent other than joining the two systems together.

The second reference is great in that it explains the couple is used for damping (noise and/or vibration?)

So hence forth 'coupler or couple' is the preferred name. Unfortunately until information supplied by you and others (and will be referenced in the book) other words have been coined, not parotted, as they are in common usage. So an appendix or addendum would suffice to correct the terminology.

Cheers, Geoff

Clutch, Coupler, whatever.
*Message #25 Posted by **Randy** on 8 June 2009, 4:47 p.m.,*
in response to message #24 by Geoff Quickfall

Geoff,

I have no problem with the name, only the continued propagation of the incorrect belief that the device is there to provide slip between the worm and the motor shaft. 'Nuf said.

Information, facts, misnomers and etc... and the Boeing 737 100 and 200 series...
*Message #26 Posted by **Geoff Quickfall** on 8 June 2009, 5:25 p.m.,*
in response to message #25 by Randy

I think for future reference that information be supplied, and that vague statements about 'torque' in this example (whether facecious or sarcastic or made in good humour) would be better off not made.

I am new to this restoration book idea, the reason for the posting was to solicit information exactly like that which you supplied, as opposed to the off handed statement made. That is also why it will be peer reviewed.

Now if the original statement had made about 'torque and the manual' and combined with the information you supplied of what exactly it is, then that would have been much more helpful and not have offended anyone.

Boeing 737

An interesting story (to me) was the coloration of certain subsystems on the over head panel of the Boeing 737. The colour scheme was dark grey with 4 subpanels being in a light grey. I asked an instructor of the import that the colour scheme. After getting several contradictory explanations about engine failures, generator failures and fuel switch cut off systems, I asked a Boeing representative. He stated he would make some calls as he did not know. 4 weeks later he called back and indicated that he had to call up an 87 year old engineer responsible for the colour design. It turns out that the explanations, over the years, from the experts was wrong. It had nothing to do with

engine failures, fuel switches, hydraulic problems, power failures. It was infact, placed there to graphically indicate to the third member of the crew in 1964 (the engineer) which switches and systems were his pervue and not the pilots.

Within 2 years of the design, the engineer was removed as redundant but the colour scheme remains in place to at least 2005. Since no one was around all the explanations were created in a vacumn.

Cheers, Geoff

Re: Restoration Guide, ideas, help, suggestions and etc....

*Message #27 Posted by **Philippe Lasnier** on 3 June 2009, 8:24 a.m.,*
in response to message #1 by Geoff Quickfall

Geoff,

I would happily buy a copy (or two, one for keeps, one as "working" copy) of your book.

I seem to have accumulated (how did that happen? ;-)) quite a few calculators, a few of which are in need of some restoration or other.

One question: would you be doing further editions, for instance to include chapters on models not yet covered such as HP-48S/SX/G/GX (from your own experimentations or others)?

Regards,

Philippe

Re: Restoration Guide, ideas, help, suggestions and etc....

*Message #28 Posted by **PeterP** on 3 June 2009, 11:01 a.m.,*
in response to message #27 by Philippe Lasnier

I'd definitely buy a copy!!

Cheers

Peter

keep your ideas and suggestions comming...

*Message #29 Posted by **Geoff Quickfall** on 4 June 2009, 7:55 a.m.,*
in response to message #27 by Philippe Lasnier

see below!

Edited: 4 June 2009, 8:00 a.m.

Re: Restoration Guide, ideas, help, suggestions and etc....

*Message #30 Posted by **Glenn Becker** on 3 June 2009, 11:16 a.m.,*
in response to message #1 by Geoff Quickfall

I'd certainly purchase one.

Re: Restoration Guide, ideas, help, suggestions and etc....

*Message #31 Posted by **designnut** on 3 June 2009, 2:48 p.m.,*
in response to message #30 by Glenn Becker

Geoff, consider publishing on CD or DVD, this would minimize your costs and allow easy video presentations. Regards, Sam

table of contents and explanation, using the suggestions that have been posted and emailed!

*Message #32 Posted by **Geoff Quickfall** on 4 June 2009, 8:01 a.m.,*
in response to message #1 by Geoff Quickfall

This will be a peer reviewed book, maybe by the HCC committee, but this can all be hashed out.

The book will cover the following:

```
chapter and title             calculator for demonstration


1  classics                   65
2  topcat                     97
3  woodstocks                 29C
4  spice                      34C
5  voyager                    15C, 11C
6  pioneer                    42S
7  clamshells                 18C (don't want to mess with the 28S)
8  HP 71B                     metal back and plastic back
9  charlamagne (48 series)    48sx
10 41C and card reader


some appendixes
        tools
        dry box
        battery pack
        hints ideas
        credits and citations
        diagnostic routines (where they apply)
```

Since there is overlap in repairs and restorations the book will have a chapter dedicated to each family using the calculator given above as an example. Two chapters will be larger then the others; classics and 41C.

These chapters will entail all the steps for a complete restoration, for example the HP 65 is a perfect example of a classic plus some. The restoration of the full calculator inside and out including the card reader. Once the card reader has been described the only difference to restore a card reader in the 67, 97, 41C is in the access, which will be covered in the separate chapters that they reside in.

The 41C chapter is also larger as it includes problems such as screw posts, screw retainers, battery contacts. The card reader will be included here as it is very different in the access to pinch roller.

The other chapters will include the differences in access or keyboard restoration or any other difference that must be addressed to restore each machine.

The voyager will have two sections, including a non invasive restoration of keyboard, bezel and etc. The second section is a complete invasive restoration involving removal of plastic rivets for the keyboard and access to the LCD for replacement.

I am in London and have had a great time with Hugh Steers, thanks for the crawl (albeit short). When I get back I will post the actual table of contents. Most of the photos have been done so on to the text of the book and of course some more restorations.

Cheers all,

Geoff

The DVD form might be included with the spiral bound book, have to think about that as the DVD could include many more colour photos. The book will be an "on demand publication" which will limit cost. It will include MANY explanatory photos and as few spelling mistakes as possible ;-)

Re: table of contents and explanation, using the suggestions that have been posted and emailed!
*Message #33 Posted by **Ronald** on 4 June 2009, 9:02 a.m.,*
in response to message #32 by Geoff Quickfall

Hello Geoff,

Great work.

I will send you my notes and pictures on he HP10 (the printer one) repair. Feel free to include in your book also.

All the best

Ronald

Re: table of contents and explanation, using the suggestions that have been posted and emailed!
*Message #34 Posted by **Michael de Estrada** on 4 June 2009, 9:55 a.m.,*
in response to message #33 by Ronald

Excellent! This will also cover the 19C.

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Configurable Keyboard

*Message #1 Posted by **Paul Brogger** on 29 May 2009, 1:58 p.m.*

Has this configurable keyboard been reported upon before? (Sorry if this is a repeat.)

Now, a fixed HP-33S with dynamically reconfigurable keytops would be *really* cool!

[edit: Of course I meant 35s rather than 33.]

Edited: 30 May 2009, 2:01 a.m. after one or more responses were posted

Re: Configurable Keyboard

*Message #2 Posted by **Eric Smith** on 29 May 2009, 2:10 p.m.,*
in response to message #1 by Paul Brogger

Sure, if you don't mind a rather large $750 calculator. (Probably even more expensive than that, since the market would be miniscule.)

The keys on the actual production Optimus don't look so great. The display is recessed and does not move with the key, and the keycaps get greasy and dirty very quickly. If you have an iPhone or the like, how often do you find that you need to clean it or at least wipe it off? Now imagine having to do that to a whole bunch of separate keycaps.

Besides, when I operate a keyboard on a device, I want to be looking at the display, not the keys.

Re: Configurable Keyboard

*Message #3 Posted by **Pal G.** on 29 May 2009, 3:17 p.m.,*
in response to message #1 by Paul Brogger

Funny you should mention it. I thought about making the keyboard on my virtual calc OLED. So, if you press a Shift key, all of the other keys would change symbol and the Shift key would have inverse video, etc.

I've already filled out the paperwork for the patent, so I'm one step, and only one step, ahead of you ;)

Re: Configurable Keyboard

*Message #4 Posted by **Eric Smith** on 29 May 2009, 9:30 p.m.,*
in response to message #3 by Pal G.

Not to burst your bubble or anything, but there's quite a bit of prior art on that, so getting a patent may be an uphill battle.

Re: Configurable Keyboard

*Message #5 Posted by **Eric Rechlin** on 30 May 2009, 11:12 a.m.,*

in response to message #4 by Eric Smith

He should have no problem getting a patent, because they don't really check for prior art anymore (semi-officially the USPTO now leaves that burden to the courts). Anyone can get a patent for pretty much anything.

It would just be pointless, because he would have then wasted $10,000+ getting an unenforceable patent. But if he likes throwing away money just so he can brag to his friends that he has the cash to burn on obtaining a patent, you might as well let him humor himself.

Re: Configurable Keyboard

*Message #6 Posted by **Pal G.** on 30 May 2009, 11:41 a.m.,*
in response to message #5 by Eric Rechlin

I was joking about the patent my friends. I agree with Eric's assessment about astronomical costs. It's a cool idea that may never be implemented, or at least for a few hundred years, if calculators are still in use.

Cheers,
PG

Re: Configurable Keyboard

*Message #7 Posted by **Quan** on 30 May 2009, 11:59 a.m.,*
in response to message #6 by Pal G.

I bet the vintage HP calcs still work a few hundred years from now... in the Museum of Vintage Calculators. :)

Re: Configurable Keyboard

*Message #8 Posted by **Eric Smith** on 30 May 2009, 2:57 p.m.,*
in response to message #6 by Pal G.

I think the technology to do dynamic keyboard legends on low-cost consumer products such as calculators will probably be developed within the next 20 years. It just isn't quite here yet.

Re: Configurable Keyboard

*Message #9 Posted by **Eric Rechlin** on 30 May 2009, 10:01 p.m.,*
in response to message #8 by Eric Smith

I'm not sure if it meets your definition of low cost, but Samsung has a mobile phone with a keyboard with dynamic legends, using electronic ink technology (like the Sony Reader):

http://jkontherun.com/2009/05/11/samsung-handset-keypad-morphs-using-e-ink/

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HP spy photo?

*Message #1 Posted by **Pal G.** on 29 May 2009, 1:00 a.m.*

Greetings, Programs.

While reviewing most of the HHC2008 conference photos, I saw a nice calc on the first powerpoint slide of Cyrille's talk. I've never seen it before. It looks like an expensive SmartCalc 300s or something. Definitely in that family, and high end. I wonder if anyone at the conference knows about it. Or are we just looking at a nice picture? Or could it be the hp 60g?

Here is the photo:

http://holyjoe.net/hhc2009/HHC2008pix/DSC06874.jpg

And here is my version. After seeing that photo I got fired up, so I made one to look at, sans the HP logo.

(The next rendering will have better lighting and textures. And maybe an abacus.)

Link to larger, 1440 px x 900 px version.

Cheers,
PG

Re: HP spy photo?

*Message #2 Posted by **Eric Smith** on 29 May 2009, 4:17 a.m.,*
in response to message #1 by Pal G.

I'm pretty sure that what's on Cyrille's slide is either a conceptual illustration or a photo of a non-functional model. HP has shown us various non-functional physical models at past conferences, as examples of things they might do.

Re: HP spy photo?

*Message #3 Posted by **Jean-Michel** on 29 May 2009, 3:15 p.m.,*
in response to message #1 by Pal G.

Hi Pal!

Welcome back to the forum with very nice renderings, as usually. What a strange similarity between this calc and an iPhone...is this an iCalc ? :-)

Kind regards.

Jean-Michel.

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HP71B Entry points

*Message #1 Posted by **Raymund Heuvel** on 28 May 2009, 9:53 a.m.*

do ELECTRONIC lists of supported and non supported entry points of HP71B roms and eventually plug-in roms exist somewhere?

Thanks

Ray

Re: HP71B Entry points

*Message #2 Posted by **J-F Garnier** on 28 May 2009, 3:12 p.m.,*
in response to message #1 by Raymund Heuvel

You can find the list of supported entry points on my JPC Rom page in pdf format. It is also in asm source format (hp71ep.a) in the JPC Rom version X source package (zip file).

J-F

Edited: 28 May 2009, 3:15 p.m.

Re: HP71B Entry points

*Message #3 Posted by **Raymund Heuvel** on 4 June 2009, 9:26 a.m.,*
in response to message #2 by J-F Garnier

Hi J-F

Thanks a lot, do you also have a list of "non supported entry points" and local labels used by GOTO (GOC, GONC ...) like instructions?

BR

Ray

Re: HP71B Entry points

*Message #4 Posted by **J-F Garnier** on 7 June 2009, 12:12 p.m.,*
in response to message #3 by Raymund Heuvel

No, I don't have a list on non-supported entry points although some were used in LEX files, even by HP. It was not recommended to use such entries without checking they didn't move between versions 1BBBB and 2CCCC/2CDCC.

J-F

Edited: 7 June 2009, 12:16 p.m.

Re: HP71B Entry points

*Message #5 Posted by **Mike (Stgt)** on 4 June 2009, 12:55 p.m.,*
in response to message #2 by J-F Garnier

Bonjour JFG!

T'a la même chose pour le HP41 et ses modules par hazzard?

Ciao.....Mike

Re: HP71B Entry points

*Message #6 Posted by **J-F Garnier** on 7 June 2009, 12:14 p.m.,*
in response to message #5 by Mike (Stgt)

Hallo Mike,

Yes, I have a list of entry points for the HP41 mainframe and printers. The file is called mfentry.add and is in the latest Emu41 distribution package (v2.47). Actually Emu41 uses this list to display address mnemonics when started in debug mode.

Ciao.

J-F

Re: HP71B Entry points

*Message #7 Posted by **Jorge I. Rodriguez (Pasadena, CA)** on 8 June 2009, 6:06 a.m.,*
in response to message #6 by J-F Garnier

I recall a publication by HP called the Internal Design Specification (IDS) for the HP-71B which came in 3 volumes. I was an avid reader of that publication when I owned the HP-71B. Is that included in the museum DVD? From that publication you could get all the entry points for the HP-71B.

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Troubles connencting Conn4x <--> HP48G

*Message #1 Posted by **Matti Övermark** on 28 May 2009, 6:58 a.m.*

I am having troubles connecting my HP48G to the Conn4x version 2.3 build 2439. I try to install the XModem library, but I get the error message "The connectivity kit is unable to open communications to COM1".

I do know that the COM-port is ok since I can use my plotter.

Any help appreciated.

TIA Matti

Re: Troubles connencting Conn4x <--> HP48G

*Message #2 Posted by **Michael de Estrada** on 28 May 2009, 9:29 a.m.,*
in response to message #1 by Matti Övermark

Assuming you are using a serial (not USB) cable to connect the HP48G to the PC com port, check the following:

1) Both calc and Conn4x are set for 9600 baud, no parity (0), checksum CRC (3), no translation (0) and binary transmission.

2) Windows has not allocated the com port to another device, such as a modem. Look into Windows Device Manager to see port allocations. Use AUTO in Conn4x to find a free com port and make sure you are physically connected to it. Com1 = Com3 and Com2 = Com4.

However, I have personally never tried to do this, so it may not be possible.

Good luck,

Michael

Re: Troubles connencting Conn4x <--> HP48G

*Message #3 Posted by **Matti Övermark** on 28 May 2009, 9:42 a.m.,*
in response to message #2 by Michael de Estrada

Hi Michael,

thanks for the reply, but unfortunately it doesn´t quite work out. I had this problem earlier, and cannot remember what on earth I did to get the XModem into my 48G...

In the mean time I connected my 50g to the PC, that went well.

Well still trying...

/Matti

Re: Troubles connencting Conn4x <--> HP48G

*Message #4 Posted by **Michael de Estrada** on 28 May 2009, 10:39 a.m.,*
in response to message #3 by Matti Övermark

Matti,

If you previously downloaded XModem into your HP48G, then it should still be there. It is a library of commands that you attach in the HP48G. See the help topic "XModem Library" in Conn4x. You need to run XModem on the calc before it will connect to the PC.

Also, if you have an HP50G, you can connect it to the HP48G via serial cable, and transfer the XModem library from the HP50G to the HP48G using Kermit. You can get the serial cable for the HP50G from:

HP50G Serial RS232 Cable

Michael

Re: Troubles connencting Conn4x <--> HP48G

*Message #5 Posted by **Matti Övermark** on 28 May 2009, 11:30 a.m.,*
in response to message #4 by Michael de Estrada

Hi Michael,

Well I had it on the calc, but managed to get a mem-lost. So now I do not have it.

As I live in Sweden it´s actually not really an option to buy a 50g<-->48g cable.

As I recall, I made several attempts with no success until I managed to get the download to work.

As I try it right now: 1. Connect the two together with the PC-cable to COM1. 2. Set IOPAR to {9600 0 0 0 3 1} 3. Set the baud rate on the Conn to 9600, and parities to match. 4. I try to launch the command on the PC by File->Download HP48Server (manual XRECV) => Error(The connectivity kit is unable to open communications to COM1 [or Auto])

I have no modems, and the COM port seems to work fine, as device manager tells.

And the search goes on... /Matti

Re: Troubles connencting Conn4x <--> HP48G

*Message #6 Posted by **Egan Ford** on 28 May 2009, 12:05 p.m.,*
in response to message #1 by Matti Övermark

> Quote:
>
> "The connectivity kit is unable to open communications to COM1".

Is COM1 visible under the device manager?

If you use COM1 with something else, is that something else running? If so it could block conn4x from using

the COM port. I have not worked with serial printers on Windows so I do not know how to tell Windows to release the COM port so that something else can use it.

Re: No more (Troubles connencting Conn4x <--> HP48G)

*Message #7 Posted by **Matti Övermark** on 29 May 2009, 4:30 a.m.,*
in response to message #1 by Matti Övermark

I solved the problem eventually. As pointed out I did have a conflict with the port, COM1, so I just put the plotter on another comport, and - dadaaa - I was able to connect.

Thanks for the help!

Matti

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HP-41 MLDLs

*Message #1 Posted by **Garth Wilson** on 28 May 2009, 3:07 a.m.*

A co-worker just got a 41cx and was interested in the MLDL modules. I never paid enough attention to know much about them and I'm not able to remember all the possibilities to tell him. Can someone here list (or give a link to) what's available, whether new (like Clonix or MLDL2000) or old (like Hepax or W&W), what's needed to put ROM images of the various modules in them, URLs for the modern ones, pros and cons for different applications, what they can and cannot do (for example, can they do the paging of the Advantage?), whether a card-reader shell or module shell is needed, whether kit or complete product, and any other important information. Depending on what we find out, I might want to get one too. Thanks to double modules, I have six modules plugged into my four ports; but I might like to add a couple more plus larger file memory. Thanks.

Re: HP-41 MLDLs

*Message #2 Posted by **Marcus von Cube, Germany** on 28 May 2009, 5:09 a.m.,*
in response to message #1 by Garth Wilson

From the top of my head:

MLDL2000 by Meindert Kuipers: http://www.kuiprs.nl/support.htm

Needs card reader shell or similar housing, stores ROM images in flash or RAM. Very flexible (multiple dip switch selectable configurations, USB connectivity to PC for full control of the RAM and ROM configuration) but adds considerably to the size of the 41. Bank switching (Advantage) and Hepax (on device development) are supported. Battery backup is possible.

Clonix & NoVRAM by Diego Diaz: http://www.clonix41.org/

Clonix is a flash only ROM emulator which supports bank switching. It fits into a module housing. To flash ROMs you'll need a prommer device (for PICs). Bankswitching is supported.

NoVRAM in its various incarnations adds RAM for Hepax emulation and ROM storage but you still need a prommer. The size is the same. The contents is protected even if you remove the module. So you can use the Hepax file system to transfer programs between machines.

All MLDLs or ROM emulators will eat on your batteries to various degrees. This is somehow firmware dependent. (I'll need to update my devices.) AFAIK none of them can emulate extended memory (but they can hold the EM functions in ROM, of course.)

Edited: 28 May 2009, 5:11 a.m.

Re: HP-41 MLDLs

*Message #3 Posted by **PeterP** on 28 May 2009, 2:25 p.m.,*
in response to message #2 by Marcus von Cube, Germany

As marcus covered all the new mldl's, a quick word to vintage mldl's:

Without exception, they are a)much harder to find, b) much more expensive (recently a hp41cx with built in W&W mldl went for over 2000$ on eBay) and c) less versatile.

For someone starting with mcode, I'd probably recommend a simple NoVram. It has a very attractive price point, and the new USB pic programmers work very well and it uses only one physical port. Also, the HEPAX (and the emulation in the NoVrams) relocate themselves to page 6, saving one page.

For owners of the iPhone/iTouch there is now an even cheaper option - the fantastic i41cx+ program which allows hepax emulation.

Hth

Cheers

Peter

Re: HP-41 MLDLs

*Message #4 Posted by **Marcus von Cube, Germany** on 29 May 2009, 2:51 a.m.,*
in response to message #3 by PeterP

> Quote:
>
> and the new USB pic programmers work very well

What is the recommended programmer? Mine is a Windows-only-needs-physical-serial-port type of device which I'd like to replace. If the thing could burn EPROMS as well that would be absolutely great.

Re: HP-41 MLDLs

*Message #5 Posted by **PeterP** on 29 May 2009, 3:45 p.m.,*
in response to message #4 by Marcus von Cube, Germany

Diego offers one on his web-page but you can find it on eBay and other places easily. I never checked if it also does EPROMS but Diego can probably answer that questions.

If works much better than the old Serial programmer, especially as it works with Laptops as well.

I do have a USB burner that (claims to) do EPROMS as well as the Pic-chips but I have never tried it. I can get the name of it if you want.

Cheers

Peter

Re: HP-41 MLDLs

*Message #6 Posted by **Marcus von Cube, Germany** on 31 May 2009, 3:00 a.m.,*
in response to message #5 by PeterP

Thanks Peter, please tell me the name and the price you've paid for it.

Re: HP-41 MLDLs

*Message #7 Posted by **Angel Martin** on 28 May 2009, 2:24 p.m.,*
in response to message #1 by Garth Wilson

Hi Garth,

I'll add just one thing to Marcus excellent summary: get one yourself, it's worth every penny!

Clonix, or NoVRAM are much easier to handle. MLDL is a Juggernaught - a tad difficult to master.

Best, AM

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Spice restoration continue, or, how to open a spice without damage!

*Message #1 Posted by **Geoff Quickfall** on 27 May 2009, 1:43 p.m.*

Hello again,

To start, I hesitated to repair and restore my spice units until I read or developed a technique to separate the two calculator shells. I have seen described a pull apart method with a lot of force used and deformation to the polycarbonate case. Hence the following posting.

I have used this method succesfully on 5 out of 5 spices. It did take one almost destroyed unit to figure this out. Actually the unit came in a total mess and the only salvageable stuff was the LED panel (solderless), battery hatch and battery hatch ribbon.

Obviously HP had an easy way to get into a spice, apart from the pry and pull and push method that makes one very reticent to work on one of these.

After careful examination of the case I have created the following steps to get in.

Of course, the obvious, looking at the back of the calculator or bottom shell we see the battery hatch. Unlike other HP's there are no hidden screws (figure 1).

FIGURE 1

Remove the hatch and you will see two screws (figure 2), remove these.

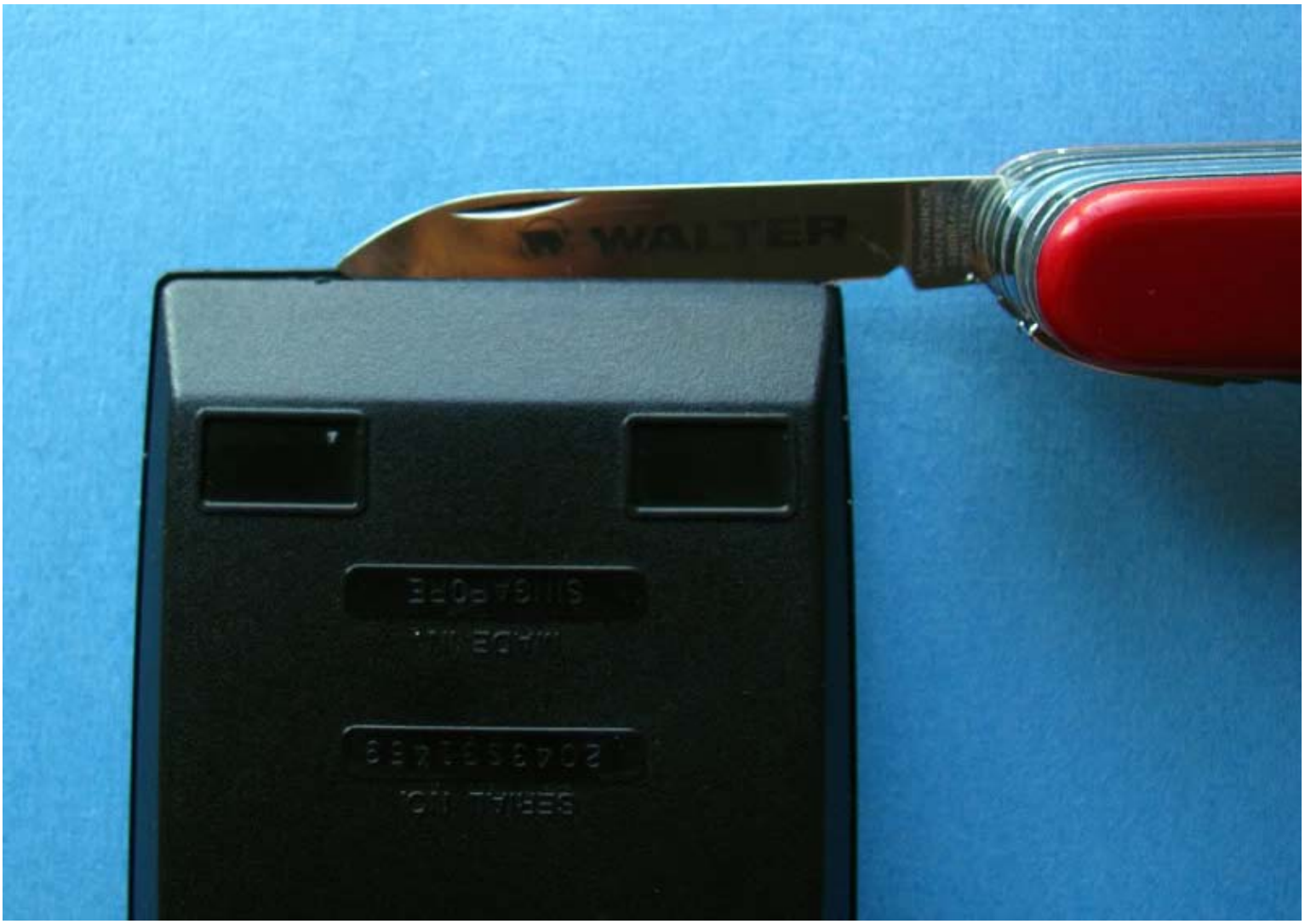
FIGURE 2

Once the screws are removed, grasp the calcuator and lift apart the two halves at the battery end (figure 3). The calculator will pivot around the foot of the two shells. Only pull the calculator apart as far as the figure indicates.

FIGURE 3

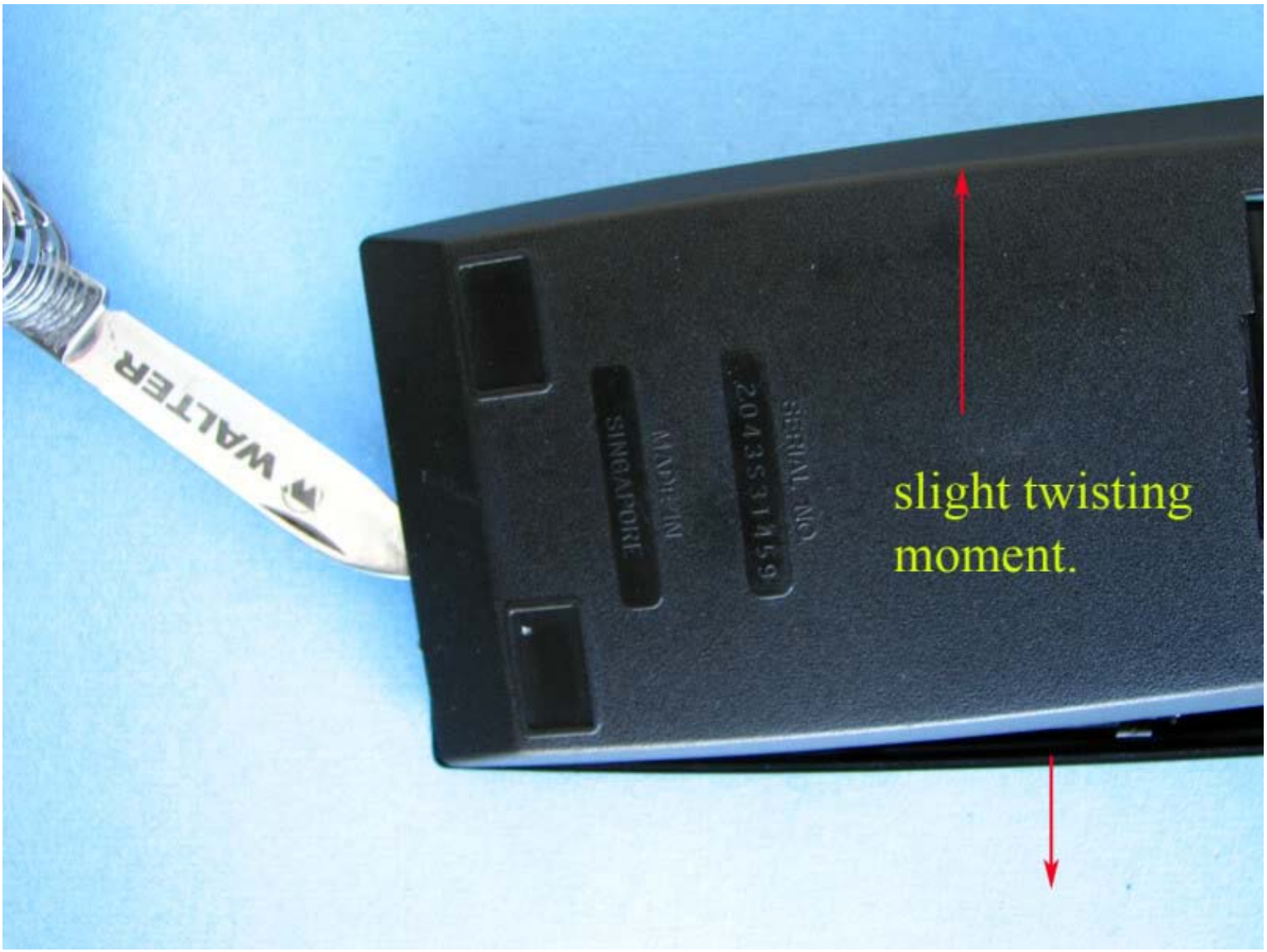
Now that the two parts are separated at the top of the calculator, insert a long and extremely thin knife blade into the seam which separates the shells at the foot of the calculator (figure 4). The seam is vertical to the longitudinal plane of the calculator. That is, the bottom shell fits inside a lip of the top shell. The knife must be inserted vertically for a very shallow depth (1mm) and then turned horizontally. This has the affect of lifting the bottom shell out of the upper shell lip at the foot of the calculator. You will see why this is important soon.

FIGURE 4



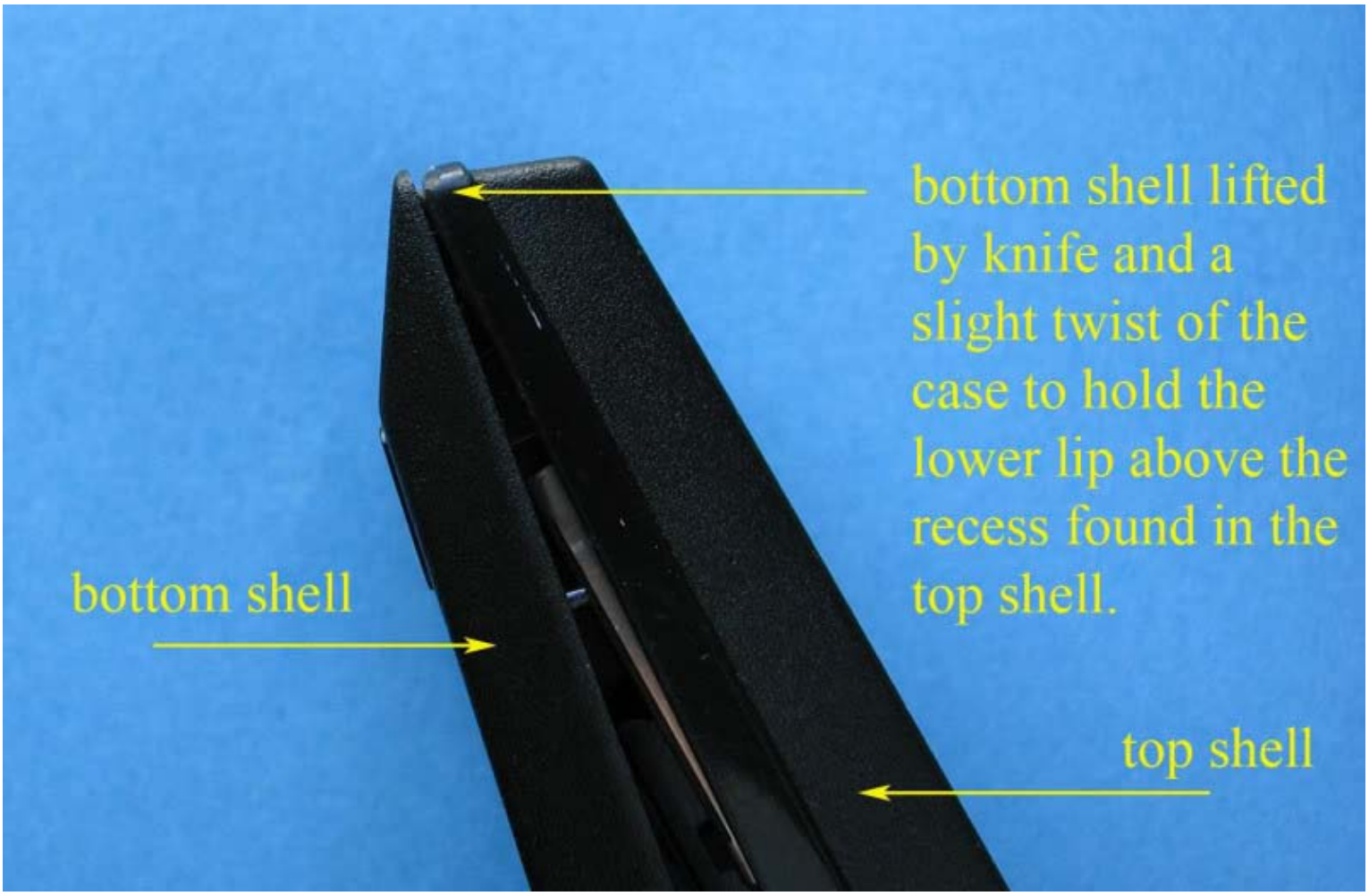
Now that the bottom shell is above the lip of the top shell and while keeping the knife in place to keep the bottom shell out of the top shell recess, give the calculator shells a twist (figure 5). This is a horizontal twist; each shell in the opposite direction of the other. Be gentle as this method does not require force.

FIGURE 5



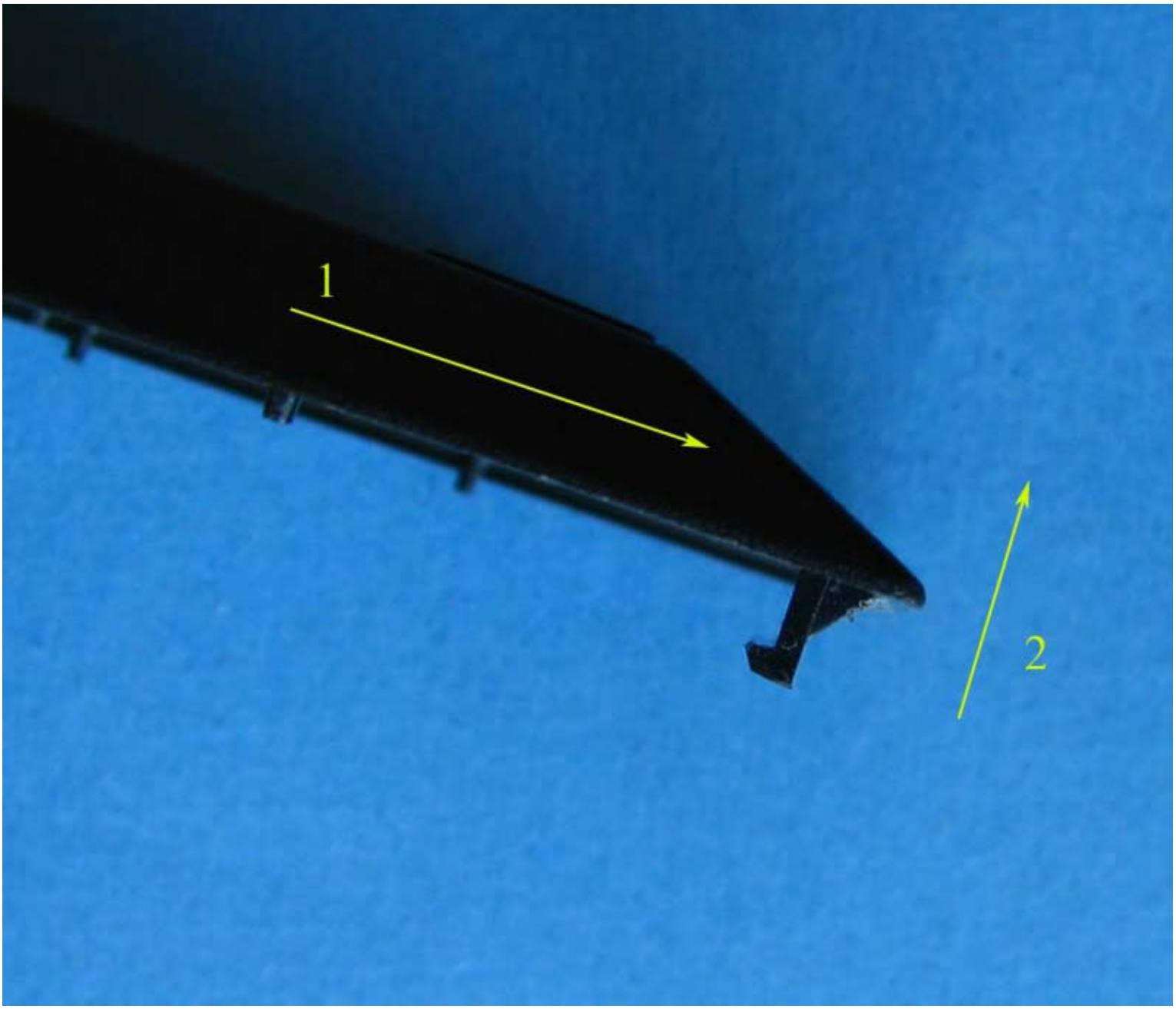
In figure 6 we can see that the bottom shell now protrudes past the top shell. Refering to figure 5 again, and while still applying a twisting moment as described, give the knife a gentle twist. This will pry apart the bottom shell and top shell. This combined with the twisting moment you are applying to the case will release the internal latch mechanism. The mechanism will release with a quiet snap.

FIGURE 6



In figure 7 you can see the L shaped latch which causes the headache, well, maybe not any more! Arrow 1 shows the direction of the twisting moment applies on the latch with the knife in place and the bottom shell raised out of the lip. Arrow two shows the final twisting moment of the kife releasing the two halves.

FIGURE 7



Of course it is difficult to describe but in summary:

1. remove screws
2. insert flat blade at foot of calculator to raise the bottom shell out of it's recess (lip) in the top shell
3. while the blade is in place and the bottom shell is raised; give the two shells a rotational twist which will raise the rest of the bottom shell out of the recess
4. give the knife a rotational twist while still applying the rotational twist to the two shells
5. you should hear a gentle satisfying snap as the L shaped latch separates from its anchor point.

It's that easy!!

Cheers, Geoff

Edited: 27 May 2009, 3:37 p.m. after one or more responses were posted

Re: Spice restoration continue, or, how to open a spice without damage!

*Message #2 Posted by **Michael de Estrada** on 27 May 2009, 2:59 p.m.,*
in response to message #1 by Geoff Quickfall

Geoff,

Another tour de force from you! You should write a book on HP calculator restoration and repair. I've opened a number of Spices (spicem?) by the traditional "hope and pray it don't break brute force method" and while I've never broken one outright, in a few cases I did chip some material off the front of the top shell due to prying action from the bottom shell. Your method should prevent this.

Now, how about doing one with photo-illustrations on HP-65/67/97 HP-41C/V/X cardreader clutch repair?

Thanks,

Michael

Re: Spice restoration continue, or, how to open a spice without damage!

*Message #3 Posted by **Geoff Quickfall** on 27 May 2009, 3:47 p.m.,*
in response to message #2 by Michael de Estrada

Hi Michael,

Thanks for the kudo's!

In fact I have done a 35 page monogram on an HP65 calculator including card reader as an addendum for a book by another author.

However, in discussion with the author, the addendum will be converted into a stand alone HP restoration guide encompassing the classics, 41c's, woodstocks, spices, 48's, cricket, 71B's and whatever else I get my hands into.

I was wondering if there would be a small market for an on demand 'restoration' booklet covering the various models?

If you can make it to the HCC 2009 conference in Vancouver, Washington, I will be presenting a paper on HP 41C restoration including card reader in honour of the 25th anniversary of the 41. That is the theme for the meet this year. I am sure that the paper will be included in any subsequent disc from the meeting or will be made available. Included will be an HPIL lab set up by Richard Nelson and myself with help from others so if anyone is an HP 41 fan this is the place to be in October.

At the moment there are excellent sources in the repair section and by googling 'HP 67 card reader repair". These are extremely well written and documented.

Now for my next project!

Edited: 27 May 2009, 4:10 p.m.

Re: Spice restoration continue, or, how to open a spice without damage!

*Message #4 Posted by **Joel Setton (France)** on 28 May 2009, 3:55 p.m.,*
in response to message #3 by Geoff Quickfall

Geoff (and all),

If there's a booklet available, I'll be the first one to send in an order!!!

Joel Setton

Re: Spice restoration continue, or, how to open a spice without damage!

*Message #5 Posted by **Geoff Quickfall** on 30 May 2009, 12:41 a.m.,*
in response to message #4 by Joel Setton (France)

Thanks for the vote Joel! Yes there will be a book or booklet spanning most of the HP families!

Cheers, Geoff

How to open a Spice without damage! (dental floss)

*Message #6 Posted by **Karl Schneider** on 28 May 2009, 5:52 a.m.,*
in response to message #1 by Geoff Quickfall

Geoff --

Much appreciation for your recent postings with excellent photography and documentation regarding restoration of Spice-series calculators. They should be posted in the Articles section.

Almost seven years ago, I posted a technique using dental floss to separate the case halves. The objective is to detach the L-shaped latch from the other half without breakage. It worked well.

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv009.cgi?read=22660

-- KS

Edited: 28 May 2009, 5:52 a.m.

Re: How to open a Spice without damage! (dental floss)

*Message #7 Posted by **Geoff Quickfall** on 30 May 2009, 12:42 a.m.,*
in response to message #6 by Karl Schneider

Karl,

I will try your floss technique and will include it in the Spice chapter (with credit to you) along with my technique in the book that I hope to prepare for the fall (maybe to ambitious at the moment but it will be done).

Cheers, Geoff

Re: How to open a Spice without damage! (dental floss)

*Message #8 Posted by **Ed Austin** on 12 June 2009, 1:48 p.m.,*
in response to message #7 by Geoff Quickfall

Many thanks Geoff I have a 34C (1979 - Old Version) that seems great at the moment but I am always rather scared it might fail... I'll store this information for when I might (hopefully not) need it. Rgds Ed

---

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The peculiar arithmetic of the SmartCalc 300s

*Message #1 Posted by **Javier Goizueta** on 27 May 2009, 4:48 a.m.*

I've received my HP SmartCalc 300s and I'd like to share some findings about its arithmetic. This calculator shows 10 digits but keeps 16 digits of internal precision in its registers. So this machine should have impressive precision, right?

I'll do a little test that appeared on Fred Gruenberger's Computer Recreations in Scientific American, April, 1984 (I actually read it from the spanish "Investigación y Ciencia" in June 1984) The test consists in computing (1.0000001)^(2^27) by applying the square operation 27 times starting with 1.0000001. The correct answer is 674530.47074108455938....

First, to know what kind of precision we can expect we'll do some testing with a HP50G. The HP50G has 15 internal digits and we can operate with that precision using the XREAL library So let's try it:

```
<< 1.0000001 R~X 1 27 START XSQ NEXT >>
```

The result is 674530.467837207 with a percent error of **0.0000004305**

But we can do better with 15 digits: the internal 15-digit arithmetic of the HP50G is truncated because it's not meant to be seen; we can operate with 15 rounded digits (or any other rounding/number of digits) using the LongFloat library

```
<< 1.0000001 R<-->F 1 27 START FSQ NEXT >>
```

Now the result is 674530.469940699 and the percent error is **0.0000001186**

So now we know what to expect with so many digits of precision; let's try the SmartCalc. We'll use the LinearIO mode so that we operate numerically and not with the mini-CAS that MathIO uses.

If we type 1.0000001 and then [x^2] [=] 27 times we get: 674529.1123 with a percent error of **0.0002014** (that's like 468 times larger than the XREAL result which one less digit and truncating the results!!) That's even worse that what can be achieved with 13 digits (percent error of 0.00002264 with LongFloat).

How can this be? Well, I wasn't too suprised becaused I'd played with Casio calculators before.

The reason is that following Casio tradition, some weird rounding if done on the internal numbers, trying to hide the fact of a limited precision, so that for example 1-(4/3-1)*3 = 0 (which in a honest numerical calculator would reveal the internal precision.) This rounding makes errors unpredictable and much larger than they could be. Note also that these attempts are bound to fail: 1/9-(10/9-1) = 0 but (1/9 - 0.01 - (10/9-1) + 0.01 = 1E-16

The results of the HP300S in the 1.0000001 test can be explained by a special rounding of the result of arithmetic operations performed after normalization:

- if the trailing 6 digits are less than 000050, they are rounded down to 000000.
- if the trailing 4 digits are greater than 9949, the number is rounded up (so it ends in 0000)

You can see these rules in action here

```
1E9 + 1.000050 - 1E9 = 1.00005
1E9 + 1.000049 - 1E9 = 1
1E9 + 0.100049 - 1E9 = 0.100049
1E9 + 0.009950 - 1E9 = 0.01
1E9 + 0.009949 - 1E9 = 0.009949
```

Note that numbers typed in the calculator are truncated to 15 digits; if you need to enter a value with full 16 digits you must add a pair of numbers or do some other operation.

The special rounding explains all the intermediate results of the test, which are show here with full internal precision

```
1.0000002
1.0000004
1.00000080000016
1.00000160000096
1.00000320000448
1.0000064000192
1.00001280007936
1.000025600322562
1.0000512013005
1.000102405222573
1.000204820931975
1.000409683815564
1.000819535471956
1.001639742582301
1.003282173920338
1.006575120506319
1.01319347322231
1.026561014180287
1.053827515834859
1.110552433130669
1.233326706732449
1.521094765539508
2.31372928575169
5.353343207745025
28.65828349990979
821.2972131612017
674529.1123463563
```

I've traced similar *magic* rounding in a Casio FX9960G (using an emulator) and in an old Casio FX750P. These machines have more complicated rounding rules and the results of the test are similarly poor. In the case of the FX750P we can operate either at the internal precision of 12 digits (using variables) or at the displayed precision of 10 digits. Due to the idiosincratic rounding the result of the test using 10 digits is more precise than with 12 digits!

It's a shame that the SmartCalc tries so hard to be smart. The result of computing 1-(4/3-1)*3 numerically should be 1E-15 showing that it is operating with limited precision. It should be 0 only if fractions or the MathIO mode are used, but the user should know the distinction between exact and approximate computations and be able to compute numerically with predictable results. The SmartCalc is very unreliable, with some results in accordance to its high internal precision and others randomly affected by large errors.

And now for something totally different: My HP300S has a sticker on the back "Prototype Not for Sale" I saw it after ripping the package and then noticed the sticker on it too:

> Quote:
>
> Prototype - Not For Sale. The unit and contents of this packaging are currently undergoing quality testing and verification and are subjected to changes. ...

I wonder if there's any difference with a production unit; my keyboard misses keystrokes quite often and the cover cannot be snapped on the back as the user manual suggests.

Anybody with a production 300S can tell about that?

Edited: 27 May 2009, 6:53 a.m.

Re: The peculiar arithmetic of the SmartCalc 300s

*Message #2 Posted by **hugh steers** on 27 May 2009, 12:02 p.m.,*
in response to message #1 by Javier Goizueta

this is very interesting. i am wondering if this rounding is actually to disguise the fact that the 300 works in binary internally rather than BCD.

I first noticed a new and weird kind of rounding in the 30s. This is the calculator that not many people liked because it was one of the first not really made by HP at all. afaik the 30s and 9g use binary math internally and perform some weirdo rounding to hide it.

i spend a while trying to figure this out, but i found the rounding not consistent. both these models work to approx 25 digits, but the effective accuracy is around 12 due to the fact that it will round at every stage.

is the 300s really a binary machine?

Re: The peculiar arithmetic of the SmartCalc 300s

*Message #3 Posted by **Javier Goizueta** on 27 May 2009, 2:28 p.m.,*
in response to message #2 by hugh steers

> Quote:
>
> is the 300s really a binary machine?

I don't think so. All the results reveal exactly 16 decimal digits. Also, the result of 1/9 - 0.001 - (10/9-1) + 0.001 is exactly 1E-16 which I find hard to explain in a binary machine.

Re: The peculiar arithmetic of the SmartCalc 300s

*Message #4 Posted by **Gerson W. Barbosa** on 27 May 2009, 12:08 p.m.,*
in response to message #1 by Javier Goizueta

> Quote:
>
> I'll do a little test that appeared on Fred Gruenberger's Computer Recreations in Scientific American, April, 1984 (I actually read it from the spanish "Investigación y Ciencia" in June 1984) The test consists in computing (1.0000001)^(2^27) by applying the square operation 27 times starting with 1.0000001.

Interesting article! I read it back then in the university library and I still keep a copy of it.

> Quote:
>
> The reason is that following Casio tradition, some weird rounding if done on the internal numbers, trying to hide the fact of a limited precision,

Roger Rosenbaum has shed some light on this subject in the following threads:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=103356

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=103151

I just hope the HP SmartCalc 300s gives the right answer to expressions like '3979/LN((sqrt2+sqrt3)/sqrt3)'

Regards,

Gerson.

Re: The peculiar arithmetic of the SmartCalc 300s

*Message #5 Posted by **Javier Goizueta** on 27 May 2009, 1:36 p.m.,*
in response to message #4 by Gerson W. Barbosa

> Quote:
>
> I just hope the HP SmartCalc 300s gives the right answer to expressions like '3979/LN((sqrt2+sqrt3)/sqrt3)'

The result is 6666.000006 (internally it is 6666.000005835731 which I believe is the correct result rounded to 16 digits). The results look very good except when the special rounding is triggered.

Thank you for the links, I'll have a look at them.

Re: The peculiar arithmetic of the SmartCalc 300s

*Message #6 Posted by **Marcus von Cube, Germany** on 28 May 2009, 2:51 a.m.,*
in response to message #1 by Javier Goizueta

There was a recent discussion in the French MySilicium forum (this part is even in English). Some Casio BASIC machines have a means of turning the weird rounding behavior on and off via MODE 10 and MODE 11 commands.

Edited: 28 May 2009, 2:45 p.m.

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HP 41C LCD/Display

*Message #1 Posted by **Damian Rios** on 25 May 2009, 8:29 p.m.*

I have a 41C that is having trouble displaying the numbers/letters clearly. The funny part about it, is that when I go outside and the sun hits it directly, it shows everything fine and plus some. As soon as I go back inside, it goes back to it's original issue. CAN ANYONE LET ME KNOW WHAT THE HELL IS GOING ON WITH MY CALC?

Re: HP 41C LCD/Display

*Message #2 Posted by **Geoff Quickfall** on 26 May 2009, 1:14 a.m.,*
in response to message #1 by Damian Rios

A few questions come to mind:

```
1.  Has this just started?


2.  Is it coincidental with new lighting situation inside?


3.  what type of indoor lighting, incandescent, florescent,
    mercury vapour?


4.  When viewing the LCD panel indoors what angle are you using
    to view the calculator?


5.  Is this angle different to the angle you use outside to view
    the calculator?



-  Viewing angle is important with LCD panels.
-  LCD panels fade with age.
-  The type of artificial lighting affects clarity and resolution.
-  LCD panels on watches have a polarized filter built into the
   lense and I am 90% sure that the HP 41 LCD panel is the same.
```

To my knowledge there is no photo-sensitive system or variable system to alter the 'darkness' of the LCD display as in subsequent models (48, 28 etc). My guess is the LCD is slowely fading as they all do. The non-polarized natural light is the best source for contrast. Try using, if you are not already, an incandescent bright light while inside.

Cheers, Geoff

Edited: 26 May 2009, 1:15 a.m.

Re: HP 41C LCD/Display

*Message #3 Posted by **Garth Wilson** on 26 May 2009, 2:22 a.m.,*
in response to message #2 by Geoff Quickfall

My 41 has the same, bold, high-contrast display it did brand new 23 years ago. I have other LCDs of about that age, all of which I can say the same thing about. As long as the LCD is electrically fed correctly (which is not a concern with a calculator whose display-driving electronics were debugged long ago), the only threats I can think of to LCDs are heat and humidity (especially the combination), freezing the liquid (which I have found does not always damage the display like the manufacturer says you might), and mechanical pressure (which is also not a problem when there's a transparent protective window in front of it.

All LCDs do however have polarizers that are part of how they operate. If your light source is polarized, the LCD background may look dark, depending on the orientation compared to the polarity of the light source or even polarized glasses.

Years ago I was designing a wide-temperature-range LCD into one of our aircraft products. After it passed the temperature tests, I tried the polarized sunglasses, since many pilots in the cockpit would be using them. It failed that test. I called the manufacturer, and they said they cut the polarizer however they can get the best yield; but they understood the importance in the application and said they could cut it in any orientation we wanted.

Re: HP 41C LCD/Display

*Message #4 Posted by **Eric Smith** on 26 May 2009, 6:46 p.m.,*
in response to message #3 by Garth Wilson

> Quote:
>
> To my knowledge there is no photo-sensitive system or variable system to alter the 'darkness' of the LCD display as in subsequent models (48, 28 etc).

In halfnut models, the display driver does have programmable contrast, but the microcode does not ever adjust it. There's no way to set it without some kind of third-party ROM containing suitable microcode.

If the display contrast setting of a halfnut gets changed, and you don't have a suitable third-party ROM to set it back, the only way to recover it will be to remove the batteries long enough that the display driver completely loses its state. Removing the batteries momentarily and shorting the terminals will probably NOT be sufficient.

I don't think this is likely to be the cause of hte problem Mr. Rios is having, especially since there are very few halfnut 41C units in circulation.

Re: HP 41C LCD/Display

*Message #5 Posted by **Forrest Switzer** on 30 May 2009, 12:13 a.m.,*
in response to message #3 by Garth Wilson

I have never had any problems with my 41 or 42S displays, except the creeping crud in one 42S.

But as a point of interest, we use HP-200LX as survey data collectors for some 1995 vintage total stations and have had to create special cloth covers to cover the display in the field. If left uncovered for any length of time the display darkens to the point where it is difficult to read. This occurs even when the 200LX is in an environmental case, and it doesnt seem to make a difference with the calculator as we have used up a number of them (maybe as many as ten). Although most surveyors use the 48SX/GX, we have found the 200LX to be faster and the alphabetics an advantage. The TDS card for the 95/100/200 is virtually impossible to get though.

Forrest

Re: HP 41C LCD/Display

*Message #6 Posted by **Randy** on 26 May 2009, 3:23 p.m.,*
in response to message #2 by Geoff Quickfall

> Quote:
>
> To my knowledge there is no photo-sensitive system or variable system to alter the 'darkness' of the LCD display as in subsequent models (48, 28 etc).

Accurate.

> Quote:
>
> ... My guess is the LCD is slowly fading as they all do. ...

Not so accurate.

I think you'll find that problem to be associated with backlit LCDs in which the light source begins to dim. This is not the case with the LCDs used in HP calculators, they are all reflective designs without backlight.

The most common causes for dim HP calculator displays, in the order of occurrence:

1) In models where contrast is adjustable, it is set too low. As pointed out, the 41 is not among this group.

2) Weak, exhausted batteries. Don't count on the battery low indicator to be 100% accurate.

3) A hardware fault of some kind.

FWIW, in the case of the 41 being discussed, I seriously doubt it is a bad LCD. I've seen individual segments become dim (usually

due to battery leakage) but never the entire display. That would more likely be a display driver or CPU timing problem.

Re: HP 41C LCD/Display

*Message #7 Posted by **Geoff Quickfall** on 26 May 2009, 4:58 p.m.,*
in response to message #6 by Randy

Interesting,

In the watch industry, I have been restoring watches for about 13 years, there is a definite fading of displays over time. So much so that there is a large demand on sealed lcd panels for early vintage LCD panels.

In fact, if you see old LCD seikos as well as many first generation LCD calculators you will see a yellow tint to the display. This was a UV filter to slow or prevent fading displays.

Displays have evolved since then but I still think they are subject to a fading.

Having said that, and restored a few 41's including 6 of my own dating back to 79, I have not had a problem with them at all. Some have different viewing angles but all are crisp and clear..

Cheers, Geoff

Re: HP 41C LCD/Display

*Message #8 Posted by **Randy** on 26 May 2009, 6:07 p.m.,*
in response to message #7 by Geoff Quickfall

Geoff,

I've seen many just flat out broken displays and many "creeping crud" failures (permanent black areas) with all HP calculator products but never have I seen an HP display uniformly dim.

Most models get used outdoors for survey work (41's, Voyagers, Pioneers, 48's) in direct sunlight so if UV was the cause, we would have see failures. I have seen many 48 LCD's fail due to over-temperature where the polarizer actually melts. Discounting those obvious abuses, HP displays seem to me to be pretty darn good and reliable. Heck, all 41 displays are at least 20 years old, some now at 30 and counting.

Re: HP 41C LCD/Display and Seiko

*Message #9 Posted by **Geoff Quickfall** on 27 May 2009, 2:10 a.m.,*
in response to message #8 by Randy

Hi Randy,

I agree with you, the HP LCD's are excellent. I have noticed different brand watches have various quality displays.

For example, the Seiko is meant to be viewed at 45' and start to fade as the tilt angle is greater then 90' and less then 30', a viewing angle of 60 degrees.

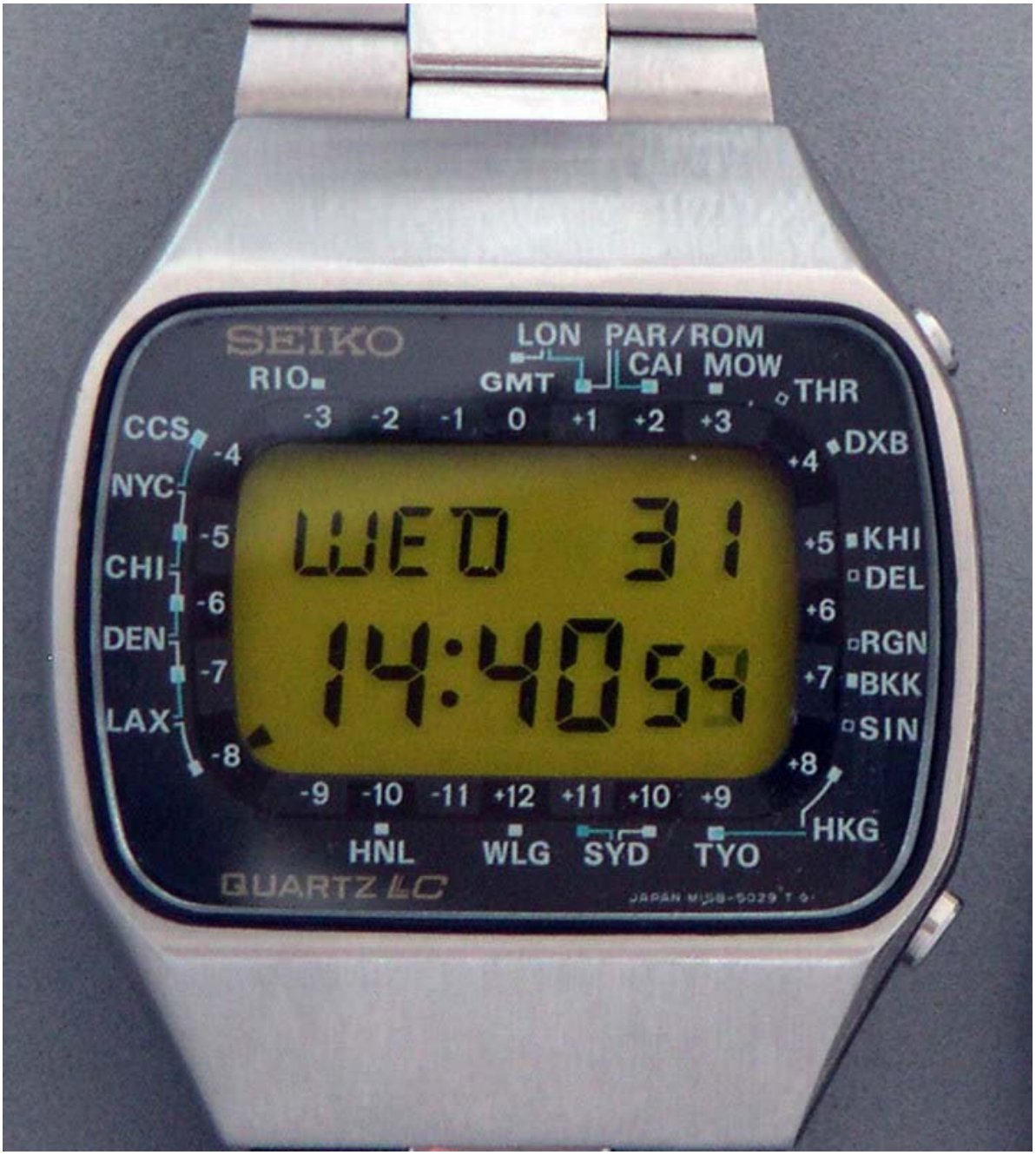
My Omega LCD however, can tilt through 100' without any fading outside the direct best angle.

It would seem that the watch industry has differing standards of quality, and maybe this is the reason they fade. Of course they are in the sun 24/7, certainly more so then HP calcs.

I have replaced quite a few Seiko World timers shown here, some of which have the yellow UV filter. All the yellow watches are 1976 era and suffered faded displays. The displays in them now were NOS sealed in aluminum pouches.

-8.888888888-88
OFF
ON
W/PRGM
RUN
INIT
GREAT CIRCLE
ENTER
W/DATA
MERGE
CL REG
CL PRGM

SEIKO
WED 31
14:39 38
SEIKO
WORLD TIMER ALARM
SEIKO
WE 31
TIME
2:39 07



Cheers, Geoff

Re: HP 41C LCD/Display and Seiko

*Message #10 Posted by **Damian Rios** on 27 May 2009, 2:04 p.m.,*
in response to message #9 by Geoff Quickfall

I think it's a hardware problem. As far as the sunlight, I agree, most HP displays tend to fade away when brought back indoors. I appreciate all of your responses. Thanks for the help. By the way, It's a fullnut 41c.

Re: HP 41C LCD/Display and Seiko

*Message #11 Posted by **Karl Schneider** on 28 May 2009, 6:08 a.m.,*
in response to message #9 by Geoff Quickfall

Geoff --

I still wear this classic 1981 Seiko H357 Duodisplay model, shown in the linked photograph (which is not of my personal watch):

Seiko H357-5030T

The LCD is angled toward the wearer, but can be read from different orientations. There has been no problem of fading. Maybe LCD technology improved during the late 1970's? (Remember that few calculators had LCD's until about 1980.)

Exceptional quality and a clean, sensible design -- just like H-P calc's of the era. It's hard to find consumer products like that anymore.

-- KS

Edited: 28 May 2009, 6:11 a.m.

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A coincidence, really, but I just finished restoring this HP 34C!

*Message #1 Posted by **Geoff Quickfall** on 23 May 2009, 6:51 p.m.*

It started with another box with 4 spice calculators in it as well as 4 chargers, and 3 metal battery holders with one plastic separator. Also included was a 34C and 38E quick reference cards.

I have ignored the spice series for awhile and decided to tackle the 34C, as this unit really is impressive. Not only does it have the program continuous memory but also a 3 colour coded set of shift keys reminiscent of the HP 67.

This unit is coded 2045SXXXXX for 1980, Singapore.

Of course the first order of business was to inspect the case, top and bottom shell. You can see glue residue on the top LED display cover; figure 1. Also note the filthy keyboard and keys. The ON/OFF key was intermittant at best and would not stay on once selected. By pressing gently on the key I got the display to be stable, where upon I pressed "STO" followed by "ENTER". I waited a few seconds and up popped the -8,8,8,8,8,8,8,8,8,8,. Signifying a successful electronics test. The keyboard response on this calculator is nothing less then stunning. The positive click on each key is incredible.

FIGURE 1.

A coincidence, really, but I just finished restoring this HP 34C!

I then turned the calculator upside down to document the bottom shell when I noticed a bunch of dirt fall out of the now inverted calculator. You can see, with reference to the Canadian penny for scale, the outline of the calculator (enhanced with the boxes); figure 2. This is the dirt that fell out of the spaces between the keys and the keyboard bezel. A close up of the dirt can be seen in figure 3 with R/S key for scale. I was amazed that the keyboard functioned at all as this calculator looks as though it was buried in the sand for a prolonged period of time! However this is a testament to the HP quality and the sealed keyboard.

FIGURE 2

A coincidence, really, but I just finished restoring this HP 34C!

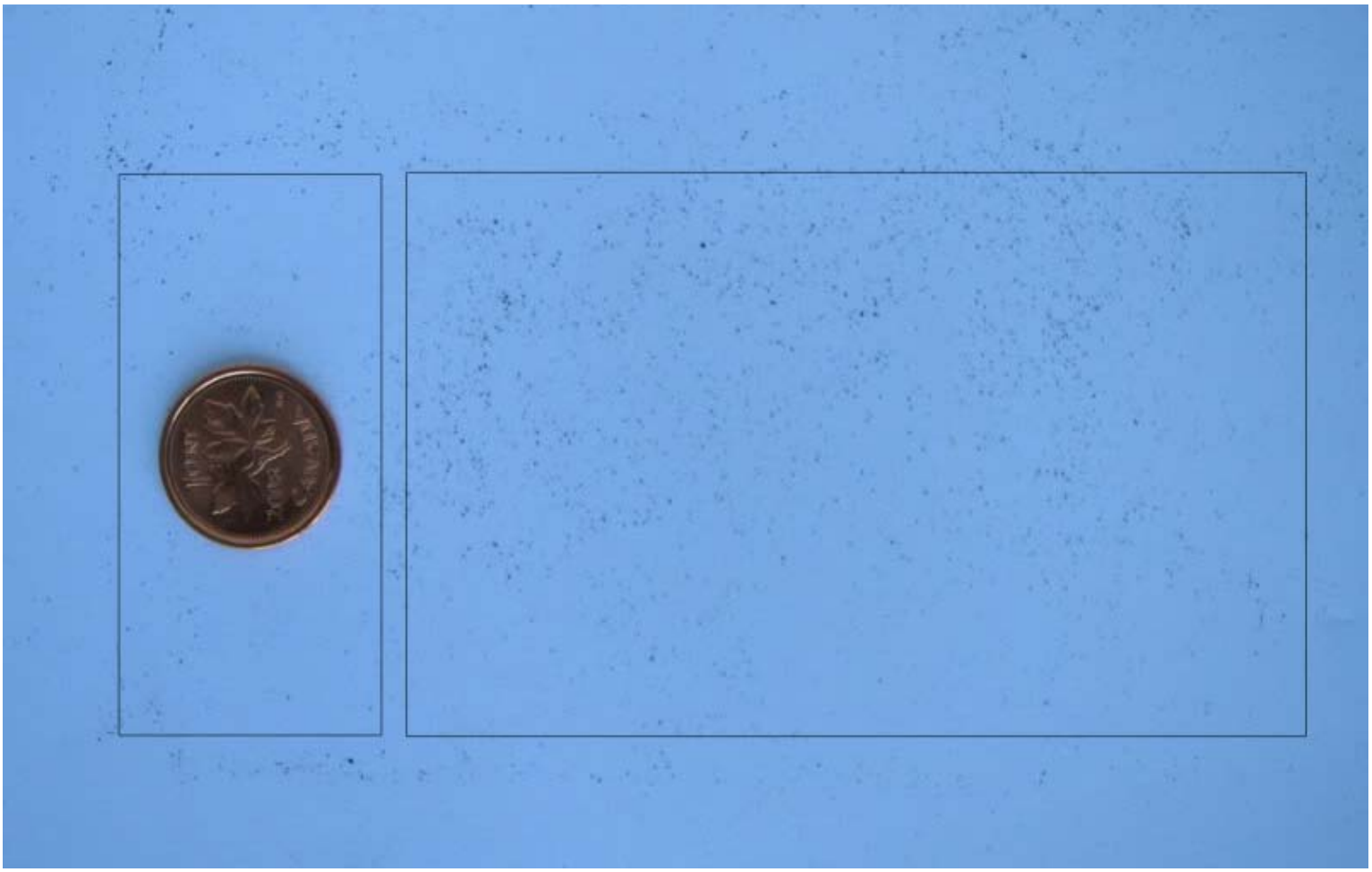
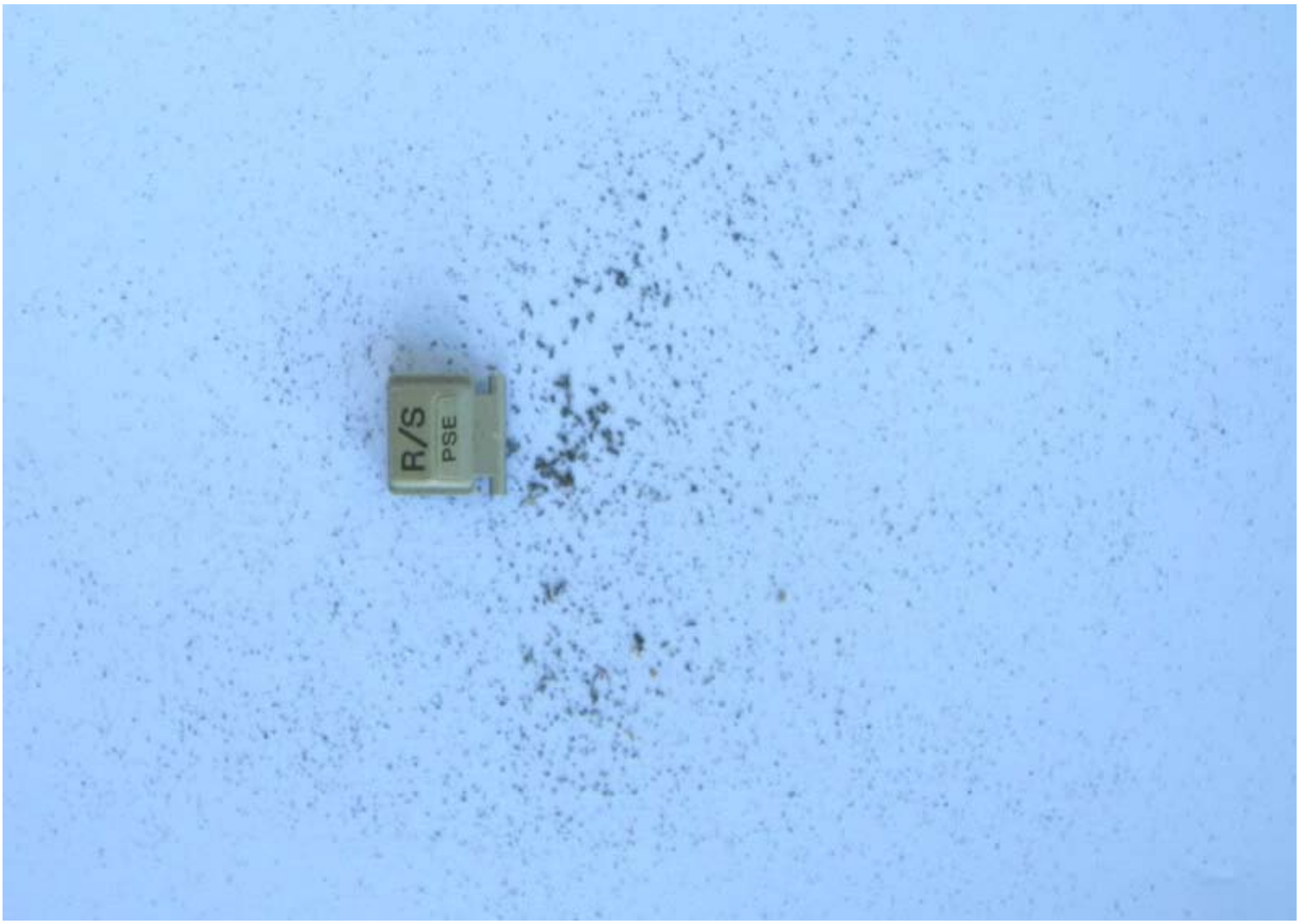


FIGURE 3



Eventually I took a picture of the bottom shell with the glued on label; figure 4.

FIGURE 4

A coincidence, really, but I just finished restoring this HP 34C!

The battery compartment, battery holder and battery compartment contacts are all in excellent condition with no corrosion traces or cracks; figure 5, 6, and 7 respectively.

FIGURE 5

A coincidence, really, but I just finished restoring this HP 34C!

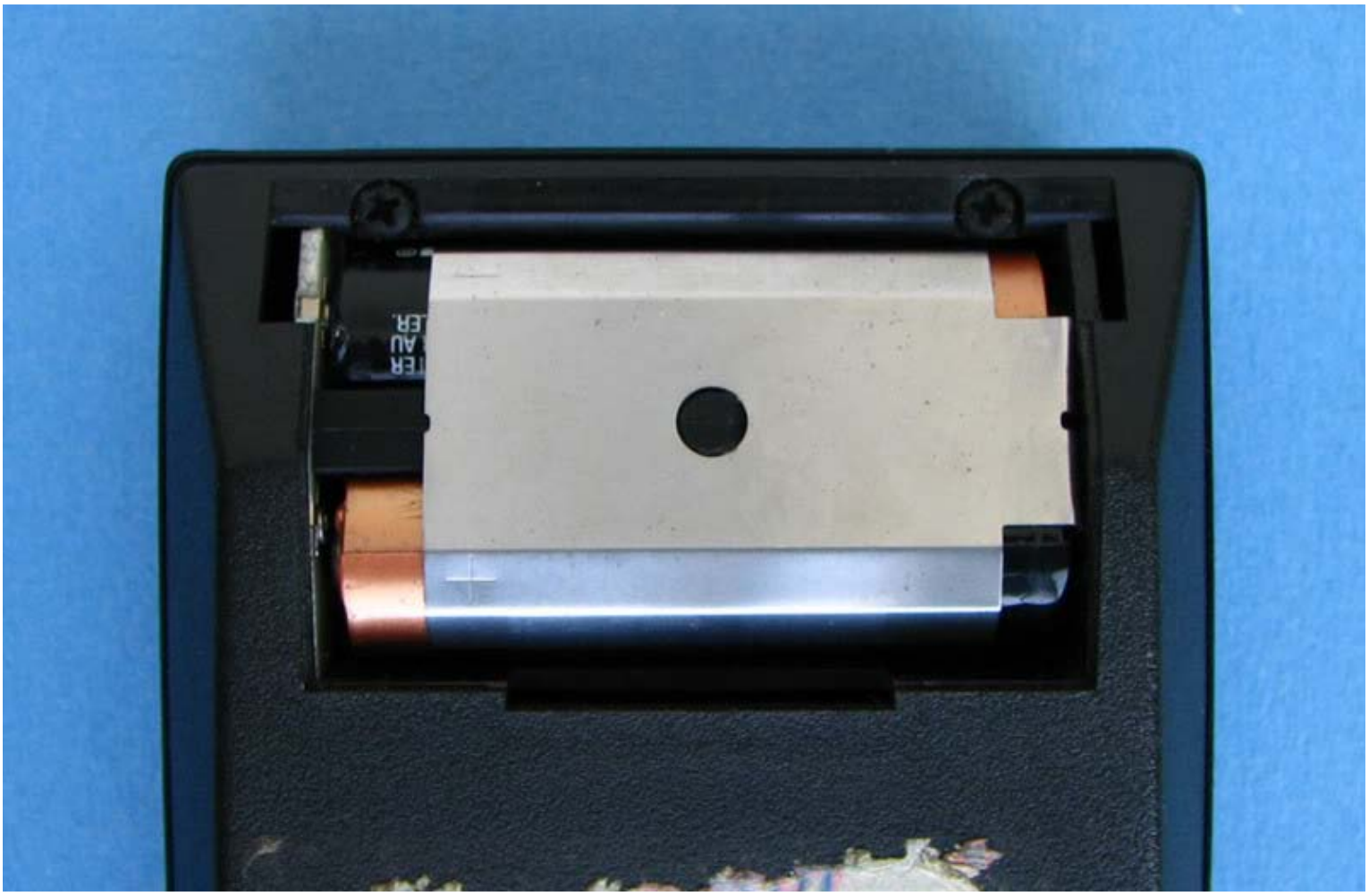


FIGURE 6

A coincidence, really, but I just finished restoring this HP 34C!

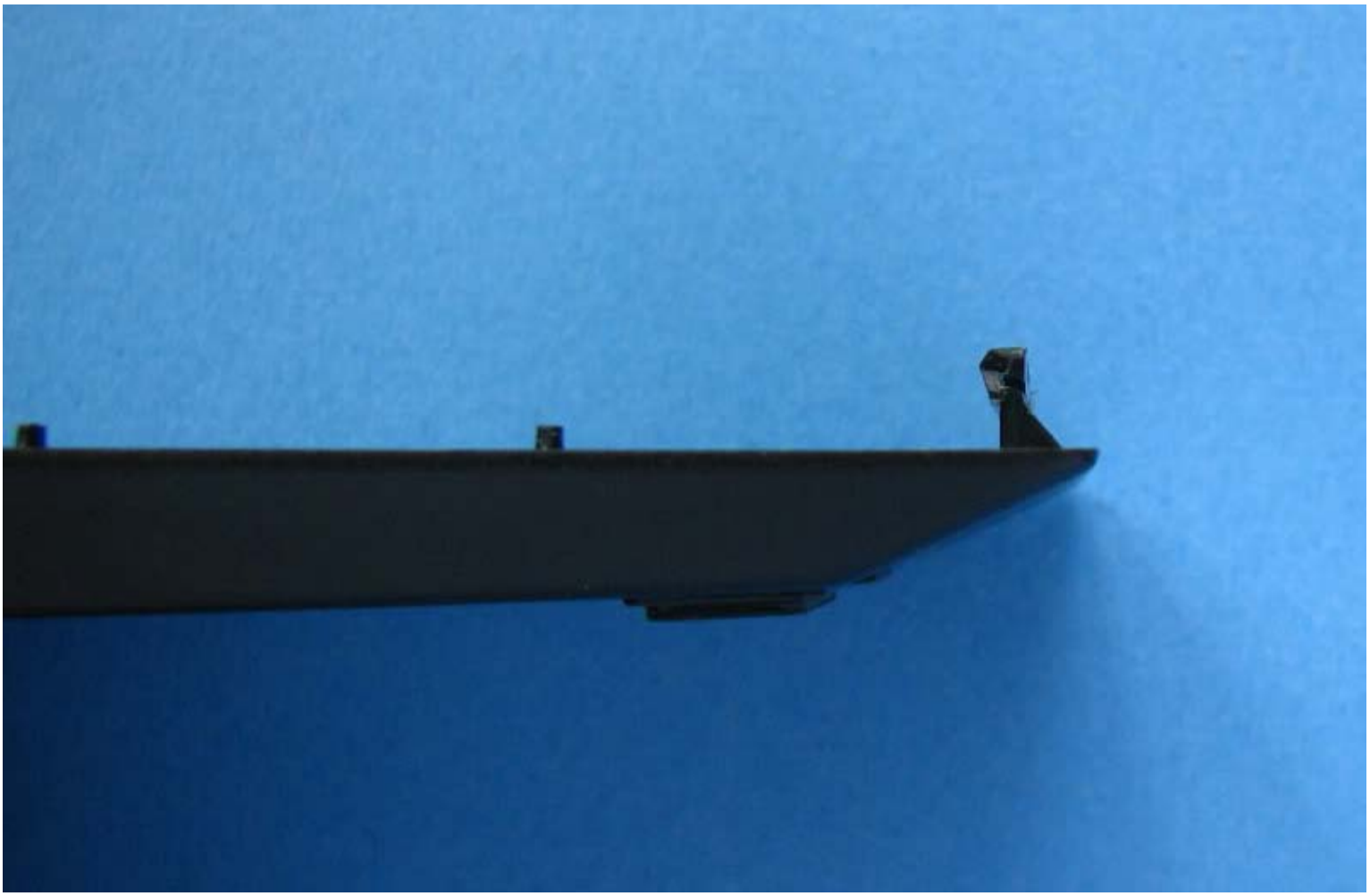
FIGURE 7

A coincidence, really, but I just finished restoring this HP 34C!

Of course the hardest part about a spice restoration is entering the case! After undoing the screws, I inserted a sharp long bladed knife between the upper shell and bottom shell at the foot of the calculator. This separated the bottom half of the calculator enough (a knifes blade in width) to allow me to simutaneously pull the upper half apart, and push the bottom shell down longitudinally to the calculator. You can see the L shaped clip that resides at the foot of the calculator that causes such a problem for shell separation; figure 8. This is the reason for separating the lower halves with the knife to allow the two halves to slide apart.

FIGURE 8

A coincidence, really, but I just finished restoring this HP 34C!



Once inside, luckely without breaking or cracking the case, I was able to expose the top shell back; figure 9. Also the inside portion of the top shell holding the framework and PCB; figure 10.

After removing the framework, holding the entire PCB in the case, by gently prying three clips out of the way on one side and lifting one edge of the PCB out, I was able to gain access to the keys and upper shell; figure 11.

FIGURE 9

A coincidence, really, but I just finished restoring this HP 34C!

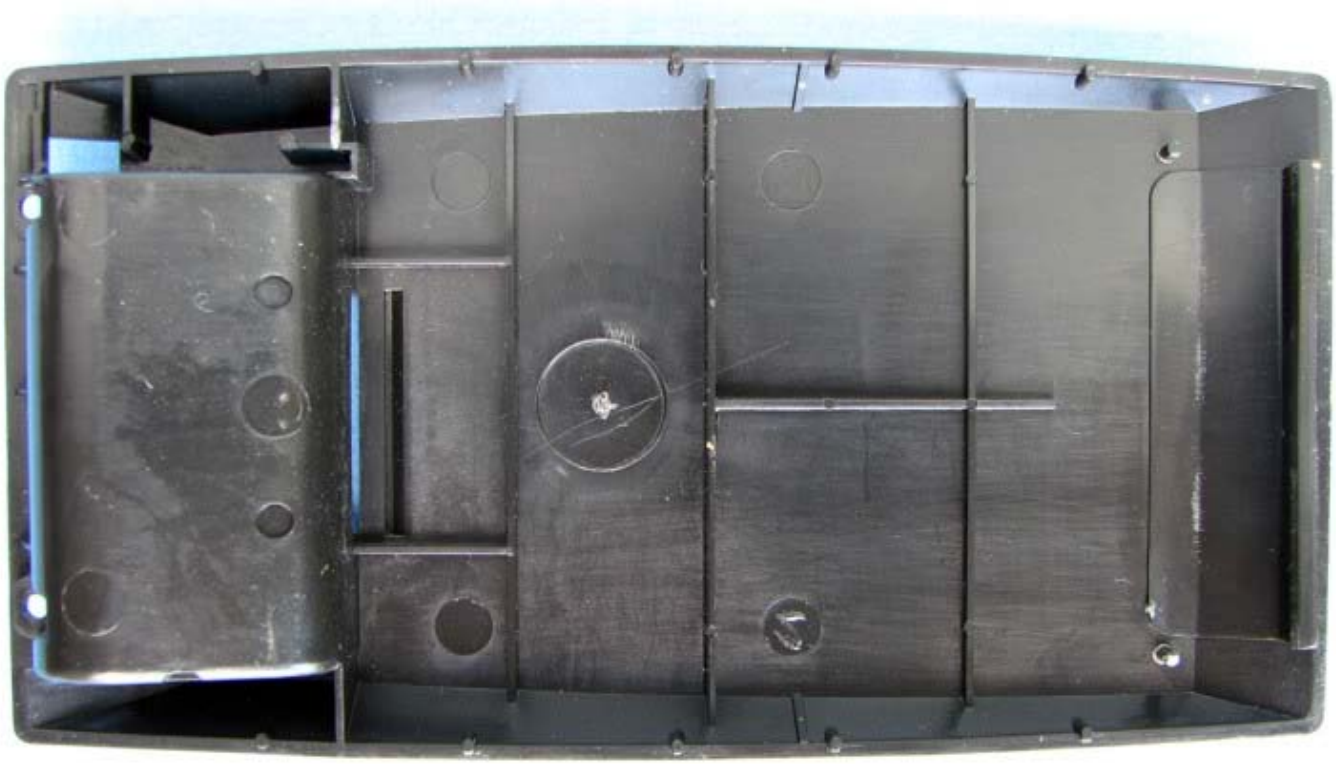


FIGURE 10

A coincidence, really, but I just finished restoring this HP 34C!

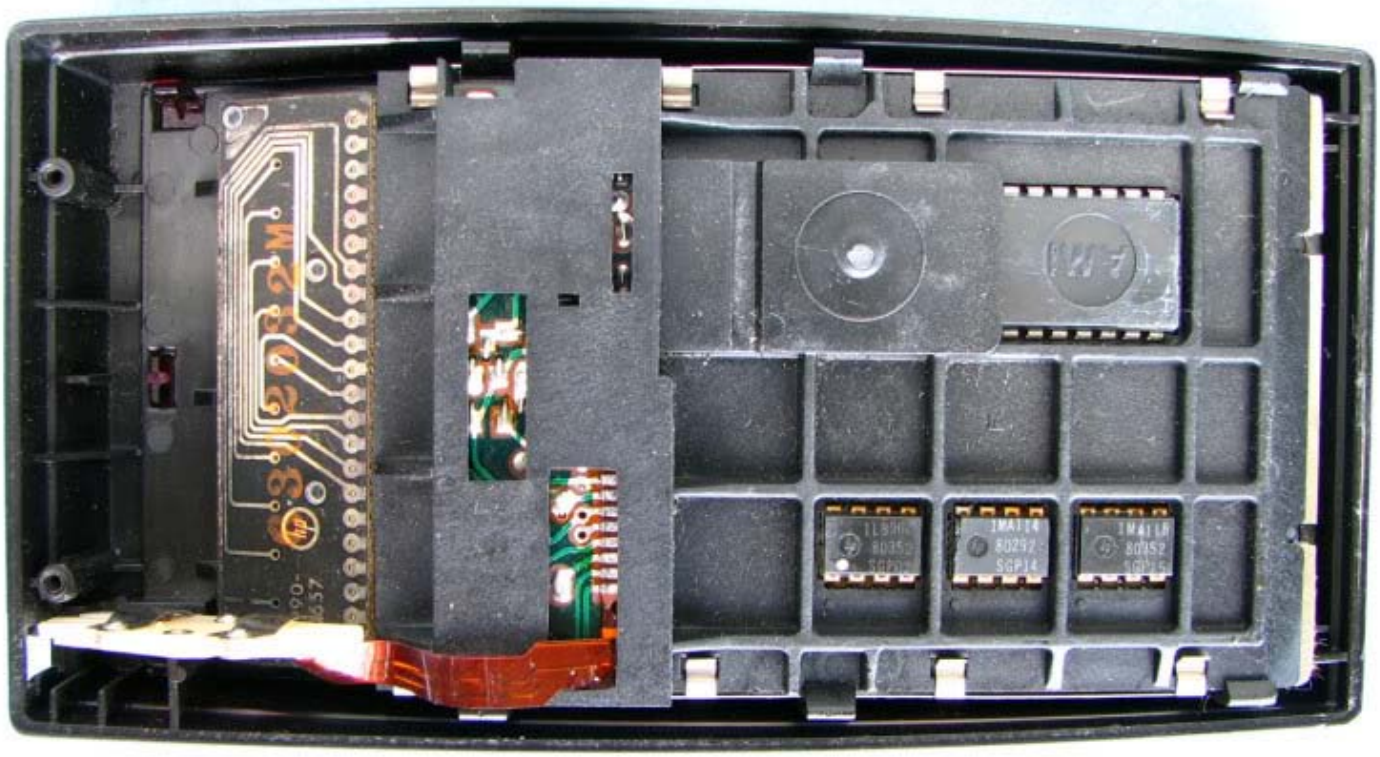


FIGURE 11

A coincidence, really, but I just finished restoring this HP 34C!

The keyboard was now exposed indicating the problem with both switches. They were encrusted with a yellow stain and gritty dust; figure 12. A close up of the ON/OFF switch cleaned in contrast to the PRGM/RUN switch on the left can be seen in figure 13. Finally figure 14 shows both switch contact areas cleaned and greased ready for assembly.

FIGURE 12

A coincidence, really, but I just finished restoring this HP 34C!

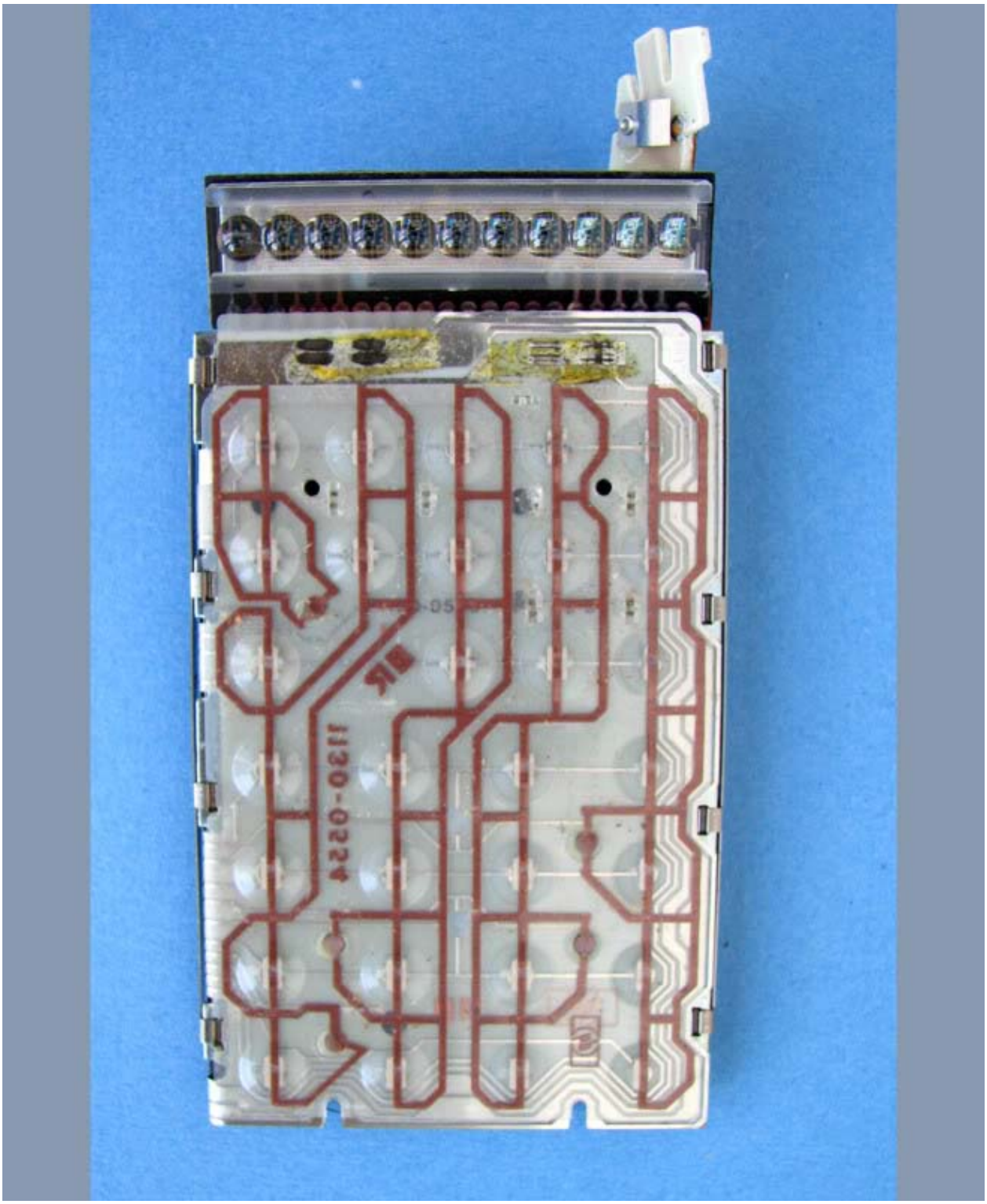


FIGURE 13

A coincidence, really, but I just finished restoring this HP 34C!

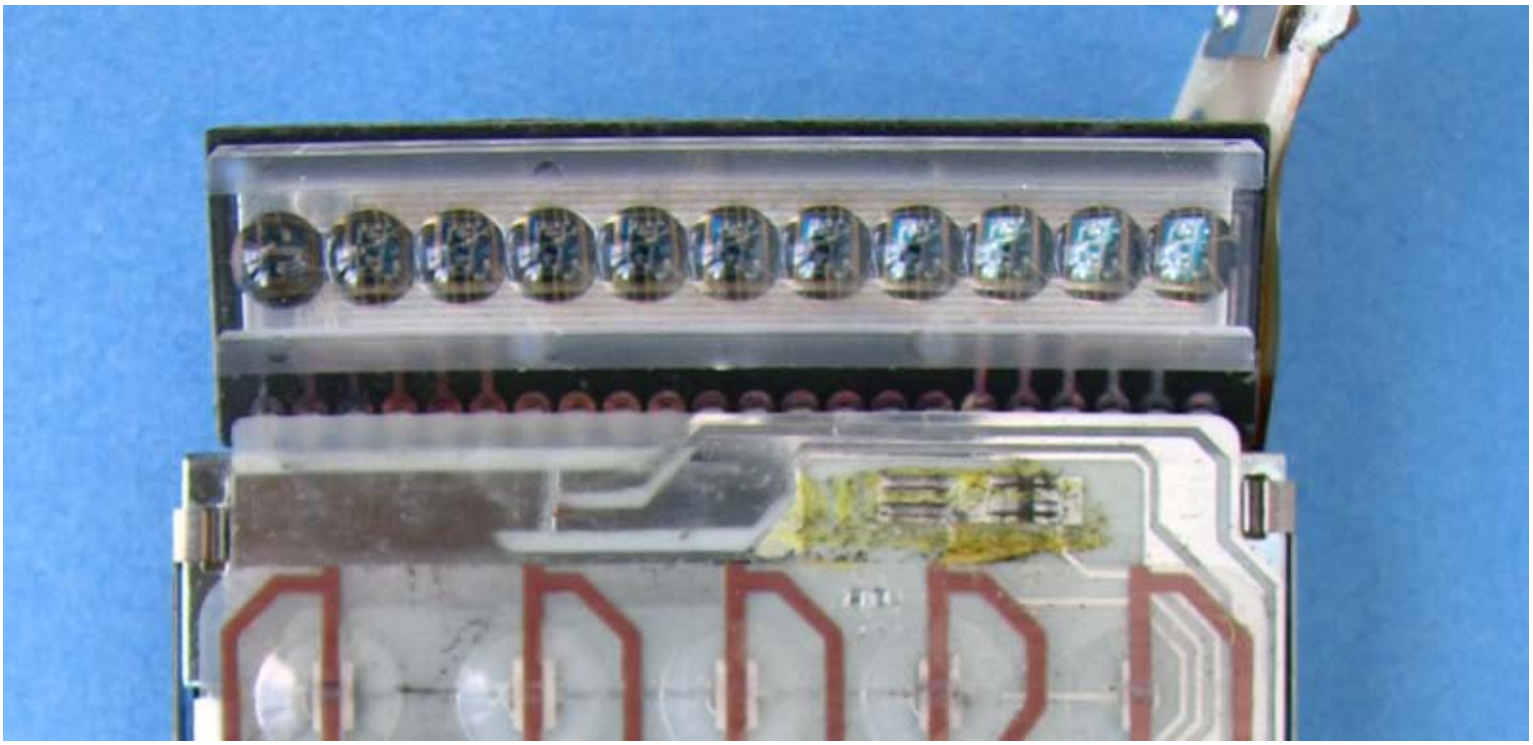
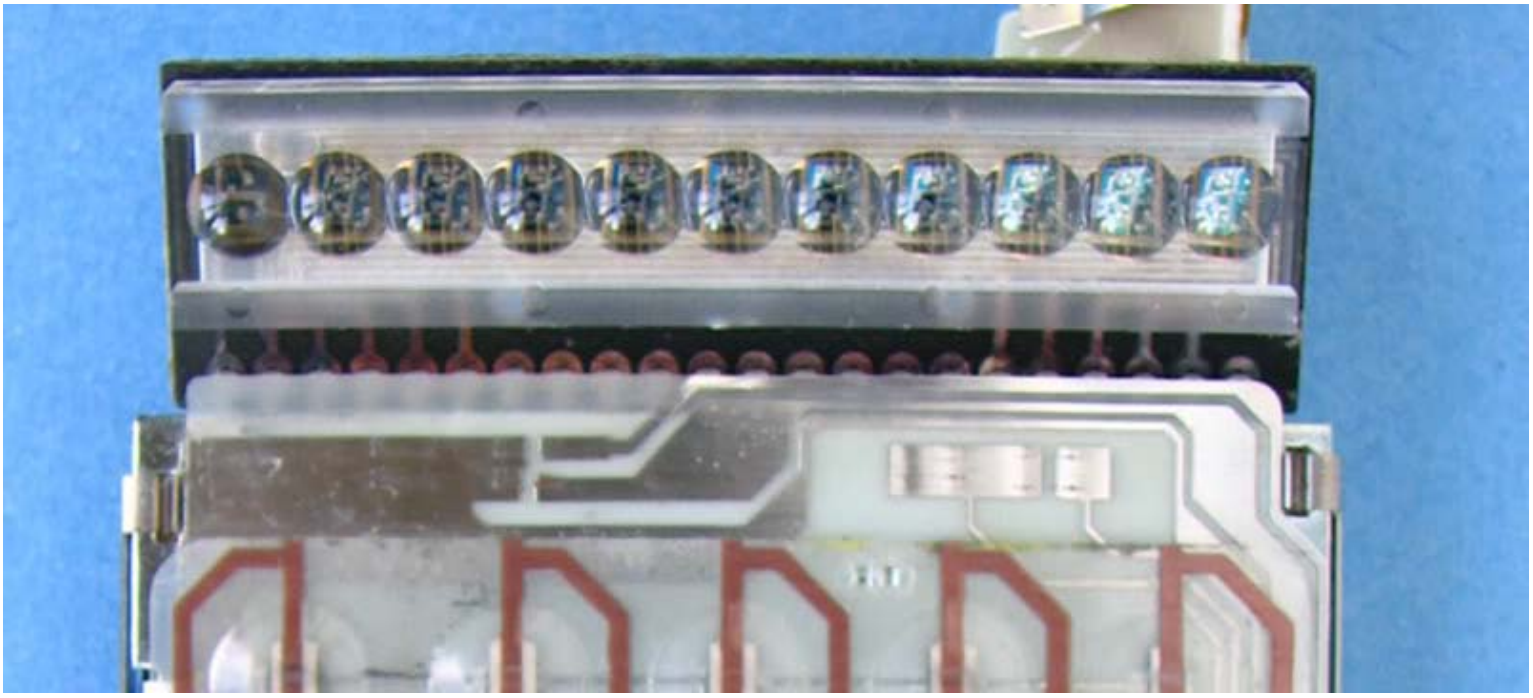


FIGURE 14



This calculator has the floating (non-soldered) IC's and since the calculator passed the self test I did not think it wise to open up the next set of clips and expose the IC's. I did give this calculator a good dusting down with a blower and then tested it before reassembly. I must say that the dirt was confined to the exterior portion of the keypad and that the cello wrapped key pad was perfectly protected from dirt intrusion.

The case was gently cleaned in soapy warm water with natural soft bristled paint brush. After applying some citrus oil to the goop on the LED cover lense I managed to remove the detritus and expose the mildly scratched cover. A bit of plastic watch crystal polish cleared up the scratches. A touch paint around the ON/OFF switch bezel completed the top shell.

The bottom shell lable was also removed via the citrus oil and the case cleaned. Each key appeared to be covered in a dirt/oil/grime residue so the were individually scrubbed with a tooth brush.

Everything was dryed in my drying box and then the calculator was tested without the back in place with the self test; figure 15.

The end result as seen in figure 16 and a side by side comparison of before and after can be seen in figure 17.

FIGURE 15

FIGURE 16

A coincidence, really, but I just finished restoring this HP 34C!

FIGURE 17

Hope you enjoyed this little presentation!

Cheers, Geoff

Edited: 23 May 2009, 6:53 p.m.

Re: A coincidence, really, but I just finished restoring this HP 34C!

*Message #2 Posted by **Ronald** on 24 May 2009, 5:09 a.m.,*
in response to message #1 by Geoff Quickfall

Hi Geoff,

Again a beautifull restored machine. Can you share with us how you restored the worn edges at the on-off switch, Did you use a filt pen, if yes what type?, Also it looks like the word "on" is now much scharper, as if it was painted again?

Kind regards

Ronald

Edited: 24 May 2009, 5:09 a.m.

Re: A coincidence, really, but I just finished restoring this HP 34C!

*Message #3 Posted by **Geoff Quickfall** on 24 May 2009, 9:58 p.m.,*
in response to message #2 by Ronald

Absolutely correct, an airbrush would be better I think, have to wait until Christmas or Birthday for that though!

Extra fine sharpie black marker, indelible ink.

Cheers, Geoff

Re: A coincidence, really, but I just finished restoring this HP 34C!

*Message #4 Posted by **Nigel J Dowrick** on 24 May 2009, 12:15 p.m.,*
in response to message #1 by Geoff Quickfall

An amazing job - thank you for documenting it so thoroughly and for sharing it. It's rather inspiring to see examples of what is possible given skill, patience, and a lot of time!

Can I take advantage of this HP-34C thread to ask a question about this machine's keyboard? My HP-34C is the only LED HP calculator that I have. The keyboard works well, as does the rest of the machine. However, the keys rattle! They are so noisy that I keep expecting them to fall out, although they seem secure. None of my other HPs have this "feature".

Is this normal for the machine, or is it a problem that I should be trying to fix?

Thanks for any advice that anyone can give me.

Nigel

Re: A coincidence, really, but I just finished restoring this HP 34C!

*Message #5 Posted by **Robert Hollyer** on 24 May 2009, 2:48 p.m.,*
in response to message #4 by Nigel J Dowrick

Nigel,

Is your HP-34C the soldered version or is it unsoldered? As mentioned in the previous thread, I have a soldered HP-34C with a deteriorated elastomeric keyboard overlay. The overlay is approximately 0.025" thick and is located between the plastic keys and the metal snap domes of the soldered HP-34C. The locations where the overlay is missing, result in loose keys since there is approximately 0.025" of extra space for key movement.

In comparison, I have an unsoldered HP-31e that does not use an elastomeric overlay. Instead it has plastic snap domes. The plastic snap domes are about 0.040" tall whereas the metal snap domes are about 0.016" tall. This difference in snap dome height corresponds to the thickness of the elastomeric overlay, which seems to imply that HP used the same case tooling and compensated for the snap dome height difference by inserting the elastomer.

Re: A coincidence, really, but I just finished restoring this HP 34C!

*Message #6 Posted by **Nigel J Dowrick** on 24 May 2009, 5:13 p.m.,*
in response to message #5 by Robert Hollyer

I've haven't opened it yet (after all, it does work!) but the serial number starts "1850", which suggests that it was made in 1978. From what I've read, this isn't possible as this model wasn't released until 1979! Either I'm mistaken about this, or the calculator's back is from another 3x-series model.

Although I don't know which sort it is, your idea of a missing overlay sounds reasonable. The keys definitely have too much freedom in the vertical direction, which matches with what you suggest. I think that I shall open it up and have a look, especially since (with the false back) it must have been opened before. I would also quite like to find out whether it is soldered or solderless.

Thank you for the information.

Nigel

Re: A coincidence, really, but I just finished restoring this HP 34C!

*Message #7 Posted by **Eric Smith** on 24 May 2009, 7:15 p.m.,*
in response to message #6 by Nigel J Dowrick

It's likely that the production line was ramped up before the official introduction in order to have sufficient quantities available through the distribution channel.

Loose keys on Spice units.

*Message #8 Posted by **Randy** on 24 May 2009, 9:23 p.m.,*
in response to message #6 by Nigel J Dowrick

It is very unlikely you'll find anything out of place with the unit, the version one units with the plastic dome switches did have very loose keys which rattled when shaken. The rubber dampener sheet made its first appearance on the 41 so the original Spices did not benefit from that improvement, only the second generation Spice keyboards had it.

My advise would be to let it be, there is a chance you'll chip the edge of the center case band when removing the back. Further, there is a risk of breaking one of the six tabs that hold the keyboard assembly in place.

I personally find the original Spice keyboard to have the worst key feel of any HP, the pressure required to collapse the dome is higher than any other keyboard design and the travel is too far for speed efficient entry.

Re: Loose keys on Spice units.

*Message #9 Posted by **Nigel J Dowrick** on 25 May 2009, 6:47 a.m.,*
in response to message #8 by Randy

I've slept on it, and I think that I'll take Randy's advice, at least for now. Cosmetically the calculator is in good condition, and apart from the rattle the keyboard works reliably with no missed or double presses. I haven't taken a Spice calculator apart before, and possibly a working HP-34C isn't the machine to practise on! I also don't have a clear idea of what material to put beneath the keyboard to stop the rattle, even if this is possible.

Thank you all once again for your comments. I'll attack a Commodore 5R39 instead - the penalty for failure there is much lower!

Nigel

Re: Loose keys on Spice units.

*Message #10 Posted by **Robert Hollyer** on 26 May 2009, 6:06 p.m.,*
in response to message #9 by Nigel J Dowrick

Nigel,

I agree, don't open the unit. My guess is it's a solderless 34C due to the early serial number and would not have the overlay.

Re: Loose keys on Spice units.

*Message #11 Posted by **Randy** on 26 May 2009, 6:16 p.m.,*
in response to message #10 by Robert Hollyer

It is very easy to determine whats inside without opening it, just weigh it without batteries.

A coincidence, really, but I just finished restoring this HP 34C!

~200 grams = solderless (V1)

~130 grams = soldered (V2)

Re: Loose keys on Spice units.

*Message #12 Posted by **Nigel J Dowrick** on 27 May 2009, 7:07 a.m.,*
in response to message #11 by Randy

The mass of my calculator - without battery pack, but with the pack cover - is 176g, so it's closer to 200g (solderless) than 130g (soldered). That seems to settle it - thanks!

Nigel

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HP-34C Spice series keypad

*Message #1 Posted by **Robert Hollyer** on 23 May 2009, 2:20 p.m.*

In the process of repairing a soldered version of the HP-34C, I noticed that the keypad has a rubber cushioning material located between the keys and the key snap domes. In this particular calculator, the material has completely deteriorated. I searched the HP Museum archives for references to Spice series keypads, and discovered a few prior discussions of this topic. However, there didn't seem to be a conclusion about which material to use as a replacement. The rubber membrane is approximately 0.025" thick and is tan in color. I searched MSC Direct and Smallparts.com for substitute materials, and turned up a few options for 1/32" thick elastomeric sheets with various Durometer values, etc. Before I place an order for a random replacement, I am curious if there are any suggestions regarding what materials has been previously tried/used?

Re: HP-34C Spice series keypad

*Message #2 Posted by **Geoff Quickfall** on 23 May 2009, 6:56 p.m.,*
in response to message #1 by Robert Hollyer

I will be interested in the outcome here Robert. Keep us posted.

It seems to be a firm type of foam and I guess I have been lucky so far with my 6 spices.

I just posted the restoration which I did this morning coincidentally!

Cheers, Geoff

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Charting Pioneer Differences...

*Message #1 Posted by **Mark Edmonds** on 23 May 2009, 7:39 a.m.*

Last year, we were starting a project to document all the Pioneer variations. Unfortunately, I had a family matter that happened and had to abandon my involvement in the project.

Now I'm back in the frame, I was wondering what happened to the project and how the results look. How did this one turn out?

Mark

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Fast editor for 48SX/GX??

*Message #1 Posted by **Mark Edmonds** on 23 May 2009, 7:37 a.m.*

Greetings folks,

I was wondering if anyone knows of a fast editor program for the 48 series?

The editor is the major achille's heel on these machines and editing a large program is a very tedious and slow business.

I've looked through hpcalc.org but can't see anything.

The editor on the 49G is really fast. Is there something like that which can be loaded on a 48?

Or are there any "secret" tips for speeding up editing on a 48 please?

Any suggestions here gratefully received. The 48s are still the pinnacles for me but editing is a major PITA!

Thanks :)

Mark

Re: Fast editor for 48SX/GX??

*Message #2 Posted by **Chris Foley** on 23 May 2009, 5:27 p.m.,*
in response to message #1 by Mark Edmonds

You should try StringWriter from JYA.

It is very fast and easy to use. It is close to the version available in the 49+.

You can DL it at this address : http://www.hpcalc.org/details.php?id=129

Good programming ;-).

Chris

Re: Fast editor for 48SX/GX??

*Message #3 Posted by **Mark Edmonds** on 24 May 2009, 6:18 a.m.,*
in response to message #2 by Chris Foley

Thanks Chris :)

I've got that installed and trying it out. Shame you can't enter programs exactly the same way you can in the built-in editor (a few quirks I've found so far) but old habits die hard.

Not too impressed with how long it takes to load a large program though.

For a prog I am working on now that is about 7K big, loading it into the built-in editor takes 41 seconds on a 48G and 45 seconds on a 48GX. Odd as I thought the GX had a faster CPU.

Using StringWriter, it still takes 41 seconds on a GX. However, scrolling in SW is massively faster!

So despite the loading time, SW is obviously a huge step-up from the built-in editor. Thanks for the recommendation :)

Mark

> Quote:
>
> You should try StringWriter from JYA.
>
> It is very fast and easy to use. It is close to the version available in the 49+.
>
> You can DL it at this address : http://www.hpcalc.org/details.php?id=129
>
> Good programming ;-).
>
> Chris

Re: Fast editor for 48SX/GX??

*Message #4 Posted by **Egan Ford** on 24 May 2009, 11:08 a.m.,*
in response to message #3 by Mark Edmonds

Why not use HPUserEdit and/or EMU48 and develop, test, and debug on a PC. Both require Windows, however both work with Linux/Mac with Wine just fine.

Re: Fast editor for 48SX/GX??

*Message #5 Posted by **Mark Edmonds** on 24 May 2009, 4:59 p.m.,*
in response to message #4 by Egan Ford

I do do that sometimes but for many reasons, I work on and much prefer the real machine over the emulator.

Mark

> Quote:
>
> Why not use HPUserEdit and/or EMU48 and develop, test, and debug on a PC. Both require Windows, however both work with Linux/Mac with Wine just fine.

Re: Fast editor for 48SX/GX??

*Message #6 Posted by **Raymond Del Tondo** on 26 May 2009, 11:56 a.m.,*
in response to message #3 by Mark Edmonds

> Quote:

> Thanks Chris :)
>
> I've got that installed and trying it out. Shame you can't enter programs exactly the same way you can in the built-in editor (a few quirks I've found so far) but old habits die hard.
>
> Not too impressed with how long it takes to load a large program though.
>
> For a prog I am working on now that is about 7K big, loading it into the built-in editor takes 41 seconds on a 48G and 45 seconds on a 48GX. Odd as I thought the GX had a faster CPU.
>
> Using StringWriter, it still takes 41 seconds on a GX. However, scrolling in SW is massively faster!
>
> So despite the loading time, SW is obviously a huge step-up from the built-in editor. Thanks for the recommendation :)
>
> Mark

Using SpeedUI, you can nearly immediately start editing, since loading of your 7K program will take a few seconds only.
Loading the 2.7K EXAMPLES directory takes less than 2 seconds:-)

And scrolling is very fast, too, and you have a multiple clipboard,
and online keyword browser with parameter help, and more.

And not o forge: The SpeedUI editor IS the new cmd line;-)

HTH

Re: Fast editor for 48SX/GX??

*Message #7 Posted by **Raymond Del Tondo** on 23 May 2009, 7:27 p.m.,*
in response to message #1 by Mark Edmonds

> Quote:
>
> [..] I was wondering if anyone knows of a fast editor program for the 48 series? [..]

For the GX, I'd suggest to try my SpeedUI,
an older version is available on hpcalc.org, and v9.0x from me directly,
which includes (amongst many other things) a super fast CMD line and full screen editor replacement,
with global multiclipboard and online browser for all built-in HP-48 cmds and fcns.

HTH

Raymond

BTW: SpeedUI for the HP-48G+/GX is still supported and updated.

Edited: 23 May 2009, 7:31 p.m.

Re: Fast editor for 48SX/GX??

*Message #8 Posted by **ZOleg** on 23 May 2009, 8:12 p.m.,*
in response to message #7 by Raymond Del Tondo

> Quote:
>
> ... and v9.0x from me directly ...

Please post link to it.

Re: Fast editor for 48SX/GX??

*Message #9 Posted by **Raymond Del Tondo** on 26 May 2009, 12:58 p.m.,*
in response to message #8 by ZOleg

Hi,

unfortunately the version on hpcalc is outdated.
However I can send you the latest version via eMail.

Just drop me a mail at:
m a g i c 4 8 g e s [aett] g m x . d e (Remove the obvious;-)

Re: Fast editor for 48SX/GX??

*Message #10 Posted by **Raymond Del Tondo** on 26 May 2009, 7:20 p.m.,*
in response to message #9 by Raymond Del Tondo

Hello all,

meanwhile I uploaded the latest version to the hpmuseum.
Here are the links:
http://www.hpmuseum.org/guest/deltondo/speedui.pdf
http://www.hpmuseum.org/guest/deltondo/sui_905.zip

Please read the accompanying documents first.

The optional UFL isn't included in the archive yet,
but UFL can be downloaded from hpcalc.org .

Have fun:-)

Raymond

Re: Fast editor for 48SX/GX??

*Message #11 Posted by **Steve Perkins** on 26 May 2009, 7:42 p.m.,*
in response to message #10 by Raymond Del Tondo

Thank you, Raymond!

That's a very nice way to obtain your excellent program.

Re: Fast editor for 48SX/GX??

*Message #12 Posted by **Mark Edmonds** on 5 June 2009, 12:54 a.m.,*
in response to message #11 by Steve Perkins

Yes, thank you Raymond.

Mark

Re: Fast editor for 48SX/GX??

*Message #13 Posted by **Mark Edmonds** on 7 June 2009, 3:13 p.m.,*
in response to message #10 by Raymond Del Tondo

Raymond - I have installed SpeedUI and have to say how impressed I am. A spectacular piece of programming! Thank you very much for making this available.

My only small criticism is that I would like to be able to use the UI.LIB in 4-line mode and not 6 but otherwise, your work has totally changed the 48 and corrected the main flaw of the slow editor. Although it takes up a lot of memory, SpeedUI is going to be a standard component from now on!

Thanks again :)

Mark

Re: Fast editor for 48SX/GX??

*Message #14 Posted by **Mark Edmonds** on 24 May 2009, 6:25 a.m.,*
in response to message #7 by Raymond Del Tondo

Thanks Raymond. I've downloaded the version on hpcalc and I'll give it a try. Looks like it might take a lot of memory though. I'm not too familiar with libs and such so I suspect running it from a non-merged mem card might be sensible. Is that right?

Mark

> Quote:
>
> For the GX, I'd suggest to try my SpeedUI,
> an older version is available on hpcalc.org, and v9.0x from me directly,
> which includes (amongst many other things) a super fast CMD line and full screen editor replacement,
> with global multiclipboard and online browser for all built-in HP-48 cmds and fcns.
>
> HTH
>
> Raymond
>
> BTW: SpeedUI for the HP-48G+/GX is still supported and updated.

Re: Fast editor for 48SX/GX??

*Message #15 Posted by **Raymond Del Tondo** on 26 May 2009, 1:03 p.m.,*

in response to message #14 by Mark Edmonds

Hi Mark,

most of the components of SpeedUI can be run from any port,
but the configuration lib (CF.LIB) and the user interface lib (UI.LIB)
must be stored in port 0 or 1 of a GX.
For performance reasons, it's best to store all of the libs in an uncovered port (0 or 1)

As in my other posting, the latest version is not on hpcalc yet, but can be sent via eMail.

HTH

Raymond

Re: Fast editor for 48SX/GX??

*Message #16 Posted by **Egan Ford** on 26 May 2009, 3:02 p.m.,*
in response to message #1 by Mark Edmonds

For a bit of out-of-the-box thinking, you could use EMU48 for the speed, but still use your 48 as the keyboard. I have done this with the 50g, and it should work the same for the 48. See http://sense.net/~egan/skb/, section *Controlling EMU48* for details.

Re: Fast editor for 48SX/GX??

*Message #17 Posted by **Mark Edmonds** on 5 June 2009, 12:53 a.m.,*
in response to message #16 by Egan Ford

That's a very interesting idea! Thanks for the link :)

Sorry for the slow response - just been on a short holiday in France.

Mark

> Quote:
>
> For a bit of out-of-the-box thinking, you could use EMU48 for the speed, but still use your 48 as the keyboard. I have done this with the 50g, and it should work the same for the 48. See http://sense.net/~egan/skb/, section *Controlling EMU48* for details.

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128k Ram modules for HP-85B

*Message #1 Posted by **Jeff Davis** on 21 May 2009, 6:33 p.m.*

How can you verify that the HP-85B is reading the RAM modules? Is there a memory test function? Please let me know.

Re: 128k Ram modules for HP-85B

*Message #2 Posted by **Eric Smith** on 22 May 2009, 2:54 a.m.,*
in response to message #1 by Jeff Davis

It acts as an "electronic disc", so you have to use the E-Disc commands (built into the 85B, optional for the 86 and 87) to access it. I don't know the details, but it should be covered in the manuals.

Re: 128k Ram modules for HP-85B

*Message #3 Posted by **Jeff Davis** on 22 May 2009, 10:32 p.m.,*
in response to message #2 by Eric Smith

Thanks for pointing me in the right direction. I had no idea there was a e-disc on the HP-85B!

Re: 128k Ram modules for HP-85B

*Message #4 Posted by **Charles Oxford** on 22 May 2009, 10:41 p.m.,*
in response to message #3 by Jeff Davis

If you need a manual, you might find it here

`http://www.series80.org/Manuals/#Section-MainframeManuals`

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Matrix software for the 41

*Message #1 Posted by **Geir Isene** on 21 May 2009, 5:36 p.m.*

I've not been doing matrix calculations since uni, but I'm wondering about your viewpoint on which module provides the best tool set to handle matrices. We have the Advantage module, the CCD Rom, the PPC and others. Anyone up for a short review of this?

Re: Matrix software for the 41

*Message #2 Posted by **Raymond Del Tondo** on 21 May 2009, 8:26 p.m.,*
in response to message #1 by Geir Isene

The Advantage module includes the CCD module Matrix functions,
plus some more, and both can of course handle matrices in X-Memory.
The Advantage module has some more math oriented functions than the CCD module,
whereas the CCD module covers some other topics, like OS extensions, FOCAL program manipulation, etc.

A good combination would be the Advantage module and my CCD OS/X ;-)

HTH

Raymond

Re: Matrix software for the 41

*Message #3 Posted by **Angel Martin** on 22 May 2009, 1:54 a.m.,*
in response to message #2 by Raymond Del Tondo

I agree with Raymond, the Advantage's implementation is better - just because they (legally) copied the CCD's from the scratch. They (HP, that is) also added a few important utilities also in MCODE, which were sorely missing in the CCD.

In fact a Matrix-less version of the CCD Module is what I decided to do once the superiority of the Advantage in this area was clear. I took them all off and replaced them with more general-purpose functions, in an 8k module - the "Modified CCD", also at TOS.

Raymond's OS/X is of course an absolute must to have on every system, a 4k jewel with all the great OS extensions from the CCD.

I wrote a few more matrix routines using the Advantage and the Sandmath functions, they may be interesting to you as well. They're in the upper 4k of the SandMath_3 module, available at TOS. One of them I fondly remember was a brute-force eigenvalues solver using the Advantages SOLVE function, where the characteristic equation to solve involves of course calculating the determinant on each iteration... fun to watch.

Best, 'AM

Re: Matrix software for the 41

*Message #4 Posted by **Geir Isene** on 22 May 2009, 2:39 a.m.,*
in response to message #2 by Raymond Del Tondo

> Quote:
>
> A good combination would be the Advantage module and my CCD OS/X ;-)

... which incidentally is my favorite setup (CCD OS/X, ICEBOX, Advantage on a NoV-64) - but not because of the matrix functions. According to you guys I should be well set to dive into matrices once again. I should have a look at the eigenvalues solver - maybe port it to another module (ICEBOX) to not use to much memory space with the full Sandbox.

Re: Matrix software for the 41

*Message #5 Posted by **Angel Martin** on 23 May 2009, 5:07 a.m.,*
in response to message #4 by Geir Isene

Hi Geir,

The Eigenvalue solver (as well as many routines called by it and math programs) is not on the SandBox, but on the SandMath_3 - so porting it to the ICEBOX doesn't seem to be a good game plan.

There are a couple of programs in the SandMath_3 (not Valentin's) that really don't live up to the noble goal of being superb, so maybe you've got some of that kind to add to it - it'll be good. MCODE better, but not required :)

Best,

AM

Re: Matrix software for the 41

*Message #6 Posted by **Geir Isene** on 23 May 2009, 10:27 a.m.,*
in response to message #5 by Angel Martin

I will look in to this (but don't hold your breath :)

On another note, it would be great if you could help me out on filling in the blanks of the ICEBOX manual: ICEBOX page

Re: Matrix software for the 41

*Message #7 Posted by **Valentin Albillo** on 22 May 2009, 5:12 a.m.,*
in response to message #1 by Geir Isene

Hi, **Geir Isene**:

> You may also want to download and have a look at my 9-page article **Long Live the Advantage ROM!** in PDF format, which reviews its most important features and includes a sample program utilizing to the fullest some of them.
>
> It will probably give you a fair idea of what it is, what it can do, and its programming style.

Best regards from V

Re: Matrix software for the 41

*Message #8 Posted by **Ángel Martin** on 22 May 2009, 7:39 a.m.,*
in response to message #7 by Valentin Albillo

Indeed Valentin's excellent program showcases the Advantage prowess at matrix crunching..

Just to mention that it *is* also included into the SandMath_3 rom, under the POLFIT name. - so you won't have to type it in :-)

Here's the listing of the EIGEN program for your enjoyment - don't forget it's a brute-force approach, so you won't find math artistry in here... yet it's below 40 program steps.

The idea is simply to apply the definitions: solve for x so that Det([A]-x[I])= 0; where [I] is the identity matrix of same order as [A].

```
01 LBL "EIGEN"
02 "ORDER=?"
03 PROMPT
04 E
05 E3/E+
06 *
07 "AA"
08 MATDIM
09 XROM "IMR
10 DIM?
11 "!!"
12 MATDIM
13 LBL 00
14 "LOW'VAL=?"
15 PROMPT
16 "HI'VAL=?"
17 PROMPT
18 "SOLVING…"
19 AVIEW
20 "*VP"
21 SOLVE
22 TONE 4
23 "VP="
24 ARCL X
25 PROMPT
26 GTO 00
27 LBL "*VP"
28 STO 00
29 "!!"
30 XROM "MIDN"
31 RCL 00
32 "X"
33 MAT*
34 "!!,AA,!!"
35 MAT-
36 "!!"
37 MDET
38 END
```

Best, ÁM

Edited: 22 May 2009, 9:43 a.m.

Re: Matrix software for the 41

*Message #9 Posted by **Geir Isene** on 23 May 2009, 10:29 a.m.,*
in response to message #7 by Valentin Albillo

> Quote:

You may also want to download and have a look at my 9-page article **Long Live the Advantage ROM!** in PDF format, which reviews its most important features and includes a sample program utilizing to the fullest some of them. It will probably give you a fair idea of what it is, what it can do, and its programming style.

Now, *that's* a great article. Thank you very much.

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OT: Math question

*Message #1 Posted by **KC** on 20 May 2009, 2:28 a.m.*

One day when I was waiting a bus in the bus-stop, a question came to my mind: Let's say I didn't know the exact schedule of the bus, what I knew was that a bus would come every 30 min. I knew that, on average, I would need to wait 15 min. Now the fact was that on the bus-stop, there were two different-numbered buses that I could take to the destination, so my question was: assuming both buses would depart every 30 min., on average, how long would I need to wait for either bus to come? I could not figure that out instantly in my mind, so I came back home and tried to derive the formula for that. Since I'm not a Mathematics major, after quite a looooog time I came up with the following formula:

t=D/(n+1)

where t=average time to wait; D=departure time (e.g. 30 min.); n=no. of buses that I can take

Here are the questions: 1. Is my formula correct? I can only gurantee that it is correct for n=1.

2. If it was correct, it seems that it is very simple. So is there an intuitive way of thinking (and solving) the problem? Again, I can only "see" the result for n=1.

Best regards, KC

Re: OT: Math question

*Message #2 Posted by **Michael Andersson** on 20 May 2009, 4:41 a.m.,*
in response to message #1 by KC

Let's assume you have two busses, if they arrive out of phase you would have a bus every 15 min an average waiting time of 7.5 min. On the other hand if they always arrive at the same time (in phase) the average waiting time would be 15 min also for two buses. So if several buses are involved the problem seems to be much more complicated, but since I'm not a mathematician either I think someone else can give a much more detailed answer.

Best Regards
Michael

Re: OT: Math question

*Message #3 Posted by **Thomas Radtke** on 20 May 2009, 10:31 a.m.,*
in response to message #2 by Michael Andersson

> Quote:
>
> On the other hand if they always arrive at the same time (in phase) the average waiting time would be 15 min also for two buses

So it's maybe a linear problem and therefore always the avarage of the two extreme combinations?

Re: OT: Math question

*Message #4 Posted by **Michael Andersson** on 20 May 2009, 11:27 a.m.,*
in response to message #3 by Thomas Radtke

The point I was trying to make is that if you have several buses to choose from you will have a solution that depends on some kind of phase angles between the time tables. However, assuming all the time tables have been coordinated so the different buses arrive at constant intervals your solution below (t=D/2^n) should be correct. /Michael

Re: OT: Math question

*Message #5 Posted by **Thomas Radtke** on 20 May 2009, 10:25 a.m.,*
in response to message #1 by KC

Maybe t = D / 2^n

Re: OT: Math question

*Message #6 Posted by **Chuck** on 20 May 2009, 11:04 a.m.,*
in response to message #1 by KC

Here's a possibility...

suppose the the second bus arrives c minutes after the first bus. Then, c/30 of the time you would wait c/2 minutes, and (30-c)/30 of the time you would have to wait (30-c)/2 minutes. This gives your weighted-average wait time:

```
c^2    (30-c)^2         c^2 - 30c +450
---  + --------    =   ---------------
60         60                  30
```

When c=0 this gives you 15 minutes, and when c=15 you get 7.5 minutes, and all others in between. This might be correct.

CHUCK

Edited: 20 May 2009, 11:05 a.m.

Re: OT: Math question

*Message #7 Posted by **PeterP** on 20 May 2009, 11:25 a.m.,*
in response to message #1 by KC

KC,

I know very little about math so please take this with a large grain of salt (which might make it unpleasant to your pallet...)

I believe that waiting for a bus is called a poisson process and actually a quite famous question. A quick google found the following potentially interesting links and explanations:

Waiting For the Bus

The Waiting Time Paradox

Unfortunately, this google brought up another paradox that I don't understand:

> Quote:
>
> In G. Wright & P. Ayton (Eds.), "Subjective probability" (pp. 353-377). Chichester, UK: Wiley], a passenger waits for a bus that departs before schedule in 10% of the cases, and is more than 10 min delayed in another 10%. What are Fred's chances of catching the bus on a day when he arrives on time and waits for 10 min? Most respondents think his probability is 10%, or 90%, instead of 50%, which is the correct answer. The experiments demonstrate the difficulties people have in replacing the original three-category 1/8/1 partitioning with a normalized, binary partitioning, where the middle category is discarded.

Why is the correct answer 50%?

Cheers

Peter

Re: OT: Math question

*Message #8 Posted by **Jonathan Eisch** on 20 May 2009, 12:54 p.m.,*
in response to message #7 by PeterP

> Quote:
>
> Why is the correct answer 50%?

It might make more sense if you read it as: "he arrives on time and waits for *at least* 10 min?" After waiting for 10 minutes, he has already determined that the bus is not 0-10 minutes late (80% of the time). So, the remaining options are: that the bus was early (10% of the time), or the bus is more than 10 minutes late (10% of the time). Since they are equally likely, the answer is 50%.

-Jonathan

Re: OT: Math question

*Message #9 Posted by **PeterP** on 20 May 2009, 2:38 p.m.,*
in response to message #8 by Jonathan Eisch

yes, if he waits for at least 10', the answer is 50%. small words can be very important... Thnks Jonathan..

Re: OT: Math question

*Message #10 Posted by **Chuck** on 20 May 2009, 1:05 p.m.,*
in response to message #7 by PeterP

I think as soon as you bring in the variance of arrival a Poisson distribution might be needed. The assumption here is that the arrival times are fixed, and with no variance. I ran a short simulation on mathematica. This one only shows 1000 arrivals. Any more than that, the graph of the mean-wait-time is obscured by the parabola:

```
In[16]:= n = 1000;

In[17]:= arrivals = Table[Random[Real, {0, 30}], {i, n}];

In[18]:= c = 15;

In[19]:= waittimes = Table[If[arrivals[[i]] < c, c - arrivals[[i]], 30 - arrivals[[i]]],
           {i, 1, n}];

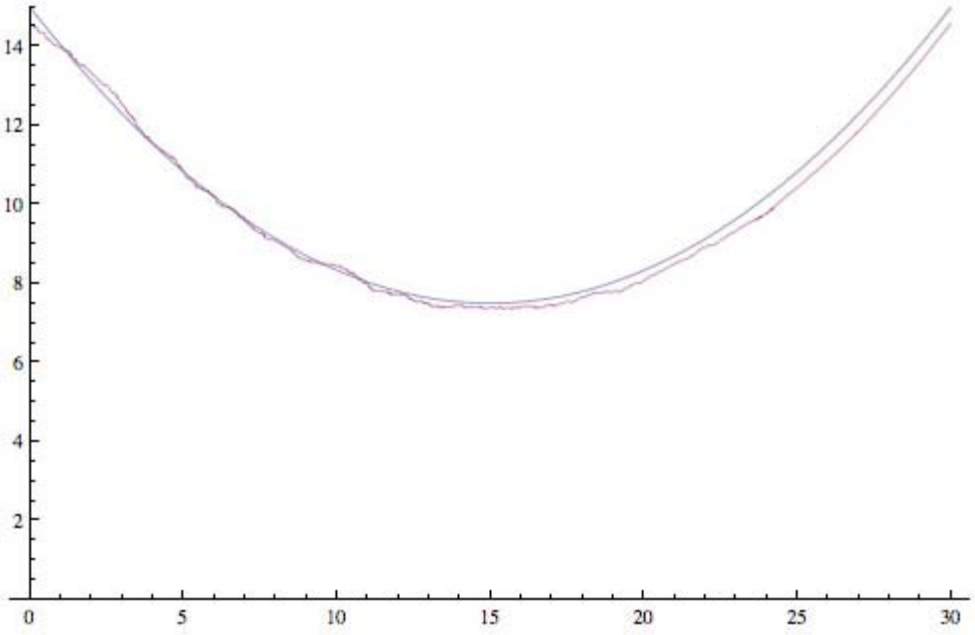
In[20]:= Mean[waittimes]
Out[20]= 7.37633

In[21]:= meanwaittime[c_] :=
          Mean[Table[If[arrivals[[i]] < c, c - arrivals[[i]], 30 - arrivals[[i]]],
            {i, 1, n}]]

In[22]:= meanwaittime[30]
Out[22]= 14.5913

In[23]:= Plot[{(x^2 - 30 x + 450) / 30, meanwaittime[x]}, {x, 0, 30},
          PlotRange → {0, 15}]
```

Out[23]=



CHUCK

Edited: 20 May 2009, 1:08 p.m.

Re: OT: Math question

*Message #11 Posted by **KC** on 21 May 2009, 1:35 a.m.,*
in response to message #10 by Chuck

Thanks for all your positive response. However, I'm still not convinced. I think the formula
t = D / 2^n
only holds true if, as Michael said, the two buses are completely out of phrase. In reality, the phrase between the two buses may be random, even if they are not supposed to be, due to complicated traffic conditions (but we can still assume that traffic conditions would not affect the frequency of the same numbered-buses since they experienced the same traffic conditions). Assuming the phrase is random, so for the case of two buses, the average waiting time should be between 7.5 and 15 min.

Best regards,
KC

Re: OT: Math question

*Message #12 Posted by **Thomas Radtke** on 21 May 2009, 5:05 a.m.,*
in response to message #11 by KC

Yes, for 2 buses, it is between 15' and 7.5'. For 3 buses, the same logic applies (D is in the range of 15' and 3.75'.

Taking the mean of both extreme conditions...

t = (D / 2 + D / 2^n) / 2

...gives a linear approximation.

Well, the trick is probably to integrate all possible phases. But wouldn't this result in the same formula? Can anyone without (unlike me) a dyscalculia enlight me? :^)

Unfortunately, with zero buses the answer would be 22'30" which makes no sense to me, so I declare n>0 ;-).

Edited: 21 May 2009, 5:06 a.m.

Re: OT: Math question

*Message #13 Posted by **Bob Wang** on 22 May 2009, 12:57 a.m.,*
in response to message #7 by PeterP

An interesting property of Poisson processes is the "Axiom of Bad Luck"

Bad Luck

Re: OT: Math question

*Message #14 Posted by **Valentin Albillo** on 21 May 2009, 9:36 a.m.,*
in response to message #1 by KC

Hi, **KC**:

Your **t=D/(n+1)** formula is correct. It can be arrived at in a number of ways, but let's try a Monte Carlo approach by running a simulation in our trusty **HP-71**.

This little 3-line (108-byte) program here will run a simulation for any given number of trials **N** and from 1 to 5 buses:

```
10 DESTROY ALL @ INPUT N @ RANDOMIZE 1 @ FOR B=1 TO 5 @ S=0
20 FOR I=1 TO N @ T=RND*30 @ FOR J=2 TO B @ T=MIN(T,RND*30) @ NEXT J
30 S=S+T @ NEXT I @ DISP USING "D,2X,2D.2D";B;S/N @ NEXT B
```

Upon running it with 1000 trials, then 100,000 (under **Emu71** to save time) we have:

```
>RUN

  ? 1000
```

```
          1   14.84
          2   10.04
          3    7.39
          4    5.98
          5    5.10

      >RUN

        ? 100000

          1   14.98
          2    9.98
          3    7.51
          4    6.02
          5    5.02
```

and the numbers clearly are going to **15, 10, 7.5, 6, and 5**, respectively, i.e. **30/2, 30/3, 30/4, 30/5, and 30/6**, thus the best fit to them is indeed your formula, **t=D/(n+1)**.

Best regards from V.

Edited: 21 May 2009, 9:39 a.m.

Re: OT: Math question

*Message #15 Posted by **Chuck** on 21 May 2009, 10:45 a.m.,*
in response to message #14 by Valentin Albillo

Aha. My quadratic gives the distribution of the wait times for two buses. The average value of the function does indeed give a mean wait time of 10 minutes for two buses.

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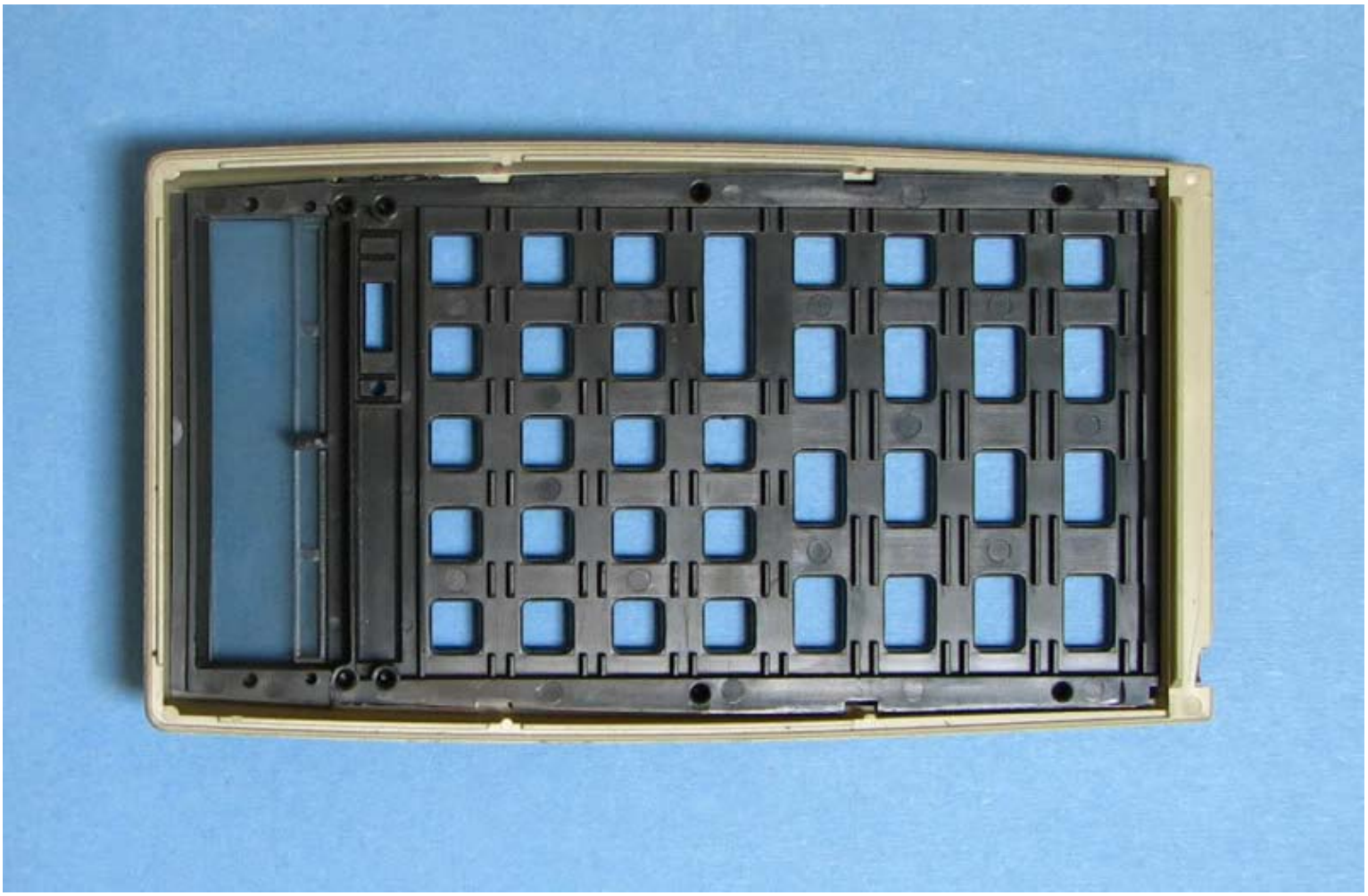
HP 35 red-dot prototype case, wohooo!!! and other pictures...Had to tell someone!!!

*Message #1 Posted by **Geoff Quickfall** on 19 May 2009, 10:07 p.m.*

I can't believe my fortune from a collector and restorer standpoint. I recieved a box of stuff in the mail containing among other things the following:

Prototype HP 35 red dot case in the original tan shell. See the HP Museum photos for the HP 35 that Dave has posted. You can see the hole just to the right of the on off switch.

Heres the top shell inside view also showing how the hole actually resides in it's little rectangular frame:



The two shells showing the insides:

Here is a later model 35 for comparison. Note the smokey LED plastic lense and the lack of silk screened labels for the keyboard bezel. Maybe I will temporarily place a spare HP 35 with labelled keys in position and take a picture of it for posterity.

Included among NOS manuals for classics, flip cards for classics, voyager manuals, HP75B leather case and cards, Hp 65 nav pac and standard pack was this beautiful NOS HP 67 case for a future project. Completely unused!!!

Top shell:

Bottom shell:

The same benefactor sent me two NOS HP 15C badges for my two HP 15C restorations bringing them up to NOS appearance:

Well there is more including some scarce brochures and manuals which I will scan for the Museum.

Thats all for now, enjoy the pictures. Any body got a spare red dot that needs a new case??????????????????????

Geoff

Re: HP 35 red-dot prototype case, wohooo!!! and other pictures...Had to tell someone!!!

*Message #2 Posted by **Johnny Bjoern Rasmussen** on 20 May 2009, 2:06 a.m.,*
in response to message #1 by Geoff Quickfall

Geoff, you're a lucky guy.

Best wishes

Johnny

Re: HP 35 red-dot prototype case, wohooo!!! and other pictures...Had to tell someone!!!

*Message #3 Posted by **Joel Setton (France)** on 20 May 2009, 4:42 a.m.,*
in response to message #1 by Geoff Quickfall

Hello Geoff,

If you have no use for that empty HP-67 case, I could certainly use it... I have repaired an HP-67 to full functionality (including the card reader with the O-ring fix), but the case is deperately beyond restoration. The silkscreened

legends (printed in blue/gold) are unreadable, which makes the calculator almost impossible to use!

Thanks,

Joel Setton

Re: HP 35 red-dot prototype case, wohooo!!! and other pictures...Had to tell someone!!!

*Message #4 Posted by **Jake Schwartz** on 20 May 2009, 3:45 p.m.,*
in response to message #1 by Geoff Quickfall

Hi Geoff,

I was wondering how different in color that prototype HP35 case was from an HP70 case...could you photograph 'em up side by side, by any chance?

Thanks,

Jake

The one classic I do not have is the HP 70! so I can't do a colour comparison!...

*Message #5 Posted by **Geoff Quickfall** on 20 May 2009, 9:29 p.m.,*
in response to message #4 by Jake Schwartz

That is the one Classic I do not have!

In fact the case was mistaken as an HP 70 without the silk screening. It wasn't until I pointed out the neat little hole to the right of the on off switch that the shell was recognized for what it really is.

If anyone has a spare HP 70 for sale, drop me a line.

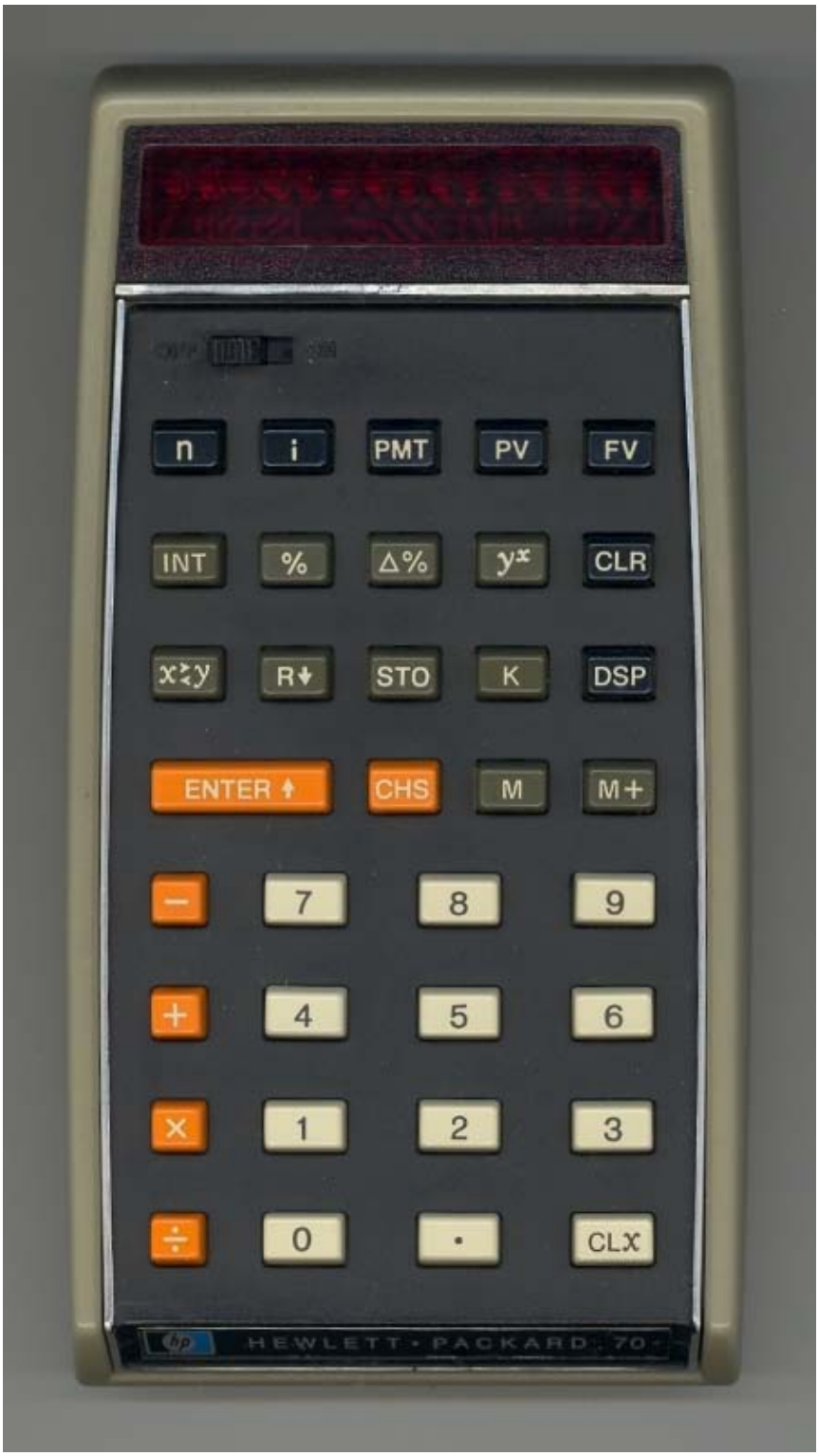
Cheers, Geoff

P.S. I will bring it with me in the fall to Vancouver, Washington.

Re: The one classic I do not have is the HP 70! so I can't do a colour comparison!...

*Message #6 Posted by **Michael de Estrada** on 20 May 2009, 10:04 p.m.,*
in response to message #5 by Geoff Quickfall

This photo suggests the colors are different



Clearly Not An HP70

*Message #7 Posted by **Jake Schwartz** on 20 May 2009, 10:04 p.m.,*
in response to message #5 by Geoff Quickfall

Hi Geoff,

Thanks....There is another way to tell that this was not an HP70 beside the hole for the "red dot"...The openings for the top rows of keys were the small ones for the original square HP35 keys with no labels, rather than those from the later versions with the funtion labels on the wider key tops.

Jake

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uWatch2 Front Panel

*Message #1 Posted by **DaveJ** on 19 May 2009, 6:59 p.m.*

It's looking like I might now be limited to 24 keys with 7mm spacing, so I have been thinking adding some shift functions might be the way to go, so here is my first attempt:

Or do people think the display now looks too cluttered?
(The fonts need some trimming etc, it's just an example) Shift functions allow easy access to most needed functions without resorting to any menu system.

You could of course go berserk with multiple shift functions etc, but I think that's way too much.

The display window is now a different ratio to accommodate a new LCD I'm getting. If it doesn't work out I'll have to go back to the previous squarer shaped one, and that will cramp things a bit.

Due to the lack of keys, side function buttons have been dropped in favor of 4 above the display. This will work better in practice anyway.

Sorry, alpha keypad support is gone.

As usual, comments and passionate discussion invited :->

Dave.

Edited: 19 May 2009, 7:02 p.m.

Re: uWatch2 Front Panel

*Message #2 Posted by **Marcus von Cube, Germany** on 20 May 2009, 2:50 a.m.,*
in response to message #1 by DaveJ

I think you can get away with <ENG> conversions and put PI on the keyboard instead. Replace <ENG with a DISP key which shows a menu in the top row but can be easily followed by a digit to set the display precision without changing the display mode. Holding the key down for half a second could be used to show full precision numbers temporarily.

Your design lacks the arrow keys. :(

Re: uWatch2 Front Panel

*Message #3 Posted by **DaveJ** on 20 May 2009, 7:56 a.m.,*
in response to message #1 by DaveJ

Or hows about a new 40mm x 40mm case version with 24 keys:

Dave.

Re: uWatch2 Front Panel

*Message #4 Posted by **Jeff O.** on 20 May 2009, 12:39 p.m.,*
in response to message #3 by DaveJ

I think I like this one. Let's see, 40 mm is 4 cm, which is about 1.6 inches (my apolgies to the metricated world). Wow, that's tiny. Smaller than the small dimension of uWatch1.

I didn't think about the keyboard layout yet, I'll let you know if I come up with anything.

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PPC vs. CCD vs. ZENROM module

*Message #1 Posted by **Nik Brem** on 19 May 2009, 6:27 p.m.*

Could anyone help me by comparing the modules PPC, CCD and ZENROM. Which one is the best? What differs and what do they have in common?

Thanks, Niklas

Re: PPC vs. CCD vs. ZENROM module

*Message #2 Posted by **Raymond Del Tondo** on 19 May 2009, 7:07 p.m.,*
in response to message #1 by Nik Brem

The modules you request have different focuses. In short words:

PPC: Completely FOCAL with Synthetics, various apps, like plotting, root finding, etc, and many utility fcns (mosty synthetic)

ZENROM: Completely in ML. Targeted at the ML and synthetic programmer.

CCD: Completely in ML. Targeted at the programmer _and_ the user. Unique user interface extensions (CAT,ASN,XEQ, direct synthetics), I/O fcns, PEEK/POKE, Matrix fcns, and much more.

You could take a look at the appriorate user manuals at TOS to compare the features in detail.

My favourite is the CCD module, and the CCD OS/X (of course;-)

HTH

Raymond

Re: PPC vs. CCD vs. ZENROM module

*Message #3 Posted by **jotne** on 21 May 2009, 9:02 a.m.,*
in response to message #2 by Raymond Del Tondo

My favorite is also the CCD

PPC is just a bunch of programs.

CCD is much more. It do also change how the CAT menu works.

You can also type the synthetic program codes directly like RCL-b etc.

Edited: 21 May 2009, 9:03 a.m.

Re: PPC vs. CCD vs. ZENROM module

*Message #4 Posted by **Nik Brem** on 24 May 2009, 7:00 p.m.,*
in response to message #3 by jotne

Is it possible to buy the ccd module anywhere else than on eBay? It seems to be rare there...

Re: PPC vs. CCD vs. ZENROM module

*Message #5 Posted by **ZOleg** on 24 May 2009, 8:06 p.m.,*
in response to message #4 by Nik Brem

Bye NoV-64 or MLDL2000 and you may use any ROM for HP-41.

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41SIMON [The Game]

*Message #1 Posted by **Saile (Brazil)** on 19 May 2009, 3:51 p.m.*

```
41SIMON


Instructions:


XEQ ALPHA SM ALPHA


Repeat the sequence of the shown numbers the fastest possible
When misses the sequence or to be long to type the sequence will show the number of points
Welcome improvement and optimization :-)


Have fun !!!


01 LBL 'SM'
02 'READY?'
03 AVIEW
04 PSE
05 CLA
06 LBL 00
07 RNDM
08 9
09 *
10 1
11 +
12 ARCLI
13 AVIEW
14 PSE
15 ANUM
16 X=Y?
17 GTO 00
18 ALENG
19 CLA
20 ARCLI
21 ':- POINTS'
22 BEEP
23 PROMPT
```

Edited: 19 May 2009, 5:05 p.m.

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Found a use for a dead 10-B (doing happy dance)

*Message #1 Posted by **htom trites jr** on 19 May 2009, 12:35 p.m.*

One of the few dead HP calculators I own is a 10-B; I've ignored it. Today, though, I found an HP-42s at the local thrift shop, missing the case and battery compartment cover, it was priced at $us1.99. The battery cover and case from the dead 10-B fit perfectly; is there some difference (transparancy) that I should be concerned about?

Re: Found a use for a dead 10-B (doing happy dance)

*Message #2 Posted by **Katie Wasserman** on 19 May 2009, 1:01 p.m.,*
in response to message #1 by htom trites jr

Wow, what a find! All the pioneer battery covers are the same and are transparent to IR, you should be all set.

Re: Found a use for a dead 10-B (doing happy dance) ; fix 42s

*Message #3 Posted by **htom trites jr** on 21 May 2009, 8:47 a.m.,*
in response to message #2 by Katie Wasserman

Thanks. Trying several got one that was a good fit. (The first one I tried kept hopping up about a sixteenth of an inch.) Passes all tests, just needed new batteries.

Re: Found a use for a dead 10-B (doing happy dance) ; fix 42s

*Message #4 Posted by **Les Wright** on 26 May 2009, 12:21 a.m.,*
in response to message #3 by htom trites jr

About three years ago I overpaid exorbitantly (about $400USD including shipping) for a well worn 42S with box and manual just for the sake of having it, and I don't even use it (various Free42 simulators on Palm, Windows, Linux, and now iPhone have replaced it). So I think you got a really good deal.

Re: Found a use for a dead 10-B (doing happy dance) ; fix 42s

*Message #5 Posted by **htom trites jr** on 26 May 2009, 3:49 p.m.,*
in response to message #4 by Les Wright

Gulp! That's ... a lot of money to pay for a calculator that you're not going to use. I use Free42 on a bunch of things and recommend it to those who use RPN. I discovered the problem with the cover fit was that one of the battery springs was protruding; pushing it down with my thumb, all of the covers now fit and stay down.

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Found a use for a dead 10-B (doing happy dance)

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Video Instructions

*Message #1 Posted by **designnut** on 19 May 2009, 11:26 a.m.*

I have a huge stack of books for the 50G, it is still a bitch to learn from scratch. I was given a MIO car GPS unit and it was usable but the book awful. I actually found a video instruction set for it that made it so much more valuable. It made me wonder whether HP should turn to video instructions instead of what they are using now. Sam

Re: Video Instructions

*Message #2 Posted by **hpnut** on 19 May 2009, 12:20 p.m.,*
in response to message #1 by designnut

Good idea, Sam. now there are some videos on YouTube but they can't be called instructional.

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HP34C Black Scholes Model

*Message #1 Posted by **Ed Austin** on 18 May 2009, 5:14 p.m.*

Hi there

I am looking for Option pricing Models for my HP34C (might as well use it in the field!) - is the HP12C instruction set compatible - as the 12C has financial models plentiful. If only a few instructions are different I'd just convert... if not.. I might have to convert whole programs...

Many thanks!

Ed

Re: HP34C Black Scholes Model

*Message #2 Posted by **Gene Wright** on 18 May 2009, 5:43 p.m.,*
in response to message #1 by Ed Austin

That's a whole lot of work to use a hard to replace 34c for something a $30 HP 12c can do all day long.

Why not just pick up a used 12c, put in the already written black-scholes option pricing program into it, and use that in the field?

That program is in the 12c platinum solutions book, available in PDF form on HP's website (assuming the links work - you never know with HP's website these days).

Why do this on a 34c? Why risk a 34c out and about in the field?

Re: HP34C Black Scholes Model

*Message #3 Posted by **Ed Austin** on 18 May 2009, 7:40 p.m.,*
in response to message #2 by Gene Wright

Hi Gene

I take care of the 34C even in the field :) Still has its original soft pouch!

You do have a point though - and perhaps I will pick up a 12C (or 41 series) and keep the 34C at home for computation!

Many thanks Ed

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Did everyone miss this? Wolfram Alpha now LIVE.

*Message #1 Posted by **Pal G.** on 18 May 2009, 3:56 p.m.*

A new kind of search engine...

http://www.wolframalpha.com/

Enjoy,
PG

Re: Did everyone miss this? Wolfram Alpha now LIVE.

*Message #2 Posted by **Chuck** on 18 May 2009, 4:06 p.m.,*
in response to message #1 by Pal G.

I've been playing with it:

```
integrated functions
plot 2D and 3D fucntions
solved 2nd order differential equations
found laplace and inverse laplace transforms
create a star chart
found the atomic structure for caffeine
compared stocks....
```

and all on my **ipod touch!!!!** That's power, baby. And never ending fun!

Re: Did everyone miss this? Wolfram Alpha now LIVE.

*Message #3 Posted by **Katie Wasserman** on 18 May 2009, 4:43 p.m.,*
in response to message #2 by Chuck

It does lots of mathematics to be sure and knows a good bit about physical proprieties of natural and artificial things but it doens't know anything about HP calculators not even stuff it should know about like CORDIC algorithms -- I'm very disappointed.

Re: Did everyone miss this? Wolfram Alpha now LIVE.

*Message #4 Posted by **Nigel Bamber** on 19 May 2009, 1:34 a.m.,*
in response to message #3 by Katie Wasserman

Katie

Please excuse my ignorance but what is a CORDIC algorythm ?

Nigel

Re: Did everyone miss this? Wolfram Alpha now LIVE.

*Message #5 Posted by **Thomas Okken** on 19 May 2009, 9:58 a.m.,*
in response to message #4 by Nigel Bamber

They're very elegant and efficient algorithms for calculating transcendental functions (trigonometric functions and others). These algorithms made it possible for the HP-35 to have a full set of trigonometric and logarithmic functions despite its small amount of memory. See CORDIC in Wikipedia for more information.

Re: Did everyone miss this? Wolfram Alpha now LIVE.

*Message #6 Posted by **Juergen Keller** on 18 May 2009, 4:42 p.m.,*
in response to message #1 by Pal G.

It is really smart i.e., it knows the answer to the following questions:

1) The Answer to the Ultimate Question of Life, the Universe, and Everything?

2) How many roads must a man walk down before you can call him a man?

:-)

And of course, it knows the answer to more serious questions...

Juergen

Re: Did everyone miss this? Wolfram Alpha now LIVE.

*Message #7 Posted by **Chuck** on 18 May 2009, 5:43 p.m.,*
in response to message #6 by Juergen Keller

...and if you've ever wondered how much wood a woodchuck can chuck....

of course I know this one already. :)

CHUCK

Re: Did everyone miss this? Wolfram Alpha now LIVE.

*Message #8 Posted by **Allen** on 18 May 2009, 11:27 p.m.,*
in response to message #1 by Pal G.

It does not know what to do with John 3:16. .. That's a number. hmm.

Re: Did everyone miss this? Wolfram Alpha now LIVE.

*Message #9 Posted by **BruceH** on 21 May 2009, 6:52 p.m.,*
in response to message #8 by Allen

> Quote:
>
> It does not know what to do with John 3:16. .. That's a number. hmm.

It should return this.

Re: Did everyone miss this? Wolfram Alpha now LIVE.

*Message #10 Posted by **Valentin Albillo** on 19 May 2009, 6:49 a.m.,*
in response to message #1 by Pal G.

Hi **Pal G**:

Really, really nice, thanks a lot for letting us know, much appreciated ! :-)

Its mathematical capabilities are really astounding. I've tried a number of examples I've concocted myself that some of you might want to try in order to see the nice results, just copy-paste each line in its turn and don't forget to use the "More digits" option:

1) solve **LOG(PI^e+1491/505*LOG(x)^4)-PI=0**

A nice symbolic representation and 4 roots, the real ones being:

X = **0.500000000**51903

X = **1.999999999**79239

2) solve **(2002/X)^7+(2002/X)-71=0**

Six complex roots and the real one:

X = **1093.0000000**7366+

3) solve **GAMMA(X)-85/31=0**

5 real roots displayed and among them

X = **0.3259999**53+

4) solve **X^5+X+6=0**

5 roots (4 complex, one real), all of them returned in both numeric and fully symbolic form

Best regards from V.

Re: Did everyone miss this? Wolfram Alpha now LIVE.

*Message #11 Posted by **Namir** on 19 May 2009, 10:53 a.m.,*
in response to message #1 by Pal G.

Awsome site! I tried several examples for solving equations. Got the results I was looking for. You sometimes have to put the equation in a certain form to get the solution. for example:

solve log(X^4)-X=0

Does not give numerical roots, while:

solve 4*log(X)-X=0

Does give the two roots.

Namir

Re: Did everyone miss this? Wolfram Alpha now LIVE.

*Message #12 Posted by **Jake Schwartz** on 19 May 2009, 4:14 p.m.,*
in response to message #11 by Namir

It's funny....I typed in "googol" and it returned 10^100 in decimal, binary and prime factors, etc.

Then I typed in "google" and it returned the current value of Google stock and all sorts of info on the company :-)

Pretty slick.

Jake

very limited use IMHO

*Message #13 Posted by **Frank Boehm (Germany)** on 20 May 2009, 8:45 a.m.,*
in response to message #1 by Pal G.

and some funky responses

http://www72.wolframalpha.com/input/?i=wolfram+death

http://www72.wolframalpha.com/input/?i=alpha+beta

Well, if you are into maths, it's nice. If you need some statistic data tables, it's nice. For everything else, it seems to lack a bit of contents...

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HP LED displays

*Message #1 Posted by **Richard Ottosen** on 17 May 2009, 11:50 a.m.*

Recently, a friend was showing off some old electronic parts he had accumulated over the years. What caught my eye were some 3-digit 7-segment displays. They are marked HP 5082-7433.

I am curious if these are the same parts used in any of the early HP calculators.

-- Richard

Re: HP LED displays

*Message #2 Posted by **Randy** on 17 May 2009, 4:46 p.m.,*
in response to message #1 by Richard Ottosen

Some classics used 1990-0335, later units 5082-7405. There are five digits in these packs so the three digit version you have would not be compatible.

Edited: 17 May 2009, 6:09 p.m. after one or more responses were posted

Re: HP LED displays

*Message #3 Posted by **Katie Wasserman** on 17 May 2009, 5:55 p.m.,*
in response to message #2 by Randy

They must have mad a ton of different versions of various LED displays. I have the pretty neat "thing" that they made to showcase some of their LED displays of various types. It makes a great centerpiece for my calculator collection, here are some pics:

HP LEDs 1

HP LEDs 2

HP LEDs 3

HP LEDs 4

HP LEDs 5

HP LEDs 6

Edited: 21 May 2009, 11:00 p.m. after one or more responses were posted

Re: HP LED displays

*Message #4 Posted by **Michael de Estrada** on 17 May 2009, 8:22 p.m.,*
in response to message #3 by Katie Wasserman

Interesting. The power receptacle looks similar to the one on my HP Model 46, which has a fuse and reversible voltage selector card (120/240). Is it?

Also, while on the topic of the HP 46 (and HP 81 as well), I found a cheaper and more available printer ribbon than the Porelon 483-B/R. It is the Nu-kote NK80BRC and cost me $2.99 at Office Depot.

Thanks for the neat photos.

Michael

Re: HP LED displays

*Message #5 Posted by **Katie Wasserman** on 18 May 2009, 10:02 a.m.,*
in response to message #4 by Michael de Estrada

> Quote:
>
> The power receptacle looks similar to the one on my HP Model 46, which has a fuse and reversible voltage selector card (120/240). Is it?

Yes, it looks like this display board uses the same power connector as the 46 and 81 do. My guess is that this display board was built in the late 1970's near or after the end of the 46 and 81 production cycles. It has a non-standard HP serial number, 332-2, I can't tell the date from that.

Re: HP LED displays

*Message #6 Posted by **Richard Ottosen** on 19 May 2009, 12:21 p.m.,*
in response to message #3 by Katie Wasserman

Awesome pictures, Katie. Thanks.

I am curious what the BNC connector is for. Any ideas?

-- Richard

Re: HP LED displays

*Message #7 Posted by **Katie Wasserman** on 19 May 2009, 1:06 p.m.,*
in response to message #6 by Richard Ottosen

I'm not sure what the BNC connector is for, it reads as a flat 5 VDC. It might be for some 5 volt add-on device but that would a really strange connector to use. I need to take it apart to see what's going on in there.....

Re: HP LED displays

*Message #8 Posted by **Michael de Estrada** on 19 May 2009, 1:18 p.m.,*
in response to message #7 by Katie Wasserman

Cable TV? :D

Re: HP LED displays

*Message #9 Posted by **Gerry Schultz** on 19 May 2009, 1:41 p.m.,*
in response to message #7 by Katie Wasserman

Yeah, it could be used to feed 5v and data to an external device. I'm wondering, could it be used to load data INTO the displays from an external device like a keyboard?

Gerry

Re: HP LED displays

*Message #10 Posted by **Tony Duell** on 21 May 2009, 9:14 a.m.,*
in response to message #7 by Katie Wasserman

Some HP logic probes had a BNC plug on the end of the cable for the 5V (and ground) connection. And thus some HP instruments have such a socket to plug the logic probe into when you're testing them.

I know my 6940B Multiprogrammer has one inside the front door, and my 59403 Common Carrier interface has one on the back. I am told the I/O module extenders for the HP98x0 and 98x5 series have such connectors too, but I've not obtained those (yet!)

Re: HP LED displays

*Message #11 Posted by **Katie Wasserman** on 21 May 2009, 11:03 p.m.,*
in response to message #10 by Tony Duell

Tony,

Yes, I think that's it. The BNC connector is hooked directly to the +5V on the power supply board. Here's a picture of the inside of the display:

HP LEDs 6

The date codes on the chips indicate that this was likely made in early 1983, I thought it would have been made earlier, but I guess the smart LED displays that it shows off must have been hot items around that time. It's running a 6802 microprocessor with 8K bytes of EPROM, not exactly state of the art in 1983 but it got the job done.

-Katie

Edited: 21 May 2009, 11:10 p.m.

Re: HP LED displays

*Message #12 Posted by **Richard Ottosen** on 19 May 2009, 12:27 p.m.,*
in response to message #2 by Randy

> Quote:
>
> There are five digits in these packs so the three digit version you have would not be compatible.

I think my freind may be more than a little relieved that they are not usable in a calculator. He seemed a bit nervous when I borrowed them.

-- Richard

Re: HP LED displays

*Message #13 Posted by **Andrés C. Rodríguez (Argentina)** on 18 May 2009, 7:37 a.m.,*
in response to message #1 by Richard Ottosen

There were small HP LED displays in 3, 4 and 5-digit clusters. The last was the type used in Classic calculators. I still have some of each variant, I bought them as a small surplus lot (may be from Jameco, not 100% sure) by mail around 1977; however some of them have non-working decimal points.

Please feel free to correct mistakes in this message if you think it will be for good.

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Where the new HP 12C+ ?

*Message #1 Posted by **Jose Ernesto** on 17 May 2009, 9:51 a.m.*

I've been following the threads on the characteristics and availability of the new HP 12C+. I was able to me one of those here in Sao Paulo, for something around US$ 85.00. It came with a manual in Portuguese and behaves exactly as mentioned in this Forum. And exactly as was mentioned, it emulates in detail the original features of the original model, including less memory and functions than the "silver" models. If it didn't have the double battery cover, the astonishing speed and the smell of brand new thing, you couldn't it from the old series HP12 C.

Regards from Brasil

Jose Ernesto

Re: Where the new HP 12C+ ?

*Message #2 Posted by **Don Shepherd** on 17 May 2009, 11:53 a.m.,*
in response to message #1 by Jose Ernesto

Jose, one thing that is different with the new 12c is that it does not have the bug that was in the original 12c regarding not displaying "running" if your program has a clear sigma instruction. This is a good thing.

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Atmel ARM7 LCD driver: alphanumeric display

*Message #1 Posted by **Michele Signorini** on 15 May 2009, 5:09 a.m.*

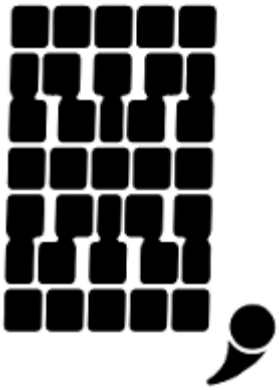
As already discussed, using the Atmel ARM7 cpu in the voyager line opens the exciting possibility to resurrect the beloved hp 15c. The largest limitation of the machine would be, as was in 1982, the simple 10 characters numeric display: I would like to discuss [again] about using the 400 pixel display driver of the cpu to control an alphanumeric display.

With a 5x7 dot matrix design, we could get one line of 10 characters with dots/commas (370px) plus 30 annunciators: probably, only 10 characters are not very suitable for complex number handling, equations editing or soft menu implementation.

With a 14 segments design, we could get up to two lines of 12 characters each with dots/commas (384px) plus 16 annunciators: quite good, but the dimensions of the voyager case (without any redesign) fits better a single line display. Furthermore, segmented displays are quite limited in font set.

I propose here an hybrid 5x5 "quasi" dot-matrix design, on which we could fit one line of 14 characters with dots/commas (378px) plus 22 annunciators. This design is probably not original, but I am not able to remeber where I saw it (maybe a VCR, dvd player or car audio display...). Here you see the configuration of the character matrix, a proposed character set and a picture of an hp 15c (original picture from the Museum, by Dave Hicks) showing an equation. It has already been discussed about the availability of large dot matrix displays with integrated driver chip (like on the Smartcalc 300s), but consider the dimensions constraints to fit a voyager case.

Comments are welcome!



Re: Atmel ARM7 LCD driver: alphanumeric display

*Message #2 Posted by **DaveJ** on 15 May 2009, 6:15 a.m.,*
in response to message #1 by Michele Signorini

Are you talking about a real hardware PCB upgrade?, or just dreaming about something you would like HP to do?

If you are talking about a real hardware upgrade then details have been discussed a fair bit before for a 15C. From memory a suitable 2 line by 40 character display was looked at. And from my recent uWatch2 LCD investigations, there would likely be more options available.

Replacing a 10 character segment display with a single line 14 character dot matrix display isn't much of an

upgrade IMO. Any hardware upgrade would ditch the built-in ARM LCD driver for sure.

Dave.

Re: Atmel ARM7 LCD driver: alphanumeric display

*Message #3 Posted by **Egan Ford** on 15 May 2009, 11:48 a.m.,*
in response to message #2 by DaveJ

> Quote:
>
> Are you talking about a real hardware PCB upgrade?, or just dreaming about something you would like HP to do?

My guess. Dreaming. That display would imply added functions, so a different calculator and a different case to leverage the added functions. It would have limited use with existing ROM images. But for a new calculator I like it, but I prefer the flexibility of a regular dot-matrix. Take the existing 35s. The dot-matrix display is not contiguous limiting the possibility of a 42S style menu system.

If I were to build a fantasy calculator with limited new stuff, then I'd start with the existing 17BII+ display. It has all the announcers you'll need and has a contiguous dot-matrix display.

If I wanted something a bit larger, then start with any 48/49/50 series display. Both the 17BII+ and 48-50 displays are still being manufactured. Unsure how you'd get such a display outside of HP.

Re: Atmel ARM7 LCD driver: alphanumeric display

*Message #4 Posted by **Eric Smith** on 15 May 2009, 5:18 p.m.,*
in response to message #2 by DaveJ

He's talking about what could be done with the new AT91SAM7L128-based 12C platform, by only replacing the display glass. (Well, the display glass would have more electrical contacts, so the PCB layout would have to be revised too.)

The point is that HP is standardizing on the AT91SAM7L128 for midrange calculators, so they're more likely to do build new products that don't require a separate LCD driver chip.

Re: Atmel ARM7 LCD driver: alphanumeric display

*Message #5 Posted by **Michele Signorini** on 18 May 2009, 10:09 a.m.,*
in response to message #4 by Eric Smith

Right, Eric: my investigation was about replacing the only display glass, which will obviously require a PCB revision. No other hardware or physical changes (add lcd drivers or change case dimensions to fit larger displays), unless keytop labels. I think this would be a viable industrial way to get a modern small calculator.

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HP-71 trouble

*Message #1 Posted by **ZOleg** on 14 May 2009, 8:54 p.m.*

I have HP-71B 2CCCC with FORT/HP41 rom, Surveying rom and +32Kb ram mounted internaly in calc and 128Kb ram, 64Kb ram and HP-IL in ports.
I typed and run **SYSTCAT** program from **HP-71 Users Library Solution Utilities** book, but after few seconds i get this error:
Err:L210 File protected
I think this is FORT or Surveying rom memory area.
How to get access to protected memory area in HP-71?

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OT: DIY Oscilloscope

*Message #1 Posted by **Egan Ford** on 14 May 2009, 5:28 p.m.*

http://www.wired.com/gadgetlab/2009/05/diy-oscilloscope-is-awesomely-affordable/

Re: OT: DIY Oscilloscope

*Message #2 Posted by **DaveJ** on 14 May 2009, 6:02 p.m.,*
in response to message #1 by Egan Ford

> Quote:
>
> http://www.wired.com/gadgetlab/2009/05/diy-oscilloscope-is-awesomely-affordable/

Hmm...
200KHz single shot bandwidth, no BNC connector, 256 byte memory, external supply, no case.
I think your money is much better spent elsewhere.

Dave.

Re: OT: DIY Oscilloscope

*Message #3 Posted by **Steve Simpkin** on 14 May 2009, 11:43 p.m.,*
in response to message #2 by DaveJ

Pretty cool for the price but for only a bit more ($135 + shipping) you can can get a complete portable scope with the following features:

* 10MHz sampling rate * 0.1mV sensitivity * up to 2MHz analog bandwidth * 5mV to 20V/div in 12 steps * 200ns to 1hour/div time base in 32 steps * full auto set up * trigger mode: run, normal, once, roll, slope +/- * X and Y position signal shift * DVM readout with x10 option * audio power calculation (rms and peak) * dBm, dBV, DC, rms ... measurements * signal markers for Volt and Time * frequency readout (through markers) * recorder function (roll mode) * signal storage (2 memories) * LCD: 128x64 pixels / high-contrast * up to 20h on alkaline batteries

http://tinyurl.com/pqr6gc

Re: OT: DIY Oscilloscope

*Message #4 Posted by **DaveJ** on 15 May 2009, 12:11 a.m.,*
in response to message #3 by Steve Simpkin

Exactly.
No point getting something for a bargain price if it's not going to meet your basic needs.
That Velleman is infinitely more usable and better value for money.

Dave.

Re: OT: DIY Oscilloscope

*Message #5 Posted by **Martin Pinckney** on 14 May 2009, 6:17 p.m.,*
in response to message #1 by Egan Ford

Just for kicks, can one of you electronic wizzes figure out how to hack a connection to display this things output on a 48 screen? (I mean with it still remaining a functioning calculator)!

Re: OT: DIY Oscilloscope

*Message #6 Posted by **DaveJ** on 14 May 2009, 6:33 p.m.,*
in response to message #5 by Martin Pinckney

> Quote:
>
> Just for kicks, can one of you electronic wizzes figure out how to hack a connection to display this things output on a 48 screen? (I mean with it still remaining a functioning calculator)!

Add a serial port to the scope, hook up serial cable, hack some firmware. Entirely possible.

Dave.

Re: OT: DIY Oscilloscope

*Message #7 Posted by **John Robinson** on 14 May 2009, 7:04 p.m.,*
in response to message #1 by Egan Ford

Where do you get one from ? it's not obvious from the article

Cheers, John

Re: OT: DIY Oscilloscope

*Message #8 Posted by **Paul Dale** on 14 May 2009, 7:05 p.m.,*
in response to message #7 by John Robinson

Try the *Product Page* link at the bottom of the article.

- Pauli

Re: OT: or a Streamsmart 400 + a 40gs??

*Message #9 Posted by **Allen** on 14 May 2009, 7:27 p.m.,*
in response to message #8 by Paul Dale

Could one not use a Stream Smart 400 and a 40gs?

Edited: 14 May 2009, 7:28 p.m.

Re: OT: or a Streamsmart 400 + a 40gs??

*Message #10 Posted by **Dave Shaffer (Arizona)** on 14 May 2009, 9:32 p.m.,*
in response to message #9 by Allen

Quote:

Easily collect data points at up to 5,700 samples/second

Copied from the Stream Smart 400 reference.

Unless you are doing very low speed stuff, I don't think you would be very happy at this data rate.

I got a pretty nice 100 MHz Tektronix dual-trace scope on ebay a couple of years ago for around $200, including shipping, so I tend to agree with DaveJ - spend a few bucks more, and get a real scope! (My latest ebay toy is a 1.8 GHz spectrum analyzer. I'm having GREAT fun with it!)

Re: OT: or a Streamsmart 400 + a 40gs??

*Message #11 Posted by **agodwin** on 15 May 2009, 1:44 p.m.,*
in response to message #10 by Dave Shaffer (Arizona)

I dunno - I've got lots of lovely old analog scopes and I wouldn't let them go. They all cost less than $400, too. But this is nice and small and portable and $35 really isn't very much. I could be tempted to have a play.

Though a scope module for a 50g (that lets you do something with the data you read) would be a much nicer idea.

Re: OT: or a Streamsmart 400 + a 40gs??

*Message #12 Posted by **Egan Ford** on 15 May 2009, 4:51 p.m.,*
in response to message #11 by agodwin

Quote:

But this is nice and small and portable and $35 really isn't very much. I could be tempted to have a play.

That was the point of my original post. It was my no means a contender for a *real* scope. It's a DYI project with open source software just like uWatch. Something to play with and learn from.

Re: OT: DIY Oscilloscope

*Message #13 Posted by **Thomas Radtke** on 16 May 2009, 8:22 a.m.,*
in response to message #1 by Egan Ford

I was about ordering one. Unfortunately, both the kit and the assembled oscilloscopes were out of stock. It seems the have some supply difficulties as a new batch were announced for somewhere in April.

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Bug in article 893? (HP 35s Triangle solver)

*Message #1 Posted by **Dave Britten** on 13 May 2009, 9:09 p.m.*

In article 893, there's a rather nice triangle solver, though I think there's an error in the calculation of the 2nd SSA solution (menu option 6). Observe this bit of code:

```
T096    CF 10
T097    EQN ASIN(S/R*SIN(U))
T098    STO V
T099    EQN ACOS(-COS(U+V))
T100    STO W
T101    FS? 1
T102    GTO T084
T103    EQN ACOS(1)-W
T104    STO W
T105    GTO T084
```

I see two problems with this. First, ACOS(1) is always zero, so W (angle 3) is just negated, whereas it should be replaced with its supplement(ACOS(-1)-W).

The second problem is that it's actually angle 2 (V) that needs to be replaced with its supplement, not angle 3 (W).

I've made the following changes. Anybody care to confirm that this makes sense? It looks like I'm getting the correct results now.

```
T096    CF 10
T097    EQN ASIN(S/R*SIN(U))
T098    STO V
T099    FS? 1
T100    GTO T103
T101    EQN ACOS(-1)-V
T102    STO V
T103    EQN ACOS(-COS(U+V))
T104    STO W
T105    GTO T084
```

-Dave

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Checking my daughter's homework

*Message #1 Posted by **Sancerre (Phoenix)** on 12 May 2009, 6:59 p.m.*

My daughter asked me to go over her homework. Today's lesson covered operations with fractions. After going through the work manually, we took out our calculators to check the work. I do most of my work on my 50G, but chose my 35s since it is so easy to enter/calculate/display fractions.

We looked at the following problem: 1/5 + 3 7/8 (that is one fifth plus three and seven eights).

Our manual solution was 3 3/40.

However, the 35s came out with 3 1/13.

Naturally, this wasn't a good thing with my 10 year old daughter watching. So, we did the same calculation on her Smartcalc 300s. The 300s confirmed our manual result. I then entered the calculation as an equation on my 50g, it came back with the same answer as the 300s.

So, how come the 35s came back with a different solution? I must be making some stupid mistake (it has been a long day!). Or, is this some display setting with fractions on the 35s?

--Tod

Re: Checking my daughter's homework

*Message #2 Posted by **Sancerre (Phoenix)** on 12 May 2009, 7:23 p.m.,*
in response to message #1 by Sancerre (Phoenix)

Sorry, it has been a long day. The answer(s) are 4 3/40 or 4 1/13.

Re: Checking my daughter's homework

*Message #3 Posted by **Paul Dale** on 12 May 2009, 7:30 p.m.,*
in response to message #1 by Sancerre (Phoenix)

You've probably (accidentally) set a small maximum denominator via the /c command. Try 100 /c and see what result it gives.

0 /c should reset to maximum.

Remember the 35s doesn't do real fraction like the 48 series.

- Pauli

Edited: 12 May 2009, 7:32 p.m.

Re: Checking my daughter's homework

*Message #4 Posted by **Sancerre (Phoenix)** on 12 May 2009, 7:50 p.m.,*
in response to message #3 by Paul Dale

Yes, that was the answer. Thanks for the fast response.

--Tod

Re: Checking my daughter's homework

*Message #5 Posted by **Thomas Radtke** on 13 May 2009, 7:06 a.m.,*
in response to message #4 by Sancerre (Phoenix)

There are two (easy to overlook) indicators to the right, showing up when the true result is smaller or larger than the fraction shown.

Edited: 13 May 2009, 7:06 a.m.

Re: Checking my daughter's homework

*Message #6 Posted by **Bernard Rochlin** on 12 May 2009, 7:31 p.m.,*
in response to message #1 by Sancerre (Phoenix)

Your answer should be 4 3/40 On the HP50g one enters 5 1/x then 3 7 8 / + PROPFRAC PROPFRAC

Edited: 14 May 2009, 7:54 p.m.

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i41CX+ 2.0 Released.

*Message #1 Posted by **Egan Ford** on 12 May 2009, 5:48 p.m.*

Go to the app store for all the details, some things I found few very interesting:

1. A new I41CX command that will take a parameter from the ALPHA register and return the results. E.g. you can now write i41CX+ programs that can get GPS, accelerometer, and other HW data. E.g. CURRLOC returns:

   ```
   Y= -1.948783840
   X=  0.701899541
   ```

   So, where am I? NOTE: I was in RAD mode.
2. URL-based data acquisition. Create an ASCII File and put the URL in the first record, then use the DWNLOAD function.
3. HEPAX support added.

Thanks Al!

Re: i41CX+ 2.0 Released.

*Message #2 Posted by **PeterP** on 12 May 2009, 6:00 p.m.,*
in response to message #1 by Egan Ford

you gotta have to love Al for his constant improving of i41CX, what a great app! BTW - I placed the HP-IL idea with him...

Cheers

Peter [would that be somewhere near Provo, next to Provo Bay on Utah Lake?]

Edited: 12 May 2009, 6:05 p.m.

Re: i41CX+ 2.0 Released.

*Message #3 Posted by **Egan Ford** on 12 May 2009, 6:22 p.m.,*
in response to message #2 by PeterP

> Quote:
>
> I placed the HP-IL idea with him...

I asked as well. Since the core of i41CX+ is Nonpareil and the aforementioned HP-IL emulation was developed for Nonpareil, it shouldn't be too hard to add.

> Quote:
>
> would that be somewhere near Provo, next to Provo Bay on Utah Lake?

Yep. Working in Provo, UT today. Great attention to detail, if in RAD use RAD, if in DEG use DEG. This new code truly makes an 41CX+. Time to play with some of the 41CX surveying modules.

Re: i41CX+ 2.0 Released.

*Message #4 Posted by **Nigel Bamber** on 13 May 2009, 9:32 a.m.,*
in response to message #3 by Egan Ford

I was also in contact with Antonio who provided further explanation as to how this new I41CX function worked and I thought you would find it interesting. In particular his reference to an unimplemented function in the HP-41CX intrigued me.

Over to him :

" . Enter the command name (e.g. ACCXYZ) in the Alpha register . Execute the "I41CX" function

In other words, strictly speaking, there is one new function called "I41CX" that takes multiple arguments in the Alpha register to execute different commands.

In case you're curious, I chose this implementation because the new function uses an unimplemented instruction in the HP-41CX that is intercepted by the Cocoa part of the code that in turn executes the appropriate command. This has several advantages, including future expansion, ease to implement new commands or modify existing ones without having to deal with MCODE, and the fact that the new commands run at full native speed since they are not running in the emulation layer. The latter will make a difference if I ever implement some complex algorithm commands that require a lot of processing power or long loops. "

It seems to me that this opens the door to other 'goodies' to come.

Nigel

Re: i41CX+ 2.0 Released.

*Message #5 Posted by **Seth Morabito** on 13 May 2009, 2:41 p.m.,*
in response to message #2 by PeterP

> Quote:
>
> BTW - I placed the HP-IL idea with him...

You know, that makes my sick mind wonder...

The 3.0 version of the iPhone firmware will allow access to the 30-pin dock connector. Wouldn't it be great (famous last words) to create an iPhone to HP-IL cable?

OK, OK, to be fair, this might be a pipe dream. While I am a registered iPhone developer, I'm not part of the "Works with iPhone" accessory licensing program (yes, that's what it's called), so I don't have access to the proper tech specs or API. Still, it kinda makes me all wistful and misty-eyed to think about hardware HP-IL on the iPhone/iPod.

Re: i41CX+ 2.0 Released.

*Message #6 Posted by **Egan Ford** on 13 May 2009, 4:45 p.m.,*

in response to message #5 by Seth Morabito

You may need to do very little. If any one creates an RS-232 or USB Host adapter for the connector, then you could use the to-be-released PIL-Box.

My aforementioned plan was to use the PIL-Box with a PC and create a TCP to IL gateway. Then i41CX+ would just need to leverage the existing network support of the iPhone. Since HP-IL devices are for the most part tethered this makes more sense to me.

Re: i41CX+ 2.0 Released.

*Message #7 Posted by **PeterP** on 13 May 2009, 4:49 p.m.,*
in response to message #5 by Seth Morabito

...that's exactly what I suggested to Al. He drove the idea further and said 'Why not wireless?'. Personally I think that would make it more complicated from a software perspective and require more complicated hardware (e.g. wireless module).

But this is exactly my dream - to seamlessly move software from i41cx+ to/from my other real HP41Cs, RamDrives and emu41. The true engineers among us could even hook up the i41CX to HP-IL enabled devices on their play-, sorry,'work'bench... While it currently is already super easy to save programs from the i41cx for later retrieval onto the i41CX, communication of modules and programs between a real 41/emu/RamDrive and the i41 is possible, but a bit more cumbersome. For development of programs and especially MCODE I like the PC or a real 41 much better than the i41cx, but once it is developed I want it on my i41CX, which I always have with me (iPhone). It would be great to be able to transfer things quickly and seamlessly from one environment to the other, either via RamDrive/IL-Drive or emu41.

In any case, Al is doing a superb job with this application and I don't regret the money I spent on it (even though now most apps are <5$). He provides top notch support and constantly updates the app

So I have good hopes that he will hear our HP-IL plea...

Cheers

Peter

Edited: 13 May 2009, 5:29 p.m.

Re: i41CX+ 2.0 Released.

*Message #8 Posted by **Les Wright** on 20 May 2009, 12:43 p.m.,*
in response to message #1 by Egan Ford

The HEPAX support is a nifty thing indeed. I have a Touch so, alas, the GPS stuff doesn't work. But I will finally get some good use out of the Hepax manuals you shared with me some months ago. Les

Re: i41CX+ 2.0 Released.

*Message #9 Posted by **Egan Ford** on 22 May 2009, 4:21 p.m.,*
in response to message #8 by Les Wright

> Quote:
>
> The HEPAX support is a nifty thing indeed. I have a Touch so, alas, the GPS stuff doesn't work. But I will finally get some good use out of the Hepax manuals you shared with me some

months ago. Les

At a minimum you now have the ability to store more active programs than before. Without HEPAX you are limited to clearing and restoring from iPhone/iTouch or Extended Memory. HEPAX unlike X-Memory allows programs to be executed without storing them in 41CX main memory.

Edited: 22 May 2009, 4:40 p.m.

Re: i41CX+ 2.0 Released.

*Message #10 Posted by **Les Wright** on 22 May 2009, 10:07 p.m.,*
in response to message #9 by Egan Ford

Antonio has paid extra special care to ensuring that the virtual Hepax modules behave as they do in the real calculator. For example, If one tries to "insert" the modules in a configuration that doesn't work, one gets a message stopping the operation. I have lost count of how many times I did a fresh reinstall of V41 to restore Hepax MOD files I kept corrupting because the correct ordering of Hepax modules in Warren's setup just isn't intuitive for the neophyte.

It is amazing that Antonio go this to work. When I asked him about it some months ago, I go the impression that configuring things to write to imported MOD files rather than just read them.

I was one of the lucky ones who jumped onboard when the app was only half the price but think it is still a must-have for serious fans at the $15 price.

As an aside, the source code of Byron Fosters 42s simulator has been upgraded to include wireless import and export and the printer now works properly. (A friend was kind enough to compile it for me.) Unfortunately, the official release has not appeared yet as an upgrade through the AppStore. Indeed, there have been no upgrades since the original release in January. On a positive note, Thomas Okken's own Free42 for iPhone is in the works and should be out eventually, or so I am told! I think it will be as cheap as Byron's version, thus easily worth supporting.

Les

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OT: Add to the Recommended List

*Message #1 Posted by **Paul Brogger** on 12 May 2009, 12:03 p.m.*

If you ever have (or anticipate someday having) trouble with a hard drive, pick up one of these. A $20 life-saver! (Well, a *data* saver, anyway.)

Do pay attention! The product's reviews suggest that its use is not completely idiot-proof. (But who'd even *want* such a feature, anyway?)

Edited: 12 May 2009, 12:03 p.m.

Re: OT: Add to the Recommended List

*Message #2 Posted by **Dave Britten** on 12 May 2009, 1:11 p.m.,*
in response to message #1 by Paul Brogger

I've got that exact cable sitting on the shelf behind me, as a matter of fact. It's great for those times when somebody at work has borked their hard drive and needs some important files recovered. Particularly nice is that it fits 3.5" and 2.5" IDE, as well as SATA.

-Dave

Re: OT: Add to the Recommended List

*Message #3 Posted by **designnut** on 12 May 2009, 2:49 p.m.,*
in response to message #2 by Dave Britten

This is the first computer I had with one disk drive. I plan to have two added, Sam

Re: OT: Add to the Recommended List

*Message #4 Posted by **Jon S Canale** on 13 May 2009, 4:48 p.m.,*
in response to message #3 by designnut

Bought something similar to this from Microcenter for $14.95. Worked great on several drives. Only problem is to figure out which end of connector is pin 1. Solved that with a paint marker after I figured it out. Is great to have in the "tool kit".

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50g integration oddity

*Message #1 Posted by **dbatiz** on 12 May 2009, 4:30 a.m.*

The 50g has surprised me with some results when working with roots. I'm hoping some of the folks in the forum can offer an explanation for this behavior:

Take the integral from -2 to 5 of the following:

1/(3rd root of (x^2+6x+9))

The 50g produces -3

However, recognizing that is a square trinomial, I rewrote it like this:

(x+3)^(-2/3)

Same integral produced 3.

I checked both forms of the equation in my 35s and both returned a positive 3.

Any insight would be greatly appreciated,

Very respectfully,

David

Math Curiousity...an old fashioned approach

*Message #2 Posted by **Hal Bitton in Boise** on 12 May 2009, 11:16 a.m.,*
in response to message #1 by dbatiz

Hi David,
When I did the integration symbolically of the equation 1/(3rd root of (x^2+6x+9)) I got the same result as you did (-3). When I tried to symbolically integrate (x+3)^(-2/3), however, the calculator did not simplify to a solution at all. When I evaluated the integrals of both forms of your equation numerically (by graphing and taking the area under the curve), I got the result (3) for both. I'm pretty sure the 35S integrates numerically (iteratively), which would explain it's solutions.
This is above my pay grade as far as the calculus goes, but I,m guessing what's going on is that your integrand needs to be first transformed in order to find the antiderivatave (closed form), or there may not even be an antiderivative for it. There are math wizards on this forum who can and will elaborate on this I'm sure. At least I hope they will 8]
Best regards, Hal

Re: Math Curiousity...an old fashioned approach

*Message #3 Posted by **dbatiz** on 12 May 2009, 3:36 p.m.,*
in response to message #2 by Hal Bitton in Boise

Here is the kicker Hal,

If you put the original equation in the stack, and use the intx (I think) from the calculus menu, it returns an equation that will be negative. I've had a couple of surprises when working with odd/even roots. The 50g always seems to know a little more about how to handle them than I do, but I think it missed the mark on this one.

Thank you for the response, I'm looking forward to some of the wizards input also,

Very respectfully,

David

Re: 50g integration oddity

*Message #4 Posted by **Martin Pinckney** on 12 May 2009, 2:13 p.m.,*
in response to message #1 by dbatiz

I did both forms of the expression on my 32sii, and it returned 3 in both cases. Not too surprising, since the 35s is a further evolution of the 32sii. Haven't figured out how to do integration on my 42s, yet.

Re: 50g integration oddity

*Message #5 Posted by **dbatiz** on 12 May 2009, 3:39 p.m.,*
in response to message #4 by Martin Pinckney

I'm pretty sure it has something to do with the symbolic handling of the integral. The graph is complete (sometimes negative odd roots get dicey on the 50g), and always positive. The solution should be positive as well (so far as my understanding).

Thank you for the response,

Very respectfully,

David

Re: 50g integration oddity

*Message #6 Posted by **Dave Britten** on 12 May 2009, 3:58 p.m.,*
in response to message #1 by dbatiz

I get -3 in Exact mode, 3. in Approx. mode. Strange.

-Dave

Re: 50g integration oddity

*Message #7 Posted by **Marcus von Cube, Germany** on 13 May 2009, 4:03 a.m.,*
in response to message #1 by dbatiz

My TI-nspire CAS returns 3 as the numeric result and 3(x+3)^(1/3) for the indefinite integral, no matter which form of the term is input.

Re: 50g integration oddity

*Message #8 Posted by **Bart (UK)** on 13 May 2009, 6:23 a.m.,*
in response to message #1 by dbatiz

By hand:

Simplifying & integrating:

integral((x+3)^(-2/3))dx; x=-2,5

substitute u=3+x, then du/dx=1 and dx=du

integral(u^(-2/3))du = 3*u^(1/3) + c

substituting back:

= 3*(3rd root(x+3)); x=-2,5

= 3*(3rd root(8)) - 3*(3rd root(1))

=3

Using my old 48sx: positive 3

even older 28s: positive 3

(using (x^2+6*x+9)^(-1/3) as the eqn on both)

I don't know where the 50g is going wrong. (I can't use my 50g as the display has too many missing lines :( )

Bart

Edited: 13 May 2009, 6:42 a.m.

Re: 50g integration oddity

*Message #9 Posted by **Arnaud Amiel** on 13 May 2009, 8:39 a.m.,*
in response to message #8 by Bart (UK)

When in numerical mode, the 50G will also return +3. The problem arises when it tries to solve it symbolically.

Why? I don't know

Arnaud

Re: 50g integration oddity

*Message #10 Posted by **Bart (UK)** on 13 May 2009, 9:15 a.m.,*
in response to message #9 by Arnaud Amiel

Sorry, yes, the 28 & 48 solutions were numerically performed.

Bart

Re: 50g integration oddity

*Message #11 Posted by **Gerson W. Barbosa** on 13 May 2009, 2:02 p.m.,*
in response to message #9 by Arnaud Amiel

There is no problem here. Both solutions are correct... and since 6th root of x is a multivalued function we should expect for more four solutions, if I am not wrong:

$$\int_{-2}^{5} \frac{1}{\sqrt[3]{x^2+6x+9}}\,dx = \frac{1}{\sqrt[6]{x^2+6x+9}}\Bigg|_{-2}^{5} =$$

$$-3\left|\frac{1}{\sqrt[6]{x^2+6x+9}}\right|_{-2}^{5} = -3\left(\frac{1}{\sqrt[6]{64}} + 3\right) = -3\left(\frac{1}{\sqrt[6]{1}}\right) =$$

solution #1:

-3*2 + 3 * 1 = -3

solution #2:

-3*(-2) + 3 * (-1) = 3

On the hp 50g, considering flags -3 and -105 are not set, that is, function -> symb and exact mode on:

```
'integral(-2,5,1/XROOT(3,X^2+6*X+9,X)'
ENTER
EVAL              ->  -3   (first solution)
<-
|->  ->NUM        ->   3.  (second solution)
```

Regards,

Gerson.

Edited: 13 May 2009, 2:30 p.m.

Re: 50g integration oddity

*Message #12 Posted by **dbatiz** on 13 May 2009, 4:16 p.m.,*
in response to message #11 by Gerson W. Barbosa

Gerson,

What rule did you use to get:

$$-3\left|\frac{1}{\sqrt[6]{x^2+6x+9}}\right|_{-2}^{5}$$

$$\int_{-3}^{\int_6 x^2 + 6x + 9} = -2$$

How did you avoid needing to use du/dx and such?

Very respectfully,

David

Re: 50g integration oddity

*Message #13 Posted by **Gerson W. Barbosa** on 14 May 2009, 7:43 a.m.,*
in response to message #12 by dbatiz

> Quote:
>
> What rule did you use...

Actually, I used the hp 50g rule, as did Karl :-)

```
'INV(XROOT(3,SQ(X)+6*X+9))'
INTVX

-(3*sqrt(cbrt(X^2+6X+9)))
```

Regards,

Gerson.

Re: 50g integration oddity

*Message #14 Posted by **Chuck** on 13 May 2009, 11:57 p.m.,*
in response to message #11 by Gerson W. Barbosa

Hmmm.

In this case, there are also several complex results due to the original result involving cube roots (two complex results), or this result involving 6th roots (four complex results). All should have a magnitude of 3, I presume (total guess. It's been a few decades since complex analysis).

However, I really don't think Reimann and his rectangles had any of this in mind when the definite integral was being born. I would say the -3 solution is "classically" incorrect, even though it may be analytically argued as possible. Interesting problem never-the-less.

Cheers.

Re: 50g integration oddity

*Message #15 Posted by **Karl Schneider** on 13 May 2009, 3:23 p.m.,*
in response to message #1 by dbatiz

"dbatiz" --

The oddity is rooted in the CAS for the predecessors of the HP-50g. On the 1990's HP-49G, INTVX obtains the following indefinite integral in symbolic form:

```
'INV(XROOT(3,SQ(X)+6*X+9))'
INTVX


-(3*sqrt(cbrt(X^2+6X+9)))
```

The negative sign out front negates the correct answer.

Interestingly, even though the HP-49G did not reduce the perfect square in the integrand, it made a difference: Change the +9 to +10 or +8, and the HP-49G *fails to find a symbolic solution.* However, the leading minus sign is still present in the result, which is a an evaluable command for numerical integration.

There are indeed multiple mathematical answers for cube root and square root. However, if *principal and/or real-valued* roots are always to be taken, I submit that H-P's CAS answer is incorrect.

The correct symbolic integral is

```
3*cbrt(X+3)
```

Certainly, there is only one correct definite-integral answer, which all of the models with built-in integration will find using numerical methods.

The moral: Know your calculus, so that you will always recognize balderdash in problems such as these.

(Edited to add some content.)

-- KS

Edited: 14 May 2009, 1:47 a.m. after one or more responses were posted

Re: 50g integration oddity

*Message #16 Posted by **dbatiz** on 13 May 2009, 4:11 p.m.,*
in response to message #15 by Karl Schneider

Gerson and Karl,

Thank you for the insightful words! I ran across this problem while helping somebody with their calculus homework. We had trouble getting started with the problem, but once we re-wrote it using (x+3)^2 the solution jumped off the page. I still grapple with the multi values that some roots produce. I've learned more about that by reading this forum than in all my math classes combined.

Again, thank you!

Very respectfully,

David

*Edited to correct spelling of name

Edited: 13 May 2009, 4:12 p.m.

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Where to find HP200LX ROM files ?

*Message #1 Posted by **bloo** on 11 May 2009, 5:42 p.m.*

Hello,

I have a HP200LX but it is a German version and I don't speak German at all ! I'd like to install an English version of the system on a seperate memory card in order to boot the computer in english. Are those files available for download somewhere ? Off course I could use the HP200 in DOS mode but in that case I would not take advantage of the HP200 included softwares.

Thanks for your help !

Re: Where to find HP200LX ROM files ?

*Message #2 Posted by **Raymond Del Tondo** on 11 May 2009, 6:05 p.m.,*
in response to message #1 by bloo

Hello,

maybe it would be easier to trade your HP 200LX with someone
from Germany who has a 200LX localized to English ?

Also note that the keyboard layout and legends of the German version
are slightly different to that of the English/International version.

The hpmuseum classifieds section would be a good place for a start.

HTH

Re: Where to find HP200LX ROM files ?

*Message #3 Posted by **bloo** on 13 May 2009, 6:51 a.m.,*
in response to message #2 by Raymond Del Tondo

Hello,

I already thought about an exchange or selling it but my HP200 is in poor cosmetic condition so it would not be a good trade. Although it works fine, that's why I'd like to use it and not let it on a shelf. Any help to find the files would be appreciated !!

Thanks

Re: Where to find HP200LX ROM files ?

*Message #4 Posted by **robert rozee** on 13 May 2009, 9:39 a.m.,*
in response to message #3 by bloo

the rom images would be copyrighted, so unlikely available for download. remember, there's those included applications like lotus 123 and quicken in there.

plus, once you had the files, what would you do with them? obtain a blank set of programmable SMD roms, burn them with your eprom programmer (that accepts SMD chips), then unsolder the old roms and solder in the new ones?

a far easier approach would be to look for a 200lx with a broken screen or damaged keyboard, then swap over the PCBs.

cheers, rob :-)

HP200LX ROM files?

*Message #5 Posted by **Mike (Stgt)** on 14 May 2009, 10:37 a.m.,*
in response to message #4 by robert rozee

We need an emulator for that, the Connectivity Pack is not a full replacement of an HP200LX. If I only had the time to make "Felix" jump arround...

Ciao.....Mike

Re: Where to find HP200LX ROM files ?

*Message #6 Posted by **bloo** on 15 May 2009, 3:40 p.m.,*
in response to message #4 by robert rozee

> Quote:
>
> plus, once you had the files, what would you do with them? obtain a blank set of programmable SMD roms, burn them with your eprom programmer (that accepts SMD chips), then unsolder the old roms and solder in the new ones?

Hello,

Well, I'm not that complicated ! I just want to install the files on a memory card and then boot from that card instead of booting from the ROM. That's all ! Also, I don't need Lotus software and so on, I just need the basic HP softwares (App manager, Settings, File browser...) since my main use will be for C dev.

Regards

Re: Where to find HP200LX ROM files ?

*Message #7 Posted by **Mike (Stgt)** on 18 May 2009, 4:57 a.m.,*
in response to message #6 by bloo

Swap over the PCBs! You would be the first finding a simpler solution.

Ciao.....Mike

Re: Where to find HP200LX ROM files ?

*Message #8 Posted by **Patrick Rendulic** on 19 May 2009, 2:54 a.m.,*
in response to message #1 by bloo

What about learning German? Nothing to swap, nothing to change on the 200LX, etc. .

It would be some kind of "brain update" ;).

Unfortunately I cannot help you with those files.

Re: Where to find HP200LX ROM files ?

*Message #9 Posted by **Marcus von Cube, Germany** on 19 May 2009, 4:18 p.m.,*
in response to message #8 by Patrick Rendulic

I could help with the languagae. ;)

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OT: uWatch firmware v1.6.0 Released!

*Message #1 Posted by **hugh steers** on 11 May 2009, 1:10 p.m.*

A treat for uWatch fans, a completely new version is released today. We've been testing it for a couple of weeks and hopefully there are no (serious) bugs. I'm hoping this is a pretty good version.

Lots of new features have been added such as:

```
* completely re-written menu system with custom characters.
* new calculator functions (nPr, nCr, Stats, bin ops)
* new constants and conversions.
* apps like: Factorise, Quadratic, Stopwatch, Mini Calendar.
* Games: Chess, 21 and Lunar Lander.
* number bases: Dec, Hex, Oct, Binary (with scrolling windows).
```

picture of the time display (uWatch looking a bit beat up :-))

Picture of the chess board (you scroll up and down with the right column keys).

Get yours now from sourceforge including source code:

https://sourceforge.net/projects/calcwatch/

Credits: the uWatch team, DaveJ, Andrew Davie, Zowki and myself.

also check, http://www.calcwatch.com

Enjoy!

Re: OT: uWatch firmware v1.6.0 Released!

*Message #2 Posted by **DaveJ** on 11 May 2009, 5:53 p.m.,*
in response to message #1 by hugh steers

> Quote:
>
> A treat for uWatch fans, a completely new version is released today. We've been testing it for a couple of weeks and hopefully there are no (serious) bugs. I'm hoping this is a pretty good version.
>
> Lots of new features have been added such as:
>
> ```
> * completely re-written menu system with custom characters.
> * new calculator functions (nPr, nCr, Stats, bin ops)
> * new constants and conversions.
> * apps like: Factorise, Quadratic, Stopwatch, Mini Calendar.
> * Games: Chess, 21 and Lunar Lander.
> * number bases: Dec, Hex, Oct, Binary (with scrolling windows).
> ```
>
> Get yours now from sourceforge including source code:
>
> https://sourceforge.net/projects/calcwatch/
>
> Credits: the uWatch team, DaveJ, Andrew Davie, Zowki and myself.
>
> also check, http://www.calcwatch.com
>
> Enjoy!

Awesome work guys!
All that in 64KB FLASH, 8KB SRAM, a 16x2 character LCD, and a paltry keypad - incredible!

Dave.

Edited: 11 May 2009, 6:02 p.m.

uWatch CHESS in action

*Message #3 Posted by **DaveJ** on 13 May 2009, 10:14 p.m.,*
in response to message #1 by hugh steers

The chess display in motion!

and it has a user manual now too: http://www.taswegian.com/uwatch/uWatch0514a.pdf

Dave.

Edited: 13 May 2009, 10:56 p.m.

Re: uWatch CHESS in action

*Message #4 Posted by **Andrew Davie** on 14 May 2009, 6:41 a.m.,*
in response to message #3 by DaveJ

The latest manual can be found at

uWatch User Guide - Latest Version

I've been working on this for a few days or so, so it's changing quite rapidly at the moment. It's about half done, but even now gives a pretty good idea of the capability of the watch and systems... if you don't have one of these things, I can *highly* recommend a purchase.

The above is a composite of the chess board display. For just 8 custom-characters (one of which is the arrow), only *5* pixels wide, it's nothing short of awesome... and very usable on the watch. Interestingly, the LCD doesn't have more than one colour/shade -- the white pieces are done by drawing/undrawing the pieces very rapidly and relying on the LCD fading characteristics to give the effect.

Cheers A

Edited: 14 May 2009, 8:24 a.m.

Re: uWatch CHESS in action

*Message #5 Posted by **DaveJ** on 14 May 2009, 8:57 a.m.,*
in response to message #4 by Andrew Davie

Gotta be a world first surely?!

I wonder how it's going to look on the uWatch2 128x64 display?

Dave.

Re: uWatch CHESS in action

*Message #6 Posted by **Masao Kinoshita** on 12 June 2009, 7:30 a.m.,*
in response to message #5 by DaveJ

> Quote:
>
> Gotta be a world first surely?!
>
> I wonder how it's going to look on the uWatch2 128x64 display?
>
> Dave.

I just had to post this jpeg from a couple of years ago. It is a picture of my Abacus AU5007 running HandChess II.

Obviously, I am really interested in your uWatch2! :-)

Re: uWatch CHESS in action

*Message #7 Posted by **Charles Oxford** on 14 May 2009, 3:06 p.m.,*
in response to message #4 by Andrew Davie

Nice work as usual Andrew. Will you be including instruction for updating, etc?

Re: uWatch CHESS in action

*Message #8 Posted by **Andrew Davie** on 24 May 2009, 9:04 p.m.,*
in response to message #7 by Charles Oxford

> Quote:
>
> Nice work as usual Andrew. Will you be including instruction for updating, etc?

Yes. The instructions for updating are included in the latest manual. The uWatch now handles "squashed", engineering, fixed-point, and scientific notation... and optionally display of units in SI notation (i.e.: 12345 is displayed as 12.345k). It handles bases 2, 8, 16, and of course 10... and I have also added bit shifting operations.

uWatch User Guide 1.6.0.1

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HP 41CV Key Issues

*Message #1 Posted by **Michael Lopez** on 11 May 2009, 7:27 a.m.*

Hi all,

I recently acquired a 41CV which is in excellent cosmetic condition & works fine except for the "." & "Alpha" keys occasionally not registering despite a positive click. All the keys on this calculator feel fine & very similar to the ones on my 41CX which works flawlessly.

The 41CV is a fullnut version where the 41CX is a halfnut.

Just wondering if there is any simple way of cleaning/lubricating the contacts in these keys without pulling the whole calculator apart as it is hardly worth doing when they work 8 out of 10 times?

Many thanks,

Michael

Contamination??? probably...

*Message #2 Posted by **Geoff Quickfall** on 11 May 2009, 12:35 p.m.,*
in response to message #1 by Michael Lopez

I had the same problem on two restorations. Both had positive clicks but failed to register the key input.

One was the on/off rocker arm similar to you alpha key and the other calculator had 3 of the digit keys not registering. The keyboards were in excellent condition.

Try the following, get an eye dropper and place a drop of water on the offending key. Work the key back and forth numerous times. Blot the water off and then add a drop of alcohol, repeat the key exercise. Let dry and try the keys. I use a lens cleaner bulb blower to force air around the key when drying.

If it does respond, or does not, the next step and with nothing to lose, dis-assemble the calculator; i.e. remove the back case, then remove the PCB and the zebra strip from the keyboard.

During the following, keep the LCD above the level of the liquid.

```
- Get a tall glass wide enough to accept the keyboard upright.
  Fill with luke warm mildly soapy water to BELOW the level of the
  LCD panel.  Insert the keyboard and let soak.  Agitate the water
  by stirring or by subsequent and repeated removals of the
  keyboard out of and back into the water.  The intent is to
  remove any sugar based or sticky water soluble material from the
  keyboard contacts.


- If you suspect corrosion as indicated by leaky batteries or blue
  corrosion on some of the contacts then using the same glass,
  rinse the keyboard in dilute white vinegar.


- I then rinse the keyboard in the glass with water, using the
  same method.


- Next rinse with alcohol in the same manner.


- Air dry or use a drying box to accelerate the drying proceedure.
```

(see photo below)

-Re-assemble and try it out.

1 The soapy water will remove non conductive oil based, sugar based (coffee spill, sherry!!) as well as particulate contamination.

2 The vinegar will dissolve the corrosion due to outgassing batteries.

3 The water rinse will also remove sugar based contaminants, particulate matter and soap residue.

4 The alcohol removes or mixes with remaining water and will help in the drying process

THIS HAIR DRYER HAS A "COLD" SETTING, no heat applied!!!

Re: Contamination??? probably...
*Message #3 Posted by **Michael Lopez** on 12 May 2009, 7:03 a.m.,*
in response to message #2 by Geoff Quickfall

Thanks Geoff. I'll try the eye dropper trick first & see how that goes.

Cheers,

Michael

Re: Contamination??? probably...
*Message #4 Posted by **Michael Lopez** on 12 May 2009, 7:59 a.m.,*
in response to message #3 by Michael Lopez

Done & can confirm Geoff's eye dropper trick works. Thought I would start with an even slightly simpler approach & just added a drop or two of rubbing alcohol to the keys & repeated use with the calculator off then on whilst absorving the excess alcohol with tissue paper.

The "." key improved immediately whilst the "alpha" key took a little longer & I think I got a bit carried away with the amount of alcohol I added as the display went a bit funny for a while (a bit disturbing) but all came good with a bit of forced cool air drying.

Now all keys work fine first time.

Thanks again Geoff.

Cheers,

Michael

Re: HP 41CV Key Issues

*Message #5 Posted by **John Mosand** on 12 May 2009, 1:59 p.m.,*
in response to message #1 by Michael Lopez

Shortly after I bought my 48SX in 1991, the following happened: One morning I came down to the kitchen and found that the cat had tipped over a flower vase, dumping its contents over the calculator. Unfortunately, the water contained an amount of 'growing additive'. Turning it on resulted in crazy displays, numbers that I never knew existed :-) Keys sticky. I removed the batteries and rinsed it under running tap water, shook it out and left it in the convection oven at its lowest temperature. When I came back from work and replaced the batteries I was pleasantly surprised. Wow, it behaved like normal and has been perfect ever since! (BTW I have changed batteries only once.) Of course, I don't know if the 41CV and the 48SX are similar in this respect...

Sitting in Business class with my HP 41CX

*Message #6 Posted by **Geoff Quickfall** on 13 May 2009, 2:44 p.m.,*
in response to message #5 by John Mosand

in 1986. Flight attendant places a glass of sherry on my table tray and then reaches over to the passenger beside me, knocking over the glass onto the keyboard.

I watched the display act up and die. Of course the sugars in the sherry as well as other compounds completely altered the resistivity and electrical qualities of the circuit.

Rubbing alcohol did not work as a cleaner as it did not dissolve the sugar. I had to resort to a warm water rinse and then the alcohol to aid in drying.

Cheers, Geoff

Re: Sitting in Business class with my HP 41CX

*Message #7 Posted by **Gene Wright** on 13 May 2009, 3:59 p.m.,*
in response to message #6 by Geoff Quickfall

Hmm...

I was wondering what your class was studying at University to be having a glass of sherry handy.

(former business professor... could not resist)

Re: Sitting in Business class with my HP 41CX

*Message #8 Posted by **Geoff Quickfall** on 13 May 2009, 4:07 p.m.,*
in response to message #7 by Gene Wright

OOPs

"business class" in an airplane GENE, as opposed to "business class" at University.

;-)

Although I did have beer in my office as a Teaching Assistant at University, would that count!!!

Ha Ha , Geoff

P.S.

Got an email from Joe, have you recieved my registration, second form sent last night.

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HP BASIC for HP86B

*Message #1 Posted by **Bill Lafferty** on 11 May 2009, 2:07 a.m.*

Can anyone help me by re-writing two small BASIC programs written for a very old IBM PC into HP BASIC language, suitable for the HP86B computer?

The full text of the two programs can be seen at the following links:

http://www.lacegumnuts.com/index.php?option=com_content&task=view&id=190&Itemid=2

http://www.lacegumnuts.com/index.php?option=com_content&task=view&id=189&Itemid=2

I am a retired surveyor, trying to get some old Kern electronic survey instruments linked to a HP86B computer, and am stuck for the programs required for the PC.

Bill Lafferty in Cooma, Australiahttp://www.lacegumnuts.com/index.php?option=com_content&task=view&id=190&Itemid=2 and following page

Re: HP BASIC for HP86B

*Message #2 Posted by **Marcus von Cube, Germany** on 11 May 2009, 3:52 p.m.,*
in response to message #1 by Bill Lafferty

Bill, to make things a little more clear: what is your equipment? Does your HP86B have HP-IL? Which HP-IL devices are connected to your 41C?

Re: HP BASIC for HP86B

*Message #3 Posted by **Bill Lafferty** on 11 May 2009, 6:46 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Marcus, the HP41-CV/CX sits in a unit called a DIF41. This is connected to the electronic theodolite, and also to the computer by an RS232 interface. The electronic theodolite takes the readings, they are stored via the DIF41 in the HP41-CV/CX for later transfer in the office to the computer. It also works in reverse - data in the form of co-ordinates can be typed into the HP86B in the office, and transferred into the HP41-CV/CX in its DIF41 holder via the serial link.

I have the programs to go into the HP41-CV/CX to transfer the data, they was in the handbook for the DIF41 as well as the Basic program for the IBM-PC. I also have the serial interface module plugged into the back of the HP86B, and a unit called a DL40 Data Link which plugs in between the DIF41 and the serial interface module.

I can add a typed up version of the HP41 programs to the web site if anyone is interested. (Incidentally, the website is my wife's site for her lacemaking friends). ....Bill

Re: HP BASIC for HP86B

*Message #4 Posted by **Tony de Groot** on 14 May 2009, 10:24 a.m.,*
in response to message #3 by Bill Lafferty

Hi Bill,
Did you get some help on this yet?
A couple of comments - the REM should be replaced by the ! character, and the print command to print messages to the screen should be replaced by the DISP command for clarity, though the printer is directed to the screen by default if I remember correctly - it has been about 20 years since I played with an 86 ..
Tony.

Re: HP BASIC for HP86B

*Message #5 Posted by **Bill Lafferty** on 20 May 2009, 1:43 a.m.,*
in response to message #4 by Tony de Groot

No Tony, no response at all. Thanks for the tips. My wife, who has some BASIC programming skills from many years ago, is attempting to re-write the programs, but is making very slow progress, as so many of the commands are completely different. ...Bill

Re: HP BASIC for HP86B

*Message #6 Posted by **Mark Edmonds** on 5 June 2009, 3:59 p.m.,*
in response to message #5 by Bill Lafferty

Bill - have you at least got the documentation for the 86 and serial port? If not (and you probably already know this), you can get it at hpmuseum.net. I am hoping to get a serial interface for my 85A in the near future but I'm afraid I have no practical knowledge of programming the interfaces in these machines.

Mark

Re: HP BASIC for HP86B

*Message #7 Posted by **Bill Lafferty** on 9 June 2009, 11:17 p.m.,*
in response to message #6 by Mark Edmonds

Thanks Mark, but I have all the documentation from the hpmuseum site. I'm about to give up, and try connecting the whole thing to a modern computer, instead of trying to utilise the 86B, but I'll still need someone to write a program to receive the data. ...Bill

Re: HP BASIC for HP86B

*Message #8 Posted by **Mark Edmonds** on 10 June 2009, 2:04 p.m.,*
in response to message #7 by Bill Lafferty

Bill - I am sure that somewhere I saw in one of the official HP manuals, example programs for communicating between an 80 series and a 41 series. I am completely stuck trying to find it now but if I can, I'll post the details. Whether it helps or not, I can't tell but it might be a lead - it is out there in one of the manuals.

Mark

Re: HP BASIC for HP86B

*Message #9 Posted by **Jeff Davis** on 10 June 2009, 5:22 p.m.,*
in response to message #6 by Mark Edmonds

Hi, I have extra serial interfaces. Qty.(2) w/.001 option and Qty. (2) regular. I do not have any documentation though. Please see my add on the items for sale page on this web site.

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HP32E Hardware Question

*Message #1 Posted by **Mike T.** on 10 May 2009, 5:16 p.m.*

I decided to open up my HP32E as after 30+ years it stopped responding to any function key in the third column or any numeric key in the second column while I was using it to test my HP32E simulator. Based upon its age and weight I was expecting it to have the dreaded foam sandwich construction so I'm not exactly surprised that it is finally giving some trouble.

Removing the back cover wasn't too much of a problem though it did require a LOT of force, and I discovered that the top edge of the back of the case is surprisingly sharp. After applying band-aids to two of my fingers I noticed that the middle IC on the left hand side appears to be missing pin 5 (IC is sliver and marked 0031 SGP80008).

Assuming that the missing pin is not the source of the trouble I'd appreciate any useful repair tips. I was planning on just removing the IC carrier and giving all the pins and contact pads a good clean - unfortunately replacing a pin on an IC is well beyond my capabilities!

Although it is the most obvious solution I really don't want to attempt to solder the pins to the circuit board unless I absolutely have to for two reasons - Firstly I killed my original HP33C that way (though at the time I didn't have an anti static mat and didn't realise that the ICs were NMOS), and secondly my electronics tutor used to suggest that I'd be more suited to plumbing than electronics and my soldering hasn't improved since...

Thanks

Mike T.

Re: HP32E Hardware Question

*Message #2 Posted by **Eric Smith** on 10 May 2009, 9:08 p.m.,*
in response to message #1 by Mike T.

A missing pin on one of the ROMs in 3xE-series is normal. I have no idea why.

Re: HP32E Hardware Question

*Message #3 Posted by **Randy** on 10 May 2009, 9:50 p.m.,*
in response to message #1 by Mike T.

If all the keys of the row or column are involved, the problem would typically be a loss of contact with the cpu keyboard/display connections on pins 21-35.

IMO, soldering them is the best solution, I've done dozens of them without issue. You can fix them without soldering but once they start getting intermittent, them more you fiddle with them, the worse they get.

I would first look at your soldering iron... if it was the typical $10 -$20 class of unit, it's no surprise you killed a calculator with it. No ESD protection nor temperature control.

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HP35s Program Memory Quirk

*Message #1 Posted by **Thomas Chrapkiewicz** on 10 May 2009, 2:30 p.m.*

I've just been documenting/scrolling through my HP35s's program memory. I have the machine set for 100 data memories, and have about 150ish lines of code in it under about 15 different labels.

When scrolling through 'line count' program memory [via the <-MEM 2] menu, downward, I will find a LBL ; that the list seems to be stuck at. Repeated attempts to scroll down past this label has no result - the LBL ; continues to be displayed.

Keying <-SHOW displays a checksum of 1C5A for this strange label.

Scrolling up through the program list can proceed with no ill effects.

Scrolling down again will again hit this strange LBL ; [with the same resultant checksum].

Has anyone else experienced this?

Thanks, TomC

ps: BTW, this is a relatively early HP35s [CNA72103302].

pps:Also, (FWIW) my first line in PRGM memory is an unlabelled GTO X001 - this gives me a quick 'GTO . . R/S' which displays owner information.

Re: HP35s Program Memory Quirk

*Message #2 Posted by **Thomas Chrapkiewicz** on 12 May 2009, 7:00 p.m.,*
in response to message #1 by Thomas Chrapkiewicz

...so, I take it no one else has seen this?

TomC

Re: HP35s Program Memory Quirk

*Message #3 Posted by **Reth** on 12 May 2009, 7:55 p.m.,*
in response to message #2 by Thomas Chrapkiewicz

IMO no one here uses/plays with their 35s anymore. To me it's a dead machine and mine gathers dust somewhere...

Re: HP35s Program Memory Quirk

*Message #4 Posted by **Howard Lazerson** on 12 May 2009, 8:37 p.m.,*
in response to message #3 by Reth

IMO no one here uses/plays with their 35s anymore. To me it's a dead machine and mine gathers dust somewhere... I DONT AGREE WITH THAT, USING MINE PAST 3 YRS TO SOLVE COORDINATE PROBLEMS AND NO GLITCHES TO DATE, SAVES WEAR AND TEAR ON MY 42S

Re: HP35s Program Memory Quirk

*Message #5 Posted by **reth** on 12 May 2009, 10:32 p.m.,*
in response to message #4 by Howard Lazerson

> Quote:
>
> DONT AGREE WITH THAT, USING MINE PAST 3 YRS TO SOLVE COORDINATE PROBLEMS AND NO GLITCHES TO DATE, SAVES WEAR AND TEAR ON MY 42S

What is that you don't agree with? The fact that I have personal opinion clearly expressed by "IMO..." and "To me..."?
BTW in case you don't know, capital letters indicate shouting, was that your intention or you just accidentally turned CapsLock on?

Re: HP35s Program Memory Quirk

*Message #6 Posted by **Howard Lazerson** on 12 May 2009, 11:50 p.m.,*
in response to message #5 by reth

sorry about caps,but not about disagreeing,

Re: HP35s Program Memory Quirk

*Message #7 Posted by **Gene Wright** on 13 May 2009, 7:30 a.m.,*
in response to message #5 by reth

I guess it was that your opinion was making a statement about everyone else, which was shown to be incorrect with one reply.

So, have your opinion that no one is bald, but be prepared to have people disagree with it... particularly those who are bald!

If you had said "IMO, very few people..." or "IMO, I don't know why anyone..." then it would not have been quite as categorical.

Re: HP35s Program Memory Quirk

*Message #8 Posted by **Reth** on 13 May 2009, 8:02 a.m.,*
in response to message #7 by Gene Wright

Thank you for the lesson, Gene. Now I'll find my 35s and start using it again even though it has heaps of bugs and unreliable keyboard.
BTW I'm not bald, just the opposite. Probably only clever men go bald. :)

Edited: 13 May 2009, 9:01 a.m.

Re: HP35s Program Memory Quirk

*Message #9 Posted by **Gene Wright** on 13 May 2009, 11:24 a.m.,*
in response to message #8 by Reth

Now, now...

I did not say that the 35s was without problems or that there may be some (I don't know the percentage) who no longer use it for various reasons.

However, your original statement was too inclusive and disproven by the first response. :-)

And, I am the disproof that clever men go bald!

Re: HP35s Program Memory Quirk

*Message #10 Posted by **Dave Shaffer (Arizona)** on 13 May 2009, 12:11 p.m.,*
in response to message #8 by Reth

> Quote:
>
> Probably only clever men go bald. :)

My wife says (soothingly) that grass doesn't grow on a busy street.

Re: HP35s Program Memory Quirk

*Message #11 Posted by **David Hayden** on 17 May 2009, 9:55 a.m.,*
in response to message #4 by Howard Lazerson

> Quote:
>
> I don't agree with that, using mine past 3 yrs to solve coordinate problems and no glitches to date, saves wear and tear on my 42s [changed to lower case]

Are you two talking about the same machine? It looks to me like the 35s was announced in July 2007, so yours couldn't be 3 years old unless it's a pre-production unit.

Re: HP35s Program Memory Quirk

*Message #12 Posted by **Howard Lazerson** on 17 May 2009, 1:00 p.m.,*
in response to message #11 by David Hayden

I bought the 35s as soon as it was available,so maybe 2 1/2 years

Re: HP35s Program Memory Quirk

*Message #13 Posted by **Paul Dale** on 12 May 2009, 9:09 p.m.,*
in response to message #3 by Reth

My two daughters both have 35s's and they use them -- mostly to play games but still it is use.

I don't use it much but only because I've a 15c and 16c with me most of the time.

- Pauli

Re: HP35s Program Memory Quirk

*Message #14 Posted by **Bruce Bergman** on 13 May 2009, 10:50 a.m.,*
in response to message #13 by Paul Dale

What games are they playing on the 35s? Any links to ones?

thanks, bruce

Re: HP35s Program Memory Quirk

*Message #15 Posted by **Paul Dale** on 13 May 2009, 4:51 p.m.,*
in response to message #14 by Bruce Bergman

This thread has the current one (yes, I wrote it). For some reason it is popular not only with my daughters but several of their friends at school. This has been submitted to the MoHPC software library but isn't there yet.

The other one they liked was *nim*, at least until they figured out how to win it...

- Pauli

Re: HP35s Program Memory Quirk

*Message #16 Posted by **Sancerre (Phoenix)** on 13 May 2009, 5:23 p.m.,*
in response to message #15 by Paul Dale

thanks, I hadn't seen that before. I am sure that my daughter will love it. Ok, I admit it, I'll enjoy it too.

--Tod

Re: HP35s Program Memory Quirk

*Message #17 Posted by **Patrick Rendulic** on 14 May 2009, 1:25 p.m.,*
in response to message #3 by Reth

Exactly my case. It is lying somewhere and when looking after it, there is still some strange behaviour.

Mine still refuses to do quick additions. It seems that my fingers are too fast for the key buffer / data input routine so that it hangs when keying data in.

HP, please allow me to express my opinion: the HP35s is the biggest piece of crap you produced in the last years.

Re: HP35s Program Memory Quirk

*Message #18 Posted by **Les Wright** on 26 May 2009, 12:36 a.m.,*
in response to message #3 by Reth

I like playing with mine, and I must say it is an attractive unit compared to its coyote ugly 33s predecessor.

But as a programming device it really just isn't practical. All of the that memory to harness, but no easy way to get programs into or out of the thing, just dogged key poking.

My favourite RPN programmable these days is Free42 on my Palm TX, and indeed it is the only reason I keep that handheld active. That will get retired when Thomas Okken finalizes the port for iPhone/iPod touch. i41CX+, which just keeps getting more powerful with each revision, is a close second.

Ease of I/O has made this hobby a lot more fun than it ever was for me, especially since discovering thing like hp41uc for converting programs between various formats. The aesthetically pleasing 35s is just too much of a step back.

Re: HP35s Program Memory Quirk

*Message #19 Posted by **Thomas Radtke** on 26 May 2009, 7:51 a.m.,*
in response to message #18 by Les Wright

I imagine this series of calculators has never been intended to build more complex software libraries upon it. This was clear before the 33s. There was the chance to automate things when needed, but at the same time, the memory was quite limited. For more sophisticated things there was always a machine that allowed for saving and restoring programs.

I'd love the 35s, if it weren't affected by so many bugs, even without a card reader.

Edited: 26 May 2009, 7:53 a.m.

Re: HP35s Program Memory Quirk

*Message #20 Posted by **Pal G.** on 26 May 2009, 10:58 a.m.,*
in response to message #19 by Thomas Radtke

Has HP already produced ALL of the hp 35s they are ever going to produce? If not, they probably would update the ROM, right? It would be the right thing to do. I don't want to start a petition pledging how many units I would purchase, but I would most likely pick up a few new 35s' if all of the bugs were removed.

Surely HP has already done the math on this quandary. Anyone know HP's official or unofficial posture on the bugs inside the hp 35s? The unofficial might be better reading..

PG

Re: HP35s Program Memory Quirk

*Message #21 Posted by **Paul Dale** on 26 May 2009, 5:04 p.m.,*
in response to message #20 by Pal G.

A ROM update would depend on sales and the severity of the bugs.

Fixing the bugs and releasing a new ROM would be a fairly expensive exercise and there is no way to retro-fit the ROM to existing units.

- Pauli

Re: HP35s Program Memory Quirk

*Message #22 Posted by **Thomas Radtke** on 26 May 2009, 5:39 p.m.,*
in response to message #21 by Paul Dale

You know these things better than me, Pauli. OTOH, there has been some work on the

33s, which gives me some hope. Maybe HP consideres a new revision or even a 35sII (with R<->P funcionality)in the future.

Re: HP35s Program Memory Quirk

*Message #23 Posted by **Pal G.** on 27 May 2009, 4:29 p.m.,*
in response to message #22 by Thomas Radtke

Thomas,

What do you mean by this: ".. there has been some work on the 33s"?

Re: HP35s Program Memory Quirk

*Message #24 Posted by **Thomas Radtke** on 27 May 2009, 6:27 p.m.,*
in response to message #23 by Pal G.

There was a redesign of the display due to a nearly unreadable decimal separator. The keypad has also been improved iirc.

Re: HP35s Program Memory Quirk

*Message #25 Posted by **bill platt** on 27 May 2009, 6:34 p.m.,*
in response to message #24 by Thomas Radtke

Even the Algebraic system was slightly tweaked after the first units. The swap function was changed--somewhere in the past I wrote about this.

Re: HP35s Program Memory Quirk

*Message #26 Posted by **Pal G.** on 27 May 2009, 7:09 p.m.,*
in response to message #25 by bill platt

Oh, I see. This is exactly what I was trying to get at. So, in the recent past HP has updated a ROM prior to having more units manufactured. This is good news, for someone who is partial to the hp 35s (looks at reth).

Did HP let the public know the hp 33s was updated? How were you notified?

Finally, does anyone think the hp 35s would be more esteemed if many of the bugs on Paul Dale's list were fixed after the first production units sold out? (Perhaps the first production units have not sold out yet; I don't know).

ps - just kidding, Reth.

Re: HP35s Program Memory Quirk

*Message #27 Posted by **Paul Dale** on 27 May 2009, 7:24 p.m.,*

in response to message #26 by Pal G.

> Quote:
>
> Finally, does anyone think the hp 35s would be more esteemed if many of the bugs on Paul Dale's list were fixed after the first production units sold out?

If the fixed bugs are the *serious* ones that can screw things badly, then yes. Losing memory, showing incorrect results, locking up and having to reset are serious. Going back and looking at the list, most of the bugs would rate serious in my book :-(

- Pauli

Re: HP35s Program Memory Quirk

*Message #28 Posted by **bill platt** on 27 May 2009, 11:02 p.m.,*
in response to message #26 by Pal G.

There are at least three, and possibly even more, ROM versions of the 33S.

There was pre-production ROM, and an early production ROM ("Walmart 1st issue") and a Production ROM with R-->P bugs and H.MS bugs and others, with small comma and decimal.

Then IIRC there was new ROM to deal with the R-->P.

I can't remember when the period where fixed, but some of us pushed buttons through blister pack in Walmart to figure it out--I can't remember the results, my old emails to Craig Finseth are lost, I don't know that he put all the details on his site, and they might be buried in the museum archives.

Maybe Paul's comprehensive list caught all of my discoveries but it has been a while.

Re: HP35s Program Memory Quirk

*Message #29 Posted by **Thomas Radtke** on 28 May 2009, 6:29 a.m.,*
in response to message #26 by Pal G.

> Quote:
>
> Finally, does anyone think the hp 35s would be more esteemed if many of the bugs on Paul Dale's list were fixed after the first production units sold out?

Yes. The 35s has had a warm welcome in this forum and raised high expectations. This calculator does not follow a new concept but is a descendant of the very popular 32S(II) and his ancestors (I deliberately leave out the 33S).

Furthermore, if a compact programmable non-graphing calculator is all you want, the 35s ist your only choice (if a Casio is out of discussion). This market ist quite limited and so is the assortment.

Re: HP35s Program Memory Quirk

*Message #30 Posted by **Don Shepherd** on 28 May 2009, 8:14 a.m.,*
in response to message #29 by Thomas Radtke

> Quote:
>
> Furthermore, if a compact programmable non-graphing calculator is all you want, the 35s ist your only choice.

Not so! I much prefer the 33s over the 35s. The 33s is still readily available via Ebay, at a decent price, and its functions (especially operations with number bases) work great, and it is MUCH MUCH faster than the 35s. Sure, it doesn't have 800 registers and its use of labels is not optimal, but it a great little machine to program in pure RPN.

Re: HP35s Program Memory Quirk

*Message #31 Posted by **Katie Wasserman** on 28 May 2009, 10:28 a.m.,*
in response to message #30 by Don Shepherd

> Quote:
>
> The 33s is still readily available via Ebay

I think it's still being manufactured. Every place that I've checked online still sells it and you can still buy it directly from HP.

Re: HP35s Program Memory Quirk

*Message #32 Posted by **Michael de Estrada** on 28 May 2009, 10:57 a.m.,*
in response to message #30 by Don Shepherd

I hate my HP33S; haven't used it at all since I got my HP35S. I'd be happy to sell it without the batteries, which I removed to use in my HP35S when they wear out.

Re: HP35s Program Memory Quirk

*Message #33 Posted by **Pal G.** on 29 May 2009, 2:14 p.m.,*
in response to message #30 by Don Shepherd

In Don's post, he mentions the hp 33s is much faster than the hp 35s. I went and had a look at the N-Queens benchmarks

article here at the museum, and noticed two listings for the hp 35s, one of which mentions "Turbo x1.5".

Does anyone have more information about this? I searched the archives to no avail.

Here is a link to the article: Article #700

And here are the entries for the hp 35s. (And yes, the hp 33s is faster than the hp 35s).

```
 -    4:17          HP-35S            Keystroke / RPN
 -    ...
 -    2:49          HP-35S            Keystroke / RPN
/ Turbo x1.5
 -    ...
 -    2:11          HP-33S            Keystroke / RPN
```

Thanks,
PG

Re: HP-35s speed vs. HP-33s

*Message #34 Posted by **Karl Schneider** on 30 May 2009, 12:36 a.m.,*
in response to message #33 by Pal G.

Pal --

Here is an archived post of mine comparing execution speeds for numerical integration between the HP-32SII, HP-33s, and HP-35s. At the end, you'll see that the HP-35s takes just more than twice as long as the HP-33s for the same problem, performed in the same manner. The timing-test results for my benchmark are virtually identical to those of Article #700.

I suspect that the short battery life of the HP-33s might have led to a power-saving slowdown for the HP-35s.

(BTW, the typo "HP-35SII" in the archived post should read, "HP-3**2**SII".)

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv017.cgi?read=124094#124094

-- KS

Edited: 30 May 2009, 12:40 a.m.

Re: HP-35s speed vs. HP-33s

*Message #35 Posted by **Pal G.** on 30 May 2009, 4:23 p.m.,*
in response to message #34 by Karl Schneider

Thank you, Karl. I read the archive your link leads to,

and am about to follow the two links in that link. I might be done reading and following the rabbit hole called MoHPC forums by nine o'clock tonight.

Re: HP35s Program Memory Quirk

*Message #36 Posted by **Xerxes** on 30 May 2009, 9:38 a.m.,*
in response to message #33 by Pal G.

The 35S Turbo is the result of an experiment for the maximum possible speedup. The speed can be changed by replacing the resistor R1 to 39kOhm, if I remember correctly. I assume a similar speedup is also possible with the33S, but I haven't tried it, due to the disappointing result of the 35S.

Re: HP35s Program Memory Quirk

*Message #37 Posted by **Pal G.** on 30 May 2009, 4:26 p.m.,*
in response to message #36 by Xerxes

Thanks Xerxes, that's awesome. I was hoping for a software, Nintendo-like keyboard combo to throw my hp 35s into turbo mode. I think I'll pass on the hardware hack.

Cheers,
PG

Re: HP35s Program Memory Quirk

*Message #38 Posted by **Egan Ford** on 28 May 2009, 12:31 p.m.,*
in response to message #29 by Thomas Radtke

> Quote:
>
> This calculator does not follow a new concept but is a descendant of the very popular 32S(II) and his ancestors (I deliberately leave out the 33S).

Never having a 32SII or 33s the 35s was a bit foreign to me. I could not understand why it did things the way it did (e.g. difficult to use complex, alphanumeric line numbers).

I recently obtained a 32SII and now understand were the 35s inherited some of it deficiencies. I am not a fan of the 32SII. IMHO, RPN software design reached it's apex with the 42S.

HP33s versions

*Message #39 Posted by **bill platt** on 27 May 2009, 11:05 p.m.,*
in response to message #25 by bill platt

BTW I am lucky enough to have one of the early production units with the early Algebraic swap handling (and also all the bugs). I had an early one from Amazon too, but lost it!

Edited: 27 May 2009, 11:05 p.m.

Re: HP35s Program Memory Quirk

*Message #40 Posted by **Thomas Radtke** on 13 May 2009, 7:32 a.m.,*
in response to message #1 by Thomas Chrapkiewicz

Clearing the variable space helped me once with a different (seemingly unrelated) problem, where I wasn't able to enter threedimensional vectors anymore (IIRC). No trouble since then.

My serial: CNA72102360

BTW @all, has there been a software update to the 35S?

Re: HP35s Program Memory Quirk

*Message #41 Posted by **Thomas Chrapkiewicz** on 13 May 2009, 7:04 p.m.,*
in response to message #40 by Thomas Radtke

Curious - so the Calc is permanently damaged?

TomC

Re: HP35s Program Memory Quirk

*Message #42 Posted by **John B. Smitherman** on 13 May 2009, 9:09 a.m.,*
in response to message #1 by Thomas Chrapkiewicz

Hi Thomas. Have you tried removing the unlabelled GTO X0001 to see if the problem clears?

Regards,

John

Re: HP35s Program Memory Quirk

*Message #43 Posted by **Thomas Chrapkiewicz** on 13 May 2009, 7:05 p.m.,*
in response to message #42 by John B. Smitherman

John:

No, I have not. Sometimes the ';' issue isn't there when I go into/outof PRGM mode.

I'll experiment a bit more.

thanks, TomC

Re: HP35s Program Memory Quirk

*Message #44 Posted by **Bart (UK)** on 17 May 2009, 5:12 p.m.,*
in response to message #43 by Thomas Chrapkiewicz

Thomas, I have managed to re-create the problem. By creating 0001 GTO X001 at the PGM TOP and a small routine at LBL X to display info. Each on it's own does not seem to produce the problem.

By the way, to the rest: I have not had problems keying in data (even practiced adding a shopping till slip several times - speeding up as I started memorising it). Perhaps I'm still too slow. I have a newer model, S/N: CNA 84902974. Although it does seem to have most of the bugs reported in Paul Dale's HP-35s bug list (article 735).

PS Paul, I keyed in the 710-line game. I take my hat off to you for doing it in the first two weeks of owning the 35s. It took me several hours just to key it in!! (well, perhaps I am just slow on the keyboard)

Re: HP35s Program Memory Quirk

*Message #45 Posted by **Paul Dale** on 17 May 2009, 5:38 p.m.,*
in response to message #44 by Bart (UK)

> Quote:
>
> I have managed to re-create the problem. By creating 0001 GTO X001 at the PGM TOP and a small routine at LBL X to display info. Each on it's own does not seem to produce the problem.

Added to the HP-35s bug list article.

> Quote:
>
> Paul, I keyed in the 710-line game. I take my hat off to you for doing it in the first two weeks of owning the 35s. It took me several hours just to key it in!! (well, perhaps I am just slow on the keyboard)

No you aren't slow on the keyboard, it really does takes a few hours. My daughters keyed it in over a few days in sessions. One of them managed to enlist some class mates to assist!

- Pauli

Re: HP35s Program Memory Quirk

*Message #46 Posted by **Bart (UK)** on 18 May 2009, 7:55 a.m.,*
in response to message #45 by Paul Dale

Update to Thomas' quirk:

It seems to be the 35s' attempt of listing [using <- MEM 2] an unlabelled program.

All that is required is an unlabelled program (which of course has to occur directly after PRGM TOP otherwise it will automatically resume with the previous label's numbering).

When doing a program listing it will start at the first labelled entry and end with "LBL ;" and the "length" of the unlabelled program.

It also only seems to occur if the program counter is at PRGM TOP (e.g. after GTO..), in other cases it totally omits listing the unlabelled program.

> What happens if the unlabelled program is the only program in memory? I don't know and I'm not prepared to wipe the memory to find out! :-) [Oh how we wish for a comms port]

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HP 100LX and CF cards

*Message #1 Posted by **Chris Foley** on 10 May 2009, 11:44 a.m.*

Hello,

I'm trying to expand the memory of my HP 100LX with a PCMCIA + CF card (Viking).

I don't manage to format the A drive on my pocket, I get this "Format not supported on drive A" error message.

I did format this card on my laptop (FAT16) but I still don't see the volume in the Windows Explorer.

Is it something wrong I'm doing or should I get another brand as a CF card (SunDisk for instance)?

Chris.

Re: HP 100LX and CF cards

*Message #2 Posted by **Andrés C. Rodríguez (Argentina)** on 10 May 2009, 11:48 a.m.,*
in response to message #1 by Chris Foley

Sometime ago I tested a CF with PCMCIA adapter in my HP 200 LX (may be different in -100 LX), without any special work. You mentioned not seeing the volume in Windows Explorer, which suggests a problem with the card or the adapter, since the LX 100 seems non-related to this problem...

Re: HP 100LX and CF cards

*Message #3 Posted by **Katie Wasserman** on 10 May 2009, 12:55 p.m.,*
in response to message #1 by Chris Foley

There's a lot of information about this here. Most of this is about the 200LX but at least some cards will work on the 100LX too.

Edited: 10 May 2009, 12:56 p.m.

Re: HP 100LX and CF cards

*Message #4 Posted by **Dave Britten** on 10 May 2009, 6:56 p.m.,*
in response to message #1 by Chris Foley

How big is the card? You more than likely need the Acecard driver, though I'm having a hard time digging up a working link at the moment.

Install the driver, reboot, and format. I've had to use that for anything 512MB and up so far. I found a 256MB PNY card over the weekend, and that one works fine on my 200LX without it.

Re: HP 100LX and CF cards

*Message #5 Posted by **Peter A. Gebhardt** on 11 May 2009, 12:10 p.m.,*
in response to message #1 by Chris Foley

Chris,

search for Acecard here:

http://www.hp200lx.net/super.html

As stated above, 256 MB is the maximum for CF cards in the (1/2)00LX w/o this driver. It is recommended not to throw away those old PCMCIA cards (8 MB FAX cards as an example) and use them as a backup for a "clean" install of your C: drive (naturally including a proper config.sys & autoexec.bat combo that do start with the Acecard driver).

Best regards,

Peter A. Gebhardt

Edited: 11 May 2009, 12:11 p.m.

Re: HP 100LX and CF cards

*Message #6 Posted by **Chris Foley** on 13 May 2009, 5:48 p.m.,*
in response to message #5 by Peter A. Gebhardt

Hello,

I forgot to mention: it is a 256MB CF. So I shouldn't need a driver.

The thing is, have no way to download the driver on the pocket (I don't own a cable), I was expecting to install everything on the PCMCIA + CF card with my laptop before using it with the HP 100LX.

It seems I have no solution :-(

Chris.

Re: HP 100LX and CF cards

*Message #7 Posted by **BruceH** on 21 May 2009, 7:07 p.m.,*
in response to message #6 by Chris Foley

You do have a solution and it was mentioned above.

You need to format the flash card and have it visible in Windows before you go any further, otherwise you are just wasting your time.

Try reformatting the card in a camera as this can often clear problems that Windows gets stuck on. Then reformat in Windows. Then try in the 100LX.

I've used a PCMCIA adaptor + CF card in my 200LX for years. In fact it is "only" a 16Mbyte card which shows just how long ago I bought it.

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Nice "bug" in one HP-41C Users' Lib

*Message #1 Posted by **J-F Garnier** on 9 May 2009, 9:26 a.m.*

I recently scanned the French "Livret d'Applications - Statistiques Appliquées" for the DVD7 of the MoHPC and I found a nice "bug" in one listing.

In the Stat 04 program called "ECHPAIR", on line 154 we can read the alpha string "FS?C02" instead of the instruction FS?C 02:

```
150♦LBL 13
151 1
152 X<>Y
153 -
154 "FS?C02"
155 XEQ 17
156 FIX 3
157 "P"
158 XEQ 11
159 FIX 2
160 RTN
161♦LBL 17
162 2
163 /
164 RTN
165♦LBL 20
```

What is worth to note is that the error is not only in the printed listing, but is also found in the program library of this site: Related Samples , and the same programs (with the "bug") are also in the V41 package available on "The Other Site".

Another question is if this Users' Lib is a specific French package, or if it existed also in English version. What makes me think that this is a specific French package is that many program names and alpha strings are in French. For instance the program name "ECHPAIR" means "Echantillons appairés" (Related samples), in the program we can find the message "MOY." for "moyenne" instead of "mean".

Did an English version exist, and was the "bug" mentionned above also present in it?

J-F Garnier

Edited: 9 May 2009, 9:34 a.m.

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how to tell my 12c's manufactured date

*Message #1 Posted by **mateo999** on 8 May 2009, 12:33 p.m.*

I'm new to the site, having only stumbled upon it when looking to replace my 8 year old 12c whose screen just died. I just bought a new 12c platinum with serial number CNA84102235. Can somebody tell me how to decipher this into a manufacture date? Does this particular run have any problems or quirks (i.e. non-responsive keys)? I miss the rattling, higher-density keys of my old 12c already.

Also, other than only being able to store 30 cash flows (vs. the Anniversary Edition's 80) are their any functional differences between my model and the AE?

Thanks, Matt

Re: how to tell my 12c's manufactured date

*Message #2 Posted by **Mike Morrow** on 8 May 2009, 6:04 p.m.,*
in response to message #1 by mateo999

CNA = Made in China, 8 = 2008, 41 = Week 41, 02235 = 2235th unit serialized that week.

Re: how to tell my 12c's manufactured date

*Message #3 Posted by **Katie Wasserman** on 8 May 2009, 10:22 p.m.,*
in response to message #1 by mateo999

This isn't answering the question, See later in this thread for correction.

You have one of the new 12C's that are also referred to as the 12C+. It's functionally the same as the original 12C but runs 60 times faster! The downside is that it's limited to 20 cash flows since the firmware in the calculator is emulating a calculator from 1981 that only 203 bytes of user RAM.

The Anniversary Edition has a different CPU and different firmware. It has a lot more memory, algebraic mode (in addition to RPN), backspace correction and a few other features. It's faster than the original 12C but nowhere near as fast as the 12C+.

HP has replaced the original 12C with the 12C+ without repackaging it or even announcing this change.

Edited: 9 May 2009, 2:33 a.m. after one or more responses were posted

Re: how to tell my 12c's manufactured date

*Message #4 Posted by **Don Shepherd** on 8 May 2009, 11:15 p.m.,*
in response to message #3 by Katie Wasserman

Katie, he said he just bought a platinum....

I assume they are still selling those.

Don

Re: how to tell my 12c's manufactured date

*Message #5 Posted by **Katie Wasserman** on 9 May 2009, 2:31 a.m.,*
in response to message #4 by Don Shepherd

Pretty dumb of me.

Going back to the original question, the first model 12CP had several bugs, lacked undo and backspace and could only handle 30 cash flows. I thought that later models, like the one you have, are functionally equivalent to the 12CP Anniversary Edition with 80 cash flows. Here's a spec sheet that says that. I think that you might have 80 cash flow registers in your calculator it's just that the manual has not been updated.

Re: how to tell my 12c's manufactured date

*Message #6 Posted by **mateo999** on 10 May 2009, 6:25 p.m.,*
in response to message #5 by Katie Wasserman

Thanks so much for your help guys (and gals). Although i've always known about the programming capabilities of the calculator, I just used it for the first time to store the black scholes option pricing model. Are there any other good programs out there?

Re: how to tell my 12c's manufactured date

*Message #7 Posted by **Don Shepherd** on 10 May 2009, 7:12 p.m.,*
in response to message #6 by mateo999

I guess it depends upon what your interests are. The programming model is very simple, but quite a bit can be done in 99 steps, actually. My area is math, and things like prime factors, lcm/gcd, Pythagorean theorem and quadratic equation are relatively simple on the 12c (not all at once, unfortunately, in 99 steps).

Re: how to tell my 12c's manufactured date

*Message #8 Posted by **Don Shepherd** on 10 May 2009, 8:05 p.m.,*
in response to message #6 by mateo999

Oh yes, you have a platinum, so you have 399 program steps. So you can have several things stored at once, but the tricky thing is that you have to remember what line number each one starts at in order to execute it.

(deleted post)

*Message #9 Posted by **deleted** on 9 May 2009, 6:10 a.m.,*
in response to message #3 by Katie Wasserman

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

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Spice Type 1 vs 2 parts interchangeability?

*Message #1 Posted by **Michael de Estrada** on 8 May 2009, 10:16 a.m.*

We all know that HP made two versions of the Spice series. The first had the metal plate unsoldered keyboards, and the second had fiberboard and soldered keyboards. Most of the parts in the first version are interchangeable, including the battery contact/power control assembly, keyboard, rear case and battery door, slider switch contacts and LED assembly. Even the red LED cover is interchangeable. Everything is snapped together; no soldering, no glue and only 2 screws. This has allowed me to "construct" several completely functional and cosmetically excellent calculators by mixing and matching parts from several incomplete, faulty or damaged calculators. All my refurbishments have been made on the early type 1 versions, so I have no experience with the later type 2.

I have therefore two questions:

First, how many of the type 1 parts are interchangeable with the type 2?

Second, how many of the type 2 parts can be swapped? For example, are the IC's now integral with the keyboard, such that keyboards cannot be swapped or are they part of a separate PCB?

Finally, I have managed to open many type 1 cases without damage; are the type 2 cases more difficult to open?

Thanks in advance for your input,

Michael

Re: Spice Type 1 vs 2 parts interchangeability?

*Message #2 Posted by **Randy** on 9 May 2009, 3:19 p.m.,*
in response to message #1 by Michael de Estrada

That was three questions... :)

1) The only thing that is different is the keyboard.

2) All active devices are interchangeable with the notable exception that you'll have to unsolder the IC's and LED array from the circuit board on version 2 units.

3) No differences in opening.

Be sure to check out the info here on the two versions: http://www.hpmuseum.org/tech30.htm

Edited: 9 May 2009, 6:48 p.m.

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Spice Type 1 vs 2 parts interchangeability?

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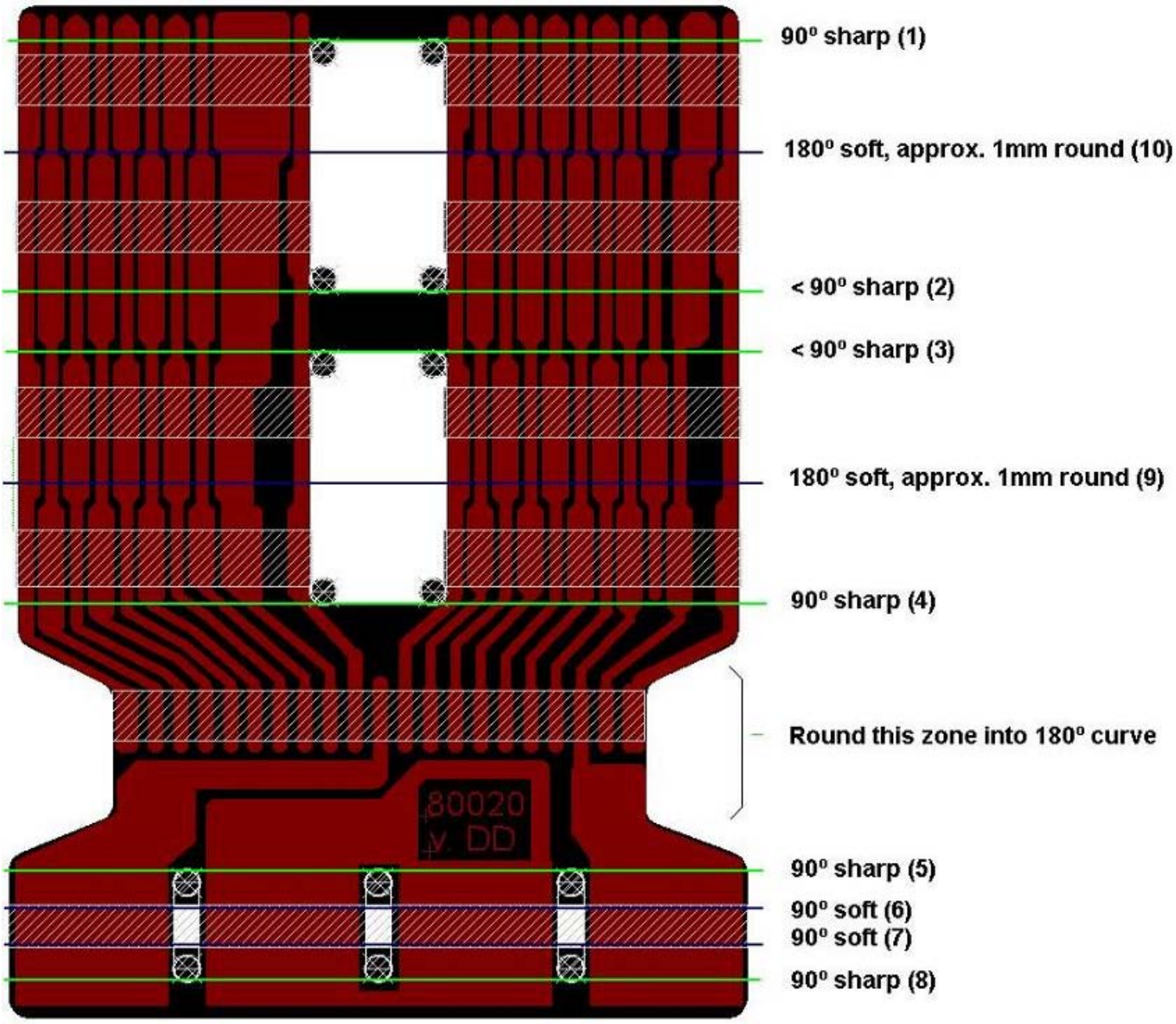
HP-41 Flex-PCB (improving replacement)

*Message #1 Posted by **Diego Diaz** on 8 May 2009, 7:15 a.m.*

Hi all,

I think this may be useful. As I receive the last batch of Flex PCB replacements, I took a couple of them to fix damaged 41's of my own.

When I was in the point of beginning with the bending process I realized that the sharp 90º angles needed at (green) lines 1, 2, 3, 4, 5 and 8 will be far more easy to obtain if I pierced the Flex PCB along these green lines. (see picture)



Using a steel pin, carefully pierced between the tracks along the lines 1, 2, 3 & 4.

And about 1mm step along lines 5 & 8.

As a result the bending process is much more easy and the final shape is achieved and kept with more precision.

Best from Spain.

Diego.

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New 12C availability

*Message #1 Posted by **Charles Oxford** on 7 May 2009, 3:07 p.m.*

Does anyone know if the knew 12C is going to replace the old model or are they just going to randomly seed the market with a few scattered ARM versions? I went to Fry's last night and they had 3 12C's, but all were the older version.

Re: New 12C availability

*Message #2 Posted by **Eric Smith** on 7 May 2009, 3:17 p.m.,*
in response to message #1 by Charles Oxford

All new manufacture is of the ARM-based design. However, there are lots of the older design still in the distribution channels. This is presumably exactly why HP did a "soft roll".

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Disks for 9114B ?

*Message #1 Posted by **Sean Connor** on 6 May 2009, 4:00 p.m.*

I have I hope just bought one !

What kind of disks should I use ?

Sean

Re: Disks for 9114B ?

*Message #2 Posted by **Eric Smith** on 6 May 2009, 4:12 p.m.,*
in response to message #1 by Sean Connor

Double-sided double-density (not "high-density"). The kind that are called 720K when used in PCs, or 800K when used in old Macs.

Re: Disks for 9114B ?

*Message #3 Posted by **Andrés C. Rodríguez (Argentina)** on 6 May 2009, 4:33 p.m.,*
in response to message #2 by Eric Smith

Just to add a couple of details that may help to spot them: IIRC, such floppies have 80 tracks, and the radial density is 135 tpi (tracks per inch). For PC (MS-DOS) usage, they are formatted with 9 sectors per track. They were also used in Amiga 1000 and Amiga 500 computers, but with a proprietary format. And also were used in some MSX and other computers around 1986.

PC: 720 KBy

Macintosh: 800 KBy

Amiga: 880 KBy

Re: Disks for 9114B ?

*Message #4 Posted by **Martin Pinckney** on 7 May 2009, 10:03 a.m.,*
in response to message #2 by Eric Smith

I may still have a few of them lying around. If I do, I would be happy to send them to you.

Re: Disks for 9114B ?

*Message #5 Posted by **Egan Ford** on 6 May 2009, 6:25 p.m.,*
in response to message #1 by Sean Connor

In a pinch you can tape over the hole on a 1.44 and use that. I have had no problems doing that, however I prefer to use 720k disks. You can get them from floppydisks.com. They have great return policies.

Re: Disks for 9114B ?

*Message #6 Posted by **Andrés C. Rodríguez (Argentina)** on 7 May 2009, 10:08 a.m.,*
in response to message #5 by Egan Ford

The "currently standard" 3.5" floppies, which are usually formated at 1.44 MBy and marked as HD (High Density) instead of DD (Double Density), should be useable (I don't have a 9114 to check by myself). You may wish to tape the square hole opposite to the write-protect tab, because that hole is what "tells" the drive that it's a HD and not a DD floppy.

As HD and DD both have 80 tracks, HD should work with no problem. In the PC world, DD are formatted with 9 sectors per track, and HD with 18 sectors per track, here is where the capacity increase comes from. Be sure to reformat the disks before usage.

A different case was the one concerning 5.25" floppies, where the higher density disks (1.2 Mby) had 80 tracks while standard disks had 40 tracks. The narrow tracks of the "larger" disks created many alignment issues and read errors at those times.

Re: Disks for 9114B ?

*Message #7 Posted by **Eric Smith** on 7 May 2009, 2:59 p.m.,*
in response to message #6 by Andrés C. Rodríguez (Argentina)

The big problem with using 5.25" HD media as standard density (DD) is that the coercivity of the media is MUCH different (600 vs. 300 Oe). It was entirely unreliable to use HD as DD or vice versa, even if you were using the same track pitch. Writing to HD media on a DD drive usually wouldn't result in data that could be read back again reliably on any drive.

With 3.5" disks, the coercivity of HD and DD media is much closer, 750 vs. 600 Oe if memory serves. That's close enough that a DD drive can write to the HD media, though the error rate is measurably higher and the long-term reliability is probably reduced.

If I had some kind of emergency where I needed a 3.5" disk to use in a DD drive (like the 9114), and all I had were 3.5" HD disks, I'd cover the hole and use one, but I wouldn't ever do that as general practice. DD disks just aren't that hard to get.

Stock up now, though. In a few more years it will become difficult and expensive to get either DD or HD disks.

Re: Disks for 9114B ?

*Message #8 Posted by **Diego Diaz** on 7 May 2009, 4:29 p.m.,*
in response to message #7 by Eric Smith

I fully agree with previous comments: By all means try to use DD disks.

You can use HD instead just as "emergency" media, but get DD's as soos as you can...

However, what I can't figure out is how could HP (or SONY which is the actual manufacturer of the drive inside a 9114B) place a "media desity detection switch" into a drive... years before HD media become available? ;-)

Ok, (couldn't resist) a long way to say that there is no such switch into 9114 drives, so no need to tape the hole... just insert your disk and try formatting!

Cheers

Diego.

Re: Disks for 9114B ?

*Message #9 Posted by **Eric Smith** on 7 May 2009, 6:01 p.m.,*
in response to message #8 by Diego Diaz

IIRC, the switch in the DD drive was intended as a "media present" detector. If you insert HD media, it doesn't think there's any media present.

HD drives sense media present using a detector in a different position, so that they sense the presence of either DD or HD media. They have a separate sensor for the HD hole.

Re: Disks for 9114B ?

*Message #10 Posted by **Diego Diaz** on 7 May 2009, 8:27 p.m.,*
in response to message #9 by Eric Smith

Hi Eric,

That's true for the PC world... but 9114B has nothing to do with densities, DOS formats, etc. Its "media present" switch is placed in the same side where "write protection" is, but at the top of the disk, besides the sliding head window cover.

The only reason for taping the "media density hole" in an HD disk while dealing with LIF formats, is in the case that you need to use your disks in a DOS running old PC with LIF utilities.

This will allow the PC to accept the disk as a DD, and LIF to work as expected. But remember that reliability is compromised by this practice.

Hope this helps...

Diego.

Re: Disks for 9114B ?

*Message #11 Posted by **Dave Shaffer (Arizona)** on 7 May 2009, 4:31 p.m.,*
in response to message #7 by Eric Smith

> Quote:
>
> Stock up now, though. In a few more years it will become difficult and expensive to get either DD or HD disks.

I've got some DD disks, too (15 or 20) that I would be happy to send to whoever can use them.

Re: Disks for 9114B ?

*Message #12 Posted by **Andrés C. Rodríguez (Argentina)** on 7 May 2009, 8:16 p.m.,*
in response to message #7 by Eric Smith

Of course, Eric is right and more precise than me about the coercitivity issue.

I did some design with 3.5" floppy drives back in 1989 and also found important differences between similar units from different maunfacturers (IIRC, we were using mostly Fujitsu drives with our 64180-based data capture device). I think that the ability of a DD drive to write on HD media may also differ from one drive manufacturer to other. In my particular experience, HD media performed well when used in DD drives, but I cannot deny the chance for higher error rates that were perhaps masked by software or brute-force retries, and being not that apparent (at least for me). One funny thing that happened with some very slim drives we used in some units, was that a particular brand of diskettes seemed to require more rotational torque, and we detected many cases in which the specific combination of those drives and those disks, with some dirt added, resulted in more service calls than all other combinations.

Of course, sometimes we don't have all the brands and options available here, and also... while I enjoy recalling stories from the past, I realize my comment have gone way OT, so I apologize.

Edited: 7 May 2009, 8:18 p.m.

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My new traction system for Topcat printers.

*Message #1 Posted by **Ignazio Cara (Italy)** on 6 May 2009, 4:30 a.m.*

This is my last and, I hope, final work on the Topcat's printers traction system. How you can see, I have removed the original stuff wich was the wheel traction, its plastic support and I have created a support groove for the o-ring.

Original wheel.

After wheel stuff removing.

You can see only the plastic support.

Grooved!

And finally, the new wheel!

On my HP-97 the system work very well, even after weeks of not using the printer does not overlap the printed lines and drag the paper in the right way. Only the line density has fallen from 6.2 to 5.9 lpi. For those wishing to experience this change, the o-ring measures are: - outer diameter 8.5 mm; - internal diameter 4.5 mm; - thickness 2.0 mm

I apologize for my bad english and I hope you have improvements to be proposed, thanks in advance.

I wish you good job!

Ignazio

Re: My new traction system for Topcat printers.

*Message #2 Posted by **Marcus von Cube, Germany** on 6 May 2009, 10:04 a.m.,*
in response to message #1 by Ignazio Cara (Italy)

Well done!

Can you point me to the printer disassembly instructions somewhere? I know it's not trivial.

How did you do the modifications to the plastic parts? Which tools have been used?

Marcus

Re: My new traction system for Topcat printers.

*Message #3 Posted by **Ignazio Cara (Italy)** on 6 May 2009, 11:21 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Thanks Markus, I don't know where and if you could find the instruction, I have used only the exploded view showed in the Service Manual of the HP-97 and I tried to do it.

These are the parts of the printer, disassembled:

Disassemble the printer is not particularly difficult, you must pay attention to the thermal-head flat cable.

The tools do you need are a exacto knife and a hacksaw blade for the groove; it is not necessary to use adhesives to fix the o-ring.

Sure, it takes a lot of patience and attention. Before making this type of job, I have always completely dismantled printers to be able to clean and lubricate better.

Regards and thank you for your interest.

Ignazio

Edited: 6 May 2009, 11:27 a.m.

Absolutely Wonderful repair!

*Message #4 Posted by **Geoff Quickfall** on 6 May 2009, 12:09 p.m.,*
in response to message #3 by Ignazio Cara (Italy)

Thanks for the posting,

Geoff

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Faulty LED's on HP 55

*Message #1 Posted by **Michael de Estrada** on 5 May 2009, 12:13 p.m.*

I have an HP 55 with some faulty LEDs that I'd like to replace, however, first I'd like to be sure that the problem is confined to the LEDs themselves. One of the LEDs has segments that fail to light up when powered, which I assume means that they are burned out. However, another LED has segments which are dimly lit when NOT powered, and become progressively brighter as other LEDs are powered. So, I am wondering if this is indicative solely of an LED problem or some other electrical or IC problem as well.

Also, is there an alternate source of LEDs for this model, other than another HP Classic series calculator?

The calculator is very clean, and there is absolutely no indication of any battery corrosion or outgassing problems.

Thanks,

Michael

good question, any techies that can answer it.

*Message #2 Posted by **Geoff Quickfall** on 5 May 2009, 1:35 p.m.,*
in response to message #1 by Michael de Estrada

I have a similar problem on a 45

Specifically a decimal point does not light up. No other problems so I am looking at replacing that block of LEDS.

I also have an hp 65 that exhibits the ghost led effect. That is, one of the LEDs lights up with the digit you have input in a previous block, producing a very faint ghost image.

```
ex.  input 8.80, fix 2 display


digit display reference   1  2  3  4  5  6  7  8  9  0
should see                8 .8  0
do see                    8 .8  0        8


the 8 in position 6 is a very faint image.
```

Cheers, Geoff

P.S. the circuit board has been cleaned of corrosion and the traces or check for continuity. I don't have an ocilliscope or the expertise to run 'yet'!

Re: good question, any techies that can answer it.

*Message #3 Posted by **Gerry Schultz** on 5 May 2009, 2:08 p.m.,*
in response to message #2 by Geoff Quickfall

It's been a while but I'm willing to take a stab at what I think is wrong. I would first suspect the display driver chips before the display LEDs themselves. If the LEDs are "burned out" due to excessive current then something in the display electronics had to fail to allow that.

As I remember, to reduce the parts count, the display driver strobes through each LED display with "ripple blanking" one side of the LED to turn on and off each element very quickly with the other side being fed with the proper character for it. That's why if you look at a classic calculator display that has been video taped, it will have a flickering pattern as it beats with the 30 Hz of the video scan.

If you are getting dimly lit LEDs or 'ghost' elements, that implies that the display switching is allowing leakage current to partially turn on elements that are suppose to be off. Again, I would suspect the drivers before the display elements though I could be wrong.

I don't know how the driver chips are wired with relation to display so I can't say how easy it is to repair. I do remember that the driver chips are custom HP parts and I doubt that there is a third-party source for replacements. Where the display chips sealed in epoxy? I also seem to remember how the display worked in the classic calculators being discussed in an old HP or PPC article.

Finally, I have an HP-55 that I bought new back in 1974 and I remember being very curious about how the display worked and why it was so bright. I was surprised to learn that there are lenses in front of each LED 7-segment display to enlarge them. In reality they are much smaller and even brighter than they appear in the calculator.

Amazing.

Gerry

Thanks Gerry

*Message #4 Posted by **Geoff Quickfall** on 5 May 2009, 4:52 p.m.,*
in response to message #3 by Gerry Schultz

I was afraid the display drivers would be at fault.

In the case of the dissappearing decimal I am thinking it is an actual connection fault as this calculator was severely corroded. I bought it for parts and found out that the PCB is fully functional.

The ghost images would appear to be chip drivers. Fortunately they are IC's and soldered into place. Now to find good spares!!!

Geoff

Re: Thanks Gerry

*Message #5 Posted by **Gerry Schultz** on 5 May 2009, 6:36 p.m.,*
in response to message #4 by Geoff Quickfall

No problem, Geoff. I'll see you at HHC 2009. Vacation is set and reservations made.

Gerry

Edited: 5 May 2009, 6:37 p.m.

Re: Thanks Gerry

*Message #6 Posted by **Geoff Quickfall** on 6 May 2009, 12:12 a.m.,*
in response to message #5 by Gerry Schultz

Darn tootin,

Hotel booked and I will be presenting an HP 41 restoration paper and slide show; replete with the screw post problem, back case screw head washer problem, LCD replacement (maybe) and of course a general spa.

Included in the presentation (slide show) will be an HP 41 card reader restoration also.

All in aid of the conference theme this year. I was going to present aviation specific programs on the HP 41 but I will leave the programming to the consumate pros.

Cheers, Geoff

Re: Faulty LED's on HP 55

*Message #7 Posted by **Randy** on 5 May 2009, 9:25 p.m.,*
in response to message #1 by Michael de Estrada

> Quote:
>
> Also, is there an alternate source of LEDs for this model, other than another HP Classic series calculator?

In a word, No.

Within the classics, the LED arrays can and will be different. On the back of the package is a letter that is the brightness code. Mixing arrays that are more than one letter apart will be noticeable. Original sets will all be matched to the same letter.

Some arrays have gold leads, some have tin. Mixing them will result in different vertical character positions.

The problem with ghosting segments in the order of occurrence:

1) Bad LED array 2) Leaky keyboard contacts or corrosion 3) Bad driver IC's

You really, really need to get Tony Duells schematic set from HPCC to do any real troubleshooting. Anything less is just guessing. Further, attempting LED or driver IC replacement with anything less than a professional desoldering station will result in board damage.

Just my opinions, your mileage may vary.

Re: Faulty LED's on HP 55

*Message #8 Posted by **Geoff Quickfall** on 6 May 2009, 12:15 a.m.,*
in response to message #7 by Randy

Your absolutely right on the "Leaky keyboard contacts or corrosion". I had this problem on an HP 35 with ghosts prior to a restoration.

Lots of 'blue' oxidation and crystalline accumulation from battery outgassing. After a thorough cleaning (vinegar, soap and water, and alcohol) the ghosts had all disappeared.

In fact, nothing displayed!!! Just kidding, it now functions perfectly.

Geoff

maybe a solution

*Message #9 Posted by **Frank Boehm (Germany)** on 6 May 2009, 5:18 a.m.,*
in response to message #1 by Michael de Estrada

This is a finding of Mr. Timmerman, full credits to him :)

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=388

> Quote:
>
> I decided that maybe the driver for the left digit needed to be pulled up a little. This was because it just seemed to sink current during the time that the other digits were driven, causing the cross-talk from the other digits.
>
> Indeed the problem vanished with a resistor of 150 Ohm between Vcc and k15. To avoid possible damage and to stay on the conservative side I chose to use 200 Ohm. In the pictures you can see that the display is now much better looking, though a little less bright than the other HP45 that I have.

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HP71B PCB interconnection strip

*Message #1 Posted by **Tony de Groot** on 4 May 2009, 10:11 a.m.*

Hi, I have just got around to testing a 71B I have had for a while and it hissed when I put the batteries in it. I pulled it apart and the flexible connector between the 2 PCBs was badly corroded. Does anyone have any ways of replacing the flexible interconnect or building a new one?

Thanks,

Tony

Re: HP71B PCB interconnection strip

*Message #2 Posted by **Etienne Victoria** on 4 May 2009, 5:02 p.m.,*
in response to message #1 by Tony de Groot

Hi Tony,

Sure. If you refer to this particular strip:

The possible repair has been addressed in this particular thread.

and a possible repair option could include soldering:

with more details on the procedure here.

Best regards from France.

Etienne

Edited: 4 May 2009, 5:04 p.m.

Re: HP71B PCB interconnection strip

*Message #3 Posted by **Tony de Groot** on 5 May 2009, 8:54 a.m.,*
in response to message #2 by Etienne Victoria

Hi Etienne,
Thank you for the very detailed reply. This definitely looks possible, however I prefer to repair in a way that keeps the same functionality and operation, so will try to avoid soldering for the moment.
I was thinking about maybe getting some very fine gold wire (maybe from a jeweller) and setting up a row of pins to get the right spacing and winding the wire backwards and forwards to get the array of wires, then using something like adhesive tape to hold it in place, trim the ends to remove the short circuits, and then replace the original zebra strip with that. How to stop the tape from sticking to the holder is something I have not worked out yet.
Just had another thought that maybe I could wind the wire around the flexible strip and cut along it to form a set of wire segments.
I am assuming that the zebra strip used for LCDs are of too high a resistance to work correctly as a substitute, but I was wondering if anyone had tried that already?
Thanks,

Tony.

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A few questions 42S Global Labels

*Message #1 Posted by **Egan Ford** on 3 May 2009, 7:54 p.m.*

First, are there "hidden" global labels? I.e. a way to create a global label that can be called from a program, but does not appear with XEQ?

Second, is there a way to organize global labels in the XEQ list?

The challenge I face with a program I am writing is that my program front-ends the solver and PGMSLV requires a global label. Now I have many global labels that have limited use outside of this program.

Thanks.

Re: A few questions 42S Global Labels

*Message #2 Posted by **Thomas Okken** on 3 May 2009, 11:15 p.m.,*
in response to message #1 by Egan Ford

> Quote:
>
> First, are there "hidden" global labels? I.e. a way to create a global label that can be called from a program, but does not appear with XEQ?

No.

> Quote:
>
> Second, is there a way to organize global labels in the XEQ list?

No, the global labels appear in the catalog in the order in which they appear in program memory, from last to first. There is no control over this, no grouping or reordering like on the RPL machines.

> Quote:
>
> The challenge I face with a program I am writing is that my program front-ends the solver and PGMSLV requires a global label. Now I have many global labels that have limited use outside of this program.

That's life on the HP-42S... There are ways to ameliorate the problem, though. You can use one global label for multiple functions; if you combine all the functions you want to be able to solve into one program, using a variable to select between them, then you can use one single global label as the entry point for all of them, thus reducing global label clutter at the expense of some obfuscation in your program:

```
LBL "FCNS"
MVAR "X"
GTO IND "SEL" <-- selects which function to execute
```

```
LBL 00
1
RCL "X"
RCL/ "C"
X^2
-
SQRT
1/X
RCL- "D"
RTN
LBL 01
...
RTN
LBL 02
...
END
```

Using only one global label has the disadvantage that you're stuck with the same set of MVARs for all the sub-functions, but since you were talking about running the solver under program control, I'm guessing that's not a problem.

- Thomas

Re: A few questions 42S Global Labels

*Message #3 Posted by **Egan Ford** on 4 May 2009, 8:00 p.m.,*
in response to message #2 by Thomas Okken

Thanks. Great idea. Worked out perfect. Since I use VARMENU in the calling program there is no need for MVAR in the Solver global.

Re: A few questions 42S Global Labels

*Message #4 Posted by **Karl Schneider** on 4 May 2009, 10:45 p.m.,*
in response to message #2 by Thomas Okken

Thomas --

Good workaround. It's very similar in concept to my solution when someone asked how to be able to select which *variable* to SOLVE or INTEGrate using a pre-Pioneer model.

An excerpt from my article #556:

```
f(x, y, z) = 2*x - ln y + 1/z
x in R1; y in R2; z in R3
indirect in R00 (HP-41 only)


HP-15C/HP-34C program:      HP-41C/CV/CX program:
LBL A                       LBL "AA"
STO (i)                     STO IND 00
RCL 1                       RCL 01
2                           2
*                           *
RCL 2                       RCL 02
LN                          LN
-                           -
RCL 3                       RCL 03
1/x                         1/x
+                           +
RTN                         RTN
```

-- KS

Edited: 4 May 2009, 10:47 p.m.

Re: A few questions 42S Global Labels

*Message #5 Posted by **Egan Ford** on 4 May 2009, 11:32 p.m.,*
in response to message #4 by Karl Schneider

Karl,

Great article. Thanks.

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And finally - a simulator for the HP32E.

*Message #1 Posted by **Mike T.** on 3 May 2009, 6:47 p.m.*

For those of you who are interested my collection of calculator simulators just got bigger - at last I've been able to add an HP32E.

I'm particularly pleased to be able to add this model to my collection, as even though I've found the HP33C much more useful over the years, I've not forgotten the HP32E's remarkable ability to evaluate the normal and inverse normal distribution functions accurately at a time when everyone else was still having to use look up tables.

Enjoy - as ever feedback is welcome.

Mike T.

Edited: 3 May 2009, 7:09 p.m.

Re: And finally - a simulator for the HP32E.

*Message #2 Posted by **Michael de Estrada** on 3 May 2009, 9:12 p.m.,*
in response to message #1 by Mike T.

What I find most impressive is that it yields the same forensic value (9.000417403) as my real HP 32E. Excellent job! I too find this to be one of my favorite non-programmable vintage HP's. It was the first HP with hyperbolics, which were removed from the HP 33E/C and HP 34C to make room for programming keys. How about an HP 27 next? I don't have one of those. :<(

Keep up the good work, Michael

Re: And finally - a simulator for the HP32E.

*Message #3 Posted by **Mike T.** on 4 May 2009, 4:51 a.m.,*
in response to message #2 by Michael de Estrada

If anyone could help me figure out how I could use the Visual BASIC financial functions to implement the financial functions available on the HP27 it wouldn't take long to do - I've implemented everything else..

Mike T.

Re: And finally - a simulator for the HP32E.

*Message #4 Posted by **hugh steers** on 4 May 2009, 9:41 a.m.,*
in response to message #1 by Mike T.

Awesome!

I really liked the 32e, it was my first HP calculator. I bought it new when I was in college, it was much more expensive than offerings from casio or TI at the time, but I liked it. The construction was superior and although it offered only the usual scientific functions, the competitor scientific models had less.

Hyperbolic functions and unit conversions were there too, stats worked well and I genuinely wanted the Q function for real use. I remember, even though we all used calculators, everyone else was forced to resort to tables for their normal distributions. It was an eerie throwback watching them.

Furthermore, you were lucky to get 5 figures out of the tables, but the 32e was giving a full 10 figure accurate result – almost instantly. It was a remarkable achievement and I was always puzzled why HP couldn't carry Q and invQ on to their later models.

invQ appeared to work through a convergent iteration. It took about 10 seconds or so. It always got the right answer though. I never actually needed this for real work, but it was always fascinating.

Thanks for making the simulator!

Re: And finally - a simulator for the HP32E.

*Message #5 Posted by **Katie Wasserman** on 4 May 2009, 10:57 a.m.,*
in response to message #4 by hugh steers

> Quote:
>
> why HP couldn't carry Q and invQ on to their later models

They did, just not as obviously. The 21S had these functions explicitly, I'm not sure if any other HP's had these functions as such. However, several calculators that have a good implementation of the HP solver have the Q function as UTPN and, of course, you can use this function in the solver to obtain the inverse. Also, various STAT modules and packs have this function too.

And finally - a simulator for the HP32E.

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What do the following have in common, other than they are used to calculate?

*Message #1 Posted by **Geoff Quickfall** on 2 May 2009, 3:28 p.m.*

starting at the upper left corner:

```
1.  BOWMAR 901
2.  OTIS KING MODEL "K"
3.  COMMODORE MINUTEMAN 1
4.  POST 1461 6" SLIDE RULE
5.  JCE MARK II
6.  UDC "TKB 1"
```

You could find them all in the local tech store or university book store in 1972, maybe in the same display case!

What do the following have in common, other than they are used to calculate?

Then of course, this showed up:

Edited: 2 May 2009, 3:31 p.m.

Re: What do the following have in common, other than they are used to calculate?

*Message #2 Posted by **Juergen Keller** on 2 May 2009, 5:34 p.m.,*
in response to message #1 by Geoff Quickfall

My guess is that they are all manufactured around 1972. BTW, 1972 was the longest year in the Gregorian calendar. As a leap year, it was one day plus an additional 2 leap seconds longer than normal.

Do I win the very nice HP-35 for the correct answer? ;-)

Cheers, Juergen

Re: What do the following have in common, other than they are used to calculate?

*Message #3 Posted by **Egan Ford** on 2 May 2009, 5:43 p.m.,*
in response to message #1 by Geoff Quickfall

They all fit in a pocket?

Well, not all at once ;-)

*Message #4 Posted by **Geoff Quickfall** on 2 May 2009, 6:57 p.m.,*
in response to message #3 by Egan Ford

nt

Ha, Ha, wish I had a spare red dot to give you ;-)

*Message #5 Posted by **Geoff Quickfall** on 2 May 2009, 6:25 p.m.,*
in response to message #1 by Geoff Quickfall

I actually answered, well my answer anyway;

You could find them all in the local tech store or university book store in 1972, maybe in the same display case!

Cheers, Geoff

Re: Ha, Ha, wish I had a spare red dot to give you ;-)

*Message #6 Posted by **Juergen Keller** on 3 May 2009, 3:43 a.m.,*
in response to message #5 by Geoff Quickfall

Your pictures are so nice and it was around midnight, so I just skipped your answer. Anyway, if you ever have a spare red dot remember me ;-)

BTW, the 35 looks very nice. Did you (master of restoration) restore it or were you just lucky to get such a nice item? I'm looking for information of how to restore the top silver trim. I read about bare metal foil which gives good results. Any hints you can share?

Juergen

Re: Ha, Ha, wish I had a spare red dot to give you ;-)

*Message #7 Posted by **Geoff Quickfall** on 5 May 2009, 2:08 a.m.,*
in response to message #6 by Juergen Keller

Yes, a restoration.

The silver trim is a problem, at the moment remedied with aluminum/chrome modellers paint.

I am going to experiment with chrome foil. This requires a size (base glue) be applied and then the foil placed on top. The foil is rubbed on with a cloth and the excess trimmed off.

I shall see if that works!

Re: Ha, Ha, wish I had a spare red dot to give you ;-)

*Message #8 Posted by **Ron G.** on 5 May 2009, 1:33 p.m.,*
in response to message #7 by Geoff Quickfall

I tried this, Geoff, and it did not work well at all. I just used the glue that came with the foil leaf, and it didn't hold the foil well. There may be a better glue available for this particular application.

Re: Ha, Ha, wish I had a spare red dot to give you ;-)

*Message #9 Posted by **Dave Shaffer (Arizona)** on 5 May 2009, 5:05 p.m.,*
in response to message #8 by Ron G.

Quote:

> There may be a better glue available for this particular application.

What about contact cement? (But, you only get one chance to lay it on straight! Although, if you are planning to trim the excess away, that shouldn't be a problem.)

Re: Ha, Ha, wish I had a spare red dot to give you ;-)

*Message #10 Posted by **Charles Oxford** on 5 May 2009, 6:30 p.m.,*
in response to message #8 by Ron G.

Maybe this will help:

Bare Metal Foil instructions

Re: What do the following have in common, other than they are used to calculate?

*Message #11 Posted by **Richard Ottosen** on 2 May 2009, 6:36 p.m.,*
in response to message #1 by Geoff Quickfall

> Quote:
>
> What do the following have in common ...

One thing the calculators have in common is the keyboard!

I seem to remember seeing these keyboards in electronics surplus stores for years. I think that they were marked "Wild Rover" or something like that.

-- Richard

Klixon

*Message #12 Posted by **Geoff Quickfall** on 2 May 2009, 6:55 p.m.,*
in response to message #11 by Richard Ottosen

Klixon keyboards by Texas Instruments before they got into the calculator business.

Re: What do the following have in common, other than they are used to calculate?

*Message #13 Posted by **Mike Morrow** on 2 May 2009, 6:52 p.m.,*
in response to message #1 by Geoff Quickfall

The Bomar 901 was my first calculator, purchased in October 1972 in Atlanta for $130 ($660 corrected to 2009). I couldn't afford the $400 HP-35 at the Georgia Tech bookstore.

I've still got the 901, but it doesn't work.

All those still work, problem is

*Message #14 Posted by **Geoff Quickfall** on 2 May 2009, 6:56 p.m.,*
in response to message #13 by Mike Morrow

they came with hard wired 5 or 6 pack AA size nicads which by now have rotted. If your lucky the replacement would let the machine power up.

cheers, Geoff

they have lots in common

*Message #15 Posted by **Frank Boehm (Germany)** on 4 May 2009, 6:02 a.m.,*
in response to message #1 by Geoff Quickfall

They all use the same TI chip (TMS0103) plus a TI Klixon keypad. The Commodore MM1 is actually a repackaged Bowmar 901.

wrong ;-) but I no what you mean ;-)

*Message #16 Posted by **Geoff Quickfall** on 4 May 2009, 2:09 p.m.,*
in response to message #15 by Frank Boehm (Germany)

Actually the Otis King and the Post don't have a Klixon keypad or TI chips;

;-)

but you are correct about the others.....

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BASIC 45th anniversary

*Message #1 Posted by **Don Shepherd** on 2 May 2009, 8:33 a.m.*

Yesterday was the 45th anniversary of the BASIC language. On May 1, 1964 at Dartmouth University, at 4:00 AM, Professor John Kemeny and a student programmer entered a simple program and typed RUN at the same time, and BASIC was born.

Re: BASIC 45th anniversary

*Message #2 Posted by **Johnny Bjoern Rasmussen** on 2 May 2009, 12:35 p.m.,*
in response to message #1 by Don Shepherd

My first computer was a Sinclair ZX-81. So here's my tribune to my first programming language (except from entering program lines in my TI-57, wich was before my ZX-81).

```
10 REM BASIC BIRTHDAY GREETINGS
20 FOR A=1 TO 49
30 PRINT "HURRAY"
40 NEXT A
50 PRINT "H U R R A Y Y Y Y Y Y Y ! ! !"
60 STOP
```

Johnny

Re: BASIC 45th anniversary

*Message #3 Posted by **Egan Ford** on 2 May 2009, 5:41 p.m.,*
in response to message #2 by Johnny Bjoern Rasmussen

Recycled 71B program:

```
2 OPTION BASE 0 @ DESTROY ALL @ DIM A$[79] @ L=0 @ DIM E$[435] @ N=0
4 INTEGER Z(1610) @ C=1610 @ D=0 @ E=10000 @ F=100000 @ H=0
6 B=C @ C=C-1 @ IF B<=1523 THEN 20
8 B=B-1 @ IF B=0 THEN 14
10 IF H=0 THEN D=D+E*F ELSE D=D+Z(B)*F
12 Z(B)=MOD(D,B) @ D=FLOOR(D/B) @ GOTO 8
14 H=5 @ X=E+FLOOR(D/F) @ DISP "."; @ D=MOD(D,F) @ E=D @ N=N+5
16 FOR I=1 TO 5 @ E$[N-I+1,N-I+1]=STR$(MOD(X,10)) @ X=FLOOR(X/10) @ NEXT I
18 GOTO 6
20 N=1 @ FOR I=1 TO 100 @ READ A @ FOR J=1 TO 16 @ L=L+1
22 IF L=80 THEN 28
24 IF MOD(A,2)=1 THEN A$=A$&E$[N,N] @ N=N+1 ELSE A$=A$&" "
26 A=INT(A/2) @ NEXT J
28 IF MOD(I,5)=0 THEN DISP A$ @ A$="" @ L=0
30 NEXT I
32 DISP
34 DATA 0,0,0,0,0,58124,61936,1561,0,0,58124,13104
36 DATA 795,0,0,45446,6937,435,0,0,45446,6937,435,0
38 DATA 0,39422,63993,241,0,0,39302,6169,96,0,0,64902
40 DATA 6169,96,0,0,3267,3087,48,0,0,1731,3087,48
42 DATA 0,0,0,0,0,0,0,0,60540,28615,2008,24974
44 DATA 0,27852,25356,3288,12686,0,14022,12684,6252,6939,0,14022
46 DATA 12684,6252,6939,0,63038,61831,39023,3865,0,14022,12675,39020
```

```
48 DATA 1561,0,14022,12675,52284,1567,0,7107,6342,52790,816,0
50 DATA 7039,6342,25590,816
```

Re: BASIC 45th anniversary

*Message #4 Posted by **Namir** on 2 May 2009, 3:59 p.m.,*
in response to message #1 by Don Shepherd

Don,

In the mid 80s I had the opportunity to meet the parents of BASIC, John Kemeny and Thomas Kurtz in their True BASIC office in Dartmouth, NH. When I met John Kemeny (who was once the dean of Dartmouth) I asked him about his experience working for Einstein. Kemeny was helping Einstein solve PDEs. He said that even in his seventies, Einstein was an incredible person. After a year of working for him, Kemeny told Einstein that the task at hand was very difficult. Must have been really tough equations to solve.

I had teh chance to meet with Prof Kurtz a few times. Both founders of BASIC were very nice and very approachable.

Namir

Re: BASIC 45th anniversary

*Message #5 Posted by **Marcus von Cube, Germany** on 2 May 2009, 4:21 p.m.,*
in response to message #4 by Namir

BASIC was the first programming language I had encountered as a young student at the age of 16, 33 years ago. It was Wang BASIC running on a computer located at the school of a friend of mine. I wasn't supposed to use the computer at all, but it was so challenging that we just did it. ;)

On my first attempts in programming I thought I had to use GOTO if I wanted to jump to a line below the current line and GOSUB if I wanted to jump backwards. My English was as basic as my understanding of BASIC.

I think, I've made some progress by now. ;)

My contribution to the BASIC community: http://www.mvcsys.de/doc/basic_compare.html

Re: BASIC 45th anniversary

*Message #6 Posted by **Don Shepherd** on 3 May 2009, 10:32 p.m.,*
in response to message #4 by Namir

Dr. Kemeny, a Hungarian, died in 1992. Dr. Kurtz is still living.

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CLTKTD or CLKT Status ?

*Message #1 Posted by **Saile (Brazil)** on 2 May 2009, 7:41 a.m.*

```
How do I know the status clktd or clkt in a program?
The reason is that one of mine hp-41CX it is always losing the hours.
I would like to do a routine that automatically asked the hour and the date when they
initialized.
I would always test if the way clkt was active because I use the clktd.
Thank's
```

Edited: 2 May 2009, 7:43 a.m.

Re: CLTKTD or CLKT Status ?

*Message #2 Posted by **Dan Grelinger** on 2 May 2009, 8:26 a.m.,*
in response to message #1 by Saile (Brazil)

Saile,

That is a tough one. The CLKT/CLKTD flag is stored in a register located in the Time module. It is only accessible through M-Code instructions. Some time in the past year, I found documentation on the Time module and its internal registers, it may have been in "Extend you HP-41".

Dan

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Rattling 9114B

*Message #1 Posted by **Steve (Australia)** on 2 May 2009, 2:40 a.m.*

I am in the process of cleaning my room (yes, my wife has me under orders) :-D

I picked up my 9114B drive to put it away and was astonished (and somewhat surprised) to hear it rattle. On opening it I found a loose piece of metal (possibly aluminium) about 13mm x 13mm x 0.5mm.

It has a red spot in one corner, a yellow in an adjacent corner and the letters C68A19 on the opposite edge. The reverse side has a stripe of what appears to be glue across the middle.

It looks like the glue has deteriorated and this has simply come adrift.

My guess is that it is a shield of some sort, perhaps covering a drive head.

I don't have time to take the drive apart at the moment, or to test to see that the drive still works.

Has anyone seen something like this when delving inside their 9114B? These are so reliable that I'm sure most people have had no need to open the cover.

If these are starting to fall off, it would be great to find out from where they're falling off so we can do preventative maintenance. A chunk of metal this size could very easily spell the end for a drive if it shorted out something :-(

Better get back to work ;-)

Re: Rattling 9114B

*Message #2 Posted by **diego diaz** on 7 May 2009, 8:39 p.m.,*
in response to message #1 by Steve (Australia)

Hi Steve,

As you've corectly supposed, this is the top head shield... and yes, it can certainly (and easily) ruin a drive if it falls in the wrong place...

However, if your drive is operating properly, just forget about it. This shield is by no means critical and there shouldn't be any difference if you leave your drive without it.

Cheers.

Diego.

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Rattling 9114B

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17bII+ keypad problem

*Message #1 Posted by **Dewdman42** on 1 May 2009, 7:50 p.m.*

Can anyone confirm or deny that this is a known problem with the current 17BII+? I have one and generally have been happy with the feature set, but every once in a while, the keypad doesn't enter a number I have hit. its really annoying because I can't trust my fingers to rapidly enter a series of numbers to add up, I have to visually confirm every single one I enter to make sure the calculator took all my keystrokes. When it screws up, I notice that no matter how hard I hit the key, it won't enter. I seem to have to clear and start over or hit the back button and re-enter. Seems like a software bug to me, not really sure.

Anyway, just wondering if this is a known issue or not. I'm about ready to throw this one in the trash, drives me crazy.

Re: 17bII+ keypad problem

*Message #2 Posted by **Don Shepherd** on 1 May 2009, 11:13 p.m.,*
in response to message #1 by Dewdman42

Yeah, I have experienced this on occasion on my 17bii+. I have never experienced it on my 17b or 17bii.

Re: 17bII+ keypad problem

*Message #3 Posted by **Bruce Bergman** on 2 May 2009, 10:57 a.m.,*
in response to message #2 by Don Shepherd

I've seen it once on my 17bii+ Non-Silver, but I can't remember missing a step on the other models. The Silver hasn't missed.

BTW, I think this is less about software and more about the quality of the keyboards. Honestly, if HP has gone backwards in quality anywhere, it's in their keyboards. There is absolutely no rival to the older keyboards. In today's day and age, it's frustrating to me that anyone (HP, TI, Casio, whoever) produces a keyboard that has any issue at all. If you boil it down, the MAIN purpose of a calculator is to be consistently accurate at calculating, and it can't do that with a crappy keyboard.

thanks, bruce

Re: 17bII+ keypad problem

*Message #4 Posted by **Marcus von Cube, Germany** on 2 May 2009, 4:06 p.m.,*
in response to message #3 by Bruce Bergman

My first 17bii+ silver had an unreliable keyboard. Dynatech.de has replaced the unit w/o a problem. I'm not a frequent user of the machine but it seems to be fine now.

Re: 17bII+ keypad problem

*Message #5 Posted by **Horacio R** on 3 June 2009, 2:46 p.m.,*

in response to message #1 by Dewdman42

Hi, I own an hp 17bii+ silver, I have experienced just what you said, I tried to figuried out which is the trouble, it seems that if you press CLR the calculator takes sometime in "clearing the screen" if you are fast enougth, you will press the next number before de CLR task is done, and the number will not be registered. My HP 12c (I sould say ancient HP12c) has no trouble at all in the keyboard.

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HP-41: how to extract name of current XM-file?

*Message #1 Posted by **Geir Isene** on 1 May 2009, 5:47 p.m.*

How do I get the name of the current extended memory file (and its type) for use in a program?

Re: HP-41: how to extract name of current XM-file?

*Message #2 Posted by **Dan Grelinger** on 1 May 2009, 8:09 p.m.,*
in response to message #1 by Geir Isene

There may be an easier way....

The current Extended Memory file is stored in a byte in the first pointer register in XM. That is always in the same absolute address, so you could use a technique that PeterP described a short time ago in this forum to move the curtain appropriately, store the pointer register into an accessbile Extended memory register, and decode the result. Once you have the number of the file, EMDIRX will return it's name.

Re: HP-41: how to extract name of current XM-file?

*Message #3 Posted by **PeterP** on 2 May 2009, 1:09 a.m.,*
in response to message #2 by Dan Grelinger

for example, the following program will place the name of the current working file in alpha and a 2-letter code into X with regard to its file. It only works on a CX (which is your 'workhorse' IIRC) and assumes the CCD. A second version uses the Sandbox. Both rely on the principle pointed out by Dan - the structure of the absolute register 64, which is the first pointer register of the X/M. (see EFME p181). it is |00|0W|WP|PP|NN|NT|TT|, with WW being the number of the current working file. NNN is the address of top register in the next XM block and TTT is the adress of the top register of the current XM block.

HTH

Cheers

Peter

```
------------ CCD Version -------------
LBL 'GCF'
   64.4
   PEEKB
   16
   /
   INT
   64.5
   PEEKB
   RCL Z
   +
   EMDIRX
RTN
-----------------------------------------
------------ Sandbox Version 1 ---------
LBL 'GCF'
   64
   aNRCL
```

```
   CLA
   NNN>HEX
   -6
   AROT
   ASHF
   ATOX
   ATOX
   ATOX
   H>D
   EMDIRX
RTN
-----------------------------------------
------------ Sandbox Version 2 -------------
LBL 'GCF'
   '@@'  ;text line with 242,64,64, byte 4 of reg 064
   RCLB
   16
   /
   INT
   'P@'   ;textline with 242,80,64, byte 5 of reg 064
   RCLB
   +
   EMDIRX
RTN
-----------------------------------------
```

Edited: 2 May 2009, 1:37 a.m.

Re: HP-41: how to extract name of current XM-file?

*Message #4 Posted by **Geir Isene** on 4 May 2009, 5:07 p.m.,*
in response to message #3 by PeterP

Peter; You're the best :-)

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HP-41C with Tall Keys?

*Message #1 Posted by **Dan Grelinger** on 1 May 2009, 1:40 p.m.*

I purchased an HP-41C recently just to have a spare unit to leave on my desk at work without worrying so much about losing a valuable calculator, and when I got it, I found that it had a serial number starting with 1932, and it had the 'tall keys'. It's in very good shape, and now I am wondering if this is really the -41 I should be using for my intended purpose. I've never really had an interest in this early of vintage of a -41C, and don't know if they are worth any more than subsequent, and more common, standard keyed models. If it is, I probably should get a different model, and put this one up for sale.

Any help on this one?

Dan

Re: HP-41C with Tall Keys?

*Message #2 Posted by **PeterP** on 1 May 2009, 2:04 p.m.,*
in response to message #1 by Dan Grelinger

Dan,

It might be a very cool calc. Do a 49, STO 01 and do a SF IND 01 to see if it has the Bug 3 (i think) - the BAT indicator should turn on. If so, it probably has all bugs. I was lucky to find an all-bug 41C in my hands one day and have it similarly safely stored away as some of my other calcs.

This page has all the bugs listed if you scroll down

HTH

Cheers

Peter

Edited: 1 May 2009, 2:10 p.m.

Re: HP-41C with Tall Keys?

*Message #3 Posted by **Dan Grelinger** on 1 May 2009, 2:42 p.m.,*
in response to message #2 by PeterP

Peter,

I hadn't thought of checking the ROM versions. I have an HP-41 Diagnostic module, I'll check the ROM versions this evening.

Dan

Re: HP-41C with Tall Keys?

*Message #4 Posted by **PeterP** on 1 May 2009, 2:59 p.m.,*
in response to message #3 by Dan Grelinger

cool, I'll keep my fingers crossed for you. 1932 is a very early number and if you can turn on the BAT indicator, you should be in good shape to have an all bug 41!

Cheers

Peter

Re: HP-41C with Tall Keys?

*Message #5 Posted by **Dan Grelinger** on 1 May 2009, 8:04 p.m.,*
in response to message #4 by PeterP

The HP-41 Diagnostic ROM reports ROM ID DDE. I verified the ability to set system flags using indirect flag functions. I could not duplicate the ability to STO and RCL INDirectly into non-existent registers. The couple of attempts I made resulted in "NONEXISTENT", as a bug-free HP-41 would report.

And a correction, the Serial number begins with 1933 instead of 1932. Fifth character is an 'A', so I guess it is a USA made model.

Dan

Re: HP-41C with Tall Keys?

*Message #6 Posted by **PeterP** on 1 May 2009, 11:37 p.m.,*
in response to message #5 by Dan Grelinger

Hmm, that is odd. According to the list at the link above, rom version DDE has all bugs. And bug 3 (the set system flags bug) was the first one to be removed. Last but not least, the first calcs without bug 3 have a serial number of 1936 I think. So on all three accounts it would appear that your calc is an all bugs calc that should allow you to 'sto' into program memory.

Re: HP-41C with Tall Keys?

*Message #7 Posted by **Dan Grelinger** on 3 May 2009, 10:49 p.m.,*
in response to message #6 by PeterP

I verified that bugs 1,3 and 4 exist. If I set size to one, store 1 into register 00, and STO or RCL IND 00, I get 'NONEXISTENT'. Do you get something different?

Re: HP-41C with Tall Keys?

*Message #8 Posted by **PeterP** on 4 May 2009, 1:42 a.m.,*
in response to message #7 by Dan Grelinger

Dan,

I just tried mine and it works. From the PPC J V6 N5 P28

> Quote:

> [...] Test as follows. from 'MASTER CLEAR', SIZE 000. No data registers. Key 999, ENTER, PI. Now store Pi indirectly in register 999 by: STO IND Y. Clear the stack. Recall Pi by 999, RCL IND X

In the Wickes book on p2 it says that it works for regs 719 to 999 through some kind of 'wrap around'...

HTH

Cheers

Peter

Edited: 4 May 2009, 1:43 a.m.

Re: HP-41C with Tall Keys?

*Message #9 Posted by **Dan Grelinger** on 4 May 2009, 2:00 p.m.,*
in response to message #8 by PeterP

OK, I didn't try registers 719 to 999. I'll try those when I get home.

I have never watched the selling prices for an early version HP-41C. Are they significantly higher than a normal 41C, which in my experience has been ballpark $100 in good condition with original box and accessories?

Dan

Re: HP-41C with Tall Keys?

*Message #10 Posted by **Dan Grelinger** on 4 May 2009, 11:00 p.m.,*
in response to message #8 by PeterP

Yes, the -41C will allow me to access 'register 999' indirectly.

Re: HP-41C with Tall Keys?

*Message #11 Posted by **PeterP** on 5 May 2009, 12:39 a.m.,*
in response to message #10 by Dan Grelinger

Congratulation!

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Advice on buying a HP67

*Message #1 Posted by **Nigel Bamber** on 30 Apr 2009, 3:41 p.m.*

I am interested in expanding my meagre collectionand have seen a HP 67 for sale with the following info :

"I FOUND THIS CALCULATOR IN A BOX FROM A HOUSE CLEARANCE. I WAS INTERESTED ENOUGH TO PURCHASE A BATTERY FROM AMERICA TO SEE IF IT STILL WORKED. WHILE WAITING FOR MY BATTERY I DID SOME RESEARCH ON THE INTERNET TO FIND THAT THESE ARE STILL VERY MUCH LOVED BY PEOPLE TODAY.

MY BATTERY ARRIVED WHICH I FITTED TO THE CALCULATOR & SWITCHED THE ON BUTTON.

(1) IT STARTED WHIRING & PUSHED OUT THE MAGNETIC CARD THAT WAS STILL INSIDE THE MACHINE.

(2) THE RED L.E.D DISPLAY (For lack of better words) WENT CRAZY!

(3) THE CARD FINISHED BEING PUSHED OUT & THE L.E.D DISPLAY SPELLED OUT THE WORD (Error)

(4) THE L.E.D THEN DISPLAYED A MINUS FOLLOWED BY MULTIPLE ZEROS (See picture)

(5) AT THIS POINT I WAS READY TO DO SUMS BUT COULD GET IT TO DO NO MORE THAN CHANGE THE ZEROS TO NINES BY PRESSING TWO BUTTONS AT ONCE (See picture)

(6) I TRIED TO REINSERT THE MAGNETIC CARD BUT THE MOTOR DID NOT RUN AGAIN.

THE BATTERY PACK HAS NOW RUN OUT OF POWER & I DO NOT HAVE A CHARGER SO BEING SOLD AS SEEN & AS DESCRIBED FOR REPAIR."

In answer to a question the seller said " Hi, This calculator is in excellent condition with no wear to the silver lining or keys & no scratches on the outer case. The battery compartment has no corrosion as when i got the calculator there was no battery pack inside. The overall condition is near mint as it has probably been in the protective soft case unused for many years. I hope this helps your decision"

My questions are (if you don't mind) :

1. What sort of money is it worth bidding for a working HP67

2. Do the error messages etc. seem to be resolveable ?

3. Do you think the card reader might work?

4. Is it easy to get batteries to use in an HP67 or alernatively a charger to power up these batteries ?

Many thanks for your help.

Nigel

Re: Advice on buying a HP67

*Message #2 Posted by **Maximilian Hohmann** on 30 Apr 2009, 4:19 p.m.,*
in response to message #1 by Nigel Bamber

Hello!

> Quote:
>
> My questions are (if you don't mind) :
> 1. What sort of money is it worth bidding for a working HP67
> 2. Do the error messages etc. seem to be resolveable ?
> 3. Do you think the card reader might work?
> 4. Is it easy to get batteries to use in an HP67 or alernatively a charger to power up these batteries ?

1. Impossible to answer, I'm afraid. Whatever it is worth to you. 100 Pounds/Euros for a working 67 would be my personal limit as there are plenty of these machines. I got mine for much less and it is in similar cosmetic shape as the one in your auction. But it works.

2. Impossible to answer, as the seller dosen't tell us, what exactly he did. Maybe he could have cleared the display by simply pressing "CLX"? If he really only got these zeros whatever keys he pressed, then there is not much hope. No spare parts to be found anywhere...

3. It was able to eject the card, which is a good sign. The motor is working and the "gummy wheel" seems to have some grip left. But it's not so good that the motor dosen't run, when a card is inserted. Wether this is due to the general "all zeros"-condition of the calculator or to a faulty card sensor switch (very difficult to repair, I'm told) - who knows.

4. It is very easy to get newly made rechargeable battery packs from the States (as this seller describes). Not even expensive. A puristic collector will probably not like them, but they work better than the originals, because modern battery cells have more than double capacity of the originals. Chargers are also easy and quite cheap to find, because many classic HP calculators use the same charger (HP-35 HP-80 HP-70 HP-45 HP-55 HP-65 chargers all work).

Greetings, Max

NB: I personally would not pay more than 10 Euros for this calculator (e.g. for replacing the worn case of a working calculator)!

Edited: 30 Apr 2009, 4:21 p.m.

Re: Advice on buying a HP67

*Message #3 Posted by **Michael de Estrada** on 30 Apr 2009, 6:15 p.m.,*
in response to message #1 by Nigel Bamber

Nigel,

1) The card reader on an HP-65/67 needs to run off a charged battery; it should not/cannot be run properly from a charger without a battery installed. If the seller bought a fresh battery, he should have charged it prior to use. It looks like he did not because he lacked an AC adapter/charger. If the battery charge is low, all kinds of funny malfunctions can occur, such as the motor not running, keys not registering, error messages etc.

2) If the calculator has never been opened, then the card reader feed (gummy) wheel and probably the clutch (motor to worm gear torque limiting slip coupling) have deteriorated badly, and need to be re-built.

So, odds are that it is fixable, however, there are no guarantees. It's a very good sign that there is no visible corrosion. If it were me, I might gamble up to $100 USD, but certainly not any more.

Re: Advice on buying a HP67

*Message #4 Posted by **Nigel Bamber** on 1 May 2009, 3:26 p.m.,*
in response to message #3 by Michael de Estrada

Thanks for the advice. Its already at £75 so it seems best to leave it alone. Having been tracking Ebay for a little while now , it seems that because of a greater level of supplies in the US , the prices there are generally lower.

Nigel

Re: Advice on buying a HP67

*Message #5 Posted by **Michael de Estrada** on 1 May 2009, 3:37 p.m.,*
in response to message #4 by Nigel Bamber

> Quote:
>
> Having been tracking Ebay for a little while now , it seems that because of a greater level of supplies in the US , the prices there are generally lower.

It depends. If the auction is worldwide such as the following example, prices are comparable.

USA worldwide auction

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HP-97 Printer Motor keeps spinning

*Message #1 Posted by **Gil Gutierrez** on 30 Apr 2009, 2:00 a.m.*

I have an HP-97 and I was trying to see why my printer was not advancing the paper when i started to hear a humming noise. The noise turned out to be the printer motor spinning. Now, when the calculator is turned on the printer motor keeps spinning. Does anyone know how to fix this? I have not checked the paper advance switch wires to see if one of them has broken (disconnected). Thanks

Re: HP-97 Printer Motor keeps spinning

*Message #2 Posted by **Randy** on 30 Apr 2009, 11:33 a.m.,*
in response to message #1 by Gil Gutierrez

The idler gear has stripped. You can make a replacement: HP-97 Printer Gear Replacement

Re: HP-97 Printer Motor keeps spinning

*Message #3 Posted by **Geoff Quickfall** on 30 Apr 2009, 12:55 p.m.,*
in response to message #1 by Gil Gutierrez

Randy is correct, and Katie's article is excellent.

Both my HP 91 and HP 97 have benefitted from this repair.

Cheers, Geoff

P.S. I tried to find the gear at Small Parts website and was unable to, try emailing them directly with your request:

```
- 80 pitch
- 30 teeth
- 1/8" gear face
- 3/8" hub diameter
- 3/16" hub projection
- 1/8" bore
- made of aluminum, acetate, plastic
```

Cheers, Geoff

Re: HP-97 Printer Motor keeps spinning

*Message #4 Posted by **Gerry Schultz** on 30 Apr 2009, 2:07 p.m.,*
in response to message #3 by Geoff Quickfall

I've also bought replacement gears for my 97s from that unmentionable website. I haven't seen any replacement gears for sale lately but the seller does pop up periodically.

Gerry

Re: HP-97 Printer Motor keeps spinning

*Message #5 Posted by **Michael de Estrada** on 30 Apr 2009, 2:45 p.m.,*
in response to message #4 by Gerry Schultz

His name is Dave Bowman, and he no longer sells on ebay. However, you can still contact him via ebay messaging at DAVEHAL2001. Last time I checked with him, he still had some printer gears which he was willing to sell direct.

Re: HP-97 Printer Motor keeps spinning

*Message #6 Posted by **Randy** on 30 Apr 2009, 4:13 p.m.,*
in response to message #3 by Geoff Quickfall

Small Parts does not sell gears, PIC Design is the source.

If you can get a gear from Dave, even at $25, they are a bargain and a better fit than making your own. Been there, done both. Buy the custom part from Dave if possible.

Re: HP-97 Printer Motor keeps spinning

*Message #7 Posted by **Gil Gutierrez** on 8 May 2009, 11:19 p.m.,*
in response to message #6 by Randy

Ordered the gear from Mr Bowman. Received it earlier this week and installed it today. Printer works great. Thanks to everyone for their help.

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hp 20B keypad

*Message #1 Posted by **JDonley** on 29 Apr 2009, 9:04 p.m.*

I have one of the early HP 20B's and the keypad is pretty ordinary....can anyone tell me if the newer units have improved keypads?

thanks

don

Re: hp 20B keypad

*Message #2 Posted by **Gene Wright** on 30 Apr 2009, 8:14 a.m.,*
in response to message #1 by JDonley

I am unaware of any changes to the 20b keyboard.

Re: hp 20B keypad

*Message #3 Posted by **hugh steers** on 30 Apr 2009, 8:15 a.m.,*
in response to message #1 by JDonley

Mine is 6 months old and I don't really like the keyboard, there's no positive click feel and if you hit a button obliquely, it tilts but doesn't always register.

I don't know if the keyboard was worse in early models. It works, if you're careful, but I don't trust blind key pressing. I would have much preferred the keys of the 12cp.

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HP35s how to recall last expression?

*Message #1 Posted by **hugh steers** on 29 Apr 2009, 8:25 p.m.*

Hi,

some people use the Hp35s in alg mode. does anyone know if there is a way to recall the last expression for editing/evaluation.

thanks for any info,

Re: HP35s how to recall last expression?

*Message #2 Posted by **Gene Wright** on 29 Apr 2009, 10:55 p.m.,*
in response to message #1 by hugh steers

Press the left arrow key to start moving back through the expression... IF it is still shown in the top line of the display.

This is referenced in the Algebraic learning module for the 35s found on the HP website.

Re: HP35s how to recall last expression?

*Message #3 Posted by **hugh steers** on 30 Apr 2009, 1:31 p.m.,*
in response to message #2 by Gene Wright

thanks. that did it. pretty obvious really !

Re: HP35s how to recall last expression?

*Message #4 Posted by **John B. Smitherman** on 30 Apr 2009, 7:14 p.m.,*
in response to message #2 by Gene Wright

Thanks for pointing this out Gene. This feature was not on the 33s and thus made it less attractive as an algebraic calculator compared to others from Casio, Sharp and TI.

By the way, if you want to get frustrated try working on a 32sii, 33s and 35s at the same time. :-(

Regards,

John

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Customized HP-67, What is it?

*Message #1 Posted by **Michael de Estrada** on 29 Apr 2009, 5:07 p.m.*

I saw this modified HP-67 for sale, and wondered if anyone knows what it is. There is some sort of connector on the back and a special keyboard template. Maybe it's some sort of equipment calibrator or tester? Any ideas?

Custom HP 67

Re: Customized HP-67, What is it?

*Message #2 Posted by **Dan Grelinger** on 29 Apr 2009, 6:42 p.m.,*
in response to message #1 by Michael de Estrada

Probably a little more bland than that. Perhaps a power supply hack, or just a custom installed connector for a security cable.

Re: Customized HP-67, What is it?

*Message #3 Posted by **Jeff Davis** on 29 Apr 2009, 7:39 p.m.,*
in response to message #2 by Dan Grelinger

Looks like someone was trying to use this as an auto phone dialer or something to use to test phone lines. The keyboard overlay shows the telephone letters. The connector on the back could connect to a telephone line???????

Re: Customized HP-67, What is it?

*Message #4 Posted by **Martin Pinckney** on 29 Apr 2009, 10:31 p.m.,*
in response to message #3 by Jeff Davis

> Quote:
>
> The keyboard overlay shows the telephone letters. The connector on the back could connect to a telephone line???????

The letter assignments are not the same as standard telephone usage.

Can't see enough of the connector to figure out what it is.

Re: Customized HP-67, What is it?

*Message #5 Posted by **Charles Oxford** on 29 Apr 2009, 11:23 p.m.,*
in response to message #3 by Jeff Davis

the letters are color coded to the three shift keys yellow, blue and black. There would be a program to use those keys for text.

most humbly, Charlie

Re: Customized HP-67, What is it?

*Message #6 Posted by **Klaus** on 30 Apr 2009, 9:46 a.m.,*
in response to message #2 by Dan Grelinger

If it is a power supply hack, maybe a "phase box" for synthetic programming was connected to it?

Re: Customized HP-67, What is it?

*Message #7 Posted by **Dave Britten** on 30 Apr 2009, 7:36 a.m.,*
in response to message #1 by Michael de Estrada

The overlay says "BENDIX" on it. Apparently they supply air brake systems for commercial vehicles.

A google search of the part number (3602332-0001) yields a handful of hits that appear to be aircraft part lists. Interesting.

The connector looks like it's threaded, but I'm guessing it's too small to be a coax F-connector.

Re: Customized HP-67, What is it?

*Message #8 Posted by **Randy** on 30 Apr 2009, 11:35 a.m.,*
in response to message #7 by Dave Britten

> Quote:
>
> Apparently they supply air brake systems for commercial vehicles

Among other things... once upon a time, Bendix was also in the avionics business.

Re: Customized HP-67, What is it?

*Message #9 Posted by **Maximilian Hohmann** on 30 Apr 2009, 12:51 p.m.,*
in response to message #8 by Randy

Hello!

> Quote:
>
> Among other things... once upon a time, Bendix was also in the avionics business.

They still are in the business, they even keep their name, but they belong to Honeywell since many years (http://www.bendixking.com). I use their products at work every day. What that HP-67 could have been used for, I have no idea. Without the proper magnetic cards, this whole modified thing is useless anyway.

Greetings, Max

Re: Customized HP-67, What is it?

*Message #10 Posted by **Martin Pinckney** on 30 Apr 2009, 1:06 p.m.,*
in response to message #8 by Randy

My mother had a Bendix clothes washer when I was little!

Re: Customized HP-67, What is it?

*Message #11 Posted by **Steve Leibson** on 30 Apr 2009, 11:14 p.m.,*
in response to message #7 by Dave Britten

Bendix also made a famous line of high-end electronic connectors favored by mil/aero contractors.

Re: Customized HP-67, What is it?

*Message #12 Posted by **Michael de Estrada** on 1 May 2009, 12:25 a.m.,*
in response to message #11 by Steve Leibson

OK, guys. I asked the seller to post a photo of the connector, so here it is:

7-pin connector

I remember seeing some mil-spec Amphenol connectors that looked like this. Usually used for data transmission between a computer and a controller. The Hp 67 would be the computer in this case.

Re: Customized HP-67, What is it?

*Message #13 Posted by **Katie Wasserman** on 1 May 2009, 2:26 a.m.,*
in response to message #12 by Michael de Estrada

Goggling the Bendix part number, 3602332-0001, hits several military and aviation surplus dealers. One lists this as a "PLACARD" so apparently this was just the part number for the overlay. That sounds like a *very* military term to me. I'll bet that this is puppy is a Combat Model HP-67

Who knew that our beloved collectibles were used for such horrible purposes.

Re: Customized HP-67, What is it?

*Message #14 Posted by **Mike Morrow** on 1 May 2009, 9:06 a.m.,*
in response to message #13 by Katie Wasserman

> Quote:
>
> I'll bet that this is puppy is a Combat Model HP-67
>
> Who knew that our beloved collectibles were used for such horrible purposes.

I'm sure the "horrible" attribution must be whimsical.

The cited abstract is interesting, and its date of July 1977 is very close to the time that the HP-67 was making it to the street in quantity. But...doesn't the unit on auction have a 1980 serial number, making it one of the last units off the HP-67 assembly line?

I programmed an HP-67 for a fair number of calculations supporting operation of a ballistic missile submarine (magnificent machines and technology!) about that time. That worked so well that soon a government-purchased HP-97 replaced my personal HP-67.

Support of defense is honorable use of our "beloved" machines.

Re: Customized HP-67, What is it?

*Message #15 Posted by **Juan J** on 1 May 2009, 9:01 p.m.,*
in response to message #14 by Mike Morrow

> Quote:
>
> Support of defense is honorable use of our "beloved" machines.

Hello,

And part of a sort of tradition, too.

From the Norden bomber computer and the artillery tables calculated with the first computers in World War II to the F-22 Raptor Common Data Processor, calculators and computers have played an important role in defense and weapons systems.

Bomber crews and artillery gunners, to name two examples, have to perform a lot of calculations to get on target and hit it with their ammunition. There is not much space for thick data tables, and a compact device that replaces them is a welcome addition to their equipment.

My two cents.

JuanJ

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COMIC

*Message #1 Posted by **Chuck** on 29 Apr 2009, 4:12 p.m.*

This may have been posted within the last millennium, but it's good to recycle, right?

Comic

*Message #2 Posted by **Hal Bitton in Boise** on 30 Apr 2009, 3:50 p.m.,*
in response to message #1 by Chuck

Haven't seen that one...it's hilarious.
Hal

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Lucky Day

*Message #1 Posted by **Chuck** on 27 Apr 2009, 8:03 p.m.*

Back in 1987 a professor of mine purchased an HP-28S which he immediately loaned me after purchase to play with over Christmas break (he not being an HP person.) After I gave it back to him, he placed it in his desk, and there it sat..... for 22 years, never again touched. He gave it to me this last weekend, and, with fingers crossed, I opened the battery compartment. Perfect. No leakage! A mint unit with only about 20-hours of my own time on it. Woohoo. :)

Re: Lucky Day

*Message #2 Posted by **Egan Ford** on 27 Apr 2009, 8:08 p.m.,*
in response to message #1 by Chuck

Congrats! Was memory/stack intact after 22 years?

Re: Lucky Day

*Message #3 Posted by **Chuck** on 27 Apr 2009, 9:39 p.m.,*
in response to message #2 by Egan Ford

Nope totally dead. But with fresh batteries, the beep with "Memory Clear" was the best sound ever. :)

Re: Lucky Day

*Message #4 Posted by **Dan Grelinger** on 27 Apr 2009, 11:29 p.m.,*
in response to message #1 by Chuck

I thought the first HP-28Ss didn't show up until January of 1988?

Re: Lucky Day

*Message #5 Posted by **Chuck** on 28 Apr 2009, 1:05 a.m.,*
in response to message #4 by Dan Grelinger

It could have been winter break of 1988 (by the looks of the serial number). My mind is going. Daisy, Daisy, give me your answe....

Edited: 28 Apr 2009, 1:08 a.m.

Re: Lucky Day

*Message #6 Posted by **Juan J** on 28 Apr 2009, 11:32 p.m.,*
in response to message #5 by Chuck

Quote:

> It could have been winter break of 1988 (by the looks of the serial number). My mind is going. Daisy, Daisy, give me your answe....

Dave, please stop...

And I thought I was the only one confusing dates. Is there a way to age gracefully?

That beep, or the clock missing a few minutes in years, are welcome sights/sounds in the 28S.

Some time ago I recalled my 28S from storage in a garage, after a few years (can't remember how many.) Not only it lighted up, the clock was running. From what I was told in this forum, the time difference was not significant.

If only the battery door was not so brittle...

JuanJ

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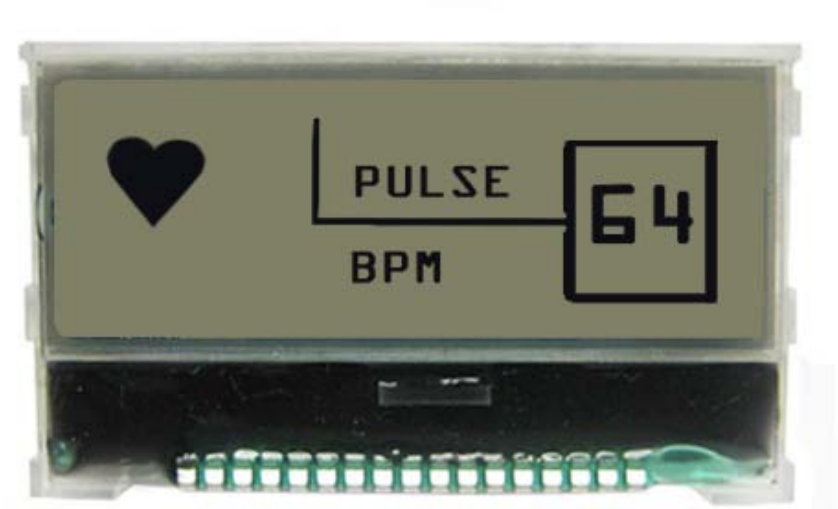
uWatch2 128x32 option

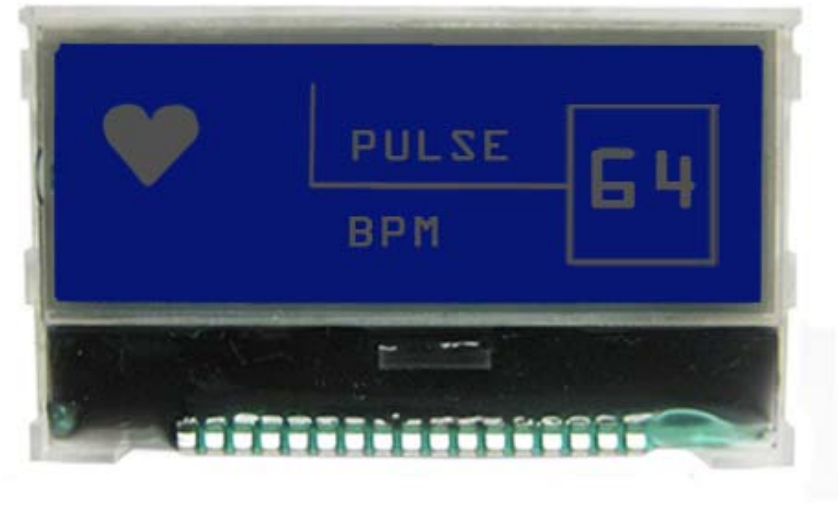
*Message #1 Posted by **DaveJ** on 27 Apr 2009, 7:01 p.m.*

I've been looking at a 128x32 display option, which depending upon certain circumstances, might be the best or possibly only practical option.

At present the actual physical implementation for the 128x64 display is not looking that great, board-to-board interconnects are looking troublesome (unless someone has a source of easy to get and cheap custom elastomeric connectors).

The 128x32 display solution is a bit cheaper, a bit more rugged, and available in white and blue displays:





As usual, comments and heated discussions welcome :->

Dave.

Edited: 27 Apr 2009, 8:58 p.m. after one or more responses were posted

Re: uWatch2 128x32 option

*Message #2 Posted by **Jeff O.** on 27 Apr 2009, 7:33 p.m.,*
in response to message #1 by DaveJ

Well, I liked the 128 x 64 option because I was counting on getting my oft-hoped-for display of the X, Y, Z, T stack and Last X. But if it won't work, I can live with whatever you can give us!

Re: uWatch2 128x32 option

*Message #3 Posted by **DaveJ** on 27 Apr 2009, 9:05 p.m.,*
in response to message #2 by Jeff O.

> Quote:
>
> Well, I liked the 128 x 64 option because I was counting on getting my oft-hoped-for display of the X, Y, Z, T stack and Last X. But if it won't work, I can live with whatever you can give us!

I can make the 128x64 display work easily if I don't center it, but I just can't bring myself to produce an unsymmetrical design!

Note that the 128x32 display has a significantly wider visible display window than the 128x64.

A sample polydome switch overlay is on it's way, and I've got some samples of some really nice Snaptron domes, but they are 6mm and hence we'd probably have fewer keys. But it would be a higher quality keypad with a real "click" instead of the "spongy" polydome feel.

Dave.

Re: uWatch2 128x32 option

*Message #4 Posted by **Nigel J Dowrick** on 28 Apr 2009, 4:11 a.m.,*
in response to message #3 by DaveJ

In general, I'd vote for quality over quantity so far as keys are concerned. How many fewer would it be?

Nigel (a satisfied uWatch owner!)

Re: uWatch2 128x32 option

*Message #5 Posted by **Jeff O.** on 28 Apr 2009, 7:25 a.m.,*
in response to message #3 by DaveJ

> Quote:
>
> I can make the 128x64 display work easily if I don't center it, but I just can't bring myself to produce an unsymmetrical design!

I can certainly understand the desire for symmetry. With that said, could you post an image of how it would be arranged and let the keyboard designers have a crack at making it look good?

.

Re: uWatch2 128x32 option

*Message #6 Posted by **DaveJ** on 28 Apr 2009, 7:04 p.m.,*
in response to message #5 by Jeff O.

> Quote:
>
> I can certainly understand the desire for symmetry. With that said, could you post an image of how it would be arranged and let the keyboard designers have a crack at making it look good?

Here it is:

As you can see, one column on the left has to be dropped, and there is really no room above the B and C keys for extra keys. Perhaps one if you keep the staggered layout like last time.

Oh, I forgot the Z alpha which needs to go somewhere.

4mm polydome samples should be in today so I can see if this is even remotely feasible.

Dave.

Re: uWatch2 128x32 option

*Message #7 Posted by **Egan Ford** on 28 Apr 2009, 8:08 p.m.,*
in response to message #6 by DaveJ

> Quote:
>
> Oh, I forgot the Z alpha which needs to go somewhere.

Nah, Q and Z got dropped from the phone keypad, you can drop it too. :-) Or, just try something new like the Greek alphabet. Only 24 characters. That leaves you an extra character, use it for "space".

Of course you can always do the alpha à la 42S.

Re: uWatch2 128x32 option

*Message #8 Posted by **Dave Boyd** on 28 Apr 2009, 3:08 p.m.,*
in response to message #3 by DaveJ

> Quote:
>
> I can make the 128x64 display work easily if I don't center it, but I just can't bring myself to produce an unsymmetrical design!

From a design perspective, asymmetry = visual interest. There have been many asymmetrical calc designs -- look at the big single ENTER key on many of out beloved HPs, or the layout of the Voyagers with an offset screen. In terms of watches, there have also been quite a number of asymmetric layouts, including many high-end watches, and almost all big rectangular LCD sports watches. At least show us where the screen would be you did use it; we might come up with a layout that pleases you...

> Quote:
>
> Note that the 128x32 display has a significantly wider visible display window than the 128x64.

Well I agree that would be preferred. What about contrast, which should be as high as possible? Do you have a sample to look at?

> Quote:
>
> A sample polydome switch overlay is on it's way, and I've got some samples of some really nice

> Snaptron domes, but they are 6mm and hence we'd probably have fewer keys. But it would be a higher quality keypad with a real "click" instead of the "spongy" polydome feel.

Few keys means more shifted keys means more keystrokes, but that's par for the course on a calc watch -- my CFX-200 might require ten keystrokes for a function if it was in the wrong place in the "function ring". The CFX-400 had four shift keys, which was OK, but even so the keyboard was really too small to use easily.

-- Dave

Re: uWatch2 128x32 option

*Message #9 Posted by **DaveJ** on 28 Apr 2009, 9:59 p.m.,*
in response to message #8 by Dave Boyd

> Quote:
>
> From a design perspective, asymmetry = visual interest. There have been many asymmetrical calc designs -- look at the big single ENTER key on many of out beloved HPs, or the layout of the Voyagers with an offset screen. In terms of watches, there have also been quite a number of asymmetric layouts, including many high-end watches, and almost all big rectangular LCD sports watches. At least show us where the screen would be you did use it; we might come up with a layout that pleases you...

It's not really about coming up with a key layout, that's easy, it's just a fundamental issue I have with an offset screen in this design. I just don't like it, but that's not a show stopper.

Yes, some designs look very good when asymmetrical, but in this case I don't think it does. See for yourself, an image is up. It might be a moot point anyway if the keypad is just not practical at this spacing.

BTW, the wife (director of R&D finances) has vetoed the smaller screen, she likes the look of the bigger one. So asymmetrical it might have to be.

Yes, I have both LCD's, but have not powered them up yet. That requires a bit of work...

Dave.

Edited: 28 Apr 2009, 10:01 p.m.

Re: uWatch2 128x32 option

*Message #10 Posted by **Charles Oxford** on 29 Apr 2009, 12:20 a.m.,*
in response to message #9 by DaveJ

My preference is the version at the beginning of this thread. But even if I buy one I probably wouldn't use it.

My original is still waiting for assembly.

Re: uWatch2 128x32 option

*Message #11 Posted by **DaveJ** on 2 May 2009, 8:57 p.m.,*
in response to message #8 by Dave Boyd

> Quote:
>
> Well I agree that would be preferred. What about contrast, which should be as high as possible? Do you have a sample to look at?

Here you go, the screen IN ACTION

Contrast appears to be very good. Although I have not tweaked it much to find out what it's capable of, this is just some random contrast value I entered that works well. Contrast is adjustable in software up to 64 steps.

Dave.

Re: uWatch2 128x32 option

*Message #12 Posted by **Andrés C. Rodríguez (Argentina)** on 27 Apr 2009, 7:56 p.m.,*
in response to message #1 by DaveJ

128 x 32 is comparable to the much appreciated HP42S, so it may be quite acceptable... It may restrict the menu keys, but with a small font (like the HP48 menus, which I don't like at all), it may work...

Re: uWatch2 128x32 option

*Message #13 Posted by **Egan Ford** on 27 Apr 2009, 8:13 p.m.,*
in response to message #1 by DaveJ

I was hoping for 64.

IMHO, the position of the lower left keys would be more familiar like this:

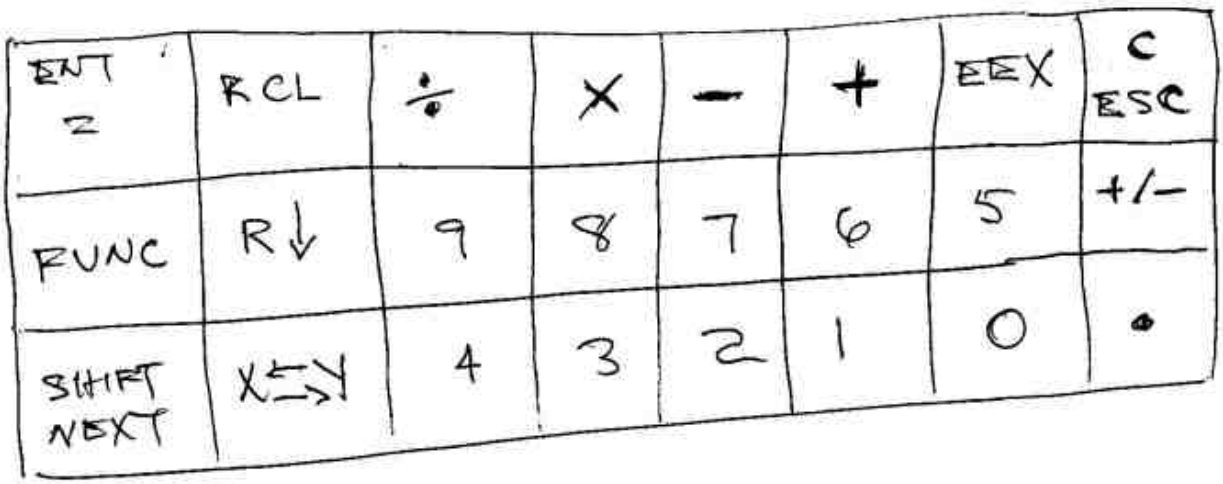
```
Rv      x<>y
Shift   STO/RCL
C/ESC   FUNC
```

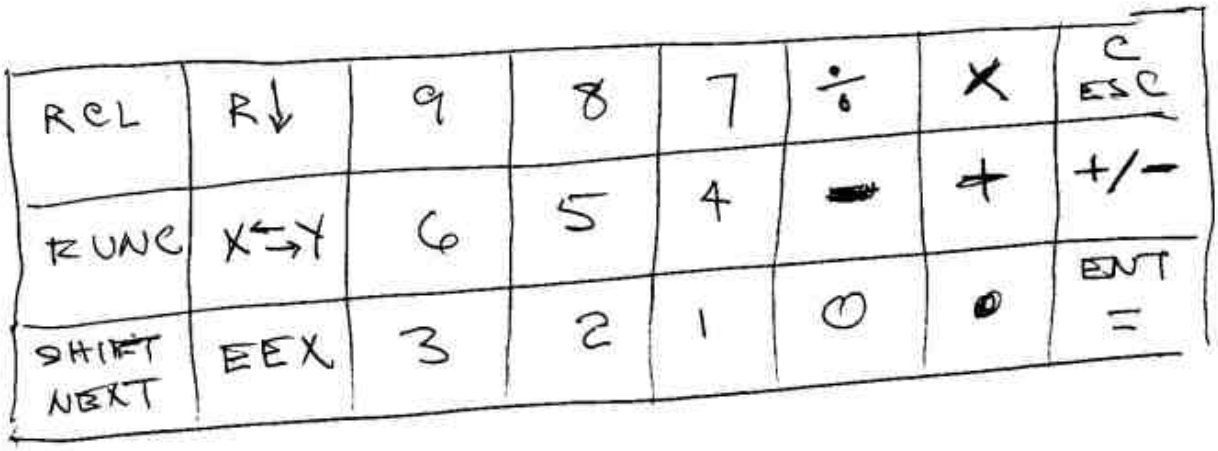
Re: uWatch2 128x32 option

*Message #14 Posted by **Dennis Trafananko** on 28 Apr 2009, 12:15 a.m.,*
in response to message #1 by DaveJ

Howdy: A few days ago I posted a suggested keyboard design, to the previous thread regarding its layout. The text of that post and its logic applies similarly, to these two suggested layouts for the bottom three rows.

Thanks Dennis Trafananko





Re: uWatch2 128x32 option

*Message #15 Posted by **DaveJ** on 28 Apr 2009, 1:03 a.m.,*
in response to message #14 by Dennis Trafananko

Thanks Dennis
A few people have suggested this sort of "reverse" number pad layout, and that it somehow "makes sense", but I can't say I've ever seen a calculator with such a layout. Almost every calc on the market starts with the "1" at the bottom left and works right then upwards.

Dvorak keyboards "make sense" too, but they represent <0.0001% of the market. So I'd need a pretty darn good reason for going against the traditional bottom left then upwards layout.

Dave.

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New HP-12C Review

*Message #1 Posted by **Katie Wasserman** on 27 Apr 2009, 6:47 p.m.*

Thanks entirely to Charlie Oxford's efforts I now have a new HP-12C to play with.

If you like the original 12C you will love this machine. It's functionally identical to the original (we know this because it's emulating the original) but everything runs 60 (sixty) times faster: a long program (my 70 decimal digits of pi) ran in 90 seconds vs 90 minutes on the original 12C; a long amortization, 1.5 seconds vs 90 seconds, 69 factorial gives you an answer almost before you hit the key, it's ludicrously fast! I hope that this blazing speed does not scar the set-in-their-ways wall street crowd from believing the calculation results.

Build quality, key clicks and display readability are excellent. Most importantly, no missed keystrokes. The keys themselves use the new, lower density plastic compared to the original, but this is a very minor nit to pick.

The only things that are functionally different are the self tests. The manual has not been updated in this section, so it's wrong in most cases:

- "ON" + "/" runs the sequential key press test but shows 1,2 or 3 segments at a time and does not give "error 9" if you press the keys in the wrong order. When the test ends it doesn't show the "12" on the display just returns you to the X register.

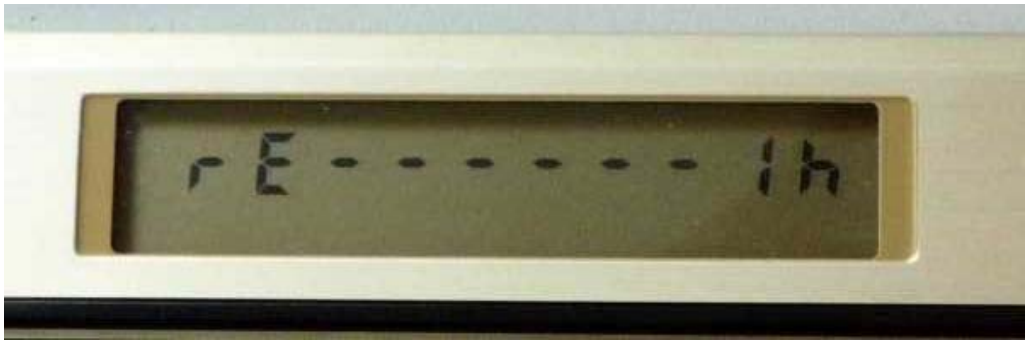
- "ON" + "x" run a self test (I think) for one second and just results to the x register.

- [ON] + [-] will clear the calculator and show "Pr Error".

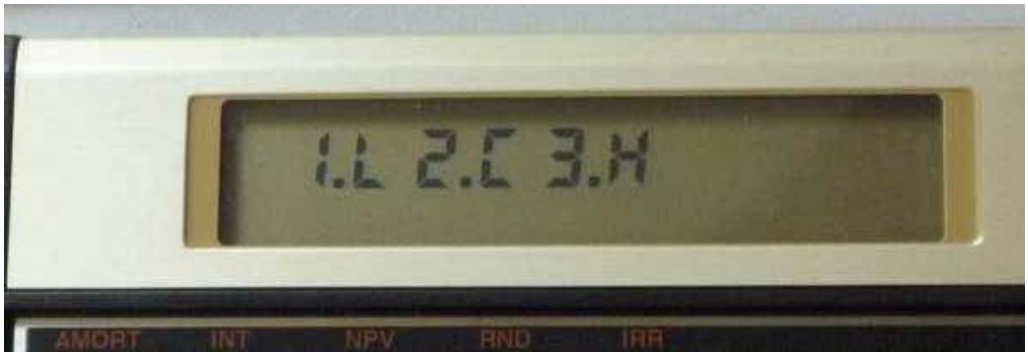
- [ON] + [+] will run a continues self test (I think) ending when you press and hold any key.

Now for the new stuff that I found from playing around:

- [ON] + [g] shows the curious display below but I haven't found anything that you can do with this yet:

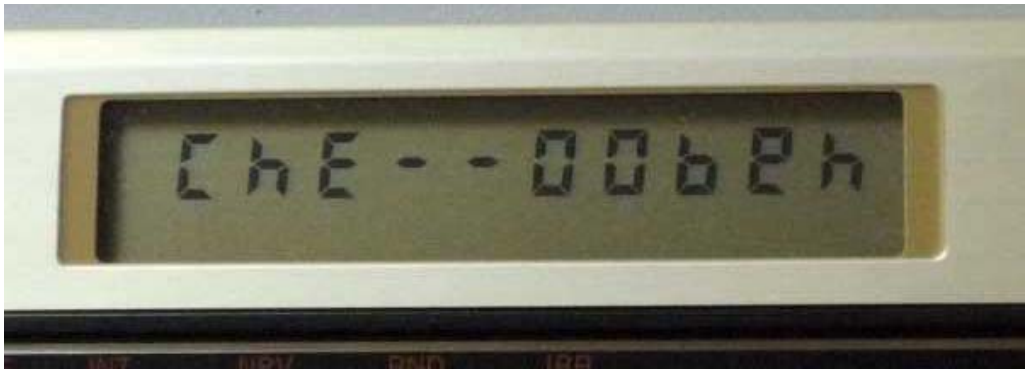


- [ON] + [g] + [ENTER} starts a testing menu:

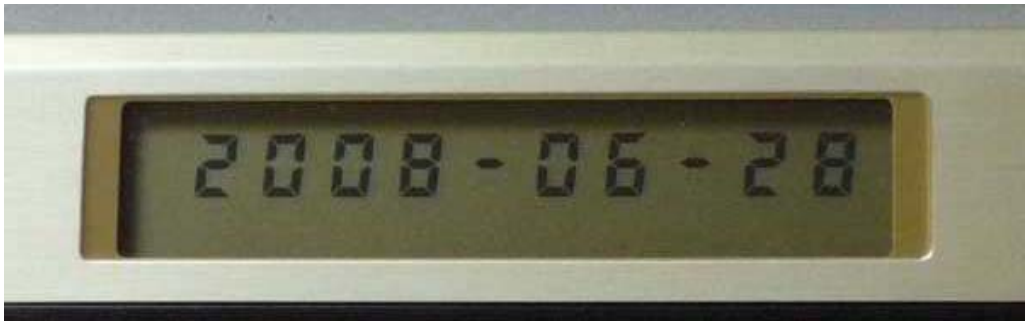


1.L - LCD test -- this turns on all the segments. If you then press [Rv] it will turn off half of them, press [Rv] again and you'll toggle the segments on to off and vice versa

2.C - Copyright. First you'll see this:



the next key press will give you this:



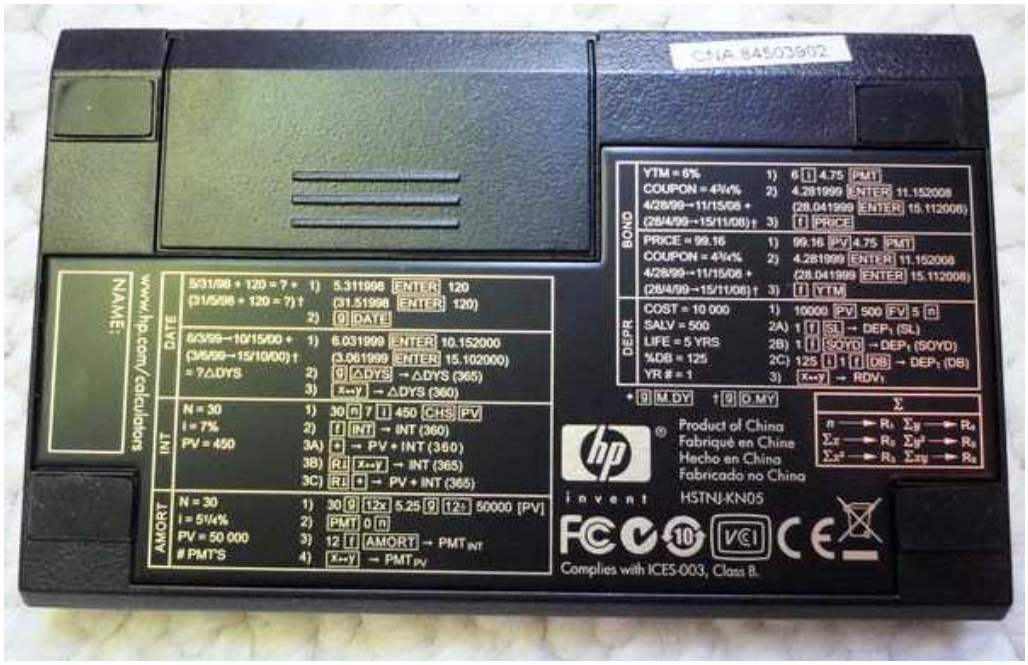
then next you'll see this:

3.H - Extended LCD and key test. All segments will turn on at first. hit any key and it will turn off 1 to 3 segments that sort of map to the position of the keys -- rows and columns.

There are probably other easter eggs in here too, but I have yet to find them.

So, how do you find one of these in the store? You can see the bottom edge of the calculator through the packaging, here's what it looks like:

Here's a picture of the back, see how big that batter cover is?



And here's what it looks like under the door, I need to get one of those special SDK cables from HP so I can start playing around with some alternative firmware.

(I'm tempted to pull off the feet and peek at the circuit board, but I'm going to wait for a bit longer.)

I think they did a great job on this. Proven technology and ergonomics updated with modern speed and firmware replacement/updatability. I can't wait for the modern 15C (and, dare I suggest, 16C). Way to go HP! Kudos to Eric, Cyrille, Sam, Gene and whoever else had a hand in this.

Edited: 28 Apr 2009, 1:47 a.m. after one or more responses were posted

Re: New HP-12C Review

*Message #2 Posted by **Paul Dale** on 27 Apr 2009, 7:24 p.m.,*
in response to message #1 by Katie Wasserman

I think I'm going to have to keep an eye open for this one.

- Pauli

Re: New HP-12C Review

*Message #3 Posted by **Scott Newell** on 27 Apr 2009, 7:32 p.m.,*
in response to message #1 by Katie Wasserman

Thanks for the pics of the battery door. It confirms what I've been looking for.

Re: New HP-12C Review

*Message #4 Posted by **Egan Ford** on 27 Apr 2009, 8:03 p.m.,*
in response to message #1 by Katie Wasserman

Thanks. This will be the 3rd post-48GX HP I purchase (35s and 50g being the other two).

Has any started a wiki or blog on reprogramming it?

Re: New HP-12C Review

*Message #5 Posted by **hpnut** on 27 Apr 2009, 8:45 p.m.,*
in response to message #4 by Egan Ford

I see another stick-on serial number. sigh, is it too much to ask for manufacturer-engraved SN? ;-)

Re: New HP-12C Review

*Message #6 Posted by **Bruce Bergman** on 27 Apr 2009, 11:16 p.m.,*
in response to message #4 by Egan Ford

I will create an entry on my wiki for it (the same place as the 20b repurposing project). Feel free to contribute any and all

information to it.

Katie, can I abscond with your findings to post them, or would you be willing to post them on the wiki? There's some great material there that I don't want to lose...

URL: http://www.wiki4hp.com

thanks, bruce

Re: New HP-12C Review

*Message #7 Posted by **Katie Wasserman** on 28 Apr 2009, 12:08 a.m.,*
in response to message #6 by Bruce Bergman

Bruce,

> Quote:
>
> can I abscond with your findings

Abscond away! I'll keep working at it to see if I can come up with anything else.

Thanks for the wiki and all your work on the 20b,

-Katie

Re: New HP-12C Review

*Message #8 Posted by **hpnut** on 27 Apr 2009, 8:47 p.m.,*
in response to message #1 by Katie Wasserman

Katie,

any pictures of the calculator from the front? It appears the classic 12C gold trim is back.

Re: New HP-12C Review

*Message #9 Posted by **Katie Wasserman** on 27 Apr 2009, 9:07 p.m.,*
in response to message #8 by hpnut

I just added one to the top of the review.

Re: New HP-12C Review

*Message #10 Posted by **Seth Morabito** on 27 Apr 2009, 9:04 p.m.,*
in response to message #1 by Katie Wasserman

It's a pity that the serial number label is so shoddy looking -- but, I'm picking the tiniest of nits here. I'm really pleased with what you've described! I think I'll have to get one. Believe it or not, I don't own a 12c in any incarnation yet!

Re: New HP-12C Review

*Message #11 Posted by **tony (nz)** on 27 Apr 2009, 10:41 p.m.,*
in response to message #1 by Katie Wasserman

Brilliant review, thanks Katie. I have one with serial number CNA 849... and the LCD screen has the most "yellowy" tinge I have seen in a 12C. Still useable though. The "ON" key action is more direct than on the old 12C - on the new one the screen "lights up" even when I press and hold the "ON" down. The old one only turns on when the "ON" key is released. This makes the self test proceedure here a little different - more like [/] + [ON] rather than the old [ON]+[/] :-) I managed all your tests - great fun - oh except for the last one I couldn't escape from the menus ;-)

Cheers, Tony

Re: New HP-12C Review

*Message #12 Posted by **Katie Wasserman** on 28 Apr 2009, 10:19 a.m.,*
in response to message #11 by tony (nz)

Tony,

On that last test you need to press all the keys down at least once to blank the display. Once the whole display is blanked you can exit the test. A hardware reset (under the battery door) is the only other way to quit that I found.

Also, when a program starts with [f][CLEAR sigma] the display is not blanked when running like it is on the original 12C.

-Katie

Re: New HP-12C Review

*Message #13 Posted by **tony(nz)** on 28 Apr 2009, 4:00 p.m.,*
in response to message #12 by Katie Wasserman

Thanks Katie - I did at least test that running after clearsigma still showed "running". But I never thought to test the tests ;-)

Re: New HP-12C Review

*Message #14 Posted by **Walter Lam** on 28 Apr 2009, 2:22 a.m.,*
in response to message #1 by Katie Wasserman

Are there any change in this new 12C package?

How to distinguish the new 12c and the old one?

Re: New HP-12C Review

*Message #15 Posted by **Martin Pinckney** on 28 Apr 2009, 7:36 a.m.,*
in response to message #14 by Walter Lam

Go back to Katie's original post. She describes how to identify the new version by looking through the packaging.

Re: New HP-12C Review

*Message #16 Posted by **Michael de Estrada** on 28 Apr 2009, 11:16 a.m.,*
in response to message #1 by Katie Wasserman

Reading through the Hewlett-Packard Digest, Volume Eight, 1981, there is an article entitled "Quality By Design," which expounds on the key reliability of the Voyager keyboard design. Metal key operators and a gold-plated circuit board ensures low resitance contact points for precise actuation and durability, resistive to to wear and corrosion. Indeed, the many original Voyagers still in use today attests to this quality. I have a 1982 HP-15C and 1987 HP-12C with keyboards that still work perfectly.

So, I have to wonder how much of this sort of quality has carried over to the newest incarnation of the HP-12C. The cheesy serial number sticker does not concern me as much as any compromises in quality that may have been made under the skin. I suppose it is unreasonable to expect the modern pricepoint calculators to have 25+ year lifespans, but I still hope that HP has set the bar high on this product with regards to quality.

Re: New HP-12C Review

*Message #17 Posted by **Martin Pinckney** on 28 Apr 2009, 3:17 p.m.,*
in response to message #16 by Michael de Estrada

> Quote:
>
> I suppose it is unreasonable to expect the modern pricepoint calculators to have 25+ year lifespans, but I still hope that HP has set the bar high on this product with regards to quality.

I would assume the quality would be on a par with the existing 12c or 12c platinum, if anyone has any experience with these.

Re: New HP-12C Review

*Message #18 Posted by **Don Shepherd** on 28 Apr 2009, 4:12 p.m.,*

in response to message #17 by Martin Pinckney

Martin, I would say the quality of the new unit is the same as that of a 12c I bought 8 years ago, and a 12cp 25th anniversary edition I bought about 3 years ago. They are all made in China, but I have never had any problems with any of those units. The first platinums had a problem with keystroke programs that were more than about 250 lines, as I recall, and I had one of those. But the new unit is blazingly fast. Like Katie said, a program I had that took maybe 2 minutes to run on the old 12c takes less than 2 seconds on this one. That ARM processor does make a huge difference!

Re: New HP-12C Review

*Message #19 Posted by **BruceH** on 28 Apr 2009, 7:46 p.m.,*
in response to message #16 by Michael de Estrada

> Quote:
>
> So, I have to wonder how much of this sort of quality has carried over to the newest incarnation of the HP-12C.

Michael, IMHO the current 12C keyboard is the best of any of the current models. In fact, I really don't understand why HP don't use this key mechanism with the 20B, for example.

Re: New HP-12C Review

*Message #20 Posted by **hpnut** on 28 Apr 2009, 11:41 a.m.,*
in response to message #1 by Katie Wasserman

I looked very hard and couldn't find an = key. Is this a pure RPN machine? If so, yahoo!!

Re: New HP-12C Review

*Message #21 Posted by **Don Shepherd** on 28 Apr 2009, 12:27 p.m.,*
in response to message #20 by hpnut

Yep, pure RPN, just like the original 12c.

New 12c loop count speed test

*Message #22 Posted by **Gene Wright** on 28 Apr 2009, 6:23 p.m.,*
in response to message #21 by Don Shepherd

Program of

01 + 02 GTO 01

with the stack filled with 0 in X and 1 in Y, Z and T

counts to well over 45,000 in 60 seconds.

Re: New 12c loop count speed test

*Message #23 Posted by **Katie Wasserman** on 28 Apr 2009, 10:07 p.m.,*
in response to message #22 by Gene Wright

Gene,

You have a hyper-speed 12C! I only get to about 30,000 in 60 seconds. The factor of 1.5 difference agrees with your statement several months ago that the new 12C runs 90 times faster, I (and Don too) found that it's "only" 60 times faster.

How do I get to hyper-speed? :)

-Katie

Re: New 12c loop count speed test

*Message #24 Posted by **DaveJ** on 28 Apr 2009, 10:35 p.m.,*
in response to message #23 by Katie Wasserman

Quote:

Gene,

You have a hyper-speed 12C! I only get to about 30,000 in 60 seconds. The factor of 1.5 difference agrees with your statement several months ago that the new 12C runs 90 times faster, I (and Don too) found that it's "only" 60 times faster.

How do I get to hyper-speed? :) -Katie

Don't get too excited about that speed, it comes at the expense of battery life efficiency.

See here for why:
http://www.alternatezone.com/eevblog/?p=32

I bet they are running this sucker at 30MHz just like the 20B. And if they are, continuous processing would drain the batteries in way under 30 hours. Anyone want to put their unit into a continuous loop and see how long it actually lasts?

Dave.

Re: New 12c loop count speed test

*Message #25 Posted by **db (martinez, ca.)** on 29 Apr 2009, 12:24 a.m.,*
in response to message #24 by DaveJ

that's sad news. or maybe it's not sad news. i don't speak ausie ;-) but you seem to be saying that if someone(s) write new operating systems for the 12c and 20b; they can drastically lower the power consumption in both by changing the clock speed. if i get this correctly; the worst that the savings can be is 10X, but since the calc will sit idle most of the time while we write and think, and if we choose a standby speed of less than your 3 meg; those batteries can last a very long time indeed. did hp do this with either of the new units as shipped?

Re: New 12c loop count speed test

*Message #26 Posted by **DaveJ** on 29 Apr 2009, 1:51 a.m.,*
in response to message #25 by db (martinez, ca.)

Quote:

that's sad news. or maybe it's not sad news. i don't speak ausie ;-) but you seem to be saying that if someone(s) write new operating systems for the 12c and 20b; they can drastically lower the power consumption in both by changing the clock speed.

You can reduce the losses in the battery resistance by running at a slower speed, yes. This will give greater battery life at the expense of calculation speed.

A big speed reduction will almost certainly have no visible speed impact on normal calculations. It's only looping program calculations where the speed matters, but even then 30MHz seems crazy. My uWatch runs at 250KHz and does C floating point calculations all but instantly. In fact it's practically instant running at 32KHz.

Quote:

if i get this correctly; the worst that the savings can be is 10X, but since the calc will sit idle most of the time while we write and think, and if we choose a standby speed of less than your 3 meg; those batteries can last a very long time indeed. did hp do this with either of the new units as shipped?

The 20B runs at 30MHz only when doing calculations, then sits idle drawing almost nothing at a slow speed. So it's doing it properly except for the fact that they chose the top speed of 30MHz, and it peaks like this for *every* calculation regardless if it needs it or not! This is very poor low power calc design IMHO.

I can hardly imagine a program running on such a calc that would warrant a 30MHz clock rate on a 32bit ARM processor.

Every time you do a calc you are gulping a quick 15mA from those poor little CR2032 batteries with their high output resistance, it makes me want to cry!

I don't know about the 12B, I'm just assuming it's the same as the 20B.

Dave.

Edited: 29 Apr 2009, 2:03 a.m.

Re: New 12c loop count speed test

*Message #27 Posted by **Eric Smith** on 29 Apr 2009, 4:14 a.m.,*
in response to message #26 by DaveJ

> Quote:
>
> My uWatch runs at 250KHz and does C floating point calculations all but instantly. In fact it's practically instant running at 32KHz.

uWatch is running native math code, and the ARM-based 12C is not. Cyrille's put in a lot of optimizations [*], but at 250 kHz it would most likely be slower than the original 12C.

I agree, though, that 30 MHz is absurd and wastes battery life.

Eric

[*] I proposed some optimizations to the BCD math, and I know Cyrille experimented with them, but I'm not sure whether he put them in the production code. Aside from that, I know he designed his emulation code from the ground up to be very efficient.

Re: New 12c loop count speed test

*Message #28 Posted by **Katie Wasserman** on 29 Apr 2009, 4:51 a.m.,*
in response to message #27 by Eric Smith

I just measured the current draw on the new 12C with good equipment. You need two power supplies for this as the batteries are in parallel with a common positive contact. Here are my findings:

power off: 4uA

power on, static display, no keystrokes: 45uA

continuous keystrokes (number entry): 1mA

long amortization function: 15mA

tight program loop: 15mA

continuous self-test ([ON]+[+]): 4mA

test modes ([ON]+[g] and [ON]+[g]+[ENTER]) , static display : 1.8mA

So it beats up on those CR2032's but only to give you the fast speed. I think this is justified however since you really do want the amortization results as fast as possible. Other functions run so fast that stress to the batteries is minimal. For most practical user programs on the 12C the same is true.

Given the higher current draw in the new modes, my guess is that the the boot loader on the Atmel chip is running. You probably need to be in this mode to talk to the serial port. Perhaps that's the purpose of [ON]+[g], just to put you in that mode and show the the status of the CPU.

-Katie

Edited: 29 Apr 2009, 12:56 p.m. after one or more responses were posted

Re: New 12c loop count speed test

*Message #29 Posted by **DaveJ** on 29 Apr 2009, 5:09 a.m.,*
in response to message #28 by Katie Wasserman

> Quote:
>
> I just measured the current draw on the new 12C with good equipment. You need two power supplies for this as the batteries are in parallel with a common positive contact. Here are my findings:
>
> power off: 4uA
>
> power on, static display, no keystrokes: 45uA
>
> continuous keystrokes: 1mA
>
> long amortization function: 15mA
>
> tight program loop: 15mA
>
> continuous self-test ([ON]+[+]): 4mA
>
> test modes ([ON]+[g] and [ON]+[g]+[ENTER]) , static display : 1.8mA
>
> So it beats up on those CR2032's but only to give you the fast speed. I think this is justified however since you really do want the amortization results as fast as possible. Other functions run so fast that stress to the batteries is minimal. For most practical user programs on the 12C the same is true.
>
> Given the higher current draw in the new modes, my guess is that the the boot loader on the Atmel chip is running. You probably need to be in this mode to talk to the serial port. Perhaps that's the purpose of [ON]+[g], just to put you in that mode and show the the status of the CPU.
>
> -Katie

Thanks for the measurements. But are you SURE it doesn't actually take 15mA spikes during normal calculations?

What equipment?, what method? "good equipment" doesn't mean anything if your method has limitations (e.g. you are only reading the average with a multimeter). Sorry to be pedantic, but it's easy to get false measurements on pulse current readings like this.

Obviously the processor is working at 30MHz during program execution as expected, so your 15mA figures are spot on. My bet is it also peaks at 15mA doing a simple addition.

> Quote:
>
> Other functions run so fast that stress to the batteries is minimal.

Sorry, you can't beat ohms law. The battery losses remain the same as I pointed out in my video, regardless of how "quick" the pulse is.

Dave.

Edited: 29 Apr 2009, 5:27 a.m.

Re: New 12c loop count speed test

*Message #30 Posted by **Katie Wasserman** on 29 Apr 2009, 12:24 p.m.,*
in response to message #29 by DaveJ

I was using a Fluke 867b, measuring the current draw from the common "+" supply line from the batteries to the calc (burden voltage drop is minimal on the 10 amp range). Yes, it does draw 15ma peak on every function. I just rechecked this using a HP 34401A and got the same readings. They also seem to agree with what Cyrille posted.

Re: New 12c loop count speed test

*Message #31 Posted by **cyrille de Brébisson** on 29 Apr 2009, 10:07 a.m.,*
in response to message #28 by Katie Wasserman

hello,

> Quote:
>
> power off: 4uA power on, static display, no keystrokes: 45uA continuous keystrokes: 1mA long amortization function: 15mA tight program loop: 15mA continuous self-test ([ON]+[+]): 4mA test modes ([ON]+[g] and [ON]+[g]+[ENTER]) , static display : 1.8mA

the basic figures for the ARM are: power off 4µA running at 2Mhz (internal oscillator) ~1.5ma running at 30Mhz 15ma LCD on (12C, no charge pump: 45µa, 20b, charge pump, 150µa)

cyrille

Re: New 12c loop count speed test

*Message #32 Posted by **DaveJ** on 29 Apr 2009, 4:58 a.m.,*
in response to message #27 by Eric Smith

> Quote:
>
> uWatch is running native math code, and the ARM-based 12C is not. Cyrille's put in a lot of optimizations [*], but at 250 kHz it would most likely be slower than the original 12C.

Yes, the 12C is a different beast because it's running an emulator which has much more overhead. The 20B on the other hand...

If you assume the new 12C works at 30MHz, and it's been measured as 60 times faster, then it's obvious it only needs to run at 500K to emulate the original 12C speed (sounds about right to me). Speed improvement is nice, so a nice round 5 or 10 times improvement would have been sufficient for marketing, giving only a few MHz operation which would be very sensible. Or better yet, if possible, make it smart - so for normal calcs keep it running at a low 500KHz, and only switch to high clock speed when it's running a program or something.

Or even better still, give the user a speed option, it's only a few lines of code. By default, make it slow for maximum battery life, and those who need super speed can select it if needed.

Dave.

Re: New 12c loop count speed test

*Message #33 Posted by **Katie Wasserman** on 29 Apr 2009, 12:30 p.m.,*
in response to message #32 by DaveJ

I like the user-specified speed setting with a default of a few MHz. Most users would never read the manual to know how to change it but would experience a 10x speedup over the original 12C and very long battery life. Geeks would push it to the limit but have plenty of spare batteries around.

Still, at 30MHz when functions are run -- even with the bad battery losses -- given typical usage patterns I think that most users will experience several years of usage on one set of batteries.

Re: New 12c loop count speed test

*Message #34 Posted by **DaveJ** on 29 Apr 2009, 5:37 p.m.,*
in response to message #33 by Katie Wasserman

> Quote:
>
> Still, at 30MHz when functions are run -- even with the bad battery losses -- given typical usage patterns I think that most users will experience several years of usage on one set of batteries.

The 20B is rated at "an average of 9 months" battery life, so the 12C should be an identical spec.

Dave.

Edited: 29 Apr 2009, 6:02 p.m.

Re: New 12c loop count speed test

*Message #35 Posted by **cyrille de Brébisson** on 30 Apr 2009, 10:26 a.m.,*
in response to message #34 by DaveJ

hello

> Quote:
>
> The 20B is rated at "an average of 9 months" battery life, so the 12C should be an identical spec.

actually, no. the 20b in idle mode (screen ON, not 'working') uses 150µa versus 45 or so for the 12C. so there will be a difference in battery life.

it also takes more keys to do something on average with the 20b, so there is more overhead there...

cyrille

Re: New 12c loop count speed test

*Message #36 Posted by **cyrille de Brébisson** on 29 Apr 2009, 10:05 a.m.,*
in response to message #27 by Eric Smith

Hello,

> Quote:
>
> [*] I proposed some optimizations to the BCD math, and I know Cyrille experimented with them, but I'm not sure whether he put them in the production code. Aside from that, I know he designed his emulation code from the ground up to be very efficient.

Yep, the emulator is quite efficient. As for BCD calculations, I further optimized the code that you proposed in 32 bit ARM assembly using the full power of 3 operations per instruction offered by the ARM (shift + operation + carry detection) allowing me to do a 64 bit BCD add in 18 instructions..

cyrille

Re: New 12c loop count speed test

*Message #37 Posted by **Eric Smith** on 29 Apr 2009, 5:01 p.m.,*
in response to message #36 by cyrille de Brébisson

Of course, for Nut emulation you don't NEED 64-bit BCD operations. Maybe you've incorporated the routines into firmware for other calculators that do need 64-bit BCD operations?

Just imagine trying to produce a product for THIS group of fanatics . . .

*Message #38 Posted by **Paul Brogger** on 30 Apr 2009, 1:08 a.m.,*
in response to message #37 by Eric Smith

My hat is off to Cyrille!

Re: New 12c loop count speed test

*Message #39 Posted by **cyrille de Brébisson** on 30 Apr 2009, 10:33 a.m.,*
in response to message #37 by Eric Smith

hello

> Quote:
>
> Of course, for Nut emulation you don't NEED 64-bit BCD operations. Maybe you've incorporated the routines into firmware for other calculators that do need 64-bit BCD operations?

But my code works for 64 bits :-) thanks to assembly codding and the power of ARM assembly, adding the last nibble only required one extra instruction...

// used to do an addition on 2 DCB number with a result in DCB // for example, dcbAdjust(a, b) when a and b are dcb representation // of number will return the dcb represention of the number r=a+b... // note that the addition is done prior to the call... // int64 dcbAddAdjust(int64 r, int64 b); // r=a+b

// a += 0x0666666666666666ULL; // preadjust as if carries occur // u64 s = a + b; // compute the sum // b = a ^ b ^ s; // find the carries // b = ~b & 0x1111111111111111ULL; // compute mask for non-carries // return s - ((b >> 4)*6); // subtract out 6 * non-carries dcbAddAdjust: ldr r12, cte66666666 // load 66666666 in lr to perform the a+666666666666666 /* 10hex = 16decimal. so the difference between the BCD representation of 10 and the hex value of 10 is 6. Adding 6 to each digit of one of the 2 numbers correspond to assuming that the addition will generate a carry for each digit and preemtively adds the 6 to each digit.

This need to be done so that we can easely detect which digit addition really had a carry. Then the algorytm will remove the extra 6 from these digits.

The carry for each digit does appear as an extra '1' added to the last bit of each digit. This means that the parity of each digit is equal to parity of digit in a exclusive or parity of digit in b exclusive or carry from previous digit.

This means that calculating a xor b xor (a+b) and only looking at the first bit of each digit will tell us for each digit if there is a carry or not. Note that the fact that we addedd 6 to each digit of a does not affect the calculation of parity for a as 6 is an even number */ adds r0, r0, r12 // a+=6666666666666666 adc r1, r1, r12 ldr r12, cte88888888 // preload 888888888888 preloading it earlier than needed will reduce 1 wait state later on... /* step 2 of the algorythm. we now have pre addjusted a, we calculate the sum of a+b. however, here we pay attention to keeping the carry out of that calculation in the CPU carry flag (this is why we use the adcS instruction as in add r1 and r3 and the current carry AND keep the carry out in the flag register) so that we can later remove the 6 from the last digit of the result if that carry is clear, or in our case, clear the bit in the bitfield representing the digits where we need to remove 6 for digit 16 if the carry is set.*/ adds r4, r0, r2 // s= a+b adcs r5, r1, r3 // keep carry!!!

eor r2, r0, r2 // b=a^b. This calculates the combined parity of each digits of a and b. eor r3, r1, r3 // note that only the first bit of each digit has any interest. the others will be removed later eor r2, r2, r4 // b=a^b^s. 'removing' the combined parity of each digit of a and b from the parity of the eor r3, r3, r5 // sum of a and b gives the carry bit for each digit. /* the next 3 instructions perform 3 64 bit operations at once (a normal non ARM CPU would need 6 instructions to do so!), so please follow! we now have a set of 64 bits, 16 of them are of interest to us (the least significant bit of each digit) as it indicates the carry. so, we need to 1: clear all the other bits (the b&1111111111111111 in the C code) 2: if the carry bit for digit 'n' is NOT set (ie, no carry), it means that we need to remove 6 from digit n-1. So we need to invert each carry bit 3: we need to shift our bitfield to get the bit indicating the carry caused by

digit n located in the same region of the registers as digit n (for the moment, the bit for digit n is the least significant bit of digit n+1)

Thanks to the ARM cpu instruction set, we can do this in only 3 instructions. - as far as 1 and 2 are concerned we can use the bic instruction (Bit Clear) which performs a "a and ~b" operation so we can combine them - a shift operation normally takes 3 operations, but if we decide to shift the bitfeild by only 1 bit (which would place the carry for digit n in the bit 3 of digit n), then we can use the shift ability of the ARM to perform in 1 operation the 88888888 and (~b shift 1) for the lower 32 bits of b, then use 1 instruction (the sub) to handle the carry for digit 7 (which is now held as the least significatn bit of the register holding the upper 32 bits of b) and finish the work by handling the upper 32 bits of b. because the shift is done 'onthe fly', we now need to and b not by 11111..., but by 1111... shifted by 1 or 8888.....

Note that if the ARM had 64 bit registers, we could do the whole thing in only 1 instruction */ bic r2, r12, r2, lsr #1 // (~b>>1)&0x888888888888888 sub r2, r2, r3, asl #31 bic r3, r12, r3, lsr #1

/* Handles carry that we lost from the register due to 64 bit limitiation during the addition of a+b but that was kept in the flag register of the ARM CPU and never modified since! if the carry is SET (ie, there is a carry on the last digit), then we do NOT need to remove 6 from the last digit, and the bit corresponding to the need to remove that 6 is cleared from the register. */ subcs r3, r3, #0x80000000

/* the last step of the algorythm is to remove 6 (or remove 2 and remove 4 as 2+4=6) from each digit where they were no carry. for each digit, we have a bit (bit 3 to be precise) in variable b that is set if 6 needs to be removed from this digit. so, we need to remove b>>1 (correspond to carry bit*4) and b>>2 (correspond to carry bit *2) from the sum to get our result. note that because we know that only 1 bit in each group of 4 bit is potentially set, there is no need to handle bit movement from higher 32 bits to lower 32 bits of b. If the ARM had 64 bit registers, this would be a non issue. */ subs r4, r4, r2, lsr #2 // s-(b>>2)*3 = s-b<<2-b<<3 sbc r5, r5, r3, lsr #2 subs r0, r4, r2, lsr #1 sbc r1, r5, r3, lsr #1 END of Function

cte66666666: DC32 0x66666666 cte88888888: DC32 0x88888888 cte11111111: DC32 0x11111111

cyrille

Re: New 12c loop count speed test

*Message #40 Posted by **Andrés C. Rodríguez (Argentina)** on 30 Apr 2009, 6:21 p.m.,*
in response to message #39 by cyrille de Brébisson

Cyrille: with some guessing (I apologize), I tried to put the code you shared in a format compatible with the MoHPC Forum, which at times is rather unfriendly with respect to long posts formatting. Please correct any mistake. Andrés

```
But my code works for 64 bits :-) thanks to assembly coding and
the power of ARM assembly, adding the last nibble only required
one extra instruction...


// Used to do an addition on two DCB numbers with a result in DCB
// for example, dcbAdjust(a, b), when a and b are dcb representation
// of numbers, will return the dcb representation of the number r=a+b...
// Note that the addition is done prior to the call...
//
// int64 dcbAddAdjust(int64 r, int64 b);        // r=a+b
// a += 0x0666666666666666 ULL;
// preadjust as if carries occur
// u64 s = a + b;
// compute the sum
// b = a ^ b ^ s;
// find the carries
// b = ~b & 0x1111111111111111 ULL;
// compute mask for non-carries
// return s - ((b >> 4)*6);
// subtract out 6 * non-carries


dcbAddAdjust:
```

```
ldr     r12, cte66666666        // load 66666666 in lr to perform the
a+666666666666666


/* 10hex = 16decimal, so the difference between the BCD
representation of 10 and the hex value of 10 is 6.
Adding 6 to each digit of one of the 2 numbers correspond to
assuming that the addition will generate a carry for each digit
and preemptively adds the 6 to each digit.
This need to be done so that we can easily detect which digit
addition really had a carry. Then the algorithm will remove the
extra "6" from these digits.
The carry for each digit does appear as an extra '1' added to the
last bit of each digit. This means that the parity of each digit
is equal to parity of digit in an exclusive-or parity of digit in
b exclusive-or carry from previous digit.
This means that calculating a xor b xor (a+b) and only looking at
the first bit of each digit will tell us for each digit if there
is a carry or not. Note that the fact that we added 6 to each
digit of a does not affect the calculation of parity for a as 6 is
an even number */


adds    r0, r0, r12             // a+=6666666666666666
adc     r1, r1, r12
ldr     r12, cte88888888        // preload 888888888888; preloading it
earlier than
                                // needed will reduce 1 wait state later
on...


/* Step 2 of the algorithm. We now have pre adjusted a, we
calculate the sum of a+b. however, here we pay attention to
keeping the carry out of that calculation in the CPU carry flag
(this is why we use the adcs instruction as in add r1 and r3 and
the current carry, AND keep the carry out in the flag register),
so that we can later remove the 6 from the last digit of the
result if that carry is clear or, in our case, clear the bit in
the bitfield representing the digits where we need to remove 6 for
digit 16 if the carry is set.*/


adds    r4, r0, r2              // s= a+b
adcs    r5, r1, r3              // keep carry!!!
eor     r2, r0, r2              // b=a^b.


/* This calculates the combined parity of each digits of a and b. */


eor     r3, r1, r3              // Note that only the first bit of each
digit has any interest.
                                // The others will be removed later.
eor     r2, r2, r4              // b=a^b^s. 'Removing' the combined parity
of each
eor     r3, r3, r5              // digit of a and b from the parity of the
sum of a and b
                                // gives the carry bit for each digit.


/* The next 3 instructions perform 3 64-bit operations at once (a
normal non-ARM CPU would need 6 instructions to do so!), so please follow!
We now have a set of 64 bits, 16 of them are of interest to us
(the least significant bit of each digit) as it indicates the carry. So, we
need to:


1.      Clear all the other bits (the b&1111111111111111 in the C code)
2.      If the carry bit for digit 'n' is NOT set (i.e., no carry),
        it means that we need to remove 6 from digit n-1. So we
        need to invert each carry bit
3.      We need to shift our bitfield to get the bit indicating the carry
        caused by digit n located in the same region of the
        registers as digit n (for the moment, the bit for digit n
        is the least significant bit of digit n+1) */


/* Thanks to the ARM CPU instruction set, we can do this in only 3
instructions. - as far as 1 and 2 are concerned we can use the bic
instruction (Bit Clear) which performs a "a and ~b" operation so
we can combine them - a shift operation normally takes 3 operations,
but if we decide to shift the bitfield by only 1 bit (which
would place the carry for digit n in the bit 3 of digit n), then
we can use the shift ability of the ARM to perform in 1 operation
the 88888888 and (~b shift 1) for the lower 32 bits of b, then use
1 instruction (the sub) to handle the carry for digit 7 (which is
now held as the least significant bit of the register holding the
upper 32 bits of b) and finish the work by handling the upper 32
bits of b. because the shift is done 'on the fly'; we now need to
and b - not by 11111..., but by 1111... shifted by 1 or 8888......
Note that if the ARM had 64 bit registers, we could do the whole
thing in only 1 instruction */
```

```
bic     r2, r12, r2
lsr     #1                          // (~b>>1) & 0x888888888888888
sub     r2, r2, r3
asl     #31
bic     r3, r12, r3
lsr     #1


/* Handles carry that we lost from the register due to 64 bit
limitation during the addition of a+b but that was kept in the
flag register of the ARM CPU and never modified since, if the
carry is SET (i.e., there is a carry on the last digit), then we
do NOT need to remove 6 from the last digit, and the bit
corresponding to the need to remove that 6 is cleared from the
register. */


subcs   r3, r3, #0x80000000


/* The last step of the algorithm is to remove 6 (or remove 2 and
remove 4; as 2+4=6) from each digit where there were no carry. For
each digit, we have a bit (bit 3 to be precise) in variable b that
is set if 6 needs to be removed from this digit. So, we need to
remove b>>1 (correspond to carry bit*4) and b>>2 (correspond to
carry bit *2) from the sum to get our result. Note that because we
know that only 1 bit in each group of 4 bit is potentially set,
there is no need to handle bit movement from higher 32 bits to
lower 32 bits of b. If the ARM had 64 bit registers, this would be
a non issue.*/


subs     r4, r4, r2
lsr     #2                          // s-(b>>2)*3 = s-b<<2-b<<3
sbc     r5, r5, r3
lsr     #2
subs    r0, r4, r2
lsr     #1
sbc     r1, r5, r3
lsr     #1


END of Function


cte66666666: DC32 0x66666666
cte88888888: DC32 0x88888888
cte11111111: DC32 0x11111111
```

Re: New 12c loop count speed test

*Message #41 Posted by **Eric Smith** on 1 May 2009, 12:36 a.m.,*
in response to message #40 by Andrés C. Rodríguez (Argentina)

For comparison, here's the C code I sent to Cyrille that inspired his ARM assembly code:

```
uint64_t bcd15d_add (uint64_t a, uint64_t b, bool carry_in)
{
  if (carry_in)
    b++;
  a += 0x0666666666666666UL;            // preadjust as if carries occur
  uint64_t s = a + b;                    // compute the sum
  b = a ^ b;                             // find the carries
  b = ~(s ^ b) & 0x1111111111111110UL;  // compute mask for non-carries
  return s - ((b >> 2) | (b >> 3));      // subtract out 6 * non-carries
}
```

This works for 15-digit BCD addition, but not for 16 digits, because in C code there is no simple portable way to obtain the carry out from an addition of 64-bit unsigned integers. Cyrille wrote ARM assembly code based on this, and in ARM assembly it's easy to obtain the carry out.

Note that when given non-BCD input, neither the C code nor the ARM code will match the results given by the HP Nut or Saturn processors. My latest code first does an efficient parallel test for valid BCD digits of each operand, and chooses the fast BCD addition for valid operands, or a digit-by-digit method for invalid operands. I've sent the C code for the efficient parallel BCD test to Cyrille in case he wants to do something similar in other HP calculators such as the 50g.

Re: New 12c loop count speed test

*Message #42 Posted by **Scott Newell** on 1 May 2009, 6:43 p.m.,*

in response to message #41 by Eric Smith

> Quote:
>
> For comparison, here's the C code I sent to Cyrille that inspired his ARM assembly code:
>
> ```
> uint64_t bcd15d_add (uint64_t a, uint64_t b, bool carry_in)
> {
>   if (carry_in)
>     b++;
>   a += 0x0666666666666666UL;            // preadjust as if
> carries occur
>   uint64_t s = a + b;                    // compute the sum
>   b = a ^ b;                             // find the
> carries
>   b = ~(s ^ b) & 0x1111111111111110UL;  // compute mask for
> non-carries
>   return s - ((b >> 2) | (b >> 3));      // subtract out 6
> * non-carries
> }
> ```

This reminds me very much of the tricks described in the book "Hacker's Delight". (Web site at http://www.hackersdelight.org/)

Re: New 12c loop count speed test

*Message #43 Posted by **Eric Smith** on 1 May 2009, 8:11 p.m.,*
in response to message #42 by Scott Newell

Excellent book! I seem to have misplaced my copy (or maybe lent it out and forgotten?), so I might have to buy another one.

Re: New 12c loop count speed test

*Message #44 Posted by **J-F Garnier** on 1 May 2009, 3:51 a.m.,*
in response to message #40 by Andrés C. Rodríguez (Argentina)

When I started to design my Saturn emulation engine (for Emu71), back in 1995, I investigated the most efficient way to implement BCD operations on x86 processors in 16-bit "real" mode (Emu71 was, and still is, a pure 16-bit "DOS" program...). I quickly recognized that I had to handle the nibbles in packed form, i.e. 2 nibbles per byte to have some degrees of parallelism. I used the native BCD support of the Intel processors. The result is a quite efficient code for a 16-bit processor, and this explains most of the speed of Emu71:

```
; BCD 16 nibble addition: [dest] += [src]
; di points to dest, si points to src
_addd_w:        mov  ax,[di]
                mov  bx,[si]
                add  al,bl
                daa
                xchg al,ah
                adc  al,bh
                daa
                xchg al,ah
                mov  [di],ax
                mov  ax,[di+2]
                mov  bx,[si+2]
                adc  al,bl
                daa
                xchg al,ah
                adc  al,bh
                daa
                xchg al,ah
                mov  [di+2],ax
                mov  ax,[di+4]
                mov  bx,[si+4]
                adc  al,bl
                daa
                xchg al,ah
                adc  al,bh
                daa
                xchg al,ah
                mov  [di+4],ax
                mov  ax,[di+6]
                mov  bx,[si+6]
                adc  al,bl
                daa
```

```
                xchg al,ah
                adc  al,bh
                daa
                xchg al,ah
                mov  [di+6],ax
                update_carry
```

If I had to rewrite Emu71 in 32-bit mode, I would do differently, maybe using Eric/Cyrille method. Is it a public domain method, or is it an innovative code of yours?

J-F

Edited: 1 May 2009, 3:54 a.m.

Re: New 12c loop count speed test

*Message #45 Posted by **Egan Ford** on 1 May 2009, 11:27 a.m.,*
in response to message #44 by J-F Garnier

> Quote:
>
> When I started to design my Saturn emulation engine (for Emu71), back in 1995 ...

A million thank yous for Emu71.

> Quote:
>
> If I had to rewrite Emu71 in 32-bit mode, I would do differently ...

And a million more if you rewrite it AND open source it. Given current processor speeds I would hesitate to require assembly optimizations in the event someone wanted to port it to a different architecture.

Re: New 12c loop count speed test

*Message #46 Posted by **Marcus von Cube, Germany** on 1 May 2009, 11:32 a.m.,*
in response to message #45 by Egan Ford

What makes EMU71 useful for me is the hardware HP-IL support. This would need to be ported as well. This is probably the hardest part of the deal: write a Win32 or Linux device driver for the hardware (HP's or Christoph Klug's or the yet to appear PIL box.)

Re: New 12c loop count speed test

*Message #47 Posted by **Egan Ford** on 1 May 2009, 1:14 p.m.,*
in response to message #46 by Marcus von Cube, Germany

USB-based PIL box. No problem. I think JFG has a plan, a great plan.

Floyd: "What's going to happen?", Bowman: "Something wonderful." -- *2010*

Edited: 1 May 2009, 1:27 p.m.

Re: New 12c loop count speed test

*Message #48 Posted by **PeterP** on 1 May 2009, 2:15 p.m.,*
in response to message #45 by Egan Ford

[Start of Dream] what about a i71 for the iPhone? Another project could be to connect the iPhone to IL now that Apple has released the SDK for the connector pin... I don't know anything about hardware and frustratingly little about the 41/71 as well, but I think it would be a super cool project to connect the iPhone

to HP-IL and have the i41X (or a yet to be written i71) connected to real devices... [End of Dream]

Cheers

Peter

Re: New 12c loop count speed test

*Message #49 Posted by **Egan Ford** on 1 May 2009, 2:49 p.m.,*
in response to message #48 by PeterP

I share your dream. My plans:

1. Get a PIL Box to work with Windows, Linux, Mac.
2. Leverage the work of Khanh-Dang Nguyen Thu Lam (http://pagesperso-orange.fr/kdntl/hp41/nonpareil-patch-doc.html) and create a TCP front-end to the PIL BOX. I'll also support the virtual IL devices create by KDNT. This way IL can be added to any emulator and TCP can be used to get to the PIL-BOX for physical devices.
3. Beg i41CX+ author to add TCP/IL support.

Re: New 12c loop count speed test

*Message #50 Posted by **PeterP** on 1 May 2009, 3:05 p.m.,*
in response to message #49 by Egan Ford

I'd be happy to help with 3.) (and any beta-testing that might be helpful).

[Dream Continues...

Re: New 12c loop count speed test

*Message #51 Posted by **Andrés C. Rodríguez (Argentina)** on 1 May 2009, 7:29 p.m.,*
in response to message #48 by PeterP

The HP-41 had real conectivity via HP-IL 25 years ago, even with data-acquisition units. I would like to say (rather fanatically, excuse me) that it had better real connectivity than the iPhone has today... OK, WiFi is nice on the iPhone side...

:-))

Re: New 12c loop count speed test

*Message #52 Posted by **David Hayden** on 1 May 2009, 4:34 p.m.,*
in response to message #23 by Katie Wasserman

> Quote:
>
> You have a hyper-speed 12C! I only get to about 30,000 in 60 seconds. The factor of 1.5 difference agrees with your statement several months ago that the new 12C runs 90 times faster, I (and Don too) found that it's "only" 60 times faster.

Because of the emulator, I wonder if the speed is sensitive to how the program is aligned in memory. There's a good chance that reading something on a 4-byte boundary is faster than reading something that starts at an odd nibble address.

Dave

Re: New 12c loop count speed test

*Message #53 Posted by **Don Shepherd** on 28 Apr 2009, 10:16 p.m.,*

in response to message #22 by Gene Wright

Like Katie, mine got to 30,382. Don

Re: New HP-12C Review

*Message #54 Posted by **Damir** on 29 Apr 2009, 1:42 p.m.,*
in response to message #1 by Katie Wasserman

Thanks. How many program steps?

DamirV

Edited: 29 Apr 2009, 2:24 p.m.

Re: New HP-12C Review

*Message #55 Posted by **Dewdman42** on 1 May 2009, 7:32 p.m.,*
in response to message #54 by Damir

So has HP upgraded the 12cp at all? How does the current 12cp compare to this new 12c?

Re: New HP-12C Review

*Message #56 Posted by **Don Shepherd** on 1 May 2009, 11:17 p.m.,*
in response to message #55 by Dewdman42

I don't think the 12cp has been upgraded. I have the 25th anniversary edition. How does it compare to the new 12c? The cp has algebraic mode, 400 lines of program space, more cash flows, and x^2. The new 12c has pure RPN and raw speed.

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The curta Calculator.

*Message #1 Posted by **Stuart Sprott** on 27 Apr 2009, 7:27 a.m.*

I am just curious. How many of you out there still have a Curta calculator that actually works?

I have keept mine that dates back to the early 70s, just before the HP 35 came out and changed the world. Or at least that is how it felt at the time.

Every now and then I take out the Curta and check to see that it does still operate.

They are still a remarkable piece of engineering.

Re: The curta Calculator.

*Message #2 Posted by **Miki Mihajlovic** on 27 Apr 2009, 5:34 p.m.,*
in response to message #1 by Stuart Sprott

I have both Type I and II and they are both working flawlessly. This is by far the most sophisticated mechanical piece of gadgetry I have ever held in my hands and (successfully) disassembled and put back together.

Re: The curta Calculator.

*Message #3 Posted by **John Mosand** on 28 Apr 2009, 2:55 a.m.,*
in response to message #2 by Miki Mihajlovic

My Curta I works perfectly. If they aren't damaged og handled roughly, they ought to 'last forever'. (Like a good slide rule :-)

Re: The curta Calculator.

*Message #4 Posted by **Stuart Goldberg** on 29 Apr 2009, 9:06 p.m.,*
in response to message #1 by Stuart Sprott

I several Model I and Model II Curtas which still are amazingly smooth and silent running. No one to whom I show them believes they are as old as they are. They still look as if they have just been unpacked for the first time (pristine pieces and both metal and plastic cases, too) and they feel as if they have just been lubricated. Truly amazing pieces of engineering and manufacture.

Re: The curta Calculator.

*Message #5 Posted by **David Ramsey** on 30 Apr 2009, 12:57 a.m.,*
in response to message #1 by Stuart Sprott

I have a pristine Model 1 my wife got me for my birthday a few years ago. It was a little rocky when I received it but I had it professionally overhauled and it's perfect now.

I'd like a Model II. Maybe Stuart will sell me one of his.

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HP / Mark Hurd in New York Times today... . ....

*Message #1 Posted by **Thomas Chrapkiewicz** on 26 Apr 2009, 9:36 a.m.*

Interesting article about HP in the NYT:

http://www.nytimes.com/2009/04/26/technology/companies/26hp.html

TomC

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OT: Math Joke

*Message #1 Posted by **John B. Smitherman** on 25 Apr 2009, 7:47 p.m.*

This came my way and I thought that some might enjoy it ...

An infinite number of mathematicians walk into a bar. The first one orders a beer, the second orders half a beer, the third asks for a quarter of a beer. Before the next one can speak, the bartender says "You're all idiots", and pours two beers.

Reminder: 1 + 1/2 + 1/4 + 1/8 + ... + 1/inf = 2

Please post your favorites.

Regards,

John

Re: OT: Math Joke

*Message #2 Posted by **Dave Shaffer (Arizona)** on 25 Apr 2009, 10:36 p.m.,*
in response to message #1 by John B. Smitherman

Some have probably heard this one before, but if not, it's kinda cute:

After the flood, Noah tells the animals from the Arc to "go forth and multiply."

After a few months, Noah figures he better wander around and see how the animals are doing. Everybody is happy until he comes across a couple of snakes - they are quite downcast and not very happy. Noah asks what wrong, and they say "We are Adders, so we can't multiply!"

Noah rubs his chin for a few moments, and then goes into the forest, cuts down a couple of trees, and makes a table out of them.

Then he puts the snakes up on the platform he has made, and says "Now you should be happy. Everybody knows that adders can multiply with log tables!"

Re: OT: Math Joke

*Message #3 Posted by **Garth Wilson** on 25 Apr 2009, 10:44 p.m.,*
in response to message #2 by Dave Shaffer (Arizona)

> Quote:
>
> After the flood, Noah tells the animals from the Arc to "go forth

Forth has indeed become my favorite programming language, so I'm glad he didn't say, "Go BASIC," or "C," "C++," "Ada,..." etc.

Re: OT: Math Joke

*Message #4 Posted by **Katie Wasserman** on 25 Apr 2009, 11:40 p.m.,*
in response to message #1 by John B. Smitherman

A physicist, an engineer and a mathematician are each asked to empty a bucket of water placed on the floor in front of a sink.

The physicist picks up the bucket and empties it into the sink.

The engineer picks up the bucket and empties it into the sink.

The mathematician picks up the bucket and empties it into the sink.

The bucket is now placed on a shelf above the sink and each are asked to empty it into the sink.

The physicist picks up the bucket and empties it into the sink.

The engineer picks up the bucket and empties it into the sink.

The mathematician picks up the bucket, puts it on the floor and says "now we've reduced it to a problem that we have already solved".

Re: OT: Math Joke

*Message #5 Posted by **hugh steers** on 26 Apr 2009, 8:08 a.m.,*
in response to message #4 by Katie Wasserman

why do calculator people confuse the dates of Christmas and Halloween?

A: because Dec 25 is Oct 31

:-)

Re: OT: Math Joke

*Message #6 Posted by **Gerson W. Barbosa** on 26 Apr 2009, 8:26 a.m.,*
in response to message #1 by John B. Smitherman

Q: Why do you rarely find mathematicians spending time at the beach?

A: Because they have sine and cosine to get a tan and don't need the sun!

Re: OT: Math Joke

*Message #7 Posted by **Nigel J Dowrick** on 26 Apr 2009, 11:52 a.m.,*
in response to message #1 by John B. Smitherman

Q. What do you get if you cross a pig with a dog?

A. Pig dog sine theta!

Nigel

Re: OT: Math Joke

*Message #8 Posted by **DK2ZA** on 26 Apr 2009, 1:50 p.m.,*
in response to message #7 by Nigel J Dowrick

A group of mathematicians and a group of engineers were taking a train to attend a joint conference. They all sat in the same car and after a while the engineers found out that only one of the mathematicians had a ticket. Each of the engineers of course had a ticket. Some time later a mathematician returned to the car and shouted, "Conductor's coming!"

All of the mathematicians crammed into a restroom, and when the conductor came by, he knocked on the door and said "Ticket please." The mathematician with the ticket passed it under the door, and the conductor punched it and returned it. After the conductor left, the engineers sat there in amazement.

On the return trip the engineers had only one ticket.

This time however, none of the mathematicians had a ticket. Some time later an engineer ran in the car and shouted "Conductor's coming." All of the engineers piled into one restroom and all of the mathematicians into another. The last mathematician went to the restroom of the engineers, knocked on the door: "Ticket, please."

What this story exemplifies:

Engineers use the methods of the mathematicians, but they do not understand them fully.

Re: OT: Math Joke

*Message #9 Posted by **Dave Shaffer (Arizona)** on 26 Apr 2009, 4:50 p.m.,*
in response to message #7 by Nigel J Dowrick

Q: What do you get if you cross a mosquito with a mountain climber?

A: Nothing - You can't cross a vector with a scalar!

Re: OT: Math Joke

*Message #10 Posted by **Kiyoshi Akima** on 26 Apr 2009, 2:18 p.m.,*
in response to message #1 by John B. Smitherman

A group of people are asked to prove or disprove the statement "All odd numbers greater than one are prime."

The mathematician says "Three is prime, five is prime, seven is prime, nine is not prime. Thus the statement is false."

The engineer says "Three is prime, five is prime... seven is prime... (slowing down because he doesn't have his slide rule with him) nine is prime... eleven is prime. Looks like they're all prime."

The physicist says "Three is prime, five is prime, seven is prime, nine... well, that could be experimental error, eleven is prime, thirteen is prime, fifteen... oh, we have too many data points. They're all prime."

The computer scientist says nothing, but comes back a month later with a huge ream of printout showing that every even number greater than two is not prime, thus having solved the wrong problem by brute force.

Re: OT: Math Joke

*Message #11 Posted by **Michael Meyer** on 26 Apr 2009, 9:11 p.m.,*

in response to message #10 by Kiyoshi Akima

An engineering student is walking down the sidewalk at the university, when he sees his friend riding the other way on a new bicycle. He says, "Where did you get that great bicycle?"

The friend says, "Well, it was the strangest thing. I was walking down the sidewalk yesterday when this pretty young girl came riding by on a bicycle. She got off the bike, took off all her clothes, and said to me, "Take what you want.""

The first student thinks a moment and says, "Good choice. The clothes probably wouldn't have fit."

Re: OT: Math Joke

*Message #12 Posted by **Thomas Okken** on 26 Apr 2009, 10:48 p.m.,*
in response to message #1 by John B. Smitherman

A statistician tried to wade across a river that was one foot deep on average.
He drowned.

Re: OT: Math Joke

*Message #13 Posted by **Martin Pinckney** on 26 Apr 2009, 11:36 p.m.,*
in response to message #12 by Thomas Okken

IMO, that is actually the best one so far.

OT: Math Joke

*Message #14 Posted by **Mike (Stgt)** on 29 Apr 2009, 8:51 a.m.,*
in response to message #12 by Thomas Okken

What is the difference between an extroverted mathematician and an introverted one? While talking with you the extroverted will gaze at his shoes.

Ciao.....Mike

Re: OT: Math Joke

*Message #15 Posted by **Martin Pinckney** on 26 Apr 2009, 11:48 p.m.,*
in response to message #1 by John B. Smitherman

A mathematician, a physicist, and an engineer, are all placed 8 feet from a beautiful woman and the stipulation that at each time interval, they may move half of the remaining distance towards her.

The mathematician concludes that after N iterations there will be 8 divided by 2N feet remaining which will never equal zero so he gives up on the spot.

The physicist opines that if each iteration requires a finite amount of energy then the energy expended in the approach will be inversely proportional to the distance remaining and gives up on the spot.

The engineer says "8 feet, 4 feet, 2 feet, 1 foot, 6 inches, good enough for practical purposes".

Re: OT: Math Joke

*Message #16 Posted by **Elliott W Jackson** on 27 Apr 2009, 8:16 a.m.,*
in response to message #15 by Martin Pinckney

This one is my favorite (can you guess which discipline I belong to?), and was going to be my response to the earlier, clearly outlandish one where the mathematicians steal the engineer's train ticket. Thieves.

BTW, the punch line for this joke as I learned it years ago went something along the lines of "But where are you going?!? Under the rules you can never get there!" "I can get close enough!!"

Re: OT: Math Joke

*Message #17 Posted by **Gordon Strickland** on 26 Apr 2009, 11:54 p.m.,*
in response to message #1 by John B. Smitherman

University administrations and industry leaders are very concerned because so few women are going into Science and Engineering. However the reason is very simple:

Women have been slaves for the last 5,000 years. Why on earth would they now want to become Scientists or Engineers?

Re: OT: Math Joke

*Message #18 Posted by **Marcus von Cube, Germany** on 27 Apr 2009, 11:30 a.m.,*
in response to message #1 by John B. Smitherman

An engineer, a practical and a theoretical mathematician are asked to catch a lion in the African desert.

The engineer runs across the desert until he manages to catch the lion.

The practical mathematician builds a long fence around the desert. Thus the lion is fenced in.

The theoretical mathematician sits down in the desert and draws a fence around himself. Then he calls this area the outside.

Edited: 30 Apr 2009, 4:50 p.m.

Re: OT: Math Joke

*Message #19 Posted by **Michael Andersson** on 27 Apr 2009, 3:22 p.m.,*
in response to message #1 by John B. Smitherman

An astronomer, a physicist and a mathematician travel on a train through Scotland.
On a field they see a black sheep. Look! says the astronomer, in Scotland all sheep are black.
No, replies the physicist, all we know is that there are black sheep in Scotland.
Thats not true, the mathematician says, all we can say is that in Scotland there is at least one sheep with at least one black side.

Re: OT: Math Joke

*Message #20 Posted by **Martin Pinckney** on 27 Apr 2009, 4:10 p.m.,*
in response to message #1 by John B. Smitherman

A man is flying in a hot air balloon and realizes he is lost. He reduces height and spots a man down below. He lowers the balloon further and shouts, "Excuse me, can you tell me where I am?" The man below said, "Yes, you're in a hot air balloon, hovering 30 feet above this field." "You must be an engineer," said the balloonist. "I am," replied the man. "How did you know?" "Well," said the balloonist, "everything you have told me is technically correct, but it's of absolutely no use to anyone." The man below said, "You must be in management." "I am," replied the balloonist, "but how did you know?" "Well," said the man, "you don't know

where you are, or where you're going, but you expect me to be able to help. You're in the same position you were before we met, but now it's my fault."

Re: OT: Math Joke

*Message #21 Posted by **John B. Smitherman** on 27 Apr 2009, 6:47 p.m.,*
in response to message #1 by John B. Smitherman

A ten year old public school boy was finding fifth grade math to be the challenge of his life. His mom and dad did everything and anything to help their son... private tutors, peer assistance, CD-ROMs, textbooks and even hypnosis. Nothing worked. However, as a last resort they enrolled him into a small Catholic school.

At the end of the first day of Catholic school the boy walked in with a stern expression on his face and walked right past the parents and went straight to his room and quietly closed the door. For nearly two hours he toiled away in his room with math books strewn about his desk and the surrounding floor. He only emerged long enough to eat and after quickly cleaning his plate he went straight back to his room, closed the door, and worked feverishly at his studies until bedtime. The parents were not sure if they should comment on the boys extra efforts for fear of him losing this new found fervor so they seemingly ignored it. This pattern continued ceaselessly.

One day the first quarter report card came out. Unopened, he dropped the envelope on the family dinner table and went straight to his room. His parents were petrified. What lay inside the envelope? Cautiously the mother opened the letter, and to her amazement she saw a bright red "A" under the subject, MATH.

Overjoyed, she and her husband rushed into their son's room, thrilled at the remarkable progress of their young son! "Was it the nuns that did it?", the father asked. The boy only shook his head and said, "No." "Was it the one-on-one tutoring? The peer-mentoring?", asked the mother. Again, the boy shrugged, "No." "The textbooks? The teacher? The curriculum?", asked the father. "Nope," said the son. "It was all very clear to me from the very first day of Catholic school."

"How so?", asked his mom. "When I walked into the lobby, and I saw that guy they'd nailed to the plus sign I knew those people meant business!"

Re: OT: Math Joke

*Message #22 Posted by **BruceH** on 28 Apr 2009, 7:56 p.m.,*
in response to message #1 by John B. Smitherman

> Quote:
>
> Please post your favorites.

There are three types of mathematician: those who can count and those who can't.

Re: OT: Math Joke

*Message #23 Posted by **Walter B** on 29 Apr 2009, 1:53 a.m.,*
in response to message #22 by BruceH

I know it this way:

There are 10 types of mathematicians: those who can count and those who can't.

Re: OT: Math Joke

*Message #24 Posted by **Elliott W Jackson** on 29 Apr 2009, 8:03 a.m.,*
in response to message #23 by Walter B

or, "There are 10 types of people in the world - those who understand binary and those who don't."

Re: OT: Math Joke

*Message #25 Posted by **George Bailey (Bedford Falls)** on 29 Apr 2009, 8:19 a.m.,*
in response to message #24 by Elliott W Jackson

And another version:

There are actually 11 types of people: the ones that know binary, the ones that don't and the rest of 20% who don't have a clue about percentages.

And then the fourth kind who think the other three types must be weird geeks to even find this stuff funny.

;-)

Re: OT: Math Joke

*Message #26 Posted by **Julián Miranda (Spain)** on 29 Apr 2009, 12:53 p.m.,*
in response to message #1 by John B. Smitherman

I can't choose only one.

Why did the maths book commit suicide?
It had too many problems.

A mathematician, a biologist and a physicist are outside a bar enjoying a beer.
They look to the house at the other side of the street.
Two people get in the house. Sometime later three people get out.

The physicist: “The measurement was not accurate.”
The biologist: “They have reproduced.”
The mathematician: “Now, if one, and only one, person gets in, the house will be empty again.”

Re: OT: Math Joke

*Message #27 Posted by **Peter Klein** on 29 Apr 2009, 7:25 p.m.,*
in response to message #26 by Julián Miranda (Spain)

A jet airliner flying over the south Pacific loses power and is forced to make an emergency landing near a deserted island. The landing goes well, but the plane quickly sinks. All the passengers get out without major injury, and all make it to shore. They assemble on the beach, and procede to introduce themselves and discuss what to do.

One woman speaks up. "I'm a Vice-President at Amalgamated Assets, and here's what we should do. We need to form up teams, appoint team leaders, and divide up responsibilities for finding shelter, food, water and other necessities among the teams. Everybody should fan out over the island and exercise their assigned core competency. Team leaders, report back to me at sunset.

Another man is fiddling with an oversized cell phone, obviously frustrated. "Does anyone have a signal?" he asks. "No? All right then, I'm an engineer with Connectroid Telecomm, and here's what we should do.

You folks over there, go inland a bit and bring back any dry wood or palm fronds you can find. You people over there, scour the shoreline and bring back some damp seaweed. Anybody got a lighter or dry matches? Yes? Good. We're going to build a signal fire."

A third man has been busily scratching equations in the sand. "Ah-hah!" he shouts. "I'm an economist at Leveraged Derivatives Bank, and it's all so simple! First, assume a raft..."

Re: OT: Math Joke

*Message #28 Posted by **Marcus von Cube, Germany** on 30 Apr 2009, 4:59 p.m.,*
in response to message #1 by John B. Smitherman

A mathematician, a theoretical an an experimental physicist are sitting in jail for a few days. They are getting hungry.

Each of them is offered a sealed tin can with food.

The experimental physicist throws the can against wall. Picks it up. Throws again. Eventually the lid goes off and he can eat.

The theoretical physicist examins the can thoroughly, then scratches some formulas in the dust on the floor. A single throw against the wall opens the can and he can eat.

The mathematician sits in front of the can an makes an assumption: Let's suppose this can is open...

Re: OT: Math Joke

*Message #29 Posted by **Gerson W. Barbosa** on 1 May 2009, 1:27 p.m.,*
in response to message #1 by John B. Smitherman

> Quote:
>
> An infinite number of mathematicians walk into a bar. The first one orders a beer, the second orders half a beer, the third asks for a quarter of a beer. Before the next one can speak, the bartender says "You're all idiots", and pours two beers.

Not a joke anymore but how many beers would the bartender have poured them if the second mathematician had ordered three-halves of a beer, the third one had asked for five-fourths of a beer, the fourth had asked for seven-eighths of a beer... and so on? Notice the bartender has neither calculator nor computer to figure this out, only the knowledge and skills he had used before.

Regards,

Gerson.

Re: OT: Math Joke

*Message #30 Posted by **Marcus von Cube, Germany** on 1 May 2009, 1:44 p.m.,*
in response to message #29 by Gerson W. Barbosa

The way you're asking the question, the bartender has to pour an infinite number of beers because you're adding an infinite number of values >= 1.

IIRC, the infinite sum of 1/n is unbound, too. So even if the 2nd would have ordered 1/2, the 3rd 1/3 and so on, the beer will never be enough.

Re: OT: Math Joke

*Message #31 Posted by **Gerson W. Barbosa** on 1 May 2009, 1:51 p.m.,*
in response to message #30 by Marcus von Cube, Germany

> Quote:
>
> you're adding an infinite number of values >= 1.

1, 3/2 and 5/4 >=1, but 7/8, 9/16, 11/32,... <1

Regards,

Gerson.

Re: OT: Math Joke

*Message #32 Posted by **Marcus von Cube, Germany** on 2 May 2009, 3:10 p.m.,*
in response to message #31 by Gerson W. Barbosa

O.K. I didn't read the post thoroughly enough.

Re: OT: Math Joke

*Message #33 Posted by **John B. Smitherman** on 1 May 2009, 11:59 p.m.,*
in response to message #29 by Gerson W. Barbosa

Hi Gerson. I'm not as smart as our fictitious bartender so I had to write a program to get an answer of 6 beers.

Regards,

John

Edited: 2 May 2009, 12:12 a.m.

Re: OT: Math Joke

*Message #34 Posted by **Gerson W. Barbosa** on 2 May 2009, 8:39 a.m.,*
in response to message #33 by John B. Smitherman

Hi John,

Yes, the answer is really six beers. Anyway I think the bartender would need at least pencil and paper to solve this.

The solution to this problem is interesting so I'll wait some time before posting it just in case someone wants to find it by himself/herself.

Regards,

Gerson

Re: OT: Math Joke

*Message #35 Posted by **Marcus von Cube, Germany** on 2 May 2009, 3:52 p.m.,*
in response to message #34 by Gerson W. Barbosa

```
Sequence: (2n+1)/2^n


n=0: 1
n=1: 3/2
n=2: 5/4
n=3: 7/8
n=4: 9/16
...
```

We are looking for

```
   oo
  Sum (2k+1)/2^k
  k=0


   oo           oo
= Sum 1/2^k + Sum 2k/2^k
  k=0          k=0


        oo
= 2 + Sum k/2^(k-1)
      k=0


        oo
= 2 + Sum k/2^(k-1)      since the first element is 0.
      k=1


        oo
= 2 + Sum (k+1)/2^k
      k=0


        oo           oo
= 2 + Sum 1/2^k + Sum k/2^k
      k=0          k=0


        oo
= 4 + Sum k/2^k
      k=0
```

The last term is definitely greater then 2 so I doubt the solution which has been posted so far.

Did I make an obvious mistake? I don't know.

Re: OT: Math Joke

*Message #36 Posted by **Gerson W. Barbosa** on 2 May 2009, 4:46 p.m.,*
in response to message #35 by Marcus von Cube, Germany

> Quote:
>
> The last term is definitely greater then 2 so I doubt the solution which has been posted so far.

2 is the solution of the original problem solved by the bartender in first math joke, which was summing up 1 + 1/2 + 1/4 + ...

> Quote:

```
        oo
= 4 + Sum k/2^k
      k=0
```

This indeed equals 6, which is the solution to the second problem, but the summation should be resolved. That is, the problem has now been reduced to finding the sum 1/2 + 2/4 + 3/8 + 4/16 + ...

Regards,

Gerson.

Re: OT: Math Joke

*Message #37 Posted by **Marcus von Cube, Germany** on 2 May 2009, 5:49 p.m.,*
in response to message #36 by Gerson W. Barbosa

Gerson, you're right, it's not obviously greater than 2 (mathematicians can't compute ;))

```
1/2
1/4 1/4
1/8 1/8 1/8
... ... ... ...
--- --- --- ---
 1  1/2 1/4 1/8 ...
```

I was quick enough to see your solution, so this is not my idea. :)

A more formal approach:

```
 oo
Sum k/2^k
k=1


   oo   oo
= Sum  Sum 1/2^j     as can be seen from the schema above
  k=0 j=k+1


   oo    oo           k
= Sum ( Sum 1/2^j  - Sum 1/2^j )
  k=0   j=0          j=0


   oo         k
= Sum ( 2 - Sum 1/2^j )
  k=0       j=0


   oo
= Sum 1/2^k
  k=0


= 2
```

Re: OT: Math Joke

*Message #38 Posted by **Gerson W. Barbosa** on 2 May 2009, 6:14 p.m.,*
in response to message #37 by Marcus von Cube, Germany

Quote:

> I was quick enough to see your solution, so this is not my idea. :)

I guessed you would be, but I knew you would work out your own idea :-)

Congratulations for your solution and thanks for your nice analytical approach.

Here is mine again, more like the one the bartender would have come up with:

```
     1 + 3/2 + 5/4 + 7/8 + ...

=                            1  +

                       1/2 + 1/2 + 1/2 +

                 1/4 + 1/4 + 1/4 + 1/4 + 1/4 +

           1/8 + 1/8 + 1/8 + 1/8 + 1/8 + 1/8 + 1/8 +

            .     .     .     .     .     .     .
            .     .     .     .     .     .     .
    ...     .     .     .     .     .     .     .       ...

    ---------------------------------------------------

=   ...  + 1/4 + 1/2 +  1  +  2  +  1  + 1/2  + 1/4 +  ...

=                       2  +  2  +  2

=                            6
```

Best regards,

Gerson.

Edited: 2 May 2009, 6:17 p.m.

Re: OT: Math Joke

*Message #39 Posted by **Paul Guertin** on 3 May 2009, 1:23 a.m.,*
in response to message #38 by Gerson W. Barbosa

To evaluate sum(k*r^k, k=0..infinity), one can also use the fact that (k+1)*r^k is the derivative of r^(k+1) with respect to r (and trust that the derivative of a sum is the sum of the derivatives, even when the sum is infinite, provided it converges absolutely). Then,

sum(k*r^k, k=0..infinity)
= sum((k+1)*r^k, k=0..infinity) - sum(r^k, k=0..infinity) = sum(diff(r^(k+1),r), k=0..infinity) - 1/(1-r)
= diff(sum(r^(k+1), k=0..infinity), r) - 1/(1-r)
= diff(sum(r^k, k=1..infinity), r) - 1/(1-r)
= diff(r/(1-r), r) - 1/(1-r)
= 1/(1-r)^2 - 1/(1-r) = r/(1-r)^2

provided abs(r) < 1.

Putting r=1/2, we obtain 2 for the sum, so

sum((2*k+1)/2^k, k=0..infinity)
= 2*sum(k/2^k, k=0..infinity) + sum(1/2^k, k=0..infinity)
= 2*2 + 2
= 6

[Edited to correct an obvious mistake]

Edited: 3 May 2009, 1:30 a.m.

Re: OT: Math Joke

*Message #40 Posted by **Gerson W. Barbosa** on 3 May 2009, 11:10 a.m.,*
in response to message #39 by Paul Guertin

Thanks for providing yet another analytical solution. Geometrical arrangements are nice but clearly have their limitations, that is, the 3-D space...

An example inspired in the second problem:

Let's say we'd like to compute the infinite sum 1 + 9/2 + 25/4 + 49/8 + ...

By arranging the terms as the infinite square-base pyramid below, seen from above,

```
                .                       .
                .                       .
                .                       .

        . . .  1/4 + 1/4 + 1/4 + 1/4 + 1/4 +  . . .

               1/4 + 1/2 + 1/2 + 1/2 + 1/4 +

               1/4 + 1/2 +  1  + 1/2 + 1/4 +            (3-D)

               1/4 + 1/2 + 1/2 + 1/2 + 1/4 +

        . . .  1/4 + 1/4 + 1/4 + 1/4 + 1/4 +  . . .

                .                       .
                .                       .
                .                       .
```

and summing up all the terms, from top to base, we'd get square pattern below,

```
                .                       .
                .                       .
                .                       .

        . . .  1/2 + 1/2 + 1/2 + 1/2 + 1/2 +  . . .
```

```
                1/2 +  1  +  1  +  1  + 1/2 +

                1/2 +  1  +  2  +  1 +  1/2 +              (2-D)

                1/2 +  1  +  1  +  1 +  1/2 +

          . . .  1/2 + 1/2 + 1/2 + 1/2 + 1/2 +  . . .

                  .                       .
                  .                       .
                  .                       .
```

and eventually find the exact sum, 34.

In this case, yours and von Cube's approaches would be better. I would just integrate (2*(x-1/2)+1)^2/2^(x-1/2) from 0 to infinity and get 8*sqrt(2)/(ln 2)^3 = 33.97 ...good enough for practical purposes :-) (Just kidding, I always prefer exact solutions.)

Regards,

Gerson.

Re: OT: Math Joke

*Message #41 Posted by **Gerson W. Barbosa** on 5 May 2009, 11:37 a.m.,*
in response to message #40 by Gerson W. Barbosa

These are interesting but are just particular cases of

```
SUM(k=0,n,(2*k+1)^p/2^k)
```

where p is an integer greater than or equal to zero I have discovered expressions, but not proven them, which allow us to find not only the infinite sum for any power (this is just a matter of finding the limit when n tends to infinity, which is evident in the expression), but the exact sums of the first n terms of these series (the formulas include p-order polynomials but they appear to follow a pattern).

For instance, for p=0, the infinite sum is 2; for p=4, the infinite sum is 3394. For p=2, the sum of the first 20 terms is exactly 1190182/35009.

I will post the formulas later if someone is interested.

Gerson.

Re: OT: Math Joke

*Message #42 Posted by **John B. Smitherman** on 3 May 2009, 11:12 a.m.,*
in response to message #34 by Gerson W. Barbosa

Here's my quick and dirty program for a 33s:

A0001 LBL A
A0002 0

```
A0003 STO S
A0004 1
A0005 STO Y
A0006 STO X
B0001 LBL B
B0002 RCL Y
B0003 RCL X
B0004 /
B0005 STO+ S
B0006 2
B0007 STO+ Y
B0008 STOx X
B0009 GTO B
```

Executing A will result in the number 6 being stored in register S. I just let it run for a few seconds not worrying about counters or using relative error to test for convergence.

John

Re: OT: Math Joke

*Message #43 Posted by **Gerson W. Barbosa** on 5 May 2009, 9:43 a.m.,*
in response to message #42 by John B. Smitherman

Hi John,

Thanks for your interest and starting this thread with a really funny joke. Now if any number of mathematicians get into the bar and make their weird orders our bartender will be able to mock them :-) (See my posting above).

Regards,

Gerson.

Re: OT: Math Joke

*Message #44 Posted by **Julián Miranda (Spain)** on 6 May 2009, 12:06 p.m.,*
in response to message #43 by Gerson W. Barbosa

It's nice to see how a joke can evolve in a determinated environment.

Re: OT: Math Joke

*Message #45 Posted by **Bart (UK)** on 8 May 2009, 9:37 a.m.,*
in response to message #44 by Julián Miranda (Spain)

The first half of this thread had me laughing out loud, but the second half really had me rolling on the floor. Only a bunch of engineers/mathematicians/scientists etc. could turn a jokes thread into a problem solving thread!!

Re: OT: Math Joke

*Message #46 Posted by **Marcus von Cube, Germany** on 11 May 2009, 3:21 p.m.,*
in response to message #45 by Bart (UK)

Eventually, every joke deteriorates to a problem. ;)

Re: OT: Math Joke

*Message #47 Posted by **Kiyoshi Akima** on 1 May 2009, 6:01 p.m.,*
in response to message #1 by John B. Smitherman

Why did the chicken cross the Moebius strip?

To get to the other... um...

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Plug for the MoHPC forum: 72 hours in a day

*Message #1 Posted by **DaveJ** on 25 Apr 2009, 6:21 p.m.*

Apparently I've got 72 hours in a day!

If I did, the wife would still take 70 of them ;-)

And we are of course the most vibrant bunch of geeks around!

Dave.

Re: Plug for the MoHPC forum: 72 hours in a day

*Message #2 Posted by **Steve Leibson** on 25 Apr 2009, 11:24 p.m.,*
in response to message #1 by DaveJ

Hi Dave, I'm glad you saw the plug. That's twice I've had to write you up in a week's time. Good on you!

Steve Leibson

Re: Plug for the MoHPC forum: 72 hours in a day

*Message #3 Posted by **bill platt** on 25 Apr 2009, 11:59 p.m.,*
in response to message #2 by Steve Leibson

"Leibson's Law: It takes 10 years for any disruptive technology to become pervasive in the design community. "

I like this idea. It is really true with so many ideas. You can see this with Rapid Prototyping, with desktop 3D modeling; we will see this with 3D printing. 5 Years from now, the firms which make a lot of momey doing 3D printing for other firms, will have evloved--all their customers will be 3D printing!

And of course by 1985 the calculator was pretty pervasive. Of course by 1995 the PC was pervasive and the calculator dead.

Your idea also relates in some way to a thought of mine, which is that technologies achieve their best quality at about 10 years into production. After that, quality is optimized downward. You can see this in everything from tasters to of course, the Voyager calculators.

Some complicated things such as automobiles sort of have to be deconstructed to study this. 10 years after ABS invented or something like that.

There's just nothing like a 15c.

I wonder when the highest quality K&E slide rule came out?

Re: Plug for the MoHPC forum: 72 hours in a day

*Message #4 Posted by **Charles Oxford** on 26 Apr 2009, 12:36 a.m.,*
in response to message #3 by bill platt

The first K&E's were made by Dennart & Pape of Germany in the 1890's. When K&E began making their own a few years later they were high quality as were the last made in early 1970's.

Side by side it's hard to see or feel any difference.

Too bad we can't say the same about HP calc's.

Re: Plug for the MoHPC forum: 72 hours in a day

*Message #5 Posted by **BruceH** on 28 Apr 2009, 8:10 p.m.,*
in response to message #3 by bill platt

> Quote:
>
> "Leibson's Law: It takes 10 years for any disruptive technology to become pervasive in the design community. "
>
> I like this idea. It is really true with so many ideas.

It's nearly true, but not quite, IMHO. What it should say is something like: "It takes 10 years for any disruptive technology to discover the *enabler* needed to make it truly disruptive."

So, for example, the discovery/invention of electricity was a disruptive technology but the thing that really kicked it off was the invention of the humble wall socket. Think about it.

Re: Plug for the MoHPC forum: 72 hours in a day

*Message #6 Posted by **bill platt** on 29 Apr 2009, 8:18 p.m.,*
in response to message #5 by BruceH

I like that idea.

Re: Plug for the MoHPC forum: 72 hours in a day

*Message #7 Posted by **Katie Wasserman** on 25 Apr 2009, 11:51 p.m.,*
in response to message #1 by DaveJ

Dave,

I really love your blog, you've got such enthusiasm and really tell it like it is. You don't want to bash the manufacturers too much they'll stop sending you the free test equipment to review!

-Katie

Re: Plug for the MoHPC forum: 72 hours in a day

*Message #8 Posted by **DaveJ** on 26 Apr 2009, 1:09 a.m.,*
in response to message #7 by Katie Wasserman

> Quote:

> I really love your blog, you've got such enthusiasm and really tell it like it is. You don't want to bash the manufacturers too much they'll stop sending you the free test equipment to review!

Thanks Katie.
I wish I was getting gear given to me to review! ;-)

BTW, the blog is now available as a Podcast, including through the iTunes store. Just click on the appropriate button on the site to join. So no need to visit my site any more, get it delivered straight to your iPod or whatever.

Dave.

Re: Plug for the MoHPC forum: 72 hours in a day

*Message #9 Posted by **Seth Morabito** on 29 Apr 2009, 4:20 p.m.,*
in response to message #8 by DaveJ

I just found your video blog, and I love it!

Actually, I found it through another electronics forum, and I had no idea it was our very own DaveJ until I got to your HP 20b review, and your mention of the uWatch.

I can be so slow, sometimes :)

Re: Plug for the MoHPC forum: 72 hours in a day

*Message #10 Posted by **Peter Klein** on 29 Apr 2009, 6:55 p.m.,*
in response to message #9 by Seth Morabito

Dave: Liebson's compliment looks like it belongs on your resume:

Imagine what you could do with a lab full of David L Jones clones.

Congrats! --Peter

Re: Plug for the MoHPC forum: 72 hours in a day

*Message #11 Posted by **DaveJ** on 30 Apr 2009, 6:13 p.m.,*
in response to message #10 by Peter Klein

> Quote:
>
> Dave: Liebson's compliment looks like it belongs on your resume:
>
> *Imagine what you could do with a lab full of David L Jones clones.*
>
> Congrats! --Peter

I might just have to do that!

Dave.

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Obscure 41 Module - FAC/WC

*Message #1 Posted by **Angel Martin** on 25 Apr 2009, 12:56 p.m.*

I just got a 41 module that seems to be peculiar enough / even if it's only because of its capacity.

It's the "Forward Air Controller / Wind Correction" (FAC/W). It appears to have 16k of ROM, a little unusual for a single module of the old generation - possibly a Zeprom??

Does anybody have any information on this peculiar little thing? Needless to say I have no manual or any overlay (if any existed). I suposse I should get a hex dump (disassembly) of the three bottom pages. It does have an automatic key assignment upon CALC_ON vector though.

Best, AM

Re: Obscure 41 Module - FAC/WC

*Message #2 Posted by **Dan Grelinger** on 27 Apr 2009, 11:24 p.m.,*
in response to message #1 by Angel Martin

I've looked at one of those. It is not a ZEPROM. It is a CMT-10, (16K version) and is reprogramable, with the right equipment and software.

Re: Obscure 41 Module - FAC/WC

*Message #3 Posted by **Ángel Martin** on 28 Apr 2009, 8:59 a.m.,*
in response to message #2 by Dan Grelinger

Thanks for the info, Dan. This ROM has some interesting aspects to it, starting with the 16k configuration. Only the first (lowest) page has a proper FAT to it, while the next two have a single "DUMMY" function on their FAT's - and none for the highest one.

I suppose they must be holding table-like data, shame they didn't implement a bank-switched configuration to save address space.

Best, ÁM

Re: Obscure 41 Module - FAC/WC

*Message #4 Posted by **Dan Grelinger** on 28 Apr 2009, 9:55 a.m.,*
in response to message #3 by Ángel Martin

The ZEPROM was a much better design, I think it was introduced after the CMT-10. The CMT-10 came in a 16K bank-switched version, too (called the 16B). As far as I know, the two different CMT 16K versions were fixed from the factory, either bank-switched or not, and could not be changed in the field.

There are other modules that have a FAT only in the lower page. One that HP produced was the

navigation module. I think the Real Estate module was another HP rom that was 8K and had no rom header in the second page.

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Looking for a tester for Free42 on 1st generation iPod touch

*Message #1 Posted by **Thomas Okken** on 25 Apr 2009, 12:18 p.m.*

Hi all,

I'm looking for someone to test Free42 on a first generation iPod touch. I use a 2nd generation myself, and I want to verify that my audio code works with the 1st generation's built-in speaker.
If you have one of these devices and are willing to spend a few minutes running a few tests, please contact me via the HP Forum's email feature, or use my email address which you can find at the bottom of the Free42 home page.

Thanks!

- Thomas

Re: Looking for a tester for Free42 on 1st generation iPod touch

*Message #2 Posted by **reth** on 26 Apr 2009, 3:58 a.m.,*
in response to message #1 by Thomas Okken

I'd be happy to do that, I've got one of those; it doesn't get used at all these days...
rmollov@telstra.com
cheers
reth

Re: Looking for a tester for Free42 on 1st generation iPod touch

*Message #3 Posted by **Thomas Okken** on 27 Apr 2009, 7:06 p.m.,*
in response to message #1 by Thomas Okken

A couple of volunteers have come forward. My testing needs appear to be met for the moment.
Thanks to all who responded!

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Scientific notation on 50g

*Message #1 Posted by **skroops** on 24 Apr 2009, 6:19 p.m.*

I feel like when I used to type in '9' 'EEX' 27' to my 50g, it would display "9E27". But today it started showing "9.E27". Am I going crazy or is there an option to change this back somewhere. I have exact mode on.

Edited: 24 Apr 2009, 6:20 p.m.

Re: Scientific notation on 50g

*Message #2 Posted by **bill platt** on 24 Apr 2009, 9:10 p.m.,*
in response to message #1 by skroops

James Prange would know the answer. Where did he go, anyway?

Re: Scientific notation on 50g

*Message #3 Posted by **Bruce Bergman** on 25 Apr 2009, 12:32 a.m.,*
in response to message #2 by bill platt

I've been wondering the same thing... He was a genius as far as the 48/50 family went. Every answer was incredibly in-depth.

James, you still around?

thanks, bruce

Re: Scientific notation on 50g

*Message #4 Posted by **Mike Morrow** on 24 Apr 2009, 9:52 p.m.,*
in response to message #1 by skroops

I've never seen a number displayed in STD, FIXED, SCI, or ENG notation on my HP48GX, HP49g+, or HP50g without a decimal point *somewhere* in the mantissa. I don't believe that it is possible to suppress the decimal point in the displayed value.

Re: Scientific notation on 50g

*Message #5 Posted by **bill platt** on 25 Apr 2009, 8:49 a.m.,*
in response to message #4 by Mike Morrow

Something's coming to me on this--wasn't there a thread recently that talk about this--I rememeber it coming up--deja vu.)

```
I am looking at my 48gx and I see:


line 3: 131.900415187
line 2:          5525
```

```
line 1:             2


format is 'STD'
ML is checked


When I type in "5E31" I get '5.E31'
```

Re: Scientific notation on 50g

*Message #6 Posted by **skroops** on 26 Apr 2009, 3:31 p.m.,*
in response to message #5 by bill platt

Alright. Thanks for checking :)

Re: Scientific notation on 50g

*Message #7 Posted by **Gerry Schultz** on 27 Apr 2009, 4:28 p.m.,*
in response to message #6 by skroops

I seem to remember that if a number is displayed without a decimal point, its type is an integer and if there is a decimal point displayed, its type is floating point. I found this on page 2.1 of the 50g User's Guide:

Note that real must be entered with a decimal point, even if the number does not have a fractional part. Otherwise the number is taken as an integer number, which is a different calculator objects. Reals behave as you would expect a number to when used in a mathematical operation.

Gerry

Re: Scientific notation on 50g

*Message #8 Posted by **Mike Morrow** on 27 Apr 2009, 10:29 p.m.,*
in response to message #7 by Gerry Schultz

Any number with a mantissa and a characteristic will not be of integer type.

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And now for something completely off topic:

*Message #1 Posted by **Geoff Quickfall** on 24 Apr 2009, 6:12 p.m.*

Spring has finally Sprung in South Vancouver, British Columbia. Yard clean up, lawn and some flower shots all of which took place this week.

Easily a 4 week delay in Spring around here! Enjoy the colour:

And now for something completely off topic:

And now for something completely off topic:

And now for something completely off topic:

And now for something completely off topic:

And now for something completely off topic:

And now for something completely off topic:

Re: And now for something completely off topic:
*Message #2 Posted by **designnut** on 25 Apr 2009, 12:32 p.m.,*
in response to message #1 by Geoff Quickfall

Nice flowers, nice pix. What camera? Sam

Re: And now for something completely off topic:
*Message #3 Posted by **Geoff Quickfall** on 25 Apr 2009, 1:18 p.m.,*
in response to message #2 by designnut

I use Photobucket.com for the picture hosting centre.

The camera is a Canon Powershot S31S, 6 megapixels with a macro setting and complete control of ASA shutter,

aperture and the ability to change lenses.

The closeups shown here were handheld in natural light. The close ups of the calculators are done on a tripod with light reflection to balance the shadoww.

Hope that helps.

Re: And now for something completely off topic:

*Message #4 Posted by **Juergen Keller** on 25 Apr 2009, 3:59 p.m.,*
in response to message #1 by Geoff Quickfall

Spring in Switzerland (Thurgau, Bodensee) looks like this:

Pictures taken today with a Nikon D60.

Best Regards, Juergen

Re: And now for something completely off topic:

*Message #5 Posted by **bill platt** on 27 Apr 2009, 1:31 p.m.,*
in response to message #4 by Juergen Keller

What do (parts of)India and Switzerland have in common?

Sacred Cows ;-)

Beautiful fotos.

Springtime photos...

*Message #6 Posted by **Karl Schneider** on 25 Apr 2009, 11:26 p.m.,*
in response to message #1 by Geoff Quickfall

> Quote:
>
> Spring has finally Sprung in South Vancouver, British Columbia. ... Easily a 4 week delay in Spring around here!

Hi, Geoff --

Excellent photos (as well as those of Juergen Keller)!

Yes, our part of the world (SW Canada/NW US) has been mostly cool this year. In Portland/Vancouver (US) are, we've had only two short warm spells in March/April with temperatures near or above 25 C (77 F).

BTW, did you notice that I recently bought a Zenith T/O after learning about it from your post?

-- KS

Re: Springtime photos...

*Message #7 Posted by **Geoff Quickfall** on 26 Apr 2009, 12:07 p.m.,*
in response to message #6 by Karl Schneider

Hello Karl,

I saw your post and question theme throughout. I was trying to formulate a thoughtful response but since spring has sprung, the yard work has taken over.

The Zenith Transoceanic is a fantastic reciever, probaly one of the best, last of the old style types made. No IC's, removable transistors, Beat frequency oscillators, RF gain and etc.

The last version is the rarest, as it was competing with Sony's one tenth the size.

Many hours of good listening on that machine. Here are some good sites to check up:

resource library

sales

Have fun with it, btw, I paid about $20 for mine and the refurbished it. It was in working condition but filthy. Tore it apart; cleaned the tuner and all the knobs with tuner cleaner. Cleaned the cabinet, purchased battery tubes, new cord, two transistors, users manual and the service manual.

Here is a restoration of the last model:

7000-2 restoration

Cheers, Geoff

Edited: 26 Apr 2009, 12:09 p.m.

Re: And now for something completely off topic:

*Message #8 Posted by **Kiyoshi Akima** on 26 Apr 2009, 3:53 p.m.,*
in response to message #1 by Geoff Quickfall

Since Sunday is World Pinhole Photography Day, here's my picture of the day

Yes, some of that snow is fresh.

Re: And now for something completely off topic:

*Message #9 Posted by **Marcus von Cube, Germany** on 27 Apr 2009, 11:38 a.m.,*
in response to message #8 by Kiyoshi Akima

The "Camera obscura" is a camera without a lens. The smaller the hole the sharper the image but the longer the necessary exposure time.

Your pinhole could have been smaller. ;)

Re: And now for something completely off topic:

*Message #10 Posted by **Kiyoshi Akima** on 27 Apr 2009, 12:34 p.m.,*
in response to message #9 by Marcus von Cube, Germany

In theory yes, but in practice not much. After a certain point diffraction takes over and degrades quality further.

And now for something completely off topic:

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HP 27S on Christophe Giesselink's Emulator

*Message #1 Posted by **bill platt** on 24 Apr 2009, 1:36 p.m.*

Has anyone run this emulator (on windows)?

Related to that, has anyone found a 27s emulator designed for the 48GX?

Edited: 24 Apr 2009, 1:38 p.m.

Re: HP 27S on Christophe Giesselink's Emulator

*Message #2 Posted by **Thomas Okken** on 24 Apr 2009, 9:47 p.m.,*
in response to message #1 by bill platt

Christoph Gießelink's Emu42 runs the HP-27S ROM just fine, as far as I can tell.
For the HP-48GX, you should probably talk to Hrast. :-)

Re: HP 27S on Christophe Giesselink's Emulator

*Message #3 Posted by **bill platt** on 25 Apr 2009, 11:27 p.m.,*
in response to message #2 by Thomas Okken

Wow! Hrastprogrammer has been busy! I have his 41 emulator for the 48, but now he has the voyagers--and the 42S. Wholey cow! The 27S maybe it isn't far behind...

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New HP12C (ARM) SDK availability ?

*Message #1 Posted by **bloo** on 24 Apr 2009, 8:57 a.m.*

Hello,

I was wondering when the new HP12C (ARM) would be available ??? Also, has anyone bought one of these new HP12C ??

Thanks, regards

Gregory

Re: New HP12C (ARM) SDK availability ?

*Message #2 Posted by **Scott Newell** on 24 Apr 2009, 7:13 p.m.,*
in response to message #1 by bloo

I've been checking about once/month, but I've still not spotted one in any of my local office supply outlets.

Re: New HP12C (ARM) SDK availability ?

*Message #3 Posted by **Tim Wessman** on 24 Apr 2009, 7:35 p.m.,*
in response to message #2 by Scott Newell

I bet if you purchased all of them you could from the local supply place, you'd eventually get one. . . ;-)

TW

Re: New HP12C (ARM) SDK availability ?

*Message #4 Posted by **Charles Oxford** on 26 Apr 2009, 12:42 a.m.,*
in response to message #1 by bloo

I bought 2 at Fry's Electronics in Phoenix and sent them off to 2 members of this forum. I look forward to reading their reviews.

Hopefully Fry's will restock.

:) Charlie

Re: New HP12C (ARM) SDK availability ?

*Message #5 Posted by **bloo** on 26 Apr 2009, 6:30 a.m.,*
in response to message #4 by Charles Oxford

As far as I can see, it's not so easy to find that new HP12C. Another question, is there a Model number for the HP12C that we could find on the HP12C packaging ? If so, is the Model number different for the "Old"

and the "New" HP12C ?

Re: New HP12C (ARM) SDK availability ?

*Message #6 Posted by **Bruce Bergman** on 26 Apr 2009, 12:47 p.m.,*
in response to message #5 by bloo

Agreed. If there was a clear way to tell which was new and which was old, solely from the outside of the packaging, that would be much easier. I was inspecting one at Staples and they were looking at me funny.

thanks, bruce

Re: New HP12C (ARM) SDK availability ?

*Message #7 Posted by **Charles Oxford** on 26 Apr 2009, 6:02 p.m.,*
in response to message #5 by bloo

If you look at the top of the calc thru package you will see the edge of the extra wide battery door, about 2/3 total width.

I saw no difference in packages of older and newer 12C.

Re: New HP12C (ARM) SDK availability ?

*Message #8 Posted by **Bruce Bergman** on 26 Apr 2009, 7:25 p.m.,*
in response to message #1 by bloo

Without blowing any NDA's, what is the processor behind the new 12c? Is it the same ARM unit as the 20b? Anyone know the specs?

thanks, bruce

Re: New HP12C (ARM) SDK availability ?

*Message #9 Posted by **Tim Wessman** on 27 Apr 2009, 10:05 a.m.,*
in response to message #8 by Bruce Bergman

Yes. Same chip used in the 20b.

TW

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HP75 HPIL IO

*Message #1 Posted by **Tony de Groot** on 24 Apr 2009, 5:02 a.m.*

Hi, I have an HP75C and an HP3421A Data Aquisition Unit. I have been able to talk to the HP3421A and get it to reset and measure DC Volts, but I cannot read the result back into the HP75C. I think that either the IO ROM or the I/O Utilities will allow me to do this. Can someone confirm this for me? If so, is there a way I can hold of these (I currently have a Wanted Ad running on the Ads page).

Thanks for any help,

Tony.

Re: HP75 HPIL IO

*Message #2 Posted by **Garth Wilson** on 24 Apr 2009, 5:41 a.m.,*
in response to message #1 by Tony de Groot

ENTER D;V should do it, where D is the device address of the 3421, and V is the variable you want to read the voltage into.

Re: HP75 HPIL IO

*Message #3 Posted by **Tony de Groot** on 24 Apr 2009, 6:57 a.m.,*
in response to message #2 by Garth Wilson

Hi Garth - Thanks for the quick reply.

When I try to enter the "ENTER" command I get a syntax error and the cursor points to the "t".

I should mention that I don't have the I/O ROM or Utilities. I am guessing that I need one or the other to make the HP75 recognise the ENTER keyword.

Is this correct?

Thanks,

Tony

Re: HP75 HPIL IO

*Message #4 Posted by **Marcus von Cube, Germany** on 24 Apr 2009, 1:28 p.m.,*
in response to message #3 by Tony de Groot

The 71B has ENTER in the ROM that comes with the HP-IL module. I assume that the 75 has only the mass storage and printer support readily available in its ROM.

Re: HP75 HPIL IO

*Message #5 Posted by **Walt Devaney** on 24 Apr 2009, 1:47 p.m.,*
in response to message #3 by Tony de Groot

What you need are the SENDIO & ENTIO$ commands from the HP-75 I/O Utiliities. The I/O Utilities manual is on the Museum DVD. I sent more details in an e-mail.

Re: HP75 HPIL IO

*Message #6 Posted by **Garth Wilson** on 24 Apr 2009, 1:54 p.m.,*
in response to message #3 by Tony de Groot

Ah yes-- I have an old beat-up 75 here someone gave me, but have never used it. I got the instruction above from the HP-75 section of a 28-page piece of HP literature that tells about using the 3421 with the 71 or 75, and in my quick scan, did not see that it says the 75 needs the I/O ROM (p/n 00075 15001). Like the other post says, the 71 (which I have used extensively, unlike the 75) doesn't need any extra modules because it has everything in its HPIL module.

Re: HP75 HPIL IO

*Message #7 Posted by **Tony de Groot** on 25 Apr 2009, 5:02 a.m.,*
in response to message #6 by Garth Wilson

Hi Everyone,

Thanks for the information. I understand that the easiest is to get the I/O Utilities as the I/O ROM is quite hard to find for the 75.

I will chase the I/O Utilities, but not give up on the I/O ROM just in case one turns up.

I am just starting to chase up the bits I need to get my system up and running so will be looking out for other HP-IL devices (eg an HP-IL to RS232 converter) as well since I want to send the data to a PC for logging and analysis. I tend to collect stuff, so may get other bits as well.

Thanks to everyone for their help.

Tony

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HP calculator tattoo?

*Message #1 Posted by **Bruce Bergman** on 23 Apr 2009, 12:44 p.m.*

So a friend and I were talking this morning and we both have some ink on our arms of our favorite hobbies. His is Iron Maiden, and mine is Disney (Mickey Mouse). He knows of my interest in HP calculators and asked if I had a tattoo of one (jokingly).

That got me thinking, though. Does anyone here have a tattoo of an HP calculator? Or have you seen on one somebody?

:-)

thanks, bruce

Re: HP calculator tattoo?

*Message #2 Posted by **Michael Meyer** on 24 Apr 2009, 1:44 p.m.,*
in response to message #1 by Bruce Bergman

Well, I used to make my own temporary tattoos and other one-time transfers using an HP-71B, graphic reversing lex files and programs, and a Thinkjet printer printing on wax paper. So, yes, an "HP calculator tattoo"...

Re: HP calculator tattoo?

*Message #3 Posted by **Walter B** on 24 Apr 2009, 6:09 p.m.,*
in response to message #1 by Bruce Bergman

Tattoos are for seamen ... ;) Seriously, tattoos are something highly emotional. Thus, I doubt there is anybody with a sliderule in his skin nor with a calculator. Though, with 6e9 people, some ppb effects may occur.

Re: HP calculator tattoo?

*Message #4 Posted by **Andrés C. Rodríguez (Argentina)** on 24 Apr 2009, 9:17 p.m.,*
in response to message #1 by Bruce Bergman

The ENTER key (with its arrow) is a trademark of HP calcs, but I don't think someone would put that image on his/her skin...

SIN, LOG, FIX, EXIT, are also not likely. TAN may be acceptable, but if you want TAN on your skin, a little sunbathing (or UV lamp) may do.

Re: HP calculator tattoo? An option for HP 41 fans

*Message #5 Posted by **Andrés C. Rodríguez (Argentina)** on 25 Apr 2009, 12:23 a.m.,*
in response to message #1 by Bruce Bergman

... who prefer not to have tatoos, is just to put an overlay over their skin!

Re: HP calculator tattoo?

*Message #6 Posted by **Juergen Keller** on 25 Apr 2009, 8:35 a.m.,*
in response to message #1 by Bruce Bergman

First, I didn't believe that anybody had such a tattoo. But you know, there's nothing that doesn't exist. Here are some examples of geeky tattoos:

Scientific Tattoos

Euler's Identity Tattoo

And this guy has made a BIG and obvious error:
Calculator Tattoo

Just my 2¢, Juergen

Re: HP calculator tattoo?

*Message #7 Posted by **John B. Smitherman** on 25 Apr 2009, 9:09 a.m.,*
in response to message #1 by Bruce Bergman

Bruce, what about asking Egan Ford permission to use the artwork from the painting that his daughter made for him:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv018.cgi?read=145337#145337

Regards,

John

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TVM Program for the 42s

*Message #1 Posted by **Jeff Kearns** on 23 Apr 2009, 12:39 p.m.*

The HP 41C Advantage Pac has a very user-friendly TVM program that, when executed, initially displays the 5 variables in the Alpha register. Has anyone come across, or written, a 42s program based on the Advantage Pac TVM code that displays the variables as a soft menu on the 42s, and would you mind sharing.

I am new to the 42s and would really like a TVM program for it. I have a great 39 step program for the 32sii/33s/35s that prompts for the 4 (or 5 if you consider payment at beginning or end of period) unknowns that I would like to convert to the 42s, but if there is one out there already that would be better. Thanks!

Jeff Kearns

Re: TVM Program for the 42s

*Message #2 Posted by **Dan Grelinger** on 23 Apr 2009, 12:57 p.m.,*
in response to message #1 by Jeff Kearns

Jeff,

I feel like a dummy asking the question, but...

The 42S is code compatible with the HP-41. Couldn't you just key in the HP-41 Advantage TVM program? Or are you looking for a version that is customized to the HP-42S. I've never actually used an HP-42S.

I like this program, too. I use it a lot. It is probably the program that I use most frequently on my HP-41.

Dan

Re: TVM Program for the 42s

*Message #3 Posted by **Jeff Kearns** on 23 Apr 2009, 1:30 p.m.,*
in response to message #2 by Dan Grelinger

Dan, I feel even dumber answering... but how would one even get the code off the Advantage Pac in order to convert it to the 42s? As for code being compatible, that may very well be but the interface sure isn't!

Jeff

Re: TVM Program for the 42s

*Message #4 Posted by **Richard Garner** on 23 Apr 2009, 2:12 p.m.,*
in response to message #3 by Jeff Kearns

If I remember correctly on the 41C you enter the program you want to copy to RAM in the ALPHA register and then XEQ the COPY command. The 41C should copy that program from the module into the calculators RAM. From that point you can print, change or whatever you want to the program.

Re: TVM Program for the 42s

*Message #5 Posted by **Dan Grelinger** on 25 Apr 2009, 10:37 a.m.,*
in response to message #3 by Jeff Kearns

> Quote:
>
> Dan, I feel even dumber answering... but how would one even get the code off the Advantage Pac in order to convert it to the 42s? As for code being compatible, that may very well be but the interface sure isn't!
>
> Jeff

There is only one way to get code into an HP-42S, that I am aware of, no matter where the code comes from. Hand entering.

If you GTO "TVM", and into PGRM mode on the -41, you can single-step the TVM program, and enter each command into the -42S. I have not tried it, but it should work.

Dan

Re: TVM Program for the 42s

*Message #6 Posted by **Jeff O.** on 23 Apr 2009, 1:02 p.m.,*
in response to message #1 by Jeff Kearns

Jeff,
The listing below appears in the 42S manual, page 193. Start it from the Solver menu. Will it do what you want?

```
01 LBL "TVM"
02 MVAR "N"
03 MVAR "I%YR"
04 MVAR "PV"
05 MVAR "PMT"
06 MVAR "FV"
07 1
08 ENTER
09 ENTER
10 RCL "I%YR"
11 %
12 12
13 /
14 STO ST T
15 FC? 00
16 CLX
17 +
18 Rolldown
19 +
20 RCL "N"
21 +/-
22 Y^X
23 1
24 X<>Y
25 -
26 LASTX
27 RCLx "FV"
28 Rolldown
29 X<>Y
30 /
31 x
32 RCLx "PMT"
33 +
34 RCL+ "FV"
35 END
```

Flag 00 sets "Begin" mode (if set) and "End" mode (if clear)

...

Re: TVM Program for the 42s

*Message #7 Posted by **Jeff Kearns** on 23 Apr 2009, 2:22 p.m.,*
in response to message #6 by Jeff O.

Thanks! That's exactly what I needed. Before I ask any more questions, I will finish reading the excellent user's manual.

Jeff K.

Re: TVM Program for the 42s

*Message #8 Posted by **Werner** on 24 Apr 2009, 2:25 a.m.,*
in response to message #7 by Jeff Kearns

This is the one I use.

```
- It doesn't do the division by 12 for the intrest rate, but that's easily added
back in if you need it.
- begin/end period is not controlled by a flag, but with an extra menu option
- uses the E^X-1 and LN1+X functions for extra accuracy
- works for i%=0 as well


00 { 78-Byte Prgm }
01*LBL "TVM"
02 MVAR "N"
03 MVAR "i%"
04 MVAR "PV"
05 MVAR "PMT"
06 MVAR "FV"
07 MVAR "BEG"
08 RCL "i%"
09 X=0?
10 1 E-99
11 1
12 X<>Y
13 %
14 ENTER
15 LN1+X
16 RCL* "N"
17 E^X-1
18 STO+ ST Z
19 RCL* "PMT"
20 X<>Y
21 1/X
22 RCL+ "BEG"
23 *
24 X<>Y
25 RCL* "PV"
26 +
27 RCL+ "FV"
28 END
```

Re: TVM Program for the 42s

*Message #9 Posted by **Jeff Kearns** on 24 Apr 2009, 1:19 p.m.,*
in response to message #8 by Werner

```
...
15 LN1+X
16 RCL* "N"
17 E^X-1
...
```

For the life of me (perhaps an exaggeration ;-), I cannot figure out how to enter lines 15 and 17, above. Can you please explain how to do this?

Jeff K.

Re: TVM Program for the 42s

*Message #10 Posted by **Marcus von Cube, Germany** on 24 Apr 2009, 1:37 p.m.,*
in response to message #9 by Jeff Kearns

Jeff,

you'll find them in the CATALOG->FCN menu.

Re: TVM Program for the 42s

*Message #11 Posted by **Karl Schneider** on 24 Apr 2009, 3:08 a.m.,*
in response to message #6 by Jeff O.

Jeff K and Jeff O --

This program is so compact because it relies on numerical iteration to solve each variable, not just "I%YR". The others could be solved by direct algebraic equations, but that would make for a longer program.

A time-saving step for entering this program: Create (store any value for) each variable in RUN mode beforehand. That way, it can be selected from a menu when needed in an instruction, instead of being typed in, letter-by-letter.

A former colleague of mine liked to run this program on his HP-42S a few years ago, but was frustrated by repeatedly and laboriously re-entering the program, each time memory was lost by a battery swap (a common HP-42S problem). He later got an HP-12C -- at my suggestion, I believe.

-- KS

Edited: 25 Apr 2009, 2:04 a.m.

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HP-42S faulty keys

*Message #1 Posted by **wesjones** on 23 Apr 2009, 2:43 a.m.*

I have three of these machines and two have the same problem. Of the right most column of keys on the keyboard the bottom six do not work at all. Only the XEQ works in this column and it takes a bit of extra pressure to make it work. The +, -, X, /, <, and TAN keys are completely dead.

Is there something common that can cause these keys and only these keys to fail?

I've owned and used 42S's extensively since they were introduced and I sure would like to fix the two that don't work. I've never seen this (or any other key problems) with any of the 42's I've used over the years.

Any help or idead much appreciated. I'm not beyond taking them apart if that's necessary but of course would rather not.

Best, wes

Re: HP-42S faulty keys

*Message #2 Posted by **Dallas Osborne** on 23 Apr 2009, 11:36 a.m.,*
in response to message #1 by wesjones

I am sorry to say that once these keyboards fail, they are really dead. The contact domes are made of plastic; once they lose their 'spring' they are dead forever. Though, it is possible to rebuild the keyboard, it is highly dependent on voodoo, requires great dedication (and JB Weld), and you will need a working keypad dome sheet.

Again, sorry for your loss; toss it in a box in case you need an LCD or a main board for the replacement you will most likely get...because the 42s is just that good. (Just avoid buying from*that ebay guy*.)

Edited: 23 Apr 2009, 11:38 a.m.

Re: HP-42S faulty keys

*Message #3 Posted by **Michael de Estrada** on 23 Apr 2009, 12:03 p.m.,*
in response to message #2 by Dallas Osborne

Could the keyboard from another Pioneer, such as an HP 32Sii be used for this? I'm just asking, because I've never opened one of these, but have done so with the Spice series.

Finding a working HP 42s for less than a fortune is quite difficult these days. I'm sticking with my Free42.

Re: HP-42S faulty keys

*Message #4 Posted by **Dallas Osborne** on 23 Apr 2009, 12:12 p.m.,*
in response to message #3 by Michael de Estrada

It is possible to replace the keyboard sandwich with another Pioneer series, but it is very, very intense.

See the 4th posting on

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv018.cgi?read=138580#138580

Edit: fixed link

Edited: 23 Apr 2009, 12:18 p.m.

Re: HP-42S faulty keys

*Message #5 Posted by **wesjones** on 24 Apr 2009, 1:46 a.m.,*
in response to message #4 by Dallas Osborne

> Quote:
>
> It is possible to replace the keyboard sandwich with another Pioneer series, but it is very, very intense.

Which series will work? Or any of them?

> Quote:
>
> See the 4th posting on
>
> http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv018.cgi?read=138580#138580

Interesting stuff...some folk do things that simply amaze me at times.

Best, wes

Re: HP-42S faulty keys

*Message #6 Posted by **wesjones** on 24 Apr 2009, 1:30 a.m.,*
in response to message #3 by Michael de Estrada

> Quote:
>
> Could the keyboard from another Pioneer, such as an HP 32Sii be used for this?

I can't say because I've never used a 32Sii at all. It's not like the keys are worn out really, the problem appeared on all the keys affected at the same time. And on the one machine, it's been in storage for a couple of years and was working fine when it was put away. Now, no-go on just those six keys along the right side of the board.

> Quote:
>
> Finding a working HP 42s for less than a fortune is quite difficult these days. I'm sticking with my Free42.

I've noticed that. Last one I followed on eBay went for well over $150. At least I have one that still

works and the 48GX and even an old 25C that still lights up.

Thanks for the thoughts.

Best, wes

Re: HP-42S faulty keys

*Message #7 Posted by **Martin Pinckney** on 24 Apr 2009, 9:39 a.m.,*
in response to message #3 by Michael de Estrada

> Quote:
>
> Finding a working HP 42s for less than a fortune is quite difficult these days. I'm sticking with my Free42.

Well, not quite. It's true they were going for $400 +/- a few months ago. I recently picked one up for $150 on eBay. Mint USA version, but w/o manual. Got one of those for $7.

Re: HP-42S faulty keys

*Message #8 Posted by **wesjones** on 24 Apr 2009, 1:36 a.m.,*
in response to message #2 by Dallas Osborne

> Quote:
>
> I am sorry to say that once these keyboards fail, they are really dead. The contact domes are made of plastic; once they lose their 'spring' they are dead forever.

No loss of spring to the keys...they feel the same as always and the same as the others that do work. On both these machines the failure seems to have been fairly sudden and all the affected keys at once. It's not like they are worn out because neither have been used except very causally for about 7 years now. The hard thing is keeping working batteries in them so they work on the occasions I do pick one up. No corrosion issues either...

It's pretty much a mystery to me.

Re: HP-42S faulty keys

*Message #9 Posted by **Nacho** on 24 Apr 2009, 10:18 a.m.,*
in response to message #8 by wesjones

Hi.

look at this picture...

it is a 20S with 32SII hardware.

http://img25.imageshack.us/img25/6825/18012008134s.jpg

regards,

nacho

Edited: 24 Apr 2009, 10:21 a.m.

Re: HP-42S faulty keys

*Message #10 Posted by **Steve Perkins** on 24 Apr 2009, 12:37 p.m.,*
in response to message #8 by wesjones

It seems to me that this is may be just a problem with the connectors. I read somewhere on this site that a relatively easy way to fix the problem of a row or column not responding is to tighten the 6 twisted tabs holding the circuit board in place. Of course, you have to open the calculator to do this. I have had some success doing this with a 32-SII in the past.

I'd try this simpler solution first. Good luck.

Re: HP-42S faulty keys

*Message #11 Posted by **robert rozee** on 24 Apr 2009, 12:34 p.m.,*
in response to message #1 by wesjones

i worked on a 42s for a friend a while back, and as i recall the contact between the keyboard matrix and the 'motherboard' is purely by pressure, through a dozen or so contacts in a row. i'd guess that the failure is here, and that cleaning may well fix the problem.

to dismantle, the best method i've found is to drill out the 4 (?) plastic rivets in the battery compartment area, and through the back of the calculator to disconnect the 4 (?) at the bottom edge - after some careful measuring to work out where you want to drill.

once the back is off, you can easily remove the motherboard and clean the connections between it and the keyboard, before reassembling it back into place. the only repair work then required will be reattaching the back. oh, and while it's apart, you could upgrade the ram from 8k to 32k.

cheers, rob :-)

Re: HP-42S faulty keys

*Message #12 Posted by **wesjones** on 25 Apr 2009, 12:59 a.m.,*
in response to message #11 by robert rozee

> Quote:
>
> once the back is off, you can easily remove the motherboard and clean the connections between it and the keyboard, before reassembling it back into place. the only repair work then required will be reattaching the back. oh, and while it's apart, you could upgrade the ram from

> 8k to 32k.
>
> cheers, rob :-)

Thanks Rob, that sounds like something I can handle and it seems worth a try. I have the face plate off one of them already.

I seem to recall reading elsewhere on this site about dunking one in distilled water for a time and then slowly and thoroughly drying it out. Anyone here tried that approach and have any luck/failures or?

Best, wes

Re: HP-42S faulty keys

*Message #13 Posted by **Lyuka** on 25 Apr 2009, 12:58 p.m.,*
in response to message #12 by wesjones

Hi, wesjones

I've ever repaired two 32sII with faulty contact of the keypad. It may be possible to repaire the 42s if the deformed foam rubber is the cause.

Repairing 32sII: http://www.finetune.jp/~lyuka/interests/calc/hp32sII/

How to open the hp-42s: http://www.finetune.jp/~lyuka/interests/calc/hp42s/

Regards, Lyuka

Re: HP-42S faulty keys

*Message #14 Posted by **wesjones** on 26 Apr 2009, 5:00 p.m.,*
in response to message #13 by Lyuka

> Quote:
>
> Hi, wesjones
>
> I've ever repaired two 32sII with faulty contact of the keypad. It may be possible to repaire the 42s if the deformed foam rubber is the cause.
>
> Regards, Lyuka

Hi Lyuka. I read here and there in the forum before posting my question and I think I looked at both of those pages. Nice work and thanks for posting them for everyone.

What I think I'll do eventually is take the one apart and at least check the foam pad and the contacts there. Then play it by ear if that's not the problem.

Best, wes

Re: HP-42S faulty keys

*Message #15 Posted by **robert rozee** on 27 Apr 2009, 8:37 a.m.,*
in response to message #13 by Lyuka

great photos!!

how did you handle the 4 lower heat stakes? my solution was drilling from the back of the calculator, then repairing the damage to the back of the housing - were you able to just prise them apart?

i'd be very reluctant to remove the front plate unless it was absolutely necessary!

cheers, rob :-)

Re: HP-42S faulty keys

*Message #16 Posted by **Lyuka** on 27 Apr 2009, 2:38 p.m.,*
in response to message #15 by robert rozee

Hi.

I've ever opened three 32sII and two 42s successfully by untightening the four lower heat stakes as follows.

After drilling off the upper four heat stakes, warm the back of the calculator and the metal back plate of the key pad, very tenderly to some 50 degrees centigrade (120'F), by using hair drier.

This level of the temperature won't damage the calculator (however the LCD should better be isolated) but is enough to soften and deform the brim of the lower heat stakes rather easily, to get the housing apart.

Then using no tools but with your own hands, grab the case stiffly and open it very slowly and carefully.

Good luck.

Re: HP-42S faulty keys

*Message #17 Posted by **Dallas Osborne** on 27 Apr 2009, 2:44 p.m.,*
in response to message #15 by robert rozee

(Sorry about lack of response; I've been away from electricity for a bit).

Since all the keys seem to click just fine, I agree with the others that this may be a debris or keyboard/mainboard contact issue.

I would defer to Lyuka on the repair strategy. (Lyuka, great pages, by the way.)

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Proposed Additions to the DVD Version 7

*Message #1 Posted by **Allen** on 22 Apr 2009, 7:10 p.m.*

I came across a collection of HP-80 Application Notes, and see that several are missing from the Current DVD and Planned Verstion 7 list . Is there a way to know if this publication stopped at #10 in the series?

I'll try to get these scanned soonest to send in. Likely re-scan the two that are already include so they are all consistent.

Currently on DVD

```
 #007 HP-80 Application Note December, 10 1973, Logs, anti logs and roots
#010 HP-80 Application Note March 28 1974, Linear Regression
```

Proposed additions

```
#001 Direct Reduction Loan Amortizations - July 9, 1973
#002 Annuity Due Calculations for Savings Funds - July 30,1973
#003 Annuity Due Calculations with differing Compounding and Payment Periods- August 17, 1973
#004 Annual Percentage Rate with Balloon Payment- August 31, 1973
#005 Price and Yield Calculations For Mortgages traded at Discount/Premium - October 26,1973
#006 Annuity Due and Present Value- November 16,1973
#008 Yield and Periodic Amount Calculations for Leases with Balloon Payment or Residual Value-
January 17,1974
#009 Internal Rate of Return for Uneven Cash Flows- February 22, 1974
```

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HP48GX: lost tactile responce in F keys

*Message #1 Posted by **Harold A Climer** on 22 Apr 2009, 5:22 p.m.*

I have a HP48GX (and not the oldest one I purchased) on which the top row of keys no longer give tactile feedback when pressed. What causes this? Is there a fix without having to tear open the calculator? Were calculators manufactured during a certain time period more prone to this problem? I have three HP48GXs. Two were made in the USA and one in Indonesia

Harold A Climer Dept. Of Physics Geology, and Astronomy U.T, Chattanooga Rm. 406A Engineering, Math & Computer Science Building 615 McCallie Ave. Chattanooga TN 37403 Harold-Cimer@utc.edu

A few questions to ask. Then we can talk about it as invasive key fixes are difficult on the 48's

*Message #2 Posted by **Geoff Quickfall** on 22 Apr 2009, 7:57 p.m.,*
in response to message #1 by Harold A Climer

Harold, hello

```
1.  Do the keys still function
2.  The second row to the top, do these keys have the same tactile
    response as the lower rows of keys.  That is, does the tactile
    response increase the farther away from the f keys one travels?
3.  spilt anything on it lately?
4.  using a dropper, place some 99% alcohol on the offending keys,
    work the key with succesive pushes (many 20 or 30 clicks each
    key.  Allow to dry.
5.  did the keys respond to the cleaning?
6.  was the calculator dropped?
```

Cheers, Geoff

Re: A few questions to ask. Then we can talk about it as invasive key fixes are difficult on the 48

*Message #3 Posted by **Harold A Climer** on 22 Apr 2009, 10:00 p.m.,*
in response to message #2 by Geoff Quickfall

1. Do the keys still function? Yes but sometimes one is not sure if they took or not.

2. The second row to the top, do these keys have the same tactile response as the lower rows of keys? Yes In fact the F1 key still has a bit of the tactile feel left. 2A.That is, does the tactile response increase the farther away from the f keys one travels? After the first row they are all about the same: maybe a bit better as you go towards the bottom, but is hard to tell. 3. spilt anything on it lately? No. 4. using a dropper, place some 99% alcohol on the offending keys, work the key with successive pushes (many 20 or 30 clicks each key. Allow to dry. Will try.

5. did the keys respond to the cleaning?

6. was the calculator dropped? No.

Re: A few questions to ask. Then we can talk about it as invasive key fixes are difficult on the 48

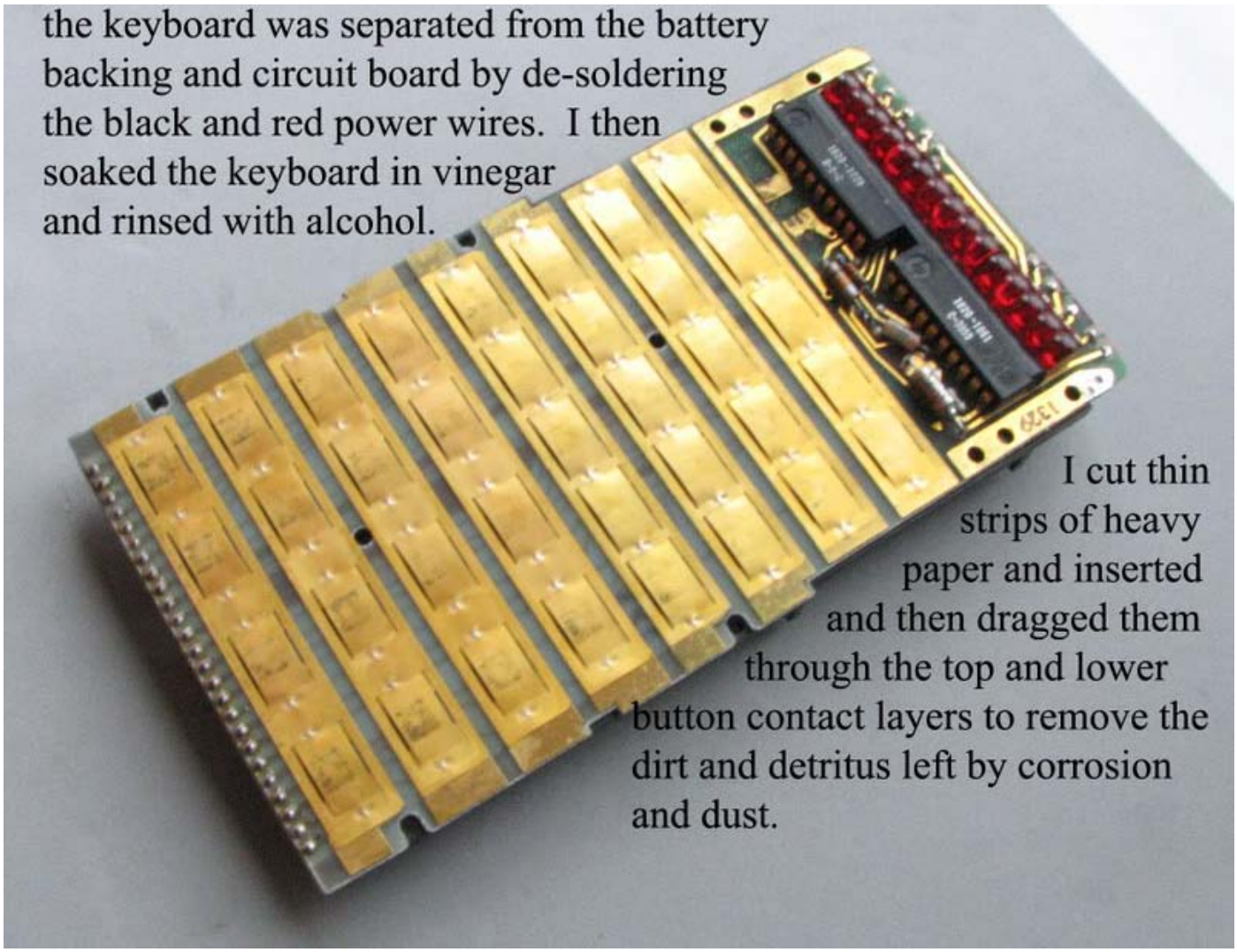
*Message #4 Posted by **Geoff Quickfall** on 22 Apr 2009, 11:02 p.m.,*
in response to message #3 by Harold A Climer

There are three ways to lose the 'feel' of the keys. Especially ones used as frequently as the F keys on a 48 that has dedicated F functions; i.e. the VAR menu with assigned folders and variables

Firstly:

The construction of the keyboard includes a domed contact. As the key is pressed into the apex of the dome, the dome deforms toward the keyboard contact completing the circuit and giving the resounding click.

The setup is similar to the following HP 45 keyboard with the exception that the raised portion is domed not rectangular (I currently don't have a picture of the keyboard layout for a 48):



With consecutive use this system will fail over time.

Secondly:

The calculator is held together by plastic rivets. Actually plastic inserts into plastic tubes which are then glued under pressure. The upper rivets, depending how well they were formed at construction may give. Especially under duress such as a drop or extensive use. As the rivets loosen, the distance the key has to move to engage the 'dome' increases and the deformation of the dome may have a reduced click to it.

Thirdly:

The sticky residue problem. This will entail the cleaning of the keyboard, non-envasively. This can be done by removing the batteries, battery hatch and memory cards as well as the memory card hatch.

Conclusion:

Without seeing your calculator and assuming it is not the sticky residue problem or rivet problem; it would seem that it metal fatigue of the dome contact system.

Not much can be done for that other than 'Fix that Calc'. If the cleaning does not improve the feel, try the following:

```
1.  Place the calc on a flat surface.
2.  Gently apply finger pressure at the edges of the calculator
    corresponding to the row with the F keys
3.  while applying pressure, press the keys with your free hand
    and see if the keys respond normally.
```

This would indicate that the rivets may be at fault. Both the dome fatigue and rivet would require surgery unfortunately.

Good luck!

Geoff

Re: A few questions to ask. Then we can talk about it as invasive key fixes are difficult on the 48

*Message #5 Posted by **Jeff O.** on 23 Apr 2009, 7:32 a.m.,*
in response to message #4 by Geoff Quickfall

> Quote:
>
> it would seem that it **metal** fatigue of the dome contact system.

I was under the impression that the HP48 uses plastic domes with some sort of conductive spot on the underside. I've never had one apart, so I cannot say for sure.

...

HP 48 keyboard design

*Message #6 Posted by **Didier Lachieze** on 23 Apr 2009, 9:15 a.m.,*
in response to message #5 by Jeff O.

About the HP 48 keyboard design, here is an extract from the "Hardware Design of the HP 48SX Scientific Expandable Calculator" article in the June 1991 HP Journal, page 29:

> Quote:
>
> The tactile feel of the keys is a result of painstaking design, testing, and quality assurance efforts. The 0.004- inch-thick **Mylar** dome sheet contains 49 details, which provide the snap feel as each key is depressed. Each key has an actuator which presses against the top center of the dome. As the dome is pressed it deflects at its base into a dome spacer recess. At this stage the force is building linearly with deflection. As the force builds to the trip point the dome buckles, causing a sudden drop in force. Momentum and the resulting imbalance of force between the finger pushing on the key and the key no longer pushing back causes the inside of the dome to impact firmly against the keyboard contacts. The inside of the dome is printed with a pad of conductive carbon graphite. Upon switch closure the dome pad shorts the interdigitated carbon graphite contact fingers of the keyboard. Below each key switch is another recess created by a 0.003-inch-thick chassis spacer. This recess allows the keyboard to wrap around the depressed dome, resulting in a much more reliable area contact instead of the point contact of a dome against a flat plane.

Edited: 23 Apr 2009, 9:26 a.m.

HP48 keyboard

*Message #7 Posted by **RETH** on 23 Apr 2009, 9:38 a.m.,*
in response to message #5 by Jeff O.

I just pulled one apart (and cut one of my fingers :)) - 4 layers, top one made of clear plastic with stamped domes partly filled with dark conductive material, next one made of slightly thinner clear plastic with holes below the domes, third one - thin white plastic painted circuit board with lines on both sides and the fourth - made of paper to insulate the third from the bottom. I took picture but I'm not sure how to post them here. I can't believe it looks so simple and cheap and still worked perfectly after all these years!

Thanks for the description..

*Message #8 Posted by **Geoff Quickfall** on 23 Apr 2009, 11:59 a.m.,*
in response to message #5 by Jeff O.

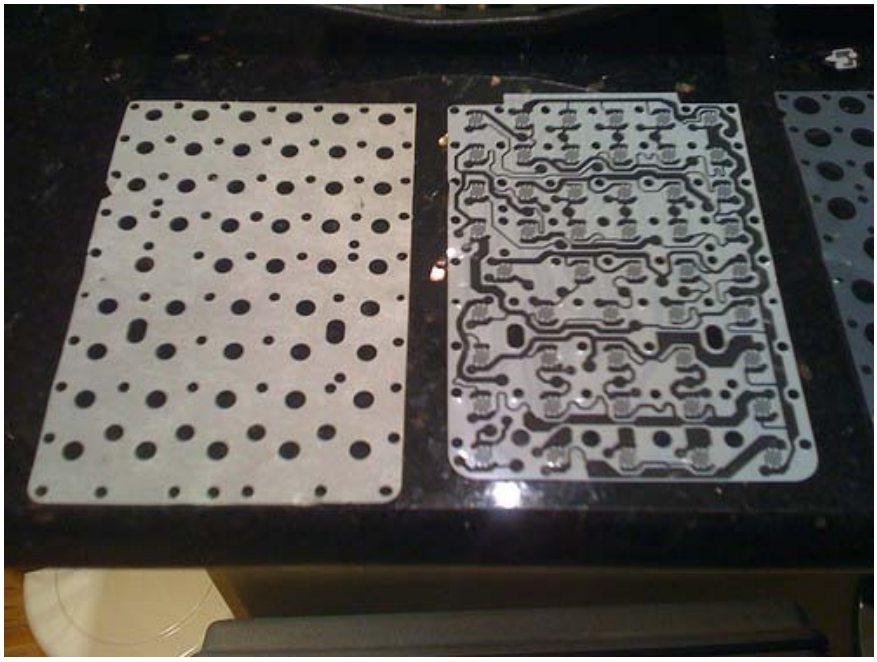
My intent was to show the deformation style. The mylar dome is a variant of the HP 45 click response in that it deforms a convex structure which is subject to fatigue.

If you have pictures, post them. Not that one can fix a cracked mylar dome, but it would be interesting.

Cheers, Geoff

HP48SX Keyboard

*Message #9 Posted by **reth** on 23 Apr 2009, 7:17 p.m.,*
in response to message #8 by Geoff Quickfall



BTW once you see those the keyboard and the calculator are certainly dead :>)

Edited: 23 Apr 2009, 7:31 p.m.

Re: HP48SX Keyboard

*Message #10 Posted by **Geoff Quickfall** on 23 Apr 2009, 8:00 p.m.,*
in response to message #9 by reth

Thanks Reth,

I guess you sliced the heads off all the plastic rivets? Wow!

I haven't had any completely dead ones to get that far yet.

Cheers, Geoff

Re: HP48SX Keyboard

*Message #11 Posted by **bill platt** on 23 Apr 2009, 8:15 p.m.,*
in response to message #10 by Geoff Quickfall

It looks like there was some blunt force trauma involved before that...:-)

Re: HP48SX Keyboard

*Message #12 Posted by **reth** on 23 Apr 2009, 9:50 p.m.,*
in response to message #11 by bill platt

You bet! Took me 15 minutes and some brutal force :)
Cheers

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HP50g ROM Version 2.15

*Message #1 Posted by **Mike Morrow** on 22 Apr 2009, 4:00 p.m.*

ROM version 2.15 made it out yesterday. It is apparently just version 2.14-2 with revision number changed to 2.15 for official release. It is now "officially supported."

I had just installed version 2.14-2 a few days ago, but installing ROM updates requires only trivial effort, so I repeated that process today.

Re: HP50g ROM Version 2.15

*Message #2 Posted by **hpnut** on 23 Apr 2009, 3:11 a.m.,*
in response to message #1 by Mike Morrow

Hello Mike,

how come HP's 50g page http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/forum.cgi?read=150113#150113 says latest ROM is v.92 dated 11 Aug 2006?

am I looking at the correct page?

hpnut in Malaysia

Re: HP50g ROM Version 2.15

*Message #3 Posted by **Mike Morrow** on 23 Apr 2009, 8:01 a.m.,*
in response to message #2 by hpnut

Click on the embedded link (first "ROM" in my post above) and you'll get the www.hpcalc.org page with link to the update zip file at the top (www.hpcalc.org always seems to get official ROM updates well before any HP sites).

Version 2.15 apparently revises version 2.09 to make the corrections of the long awaited but never released version 2.10, plus adds the HP StreamSmart application. The zip file contains a pdf file listing the changes (plus other changes since ROM version 2.00). ROM version 2.15 does *not* have the changes of unofficial version 2.10-7.

The version 2.15 zip file also has updated versions of the Equation Library and Periodic Table Library. The new versions will also need to be installed as described in the pdf file. There's also a fix file for port 2 memory problems, but I didn't need to use that.

After opening the update zip file, I copied the scp, bin, and three lib files (five total) to a FAT SD card, put the card in the calc, and followed the instructions from the pdf file. All is done from the keyboard...no paper clip in the reset hole is called for! I'm just a user, so that's all I know about version 2.15. I've found nothing strange about it.

Edited: 23 Apr 2009, 8:48 a.m.

Re: HP50g ROM Version 2.15

*Message #4 Posted by **Dave** on 23 Apr 2009, 10:30 a.m.,*
in response to message #3 by Mike Morrow

First time I'd upgraded via SD card. Had a little trouble, but eventually got it. My first problem was the timing on the + and - keys. I had to press them precisely 1/2 second after a short press of ON/F3. Any more or less wouldn't work. My second problem was the SD card format. Even though I'd used this card for a long time on my calc, I kept getting a NO CARD error during the upgrade. Even though I'd correctly formatted it FAT on my PC, turns out the upgrade routine wouldn't recognize it until I formatted it on the calc itself. After that, all was well.

Edited: 23 Apr 2009, 1:59 p.m. after one or more responses were posted

Re: HP50g ROM Version 2.15

*Message #5 Posted by **Ed Look** on 23 Apr 2009, 11:15 a.m.,*
in response to message #4 by Dave

Dave, I had the same experience with a SD card update attempt. I didn't realize I should have re-formatted in the calculator, so I gave up and updated via cable.

The strange thing about this is that before and after this, the calculator, a 49g+ was able to recognize the card in the filer and access it.

Perhaps I should move my files off the card, format it in the calculator, do the update, and then move my files back.

Incidentally, my 50g was able to be updated by SD card, but that was the HP-branded SD card that came with it.

Re: HP50g ROM Version 2.15

*Message #6 Posted by **hpnut** on 23 Apr 2009, 12:27 p.m.,*
in response to message #5 by Ed Look

After some panicky moments, all went well with the upgrade via the SD card.

so now, after pressing the APPS key, I see in 12. EQN LIBRARY 13. PERIODIC TABLE 14. StreamSmart

13 and 14 are new to me.

I conclude that this upgrade is worth the effort. Just follow the instructions in the PDF diligently and you will have no trouble :-)

cheers,

hpnut in Malaysia

Edited: 23 Apr 2009, 12:43 p.m.

Re: HP50g ROM Version 2.15

*Message #7 Posted by **Mike Morrow** on 23 Apr 2009, 2:43 p.m.,*
in response to message #6 by hpnut

If you set system flag -86 you'll get another application: "15. Development Lib". You may need to reset (ON/F3) after setting the flag. This library is described in Chapter 6 of the HP49g+ Advanced User's Reference Manual.

Application 14 is support for the HP StreamSmart 400. I don't think that a large percentage of HP49g+ or HP50g users will find use for this.

Application 13 (Periodic Table) has been around since the days of the HP48SX, though it wasn't provided with the HP49g+ or ROM updates until somewhat recently.

Edited: 23 Apr 2009, 2:58 p.m.

Re: HP50g ROM Version 2.15

*Message #8 Posted by **Ed Look** on 23 Apr 2009, 3:59 p.m.,*
in response to message #7 by Mike Morrow

The periodic table is very, very similar to that of Arnold Moy's that can be downloaded from hpcalc.org. The only difference is that the one now included on the ROM update uses a smaller size table and smaller size font. If you have to deal with at least a little chemistry, it's pretty useful.

Re: HP50g ROM Version 2.15

*Message #9 Posted by **Tim Wessman** on 23 Apr 2009, 11:54 p.m.,*
in response to message #8 by Ed Look

An even better version than the old HP one that JYA ported a few years back was done by Raymond Del Tondo. Faster, smaller, exact same functionality.

http://www.hpcalc.org/details.php?id=7065

TW

Re: HP50g ROM Version 2.15

*Message #10 Posted by **Ed Look** on 24 Apr 2009, 2:00 p.m.,*
in response to message #9 by Tim Wessman

Tim, yes, I had Raymond del Tondo's version briefly on both the 49g+ and 50g. There seems to be a glitch with it- when in periodic table mode, one of the softkeys disappears, and it froze the calculator, if I recall correctly, in both calculators. The other two, work smoothly.

Re: HP50g ROM Version 2.15

*Message #11 Posted by **dbatiz** on 23 Apr 2009, 4:05 p.m.,*
in response to message #7 by Mike Morrow

I may be missing something, but I went looking for the Stream Smart and wondered what a data logger would cost. I clicked purchase only to find out its been discontinued. Does anybody know what it cost while it was available?

Very Respectfully,

David

Re: HP50g ROM Version 2.15

*Message #12 Posted by **Norris** on 23 Apr 2009, 6:24 p.m.,*
in response to message #11 by dbatiz

When HP announced the StreamSmart on June 10, 2008, it stated the following:

> Quote:
>
> The HP Mobile Calculating Lab solutions and the HP StreamSmart 400 are expected to be available in summer through select HP educational partners...HP MCL prices vary by solution. HP StreamSmart 400 is expected to be available for an estimated U.S. street price of $99.

Notes: "Availability will vary by region...Estimated U.S. street price; prices will vary."

Re: HP50g ROM Version 2.15

*Message #13 Posted by **hpnut** on 23 Apr 2009, 8:28 p.m.,*
in response to message #7 by Mike Morrow

[quote] If you set system flag -86 you'll get another application: "15. Development Lib". You may need to reset (ON/F3) after setting the flag. This library is described in Chapter 6 of the HP49g+ Advanced User's Reference Manual.

Hello Mike,

I have set flag 86 (confirmed it is on by FS? which returns a '1' and reset the calculator. But I still don't see "15. Development Lib". what goes, duh...?

Edited: 23 Apr 2009, 8:29 p.m.

Re: HP50g ROM Version 2.15

*Message #14 Posted by **hpnut** on 23 Apr 2009, 9:08 p.m.,*
in response to message #13 by hpnut

OK i found the answer in the 49G AUR

"In order to enable this library, you must attach it with the command 256 ATTACH or by setting flag 86."

:-)

Re: HP50g ROM Version 2.15

*Message #15 Posted by **Mike Morrow** on 23 Apr 2009, 11:34 p.m.,*
in response to message #13 by hpnut

The AUR does NOT say "by setting flag 86." It says "by setting flag -86."

Flag 86 is a user flag, not a system flag. The system flags are negative, so you must

set flag -86 (minus 86), not 86.

Or 256 ATTACH works too, as you found.

Edited: 23 Apr 2009, 11:45 p.m.

Re: HP50g ROM Version 2.15

*Message #16 Posted by **hpnut** on 23 Apr 2009, 11:54 p.m.,*
in response to message #15 by Mike Morrow

Thanks, Mike.

now I learn that there are such things as negative flags ;-)

Re: HP50g ROM Version 2.15

*Message #17 Posted by **Mike Morrow** on 24 Apr 2009, 11:24 a.m.,*
in response to message #16 by hpnut

The system flags are the most interesting! You can scroll through a screen showing most of the system flags, their function, and status by pushing MODE, then F1 (FLAGS). This screen leaves out the - (minus) sign that has to be used before the flag number.

System flag -86 is not shown. System flag -78 is also not shown, which is used to designate the serial or USB port on the HP50g. Perhaps there are others as well.

Edited: 24 Apr 2009, 11:32 a.m.

Re: HP50g ROM Version 2.15

*Message #18 Posted by **Michael de Estrada** on 24 Apr 2009, 1:19 p.m.,*
in response to message #17 by Mike Morrow

I didn't know about the flag -78. I was switching between serial and USB ports in the I/O Transfer screen. According to Appendix C of the HP 49g+ AUG, flag -78 is a "Kernel parameter, Not used." Also, the AUG describes flag -86 as "Program Prefix." I did see the Developement Lib once flag -86 was set and the calculator was rebooted. Do you know if is there is a flag to switch between Kermit and Xmodem transfer types? When I change from Kermit to Xmodem in the I/O Transfer screen, it always reverts to Kermit when I return to the I/O Transfer screen. However, selecting right shift and then the right arrow keys still places the calculator in XModem server mode, and communications can be made with the PC via USB cable. I was using Kermit and the serial port to communicate with my HP48SX.

Re: HP50g ROM Version 2.15

*Message #19 Posted by **Michael de Estrada** on 24 Apr 2009, 12:08 a.m.,*
in response to message #3 by Mike Morrow

I'm frustrated! I've been trying to do the ROM upgrade from the SD card. I do the ON/F4 thing and get the Test Menu OK. Then I try to do the ON/F3 +/- thing, but all it does is briefly show some graphic

and then revert to the regular display. No Update Menu. I've tried various timings between the ON/F3 and +/- key presses to no avail. I had absolutely no trouble updating the libraries, and the 1 Gb FAT SD card is definitely recognized.

Any ideas. I really don't like the USB approach because it requires resetting the calculator.

Re: HP50g ROM Version 2.15

*Message #20 Posted by **Mike Morrow** on 24 Apr 2009, 1:31 a.m.,*
in response to message #19 by Michael de Estrada

It took me several attempts to get to the UPDATE menu when I was trying to install version 2.14-2 a few days earlier. But when I later installed version 2.15, the process worked flawlessly the first time because I had practice the day before.

A. After pressing ON and F4 together, the [1. LCD 2. KEY etc.] TEST MENU will appear and stay on screen. B. Press and hold ON and F3, then immediately release. The screen will go blank. The machine is begining a restart. C. Within about a half second of the screen going blank, simultaneously press and hold - AND + for about three seconds before releasing.

This should start the UPDATE screen. At worst, the machine will just warm start and the whole process can be repeated. Up to this point, it doesn't even matter if your SD card has been put in the machine yet. It's just a matter of timing, since pushing the - and + keys too early or too late will not initiate the UPDATE menu as the machine restarts.

There is another way to call up the upgrade screen. It is an alternate ROM upgrade initiation process described at hpcalc.org. This was formerly the standard approach, and requires depressing the - and + keys while inserting a paper clip in the reset hole. I find it far more awkward than this "new" process.

Welcome to one of the greatest features of the HP49g and 50g series: upgradeable firmware. My 2003 HP49g+ has been through about six upgrades from the shipped version 1.20, and my HP50g has been through three from the shipped 2.08. I couldn't do that with my HP48SX and GX units.

Edited: 24 Apr 2009, 1:58 a.m.

Re: HP50g ROM Version 2.15

*Message #21 Posted by **Michael de Estrada** on 24 Apr 2009, 9:51 a.m.,*
in response to message #20 by Mike Morrow

Thanks Mike. This time it worked on the first try. I used the one-finger approach shown in Tim's YouTube video to push the +/- keys. Unlike other postings, it had no problem recognizing or reading my SD card, which came out of my digital camera. I'm glad I didn't have to mess with the reset button.

As far as my HP48SX is concerned, it is now officially retired, as all its RPL programs and data have been successfully ported to my HP50g. About the only issue I encountered was that some variable names were in conflict with newly added reserved names such as RECT and EQW and had to be renamed. Just as well, I guess, as I was starting to go blind trying to read its dim display.

Re: HP50g ROM Version 2.15

*Message #22 Posted by **Tim Wessman** on 24 Apr 2009, 1:50 a.m.,*
in response to message #19 by Michael de Estrada

http://www.youtube.com/watch?v=QttezbbytsM

TW

Re: HP50g ROM Version 2.15

*Message #23 Posted by **Michael de Estrada** on 24 Apr 2009, 9:55 a.m.,*
in response to message #22 by Tim Wessman

Thanks a bunch Tim. That video is great and I've bookmarked it. The secret is in the one-finger method to push the +/- buttoms. The whole process went seamlessly.

Re: HP50g ROM Version 2.15

*Message #24 Posted by **Dave** on 24 Apr 2009, 10:36 a.m.,*
in response to message #23 by Michael de Estrada

I think if the published instructions said to quickly press and release on/f3 together I think people would have less trouble too. As it is now, the instructions say "hold" on/f3, which simply doesn't work since you end up holding it through the reboot and missing your chance to get the +/- right. You also have a better chance of success if you formatted your card on the calc.

Re: HP50g ROM Version 2.15

*Message #25 Posted by **Mike Morrow** on 24 Apr 2009, 12:13 p.m.,*
in response to message #22 by Tim Wessman

Very nicely done video, TW! The single finger on + and - makes the process work with much greater certainty.

I wonder why the "paper clip reset" method was specified for so many years in official ROM upgrade instructions. This easier and more elegant technique works on my old 2003 HP49g+ (boot version 3.15.04), as well as on my HP50g (boot version 4.01.03.03).

Edited: 24 Apr 2009, 12:20 p.m.

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HP-25C strange behaviour

*Message #1 Posted by **Alberto Fenini** on 22 Apr 2009, 9:27 a.m.*

Hello Everybody,

I'm considering buying an HP25C with some minor (I hope) problems, I recall the topic was already discussed, and I did some digging, but couldn't find anything. Please forgive if the question has already been answered.

There are two known issues, the first is that key numer 1 doesn't allow any input, but I hope it's just a matter of cleaning the keyboard.

The second one looks more complicated. If key number 4 is pressed a number 6 will show up on the display and will be treated like that.

Does anyone has ever had this problem and know how it can be fixed ?

Thx for help, Alberto

Re: HP-25C strange behaviour

*Message #2 Posted by **Michael de Estrada** on 22 Apr 2009, 10:06 a.m.,*
in response to message #1 by Alberto Fenini

I had a similar problem with my HP-25C in which pressing the "4" key resulted in a "5" being entered. I also had a similar problem with a HP-33E. In both cases the problem was solved by chemically cleaning the keyboard by soaking in distilled vinegar, and then drying in my oven @ 150 degrees F (66 degrees C) for 3 hours. The keyboard on the HP-25C is heat-staked to the front of the calculator, so there is no direct access to the key contacts. You have to disassemble the calculator, so you can soak only the keyboard assembly. As to why it does this, I believe it's due to the one-piece film design of the keyboard snap buttons, where pushing one button can lead to actuation of a different button.

Hope this helps.

Good luck, Michael

Re: HP-25C strange behaviour

*Message #3 Posted by **Geoff Quickfall** on 22 Apr 2009, 12:51 p.m.,*
in response to message #1 by Alberto Fenini

Hello Alberto

Michael is absolutely correct, it should be a minor keyboard cleaning problem.

In the case of your #4 key, sometimes a conductive dust or battery corrosion precipitate can short the keyboard. What happens is two traces from two keys can connect and the logic input sent to the keyboard processor is recognized as the wrong key input.

In the case of your #1, either it is a non-conductive piece of debris or broken dome that creates the 'click' sound and creates the contact. The broken dome problem is not easily fixable but you can determine if the dome is broken by the sound and feel. They should be identical to the other working keys.

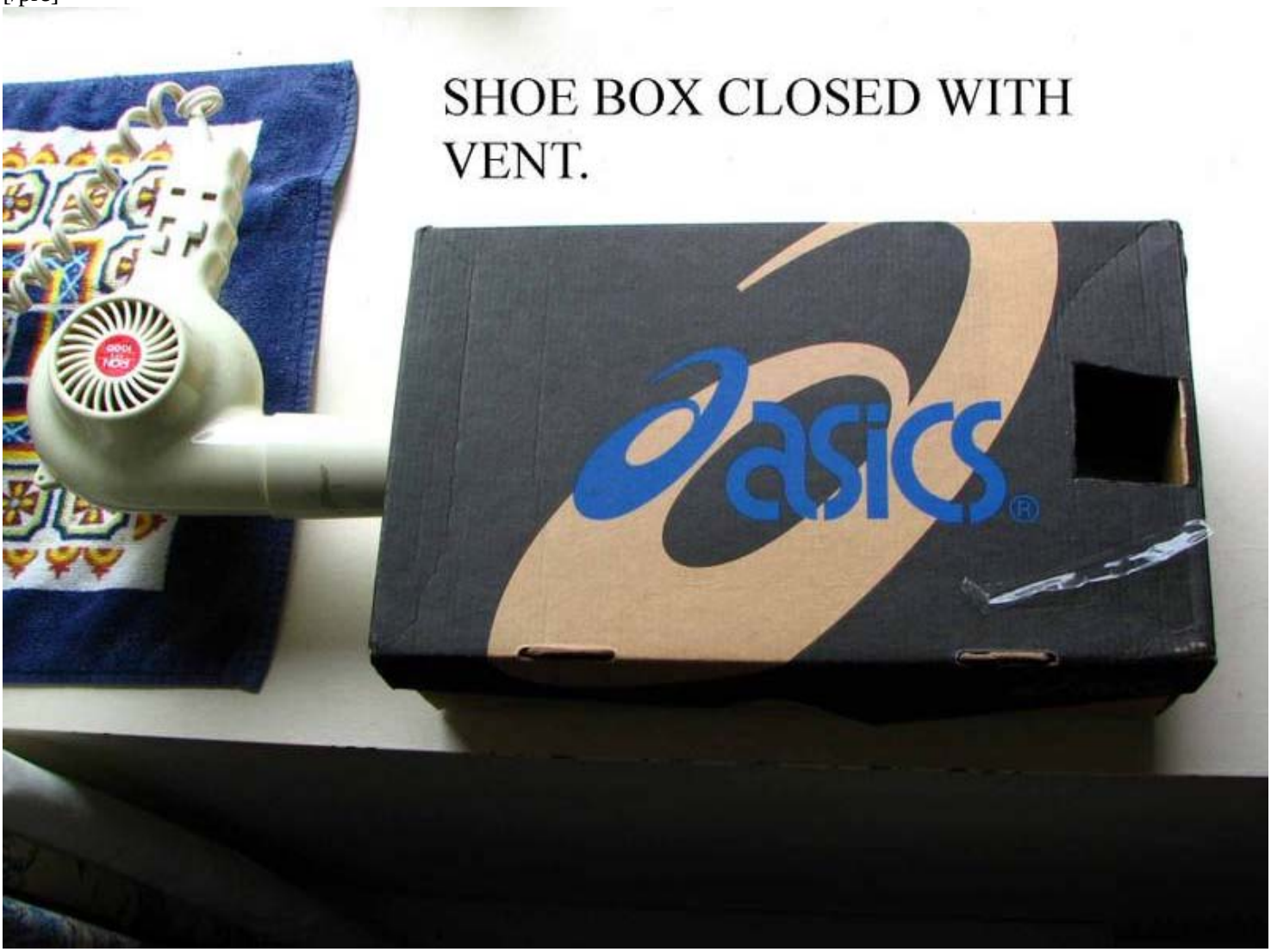
Another problem on the keyboard is that the keyboard processor is not processing the info due to a bad connection at the

chip itself, again due to conductive debris or corrosion.

When cleaning the keyboard use water to dissolve any sugar residue such as spilt beer or wine or pop. Then rinse with Michael's vinegar solution. Then rinse with 90% alcohol. I personally use an ambient air drying box. That is, a shoe box with an hair dryer attached to one end as in the picture. The hair dryer is set to COLD causing only room temperature air to pass over the keyboard and PCB.

Shoe box:

[/pre]



In conclusion:

1. remove the PCB from the Keyboard 2. remove the LED panel from the PCB 3. soak both the PCB and the Keyboard in warm (not hot) dilute water. 4. rinse 5. soak both PCB and Keyboard in dilute vinegar 6. rinse 7a. dry the units (I prefer ambient air temperature as my controls are not that accurate and there is actual airflow penetrating the units cracks and crevaces) 7b. while drying your keyboard do not wipe the front dry. Dab it dry with a soft cloth. The Woodstock silk screening is notorious for comming off. This is due to the Clear Laqueur finish decomposing from UV rays over the last 30 years. 8. assemble and test.

As a last resort, but very safe, I use a citrus based adhesive remover found at your local electronics shop. I have some HP 15C that have been working perfectly (Really, perfectly) with respect to the keyboards after using the above method and finishing it with the citrus adhesive remover. It is safe for the silkscreening and internal keyboard components.

On the reverse side of the keyboard you will see holes corresponding with the centre of the keys. A quick spray of the cirtrus oil in the offending keys hole will invariably solve the contact, and key bouncing problems.

This link to an old post might be helpful.

Re: HP-25C strange behaviour

*Message #4 Posted by **Alberto Fenini** on 22 Apr 2009, 5:55 p.m.,*
in response to message #3 by Geoff Quickfall

Thanks for all of you for you hints, I had a similar problem with one of my HP-25 and I have learned a lesson ! I had used a contact cleaner sparay, a 90% alcool spray and water to rinse.

As a result, most of the yellow labels simply faded away and the structure itself has become gray.

What do you exactly mean with "distilled vinegar", is this the same we use as a salad dressing ? I'm very interested in finding a good product for soaking the keyboard without problems.

Thx for help, Alberto

P.S. I'd like to include some pics, how I'm supposed to do that ?

Re: HP-25C strange behaviour

*Message #5 Posted by **Geoff Quickfall** on 22 Apr 2009, 7:20 p.m.,*
in response to message #4 by Alberto Fenini

The local store should have some white vinegar. I dilute this 50%.

Cheers

Re: HP-25C strange behaviour

*Message #6 Posted by **Alberto Fenini** on 22 Apr 2009, 7:37 p.m.,*
in response to message #5 by Geoff Quickfall

Has the vinegar some cleaning properties ? Do you think it will dissolve and remove the corroded parts ?

Re: HP-25C strange behaviour

*Message #7 Posted by **Michael de Estrada** on 22 Apr 2009, 7:58 p.m.,*
in response to message #6 by Alberto Fenini

White distilled vinegar is clean from impuities and is usually reduced with water to 5% acidity. It is primarily used for cleaning purposes. For example, you can pass it through a coffee maker to clean coffee residue and remove odors. It is very good at removing copper (green) corrosion, as it reacts chemically to disolve the corrosion without damaging the underlying circuit traces.

Re: HP-25C strange behaviour

*Message #8 Posted by **Geoff Quickfall** on 22 Apr 2009, 8:01 p.m.,*
in response to message #6 by Alberto Fenini

Vinegar is slightly acidic. The battery precipitate is a base. I am not talking about corrosion, but the powdery precipitate that outgassing of the batteries can cause to the circuits not directly exposed to leakage.

Water will not dissolve the precipitate which has it's own electrically conductive properties. Vinegar will. The down side is a severly corroded trace inside or under a IC may dissolve to the point of no contact. This would of course be undetectable without a logic probe.

Suffice to say that I have so far (45 calculator restorations) never had a calculator come out of the procedure worse then it went in. I have successfully resurrected many keyboards with this technique.

Cheers, Geoff

Re: HP-25C strange behaviour

*Message #9 Posted by **Jeff O.** on 23 Apr 2009, 7:20 a.m.,*
in response to message #4 by Alberto Fenini

Quote:

P.S. I'd like to include some pics, how I'm supposed to do that ?

Pictures are included by wrapping their location on the web as follows:

[img:http://www.picturelocation.com/mypicture.jpg]

The above requires you to have somewhere on the web to host your picture. Or you can set up a guest file here at the MoHPC, upload your pictures, then do as above.

...

Re: HP-25C strange behaviour (photo)

*Message #10 Posted by **Alberto Fenini** on 23 Apr 2009, 6:30 p.m.,*
in response to message #9 by Jeff O.

And here we go with the picture (not for the faint at heart)

Ouch!

*Message #11 Posted by **Geoff Quickfall** on 23 Apr 2009, 6:38 p.m.,*
in response to message #10 by Alberto Fenini

Unfortunately the white bloom is the Clear laqueur finish breaking down. This is repairable on the "classics" that allow the keyboard to come apart. The keys drop out and the calculator can be re-laqueued with success.

Unfortunately the 'woodstocks' do not allow for keyboard dis-assembly.

Cheers, Geoff

Re: Ouch!

*Message #12 Posted by **Michael Meyer** on 24 Apr 2009, 12:19 a.m.,*
in response to message #11 by Geoff Quickfall

I've had great success fixing this with a rag treated with the automotive vinyl and plastic restorer "Armor All". I've rubbed it on keyboards as bad as this and restored them to nearly new appearance. The treated calcs have been on display for well over five years without apparent problems. You can keep rubbing it on until it dissolves the marred finish, and I've not had this remove any painted key labels. Give it a try!*

*Best results have been obtained by sitting in bed, watching t.v. and polishing the calculator as a prized treasure. LEEEEDDD's!!!

Re: Ouch!

*Message #13 Posted by **Alberto Fenini** on 24 Apr 2009, 9:05 a.m.,*
in response to message #12 by Michael Meyer

Thank you very much, that's absolutely worth a try, as far as for the yellow labels no hope I can restore them, right ?

Re: Ouch!

*Message #14 Posted by **Michael Meyer** on 25 Apr 2009, 9:07 p.m.,*
in response to message #13 by Alberto Fenini

I've never tried, but am wondering if simply printing the key labels from a good scan onto adhesive paper with a color laser printer and then cutting them out might work. I've had good

luck doing this to produce missing HP calculator faceplates. They look almost as good as the originals.

Re: Ouch! (photo)

*Message #15 Posted by **Alberto Fenini** on 26 Apr 2009, 6:21 p.m.,*
in response to message #14 by Michael Meyer

Thank you so much for the polishing hint, I have used a teflon based product, and this is the result (to be finished yet, but wow ...), I didn't have considered the idea of using car polishing products for HP keyboards ....

As for the letters, I would think of Letraset, if size, font and colors are available, I'll check it out and let you know.

Thank everybody for the help ! Alberto

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41c keyboard overlay templates

*Message #1 Posted by **Sean Connor** on 22 Apr 2009, 8:55 a.m.*

Sorry if this is an old chestnut but .... Has anybody produced a template in say Word (or any other package come to think !))

I have the circuits module and would like to make up the overlays.

I did do a search but couldn't find anything

Best Regards

Sean

Re: 41c keyboard overlay templates

*Message #2 Posted by **Bill (Smithville, NJ)** on 22 Apr 2009, 9:23 a.m.,*
in response to message #1 by Sean Connor

Hi Sean,

After seeing those TV ads for some sort of craft cutter, I'm wondering if Keyboard Overlays could be designed and cut out in vinyl using one of them. Did a quick search and found the Silhouette by QuicKutz which has a computer interface and looks like a printer with cutting blades.

Has anyone tried out one of these type devices? Could they do overlays?

Bill

Yes,

*Message #3 Posted by **Geoff Quickfall** on 22 Apr 2009, 12:57 p.m.,*
in response to message #1 by Sean Connor

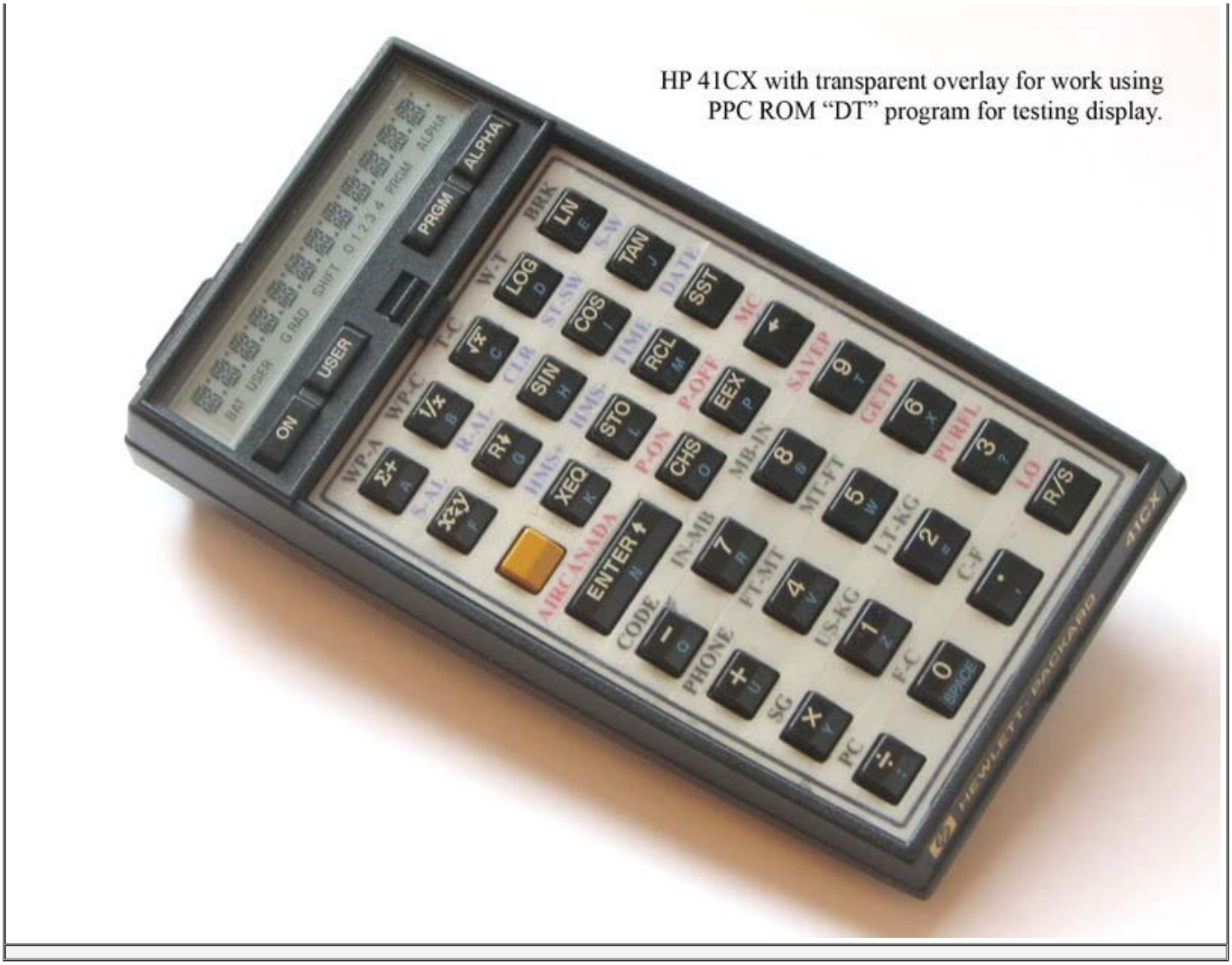
Sean;

do you have a laser printer or ink jet, not that it matters, The product you are looking for is an adhesive back **clear** printable sheet for your printer.

Take a plane sheet of paper and work out your labels using the correct font. Create your overlay using font sizes and spacing that will match the keyboard correctly.

Then, once you are happy with the outcome, print off a the overlay on the adhesive clear sheet. Slice the sheet in horizontal rows, of the correct thickness and place over your blank overlay.

It should look like this:



Re: Yes,
*Message #4 Posted by **David Hayden** on 22 Apr 2009, 8:49 p.m.,*
in response to message #3 by Geoff Quickfall

I think Sean doesn't have a blank overlay. I believe he's starting from scratch.

I've also been thinking about the computer controlled craft-cutter idea. Combined with an adhesive backed material, one could create overlays pretty easily I imagine.

Dave

Re: Yes,
*Message #5 Posted by **Tim Wessman** on 22 Apr 2009, 10:23 p.m.,*
in response to message #4 by David Hayden

The best ways to make overlays is to laser cut them. There are usually plenty of places you can find around that will take a pdf or dxf and run whatever material you like through a laser CNC mill at a very cheap price. They usually charge a setup fee (which you can often get them to waive with a little sweet talking) and then time on the machine. For a bit of plastic or paper, it is really quick.

If you can't get a lasercutter, the next best is a little die press that has formed edges to cut it. You just can't do small radii.

TW

Re: Yes,
*Message #6 Posted by **PeterP** on 22 Apr 2009, 11:45 p.m.,*
in response to message #5 by Tim Wessman

Tim, any tips on some companies that do laser cutting via CNC, either online or in the NYC area?

Cheers

Peter

Re: Yes,
*Message #7 Posted by **Tim Wessman** on 23 Apr 2009, 1:31 a.m.,*
in response to message #6 by PeterP

Not really. I've just called around and gotten a few quotes when I needed it. Often universities will have equipment used by the students and they will do stuff for cheap.

TW

Re: Yes,
*Message #8 Posted by **Allen** on 23 Apr 2009, 12:59 a.m.,*
in response to message #5 by Tim Wessman

> Quote:
>
> There are usually plenty of places you can find around that will take a pdf or dxf and run whatever material you like through a laser CNC mill at a very cheap price.

Well let's qualify that a little. I used the same process for a machine shop to make my Stainless Steel HP 41c Overlays. I paid a machinist to make a precision DXF file for this project.

The Stainless Steel material was expensive, and the 41c overlay is a complicated piece with three dozen cuts per item. This equates to some considerable cut time.

If you want some stainless steel ones to write on, let me know (I use them this way- it's nice) , but I encourage you not to spend time and money on a large production run like I did.

Re: Yes,
*Message #9 Posted by **Tim Wessman** on 23 Apr 2009, 1:33 a.m.,*
in response to message #8 by Allen

Wow! I was talking 'material' as being paper, mylar, or something similar that could be run through a regualar printer. Never considered someone would want something more durable. :-)

TW

Re: Yes,
*Message #10 Posted by **Sean Connor** on 23 Apr 2009, 3:34 a.m.,*
in response to message #9 by Tim Wessman

Gentlemen,

Thanks for the ideas. I like the idea of cutting a few using a Laser CNC or the craft cutter . I'll have to

look around on the internet to see if anybody offers this service in the UK.

Allen I think SS is maybe a bit too rigid/heavy for carrying around in the 41's case but thanks for the kind offer.

I still have to figure out how to trace/draw/digitise the outline though.

Best Regards

Sean

Hand-Cut 41 Overlays in 1980

*Message #11 Posted by **Jake Schwartz** on 23 Apr 2009, 7:38 a.m.,*
in response to message #10 by Sean Connor

Hi,

As a historical note, back in 1980, I hand-traced an overlay and used that to have a rubber stamp made. One mod to that shape prior to the making the stamp was having it symmetrical on the ENTER-key row for "reversability". Then it became a straightforward (albeit work-intensive) process to stamp the shape onto index cards and cut them out with an Exacto knife against a 6-inch metal ruler. They were sold through the PPC Journal at 5 for a buck and I ended up making 2000 before the demand dropped off. Based on the time it took to make them, it was slave wages, but a few pen pals were made along the way. Check PPC Journal V7N4P4 under "Club Projects".

Jake

Re: Yes,

*Message #12 Posted by **Dave Shaffer (Arizona)** on 23 Apr 2009, 10:55 a.m.,*
in response to message #10 by Sean Connor

> Quote:
>
> I still have to figure out how to trace/draw/digitise the outline though.

You ought to ba able to scan your calculator with a flat bed scanner, or take a digital camera picture, to get started. (If you'd like me to do either, or both, of those and send you a jpg or pdf or post it/them here, just ask.) If somebody could do this with an existing template, that would be even better.

Re: Yes,

*Message #13 Posted by **Sean Connor** on 23 Apr 2009, 11:13 a.m.,*
in response to message #12 by Dave Shaffer (Arizona)

Dave,

Thanks for the offer. I think however that we are up and running. A fellow 41 enthusiast at work thinks that he has the Math overlays at home

:-)

Sean

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Free backpack when you buy the HP 35S calculator

*Message #1 Posted by **hpnut** on 22 Apr 2009, 4:09 a.m.*

http://www.shopping.hp.com/webapp/shopping/generic_landing.do?template_type=landing&landing=calculator&template_type=storefronts&storeName=storefronts

I guess this offer only good for US customers. enjoy :-)

Re: Free backpack when you buy the HP 35S calculator

*Message #2 Posted by **Namir** on 22 Apr 2009, 7:09 a.m.,*
in response to message #1 by hpnut

Thanks for the tip my friend. I just ordered one!

:-)

Namir

Re: Free backpack when you buy the HP 35S calculator

*Message #3 Posted by **PeterP** on 22 Apr 2009, 10:27 a.m.,*
in response to message #2 by Namir

me too (plus another -10 USD coupon code SV2130)! Thanks!

Cheers

Peter

Re: Free backpack when you buy the HP 35S calculator

*Message #4 Posted by **tomdrewski** on 24 Apr 2009, 8:50 a.m.,*
in response to message #3 by PeterP

> Quote:
>
> me too (plus another -10 USD coupon code SV2130)! Thanks!
>
> Cheers
>
> Peter

Thanks Peter!

Re: Free backpack when you buy the HP 35S calculator

*Message #5 Posted by **Eric Rechlin** on 25 Apr 2009, 12:57 p.m.,*
in response to message #1 by hpnut

Great deal. It came to $54.11 for me, after tax and Peter's coupon code. Thanks for sharing!

Here's the backpack that I received with it, which is actually fairly decent:

http://www.newegg.com/Product/Product.aspx?Item=N82E16834998679

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OT: Build your own book scanner from trash & cheap cameras

*Message #1 Posted by **Marcus von Cube, Germany** on 21 Apr 2009, 12:55 p.m.*

From the TRS-80 Model 100 mailing list:

> Quote:
>
> This might be OT, but really isn't. We've had several discussion flurries about scanning in documentation that is rare or one-of-a-kind for our old laptops. If we have a handy-dandy MAKER in the group or many of them, this scanner might be the answer. Good luck and let us all know the results of your efforts. The author wants input from you, too, if you build one.
>
> Pax,
> Rick Herndon
> K5FNI
> Mathis TX
> http://www.instructables.com/id/DIY-High-Speed-Book-Scanner-from-Trash-and-Cheap-C/

This device could ease scanning of manuals and enhance the quality of the scans considerably. I've recently scanned a Casio Fp-200 manual with my standard flatbed scanner (an all in one Brother laser printer): It took hours and the result is far from optimal.

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The HHC2009 HP Conference Web Site Is Open

*Message #1 Posted by **Jake Schwartz** on 21 Apr 2009, 11:26 a.m.*

Hi,

Just FYI, the HHC2009 HP Handhelds Conference Website has gone active, with a few items remaining under construction. Start at http://holyjoe.net/hhc and click on the top link. We are able to hold this conference at the HP facility at Vancouver, Washington (just north of Portland, OR), which saves tons of money and simplifies logistics quite a bit. Thanks go out to Sam Kim of the HP calculator group for his arranging this so we can be at HP for the third consecutive year (after San Diego in '07 and Corvallis in '08). Make sure you leave Saturday and Sunday, October 3-4 open for our annual "geekfest".

Jake Schwartz

Registered and hotel booked!

*Message #2 Posted by **Geoff Quickfall** on 21 Apr 2009, 2:11 p.m.,*
in response to message #1 by Jake Schwartz

See you there!!!

Re: The HHC2009 HP Conference Web Site Is Open

*Message #3 Posted by **Namir** on 21 Apr 2009, 3:51 p.m.,*
in response to message #1 by Jake Schwartz

Will be there too!!

Namir

Re: The HHC2009 HP Conference Web Site Is Open

*Message #4 Posted by **Geir Isene** on 21 Apr 2009, 4:05 p.m.,*
in response to message #1 by Jake Schwartz

Great site :-)

Re: The HHC2009 HP Conference Web Site Is Open

*Message #5 Posted by **Namir** on 21 Apr 2009, 5:50 p.m.,*
in response to message #4 by Geir Isene

Hello Geir,

Do you plan to attend? I know flights from Norway are not cheap, but it will be nice to meet you in person.

Regards,

Namir

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HP 41 post repairs, yeah been done before but this is simple and it works.....;-)

*Message #1 Posted by **Geoff Quickfall** on 20 Apr 2009, 2:19 p.m.*

I saw Nigel Bamber's posting earlier and coincidentally was in the process of repairing a CV myself.

Mine came with the x functions, x memory and a time chip with a really worn keyboard. I mean REALLY worn. Well thanks to Wlodek in England I secured a new looking keyboard with two cracked posts.

Heres how I went about the repair:

Firstly, I preassembled the new keyboard to the rest of the CV and had to use some finger pressure to ensure contact as two of the posts were cracked. I determined the 'on' rocker key was not working as well as the E+ and 1/X keys.

I removed and soaked the keyboard in a solution of liquid detergent and warm water. The keyboard was placed vertically with the LCD above the level of the water. I rinsed the keyboard with water, dilute vinegar, water and then 99% alcohol. The keyboard was placed in a drying box with the dryer set for ambient air temperature.

The calculator was again assembled and the keyboard tested perfectly for all key punches and rocker arm switch function.

Now to the posts:

Tools required:

```
1.  liquid plastic cement and brush.
2.  old piece of soft plastic (ex. memory module housing).
3.  exacto knife.
4.  silicon tubing or small o-rings (inner diameter smaller then
    outer diameter of post).


silicon tubing:  ID   2.55 mm
                 OD   5.60 mm
                 Fuel line hose for model aircraft.  Specify
                 military specs as the hole is dead centre and
                 therefore usable for pinch roller
o-rings          ID   2.55  mm
                 OD   6.50  mm
                 Hardware store.
```

In figure 1, you can see the reverse side of the keyboard. The two posts on the right are cracked in two places, almost opposite of each other.

FIGURE 1

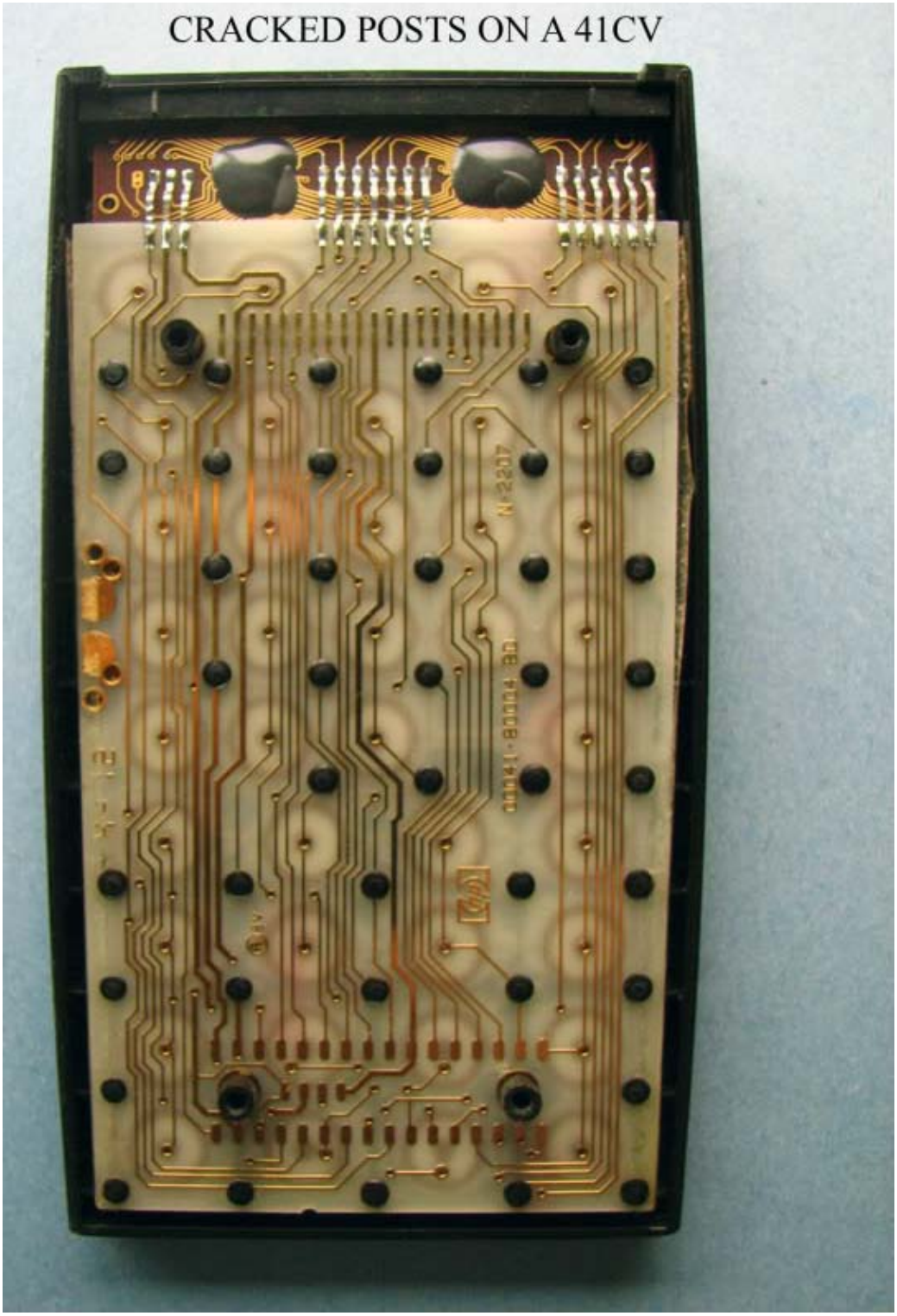
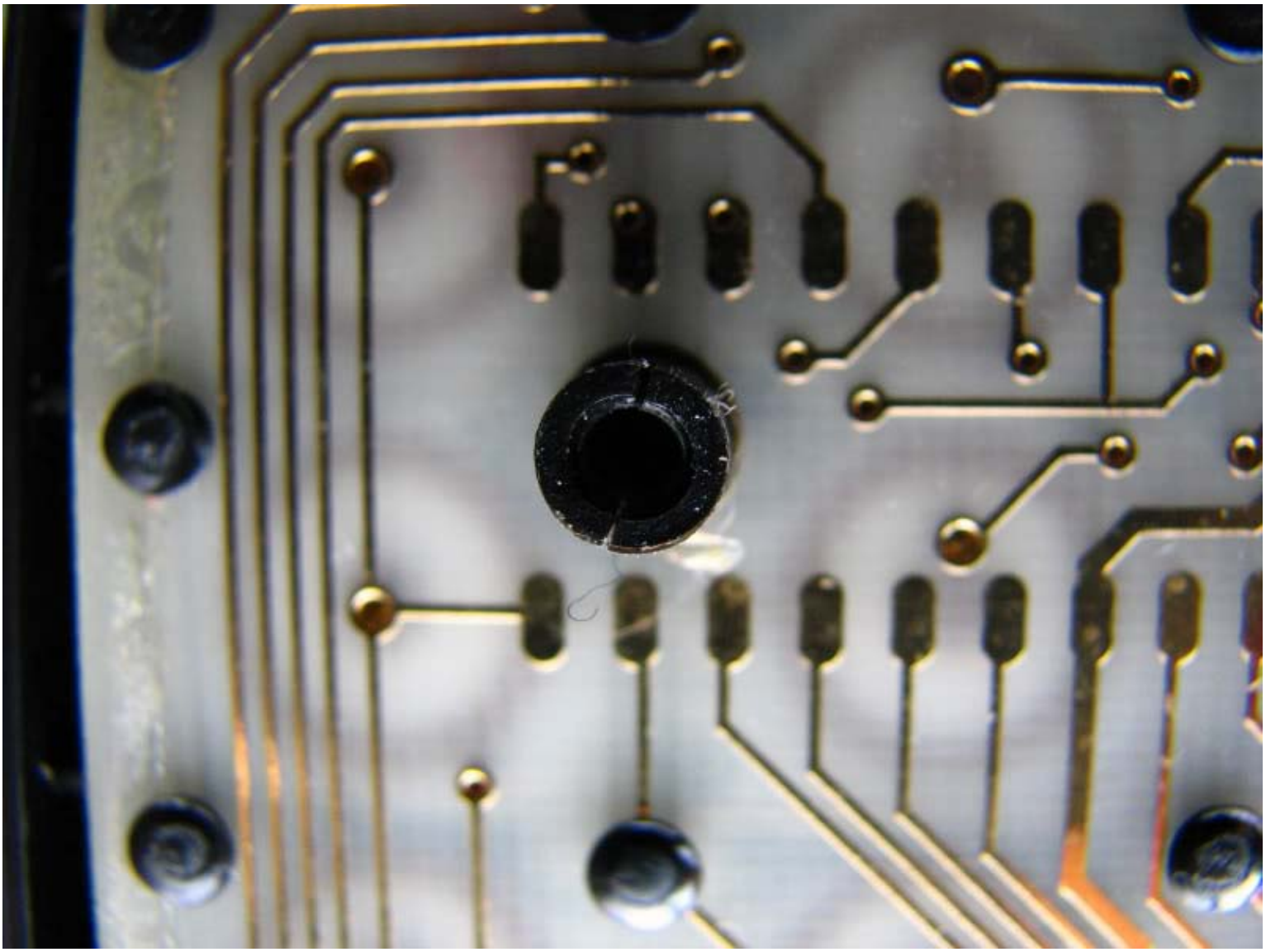


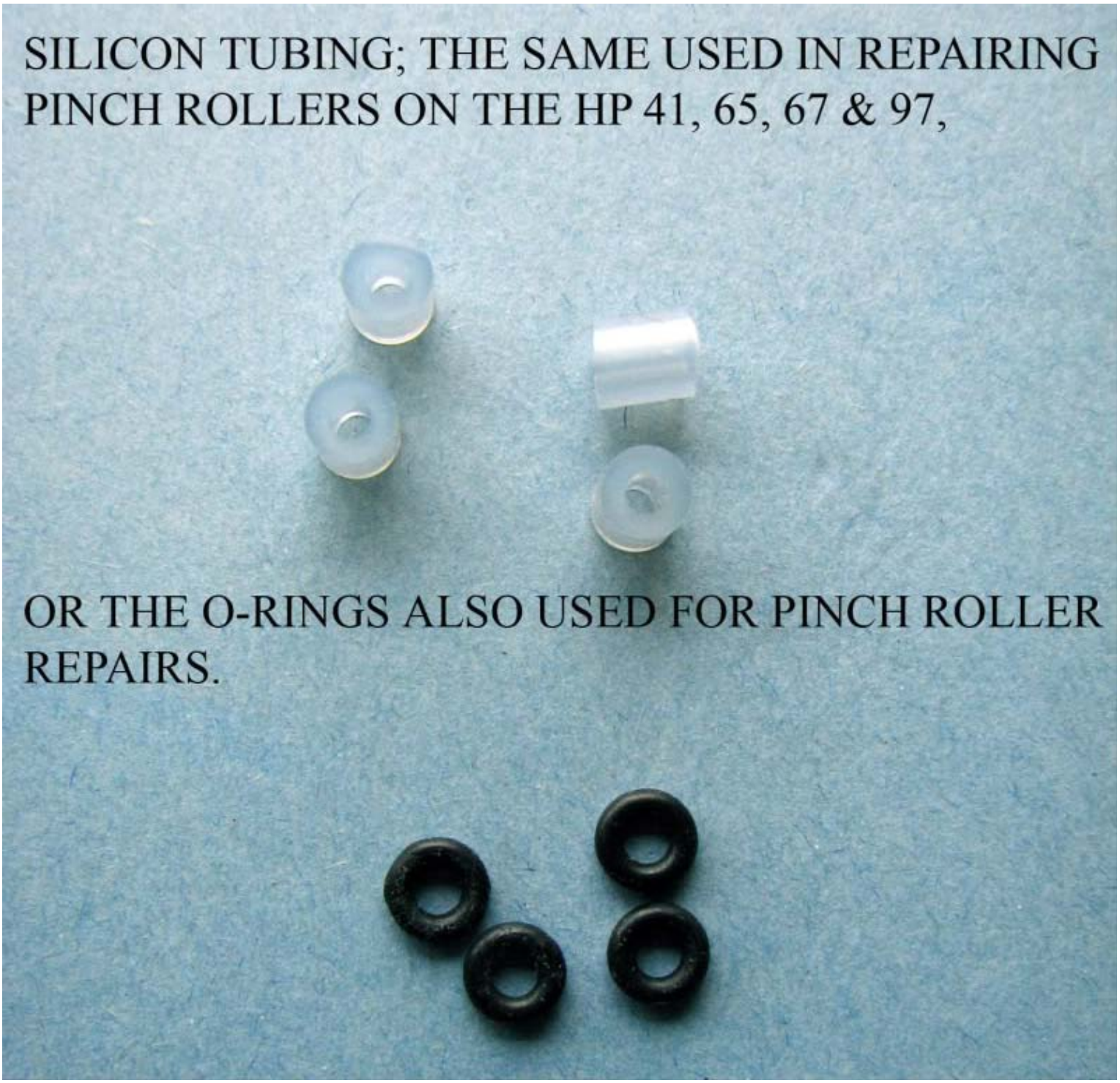
Figure 2 is a close-up of a typical cracked post, usually in two places nearly opposite to each other. The correct procedure for screwing an HP screw back into it's socket is to place the screw in the hole. Then reverse the screw motion, that is unscrew the loose screw until you feel it click. Then screw gently in the correct direction for tightening. By doing this you set the threads of the screw in synch with the threads of the post thereby not cross threading.

FIGURE 2



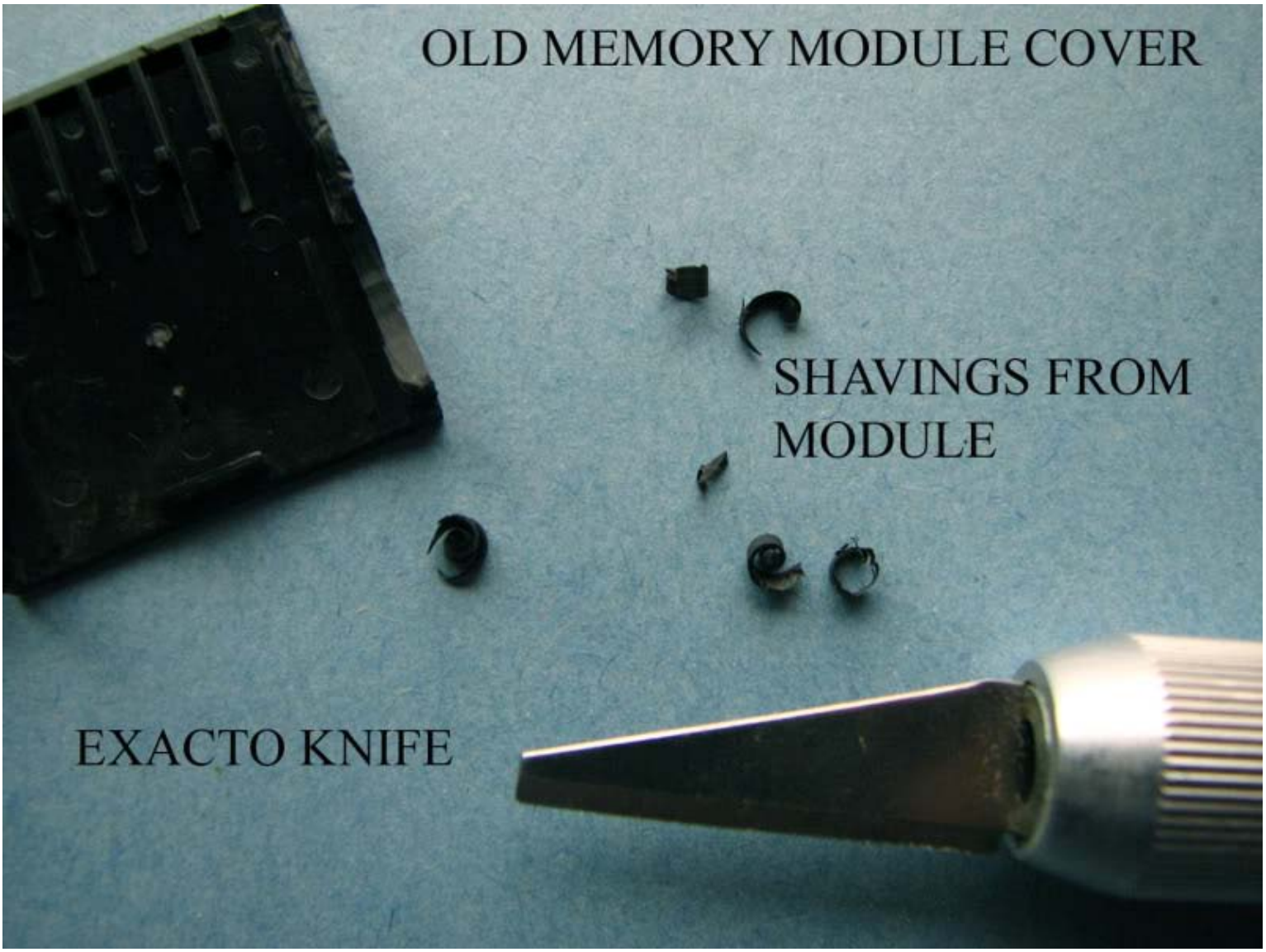
Once the cracked posts have been identified (or stripped posts as this routine works for these) a clamping system must be formulated. I used silicon tubing, the spare tube I have for fixing pinch rollers in HP card readers. Conversly the o-rings for the same purpose, suffice to say that the tube must have an inner diameter smaller then the outer diameter of the post (Figure 3).

FIGURE 3



Since the cracks are to be repaired we can assume that the internal threads of the posts are either stripped or damaged. Every time the screw enters and is removed it grates away at the internal threads of the post removing material and leading to a stripped post. I remedied this by securing a soft plastic material in the form of memory module housing. Shave off some of the plastic using an exacto knife. When the shavings flake off some of them form a perfect circle. I inserted these into the posts along with some straight flakes. This is done before the glue is applied. (figure 4)

FIGURE 4



Here you can see a series of photos where the cracks have been clamped together by the silicon tubing or the o-rings. Once these posts are clamped, add the shavings into the post.

FIGURE 5

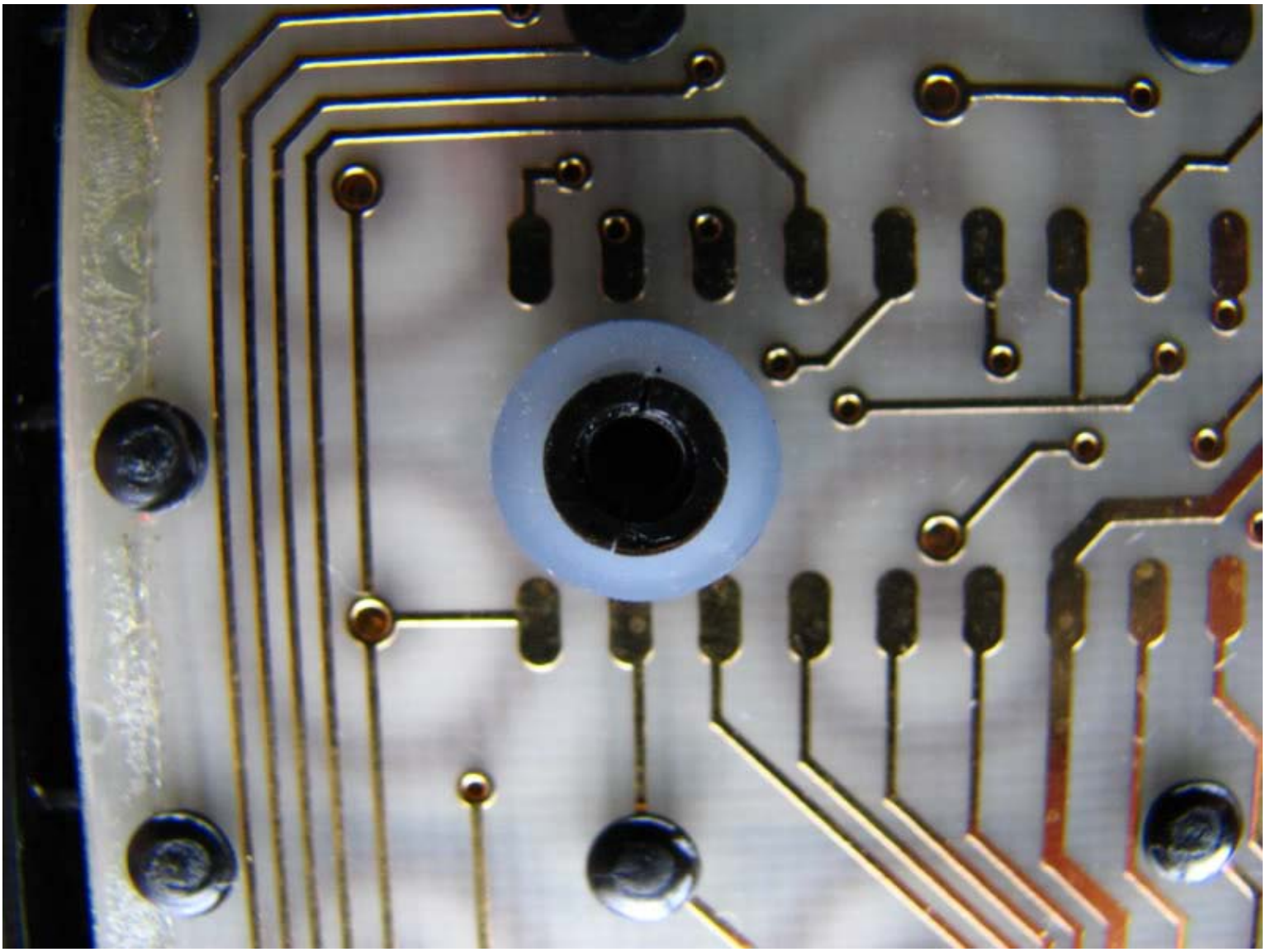


FIGURE 6

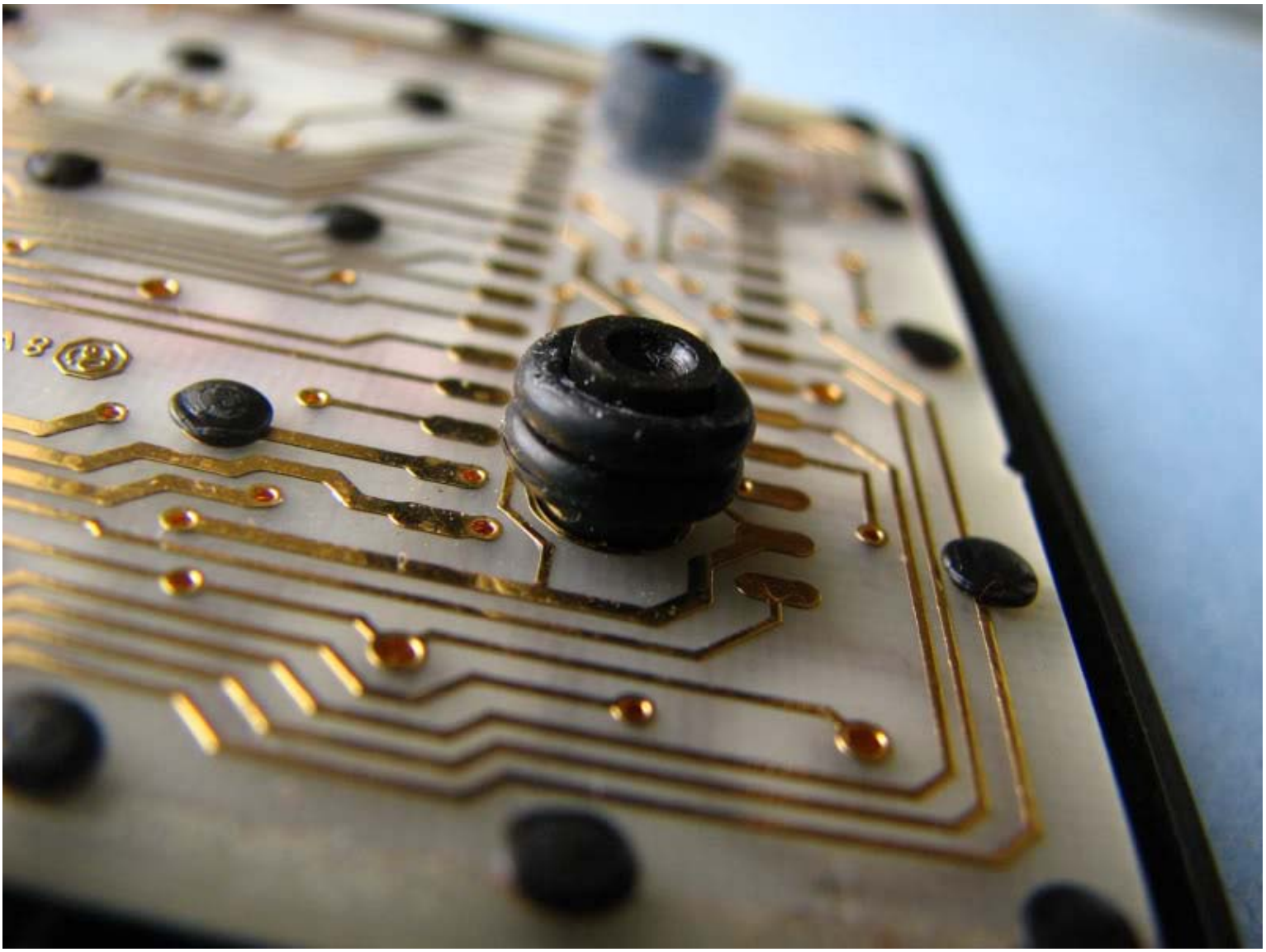
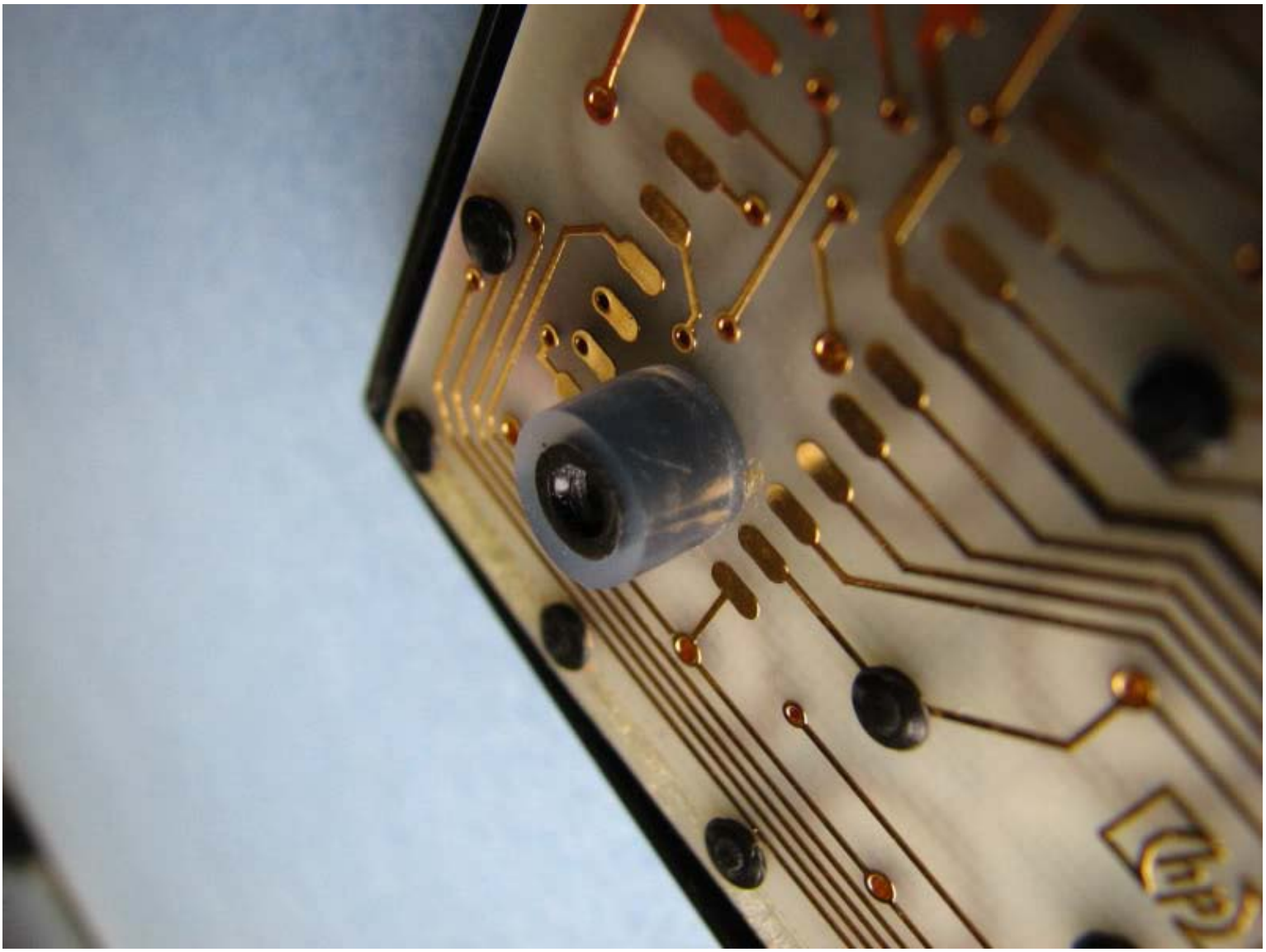


FIGURE 7



Using the liquid plastic cement, add a good dollop (a drop) to the inside of the clamped post with shavings added. The glue will seep into the cracks and soften the shavings. It will also bond the shavings to the posts, especially the cylindrical shavings added before hand. The clamps will insure the posts cracks have the requisite pressure exerted for glueing purposes.

FIGURE 8

Now let the post dry. I left it for a day; you certainly don't want to rush things.

As a last step I screwed the screws into the posts gently starting them as I outlined earlier. I also did this with the silicon clamps in place and the back of the case not attached. Do not screw all the way down but just start them until they bite. Since the back of the case is not in position the screws will be too long for the posts and you can damage the keyboard!

Now remove the clamps (silicon or o-rings) and replace the back. Using the screw technique mentioned above, tighten up the case.

It's that easy ;-)

Geoff

Edited: 20 Apr 2009, 8:43 p.m. after one or more responses were posted

Re: HP 41 post repairs, yeah been done before but this is simple and it works.....;-)

*Message #2 Posted by **PeterP** on 20 Apr 2009, 2:36 p.m.,*
in response to message #1 by Geoff Quickfall

Geoff,

Please post this as an article, including the pictures. This is a fantastic description! I have tried similar things with using a wire or sewing thread wrapped around the post, but the tubing is an excellent idea. Would you mind telling us what is the exact tubing dimensions to use and where one can obtain it?

Also love your idea of shaving plastic off. I have a liquid plastic glue that came with plastic powder that I poor into the posts, then the glue which melts it. However as the pulver fills up the post rather than attach to the sides, I normally have to screw the screw in while the glue+pulver is liquid and then let it dry that way with the screw in. Certainly not ideal.

Anyway, please post it as an article!

Cheers

peter

Done!

*Message #3 Posted by **Geoff Quickfall** on 20 Apr 2009, 3:06 p.m.,*
in response to message #2 by PeterP

thanks for the response and request.

Geoff

Re: Done!

*Message #4 Posted by **PeterP** on 20 Apr 2009, 3:33 p.m.,*
in response to message #3 by Geoff Quickfall

Thanks Geoff - one more thing: What is the exact dimension of the tubing and o-rings and where can I get them?

measurements...

*Message #5 Posted by **Geoff Quickfall** on 20 Apr 2009, 3:42 p.m.,*
in response to message #4 by PeterP

```
silicon tubing:  ID   2.55 mm
                 OD   5.60 mm


                 Fuel line hose for model aircraft.  Specify
                 military specs as the hole is dead centre and
                 therefore usable for pinch roller


o-rings          ID   2.55  mm
                 OD   6.50  mm


                 Hardware store.
```

Also added to the article.

Geoff

Re: measurements... Thanks! [NT]

*Message #6 Posted by **PeterP** on 20 Apr 2009, 4:33 p.m.,*
in response to message #5 by Geoff Quickfall

Peter

Re: HP 41 post repairs, yeah been done before but this is simple and it works.....;-)

*Message #7 Posted by **Gerry Schultz** on 20 Apr 2009, 5:39 p.m.,*
in response to message #1 by Geoff Quickfall

Geoff, this is a great post. It's very clear and concise. Thanks for the info.

Gerry

Re: HP 41 post repairs, yeah been done before but this is simple and it works.....;-)

*Message #8 Posted by **Nigel Bamber** on 22 Apr 2009, 2:52 a.m.,*
in response to message #7 by Gerry Schultz

Geoff

Our emails refer also. Many thanks for taking the time to post this advice.

Your advice was amazingly prescient, as the display has just started to return to its random psychedelic nature !

Nigel

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OT: Calling all front panel calculator designers...

*Message #1 Posted by **DaveJ** on 19 Apr 2009, 7:05 p.m.*

The design for the uWatch2 is hotting up, and I'm likely going to need some help with the front panel membrane keypad design.

I know there are plenty of excellent conceptual calc designers on this forum, so who wants to show off their skills and design the front panel for the new uWatch?

A free watch and eternal fame is on offer to the winning designer(s) (assuming it all comes together and works of course)

Here is an initial key layout sketch:

22 keys with 6mm row spacing. I figure anything smaller would be impractical.
The case and front panel are 50mm x 35mm (with rounded edges), and the LCD window is in the position specified, and this can't really change.

I'm going to need:
1) actual real-size graphics in the desired colours (there is probably a colour limit (i.e. 2 or 3 colours). Key graphic can be any shape you like really, but it will have circular embossing for the dome key.

2) A suggested keypad layout. The current layout could change a bit in key placement, but I think it's probably optimum already.

NOTE1: there may be some side navigation buttons, but I don't think these need to be marked on the front panel.

NOTE2: Bare in mind the uWatch2 is going to be "application centric" so that means users will be able to download apps to the calculator and call them up as needed, so there needs to be main "app" or "mode" button that does this. Perhaps this could be a side button.

NOTE3: The keypad needs to be algebraic/RPN neutral, so kind of like the current uWatch with its ENTER/= and brackets buttons. No BIG ENTER button on the bottom rows, sorry, we can't afford to waste a key there. But perhaps double width buttons beside the LCD?

NOTE4: This is not just an RPN calc, so don't get carried away, the regular punter will want to use it too for all sorts of things.

NOTE5: Some logo above the screen is probably in order, I'm just thinking maybe a simple "µ2" or something like that.

Any help appreciated!
Thanks
Dave.

Edited: 20 Apr 2009, 12:17 a.m. after one or more responses were posted

Re: OT: Calling all front panel calculator designers...

*Message #2 Posted by **DaveJ** on 19 Apr 2009, 8:47 p.m.,*
in response to message #1 by DaveJ

My first shot at a key layout:

C_____MODE
X-Y_____MENU
EXP_____ENTER=
+/- 5 6 7 8 9 X /
_._ 0 1 2 3 4 + -

Dave.

Edited: 19 Apr 2009, 8:49 p.m.

Re: OT: Calling all front panel calculator designers...

*Message #3 Posted by **Jonathan Purvis (New Zealand)** on 19 Apr 2009, 10:30 p.m.,*
in response to message #1 by DaveJ

I'm no designer, but i think it should be something like this:

```
  EEX |           | HOME
  +/- |           | UP
   .  |___________| ENTER/=
 0 <-  #  #  #  #  -> 9
 1  2  3  4  5  6  7  8
```

Where # is a key for a softmenu, <- and -> are arrow for scrolling the menu left or right a page, UP goes up a directory and HOME takes you to the root menu. So make the entire thing menu based, even the arithmetic functions. I realise that i haven't included backspace/delete key, but there aren't enough keys.

Re: OT: Calling all front panel calculator designers...

*Message #4 Posted by **DaveJ** on 19 Apr 2009, 11:12 p.m.,*
in response to message #3 by Jonathan Purvis (New Zealand)

I don't mind that actually. But you are dedicating 4 menu keys to function buttons which isn't really necessary when you can just press a MENU button and have the keys mappings change, like how it works on the current uWatch. That's a more efficient approach for limited key systems I think.

The left and right scroll buttons can probably go on the side of the watch.

Dave.

Re: OT: Calling all front panel calculator designers...

*Message #5 Posted by **Paul Dale** on 19 Apr 2009, 10:44 p.m.,*
in response to message #1 by DaveJ

I'm not really any good at this, but here is something losley based on the 4-banger we discussed a while back.

```
SHIFT |           | MODE
  x-y |           | ?
  EEX |___________| ENTER/=
+/- 5  6  7  8  9  /  *
 .  0  1  2  3  4  -  +
```

And shifted:

```
  INV |           | MENU
   Rv |           | ?
   ?  |___________| undo
STO .  .  .  .  . 1/x y^x
RCL .  .  .  .  .  .   .
```

Where the numeric keys 0 - 9 and - & + are:

```
        SIN  COS  TAN  LN   LOG
         !   sqrt R->P H.MS  Q   DEG D->R
```

INV inverts the operation of the subsequent (shifted) key stroke. For the numerics, - & + these are:

```
        ASIN  ACOS  ATAN  e^x  10^x
         ?    x^2   P->R ->HR  Q^-1 RAD R->D
```

The others are y^1/x and R^.

The MENU is there for extra functions hidden away. There are two '?' in the shifted positions that I can think of nothing overly useful. I guess one could be PI or a constants menu.

- Pauli

Edited: 19 Apr 2009, 10:45 p.m.

Re: OT: Calling all front panel calculator designers...

*Message #6 Posted by **DaveJ** on 19 Apr 2009, 11:09 p.m.,*
in response to message #5 by Paul Dale

Thanks Pauli.
Only problem with SHIFT functions is you limit the number of functions you can have on the keys, and the front panel display looks really "busy" with all the info. So menu options for all functions is the best approach I think.

Remember, this isn't just a scientific calc.

Dave.

Re: OT: Calling all front panel calculator designers...

*Message #7 Posted by **Maximilian Hohmann** on 20 Apr 2009, 3:15 a.m.,*
in response to message #1 by DaveJ

Good morning!

Great concept so far. I'm afraid I am no kepad designer, but I would prefer the six buttons beside the display to be double width (as you suggest in note 3) and unmarked. Application dependent softkeys (your display provides enough pixels for that!) would be the main and only reason for me to buy such a device!

Like in this example here (sorry, not my photo):

And another thing to attract the fans of "glow in the dark" products (like myself :-)): If there is enough space above and/or below the LCD for little glass tubes about 20mm long and 2mm diameter, then permanent lighting with GTLS light sources might be an option (http://en.wikipedia.org/wiki/GTLS). I bought one of these "Traser" watches recentely and this is just so cool. Nearly as cool as LEDs...

Greetings, Max

Re: OT: Calling all front panel calculator designers...

*Message #8 Posted by **DaveJ** on 20 Apr 2009, 3:27 a.m.,*
in response to message #7 by Maximilian Hohmann

> Quote:
>
> Great concept so far. I'm afraid I am no kepad designer, but I would prefer the six buttons beside the display to be double width (as you suggest in note 3) and unmarked. Application dependent softkeys (your display provides enough pixels for that!) would be the main and only reason for me to buy such a device!

That could be possible, but then you'd have to have them displayed on the screen permanently for it to be user friendly enough, losing a fair chunk of your 128 pixels. They could of course only pop up when you press a menu key, but you'd have to otherwise memorise them.

BTW, just so it's clear, any "double width" keys are only double width in graphical appearance on the silkscreen, the actual keypad dome is circular in either the center or off to one side.

> Quote:
>
> And another thing to attract the fans of "glow in the dark" products (like myself :-)): If there is enough space above and/or below the LCD for little glass tubes about 20mm long and 2mm diameter, then permanent lighting with GTLS light sources might be an option (http://en.wikipedia.org/wiki/GTLS). I bought one of these "Traser" watches recentely and this is just so cool. Nearly as cool as LEDs...

Will the white LED LCD backlight be enough to keep you amused?
I can add a tilt sensor so it turns on automatically when you tilt your wrist :->

Dave.

Re: OT: Calling all front panel calculator designers...

*Message #9 Posted by **Maximilian Hohmann** on 20 Apr 2009, 3:48 a.m.,*
in response to message #8 by DaveJ

Hello!

> Quote:
>
> Will the white LED LCD backlight be enough to keep you amused?
> I can add a tilt sensor so it turns on automatically when you tilt your wrist :->

The tilt sensor is an excellent idea: Not just to turn on the backlighting, but also for displaying the softkey labels for a couple of seconds without needing to press a menu-key.

Regarding the backlighting: I spend quite a number of nights at hotel rooms every month. Having a luminous watch (with alarm!) beside the bed can really be useful sometimes. If I need to press a button or shake the watch to turn the backlight on, I can switch on the room light as well.

Greetings, Max

Re: OT: Calling all front panel calculator designers...

*Message #10 Posted by **Paul Dale** on 20 Apr 2009, 6:21 p.m.,*
in response to message #8 by DaveJ

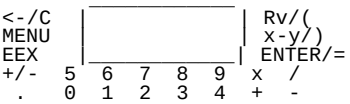
For some reason, the mention of a tilt sensor immediately bought this to mind: laptop computer

- Pauli

Re: OT: Calling all front panel calculator designers...

*Message #11 Posted by **Walter B** on 20 Apr 2009, 6:42 a.m.,*
in response to message #1 by DaveJ

If you want to have it RPN/ALG neutral, you'll need primary parentheses. A first shot front panel may look like this:



MODE will be just another menu. By MENU 0 through 9 and .0 through .9 we can reach up to 20 menus. With a menu displayed, keys 6 through 9 will turn into soft keys, and Rv will display the next level of this menu, and C will return to the previous level or exit the top level.

Without a menu displayed, Rv will roll down in RPN or open a parenthesis in ALG, <- will delete as usual, and pressing <- twice will act like C.

Walter

Edited the last sentence.

Edited: 20 Apr 2009, 12:15 p.m.

Re: OT: Calling all front panel calculator designers...

*Message #12 Posted by **hugh steers** on 20 Apr 2009, 12:58 p.m.,*
in response to message #11 by Walter B

Do you think there's enough space on the front panel to print two items per key? ie 2nd functions?

Re: OT: Calling all front panel calculator designers...

*Message #13 Posted by **DaveJ** on 20 Apr 2009, 5:54 p.m.,*
in response to message #12 by hugh steers

> Quote:
>
> Do you think there's enough space on the front panel to print two items per key? ie 2nd functions?

Most likely. The entire front panel is 50mm x 35mm, so it's easy to do mock-up's of a layout actual size and find out.

But like I've said, you have to have a menu system anyway, so might as well put everything in the menu and keep the layout visually clean and simple. The more I think about the more I like Max's idea of keeping the side keys as soft only-keys, from a visual simplicity point of view. But you have to figure out how the work that on the screen without taking up too much space or being annoying.

Dave.

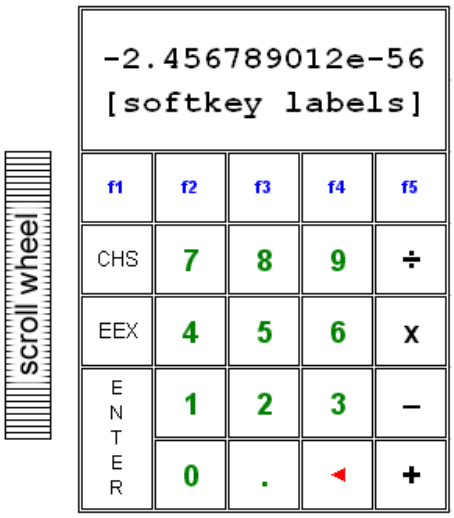
Edited: 20 Apr 2009, 6:37 p.m.

Re: OT: Calling all front panel calculator designers...

*Message #14 Posted by **robert rozee** on 20 Apr 2009, 10:11 a.m.,*
in response to message #1 by DaveJ

hi, i'm going to suggest something completely different:

keep a conventional key layout, with a row of function keys that have a dedicated line on the display. the function keys would then flip though a series of options as a scroll wheel located on the side of the calculator/watch/thingy was turned.



btw, i don't wear a watch... so i'm much more inclined towards a mini-calculator :-)

Re: OT: Calling all front panel calculator designers...

*Message #15 Posted by **DaveJ** on 20 Apr 2009, 6:39 p.m.,*
in response to message #14 by robert rozee

That would not be physically possible with a watch design of course, only a "mini calculator" as you say. That's not on the cards at the moment though, sorry!

Dave.

Re: OT: Calling all front panel calculator designers...

*Message #16 Posted by **Nigel J Dowrick** on 20 Apr 2009, 12:47 p.m.,*
in response to message #1 by DaveJ

How about using the numeric keys themselves as menu keys? Pressing and releasing a number enters it in the usual way. But holding it down and then pressing another number key without releasing the first performs some function. A list of what those functions would be could pop up automatically on the screen after the first key had been held down for a short time.

It might be hard to hold down two adjacent keys at once given the pitch of the keyboard. A slight variation would be to not require the first key to be held down for more than about 0.5s, time enough for the keymap to pop up. It could then be released and the second key pressed.

I can see two advantages for this: (i) it would allow the MENU key to be omitted; (ii) there'd be no need to press MENU repeatedly to reach a particular function. The disadvantage would be that you'd have to learn where your favourite functions are!

Just a thought, anyway.

Nigel

P.S. I love the V1 uWatch!

Re: OT: Calling all front panel calculator designers...

*Message #17 Posted by **agodwin** on 26 Apr 2009, 6:00 p.m.,*
in response to message #16 by Nigel J Dowrick

Some Nokia phones had a menu system where every page was selected through a sequence of numerics and the value was displayed in the top right corner of the display. Thus, once you knew where the menu was, you could reference it by its index more quickly than manually selecting each level from the tree. Maybe you could use this idea if the menus become very deep ?

Re: OT: Calling all front panel calculator designers...

*Message #18 Posted by **DaveJ** on 26 Apr 2009, 8:46 p.m.,*
in response to message #17 by agodwin

Quote:

> Some Nokia phones had a menu system where every page was selected through a sequence of numerics and the value was displayed in the top right corner of the display. Thus, once you knew where the menu was, you could reference it by its index more quickly than manually selecting each level from the tree. Maybe you could use this idea if the menus become very deep ?

The latest uWatch beta firmware kind of works like that, you can "hot key" to various commands in deep nested menus.

Dave.

Re: OT: Calling all front panel calculator designers...

*Message #19 Posted by **Jeff O.** on 20 Apr 2009, 12:52 p.m.,*
in response to message #1 by DaveJ

Here's a variation on the similar themes, but with a nifty graphical illustration ;-) :

This assumes that the MENU and MODE buttons would be on the sides. Also suggests that the menu functions would be accessed with the keys on the sides of the display. Looks like there will be plenty of room in the display for more than six function labels, so I propose that F2, F4, F7 and F9 would be accessed by pressing two keys at once, which may or may not be a good idea. I toyed with the idea of putting a bunch of menu labels under the second row, such that to get a menu you would press the menu key, then one of those keys instead of having to press the menu key as many times as it takes to get to the one you want.

Good luck, I can't wait to see the hardware!

Jeff

Re: OT: Calling all front panel calculator designers...

*Message #20 Posted by **hugh steers** on 20 Apr 2009, 1:06 p.m.,*
in response to message #19 by Jeff O.

No one's mentioned where the letters are going to go yet :-)

Text input will be useful on this device. any ideas?

Re: OT: Calling all front panel calculator designers...

*Message #21 Posted by **hugh steers** on 20 Apr 2009, 1:13 p.m.,*
in response to message #20 by hugh steers

so, what are the chances of a third button row and an alpha key to access letter code. that's 24 below plus the two lowest side buttons to make 26. maybe some punctuation on the other side buttons?

Re: OT: Calling all front panel calculator designers...

*Message #22 Posted by **DaveJ** on 20 Apr 2009, 6:54 p.m.,*
in response to message #21 by hugh steers

> Quote:
>
> so, what are the chances of a third button row and an alpha key to access letter code. that's 24 below plus the two lowest side buttons to make 26. maybe some punctuation on the other side buttons?

A third row is physically possible, but the key spacing would be almost unusable. People already complain about the 8mm x 5mm key spacing on the current uWatch. So I settled on an arbitrary 6mm spacing for this one as the keys will be raised in a dome that should make it easier to press without hitting others.

No point making a fantastically small keyboard with lots of keys if no one can actually use it.

There is room for 6 more buttons, two rows of 3 on either side of the screen, but I thought that would look "a bit much" and not as visually appealing as the current layout with the key centered half way between the bottom row keys.

I can't see a huge need for alpha keys, as inputting large amounts of text would be pretty horrible any way you do it. But an alpha button on the side would be possible. Even with the current number of key would could double up on letters, pressing the alpha key twice.

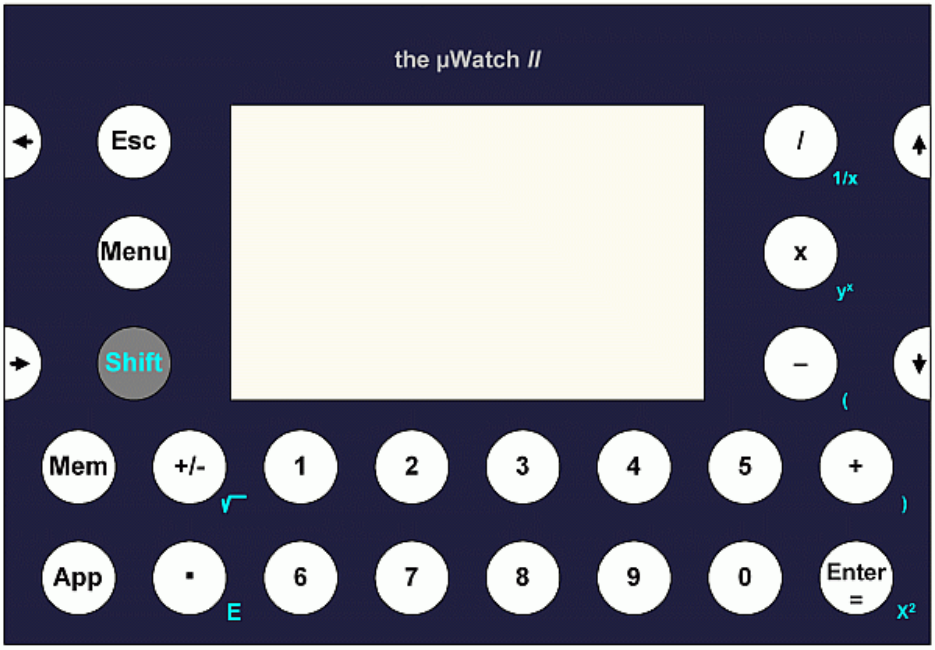
Perhaps we should just cram an extra 6 keys on there while maintaining the 6mm spacing, sacrificing visual appeal for functionality? Comments?

Dave.

Re: OT: Calling all front panel calculator designers...

*Message #23 Posted by **Marcus von Cube, Germany** on 20 Apr 2009, 1:10 p.m.,*
in response to message #19 by Jeff O.

Just my 0.02 €



I assume that a 2nd legend is possible. Menus can appear on the lower edge or on the right edge of the display. My idea is very much incomplete.

Re: OT: Calling all front panel calculator designers...

*Message #24 Posted by **DaveJ** on 20 Apr 2009, 6:32 p.m.,*
in response to message #19 by Jeff O.

Nice work Jeff, I like it, that's certainly getting close.

> Quote:
>
> This assumes that the MENU and MODE buttons would be on the sides.

Yes, I think this will work best in practice. It's how my beloved CFX-400 used to work.

> Quote:
>
> Also suggests that the menu functions would be accessed with the keys on the sides of the display. Looks like there will be plenty of room in the display for more than six function labels, so I propose that F2, F4, F7 and F9 would be accessed by pressing two keys at once, which may or may not be a good idea. I toyed with the idea of putting a bunch of menu labels under the second row, such that to get a menu you would press the menu key, then one of those keys instead of having to press the menu key as many times as it takes to get to the one you want.

I don't think the dual key system will work, as people already complain the keys are already cramped with a single finger. Simpler to have F1-F6 on the sides, and F7-F10 on the 4 keys below the display I think. Not that there is any real need to print the function numbers beside the keys, as the LCD soft button text will make it obvious these are soft keys.

Oh, and I'd swap the +-*/ divide keys to the more familiar

* /
+ -

> Quote:
>
> Good luck, I can't wait to see the hardware!

I should get the LCD's and case tomorrow, and I'll hopefully have a circuit soon once I figure out what processor it's going to have, and a few other key component choices. And then comes the PCB which will give us some real hardware to play with and stick in the box.

I have to talk to a membrane keypad place to see what's possible, that's a pretty crucial step. At present I don't know if they can do the key spacing, what they can offer for a display window (cutout or clear window), colours etc.

I already have a 3D model spinning on my screen , but doesn't help much :->

Dave.

Edited: 20 Apr 2009, 7:44 p.m.

Re: OT: Calling all front panel calculator designers...

*Message #25 Posted by **Jeff O.** on 21 Apr 2009, 7:43 a.m.,*
in response to message #24 by DaveJ

> Quote:
>
> I don't think the dual key system will work, as people already complain the keys are already cramped with a single finger.

OK, I think you are probably right.

> Quote:
>
> Simpler to have F1-F6 on the sides, and F7-F10 on the 4 keys below the display I think.

My only objection to this would be that in your latest design, F1 to F6 would be dedicated soft keys (which is great), while F7-F10 would still require other keys to do double-duty. Also, this would break the nice symmetry of having the soft-key label directly left or right of the function name in the display.

With the above said, your latest rendition looks great, much better than my simple rendition.

Jeff

...

Re: OT: Calling all front panel calculator designers...

*Message #26 Posted by **Paul Dale** on 20 Apr 2009, 6:26 p.m.,*
in response to message #1 by DaveJ

A question: why are people putting - and / at the edge not + and * ???

On my uWatch, accessing edge keys seems a lot easier than those in the middle. Maybe something to do with my fat and clumsy fingers, but I'm surprised nobody else has noticed this.

- Pauli

Re: OT: Calling all front panel calculator designers...

*Message #27 Posted by **DaveJ** on 20 Apr 2009, 9:07 p.m.,*
in response to message #1 by DaveJ

Here is a quick 3D mock-up with 6 extra buttons:

Yes, the case is the real actual case I'll be using (without cutouts).

The 6 extra buttons isn't too bad, and all still on 6mm spacing. The soft keys deliberately left blank for visual appeal, although you could argue that they should be used for something when not in MENU mode. MENU mode could be left on permanently if the keys are blank, but that would reduce the usable screen area.

As you can see, probably room for more keys on top if you wanted to cram them on, but it's probably already pushing the boundary of visual appeal.

The alpha key would be in the upper right corner to match the location on the overlay, so maybe no need for a label. MODE and NAV keys on the side somewhere.

Dave.

Edited: 20 Apr 2009, 9:11 p.m.

Re: OT: Calling all front panel calculator designers...

*Message #28 Posted by **Paul Dale** on 20 Apr 2009, 9:22 p.m.,*
in response to message #27 by DaveJ

The alphabetics running left to right, bottom to top????

- Pauli

Re: OT: Calling all front panel calculator designers...

*Message #29 Posted by **DaveJ** on 20 Apr 2009, 9:42 p.m.,*
in response to message #28 by Paul Dale

> Quote:
>
> The alphabetics running left to right, bottom to top????

Sorry, I'm a PCB designer, and origin is always bottom left, so that's how my mind thinks!
Is there an industry defacto alternative?

Dave.

Re: OT: Calling all front panel calculator designers...

*Message #30 Posted by **Paul Dale** on 20 Apr 2009, 10:50 p.m.,*
in response to message #29 by DaveJ

Left to right, top to bottom is pretty common.

- Pauli

Re: OT: Calling all front panel calculator designers...

*Message #31 Posted by **DaveJ** on 21 Apr 2009, 3:45 a.m.,*
in response to message #30 by Paul Dale

> Quote:
>
> Left to right, top to bottom is pretty common.

Somehow that just doesn't "feel right" with the keys split at the top. Comments?

Dave.

Re: OT: Calling all front panel calculator designers...

*Message #32 Posted by **hugh steers** on 21 Apr 2009, 4:10 a.m.,*
in response to message #31 by DaveJ

Like it is (ie bottom to top), the alphabet conveniently stops before the "C" key. clearly the C (or delete) key must be available whilst entering text. Going to to bottom, this key would have to be skipped.

Additionally, im wondering if the top left key (opposite C) should be labelled "shift" or "2nd" or "F" (?) or something, as a general 2nd function key. right now on the uW1, 2nd page operation is part of the menu system which means it has to occupy one of the soft menu keys on every page. Having a dedicated key would allieviate this. Do we really need X<>Y on a

dedicated key (eg could it be a shifted op?). It would be nice to have the 6 soft keys free of baggage.

Further to this idea. i suggest the alphabet labelling skip this shift key, so that the labelling is like it is, but the top right soft menu keys gets to be "Z" (just before C). This creates a nice symmetry and allows a shift/2nd/whatever key to be available whilst entering text (lowercase/punctuation etc. etc). would be a route to more characters and other stuff.

Also, the shift/2nd key could be generically useful all over.

?

Re: OT: Calling all front panel calculator designers...

*Message #33 Posted by **Jeff O.** on 21 Apr 2009, 7:33 a.m.,*
in response to message #32 by hugh steers

> Quote:
>
> Do we really need X<>Y on a dedicated key?

In my opinion, yes!

> Quote:
>
> It would be nice to have the 6 soft keys free of baggage.

Doesn't Dave's latest incarnation do so, i.e, aren't the six-soft keys dedicated soft-keys?

...

Re: OT: Calling all front panel calculator designers...

*Message #34 Posted by **Marcus von Cube, Germany** on 21 Apr 2009, 8:03 a.m.,*
in response to message #33 by Jeff O.

In RPN mode, the arrow keys can duplicate as roll up/down, x<>y and del. This is why my design (see above) does not offer these. I tried to avoid a too "calculatric" legend and therefore have put the few calc keys like sqrt, E or the parentheses on 2nd functions and have put more generic keys like ESC (duplicates as clear) in prominent places. Without a true 3x4 numeric keypad, arranging the digits bottom to top is not neccessary. Having 1-4 right below the display make it easy to use them for function keys. Mem is meant as a generic way to store/retrieve information und should act as a means of storing/recalling numbers in calc mode (Mem+1:RCL 1, Shift+Mem+1:STO 1)

Re: OT: Calling all front panel calculator designers...

*Message #35 Posted by **Maximilian Hohmann** on 21 Apr 2009, 7:47 a.m.,*
in response to message #32 by hugh steers

Hello!

> Quote:
>
> Do we really need X<>Y on a dedicated key (eg could it be a shifted op?). It would be nice to have the 6 soft keys free of baggage.

In over 35 years of calculator usage, I have not pressed an X<>Y key once (really!). I do not even know what it's there for... Also, I cannot imagine why alpha keys could be useful on a calcualtor watch?

Greetings, Max

Re: OT: Calling all front panel calculator designers...

*Message #36 Posted by **DaveJ** on 21 Apr 2009, 8:06 a.m.,*
in response to message #35 by Maximilian Hohmann

> Quote:
>
> In over 35 years of calculator usage, I have not pressed an X<>Y key once (really!). I do not even know what it's there for... Also, I cannot imagine why alpha keys could be useful on a calcualtor watch?

Unbelievable!

I use X-Y on my algebraic calc almost every day, let alone an RPN calc. I'd prefer an X-Y dedicated key in ALG mode as well as RPN, but it can probably live with the right bracket as I've shown.

Dave.

Re: OT: Calling all front panel calculator designers...

*Message #37 Posted by **Maximilian Hohmann** on 21 Apr 2009, 8:25 a.m.,*
in response to message #36 by DaveJ

Hello!

> Quote:
>
> Unbelievable!

I grew up with products made in Texas ... there is (at least: was) no X<>Y key on them. Later, when I could afford HPs, it was to late to get used to such fancies.

And regarding the colour: What's wrong with black and white only?

Greetings, Max

Re: OT: Calling all front panel calculator designers...

*Message #38 Posted by **Marcus von Cube, Germany** on 21 Apr 2009, 10:17 a.m.,*
in response to message #37 by Maximilian Hohmann

Max, you must have started late. My first TI had an x<>y key:

SR-51A

Re: OT: Calling all front panel calculator designers...

*Message #39 Posted by **Maximilian Hohmann** on 21 Apr 2009, 11:35 a.m.,*
in response to message #38 by Marcus von Cube, Germany

Hello!

> Quote:
>
> Max, you must have started late. My first TI had an x<>y key...

My first calculator was not a Ti, but a Privileg 883 actually (there is a picture on "typenkorb"s website, but the link contains blank spaces) with no X<>Y key. After that, I got a Ti-59 that broght me through my last two years of school and all the way through university. No X<>Y key eiter!

Greetings, Max

Re: OT: Calling all front panel calculator designers...

*Message #40 Posted by **Maximilian Hohmann** on 21 Apr 2009, 11:37 a.m.,*
in response to message #39 by Maximilian Hohmann

> Quote:
>
> Hello!
>
> My first calculator was not a Ti, but a Privileg 883 actually (there is a picture on "typenkorb"s website, but the link contains blank spaces) with no X<>Y key. After that, I got a Ti-59 that broght me through my last two years of school and all the way through university (thats why I always say I owe a lot to Ti!). No X<>Y key eiter...
>
> Greetings, Max

Re: OT: Calling all front panel calculator designers...

*Message #41 Posted by **Marcus von Cube, Germany** on 21 Apr 2009, 12:58 p.m.,*

in response to message #39 by Maximilian Hohmann

> Quote:
>
> there is a picture on "typenkorb"s website, but the link contains blank spaces

Replace the spaces by "%20". This is standard URL syntax.

Edited: 21 Apr 2009, 12:58 p.m.

Re: OT: Calling all front panel calculator designers...

*Message #42 Posted by **DaveJ** on 21 Apr 2009, 5:04 p.m.,*
in response to message #37 by Maximilian Hohmann

> Quote:
>
> And regarding the colour: What's wrong with black and white only?

I think it looks ok on the screen, I'm just wondering what it will look like on the wrist as a membrane overlay.

The idea is (I think) to make the watch as subtle as possible, to make it more wearer friendly so you get less of those "what is THAT on your wrist?" comments Perhaps the white might stand out a bit too much (too much contrast)?

Dave.

Re: OT: Calling all front panel calculator designers...

*Message #43 Posted by **DaveJ** on 21 Apr 2009, 8:02 a.m.,*
in response to message #32 by hugh steers

Labeling rearranged from the top left, 2nd shift key added, and alpha chars centered.

I'm really starting to like this layout.
Basic calc keys on bottom two rows, next two most used keys (EXP and +/-) next row up, then some RPN/ALG neutral keys, then two menu opp type keys. Evened out by the 6 unlabeled soft buttons. Very symmetrical :-)

Not sure about what is best for a soft key graphic.

All of this is actual size too, from my PCB/3D model. I have no idea about colour - and my wife agrees!
The case will be black.

Dave.

Edited: 21 Apr 2009, 8:08 a.m.

Re: OT: Calling all front panel calculator designers...

*Message #44 Posted by **hugh steers** on 21 Apr 2009, 9:15 a.m.,*
in response to message #43 by DaveJ

Yep! i like that layout too. or it's very very close to it!

Re: OT: Calling all front panel calculator designers...

*Message #45 Posted by **Jeff O.** on 21 Apr 2009, 1:04 p.m.,*
in response to message #43 by DaveJ

> Quote:
>
> Not sure about what is best for a soft key graphic.

How about the ever popular arrow?

(the above incorporates a few other subtle changes - just trying to secretly influence to my preferences if possible.)

..

Re: OT: Calling all front panel calculator designers...

*Message #46 Posted by **Paul Dale** on 21 Apr 2009, 5:25 p.m.,*
in response to message #45 by Jeff O.

Why not leave them blank?

It should be obvious what they are for when a menu is displayed. Plus the whole will look less cluttered.

I like the other subtle changes.

- Pauli

Re: OT: Calling all front panel calculator designers...

*Message #47 Posted by **DaveJ** on 21 Apr 2009, 6:00 p.m.,*
in response to message #1 by DaveJ

Ok, now I've been thinking...

I'm trying to keep the cost down on this thing, and side switches are expensive. Given that I'm already paying for the front panel, extra buttons there are free. So how about use the space above the screen for some extra buttons?

5 extra - Left/Right arrows, HOME and MENU keys, and the u2 symbol would actually be the backlight key (I really like that).

HOME would get you back to the main application kernel screen (exit the program you are in).

The only thing lacking is up/down keys.

Dave.

Edited: 21 Apr 2009, 6:07 p.m.

Re: OT: Calling all front panel calculator designers...

*Message #48 Posted by **Egan Ford** on 21 Apr 2009, 7:21 p.m.,*
in response to message #47 by DaveJ

Where's the aforementioned trackball? Any chance for a jog dial on the right side? Could be used to scroll through code, menus, data. Final dimensions? X,Y,Z?

Re: OT: Calling all front panel calculator designers...

*Message #49 Posted by **DaveJ** on 21 Apr 2009, 8:05 p.m.,*
in response to message #48 by Egan Ford

> Quote:
>
> Where's the aforementioned trackball? Any chance for a jog dial on the right side? Could be used to scroll through code, menus, data. Final dimensions? X,Y,Z?

Final dimensions are as quoted before - 50mm x 35mm x (approx)13mm
Trackball may not be workable in practice, but I have not done much investigation in this area.
Jog dial is still a possibility, will see if it can fit.

Dave.

Edited: 21 Apr 2009, 9:30 p.m.

Re: OT: Calling all front panel calculator designers...

*Message #50 Posted by **Egan Ford** on 22 Apr 2009, 12:08 a.m.,*
in response to message #49 by DaveJ

Any chance for solar across the top?

Re: OT: Calling all front panel calculator designers...

*Message #51 Posted by **DaveJ** on 22 Apr 2009, 3:08 a.m.,*
in response to message #50 by Egan Ford

> Quote:
>
> Any chance for solar across the top?

As we say here in Australia - two chances, buckleys and none! Sorry.

Dave.

Re: OT: Calling all front panel calculator designers...

*Message #52 Posted by **Nack** on 21 Apr 2009, 11:27 p.m.,*
in response to message #47 by DaveJ

Hi,

how about assigning the numbers like below

1 3 5 7 9
0 2 4 6 8

looks quirky but easier to find...

PS - this is my first post...

Re: OT: Calling all front panel calculator designers...

*Message #53 Posted by **Egan Ford** on 22 Apr 2009, 12:09 a.m.,*
in response to message #52 by Nack

I like it, it does make sense to me.

Re: uW 2 layout suggestions (uW is on topic, indeed!)

*Message #54 Posted by **Andrés C. Rodríguez (Argentina)** on 24 Apr 2009, 7:36 a.m.,*
in response to message #52 by Nack

Just my opinion, I think this kind of number-keys arrangement is good, but something keeps making noise on me. I know this is very personal and subjective, but...

If we count from 1 on ("natural" numbers), my suggestion would have been:

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

If we count from 0 on, it could have been

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

In other words, reading (or scanning) direction should be "down, then up & right" (as in the abovementioned examples); or "right, then down" (as in "0 1 2 3 4; 5 6 7 8 9" or "1 2 3 4 5; 6 7 8 9 0").

I know, it's the old "calculator vs. telephone" keypad discussion; "higher up" vs. "lower up", so to speak; but since we are not keeping the 3 x 3 matrix that calculators use, I think it's better to put the numbers in "reading order" as suggested above...

Edited: 24 Apr 2009, 7:41 a.m.

Re: uW 2 layout suggestions (uW is on topic, indeed!)

*Message #55 Posted by **Nack** on 25 Apr 2009, 8:42 a.m.,*
in response to message #54 by Andrés C. Rodríguez (Argentina)

That's it. I like your first suggestion

1 3 5 7 9
2 4 6 8 0

I felt quirky in my suggestion because of the location of zero. The zero key is now closer to the Enter key. Easier to type like 100, 1000, etc. This looks much natural now.

Edited: 25 Apr 2009, 8:47 a.m.

Re: OT: Calling all front panel calculator designers...

*Message #56 Posted by **Jeff O.** on 22 Apr 2009, 7:17 a.m.,*
in response to message #47 by DaveJ

Looks great to me!

Re: Favorites

*Message #57 Posted by **Fred Bayer** on 23 Apr 2009, 8:59 p.m.,*
in response to message #47 by DaveJ

Looks great! One little change would make it even better: What about swaping decimal point and Enter key, so that the Enter key has a more prominent position (like on a computer numeric keypad)?

Re: Favorites

*Message #58 Posted by **DaveJ** on 23 Apr 2009, 10:49 p.m.,*
in response to message #57 by Fred Bayer

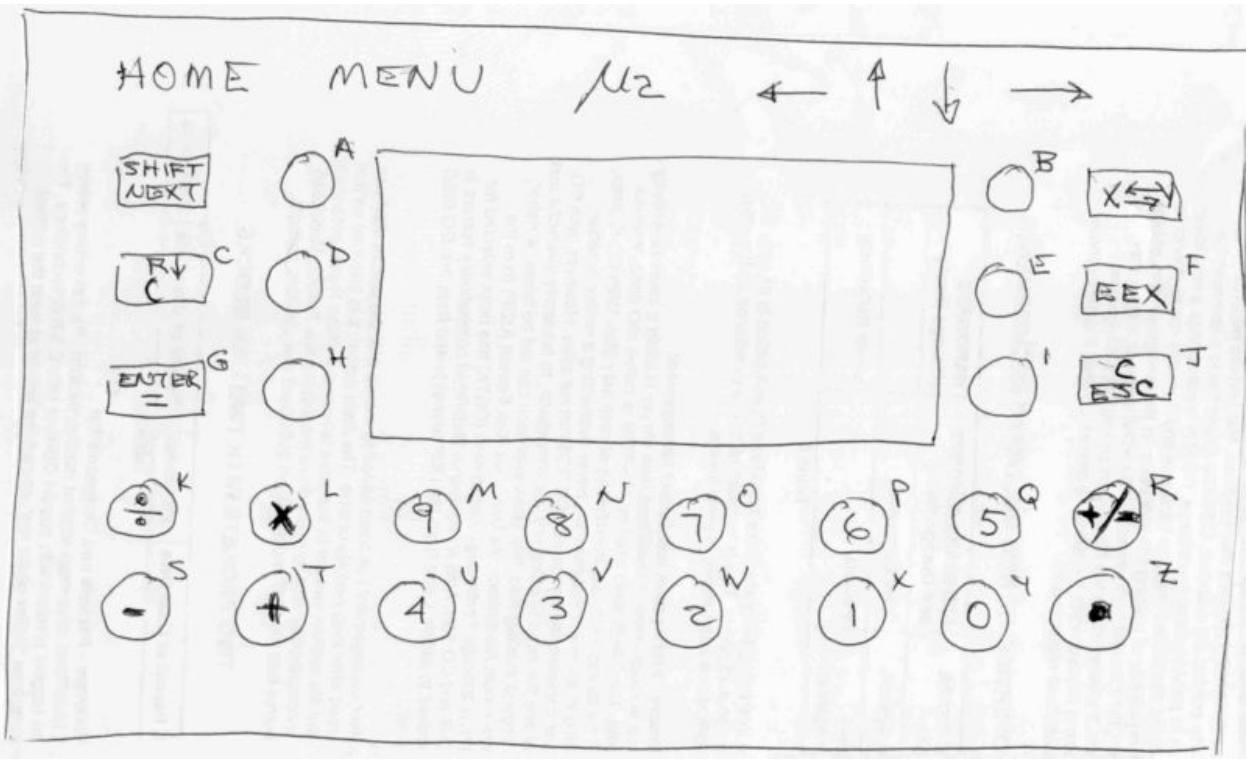
> Quote:
>
> Looks great! One little change would make it even better: What about swaping decimal point and Enter key, so that the Enter key has a more prominent position (like on a computer numeric keypad)?

Yep, I agree, will do.

Dave.

One more version

*Message #59 Posted by **Dennis Trafananko** on 26 Apr 2009, 4:34 p.m.,*
in response to message #58 by DaveJ



Here is another suggested layout with a rough scanned drawing.

The general layout was chosen to minmize finger movement across the face of the watch, to keep the fingers away from the screen when scrolling the display, to logically keep keys together, and to have a layout familiar to the classic HP placement:

-group the numbers from top left to bottom right in decreasing numerical magnitude. There have been many suggestions for the number placement lately, because; all of them look strange.

-keep the zero, one, change sign, decimal key, and C clear backspace keys together

-group the aritmetic operators in a heirarchical order as we see them on our calculators

-I chose the rectangular keys, for the keys that perform operations, to differential them from the round numeric keys representing the numbers. I like the position of the square Enter key (historically similar), and I also like the the position of the C/ESC key close to the numbers zero, one, and decimal, where it can be used for backspace editing.

-if there will be arrow navigation keys, keep them all together, to minimize finger movement, and in the top right hand corner of the case to leave the screen free when a right hand user is scrolling the display

-the top of the calculator may not have things spaced out symetrically, but designers gave us the HP33S design (I own one and like its quality but not the layout).

Just my opinion, thanks for your consideration. Dennis Trafananko

Re: One more version

*Message #60 Posted by **reth** on 27 Apr 2009, 4:17 a.m.,*
in response to message #59 by Dennis Trafananko

I love this one, makes perfect sense!
Cheers

Re: One more version

*Message #61 Posted by **ncrook(UK)** on 27 Apr 2009, 5:28 p.m.,*
in response to message #59 by Dennis Trafananko

- I wonder whether it would be better to swap the ENTER and ESC keys: if you wear this on your left wrist, you will use your right hand to operate the buttons. You might tend to obscure the display when operating the buttons on the left?

- I liked Dennis's suggestion of using different-shaped key indents as a visual cue to different functionality, especially for a keyboard with a small number of colours. For the soft-keys, how about a stretched "D" shape and its mirror image; the straight edge adjacent to the display to 'cue' it to the menu there. Just don't get sued by Dolby labs.

- Nobody has yet mentioned hex entry mode. Nice support for hex would suggest a desire to keep A-F close to the number keys (or maybe they'd be soft-keys?)

- As a 'joggle' navigator was mentioned at one point in the past, I feel obliged to draw attention to http://midp-calc.sourceforge.net/Calc.html - a java mobile phone calculator that uses the phone joystick to implement menu-based selection for all the calculator functions. Of all the phone calculators I've tried, this is the first that has I might actually use in anger on the small screen of a mobile phone. Oh, and RPN. And scientific. Did I mention the complex number support (soo useful in the grocery store). Worth a look.

Neal.

Edited: 27 Apr 2009, 5:30 p.m.

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New 12C question

*Message #1 Posted by **Charles Oxford** on 19 Apr 2009, 5:43 p.m.*

I went to my local Fry's to get speakers so I could hear the IEEE video. I checked the calc dept and they didn't have the 20B but they had 3 12C's, 2 of which had a double length battery door visible from the top of package. Price is 69.99 USD plus 8.33% tax. No difference in the packaging of the 2 styles of 12c. Does the battery door width mean it will have the port on the back?

Re: New 12C question

*Message #2 Posted by **Eric Smith** on 20 Apr 2009, 3:36 a.m.,*
in response to message #1 by Charles Oxford

If it has the double-width battery door, then it uses the Atmel AT91SAM7L128 ARM processor and has a serial port in the battery compartment.

Re: New 12C question

*Message #3 Posted by **Don Shepherd** on 20 Apr 2009, 1:34 p.m.,*
in response to message #1 by Charles Oxford

I looked at Fry's online and they did not mention the 12c, only the Platinum. I checked Office Depot and Best Buy here in Louisville KY and they don't have the new 12c yet. Would someone be willing to buy a new 12c in an area where it is available, and send it to an interested (and pre-paying, of course) party?

Re: New 12C question

*Message #4 Posted by **Charles Oxford** on 20 Apr 2009, 9:24 p.m.,*
in response to message #3 by Don Shepherd

I can do that.

Charlie in Phoenix

Re: New 12C question

*Message #5 Posted by **Sancerre (Phoenix)** on 21 Apr 2009, 3:59 p.m.,*
in response to message #1 by Charles Oxford

Charles,

Which Fry's in Phoenix was that at?

--Tod

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Zenith, the Trans-Oceanic, and some "food for thought"

*Message #1 Posted by **Karl Schneider** on 19 Apr 2009, 4:45 p.m.*

Versatile multi-band radios as well as calculators also held my interest during adolescence. After seeing Geoff Quickfall's recent post with links and photos of the vintage Zenith Trans-Oceanic radio, I was enticed to purchase a similar one. My 1981 Sanyo AM/FM/SW/cassette "boom box" hasn't worked well at all the past few years.

I just received a T/O Royal D7000 from 1969 similar to Geoff's; everything functions well, sounds very good, and has only minor cosmetic flaws.

So, why a vintage radio instead of a modern one with digital tuning, informative display and other convenient features? For the same reasons I find H-P's calculators of the 1980's appealing -- indisputable quality, rock-solid construction, no-nonsense design, American engineering (and also assembly in this instance). The Trans-Oceanic (T/O) series -- and particularly this version -- is legendary.

I also respect what Zenith once was, up through the 1980's: a 20th century American company making high-quality radios and CRT televisions. I'm still using a 1988 19" CRT Zenith whose NTSC picture is still as good as new, when I bought it for $329. Our family had owned a 1962 Zenith B/W TV (with tuning-fork remote!), later replaced by a Zenith color TV in 1975.

Zenith was driven from the radio business in 1982 largely by a Sony multiband radio -- smaller, cheaper, and with digital-display tuning -- that outcompeted the last T/O from 1979. (It should be mentioned that the latter did incorporate significant circuit-design advancements from my 1969-1978 model of the T/O).

Zenith's last significant technological upgrade in conventional TV was the "System 3" chassis in 1978 that was utilized for more than a decade. (Zenith also invested developmental work in HDTV in the early 1990's.) Most production was shifted to Mexico in 1985, but the TV sets were still very good.

Zenith Data Systems also made PC's for the US government in the 1980's, under a program that cost Zenith much money and led to the sale of that division to Groupe Bull of France in 1990.

Today's Zenith-branded HDTV's and converters are made and serviced by LG of South Korea, which acquired Zenith in 1995.

This year, the US government mandated a switch to digital over-the-air TV broadcasting. As far as I know, however, no mass-market US manufacturer engineers and builds HDTV receivers. For a few years, the same has applied to CRT televisions. Now, *how* much money do Amercians spend every year on television sets? Even if the US can't make world-class consumer products at a competitive free-market price, it's not a good situation when we can't make them *at all*.

Does this saga of lost pre-eminence, offshored manufacturing, and withered commitment to product development sound familiar? There are many examples of it today...

-- KS

Edited: 25 Apr 2009, 11:24 p.m.

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HP-41C on Cover of CQ Magazine

*Message #1 Posted by **Jeff Davis** on 19 Apr 2009, 11:25 a.m.*

I just found a pic from the May issue of CQ Magazine. Is that an HP-41C?

http://www.cq-amateur-radio.com/CQ%20MAY09%20Cover.jpg

Edited: 19 Apr 2009, 11:30 a.m.

Re: HP-41C on Cover of CQ Magazine

*Message #2 Posted by **Dan Grelinger** on 19 Apr 2009, 11:59 a.m.,*
in response to message #1 by Jeff Davis

I looked at it. I don't think it is an HP-41C. I think it is TWO HP-41s. Probably CX's; if I know amatuer radio types. Into things temporal.

Re: HP-41C on Cover of CQ Magazine

*Message #3 Posted by **BruceH** on 19 Apr 2009, 12:00 p.m.,*
in response to message #1 by Jeff Davis

> Quote:
>
> Is that an HP-41C?

No, it's a bloke sitting in a chair. Any chance of you being slightly more explicit as to where we should be looking?

Re: HP-41C on Cover of CQ Magazine

*Message #4 Posted by **Jeff Davis** on 19 Apr 2009, 12:42 p.m.,*
in response to message #3 by BruceH

Sorry for not telling you the exact location. Most HP-41 users would spot it quite fast. Look on the shelf in front of the operator.

Re: HP-41C on Cover of CQ Magazine

*Message #5 Posted by **BruceH** on 20 Apr 2009, 6:04 p.m.,*
in response to message #4 by Jeff Davis

I saw that but thought it looked too wide for the length to be a 41 so ignored it. (It could just be a perspective thing though.) Also doesn't seem to be any hint of lettering on the front edge but that wouldn't necessarily show up.

I have tried to resolve the image and here it is...

*Message #6 Posted by **Geoff Quickfall** on 19 Apr 2009, 2:02 p.m.,*
in response to message #1 by Jeff Davis

it appears to be an HP 41 ? sitting on, maybe, an infared printer?

Cheers, Geoff

Re: I have tried to resolve the image and here it is...
*Message #7 Posted by **Maximilian Hohmann** on 19 Apr 2009, 4:04 p.m.,*
in response to message #6 by Geoff Quickfall

Hello!

> Quote:
>
> sitting on, maybe, an infared printer?

I think its another 41. And both are set on some kind of calculator stand. What a pity that in real life you cannot zoom into digital images like they do in TV series like CSI ...

Greetings, Max

Re: I have tried to resolve the image and here it is...
*Message #8 Posted by **Eric Smith** on 20 Apr 2009, 3:41 a.m.,*
in response to message #7 by Maximilian Hohmann

> Quote:
>
> What a pity that in real life you cannot zoom into digital images like they do in TV series like CSI ...

Which they lifted from the film Bladerunner.

Recently the (prop) manual for the Voight-Kampff machine in the film was auctioned off, but AFAIK there isn't a manual for the photo zooming machine.

Re: I have tried to resolve the image and here it is...
*Message #9 Posted by **Katie Wasserman** on 20 Apr 2009, 12:44 p.m.,*
in response to message #7 by Maximilian Hohmann

Dear Sherlock,

True that zooming in doesn't help, but you could resort to the postal system and email KL7HFI ~at~ att.net to inquire about it. Making the cover of CQ makes you a celebrity of sorts and I'm sure that Mr. Prindle would appreciate your interest in his collectibles.

Your humble servant, Watson

Edited: 20 Apr 2009, 12:46 p.m.

Re: I have tried to resolve the image and here it is...
*Message #10 Posted by **Jeff Davis** on 20 Apr 2009, 5:56 p.m.,*

in response to message #9 by Katie Wasserman

Katie,

I sent him a message last night. I will post when he responds.

Not just a blow up....

*Message #11 Posted by **Geoff Quickfall** on 20 Apr 2009, 8:26 p.m.,*
in response to message #10 by Jeff Davis

I used photoshop and then tried to sharpen image and sharpen edge. Then expanded the magnification and filled in the missing resolution by hand.

I now know what it is:

Its extremely rare but I am sure it is an HP 84 CX! Or just two 41C's stacked!

;-)

Edited: 20 Apr 2009, 8:26 p.m.

Re: Not just a blow up....

*Message #12 Posted by **Randy** on 20 Apr 2009, 9:11 p.m.,*
in response to message #11 by Geoff Quickfall

My money is on a 41C sitting atop a CV or CX.

Awaiting Sherlock's report with baited breath...

Or send a post card

*Message #13 Posted by **Allen** on 20 Apr 2009, 9:39 p.m.,*
in response to message #12 by Randy

We could just Send him a post card and ask... you know, like the good old days when snail mail WAS the fastest way! GRIN

Re: I have tried to resolve the image and here it is...

*Message #14 Posted by **Jeff Davis** on 25 Apr 2009, 1:17 p.m.,*
in response to message #10 by Jeff Davis

I did get a response: " Thanks for your note, yes, I own three of them. I purchased one new right after they hit the market and obtained the other two a few years ago being thrown away by the local government. When I got my first one I used it so much I wore out the period button and had to send it back to be fixed. Two of them have battery packs and one has the rechargeable pack. They all work, but I don't have the charger for the rechargeable pack. One has the plug for the printer but I don't have one. I also have two memory cards plus a navigation package. I use two of them often, I prefer it to the regular types. I have used the nav pack quite often until GPS came on the scene. The third one is a spare, being I don't have the charger for it." These are all CX units.

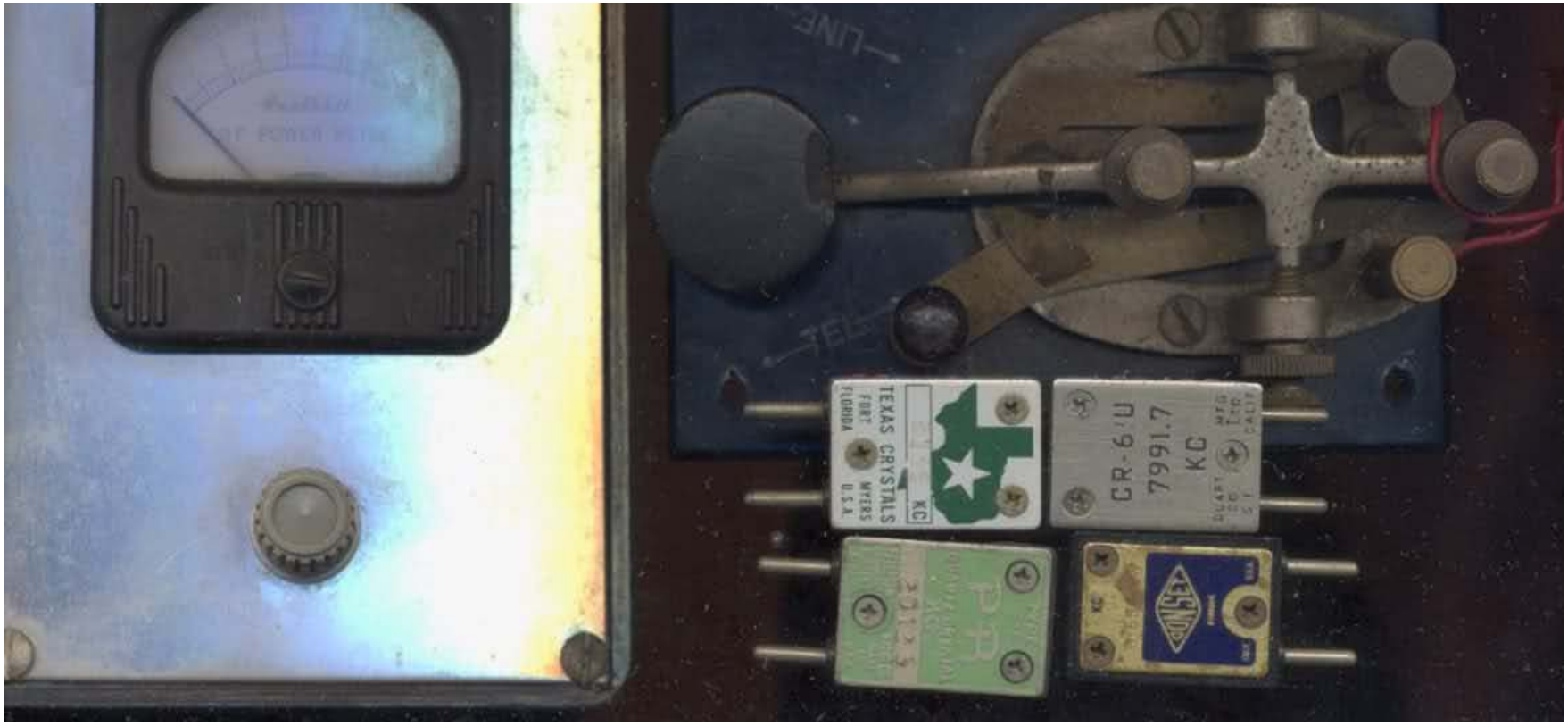
Edited: 25 Apr 2009, 5:54 p.m.

Re: I have tried to resolve the image and here it is...

*Message #15 Posted by **bill platt** on 20 Apr 2009, 10:27 p.m.,*
in response to message #9 by Katie Wasserman

LOL for real!

RADIOTRON
RCA
ELECTRON TUBE
RADIO CORPORATION OF AMERICA
Harrison, N. J.
Made in U.S.A.
Trade Mark(s) Registered
Marca(s) Registrada(s)
Radio Shack
146.520
VHF FM TRANSCEIVER
HTX-202
ENTER
CLX
FIX
SIN
COS
TAN
STO
RCL
CHS
EEX



Re: I have tried to resolve the image and here it is...
*Message #16 Posted by **Dave Shaffer (Arizona)** on 20 Apr 2009, 10:52 p.m.,*
in response to message #15 by bill platt

Now, that's a grungy J38, and I hope you weren't using the 7991.7 crystal on the ham bands!!

73, Dave W8MIF

Re: I have tried to resolve the image and here it is...
*Message #17 Posted by **bill platt** on 20 Apr 2009, 11:55 p.m.,*
in response to message #16 by Dave Shaffer (Arizona)

7991.7 :-0

Actually trimmed to run 145.95 in my Gonset Communicator.

That J-38 *is* grungy! It is my father's from the 1940s.

Now, here is dreaming of the futre. Someday,. maybe someday...http://www.contesting.com/articles/294

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Nothing important (my first little hw mod)

*Message #1 Posted by **Geir Isene** on 19 Apr 2009, 8:59 a.m.*

Never done any hardware mods before - I'm a software guy. But after visiting Diego around NewYear, I got some inspiration :-)

I now have a "light module" - when I plug it into my 41, a LED on two stiff wires lights up the LCD screen. Nothing big, but useful.

Re: Nothing important (my first little hw mod)

*Message #2 Posted by **Jake Schwartz** on 19 Apr 2009, 11:12 a.m.,*
in response to message #1 by Geir Isene

Ahhh...must be like AME's Port-X-Light module they built and sold in 1982 in addition to their more popular Port-X-Tender. They had a very busy vendor table at the Philadelphia HP Handhelds Conference in the Spring of that year.

Here is a shot of the original Port-a-lite

*Message #3 Posted by **Geoff Quickfall** on 19 Apr 2009, 2:09 p.m.,*
in response to message #1 by Geir Isene

Richard Nelson showed me one still in it's box. Slick idea but what is the power drain. Also, not a hard item to assemble as I was thinking of doing it.

You could make it from existing supplies at Circuit city. Must look into it. Geir, how about a picture?

Here is a shot by Richard Nelson of light module system:

Edited: 19 Apr 2009, 2:11 p.m.

Re: Here is a shot of the original Port-a-lite

*Message #4 Posted by **Geir Isene** on 19 Apr 2009, 2:50 p.m.,*
in response to message #3 by Geoff Quickfall

Mine has a socket at the light's end so that I can easily swap the LED - to choose between white, red or green light (being an amateur astronomer, these things are important).

Picture = later.

Re: Here is a shot of the original Port-a-lite

*Message #5 Posted by **Eric Smith** on 20 Apr 2009, 3:43 a.m.,*
in response to message #4 by Geir Isene

Swap the LED? Why didn't you use an RGB LED so that the HP-41 could control the color?

[Of course, I know the reason. While doing what I suggest would be possible, it would be *much* more work than what you've done. Consider it a tongue-in-cheek suggestion.]

Re: Here is a shot of the original Port-a-lite

*Message #6 Posted by **Geir Isene** on 20 Apr 2009, 12:41 p.m.,*
in response to message #5 by Eric Smith

Yeah, I thought about that myself - and also a simpler little thing (maybe?) to have the light only go on when I turn the calc on. Now it's always on when the module is plugged in.

But as you might suspect, I'm nowhere near even envisioning how any of that could be done (yet).

Re: Here is a shot of the original Port-a-lite

*Message #7 Posted by **Meindert Kuipers** on 20 Apr 2009, 2:22 p.m.,*
in response to message #6 by Geir Isene

That is simple, just use the PWO signal to control power to the LED. PWO is high when the calc is running. You could also make a wired OR (with two diodes) to have the LED on when running and when in STANDBY. To control power make a simple FET switch or transistor, or drive a LED directly if it does not draw too much power. Drive a multicoloured LED would really require more complicated stuff. My MLDL2000 can drive LED's by choice with access to reserved memory locations. Cheapest solution would be a Novram like device with some spare I/O. It would be fun for amateur astronomers to read the current time and date to check if the sun has set already and then drive the red LED ...

Meindert

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What was the Earliest Touchscreen Handheld?

*Message #1 Posted by **Jake Schwartz** on 18 Apr 2009, 4:45 p.m.*

Hi,

I was wondering if anyone knows the intro date and the identity of the earliest consumer handheld device with a touch screen. I somehow don't think it was the Apple Newton (introduced Aug 1993) . According to Wlodek Mier-Jedrzejowics' book "A Guide to HP Handheld Calculators and Computers", the HP Omnigo 100 was introduced in October of 1995. And of course, the 95/100/200LX series (starting in '91) did not have touch screens. Perhaps it was a programmable remote control? I am curious and any help is appreciated.

Thanks,

Jake Schwartz

Re: What was the Earliest Touchscreen Handheld?

*Message #2 Posted by **Dave Britten** on 18 Apr 2009, 5:45 p.m.,*
in response to message #1 by Jake Schwartz

This old FAQ seems to suggest that a couple old models of Sharp Wizards were released in Oct. 1993:

http://scout.wisc.edu/Projects/PastProjects/NH/95-03/95-03-27/0001.html

As I vaguely recall, the OZ-9500 was their earliest touch-screen model, with 256 KB RAM. I had one for a couple years when I was in 6th or 7th grade. I actually did school work on the thing, and printed directly to an old HP Deskjet with the infrared printer interface Sharp sold.

The Wizard and the first Zaurus units (the ones before Sharp recycled the name for their Linux-based PDAs) didn't have any sort of hand-writing recognition, which makes sense, as they had a full keyboard anyway, and didn't have the ability to fold the screen all the way back, like the HP OmniGo.

Re: What was the Earliest Touchscreen Handheld?

*Message #3 Posted by **Xerxes** on 18 Apr 2009, 5:58 p.m.,*
in response to message #1 by Jake Schwartz

Maybe the CASIO PF-8000 (1980) with a touchpad or the CASIO IF-8000 (1986) with a touchscreen.

Re: What was the Earliest Touchscreen Handheld?

*Message #4 Posted by **Jake Schwartz** on 18 Apr 2009, 7:05 p.m.,*
in response to message #3 by Xerxes

Well, it looks like the PF-8000 only had a touchPAD which was not a display. The IF-8000 probably meets the requirements except I wonder if they actually put touchable controls on the LCD in addition to allowing one to write on it.

Re: What was the Earliest Touchscreen Handheld?

*Message #5 Posted by **Xerxes** on 19 Apr 2009, 6:22 a.m.,*
in response to message #4 by Jake Schwartz

I'm not sure, but I don't think so. Some other remarkable early touchscreen devices:

- CASIO PB-1000 Pocket Computer (1986)
- CASIO VDB-1000 Wrist Watch (1991)
- CASIO TC-50 Wrist Watch (1983)
- EPSON RC-20 (1984)

Re: What was the Earliest Touchscreen Handheld?

*Message #6 Posted by **Jake Schwartz** on 19 Apr 2009, 11:21 a.m.,*
in response to message #5 by Xerxes

I think that the Casio TC-50 watch definitely fits the requirements.since it provided soft keys for a touchscreen calculator where the top portion of the LCD served as the single-line numeric display. If it actually dates back to 1983 (or earlier), we might have a "winner" (until someone locates something from an even earlier time.

Thanks,

Jake

Re: What was the Earliest Touchscreen Handheld?

*Message #7 Posted by **BruceH** on 19 Apr 2009, 12:28 p.m.,*
in response to message #1 by Jake Schwartz

Not quite the same question but the earliest touchscreen **calculator** might well be the TI Business Edge which was introduced in 1987.

Re: What was the Earliest Touchscreen Handheld?

*Message #8 Posted by **Marcus von Cube, Germany** on 19 Apr 2009, 2:54 p.m.,*
in response to message #1 by Jake Schwartz

Certainly not the first, but worth a mention:

http://en.wikipedia.org/wiki/Palm_(PDA)

Re: What was the Earliest Touchscreen Handheld?

*Message #9 Posted by **Bill (Smithville, NJ)** on 20 Apr 2009, 6:14 a.m.,*
in response to message #1 by Jake Schwartz

Hi Jake,

In 1989, Poqet introduced the PoqetPad, which was a handheld MSDOS touch screen computer. I think it was mainly designed for vertical markets with custom software overlaying the dos. A few years ago, I has one that also included a bar code wand. Unfortunately, I never had any software for the wand. A very interesting msdos machine.

Bill

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Old Fan Software

*Message #1 Posted by **Ed Look** on 18 Apr 2009, 4:35 p.m.*

Has anyone since the original author Jim Donnelly tried to complete or port the HP-48G game, (Star)Trek48?

It's a pretty good game even though it's not yet completed and it'd be great to have it also on the 49G/50g platform too!

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New HP products on the horizon?

*Message #1 Posted by **Michael de Estrada** on 18 Apr 2009, 11:54 a.m.*

I've been reading posts about developer kits, eproms and I/O interfaces on various platforms such as the new HP 12c and existing 20b. Presummably, new products can be implemented by simply re-programming this hardware and making new keyboard templates. So, the question I have is whether all of this discussion in simply pie-in-the-sky banter or if HP and/or others are seriously contemplating implementing these ideas as publically available commercial products?

Comments anyone?

Michael

Re: New HP products on the horizon?

*Message #2 Posted by **DaveJ** on 18 Apr 2009, 6:27 p.m.,*
in response to message #1 by Michael de Estrada

> Quote:
>
> I've been reading posts about developer kits, eproms and I/O interfaces on various platforms such as the new HP 12c and existing 20b. Presummably, new products can be implemented by simply re-programming this hardware and making new keyboard templates. So, the question I have is whether all of this discussion in simply pie-in-the-sky banter or if HP and/or others are seriously contemplating implementing these ideas as publically available commercial products?

This has been discussed before, but the general feeling is that yes, HP is going to release a new scientific calc based on one or both of these platforms. Unless HP quit the calculator business, this seems like their only direction.

HP have been re-enforcing "rights" to the original voyager ROM's lately, and their first product was the new 12C.

HP also undertook a user survey that was heavily biased toward the 15C, so a new emulated 15C using the original ROM seems the most likely calc because it is bordering on trivial to get to market. And I'm sure they are aware of how popular it would be for minimal engineering outlay:
http://www.hp15c.org/

A 20B based scientific is harder because they don't have ROM images to fall back on, but I think it's almost inevitable they will.

Dave.

Re: New HP products on the horizon?

*Message #3 Posted by **Jake Schwartz** on 18 Apr 2009, 7:07 p.m.,*

in response to message #2 by DaveJ

Heck, I wish they'd even simply put an RPN option on the SmartCalc 300S...

Re: New HP products on the horizon?

*Message #4 Posted by **Michael de Estrada** on 18 Apr 2009, 8:32 p.m.,*
in response to message #2 by DaveJ

> Quote:
>
> HP have been re-enforcing "rights" to the original voyager ROM's lately, and their first product was the new 12C

So I guess these guys might be in trouble? Copycat Voyager

Re: New HP products on the horizon?

*Message #5 Posted by **DaveJ** on 19 Apr 2009, 5:59 a.m.,*
in response to message #4 by Michael de Estrada

> Quote:
>
> So I guess these guys might be in trouble? Copycat Voyager

No, as that would not use the original 12C ROM image.

Dave.

Re: New HP products on the horizon?

*Message #6 Posted by **Michael de Estrada** on 20 Apr 2009, 11:19 a.m.,*
in response to message #2 by DaveJ

Reading the flow of this discussion, I find it interesting that no thought has been given to the re-introduction of the HP 11c as opposed to the HP 15c. As has been pointed out, when the HP 15c was introduced, it had new capabilities such as complex numbers and matrices that were not previously available. Once the HP 42s and particularly the HP 48SX were introduced, the HP 15c was relegated to second class status in this regard. Once I bought my HP 48SX, I ported all my HP 15c programs to it, but continued to use the HP 15c for most of my work, which involved relatively simple direct calculations. What really made the HP 15c and all Voyagers enduringly popular was their unique ergonomics, excellent quality and durability. Even today, the Voyagers are used as simple fixed function calculators along side their more powerful but complicated to use modern counterparts. The HP 11c has all the capabilities that most people would want in such a device, just as a HP-32Sii is more useful for simple manual tasks than a HP 42s.

Re: New HP products on the horizon?

*Message #7 Posted by **DaveJ** on 20 Apr 2009, 5:50 p.m.,*
in response to message #6 by Michael de Estrada

> Quote:
>
> Reading the flow of this discussion, I find it interesting that no thought has been given to

> the re-introduction of the HP 11c as opposed to the HP 15c. As has been pointed out, when the HP 15c was introduced, it had new capabilities such as complex numbers and matrices that were not previously available. Once the HP 42s and particularly the HP 48SX were introduced, the HP 15c was relegated to second class status in this regard. Once I bought my HP 48SX, I ported all my HP 15c programs to it, but continued to use the HP 15c for most of my work, which involved relatively simple direct calculations. What really made the HP 15c and all Voyagers enduringly popular was their unique ergonomics, excellent quality and durability. Even today, the Voyagers are used as simple fixed function calculators along side their more powerful but complicated to use modern counterparts. The HP 11c has all the capabilities that most people would want in such a device, just as a HP-32Sii is more useful for simple manual tasks than a HP 42s.

That's true I guess, but given that both are programmable calcs, you might as well implement the one with more advanced capabilities such a complex number support and matrices.

It would be better from a marketing point of view as well, and the known demand would be higher.

I would personally prefer a non-programmable version with more primary keys, but given that the 11C has the same primary key layout as the 15C, there is no keystroke usability advantage to "simpler" 11C, so you might as well have the 15C.

Dave.

Re: New HP products on the horizon?

*Message #8 Posted by **reth** on 18 Apr 2009, 11:07 p.m.,*
in response to message #1 by Michael de Estrada

AFAIC HP should not release any calculator until they manage to develop descent keyboard

Re: New HP products on the horizon?

*Message #9 Posted by **Frank Rottgardt** on 19 Apr 2009, 8:28 a.m.,*
in response to message #1 by Michael de Estrada

I agree that it might be possible to reintroduce a 15c with a comparable low budget like HP did with the 12c, but I wonder how attractive such a single line display calculator without Alpha-capability would be for current customers (read students), even with an AOS option? In that respect the 33s is better. The question is if the better complex arithmetic of a (new) 15c could outweight such an disadvantage?

I wonder how many young engineers preparing for their professional exams buy the 33s simply because it is one of the few programmable calculators allowed and not because it is RPN or ease of use.

I think in the end HP would need to put more effort on the redesign of the 15c to make it fit for the market (2 line dot-matrix + alpha + menus) than one might think. And once again I think we would badly miss a SD-slot or USB-port :-)

Re: New HP products on the horizon?

*Message #10 Posted by **Walter B** on 19 Apr 2009, 9:56 a.m.,*
in response to message #9 by Frank Rottgardt

> Quote:
>
> I think in the end HP would need to put more effort on the redesign of the 15c to make it fit

> for the market (2 line dot-matrix + alpha + menus) than one might think. And once again I think we would badly miss a SD-slot or USB-port

Fullheartedly agree. The 15C's complex number handling was very good for its time, but made obsolete by the 42S already. So HP shall not expect to win much by resurrecting an unchanged 15C with split stack. Looking only from outside, the overall form factor may be kept, but the display *must* take into account the changes of the 27 years since the old 15C was launched. Else - forget it.

Ceterum censeo: HP, launch a 43S (or 15S - suggestions were published here earlier).

Walter

Re: New HP products on the horizon?

*Message #11 Posted by **Svend Broholm** on 19 Apr 2009, 2:04 p.m.,*
in response to message #10 by Walter B

To keep it short:

You cannot rewrap a 27 year old calculator, HP-15, and expect any succes except to old well off affectionatos, who don't use the calculator in daily use.

You have to adapt to current trends: two line alpha display, SD-card, USB-port just to mention some items to be included. The market is young people at the universities, not to members of this forum. See the success of the inferior Texas products!! They market their products to schools and high schools. When you reach university level nobody wants to shift to RPN - they have been used to ALG and all the annouiencies in many years previously.

Bottom line: HP35S is a step forward compared to HP33S, but give us HP43S/HP15S as "announced" in this forum.

Re: New HP products on the horizon?

*Message #12 Posted by **designnut** on 19 Apr 2009, 4:59 p.m.,*
in response to message #11 by Svend Broholm

HP lost the game to algebraic. Ken Kuhn said his students have Casio or TI but they do an astonishing amount of button pushing with no results. They are astonished how fast RPN is, but nobody changes. Some students have HP but don't know how to use RPN!!! More algebraic HP calculators? Sam

Re: New HP products on the horizon?

*Message #13 Posted by **DaveJ** on 19 Apr 2009, 4:52 p.m.,*
in response to message #9 by Frank Rottgardt

> Quote:
>
> I agree that it might be possible to reintroduce a 15c with a comparable low budget like HP did with the 12c, but I wonder how attractive such a single line display calculator without Alpha-capability would be for current customers (read students), even with an AOS option? In that respect the 33s is better. The question is if the better complex arithmetic of a (new) 15c could outweight such an disadvantage?

The answer is of course that it wouldn't be popular to the masses, it would be a pure "retro" marketing exercise. They would sell 50-100,000 for sure (www.hp15c.org number), but whether or not that is enough to cover their costs I don't know, but 50,000 units @ $100 is $5M in sales minimum which isn't bad.

> Quote:
>
> I wonder how many young engineers preparing for their professional exams buy the 33s simply because it is one of the few programmable calculators allowed and not because it is RPN or ease of use.

It's safe to say 99% of them.

> Quote:
>
> I think in the end HP would need to put more effort on the redesign of the 15c to make it fit for the market (2 line dot-matrix + alpha + menus) than one might think. And once again I think we would badly miss a SD-slot or USB-port :-)

I'm sure everyone will agree. But a "retro" 15C replica would be pretty cool, not much development outlay, and a nice clever marketing exercise. I think they would be foolish not to try.

Dave.

Re: New HP products on the horizon?

*Message #14 Posted by **Martin Pinckney** on 19 Apr 2009, 8:31 p.m.,*
in response to message #13 by DaveJ

> Quote:
>
> The answer is of course that it wouldn't be popular to the masses, it would be a pure "retro" marketing exercise.
>
> Quote:
>
> But a "retro" 15C replica would be pretty cool, not much development outlay, and a nice clever marketing exercise. I think they would be foolish not to try.

I think that is the point. I am confident that is what HP has in mind for the 15c, if anything at all. They will simply add an algebraic mode to pick up some more of that limited market share, and have a go at it. That's what they did with the 12c platinum editions, and it seems to have been successful, why not try and repeat the success with the 15c?

Re: New HP products on the horizon?

*Message #15 Posted by **Eric Smith** on 20 Apr 2009, 3:46 a.m.,*
in response to message #14 by Martin Pinckney

Adding an algebraic mode requires that the firmware be redeveloped essentially from scratch, as the source code to the firmware for all of the Voyager family calculators is long since lost. While HP certainly could develop new and improved firmware for a superset of the 15C, it is a significantly bigger job than developing the firmware for the 12C Platinum was, so it is not obvious whether it would be a worthwhile investment of HP's limited calculator engineering resources.

Re: New HP products on the horizon?

*Message #16 Posted by **Didier Lachieze** on 20 Apr 2009, 5:12 a.m.,*
in response to message #15 by Eric Smith

One thing that could be possible with an alphanumeric display while keeping the original ROM, would be to display in program mode the instructions mnemonics instead of the key codes. This could be handled in the display interface module of the emulator: as the display knows when the unit is in PRGM mode (via the PRGM indicator) it could interpret the key codes sent by the original ROM and replace them with clear instructions mnemonics.

Combined with the speed increase coming from the updated ARM CPU this would be a great improvement in my opinion over the original 15C at a minimal software cost, but with an additional HW/NRE cost as the display would not be shared with the current 12C. Btw nothing prevent the 12C to benefit from this excepted the 12C customers ....

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HP 41CX Auto power-off problem

*Message #1 Posted by **Jose Poyan** on 17 Apr 2009, 4:31 p.m.*

Hi all, I just bought a faulty HP 41CX. I fixed it; it was just the usual cracked back. Now it turns off after only 20 seconds all the time. This can't be normal! It didnt come with manuals so I'm searching for some help in the Forum(I didnt find this problem already posted). I'm using a fully charged battery pack. No "BATT" message is shown in the screen; it just turns off.

Thanks

Oh I forgot: although I didnt fix the back of my calculator tight enought, I can leave the screen in watch mode and I stays like that; so its not a contact problem.

Edited: 17 Apr 2009, 5:49 p.m.

Re: HP 41CX Auto power-off problem

*Message #2 Posted by **Dan Grelinger** on 17 Apr 2009, 9:10 p.m.,*
in response to message #1 by Jose Poyan

Jose,

I can't help very much, but here is what I know, or suspect:

There is no normal function that would change the HP-41's auto-off functionality as you describe. Therefore, the manual will be of no use to you with this problem.

When the clock is in the display, the calculator is actually running a routine every second to update the display. I assume that if you use the calculator, or have a user program running, it won't turn off. This would indicate that it is the auto-off functionality that is turning the HP-41 off, just not after the 10 or so minutes it is supposed to wait.

I believe, from some long ago reading, that the auto-off functionality is located in the display controller. Not knowing much about the internals, I would not be able to rule out a contact problem (there are plenty in an HP-41), but it may be a faulty display controller.

Dan

Re: HP 41CX Auto power-off problem

*Message #3 Posted by **Andrés C. Rodríguez (Argentina)** on 18 Apr 2009, 9:48 a.m.,*
in response to message #2 by Dan Grelinger

I'm not familiar with the CX specific features such as clock or timers, but I suggest you can explore the ON function (XEQ "ON"), which prevents the calculator from turning off after 10 minutes.

The 41C and CV CPU have 3 states: Runnning (when actually performing calculations), Idle (just

displaying data) and Sleep (no display, just status and memory contents are preserved).

Re: HP 41CX Auto power-off problem

*Message #4 Posted by **Monte Dalrymple** on 17 Apr 2009, 11:30 p.m.,*
in response to message #1 by Jose Poyan

While the clock is displayed the cpu is running. When the cpu goes idle there is a time-out function that powers down the cpu after 10 minutes. This timer is actually in the display controller, BUT the capacitor that determins the time constant is on the cpu board. If this specific connection is bad, or the capacitor is bad, the time-out time will be much shorter than the default 10 minutes. This is probably the cause of the symptom you are seeing.

Monte

Re: HP 41CX Auto power-off problem

*Message #5 Posted by **Garth Wilson** on 18 Apr 2009, 12:20 a.m.,*
in response to message #1 by Jose Poyan

To get around it until you get it fixed, you should be able to use the ON function to make it ignore the timeout, right? That's part of the startup routine on mine all the time. I always turn it off with a program assigned to a key, which sets flag 11 (the autorun flag) before executing OFF. then when I turn it on, it checks to see if there's anything in the DAYTIMR file it's supposed to remind me of that day, and if not, sees if there are any alarms set and show how much time is left, otherwise move on to show the time and date. (Yeah, it takes a couple of seconds.) One of the other things it does is to set the continuous-on flag, flag 44, with TOGF in the ZENROM. **I'll** be the one to decide when it's time for it to go off! The calc is 23 years old and has never shown any signs of a bad connection except that it forgets what the time and date are if I drop it, but I suppose the auto-turn-off time could go wacky and I wouldn't know it. I don't think that has happened yet though, because if an alarm turns it on and it doesn't go through the same start-up routine, it will indeed stay on for something like ten minutes by itself if it's not a control alarm with a program that turns it off again.

Edited: 18 Apr 2009, 12:23 a.m.

Re: HP 41CX Auto power-off problem

*Message #6 Posted by **Jose Poyan** on 18 Apr 2009, 3:29 a.m.,*
in response to message #1 by Jose Poyan

Fixed it ! I opened my 41cx once again yesterday. Even when the contacts look shiny, they where not making contact. This morning it keeps running and doesnt turn off. Thanks all of you for the help.

jose

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OT: uWatch MK2

*Message #1 Posted by **DaveJ** on 17 Apr 2009, 5:15 a.m.*

For those playing along at home, some preliminary uWatch MK2 specs that looks very do-able on the surface:

50mm x 40mm x 16mm

Fully enclosed case, no protrusions. 128 x 64 dot matrix display with white LED backlight:
http://www.newhavendisplay.com/index.php?main_page=product_info&cPath=21_96&products_id=2072

Visible area is quite mall though, only 26mm x 16mm.

Watch band would have no attachment, i.e. velcro completely through holes in the case, nothing to break.

16 key tactile dome keypad minimum, probably 20.

Possibly a micro trackball and/or scroll switches (WOW factor).

Rechagable NiMH battery, life probably around several hundred hours continuous display.

USB interface allows comms and charging. Firmware upgrade via USB would be nice, but might be processor dependent.

Perhaps an IR LED, and another expansion port.

Processor choice is open, but more powerful than the PIC24F. Maybe 512K flash and 32KB or 64KB SRAM. 32bit ARM probably a good choice.

It could be made smaller with a different battery choice, but I'm thinking single AAA is cheap and simple.

Only custom bit would be the case, but I think that should be pretty simple.

Sound like a dream come true?, bad idea?, something else entirely?

Dave.

Re: OT: uWatch MK2

*Message #2 Posted by **Andrés C. Rodríguez (Argentina)** on 17 Apr 2009, 7:36 a.m.,*
in response to message #1 by DaveJ

Just my $ 0.02

AAA battery or similar is a GOOD idea. Non-standard batteries (I mean "non easily available") are a real pain, specially if soldered. When aging reduces charge capacity, you end with a pile of nice devices that you cannot use anymore. And the replacement batteries are no longer manufactured.

Using a uWatch implies some soldering skills on the owner's side, but I still prefer a standard battery.

Eventually, the "pair of CR2032 approach" may be acceptable.

Congratulations for your fine design and also for the EEVlog.

Andrés (not a uWatch owner yet, but...)

Re: OT: uWatch MK2

*Message #3 Posted by **Jeff O.** on 17 Apr 2009, 7:52 a.m.,*
in response to message #1 by DaveJ

> Quote:
>
> Sound like a dream come true?, bad idea?, something else entirely?

Not sure if it is quite a dream come true, but certainly not a bad idea. Put me on the list to buy one :-)

Re: OT: uWatch MK2

*Message #4 Posted by **DaveJ** on 17 Apr 2009, 8:50 a.m.,*
in response to message #3 by Jeff O.

> Quote:
>
> Not sure if it is quite a dream come true, but certainly not a bad idea.

Yeah, lets just say a tad bit better than the current one! :->

Dave.

Re: OT: uWatch MK2

*Message #5 Posted by **DaveJ** on 17 Apr 2009, 6:26 p.m.,*
in response to message #1 by DaveJ

Make that about 48mm x 40mm x 14mm

Now I've gotta do is find a place that makes membrane keypads protos cheaply. There are ways to DIY but probably won't look as good.

Dave.

Re: OT: uWatch MK2

*Message #6 Posted by **Eric Smith** on 17 Apr 2009, 8:54 p.m.,*
in response to message #1 by DaveJ

20 keys would definitely be much better than 16. Even 24 if you can cram them in.

I'd recommend the PIC32 (MIPS) or various Atmel AT91SAM family ARM parts. Power consumption will definitely be higher than for the PIC24, though.

I've been told that essentially all of the companies that make membrane keyboards do it for fairly low NRE. However, those usually don't have domes, so I'm not sure whether that adds a lot to the NRE.

Re: OT: uWatch MK2

*Message #7 Posted by **DaveJ** on 17 Apr 2009, 9:06 p.m.,*
in response to message #6 by Eric Smith

> Quote:
>
> 20 keys would definitely be much better than 16. Even 24 if you can cram them in.

Yep, will all depend on the final size of each button.

> Quote:
>
> I'd recommend the PIC32 (MIPS) or various Atmel AT91SAM family ARM parts. Power consumption will definitely be higher than for the PIC24, though.

Yes, both of those would be my first initial pick.

Power consumption isn't much of an issue given that the unit is rechargable, and most of the time it will operate at say 32KHz running and displaying a clock.

> Quote:
>
> I've been told that essentially all of the companies that make membrane keyboards do it for fairly low NRE. However, those usually don't have domes, so I'm not sure whether that adds a lot to the NRE.

I've got two ways I can do the front panel. Either domes directly stuck onto the front panel PCB and silkscreen labeling (cheaper DIY solution). Or a proper stick-on membrane front panel. The membrane has the advantage of looking more professional, and having the text directly over the button thus potentially reducing the button spacing (more buttons). But the membrane has the NRE and I'd have to come up with a proper graphical design template (not my area of expertise)

The advantage of this new uWatch2 idea is that the LCD is inside the case, so the membrane keys can come right up to the display window giving much more room for the keypad. And you can protect the LCD with some glass or polycarb sheeting. Should be fairly water resistant too.

Dave.

Re: OT: uWatch MK2

*Message #8 Posted by **Eric Smith** on 17 Apr 2009, 9:12 p.m.,*
in response to message #1 by DaveJ

Why NiMH rather than lithium polymer? They have higher energy density, partly because they don't require a metal jacket. They require careful control of charging, but just about all of the fancy USB power control/regulator/battery charger chips (e.g. Linear Tech LTC3455, LTC4088) are designed for lithium cells, while most of them don't support NiMH. Lithium polymer cells don't have the safety problems that have plagued lithium ion batteries.

Re: OT: uWatch MK2

*Message #9 Posted by **DaveJ** on 17 Apr 2009, 10:04 p.m.,*

in response to message #8 by Eric Smith

> Quote:
>
> Why NiMH rather than lithium polymer? They have higher energy density, partly because they don't require a metal jacket. They require careful control of charging, but just about all of the fancy USB power control/regulator/battery charger chips (e.g. Linear Tech LTC3455, LTC4088) are designed for lithium cells, while most of them don't support NiMH. Lithium polymer cells don't have the safety problems that have plagued lithium ion batteries.

Cheap and easy to replace, and standard size available from any electronics store (people like that sort of thing).
Plenty of battery charger chips in usable packages available, and oodles of single cell DC-DC converter options. I don't need to use an integrated charger/DC-DC chip.

I'm open to suggestions though, might have a look, got some links?

Dave.

Re: OT: uWatch MK2

*Message #10 Posted by **DaveJ** on 18 Apr 2009, 12:35 a.m.,*
in response to message #9 by DaveJ

Actually, looks like it may have to be Lithium Polymer.

I've found a perfect size off-the-shelf case (50mm x 35mm x 15mm), but it won't fit a AAA or AAAA along with either of the specified LCD's. Once I get LCD samples there is a slight possibility I could squeeze in a AAAA and the 128x32 display, but it's a bit ugly. What a shame, I would liked to have used a standard battery :(

The LP452030P6H from HERE looks almost ideal. 200mAh @ 3.7V

The final watch thickness will depend upon whether I use the supplied case lid or roll my own. If I roll my own the thickness could be as small as 13mm, which is quite amazing really as that's the same as my standard Timex watch. But 15mm is probably more achievable.

This is all starting to really come together now. The hardware part looks to be the membrane keypad.

This is quite exciting! (again)

Dave.

Edited: 18 Apr 2009, 12:41 a.m.

Re: OT: uWatch MK2

*Message #11 Posted by **db (martinez, ca.)** on 18 Apr 2009, 1:36 a.m.,*
in response to message #10 by DaveJ

Dave;
Are quad A cells common in Ausland? The only place we see AAAAs in the states are inside 9v batteries or on 12 year old Chinese Olympic gymnasts.
Those Li-Poly batteries look too good to be true, except for the picky charging system. They may be worth the trade off though.

I guess i have to start saving my new toy money again. - db

Re: OT: uWatch MK2

*Message #12 Posted by **DaveJ** on 18 Apr 2009, 3:44 a.m.,*
in response to message #11 by db (martinez, ca.)

> Quote:
>
> Dave;
> Are quad A cells common in Ausland? The only place we see AAAAs in the states are inside 9v batteries or on 12 year old Chinese Olympic gymnasts.

No different here!

> Quote:
>
> Those Li-Poly batteries look too good to be true, except for the picky charging system. They may be worth the trade off though.

Looks like I don't have any choice if I want to use an off-the-shelf case.

If I used a bigger custom case I could use a single AAA, but the watch would be bigger and there is that NRE and design work to contend with.

This way it's cheap and simple to get a good looking proto for minimum cost, just drill out the holes for the USB and watch band connectors. For production I can order the boxes with holes pre-drilled.

Dave.

Re: OT: uWatch MK2

*Message #13 Posted by **Walter B** on 18 Apr 2009, 11:26 a.m.,*
in response to message #10 by DaveJ

> Quote:
>
> I've found a perfect size off-the-shelf case (50mm x 35mm x 15mm)

Maybe I missed something, but you're still talking about a watch, aren't you? Or are you going to transit into the realm of true pocket calcs ;-)

Re: OT: uWatch MK2

*Message #14 Posted by **DaveJ** on 18 Apr 2009, 6:33 p.m.,*
in response to message #13 by Walter B

> Quote:
>
> Maybe I missed something, but you're still talking about a watch, aren't you? Or are you going to transit into the realm of true pocket calcs ;-)

No, as I stated in another recent thread I think that would be a complete waste of time and effort. Not to mention boring and un-cool.

Unless you call a 50mm x 35mm x <15mm calc with 24 keys a pocket calc? I can leave the watch band holes out for those who want to slip it into their fob pocket.

Dave.

Re: OT: uWatch MK2

*Message #15 Posted by **DaveJ** on 21 Apr 2009, 11:06 p.m.,*
in response to message #1 by DaveJ

I now have LCD's and cases in my hot little hands.

Unfortunately the LCD wasn't able to be used the way I wanted it, so that means a lot less space in the case than hoped for.

This means a MUCH smaller battery, only 70mAh, but this should still give a reasonable life when just displaying the time/date or operating at minimal speed.

It looks like I can still fit everything into 50mm x 35mm x 12.8mm which will be amazing if it all comes together.

Forget the trackball though, but amazingly there might be room for a micro SD card slot too.

The super tiny Lithium Polymer battery is on it's way.

Creating your own calculator is FUN!

Pray for no show-stoppers.

Dave.

Re: OT: uWatch MK2

*Message #16 Posted by **db (martinez, ca.)** on 22 Apr 2009, 12:14 a.m.,*
in response to message #15 by DaveJ

> Quote:
>
> Pray for no show-stoppers.

OK. I will. I want my new watch, trakball or no. BTW do you remember how Kurt Vonnegut said that agnostics begin our prayers? "To whom it may concern....."

This was also the first clean joke i learned in Spanish; "A quien contesta....."

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I love my HP-35

*Message #1 Posted by **Michel Beaulieu** on 16 Apr 2009, 10:15 p.m.*

even will full of Scratches...

HP-35 tribute

I love my HP 35

*Message #2 Posted by **Hal Bitton in Boise** on 17 Apr 2009, 11:14 a.m.,*
in response to message #1 by Michel Beaulieu

Nice article, and a very nice tribute.

My cousin, as a young Air Force Cadet majoring in mathematics, bought a brand new HP35 from the Cadet Bookstore in 1973 for the discounted price of $295. I can just imagine him taking it out of the box and marveling at it's capabilities. About 2 years ago, when he heard I collected HP calcs, he dug out that old HP35 and sent it to me. Needless to say, I was most grateful to add it to my collection.
Right now it's on display at my son's school, where I rotate my collection through.
Best regards, Hal

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Purely Synthetic PCAT 1

*Message #1 Posted by **PeterP** on 16 Apr 2009, 8:05 p.m.*

Hi,

A little while ago we were asked if there is a program that can display all the CAT 1 entries. As it turns out there was none, but pretty quickly a version using the CCD (next to the Sandbox my favorite module) was written.

Nevertheless the discussion started if it would be possible to do the same without any external modules, only using synthetics. As it turns out, Dan and I found a way how it actually can be done, if one allows the use of X/F and X/M. For what its worth, the code is produced below. It uses a few functions from the PPC module, which can be typed in as separate functions so one does not need the actual modul. Needless to say, these purely focal programs are very adagio. Just in case, I have added in parenthesis the respective functions from the Sandbox, however if one were to allow the Sandbox a much faster version could be written using its NRCL function…

The concept is as follows:

1. Do a GTO .., size at least 018, make sure there is at least one free register available in the main memory
2. Calculate the length of program memory and add 2 registers
3. lower the curtain to one register below the .END.
4. using SAVERX, move the whole program area up to and including the original R00 into X/M. SAVERX normalizes only the top and bottom registers of the block that is transferred. This means the original R00 (that's fine, its normalized anyway) and the 1 empty register below the .END. (which we don't care about). If there is not enough room in the X/M the calc will tell you.
5. Now we can use GETX, which does not normalize, to analyze the CAT 1 chain. Starting with the second register in our data-file (the first one contains the empty register below the .END.) we can decode the .END., find the distance to the next END, decode it to find the distance to the next Alpha or END, display if it is Alpha, rinse and repeat until we have reached the top end

Biggest nuisance is when ENDs or Alpha labels cross register boundaries as we have to get the next register and decode again. We use SEEKPT to move around quickly from one register to the next.

Clearly this was far more fun for me to do that it will be of use to anyone, but maybe this does interest someone.

Cheers

Peter

```
; **********************************
;
;00 – 48 (numbers are veeeeery slow on the 41)
;01 – 64
;02 - 7
;03 – current register pointer
;04 – prior register pointer
;05 – counter for number of alpha label chars
;06 – pointer to regs where chars are stored
;07 – temp storage
;08 – 10
;09 – 128
;10:17 – tmp register for alpha label chars
; **********************************
'
```

```
LBL 'PCAT2'   ;first version uses CCD, see original post
  1.2
  STO 03
  STO 04
  48
  STO 00
  64
  STO 01
  7
  STO 02
  10
  STO 08
  128
  STO 09
  XROM 'C?'  ;get abs addr of curtain
  XROM 'E?'  ;get abs addr of .END.
  -
  2
  +
  'PCATDF'  ;name of temp data-file
  SF 25
  PURFL
  CF 25
  CRFLD ;create a datafile large enough for whole pgm memory + 2 regs
  1
  -
  STO Y
  CHS
  XROM 'CU'  ;lower the curtain to 1 reg below .END.
  STO Y
  1 E 3
  /
  SAVERX ;transfer it all including the original R00 to XM
  RDN
  XROM 'CU' ;restore curtain
  LBL 'SCH'  ;Show Catalog
    RCL 03
    SEEKPT  ;position to next needed register
    GETX  ;get register without normalization
    XEQ 'NH'  ;decode. NNN>HEX from Sandbox is faster…
    AOFF  ;not needed with NNN>HEX
    XEQ 'ROA' ;rotate alpha so that relevant bytes are on left side
    ATOX ;get 'C' byte out of the way from END/Alpha structure
    XEQ 'MAD'  ;Make Alpha Distance. This calcs the distance to the next element in the chain
    X=0? ;if it is 0 bytes away, we have reached the top of CAT 1
    GTO 'EXT' ;EXiT
    RCL 03
    STO 04
    XEQ 'A+B' ;calc the new register we need
    STO 03
    ALENG
    X=0? ;did we reach the end of the register?
    XEQ 'GNR' ;get next register
    XEQ 'CCA' ;now check if this is an alpha lable
  GTO 'SHC' ;rinse and repeat
;-----------------------------------
LBL 'EXT' ;EXIT
  ALENG
  X=0? ;did we reach the end of the reg (should never happen actually)
  XEQ 'GNRE' ;get next register
  XEQ 'CCA' ;check for Alpha label (should be one)
  BEEP
  CLX
  STOP
GTO 'PCAT2' ;just in case of trigger happy R/S finger…
;-----------------------------------
LBL 'ROA' ;rotate alpha (actually clear bytes left to start of END/AlphaLabel
  RCL 03
  FRC ;which byte do we need to look at? (starting at 0)
  CHS
  .6
  + ;how many bytes do we need to delete to the left
  LBL 05
    X=0? ;done yet?
    RTN
    ATOX
    ATOX ;each byte has 2 alpha chars, 1 per nybble
    -0.1
    R^
    +
  GTO 05
```

```
;-----------------------------------
LBL 'MAD' ;Make Alpha Distance
  XEQ 14
  X<>F ;need to check if we have a very long program. See structure of ENDs
  FS?C 00
  SF 19
  X<>F
  20
  /
  RCL 09 ;=128
  FC?C 19
  CLX
  +
  STO 07
  ALENG
  X=0? ;end of decoded string -> get next reg
  XEQ 'GNRE'
  RCL 07
  LBL 'G2' ;decode next two nybbles from alpha
    XEQ 14
    16
    *
    R^
    +
    XEQ 14
    R^
    +
  RTN
  LBL 14 ;decode one alpha char
    RCL 01 ;=64
    ATOX
    X>Y? ;is this a letter?
    XEQ 13
    RCL 00 ;=48
    -
  RTN
  LBL 13
    RCL 02 ;=7
    -
  RTN
;-----------------------------------
LBL 'A+B' ;add two alpha address of form reg.byte
  FRC
  LastX
  INT
  RCL 02 ;=7
  *
  X<>Y
  RCL 08 ;=10
  *
  +
  X<>Y
  FRC
  LastX
  INT
  RCL 02
  *
  X<>Y
  RCL 08
  *
  +
  +
  RCL 02
  /
  INT
  LastX
  FRC
  RCL 02
  *
  RCL 08
  /
  +
RTN
;-----------------------------------
LBL 'CCA' ;Check Alpha
  ATOX
  70
  X>Y?
  RTN ;this is not an F byte, so no alpha label
  ATOX ;how many?
  49 ;48 + 1 byte for key code if assigned. See Alpha label structure
```

```
  -
  STO 05 ;counter for number of letters in label
  RCL 08
  STO 06
  ALENG
  X=0? ;do we need next reg?
  XEQ 'GNR'
  ATOX
  ATOX ;delete key code
  LBL 09
    ALENG
    X=0?  ;do we need next reg?
    XEQ 'GNR'
    CLST
    XEQ 'G2' ;decode 2 alpha chars from left
    STO IND 06 ;store letter code into regs 10-17
    ISG 06
    DEG ;NOP
    DSE 05 ;
  GTO 09
  CLA ;now build alpha label and display
  RCL 08
  LBL 07
    RCL IND X
    XTOA
    X<>Y
    1
    +
    RCL 06
    X<=Y? ;are we done?
    GTO 08
    RDN
  GTO 07
  LBL 08  ;display alpha alabel
    TONE 9
    AVIEW
    PSE
RTN
;-----------------------------------
LBL 'GNRE' ;get next reg for End
  RCL 03
  GTO 06
LBL 'GNR' ;get next reg
  RCL 04
  LBL 06
    1
    -
    SEEKPT
    GETX
    XEQ 'NH'
    AOFF
RTN
;-----------------------------------
```

Re: Purely Synthetic PCAT 1

*Message #2 Posted by **Dan Grelinger** on 16 Apr 2009, 11:09 p.m.,*
in response to message #1 by PeterP

Great work! I think the decoding of the absolute memory addresses stored with each end and lable was the hard part.

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HP 41CV intermitent fault

*Message #1 Posted by **Nigel Bamber** on 16 Apr 2009, 5:37 p.m.*

I have been given a 41CV which requires me to keep squeezing the front/back together at the bottom of the calculator in order to keep it working. Otherwise the display goes blank and I need to squeeze it again and then press the ON key in order to get it working again.

I suspect the calculator hasn't been used for sometime.

What is likely to be the cause ? Should I take it apart and try and find the lose connection if that is what it is ? Or should I not take it apart and try to fix it with some tape ?

All help appreciated ?

Nigel

Re: HP 41CV intermitent fault

*Message #2 Posted by **PeterP** on 16 Apr 2009, 8:10 p.m.,*
in response to message #1 by Nigel Bamber

This is one of the most common ailments of the 41 series (next to corrosion). Most likely a broken post or two. If you carefully shake the calc I would not be surprised if you her some rattling. And/or you can probably see/feel that the top and bottom halve are not fitting together strongly. There are a few threads you can find here on this ailment (search for things like 'broken post', 'funny display', 'display @', etc). it can be repaired, but can be finicky.

Also check out this articleRepairing an 41CX

Hope that helps.

Cheers

Peter

Re: HP 41CV intermitent fault

*Message #3 Posted by **Nigel Bamber** on 20 Apr 2009, 2:19 a.m.,*
in response to message #2 by PeterP

Thanks for the advice Peter. I opened her up and discovered the expected cracked posts. I took fright at their repair and decided on a different tack.

The screws in fact hold themselves quite well but not just not well enough. Also squeezing the bottom right hand side resolved the lost contacts issue. Therefore I decided to attach a little plastic washer inside the back of the case to increase the pressure on the flexible PCB and it worked !

The calculator now turns on and off normally without those funny characters in the display.

Cheers

Nigel

Temporary at best., here is an easy fix...

*Message #4 Posted by **Geoff Quickfall** on 20 Apr 2009, 1:12 p.m.,*
in response to message #3 by Nigel Bamber

Yes the posting about new wires and etc are daunting.

I just repaired a 41CV with two cracked posts and the same contact problem.

Unfortunately the fix you have done is temporary as the cracks wil propogate, especially now since the compression is putting more stress on the the posts and cracks.

I am posting the repair as a new topic as this is falling by the wayside.

Cheers, Geoff

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TI-84+, a humbling experience

*Message #1 Posted by **Egan Ford** on 16 Apr 2009, 11:52 a.m.*

I often get tasked to help my daughter with her calculus homework. Usually its symbolic pen and paper work. I often tease her about the 84's lack of symbolic support and frequently demonstrate the symbolic gymnastics of the 50g (it's a lazy man's way to check her work too).

Last night was different. The problem set was all about finding volumes with rotation and cross sections with equations that were somewhat unfriendly. Fortunately, the problems were to be solved numerically only with a calculator.

After discussing various approaches on how solve various problems, she went to work solving it numerically on her 84+. I was blow away and how quickly she could find intersections, input equations, integrate, etc... using it's menu driven interface (no shell). It was as if this calculator with it's interface was specifically designed for this task. And, we all know that it was.

I'm sure the 50g has some similar efficient ways to do the same (does it?). But, I have never explored them. I still use my 50g just like I used my 48GX, and I used my 48GX like I used my 15C (all from the stack). My kid frequently bests me in Stats and Calculus as we race to get the numeric answer. And for that I am happy because time is very precious when taking tests.

I've always dismissed TI's because of the weak programming support and lack of RPN/RPL, and still will, but I have new respect for TIs as a leaning and test taking tool for students.

Edited: 16 Apr 2009, 11:55 a.m.

Re: TI-84+, a humbling experience

*Message #2 Posted by **David Hayden** on 16 Apr 2009, 12:18 p.m.,*
in response to message #1 by Egan Ford

> Quote:
>
> I've always dismissed TI's because of the weak programming support and lack of RPN/RPL, and still will, but I have new respect for TIs as a learning and test taking tool for students.

And, unfortunately for HP, the "learning and test-taking tool for students" is a huge market for calculators.

Re: TI-84+, a humbling experience

*Message #3 Posted by **Tim Wessman** on 16 Apr 2009, 1:31 p.m.,*
in response to message #1 by Egan Ford

My experience actually working side by side with other students is completely different. They use the graphing calculators like glorified 4 bangers 99% of the time. The problem is she uses it to do exactly those functions in class while YOU have not. Put two people side by side who have been in the same class and learned how to do

that specific type of problem and the hp will be quicker every time. It was the same in high school and through college.

Most of the time the teachers just sat and complained how many steps it takes to do something. Finding a root on a graph is a perfect example. On all the TIs you have to move to one side, mark, and then move to the other, and mark to specify a range to search for the root. You can't just push a button and it jumps to the closest root.

Granted the 50G isn't the friendliest of calcs, but anyone using a 39/40 will run circles due to the simple and consistent interface.

TW

Re: TI-84+, a humbling experience

*Message #4 Posted by **Egan Ford** on 16 Apr 2009, 2:15 p.m.,*
in response to message #3 by Tim Wessman

> Quote:
>
> Put two people side by side who have been in the same class and learned how to do that specific type of problem and the hp will be quicker every time.

Possibly, and I did consider that, however my impression of the 84+ is that it was created for specific tasks and that is where the speed comes from. Whereas the 50g is very flexible. Granted with a bit of time I could possibly complete with any 84+ user, but I've seen the speed, the difference in performance for this type of work would be negligible. The 84+ is a very capable machine for student workloads. I admire TI for adjusting to market demands.

> Quote:
>
> Granted the 50G isn't the friendliest of calcs, but anyone using a 39/40 will run circles due to the simple and consistent interface.

I completely forgot about the 40, I do not have one, but I do have an emulator. I'll see how it stacks up next time...

Edited: 16 Apr 2009, 2:24 p.m.

Re: TI-84+, a humbling experience

*Message #5 Posted by **Egan Ford** on 16 Apr 2009, 2:21 p.m.,*
in response to message #3 by Tim Wessman

I forgot to add in my observations that the TI keyboard is very fast compared to the 50g. There is much less effort to press a TI key. My kids fingers danced over the TI in a way that I cannot mimic on the 50g. However, I can on my iPhone.

Re: TI-84+, a humbling experience

*Message #6 Posted by **Tim Wessman** on 16 Apr 2009, 3:55 p.m.,*
in response to message #5 by Egan Ford

That is good she is so fast. My daughter just drools on it and talks to it like a phone.

TW

Pictures Tim. Pictures

*Message #7 Posted by **db (martinez, ca.)** on 16 Apr 2009, 9:15 p.m.,*
in response to message #6 by Tim Wessman

.....of your daughter, and Katie that is.
You're a great guy and all but i just want to see your survey programs.

Re: TI-84+, a humbling experience

*Message #8 Posted by **Don Shepherd** on 16 Apr 2009, 4:15 p.m.,*
in response to message #1 by Egan Ford

Egan, regarding the TI-84's lack of symbolic support, see this. It's pretty cool.

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OT: uWatch new look

*Message #1 Posted by **hugh steers** on 16 Apr 2009, 10:57 a.m.*

Hi Guys!

For those with uWatches...

There's loads more stuff soon to be out on the uWatch, including a new facelift with moonphase graphics, games like chess and lunar lander as well as other exciting new features.

Cracking!

new VChess engine, tiny 1k memory usage, but will still give you a challenge!

Hopefully a tested release by first week of May.

Re: OT: uWatch new look

*Message #2 Posted by **Paul Dale** on 16 Apr 2009, 4:28 p.m.,*
in response to message #1 by hugh steers

Great stuff!

I'll have to figure out how to reprogram mine sometime...

- Pauli

Re: OT: uWatch new look

*Message #3 Posted by **DaveJ** on 16 Apr 2009, 6:19 p.m.,*
in response to message #1 by hugh steers

Awesome work Hugh, and the other guys involved in the firmware too.
That was just the intention when I open sourced the firmware.

Dave.

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Let's build a calculator...

*Message #1 Posted by **robert rozee** on 16 Apr 2009, 9:02 a.m.*

hi all, this would be my first posting here.

over the years many have suggest that HP should either re-release the HP42, or create a follow-on product based upon it. it occurs to me that the technology and software now exists for the open source community to instead realize this goal.

there exists 'free42', a set of C++ code that duplicates nearly identically the HP42 functionality, and which continued to be refined. the code footprint is somewhere in the 500k region, and it runs on a processor of less than 20mhz (thinking of a low-end palm pda here) with acceptable speed.

there also exists a set of hardware in the form of the uWatch (http://www.calcwatch.com) created by david jones. a quick check on microchip's website reveals that the pic24 processors dave uses are available with up to 512kb of flash and 32k of ram, with speeds up to 80 mips.

it seems that with a PCB costing perhaps $10, a $5 processor, $10 LCD, and a handful of small SMD switches, realizing a HP42 would take little more than porting the free42 code.

comments anyone? in particular i'd like to hear dave's thoughts!

cheers, rob :-)

that has already been done

*Message #2 Posted by **Frank Boehm (Germany)** on 16 Apr 2009, 9:50 a.m.,*
in response to message #1 by robert rozee

and futher discussed (OpenRPN), but I doubt it will lead to anything beyond prototype stage. 50USD in parts usually lead to prices up to 150-200USD for commercial products.

Re: that has already been done

*Message #3 Posted by **Steve Leibson** on 16 Apr 2009, 10:14 a.m.,*
in response to message #2 by Frank Boehm (Germany)

Your timing is interesting. I just attended an award presentation for the HP35. It turns out that the most difficult and most costly part of a calculator these days is the keyboard. Processors are cheap, cheap, cheap as are displays. Any 32-bit RISC processor core can deliver what's needed for computation at low power (that's what's used in the latest HP35s) but read the posts of the people in this forum and you'll quickly see how important the keyboard feel and reliability are to the overall impression of calculator quality. It's far more important than the phrase "a handful of switches" would imply. Keyboard reliability and feel were big problems for the HP35 and were also problems for the HP 9825A desktop calculator/computer project that I worked on. Those simple, mechanical keyboard keys are always a problem that drives manufacturing bats.

Re: that has already been done

*Message #4 Posted by **robert rozee** on 16 Apr 2009, 10:23 a.m.,*
in response to message #3 by Steve Leibson

well, small switch construction has come a long way over the years, and it is relatively easy to add just a little more componentry and use a bit of spare computing power to hide away a multitude of switch issues.

for development i'd use just the individual small switches with a printed overlay that covered the whole keyboard (similar to many modern appliances, in particular whiteware). then move on to either a simple plastic moulding (with hinged keytops) over the same switches and with a metal screen-printed escutcheon... i'd possibly even consider using domes.

btw, i've spent the last 4 years working in a group developing winCE machines with in-house designed keypads, so i've got

a little bit of experience on that front.

Re: that has already been done

*Message #5 Posted by **bill platt** on 16 Apr 2009, 10:31 a.m.,*
in response to message #4 by robert rozee

Never underestimate the time, effort, skill and craftsmanship required to make truly outstanding mechanical parts.

Same goes for software...what is that "law" of software budgets?

Re: that has already been done

*Message #6 Posted by **robert rozee** on 16 Apr 2009, 10:36 a.m.,*
in response to message #5 by bill platt

"Never underestimate the time, effort, skill and craftsmanship required to make truly outstanding mechanical parts": the trick is to come up with a design that works without the parts needing to be outstanding, yet still provide a function and finish that allows the user to imagine how precision the internal workings are.

parts cost

*Message #7 Posted by **Frank Boehm (Germany)** on 16 Apr 2009, 10:43 a.m.,*
in response to message #3 by Steve Leibson

AFAIR from an old Heathkit spare parts sheet, the costs ("back then, in the early 70s") where something like 1/5th CPU 1/5th display+driver 1/5th keyboard 1/5th NiCd cells 1/5th enclosure, bits&pieces and rest of electronic components

I'd assume that the "CPU" (containing several state-of-the-art chips) probably made up 50% or even more on HP calculators. The TI Klixon keyboard was probably as expensive as the HP keyboard (stainless steel framing), besides the keyboards on early ICC-804Ds and JE-850Us (which both used reed relays) the best keyboards ever encountered :)

The chinese HP "clones" are probably less than a handful of USD when mass produced - but one has to consider 50000-100000 USD or even more for development/tooling, plus an "initial production run". That's probably 0.5 million USD of geek investment :)

Re: parts cost

*Message #8 Posted by **Joerg Woerner** on 16 Apr 2009, 2:29 p.m.,*
in response to message #7 by Frank Boehm (Germany)

Frank,

I guess that your hand has 5 fingers ;-))

Think about 2 fingers for a two-line scientific calculator and about 5 fingers for a "Natural Textbook" calculator similiar to the SmartCalc 300S (which I still use and like)!

Here we have a Casio fx-82MS Clone for USD 2.10 @ 5,000 pieces.

Here a Casio fx-82ES Clone for USD 5.10 @ 3,000 pieces.

And in this business you are not talking about these "sampling" quantities.

Regards, Joerg

Re: parts cost

*Message #9 Posted by **DaveJ** on 16 Apr 2009, 6:23 p.m.,*
in response to message #8 by Joerg Woerner

> Quote:
>
> Frank,

> I guess that your hand has 5 fingers ;-))
>
> Think about 2 fingers for a two-line scientific calculator and about 5 fingers for a "Natural Textbook" calculator similiar to the SmartCalc 300S (which I still use and like)!
>
> Here we have a Casio fx-82MS Clone for USD 2.10 @ 5,000 pieces.
>
> Here a Casio fx-82ES Clone for USD 5.10 @ 3,000 pieces.
>
> And in this business you are not talking about these "sampling" quantities.
>
> Regards, Joerg

I recently posted pricing I got for a tiny shirt pocket size scientific, it was around US$0.50ea in quantity!

Dave.

Re: that has already been done

*Message #10 Posted by **robert rozee** on 16 Apr 2009, 10:41 a.m.,*
in response to message #2 by Frank Boehm (Germany)

just had a quick look at openRPN. it lacks one important thing - any software!! but free42 exists, is fully functional, with source code ready to be ported to a new platform. i'd never consider such a project if free42 hadn't already been developed already over a number of years.

and i suspect than many people would be quite happy to pay us$150-$200 for an HP42 built out of modern components, with code that is upgradable and maintained.

Edited: 16 Apr 2009, 10:42 a.m.

Re: that has already been done

*Message #11 Posted by **Michael de Estrada** on 16 Apr 2009, 10:56 a.m.,*
in response to message #10 by robert rozee

> Quote:
>
> and i suspect than many people would be quite happy to pay us$150-$200 for an HP42 built out of modern components

As much as I would like to believe this, I have my doubts. The only reason that the old HP 42s commands such high prices is limited supply. Once you introduced a new version with unlimited availability, market prices will drop significantly. See what happened with the Voyagers; the HP 10c, 11c, 15c and 16c are no longer made, so prices remain high, but the HP 12c sells for much less due to production of the modern version. Even true vintage original versions of the HP 12c sell for a fraction of the price of the other out-of-production Voyagers. Ultimately, I think the market size for a resurrected HP 42s may not be large enough to justify its return.

Re: that has already been done

*Message #12 Posted by **hugh steers** on 16 Apr 2009, 11:10 a.m.,*
in response to message #11 by Michael de Estrada

I agree. You couldn't just re-release the 42 nor the 15 as it was and expect anything like the same level of enthusiasm as the originals. People have moved on and have different expectations - like text and graphics for example.

Here's my pitch: I've already developed all the software; http://www.voidware.com/reckon runs on the Casio fx-9860g. It could also run easily on the Hp50g or any independent platform. It uses no dependent libraries and has its own computation code including its own number system.

You can play with the number engine (my test system) here: http://www.voidware.com/reckon/reckon.exe

Remember that's a command line test, so no graphics nor use of the Pi symbol or anything else, bare bones only!

So when you say, let's build a calculator. go ahead make me the hardware, i've already done the software :-) i would like:

```
a good keyboard, say 4 rows of 10 for landscape.
a hi-res mono screen, say 320x240 min. Color? if you've got it.
works off ordinary batteries please.
512k ram min.
256k rom space min.
something like an ARM processor, or at least something with a half decent compiler (the casio has
the hitachi HS3)
real time clock.
USB connection.
```

anything more than that, the skys the limit!

Re: that has already been done - 7 years ago...

*Message #13 Posted by **Joerg Woerner** on 17 Apr 2009, 8:37 a.m.,*
in response to message #12 by hugh steers

Re: that has already been done

*Message #14 Posted by **Paul Dale** on 16 Apr 2009, 4:24 p.m.,*

in response to message #10 by robert rozee

> Quote:
>
> just had a quick look at openRPN. it lacks one important thing - any software!!

Actually, the software stack was/is the most developed part of the openRPN project. Look for *fix (starfix) on sourceforge.

- Pauli

Re: that has already been done

*Message #15 Posted by **DaveJ** on 16 Apr 2009, 6:25 p.m.,*
in response to message #10 by robert rozee

> Quote:
>
> just had a quick look at openRPN. it lacks one important thing - any software!!

That's incorrect.
openRPN has software called *fix(?)
What OpenRPN has always lacked is hardware, not even a prototype, that's why the project died.

Dave.

Re: Let's build a calculator...

*Message #16 Posted by **Randy** on 16 Apr 2009, 5:45 p.m.,*
in response to message #1 by robert rozee

Oh boy, here we go again. Time to make some popcorn, sit back and watch how long this one takes to fizzle out... :^)

Re: Let's build a calculator...

*Message #17 Posted by **Garth Wilson** on 16 Apr 2009, 6:15 p.m.,*
in response to message #16 by Randy

Here is one of the past related threads I could remember the search terms to find.

Re: Let's build a calculator...

*Message #18 Posted by **Eric Smith** on 16 Apr 2009, 6:39 p.m.,*
in response to message #1 by robert rozee

512KB of flash on a PIC24 is not enough for Free42 without hacking some stuff out. 512KB of flash is barely enough on an ARM in Thumb mode with high optimization.

Also Free42 is designed for systems that have much more RAM available for working storage than is available in the PIC24. Getting it to work in 32KB of RAM is possible but not easy. (I know, as I've worked on it for use on a different microcontroller.)

Re: Let's build a calculator...

*Message #19 Posted by **Paul Dale** on 16 Apr 2009, 7:13 p.m.,*
in response to message #18 by Eric Smith

I just did a quick free42 build with -Os optimisation and gcc-4.2 and got the following sizes:

```
$ size free42bin free42dec
   text    data     bss     dec     hex filename
 374317   11720   34120  420157   6693d free42bin
 473136   12984   34928  521048   7f358 free42dec
$ ls -l free42bin free42dec
-rwxr-xr-x 1 pauli pauli 388916 2009-04-17 09:10 free42bin
-rwxr-xr-x 1 pauli pauli 490832 2009-04-17 09:13 free42dec
```

My experience is that ARM Thumb is a little bit smaller than x86.

Not a great test (especially for the binary math version) since I'm not statically linking but there does appear to be some headroom there.

- Pauli

Re: Let's build a calculator...

*Message #20 Posted by **robert rozee** on 16 Apr 2009, 7:52 p.m.,*
in response to message #19 by Paul Dale

there seems to have been a few interesting contributions over night - it's now 11:30am here in new zealand.

my suggestion of a pic24 was largely influenced by the existence of the uWatch project, and the presence of someone on the forum who had experience with the toolchain. can anyone suggest a better processor choice, perhaps an Atmel arm7? the only major limitations i will impose are practical ones:

- enough (1mb or more) flash on board,
- enough (64kb or more) ram on board,
- NOT a BGA package - needs to be something i can hand-solder,
- capable of a more-or-less single chip design,
- obtainable in small quantities,
- we also need someone who is already familiar with programming it

my criticisms of the openRPN project still stand: a quick look at their website revealed no hardware design, and the only software seemed to be version 0.2 :(
again, free42 is a mature set of software, which is 100% what is guiding my suggesting this project.

and regarding costings: the HP48 used to cost HP something like us$10 to manufacture when it first came out, with much of the 'profits' that the company made above this going into repaying the R&D costs. here today we are looking at a product where all the cost will be in the hardware (that cost HP us$10 or so), with R&D for free (in the form of free42 and donated development time).

Re: Let's build a calculator...

*Message #21 Posted by **Paul Dale** on 16 Apr 2009, 8:32 p.m.,*
in response to message #20 by robert rozee

> Quote:
>
> my criticisms of the openRPN project still stand: a quick look at their website revealed no hardware design, and the only software seemed to be version 0.2

The version number isn't flattering. Download the software, compile it and try it out. Most of RPL is there and it is fairly bug free. More functions need to be added naturally but what is there is decent enough. I even used *fix as my text based calculator of choice for a while.

- Pauli

Re: Let's build a calculator...

*Message #22 Posted by **Egan Ford** on 16 Apr 2009, 8:20 p.m.,*
in response to message #19 by Paul Dale

Here are my ARM versions from http://sense.net/zc/free42/.

```
-rw-r--r--    1 egan     egan       448880 Apr 26  2006 free42bin
-rw-r--r--    1 egan     egan       552324 Apr 26  2006 free42dec
```

Dynamic linked.

I have already tried to cross compile free42 sans GUI for the 50g, but it is too large. The 50g has ~400K for C programs, however I have been unable to launch executables > 80K. Although I have no problem using all ~400K for application data.

What I find amazing is the collective works of Hrastprogrammer, e.g. 42S emulation using the 42S ROM on the 48GX! http://www.hrastprogrammer.com/hp42x/index.htm

Re: Let's build a calculator...

*Message #23 Posted by **Paul Dale** on 16 Apr 2009, 8:26 p.m.,*
in response to message #22 by Egan Ford

What arm compiler version are you using?

There has been some significant improvements in the 4.x gcc versions.

Back on 3.x, I did a bit of testing gcc and -O1 produced the smallest fastest code for low cache ARM CPUs. -O2 and -Os produced about the saem (larger & slower) code.

- Pauli

Re: Let's build a calculator...

*Message #24 Posted by **Egan Ford** on 16 Apr 2009, 9:14 p.m.,*
in response to message #23 by Paul Dale

In 2006 it was GCC 3.x. Now I use 4.2.2 for HPGCC.

Re: Let's build a calculator...

*Message #25 Posted by **DaveJ** on 16 Apr 2009, 7:56 p.m.,*
in response to message #1 by robert rozee

Well, what a coincidence... just last night I started back-of-the-envelope work for a Mk2 uWatch. Time will tell if anything comes of it...

Some comments:

#1
Forget software, don't even think about it, the hardware is *everything*.
Without a decent hardware platform to work from a calculator does not exist. This has been proven time and time again with DIY calc projects. Once you have a hardware platform, the software will come, the software is flexible, and there is no shortage of code and coders out there. It never ever works the other way around for something like a calculator, unless your aim is purely a software project and you don't care about how crap the hardware is.

#2
Forget group projects, they are doomed to failure. A project like this needs one person and one person alone to come up with some hardware and make all the decisions.

#3
The hardware is not trivial, in fact it is very difficult.
Sure, in a day I can lay out a circuit and a PCB with a processor, some switches and an LCD, and it will work like a calculator. Unfortunately it will look and feel so "prototype" that no-one will want to use it.

Ask Eric how much time and effort he has put into his DIY-RPN calc, that has only in recent revisions just started to resemble something that people would be happy to use physically.

#4
Unless you have the resources and money of a large company, a fully custom calculator hardware design that looks and works like a decent product is very difficult to achieve. And if you can't achieve a reasonable working quality, I say don't bother.

Hardware is not cheap either. Yes, processors are fairly cheap, blank PCBs are cheap, but things like quality switches and LCD's are not. At least not in small volume. My uWatch is expensive because the parts are expensive, and all the small parts add up. The switches are expensive and single source, connectors are expensive, battery holders are expensive, some of the screws are a dollar each etc.

You have to either cheat and/or be very very clever in off-the-shelf part design if you want to produce a calculator that people will want to buy and use.

On the uWatch I cheated a lot. I used a PCB for the front panel and labeling, I got away without keytops, and by the novelty of the design I got away without a custom case or any other custom parts.

It is not a hugely usable design, but it's the only one out there and it's novel. So it's been reasonably successful in a niche way.

#5
Quite frankly I've come to the conclusion that it would be a waste of time and effort for anyone to try and do a full-size custom DIY calculator.
Why?
There are just too many hardware options available off-the-shelf. The iPhone, PDA's, the Casio 9860, the HP 20B, HP48/50 and even some TI's can be preprogrammed? etc
And newer calculator designs are becoming more more open and re-programmable. HP are moving in this direction.

There has been talk about hacking an existing product (e.g. LCD and PCB replacement), and that may have some merit to a niche market if someone can find a cheap and easy way to do it.

If your goal is to have a new HP42 then you can have that right now on an iPhone or other device. Why anyone would bother with a custom hardware project to recreate the real thing is beyond me. All that effort, time and money, just so you can have something with real buttons seems a tad silly, even if you did manage to pull it all off at a reasonable price and quality.

If you really want a high end DIY calc, don't waste time and effort doing it from scratch. Simply take an existing re-programmable calc, use it as the hardware platform, and look at changing the front panel and key legends. Low cost, low risk, short development, and a high quality result. You won't get that result with DIY from scratch for any cost you'd be able to afford.

#6
What do I think is a worthwhile project?
Given the above that the full size calculator market is difficult and options already exist. I'm going to concentrate on smaller calcs, with either another watch, or maybe even a REALLY TINY shirt pocket or belt clip calc.

My current sketches and thinking show a tiny (38mm x 27mm) 128x64 LCD, small tact switches again (but possibly bigger than the uWatch) that surround the screen, and the PCB front panel worked good last time. A thin rechargable battery, perhaps some rocker encoder switches, and a more powerful processor.

The case and front panel integration is the hardest part, but I have some ideas that may simplify this.

I'm getting the initial feeling it should be possible to come up with a smaller, thiner uWatch with integrated watch band, more rugged, and a dot matrix display that takes much less power. Fewer keys probably, but anyone who thinks that is a negative is missing the point of a project like this.

Intended market?
The uWatch is fiddly to assemble and not very rugged. That is why I have not sold it as anything but a kit. Also, the uWatch is very niche because it's pretty much just a calculator and not much else, and most people don't want to buy a kit.

So any next device I picture being less calculator-like, and more general purpose computing-like. Easier to assemble, more rugged, and sellable as a built-up product. Not designed for the calculator enthusiast market, but the infinitely bigger geek market. (Flame mail welcome)

Yet, I also plan to keep the uWatch's off-the-shelf parts concept to keep development costs down. Perhaps a custom case will be needed, but I have an idea to possibly make that simple enough I can do with my feeble mechanical CAD skills.

Oh, and last but not least. It doesn't matter what you come up with, you will never ever please anything but a minority. And even then they'll still want something different.

Will I actually go through with it? Don't know, I work on whims :->

Dave.

Edited: 16 Apr 2009, 9:45 p.m.

It's already here >

*Message #26 Posted by **db (martinez, ca.)** on 16 Apr 2009, 10:20 p.m.,*
in response to message #1 by robert rozee

HP has handed you TWO completely re-writable blank slates; the new 12c with it's ability to *be* an 11c, 15c, 16c or 10c or a combination thereof (or a 15c minus some things, plus your specialized routines) and the 20b with it's (ok strange) 2 line screen.
And HP will *give* you the development package.
Use it or loose it.

Re: It's already here >

*Message #27 Posted by **DaveJ** on 16 Apr 2009, 11:08 p.m.,*
in response to message #26 by db (martinez, ca.)

> Quote:
>
> HP has handed you TWO completely re-writable blank slates; the new 12c with it's ability to *be* an 11c, 15c, 16c or 10c or a combination thereof (or a 15c minus some things, plus your specialized routines) and the 20b with it's (ok strange) 2 line screen. And HP will *give* you the development package.
> Use it or loose it.

Yep, and it's a safe bet to say there is more to come. So I wouldn't be rushing into any DIY calc from scratch...

Curiously, I wonder if it would be possible to have say the 11C, 15C, and 16C ROM's fit inside the new 12C calc and then switch between them?

BTW, has anyone done a tear-down on one of those new 12C's yet?, I don't remember seeing anything...

Dave.

Re: It's already here >

*Message #28 Posted by **Paul Dale** on 16 Apr 2009, 11:25 p.m.,*
in response to message #27 by DaveJ

It would be very surprising if the CPU didn't have enough flash space for all the voyager ROMs together.

- Pauli

Re: It's already here >

*Message #29 Posted by **db (martinez, ca.)** on 16 Apr 2009, 11:31 p.m.,*
in response to message #27 by DaveJ

dave, et al;

sam kim said "or" not "and" but who knows? by axing the useless algebraic portion of the 12c and adding trig, nailed to 6 of the unused "g" keys (and p<>r/r<>p on two others of course) one could have a real do-it-all calcer.
17c anyone?

the really intriguing thing he hinted at was that by using the base of say the 15c (minus any unused functions); one can make a trade, or profession specific calculator out of eitherthe 12c or 20b. if i understood him correctly; he has handed the illuminati (that's you guys & girl) a chance to turn your programming skills into pin money.

Re: It's already here >

*Message #30 Posted by **Walter B** on 17 Apr 2009, 1:39 a.m.,*
in response to message #29 by db (martinez, ca.)

> Quote:
>
> by axing the useless algebraic portion of the 12c and adding trig, nailed to 6 of the unused "g" keys (and p<>r/r<>p on two others of course) one could have a real do-it-all calcer.

FWIW, find a draft here (I posted a similar one earlier here). The function set includes 15C and a good part of 16C. As was mentioned already many times, the LCD ist the limiting factor of both platforms HP opened recently. So I'm looking forward to Dave's work with a real dot matrix.

Ceterum censeo: HP, launch a 43S.

Walter

Re: It's already here >

*Message #31 Posted by **DaveJ** on 17 Apr 2009, 1:54 a.m.,*
in response to message #30 by Walter B

> Quote:
>
> FWIW, find a draft here (I posted a similar one earlier here). The function set includes 15C and a good part of 16C. As was mentioned already many times, the LCD ist the limiting factor of both platforms HP opened recently. So I'm looking forward to Dave's work with a real dot matrix.

I've just ordered a couple of THESE and THESE

Not huge, but usable, very tiny, and low power.

And on the keyboard front I have a novel idea to save space. And how does a tiny trackball sound?

Dave.

Edited: 17 Apr 2009, 2:04 a.m.

Re: It's already here >

*Message #32 Posted by **Maximilian Hohmann** on 17 Apr 2009, 11:25 a.m.,*
in response to message #31 by DaveJ

Hello!

> Quote:
>
> And how does a tiny trackball sound?

Not so good, to be honest... For me, two of the main purposes of a calculator is to save time and increase accuracy. Compared to a proper keyboard, track ball is much worse in both respects.

Greetings, Max

Re: It's already here >

*Message #33 Posted by **DaveJ** on 17 Apr 2009, 6:11 p.m.,*
in response to message #32 by Maximilian Hohmann

> Quote:
>
> Not so good, to be honest... For me, two of the main purposes of a calculator is to save time and increase accuracy. Compared to a proper keyboard, track ball is much worse in both respects.

It's not for calculator use, the watch can be used for other things too remember.

Dave.

Re: It's already here >

*Message #34 Posted by **Egan Ford** on 17 Apr 2009, 6:48 p.m.,*
in response to message #33 by DaveJ

I say, "go for it". A calculator with just buttons has already been done. I would like to see new ideas and new applications. I've often wished the 42S had a thumb wheel like many PDA phones have/had so that I could scroll through code faster.

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Let's build a calculator...

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CR2032 coin cells 20 for $5

*Message #1 Posted by **designnut** on 15 Apr 2009, 7:47 p.m.*

I found the coin cells used in the 33S and 50G to be expensive from stores. I found them at auction at the above price. I went through 10 overnight. I found them in garage door remotes, blood sugar meters. Thought you should know. Sam

Re: CR2032 coin cells 20 for $5

*Message #2 Posted by **DaveJ** on 15 Apr 2009, 9:15 p.m.,*
in response to message #1 by designnut

I just got 100 x CR2032's from Ebay for AU$16 delivered.

Yes, store prices are crazy.

Dave.

Re: CR2032 coin cells 20 for $5

*Message #3 Posted by **Paul Dale** on 15 Apr 2009, 9:33 p.m.,*
in response to message #1 by designnut

I've been buying these cheap CR2032 batteries for quite a while via eBay sellers in Hong Kong and the like. Mostly for my children's Tamogotchi's and other similar toys. My calculators don't use batteries up anything like as quickly :-)

I'm not confident they last longer than "name" brands but they are way way way cheaper.

- Pauli

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HP 35 Milestone Event at HP Labs

*Message #1 Posted by **Steve Leibson** on 15 Apr 2009, 1:39 p.m.*

I attended the IEEE HP 35 Milestone Award event at HP Labs yesterday. The blog entry is here:

HP 35 Milestone Event Blog

Regards,

Steve Leibson

Re: HP 35 Milestone Event at HP Labs

*Message #2 Posted by **Jake Schwartz** on 15 Apr 2009, 1:48 p.m.,*
in response to message #1 by Steve Leibson

We all know that Bill Hewlett was hoping for a pocket-sized model 9100A but since that one was programmable, we really didn't achieve that until the intro of the HP65 in 1974. This year marks the 35th anniversary of that amazing box and I bet there must be another "boatload" of history which would be worth hearing from that design team.

Jake Schwartz

Re: HP 35 Milestone Event at HP Labs

*Message #3 Posted by **Steve Leibson** on 16 Apr 2009, 10:07 a.m.,*
in response to message #2 by Jake Schwartz

Jake, I went back to the well and got more details from Tom Osborne for you. You'll find a supplemental blog entry here: Letter from Tom Osborne

Re: HP 35 Milestone Event at HP Labs

*Message #4 Posted by **Jake Schwartz** on 16 Apr 2009, 9:51 p.m.,*
in response to message #3 by Steve Leibson

Hi Steve,

This is great stuff! Hearing the history from the actual participants is really rewarding. And reading how they showed the 9100A to Mr. Wang prior to introduction just about made me cry - they just don't make great people like this anymore. It is so sad. Can you imagine anyone worrying about "burying" their competition today? If only today's world wasn't only about money....<sigh>

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HP 50G user manual

*Message #1 Posted by **hpnut** on 14 Apr 2009, 10:58 p.m.*

Hello all,

I would appreciate some help with the manual on Page 3-12.

1. do you agree that the ENTER key is not necessary for the example

12 m ENTER 1.5 yd ENTER x 3250 Mi ENTER 50 h ENTER /

2. I can't figure out how to convert 33 watts to btu's in the example. either in ALG or preferably in RPN.

I would appreciate a step by step answer, thanks in advance for any help.

hpnut in Malaysia

Re: HP 50G user manual

*Message #2 Posted by **Michael de Estrada** on 15 Apr 2009, 1:57 a.m.,*
in response to message #1 by hpnut

1. Yes. Once the menu item is selected, the stack entry is automatic. If you then type ENTER, you duplicate the entry. The manual is incorrect.

2. You cannot convert Watts to BTUs. Watts are units of Power and BTUs are units of Energy. Again this is simply an error in the manual. Note that the example is actually a coversion between Watts and horsepower(hp), which is correct since they are both units of power. Also, they make this coversion much too complicated. Assuming you are operating in RPN mode, all you need to do is type:

33 W <left shift> hp

and you get the same result. No need to enter all this stuff into the stack and then use the Convert function.

The HP-50g is a magnificent device with mediocre documentation.

Michael

Edited: 15 Apr 2009, 1:59 a.m.

Re: HP 50G user manual

*Message #3 Posted by **George Bailey (Bedford Falls)** on 15 Apr 2009, 2:00 a.m.,*
in response to message #1 by hpnut

My guess is that because 1 BTU is 2.931 ×10^-4 kWh (kilowatt hours), you can NOT convert BTU to Watt at all - they are inconsistent units.

Re: HP 50G user manual

*Message #4 Posted by **hpnut** on 15 Apr 2009, 2:23 a.m.,*
in response to message #3 by George Bailey (Bedford Falls)

Gentlemen,

thanks for your response. agreed, great little device but poor documentation.

cheers

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OT: My EEVblog

*Message #1 Posted by **DaveJ** on 13 Apr 2009, 9:54 p.m.*

Off topic, but I know some of you are electronics guys, and hence may be interested in my new Electronics Engineering video blog, the EEVblog

If anything, to watch me make a fool of myself :->

Dave.

Re: OT: My EEVblog

*Message #2 Posted by **hugh steers** on 14 Apr 2009, 7:19 p.m.,*
in response to message #1 by DaveJ

Excellent!

I like the way the equipment in the background is rearranged in each blog - like you actually use it or something :-)

HP calculator vid blog anyone?

:-)

Re: OT: My EEVblog

*Message #3 Posted by **DaveJ** on 14 Apr 2009, 8:16 p.m.,*
in response to message #2 by hugh steers

> Quote:
>
> Excellent!
>
> I like the way the equipment in the background is rearranged in each blog - like you actually use it or something :-)
>
> HP calculator vid blog anyone?

Actually, I just filmed a segment this morning that involves the design of a specific HP calculator. It just might make it into the next blog.

Dave.

Re: OT: My EEVblog

*Message #4 Posted by **Steve Leibson** on 14 Apr 2009, 8:26 p.m.,*

in response to message #1 by DaveJ

Nice job! I'll give it a plug in my EDN blog.

Steve Leibson

Re: OT: My EEVblog

*Message #5 Posted by **DaveJ** on 14 Apr 2009, 8:43 p.m.,*
in response to message #4 by Steve Leibson

> Quote:
>
> Nice job! I'll give it a plug in my EDN blog. Steve Leibson

Thanks Steve. I've also submitted it to the EDN video Tech Clips to see if they are interested. Haven't heard back yet though.

Regards Dave.

Re: OT: My EEVblog

*Message #6 Posted by **Katie Wasserman** on 15 Apr 2009, 12:59 a.m.,*
in response to message #5 by DaveJ

Dave,

I really like your EE video magazine! There's a similar ham radio one that been around for a while, Amature Logic, that's a joint aussie-american production. Taking in a partner two might lighten your load and give you the time to do more in-depth segments.

-Katie

Re: OT: My EEVblog

*Message #7 Posted by **DaveJ** on 15 Apr 2009, 1:15 a.m.,*
in response to message #6 by Katie Wasserman

> Quote:
>
> Dave,
>
> I really like your EE video magazine! There's a similar ham radio one that been around for a while, Amature Logic, that's a joint aussie-american production. Taking in a partner two might lighten your load and give you the time to do more in-depth segments.
>
> -Katie

Thanks heaps for the link Katie, didn't know it existed.
After a quick look it certainly lives up to its .TV name, each episode is practically a full TV show. I don't know how they upload those long videos to YouTube, it tells me I'm limited to 10 minutes, so I struggle to edit my episodes down to meet that limit.

Dave.

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I have an HP-70 vintage calculator for sale

*Message #1 Posted by **rebecca yurkanin** on 13 Apr 2009, 1:58 a.m.*

My father whom I sold several calculators on ebay last year has found another nice working HP-70 calculator. While I have sold many other models, I don't think we ever sold this model. It comes with an a/c adapter and all functions tried seem to work fine. My question is, this website claims $295 to $425 is its value. However I cannot find it anywhere, not even on eBay for sale? Is eBay the best place to sell it, and where would I get the most money out of it? I do not like selling on eBay, so is there an alternative and what really is the value? Does anyone know? thanks, Becky

Re: I have an HP-70 vintage calculator for sale

*Message #2 Posted by **Namir** on 13 Apr 2009, 2:06 a.m.,*
in response to message #1 by rebecca yurkanin

Becky,

I'd say eBay IS the best place to sell it. If you want to get the most money, you should set your personal dislikes aside. One cannot have it both ways--maximum cash for minimum effort.

Namir

Re: I have an HP-70 vintage calculator for sale

*Message #3 Posted by **Dan Grelinger** on 13 Apr 2009, 1:39 p.m.,*
in response to message #1 by rebecca yurkanin

If you want the maximum selling price, and can put up with all the fees (close to 12% when everything is factored in) then ebay is probably the best way to go.

An alternative is the classified ads on this site.

Re: I have an HP-70 vintage calculator for sale

*Message #4 Posted by **DaveJ** on 13 Apr 2009, 5:26 p.m.,*
in response to message #3 by Dan Grelinger

> Quote:
>
> If you want the maximum selling price, and can put up with all the fees (close to 12% when everything is factored in) then ebay is probably the best way to go.

It's nowhere near 12%.
On eBay Australia (other countries should be very similar I presume?), for say a $250 listed item there would be a $2.50 listing charge + $0.59 for the gallery photo (the only essential option).
Another $3.93+$4.81 final value fee if it sells for say $250.

Then 2.4% PayPal fee ($6) if they pay that way.
Total fees $17.83 or 7.1%, or only 4.7% if not using PayPal.

Yes it's high and outrageous, but not 12%

See:
http://pages.ebay.com.au/help/sell/fees.html

Only a fool would use Ebay's picture hosting service for bigger and extra photos and pay the extra fees, plenty of fee options exist.

Dave.

Re: I have an HP-70 vintage calculator for sale

*Message #5 Posted by **Dan Grelinger** on 13 Apr 2009, 10:05 p.m.,*
in response to message #4 by DaveJ

Here is an example of what it costs to sell via Ebay and take PayPal.

$10 Initial Bid: $.55 Insertion Fee
$25 Winning Bid: $2.19 Final Value Fee
(Assume $10 in shipping cost)
Pay Pal Fee: $1.32

So, a total of $4.06 in fees for a $25 sale. If you whip out your trusty HP, you will see that the fees are over 16% of the sale! If the above transaction was to someone across the boarder, make that 17%!

So, you don't think the fees can be anywhere near 12%?

BUZZZZZZZ! Wrong Answer, try again.

Dan

Re: I have an HP-70 vintage calculator for sale

*Message #6 Posted by **Michael de Estrada** on 13 Apr 2009, 11:02 p.m.,*
in response to message #5 by Dan Grelinger

Dan,

Ebay final sale fee rates for auctions decrease significantly for higher amounts. The rate is 8.75% for the first $25 and then decreses to 3.5% for the amount over $25 and up to $1000, where it decreases to 1.5%. So, yes, it really does not pay to sell anything for less than $25 unless you are a powerseller, but if your item sells for several hundred dollars or more, it makes a lot more sense.

Michael

Re: I have an HP-70 vintage calculator for sale

*Message #7 Posted by **DaveJ** on 13 Apr 2009, 11:20 p.m.,*
in response to message #5 by Dan Grelinger

> Quote:
>
> Here is an example of what it costs to sell via Ebay and take PayPal.

> $10 Initial Bid: $.55 Insertion Fee
> $25 Winning Bid: $2.19 Final Value Fee
> (Assume $10 in shipping cost)
> Pay Pal Fee: $1.32
>
> So, a total of $4.06 in fees for a $25 sale. If you whip out your trusty HP, you will see that the fees are over 16% of the sale! If the above transaction was to someone across the boarder, make that 17%!
>
> So, you don't think the fees can be anywhere near 12%?
>
> BUZZZZZZZ! Wrong Answer, try again.
>
> Dan

The fees come down very significantly based on final value price.
Please re-do your calcs based on a realistic selling price for what we are talking about here and compare apples with apples.

I do believe you'll find it's closer to 5% (list+sale) for a $250 item, not including PayPal. So I stand by my comment that it's nowhere near 12% for the OP's calculator we are talking about here.

http://pages.ebay.com/help/sell/fees.html

Only a fool or high volume power seller sells cheap things (like $25) on eBay where the fess are a killer.

On Ebay Australia, to sell a $250 item, the fess are as I quoted previously. 7.1% using PayPal, or only 4.7% without PayPal. This is slightly less than it is in the US.

Dave.

Edited: 13 Apr 2009, 11:24 p.m.

Re: I have an HP-70 vintage calculator for sale

*Message #8 Posted by **Dan Grelinger** on 14 Apr 2009, 4:15 p.m.,*
in response to message #7 by DaveJ

> Quote:
>
> ---
>
> So I stand by my comment that it's nowhere near 12% for the OP's calculator we are talking about here.
>
> ---

You clarified your original comment in this post by adding qualifications. As qualified, it is accurate. Without qualifications, it is not as correct as you originally proposed.

Dan

Re: I have an HP-70 vintage calculator for sale

*Message #9 Posted by **DaveJ** on 14 Apr 2009, 5:33 p.m.,*
in response to message #8 by Dan Grelinger

> Quote:
>
> You clarified your original comment in this post by adding qualifications. As qualified, it is accurate. Without qualifications, it is not as correct as you originally proposed.

Ditto for both of your posts when you failed to mention the fees are only as high as you claim on low priced items, which clearly does not relate to the subject of this forum. Therefore your statements are inaccurate when it comes to selling almost any vintage HP calculator.

Dave.

Re: I have an HP-70 vintage calculator for sale

*Message #10 Posted by **Dan Grelinger** on 15 Apr 2009, 5:30 p.m.,*
in response to message #9 by DaveJ

Yes, I could have qualified my statement as well.

Re: I have an HP-70 vintage calculator for sale

*Message #11 Posted by **bennyboy6** on 13 Apr 2009, 5:00 p.m.,*
in response to message #1 by rebecca yurkanin

Recently, a couple of HP-70's sold on ebay for $170- or so each.

Why not give classifieds on this site a free spin? Ask for $250 or more. If you don't get what you want on classifieds here, you can try ebay next.

You can use Paypal as payment for mutual protection.

Your only fees would thus be the Paypal fees, which vary based on whether you are Paypal premier/business or Paypal personal. Either way, it should be 3-5%. No need to pay ebay fees.

Re: I have an HP-70 vintage calculator for sale

*Message #12 Posted by **DaveJ** on 13 Apr 2009, 5:29 p.m.,*
in response to message #11 by bennyboy6

> Quote:
>
> Your only fees would thus be the Paypal fees, which vary based on whether you are Paypal premier/business or Paypal personal. Either way, it should be 3-5%. No need to pay ebay fees.

My PayPal personal Premier account (the free one) is only 2.4% + $0.30

Dave.

Re: I have an HP-70 vintage calculator for sale

*Message #13 Posted by **bennyboy6** on 13 Apr 2009, 5:52 p.m.,*
in response to message #12 by DaveJ

If you go to this page, assuming monthly sales under $3K,

For USA Paypal, it is 2.9% plus 30 cents, if you have a premier or business account. 4.9% plus 30 cents if you only have a personal account.

I assume you are Australian and I am guessing Paypal Australia has different rules.

Paypal fees page

and I neglected to mention that there is an additional 1% surcharge for cross border transactions (assuming you are in the USA and are accepting payment from someone outside the USA).

However, if you insist on non-credit cards, where the buyer has to get the money out of their bank and into Paypal before paying, you can avoid fees by acceptance into a personal account.

Edited: 13 Apr 2009, 5:56 p.m.

Re: I have an HP-70 vintage calculator for sale

*Message #14 Posted by **DaveJ** on 13 Apr 2009, 5:31 p.m.,*
in response to message #1 by rebecca yurkanin

I agree with the others, Ebay is the place to sell if you want the most money.
I don't know where you are based, but if you want the most bidders then you have to sell worldwide, and tick the box on the auction to make sure your listing is seen world wide.

The most important thing is BIG clear photos, and lots of them.

Dave.

Re: I have an HP-70 vintage calculator for sale

*Message #15 Posted by **Keith Midson** on 16 Apr 2009, 2:29 a.m.,*
in response to message #1 by rebecca yurkanin

Great, so now we've clarified ebay fees, when will we see this beast on ebay? You will generate a lot of interest (me included!). Regards, Keith

Re: I have an HP-70 vintage calculator for sale

*Message #16 Posted by **Michael de Estrada** on 16 Apr 2009, 9:20 a.m.,*
in response to message #15 by Keith Midson

Never. It sold through the MoHPC advertisements. No ebay fees! And no, I did not buy it.

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L() and G() sample

*Message #1 Posted by **Sancerre (Phoenix)** on 13 Apr 2009, 12:07 a.m.*

Hi,

A while back, (3/17/2009) to be exact, there was a long thread concerning a solver equation that would be able to solve (iteratively) two unknowns. During that thread, it was mentioned that the Let/Get functions did not have a clean translation when ported over to the 49/50G.

Can some provide an appropriate example of using Let/Get with either the 17BII/19BII? I've been 'playing around' a bit with RPL and would like to see whether there are some routines that could easily mimic the functionality.

Regards,

Tod

Re: L() and G() sample

*Message #2 Posted by **Don Shepherd** on 13 Apr 2009, 2:54 a.m.,*
in response to message #1 by Sancerre (Phoenix)

The purpose of the Let and Get functions in the 17Bii, I would say, is to allow "local" variables; that is, variables that will not appear in the menu and that the user will never see. This functionality, along with the sigma and IF functions, allows the 17Bii solver to operate somewhat as a "programming" language. The Let function allows you to assign a value to a local variable, and the Get function allows you to reference that variable without it appearing in the menu.

```
L(A:12*INT) loads local variable A with 12 times variable INT
G(A) references the current value of local variable A
The variable A will not appear in the menu.
```

I don't know much about RPL and the 50g, or how its menu system works, but I assume that local variables are no problem on that system, since it is a "real" programming system.

Re: L() and G() sample

*Message #3 Posted by **Sancerre (Phoenix)** on 13 Apr 2009, 9:37 a.m.,*
in response to message #2 by Don Shepherd

That is just what I thought. I suggested that the 50G solver could handle pretty much anything you threw at it. The 'problem' stated was that you could not (easily) port over formulas from the 17BII/19BII due to let/get. I am looking for an example of a problematic formula so that I can find a solution to the problem.

Re: L() and G() sample

*Message #4 Posted by **Peter A. Gebhardt** on 13 Apr 2009, 6:38 p.m.,*
in response to message #1 by Sancerre (Phoenix)

Tod,

I've brought that issue up in the following threads:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=94969

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=99856

I didn't follow-up on using this proposed solution for myself, because I "fell in love" with the 200LXs shortly afterwards ... ;-))

Best regards,

Peter A. Gebhardt

Re: L() and G() sample

*Message #5 Posted by **Sancerre (Phoenix)** on 13 Apr 2009, 6:53 p.m.,*
in response to message #4 by Peter A. Gebhardt

Thanks Peter,

I actually found the post, but hadn't had a chance to update the thread. Can you provide a typical formula that you might want to port over to the 50G?

I would like to take a look at the problem just for the challenge. Besides, you might end your love affair one day, and perhaps I'll have a solution for you. By the way, I am a huge fan of the 17BII, and I found a 19BII recently just because I had too. However, the display and connectivity of the 50G are just too much to ignore.

--Tod

Re: L() and G() sample

*Message #6 Posted by **Peter A. Gebhardt** on 14 Apr 2009, 4:39 a.m.,*
in response to message #5 by Sancerre (Phoenix)

Tod,

one of the most useful, albeit also most challenging apps is found here:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=234

This is W. Bruce Maguire II's fine work on implementing a refined & faster version of the "basic" FMRR algorithm found in Chris Coffin's book.

Thanks for taking the challenge of this issue of portability!

Peter A. Gebhardt

Re: L() and G() sample

*Message #7 Posted by **Sancerre (Phoenix)** on 15 Apr 2009, 10:36 a.m.,*
in response to message #6 by Peter A. Gebhardt

Peter,

Admittedly that is a bit more complicated than I had wished. I'll put together a simple formula that uses let/get first; then I'll add using cash flows. I'll keep you posted.

--Tod

Re: L() and G() sample

*Message #8 Posted by **Peter A. Gebhardt** on 15 Apr 2009, 6:23 p.m.,*
in response to message #7 by Sancerre (Phoenix)

Tod,

I've choosen the example above, because it is well tested already in it's native SOLVER form on the old 17bII to the newest 17bII+ and it shows the deficiencies of my proposed approach - declining readability of the resulting code after "parsing" it to some 50G compatible code.

It was not meant to stress your willingness or ability to tackle the problem ;-))

Thanks again for taking on the challenge!

Peter A. Gebhardt

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It is worth this calculator more than $2500?

*Message #1 Posted by **Gonzalo Fernandez (Spain)** on 12 Apr 2009, 5:45 a.m.*

See link

Re: It is worth this calculator more than $2500?

*Message #2 Posted by **DaveJ** on 12 Apr 2009, 7:01 a.m.,*
in response to message #1 by Gonzalo Fernandez (Spain)

That's almost $3600 Australian dollars, that is INSANE!

If bought as an investment/resell then surely there would be very little chance of an upside and only an eventual (big?) downside. Crazy.

If bought for use as a usable tool, then that's even crazier.

If bought to complete a collection etc and the person has plenty of cash to throw around, then fair enough, but I find it puzzling there would be so many bidders willing to pay very serious money for this thing. There are half a dozen bidders over EU$1000.

Can anyone explain this at all?

Dave.

Re: It is worth this calculator more than $2500?

*Message #3 Posted by **Martin Pinckney** on 12 Apr 2009, 8:29 a.m.,*
in response to message #2 by DaveJ

> Quote:
>
> If bought to complete a collection etc and the person has plenty of cash to throw around, then fair enough...
>
> Can anyone explain this at all?
>
> Dave.

You answered your own question.

Re: It is worth this calculator more than $2500?

*Message #4 Posted by **DaveJ** on 12 Apr 2009, 7:17 p.m.,*
in response to message #3 by Martin Pinckney

> Quote:
>
> You answered your own question.

I don't think I did. You sniped the interesting part:
"but I find it puzzling there would be so many bidders willing to pay very serious money for this thing. There are half a dozen bidders over EU$1000."

Now, one or two crazy cashed-up collectors I can understand, but half a dozen or so?

I'm not entirely up on the collectable market (is there something incredibly special about this one?), but people don't even pay anywhere near these crazy prices for arguably more collectable machines.

Dave.

Re: It is worth this calculator more than $2500?

*Message #5 Posted by **Walter B** on 13 Apr 2009, 8:39 a.m.,*
in response to message #4 by DaveJ

> Quote:
>
> Now, one or two crazy cashed-up collectors I can understand, but half a dozen or so?

You'll find enough heads visiting this forum, and there are some more folks floating around outside.
(For sake of clarity: I didn't take part in this auction).

Re: It is worth this calculator more than $2500?

*Message #6 Posted by **Raymond Del Tondo** on 12 Apr 2009, 12:18 p.m.,*
in response to message #2 by DaveJ

A few years ago, a Japanese eBayer bought a boxed HP-01 for about US $4500,
and that was at a time when the USD was worth much more than today,
and despite the fact that there exist many more HP-01 units than W&W HP-41CY Turbo units.

Also don't forget that most of you didn't even _know_ that something like a CY was ever made;-)

HTH

Re: It is worth this calculator more than $2500?

*Message #7 Posted by **DaveJ** on 12 Apr 2009, 7:31 p.m.,*
in response to message #6 by Raymond Del Tondo

> Quote:
>
> Also don't forget that most of you didn't even _know_ that something like a CY was ever made;-)

Now that poses an interesting question. Does that make it *generally* more collectable in that case? Or is the calculator collectable market more limited to the mass produced items more familiar to the collectors?
If more unique and obscure units are more valuable (as this auction seems to demonstrate), could you

increase the value of your collection by modifying units? :->
I can see the eBay ad now: "This is the worlds only example of a custom produced HPxx running at X.xx MHz with a red racing stripe!"

Dave.

Re: It is worth this calculator more than $2500?

*Message #8 Posted by **Michael de Estrada** on 12 Apr 2009, 8:48 a.m.,*
in response to message #1 by Gonzalo Fernandez (Spain)

Actually, it was worth a lot more to the winning bidder, since he or she placed 4 additional higher bids. It looks to me like this may be a special case of a unique and very rare custom item, which might justify the price. I've seen this sort of thing with autos, where one-off custom-built specials command much higher prices at auction.

Michael

Re: It is worth this calculator more than $2500?

*Message #9 Posted by **db (martinez, ca.)** on 12 Apr 2009, 12:06 p.m.,*
in response to message #1 by Gonzalo Fernandez (Spain)

When it was new, the whole package was worth what, maybe $1300 or so? Factoring in inflation, minus some for wear; the buyer still got a bargain and the seller lost a bit but got to use the tool for 25 years. I don't need that setup for my 41 but it looks like a win/win for them. I'd sure hate to spend that much for 30 year old technology but it's a 41. It does everything and does it in RPN.

Way too EXPENSIVE

*Message #10 Posted by **Namir** on 13 Apr 2009, 2:13 a.m.,*
in response to message #1 by Gonzalo Fernandez (Spain)

In as much as a fan of the 41 line that I am, I would say that $2500 is way too much. I keep things in focus and ask myself about the computational power of the 41CY compared with the CPU power of computers today. I have a power-user desktop (which I call Hercules) that performs calculations that seemed to be in the realm of science fiction 30 years ago!!! No calculator exists that can be in any shape or form, in the same league of my Hercules.

Namir

Re: Way too EXPENSIVE

*Message #11 Posted by **Garth Wilson** on 13 Apr 2009, 2:24 a.m.,*
in response to message #10 by Namir

There's a lot more to the practical usefulness of such a calculator than raw computing power, which is why I use my 41cx far more than my 71's, and why I use it every day even though I also have a modern PC. I'd like to have a 41CY, but not to the tune of $2500.

Re: Way too EXPENSIVE

*Message #12 Posted by **DaveJ** on 13 Apr 2009, 3:21 a.m.,*
in response to message #11 by Garth Wilson

> Quote:
>
> There's a lot more to the practical usefulness of such a calculator than raw computing power, which is why I use my 41cx far more than my 71's, and why I use it every day even though I also have a modern PC. I'd like to have a 41CY, but not to the tune of $2500.

Are there not modern replacements, like an iPhone with a 41 emulator?

Dave.

Re: Way too EXPENSIVE

*Message #13 Posted by **Egan Ford** on 13 Apr 2009, 10:50 a.m.,*
in response to message #12 by DaveJ

> Quote:
>
> Are there not modern replacements, like an iPhone with a 41 emulator?

This is probably a rhetorical question, but I'll answer anyway.

Yes. If you can get past the physical keyboard, then i41CX+ on the iPhone/iTouch is a very good 41CX replacement. The 5X adjustable speed bump, built-in printer, module support, and the ability to backup and restore flags, registers, state, and programs makes this a very viable 41CX (or multiple with state backup/restore). i41CX+ also works in the dark (and full sun), supports overlays, and programs/modules can be downloaded (http) and uploaded (email). Lastly HEPAX support may be available soon. And, with the to-be-released iPhone 3.0 OS with dock connector API it may be possible to integrate JFG's PILBox with the iPhone and add HP-IL.

Yes there are alternatives.

Edited: 13 Apr 2009, 10:54 a.m.

Re: Way too EXPENSIVE

*Message #14 Posted by **Michael de Estrada** on 13 Apr 2009, 12:21 p.m.,*
in response to message #13 by Egan Ford

I think the issue here is whether this particular item should be considered a collectable and rare antique or a practical modern appliance. Therein lies the true value. Why would someone pay 100 times as much for an HP-35 Red Dot with ROM bugs and bulky NiCads, than something far more useful that can be purchased in any store? To me, the Red Dot is an antique and nothing more, however, I regard my HP-48SX as a modern appliance, which is why I recently upgraded to a HP-50g. That is also why I will not pay the very high prices currently being asked for the HP-42S, and am perfectly happy with Free42.

Re: Way too EXPENSIVE

*Message #15 Posted by **Garth Wilson** on 13 Apr 2009, 2:19 p.m.,*
in response to message #12 by DaveJ

> Quote:

> Are there not modern replacements, like an iPhone with a 41 emulator?

I want to be able to use it as a controller to a dozen IEEE-488 lab instruments at once like you can a 41. I also want full control, which I don't feel I can have with a huge GUI OS turning me into an appliance operator. I also want the stability you don't get in consumer products that are here today and gone tomorrow that require transferring and adpating everything to a new system so frequently. I've had certain programs in my 41 continuously for nearly 20 years.

Re: Way too EXPENSIVE

*Message #16 Posted by **DaveJ** on 13 Apr 2009, 5:41 p.m.,*
in response to message #15 by Garth Wilson

> Quote:
>
> > I want to be able to use it as a controller to a dozen IEEE-488 lab instruments at once like you can a 41. I also want full control, which I don't feel I can have with a huge GUI OS turning me into an appliance operator. I also want the stability you don't get in consumer products that are here today and gone tomorrow that require transferring and adpating everything to a new system so frequently. I've had certain programs in my 41 continuously for nearly 20 years.

In that case an old DOS PC you can pick up anywhere for free is by far the cheapest solution for IEEE-488 control. It's not uncommon for DOS programs to stay up and running for a decade or more, the limitation essentially being the power supply reliability.

No need to use your expensive HP41 for that.

Dave.

Re: Way too EXPENSIVE

*Message #17 Posted by **Garth Wilson** on 13 Apr 2009, 5:57 p.m.,*
in response to message #16 by DaveJ

> Quote:
>
> > In that case an old DOS PC you can pick up anywhere for free is by far the cheapest solution for IEEE-488 control. It's not uncommon for DOS programs to stay up and running for a decade or more, the limitation essentially being the power supply reliability.
> >
> > No need to use your expensive HP41 for that.

Actually, in addition to my modern PC, I do still use an old DOS one for some things. I also want the handheld's portability though. Even though the lab instruments aren't portable, the 41 or 71 can be disconnected in an instant to go from the workbench to my desk to the attache case and you can work on your project on the commuter train home, taking up a lot less room than a laptop and booting nearly instantly.

Re: Way too EXPENSIVE

*Message #18 Posted by **Michael de Estrada** on 13 Apr 2009, 7:00 p.m.,*

in response to message #17 by Garth Wilson

Garth,

I have a new National Instruments AT bus IEEE-488-2 controller card with MS-DOS software, DOS reference manual and AT-GPIB firmware documentation if you are interested. It is circa 1991 and also supports 16-bit Windows 3.1. Send me an email if you are interested.

Michael

Re: Way too EXPENSIVE

*Message #19 Posted by **Namir** on 13 Apr 2009, 5:40 a.m.,*
in response to message #11 by Garth Wilson

Using resource-rich PCs allows me to explore complex algorithms to solve very hard nonlinear regression problems that NO calculator can even touch. Being able to venture in such areas of new algorithms is an opportunity that I cherish. Portability in my case, is not an issue.

At the end of the day, my money goes to the computing devises that DO DELIVER!

Namir

It's worth even more ...

*Message #20 Posted by **Juergen Keller** on 13 Apr 2009, 5:08 a.m.,*
in response to message #1 by Gonzalo Fernandez (Spain)

... at least I wouldn't sell mine for EUR 2000.- :-)

The problem is that there are more people that want to buy a 41CY than there are 41CY for sale, so it's simply a matter of demand and supply. That's capitalism in its essence, may the money be with you!

Re: It's worth even more ...

*Message #21 Posted by **Gonzalo Fernandez (Spain)** on 13 Apr 2009, 12:47 p.m.,*
in response to message #20 by Juergen Keller

Can a calculator collection be considered an investment? I don´t think so, is not the same collecting old watches, stamps, coins or paints than collecting calculators.

I thought this to be rhetorical, because yes, to the buyer it was worth it.

*Message #22 Posted by **Geoff Quickfall** on 13 Apr 2009, 1:09 p.m.,*
in response to message #1 by Gonzalo Fernandez (Spain)

Only he can tell us the 'Why'.

I use the HP41CX extensively at work and at home as a brain teaser. I have outfitted it with a Clonix, double x-memory, IR transmitter for printing and numerous modules for fun and use.

I probably have overstepped the boundary of what others would be willing to invest with respect to time and money. In fact, I purchased a spare for when I go back to school as my self created programs still apply to my field and program running time is not a factor.

I also restore watches, over 150 of them so far. These are only going to be an investment when I start selling them (after retirement). I have done my homework on type and complication, that employs the most fun for repair and the highest return in future sales. The only unkown is whether anyone will want a museum restored, mechanical watch in the future?

So back to the buyer, as an earlier poster said, if you have the money to play then play. For me the CY would finish my HP 41CX series off perfectly.

So the question is, does anyone have a spare CY for sale for under $200 that they are willing to sell? Mainly because it means nothing to them including the possibility of a $2500 sale?

Drop me a line and make a quick $200 ;-)

That's my 2 cents!!!

Geoff

Re: I thought this to be rhetorical, because yes, to the buyer it was worth it.

*Message #23 Posted by **Ángel Martin** on 14 Apr 2009, 5:32 a.m.,*
in response to message #22 by Geoff Quickfall

What we need is a remake of the 41CY, thousands of new units flooding the marketplace... that'll do it! ;-)

Re: I thought this to be rhetorical, because yes, to the buyer it was worth it.

*Message #24 Posted by **Walter B** on 14 Apr 2009, 7:27 a.m.,*
in response to message #23 by Ángel Martin

I wouldn't go back so far:

Ceterum censeo: HP, launch a 43S.

Walter

Re: It is worth this calculator more than $2500?

*Message #25 Posted by **Thomas Klemm** on 22 Apr 2009, 1:20 p.m.,*
in response to message #1 by Gonzalo Fernandez (Spain)

It seems criminals are willing to pay a lot more for electronic scrap:
Kriminelle zahlen 25.000 Euro für Nokia-Handy aus Bochum
Criminals pay 25,000 euros for Nokia mobile phone from Bochum

Best regards
Thomas

Re: It is worth this calculator more than $2500?

*Message #26 Posted by **Marcus von Cube, Germany** on 23 Apr 2009, 5:34 a.m.,*
in response to message #25 by Thomas Klemm

This is probably a hoax: Comment.

It is worth this calculator more than $2500?

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I just couldn't resist, I mean how long does one have to wait

*Message #1 Posted by **Geoff Quickfall** on 11 Apr 2009, 7:44 p.m.*

before somebody said something! Have you checked out this months HP Solve Calculator issue:

click here for aprils copy

I mean, really?

;-)

Geoff

p.s I don't know why I was picked as I can think of a number of people who should have their HP bio done, instead of me!

Edited: 11 Apr 2009, 9:52 p.m. after one or more responses were posted

Re: I just couldn't resist, I mean how long does one have to wait

*Message #2 Posted by **Raymond Del Tondo** on 11 Apr 2009, 8:11 p.m.,*
in response to message #1 by Geoff Quickfall

Congrats:-)

Re: I just couldn't resist, I mean how long does one have to wait

*Message #3 Posted by **PeterP** on 11 Apr 2009, 9:13 p.m.,*
in response to message #1 by Geoff Quickfall

awesome job Geoff, very nice article. Heartfelt congrats!

Cheers

Peter

Re: I just couldn't resist, I mean how long does one have to wait

*Message #4 Posted by **Mike Morrow** on 11 Apr 2009, 11:34 p.m.,*
in response to message #1 by Geoff Quickfall

This is a very interesting and enjoyable article!

I used my first HP, the HP-67, to perform reactor power calorimetric calculations on a U.S. ballistic missile submarine in the late 1970s. The magnetic card programable HP-67 saved a *lot* of time performing this procedure, which could often compromise ship mission. I used it to compute closest point of approach for nearby maritime traffic and other navigational tasks when I was officer of the deck, and to perform other engineering calculations. That HP-67 was a personal purchase, costing me most of one month's take-home pay

as a Navy lieutenant junior grade, and I wrote all programs used. I still have it, though it needs card reader roller repair. Were I to do the same things today, the HP50g would easily be my choice for these critical applications.

These small machines performed very real and important functions. Your interview shows that. It brought back memories. Thanks!

Re: I just couldn't resist, I mean how long does one have to wait

*Message #5 Posted by **Prabhu Bhooplapur** on 12 Apr 2009, 12:38 a.m.,*
in response to message #1 by Geoff Quickfall

Hi Geoff,

Thanks. I did not have to wait too long to read about you and your calculators. Wonderful! You are one of the lucky fellows who can combine work with pleasure. If you are still looking for the HP35S let me know. I should be able to get one in Singapore.

Best regards,

Prabhu

Thanks everyone, I was extremely surprised and honoured by the interview..

*Message #6 Posted by **Geoff Quickfall** on 12 Apr 2009, 12:49 a.m.,*
in response to message #5 by Prabhu Bhooplapur

and as I stated earlier, I can think of many more deserving HP'iers to interview than me!

Prabhu,

thanks for the offer, but I have secured the HP35s and enjoy playing with it. It however will not fulfil all the abilities of the HP 41, 42s or 48 series as the printer functions do not exist.

Still, fun to convert and see all the old programs, sans timer, printer and HPIL, function in a 'new' calculator! And mine does not have the slanted display and (it's new) none of the keys bounce and etc..

Cheers, Geoff

Edited: 12 Apr 2009, 12:57 a.m.

Re: Thanks everyone, I was extremely surprised and honoured by the interview..

*Message #7 Posted by **MikeO** on 12 Apr 2009, 3:52 a.m.,*
in response to message #6 by Geoff Quickfall

Hi Geoff, Nice article! I really enjoyed seeing your collection at HHC2008, and I'm always amazed at the great tips you provide on restoration techniques.

-MikeO

Re: I just couldn't resist, I mean how long does one have to wait

*Message #8 Posted by **dbatiz** on 12 Apr 2009, 6:28 a.m.,*
in response to message #1 by Geoff Quickfall

Outstanding article Geoff. Congratulations!

Very Respectfully,

David

Edited: 12 Apr 2009, 8:49 a.m.

Re: I just couldn't resist, I mean how long does one have to wait

*Message #9 Posted by **DaveJ** on 12 Apr 2009, 7:14 a.m.,*
in response to message #1 by Geoff Quickfall

Terrific article Geoff, really enjoyed it!

Dave.

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OT: Pental number system?

*Message #1 Posted by **Michael de Estrada** on 10 Apr 2009, 11:41 p.m.*

Has anyone encountered or used the pental (base 5) number system? I came across it by chance when I was playing around with my grandson's Sharp EL-531W scientific algebraic calculator, which we had just bought for him at the supermarket for $12.99, so it's pretty much a low end calculator similar to the HP SmartCalc 300s. I am familiar with binary, octal and hexadecimal numbers for use in programming and computer applications, but I have never before seen the use of pental numbers (e. g. 6 decimal = 11 pental). So, at the risk of appearing grossly ignorant, what would be the application for such a number system? I've never seen it on any of my HP calcs; even the mighty HP-50g lacks it.

Please help me before I lose face with my grandson, who thinks I am the eternal fountain of knowledge.

Michael

Re: OT: Pental number system?

*Message #2 Posted by **Sancerre (Phoenix)** on 10 Apr 2009, 11:50 p.m.,*
in response to message #1 by Michael de Estrada

You never have to look far

Re: OT: Pental number system?

*Message #3 Posted by **Michael de Estrada** on 11 Apr 2009, 1:10 a.m.,*
in response to message #2 by Sancerre (Phoenix)

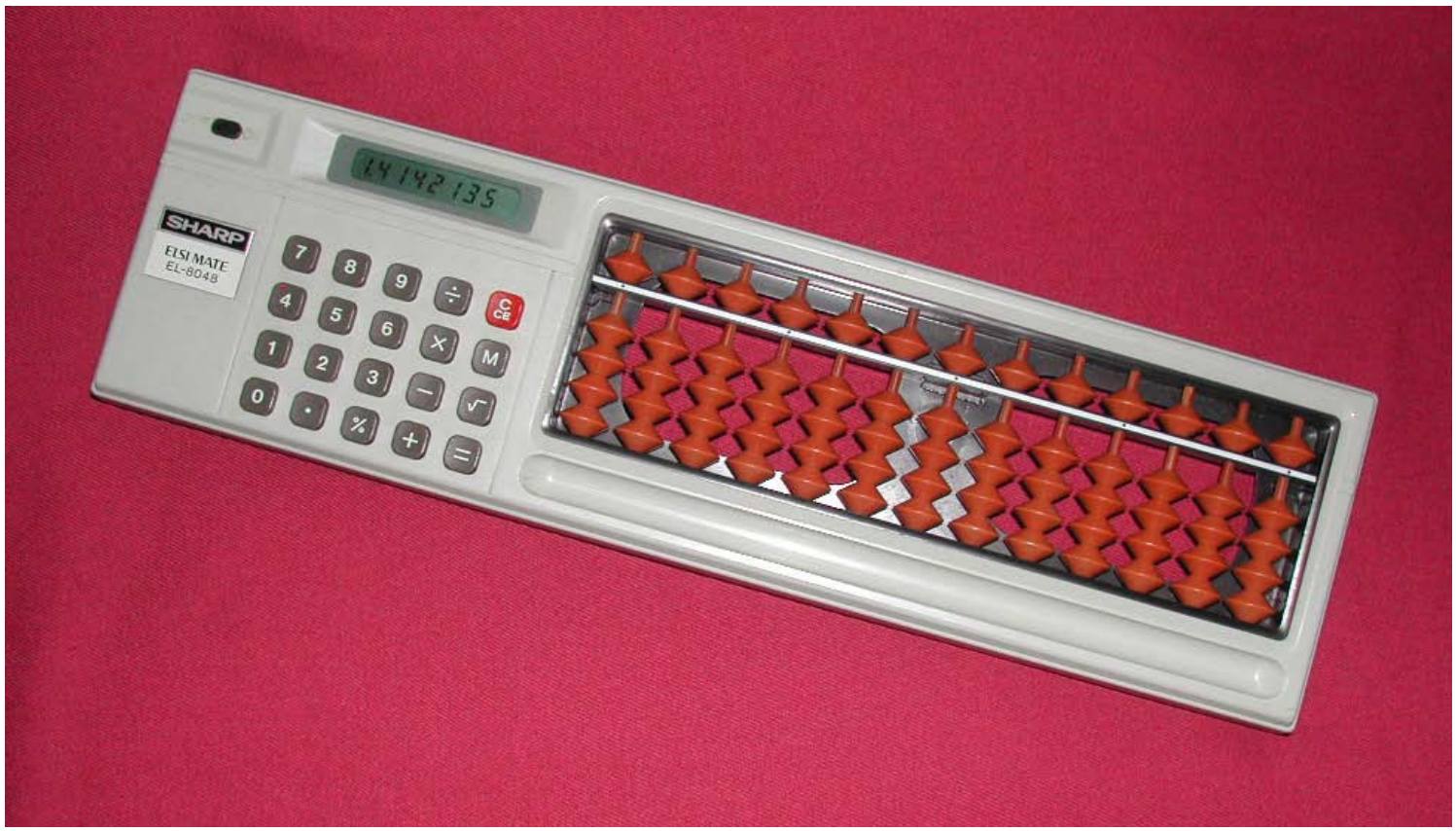
OK, so I see it has been discussed before, but no explanation as to its practical use. Perhaps it has some mystical or religious meaning as in a pentagram? Or maybe some insane programmer at Sharp just put it on their calculators to scare away evil spirits.

Re: OT: Pental number system?

*Message #4 Posted by **Egan Ford** on 11 Apr 2009, 1:40 a.m.,*
in response to message #1 by Michael de Estrada

I'm going to guess it is something to do with the abacus.

Here's another Sharp pental calculator :-)



Re: OT: Pental number system?

*Message #5 Posted by **Michael de Estrada** on 11 Apr 2009, 10:38 a.m.,*
in response to message #4 by Egan Ford

Egan,

Your photo of the hybrid calculator is awesome! At first I thought maybe you were pulling my leg, however, after doing some research I find that it is legitimate. Soroban

> Quote:
>
> I'm going to guess it is something to do with the abacus.

Or more specifically, the Japanese version of the abacus. It makes sense that since Sharp is a Japanese company and that early Sharp calculators were manufactured in Japan, then they would incorporate the Japanese abacus into their calculators. I have seen old Japanese storekeepers still using the Japanese abacus, as I have seen Chinese using the Chinese abacus. Perhaps Sharp incorporated the pental number system into some of their more recent calculators to teach Japanese schoolchildren about the Japanese abacus.

Thanks for your contribution,

Michael

Re: OT: Pental number system?

*Message #6 Posted by **Egan Ford** on 11 Apr 2009, 1:24 p.m.,*
in response to message #5 by Michael de Estrada

> Quote:
>
> Your photo of the hybrid calculator is awesome!

It's actually from this very interesting site: http://www.nzeldes.com/HOC/HOC_Core.htm

Re: OT: Pental number system?

*Message #7 Posted by **Don Shepherd** on 11 Apr 2009, 6:42 a.m.,*
in response to message #1 by Michael de Estrada

Some math textbooks for middle school kids have used base 5 to teach kids about other number bases, so they can better understand and appreciate our base 10 system. But I have never seen any teacher spend any time on this at all. Since base 10 is, supposedly, based on our 10 fingers, base 5 would represent one hands-worth, I guess. It has no practical value.

Re: OT: Pental number system?

*Message #8 Posted by **J-F Garnier** on 11 Apr 2009, 9:18 a.m.,*
in response to message #1 by Michael de Estrada

I don't know any machine using the pental number system, but I know one exemple of a ternary (base 3) computer:

Setun computer

J-F

Re: OT: Pental number system?

*Message #9 Posted by **hugh steers** on 11 Apr 2009, 12:24 p.m.,*
in response to message #8 by J-F Garnier

ternary was apparently quite popular. There's some trick you can do with -1, 0, 1 being your system.

but pental?

aren't roman numerals a bit pental. They appear to be based around changing the symbol at units of 5.

maybe.

Re: OT: Pental number system?

*Message #10 Posted by **Nigel Bamber** on 11 Apr 2009, 1:20 p.m.,*
in response to message #9 by hugh steers

I think the correct word for a number system based on five is quinary.

Here is an interesting link :

The Quinary System

But as to why the calculator has it in these modern times, I have no idea ?

Nigel

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OT: Vintage Calculator

*Message #1 Posted by **SteveH** on 10 Apr 2009, 4:08 p.m.*

Not much to do with HP calculators so I hope I'm permitted a bit of latitude on this one. I thought these pictures might be of interest to HP users too. The originals are all on Flickr from here

Tonight I powered up my first calculator again for the first time in years. It's a Sinclair Cambridge, powered by AAA batteries, with glorious red LEDs and taking about 2 seconds to calculate a cosine!

Re: OT: Vintage Calculator

*Message #2 Posted by **Michael de Estrada** on 10 Apr 2009, 4:58 p.m.,*
in response to message #1 by SteveH

Hello Steve,

I have the Sinclair Scientific (w/o the "Cambridge"). It is very similar, except that it is RPN and scientific notation only. Yours is lightning fast when compared to mine, which takes 4 seconds to compute the cosine!

Regards,

Michael

Re: OT: Vintage Calculator

*Message #3 Posted by **Chuck** on 10 Apr 2009, 5:07 p.m.,*
in response to message #1 by SteveH

Cousin to my Radio Shack (mine is the pregnant version with a 9-volt). I sill have the one inch thick application program manual. Amazing what you could program using 30 steps. Also, amazing how inaccurate it was.

Radio Shack 4001

CHUCK

Re: OT: Vintage Calculator

*Message #4 Posted by **Michael de Estrada** on 10 Apr 2009, 5:57 p.m.,*
in response to message #3 by Chuck

To say it was inaccurate is an understatement! With only 5 significant digits, mine can't even get past the second trig calculation before losing all digits in the calculator forensics test. Furthermore, it does not do any error checking for illegal operations, such as LN <=0 or ARCCOS >1 or <-1. So you can end up with a numerical result, and never realize that an error has occured.

Sinclair Scientific RPN

Michael

Edited: 10 Apr 2009, 6:00 p.m.

Re: OT: Vintage Calculator

*Message #5 Posted by **Johnny Bjoern Rasmussen** on 10 Apr 2009, 6:01 p.m.,*
in response to message #4 by Michael de Estrada

I happened to stumble over a danish classified add on an "Sinclair Cambridge Electronic Calculator Kit". I don't know if it's anything special. The add is [link: http://www.dba.dk/asp/soegning/detail.asp?annonceid=59557090]here[/link]

Cheers! Johnny

Edited: 10 Apr 2009, 6:12 p.m.

Re: OT: Vintage Calculator

*Message #6 Posted by **Michael de Estrada** on 10 Apr 2009, 7:36 p.m.,*
in response to message #5 by Johnny Bjoern Rasmussen

Hello Johnny,

Sinclair sold many of their products such as calculators both as kits for hobbyists to assemble as well as fully assembled products. It looks like they want about 88 USD for it.

Regards,

Michael

Yeah, but they have LED's ;-)

*Message #7 Posted by **Geoff Quickfall** on 10 Apr 2009, 6:03 p.m.,*
in response to message #4 by Michael de Estrada

I have 2 pristine programmables in the same format. The fasinating thing is the documentation that came with them.

I have a 4 volume of programs ranging from mathematics, to statistics to sciences and finance. The documentation is worth the cost of admission.

OH YEAH, they are cute too!!!!

Edited: 10 Apr 2009, 7:53 p.m.

Re: OT: Vintage Calculator

*Message #8 Posted by **hugh steers** on 11 Apr 2009, 12:17 p.m.,*
in response to message #4 by Michael de Estrada

The sinclair did not do any range reduction or checking. If you give it sensible input, it will not take ages, but the accuracy still wasn't 5 digits.

These calculators were quite cheap and were more accurate than a (normal) slide rule.

out of interest, the cambridge programmable had an undocumented feature whereby you could interrupt program execution by pressing divide. R/S would then continue.

I remember developing many fun games using this feature:

eg. whack-a-mole reaction-timer dice stopwatch

it's a pity there was not a fifth "games" library.

:-)

Re: OT: Vintage Calculator

*Message #9 Posted by **Bruce Bergman** on 11 Apr 2009, 3:09 a.m.,*
in response to message #3 by Chuck

I LOVED that Radio Shack version! It was so cool to have a tiny little programmable. No matter that it didn't calculate things right, had precision problems, and would sometimes get caught in an endless loop -- it was still mondo cool for the day.

Sadly, I found mine about 10 years ago and it was not salvageable.

Fond memories though.

thanks, bruce

Re: OT: Vintage Calculator

*Message #10 Posted by **Dave Britten** on 10 Apr 2009, 11:23 p.m.,*
in response to message #1 by SteveH

Very nice. The Sinclairs have a pretty cool form factor, if you can ignore the lack of precision. I've got the Sinclair Cambridge Programmable, which I used for some chemistry exams in high school, around 1998 or so. We weren't allowed to use a "programmable calculator" (read: TI grapher), so I brought in the Sinclair for shock value. They would have never expected such a tiny relic to be "programmable"! Not that you could write programs sophisticated enough to do any significant cheating anyway. ;)

I've still got mine kicking around, and I just put a fresh 9V in it recently to confirm it's still in working order. There's a bit of info about it here: http://www.rskey.org/detail.asp?manufacturer=Sinclair&model=Cambridge+Programmable

Re: OT: Vintage Calculator

*Message #11 Posted by **SteveH** on 11 Apr 2009, 3:29 a.m.,*
in response to message #10 by Dave Britten

I remember aspiring to the programmable model but it was so far beyond my (parents) reach.

The other model that was around at the time was the Sovereign which was available in a variety of finishes, including gold, to celebrate the Queen's silver jubilee back in the 70s. Even then I knew that this model was for *executives* rather than engineers.

Re: OT: Vintage Calculator

*Message #12 Posted by **ncrook(UK)** on 11 Apr 2009, 5:07 p.m.,*
in response to message #11 by SteveH

The Cambridge Scientific was my first calculator. I remember the woman in the shop trying to

demonstrate it to me, but giving up because her long fingernails prevented her from pressing the keys. Later on, I swapped it with my Sister for her cassette player, which I needed as a mass storage device for my NASCOM 2.. and she threw the Cambridge away (sob).

I read that Clive Sinclair invented the LED display with built-in magnifiers. I also read that the reason for adopting RPN on some models was that he and another engineer were holed-up in a hotel room in Texas re-writing the code for the processor chip. They managed to implement a scientific calculator in the (internal) ROM space that everyone else needed for a typical 4-function machine of the day. The "sacrifice" was to use RPN instead of algebraic notation.

I was pretty happy with my Cambridge Scientific, as an alternative to 4-figure tables at school. Then my friends started appearing with nice Casio machines that had green elecro-fluorescent displays and which could:

- handle trig on angles greater than 90 degrees

- accept fractional input, and give fractional output

- accept angles in degrees/minutes/seconds

- accept key-presses without the occasional bounce

boo hoo. I did toy with another Sinclair; the Enterprise Programmable (key design faults: total absence of non-volatile storage, extremely high power consumption and therefore low battery life). I eventually migrated to Casio FX-501P which served me through school and university and is still going strong today.

thanks for the memories.

Neal.

Re: OT: Vintage Calculator

*Message #13 Posted by **Nigel Bamber** on 11 Apr 2009, 5:41 p.m.,*
in response to message #12 by ncrook(UK)

Thanks for yours, including the reference to the Nascom 2 (another forgotten name from the past). I seem to recall you could (only?) buy it in kit form.

Nigel

Re: OT: Vintage Calculator

*Message #14 Posted by **Andrés C. Rodríguez (Argentina)** on 11 Apr 2009, 6:14 p.m.,*
in response to message #12 by ncrook(UK)

Small red led displays with built-in magnifiers are used in the HP35 and its siblings (80, 45...); such displays were featured in HP optoelectronics leaflets and "Measurement & Instrumentation News" in 1973 (I'm recalling this from memory, excuse some lack of precision). While I admired many Sinclair products, from that tricycle car to the nice calculators to the ZX80 personal computer, I doubt such displays were his invention. But... maybe...

Re: OT: Vintage Calculator

*Message #15 Posted by **Michael de Estrada** on 11 Apr 2009, 7:19 p.m.,*

in response to message #14 by Andrés C. Rodríguez (Argentina)

I bought a Sinclair ZX81 in 1971 as my first computer. As I recall it came with 1 Kb of RAM, which could be expanded to 2 Kb with an external plug-in module. It cost 250 USD, which would be over 1000 USD today. It had a horrible membrane keyboard that was almost impossible to use without missing or repeating. Attempts to save and load BASIC programs using an audio cassette tape were very unreliable. I used a black & white TV as the monitor.

Michael

Re: OT: Vintage Calculator

*Message #16 Posted by **Andrés C. Rodríguez (Argentina)** on 11 Apr 2009, 11:08 p.m.,*
in response to message #15 by Michael de Estrada

The Sinclair ZX80 or 81 does not match some of your description. It cannot possibly be from 1971, as the microprocessor was yet to be invented. While its keyboard was rather basic, it was useable, and BASIC functions were associated with each key, relieving from spelling each keyword. I bought one in 1984, in the order of U$S 30-40, IIRC. I think it came with a RAM memory expansion (perhaps 16 KBy, not sure) and it was built with a very low chip count, apart of the Z80 processor. For many people here in Argentina, it was an affordable way to approach programming, as a PC costed here U$S 7000 at the time (and a professional salary was below U$S 800 per month). I have fond memories of it, but I concur it was limited.

Edited: 11 Apr 2009, 11:12 p.m.

Re: OT: Vintage Calculator

*Message #17 Posted by **Mike Morrow** on 11 Apr 2009, 11:47 p.m.,*
in response to message #16 by Andrés C. Rodríguez (Argentina)

It's usually best to add ten years to dates given by Michael. :-)

The ZX80 was indeed an early 1980's machine. I've still got one somewhere around here, purchased at a K-Mart after prices started dropping when much better alternatives appeared.

Someone actually bothered to write a version of VisiCalc for it!

Re: OT: Vintage Calculator

*Message #18 Posted by **Michael de Estrada** on 12 Apr 2009, 12:29 a.m.,*
in response to message #16 by Andrés C. Rodríguez (Argentina)

Andres,

The date is a typo. It was 1981, specifically October 13, 1981. The following year, the Kaypro II suitcase computer with 64 Kb and 2 5.25" floppy disk drives, that also used the Zilog Z80 CPU, came out, but I could not afford its $1595 price. I waited until 1984 when I bought a Sanyo MBC 555 PC clone with 256 Kb and 2 5.25" FDDs, and it used the NEC V20 CPU that was a functional copy of the Intel 8088 CPU used in the first IBM PC. At that point I sold the Sinclair ZX81 along with the B&W TV and audio casettes to a friend who wanted to practice Basic programming. I certainly can't criticize the Sinclair for affordability, and maybe the one you bought had a better keyboard so

you have a more favorable memory of it.

Michael

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35s next to a Pioneer?

*Message #1 Posted by **Dave Britten** on 10 Apr 2009, 11:18 a.m.*

Anybody got a few photos of a 35s next to a Pioneer? (Any model.) I'm just curious how they compare in terms of size. A side shot to gauge thickness would be helpful too.

Re: 35s next to a Pioneer?

*Message #2 Posted by **Michael de Estrada** on 10 Apr 2009, 11:39 a.m.,*
in response to message #1 by Dave Britten

Dave,

I don't have a photo, however, comparing my HP-32SII with my HP-35s, the HP-35s is approximately 3/8" taller (longer), about the same width at the ends (it bows out about 1/8" at the middle), and its thickness varies from maybe 1/8" thicker at the bottom including key button height to 1/4" thicker at the top (display end). So, overall, the HP 35s is larger. It is also heavier at 141 gm, vs. 118 gm for the HP 32SII. I'll tell you one thing for sure, the Pioneers fit a lot easier in a shirt pocket or small hand like mine than the HP-35s.

Michael

Re: 35s next to a Pioneer?

*Message #3 Posted by **Dave Britten** on 10 Apr 2009, 11:55 a.m.,*
in response to message #2 by Michael de Estrada

That's pretty much what I was wondering: would a 35s fit as well as my 17bii into my jacket pocket or dainty hands? ;) Thanks Mike.

Re: 35s next to a Pioneer?

*Message #4 Posted by **Walter B** on 10 Apr 2009, 2:28 p.m.,*
in response to message #1 by Dave Britten

Please look here.

Re: 35s next to a Pioneer?

*Message #5 Posted by **Jeff Kearns** on 10 Apr 2009, 2:56 p.m.,*
in response to message #4 by Walter B

There are other high res. pictures out there showing a 15C, 32sii, 33s, and a 35s together but I can't recall whose site it is on... The 35s is a big enough machine alright, and substantially bigger with the case. It hardly fits in a suit jacket pocket with the case. I carry it mainly during the fall to spring period in a coat pocket. Otherwise, it goes in the carry bag, if at all. The Pioneer series is an ideal size (although the Voyager footprint is even better) for a jacket pocket.

Up until I saw the obove photo, I wasn't aware that that the 27s had a built-in TVM function. I wish my 32sii had a TVM function also in order to free up some memory.

Jeff

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Does anyone know L. Lirpa from Finnland?

*Message #1 Posted by **PeterP** on 10 Apr 2009, 12:54 a.m.*

...supposedly he/she produced a chess-modul for the HP-41

Cheers

Peter

Re: Does anyone know L. Lirpa from Finnland?

*Message #2 Posted by **Etienne Victoria** on 10 Apr 2009, 1:58 a.m.,*
in response to message #1 by PeterP

Hi Peter,

Reading his/her name from right to left yields "April" so I wonder if this is not an April 1st joke :-)

If this is true, my sincere apologies to you and him/her.

And I'd appreciate any hint on an Hp-41 module that could play Go :-)

Cheers

Etienne

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Does anyone own a HP-45 Version 1?

*Message #1 Posted by **Michael de Estrada** on 9 Apr 2009, 8:09 p.m.*

There are presumably 4 versions of the HP-45, similar to the HP-80. The first two versions have a stainless steel strip that runs horizontally just below the display and above the OFF/ON switch, instead of the silver painted strip used on later versions. The only difference between version 1 and version 2 is that the front label on version 1 only has "Hewlett Packard" on it whereas version 2 has "Hewlett Packard 45" Now, I know this is true for the HP-80, because I own both versions, however, I have never found a version 1 of the HP-45, just the version 2, which has a very early serial number 1301A06579, and makes me wonder if such a thing as an HP-45 version 1 even exists. The HP-80 came out before the HP-45, within a year of the HP-35, so it makes sense that there would be an HP-80 version 1 with the generic front label.

So, I ask the question of all you hardcore collectors, do any of you own an HP-45 version 1, or is its existence just fiction?

Michael

Edited: 9 Apr 2009, 8:11 p.m.

Re: Does anyone own a HP-45 Version 1?

*Message #2 Posted by **Etienne Victoria** on 10 Apr 2009, 12:39 a.m.,*
in response to message #1 by Michael de Estrada

Yes such an HP-45 version 1 does exists.

I had one and sold it a few months ago. I prefer the Hp-80 "Version 1" :-)

It has a front label saying only "Hewlett Packard" AND a metal bar under the display instead of the the usual paint that wears off.

Etienne

Re: Does anyone own a HP-45 Version 1?

*Message #3 Posted by **Michael de Estrada** on 10 Apr 2009, 10:32 a.m.,*
in response to message #2 by Etienne Victoria

Bonjour Etienne,

Do you remember the serial number of the HP-45 version 1 that you sold? Do I understand you correctly that it also had the metal strip *and* front label with only Hewlett Packard on it?

Merci beaucoup,

Michael

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Clearing the menu line

*Message #1 Posted by **Lawrence Hare** on 9 Apr 2009, 11:54 a.m.*

I have a 42S I use almost daily. I have long since lost the manual but most of what I remember is enough - except one thing that irritates me all the time. If I have a menu on the bottom of my two line display, how can I get back to the two line data display? In other words, how do I get rid of the menu without using anything on it? The only way I seem to know is to go to Clear and do a ClearAll of memory. But there must be an easier way to simply clear the menu display without doing anything with it.

Thanks - Lawrence

Re: Clearing the menu line

*Message #2 Posted by **Ken Shaw** on 9 Apr 2009, 12:54 p.m.,*
in response to message #1 by Lawrence Hare

I don't have a 42S in front of me, but I think the EXIT key clears the menu line.

Re: Clearing the menu line

*Message #3 Posted by **Thomas Okken** on 9 Apr 2009, 11:07 p.m.,*
in response to message #2 by Ken Shaw

> Quote:
>
> I don't have a 42S in front of me, but I think the EXIT key clears the menu line.

That is correct, but it's not the whole story. The HP-42S menu system has several levels, and EXIT only takes you out of the current level, up to whatever menu level was active before. There is no key that takes you out of all menus all at once.
An extreme example is this: from having no active menu, press STAT, CFIT, MODL, PGM.FCN, [down], X?0, STO, [.], IND, ENTER, ABCDE.
From the state the calculator is in by then, you have to press EXIT seven times to get rid of all the menus. There may be ways to get to states where you need to press EXIT even more times to get out of all menus, but I can't remember them offhand... Fellow HP-42S enthusiasts, please chime in!

Long story short: the HP-42S does not have a key that gets rid of all active menus all at once. The EXITALL function comes close but it's not on the keyboard.
Just press EXIT until the menus are gone. You'll hardly ever have to press it more than 2 or 3 times.
Enjoy the HP-42S menu system; it's one of the best there is. :-)

- Thomas

Re: Clearing the menu line

*Message #4 Posted by **Karl Schneider** on 9 Apr 2009, 11:23 p.m.,*

in response to message #3 by Thomas Okken

> Quote:
>
> ... Fellow HP-42S enthusiasts, please chime in!
>
> Long story short: the HP-42S does not have a key that gets rid of all active menus all at once. The EXITALL function comes close but it's not on the keyboard.

Hi, Thomas --

EXITALL is indeed the best solution for these situations. That's why I assign it to the first level of my CUSTOM menu.

Other assignments of useful or repeatedly-used functions that are not accessible by a single keystroke:

CLV, %CH, R_up, VIEW

Second level of the CUSTOM menu: The six hyperbolic functions...

-- KS

Re: Clearing the menu line

*Message #5 Posted by **reth** on 10 Apr 2009, 4:57 a.m.,*
in response to message #4 by Karl Schneider

CLV ? Isn't it 2 keystrokes away in both cases?

Re: Clearing the menu line

*Message #6 Posted by **Karl Schneider** on 10 Apr 2009, 11:33 p.m.,*
in response to message #5 by reth

> Quote:
>
> CLV ? Isn't it 2 keystrokes away in both cases?

Actually, *three* including shift, for a single execution. The point here is "repeatedly-used": If the user is housecleaning to purge multiple unused variables, the CUSTOM menu persists to allow single-key access to clear the next variable.

-- KS

Edited: 10 Apr 2009, 11:34 p.m.

Attn Thomas Okken - CLV in CUSTOM menu

*Message #7 Posted by **reth** on 12 Apr 2009, 9:06 a.m.,*
in response to message #6 by Karl Schneider

does not work on Free42...

Re: Attn Thomas Okken - CLV in CUSTOM menu

*Message #8 Posted by **Karl Schneider** on 12 Apr 2009, 6:25 p.m.,*
in response to message #7 by reth

> Quote:
>
> *(CLV in CUSTOM menu)* does not work on Free42...

I'm finding that CLV will not function when invoked from the user's CUSTOM menu on Free42 v1.4.36, both Decimal and Binary.

It's possible that later releases have remedied this bug...

Free42 is still an exceptional piece of software.

-- KS

Edited: 12 Apr 2009, 8:34 p.m.

Re: Attn Thomas Okken - CLV in CUSTOM menu

*Message #9 Posted by **Thomas Okken** on 12 Apr 2009, 10:22 p.m.,*
in response to message #8 by Karl Schneider

Thanks for the report. This is indeed broken even in the latest version.
I'm in the middle of finishing the iPhone port (plug, plug :-) -- this is the full version with *.raw program import and export, skin switching, and print spooling) so luckily I'll be able to slip in the CLV bug fix without having to do a mental context switch. Next weekend, hopefully.

- Thomas

Re: Attn Thomas Okken - CLV in CUSTOM menu

*Message #10 Posted by **reth** on 12 Apr 2009, 11:39 p.m.,*
in response to message #9 by Thomas Okken

Thanks, Thomas, I thought this would be the shortest way to let you know.
Looking forward for the new release.
Cheers, Reth

Re: Attn Thomas Okken - CLV in CUSTOM menu

*Message #11 Posted by **Thomas Okken** on 13 Apr 2009, 10:51 p.m.,*
in response to message #10 by reth

Hi Reth --

The best way to let me know about Free42 bugs is usually email; my address is on the Free42 home page at SourceForge, or you can use the MoHPC email feature. I check my Yahoo email almost every day, but I'm not quite as reliable when it comes to reading the MoHPC forum... If you post a message to the forum while I'm not paying attention to it for several days, I may never see it, but if you send it to my Yahoo address, I will get it, even though it may take a while before I actually respond. :-)

- Thomas

Re: Clearing the HP-42S menu line

*Message #12 Posted by **Karl Schneider** on 9 Apr 2009, 3:00 p.m.,*
in response to message #1 by Lawrence Hare

> Quote:
>
> I don't have a 42S in front of me, but I think the EXIT key clears the menu line.

Indeed; that's why the lower-left button is labeled "EXIT", instead of "C" (for Clear) as on other Pioneer-series models.

-- KS

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Start EMU48 instead of calc.exe in XP - possible?

*Message #1 Posted by **George Bailey (Bedford Falls)** on 9 Apr 2009, 7:21 a.m.*

Is it possible to start EMU48 instead of calc.exe on a Windows machine? I know I can just double-click on EMU48 to start it ;-) but this is not what I mean. I want to be able to start EMU48 from a dedicated calculator button on my keyboard.

Edited: 9 Apr 2009, 7:21 a.m.

Re: Start EMU48 instead of calc.exe in XP - possible?

*Message #2 Posted by **Marcus von Cube, Germany** on 9 Apr 2009, 7:37 a.m.,*
in response to message #1 by George Bailey (Bedford Falls)

You need to know what this button exactly does. If it goes to the desktop and opens a program object (link) you can simply modify this link to point to EMU48. Did you install a custom driver for your keyboard?

Re: Start EMU48 instead of calc.exe in XP - possible?

*Message #3 Posted by **George Bailey (Bedford Falls)** on 9 Apr 2009, 11:39 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Unfortunately, there was no custom driver installed for the keyboard. And I have no way to configure the keys. It seems as if the dedicated calc-key only starts the Windows calc.exe. Other keys will start my favorite Firefox browser or my Thunderbird email, which I defined as standard applications. I'm looking for a way to define another calculator program as the XP standard calculator...

Renaming calc.exe is not possible, it is always replaced with the original calc.exe. At least I have found no way to change this.

Re: Start EMU48 instead of calc.exe in XP - possible?

*Message #4 Posted by **Ken Shaw** on 9 Apr 2009, 12:18 p.m.,*
in response to message #3 by George Bailey (Bedford Falls)

I think it could help if you specified the model of your keyboard, as somebody might be familiar with it.

It's unusual for an "internet keyboard" not to have a special driver, which usually would allow customizing the extra keys.

Re: Start EMU48 instead of calc.exe in XP - possible?

*Message #5 Posted by **George Bailey (Bedford Falls)** on 9 Apr 2009, 12:54 p.m.,*
in response to message #4 by Ken Shaw

Thanks everybody for helping and sharing your ideas. It turns out that there was no special driver

application in the box but one was downloadable from the manufacturer's well hidden website. Now I can configure most of the keys to my heart's content.

Re: Start EMU48 instead of calc.exe in XP - possible?

*Message #6 Posted by **DaveJ** on 9 Apr 2009, 8:49 a.m.,*
in response to message #1 by George Bailey (Bedford Falls)

> Quote:
>
> Is it possible to start EMU48 instead of calc.exe on a Windows machine? I know I can just double-click on EMU48 to start it ;-) but this is not what I mean. I want to be able to start EMU48 from a dedicated calculator button on my keyboard.

You can likely just rename EMU48 as calc.exe and put it into the windows directory. Move the old calc.exe somewhere else or delete it. Support files will need moving too. Unless there is something strict with paths in the installtion it should work. But most keyboard drivers can be programmed to change what the macro keys point to.

Dave.

Re: Start EMU48 instead of calc.exe in XP - possible?

*Message #7 Posted by **Christoph Giesselink** on 9 Apr 2009, 11:00 a.m.,*
in response to message #6 by DaveJ

> Quote:
>
> Support files will need moving too.

Sorry, that's wrong. The Emu48 install path must point to the directory with the support files (KML, bitmaps, ROM images, ...), the Emu48.exe file itself can be located everywhere.

Christoph

Re: Start EMU48 instead of calc.exe in XP - possible?

*Message #8 Posted by **Gordon Strickland** on 9 Apr 2009, 3:33 p.m.,*
in response to message #1 by George Bailey (Bedford Falls)

I use Free42 on my desktop, and get to it very quickly (with my generic keyboard) by having defined <ctrl> <alt> <C> as the shortcut key combination for the program. Having to press three keys simultaneously, rather than just one, is only very slightly more trouble. Obviously something similar could be done with EMU48.

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Wow

*Message #1 Posted by **Michael** on 8 Apr 2009, 4:53 p.m.*

Look at this:

[link:http://cgi.ebay.de/Taschenrechner-HP-41CY-Turbo-erweiterter-HP-41CX_W0QQitemZ290307833187QQcmdZViewItemQQptZDE_Technik_B%C3%BCrotechnik_Taschen_Tischrechner?hash=item290307833187&_trksid=p3286.c0.m14&_trkparms=72%3A1229|66%3A2|65%3A12|39%3A1|240%3A1318]ebay Germany[/link]

Highest price for a HP ever sawn... Michael

Re: Wow

*Message #2 Posted by **DaveJ** on 8 Apr 2009, 5:15 p.m.,*
in response to message #1 by Michael

Wow is right! $1210 Euro = US$1600 = AU$2260

Are people insane?

Dave.

Re: Wow

*Message #3 Posted by **Keith Midson** on 8 Apr 2009, 5:25 p.m.,*
in response to message #2 by DaveJ

OMG!

Re: Wow

*Message #4 Posted by **DaveJ** on 8 Apr 2009, 6:51 p.m.,*
in response to message #3 by Keith Midson

It had better be personally hand assembled and signed by Bill Hewlett for that price!

Dave.

Re: Wow

*Message #5 Posted by **Dan Grelinger** on 8 Apr 2009, 6:22 p.m.,*
in response to message #1 by Michael

That auction is not even close to being over. I don't read German (even with a last name of Grelinger), but it appears there are almost 3 days left to go.

And, the high bidder placed two more bids after winning high bid, who knows how much more he is willing to go.

What all is in this calculator. Obviously two 82181As, and it is accelerated (nice switch on the side). Does it have an

MLDL built in? With 64K of quasi-ROM memory?

That would be quite a treat to own one of those.

Dan

Re: Wow

*Message #6 Posted by **Raymond Del Tondo** on 8 Apr 2009, 7:05 p.m.,*
in response to message #5 by Dan Grelinger

In case you don't know, the W&W HP-41CY is _the_ ultimative HP-41,
with built-in 64K RAM box, consisting of two 32K pages and switchable via software.
And yes, this is an HP-41 calculator with 2x 32K MLDL RAM pages built-in.

It also features a turbo/speedup switch, which lets the unit run at 1.7x (approx).

According to the article description, the additional X-Mem and the CCD are not built-in, but given as separate modules.

The CY has been discussed now and then here in the hpmuseum. Please check the archives for more info.

HTH

And no, I don't know the seller.

Edited: 8 Apr 2009, 7:08 p.m.

Re: Wow

*Message #7 Posted by **Marcus von Cube, Germany** on 9 Apr 2009, 3:44 a.m.,*
in response to message #1 by Michael

clickable link

Raw Google translation of the auction text:

> Quote:
>
> Hewlett Packard Calculator HP-41CY Turbo (extended famous HP41-CX)
>
> It is one of the company W & W from Bergisch-Gladbach upgraded version of the HP-41CX. This model is very rare for collectors and is expected to be in this equipment is an absolute piece of his lover.
>
> Differences to the HP-41CX:
>
> 64KB RAM installed Turbo switch on the left side, with the clock can be doubled
>
> Delivery:
>
> HP-41CY Turbo Serial calculator. 2716S20413
>
> Battery with 4 cells Lady
>
> Modules: 2x HP28181A memory modules (Vollausbau for HP41CX) CCD Module The modules are stored in a storage bag with 3 keyboard templates stored. The modules are tested and fine.
>
> Well-preserved bag with foam core (slight wear on zip)

Manuals:

HP-41 CX User Manual, Volume I HP-41 CX User Manual Volume II HP User's Program Library Europe (multilingual) HP-41CX Quick Reference Guide HP 82181 Extended Memory Modules Multilingual Instructions HP CY-41 Turbo, RAMBOX II manual for the famous HP41 by W & W

Status:

The calculator is fully functional and has a few scratches on. The batteries are ok, time and date function. The built Rambox can check without errors, Pages can be initialized, stored Programs can be retrieved. The turbo mode is ok.

The keys have a smooth pressure point, the display is clean (no dust) and not scratched. The rubber feet have small traces of wear and tear. The battery compartment and contacts are in a clean, very good condition. There are all covers (4 slots, power supply) is available. There are small scratches on the side bar to see (via the turbo button above the battery compartment).

Answer questions about the offer I like. Better do I send pictures on request. A site visit (ZIP 28857) is required.

Prepayment, only shipping insurance. The shipping costs (6.90 EUR) is paid by the buyer. Since it is a private auction, no warranty is excluded.

Edited: 9 Apr 2009, 3:51 a.m.

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Reclaimed HP41CV calculator - picture

*Message #1 Posted by **Nigel Bamber** on 8 Apr 2009, 4:38 a.m.*

For those of you who were interested enough to comment on this earlier, attached are two images of the 'reclaimed' calculator, which seems to me to be in good shape (apart from the battery/module problem) and for $42 to be worthwhile buying. So I will be !

It seems to be quite a neat solution.

Thanks for all your help

Nigel

Front View

Back view

Edited: 8 Apr 2009, 6:18 a.m. after one or more responses were posted

Re: Reclaimed HP41CV calculator - picture

*Message #2 Posted by **Marcus von Cube, Germany** on 8 Apr 2009, 6:07 a.m.,*
in response to message #1 by Nigel Bamber

Please replace the spaces in your links by %20 !

Front View

Back view

Still no luck! :(

> Quote:
>
> Our guide continues and we are explaining webserver error codes in this comprehensive guide.
> The **403 Forbidden** status code indicates that the client was able to communicate with the server,
> but the server doesn't let the user access what was requested.

Edited: 8 Apr 2009, 6:13 a.m.

Re: Reclaimed HP41CV calculator - picture

*Message #3 Posted by **Nigel Bamber** on 8 Apr 2009, 6:20 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Thanks Marcus. I did wonder why the links didn't quite work, have changed both in the first post and they appear to work.

Nigel

Re: Reclaimed HP41CV calculator - picture

*Message #4 Posted by **Raymond Del Tondo** on 8 Apr 2009, 6:49 a.m.,*
in response to message #3 by Nigel Bamber

After some trials, I was able to see the 2nd pic, which shows the back side.
No luck with the proposed 1st pic so far.

Tip: Please avoid using spaces in file names.

From the serial numnber it's a halfnut (rounded display window corners).

The external battery pack solution looks adventuruous. Are the pack and cable detachable from the calc,
or is it soldered to the battery holder, or worse soldered to the battery contact foil ?

Re: Reclaimed HP41CV calculator - picture

*Message #5 Posted by **Nigel Bamber** on 8 Apr 2009, 7:53 a.m.,*
in response to message #4 by Raymond Del Tondo

As I understand it, the corrosion affected the 'cable' linking the batteries and module to the main PCB and the seller has got round this.

This is the comment from the seller "The electrolyte "wicks" up the flexible PCB and corrodes the internal PCB's distroying the unit. On some, only the first flexible PCB is affected. I remove this, clean up any residue and fit a usb power lead You can then power it from your PC or monitor. Alternatively I can supply a "wall-wart" for mans operation or an external battery box that takes 4xAA cells".

I intend to go for the latter.

I suspect the cable is soldered but not sure to which part. Why is it worse being soldered to the battery foil?

Front again

Nigel

PS links should work, but you may need some patience. I used some free web server to host the pics and their webserver may not like it if you look at both pictures at the same time or perhaps other people are trying to download the same image ?

Edited: 8 Apr 2009, 7:58 a.m.

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keypad on 20B

*Message #1 Posted by **JDonley** on 7 Apr 2009, 4:53 p.m.*

I just got my SmartCalc 300s (from HP store) for $12.90 and no shipping charges. The keypad is pretty good. My 20B, which is one of the very earliest, has pretty poor keypad. Has the keypad on the newer 20B improved?

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HP-41 a M-Code question

*Message #1 Posted by **JMBaillard** on 7 Apr 2009, 7:14 a.m.*

```
Good morning,


does anyone know if it is possible to create
one or several extra register(s) in the ROM of an HP-41
and instructions like STO U RCL U  STO V RCL V  ... ?


Many thanks in advance.
JMB.
```

Re: HP-41 a M-Code question

*Message #2 Posted by **Dan Grelinger** on 7 Apr 2009, 9:53 a.m.,*
in response to message #1 by JMBaillard

JMB,

Your question is a little confusing. You may be confusing synthetic techniques with micro-code capabilities.

Extra registers, accessible through normal HP-41 programs (using functions such as STO and RCL) are available through synthetics, and are limited. Depending on what else is going on in the calculator at the time from 1 to maybe 5 or 6 are available.

The standard ROM of the HP-41 is truly "Read Only Memory" which means that nothing can be written to it, or changed. It is hard coded during manufacture to always be the intended value.

There is such as thing as quasi-ROM (which is special 3rd party hardware) that the HP thinks is ROM, but can be changed using special micro-code functions, again supplied by a third party. But, STO and RCL don't work with such memory, only the special 3rd party functions do.

Dan

Re: HP-41 a M-Code question

*Message #3 Posted by **PeterP** on 7 Apr 2009, 10:09 a.m.,*
in response to message #2 by Dan Grelinger

JMB,

to expand on Dan's excellent comments - the ability to store data-registers is made available by devices such as the W&W rambox, the Profiset as well as the NoV (and Clonix). In general they are called MLDL devices (Machine Language Development Laboratory IIRC) and they provide what is commonly called QROM (Quasi-ROM) as it actually is RAM.

The above mentioned operating systems provide functions to treat this Q-ROM pretty much the same way as you use X-Memory and allow storage of data-registers, ASCII files and Program files.

If you want specific STO V, STO W functions for convenience, it would be quite easy to implement in MCODE. However, you would never be able to say burn an EPROM with that code as you need the Q-ROM functionality. But you could burn it into a NoV for example. There is a configuration of the Clonix where you have 512 words of Q-Rom available which would be enough to generate a whole alphabet soup of extra registers.

The underlying MCODE function that is uses is WROM (040h) which writes the content of a portion of the C-register to a specific QROM location. Care has to be taken to make sure your MCODE is not portdependent as the user could plug in the Q-ROM in any port. But for simple STO V and RCL V functions, this is quite easy.

HTH

Cheers

Peter

Re: HP-41 a M-Code question

*Message #4 Posted by **JMBaillard** on 7 Apr 2009, 5:39 p.m.,*
in response to message #3 by PeterP

```
Thank you for your responses.


I precisely would like to create a M-code function
( STO U for instance ) that takes the content of register X
and store it in a part of a (quasi) ROM.


I have a HEPAX module that does have the 040 WROM instruction.
However, I don't see what could be the sequence of words to perform that!


Regards,
JMB.
```

Re: HP-41 a M-Code question

*Message #5 Posted by **Dan Grelinger** on 7 Apr 2009, 8:49 p.m.,*
in response to message #4 by JMBaillard

There are two different ways you could put this together. The simpler way is to create "STO U" and "RCL U" m-code functions that move the X register to/from a quasi-ROM register that is reserved for that storage. You would have to create two functions for every register (U, S, T, U, etc.) that you would like to use, and the normal -41 STO, RCL, and X<> functions would not be able to access those registers.

The more complex way would be to reproduce the register sto-rcl-exchange functions in ROM, and grab control from the HP-41 system ROM through the use of an polling vector; I believe the CCD module does this, and could be considered a reference. I'm not the expert on m-code programming; I've read some, but never tried it.

Dan

Re: HP-41 a M-Code question

*Message #6 Posted by **PeterP** on 7 Apr 2009, 10:22 p.m.,*
in response to message #5 by Dan Grelinger

Not surprisingly, fully agree with Dan's excellent explanation (and don't be fooled when he says 'I'm not an expert', he is very good at these things!)

Given that e.g. RCL M and STO M are 2 bytes anyway, I don't think there is any pressing reason to try to go the hard way via the polling points. Below is a simple, non-optimized MCODE for a STO function that should get you going. For the RCL function, use the same principle but use CXISA which reads from QRAM. You can find explanations about WROM and CXISA for example here (SDK41 Manual) (BTW - the SDK41 kit is a fantastic MCODE development environment that I highly recommend...)

Basically you reserve a fixed space in your QROM for each register. The version below does this in a very inefficient way - storing only 2 bytes per QROM word and hence using 7 words per register. You can adopt this for your needs if for example you only want to store normalized numbers you can compress the storage. Each word in QROM can only carry values from 000h - 3ffh so you might need dec->hex conversions.

Please be aware the code below is written for simplicity, not tested (so most likely it will have typos and bugs) and not optimized in any way. Nevertheless, I hope it helps.

Cheers

Peter

```
;*****************************************
;Function: STO R
;Input : content to be stored in x-register
;Output: None
;Fixed memory location for storage: p300-p3006
; p is the page where the QROM is plug in / mapped to
;*****************************************
[STOR] ?NCXQ [PCTOC] ;bring PC into C[6:3]
       RCR 3         ;page number of QROM into C[3]
       LDIS&X 300    ;first address for register R storage p300
                     ;as LDIS&X only works until 3ff, if you want to store
your values say in AFFh,
                     ;you have to do three LDI's with setting the pointer to
C[2] first
       RCR 11        ;=LCR 3. move addr into C[6:3} for WROM
       C=0 S&X       ;clear S&X where the content pieces go
       B<>C ALL      ;save into B
       LDIS&X 006    ;Load counter
       A<>C S&X      ;into A
       READ 3(x)     ;get value to be saved
       B<>C ALL      ;address into C, value into B
       SLCTP         ;set up pointers for 2 nyb each
       R= 0
       SLCTQ
       R= 1
[WritR]B<>C P-Q      ;bring in 2 nyb from B
       WROM          ;write into QROM
       RCR 3         ;need to increment address
       C=C+1 S&X     ;address for next word
       RCR 11        ;= LCR 3
       B<>C ALL      ;swap address and content
       RCR 2         ;move next 2 nyb into pos [0:1]
       B<>C ALL      ;addr back in C, value in B
       A=A-1 S&X     ;decr counter in A
       JNC [WritR]   ;if no carry, rinse and repeat
       RTN           ;DONE
;*****************************************************
```

Re: HP-41 a M-Code question

*Message #7 Posted by **JMBaillard** on 8 Apr 2009, 4:54 p.m.,*

in response to message #6 by PeterP

Hi, Dan and Peter.

Thank you very much for your detailed explanations.
After reading them, I've written the following routines
to store (and recall) X-register at the 7 addresses
FD4A FD4B FD4C FD4D FD4E FD4F FD50

```
FD51  097  "W"              "STOW"  ( I should have inserted a space )
FD52  00F  "O"
FD53  014  "T"
FD54  013  "S"
FD55  0F8  READ 3(X)
FD56  0EE  C<>B ALL
FD57  130  LDI S&X
FD58  006  006
FD59  106  A=C S&X
FD5A  15C  PT=6
FD5B  3D0  LD@PT- F
FD5C  350  LD@PT- D
FD5D  110  LD@PT- 4
FD5E  290  LD@PT- A
FD5F  0C6  C=B S&X          loop
FD60  042  C=0 @PT
FD61  040  WRIT S&X
FD62  3AE  RSHFB ALL
FD63  3AE  RSHFB ALL
FD64  23A  C=C+1 M
FD65  1A6  A=A-1 S&X
FD66  3CB  JNC -07
FD67  3E0  RTN


FD68  097  "W"              "RCLW"
FD69  00C  "L"
FD6A  003  "C"
FD6B  012  "R"
FD6C  130  LDI S&X
FD6D  006  006
FD6E  106  A=C S&X
FD6F  15C  PT=6
FD70  3D0  LD@PT- F
FD71  350  LD@PT- D
FD72  110  LD@PT- 4
FD73  290  LD@PT- A
FD74  31C  PT=1
FD75  330  FETCH S&X        loop
FD76  0EA  C<>B PT<-
FD77  0EE  C<>B ALL
FD78  23C  RCR 2
FD79  0EE  C<>B ALL
FD7A  23A  C=C+1 M
FD7B  1A6  A=A-1 S&X
FD7C  3CB  JNC -07
FD7D  0EE  C<>B ALL
FD7E  0E8  WRIT 3(X)
FD7F  3E0  RTN
```

"RCLW" simply overwrites X-register
So, it would be better to replace the last 2 words by

```
FD7E  028  WRIT 0(T)
FD7F  3B5  ?NCGO  goto
FD80  052  14ED   roll up
```

I have some experience in writing maths functions in M-Code,
but I still have many things to learn on handling memory instructions.

Many thanks again,
Best regards,
Jean-Marc.

Re: HP-41 a M-Code question

*Message #8 Posted by **PeterP** on 8 Apr 2009, 10:26 p.m.,*
in response to message #7 by JMBaillard

Love the writ 0, rollup trick! Very cool. One thought: your code currently only works if you have a mldl rom plugged into port 4 and mapped to the f page. I never trust myself to remember such things so I try to make my code port independent, but that's just my preference.

What math functions have you written?

Cheers

Peter

Re: HP-41 a M-Code question

*Message #9 Posted by **JMBaillard** on 9 Apr 2009, 6:10 p.m.,*
in response to message #8 by PeterP

```
Hi,


I've written many maths functions in focal programs
and many of them are in the HP-41C library.


A few years ago, I began to study M-Code
and among the routines I wrote, there are for instance:


-Hyperbolic functions and their inverses ( of course )
-FLOOR , X+1 , X-1 , XROOT , Y^X that returns 0^0 = 1
-CBRT ( cube root that returns an integer if the argument is
 the cube of an integer )
-Gamma function
-Hypergeometric functions
-Kampé de Fériet functions ( hypergeometric functions of 2 variables
)
-DOT & CROSS products, norm of a 3-D vector.
-Product, quotient, square, square-root, inverse of complex numbers.
-Carlson elliptic integrals
-A test that I've named X#Y?? that skips the following line
 if X is approximately equal to Y
 ( to avoid infinite loops when using Newton's method for example )
-Linear regression & linear estimate
-Discrete Hartley Transform


Most of these have been sent to the MoHPC and they probably appear
in the museum at the next update.
I've sent 69 new or updated pages to Dave since 2007
but I don't know when he makes the next update.
These programs are not all written in M-Code, but several however.
Some of them are also for the HP-48.


-By the way, what functions do you have in your own ROM ?


 In my HP-41, there are ( currently ) - all in block F


-5 focal programs  "EE"  equatorial-ecliptic conversion
                   "KPL" to solve Kepler's equation
                   "GEO" to compute geocentric coordinates
                   "R-S" & "S-R" rectangular-spherical conversion
```

```
-And 59 M-code routines, namely:


LCB   to perform the calculations needed to play "le compte est bon"
      that is a French TV game
SQRTF square root of n! ( I've remarked that the HP-41 calculates
                          99! correctly )
GAM   gamma function
RND0  rounds X to the nearest integer
J2000 computes the number of days since 2000/01/01
STOW  and RCLW ( extra-registers )
HGF+  hypergeometric function ( including regularized functions )
KdF   ---------------------- of 2 variables
SH  CH  TH  ASH  ACH  ATH  ( hyperbolics )
FLOOR
FRC2  that returns x - floor(x)
X+1  X-1
X/2
CBRT
RAND  a random number generator that uses the TIME module
XROOT
Y^X
AA and BB which are 2 functions to play TONEs
   ( I've used them in a program that plays the Star Spangled Banner
)


X=N?  to test if a number is an integer
X#Y??


8X/5  that simply calculates 8 x / 5 ( useful for 3-point Gaussian
integration )


DOT CROSS NORM


VM    View Mantissa ( actually written by Ken Emery )
SORT  that sorts numbers in contiguous registers
      ( This routine is already in the 41C-library )
LCO   to move or swap a block of registers
MN?   to play faster "mastermind" ( or "superbagel" )
3X  X/3 and X^3
RF  RJ  RFZ  RJZ  ( Carlson elliptic integrals )
CNK   to compute binomial coefficients
ST<>A to swap registers X Y Z and synthetic M N O
PR?   that tests if a number is a prime
      9999999967 is tested in 7m10s
Z*Z Z/Z Z^2 SQRTZ 1/Z ( complex operations )
CARD  that simply returns a pseudo-random integer between 0 and 12
DEG F to return the degree of a polynomial from its control number


and several constants:


GAMMA  Euler constant
MAXR   9.999999999 E99
TINY   E-07
KG     gauss' gravitational constant
OB     obliquity of the ecliptic on J2000.0
HUBBLE Hubble's constant ( more exactly Hubble's time )


-Almost all of them should appear soon in the museum.


Best regards,
Jean-Marc.
```

Re: HP-41 a M-Code question

*Message #10 Posted by **PeterP** on 10 Apr 2009, 12:48 a.m.,*
in response to message #9 by JMBaillard

Jean-Marc,

Wow, that's an impressive list, awesome! Did you send to Dave just the compiled ROM or the actual listing with comments as well? Given my limited knowledge I find it very hard to understand MCODE listings without any comments...

I'd love to take a peek at your code if possible.

Cheers

Peter

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Who and How Much for a Red Dot in Poor Shape

*Message #1 Posted by **Michael de Estrada** on 6 Apr 2009, 6:23 p.m.*

(See Here)

Well, the auction is over for a Red Dot in very poor condition, and two questions are now answered:

1) How much would someone be willing to pay? Answer: 202.49 USD

2) What would be the location/nationality of the buyer? Answer: Hong Kong, China

What does this say about the valuation of rare collectables and the importance ascribed by different cultures with regards to American memorabilia? I offer this up without further comment, judgement or opinion.

Michael

Re: Who and How Much for a Red Dot in Poor Shape

*Message #2 Posted by **Walter B** on 7 Apr 2009, 1:08 a.m.,*
in response to message #1 by Michael de Estrada

Hey, what did happen there in the battery compartment?

nothing special

*Message #3 Posted by **Frank Boehm (Germany)** on 7 Apr 2009, 5:14 a.m.,*
in response to message #2 by Walter B

there is a split :) Actually it's much less visible when properly assembled, the owner obviously lacked some screwing skills <g>

Btw. I'd say the price is OK, considering the rarity and importance as a technology landmark.

Re: nothing special

*Message #4 Posted by **Michael de Estrada** on 7 Apr 2009, 9:41 a.m.,*
in response to message #3 by Frank Boehm (Germany)

Actually, several of my HP-35's which I know have *never* been opened have the noticeable "split" in the battery compartment. I think it's something that comes from the factory that way, either due to faulty manufacture of the parts or original assembly. Nonetheless, the exposed screws are a dead giveaway that the calculator housing has been opened. The extremely clean appearance of the battery compartment and contacts makes me suspicious that the internals are not original, and parts from a later version may have been used to fabricate a Red Dot using only the outer casing parts. Since the calculator is non-operational, we will never know since the "bug" tests cannot be performed.

Michael

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HP28S battery cover

*Message #1 Posted by **Keith Midson** on 5 Apr 2009, 11:10 p.m.*

Hi HP world, Are battery covers available for the HP28S from HP, repairer, or custom made replicas (would also fit HP28C, 18C, 19B and 19Bii models). I did send a message to HP from their website enquiry, but i've had no response yet. I'm keen to get a new cover if they are still available. Thanks, Keith

Re: HP28S battery cover

*Message #2 Posted by **Walter B** on 6 Apr 2009, 1:41 a.m.,*
in response to message #1 by Keith Midson

Sorry, but I doubt it. That Clamshell battery cover is known to be a bad design tending to break. AFAIK nobody has started a replica production yet. Market is a bit small.

Re: HP28S battery cover

*Message #3 Posted by **Johnny Bjoern Rasmussen** on 6 Apr 2009, 2:44 a.m.,*
in response to message #2 by Walter B

If you count in the users of Clamshell Business calculators like HP-19BII the marked might be big enough for a replica.

Cheers!

Johnny

Re: HP28S battery cover

*Message #4 Posted by **Raymond Del Tondo** on 6 Apr 2009, 3:17 a.m.,*
in response to message #3 by Johnny Bjoern Rasmussen

Hi,

the 19BII has a darker case than the 28S,
so it might not look too good using a 19BII batt cover on an 28S;-)

OTOH, the latest incarnation of the 19BII uses a battery door on the back side,
which is much better than the original and extremely fragile construction.

<OT> Battery doors never were a strong part of the HP hardware development department.
Ok, the doors in the HP-71B and HP-48 were designed well,
at least I didn't find broken doors on these machines so far.

Remember the batt doors on the Woodstocks, or on the Spices? Awful!
And the batt door for the HP-41 in combination with the very sensitive contact foil
was such a bad design that I still wonder how many of these doors are still around.</OT>

Re: HP28S battery cover

*Message #5 Posted by **Mike Morrow** on 6 Apr 2009, 6:27 a.m.,*
in response to message #4 by Raymond Del Tondo

> Quote:
>
> Remember the batt doors on the Woodstocks...
>
> And the batt door for the HP-41...

The Woodstock battery/door assembly is IMHO one of the *best* of such HP designs. The only problem from that assembly comes when old packs are allowed to leak and corrode.

A troublesome detail of the HP-41 design is the small charger connection port cover. It is extremely flimsy, needlessly so, and easy to break or lose.

But the HP-28 cover is tops in the poor design competition.

Re: HP28S battery cover

*Message #6 Posted by **Michael de Estrada** on 6 Apr 2009, 8:46 a.m.,*
in response to message #5 by Mike Morrow

Yes. The Woodstock battery pack design with the integrated "door" was a great concept, especially for field use. It was very easy to swap out a spent pack with a fresh spare. No chance of losing or damaging a separate door because there was none. Also, the battery contacts were very sturdy, relying on the pack springs to provide the connection pressure and to secure the pack inside the calculator housing. Although neither HP nor the aftermarket manufactures replacement packs any more, it is very easy to re-cell them with store-bought AA NiCads.

Too bad HP also chose to make the NiCad pack part of the AC adapter circuit, which is why today there are very few remaining functional Woodstocks.

To the original poster, if you find a cheap source of clamshell battery doors, please let me know. My HP-28S is out of commission with a broken battery door.

Michael

Edited: 6 Apr 2009, 9:05 a.m.

Re: HP28S battery cover

*Message #7 Posted by **Nigel J Dowrick** on 6 Apr 2009, 12:55 p.m.,*
in response to message #6 by Michael de Estrada

If you are interested in functionality rather than beauty it is possible to cut a thin piece of metal sheeting to the correct shape and to slide it in in place of the battery cover. The slot around the edge of the aperture is enough to keep the metal in place; a small amount of insulating tape secures it. Sticking some thin dark plastic on top would even make it look quite nice, although I didn't bother to do this.

Nigel

Re: HP28S battery cover

*Message #8 Posted by **Michael de Estrada** on 6 Apr 2009, 1:27 p.m.,*
in response to message #7 by Nigel J Dowrick

Nigel,

About what thickness gage would you estimate is required? Should it be the same as the current metal part?

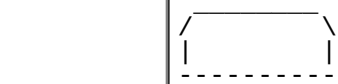
Thanks for your suggestion.

Michael

Re: HP28S battery cover

*Message #9 Posted by **Nigel J Dowrick** on 6 Apr 2009, 7:43 p.m.,*
in response to message #8 by Michael de Estrada

I don't have a way of measuring the thickness of the piece of metal that I used, but it looks to be about 0.2mm thick. It is thin enough for me to have been able to cut it into shape with a pair of scissors. It fits into the slots at the sides and also the slot at the "back" of the battery compartment. It is this sort of shape:



I hope this helps.

Nigel

Re: HP28S battery cover

*Message #10 Posted by **Allen** on 6 Apr 2009, 7:55 p.m.,*
in response to message #9 by Nigel J Dowrick

I really would not recommend spending monumental effort repairing the door.. the moment you get it fixed, Murphy says the plastic around the battery door will break, leaving you something with more CA smell, and risk of breaking further at any moment.

If you're looking for something vintage, I suggest the 48SX instead, or else the 42s, or the current 35s/50g- it really depends on how you use your machine...

Re: HP28S battery cover

*Message #11 Posted by **Michael de Estrada** on 6 Apr 2009, 8:22 p.m.,*
in response to message #10 by Allen

Allen,

I already have a HP-48SX and even a HP-50g, which I use 99% of the time. I have not used the old HP-28S for years because of the busted battery door, so I really don't have anything to lose in trying to resurrect it. Actually, the case plastic has already begun to break around the door opening, so it's on its

last legs anyway. I can always hook it up directly to my bench DC power supply if I just want to play with it. But thanks anyway for your advice.

Michael

Re: HP28S battery cover

*Message #12 Posted by **Allen** on 6 Apr 2009, 6:28 a.m.,*
in response to message #1 by Keith Midson

best bet is to buy a (non) working 18c and steal the batt. cover. The color is very similar, and the cost won't put you out. I agree with earlier responses that the small market will keep both HP and replicas out.

Re: HP28S battery cover

*Message #13 Posted by **Dan Grelinger** on 6 Apr 2009, 9:47 a.m.,*
in response to message #1 by Keith Midson

HP was still selling the battery covers about 10 years ago, I was able to purchase one from their parts department, along with some replacement cells for the HP-67 battery pack (82001?). I tried to get the replacement cells recently, and checked the part number at their site, and got nowhere. The same may have happened to the HP-28S battery door.

Dan

Re: HP28S battery cover

*Message #14 Posted by **Randy** on 6 Apr 2009, 10:10 a.m.,*
in response to message #13 by Dan Grelinger

HP was out of stock years ago with no plans to change the situation. The last source I knew of was Calcpro.com but he too no longer as any stock.

Gone the way of the Dodo bird...

if in doubt, consult your dentist

*Message #15 Posted by **Hans Brueggemann** on 6 Apr 2009, 3:18 p.m.,*
in response to message #1 by Keith Midson

because he has very fine epoxies at hand..
you might simply glue the broken pieces together with CA and ask him, whether he can do a copy of it.
textures of copied parts are just excellent and a good paint job (car paints) will do the rest.

Re: if in doubt, consult your dentist

*Message #16 Posted by **Keith Midson** on 6 Apr 2009, 10:42 p.m.,*
in response to message #15 by Hans Brueggemann

Thanks everyone for your enthusiastic response! This was my first posting to the forum, and I didn't realise how active everyone would be in this forum.

By way of background I have the HP collecting bug - I now have 44 HP's (along with a bunch of pocket computers and graphing calcs from inferior brands ...).

So, I do use other vintage HP's (I have a working collection as an engineer), but my trusty 28S was the

very first HP I've owned from 1990, so it's the sentimental value of keeping it alive that brings me to this thread. I actually have a "like new" 28S, as well as a 28C, 18C, 19B and 19Bii, all in excellent condition with no damage to the battery door, but I would like to bring my original back to life. I think based on all the above discussion I will try cutting some metal sheet - i'll let everyone know how it goes.

Cheers, Keith

the solution

*Message #17 Posted by **db (martinez, ca.)** on 8 Apr 2009, 12:59 a.m.,*
in response to message #1 by Keith Midson

you just need one of these.

Re: the solution

*Message #18 Posted by **Walter B** on 8 Apr 2009, 2:03 a.m.,*
in response to message #17 by db (martinez, ca.)

Great stuff! How about casting calculators? ;-)

Re: the solution

*Message #19 Posted by **Andrés C. Rodríguez (Argentina)** on 8 Apr 2009, 8:51 a.m.,*
in response to message #17 by db (martinez, ca.)

db:

Nice to hear from you. While trying to follow the link on your message, I got an error message stating that "Veoh is no longer available in Argentina"... it seems that they (whoever they are) block the contents upon user location...

Any other way to look at your content?

Re: the solution

*Message #20 Posted by **Marcus von Cube, Germany** on 8 Apr 2009, 9:27 a.m.,*
in response to message #19 by Andrés C. Rodríguez (Argentina)

It's available on YT too: http://www.youtube.com/watch?v=ggvzcGdZsTc

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HP 41CV Battery Question

*Message #1 Posted by **Chuck** on 5 Apr 2009, 2:13 p.m.*

I was given a 41cv several years ago which the owner claimed died. Cosmetically it's in excellent condition, very little use. However, the battery holder is cracked in half, and the little springs are missing. With all the talk about the 41's I figured I should actually find out if it is indeed not working. So, here's a start...

...can somebody look at their batter holder and tell me the configuration of the springs. Are the outside pairs connected?

Thanks.

CHUCK

Re: HP 41CV Battery Question

*Message #2 Posted by **Michael de Estrada** on 5 Apr 2009, 2:39 p.m.,*
in response to message #1 by Chuck

Yes. The outer pairs of battery cells are in series via the springs. The polarities are marked on the outside of the holder.

Michael

Re: HP 41CV Battery Question

*Message #3 Posted by **Chuck** on 5 Apr 2009, 2:47 p.m.,*
in response to message #2 by Michael de Estrada

Thanks Michael. That's what I figured. I'll give this thing a go finally.

Re: HP 41CV Battery Question

*Message #4 Posted by **Geoff Quickfall** on 5 Apr 2009, 3:23 p.m.,*
in response to message #1 by Chuck

Chuck,

Just a note about the springs. Am I correct that you are using the original HP springs?

If not make sure the replacements are not to stiff, as this will lead to cracked battery posts or missing bonded screw head washers.

See this post:

Not the battery posts!

for an explanation of the turning force that the battery hatch imposes on the module/battery block and then to the posts and screw heads. The explanation is in the conclusion section.

I have actually chosen to compress my springs a bit to releave the stress.

Cheers, Geoff

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Broken Woodstock Question

*Message #1 Posted by **Michael de Estrada** on 4 Apr 2009, 10:37 p.m.*

I found a dead HP-27, which had corroded batteries that had leaked inside and damaged the circuit board traces. I tried powering it directly on the circuit board to no avail. I disassembled it completely and tried to determine if the OFF/ON slider switch was working, but of course on this model the keyboard is heat-staked to the front cover, so it is not possible to do this directly. Can someone familiar with the innards of this model tell me what points on the back of the keyboard to check with an ohmmeter to see if the OFF/ON switch is working, and if not I can short these points to further test the calculator?

Thanks for any help.

Michael

Re: Broken Woodstock Question

*Message #2 Posted by **Geoff Quickfall** on 5 Apr 2009, 2:34 a.m.,*
in response to message #1 by Michael de Estrada

Hello again Michael!

A really simple test, before you even take the guts out or unscrew the case. Of course this works after the guts are removed and you have cleaned the PCB as much as possible.

```
1   select resistance on your ohmeter
2   place a probe on the -ve battery contact and the other
    probe on the  +ve battery contact
3   cycle the on off switch and observe the needle deflect from
    high resistance to low resistance.
```

The deflection indicates that the slide contact is working. Also, use extreme caution when cleaning the keyboard silk screening. Do not rub clean or rub dry the surface of the silkscreened numbers. They are extremely sensitive and the clear laqueur that protects them has probably degraded.

The woodstocks are very problematic. Typically when the batteries started to build up internal resistance and decay they still held a charge. This led the user to plug the calculator into the mains with the adapter while leaving bad batteries in the calculator. This has disasterous effects on the PCB and is unrepairable.

Some times you see someone on ebay state that "it worked when the plugged it in but it doesn't work now" so it must need new batteries. Well, it's too late by then!

Good luck, I have a 21 here that looks mint outside and gave an erratic display. The batteries were welded inside from corrosion and the removeable PCB was pure blue. I soaked this in vinegar, (what else, it was a write off) and got it to work a little bit better, but still erratic.

Also, when you jury rig a power source use two rechargeable batteries at 1.2 volts each. These woodstocks become tempermental with age and two 1.55 volt alkalines may be enought to send the calc into cardiac arrest.

Cheers, Geoff

Re: Broken Woodstock Question

*Message #3 Posted by **Michael de Estrada** on 5 Apr 2009, 9:57 a.m.,*
in response to message #2 by Geoff Quickfall

Hello Geoff,

Thanks again for your very detailed and expert advice. The OFF/ON switch is definitely working at the keyboard level (I figured out that the top two traces are the switch circuit), so that is not the problem. The resistance at the battery terminals is very high with the ON/OFF switch in either position. I powered it both with a proper NiCad battery pack and my bench regulated DC power supply at 2.5 Vdc with no response whatsoever in the LED array. Externally the calculator looks very nice, so it looks like I have my first non-functional pretty collectable. It's a shame because the HP-27 is quite rare, and whenever they appear for sale the asking price is astronomical.

Best Regards, Michael

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HP41CV calculators with embossed label

*Message #1 Posted by **Gonzalo Fernandez (Spain)** on 4 Apr 2009, 2:51 p.m.*

I would like to know if exists HP41CV calculators with front label "HP HEWLETT-PACKARD 41CV" embossed or are early pre-release units. See top photo of HP41CV in http://www.jeffcalc.hp41.eu/index.html (JF Garnier page)

Re: HP41CV calculators with embossed label

*Message #2 Posted by **J-F Garnier** on 13 Apr 2009, 9:02 a.m.,*
in response to message #1 by Gonzalo Fernandez (Spain)

I'm also interested to know if I have a very special machine or not.

What I can say is that it's an early 41CV with serial number: 2102A008xx. It was given to me by a good friend several years ago and I like it very much even if it is not in perfect condition.

J-F

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HP35 IEEE Celebration 4/14/09

*Message #1 Posted by **Jake Schwartz** on 4 Apr 2009, 2:19 p.m.*

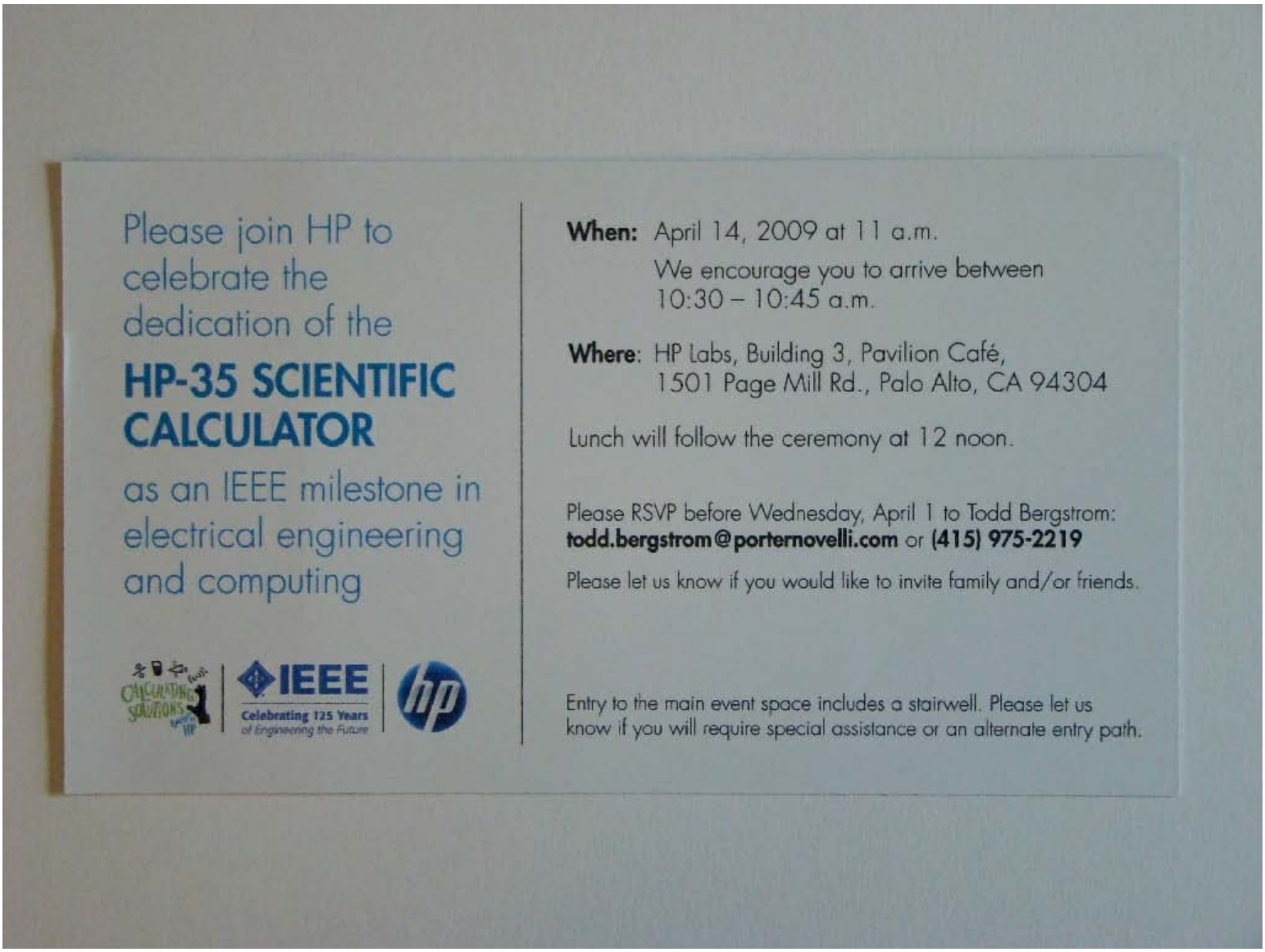
Hi,

On Friday, I received this from the IEEE:

The "pocket protector" was stuffed with a card:

and on one side of the card was a life-size image of the HP35:

and on the reverse side of the card was an invitation to an IEEE celebration for the HP35:



Did anyone else receive this?

Jake Schwartz

Re: HP35 IEEE Celebration 4/14/09
*Message #2 Posted by **Jake Schwartz** on 4 Apr 2009, 2:25 p.m.,*
in response to message #1 by Jake Schwartz

It should be mentioned when I emailed about it to Richard Nelson yesterday, he responded that earlier this year he was asked for an image of the HP35 and so he shot one with the Golden Ratio in the display and sent it in. It is his image on this card. Perhaps some of you who live in the area of this event might wish to try to sign up. Despite the fact that the RSVP date was April 1st, I didn't even receive the letter until the 3rd. And since I'm on the Right Coast, I'll be there only in spirit...

Jake

Re: HP35 IEEE Celebration 4/14/09
*Message #3 Posted by **Mike Morrow** on 4 Apr 2009, 8:32 p.m.,*
in response to message #2 by Jake Schwartz

A picture of the original red-dot version would have been a little more appropriate. But I suspect that few of those look brand new 37 years later. Mine doesn't.

I haven't received this item from the IEEE. I hope someone goes and will report on the activities.

Re: HP35 IEEE Celebration 4/14/09
*Message #4 Posted by **Steve Leibson** on 4 Apr 2009, 8:38 p.m.,*

in response to message #3 by Mike Morrow

I am attending as a contributing editor for EDN Magazine and plan to cover it in my blog, Leibson's Law

Re: HP35 IEEE Celebration 4/14/09

*Message #5 Posted by **Dave Hicks** on 5 Apr 2009, 11:27 a.m.,*
in response to message #2 by Jake Schwartz

I'm planning to go.

Re: HP35 IEEE Celebration 4/14/09

*Message #6 Posted by **Dave Hicks** on 5 Apr 2009, 1:28 p.m.,*
in response to message #5 by Dave Hicks

By the way, I haven't worked out any details yet but I'm thinking of flying in and out of San Jose on the day of the event. If anyone wants to do any car-pooling from San Jose airport to/from HP, let me know and maybe we can work something out.

Re: HP35 IEEE Celebration 4/14/09

*Message #7 Posted by **Jake Schwartz** on 14 Apr 2009, 7:45 p.m.,*
in response to message #1 by Jake Schwartz

I wish I had been there...

Steve Leibson's coverage is here:

http://www.edn.com/blog/980000298/post/1720043372.html

I also noticed Dave Hicks and Richard Nelson on the webcast. Perhaps they'll have a story or two to tell.

Jake Schwartz

Re: HP35 IEEE Celebration 4/14/09

*Message #8 Posted by **Jake Schwartz** on 14 Apr 2009, 9:08 p.m.,*
in response to message #7 by Jake Schwartz

The entire 53-minute video of the ceremony is available for viewing at http://www.ustream.tv/channel/hp-35-ieee-milestone-award-ceremony

It is worth watching.

Re: HP35 IEEE Celebration 4/14/09

*Message #9 Posted by **Katie Wasserman** on 15 Apr 2009, 12:50 a.m.,*
in response to message #8 by Jake Schwartz

Very Nice!

So where can we buy this latest ARM-7 based 12c that Sam said is available now?

Re: HP35 IEEE Celebration 4/14/09

*Message #10 Posted by **Dave Hicks** on 15 Apr 2009, 2:09 a.m.,*
in response to message #9 by Katie Wasserman

Basically it's an unannounced change so they are shipping now but you must shop carefully. Sam gave me a clue about serial numbers but I'm not sure if he meant it to be totally open information as people might pick over inventories just to get the newest thing even if they don't plan to use it. But I think if you send me an email, it's OK to tell a few people. And I'm sure if you plan to develop some Apps, Sam will be happy to get you the stuff you need.

Something that probably didn't show up on the video was an even earlier HP-35 prototype. It looks like the yellow-key prototype shown on the HP-35 page except that it has a beige case. There are also different fonts on the keys and the back of the case hadn't had any texture applied yet. Texture was controversial because the more you added, the less the plastic wanted to come loose from the mold. I got some mediocre snap shots and will add it soon. It still works, of course.

Oh and an HP-01 proof of concept with a whole bunch of tiny wires running into an HP-35 where its real brains lived.

Lots of nice stories and great people! A really fun day!

I'll have some more to say about the trip later but it's been a long/great day.

Speaking of long days, Richard drove 750 miles each way!

Edited: 15 Apr 2009, 2:12 a.m.

Re: HP35 IEEE Celebration 4/14/09

*Message #11 Posted by **Sancerre (Phoenix)** on 15 Apr 2009, 11:49 a.m.,*
in response to message #10 by Dave Hicks

Hi,

Do you have more details on the connectivity capabilities of the new 12C? This feature opens up a developer market for the platform that intrigues me.

--Tod

Re: HP35 IEEE Celebration 4/14/09

*Message #12 Posted by **Dave Hicks** on 15 Apr 2009, 12:55 p.m.,*
in response to message #11 by Sancerre (Phoenix)

Essentially, the 12C has what the 20b has. The latter is more public about it since it is not rolling new features into an existing product.

If you download the 20b developer kit I think you'll get some ideas.

Essentially both calculators have serial ports and developer replaceable firmware.

Re: HP35 IEEE Celebration 4/14/09

*Message #13 Posted by **Andrés C. Rodríguez (Argentina)** on 15 Apr 2009, 4:47 p.m.,*
in response to message #12 by Dave Hicks

IIRC, there was a message from Cyrille de Brebisson some weeks ago, detailing the "newer" 12C capabilities. Just from memory, I think he said that the JTAG port (which is easily implemented in the 20b) is not available on the new 12C. It may have to do with ESD considerations. But the serial port was maintained.

Please check and disregard any mistake on my side.

Re: HP35 IEEE Celebration 4/14/09

*Message #14 Posted by **BruceH** on 15 Apr 2009, 4:27 p.m.,*
in response to message #9 by Katie Wasserman

Katie, the new 12Cs are available in the UK. I can point you at a suitable dealer if you want to ship. Alternatively, just look carefully through the blister pack since the new version has a double width battery compartment.

Re: HP35 IEEE Celebration 4/14/09

*Message #15 Posted by **Katie Wasserman** on 15 Apr 2009, 11:03 p.m.,*
in response to message #14 by BruceH

I'll keep an eye out for them in the local stores. Was the packaging changed to say that the calculator takes "2 x CR2032" cells instead of "1 x CR2032"?

Re: HP35 IEEE Celebration 4/14/09

*Message #16 Posted by **Charles Oxford** on 17 Apr 2009, 10:01 p.m.,*
in response to message #9 by Katie Wasserman

I went to my local Fry's to get speakers so I could hear the video. I checked the calc dept and they didn't have the 20B but they had 3 12C's, 2 of which had a double length battery door visible from the top of package. Price is 69.99 USD plus 8.33% tax. No difference in the packaging of the 2 styles of 12c. Does the battery door width mean it will have the port on the back?

Re: HP35 IEEE Celebration 4/14/09

*Message #17 Posted by **Charles Oxford** on 16 Apr 2009, 8:21 p.m.,*
in response to message #8 by Jake Schwartz

Whenever I try to see this it says "off air" Is it me? or just my timing?

Re: HP35 IEEE Celebration 4/14/09

*Message #18 Posted by **Jake Schwartz** on 16 Apr 2009, 9:54 p.m.,*
in response to message #17 by Charles Oxford

> Quote:

Whenever I try to see this it says "off air" Is it me? or just my timing?

If you click on the thumbnail image in the lower portion, it should start playing the 53-minute video.

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A visual quiz! What is it?

*Message #1 Posted by **Geoff Quickfall** on 3 Apr 2009, 10:23 p.m.*

I just recieved this functional calculator. It is specialty designed, i.e. it applies to a certain industry.

I don't remember seeing such an HP keyboard mimic (I know the keys have an extra column below the Enter key row) before complete with ENTER key. The clincher is it also has an = key. This was made in the late 80's.

I have sanitized the shifted markings but left the key labels for you as a hint. I will post the actual calculator picture soon enough:

It raises some interesting questions. Any guesses as to:

```
1     brand?
2     industry used for
3     whether algebraic or RPN or both?
4     has any other calculator got the enter key (other than
      the 12 C clones posted below)?
```

Re: A visual quiz! What is it?

Message #2 Posted by ***Thomas Okken*** *on 3 Apr 2009, 11:44 p.m.,*
in response to message #1 by Geoff Quickfall

Hi Geoff,

Given that you're an airline pilot, I couldn't help but guess that's what that calculator is for. I also vaguely remembered reading about special-purpose non-HP RPN aviation calculators... That picture looks like a

Navtronic (http://spyropoulos.net/calcs-aviation/aviationcalcs.htm). Whether the presence of the = key means it supports algebraic operation, or if it serves some other function, I have no clue, though.

- Thomas

ARRRGGGGGG, to easy!!!!!!

*Message #3 Posted by **Geoff Quickfall** on 4 Apr 2009, 12:20 a.m.,*
in response to message #2 by Thomas Okken

Oh well ;-(

Edited: 4 Apr 2009, 12:22 a.m.

Re: ARRRGGGGGG, to easy!!!!!!

*Message #4 Posted by **Thomas Okken** on 4 Apr 2009, 12:59 a.m.,*
in response to message #3 by Geoff Quickfall

What about questions 3 and 4, though?
Anyone? Anyone? Bueller?

Re: ARRRGGGGGG, to easy!!!!!!

*Message #5 Posted by **Geoff Quickfall** on 4 Apr 2009, 1:23 a.m.,*
in response to message #4 by Thomas Okken

I will answer number #3

it is algebraic and the enter key is to input data to memory registers. The variables in the various hidden memories are used for equations such as:

```
lat1 and lon1
lat2 and lon2


     gives rhumb line and track


wind speed
wind direction
aircraft heading
aircraft true airspeed


     gives aircraft track and ground speed.
```

all addition, subtraction and etc. are computed algebraically.

Cheers, Geoff

Edited: 4 Apr 2009, 1:23 a.m.

Re: A visual quiz! What is it?

*Message #6 Posted by **Maximilian Hohmann** on 4 Apr 2009, 5:45 a.m.,*
in response to message #1 by Geoff Quickfall

Good Morning!

Too late again... but a few answers to #4:

How about the Navtronic 1701 (/ T / TR) and Navtronic 16, the beautiful luminous brothers of the one in your photo, that have the unique vertical row of LEDs to prompt for input values?

And most the Ti graphing calculators (e.g. Ti73, Ti89, Voyage 200, ...) have a big "Enter" key.

Some Ti Basic calculators have it (Ti-74S)

And the asa CX-1 pathfinder has it. An Sporty's electronic E6B.

All those cheap USB-calculators that can be used as a numeric keypad for notebook computers have one (e.g. Sigma PC6012 USB, ibico 121X)

Sharp Organisers (like IQ-8100M) have big Enter keys.

These are only those that are stacking up on my desk because I haven't entered into my database yet...

Greetings, Max

A visual quiz! What is it?

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Anyone else find this HP-41CX strange?

*Message #1 Posted by **Dan Grelinger** on 3 Apr 2009, 10:09 p.m.*

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=260387140137&fromMakeTrack=true

Described as never opened and never repaired. However, evidence MAY indicate otherwise. Any ideas?

Dan

Re: Anyone else find this HP-41CX strange?

*Message #2 Posted by **Geoff Quickfall** on 3 Apr 2009, 10:29 p.m.,*
in response to message #1 by Dan Grelinger

Dan, unless I am blind and can't see the forest for the trees, I see nothing wrong with this. It appears identical to my HP41CX halfnut.

The keys are standard and not tall, the trim appears gold, the feet look good as well as the label at the foot of the case.

What appears out of place to you?

Cheers, Geoff

Re: Anyone else find this HP-41CX strange?

*Message #3 Posted by **Garth Wilson** on 3 Apr 2009, 10:45 p.m.,*
in response to message #2 by Geoff Quickfall

Did you see the one that went last week for $522 IIRC?! That was with no modules or accessories. Even the rubber feet looked brand new.

Re: Anyone else find this HP-41CX strange?

*Message #4 Posted by **Dan Grelinger** on 3 Apr 2009, 10:49 p.m.,*
in response to message #2 by Geoff Quickfall

What is the earliest half-nut serial number?

Dan

Re: Anyone else find this HP-41CX strange?

*Message #5 Posted by **Geoff Quickfall** on 3 Apr 2009, 11:07 p.m.,*
in response to message #4 by Dan Grelinger

Mine is 3019S20239 indicating 1990-week 19-Singapore-20239.

In conversation with Wlodek even some 41C's are floating around with a half nut due to waranty repair. I think he stated the first 41cx showed up around 1985. I see that this one is 1984 which would put it at the same age as my spare, also 1984, but mine is not a half nut. I see what you mean, was it sent in for repair? He states not but then he is not the original owner.

Also check out this HPmuseum posting which pushes the date back to 1985:

earliest halfnut production

Now if you have a 41C halfnut, wow, that would be rare. I guess there are no halfnut tall keys out there!

Cheers, Geoff

Edited: 3 Apr 2009, 11:11 p.m. after one or more responses were posted

Re: Anyone else find this HP-41CX strange?

*Message #6 Posted by **Dan Grelinger** on 3 Apr 2009, 11:11 p.m.,*
in response to message #5 by Geoff Quickfall

This site (MoHPC) indicates that the earliest half-nut serial number is 40 weeks after the listed ebay calculator. That early of a serial number would indicate a repaired unit. But the seller describes it as never repaired, never opened.

Re: Anyone else find this HP-41CX strange?

*Message #7 Posted by **Randy** on 4 Apr 2009, 8:27 a.m.,*
in response to message #6 by Dan Grelinger

But the seller never said he was the original owner. In fact, he says he bought it several years ago, how does he know the full history? Maybe never repaired by him would be true but that's a stretch...

IMO it is a repaired unit, HP put the customers old back on a halfnut service exchange. It's what they did after they ran out of fullnut service parts. Standard procedure.

I've seen many CX's in this exact state - fullnut serial number bottom on a halfnut top. Woop-de-do, nothing special here.

Edited: 4 Apr 2009, 8:29 a.m.

Now we know the answer!

*Message #8 Posted by **Dan Grelinger** on 4 Apr 2009, 12:59 p.m.,*
in response to message #7 by Randy

If you check the auction this morning, you will see the seller has come clean. The photo he posted for this item was not of the actual item he was selling. He had substituted a photo of a different calculator without disclosing it, until now. The new photo he added this morning is of a non-halfnut HP-41CX.

Re: Now we know the answer!

*Message #9 Posted by **Michael de Estrada** on 4 Apr 2009, 1:15 p.m.,*
in response to message #8 by Dan Grelinger

Well, with about 9 hours to go, the price is up to $566 with a recently placed bid. Certainly, waaaay more than I would be prepared to pay. What will be interesting is to see the nationality/country of the winning bidder. I remember once several years ago seeing a clean working HP-67 with accessories go for about $1000 to a Japanese bidder.

Michael

Re: Now we know the answer!

*Message #10 Posted by **Raymond Del Tondo** on 4 Apr 2009, 3:01 p.m.,*
in response to message #8 by Dan Grelinger

Actually the updated pic shows a calc which looks better than the calc on the first pics.
The pics of the halfnut CX show a well used and dirty unit with a shiny ON key, scratches on the front label and U-shaped case separator,
and heavily used rubber feet, according to their abrased state.

All in all, the pics of the halfnut show a rather ugly unit, whereas the, umm,
pic of the maybe-actual unit show a unit which seems to be in much better condition.

I still can't understand why the seller doesn't show the whole calc...
...however I can't understand the bid amount which was based on the first ugly unit, too.

Re: Now we know the answer!

*Message #11 Posted by **MikeO** on 4 Apr 2009, 6:22 p.m.,*
in response to message #10 by Raymond Del Tondo

Based on their apparent ebay sales experience, it seems odd that they wouldn't post an original picture. Wow up to $610 now - that's about three times over what I payed last year for a CV in mint condition.

Are the CX's really that much more rare?

-MikeO

Re: Now we know the answer!

*Message #12 Posted by **Michael de Estrada** on 4 Apr 2009, 7:15 p.m.,*
in response to message #11 by MikeO

No, they're really no rarer than the HP-41CV, and usually go for maybe $50 more, usually less than $300 in a straight up auction. My two HP-41CV's (one mint halfnut and one very clean fullnut) both cost me less than $200. Even a certain notorious overpriced seller wants much less than this: (See here)

As I said above, it will be interesting to see the location of the eventual winner.

Michael

Going, going, going.....Gone!

*Message #13 Posted by **Michael de Estrada** on 4 Apr 2009, 10:20 p.m.,*
in response to message #11 by MikeO

Well, the massive $610 bid held up. The winning bidder has a feedback rating of 55, so he/she is not a complete newbie. Seems to me waaaaay too much was paid. Anybody want to give me $500 for one of my HP-41CV's? ;<)

Michael

Re: Going, going, going.....Gone!

*Message #14 Posted by **MikeO** on 5 Apr 2009, 2:04 a.m.,*
in response to message #13 by Michael de Estrada

Nope! But I'm sure you find the calculators way more fun than $500 would be - right?

Re: Going, going, going.....Gone!

*Message #15 Posted by **Ed Austin** on 7 Apr 2009, 6:00 p.m.,*
in response to message #14 by MikeO

Thats waaaaaaaaaay too much.... I'd say $200 was a fairer price! I'd pay that for a pristine mint in box (with working reader) HP67C though!

Re: Going, going, going.....Gone!

*Message #16 Posted by **Michael de Estrada** on 7 Apr 2009, 8:56 p.m.,*
in response to message #15 by Ed Austin

Wow! An HP-67C, huh? So, why does it even need a card reader?

Re: Going, going, going.....Gone!

*Message #17 Posted by **db (martinez, ca.)** on 7 Apr 2009, 11:18 p.m.,*
in response to message #16 by Michael de Estrada

Michael; He might be referring to this. - db

Re: Going, going, going.....Gone!

*Message #18 Posted by **Michael de Estrada** on 8 Apr 2009, 12:57 a.m.,*
in response to message #17 by db (martinez, ca.)

Hey thanks for the heads up Dennis. I've just placed an order, and the great thing is that I don't have to throw away all my old HP-67 programs. I'm also going to buy a new HP-43s.

Michael

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Anyone else find this HP-41CX strange?

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2 More Years of HPCC Datafile Issues Available on Compilation CD

*Message #1 Posted by **Jake Schwartz** on 3 Apr 2009, 8:04 p.m.*

Hi,

Recently, the Handheld and Portable Computer Club made two additional years of issues of their British magazine, Datafile, available for inclusion in our PPC CD #3, now bumped up to version 5. It is now called "26 Years of Datafile 1982 - 2007" and contains 165 issues of Datafile, covering over 6300 pages. The issues starting with year 2000 are based on the original pdfs which were submitted to their professional printer and so those pages are of crisp quality and all images contained therein are high resolution and in color. For information on obtaining this disk, check http://www.pahhc.org/ppccdrom.htm .

Thanks,

Jake Schwartz

See you at the HHC2009 Conference at the HP facility in Vancouver, Washington on October 3-4, 2009.

Re: 2 More Years of HPCC Datafile Issues Available on Compilation CD

*Message #2 Posted by **Walter B** on 4 Apr 2009, 3:55 a.m.,*
in response to message #1 by Jake Schwartz

Hi Jake,

Thanks for your notice. You've got an order.

Best regards,

Walter

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Looking for Users Library Programs

*Message #1 Posted by **Dave Hicks** on 3 Apr 2009, 2:15 p.m.*

We have the following scanned for a future DVD set. If you have any User's Library programs that are missing from this list, please contact me

Please see this page for information on naming files and this page for other scanning and transmitting information.

Thanks!

```
00009C
00057C Chebyshev, Legendre, Hermite & laguerre Polynomials
00060C Bessel Functions, Error Function
00097C
00098C
00099C
00179D Space War
00200D Blackjack Game
00204 Pinball Wizzard
00205 Star Trek Advanced
00206 Dog Races
00210 Game of Life (9x9)
00216D
00216D Mastermind Deluxe
00219D Shooting Gallery
00220D Game of Life
00222 Jack of Eagles (Game)
00252 LNAP (Ladder Network Analysis Program)
00256D Probe Word Game
00259D Duel
00261D
00266D Concentration
00278D Blackjack - Las Vegas Style
00297 LC-LNAP, LC Ladder Network Analysis Program
00301 Second Order Active Network Pole and Zero Polynomial Coefficients
00315 Curve Fitting Using the Cubic Spline Method
00320C Linear Programming using Simplx Algorithm
00320c
00321D Pinball Wizzard
00325 Cybernetic Nim Game
00326D Bagels1-5 Game
00327C Straight Line Forced thru Any Point
00336C
00341C Modified Crescent Curve Fitting
00351C Area Under Curve
00351c
00366c
00367c
00369D Advanced Star Advanced
00390C
00390C Roots of Polynomials
00390c
00391c
00392c
00397C Piloted Linear Regression
00397c
00407C Characteristic Polynomial of a Square Matrix
00408c
00433C 41 Star Identification
00463D Game of Life (9x9)
00476C
00477C Curve Fitting
00479C
00499D Battleship I
```

```
00501D Baseball
00508C
00513C
00514C
00520c
00524C
00530C
00537D Championship Golf
00538D Roulette Deluxe
00549c
00552D Fourty-Four; A Game of Deduction
00555C Multiple Linear Regression
00555D Baseball
00556C Polynomial Regression
00564c
00577C
00586D Football
00609C Fitting Polymonials of Degree M to Data
00609c
00616D Objective (Tank War)
00626D Life
00657c
00687D American Roulette Wheel
00702C 41 Gear Frequencies
00727D Jack of Eagles
00732C
00733D Roulette Game
00734D Jotto 2
00739D Daytona 500
00741c
00747D Football
00763C
00763C 41 High Resolution Plotter
00766D
00771C 41 Lunar Day Converter Astrophoto exp guide
00788C
00796C
00796Ca
00825D Golf With Unique Putting Routine
00833c
00834C
00834Ca
00848c
00850D Number Hunt
00853D Orbitor Game
00862d
00866C
00866C 41 Wumpus
00868c
00869C
00869Ca
00873D Basketball
00874D Ping-Pong
00875D Electronic Ping Pong
00888D Mastermind
00903C
00929C 41 Chess 5x5
00948C 41 Tic Tac Toe
00959D Programmers' Bell Slot Machine
00964D Robot Trap
00981c
01010C 41 Precession of Right Ascension and Declination
01173D Hunt the Wumpus
01196C
01196C barcode
01196C bode of general transfer
01201c
01220C 41 Wars
01294C 41 Cyclone Efficiency
01299c
01333c
01365c
01370D Blackjack
01403C 41 Cooling Load Calculations
01412D Matrix Game - Calculator Learns to Learn
01448c
01471D Slalom Ski
01475D Rational Tic Tac Toe
01495D Baseball
01497D Crack the Vault
01511D Pinochle
```

01530c
01532D Moon Lander with Untinterruptible Continuous Countdown
01581D Sink the Yamamoto
01630c
01650D Random Sequence of Numbers
01733c
01763C swords and sorcery
01767D Magic Squares
01798D Bridg-It
01800D Fortress
01816D Monopoly
01829D Unbreakable Cipher System; Cryptography
01838D Draw Poker
01884D Noughts & Crosses
01888C
01918D Keno Simulation
01927D Advanced Battleship
02013c
02039D Super Bagels - Easy-Does-It
02089c
02172c
02185c
02284c
02335D Star Wars
02418C
02762c
02845D Space War Plus
02864c
02900D Telepathy
02913D Game of 15
02921D
02925D The Game of 3D Tic Tac Toe
02962D Mine Field
02999D
03100D Bowling Game Simulator
03130D Keno Special
03139D
03249
03288D Checkers
03290D
03319
03949D
03952D How Old Are You
03954D Down the Middle
03961D Number Guesser Game
04061D Exterminator
04118D Toss and Score
04122D Fan Tan
04190D Sic Bo (Dice game)
04191D Paper Rock Scissors
04196D Labyrinth
04199D Guess the Number
04356D Engine Out
04463D Catch Me If You Can
04464D Modified Moon Rocket Lander
04505D Chess - The 8 Queens Problem
04510D Guess the Card Suit
09685
0xxxxD Pinochle
41-03134
50003 Logic Circuit Simulator
50024 Sequential Logic for up to 9 Unknowns (Propositions)
50029 Car Simulator
50089 5th Degree Equation
50116 Coder - Decoder
50145 Magic Squares
50146 Solution of a Fifth or a Sixth Order Linear System
50232 Direct PIAL Compiler
50256 Trade Business Plan Game
50313 PIAL Executer
50495 Multiple Integrals
50499 Reaction Time Indicator With NNN's
50500 Mate Your HP's King with King, Bishop and Knight, in 35 Moves
50520 Approximation by Legendre Polynomials up to Degree 7
50536 Lose Three
50555 PIAL Editor
50657 Complex Operations Programmable 45
50683 Linear Systems (Complex Coefficients)
50684 Linear Systems 7x7
50685 Determinants
50687 Polynomial Regression Degree 1, 2, 3, 4

```
50696 Chess - End Game 1
50784 Fourier Coefficients
50812 5x5, 4x4, 3x3 Matrices or Unknown Equations
50813 Conversion of Legendre Polynomials into Power Series
50925 Linear Second Order Boundary-Value Problem
51061 Inverse Mastermind
51114 Twonky
51130 Solving Mastermind with HP 67-97
51193 5x7 Matrix Letter and Symbol Printer
51262 Theseus and Minotaurus
51352 Chebyshev Economisation
51403 Double Precision Arithmetic for Positive Integers
51657 50 Steps Programmable HP Machine for Complex Calculus
51658 Approximation by a Sum of 4 Whatever Functions
51660 4 Simultaneous Equations in 4 Rational Variables
51702 Cyclic Patterns
51772 Texas Simulator
51877 MIT Public-Key Cryptosystem and Digital Signatures
51881 Fourier Coefficients for Linear Composed Functions
51892 Literal Derivation Function up to 100 Steps
52046 Square Root to 182 Figures
52058 Sea Battle
52112 Palindromic Numbers
52165 Linear Systems
52206 A Chess Game
60377 Fourier Series - Harmonic Analysis - Discrete Domain
60453 Elliptic Lowpass Filter Design
60454 Factors of a Number; the Fastest Program on the Subject
60534 Areas, Lengths of Arcs, Volumes & Surfaces of Revolution
60535 Numerical Analysis of Functions
60582 Summation of an Infinite Alternating Series
67rocket
Category 510 Messier Object Search
Category 510 Satellites of Jupiter
Category 820 Treasure Quest
FactorAndGCF
HP Users' Club Europe HP 67-97 Program Catalog
HP Users' Program Library Europe Catalogue
HP logo
Lander
Projectile With Resistance
Simon
Subs
Users Group Library Programs
calendar 1
navigation programs
romberg integration
teach
```

Re: Looking for Users Library Programs

*Message #2 Posted by **Thomas Chrapkiewicz** on 4 Apr 2009, 1:34 p.m.,*
in response to message #1 by Dave Hicks

Hello Dave:

What machine are these for?

As you know, I am in the process of scanning a number of HP65 User Library programs - some submitted by me back in the day.

I also plan on scanning the library catalog which I have.

Thanks, TomC

Re: Looking for Users Library Programs

*Message #3 Posted by **Dave Hicks** on 5 Apr 2009, 2:11 p.m.,*
in response to message #2 by Thomas Chrapkiewicz

Programs for all (HP) machines are wanted!

Re: Looking for Users Library Programs

*Message #4 Posted by **gene wright** on 5 Apr 2009, 3:59 p.m.,*
in response to message #3 by Dave Hicks

Dave, be sure to pull the programs from the site I referenced in an email to you.

Re: Looking for Users Library Programs

*Message #5 Posted by **Allen** on 5 Apr 2009, 5:51 p.m.,*
in response to message #4 by gene wright

I'll be submitting two shortly:

```
02592C- Survey Pac Supplement - Point Storage for TRAV and INTER 41c ( with bar
codes)


00925C- Data Packing 41c
```

Re: Looking for Users Library Programs

*Message #6 Posted by **Allen** on 5 Apr 2009, 7:11 p.m.,*
in response to message #5 by Allen

Dave, both are sent to uploads in TIF and PDF.. I printed pg 1 of both program bar codes and both input successfully in my 41cv via wand (after scanning and pdf'ing) so I know not too much data was lost (B&W 300dpi). Cheers!

Re: Looking for Users Library Programs

*Message #7 Posted by **Dave Hicks** on 9 Apr 2009, 3:12 p.m.,*
in response to message #6 by Allen

Got these! Thanks everyone!

Re: Looking for Users Library Programs

*Message #8 Posted by **David Hayden** on 10 Apr 2009, 10:32 a.m.,*
in response to message #1 by Dave Hicks

Dave,

I can provide titles for some of the ones that are missing them. Here are the numbers and titles:

```
00009C  New Moon and Full Moon Day of Month
00097C  Baseball Simulator
00098C  Magic Squares
00099C  Script Letters
00216D  Mastermind Deluxe
00336C  Graphics Aid Program ("GAP")
00390C  Roots of Polynomials
00476C  High Resolution Plot Routing -- (Relatively) fast version
00479C  Petals around the Rose
00508C  Sunrise, Sunset & Twilight from 1900
00513C  Word Guessing Game
00514C  Mastermind
00524C  Banner
00530C  Banner
00577C  Row Plot (High resolution plot)
00732C  Plot of 2/3 Functions on one graph
00763C  High Resolution Plotter
```

```
00766D  Equations of Particle Motion
00788C  Equations of Particle Dynamics
00796C  True Battleship
00834C  Banner Printer
00866C  Wompus
00869C  Partial Fraction Expansion
00903C  Reversi
01888D  Curve Fitting
02418C  Audio Tape Counter / Time Conversions
02921D  LEM LANDER _ An Orbital Mechanics Game
02999D  Predicting The Apparent Wind
03139D  Curve Fitting
03290D  Doppler Effect - Interchangeable Solutions
03949D  Relativity - Interchangeable Solutions
```

Dave

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Woodstock glue?

*Message #1 Posted by **james summers** on 2 Apr 2009, 5:57 p.m.*

Greetings all.

Any recommendations as to the best glue for sticking the battery holder used in the Woodstocks together? I've just acquired an HP25C where the battery holder sides have become detached from the solid part (ie that bit which forms the bottom of the actual calculator when the battery holder is in place) and remedial action is required.

TIA

James

Re: Woodstock glue?

*Message #2 Posted by **Randy** on 2 Apr 2009, 6:37 p.m.,*
in response to message #1 by james summers

Plastic welding solvent cement for styrene models. Available at any good hobby shop.

Re: Woodstock glue?

*Message #3 Posted by **Michael de Estrada** on 2 Apr 2009, 7:11 p.m.,*
in response to message #1 by james summers

Superglue works very well and you don't need a lot of it. Just apply a drop at about 1 cm intervals, and then immediately press the two parts together for about 30 seconds. Clean both contacting surfaces thoroughly first and remove any burrs or loose bits of plastic.

Re: Woodstock glue?

*Message #4 Posted by **Geoff Quickfall** on 2 Apr 2009, 8:33 p.m.,*
in response to message #1 by james summers

I have used liquid plastic cement and clamps.

```
1.  clean up the edges
2.  rough up the surfaces that are to be glued with 400 grit
    sandpaper
3.  apply glue to both sides and then place pieces together
4.  clamp until dry, give it an hour or so
```

This will give a permanent bond to the woodstock battery pack.

Cheers, Geoff

Re: Woodstock glue?

*Message #5 Posted by **james summers** on 3 Apr 2009, 4:24 p.m.,*

in response to message #1 by james summers

Many thanks for the advice everyone.

Cheers

James

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Whether to buy a "reclaimed HP41CV"

*Message #1 Posted by **Nigel Bamber** on 2 Apr 2009, 4:28 p.m.*

Having got the bug of the HP41 calculator range from using the I41cx on the Iphone, I have been watching Ebay auctions but prices seem to be around £170 for a CV or a CX which is just too much just to try to feel and hear the satisfying click of the keys and to handle a real machine.

I have got the chance to buy a reclaimed CV , no modules or battery but which is powered by an external battery pack or a USB cable link to a PC. Cost only £ 28.00. Is it worth this ?

So do I buy that or wait for the real thing or will buying this reclaimed calculator just fuel my desire to get a real one !!

Comments and thoughts welcomed !

Nigel

Re: Whether to buy a "reclaimed HP41CV"

*Message #2 Posted by **bill platt** on 2 Apr 2009, 5:36 p.m.,*
in response to message #1 by Nigel Bamber

Wait another 6 months or so and you'll get a lot more for your money.

Re: Whether to buy a "reclaimed HP41CV"

*Message #3 Posted by **Dan Grelinger** on 2 Apr 2009, 6:09 p.m.,*
in response to message #2 by bill platt

Please, save us all some suspense, and tell us why.

I've seen similar advice over the past 10 years or so that I have had the HP collecting bug. Sometimes it is good to wait. Most times it is not.

Re: Whether to buy a "reclaimed HP41CV"

*Message #4 Posted by **bill platt** on 2 Apr 2009, 9:05 p.m.,*
in response to message #3 by Dan Grelinger

Well, let's see...shall we go back to 2003 or whenever it was that the 32sii was canceled? Or to a little while later when the 48GX was finally put to rest? Or when the 50G established its presence?

In every case, prices for useful (not shamtique) machines changed markedly. 32sii spiked when canceled. But after the 33s came out, the prices fell. A lot. 30% down and stayed there.

The 48GX was going for much more after it was canceled, but the only replacement was the 49G. Even the G+ didn't do much. But the 50G did. Now you can get a 48GX for $120 easily. They were $250.

Now we have a big recession. Potentially dodgy old calculators are going to tank. NIB perfectimundos may hold value, but the old workhorses won't.

Considering the time value of money, and use and wear, and calculators really aren't a good investment--and now there is going to be a down trend.

Edited: 2 Apr 2009, 9:07 p.m.

Re: Whether to buy a "reclaimed HP41CV"

*Message #5 Posted by **Michael de Estrada** on 2 Apr 2009, 9:59 p.m.,*
in response to message #4 by bill platt

Actually, I'm already seeing a significant drop in the prices of all vintage calculators when compared to the last few years. As you said, excepting the mint NIB complete items and perhaps some exceptionally rare models (HP-41C/CV/CX are common as dirt), prices are consistently lower. I managed to buy an HP-46 for $255 and an HP-91 for $215, both in perfect working condition and very good cosmetically, which is much lower than I had seen previously. On the flip side, I only got $176 when I sold one of my HP-65's, which was also fully functional and very good cosmetically. Whether this is due to the current economic situation or

simply a lot of old engineers dying and their widows selling their old calcs I don't know. What is clear to me is that it is a buyer's market right now, and likely to remain so for a while at least.

Michael

Edited: 3 Apr 2009, 10:58 a.m. after one or more responses were posted

Re: Whether to buy a "reclaimed HP41CV"

*Message #6 Posted by **Allen** on 2 Apr 2009, 11:54 p.m.,*
in response to message #5 by Michael de Estrada

> Quote:
>
> seeing a significant drop in the prices of all vintage calculators when compared to the last few years.

Greetings.. do you have any Empirical Data to support this hypothesis? I suggest the quoted claim and Bill's suggestion that it is a "buyers market" are both Recency Effects.

There are a number of holes in the "buyer's market", "collector=bad-investment" theory, namely (based on my experience):

1. One of the main markets for the 48gx is surveying, and alot has happened there in the last few years other than the 50g, so while I agree that the prices of 48gx have fallen, I do not believe it's causal.
2. While I agree in general about the comment RE time value of money, the argument posted does not take into account purchase price, date purchased, time held, inflation, and the like. So it is not logical to say "because of TVM" all calculators are bad investments. QED
3. Related to previous comment, the price of any globally-traded commodity in dollars is not a true reflection of the health of it. Calculator exchange sites like ebay are also global exchanges, and the variation in the currency markets have not been taken into account in the recent comparison of $USD prices. One must also consider the relative strength of trading currencies, esp YEN, AUD, EUR, and GBP.
4. The reason I suggest a "recency effect" of the summarily falling prices may be a standard seasonal dip following the December Sale season. I note a similar trend in previous years of data I have collected.
5. Lastly, No (or very little) consideration has been given to Price elasticity of Demand for the vintage (non-survey) models. Even with very specific data on thousands of calculator purchases, price, shipping, country, etc.. I have only a superficial understanding of all of the factors effect calculator prices on any given day.

Edited: 2 Apr 2009, 11:57 p.m.

Re: Whether to buy a "reclaimed HP41CV"

*Message #7 Posted by **DaveJ** on 3 Apr 2009, 1:54 a.m.,*
in response to message #6 by Allen

> Quote:
>
> Greetings.. do you have any Empirical Data to support this hypothesis? I suggest the quoted claim and Bill's suggestion that it is a "buyers market" are both Recency Effects.
>
> There are a number of holes in the "buyer's market", "collector=bad-investment" theory, namely (based on my experience):
>
> 1. One of the main markets for the 48gx is surveying, and alot has happened there in the last few years other than the 50g, so while I agree that the prices of 48gx have fallen, I do not believe it's causal.
> 2. While I agree in general about the comment RE time value of money, the argument posted does not take into account purchase price, date purchased, time held, inflation, and the like. So it is not logical to say "because of TVM" all calculators are bad investments. QED
> 3. Related to previous comment, the price of any globally-traded commodity in dollars is not a true reflection of the health of it. Calculator exchange sites like ebay are also global exchanges, and the variation in the currency markets have not been taken into account in the recent comparison of $USD prices. One must also consider the relative strength of trading currencies, esp YEN, AUD, EUR, and GBP.
> 4. The reason I suggest a "recency effect" of the summarily falling prices may be a standard seasonal dip following the December Sale season. I note a similar trend in previous years of data I have collected.
> 5. Lastly, No (or very little) consideration has been given to Price elasticity of Demand for the vintage (non-survey) models. Even with very specific data on thousands of calculator purchases, price, shipping, country, etc.. I have only a superficial understanding of all of the factors effect calculator prices on any given day.

The market for used HP calcs is so small, and mainly through only one channel (eBay), that it is possible a sole individual can have a major influence on any perceived "market trend". Good luck to anyone trying to track that.

Even better luck to anyone who is in it just as an investment. I suspect vintage calculators will almost certainly become a poorer investment the longer you hold on to them. As vintage HP and other calculators are really only of a perceived value to those who have a nostalgic value attached to them. And these people will slowly disappear with time.

So good luck to anyone planning on leaving the collection to the kids in say 30 years time...

Dave.

Re: Whether to buy a "reclaimed HP41CV"

*Message #8 Posted by **Michael de Estrada** on 3 Apr 2009, 9:16 a.m.,*
in response to message #7 by DaveJ

> Quote:
>
> So good luck to anyone planning on leaving the collection to the kids in say 30 years time...

I want to take my collection with me in the afterlife....sort of like a pharaoh's burial.

Re: Whether to buy a "reclaimed HP41CV"

*Message #9 Posted by **bill platt** on 3 Apr 2009, 8:07 a.m.,*
in response to message #6 by Allen

Or in other words, we have both seen the same thing: the relative non-trending of many models. They go up, they go down, there is a run for a few weeks, then a retrenchment. Since 2000 at least, the 11c has been remarkably stable long term--maybe a slight upward. I remember finding them averaging $80 or so back in $2000, now they are maybe $120 (and condition of calculator varies). For 9 years on, with a lot of unreported inflation, that isn't a real rise in price.

I see the seasonal effects you speak of, too.

BTW you can trust wikipedia as far as you can throw it.

Re: Whether to buy a "reclaimed HP41CV"

*Message #10 Posted by **Dan Grelinger** on 2 Apr 2009, 10:19 p.m.,*
in response to message #4 by bill platt

If it is the recession that is going to do in collectible calculator prices, it better happen real soon! It appears we have passed the panic stage, market lows have been recorded, and the press is becoming guardedly optimistic.

If it is something else, then I still remain unconvinced. HP-32SII prices seem to be rising nicely at this time (your reasoning does not explain that). Even though the topic was HP-41 prices, you did not provide any reasoning supporting that its prices would fall in the next six months. The big difference between the HP-48 story and the HP-41 story is that if you know the HP-48GX, the learning curve for the HP-50G is very quickly travelled. There is a natural upgrade tendency. Is there a book written "HP-48GX to HP-50G Transitions"? The HP-41C is quite a different machine, no user who loves that one would ever be satisfied with only an HP-50G.

But, perhaps you have knowledge of the HP-41CG? As an HP-50G is to an HP-48G, and HP-41CG would be to an HP-41C? If such a beast will be released in the next six months, then perhaps you are correct. It might be the HP-41C killer! Please share more details!

But, wait, now I see it, in a slightly later post! What you really mean is "Don't buy any HP-41CX at all, now or in the future, it is just junk." Your opinion, I certainly won't try to disuade you. But it makes reasonable the conclusion that you are not recommending an HP-41 to the original poster.

And where did the initial poster indicate he would buy an HP-41C for an investment? That did not seem to be either his purpose, or his expectation.

Dan

Re: Whether to buy a "reclaimed HP41CV"

*Message #11 Posted by **bill platt** on 2 Apr 2009, 10:36 p.m.,*
in response to message #10 by Dan Grelinger

"market lows have been recorded, and the press is becoming guardedly optimistic"

Hahaha, HAHAHA, **HAHAHAHA!**

It is only the beginning. We are in the false bottom.

The press is guardedly optimistic to support the Obamanation.

Edited: 2 Apr 2009, 10:46 p.m.

Re: Whether to buy a "reclaimed HP41CV"

*Message #12 Posted by **Thomas Okken** on 3 Apr 2009, 1:47 a.m.,*
in response to message #11 by bill platt

If anyone actually knows how to predict the market, we should be able to identify them by the fact that they are filthy rich, not by them writing articles in economic columns that happen to turn out to be correct -- right?

What little respect I ever had for economic analysts in the media went down the drain when the price of oil collapsed while the US dollar did not. Who saw *that* coming?

I doubt that the press is "guardedly optimistic" in order to support the "Obamanation". The press has *always* been optimistic, guardedly or otherwise, for at least the last 20 years or so, or as long as I have been paying attention (i.e. since the late 1970s)... Good news sells better than bad.

ObHP: maybe I should start looking for a nice 41CX, or even a working HP-27 (Woodstock, not 27S!). The news is so gloomy lately, if it is accurate maybe I should just jump off a cliff, and if it isn't, this *must* be the time to buy. :-)

Re: Whether to buy a "reclaimed HP41CV"

*Message #13 Posted by **bill platt** on 3 Apr 2009, 8:12 a.m.,*
in response to message #12 by Thomas Okken

Warren Buffett.

Re: Whether to buy a "reclaimed HP41CV"

*Message #14 Posted by **Thomas Okken** on 4 Apr 2009, 1:09 a.m.,*
in response to message #13 by bill platt

Hmm. Buffett. Smart or just lucky? He didn't catch on to the huge rise of the euro against the dollar until it was mostly over, and that makes me wonder.

Re: Whether to buy a "reclaimed HP41CV"

*Message #15 Posted by **bill platt** on 4 Apr 2009, 9:32 a.m.,*
in response to message #14 by Thomas Okken

It makes sense. Buffett's whole disciplined approach is to look for underlying value--to calculate the true value of the company--and to only buy when an entity is undervalued by that metric. In the case of the Euro-Dollar fluctuations, there was nothing there--just monetary policy + trade deficit + carry trade = gambling.

An example of his value idea was a huge investment in silver back in 2002 or 2003. He bought a bunch of it. At the time, silver was trading at less than its production cost. He figured that couldn't last!

Re: Whether to buy a "reclaimed HP41CV"

*Message #16 Posted by **Dan Grelinger** on 3 Apr 2009, 9:36 a.m.,*
in response to message #11 by bill platt

Bill,

A couple of differences in our posts I've noted:

You removed the "it appears" when you pulled the quote from my post. I qualified my assessment. And I continue to stand by my assessment, qualification included.

You make your statements of the future out to be absolute fact. My observations are those that claim to know the future beyond any doubt, don't. And secondarily, maniacal laughter generally gives away a ?_____?

Only the future will tell what will happen. Shall we make an appointment on this board in a year to see who turns out to be the most correct?

Dan

Re: Whether to buy a "reclaimed HP41CV"

*Message #17 Posted by **bill platt** on 3 Apr 2009, 10:33 a.m.,*
in response to message #16 by Dan Grelinger

Hi-hi on the maniacal laughter! :-)

"It appears" appeared to be attached to the "panic" not to the "market lows"--that's how I read you. Panic is not quantitative so I didn't want to quote it.

What goes up, must come down is how I see it. And real estate hasn't actually come down yet, so I see a lot more unwinding yet to come. (Florida and Nevada real estate have come down, but not the rest of it. In the north east you are still seeing housing at 6 times yearly earnings rather than 3 to 4 times. That has to come down as it is not sustainable). The more the congress spends our tax money to "stimulate" us, the more we will fall into a longer deeper hole and as that is where we are going (stimulus--even money for new cars!) I don't see any way to justify the idea that we will *not* slide a lot deeper in the next 6 months....and calculators will feel it, too.

Edited: 3 Apr 2009, 10:36 a.m.

Re: Whether to buy a "reclaimed HP41CV"

*Message #18 Posted by **bill platt** on 2 Apr 2009, 10:41 p.m.,*
in response to message #10 by Dan Grelinger

All calculator "collectors" are investors--just bad ones;-)

There is already a "50CG". Just go get Hrastprogrammer's emulator. It is fantastic. I use it on my 48GX when I want to use a legacy keystroke program.

Re: Whether to buy a "reclaimed HP41CV"

*Message #19 Posted by **Dan Grelinger** on 2 Apr 2009, 6:17 p.m.,*
in response to message #1 by Nigel Bamber

Nigel,

I bought my first HP-41CV in August of 1983, and it has been my primary calculator since then. I've tried others, but always come back to my HP-41CX. I own an HP-28S, HP-42S, HP-48SX, HP-48GX, HP-49G, HP-50G, HP-32SII, HP-33S, HP-35S (2), HP-30S (yuck!) HP-10S, and even an HP-12C. I know the newer ones blow the HP-41 away in speed and built in capability. The main reasons I (and likely others) stay with the HP-41 are two; We KNOW the machine (it takes an investment to know any complex machine). And, it was so well architected, designed, and for the most part, built (there ARE a few weak points in its build design).

If I were you, I'd jump at the opportunity to pick up the cheap "starter HP-41". Do it in the spirit of a chasing after your first love. Throw all care to the winds!

"Tis better to have loved and lost, than to never have loved before."

Dan

Re: Whether to buy a "reclaimed HP41CV"

*Message #20 Posted by **bill platt** on 2 Apr 2009, 9:11 p.m.,*
in response to message #19 by Dan Grelinger

> Quote:
>
> there ARE a few weak points in its build design

Screw posts.

Zebra strips.

Battery corrosion gone inside.

I've been disappointed once with a 41cv and I won't make that mistake again! (for $50 [2004] with complete box and manuals I suppose it really isn't a burn though!).

Compared to a Voyager, the 41C is cheap brittle junk.

Edited: 2 Apr 2009, 9:13 p.m.

Re: Whether to buy a "reclaimed HP41CV"

*Message #21 Posted by **Nigel J Dowrick** on 2 Apr 2009, 6:33 p.m.,*
in response to message #1 by Nigel Bamber

Buy it! I bought an HP41CV several months ago for less than £30, missing one module cover and the battery pack. It's still missing the module cover, but I've built a reasonably robust battery holder out of metal strips, foam, black-painted cardboard, and insulating tape. I now have both a fully-functioning HP41CV and the satisfaction of having "restored" it! So long as the battery contacts are in good condition you should have no trouble doing something similar. It will look great in your shirt pocket and the keys feel absolutely wonderful - I've never felt better keys on any calculator.

Nigel (another one)

Re: Whether to buy a "reclaimed HP41CV"

*Message #22 Posted by **Michael de Estrada** on 2 Apr 2009, 8:17 p.m.,*
in response to message #1 by Nigel Bamber

I'd definitely buy it at that price, especially because it's in working condition. Since all you're doing is playing around with it and portability is not important, I would not worry about it being tethered to an external battery pack. Besides, you can use the money you saved to buy a proper battery holder and 4 N-cells. I have several old non-HP calcs that I connect directly to my variable DC power supply when I want to play with them.

Michael

Re: Whether to buy a "reclaimed HP41CV"

*Message #23 Posted by **Karl Schneider** on 2 Apr 2009, 10:25 p.m.,*
in response to message #22 by Michael de Estrada

> Quote:
>
> I have several old non-HP calcs that I connect directly to my variable DC power supply

That's how I killed an original TI-30, many years ago, when its disposable 9V cell got low, and I had no spare. (I'd long since given up on the crummy rechargeable pack provided.) Maybe I did it wrong...

-- KS

Re: Whether to buy a "reclaimed HP41CV"

*Message #24 Posted by **Michael de Estrada** on 2 Apr 2009, 10:48 p.m.,*
in response to message #23 by Karl Schneider

If you use a properly regulated adjustable DC power supply, correct voltage and polarity, connected to the proper points, you can't hurt any piece of electronic equipment. There must have been something wrong with it or there was an inadvertent short in the circuit. When I hook something up for the first time I gradually increase the voltage while monitoring the current draw. If the current is excessive (usually it should be less than 200 mA even with all LED's lit up), then I shut off power until I can figure out what is wrong.

Edited: 2 Apr 2009, 11:18 p.m.

Re: Whether to buy a "reclaimed HP41CV"

*Message #25 Posted by **Howard Owen** on 2 Apr 2009, 11:08 p.m.,*
in response to message #1 by Nigel Bamber

> Quote:
>
> I have got the chance to buy a reclaimed CV , no modules or battery but which is powered by an external battery pack or a USB cable link to a PC. Cost only £ 28.00. Is it worth this?

I'd buy it in a hot second!

Actually, I probably wouldn't now, since I have lots of 41Cs - they are my absolute favorite HP calculator. I'm an enthusiast first and a collector second. So the raised-from-the-dead 41 would interest me if I had no 41 to play with.

As to market bottoms, the short term dynamics of the collectible calculator market or politics, I have no opinions I'd like to share here. But I do observe that the supply of 41C machines is finite, and that it is inevitably shrinking with time. So over the long term, they are probably a good investment. Unless you purchased one new, back in the 80s, when the prices in real terms were 4-5 times what they are today. But in that case,

you presumably would have taken out the value in use over time.

Regards,
Howard

Edited to add this postscript: If that USB cable turns out to do more than just provide power, please let us know. :)

Edited: 2 Apr 2009, 11:15 p.m.

Collecting, restoring, displaying, using, but not an investment. ;-)

*Message #26 Posted by **Geoff Quickfall** on 3 Apr 2009, 12:02 a.m.,*
in response to message #1 by Nigel Bamber

Nigel, BUY IT and play with it.

Collectors and users should not be in this for the investment. Collectables and their styles come in go in cycles.

Right now for me, the HP classics are there for nostalgic reasons. In some cases they are still being used as I tend to be lazy programmers and I have all the routines in RPN due to the era I went to university

My HP 41CX is my powerhorse only because I know how to maintain it, fix it and bring it into the 21st century thanks to the efforts of Diego and others. I have fixed the posts, screw heads, replaced the foam in the zebra fitting and changed displays for it. The keys work and there was never battery discharge as I take care of my electronics. I also have a spare 41CX.

I also have many proprietary programs that will not convert to the HP42S as they depend on dynamic time functions. I also have HPIL accessories which still function to make the 41C adaptable to work and play but will not function with the HP48, 49 and 50 series

Having said the above, programming and calculator restoration is a hobby, not an investment. Sure if, and when I am selling them I hope to recoup some of the cost but will not be disappointed if I do not. I would however like them to go to a nice appreciated home!

These have all been been restored and are as new. The fun is in the restoration for me, and for use at work, albeit, not required for work. There are more as projects for rainy days and they to will be restored to as new. As any one at the last HPCC will know, I do this for fun and not profit! Now, do you need a watch (wink, wink, nudge, nudge!!!!)

This picture lets you see the Nixie clock I built from a kit from EBAY:

Re: Collecting, restoring, displaying, using, but not an investment. ;-)

*Message #27 Posted by **Maximilian Hohmann** on 3 Apr 2009, 7:45 a.m.,*
in response to message #26 by Geoff Quickfall

Hello!

> Quote:
>
> This picture lets you see the Nixie clock I built from a kit from EBAY

Mine is still unassembled because I can't decide which nixie tubes to use (I have three complete sets now ... maybe I have to build three clocks?).

Regarding the original question: I would wait for a complete, pocketable 41 with its own battery! With a little patience, you can find a good one for less than 50 Euros/Dollars/Pounds. Over the years, I bought five or six and never paid more than that, some came with accessories!

But as much as I try, I simply don't like the '41. I only like things that glow in the dark :-)

Greetings, Max

Edited: 3 Apr 2009, 7:51 a.m.

Glowing things

*Message #28 Posted by **Julián Miranda (Spain)** on 3 Apr 2009, 2:11 p.m.,*
in response to message #27 by Maximilian Hohmann

Am I the only long time reader in this forum who miss, on posts like the Maximilian one, "reeed leeeeds" Norman?

Re: Glowing things

*Message #29 Posted by **Dave Shaffer (Arizona)** on 3 Apr 2009, 2:15 p.m.,*
in response to message #28 by Julián Miranda (Spain)

Yeah - I miss Norm (occasionally known as Captain Zener, too) and his passion for red lights.

Re: Glowing things

*Message #30 Posted by **bill platt** on 3 Apr 2009, 2:54 p.m.,*
in response to message #28 by Julián Miranda (Spain)

RED LED'sssssssssssss!

Hail to Captain Zener, wherever he may be.

Re: Collecting, restoring, displaying, using, but not an investment. ;-)

*Message #31 Posted by **Nigel Bamber** on 3 Apr 2009, 2:32 a.m.,*
in response to message #26 by Geoff Quickfall

I seem to have stirred up some kind of debate , which is always fun :-) . It even had a touch of a political 'swipe' in there (not a view shared by me but he is not my president so what do I care !). Dan's quote was hilarious but it sort of sums it up nicely!

Thanks for all the comments which are clearly meant to helpful, so I will share a few back and maybe an additional question or two.

Just for clarity, I understand the PCB connecting the modules to the main PCB on this reclaimed machine is perished through battery corrosion , so I assume there is no chance of connecting modules in the future - unless you guys know differently ?

It seems to me that £28 vs £170 to get a chance just to play around on a real model is probably a no brainer.

I realise of course that I am potentially going down a dangerous road here. Once I start collecting , where will it end.

The funny thing is that I only came into this situation via the I41cx+. Prior to that I had this Commodore programmable calculator that sat in my desk drawer seeing the light of day every few years. I also bought a Casio programmable and graphing calculator much more recently but it somehow didn't hold my attention.

I had never come across RPN or a Stack before and now I have developed this strange fascination for it.

At the moment the Voyagers hold no appeal to me (probably this is because my love or memories of calculators goes back to their plasticy feel), but that may change over time. It is also the expandibility of the 41 series and its basic but raw power and the ability to program and hack it that grabs my attention.

But I am in this for fun not making money. On the other hand I don't want to be Mr. Gullible when buying. I am in the UK. Is Ebay the best place from where to buy ? Also I am getting the message that the HP41 models are fairly ubiquitous. Is £170 too much to pay for one ?

Thanks for hearing me out.

Nigel

Re: Collecting, restoring, displaying, using, but not an investment. ;-)

*Message #32 Posted by **Michael de Estrada** on 3 Apr 2009, 10:34 a.m.,*
in response to message #31 by Nigel Bamber

Nigel,

I too am a collector of things that I find interesting. I have never collected anything with the idea of making a monetary profit. Most of my calculator collection has come after I retired from my job for 35 years as an engineer, where I used calculators as tools, nothing more. I recently bought two HP-41CV's (one half-nut and one full-nut), simply to play around with and stimulate my aging brain to avert senility. I also enjoy the challenge of fixing things, and old vintage calculators provide this opportunity. I don't worry about whether the price is reasonable; if I want it and can afford it, then I buy it. I might sell something that is redundant (I currently have accumulated 7 HP-45's) or that I acquired in a lot and can't use (memory module that works only in an HP-41C), but I don't expect to make a profit, and the proceeds are quickly consumed by another purchase. So, is there a risk of overpaying? Sure. But, how can you place a value on something like this, which from a purely practical standpoint is obsolete?

Re: Collecting, restoring, displaying, using, but not an investment. ;-)

*Message #33 Posted by **Dan Grelinger** on 3 Apr 2009, 11:23 a.m.,*
in response to message #31 by Nigel Bamber

Nigel, you've got some very good questions, I'll try to do them as must justice as I can.

The HP-41 "PCB" you reference is not really a PCB. It is a flexible copper/plastic connector wrapped around a plastic block, that delivers power from the batteries to the main circuit boards, display logic, and I/O ports. And it also connects the I/O ports to the main circuit boards, through a set of contacts that are made through pressure. If the battery corrosion made its way far enough along this connector, then it would easily interfere not only with the main logic connection to the I/O ports, but also with power delivery to the rest of the calculator, due to corrosion at the pressure contact with the rest of the system. Bottom line is, if the corrosion heads 'south' out of view, then there is a chance that some or all of the I/O ports won't function.

Generally, non-working battery corroded HP-41CVs and CXs will go for $40-$50 ballpark pricing, on ebay. Therefre I would say that 28 pounds would be a fair price for a battery corroded, modified, but working unit.

By the way, it is possible, with the correct part, periodically supplied by a third party HP-41 guru, to fix the problem that you describe. His name is Diego, he posts here often, and is truly a scholar and a gentleman.

Where will it end? Well, we all know that all endeavors undertaken by men end up only one place. But, as has been eloquently stated before, it is the journey, not the destination. I very strongly suspect, based on what you have posted here, that you will catch the bug, and thoroughly enjoy your time with all things HP-41C. There are few things I would rather do than sit down with a new HP-41C manual or book, and read about some new piece of gear that I just aquired, or learn something new about the HP-41 internals. Check out the "Memories" section of this site. About 10 years ago, I wrote about my early experiences with the HP-41.

Concerning the other calculators that you mentioned; compare the huge investment people have made in HP-41 web related content with any of those others. That is an indication of how strong the HP-41 'bug bite' can be.

Ebay is good, and ebay is not so good. It is a convenient way to find new HP-41 stuff and have an opportunity to purchase it. Better deals can be had elsewhere, but the effort required to find them is at least an order of magnitude higher. But, ebay deals generally come at a high price. And sometimes there are nasty surprises, although in my experience, if one is willing to put forth the effort both before and after the sale, they will come out eventually satisfied. Ebay and Paypal know that buyers have to continue to trust the market they have built, or their business dies. I have had to file a few PayPal complaints on calculators, but have always received satisfaction.

Concerning your last question; Since you are in this for fun, and messing around with stuff that does not work quite right can be really fun, initially stay away from the prime units on ebay, the ones that would go for 170 pounds. Start with the ones that need some help, like battery corrosion that can be repaired. I have fixed up a few of these types, aquired for around $50, and they make useful work tools to carry abound in my laptop bag. After that, if you want a complete set in excellent condition from ebay, then yes, you'll spend 170 pounds (or more) buying one, but you'll have a much better idea of what you are doing.

Happy collecting! Long live the HP-41!

Dan

Re: Collecting, restoring, displaying, using, but not an investment. ;-)

*Message #34 Posted by **Michael de Estrada** on 3 Apr 2009, 12:01 p.m.,*
in response to message #33 by Dan Grelinger

> Quote:
>
> But, ebay deals generally come at a high price.

Yes, absolutely, but I've found that the judicious application of certain rules in online auctioneering can minimize the chances of being really taken to the cleaners.

1) Never pay a "Buy It Now" price and never bid on "Reserve" auctions.

2) Ask the seller questions, even if you don't need to, just to see if you will get a reply and if it is not evasive. I will never bid on an item if I do not receive a satisfactory reply.

3) Understand the risks you are taking with an untested item. An untested Woodstock or Spice is far more likely to be broken and unfixable than a Classic.

4) Avoid auctions by "Power Sellers" with very long discourses on legalities and very little tangible information on the item itself.

5) Don't get into bidding wars with ignorant newbie zero-feedback bidders, who will push the price up to astronomical levels. Decide in advance on what you are willing to pay, and stick with it. It's 100% certainty that this will *not* be the last time this item will

come up in auction. Learn to be patient and deliberate in your quest.

Michael

Re: Collecting, restoring, displaying, using, but not an investment. ;-)

*Message #35 Posted by **Dan Grelinger** on 3 Apr 2009, 2:54 p.m.,*
in response to message #34 by Michael de Estrada

Michael,

That is very good advice on ebay auctions. May I add to it?

> Quote:
>
> 1) Never pay a "Buy It Now" price and never bid on "Reserve" auctions.

The concept of an auction is that you pay a small increment more than what the next higher bidder is willing to pay. "Buy It Now" many times should be more aptly named "Suckers - Buy Here", and Reserve Price Auctions have always been mis-handled by ebay in that you are bidding against the seller in addition to other bidders. It is the manner in which ebay lets you shill your own auction.

> Quote:
>
> 3) Understand the risks you are taking with an untested item. An untested Woodstock or Spice is far more likely to be broken and unfixable than a Classic.

I go further. Beware the 'untested item'. When I see that, I carefully examine the seller's on-line information; current sales, past items for sale, feedback, to see what they have sold and bought before. Too often unfortunately, unethical sellers think that if they know an item is broken, that it is really OK simply to say 'untested.' Like the 25 year old 'untested' HP-41 Card Reader, being sold by a well-known purveyor of HP items for very high prices, who sells 'tested and working' units on occasion. Give me a break, do we all look that stupid? Well, I guess from such sellers perspective, they only need one.

> Quote:
>
> 4) Avoid auctions by "Power Sellers" with very long discourses on legalities and very little tangible information on the item itself.

The legalities can be annoying, but I really am suspicious of sellers that copy reams of information on the item from well-known information sources, and say little, if anything about the item they are selling. I've seen feedback from buyers who received items that were not working, and this was never mentioned in the title or description.

> Quote:
>
> 5) Don't get into bidding wars with ignorant newbie zero-feedback bidders, who will push the price up to astronomical levels. Decide in advance on what you are willing to pay, and stick with it. It's 100% certainty that this will *not* be the last time this item will come up in auction. Learn to be patient and deliberate in your quest.

I'd recommend not getting into bidding wars period, no matter who you may be bidding against. Research recent sales, carefully examine all available information and photos on that specific item and on the sellers past sales and feedback, and then pick the price you would not be kicking yourself for if you win. Bid once, and be done with it. Once competitive emotions take hold in a bidding war, you might as well be throwing your money out your window.

Dan

Re: Collecting, restoring, displaying, using, but not an investment. ;-)

*Message #36 Posted by **Michael de Estrada** on 3 Apr 2009, 4:18 p.m.,*
in response to message #35 by Dan Grelinger

Dan,

Thanks for your added comments. Certainly, your advice on researching sellers is very useful. Caveat emptor!

Regarding "underderstand the risks", I was thinking more along the lines of assessing the likelihood that a genuinely untested item might be defective, despite showing no outward signs such as corrosion on battery contacts. Whereas a Classic series calc cannot be harmed by being operated off the AC adapter with the battery removed (excluding the card reader models), a Woodstock or Spice series calc can and probably will be. Therefore, even if a Woodstock or Spice looks outwardly very

clean, it's not possible to determine if it may have been ruined unless its life history is known. For example, I bought an HP-45 from a seller that normally sells miscellaneous antiques and curios, knew nothing about calculators and was missing the AC adapter, so it could not be tested. The calculator looked immaculate. I asked for and received a close-up photo of the battery compartment, which showed no evidence of corrosion, so I felt it was a reasonable risk and bought it. It turned out to be perfect, and had clearly seen very little use. It was clear to me in this instance that the seller was not being coy or deceitful, when she stated that it was untested. I am well aware of some of the weasels out there who mince words when it comes to the condition of items, and never even bother to bid on their auctions.

Michael

Re: Collecting, restoring, displaying, using, but not an investment. ;-)

*Message #37 Posted by **Michael de Estrada** on 5 Apr 2009, 8:24 p.m.,*
in response to message #36 by Michael de Estrada

Weasel example:

(See here)

He suggests it might just be the battery, but tries to cover himself by posing this as a question. So, he could not have tried a different battery pack? C'mon! Small print says No Returns, so the buyer is stuck with a $389 piece of unrepairable junk. And I wonder where he got the CD copy of the manual? Does MoHPC have a copyright?

Michael

Re: Collecting, restoring, displaying, using, but not an investment. ;-)

*Message #38 Posted by **Don Shepherd** on 5 Apr 2009, 8:47 p.m.,*
in response to message #37 by Michael de Estrada

This moron has been the subject of much discussion on this forum. He sells junk at super-inflated prices hoping someone even less intelligent than he (if that's possible) will buy it. He's been trying to sell the same HP-65 for over a year now, I think. He doesn't deserve our attention.

Re: Collecting, restoring, displaying, using, but not an investment. ;-)

*Message #39 Posted by **Dan Grelinger** on 6 Apr 2009, 9:39 a.m.,*
in response to message #38 by Don Shepherd

I suggest that he does deserve some attention. Not all attention is positive. I think he fully deserves all the negative attention he gets. Speaking of which, when I examined his 'buyer's' feedback, it appears he has a health problem he is diligently trying to solve? (Question mark intentional)

Dan

Re: Collecting, restoring, displaying, using, but not an investment. ;-)

*Message #40 Posted by **Allen** on 6 Apr 2009, 5:48 p.m.,*
in response to message #39 by Dan Grelinger

> Quote:
>
> ...he has a health problem he is diligently trying to solve..

No need to "raise" the issue here :-). I can't see where saving a few dollars on that particular health purchase is worth buying in such a public venue. (yes, I saw that a few weeks ago and laughed by head off...)

ebay id disclosure: hudendai

Math Curiousity...an old fashioned approach

*Message #41 Posted by **Hal Bitton in Boise** on 3 Apr 2009, 11:37 a.m.,*
in response to message #26 by Geoff Quickfall

Very impressive collection, Geoff
But...do I not see a 19C in there?
Hal :)

Re: Math Curiousity...an old fashioned approach

*Message #42 Posted by **Geoff Quickfall** on 3 Apr 2009, 12:23 p.m.,*
in response to message #41 by Hal Bitton in Boise

Hello Hal (got a spare, cheap?) ;-)

Your correct, no 19C YET.

As described earlier, maybe the price will come down. Got the partner there, the 29C and it actually gets used when I want RED GLOWING DISPLAYS in the cockpit!

The 41CX, 42s, 15c, 67, and lately the 48GX and 35s have made it to the office!

Also just added a restored 48SX and a 41CV. The 48SX I posted below and the CV needs a little cosmetic work.

The 41C, CV, CX will come with me to HPCC in Vancouver this fall. We will be setting up a large HPIL 41C working display. It will include printers, plotters, tape drives, floppy drives, laser wands and any other HPIL we can get a hold of.

Cheers, Geoff

Edited: 3 Apr 2009, 12:32 p.m.

Re: Math Curiousity...an old fashioned approach

*Message #43 Posted by **Michael de Estrada** on 3 Apr 2009, 2:52 p.m.,*
in response to message #42 by Geoff Quickfall

Just last week I picked up a HP-19C in perfect working and excellent cosmetic condition for under $200. I don't know if you would consider that a reasonable price, but from what I've seen in the past it seems pretty good.

Is the bottom middle calc an HP-10, and the bottom right an HP-91 or HP-92?

Michael

Re: Math Curiousity...an old fashioned approach

*Message #44 Posted by **Walter B** on 3 Apr 2009, 4:37 p.m.,*
in response to message #43 by Michael de Estrada

IMHO the bottom center calc looks like a HP20b, and the bottom right is a HP91.

Re: Math Curiousity...an old fashioned approach

*Message #45 Posted by **Michael de Estrada** on 3 Apr 2009, 5:23 p.m.,*
in response to message #44 by Walter B

Very good Walter. The middle calculator clearly has the wrong keyboard arrangement to be a HP-10 and the right calculator lacks the second blue shift key, so it cannot be an HP-92.

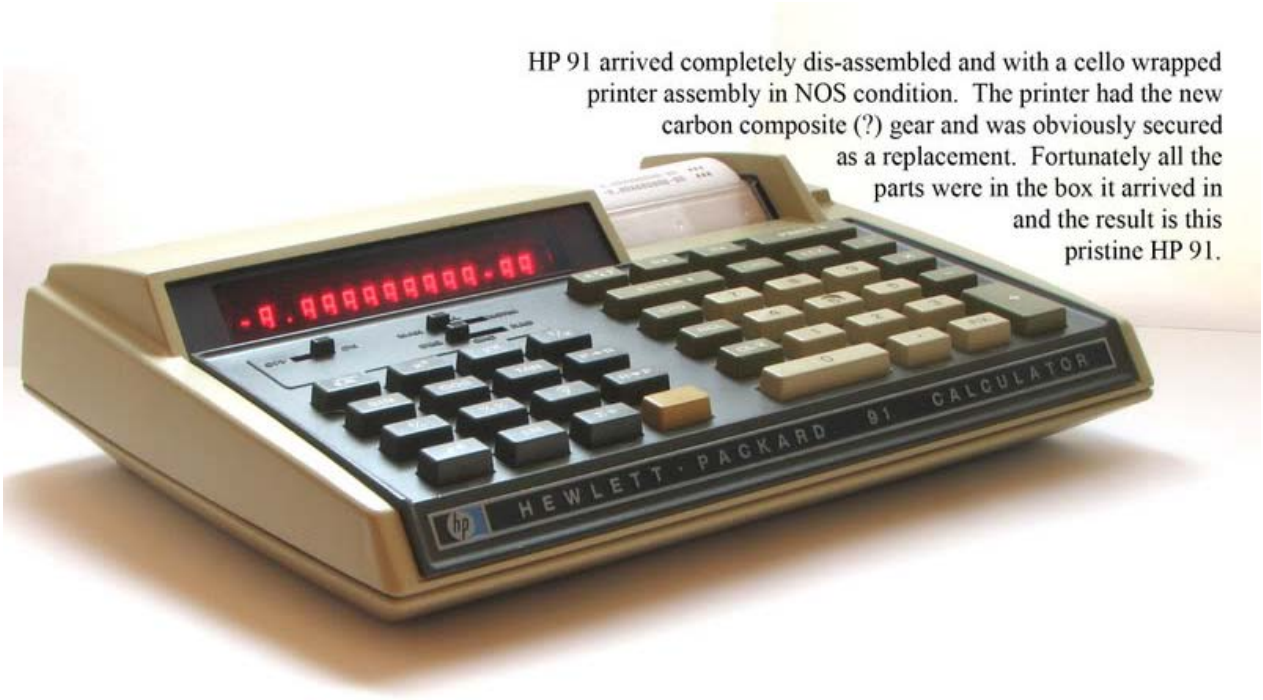
Re: Math Curiousity...an old fashioned approach

*Message #46 Posted by **Geoff Quickfall** on 3 Apr 2009, 10:01 p.m.,*
in response to message #45 by Michael de Estrada

Walter is right,

The 20B was lasts years HP gift for attending the HPCC 2009.

The 91 is an interesting story. It arrived in pieces in a box with a printer assembly still shrink wrapped. I had no idea if all the parts were there or not.



HP 91 arrived completely dis-assembled and with a cello wrapped printer assembly in NOS condition. The printer had the new carbon composite (?) gear and was obviously secured as a replacement. Fortunately all the parts were in the box it arrived in and the result is this pristine HP 91.

Well the new printer assembly had a carbon composite gearing system which precluded the need to repair the old gummy gear. I now have both printers systems working having repaired the gummy wheel on the original.

The only thing missing is the dust cover over the printer roll. Not bad for $25 USd.

Cheers, Geoff

PS:

```
top row     35, 45, 55, 65, 67
2nd row     41C, 41CV, 41CX  (cv was out for a spa),48G, 48G+, 48GX
3rd row     25C, 29C, 2 classic external battery charges, one
            topcat external battery charger, 41 card reader
            32E, 34C, 32SII, 42S
4th row     10C, 11C, 15C, 16C, 12C platinum, 71B metal back, 71B
            newer plastic back
5th row     97, 20B, 91
```

Since that photo I have added the 48SX posted below, a HP 28S and a new 35S.

Cheers, Geoff

Edited: 3 Apr 2009, 10:39 p.m.

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evolution of computer power/cost

*Message #1 Posted by **db (martinez, ca.)** on 2 Apr 2009, 1:00 a.m.*

i just thought someone here might find this interesting.
http://www.dai.ed.ac.uk/homes/cam/images/MoravecsLaw.jpg
i wonder where the 41 and 48 fit in here.

unfortunately, it's old

*Message #2 Posted by **Frank Boehm (Germany)** on 2 Apr 2009, 8:14 a.m.,*
in response to message #1 by db (martinez, ca.)

Stopping at 200MHz (PII) (or PPC601 180MHz). Extrapolating 15 years of exponential growth (or is it even faster?) is quite hard - and then there's the "target" of 100 Million MIPS, is it equivalent to a human brain? Or do we need 10 times/100 times/a million times as many MIPS? I'd say nobody knows :)

Re: unfortunately, it's old

*Message #3 Posted by **Marcus von Cube, Germany** on 2 Apr 2009, 9:59 a.m.,*
in response to message #2 by Frank Boehm (Germany)

Brain is all about parallel processing and automatic pattern matching. I wouldn't try to measure that in MIPS.

Re: unfortunately, it's old

*Message #4 Posted by **Michael de Estrada** on 2 Apr 2009, 10:27 a.m.,*
in response to message #3 by Marcus von Cube, Germany

Very true. That is why chess engines tend to rely on the brute force approach with ever faster computers until they overwhelm even the best grand masters. Still, AI remains an elusive goal and Lieutenant Commander Data's positronic brain is just as much fanciful fiction as a mass transporter.

Re: unfortunately, it's old

*Message #5 Posted by **PeterP** on 2 Apr 2009, 11:08 a.m.,*
in response to message #4 by Michael de Estrada

hmm, some people beg to differ. I recently heard Ray Kurzweil at a conference in New York and then went on to read his books. He has very convincing arguments that we will achieve human brain capacity calculations in our life-time (and far beyond).

He estimates the processing power of the human brain to be between 10^14 and 10^16 MIPS (100 bn neurons x 1000 synapes per neuron x 200 calculations per second)

> Quote:

> The human brain has about 100 billion neurons. With an estimated average of one thousand connections between each neuron and its neighbors, we have about 100 trillion connections, each capable of a simultaneous calculation. That's rather massive parallel processing, and one key to the strength of human thinking. A profound weakness, however, is the excruciatingly slow speed of neural circuitry, only 200 calculations per second. For problems that benefit from massive parallelism, such as neural-net-based pattern recognition, the human brain does a great job. For problems that require extensive sequential thinking, the human brain is only mediocre.
>
> With 100 trillion connections, each computing at 200 calculations per second, we get 20 million billion calculations per second. This is a conservatively high estimate; other estimates are lower by one to three orders of magnitude. So when will we see the computing speed of the human brain in your personal computer?

(the whole article can be found here) Another related article about this can be found on his very informative web-page The Law of Accelerating Returns His book, 'The Singularity is Near' is definitely worth a read and I would guess the crowed here would generally enjoy it. A Wiki-summary can be found here

Last but not least, I found the slides he showed during his presentation. They are worth a quick peak. I find they quite convincingly show the smoothness and predictability of exponential growth. Highly recommend to take a peek...Graphs & Slides

Cheers

Peter

Re: unfortunately, it's old

*Message #6 Posted by **Michael de Estrada** on 2 Apr 2009, 11:54 a.m.,*
in response to message #5 by PeterP

Looking at slide #81 in the Powerpoint presentation, we're only a year away from the disappearance of computers, when we'll all be wired directly to the internet. Pretty scary, really, but the ultimate dream for any totalitarian state.

Edited: 2 Apr 2009, 1:44 p.m.

Re: unfortunately, it's old

*Message #7 Posted by **Jeff Kearns** on 2 Apr 2009, 8:15 p.m.,*
in response to message #5 by PeterP

I have met Ray and read his "The Singularity is Near' book. All good stuff and well worth a perusal.

Frank Tipler, a professor of mathematical physics at Tulane University wrote "The Physics of Immortality" in the early nineties. Also a good read. In it, he estimates the storage capacity of the brain at 10^15 bits and the processing speed at 10 teraflops. He predicted that we will have machines capable of human-level processing capability (power and storage capacity) by 2030.

Time will tell...

Jeff Kearns

Re: evolution of computer power/cost

*Message #8 Posted by **Egan Ford** on 3 Apr 2009, 11:02 a.m.,*
in response to message #1 by db (martinez, ca.)

http://i.gizmodo.com/5196845/robot-makes-autonomous-scientific-discovery-for-first-time

A timely article. Granted it is not a full human replacement, but computer-aided-discovery is a start.

Re: evolution of computer power/cost

*Message #9 Posted by **PeterP** on 4 Apr 2009, 1:02 a.m.,*
in response to message #8 by Egan Ford

Yes, I read that one, too. Very impressive. There is actually a weekly snippet service I subscribed at kurzweilai.net which sends em once per week the most 'futuristic' actual research projects published and this one was one of it. There was another I read about Honda showcasting their Aimo robot being steered with just with thought. Granted it does only a few things, but still...

Cheers

Peter

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So you thought only HP still makes RPN calcs

*Message #1 Posted by **Michael de Estrada** on 1 Apr 2009, 10:39 p.m.*

Victor V12

db's collection

Although most non-HP RPN calcs went out of production decades ago, you can still buy this one online, although I have never seen one in a store. Of course, HP doesn't really make the HP-12cp either, so I wonder who owns copyright on the code?

Michael

Edited: 2 Apr 2009, 11:06 a.m. after one or more responses were posted

Re: So you thought only HP still makes RPN calcs

*Message #2 Posted by **Howard Owen** on 1 Apr 2009, 10:52 p.m.,*
in response to message #1 by Michael de Estrada

There was another 12C knockoff some years ago. I wonder how they get away with copying the 12C like that. I doubt HP still holds active patents on the 12C interface or algorithms, but surely they still hold a copyright on the ROM. So if the clone maker reimplements the machine, then maybe that's legal, or at least lawsuit resistant.

Regards,
Howard

Re: So you thought only HP still makes RPN calcs

*Message #3 Posted by **Michael de Estrada** on 1 Apr 2009, 11:05 p.m.,*
in response to message #2 by Howard Owen

> Quote:
>
> I wonder how they get away with copying the 12C like that?

Lemme see. The HP-12cp is made in CHINA. The Victor V12 is made in CHINA. Heck, if they can get away with fake designer jeans, running shoes and DVDs, why not HP copies?

Michael

Edited: 1 Apr 2009, 11:05 p.m.

Re: So you thought only HP still makes RPN calcs

*Message #4 Posted by **Marcus von Cube, Germany** on 2 Apr 2009, 3:13 a.m.,*

in response to message #3 by Michael de Estrada

It's a 12cp clone which has a rewritten OS. It might be possible that HP is only a licensee of this ROM and design and that the original Chinese manufacturer has the right to license the code elsewhere.

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TDS 500K dead battery, pictures of the inside of the card and the battery.

*Message #1 Posted by **Geoff Quickfall** on 1 Apr 2009, 10:02 p.m.*

Well, I am hoping the rechargeable battery is actually the problem. The card 'PINIT" correctly and when I follow the TDS recharging suggestion:

Set alarm to wake calculator every 299 seconds, for 24 hours, thus recharging the TDS battery. This gives me about 40 hours of memory on the card with the calculator 'OFF', not the 30 days that it should.

After cycling the battery with charge up and run down cycles there was no change in the charge holding rate. The only option is to take the card apart:

```
1 heat the card with a hair dryer to soften the glue holding the metal label.

2 using a knife peel the label off, heating as necessary as you go

3 remove the battery

4 replace the battery

5 glue the back label in place
```

Interestingly I tested the card with the back off and the battery not attached. The card was "PINIT" and I archived the programs resident on the 48GX to :5:BU (port 5 label BU for backup).

The card worked and I could restore the calc from the archive using restore, port 5 and 'BU'. Of course I did not turn the calc off during this operation as there is no battery attached. This proved that my 'operating on the card' did not damage the card.

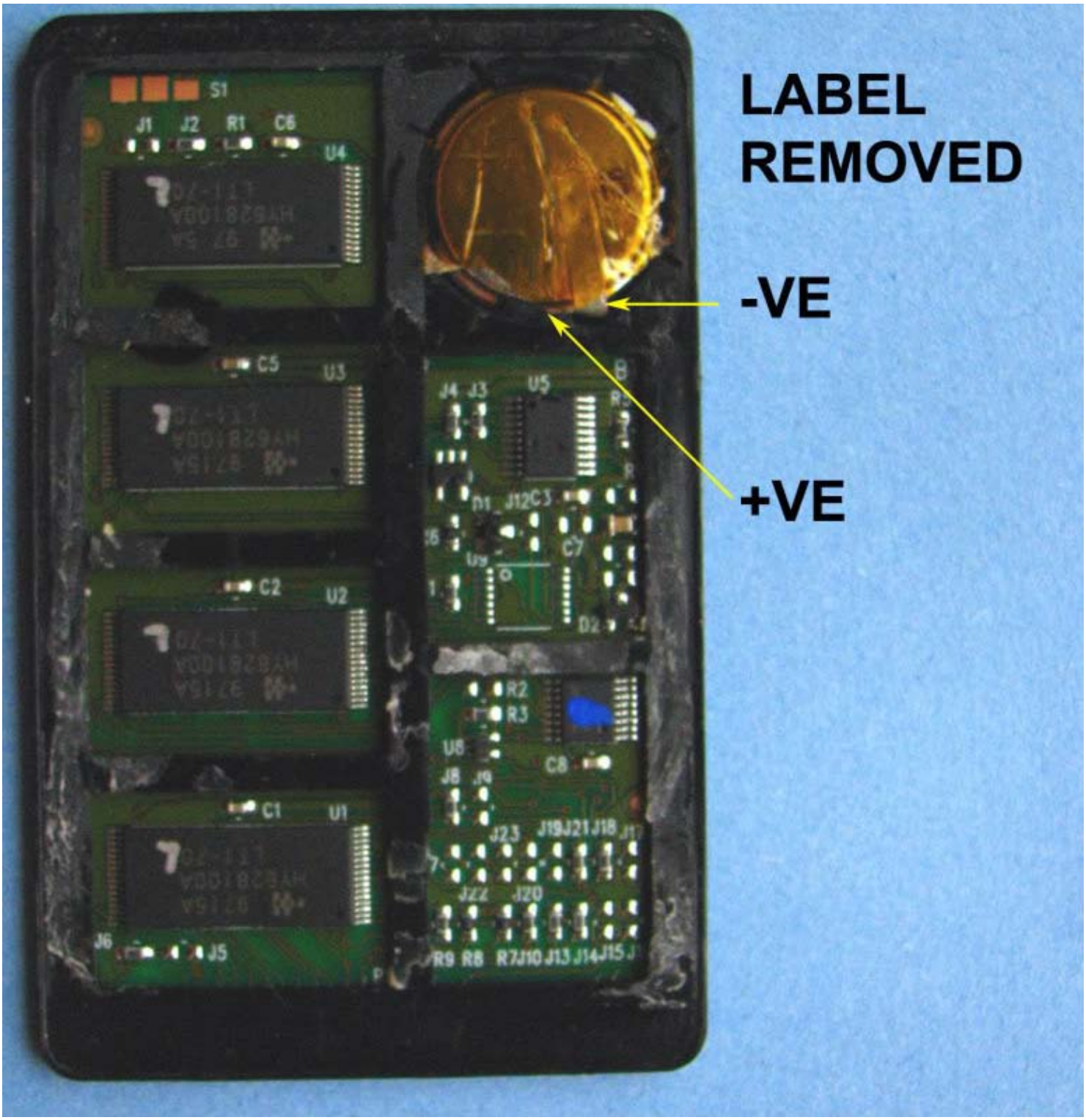
Do to the recharging system built into the card I cannot replace the battery with a regular lithium battery. I was thinking of this by creating a hole in the back label where the battery sits, installing a battery holder and voila, a replaceable battery system. But can't do it due to the charging logic of the memory card.

Here are some shots:

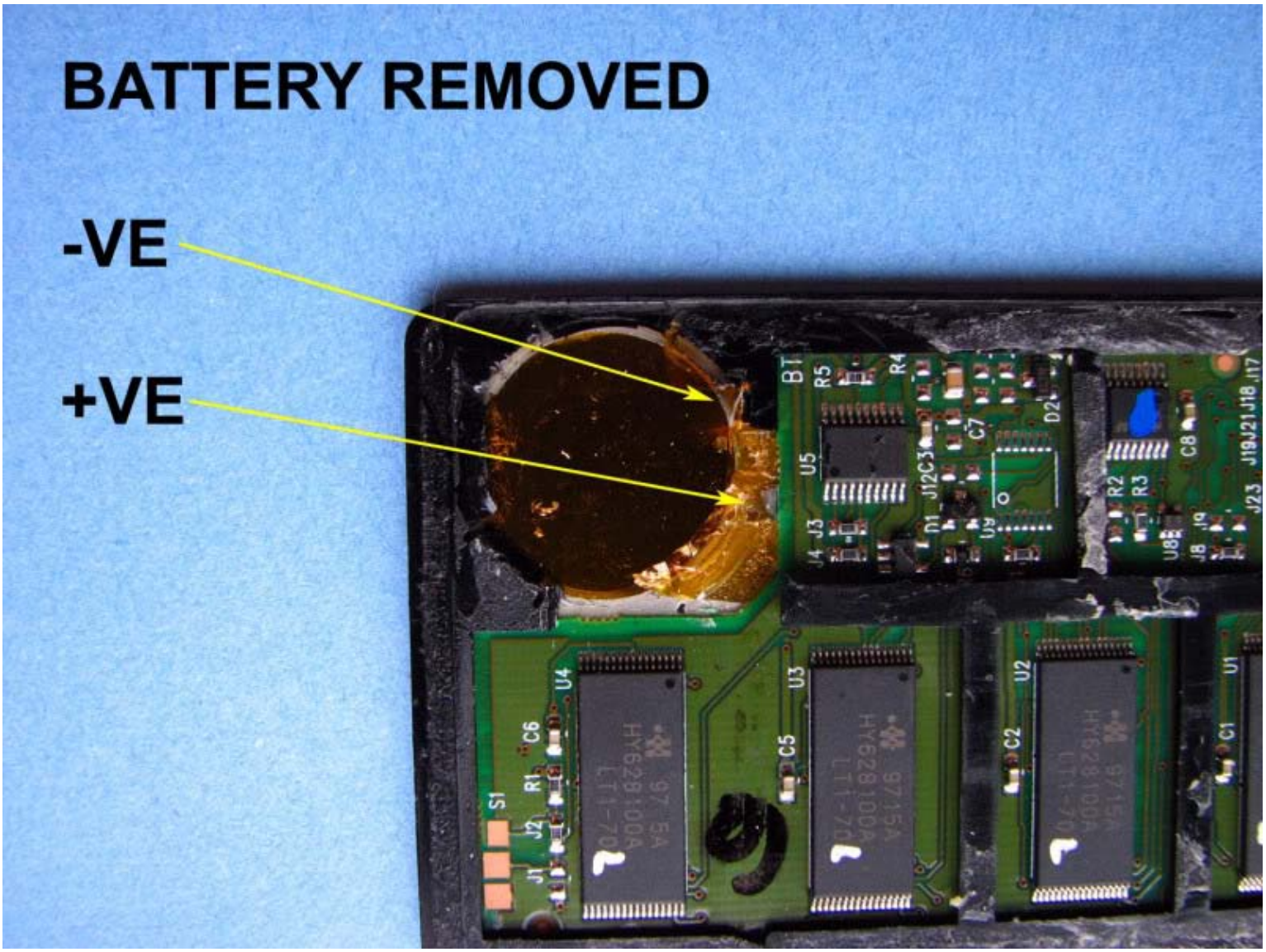
TDS 500K dead battery, pictures of the inside of the card and the battery.

TDS 500K dead battery, pictures of the inside of the card and the battery.

TDS 500K dead battery, pictures of the inside of the card and the battery.



TDS 500K dead battery, pictures of the inside of the card and the battery.



TDS 500K dead battery, pictures of the inside of the card and the battery.

Re: TDS 500K dead battery, pictures of the inside of the card and the battery.
*Message #2 Posted by **db (martinez, ca.)** on 1 Apr 2009, 11:25 p.m.,*
in response to message #1 by Geoff Quickfall

Geoff; Thanks for the beta. I may need to do that someday, so i saved your post.

Re: TDS 500K dead battery, expensive and hard to get battery!
*Message #3 Posted by **Geoff Quickfall** on 2 Apr 2009, 8:35 p.m.,*
in response to message #2 by db (martinez, ca.)

Thanks and use it well!

Finding the battery is a problem. One source in London,England quotes 10 pounds per battery ($15 Canadian).

No one in town will import them for the low demand although they appear to be the battery of choice for Casio solar powered watches.

ML-2016

Cheers, Geoff

Re: TDS 500K dead battery, expensive and hard to get battery!

*Message #4 Posted by **Katie Wasserman** on 2 Apr 2009, 9:42 p.m.,*
in response to message #3 by Geoff Quickfall

Panasonic makes a ML-2020 size lithium rechargeable that might fit. See

Mouser

or

Digikey

Edited: 2 Apr 2009, 9:44 p.m.

Re: TDS 500K dead battery, the battery has been ordered. Thanks Katie!

*Message #5 Posted by **Geoff Quickfall** on 2 Apr 2009, 11:23 p.m.,*
in response to message #4 by Katie Wasserman

Thanks Katie,

I will get the dimensions as this is a tight fit. The label does not have to go back on once the new battery is in place. The internal cover of the HP is well protected.

Cheers, Geoff

Edited: 2 Apr 2009, 11:46 p.m.

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Left handed HP-15C :)

*Message #1 Posted by **Marcus von Cube, Germany** on 1 Apr 2009, 5:34 p.m.*

MySilicium: http://www.silicium.org/forum/viewtopic.php?p=283730

You either need to read French or you may ask Google for a translation.

Re: Left handed HP-15C :)

*Message #2 Posted by **Howard Owen** on 1 Apr 2009, 10:26 p.m.,*
in response to message #1 by Marcus von Cube, Germany

How did we live before Photoshop?

Regards,
Howard

Or Gimp, even.

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hp 48SX repair success!

*Message #1 Posted by **Geoff Quickfall** on 1 Apr 2009, 5:32 p.m.*

Hello All;

Coincidentally this post seems relevant to a few differing posts below. Lets start with the story! I purchased this at the auction site with the following seller description:

THIS IS A HP 48SX CALCULATOR POWERS UP KEYS FUNCTION THE ITEM NEEDS NEW BATTERIES.

Not letting the word “function” confuse an otherwise cryptic description, I purchased with a “buy it now” thinking “ it would make a good rainy day project. Well, it is raining and the package arrived this morning.

Totally non-functional with the original batteries of which one had leaked! After cleaning out the battery hatch and installing new batteries I turned the calc on and no response.

Well, I read a previous post which suggested the foam rubber pressure pad for the keyboard contact to PCB may have flattened or rotted. Pressing on the keyboard just under the lcd panel and above the A – F keys did return functionality to the calculator. Of course not good enough as my carpentry clamps are to large to use! I did the selftest for the keyboard and rom/ram and they both passed as long as I kept pressure on the keyboard/PCB interface.

So I soaked the calculator, upright in luke warm diluted vinegar/water solution with the LCD panel above the water line. Followed this by a sequence of soak, wash and rinse baths always keeping the LCD panel dry. I did this in the attempt to dislodge dust and clean away any chemicals left over from the battery leak.

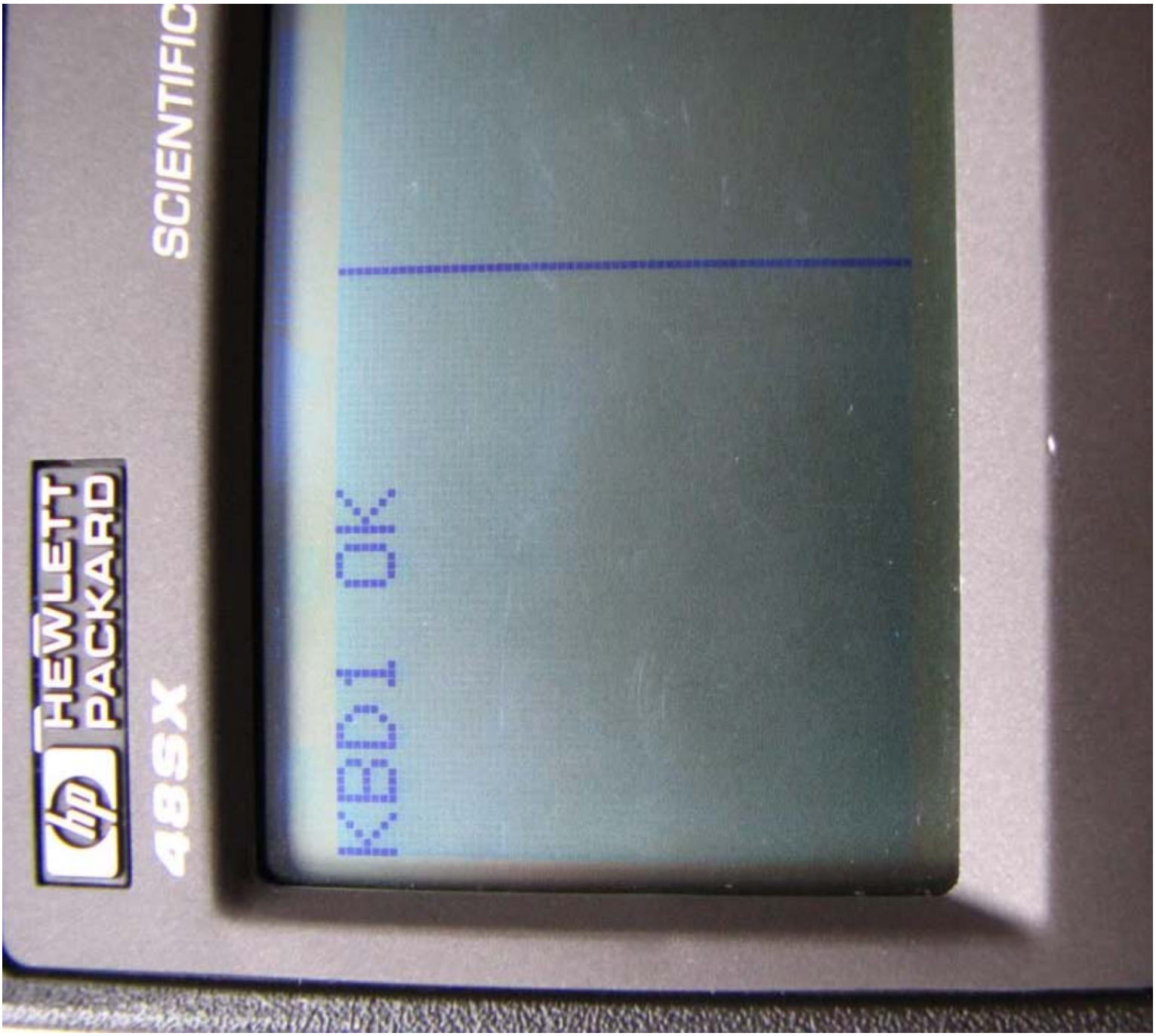
I then dried the entire calc with the ram access panel and battery hatch removed in a drying box:

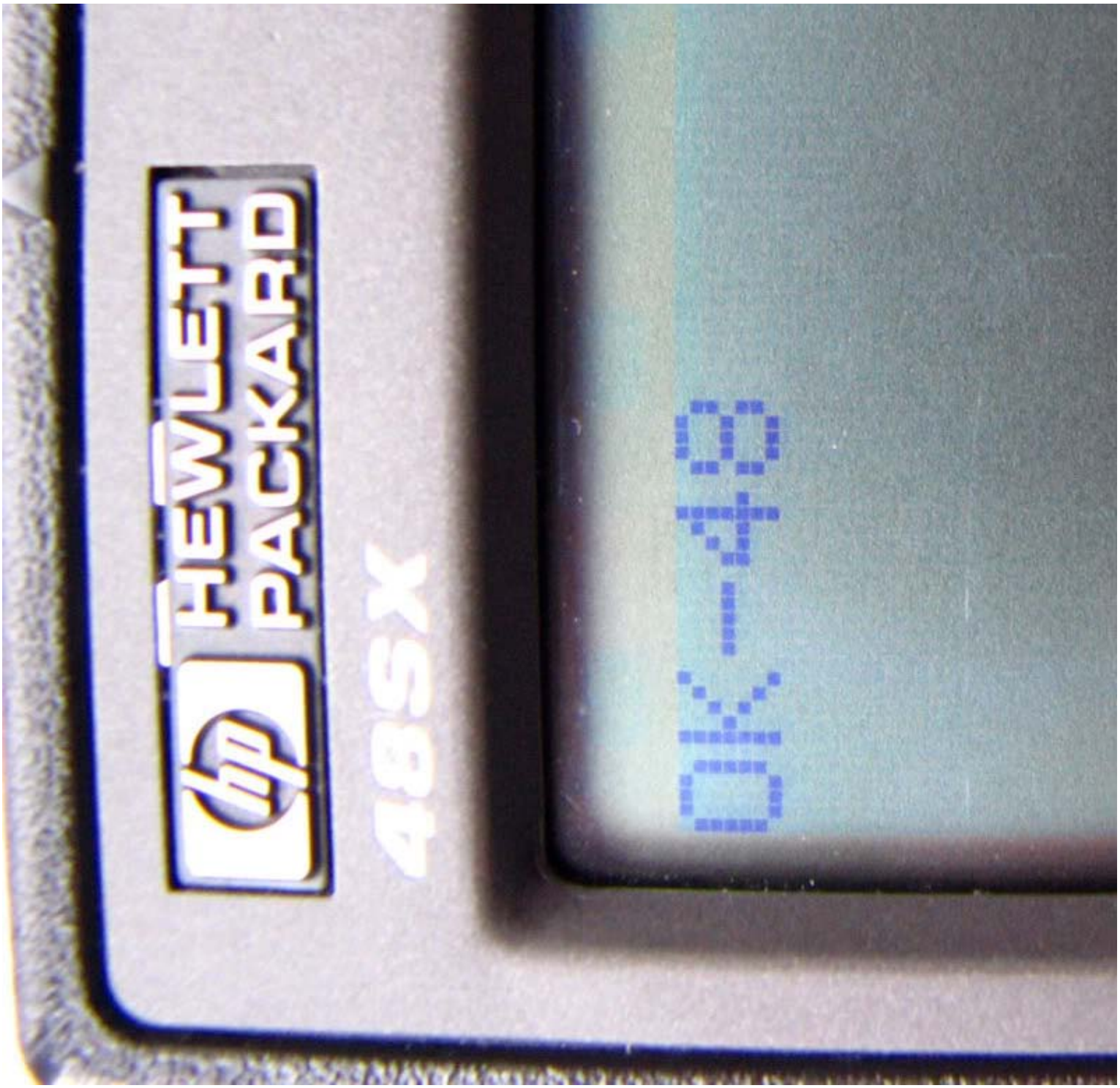
Picture of drying box, the hair dryer has 2 3 position switchs. Fan (off-low-high), heater (cold-low-high)

ZENITH
TRANS-
OCEANIC
D700Y
SHOE BOX OPENED
SHOWING HP 15C
SUPPORTED.

This did not fix the keyboard contact problem so next step was to open up the calculator. Using a few photo explanations I settled on opening the case without cutting or damaging the snap rivets. I carefully pried the case apart following the instructions.

After separating the case I removed the PCB by twisting the 6 tabs. This allowed me access to the keyboard foam, which I removed and replaced with a Mouse PAD foam cut to shape. Inserted this in the now empty slot, cleaned the PCB and LCD connections while I was at it. Then reassembled with the outcome shown:


SCIENTIFIC
HEWLETT PACKARD
48SX


HEWLETT
PACKARD
48SX

The calculator is snapped back together and the "function"s have been returned. The case is in excellent condition and the surgery left no scars.

Cheers, Geoff

Edited: 1 Apr 2009, 7:07 p.m.

Re: hp 48SX repair success!

*Message #2 Posted by **PeterP** on 2 Apr 2009, 4:03 p.m.,*
in response to message #1 by Geoff Quickfall

Geoff, you are simply amazing with this projects. Ever thought of making it a business? You clearly have heaps of skills and talents!

congratulations again.

Cheers

Peter

Thanks for the message..

*Message #3 Posted by **Geoff Quickfall** on 2 Apr 2009, 8:36 p.m.,*
in response to message #2 by PeterP

I must give credit to the excellent resource that this forum presents.

I have now restored 2 HP 67's, and a 65 for clients as well as 6 HP 01 so far. But this is a hobby, so not a business yet!

Cheers, Geoff

Re: Thanks for the message..

*Message #4 Posted by **Michael de Estrada** on 2 Apr 2009, 8:48 p.m.,*
in response to message #3 by Geoff Quickfall

You can take credit for others such as myself, who have figured out how to make repairs based on your assistance. I certainly would not have been able to repair the clutch on my HP67 without it. It now works perfectly. Thanks.

Michael

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48GII USB adaptor for serial cable

*Message #1 Posted by **Carl** on 1 Apr 2009, 1:49 p.m.*

Hello,

Are there any precautions I should be aware of when buying a USB to serial adaptor for my 48GII? I am under the impression that I need a USB connection to dump the ROM. I am using Conn4x for PC to 48GII communication.

Thanks!

Re: 48GII USB adaptor for serial cable

*Message #2 Posted by **Michael de Estrada** on 1 Apr 2009, 2:21 p.m.,*
in response to message #1 by Carl

It depends. If your HP48Gii already has Xmodem, then it should work fine. The adapter itself will register in the USB port as "new hardware", and you will install the drivers that came with the adapter. Once installed, it will show up in Windows Device Manager as a new serial port, which on my computer is COM3. When you connect your calc and run Xmodem, then Conn4x will find it on the new serial port. However, I have an HP-48SX, which does not have Xmodem, so I had to copy the file XSrvr48.hp from the Conn4x folder to my old DOS PC and then upload it via serial cable and Kermit from the PC to the calc. After that I had to attach it to the library in the calc before it could be run.

One other caveat. If you also have a HP-50g with a USB port that you are connecting to your PC, its USB drivers will be overwritten by those for the adapter, and it will no longer be recognized by the USB port. You would have to re-install those drivers, at which point the drivers for the adapter would be overwritten. Since I have a HP-50g, it was not worth the hassle, so I am no longer using the adapter. What I do instead is connect the HP-48SX to HP-50g via serial cable and connect the HP-50g to the PC via USB.

Hope this wasn't too confusing.

Michael

Re: 48GII USB adaptor for serial cable

*Message #3 Posted by **Carl** on 1 Apr 2009, 3:11 p.m.,*
in response to message #2 by Michael de Estrada

Great information Michael. I only have a 48GII and it has Xmodem built into it. As a matter of fact, that is what I use to connect using the serial cable.

Do you or anyone else happen to know if I can dump the ROM using only the USB connection.

Re: 48GII USB adaptor for serial cable

*Message #4 Posted by **Michael de Estrada** on 1 Apr 2009, 3:46 p.m.,*
in response to message #3 by Carl

I don't know why it would matter. Either way, you are connecting via serial. In one case it is a primary COM port on your PC, in the other it is being emulated, but as far as your PC and the calc are concerned there is no difference. As long as the communication protocols are the same (Xmodem) and the settings such as BAUD and translation code match, then it should work either way.

Re: 48GII USB adaptor for serial cable

*Message #5 Posted by **Chuck Sommer** on 1 Apr 2009, 4:53 p.m.,*
in response to message #1 by Carl

Yes there are precautions, because you don't need an adapter. Your calculator should have come with a USB cable and your calculator is a USB device which should plug right into your computer (using the USB cable provided). If you don't have the cable for your calculator, you can purchase one, or find another device that you already own that uses the same cable. The cable is a USB-A to USB-MINI-B (some please comment if I got this wrong). If you own an MP3 player (not IPOD), Camera Card reader, PDA or digital Camera, there is a reasonable chance you already have a cable that will work.

Best of luck ... Chuck

Re: 48GII USB adaptor for serial cable

*Message #6 Posted by **Carl** on 1 Apr 2009, 10:26 p.m.,*
in response to message #5 by Chuck Sommer

Quote:

> Yes there are precautions, because you don't need an adapter. Your calculator should have come with a USB cable and your calculator is a USB device which should plug right into your computer (using the USB cable provided). If you don't have the cable for your calculator, you can purchase one, or find another device that you already own that uses the same cable. The cable is a USB-A to USB-MINI-B (some please comment if I got this wrong). If you own an MP3 player (not IPOD), Camera Card reader, PDA or digital Camera, there is a reasonable chance you already have a cable that will work.
>
> Best of luck ... Chuck

Chuck,

All I can say for myself is "DUH!". I looked right at that mini USB on the calculator side and did not make the connection, so-to-speak. My 48GII came with a serial cable. Of course, I have many of the USB-A to USB-MINI-B cable around here.

It has been so long since I worked with the HP connectivity and programming. I had my 48G+ for so long before the keys gave out. I no longer need ALL the features of the old girl but still wanted RPN and some programming capability.

Thanks for your input.

Carl

Re: 48GII USB adaptor for serial cable

*Message #7 Posted by **Egan Ford** on 1 Apr 2009, 6:07 p.m.,*
in response to message #1 by Carl

Why dump the ROM when you can download the ROM? It in debug4x as ROM.49G or Google file:ROM.49G.

The latest 48GII has both USB and Serial ports on them (same as 50g). With the 50g you can transfer equally as well via USB or Serial. Via Serial you need a special cable (http://commerce.hpcalc.org/serialcable.php), via USB, just a standard USB cable (no need for serial to USB). You would only need a USB to serial adapter if you wanted to use the 48GII serial port with the special cable to a PC that did not have a serial port.

As for ROM dumping, I have no idea if it dumps to a file and you transfer or if you have to dump to cable. If you have to dump to file then USB or Serial should be fine.

Re: 48GII USB adaptor for serial cable

*Message #8 Posted by **Carl** on 1 Apr 2009, 10:33 p.m.,*
in response to message #7 by Egan Ford

> Quote:
>
> Why dump the ROM when you can download the ROM? It in debug4x as ROM.49G or Google file:ROM.49G.
>
> The latest 48GII has both USB and Serial ports on them (same as 50g). With the 50g you can transfer equally as well via USB or Serial. Via Serial you need a special cable (http://commerce.hpcalc.org/serialcable.php), via USB, just a standard USB cable (no need for serial to USB). You would only need a USB to serial adapter if you wanted to use the 48GII serial port with the special cable to a PC that did not have a serial port.
>
> As for ROM dumping, I have no idea if it dumps to a file and you transfer or if you have to dump to cable. If you have to dump to file then USB or Serial should be fine.

Egan,

Since I am new to the 48GII, I did not realize its ROM is as you have stated. Thanks for the info.

I wanted the ROM for Emu48. I find it is easier to try out programs by typing on my keyboard as opposed to keying into the calculator.

As I stated in a previous reply, my 48GII came with a serial cable. Probably an older version. I am going to try the USB connection Chuck mentioned.

Thanks for your help.

Carl

Re: 48GII USB adaptor for serial cable

*Message #9 Posted by **Egan Ford** on 2 Apr 2009, 1:24 a.m.,*
in response to message #8 by Carl

EMU48 is part of debug4x, get that and you will have EMU48 setup to emulate everything from the 48GX to the 50g.

Re: 48GII USB adaptor for serial cable

*Message #10 Posted by **Carl** on 1 Apr 2009, 10:40 p.m.,*
in response to message #7 by Egan Ford

> Quote:
>
> Why dump the ROM when you can download the ROM? It in debug4x as ROM.49G or Google file:ROM.49G.
>
> <snip>

I just tried an internet search for ROM.49G. Interesting results:

http://www.onehanesplace.com/webapp/commerce/command/ExecMacro/BraFinderResult.d2w/report?Bra_Size=48G&tqty=6&feature1=&feature2=&feature3=

Oh yeah, there was also some stuff about calculators!

Carl

Re: 48GII USB adaptor for serial cable

*Message #11 Posted by **Carl** on 3 Apr 2009, 11:41 a.m.,*
in response to message #7 by Egan Ford

Tried the USB connection today and received a message that the devise is unknown. OS is XP sp3.

Re: 48GII USB adaptor for serial cable

*Message #12 Posted by **Egan Ford** on 3 Apr 2009, 12:51 p.m.,*
in response to message #11 by Carl

You need to install the HP 48g, 49g, 50g series Calculator Connectivity Kit. If you cannot find it try this link, however I do not know if this is the latest version.
ftp://ftp.hp.com/pub/softlib/software7/COL4344/ca-14082-8/Conn4x_English.exe

Google for a newer version if this does not work for you. If you also use Linux or Mac, then search for HPTalk (Linux) or HPConnect (Mac).

Re: 48GII USB adaptor for serial cable

*Message #13 Posted by **Carl** on 3 Apr 2009, 2:16 p.m.,*
in response to message #12 by Egan Ford

I have version 2.3 (2003 - 2006). I am going to check for a newer version.

Thanks again.

Re: 48GII USB adaptor for serial cable

*Message #14 Posted by **Michael de Estrada** on 3 Apr 2009, 2:19 p.m.,*
in response to message #13 by Carl

Carl,

You have the latest version. See my comment below.

Michael

Re: 48GII USB adaptor for serial cable

*Message #15 Posted by **Carl** on 3 Apr 2009, 2:20 p.m.,*
in response to message #13 by Carl

Well, looks like I have the most recent version. I guess I can do without the USB connection.

Re: 48GII USB adaptor for serial cable

*Message #16 Posted by **Egan Ford** on 3 Apr 2009, 2:59 p.m.,*
in response to message #15 by Carl

Search the comp.sys.hp48 archives. And post any questions there as well, since that is the primary site for the 48, 49, and 50.

Re: 48GII USB adaptor for serial cable

*Message #17 Posted by **Michael de Estrada** on 3 Apr 2009, 2:16 p.m.,*
in response to message #12 by Egan Ford

I think he already has Conn4x installed. He just needs to start the new hardware wizard and browse for the drivers in the folder C:\Program Files\Hewlett-Packard\Conn4x\USBDriver.

Re: 48GII USB adaptor for serial cable

*Message #18 Posted by **Carl** on 8 Apr 2009, 11:42 a.m.,*
in response to message #17 by Michael de Estrada

Well, still no luck. I see the drivers, but I cannot get them to install.

When I connect the 48gii via USB I see an "Unknown Device" in my hardware device manager. When I try to install the driver from here or from the balloon that pops up at the lower right of my monitor, the computer can either not find it, even though I give it the location, or it tells me it is the wrong driver.

Go figure!

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OT: Casio FP-200

*Message #1 Posted by **Marcus von Cube, Germany** on 1 Apr 2009, 11:34 a.m.*

Sorry for this OT posting but maybe someone can help.

I've recently acquired a Casio FP-200 without docs. I've already downloaded the Users Guide in French but I'd like to read more about the BASIC. Is there a BASIC reference for this machine somewhere?

Marcus

Re: OT: Casio FP-200

*Message #2 Posted by **Marcus von Cube, Germany** on 10 Apr 2009, 12:02 p.m.,*
in response to message #1 by Marcus von Cube, Germany

A guy from Germany had a manual that he sent me. I've made a scan: http://www.mvcsys.de/download/FP-200-Referenz_DE.pdf

Edit: The URL contained an invalid path

Edited: 14 Apr 2009, 10:37 a.m.

Re: OT: Casio FP-200

*Message #3 Posted by **Marcus von Cube, Germany** on 14 Apr 2009, 10:37 a.m.,*
in response to message #2 by Marcus von Cube, Germany

I've corrected the URL (wrong path).

Re: OT: Casio FP-200

*Message #4 Posted by **Ken Shaw** on 14 Apr 2009, 12:25 p.m.,*
in response to message #2 by Marcus von Cube, Germany

> Quote:
>
> A guy from Germany had a manual that he sent me. I've made a scan: http://www.mvcsys.de/download/FP-200-Referenz_DE.pdf
>
> Edit: The URL contained an invalid path

And still does. This one is fixed: http://www.mvcsys.de/download/FP-200-Referenz_DE.pdf

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Which scientific calculator?

*Message #1 Posted by **M Manning** on 1 Apr 2009, 8:35 a.m.*

Hello everyone - this is my first posting to the forum.

Like a large proportion of the UK population in the 1980's I went through my school and University (BSc Chemistry) education armed with a Casio FX82 calculator having never heard of the joys of RPN. An allergy to lab solvents (not practical to be an organic chemist if you're sneezing constantly!) meant I left formal science for a career in finance and an introduction to RPN via the HP12C.

I planning to start an Open University maths degree later in the year and wondered what recommendations you may have re RPN calculators as I don't really want to go back to the FX82. Do I try and source an 11C or 15C to match the 12C or is a new 35S a better route.

Many thanks.

Re: Which scientific calculator?

*Message #2 Posted by **Michael de Estrada** on 1 Apr 2009, 9:25 a.m.,*
in response to message #1 by M Manning

I'm an old RPNer, who began with an HP-35, and progressed through an HP-15C and many other HP RPN scientific calculators to the present with a HP-35S and HP-50g. While I certainly feel that the HP-15C was the best all-around calculator HP ever made, from a practical standpoint, I think the most cost-effective solution would be an HP-35S. The quality seems to be reasonably good, the keys work well and it has a wealth of built-in functions. The problem with sourcing a HP-15C in good condition and including the manual is that it will cost you a fortune, since they are currently very much in vogue. One thing for sure, avoid the HP-33S, which has a horrible display and keyboard.

Good luck in your studies.

Michael

Re: Which scientific calculator?

*Message #3 Posted by **Nigel J Dowrick** on 1 Apr 2009, 1:49 p.m.,*
in response to message #2 by Michael de Estrada

My 33S has a lovely display and keyboard! I don't think it's just a matter of taste: I believe that the HP-33S was indeed of poor quality to start with, but this certainly isn't true of more recent models. See the wikipedia page on the HP-33S for more details.

Even though the HP-33S is no longer manufactured it can still be picked up new here and there. It does have some advantages over the HP-35S, such as: more of the important functions available unshifted; more useable base-N support; the exponent part of an answer always fits on the display. The HP-35S of course has many features that the HP-33S lacks, and these may be important to you.

The HP-42S is far better than both! (but much more expensive)

Nigel

Re: Which scientific calculator?

*Message #4 Posted by **designnut** on 1 Apr 2009, 2:17 p.m.,*
in response to message #3 by Nigel J Dowrick

I was startled to read thee 33s is no longer being made, so I looked at /www.shopping.hp.com/webapp/shopping/can.do?landing=calculator&category=Scientific&catLevel=1&storeName=storefronts and it is indeed listed for sale at $34. It has no learning curve and RPN programming. I think it's a great practical calc easy to use as a simple calc, has a great equation solver, I buy them on ebay as gifts. Sam 80

Re: Which scientific calculator?

*Message #5 Posted by **Michael de Estrada** on 1 Apr 2009, 2:39 p.m.,*
in response to message #3 by Nigel J Dowrick

Nigel,

Being from the UK, I assume that you use the comma (,) as the fractional separator. As a American, I use the period (.), and on the HP-33s display, it is almost invisible when certain numbers are entered. Try using . as the separator with 222222.222 entered. See my point (pardon the pun)?

Greetings from the other side of the pond, Michael

Re: Which scientific calculator?

*Message #6 Posted by **designnut** on 1 Apr 2009, 5:02 p.m.,*
in response to message #5 by Michael de Estrada

The problem with the invisible decimal on the 33S is so bad I suggest they abandon the simple period dot and use a more visible symbol, a short vertical dash or semicolon. For my use I switch to the EU method of using the comma as a bit easier to see. Sam

Re: Which scientific calculator?

*Message #7 Posted by **Nigel J Dowrick** on 1 Apr 2009, 5:17 p.m.,*
in response to message #5 by Michael de Estrada

In the UK we still use decimal points (.) for decimals and commas for thousands separators, just as in the US, although as a teacher I try to encourage my students to use spaces as separators to avoid confusion with the rest of Europe! Yes, I do see your point: however, it is only between pairs of 2's that I find the decimal hard to see. I had never noticed this before! With other pairs of digits the point is much more visible, at least to my (spectacle-enhanced) eyes. I assume that the HP-35s is superior in this regard.

Nigel

Re: Which scientific calculator?

*Message #8 Posted by **Michael de Estrada** on 1 Apr 2009, 6:01 p.m.,*
in response to message #7 by Nigel J Dowrick

Yes, the HP-35s is very superior to the HP-33s in this regard. Interestingly, the decimal point is the same size, however, the individual numbers are narrower, such that there is a greater separation between the base of the number and the decimal point. It is still not very good, mind you, but at least you don't need a magnifying glass to find it. If you want to see what a really good clear and legible display looks like, fire up any Voyager (HP-11c, HP-12c, HP-15c etc). Also, the HP-50g is very good in this regard, as it allocates a full space between adjacent numbers for a decimal point or comma.

Re: Which scientific calculator?

*Message #9 Posted by **Chuck Sommer** on 1 Apr 2009, 6:06 p.m.,*
in response to message #8 by Michael de Estrada

I believe that sometime during the hp33s product cycle they changed the display (about 1-2 years before the release of the hp35s). The hp35s was build with this new display. So if you get an hp35s you are guaranteed to get the better display, but you only have a 50-50 chance with the hp33s, unless you are knowledgeable about serial numbers.

Chuck

Re: Which scientific calculator?

*Message #10 Posted by **Michael de Estrada** on 1 Apr 2009, 6:28 p.m.,*
in response to message #9 by Chuck Sommer

I wonder if it also got the funky uncentered mantissa minus sign to go with the uncentered exponent minus sign. I've never been able to get used to that.

BTW The serial numbers for my HP-33s and HP-35s are CNA 430xxxxx and CNA 726xxxxx, which place their respective dates of manufacture at 30th week for 2004 and 26th week of 2007. I bought the HP-35s very shortly after it was first released.

Michael

Edited: 1 Apr 2009, 7:37 p.m.

Re: Which scientific calculator?

*Message #11 Posted by **Nigel J Dowrick** on 2 Apr 2009, 5:56 a.m.,*
in response to message #10 by Michael de Estrada

My HP-33s has a serial number starting CNA 702xxxxx, so it dates from the second week of 2007. I've looked at a few pictures of the HP-35s and its display looks very similar to that of my HP-33s, so perhaps there is no longer such a problem.

FYI, my HP-33s has a centred mantissa minus sign, but the exponent sign is level with the top of the "E"! So much variety.

Nigel

Re: Which scientific calculator?

*Message #12 Posted by **Dave** on 1 Apr 2009, 9:28 a.m.,*
in response to message #1 by M Manning

35s is fine for everyday number crunching, but the 50g would be much more useful to a math major like you.

Re: Which scientific calculator?

*Message #13 Posted by **Mike Morrow** on 1 Apr 2009, 10:28 a.m.,*
in response to message #1 by M Manning

Having used the HP-15C (I've got two) for more than 24 years, I am of the opinion that it is the most overrated and over-praised calculator that HP has ever made. It truely has a "cult" following, in every sense of the word. The facts are that it is very slow, it lacks the precision of later models, it is *very* awkward to use while holding in the hand (absolutely insane for a "hand-held" calculator!), it has very limited memory, it is non-intuitive to use without referral to the manual when dealing with advanced built-in functions (especially matrices), it has very limited display, it has no alphanumeric display, etc. etc. etc. ALL of these deficiencies are corrected in the later HP42S, with many many additional features added as well.

I carry one of my HP-15C units when there is some chance that harm could come to the calculator I'm carrying. It wouldn't hurt much to lose it, compared to one of my HP42S units.

Unfortunately, should one choose either an HP-15C or an HP42S, one will likely pay several hundred dollars for it. But there's excellent relief! Get a low-cost, modern, fast, fantastically-featured HP50g. But also obtain a printout of the 653 page HP49g+ Advanced User Reference (Yes...HP49g+, not HP50g). The manual that comes with the HP50g has little useful detail.

IMHO, the HP50g is the only calculator that competes in favor with the HP42S (though they are very different machines).

Re: Which scientific calculator?

*Message #14 Posted by **Michael de Estrada** on 1 Apr 2009, 11:11 a.m.,*
in response to message #13 by Mike Morrow

> Quote:
>
> Having used the HP-15C (I've got two) for more than 24 years, I am of the opinion that it is the most overrated and over-praised calculator that HP has ever made.
>
> I carry one of my HP-15C units when there is some chance that harm could come to the calculator I'm carrying. It wouldn't hurt much to lose it...

WOW! I've never heard such outright hatred for a product that literally saved HP's hide in the aftermath of the disastrous Spice series calcs. This product was extremely high quality and durable, which is why your 2 HP-15c's are still working today after apparently rough use. Of course it was slow and had limited capacity when compared to the modern calcs like the HP-50g; it was introduced almost 30 years ago! At that time, pre-PC microcomputers had a maximum of 64K RAM and were less than a thousandth the speed of current PCs. It may not have been good as a hand-held device, but was very shirt-pocketable and wonderful as a mini-desktop with its horizontal keyboard layout. And its key action was as good as any; certainly better than the HP-50g.

Yes, I agree that it makes more sense for the initial poster to buy a new modern calculator, be it the HP-35s or HP-50g (see my above reply), however, I think one should not vilify the HP-15c, which at the time was quite revolutionary with its capabilities and kept HP in the high-end RPN calculator business.

Michael

Edited: 1 Apr 2009, 11:34 a.m.

Re: Which scientific calculator?

*Message #15 Posted by **Mike Morrow** on 1 Apr 2009, 10:32 p.m.,*
in response to message #14 by Michael de Estrada

Hatred? Hardly. I have no emotional attachment to nor revulsion for things inanimate.

With respect to the HP-15C, there are a number of archived messages on this forum in which I'm on record stating that the HP-15C is the second best RPN calculator ever made. But the 27-year old HP-15C is a *very* distant second best, compared to the first place 21-year-old HP42S. There is simply NO rational justification for any preference for the HP-15C over the vastly superior, very negligibly larger, very much more capable yet easy to use HP42S. One only dreams what possibilities exist with modern technology today in the same size package.

So, no, I don't want to see a re-issue of a Chinese copy of the HP-15C. The commonly expressed desires for such are, IMHO, uninformed by knowledge of what was available in the HP42S six short years after the HP-15C first appeared, more than two decades before today. The unchanged HP42S would be a far better candidate for re-issue. Even better would be a modern version...like Walter's hypothetical HP43S.

Re: Which scientific calculator?

*Message #16 Posted by **Mike Morrow** on 1 Apr 2009, 11:10 p.m.,*
in response to message #14 by Michael de Estrada

I'll offer my opinion of the importance of the HP-15C in "saving" HP's calculator business: It's nonsense.

At the time that the HP-15C was announced, the HP-41-series was the very successful premier calculator in HP's line. The LED-display Spice series was by then inconsequential and obsolete (although I am rather fond of my HP-34C, over my 1977 HP-67).

The Voyager series (HP-10C, 11C, 12C, and later the 15C and 16C) was directed at those who couldn't afford (in cost or size) the HP-41 system. The HP-15C especially was remarkable in its design capable of complex math, matrix math, a solver, and an integrator, all in a simple and small package (but more awkward due to the style-over-substance "cute" landscape keyboard design), all of which required ad hoc programming in the HP-41. I purchased an HP-15C just because of all it offered that my HP-41CX didn't without programming or the "Advantage" module.

I'd say that while the Voyager series helped HP's calculator business, it was the HP-41 series that was the real star all through the years that the Voyagers were being made.

Re: Which scientific calculator?

*Message #17 Posted by **Michael de Estrada** on 2 Apr 2009, 12:00 a.m.,*
in response to message #16 by Mike Morrow

I think you are waffling on this. First you say "I have no emotional attachment to nor revulsion for things inanimate" Now you say "I am rather fond of my HP-34C"

Anyway, I owned one of them crappy junky HP-34C things that fell apart after little more than a year, and the HP-15c was pretty much a functional equivalent for it. It cost about the same, did everything I needed from it and was bulletproof. Sure, the HP-41C was a lot more sexy, but it cost

3 times as much, and by the time you equipped it with modules and periferals, the cost skyrocketted. I propose that a lot more Voyagers were sold than HP-41C's to ordinary practical engineers like myself, who didn't need anything real fancy and just wanted a very simple and affordable device with all the functions directly accessible from the keyboard. For example, I used hyperbolics a lot and on the HP-15c you just hit f or g shift HYP and the function. On the HP-41C, you have to first buy a Math module, and then either type in the function name after XEQ or assign it to a key. Quite a tedius and expensive way to do something simple. So trying to compare the Voyagers to the HP-41C is meaningless. I still say that HP saved the day in the basic calculator business after the bad taste that the Spice calcs left with their replacement by the Voyagers.

Re: Which scientific calculator?

*Message #18 Posted by **Howard Owen** on 2 Apr 2009, 12:17 a.m.,*
in response to message #16 by Mike Morrow

> Quote:
>
> .. the "cute" landscape keyboard design..

That "cute" design seems to have really caught on with finance types. I even know some engineers that prefer it, though it's certainly arguable either way.

> Quote:
>
> it was the HP-41 series that was the real star all through the years that the Voyagers were being made.

I agree with this, except that HP never stopped making Voyagers. (Arguments that latter day 12Cs aren't "real" Voyagers will be summarily dismissed. :)

Regards,
Howard

Re: Which scientific calculator? (HP-15C)

*Message #19 Posted by **Karl Schneider** on 2 Apr 2009, 5:56 a.m.,*
in response to message #13 by Mike Morrow

> Quote:
>
> The facts are that it is very slow, it lacks the precision of later models,

The 1982 HP-15C has the same processor as the 1979 HP-41 (albeit "declocked"). The faster Saturn processor, programmed for 12-digit results, did not appear in RPN models until 1988. Six years was a long time to wait for an affordable RPN alternative to reserving time on the mainframe or buying an expensive, primitive early PC.

> Quote:
>
> it is *very* awkward to use while holding in the hand (absolutely insane for a "hand-held" calculator!),

But it's superb for desktop use, with the user's hand moving in a natural side-to-side motion, instead of back-and-forth. The display is moved closer to the user with the calc near the edge of the desk -- as with students, and engineers before they had PC's with pulled-out keyboard tray on their desks...

> Quote:
>
> it has very limited memory,

More than the base HP-41C (and more than the successor HP-32S/SII)...

The 64 allocatable and 3 non-allocatable registers (two used for matrix indices) made it possible to invert an 8x8 real-valued matrix.

> Quote:
>
> it is non-intuitive to use without referral to the manual when dealing with advanced built-in functions (especially matrices),

I disagree vehemently with that -- espcially when one compares usage of SOLVE and INTEG with that of the HP-42S. Linear algebra on the HP-15C requires the user to perform more manual steps, but these are methodical and logical. It is important that the HP-15C user understand linear algebra.

I rarely if ever need to consult the HP-15C's excellent manual. One exception would be inversion of a 4x4 complex matrix -- better to use an HP-42S or RPL-based model for that. But it *can* be done on an HP-15C...

> Quote:
>
> it has very limited display, it has no alphanumeric display,

It is what it is, but the display is easy to read...

Needless to say, this topic has come up before:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=61702#61702

-- KS

Re: Which scientific calculator? (HP-15C)

*Message #20 Posted by **Walter B** on 2 Apr 2009, 6:15 a.m.,*
in response to message #19 by Karl Schneider

Oh yes, this is one of the permanent topics here ;-) I will not quote nor repeat my earlier contributions, since previous discussions are found easily.

Re: Which scientific calculator? (HP-15C)

*Message #21 Posted by **Mike Morrow** on 2 Apr 2009, 9:24 a.m.,*
in response to message #19 by Karl Schneider

The HP-15C is a quality-made device, especially after the early models (which have all that bizarre

black ESD and moisture intrusion plastic wrap and multi-piece PCB construction inside) were replaced by the simple single open PCB versions. The Voyager-series LCD clarity, keyboard feel, and overall appearance are among HP's best ever.

Many of the comparisions that are being made refer to advantages of the HP-15C compared to earlier or contemporary HP models. I agree with those comparisons...there wasn't IMHO an overall better RPN calculator being made than the HP-15C *before* the HP42S. My comparisons have always been of the HP-15C to this later HP42S, in which one would naturally, logically, and correctly assume that the earlier HP-15C would suffer. But to monitor this and other related discussions, the uninitiated would be led to believe that the older unit not only performs as well, but is actually preferable in most respects. HP-15C fanatics seem to be affronted by any assertion that anything better ever replaced it. That outlook simply does not reflect reality.

FWIW, here are a couple of additional features which HP-15C fans don't often point out. Have you ever wanted to record the output? The HP42S IR printer output makes this easy. Have you ever run a program that required user input during the run? It would be nice if a beep or other sound could be generated when the program halts for input. That's no problem with HP42S. The Voyagers provide neither I/O feature.

I contest the HP32S/SII being suggested as the successor to the HP-15C. It very definitely was not, as anyone who had used the HP-15C would quickly discern (with great disappointment, as I did) after buying a 32SII as a replacement. The 32S/SII was much more a replacement for the HP-11C.

Only the HP42S was the worthy non-RPL successor to the HP-15C. This was true in 1988, and it is still true today, more than two decades later.

Re: Which scientific calculator? (HP-15C)

*Message #22 Posted by **Randy** on 2 Apr 2009, 9:36 a.m.,*
in response to message #21 by Mike Morrow

> Quote:
>
> which have all that bizarre black ESD and moisture intrusion plastic wrap and multi-piece PCB construction inside

FWIW, it was strictly for ESD protection. Within the calculator engineering group it was affectionately referred to as "the black diaper".

Edited: 2 Apr 2009, 9:36 a.m.

Re: Which scientific calculator? (HP-15C)

*Message #23 Posted by **Michael de Estrada** on 2 Apr 2009, 10:07 a.m.,*
in response to message #21 by Mike Morrow

> Quote:
>
> I contest the HP32S/SII being suggested as the successor to the HP-15C. It very definitely was not, as anyone who had used the HP-15C would quickly discern (with great disappointment, as I did) after buying a 32SII as a replacement. The 32S/SII was much more a replacement for the HP-11C.

Yes. Finally, something we can agree on. The HP 32SII lacked matrix math, which the HP 15C first

introduced. I never bought an HP 32SII, however, a non-RPN colleague gave me one the company had given to him, and he never used. The only thing I ever used it for was to perform fractional arithmetic. By that time, I had bought an HP-48SX, which I used for all my heavy lifting, while I still used my HP-15C for simple non-programming tasks.

Edited: 2 Apr 2009, 10:57 a.m.

Re: Which scientific calculator? (HP-15C)

*Message #24 Posted by **Egan Ford** on 2 Apr 2009, 5:10 p.m.,*
in response to message #19 by Karl Schneider

I'll also add that the 15C was/is better built. I'm on my 2nd 42S and it has problems (resets itself when pressure applied to upper corner).

Another 15C plus is seeing all the functions right on the front. And anything missing is on the back, printed on metal. Although, I like the 42/48... menus as well, but, I do wish the 42S had that 3rd function/key.

Lastly, I'll just express my opinion. The Voyager series is with out a doubt the most visually appealing of any calculator (with the exception of the 71B which as we all know is just a Voyager++ :-). The layout of the Voyager is stunning, the metal, the lines, the medallion, the use of *gold* on the 12C, the metal legend on the back, the recessed keyboard, the high contrast clear labels, the slanted keys. The Voyager is a work of fine functional art. And, if only business types buy it (12C) today, well then, they just have good taste.

P.S. I've posted this before. When my daughter painted her interpretation of a calculator she was secretly draw to the Voyager for inspiration:

Edited: 2 Apr 2009, 5:18 p.m.

Re: Which scientific calculator?

*Message #25 Posted by **Walter B** on 1 Apr 2009, 10:48 a.m.,*
in response to message #1 by M Manning

I second Mike's opinion. In the set of RPN calculators, the 42S is by far the best you can get. Please note the 50G is RPL, i.e. something different (see earlier discussions in this forum).

If you need a quality calculator for number crunching, the 42S is the one IMHO. If you want faster results, and some way to backup your programs, get Thomas Okken's Free42 on your PDA. If you look for more math, get the 50G or a nice application for your notebook.

HTH

Walter

Re: Which scientific calculator?

*Message #26 Posted by **Matti Övermark** on 1 Apr 2009, 1:29 p.m.,*
in response to message #1 by M Manning

Having used the 15C since 1983 and the 49G+/50G for some years, I would definetly recommend the 15C. Not only for the size and cult status, but more for the reason that you most probably will not be allowed to use the 50G on a written exam... You can get the work done on a 15C, just need to learn a bit more math yourself (and not to rely on the awesome math-machine). However if you may use it, then bear in mind that there is a

tremendeous power in the 50G, but it takes the hours (looong and many, many :-) to get the full potential out of it.

Cheers, Matti (Sweden)

Re: Which scientific calculator?

*Message #27 Posted by **Martin Pinckney** on 1 Apr 2009, 2:28 p.m.,*
in response to message #1 by M Manning

Well, never say this forum is lacking for diverse opinion!

Re: Which scientific calculator?

*Message #28 Posted by **Paul Dale** on 1 Apr 2009, 4:56 p.m.,*
in response to message #1 by M Manning

I doubt it matters which you choose. I barely used a calculator during my mathematics degree & PhD.

I think I had a Casio fx-602p as my working calculator at the time but like I said it hardly got used.

- Pauli

Which scientific calculator?

*Message #29 Posted by **Hal Bitton in Boise** on 1 Apr 2009, 5:51 p.m.,*
in response to message #1 by M Manning

Since you will be pursuing a math degree, I would recommend a 50g, since a graphing calc may well be required for some classes. Last year I took two refresher college math classes where that was indeed the case. My 50G served me very well, and it was fun to (sometimes) trump the Ti89's that dominated the rest of the class.
Best regards, Hal

Re: Which scientific calculator?

*Message #30 Posted by **hpnut** on 1 Apr 2009, 9:06 p.m.,*
in response to message #29 by Hal Bitton in Boise

> Quote:
>
> Since you will be pursuing a math degree, I would recommend a 50g, since a graphing calc may well be required for some classes. Last year I took two refresher college math classes where that was indeed the case. My 50G served me very well, and it was fun to (sometimes) trump the Ti89's that dominated the rest of the class.
> Best regards, Hal

I agree. Thiel College has a Maths faculty that uses the HP 50G with RPN as the OS of choice.
http://www.thiel.edu/Mathproject/CalculatorLessons/Default.htm

It's true that the 50g has a steep learning curve, but I have persevered and sought out as many non-HP resources on the calculator to reinforce my understanding of the calculator.

hpnut in Malaysia

Re: Which scientific calculator?

*Message #31 Posted by **Howard Owen** on 1 Apr 2009, 10:43 p.m.,*
in response to message #1 by M Manning

This topic was bound to set off a cascade of strong opinions here. :) It's actually one of the forum's perennial topics, though I always love reading new variations on the old theme. This time around I even see a detractor of the HP15C. That's definitely heresy, and I find it refreshing and interesting, even though I love my 15Cs.

You say you are transitioning from a career in finance. That may mean you could afford a 35S *and* a 50G. They both have strengths and weaknesses that have been noted here already. And if you get really crazy, you could start buying up some of the classic models, and become an HP calculator addict like most of us here. :)

Regards,
Howard

Re: Which scientific calculator?

*Message #32 Posted by **Hans-Erik Lehndal** on 2 Apr 2009, 2:42 a.m.,*
in response to message #31 by Howard Owen

I might add that a math degree on Open University has its own requirements. If you start from scratch (you probably won't, with your background) with MU120 & MST121 they expect you to use a TI-83. In MST121 MathCad is included and from there on my guess is that you don't need a calculator (there are several software packs used in the courses, but they are included in the course fee) and that a calculator like 50g might not be allowed on exams.

I suggest that you contact the University, they will be able to advice you. When that is straightened out, go ahead and but a HP RPN anyway, I have a 34C, a 35S and a 49g+ - and I am an OU addict.

Re: Which scientific calculator?

*Message #33 Posted by **M Manning** on 2 Apr 2009, 10:24 a.m.,*
in response to message #32 by Hans-Erik Lehndal

Thanks all for your many (and varied) suggestions!

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Organic Display Technolgy - Don't miss TI's latest Four-Banger!

*Message #1 Posted by **Joerg Woerner** on 31 Mar 2009, 11:21 p.m.*

Dear HP calculator collectors,

You heard probably from Canon's latest "Think smart - Think green" initiative in Europe and Australia. Calculators manufactured from recycled copiers! One copier generates about 4 lbs of re-usable plastic material, enough for more than 50 four-bangers.

For sure, the manual and box is made from recycled paper.

Texas Instruments once again proofed its leadership in calculator technolgy and released - forty years after the invention of the single-chip calculator circuit and shy 3 weeks before the Earth Day - the latest model called Execulator.

It is manufactured from renewable resources, uses neither batteries nor solar cells, and sports even the latest organic display technolgy. Due to the limited logic elements of the technolgy it lacks a percent function but has one constant memory!

There are only few images available yet, but the Datamath Calculator Museum received one of the very first prototypes.

Have a nice week!

Regards, Joerg

Re: Organic Display Technolgy - Don't miss TI's latest Four-Banger!

*Message #2 Posted by **Les Bell** on 1 Apr 2009, 12:51 a.m.,*
in response to message #1 by Joerg Woerner

Very droll! (I was expecting maybe an e-paper display).

Best,

--- Les
[http://www.lesbell.com.au]

Re: Organic Display Technolgy - Don't miss TI's latest Four-Banger!

*Message #3 Posted by **hpnut** on 1 Apr 2009, 12:54 a.m.,*
in response to message #1 by Joerg Woerner

good try, Joerg!

this story is too close to April 01 ;-)

hpnut in Malaysia (time now 12:55h, 01 April 2009)

Re: Organic Display Technolgy - Don't miss TI's latest Four-Banger!

*Message #4 Posted by **db (martinez, ca.)** on 1 Apr 2009, 3:06 a.m.,*
in response to message #1 by Joerg Woerner

I have a similar unit, but the memory gets worse each year. At least i can still see the digits.

Organic Display Technolgy - Don't miss TI's latest Four-Banger!

*Message #5 Posted by **Hal Bitton in Boise** on 1 Apr 2009, 3:44 a.m.,*
in response to message #1 by Joerg Woerner

Additive calculations could be performed to the tune of:
"This little piggy went to market,
this little piggy stayed home,
this little piggy had roast beef,
this little piggy had none,
and this little piggy cried wee wee wee all the way home!

Subtraction could be aided by this mnemonic:
little pee,
penny roo,
rudy whistle,
mary hossle,
and a great big gobble gobble!

hope this helps, hal 8^]

Re: Organic Display Technolgy - Don't miss TI's latest Four-Banger!

*Message #6 Posted by **Walter B** on 1 Apr 2009, 10:27 a.m.,*
in response to message #1 by Joerg Woerner

At least this is a true *digital* calculator. BTW, I've seen similar models in the early eighties of last century, though yet without such a nourishing display board ;-)

Re: Organic Display Technolgy - Don't miss TI's latest Four-Banger!

*Message #7 Posted by **Hans-Erik Lehndal** on 2 Apr 2009, 5:48 a.m.,*
in response to message #6 by Walter B

No delete button? Cowards!

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HP 20b: test-menu

*Message #1 Posted by **Thomas Klemm** on 31 Mar 2009, 6:05 p.m.*

Recently I wanted to change the display mode on my HP 20b to show all digits but I did't remember how to do that. I didn't find the answer in the small booklet that came with the calculator so I searched online where I finally found it in the training module Operating modes, clearing options and error messages.

Why not in Interest rate conversions or Hyperbolic functions I wondered.

However I was happy to find what I was looking for and of course it suggests itself to use FIX = -1 for that in the Mode-menu whereas you have to use the dot in the *shift-shift-digit*-shortcut, if you know what I mean.
The important thing is always: be consistent!

For a moment I remembered a recent post of John H Meyers on comp.sys.hp48 where he stated:

> Quote:
>
> ```
> In 48GX, the STAT DATA menu (...) contains a [\GSDAT] label.
>
> The left and right shift keys cause that menu key
> to generate STO\GS and RCL\GS commands, respectively
> (best seen when editing in PRG mode).
>
> This is similar to how STEQ and RCEQ commands are generated
> by the [EQ] label in the SOLVE ROOT menu (menu 75 on "G" series).
>
> A number of other menus generate useful complete structures
> when shifted, e.g. the various labels in PRG BRANCH
> (menu 23 in "G" series):
>
> LS IF -> IF THEN END
> RS IF -> IF THEN ELSE END
>
> Try all the others and see!
> ```

Obviously there were times people at HP designed things very clever.

But the worst thing of the Mode-menu is pressing the [=] button until the number of digits you want is displayed. The stack is cluttered with all the numbers you went through and your worthy results are lost. You should have known better not to use the [=] button!

However all this has nothing to do with the subject but that's how I found the lines with the description on how to perform a MEMORY CLEAR:

> Quote:
>
> The "master clear" of the HP 20b is accomplished when the following sequence is executed:

- press and hold [ON/CE]
- press and hold [N]
- press [FV]

DO NOT DO THIS IF YOU WANT TO KEEP ANY INFORMATION THAT IS IN YOUR CALCULATOR.

I can assure you that you will not loose any memory. I tried it several times. And then I tried [ON/CE] [N] [Amort] as I would do on most other HP-calculators and

All Reset

appears.

Then I tried the other button [PMT] next to it on the left since you knewer know, right? And alas we enter a test-menu:

- Tst Screen
- Tst Keyboard
- Checksum
  - 213.213
- Tst Battery
  - Bat Lvl = 3.0
- SW Version
  - 6 24 2008 2
- (c) Copyright 2008 HP Dev. C., L.P.
  - 2,048.000
- TSys
  - On
  - Off

In the screen-test you can press any key and the anounciators and the display will be shown which is always funny to do. So after a while playing with that I entered the keyboard-test which was a big mistake: first you may think you have to press them in a specific order but then you might try to produce an error and skip one and nothing happens and then you start wondering which of the keys will bring you out of this menu and at the latest now you're relieved somebody at Apple invented the paperclip-trick.

However if you skip keyboard-test and succed to exit the menu you will find that this is yet another method to set FIX = 3 on this amazing machine.

No wonder the ratings in the customer reviews are so bad.

Kind regards
Thomas

BTW: Any idea what this TSys-menu is for?

Re: HP 20b: test-menu

*Message #2 Posted by **Gene Wright** on 31 Mar 2009, 8:21 p.m.,*
in response to message #1 by Thomas Klemm

Gene responded in a rather foul mood...

Thomas wrote: "Why not in Interest rate conversions or Hyperbolic functions I wondered."

Gene: Well, how much redundancy do you want? I guess the material in Operating Modes module could have been reproduced in every other module. And, who is to say that someone needed to change the number of decimal places in those modules you mention? One other thing on this point - the shortcut to set -1 as the FIX setting was mentioned in the Datafile review I prepared for the machine. The shortcut of shift shift was added very late. I didn't find out almost until the review was done. Should every module have instructions on how to turn the calculator OFF?

Regarding the keys, you'd have to ask someone at HP. I wish they clicked too. The small guide is what it is. Menus are a philosophical choice to not have large quantities of functions on the keyboard. "Most" buyers don't like cluttered keyboards - they don't seem to buy calculators that have them. I am not "most" buyers and neither is anyone else here. If the choice is to have a menu such as the MATH menu that has 4 probability distributions or to have none at all, what choice should be made? I'll take the menus.

Yes, there are trade-offs compared to the "key per function" 12c style machine. The 20b still beats the pants off the TI competition.

Thomas wrote: "BTW: Any idea what this TSys-menu is for?"

Gene: Yes.

Re: HP 20b: test-menu

*Message #3 Posted by **Thomas Klemm** on 1 Apr 2009, 6:24 p.m.,*
in response to message #2 by Gene Wright

Hi Gene

Hope you're in a better mood again. It was not my intent to upset anybody here in this forum and if I did I would kindly ask to accept my apologies.

After all it was my fault. I should have looked in the User Manual first where I would have found the information I was looking for. However I faintly remembered it might be in one of the training modules so I was searching there first. But there are several documents and I didn't know exactly what to search for.

So in the end, the documentation concerning this issue is ok. Still I think it's missing in the printed booklet I have at home.

> Quote:
>
> If the choice is to have a menu such as the MATH menu that has 4 probability distributions or to have none at all, what choice should be made? I'll take the menus.

Most of all I prefer a calculator I can trust. What's the use of a logarithm in a menu when it doesn't give the correct answer? It's not that I have to rely on that in my daily life. But at least I start to mistrust the whole machine then.

> Quote:
>
> The 20b still beats the pants off the TI competition.

The only TI calculator I've ever bought was a TI-25. But that was quiet a few years back. So I can not really tell. Still I can compare the HP 20b to some other HP-calculators.

Kind regards
Thomas

Re: HP 20b: test-menu

*Message #4 Posted by **cyrille de Brébisson** on 1 Apr 2009, 10:22 a.m.,*
in response to message #1 by Thomas Klemm

hello,

>I didn't find the answer in the small booklet that came with the calculator..

it is there in the first chapter, 'Basic feature' page 9 of the user manual.. you probably spiked toward more advanced features and missed that one... the function is located in the Mode menu like in most of the other modern HP calculator like the 49 series.

>But the worst thing of the Mode-menu is pressing the [=] button until the number of digits you want is displayed. The stack is cluttered with all the numbers you went through and your worthy results are lost. You should have known better not to use the [=] button!

That might be something that I can fix, but no guaranties here I am running out of ROM space :-(

> [memory clear] Where did you see the documentation about ON+N+FV? we need to correct that...

> [test menu] Well, the test menu is not designed for end users, so don't complain there :-) to exit the keyboard test, press ON+PMT again by the way. the FIX=3 is set in order to make sure that the checksum shows OK and the system was not designed for a menu to have an action executed at exit (ran out of memory space), so sorry about leaving that at 3... but as stated above, you don't have much needs to go to the test system menu. BTW, if you set test system to ON, it will drain your battery fast as it enables the auto test system and continuously runs the CPU at full speed listening to the RS232 port...

cyrille

Re: HP 20b: test-menu

*Message #5 Posted by **Didier Lachieze** on 1 Apr 2009, 10:50 a.m.,*
in response to message #4 by cyrille de Brébisson

> Quote:
>
> > [memory clear] Where did you see the documentation about ON+N+FV? we need to correct that...

It's in the HP 20b Introduction to the Learning Modules page 3.

Re: HP 20b: test-menu

*Message #6 Posted by **Thomas Klemm** on 1 Apr 2009, 6:38 p.m.,*
in response to message #4 by cyrille de Brébisson

Hi Cyrille

Thanks a lot for your clarifications.

May I ask you a few questions in relation to this issue:

- Is there a list of known/fixed bugs together with the release?
- What is the desired procedure for us to post a bug?
- And how should we report issues with the documentation?

Kind regards
Thomas

Edited: 1 Apr 2009, 6:38 p.m.

Re: HP 20b: test-menu

*Message #7 Posted by **cyrille de Brébisson** on 2 Apr 2009, 10:08 a.m.,*
in response to message #6 by Thomas Klemm

hello,

> Quote:
>
> Is there a list of known/fixed bugs together with the release?

so far, the known 'bad/math' bugs that I can remember are - the log bug (when |exponent| is >=10) which has been corrected (althrough I do not remember the new release date) - the IUTPN bug for number 1e-14..0.13 and 1-previous interval they are of course some other bugs, mostly UI or crashes, but these 2 ones are the only ones that will return a bad result..

- What is the desired procedure for us to post a bug? send em an email, or contact HP and it should get back to me

- And how should we report issues with the documentation? same as above.

cyrille

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Bug in HP 20b: nCr with non-integer r

*Message #1 Posted by **Thomas Klemm** on 31 Mar 2009, 3:28 p.m.*

In RPN mode I tried to calculate:

```
1
INPUT
0.5
nCr
```

The calculator then hangs with a blinking shift-indicator. The keyboard doesn't respond. Even trying to reset the calculator with the triple keys: [ON/CE] [N] [Amort] doesn't work. I had to press a paperclip through the small hole on the back, after removing the cover.

SW Version 6 24 2008 2 is used.

Is this well known?

Now you tell me I should instead use:

```
   n!
---------
r! (n-r)!
```

And funny enough it works.

Edited: 31 Mar 2009, 3:41 p.m.

Re: Bug in HP 20b: nCr with non-integer r

*Message #2 Posted by **Michael de Estrada** on 31 Mar 2009, 4:42 p.m.,*
in response to message #1 by Thomas Klemm

nCr is valid only for integer values, so what you were getting was an error indication. OTOH, n! is valid for fractional values in the general case of the Gamma function, so it works. However, the calculation that you did was meaningless, as there is no such thing as the combination of 1 items taken 0.5 at a time. As to why your calculator would not reset, perhaps it became very angry at an attempt to misuse its functions and decided to lock you out. ;>)

Michael

Re: Bug in HP 20b: nCr with non-integer r

*Message #3 Posted by **Paul Dale** on 31 Mar 2009, 5:49 p.m.,*
in response to message #2 by Michael de Estrada

nCr can easily be extend to majority of the complex plane:

```
                1
nCr = ----------------------
      (n+1) beta(n-r+1, r+1)
```

Is this sensible? Who knows :-)

- Pauli

Re: Bug in HP 20b: nCr with non-integer r

*Message #4 Posted by **Thomas Klemm** on 31 Mar 2009, 5:50 p.m.,*
in response to message #2 by Michael de Estrada

> Quote:
>
> so what you were getting was an error indication.

The error indicator for the same entries for nPr is:

```
ER: oo Result
```

While for other invalid like r > n values you would get:

```
ER: Invalid Input
```

One of the above I could accept as an error indication but not blocking the whole calculator.

> Quote:
>
> However, the calculation that you did was meaningless

You are kindly requested to scroll down to "Generalization to real and complex argument" in this article about Binomial coefficients.

Actually I was just playing around with the calculator and wondered what if I wanted to calculate "Newton's binomial series" for an exponent of 0.5? And then I got it wrong and mixed n and r. So at least for me it makes perfectly sense to calculate say nCr(0.5, 5):

It's the coefficent of x^5 in the Taylor series expansion of $(1 + x)^{1/2}$.

In a way it's exactly the same as you probably would expect if n were an integer. So the interesting thing in math is to give meaning to seemingly meaningless things.

Re: Bug in HP 20b: nCr with non-integer r

*Message #5 Posted by **Michael de Estrada** on 31 Mar 2009, 7:22 p.m.,*
in response to message #4 by Thomas Klemm

The intended purpose of the nCr and nPr functions are to compute combinations and permutations of discrete objects, such that the n and r values must be integers to have any meaning. The calculation of these functions is made using the integer factorial function, which is defined for only non-negative integer values. The fact that this a special case of Gamma, which extends to real numbers or even complex numbers is irrelevant to the intent of the nCr and nPr functions. I have yet to find a calculator with these two functions that permit non-integer values.

As far as your calculator locking up, well of course I was just joking when suggesting that it should do this. Some of my older calcs blink to indicate an error message, and I don't own an HP 20b, so I'm not familiar with its error indications.

Edited: 1 Apr 2009, 10:30 a.m.

Re: Bug in HP 20b: nCr with non-integer r

*Message #6 Posted by **David Hayden** on 1 Apr 2009, 2:32 p.m.,*
in response to message #2 by Michael de Estrada

> Quote:
>
> nCr is valid only for integer values, so what you were getting was an error indication.

An error indication could be easily cleared so the user could continue to use the calculator. In this case, the calculator froze up completely, so I'd call it a bug.

Re: Bug in HP 20b: nCr with non-integer r

*Message #7 Posted by **Chuck** on 31 Mar 2009, 4:43 p.m.,*
in response to message #1 by Thomas Klemm

My guess is that the factorial function actually utilizes the gamma function, and nCr has an algorithm that does not utilize gamma.

<Michael got there first>

While working on this, I decided to try it out on the HP-42S. Of course the nCr button with non-integers doesn't work. The factorial function also doesn't work because there is a built in gamma function. Here's a little program I wrote for the HP-42S to do it...

```
01 LBL "NCR"
02 STO 01
03 Rolldown
04 STO 02
05 1
06 +
07 GAMMA
08 1
09 RCL+ 01
10 GAMMA
11 /            "divide"
12 RCL 02
13 RCL- 01
14 1
15 +
16 GAMMA
17 /
18 RTN


Put two numbers on the stack and execute NCR
```

It's most likely not the shortest such program, but works like a charm on your non-integer problem. But, now the REALLY STRANGE PART....

...in doing a problem like 5 nCr 5 or 5 nCr 0 on the 42S I get for an output

```
Out of Range
x: 1.0000
```

However, stepping through the program to trouble shoot it, there is no "Out of Range" warning. And, executing the SAME program using Free42 on my ipod I get no "Out of Range Error". Can someone explain that to me?

CHUCK

Edited: 31 Mar 2009, 4:46 p.m.

Re: Bug in HP 20b: nCr with non-integer r

*Message #8 Posted by **Nigel J Dowrick** on 31 Mar 2009, 5:49 p.m.,*
in response to message #7 by Chuck

I can't explain what you have observed, but your program doesn't give those errors when I run it on *my* HP-42S! Its serial number is 3127S03683; perhaps yours has a different ROM containing a bug?

Re: Bug in HP 20b: nCr with non-integer r

*Message #9 Posted by **Jeff Kearns** on 31 Mar 2009, 6:03 p.m.,*
in response to message #8 by Nigel J Dowrick

Nor do I have the problem on my HP42s. I get "1" for each case.

Jeff

Re: Bug in HP 20b: nCr with non-integer r

*Message #10 Posted by **Chuck** on 31 Mar 2009, 6:40 p.m.,*
in response to message #9 by Jeff Kearns

Arrrg. I'll reset my 42s and try it again. Must have a flag or mode out of kilter. Thanks.

.....later.....

Nope. I did a reset; re-entered the program; and ran 5 5 NCR and still got "Out of Range". Stepping through the program works fine though. Hrmph.

My serial number is: 3313S05685

Curious if this happens for anybody else. :(

CHUCK

Edited: 31 Mar 2009, 7:09 p.m.

HP-42S: nCr with non-integer r

*Message #11 Posted by **Karl Schneider** on 1 Apr 2009, 2:25 a.m.,*
in response to message #7 by Chuck

Chuck --

Your program works just fine on my HP-42S models with different ROM's (1989 flat screen 2939Sxxxxx and 1990 recessed-screen 3047Sxxxxx).

One obscure point: The numbered storage registers must be dimensioned to store real-valued numbers, not complex. Taking ABS of a recalled number before GAMMA is a work-around if the recalled value is x + i0 or x ∠ 0.

A related point: There is a minor bug of COMB and PERM in the *redesigned* (recessed-screen) versions of

the HP-42S:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv008.cgi?read=17122#17122

-- KS

Re: HP-42S: nCr with non-integer r

*Message #12 Posted by **Chuck** on 1 Apr 2009, 11:06 a.m.,*
in response to message #11 by Karl Schneider

I'm still baffled. When I set flag 24 to ignore "Out of Range" errors I get 0 as a result for 5 nCr 5, and 5 nCr 0. And, setting flag 25 in program (skip error) to pinpoint which step is causing the error, I discovered two different situations.

1) "Out of Range" error occurs on the LAST gamma function for the 5 nCr 5 problem

2) the SECOND gamma causes the error on the 5 nCr 0 problem

The error doesn't occur when I reprogram with the factorial function (but this defeats the non-integer usefulness).

So, clearly there is a bug with GAMMA when executed in a RUNNING program (I don't get the error when stepping through the program.) If not a bug, then I have a very unique calculator.

I'll keep exploring.

CHUCK

Re: Bug in HP 20b: nCr with non-integer r

*Message #13 Posted by **Gene Wright** on 31 Mar 2009, 8:23 p.m.,*
in response to message #1 by Thomas Klemm

Yes, it is a bug. Good find.

Re: Bug in HP 20b: nCr with non-integer r

*Message #14 Posted by **Karl Schneider** on 1 Apr 2009, 2:29 a.m.,*
in response to message #1 by Thomas Klemm

I think it *may have been* a bug; there were a few with earlier ROM versions. My HP-20b gives the correct response of "Invalid Input".

-- KS

Re: Bug in HP 20b: nCr with non-integer r

*Message #15 Posted by **cyrille de Brébisson** on 1 Apr 2009, 10:27 a.m.,*
in response to message #1 by Thomas Klemm

hello,

1 0.5 nCr should return an Invalid Input error. However, I do seem to recall that early version of the SW had a bug there and were not checking on the inputs.

the calculator does not use the factorial formula because it would lead very rapidly to numbers above the calculator precision and cause lost of precision, instead it uses a loop... as a result, of course, if you have i=0.5 and loop doing i-1 until i=0.... you never end and crashes the calculator :-(unless you have the version that actually tests for it...

cyrille

Re: Bug in HP 20b: nCr with non-integer r

*Message #16 Posted by **Michael de Estrada** on 1 Apr 2009, 2:56 p.m.,*
in response to message #15 by cyrille de Brébisson

Cyrille,

Finally, a logical explanation. What is the actual algorithm that is used here? I know you say it is iterative, but exactly how does it work?

Michael

Re: Bug in HP 20b: nCr with non-integer r

*Message #17 Posted by **Paul Dale** on 1 Apr 2009, 5:10 p.m.,*
in response to message #16 by Michael de Estrada

I'd imagine the iterative algorithm used is:

$$nCk = \frac{n}{k} \cdot \frac{n-1}{k-1} \cdot \frac{n-2}{k-2} \cdot \ldots \cdot \frac{n-(k-1)}{k-(k-1)}$$

I cannot think of a better alternative.

However, I'd use:

```
nCk = EXP( lngamma(n+1) - lngamma(k+1) - lngamma(n-k+1) )
```

With a round to nearest integer if the inputs are both integer.

- Pauli

Re: Bug in HP 20b: nCr with non-integer r

*Message #18 Posted by **cyrille de Brébisson** on 2 Apr 2009, 10:09 a.m.,*
in response to message #17 by Paul Dale

hello

> Quote:
>
> I'd imagine the iterative algorithm used is:
>
> $$nCk = \frac{n}{k} \cdot \frac{n-1}{k-1} \cdot \frac{n-2}{k-2} \cdot \ldots \cdot \frac{n-(k-1)}{k-(k-1)}$$

yep, exactly, and since it gets to maxreal realy fast for inputs that overflow, time is not critical there...

cyrille

Re: Bug in HP 20b: nCr with non-integer r

*Message #19 Posted by **Michael de Estrada** on 2 Apr 2009, 10:51 a.m.,*
in response to message #18 by cyrille de Brébisson

So, are you saying that the loop counter is on the denominator, and that it checks for exactly = 0, rather than <= 0, so it continues looping indefinitely? By my reckoning, the second product will produce 0, so all subsequent products will be 0, such that an overflow condition will never occur, which would then halt the calculator with an overflow error indication.

Re: Bug in HP 20b: nCr with non-integer r

*Message #20 Posted by **Paul Dale** on 2 Apr 2009, 10:17 p.m.,*
in response to message #18 by cyrille de Brébisson

True so long as you also reduce things via:

```
nCk = nC(n-k), when k>n/2
```

Otherwise you could be in for a long long wait...

Think 1,000,000 C 999,999

- Pauli

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HP 48 PC Software??

*Message #1 Posted by **Bob Macklin** on 31 Mar 2009, 11:53 a.m.*

Does anyone have the HP 48 serial port software they can send me.

Mine is on a 5.25" floppy and my computer only has 3.5" floppies!

Bob Macklin

Seattle, Wa.

Re: HP 48 PC Software??

*Message #2 Posted by **Michael de Estrada** on 31 Mar 2009, 12:00 p.m.,*
in response to message #1 by Bob Macklin

Yes. I sent you a message.

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A pair of 21S with sticky keys

*Message #1 Posted by **Peter Klein** on 30 Mar 2009, 11:39 p.m.*

I have been given a pair of HP21S calculators--algebraic Pioneers with a lot of statistical functions. The problem is that both have had something sticky spilled onto and into the keyboards--probaby sugared coffee or tea, or soda pop.

One of them works, mostly, but many the keys are sticky and a couple are intermittent. The other one is like the first, only worse.

As they are not RPN, I'm not really interested in them for myself, but hey, they're HPs. I know the Pioneers are difficult and risky to open, and I really don't want to get into that myself. I'm wondering if there's a way to flush them out and dry them without opening. If I can get them to work, I'm sure they'll make someone happy. If not, no great loss, and they could be used for parts.

Can anyone point me to online instructions for dealing with this kind of issue? Thanks!

--Peter

Re: A pair of 21S with sticky keys

*Message #2 Posted by **Philippe Lasnier** on 31 Mar 2009, 8:42 a.m.,*
in response to message #1 by Peter Klein

Hi Peter,

I guess that if you don't really want to open up the Pioneers, then the only thing remaining is trying to clean them "from the outside".

My somewhat narrow experience in the matter dates from a few months ago. I had read that besides the usual boil-in-this boil-in-that directions, you could also clean up using an ultrasonic cleaner. One guy in particular was reporting that he always cleaned mobile phones (as a business reselling them) that way.

Having acquired an HP-48SX whose keyboard was constantly playing up, I thought I had nothing to lose; I bought an ultrasonic cleaner with a large enough tank to fully immerse the calculator, and put it through a few cycles with warm water and the built-in heater full on.

I actually overdid it a bit, because the paintwork on the bezel became dull, and flaked off where it had been impacted (the impacts sites were not visible beforehand) - BUT the keyboard worked again! :-)

Later on I tried the same on an HP-28S which was unbelievably dirty, grimmy, and seemingly melted in places, but working. I was less successful: I managed to clean it in a major way, but I've lost 6 pixel columns on the display.

So, a 50% success rate. If you've got nothing to lose, then I would suggest that you clean up the calculators as much as you can first by hand, and then cycle it a few times in an ultrasonic cleaner (assuming you can get access to one).

Take the batteries off first, obviously, and short the battery contacts briefly (or leave the calculator untouched for a while) to discharge any residual energy (the one used for preserving the memory while the batteries are off). After cleaning, leave somewhere warm for a while (like an airing cupboard, e.g. 50C/125F), a day or two, so that all moisture will evaporate.

The problem with sugary stickyness is that an ultrasonic cleaner (which dislodges dirt particles by cavitation) may not be able to shift it right away. The sticky stuff would need to disolve in the water first, so you may need to "soak".

This posting is longer than I thought - sorry. I hope it helps, or gives you ideas.

Philippe

Re: A pair of 21S with sticky keys

*Message #3 Posted by **Ronald** on 31 Mar 2009, 9:07 a.m.,*
in response to message #2 by Philippe Lasnier

Hi,

I used an ultra sonic cleaner myself but kept the calc's in such a way tha he display was never submerged. Also keep temp. below 25 degrees C and use only half the amount of advised soft cleaner addition. Try it for 2 minutes and rinse. If it is a sugar drink or thee wih sugar it should be clean. If not then I think the ultrasonic is not the right tool.

Carefully will do it 9 out 10 cases.

Good luck

Ronald

Re: A pair of 21S with sticky keys

*Message #4 Posted by **Dan Grelinger** on 31 Mar 2009, 12:00 p.m.,*
in response to message #1 by Peter Klein

I have cleaned a few HP calculator keypads with the following procedure. It has worked every time but once, when the contamination was not water soluble. It has never ruined a calculator.

Equipment and supplies:

Distilled water
Eye-dropper (or something else that can apply water in a precise location)
Wet/dry vacuum (the more airflow the better, and non scratching [plastic] crevice tool)

Procedure:

Remove batteries and discharge capacitor.
For each sticky key; place one drop of water down around the key with the eye dropper. As soon as the drop seeps around the key, turn the calculator keys-down, and work the key for about 10 presses. Use the wet/dry vacuum for about 10 seconds to suck all possible water from around the key (still hold the calc keys-down).
Test the key. If any stickiness remains, repeat.
If no stickeness remains, do it one more time for good measure.
Go to next key and repeat (If there are several keys, I will do a row at a time)
When done with all keys, use the wet/dry vac to remove all possible moisture for a minute or two around all

the keys. I still leave the calc keys-down during this step.
Place in a low-humidity environment with airflow for a day (when my heater or A/C is on, I'll put it near the vent - either heating or air conditioning the air drys it out.)
Try out all the keys. If the contaminent is water soluble, I've never had to repeat the process, but it might be possible if you did not get it all out the first time.

Dan

Pioneers and 48's with gooey keys

*Message #5 Posted by **Randy** on 31 Mar 2009, 8:52 p.m.,*
in response to message #1 by Peter Klein

Wow! Just way too complicated here for my way of thinking. This is not rocket science... it is just a dirty calculator. Having cleaned more than my fair share of HP's, I'll add my thoughts and experiences with a few dirty HP's over the years:

While you could use an ultrasonic cleaner, it is overkill for basic cleaning and might well do more damage to the bezel than is necessary than you need to get it functional.

For gooey keys, the toughest thing is to know what you're dealing with. Chances are it is sugar based which is easy... the tough part is being patient while you wait for it to dry... Coffee, tea, soda, all no problem since it is water soluble.

Start by getting the batteries out of the unit and *do not* let them near it for at least two days after the point were you think it might be dry. Seriously, I'm not kidding. Two days.

Once the batteries are out, just submerge it in some warm (100°f) distilled water. Let it soak for 2-3 minutes and then pull it out and press all the keys several times. Submerge again and repeat. Change the water and repeat. Once you have done that, shake well, shake again, dry the surface and place in a warm area to dry for, well, at least two days.

About a day into the process, give the keyboard a try. If it is still tacky, abandon all hope, it can't be helped this way... if it feels okay, return it to its warm place and let it really, really dry. After two days, put the batteries back in, replace the battery door and go back to work 'cause you're done.

Honestly, if it doesn't clean up with water, it's a lost cause. I've seen units sprayed with WD40 and other such nonsense... those make pretty paper weights...

Re: Pioneers and 48's with gooey keys

*Message #6 Posted by **Dan Grelinger** on 1 Apr 2009, 2:49 p.m.,*
in response to message #5 by Randy

Immersing the entire unit in water might be OK for the more modern LCD calculators, but I recently ruined an LED calculator following exactly the procedure that you describe above. I think the problem has to do with removing the water by shaking. Very fine (almost invisible) wires are generally used on the old LED displays to connect the diodes to the display driver circuitry. When shaken, the water can flow fast enough to drag and bend these wires such that they contact (and remain in contact) with other wires or objects. The result is a largely non-functional LED display.

Dan

Re: Pioneers and 48's with gooey keys

*Message #7 Posted by **Michael de Estrada** on 1 Apr 2009, 3:03 p.m.,*
in response to message #6 by Dan Grelinger

I don't know if this is applicable, but I cleaned a Spice series keyboard by washing in alcohol, and moisture was retained between the two film layers that constitute the switch circuits. Attempts to removed the moisture by shaking were unsuccessful. I found that placing in an oven at 150 degrees F for about 3 hours cured the problem without damaging the materials, but this may be too hot for an LCD.

Re: Pioneers and 48's with gooey keys

*Message #8 Posted by **Randy** on 1 Apr 2009, 3:50 p.m.,*
in response to message #7 by Michael de Estrada

> Quote:
>
> I don't know if this is applicable, but I cleaned a Spice series keyboard by washing in alcohol, and moisture was retained between the two film layers that constitute the switch circuits

Pioneer and 48 keyboards are similar to the layers of a Spice. That is why I recommend the long dry times - as it really does take that long for even a small amount of moisture to evaporate once it is inside the layers. If you put the batteries back into a wet Pioneer or 48, you risk damage to the keyboard by way of electrolysis. That's the real enemy, not the moisture itself.

FWIW, the vast majority of the original Spice keyboard failures are caused by fractures in the metal strips that run through the top snap dome sheet. HP knew they failed way too soon which is why they redesigned the keyboard using same keyboard technology used in the HP41. That keyboard pc board also eliminated the awful pressure fit construction as well - leaving users with a good unit with its only weaknesses being the battery contacts and unsealed LED array.

Re: Pioneers and 48's with gooey keys

*Message #9 Posted by **Randy** on 1 Apr 2009, 3:40 p.m.,*
in response to message #6 by Dan Grelinger

> Quote:
>
> Immersing the entire unit in water might be OK for the more modern LCD calculators

Yes, never had a problem doing it... otherwise I would not recommend it. :)

> Quote:
>
> When shaken, the water can flow fast enough to drag and bend these wires such that they contact (and remain in contact) with other wires or objects.

I seriously doubt it, more like the wire bond in question was already compromised. This is very common with older units that have been subjected to battery outgassing, especially HP Spice machines since nothing in these old chip on board parts is sealed.

Mechanical shock will cause the ball to un-bond, it usually happens on the LED die side. Just dropping a calculator is usually more than enough shock to find the weaknesses :(

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Fun with a 17bii

*Message #1 Posted by **Dave Britten** on 30 Mar 2009, 10:07 p.m.*

I recently acquired a nice second-hand 17bii (the real deal, not the + model). My wife and I have been house shopping, so I've got an excuse to grab a financial model to complement my stack of scientifics.

So with that out of the way, let's (ab)use the solver a bit. Here's about 10 minutes of tinkering and familiarizing myself with the cooler features: the Fibonacci sequence.

```
FIB:IF(S(NEXT):NEXT:INIT+L(A:0)+L(B:0)+-L(NEXT:1))=L(B:G(A))+L(A:G(NEXT))
```

Solve for INIT to get the first term of the sequence, and solve for NEXT to fetch subsequent terms.

Anybody else have some interesting - and not necessarily useful - solver routines? I'm sure a chess-playing program is out of the question, but has anybody tried tic-tac-toe?

Oh, and it does a damn nice job of financial calculation too. :)

Re: Fun with a 17bii

*Message #2 Posted by **Marcus von Cube, Germany** on 1 Apr 2009, 10:14 a.m.,*
in response to message #1 by Dave Britten

Dave, it works equally well with a 27S. (The unit has just arrived. Customs must have made some dents in it but it still works.)

Can you explain it a little. I do understand what happens if you solve for NEXT:

```
NEXT=L(B:G(A))+L(A:G(NEXT))
```

This returns the sum of A and B and replaces B by A and A by NEXT. So far, so good. But the other case...

```
INIT+L(A:0)+L(B:0)+-L(NEXT:1)=L(B:G(A))+L(A:G(NEXT))
```

What I can see is that you set A=B=0 and NEXT=1 on the left side of the equation and then B=0 and A=1 on the right side. This results in...

```
INIT+-1=1
```

It looks to me that the "-" before L(NEXT:1) is superfluous.

Did I get it right?

Re: Fun with a 17bii

*Message #3 Posted by **Dave Britten** on 1 Apr 2009, 5:51 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Yeah, that should have just been something like "...L(B:0)-L(NEXT:1)...". That's what I get for figuring

this stuff out so late at night. :) I'm sure it could be cleaned up a lot in other areas, too.

That's pretty much how it works. Solving for INIT resets A, B, and NEXT, and returns 1 (the first term of the sequence). Solving for NEXT gives you all the subsequent terms. It doesn't really matter what INIT gets set to, so I just fiddled with the equation so it gives you the first term (one).

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LCD Failure?

*Message #1 Posted by **Bob Macklin** on 30 Mar 2009, 9:12 p.m.*

I am a retired EE. I purchased my HP 49SX in 1993. After I retired in 2K I only used it to balance my checking account. But a few years ago I started doing that on-line and the calculator sat unused on top of my VCR.

A few months ago I got it out to do some math that I dould not do with the Windows calculator. When I tried to turn it on I got no display. I figures it was the batteries so I put new ones in and it still did not work.

Today in reading the manual it says the if you don;r get a display when you turn it on to hod the ON button down while repeatedly pressin the "+" key.

I tried this for an extended period. No sign of life in the display.

Do these LCD displays have a failure mode due to age or non-use?

Bob Macklin Seattle, Wa.

Re: LCD Failure?

*Message #2 Posted by **Allen** on 30 Mar 2009, 9:16 p.m.,*
in response to message #1 by Bob Macklin

the 48sx has a pretty high failure rate on the LCD. You can also try a soft reset by pressing ON+A+F at the same time, or by inserting a paperclip into the reset hole under the top left foot. If you do get it to come on (or not, I suppose) you can also try pressing firmly with your thumb above the B and C keys while toggling power this applies extra pressure to the LCD display connector. Others?

Re: LCD Failure?

*Message #3 Posted by **Bob Macklin** on 30 Mar 2009, 10:34 p.m.,*
in response to message #2 by Allen

The LCD is not dead! Pressing above the B & C keys while pressing th power button made it come to life! But I have to press ther to turn it off also. It seems that any operation involving the "ON" button requires the pressure above the B & C keys.

Once on it seems to function normally. Since I have not used it in many years I now will have to get reaquited with it!

Thanks for the clue!

Bob Macklin Seattle, Wa.

Re: LCD Failure?

*Message #4 Posted by **DaveJ** on 30 Mar 2009, 9:36 p.m.,*

in response to message #1 by Bob Macklin

> Quote:
>
> I am a retired EE. I purchased my HP 49SX in 1993. After I retired in 2K I only used it to balance my checking account. But a few years ago I started doing that on-line and the calculator sat unused on top of my VCR.

That might be the cause of the failure.
The top of a VCR get get fairly warm.
Sit a calculator there for several years and it's probably not going to like it too much.

Dave.

Re: LCD Failure?

*Message #5 Posted by **Garth Wilson** on 31 Mar 2009, 12:46 a.m.,*
in response to message #4 by DaveJ

Heat and humidity (especially the combination) kill LCDs, but not particularly by making them just plain quit, but rather by darkening the background slowly until it's useless. UV isn't good for them either. I had a cheapie LCD clock stuck on the dashboard of a car (where it was always shaded) for 12 years though, and in spite of all the heat, it remained fine.

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HP Calcs on Sale. 15% off, and free shipping on everything.

*Message #1 Posted by **Dan Grelinger** on 30 Mar 2009, 10:11 a.m.*

At the Hewlett-Packard web site.

Edited: 30 Mar 2009, 12:20 p.m.

Re: HP Calcs on Sale. 15% off, and free shipping on everything.

*Message #2 Posted by **Tom Mathes** on 30 Mar 2009, 8:45 p.m.,*
in response to message #1 by Dan Grelinger

Okay, I must be missing something there. I could not find the free shipping nor the 15% off.

Edited: 30 Mar 2009, 8:50 p.m.

Re: HP Calcs on Sale. 15% off, and free shipping on everything.

*Message #3 Posted by **Allen** on 30 Mar 2009, 9:17 p.m.,*
in response to message #2 by Tom Mathes

Nor I. :(The HP site has apparantely been acting up recently. Dan, do you have any links?

Re: HP Calcs on Sale. 15% off, and free shipping on everything.

*Message #4 Posted by **hpnut** on 30 Mar 2009, 11:06 p.m.,*
in response to message #3 by Allen

here's the link, I see the 15% discount is there

http://www.shopping.hp.com/calculator

p.s. anyone knows where to get online manual for the new HP SmartCalc 300S scientific caclulator? I can't get it at the SmartCalc page.

Edited: 30 Mar 2009, 11:08 p.m.

Re: HP Calcs on Sale. 15% off, and free shipping on everything.

*Message #5 Posted by **Dan Grelinger** on 31 Mar 2009, 11:43 a.m.,*
in response to message #3 by Allen

I checked again this morning. The deals are still there. I was not dreaming. I used hpnut's link, and that one works, too.

With the free shipping and the 15% off, it is a very good time to consider the less expensive calcs.

10S $8.49

300S $12.47

I've bought a couple recently from HP at this site. I think they do add sales tax though.

Dan

Re: HP Calcs on Sale. 15% off, and free shipping on everything.

*Message #6 Posted by **Tom Mathes** on 31 Mar 2009, 12:33 p.m.,*
in response to message #5 by Dan Grelinger

Thanks. That link did work. For me though it's not much of a deal. I can get a comparable price at Amazon when sales tax is added to HP's offer.

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Chess on the uWatch !

*Message #1 Posted by **hugh steers** on 30 Mar 2009, 5:51 a.m.*

for those with a uWatch, now in "games" section (v1.5.2)

ok, i admit the "board" is a bit lacking currently :-)

hex

-- hugh.

now *that* is confusing

*Message #2 Posted by **Frank Boehm (Germany)** on 30 Mar 2009, 6:13 a.m.,*
in response to message #1 by hugh steers

I find the field descriptors a bit confusing. "Moving Queen from F4 to EXP" :)

Re: Chess on the uWatch !

*Message #3 Posted by **DaveJ** on 30 Mar 2009, 6:18 a.m.,*
in response to message #1 by hugh steers

Brilliant!, just brilliant Hugh!

Which Chess engine does it use?

Dave.

Re: Chess on the uWatch !

*Message #4 Posted by **hugh steers** on 30 Mar 2009, 8:58 a.m.,*
in response to message #3 by DaveJ

The chess engine is Tom Kerrigan's Simple Chess Program (TSCP).

http://www.tckerrigan.com/Chess/TSCP

As you can see, right now, ive only got the very basic move IO up and running. I had to adapt TSCP to run in 4K of RAM. Things like the book moves had to go, although i've noticed it makes traditional openings anyway.

I've written to Tom Kerrigan to ask permission to use his work. If he is happy i might improve the interface and add more features. for example, it would be nice to have a "postal" mode, whereby you can switch out of chess back to clock/calc and later back into chess to make a move whilst continuing the same game. other easy features are; swap sides, undo, set level etc.

it's been suggested already to draw the board as a scrolling two line square of letters (usual notation) and use the other screen space for move IO.

I'll see what Tom says first. currently this is a demo.

Re: Chess on the uWatch !

*Message #5 Posted by **DaveJ** on 30 Mar 2009, 5:07 p.m.,*
in response to message #4 by hugh steers

> Quote:
>
> The chess engine is Tom Kerrigan's Simple Chess Program (TSCP).
> http://www.tckerrigan.com/Chess/TSCP
>
> As you can see, right now, ive only got the very basic move IO up and running. I had to adapt TSCP to run in 4K of RAM. Things like the book moves had to go, although i've noticed it makes traditional openings anyway.
>
> I've written to Tom Kerrigan to ask permission to use his work. If he is happy i might improve the interface and add more features. for example, it would be nice to have a "postal" mode, whereby you can switch out of chess back to clock/calc and later back into chess to make a move whilst continuing the same game. other easy features are; swap sides, undo, set level etc.
>
> it's been suggested already to draw the board as a scrolling two line square of letters (usual notation) and use the other screen space for move IO.
>
> I'll see what Tom says first. currently this is a demo.

I know TSCP well, I adapted it not that long ago to run on an Altium Nanoboard in a soft core MIPS processor on an FPGA:

That was the first hacked version, I subsequently got it working with bitmap pieces. The interface is touch-screen QVGA. I was also in the process of translating some of the code into hardware (C to VHDL compiler) to make it run faster. No problems with memory of course, easily ran in 32K.

Tom is cautious of it being redistributed, so I wouldn't be surprised if he says no to having the code merged with a GPL open source project.

Dave.

Edited: 30 Mar 2009, 5:08 p.m.

Re: Chess on the uWatch !

*Message #6 Posted by **hugh steers** on 30 Mar 2009, 6:14 p.m.,*
in response to message #5 by DaveJ

Cool picture!

I have had a reply from Tom, basically, he wants to retain copyright of TSCP, which is quite reasonable. But he has given us permission to use the code in the uWatch. I have repackaged TSCP into uWatch-chess.c and have agreed to add a header which states clearly that it contains a derivative work of TSCP and that the copyright remains with him. As with the TSCP original source code, people will have to acquire his permission to use it in their own projects. The fact that we are using his code does not make it become GPL nor open.

quote: "Sounds like you understand all my concerns and you have permission to redistribute the source/game/algorithms as long as I maintain all my copyright rights. However you think that should happen is up to you."

So, i might have a go at drawing a board on the uWatch - don't expect too much ;-)

Re: Chess on the uWatch !

*Message #7 Posted by **hugh steers** on 30 Mar 2009, 7:07 p.m.,*
in response to message #6 by hugh steers

However, now i come to think about it, it seems that Tom's license is not compatible with the GPL.

Originally, i was thinking just about copyright. the GPL does not require Tom to give up his copyright, but it does require freedom to re-use and distribute and the latter is something Tom wants to retain except where expressly allowed.

not sure now.

Re: Chess on the uWatch !

*Message #8 Posted by **DaveJ** on 30 Mar 2009, 8:52 p.m.,*
in response to message #7 by hugh steers

> Quote:
>
> However, now i come to think about it, it seems that Tom's license is not compatible with the GPL.
>
> Originally, i was thinking just about copyright. the GPL does not require Tom to give up his copyright, but it does require freedom to re-use and distribute and the latter is something Tom wants to retain except where expressly allowed.

Yes, I've heard that is a common "gotcha" with GPL. Something along the lines of any code packaged with a GPL product has to then be freely distributable and repackagble in other GPL products by others with hindrance or permission, even though the original author still retains copyright.

Dave.

Re: Chess on the uWatch !

*Message #9 Posted by **Nigel J Dowrick** on 31 Mar 2009, 5:42 a.m.,*
in response to message #8 by DaveJ

I'm not an expert on the GPL, but the following paragraph from Section 6 of the GPLv3 might be relevant:

> Quote:
>
> A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an “aggregate” if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. **Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.**

(my emphasis). In this, a "covered work" means a work covered by the GPL. Could the combination of the chess program with the rest of the software be viewed as an aggregate, or is it too tightly integrated with the rest of the software for this?

From a philosophical point of view, including the chess code without granting the right to modify and redistribute it at will is not imposing any *additional* restrictions on what users can do with the code, so it seems to be compatible with the spirit of the GPL. However, I realise that such arguments are of little use in a legal context!

Re: Chess on the uWatch !

*Message #10 Posted by **ncrook(UK)** on 31 Mar 2009, 7:14 a.m.,*
in response to message #9 by Nigel J Dowrick

Hugh,

if you and Dave Jones own copyright to all of the code in uWatch you could decide to licence future versions of uWatch under dual licence:

1/ gpl (version without chess)

2/ modified licence (version with chess).

seems like the act of linking chess with the existing uWatch code *and then releasing it to anyone* would violate the GPL. If Linux is a guide, you could use Linux loadable modules as an analogy (tho there is much debate about that). In which case, implement a run-time plugins loader for uWatch and compile chess as a plugin. Sounds like an interesting little project...

Neal.

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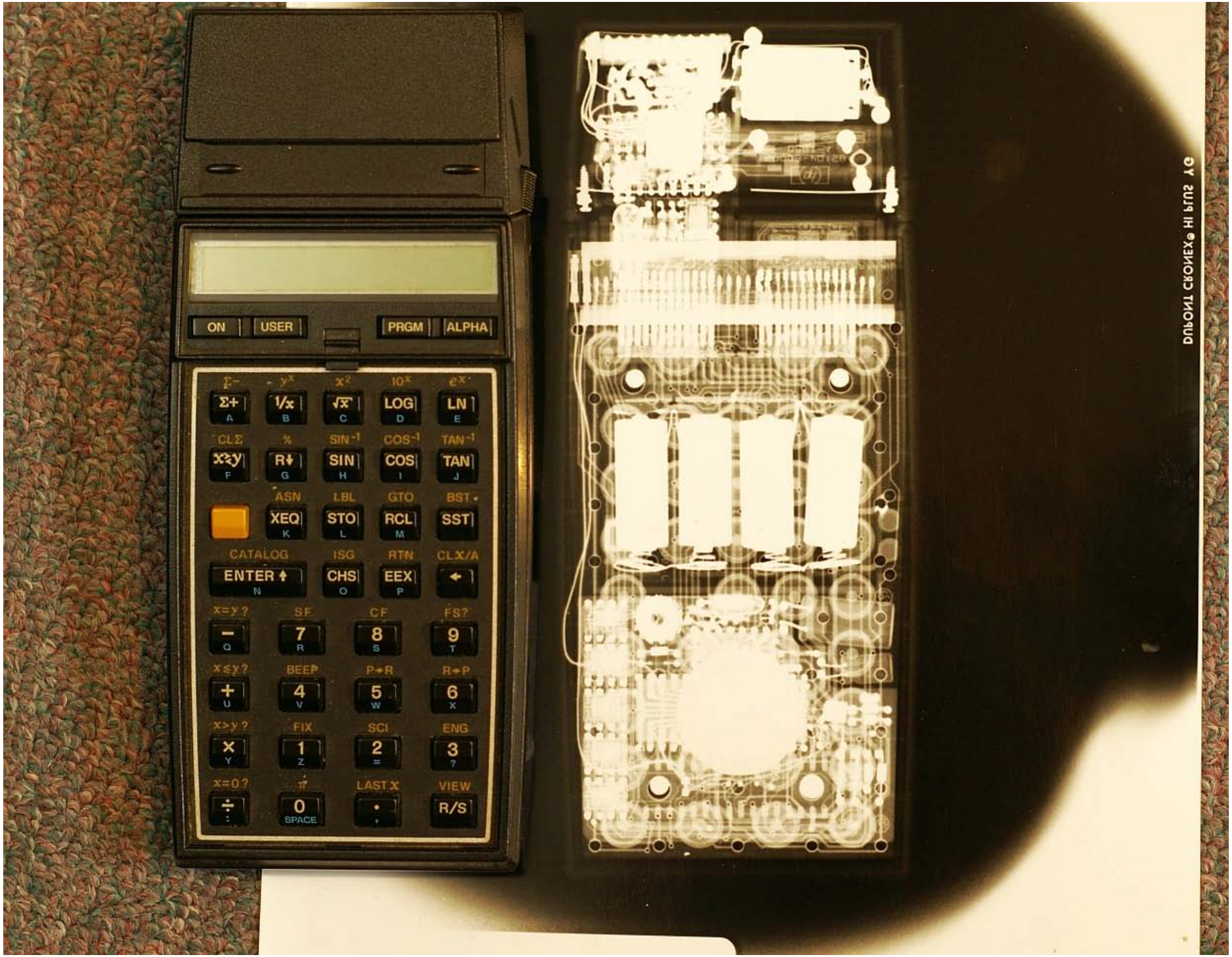
HP41C x-ray

*Message #1 Posted by **Thomas Klemm** on 29 Mar 2009, 1:19 p.m.*

Found an x-ray print of an HP41C here.


ON
USER
PRGM
ALPHA
Σ+
1/x
√x
LOG
LN
XEQ
STO
RCL
SST
ENTER
CHS
EEX
R/S
DUPONT CRONAEX® HI PLUS 27

Re: HP41C x-ray
*Message #2 Posted by **Randy** on 29 Mar 2009, 8:01 p.m.,*
in response to message #1 by Thomas Klemm

FWIW, it's a very late model C fullnut with card reader and modules installed. Pretty neat! Thank you.

Re: HP41C x-ray
*Message #3 Posted by **Dan Grelinger** on 30 Mar 2009, 10:09 a.m.,*
in response to message #2 by Randy

What module(s) are installed?

Re: HP41C x-ray
*Message #4 Posted by **bill platt** on 30 Mar 2009, 4:14 p.m.,*
in response to message #3 by Dan Grelinger

Randy is a superman of calculators but he'd need X-ray interpretation clairvoyance in addition to X-ray vision to tell that ;-)

Re: HP41C x-ray
*Message #5 Posted by **Dan Grelinger** on 31 Mar 2009, 11:37 a.m.,*
in response to message #4 by bill platt

Bill,

Maybe. But I think I see clues that would allow someone to identify at least one of the ROMs. ;-)

Dan

Re: HP41C x-ray
*Message #6 Posted by **Ed Look** on 31 Mar 2009, 12:03 a.m.,*
in response to message #1 by Thomas Klemm

Um... the x-rays won't harm the chips?

Re: HP41C x-ray
*Message #7 Posted by **Michael de Estrada** on 31 Mar 2009, 12:37 a.m.,*
in response to message #6 by Ed Look

Do the X-ray machines at airports damage electronic equipment?

Re: HP41C x-ray
*Message #8 Posted by **Garth Wilson** on 31 Mar 2009, 12:47 a.m.,*
in response to message #7 by Michael de Estrada

My cameras and calculators have gone through airport X-ray machines many times with no damage or memory loss.

Re: HP41C x-ray
*Message #9 Posted by **Mike Morrow** on 31 Mar 2009, 12:48 a.m.,*
in response to message #6 by Ed Look

I've been passing my HP42S, HP50g, and HP17BII almost daily through the x-ray screening at a U.S. nuclear power plant for many years. It's at least as penetrating as the airport

version. Before that, my HP-41CX and HP-15C made daily trips through the machine.

I'd say empirical evidence says that there's little to fear.

Re: HP41C x-ray

*Message #10 Posted by **Michael de Estrada** on 31 Mar 2009, 1:16 a.m.,*
in response to message #9 by Mike Morrow

Actually, it's all about the dose rate and the vintage of the IC's. Dose rates less than about 5000 rad gamma will not hurt anything, and I think X-ray machines are way below that level. Also, older IC's are more robust than newer ones because they keep reducing the size of the circuitry. I had one project where I had to source some new old stock IC's manufactured before 1985 to ensure that they were made on a larger circuit gage to withstand radiation within reactor containment.

Edited: 31 Mar 2009, 11:52 a.m. after one or more responses were posted

Re: HP41C x-ray

*Message #11 Posted by **Ed Look** on 31 Mar 2009, 11:36 a.m.,*
in response to message #10 by Michael de Estrada

I see. I was wondering because of talk in the past about radiation-hard components. This made me think that the old silicon could not handle higher energy radiation.

Re: HP41C x-ray

*Message #12 Posted by **Mike Morrow** on 31 Mar 2009, 7:11 p.m.,*
in response to message #10 by Michael de Estrada

> Quote:
>
> Actually, it's all about the dose rate and the vintage of the C's.

The total integrated dose is typically more significant than the dose rate.

> Quote:
>
> Dose rates less than about 5000 rad gamma will not hurt anything, and I think X-ray machines are way below that level.

You've cited a dose, NOT a dose rate. Dose rate is expressed in RAD per unit of time.

The dose received in a typical x-ray screener is likely at least six orders of magnitude smaller than the value cited.

Re: HP41C x-ray

*Message #13 Posted by **Michael de Estrada** on 31 Mar 2009, 7:39 p.m.,*
in response to message #12 by Mike Morrow

Yes, you are absolutely correct. I should have said that the threshold TID for damage to ICs is above 5000 RAD gamma. During a lifetime of passes through an X-ray machine, the TID would be much lower.

X-RAY from five TI calculators

*Message #14 Posted by **Joerg Woerner** on 31 Mar 2009, 11:51 p.m.,*
in response to message #1 by Thomas Klemm

You might watch these images, too:

X-RAY

Enjoy!

Regards, Joerg

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Is It Possible to "Overload" HP-48G+ Memory?

*Message #1 Posted by **Ed Look** on 28 Mar 2009, 9:29 p.m.*

I tried to use the <left-shift> MEMORY function to look at the contents in my 48G+ when I got an "Insufficient Memory" message displayed across the top of the screen instead of file or object names.

Initially I got the same message when I tried to redisplay the clock, as it disappeared from the top line when I turned on the unit, and when I tried to use the <left-shift> MODES function. I tested its batteries, and they were next to totally kaput, so I put three fresh AAA 1.5 Duracell batteries in to replace them.

The clock came back, I could access the MODES menu, but MEMORY still gives the the "Insufficient Memory" message.

I *COULDN'T* have maxed out the 128K of RAM, right??

Or, is something wrong on the circuit board?

Re: Is It Possible to "Overload" HP-48G+ Memory?

*Message #2 Posted by **Raymond Del Tondo** on 28 Mar 2009, 10:07 p.m.,*
in response to message #1 by Ed Look

Actually you already gave the answer to your, ahem, question?

Since the batts were nearly flat, you should take into consideration
that memory contents are corrupted.
A coldstart (ON+A+F, then YES) will help.

HTH

Re: Is It Possible to "Overload" HP-48G+ Memory?

*Message #3 Posted by **Ed Look** on 28 Mar 2009, 10:19 p.m.,*
in response to message #2 by Raymond Del Tondo

Ugh. I don't like cold starts.

Oh, well. I hope I don't lose anything.

Thank you, sir!

EDIT:

It worked! And, all I lost were the contents of the stack, which is okay; I was done with those figures.

Thanks again, Raymond!

Edited: 28 Mar 2009, 10:26 p.m.

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HP41/42 Unit Conversion

*Message #1 Posted by **Egan Ford** on 28 Mar 2009, 11:19 a.m.*

The recent thread on 50g Unit Conversions reminded me just how awesome the 48 and 50 unit support is.

So, what do you all use for the 41 and 42? Any good programs/modules for unit conversion?

Thanks.

Re: HP41/42 Unit Conversion

*Message #2 Posted by **PeterP** on 28 Mar 2009, 11:57 a.m.,*
in response to message #1 by Egan Ford

I'm not sure but one of the ROM's has a built in unit conversion. It might be the petroleum pack, but I'm not 100% sure.

Re: HP41/42 Unit Conversion

*Message #3 Posted by **Mike (Stgt)** on 30 Mar 2009, 4:48 a.m.,*
in response to message #2 by PeterP

It is in the Petroleum Pack (ROM), and in the Thermal Transport ROM too. The unit conversions slightly differ - no-no, not in the conversion factors, sure - but in the number of units for conversion.

Ciao.....Mike

Re: HP41/42 Unit Conversion

*Message #4 Posted by **Allen** on 28 Mar 2009, 12:07 p.m.,*
in response to message #1 by Egan Ford

(Albeit limited) unit conversions on the keyboard -- one of the few things that the 32sii has over the 42s and the 41.

Re: HP41/42 Unit Conversion

*Message #5 Posted by **Mike Reed** on 30 Mar 2009, 4:07 p.m.,*
in response to message #4 by Allen

I dunno, but it seems to me that the whole issue is a waste of calculator memory. I just memorized (years ago) the conversion constants for the conversions I used frequently, then just "did the math" on my HP when i needed a conversion. When I need another conversion, I just memorize a new constant - I have WAY more memory than the calculator! Fer instance (from memory) 1 US Survey Foot is 0.30480060960 meters, 1 International Foot is 0.304800000 meters, the coefficient of expansion of steel is 0.00000654 units per unit per degree Fahrenheit, the value of PI is 3.14159265358979323846264338327950288419716939937510582097 494459230781640628620899862803482534211706 7..., etc. (OK, I fudged a little on that last one >;o) I DO know it to 12 places though!)

Re: HP41/42 Unit Conversion

*Message #6 Posted by **Walter B** on 28 Mar 2009, 12:21 p.m.,*
in response to message #1 by Egan Ford

The 41C/42S are known "scientific" calculators. In science, almost no unit conversions are needed - some physical constants are more important. I can explain the reasons if you want to ;-)

Re: HP41/42 Unit Conversion

*Message #7 Posted by **Andrés C. Rodríguez (Argentina)** on 28 Mar 2009, 4:25 p.m.,*
in response to message #6 by Walter B

Walter: 100% agree!

Re: HP41/42 Unit Conversion

*Message #8 Posted by **Geoff Quickfall** on 28 Mar 2009, 1:12 p.m.,*
in response to message #1 by Egan Ford

User assigned keys, for specific work applications, but no built in conversions to speak of:

```
Key 1:      quick calculations to convert U.S. gallons (as boarded
            in the States) of JET A fuel into Kilograms for
            comparison to onboard guages calibrated in Kilo's.
            (using standard day temperature as a quick reference)
Key 2:      quick calculations to convert litres(as boarded in
            the everywhere else!) of JET A fuel into Kilograms for
            comparison to onboard guages calibrated in Kilo's(using
            standard day temperature as a quick reference).
Keys 4, 5:  Meters to feet and feet to meters, for airspace altitude
            confirmation with altimeter calibrated in feet.  China,
            Russia and Mongolia to name a few.
Keys 7, 8:  Inches of mercury to Millibars and vice versa.  Used at
            the flight planning computer which always shows data in
            inches of mercury, whereas, most European and Asian
            airports give air pressure in Millibars/hPa.
Keys ., 0   the ubiquitous requirement for Celsius to Farenheit and
            back!
```

Cheers, Geoff

Re: HP41/42 Unit Conversion

*Message #9 Posted by **Maximilian Hohmann** on 28 Mar 2009, 2:15 p.m.,*
in response to message #8 by Geoff Quickfall

Hi!

And what is the "AIRCANADA" key doing?

Greetings, Max

Re: HP41/42 Unit Conversion

*Message #10 Posted by **Geoff Quickfall** on 28 Mar 2009, 2:29 p.m.,*
in response to message #9 by Maximilian Hohmann

Appeasing the politically correct at the company?

;-)

Cheers,

I know I have asked before but I get 3 day layovers in Mainz. Any chance of a beer, if I give you enough notice?

Re: HP41/42 Unit Conversion

*Message #11 Posted by **Maximilian Hohmann** on 28 Mar 2009, 2:49 p.m.,*
in response to message #10 by Geoff Quickfall

Hi!

> Quote:
>
> I know I have asked before but I get 3 day layovers in Mainz. Any chance of a beer, if I give you enough notice?

Of course! Some years ago, I helped out a (now defunct) company based in Mainz by flying their Cessna 421s every now and then - so I should still be find the way. But in view of the beers, I would rather take the train (it's a 2 1/2 hour trip)...

Looking forward to it, Max

Re: HP41/42 Unit Conversion

*Message #12 Posted by **Karl Schneider** on 28 Mar 2009, 8:32 p.m.,*
in response to message #8 by Geoff Quickfall

Hi, Geoff --

Key 1 and Key 2 may have been helpful in the 1983 "Gimli Glider" incident.

-- KS

Re: HP41/42 Unit Conversion

*Message #13 Posted by **Geoff Quickfall** on 28 Mar 2009, 9:03 p.m.,*
in response to message #12 by Karl Schneider

Your right on that, but unfortunately they did not have the correct measurements from the maintenance drip!

The drip sticks were in inches, converted to pounds in the manual, which had to be back converted to metric kilograms for the guages.

A dog's breakfast, so to speak. Compoumd that with unserviceable cockpit totalizers and fuel guages, a bad MEL book explanation, new equipment to the company (B767) and you can see the " Swiss Cheese " accident waiting to happen.

I think the fuel was metered by the fueler in gallons no less.

In a nut shell:

```
gallons - inches - pounds - liters - kilograms.
```

Each step completed by a differing department with no onboard confirmation or procedure due to a bad MEL.

I always do an independent check of the fuel using the two keys depending on the departure requirements/ I never rely on the onboard system for the complete answer.

Cheers, Geoff

Edited: 28 Mar 2009, 9:05 p.m.

Re: HP41/42 Unit Conversion

*Message #14 Posted by **hpnut** on 30 Mar 2009, 3:44 a.m.,*
in response to message #8 by Geoff Quickfall

Hi Geoff,

what's that "PHONE" function on the + key in user mode?

cheers,

hpnut in Malaysia

Re: HP41/42 Unit Conversion

*Message #15 Posted by **Geoff Quickfall** on 31 Mar 2009, 6:54 p.m.,*
in response to message #14 by hpnut

Hello Hpnut!

The phone, code, keys are programs with attached data bases. A primitive PIM in fact which I created before PDA's.

Phone key initiates the prompt "Contact?" By inputting at least the first 3 letters of the phone number you want to see you get the completed number as well as the completed name. The name and number reside in the X-memory.

Codes are the door codes for access to the ramp at various airports. Place the correct airport identifier in the alpha register after the prompt "AIRPORT?" and you get the code.

The WP-A key works the same way. Press the key and you get the prompt "AIRPORT?". Enter any 3 letter airport code; SYD for Sydney, Australia. Get a second "AIRPORT?" prompt and enter the second airport code in; YVR for Vancouver. The result is the Initial True Track and Great Circle distance between the Airports. This is because the Lat and Lon of each Airport is stored in x-memory with the airport code tagged to it.

Cheers, Geoff

Re: HP41/42 Unit Conversion

*Message #16 Posted by **Steve Keeley** on 28 Mar 2009, 3:44 p.m.,*
in response to message #1 by Egan Ford

The HP 41 Thermal and Transport Science module added unit conversion capability to the 41. As I recall, you would place the number you wanted to convert into the X register and into the alpha register the string of units you wanted to convert from - to. ("ft*lbf/s - BTU/hr") and then hit a "convert" function.

Unit checking/conversion was built into all the programs on it as well. If you opted for "Units" when running the program, then after prompting for the value, it would prompt for the units, which you would enter as an alpha string. It gave instructions for incorporating this capability into your own programs. As a chemical engineering major, this ROM was worth more than its weight in gold to me. The Petrloleum Engineering PAC also included this capability.

Re: HP41/42 Unit Conversion

*Message #17 Posted by **Jeff Kearns** on 28 Mar 2009, 6:47 p.m.,*
in response to message #16 by Steve Keeley

The Machine Design Pac for the 41C series also has a similar unit conversion capability.

1. You key in the unit string in the Alpha register (it has a virtually unlimited set of unit conversions due to the ability to combine unit control characters *, /, -, and 1-9 with unit strings and equations).

2. Key in the numeric value to be converted

3. The program is executed with either FCON for forward conversion or BCON of backward conversion using the same unit conversion string.

I find this program very handy and often more convenient for complex units than the RPL models - as long as you assign FCON and BCON to keys! I am amazed at the number of conversions that are possible using this program.

Jeff

Re: HP41/42 Unit Conversion

*Message #18 Posted by **Ángel Martin** on 31 Mar 2009, 9:10 a.m.,*
in response to message #16 by Steve Keeley

This thread reminds me of another item on my "ToDo list" - namely adding electrical units to the unit conversion libraries, as implemented on the different 41 modules... which I always found a very elegant and effective way to do it.

With 82 units built-in, the Petroleum ROM has the more complete set, followed by the Thermal ROM (54) and the Machine ROM (42). Some are unique to one module but many are present on more than one. There are a "grand total" of 87 different units amongst the three.

Here below are listed, FWIW - not that this adds any useful data to this subject though.

Best, ÁM

ACRE acre ANG angstrom API Degree API ATM Atmosphere BAR Bar BBL Barrel of petroleum BCF Billion Cubic Feet of Gas BTU British Thermal Unit C Degree Celsius CAL Calorie CM Centimeter CP Centipoise CST Centistoke D Darcy DAY Day DYNE Dyne ERG Erg F Degree Farenheit FT Foot FTH2O Foot of Water G Gram GAL Gallon (US) GALUK Gallon (UK) HP Horsepower HR Hour (mean solar) IN Inch INHG Inch of Mercury INH2O Inch of Water J Joule K Kelvin KCAL kilocalorie KG Kilogram KGF Kilogram Force KIP Kilopound Force KJ Kilojoule KM kilometer KMOL kilomole KPA kilopascal KSI KIP per square inch KT kilotonne KW kilowatt L liter LBF pound force LBM pound mass M meter MBAR milibar MCF thousand cubit feet gas MD millidarcy MG megagram MI mile MIC micron MIL 1/1000 inch MIN minute MJ megajoule ML milliliter MM millimeter MMCF million cubic feet gas MMHG millimiter of mercury MN meganewton MO month MOL(E) mole MPA megapascal MT megatonne MW megawatt N newton P(OISE) poise PA pascal PDL poundal PSF pound force per square foot PSI pound force per square inch R degree rankine S second SCF standard cubic foot SCM standard cubic meter SCMZ standard cubic meter 2 SLUG slug SPGR specific gravity to water ST(OKE) stoke T tonne THERM 10^5 BTU TON short ton TONUK long ton TORR torr UM micrometer W watt YD yard YR year OHM Ohm A Ampere V Volt FD Farad HY Henry TES Tesla GAUS Gauss CUL Culombe PFAD Pico Farad MHY Millihenry

Re: HP41/42 Unit Conversion

*Message #19 Posted by **Walter B** on 31 Mar 2009, 10:29 a.m.,*
in response to message #18 by Ángel Martin

In your list are different sets of units. FWIW I tried to put some structure in:

```
ACRE acre             >IMP<
ANG angstrom          = 10^-10 M
API Degree API
ATM Atmosphere        >OUTDATED<
BAR Bar               >OUTDATED<
BBL Barrel of petroleum >IMP<
BCF Billion Cubic Feet of Gas >IMP<
BTU British Thermal Unit >IMP<
C Degree Celsius
CAL Calorie           >OUTDATED<
CM Centimeter         = 1/100 M
CP Centipoise         = 1/100 POISE
CST Centistoke        = 1/100 STOKE
D Darcy               >IMP<
DAY Day               = 24 * 3600 S
DYNE Dyne             >OUTDATED<
ERG Erg               >OUTDATED<
F Degree Farenheit    >IMP<
FT Foot               >IMP<
```

```
FTH2O Foot of Water  >IMP<
G Gram               = 1/1000 KG
GAL Gallon (US)      >IMP<
GALUK Gallon (UK)    >IMP<
HP Horsepower        >IMP<
HR Hour (mean solar) = 3600 S
IN Inch              >IMP<
INHG Inch of Mercury >IMP<
INH2O Inch of Water  >IMP<
J Joule              >SI<
K Kelvin             >SI<
KCAL kilocalorie     = 1000 CAL
KG Kilogram          >SI BASE<
KGF Kilogram Force   >OUTDATED<
KIP Kilopound Force  >OUTDATED<
KJ Kilojoule         = 1000 J
KM kilometer         = 1000 M
KMOL kilomole        = 1000 MOLE
KPA kilopascal       = 1000 PA
KSI KIP per square inch >IMP<
KT kilotonne         = 1000 TONNE
KW kilowatt          = 1000 W
L liter              = 1/1000 CBM
LBF pound force      >IMP<
LBM pound mass       >IMP<
M meter              >SI BASE<
MBAR milibar         = 1/1000 BAR
MCF thousand cubit feet gas >IMP<
MD millidarcy        = 1/1000 D
MG megagram          = 1 million GRAM
MI mile              >IMP<
MIC micron           >IMP<
MIL 1/1000 inch      >IMP<
MIN minute           = 60 S
MJ megajoule         = 1 million J
ML milliliter        = 1/1000 L
MM millimeter        = 1/1000 M
MMCF million cubic feet gas >IMP<
MMHG millimiter of mercury >IMP<
MN meganewton        = 1 million N
MO month
MOL(E) mole          >SI<
MPA megapascal       = 1 million PA
MT megatonne         = 1 million TONNE
MW megawatt          = 1 million W
N newton             >SI<
P(OISE) poise        >SI<
PA pascal            >SI<
PDL poundal          >IMP<
PSF pound force per square foot >IMP<
PSI pound force per square inch >IMP<
R degree rankine
S second             >SI BASE<
SCF standard cubic foot >IMP<
SCM standard cubic meter
SCMZ standard cubic meter 2
SLUG slug            >IMP<
SPGR specific gravity to water
ST(OKE) stoke        >SI<
T tonne              = 1000 KG
THERM 10^5 BTU       >IMP<
TON short ton        >IMP<
TONUK long ton       >IMP<
TORR torr            >OUTDATED<
UM micrometer        = 10^-6 M
W watt               >SI<
YD yard              >IMP<
YR year              = 365,2425 DAY
OHM Ohm              >SI<
A Ampere             >SI BASE<
V Volt               >SI<
FD Farad             >SI<
HY Henry             >SI<
TES Tesla            >SI<
GAUS Gauss           >OUTDATED<
CUL Culombe          >SI<
PFAD Pico Farad      = 10^-12 FD
MHY Millihenry       = 1/1000 HY
```

One can cut down this list massively by just taking into account the known meanings of milli, mega, kilo, centi etc. Units like ERG and DYN were already outdated when I studied some 35 years ago. Etc.

Edited: 31 Mar 2009, 10:30 a.m.

Re: HP41/42 Unit Conversion

*Message #20 Posted by **Ángel Martin** on 3 Apr 2009, 2:29 a.m.,*
in response to message #19 by Walter B

They may be "outdated" but sure enough are on the modules. Not sure that such a thing exist, anyway: units are units... they'll always be.

Best, AM

Edited: 3 Apr 2009, 5:52 a.m.

Re: HP41/42 Unit Conversion

*Message #21 Posted by **Walter B** on 3 Apr 2009, 11:25 a.m.,*
in response to message #20 by Ángel Martin

When you take old modules, you'll get old units. Quite naturally.

Re: HP41/42 Unit Conversion

*Message #22 Posted by **Garth Wilson** on 28 Mar 2009, 8:11 p.m.,*
in response to message #1 by Egan Ford

> Quote:
>
> So, what do you all use for the 41 and 42?

Just write tiny programs for the conversions you use and assign them to keys. One I use sometimes that's probably not in any module is wire diameter to wire guage and vice versa. Another is musical note to frequency and vice-versa.

Edited: 28 Mar 2009, 8:12 p.m.

Re: HP41/42 Unit Conversion

*Message #23 Posted by **Martin Pinckney** on 29 Mar 2009, 5:55 p.m.,*
in response to message #1 by Egan Ford

There is a Feet-Inches-Fractions Calculator for the HP-41CX here.

© 1984 by Fred E. Lusk III, PE

He alludes to "creating an HP-42S version, but never got around to finishing".

Any thoughts on how hard would it be to modify this program to work on the 42s?

Re: HP41/42 Unit Conversion

*Message #24 Posted by **Richard Garner** on 30 Mar 2009, 1:31 a.m.,*
in response to message #23 by Martin Pinckney

There is an HP 48S/G type unit conversion program for the Hp 42S on Thomas Okken's web site. I have thought about adding to it to make it more like the 48 version, but have not found the time to study what is being done in the program to add to it.

Re: HP41/42 Unit Conversion

*Message #25 Posted by **Thomas Okken** on 3 Apr 2009, 1:24 a.m.,*
in response to message #24 by Richard Garner

The unit conversions in the Machine Design Pac (FCON, BCON), Petroleum Fluids Pac (CON, INCON), and the

Thermal & Transport Science Pac (SI-, -SI) are all machine language functions, which makes it a bit of a pain to port them.

I'm interested in adding some sort of unit conversion functionality to Free42; could someone point me to a list of officially sanctioned conversion factors?

Note: for those of you who use Palm PDAs, there is a neat unit conversion utility called YAUC (as in Yet Another Unit Converter). It's not supported but I think it is still floating around on the 'net here and there. I use it regularly for U.S./SI conversions; it has a ton of units, but it doesn't deal with compound units like the RPL calculators do (or the above 41 pacs). Still, worth a mention.

Re: HP41/42 Unit Conversion

*Message #26 Posted by **Ken Shaw** on 3 Apr 2009, 10:27 a.m.,*
in response to message #25 by Thomas Okken

You might look here:

http://physics.nist.gov/Document/sp811.pdf

See appendix B.8 (p.45 ff.)

There may be more help here:

http://www.bipm.org/en/si/conversions.html

Re: HP41/42 Unit Conversion

*Message #27 Posted by **Thomas Okken** on 3 Apr 2009, 5:29 p.m.,*
in response to message #26 by Ken Shaw

That's perfect, thanks!!

Re: HP41/42 Unit Conversion

*Message #28 Posted by **Egan Ford** on 3 Apr 2009, 5:55 p.m.,*
in response to message #27 by Thomas Okken

Thomas,

So are you thinking of a non-42S functional enhancement to Free42? An evolution of the 42S? If so, I applaud your effort, and will formally ask for another enhancement: 41CX Time function support. How sweet, the 42SX!

Thanks.

Edited: 3 Apr 2009, 5:59 p.m.

Re: HP41/42 Unit Conversion

*Message #29 Posted by **Thomas Okken** on 3 Apr 2009, 7:59 p.m.,*
in response to message #28 by Egan Ford

Hi Egan!

That sounds like a good addition -- I'll put it on my list.
The one I'm *really* looking forward to adding is iPhone accelerometer access. :-)

- Thomas

Re: HP41/42 Unit Conversion

*Message #30 Posted by **Walter B** on 4 Apr 2009, 4:03 a.m.,*
in response to message #29 by Thomas Okken

> Quote:
>
> The one I'm *really* looking forward to adding is iPhone accelerometer access.

Is this really an accelerometer or is it just a position switch?

Re: HP41/42 Unit Conversion

*Message #31 Posted by **Egan Ford** on 4 Apr 2009, 11:33 a.m.,*
in response to message #30 by Walter B

Yes, it is a 3 axis accelerometer.

Re: HP41/42 Unit Conversion

*Message #32 Posted by **reth** on 5 Apr 2009, 6:12 a.m.,*
in response to message #29 by Thomas Okken

So there is a wish list? I'd add displaying flags 0-4 as in 41 and fraction input as in HP35s.
Cheers

Re: HP41/42 Unit Conversion

*Message #33 Posted by **Thomas Okken** on 6 Apr 2009, 1:48 a.m.,*
in response to message #32 by reth

Hmm, well, I can add those to my to-do list, but whether they will get done any time any time soon is another matter. The problem with fractions is that that requires adding a new data type, and that affects just about everything. Huge, huge amount of work. You're probably better off using a 50g instead.
Adding annunciators to the display is a lot easier, but it will require changes to all the skins. At least those changes are a lot easier than the changes that would be needed to support a 4-line display...

Re: HP41/42 Unit Conversion

*Message #34 Posted by **reth** on 6 Apr 2009, 2:23 a.m.,*
in response to message #33 by Thomas Okken

Thanks Thomas, well I sort of guessed so but could not resist to mention it. Never mind.
Cheers and keep up the good work!
Reth

Re: HP41/42 Unit Conversion

*Message #35 Posted by **Paul Dale** on 5 Apr 2009, 4:49 p.m.,*
in response to message #25 by Thomas Okken

I've always liked this site.

Not so much for accuracy as the comprehensive nature of weird units :-)

- Pauli

Re: HP41/42 Unit Conversion

*Message #36 Posted by **Fred Lusk** on 30 Mar 2009, 2:05 a.m.,*
in response to message #23 by Martin Pinckney

Martin....

It's still on my "to-do" list :-(

Actually, several years ago I nearly completed the re-write for the 41CX version that I mention in the program description. I just haven't had time to do the last bit of checking, polishing, and documenting. The new version will more easily port to the 42S than the original because of reduced reliance on XFUNCTIONS. However, a new granddaughter and other things in life have pushed this back on the priority list.

I don't do FIF calculations that much anymore, but for day-to-day use I wrote an Excel spreadsheet that allows me to enter as many dimensions as I need. The spreadsheet includes a multiplier for each dimension so I can do things like x*A + y*B ...

One of these days....

Fred

Re: HP41/42 Unit Conversion

*Message #37 Posted by **Martin Pinckney** on 30 Mar 2009, 11:30 a.m.,*
in response to message #36 by Fred Lusk

> Quote:
>
> Â© 1984 by Fred E. Lusk III, PE
>
> It's still on my "to-do" list :-(

Fred,

Wow, you are worse than me... will I live long enough to make a dent in my To Do List?

I still need to do FIF calculations frequently. I regularly just do them by first mentally converting to decimal feet, if precision is not so important. Or if it is, I use the 32sii fraction mode for the inches, then convert back to feet. Now that I finally obtained a 42s, I would like to make use of its power with a program that like the one you wrote.

Of course, if I was really practical, I would just buy a Calculated Industries calculator. But it wouldn't be an HP...

Anyway, thanks for responding, that was a nice surprise.

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HP50g Units Conversions

*Message #1 Posted by **Elliott W Jackson** on 27 Mar 2009, 10:27 p.m.*

I recently got an HP50g and have been plowing through the (shockingly bad) manuals. I was reading about the units capability, and stumbled on a trick I thought I would pass along.

TASK: Convert a value from one unit to another. Example: Convert 100 cm to yards.

Assuming Flag117 is set (Soft menus), and RPN, and assuming the UNITS menu is already displayed (Rightshift UNITS)

the method documented in the manual is as follows:

```
100 Length "cm"
0 (or any value, this value is not actually used) "yd"
Next Next Next Units Tools Convert
```

That "Next Next Next Units Tools Convert" sequence is clumsy. Here is a much simpler method, relying on the calcutor's ability to add dissimilar units and do unit conversion as needed on the fly:

```
100 Length "cm"
0 (this time the zero is important) "yd"
+
```

I'm sure the 50g old-timers knew this, but I found it useful when I stumbled onto it.

Best, Elliott

Re: HP50g Units Conversions

*Message #2 Posted by **Michael de Estrada** on 27 Mar 2009, 10:53 p.m.,*
in response to message #1 by Elliott W Jackson

Even easier, once you are in the length soft menu:

100 cm <Left Shift> yd

Michael

Re: HP50g Units Conversions

*Message #3 Posted by **Elliott W Jackson** on 28 Mar 2009, 10:02 a.m.,*
in response to message #2 by Michael de Estrada

> Quote:
>
> Even easier, once you are in the length soft menu:
>
> 100 cm <Left Shift> yd
>
> Michael

!!

Now why in the world is that not documented?!?!?!?

Thanks for sharing, elliott

Re: HP50g Units Conversions

*Message #4 Posted by **Michael de Estrada** on 28 Mar 2009, 10:50 a.m.,*
in response to message #3 by Elliott W Jackson

Elliott,

You have only scratched the surface of all the information that is NOT included in the documentation for the HP-50g. The only reason I knew this is because I also own a 19 year old HP-48SX, which has wonderfully complete and clear spiral-bound printed documentation. Ah, those were the days!

BTW - Additional information is contained in the Advanced User's Reference Manual for the HP-49g+/48gII from the hp website (see here) This information also applies to the HP-50g.

Michael

Edited: 28 Mar 2009, 5:49 p.m.

Re: HP50g Units Conversions

*Message #5 Posted by **Peter Klein** on 28 Mar 2009, 5:57 p.m.,*
in response to message #4 by Michael de Estrada

Michael: How applicable is this 49g+ "Advanced User's Reference Manual" to the 48S? I downloaded it, and a lot of what I skimmed over looks like it would apply, with perhaps a few keystroke differences. And the PDF has searchable text.

> Quote:
>
> Elliott,
>
> ...I also own a 19 year old HP-48SX, which has wonderfully complete and clear spiral-bound printed documentation. Ah, those were the days!
>
> BTW - Additional information is contained in the Advanced User's Reference Manual for the HP-49g+/48gII from the hp website (see here) This information also applies to the HP-50g.
>
> Michael

Re: HP50g Units Conversions

*Message #6 Posted by **Michael de Estrada** on 28 Mar 2009, 6:37 p.m.,*
in response to message #5 by Peter Klein

Peter,

All the commands, functions and reserved variables used in the HP48 are listed in the HP49g+ reference manual in section 3. Of course, many commands have been added, which do not apply to the HP48. Also, the HP48 lacks the CAS (computer algebra system) and the development library, so chapters 4 and 6 in the reference guide do not apply. One section I find especially useful is Appendix C, which lists and explains all the system flags. Only flags -1 through -64 apply to the HP48.

Michael

Re: HP50g Units Conversions

*Message #7 Posted by **Egan Ford** on 28 Mar 2009, 6:48 p.m.,*
in response to message #5 by Peter Klein

> Quote:
>
> Michael: How applicable is this 49g+ "Advanced User's Reference Manual" to the 48S? I downloaded it, and a lot of what I skimmed over looks like it would apply, with perhaps a few keystroke differences. And the PDF has searchable text.

Why not just use the 48G Series AUR. It is probably closer to the 48S.

http://www.hpcalc.org/details.php?id=6036

Re: HP50g Units Conversions

*Message #8 Posted by **Michael de Estrada** on 28 Mar 2009, 7:23 p.m.,*
in response to message #7 by Egan Ford

It is a graphical scan, and does not have searchable text.

Re: HP50g Units Conversions

*Message #9 Posted by **Marcus von Cube, Germany** on 29 Mar 2009, 5:39 a.m.,*
in response to message #8 by Michael de Estrada

I found a HTML version of the hp48gaur on my hard disk. I don't know where it came from, so I've put a copy here:

http://www.mvcsys.de/temp/hp48gaur_html.zip

Re: HP50g Units Conversions

*Message #10 Posted by **Frank Rottgardt** on 28 Mar 2009, 8:38 a.m.,*
in response to message #1 by Elliott W Jackson

I don´t own any HP-50g but a 48gx. My first HP calculator was a 28s that has been of great help during my

university years. In my opinion the unit coversion on the 28 series is more straight forward compared with the 48gx (50g?). The unshifted alpha keyboard is very useful when entering units. There is no need to plow through any menus, not even if one wants to convert rather complex&combined units that could be written as simple strings. Of course the 28s could not "calculate" with units. But I never thought this is a limitation. Generally I think the complexity of the 28s is already borderline and the 48 series was one (maybe two) steps to far in terms of intuitive use. With the 48gx I always feel somehow lost without the manual.

with the 28s (no menus needed):

100 "cm" "yd" convert

Re: HP50g Units Conversions

*Message #11 Posted by **Peter Klein** on 28 Mar 2009, 5:06 p.m.,*
in response to message #10 by Frank Rottgardt

Frank: I know what you mean about the 48 series' complexity. After years with RPN calculators (25, 11C, 32S, 32Sii), I just found a 48S on Craig's List for $30, and couldn't resist. I don't have a printed manual yet, and the Museum DVD's 48S/SX manual is graphics only (no searchable text), so the learning curve has been a bit steep.

But I remembered what a friend of mine who has a 48GX told me--"I can't remember how to do most things with it anymore, but it's worth having around just for the unit conversions). This thread came at exactly the right time to inform me about using the left shift key for conversion--thanks, Michael!

So now I can answer the age-old question: "If a train leaves Chicago at 6:00 AM traveling 50 mph, and a second train leaves New York at the same time, and they meet in Buffalo, what is the speed of the second train in furlongs per fortnight?"

--Peter

Re: HP50g Units Conversions

*Message #12 Posted by **Chuck** on 29 Mar 2009, 2:25 p.m.,*
in response to message #11 by Peter Klein

> Quote:
>
> So now I can answer the age-old question: "If a train leaves Chicago at 6:00 AM traveling 50 mph, and a second train leaves New York at the same time, and they meet in Buffalo, what is the speed of the second train in furlongs per fortnight?"

Hmmm. Depending on which Buffalo, somewhere around 86,738 f/f possibly?

Someone had to. ;)

Re: HP50g Units Conversions

*Message #13 Posted by **Jeff Kearns** on 29 Mar 2009, 8:09 p.m.,*
in response to message #12 by Chuck

I get 93,930 furlongs/fortnight.

Re: HP50g Units Conversions

*Message #14 Posted by **Martin Pinckney** on 29 Mar 2009, 5:39 p.m.,*
in response to message #11 by Peter Klein

> Quote:
>
> Frank: I know what you mean about the 48 series' complexity... But I remembered what a friend of mine who has a 48GX told me--"I can't remember how to do most things with it anymore, but it's worth having around just for the unit conversions).

I am glad to know that others are willing to admit that they keep this extremely complex and capable device around for one function only... although I do use my 48sx occasionally for other tasks, using "canned" programs I downloaded...

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Thermal paper size for HP 19C?

*Message #1 Posted by **Michael de Estrada** on 27 Mar 2009, 8:24 p.m.*

I bought a HP 19C printing calculator and it came with some rolls of Radio Shack thermal paper that are 1 7/16 inches wide (3.7cm). However, they appear to be too narrow, as the paper is a very sloppy fit and wobbles side to side as it advances. It appears that the correct width is approximately 1 1/2" inches wide. Does anyone know what the correct size is and the HP part number? Assuming the HP product is no longer available, is there an alternate brand equivalent.

Thanks, Michael

Re: Thermal paper size for HP 19C?

*Message #2 Posted by **Bruce Bergman** on 27 Mar 2009, 10:18 p.m.,*
in response to message #1 by Michael de Estrada

Search the archives for "19c" -- we discussed this a few months ago, I think. I'd look it up for you, but I'm sick in bed today (sorry).

Bottom line: get Staples paper. It's cheaper, fits perfect and works just fine. You can buy it in rolls of 9 or 12, I believe. I've used it my 19c for a while with no problems.

thanks, bruce

Re: Thermal paper size for HP 19C?

*Message #3 Posted by **Michael de Estrada** on 27 Mar 2009, 11:02 p.m.,*
in response to message #2 by Bruce Bergman

I could not find this in the archives, however, I did find out that the HP part number is 82051A and that the width is indeed 1.5". Staples online does not list this size paper so I'll call a store tomorrow to see if I can order some.

Thanks and hope you get well soon.

Michael

Re: Thermal paper size for HP 19C?

*Message #4 Posted by **Katie Wasserman** on 28 Mar 2009, 1:27 a.m.,*
in response to message #3 by Michael de Estrada

Here's some. HP sold it in 30' rolls, so you could make 275 rolls for $36. What a deal, if only your 19C printer mechanism would last that long.

Re: Thermal paper size for HP 19C?

*Message #5 Posted by **Michael de Estrada** on 28 Mar 2009, 2:11 p.m.,*
in response to message #4 by Katie Wasserman

Thanks Katie,

After calling Staples and some other business supply stores I came up empty, so I ordered the 1 case with 1.56 miles of thermal paper from your recommended source. I was thinking of buying 15 cases (23.44 miles), since the unit price drops from 71 cents/roll to only 63 cents/roll. However, it occured to me that given the slow print speed of the HP 19C, it would take over a century of continuous use to exhaust the supply, and unfortunately given my age and the current life span of human males that this would be a bad choice.

Michael

Re: Thermal paper size for HP 19C?

*Message #6 Posted by **Katie Wasserman** on 29 Mar 2009, 11:52 a.m.,*
in response to message #5 by Michael de Estrada

Even with one just case your cost is $0.13 per HP-19C size roll! You could buy 15 cases and make a business of selling them pre-cut for HP calculators on that electronic body of water that uses 4-color lettering in their name.

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Computing Square Roots

*Message #1 Posted by **Thomas Klemm** on 27 Mar 2009, 5:43 p.m.*

While this might be obvious to some of you I only recently realized that the method used to calculate the square root in probably most HP-calculators is in fact closely related to Horner's method.

Let's assume we want to calculate the square root of 41 thus solving the equation:

$x^2 - 41 = 0.$

First we apply a trick which can be found in Cochran's patent and multiply the whole equation by 5:

$5x^2 + 0x - 205 = 0$

Now let's consider the following simple coordinate transformations:

1. shift: x' = x - 1
2. zoom: x' = 10 * x

What happens to a quadratic equation if we apply these transformations?

Shift

$$\begin{aligned} P(x) &= ax^2 + bx + c \\ &= Q_1(x)(x-1) + c' \\ &= (Q_2(x)(x-1) + b')(x-1) + c' \\ &= (a'(x-1) + b')(x-1) + c' \\ &= (a'x' + b')x' + c' \end{aligned}$$

Thus by continued polynominal division we can get the coefficients of the transformed polynominal.
We can use Horner's method to calculate the remainders.

Zoom

$$\begin{aligned} ax^2 + bx + c &= 0 \quad | * 100 \\ 100ax^2 + 100bx + 100c &= 0 \\ ax'^2 + 10bx' + 100c &= 0 \\ a'x'^2 + b'x' + c' &= 0 \end{aligned}$$

By comparing the coefficents we get:

$$\begin{aligned} a' &= a \\ b' &= 10b \\ c' &= 100c \end{aligned}$$

Example

Here I assume you're familiar with the Horner scheme:

```
          5              0          -205


1         5              5          -200
          5             10
          5
---------------------------------------
          5             10          -200    step


1         5             15          -185
          5             20
          5
---------------------------------------
          5             20          -185    step


1         5             25          -160
          5             30
          5
---------------------------------------
          5             30          -160    step


1         5             35          -125
          5             40
          5
---------------------------------------
          5             40          -125    step


1         5             45           -80
          5             50
          5
---------------------------------------
          5             50           -80    step


1         5             55           -25
          5             60
          5
---------------------------------------
          5             60           -25    step


1         5             65            40    here we turn the wheel back


          5            600         -2500    and zoom
```

From now on I've chosen a shorter format:

```
          5            610         -1895    step
          5            620         -1280    step
          5            630          -655    step
          5            640           -20    step
          5            650           625    back
          5           6400         -2000    zoom
          5           6410          4405    back
          5          64000       -200000    zoom
          5          64010       -135995    step
          5          64020        -71980    step
          5          64030         -7955    step
          5          64040         56080    back
          5         640300       -795500    zoom
          5         640310       -155195    step
          5         640320        485120    back
          5        6403100     -15519500    zoom
          5        6403110      -9116395    step
          5        6403120      -2713280    step
          5        6403130       3689845    back
          5       64031200    -271328000    zoom
```

Now Cochran's trick becomes evident: In the second column appears the result 6.40312.
We could have also used a separate counter but it's not necessary.

What are we actually doing?

We move our coordinate system step by step to the right until we step over the root. Then we go one step back and zoom. Thus our unit becomes one tenth of what it was before. Then we continue ...

In pseudocode:

```
for (1 .. 12):
    while c <= 0:
        step
    back
    zoom
```

The same algorithm could be used to solve the cubic root or $x^2 = x + 1$. Unfortunately Cochran's trick won't work in these cases.

Personally I consider this algorithm a beautiful pearl. It's quiet amazing that the same algorithm was used in all these calculators over the years with only minor changes.

Links

- HP35 square root algorithm
- J.E. MEGGIT, Pseudo Division and Pseudo Multiplication processes, IBM Journal, Res & Dev, April 1962, 210-226.
- US Patent 3576983: DIGITAL CALCULATOR SYSTEM FOR COMPUTING SQUARE ROOTS

Re: Computing Square Roots

*Message #2 Posted by **Bob Patton** on 27 Mar 2009, 9:00 p.m.,*
in response to message #1 by Thomas Klemm

This post reminded me of something I wrote for my kids a while back. It mighty be of passing interest to this forum.

```
                        Square Roots


When I was going to school, one mark of an educated person was the
ability to find a square root with pencil and paper.  While
personal calculators have largely eliminated that need,
you might still have a problem finding an exact root of a very
large number, say 30 digits.


I doubt that they teach the process any more.  It's somewhat akin
to long division.  In fact, I wonder if it's not already
essentially lost except for those who study ancient methods.  I
decided to try and document it.  It was hard to remember and it's
fairly difficult to describe in words alone.  I came up with a
fairly compact description that relies on a somewhat algebraic
description. Here it is.


Square Root - pencil/paper digit by digit method


NTBR = Number to be rooted
ASF = answer so far, ignoring any decimal point
BAL = balance
```

```
Group NTBR in pairs from the decimal point.


Start with left-most pair (or single left-over digit.)
Find largest n such that n^2 less-than-or-equal the pair.
Subtract n^2 from the pair to get remainder.
This n is the first digit of the answer.


Repeat for as many digits as wanted:


Create next BAL by appending next-2-digits to remainder.
If next BAL is ever 0 you have an exact square root at that point.


Then find largest n
such that (20ASF + n)n less-than-or-equal BAL.


Subtract (20ASF+n)n from BAL to get remainder.
This n is the next digit of the answer.


You can set up the mechanics of this somewhat like the long
division process with pencil and paper


Example: square root of 125


      1  1. 1  8  0  3
     _______________
    \/1 25.00 00 00 00
      1               1^2 = 1
      --
   2_|0 25
    1|  21       <-- 21 X 1
     +----
   22_ | 4 00
     1 | 2 21      <-- 221 X 1
       +-----
   222_ |1 79 00
      8 |1 78 24     <-- 2228 X 8
        +-------
   2236_  |   76 00
       0  |       0     <-- 22360 X 0
          +--------
   22360_   | 76 00 00
        3   | 67 08 09     <-- 223603 X 3
            +---------
               8 91 91
```

Re: Computing Square Roots

*Message #3 Posted by **Thomas Klemm** on 28 Mar 2009, 7:24 a.m.,*
in response to message #2 by Bob Patton

No wonder this reminds you of the traditional digit-by-digit method since essentially they are the same. It's just a different way to look at it.

Your example using Horner scheme:

```
         1             0          -125


10       1            10           -25
         1            20
         1
-------------------------------------
         1            20           -25
```

```
1         1             21             -4
          1             22
          1
-------------------------------------
          1            220           -400


1         1            221           -179
          1            222
          1
-------------------------------------
          1           2220         -17900


8         1           2228            -76
          1           2236
          1
-------------------------------------
          1          22360          -7600


0         1          22360          -7600
          1          22360
          1
-------------------------------------
          1         223600        -760000


3         1         223603          89191
          1         223606
          1
```

Re: Computing Square Roots

*Message #4 Posted by **Karl Schneider** on 28 Mar 2009, 8:43 p.m.,*
in response to message #1 by Thomas Klemm

Thomas and Bob --

Thank you for posting the traditional square-root technique and the links.

I was taught the "paired digit" technique in school, but we didn't spend much time on it, and all I remembered was the pairing of digits and the first step.

I didn't know that there was an *IBM Journal*. Perhaps it was the inspiration for *Hewlett-Packard Journal*.

-- KS

Re: Computing Square Roots

*Message #5 Posted by **Michael de Estrada** on 28 Mar 2009, 9:33 p.m.,*
in response to message #4 by Karl Schneider

I went to college in the 1960's pre-calculator days, and we were equipped with a slide rule and a book with tables of trig and log functions. The "trick" we were taught to find a root of a number was to use logarithms as follows:

nth root of X = anti-log [(log X)/n]

Based on the relationship log a^b = b * log a

Hence, the cube root of 27 = anti-log [(log 27)/3] = 3

I do remember in elementary school learning long division, however, I can't remember learning to find square roots. Of course, all of this became unnecessary when I bought my HP-35.

Michael

Re: Computing Square Roots

*Message #6 Posted by **Garth Wilson** on 29 Mar 2009, 1:05 a.m.,*
in response to message #5 by Michael de Estrada

We spent almost no time at all on the paired-digit method, so I doubt that any of us remembered it more than a few days. What you can do on paper though, in a pinch, is to estimate the answer, divide the original number by it, and then know that the real answer is between your estimate and the preliminary answer; so you can take the average of the two, skew it down slightly if you want to, and repeat. It's not as efficient, but it's unlikely you'll forget it. Back then, myself, I just used the slide rule.

Re: Computing Square Roots

*Message #7 Posted by **Marcus von Cube, Germany** on 29 Mar 2009, 5:03 a.m.,*
in response to message #6 by Garth Wilson

Your method reminds me on the starting point for Newtons method:

$f(x)=x^2-A$
$f'(x)=2x$
$x_{n+1}=x_n-f(x_n)/f'(x_n)$
$x_{n+1}=x_n-(x_n^2-A)/2x_n$

Let's try an example: A=5

$x_0=2$
$x_1=2-(2^2-5)/(2*2)=2+1/4=2.25$
$x_2=2.25-(2.25^2-5)/(2*2.25)=2.2361$

Re: Computing Square Roots

*Message #8 Posted by **Khanh-Dang Nguyen Thu-Lam** on 29 Mar 2009, 6:43 a.m.,*
in response to message #7 by Marcus von Cube, Germany

Interestingly enough, the Newton's method is the same than the formula one gets with the geometrical interpretation. Let's rewrite the Newton's formula as:

$x_{n+1} = (x_n + A/x_n) / 2$.

At step n, x_n may be interpreted as the width of a rectangle of height A/x_n. The rectangle's area is just width times height, that is to say, A.

At step n+1, x_{n+1} is the mean of the previous width and previous height. x_{n+1} is the new width and A/x_{n+1} is the new height. You still have a rectangle of area A, but it looks more and more like a square: the width is getting smaller, whereas the height is getting larger.

When n goes to infinity, the width and height converge to the same value which may be interpreted as the side of a square of area A.

Re: Computing Square Roots

*Message #9 Posted by **Thomas Klemm** on 29 Mar 2009, 11:15 a.m.,*
in response to message #7 by Marcus von Cube, Germany

The Horner schema can be used with Newton's method as well:

```
                  1                  0                 -5


 2                1                  2                 -1 = f(2)
                  1                  4 = f'(2)
                  1
-------------------------------------------------------------------
                  1                  4                 -1              dx =
0.25 = - (-1) / 4


 0.25             1                  4.25               0.0625
                  1                  4.5
                  1
-------------------------------------------------------------------
                  1                  4.5               0.0625          dx =
- 0.01389 = - 0.0625 / 4.5


-0.013889         1                  4.486111          0.000193
                  1                  4.472222
                  1
---------
 2.236111
 ========
```

Or you might use Cochran's trick:

```
                  5                  0                -25


 2                5                 10                 -5
                  5                 20
                  5
-------------------------------------------------------------------
                  5                 20                 -5              dx =
0.25 = - (-5) / 20


 0.25             5                 21.25               0.3125
                  5                 22.5
                  5
-------------------------------------------------------------------
                  5                 22.5               0.3125          dx =
- 0.01389 = - 0.3125 / 22.5


-0.013889         5                 22.430556          0.000965
                  5                 22.361111
                  5                 =========
```

Now you get the sum of the differences gratis.

However I assume Newton would have used a different method as I already noted in a previous thread.
As can be seen from the recursion formula it's a cubic polynomial we have to evaluate but now the difference contains only a cheap division by 2:

$$x_{i+1} = x_i + x_i \frac{1 - d * x_i^2}{2}$$

Here's the same calculation using Horner schema:

```
                 -5                 0                 1                 0
```

```
     0.4           -5            -2             0.2           0.08
                   -5            -4            -1.4
                   -5            -6
                   -5
-------------------------------------------------------------------
     0.4           -5            -6            -1.4           0.08         dx =
0.04 = 0.08 / 2


     0.04          -5            -6.2          -1.648         0.01408
                   -5            -6.4          -1.904
                   -5            -6.6
                   -5
-------------------------------------------------------------------
     0.44          -5            -6.6          -1.90400       0.01408      dx =
0.00704 = 0.01408 / 2


     0.00704       -5            -6.6352       -1.95071       0.00035
                   -5            -6.6704       -1.99767
                   -5            -6.7056
                   -5
-------------------------------------------------------------------
     0.44704       -5            -6.7056       -1.99767       0.00035      dx =
0.00017 = 0.00035 / 2


     0.00017       -5            -6.70647      -1.99883       0.00000
                   -5            -6.70733      -2.00000
                   -5            -6.70820
                   -5
-------------------------------------------------------------------
     0.44721       -5            -6.70820      -2.00000       0.00000



     0.44721
   * 5
     -------
     2.23607
     =======
```

Of course later in his life Newton used his HP-10C a time voyager left on his journey.

Edited: 29 Mar 2009, 11:24 a.m.

Re: Computing Square Roots

*Message #10 Posted by **John B. Smitherman** on 29 Mar 2009, 3:52 p.m.,*
in response to message #1 by Thomas Klemm

Thanks for the post Thomas. With the introduction of pocket calculators I hadn't thought about this for quite awhile but I remember learning the Babylonian method as discussed here:

http://en.wikipedia.org/wiki/Methods_of_computing_square_roots

Regards,

John

Re: Computing Square Roots

*Message #11 Posted by **cyrille de Brébisson** on 30 Mar 2009, 12:00 p.m.,*
in response to message #1 by Thomas Klemm

hello,

the method used by all HO calculators from the 71 is described at: in the HP Solve: Volume 5 (June 2008)

newsletter at: http://h20331.www2.hp.com/Hpsub/cache/580500-0-0-225-121.html

regards, cyrille

Re: Computing Square Roots

*Message #12 Posted by **Thomas Klemm** on 30 Mar 2009, 3:26 p.m.,*
in response to message #11 by cyrille de Brébisson

These are the figures copied from the newsletter where the square root of 2 is calculated:

```
 i             mantissa              result           increment


12     100,000,000,000     100,000,000,000     100,000,000,000
11     200,000,000,000     140,000,000,000      10,000,000,000
10     595,000,000,000     141,000,000,000       1,000,000,000
 9     302,000,000,000     141,400,000,000         100,000,000
 8     191,800,000,000     141,420,000,000          10,000,000
 7     503,795,000,000     141,421,000,000           1,000,000
 6     795,315,500,000     141,421,300,000             100,000
 5     882,088,750,000     141,421,350,000              10,000
 4     335,606,320,000     141,421,356,000               1,000
 3     527,636,078,000     141,421,356,200                 100
 2     103,372,009,355     141,421,356,230                  10
 1     437,705,999,155     141,421,356,237                   1
```

And that's what you get when using the Horner schema:

```
      5                   0                  -10


      5                  10                   -5
      5                  20                   10
      5                 100                 -500


      5                 110                 -395
      5                 120                 -280
      5                 130                 -155
      5                 140                  -20
      5                 150                  125
      5                1400                -2000


      5                1410                 -595
      5                1420                  820
      5               14100               -59500


      5               14110               -45395
      5               14120               -31280
      5               14130               -17155
      5               14140                -3020
      5               14150                11125
      5              141400              -302000


      5              141410              -160595
      5              141420               -19180
      5              141430               122245
      5             1414200             -1918000


      5             1414210              -503795
      5             1414220               910420
      5            14142100            -50379500


      5            14142110            -36237395
      5            14142120            -22095280
      5            14142130             -7953155
      5            14142140              6188980
      5           141421300           -795315500
```

```
5          141421310          -653894195
5          141421320          -512472880
5          141421330          -371051555
5          141421340          -229630220
5          141421350           -88208875
5          141421360            53212480
5         1414213500         -8820887500


5         1414213510         -7406673995
5         1414213520         -5992460480
5         1414213530         -4578246955
5         1414213540         -3164033420
5         1414213550         -1749819875
5         1414213560          -335606320
5         1414213570          1078607245
5        14142135600        -33560632000


5        14142135610        -19418496395
5        14142135620         -5276360780
5        14142135630          8865774845
5       141421356200       -527636078000


5       141421356210       -386214721795
5       141421356220       -244793365580
5       141421356230       -103372009355
5       141421356240         38049346880
5      1414213562300      -10337200935500


5      1414213562310       -8922987373195
5      1414213562320       -7508773810880
5      1414213562330       -6094560248555
5      1414213562340       -4680346686220
5      1414213562350       -3266133123875
5      1414213562360       -1851919561520
5      1414213562370        -437705999155
5      1414213562380         976507563220
5     14142135623700      -43770599915500
```

As I already mentioned: looking at the same thing from a different angle.

PS: Our first lines disagree. Could it be that the first line shold read instead:

```
12     500,000,000,000     100,000,000,000     100,000,000,000
```

At which line of the program should I assume is the printing of the variables?
If I suppose it's before the while-loop then *result* is still 0 wheras when it's after the while-loop *mantissa* has already been diminished.

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HP 50g listed at $99 on HP site

*Message #1 Posted by **designnut** on 27 Mar 2009, 11:13 a.m.*

http://h20331.www2.hp.com/Hpsub/cache/383680-0-0-225-121.html It is listed at this proce only at the above URL, other listings show $149. Sam

Re: HP 50g listed at $99 on HP site

*Message #2 Posted by **Namir** on 27 Mar 2009, 11:45 a.m.,*
in response to message #1 by designnut

Amazon sells theHP50g for $104.99 with free shipping. Is HP's offer still cheaper if you include shipping for one calculator?

Namir

Edited: 27 Mar 2009, 11:45 a.m.

Re: HP 50g listed at $99 on HP site, But you can't buy.

*Message #3 Posted by **Dan Grelinger** on 27 Mar 2009, 11:47 a.m.,*
in response to message #1 by designnut

If you click the link to buy it, the price shows as $149. It may be a sign of a sale price in the works. Worthwhile if you were thinking about buying one.

Dan

Re: HP 50g listed at $99 on HP site, But you can't buy.

*Message #4 Posted by **Steve Keeley** on 27 Mar 2009, 11:07 p.m.,*
in response to message #3 by Dan Grelinger

No, it's not an upcoming sale but just a misprint. That price has been on that page at least since December.

Re: HP 50g listed at $99 on HP site

*Message #5 Posted by **Andrés C. Rodríguez (Argentina)** on 28 Mar 2009, 4:28 p.m.,*
in response to message #1 by designnut

Perhaps a new model is arriving soon? If so, it could be a "51", and it may even be a "15" reversed (reverse engineering, that is).

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HP 50g listed at $99 on HP site

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How to enter 2E-3 on a HP-19B2

*Message #1 Posted by **Mike (Stgt)** on 27 Mar 2009, 6:17 a.m.*

Sorry if I disturb with such a dull question, RTFM, I know, but I was quite surprised that I was not able to enter 2E-3 on an HP-19BII (emulated). In any case the minus sign was set before the 2 so with all my effort I only got -2E3 what is not what I expected.

I should find a real HP-19B2 and some working batteries to test on a real thing, but may be someone here may shed some light on this matter before I get lost in the dark and dusty archives of my collection.

Ciao.....Mike

Re: How to enter 2E-3 on a HP-19B2

*Message #2 Posted by **Egan Ford** on 27 Mar 2009, 8:37 a.m.,*
in response to message #1 by Mike (Stgt)

```
2 shift +/- - 3
```

The shift +/- is E. The - is minus, not +/-.

Re: How to enter 2E-3 on a HP-19B2

*Message #3 Posted by **Mike (Stgt)** on 29 Mar 2009, 2:43 p.m.,*
in response to message #2 by Egan Ford

Thank you, strange, but it works. Someone here to explain that?

Ciao.....Mike

Re: How to enter 2E-3 on a HP-19B2

*Message #4 Posted by **Egan Ford** on 30 Mar 2009, 10:35 a.m.,*
in response to message #3 by Mike (Stgt)

My guess is that would be the natural way an accountant would enter such a number.

Re: How to enter 2E-3 on a HP-19B2

*Message #5 Posted by **Peter A. Gebhardt** on 28 Mar 2009, 6:51 a.m.,*
in response to message #1 by Mike (Stgt)

Mike,

> Quote:
>
> ... HP-19BII (emulated) ...

Sounds **very** interesting ;-)

Could you pls. tell on what system?

Best regards,

Peter A. Gebhardt

Edited: 28 Mar 2009, 6:53 a.m.

Re: How to enter 2E-3 on a HP-19B2

*Message #6 Posted by **Mike (Stgt)** on 29 Mar 2009, 2:53 p.m.,*
in response to message #5 by Peter A. Gebhardt

Yes, I can! See here. It works on PC and Windoze-Emulators (Izi-Bizee-Weeene or Wine or alike, no: WineHQ). Years ago I had put together a list of those emulators, but as it's about 4 years old some links are dead, I warned you.

Ciao.....Mike

Re: How to enter 2E-3 on a HP-19B2

*Message #7 Posted by **Peter A. Gebhardt** on 29 Mar 2009, 5:52 p.m.,*
in response to message #6 by Mike (Stgt)

Mike,

Thx. for your answer, but as I feared (and already knew) - the 19bII can't be emulated w/o HP's ROM ...

Because of your question (dedicated to the 19bII), I hoped that you were able to get a working version. So until HP changes it's mind and releases at least an educational PC Emulator, we are out of luck.

Best regards,

Peter A. Gebhardt

PS: Although I'm the happy owner of several 200LX, I was interested to get my hands on an HP19bII Emulator for EQN comparising purposes, because all remaining calculators offered on auctions have usually a broken battery cover and are somewhat useless for day to day use.

HP-19B2 on HP200LX (was How to enter 2E-3 on a HP-19B2)

*Message #8 Posted by **Mike (Stgt)** on 30 Mar 2009, 4:33 a.m.,*
in response to message #7 by Peter A. Gebhardt

Hello Peter!

You own several HP200LX? Is it possible we know each other from a "HP200LX-Treff" (I try not to say "Stammtisch") in Waiblingen near Stuttgart? If you are interested just see here and drop Thomas a note (scroll down to bottom and on the next page too).

You probalby know that the calculator on the 200LX is a DOS-port of the HP-19B2, the same comes with it's Connectivity Pack. Both are compiled from the same sources. I still hope to finde someone who may help making an 200LX emulator as good as Chr. Gießelink's Emu42(because the

Connectivity Pack is not a complete replacement of the real machine).

Ciao.....Mike

Re: HP-19B2 on HP200LX (was How to enter 2E-3 on a HP-19B2)

*Message #9 Posted by **Peter A. Gebhardt** on 30 Mar 2009, 6:02 a.m.,*
in response to message #8 by Mike (Stgt)

Mike,

Sorry no - we didn't meet in the past.

Before Daniel Hertrich moved his residence, he was living about only 20 miles (35 kms) away from the town I live. At that time I bought one of his 6MB DS systems.

I started collecting 200LXs about two years ago (because of my profession - Financial Advisor), to have a working stock of systems available for the next 20 years or so ,-)

I'm aware of the CPACK200 which does run under VPC (on XP). There are small differences still in the implementation of the 19bII on the 200LX which made me looking for an emulator for the 19bII specifically.

Best regards,

Peter A. Gebhardt (Abensberg, Germany)

Re: HP-19B2 on HP200LX

*Message #10 Posted by **Mike (Stgt)** on 31 Mar 2009, 5:54 a.m.,*
in response to message #9 by Peter A. Gebhardt

What is the difference you know? On the 200LX I may save the formulas I entered in a DOS file, yep, now what else?

And, what makes the 19B2 so specific that you do not use a 17B, 17B2, 17B2plus?

Ciao.....Mike

Re: HP-19B2 on HP200LX (was How to enter 2E-3 on a HP-19B2)

*Message #11 Posted by **Egan Ford** on 30 Mar 2009, 10:30 a.m.,*
in response to message #8 by Mike (Stgt)

> Quote:
>
> I still hope to finde someone who may help making an 200LX emulator as good as Chr. Gießelink's Emu42

I'd think that you could just use Bochs. Can you extract the 200XL file system and test on Bochs?

Emulator for HP200LX

*Message #12 Posted by **Mike (Stgt)** on 31 Mar 2009, 5:49 a.m.,*

in response to message #11 by Egan Ford

IMHO Bochs or Qemu or equvalent may do, alas the "internal" file system is hidden and "scrambled" (as far as I understand it), so only smal blocks of ROM are continious, at the boundary of each block the address where to continue execution is calculated. To get this calculation is the big hurdle to take.

The aim is, to allow the 200LX specific task-switching w/o closing the task you leave.

As I am not a PC specialist I have no idea where to start.

Ciao.....Mike

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HP41 - Programmable CAT1?

*Message #1 Posted by **Howard Owen** on 26 Mar 2009, 5:21 a.m.*

Is there an mcode or synthetic program that will dump a CAT1 listing into a series of registers? It's not a feature any of my favorite modules, nor can I locate such a function in a quick search of the module documentation at TOS. Any help would be appreciated.

Regards,
Howard

Re: HP41 - Programmable CAT1?

*Message #2 Posted by **Meindert Kuipers** on 26 Mar 2009, 7:58 a.m.,*
in response to message #1 by Howard Owen

Hi Howard,

the -ML ROM (or M2K ROM) contains a few functions that you could use to achieve this, but these work only for XROM's (CAT 2), not for any other CAT. See the user code of XCAT in M2K ROM. I assume you would like to have a list of user code programs in your registers?

Meindert

Re: HP41 - Programmable CAT1?

*Message #3 Posted by **Howard Owen** on 26 Mar 2009, 11:11 a.m.,*
in response to message #2 by Meindert Kuipers

Hi Meindert,

Yes, I'm looking to write a program to store all user code programs in main memory onto a floppy.

Regards,
Howard

Re: HP41 - Programmable CAT1?

*Message #4 Posted by **Dan Grelinger** on 26 Mar 2009, 5:01 p.m.,*
in response to message #3 by Howard Owen

I am not the foremost HP-41 expert, but I can't think of a way to get a CAT 1 listing into a usable format for your purpose.

But, in theory, it would be possible to replicate CAT 1 functionality using synthetic means. The Global Label / End chain pointer format is available, and could be used to construct a synthetic program that finds the first label before every END, as well as the last label in the chain, writing them to HP-IL disk as each one is identified. Using this method, there would be no need to store the labels in registers.

Dan

Re: HP41 - Programmable CAT1?

*Message #5 Posted by **Howard Owen** on 26 Mar 2009, 5:24 p.m.,*
in response to message #4 by Dan Grelinger

> Quote:
>
> .. a synthetic program that finds the first label before every END, as well as the last label in the chain..

Actually, I was thinking of finding *every* global label in the chain. I might (and probably would) prefer to use the first label in a given program as the name to store the program under.

> Quote:
>
> writing them to HP-IL disk as each one is identified. Using this method, there would be no need to store the labels in registers.

The advantage of storing them in registers is that it is more general. There's no reliance on HP/IL, so you could use this list to, for example, save programs to extended memory. The big disadvantage of this approach, which Mike's solution and yours get around is the possible lack of register space, especially if there are a lot of programs in memory. But I think a PCAT1 routine ought to be able to compute in advance whether this would be a problem. There's also the question of a routine like this destroying preexisting data. So perhaps the solution of doing the listing incrementally would be better. You could have X contain the index of the entry you wanted to start at, and Y a bbb.eee.ccc loop specifier for the data registers to use, which would also select multiple entries. A -1 in X would mean "reset". The routine could return the highest index number actually returned, in case the total number of entries left was exceeded.

Regards,
Howard

Edit to add signature

Edited: 26 Mar 2009, 5:32 p.m.

Re: HP41 - Programmable CAT1?

*Message #6 Posted by **Dan Grelinger** on 27 Mar 2009, 11:18 a.m.,*
in response to message #5 by Howard Owen

"Actually, I was thinking of finding every global label in the chain. I might (and probably would) prefer to use the first label in a given program as the name to store the program under."

Given your stated purpose, finding all the labels in the chain is not very helpful and confuses what needs to be stored. The first global label in a program would seem to be the logical one to use. You can always rename it whatever you want upon the actual store.

Concerning storing them in registers, if you use the standard alpha format, you can't store label names of over 6 characters, seven being the supported number of characters in a label. You

could store them as non-normalized, but then they are not real useful.

My theoretical solution should be able to be done using only synthetics. No M-Code required. M-Code would be faster and more efficient, as always, but not required. Once you load each label name sequencially in the Alpha Register, you can do with it what you want. Save it to HP-IL storage. Save it to Extended Memory. Save it to mag cards. Even put it in a register if you want (6 character limitation if being stored as alpha data).

Dan

Re: HP41 - Programmable CAT1?

*Message #7 Posted by **Howard Owen** on 27 Mar 2009, 2:30 p.m.,*
in response to message #6 by Dan Grelinger

Ah, missed that disparity in register and label length. So PCAT1 would have to return one label at a time in alpha on successive calls. Using the alpha register has the benefit that registers need not be disturbed. Good idea.

The reason I want all global labels is for generality. *I* may want the first label, but *you* may want the last. Also, perhaps the label names are needed for some other purpose than to store the programs. Returning them all, plus the ENDs, on successive calls is slower, but more general.

The question I have about a synthetic FOCAL program has to do with lowering the curtain to expose the labels. You have to go all the way down to the .END. to get all the labels. Will the synthetic program driving happily execute when it's registers are interpreted as data by the rest of the system?

I actually think it might be fun to implement this in FOCAL and in mcode also. :)

Regards,
Howard

Re: HP41 - Programmable CAT1?

*Message #8 Posted by **Dan Grelinger** on 30 Mar 2009, 9:55 a.m.,*
in response to message #7 by Howard Owen

Quote: "The question I have about a synthetic FOCAL program has to do with lowering the curtain to expose the labels. You have to go all the way down to the .END. to get all the labels. Will the synthetic program driving happily execute when it's registers are interpreted as data by the rest of the system?"

The HP-41CX operating system does not really care that what it considers 'memory registers' and 'program registers' overlap, as long as the user keeps things straight during execution (e.g. NOT writing into 'memory registers' that really need to remain 'program registers') and the program puts things back before the program finishes. The program counter is not checked to see if it remains in program mememory space during program execution. That is one benefit that can be taken advantage of on several occasions, such as running programs that are stored in Extended Memory without having to recall them to main memory.

Quote: "I actually think it might be fun to implement this in FOCAL and in mcode also. :) "

Yes it would!

Dan

Re: HP41 - Programmable CAT1?

*Message #9 Posted by **Mike (Stgt)** on 26 Mar 2009, 8:34 a.m.,*
in response to message #1 by Howard Owen

IMHO it would not be useful to save the CAT1 output in registers as at least by synthetic means you may create labels waaay too long to store in one register. An ASCII file in XFunction would be more useful. To get that I would add an HP-71B to the IL-Loop and make it a look like a printer for the HP-41. Then do CAT 1 in trace mode and transfer the result back to the HP-41.

Simple, isn't it!

Ciao.....Mike

Re: HP41 - Programmable CAT1?

*Message #10 Posted by **Howard Owen** on 26 Mar 2009, 11:30 a.m.,*
in response to message #9 by Mike (Stgt)

Hi, Mike

I think I can live with not being abe to process synthetically created labels over 7 characters long. A greater difficulty might be overflow of available registers with all the alpha labels. You'd need to store all END instructions in registers too, to account for the possibility of multiple global labels in a single program. Perhaps PCAT1 could be implemented so as to return just one label per call. Either it could return the Xth such label, or it could keep track of the last label returned in an I/O buffer and return the next one on successive calls. There would have to be some sort of reset mechanism for that to be useful. I think I favor the former solution.

That's an hilarious solution using the 71B! I think you might actually be able to do it, too. But I want my PCAT1 to work regardless of the presence or absence of an HP/IL loop.

Regards,
Howard

Re: HP41 - Programmable CAT1?

*Message #11 Posted by **PeterP** on 26 Mar 2009, 4:47 p.m.,*
in response to message #10 by Howard Owen

Howard,

Do you want each file to have a seperate entry on the HP-IL drive? if not, there are some MCODE functions that write the whole main memory onto an IL-drive. They could be modified to only write all the program registers out (using reg c to figure out where to start and stop).

Cheers

Peter

Re: HP41 - Programmable CAT1?

*Message #12 Posted by **Howard Owen** on 26 Mar 2009, 5:31 p.m.,*
in response to message #11 by PeterP

There are routines in the HP/IL interface module that will store and retrieve the whole calculator state (WRTA and READA). But I want to be able to take one of my 41s (or an emulator), loaded with a bunch of programs, and store them all out to HP/IL as separate programs. Then I can take another 41 (or an emulator) and selectively load some of those programs.

It ought to be possible to do this with synthetic programming, but I wonder about moving the curtain to uncover the program headers. It seems to me that a synthetic PCAT1 wouldn't be able to run in calculator RAM. (Of course, that's the case with mcode too.)

Regards,
Howard

Re: HP41 - Programmable CAT1?

*Message #13 Posted by **Garth Wilson** on 26 Mar 2009, 6:32 p.m.,*
in response to message #12 by Howard Owen

> Quote:
>
> There are routines in the HP/IL interface module that will store and retrieve the whole calculator state (WRTA and READA). But I want to be able to take one of my 41s (or an emulator), loaded with a bunch of programs, and store them all out to HP/IL as separate programs.

Although I can't offhand think of a built-in way to have a program store *all* the programs separately (it seems like I've done it but I'm rusty on HPIL storage now), WRTP does indeed write the alpha-specified program to HPIL storage without the overkill of WRTA. Is that not what you want to do?

Re: HP41 - Programmable CAT1?

*Message #14 Posted by **Howard Owen** on 26 Mar 2009, 7:01 p.m.,*
in response to message #13 by Garth Wilson

Yes, but I want to get the list of programs to save from the calc without having to do it manually :)

Regards,
Howard

Re: HP41 - Programmable CAT1?

*Message #15 Posted by **Eric Smith** on 26 Mar 2009, 10:25 p.m.,*
in response to message #14 by Howard Owen

If I were trying to do that, I might use the "save all" to HP-IL then put together a utility on a computer to extract the individual programs to separate files. Not that I'm volunteering to write such a thing, mind you.

Re: HP41 - Programmable CAT1?

*Message #16 Posted by **Howard Owen** on 27 Mar 2009, 12:19 a.m.,*
in response to message #15 by Eric Smith

That would probably be easier, Eric. But what if I want to store the programs to extended memory? :)

I'm not volunteering to write anything either - but I might give the mcode try :).

Regards,
Howard

Re: HP41 - Programmable CAT1?

*Message #17 Posted by **Dan Grelinger** on 27 Mar 2009, 11:42 a.m.,*
in response to message #12 by Howard Owen

I believe that it is possible to do with with synthetic programming. And all synthetic programs can run in calculator RAM.

My sythetic programming skills are very rusty, but here is what I can put together for a flow chart.

Recall and process the c register to resolve the location of the permenant END (.END.)

Move the curtain down the appropriate amount to make the register containing the .END. recallable as a numeric register.

Decode the register to determine the address of the next highest Global Label or END. Read that label and store it if it is not an END.

Decode that register to decode the type (Label or END). If it is an end, determine if this is the last (first) label in the chain, and use that to return a designator (flag?) back to the calling routine that all labels have been processed. Grab the last label stored, and return to a mother routine for processing (program storage or whatever you want to do with it) after storing some intermediate pointers for the next time through the subroutine and moving the curtain back to where it belongs.

Not easy, but should work.

Dan

Re: HP41 - Programmable CAT1?

*Message #18 Posted by **PeterP** on 27 Mar 2009, 3:52 p.m.,*
in response to message #17 by Dan Grelinger

two further suggestions/thoughts:

1. There are Non-normalizing recalls available from quite a few roms (Zenrom, CCD, Sandbox, ...) So one could do this without having to disturb the curtain.
2. I'm not sure but I think it could be possible to have an end go across a register boundary. Which would make decoding it a bit more tricky but still doable.

Part of me is actually quite surprised that such a PCAT1 routine does not exist...

Cheers

Peter

Re: HP41 - Programmable CAT1?

*Message #19 Posted by **Dan Grelinger** on 30 Mar 2009, 10:00 a.m.,*
in response to message #18 by PeterP

Using non-normalizing recalls for other ROMs would be helpful, but since (AFAIK) these are micro-code functions, it would not be possible to reproduce them in a synthetic program.

Yes, the fact that an End can wrap between registers makes the address decoding a bit trickier, but not excessively so.

It is surprising that a PCAT1 type program does not exist. The HP-41CX has the EMDIRX for Extended memory, but no equivalent for program memory.

Dan

Re: HP41 - Programmable CAT1?

*Message #20 Posted by **PeterP** on 30 Mar 2009, 10:07 a.m.,*
in response to message #19 by Dan Grelinger

... see the program I did over the weekend. It uses functions from the CCD and does not need any curtain lifting etc (and actually no synthetics either thanks to the CCD)

Cheers

Peter

Re: HP41 - Programmable CAT1?

*Message #21 Posted by **PeterP** on 31 Mar 2009, 4:10 p.m.,*
in response to message #17 by Dan Grelinger

Dan,

I spent some more time thinking about this and currently I don't know how this can be done in synthetic FOCAL programming alone. At some point or the other one needs to do a non-normalizing RCL from a specific register and IIRC this can not be done with synthetics alone.

Allowing the use of the X/F module, I think there is a way using the EM. There are a couple of functions that don't normalize (see page 182 in KJ EFME or here)

The sequence would have to be something like this:

1. Create/change type of a tmp file with length 2 in XM to Data
2. Lower the curtain to make 3 registers around the desired address(as an end can and most alpha labels will span 2 and up to 3 registers) directly accessible (say R00-R02)
3. Use SAVER (probably, not 100% sure) to save R00-R02 to the tmp file
4. Change the file type to Asci (by moving the curtain and overwriting the file-type)

5. Locate and read out the individual bytes from EM using ASCI access functions and ATOX
6. Rinse and repeat

Probably not very fast but doable. There are some PPC module functions for which we have the FOCAL/synthetic listing that one could use to make some of the absolute register calculations and decoding. Yet it would seem to be a trickier undertaking than I first imagined (which might explain its absence) and would need at least the X/F module.

All in all, I'm glad we have MCODE... (and the CCD)

Would love to hear thoughts from others on this little problem.

Cheers

Peter

Re: HP41 - Programmable CAT1?

*Message #22 Posted by **Dan Grelinger** on 31 Mar 2009, 6:59 p.m.,*
in response to message #21 by PeterP

I knew that there were exceptions to register normalization, and thought (mistakenly?) that it would be possible to use one of them to get the register. You have the best solution I can think of, below.

You might have to do something extra though. Their is a byte stored at the beginning of each record of an ASCII file that indicates the record length. You may need to create a 4 register file as an ASCII file, create a record that is 27 characters long (first byte is record length (27D), the following 27 characters are dummy characters, switch the file to data, SAVER as you describe below, but first SEEKPT to the second register (don't mess with the first, it has the record pointer in it that needs to be preserved), save the three target registers in the last three registers of EM file, and then change the file type back to ASCII, SEEKPT to the seventh character of the first record (0) and read the record into the alpha register.

Quite convoluted, to say the least.

Dan

Re: HP41 - Programmable CAT1?

*Message #23 Posted by **Mike (Stgt)** on 27 Mar 2009, 6:00 a.m.,*
in response to message #10 by Howard Owen

Well, at least you need a XFunc/XMem where you may save the programs your future routine found. If you like to store them on floppy - DARN! - you need an IL-Loop <VBG>. The _hilarious_ use of an HP-71B as a printer evolved only from the idea to re-use the the trace output of the build-in CAT 1. (That way I got allmost all ROMs.) I never tried to set up a floppy to catch trace output in a file.

For an IL-free solution I would not store any data in registers that is contained already in main memory, I would only save a hint where to find it. How about a buffer (one register is enough) with an ID you rarely use to store the last and 2nd to last address PCAT1 found something to tell the user. Without code to keep it at ON it may be flushed with PACK or OFF/ON. The adress of global labels are "chained" bottom up satarting with the permanent .END. (BTW, that is the reason that CAT 1 gets

faster to the end of the list.) Do I need to tell more of my idea?

But, IMHO, those programs which build a ROM from user code need something similar to build the FAT. Nothing useful found there?

Ciao.....Mike

Re: HP41 - Programmable CAT1?

*Message #24 Posted by **Howard Owen** on 27 Mar 2009, 2:41 p.m.,*
in response to message #23 by Mike (Stgt)

> Quote:
>
> The _hilarious_ use of an HP-71B as a printer evolved only from the idea to re-use the the trace output of the build-in CAT 1. (That way I got allmost all ROMs.)

It's a great idea. It was"hilarious" in the sense something unexpected is. :)

> Quote:
>
> Without code to keep it at ON it may be flushed with PACK or OFF/ON.

Hmm. This would be an issue with any solution that tried to return different results on successive calls

> Quote:
>
> The adress of global labels are "chained" bottom up satarting with the permanent .END. (BTW, that is the reason that CAT 1 gets faster to the end of the list.) Do I need to tell more of my idea?

Right, this is the chain that would have to be walked with either mcode or FOCAL. The former wouldn't require moving the curtain, however.

> Quote:
>
> But, IMHO, those programs which build a ROM from user code need something similar to build the FAT. Nothing useful found there?

Ah! Great idea! Steal.. er..borrowing code is always easier :)

> Quote:
>
> Ciao.....Mike

Regards,
Howard

HP41 program for programmable CAT 1

*Message #25 Posted by **PeterP** on 29 Mar 2009, 8:05 p.m.,*
in response to message #1 by Howard Owen

Hi,

The program below will show in reverse sequence all alpha labels as per Owain's request. It makes good use of CCD functions that help decode the ENDs and Alpha Lables (and thanks to Clonix, et al they should be available to most of us in some shape or form). I hope it is at least a useful starting point.

Usage:

1. Execute a GTO.. (to be save…)
2. XEQ 'PCAT'
3. See all alpha labels in reverse sequence.

PCAT only uses R00, leaving all other registers for any processing of the labels. Any such additional processing (e.g. saving to HP-IL) can be readily added to the LBL 'CA' (Check for Alpha label). An extension to only show the top level alpha is 'straight forward and left to the 'interested reader' :-) (god, did I dread these words in my math books…)

The structure of the ENDs and alpha LBLs is (as everything else) exceptionally well explained on pp498-504 in Wlodeks 'Extend your HP-41' (if I'd be allowed only one book to bring about the HP-41, it would be this…). The first two bytes have always the structure |C bbbr | rrrr rrrr|. bbb is the number of bytes and r|rrrr rrrr| the number of registers to the next CAT 1 element. For alpha labels, this is followed by |F n+1 | kkkk kkkk | tttt tttt |…|, where n is the number of chars in the alpha label, |kkkk kkkk| is the keycode if it is assigned to a key and |ttttt tttt| are the chars.

CCD Functions used

- 'DCD' – decode a NNNin x and append to alpha
- 'A+' - add one byte to the absolute address (in dec) in X
- 'PEEKB' – read the byte from absolute address in X
- 'A+B' – add the number of bytes in X to absolute address in Y
- 'S>' – shift X one bit to the right
- 'bS?' – check if the bit in X is set in the number in Y

Note: The listing below is not optimized for speed, elegance, length etc yet only meant as a starting point. (e.g. I used the unnecessary alpha labels and ends to test the program basically on itself…) I hope it is still helpful.

Cheers

Peter

```
LBL 'PCAT'
  RCL c
  CLA
  'A'
  DCD
  ASHF
  ASHF     ;extract the right three digits = starting of .END.
  XEQ '3H>D'   ;convert into dec
  STO 00
  A+
  PEEKB
  X<>Y
  A+
  PEEKB
  X<>Y
  RDN
  XEQ 'MA'   ;get distance in bytes to next CAT1 element
  RCL 00
  X<>Y
  A+B   ;abs address of next CAT1 element
```

```
  STO 00
  LBL 00
    A+
    PEEKB
    X<>Y
    A+
    PEEKB
    X<>Y
    RDN
    XEQ ‘MA’
    X=0?    ;first alpha label has 0 as distance to next CAT1 element
      GTO ‘EXIT
    RCL 00
    X<>Y
    A+B   ;calc next CAT1 element’s abs addr
    STO 00
    XEQ ‘CA’   ;check if this is a alpha label
    RCL 00
  GTO 00
LBL ‘EXIT’
  BEEP
END


LBL’3H>D’   ;convert 3-dig hex in alpha into dec in X
  XEQ 14
  16
  x^2
  *
  XEQ 14
  16
  *
  R^
  +
  XEQ 14
  R^
  +
  RTN
LBL 14
  64
  ATOX
  X>Y?
  XEQ 13
  48
  -
RTN
LBL 13
  7
  -
RTN
END


LBL ‘MA’ – make alpha distance in bytes
  192
-       ;get rid of the leading ‘C’ nibble in the first byte
STO M
S>      ;red rid of the r bit in the 2nd nibble which is bbbr
X<>M ;store number of bytes into M
0
bS? ;is the r-bit set?
XEQ 14
CLX
RCL M
X<>Y
7
*
+
RTN
LBL 14
  CLX
  896
  ST+ Y
RTN
END


LBL ‘CA’   ;check if alpha label
  PEEKB
  241
```

```
  -
  X<0?
    RTN
  CLA
  RDN
  A-
  LBL 01
    A-
    PEEKB
    XTOA
    RDN
    DSE Y
  GTO 01
  AVIEW
  ;here you can ad any additional stuff you want to do with this label
RTN
END


.END.
```

Corrected typo in listing

Edited: 7 Apr 2009, 12:27 a.m. after one or more responses were posted

Re: HP41 program for programmable CAT 1

*Message #26 Posted by **Howard Owen** on 31 Mar 2009, 8:20 p.m.,*
in response to message #25 by PeterP

Here's the gist of some out-of-band communications Pete and I have been having regarding this code. Using my CCD version A module, this code freezes every one of my three halfnut 41CX machines when the code attempts to AVIEW in CA. Pete diagnosed the problem as a bug in the CCD A module, that was fixed in the B version. Unfortunately, I'm having difficulty getting the CCD B module images to work in my NoV64. The symptoms are that some of the instructions, visible in CAT2, give NONEXISTENT when you XEQ them. DCD is one of the problematic functions. I'm going to try to load the CCD pages into HEPAX RAM on the NoV64 to see if that makes a difference. Does anyone recognize this symptom with the NoV32/64? My MLDL2000 is broken (bad memory, apparently) so I'm stuck unless I can get past this problem

Regards,
Howard

Re: HP41 program for programmable CAT 1

*Message #27 Posted by **PeterP** on 3 Apr 2009, 12:06 p.m.,*
in response to message #26 by Howard Owen

Howard,

any news? Did you get it to work for you?

Cheers

Peter

Re: HP41 program for programmable CAT 1

*Message #28 Posted by **Howard Owen** on 3 Apr 2009, 1:53 p.m.,*
in response to message #27 by PeterP

Hi, Peter.

I was stopped in my attempt to reset my Nov64 by the fact that there is no NovClr64.hex file in my distribution from Diego. I had intended to email him, or post here about it, but I didn't get around to it. I'm rushed at the moment, but I'll try to do a post here later regarding this.

Regards,
Howard

Re: HP41 program for programmable CAT 1

*Message #29 Posted by **PeterP** on 3 Apr 2009, 4:14 p.m.,*
in response to message #28 by Howard Owen

Howard,

here is the Clean-Novram file for you: Clear NoV64

And here is the description from Diego on how to clean it.

> Quote:
>
> Regarding your question, there should be a CLR-RAM4.HEX file in your CD, and therefore in your working directory. This file not only erases the whole 64K of RAM but also checks its functionality by writing and reading very single word.
>
> Once you burn that file into your NoV-64 just plug it into your calculator (make sure its running at normal speed). A good set of batteries is highly recommended. After about 25 seconds your calculator will Auto turn ON and a message will let you know the result of the checking/erasing procedure:
>
> [CLR OK] (the more likely... :-) or...
>
> [NO CLR] (some fault has been found...) if this was the case, please repeat the procedure to make sure the failure is consistent.
>
> Should it ends up as expected, turn your calculator OFF, remove NoV-64 and re-configure it as usual with HEPAX emulation and other images you may want... if any.

HTH

Peter Clear NoV64

Edited: 3 Apr 2009, 4:15 p.m.

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others interests of hp calc users

*Message #1 Posted by **Iqbal** on 26 Mar 2009, 2:37 a.m.*

I have always wondered what are some of the other interests of HP calculator collectors/users. Myself, I play cricket (not a bug for the US guys),table tennis (ping pong). I also love hunting, fishing and airgunning. BTW I am a licensed land surveyor and I have been an addict to HP calculators since September 1987.

Re: others interests of hp calc users

*Message #2 Posted by **Johnny Bjoern Rasmussen** on 26 Mar 2009, 2:54 a.m.,*
in response to message #1 by Iqbal

I'm drumplayer addicted to rock and blues so I have some nice vintage Premier drums from the 70's. Besides that I'm a gauge 1 (scale 1:32 for use in the garden) and Z (scale 1:220) modelrailroader.

Edited: 26 Mar 2009, 3:05 a.m.

Re: others interests of hp calc users

*Message #3 Posted by **Geir Isene** on 26 Mar 2009, 4:42 a.m.,*
in response to message #1 by Iqbal

A rough overview of some of my interests:

```
Philosophy; Free will
Mathematics; Statistics, number theory, category theory
Physics; Astronomy (star gazing), astrophysics, cosmology, particle physics, quantum mechanics
Music; From classical and opera to hard trance and even jazz
Other art; Writing poetry and short stories, creating 3D digital art
People; Doing seminars on people relations and communication, helping individuals
Role-playing games; Playing the Amar RPG and also live RPG
Sports; Foosball, down-hill skiing, coaching a football team of 9 year olds
Programming; Raven, Ruby, MCODE, Focal, Forth
Business; Doing seminars on free software, ITIL and just about anything else
```

But family first.

And; See my web page for more.

Edited: 26 Mar 2009, 5:37 a.m.

Re: others interests of hp calc users

*Message #4 Posted by **DaveJ** on 26 Mar 2009, 5:21 a.m.,*
in response to message #1 by Iqbal

I'm an electronics designer, I currently design THIS during my work hours.

In my spare time my main hobby is ELECTRONICS, and everyone knows about my uWatch.

I'm a gym junkie, and developed THIS workout program for iPods.

I'm also into CANYONING and edit the yearly CALENDAR . I'm also the most active member of the OzCanyons Group, and host that site too.

I'm also into sustainable living, and have a webpage for my HOUSE.

I've also developed a Solar Air Heater for fun.

I'm also one of the early pioneering members of GEOCACHING in Sydney, and used to edit the Australian Geocaching Newsletter.

I'm also the world's foremost expert and author on Internet Dating.

Dave.

Edited: 26 Mar 2009, 5:22 a.m.

Re: others interests of hp calc users

*Message #5 Posted by **Valentin Albillo** on 26 Mar 2009, 9:09 a.m.,*
in response to message #1 by Iqbal

Hi, **iqbal**:

My main interests in no particular order:

- Mathematics, both dead serious and recreational
- Music: many genres, both modern and classic, most especially Bach and Mozart, most especially Opera
- Photography and multimedia: video and audio creation and edition
- Everything Science: physics, computing, engineering, biology, neurology, the works
- Japanese culture: history, language, cinema, art in general, literature, the works
- Sci-Fi, Comics, and serious science literature
- Movies: both vintage (even B&W and/or foreign) and modern
- Japanese martial arts, most especially anything having to do with ***nihonto***
- Chess and some other classic games (backgammon, reversi, card games, etc)
- HP & SHARP vintage handhelds collecting
- Programming (anything and everything in any language)
- Social engineering, human relationships, pedagogy, children education, dealing with people in general
- Modern-times wars, most especially WW II

Things I'm **NOT** interested in:

- Money
- Politics
- Religion
- Power
- Philosophy
- UFO's, "New Age" thingies, "ghosts", mediums, paranormal "powers", and any such drivel
- Losing my time, most especially dealing with morons or moronic ramblings.

I have left *many* in both counts but there you are !

Best regards from V.

Edited: 26 Mar 2009, 9:10 a.m.

Re: others interests of hp calc users

*Message #6 Posted by **Mike (Stgt)** on 26 Mar 2009, 9:16 a.m.,*
in response to message #1 by Iqbal

First collateral interest of HP calculators is emulating HP calculators (by simulating their CPU to make a firmware interpreter). Rest see here. I re-activated cooking in the last 3 years, hounting for old recipes from farmer's society in the last 2 or 3 centuries or so (like Aligot and such alike, have a look at Cholera), and inventing new stuff like "devilry-wheel" what is a yeast cake with chestnut, some white pepper, etc. (It was a big success at a local midsummer nite art fair, where fire was the main theme.)

Ciao.....Mike

Re: others interests of hp calc users

*Message #7 Posted by **hpnut** on 26 Mar 2009, 10:05 a.m.,*
in response to message #6 by Mike (Stgt)

Mine are cooking, hiking, classical music, painting, photography, reading.

who shares Cyrille's passion for woodworking? http://cyrille.hydrix.com/eng/index.html

Re: others interests of hp calc users

*Message #8 Posted by **Erik C** on 26 Mar 2009, 10:29 a.m.,*
in response to message #1 by Iqbal

Iqbal,

-engineering: aerospace and mechanical areas

-travel
-family
-coffee
-PBS (a television station that is essentially non-commercial)
-tinkering, building, designing (lately little time for this)
-programming (non-HP stuff, right?) Matlab, C, and recently found the opportunity to dive into some internet scripting - it's all the same when one can relinquish the affections over a single language (Perl users...?)
-recreational and professional mathematics; I'm an engineer, but not a bull-pen occupant :)
-graduate studies...it does occupy my time
Erik

ah- forgot the recent venture into cooking my own food, hahaa...quite fun indeed!

Edited: 26 Mar 2009, 10:31 a.m.

Re: others interests of hp calc users

*Message #9 Posted by **Martin Pinckney** on 26 Mar 2009, 11:34 a.m.,*
in response to message #1 by Iqbal

I am a civil (most of the time) engineer who owns a small design firm.

I am married 31 years and have 3 grown children.

These two activities have consumed most of my energy for the last 32 years.

My other interests include (beside HP calculators):

Worshiping God, studying the Scriptures, and fellowship with other Christians.

Shooting.

Reading history and biographies.

Miniature machining.

Photography using Nikon F2 cameras.

Politics.

Re: others interests of hp calc users

*Message #10 Posted by **Egan Ford** on 26 Mar 2009, 12:23 p.m.,*
in response to message #1 by Iqbal

- My wife and kid. We love board games (mostly German) and have about 100 of them.
- High Performance Computing (my job). Collecting and programming mid-80's vintage calculators always reminds me to think smarter and not harder.
- Math, Physics, Programming.
- Mountaineering, Canyoneering, Snowboarding (I live in Utah).
- Domestic (US) movies that do not make me think.
- Foreign films that do make me think.

- 20 years ago I would have said cycling, but now that's been replaced with travel and food. Working to get that changed to travel and cycling.
- Almost anything with blinking lights.

Re: others interests of hp calc users

*Message #11 Posted by **Dusan Zivkovic** on 26 Mar 2009, 12:53 p.m.,*
in response to message #1 by Iqbal

1. jazz
2. guitars
3. football
4. sleep

Re: others interests of hp calc users

*Message #12 Posted by **bill platt** on 26 Mar 2009, 12:55 p.m.,*
in response to message #1 by Iqbal

1. Cricket. yes, it is played in the States. 2. Fishing. 3. Hiking. 4. Painting.

Re: others interests of hp calc users

*Message #13 Posted by **DK2ZA** on 26 Mar 2009, 1:07 p.m.,*
in response to message #1 by Iqbal

Amateur Radio, Callsign DK2ZA. Are there other radio amateurs here?

Re: others interests of hp calc users

*Message #14 Posted by **bill platt** on 26 Mar 2009, 2:19 p.m.,*
in response to message #13 by DK2ZA

N#LPX.

Re: others interests of hp calc users

*Message #15 Posted by **Bruce Bergman** on 29 Mar 2009, 10:48 a.m.,*
in response to message #13 by DK2ZA

N7HAW - Nice to meet you!

My other interests:

God, family and friends

Amusement parks, especially anything Disney

Geocaching - placed second cache in San Diego county in 1999

Mountain Rescue - 10 years as team EMT, now ex

Community/church theatre sound and lighting

Model railroads and trains

Embedded systems

Video games

Anything that's a gadget

thanks, bruce

Edited: 29 Mar 2009, 11:15 a.m.

Re: others interests of hp calc users

*Message #16 Posted by **Nigel J Dowrick** on 26 Mar 2009, 1:16 p.m.,*
in response to message #1 by Iqbal

In no particular order:

- Walking - English / Welsh / Scottish hills, or the English countryside.
- The music of J.S.Bach (and some other lesser composers as well)
- Physics (especially particle physics, cosmology, and quantum mechanics)
- Teaching Physics
- The History of Science
- Linux
- TeX (a typesetting program)
- Programming for fun
- Horror / fantasy fiction (e.g., Lovecraft)
- 19th Century English novels

Nigel

Re: others interests of hp calc users

*Message #17 Posted by **Geoff Quickfall** on 26 Mar 2009, 2:48 p.m.,*
in response to message #1 by Iqbal

Hello all, just thinking about this post

```
• My 1973 Celica purchased during high school in 1974.
• Clock restorations including my last project.
• HP Calculators of course.
• Watch restorations, over 200 so far including 9 HP 01's.
• Some interesting slide rules (yes I used a Post 1461 in
  first year).
• Golfing.
• Hiking, although not recently!
• Photography.
• My job flying is also a hobby making me one lucky person!
• Still persuing studies related to my 1988 MSc, 'climate change'.
```

- Not interested in Woo Woo psuedosciences.

RESTORED WATCHES:

LATEST CLOCK RESTORATION (last summer)

Cheers, Geoff

Edited: 26 Mar 2009, 2:55 p.m.

Re: others interests of hp calc users

*Message #18 Posted by **Chuck** on 26 Mar 2009, 4:29 p.m.,*
in response to message #17 by Geoff Quickfall

Nice watches! The 4th watch, second row, first picture brings back memories. My dad received one similar for graduation in 1948. It was a Lord Elgin, but I think not as square? Unfortunately it was taken in a home robbery 20 years ago. :(I'll have to keep my eye on the lookout for a replacement for him.

Re: others interests of hp calc users

*Message #19 Posted by **Geoff Quickfall** on 26 Mar 2009, 8:04 p.m.,*
in response to message #18 by Chuck

Yes, the Lord Elgins were the higher end of the Elgin line. Nice watches but not that common.

The one you refer to in the photo is a Hamilton circa 1950, 21 jewel manual wind with engraved movement.

Cheers, Geoff

Re: others interests of hp calc users

*Message #20 Posted by **David Hayden** on 26 Mar 2009, 4:47 p.m.,*
in response to message #1 by Iqbal

- Programming. Been doing professionally for my entire career. No interest in management.
- Family and kids
- Photography
- Almost anything to do with water - swimming, boating, beach etc.
- Indoor rowing. Wonderful exercise and the cheapest piece of olympic training equipment you can buy (less than $1,000)
- elementary education - I'm on the Board of Trustees at both my kids' schools.
- Historic preservation
- Scotch
- Travel and Food

Re: others interests of hp calc users

*Message #21 Posted by **Dan Grelinger** on 26 Mar 2009, 4:52 p.m.,*
in response to message #1 by Iqbal

I see a lot of the expected, some of the unexpected, but where are the model rocketry buffs?

Re: others interests of hp calc users

*Message #22 Posted by **Mike T.** on 26 Mar 2009, 6:03 p.m.,*
in response to message #1 by Iqbal

Family - better put them first just in case they ever read this, I have a very patient wife and two young teenage boys. I'm not exactly short but the eldest is already at least a couple of inches taller than me and the second one is catching up fast.

Calculators - HP 21, 25C, 32, 33C, 34C, 10C, and 11C. I would like to own an HP97 one day, as this was the first 'computer' I ever used.

Computers - particularly small uVAXen (VMS), Linux, and Windows NT. I've got a couple of DEC Rainbows here somewhere too.

Programming - nearly all self taught, (HP Calculator simulators elsewhere on this site). I'm trying to get to my head around how to write programs using KDE or GNOME but I'm not getting very far, you seem to need loads of 'stuff' just to do anything in C!

Food - despite the interests above I'm into more than just Pizza! I prefer a good Chinese or French restaurant but don't get out very frequently.

Swimming - but not nearly often enough to counteract the effects of eating a little too much (I think I used to be quite good but I'm far too unfit now).

Walking - I'm not into hiking as such but if I'm somewhere new and interesting I will wander about for miles just exploring.

Model Railways - mostly Z Gauge (1/220 scale), collecting this stuff is a slow process as you spend most of your time saving up..

Electronics - can't remember much of the theory at all and haven't actually made anything for ages. I learnt the hard way to keep one hand in your pocket at all times when working with thermionic valves.

Photography - still have a couple of old Minolta X-GMs and X-700s (with some rather nice lenses) but never seem to have enough time to do much anymore, and English summers don't help!

Physics - last but not least - a brilliant subject, just wish I'd been better at Maths!

Basically I like fiddling with 'stuff'.

Re: others interests of hp calc users

*Message #23 Posted by **Matthias Wehrli** on 26 Mar 2009, 6:22 p.m.,*
in response to message #22 by Mike T.

Well, let me say I have many other hobbies:

- singing in a choir - archery - geocaching

Maybe I will list them on my website (some are already).

Matthias

Re: others interests of hp calc users

*Message #24 Posted by **Paul Dale** on 26 Mar 2009, 6:43 p.m.,*
in response to message #1 by Iqbal

My hobbies and interests in no particular order after the first:

- My wife and children first and most importantly.
- Woodworking - too many things to build, so little time.
- Meccano (also Erector & Marklin Metall) - working mechanisms mostly.
- Role playing games - just about any kind.
- Board games - mostly Euro games but some others.
- Painting miniatures.
- Puzzles - designing, making and solving.
- Programming - calculators and others.

- Music - just about anything except opera.
- Judo - coaching now rather than competing.
- Dr Who.

Things which I used to do a lot but don't do much anymore (lack of time more than lack of interest):

- Bushwalking.
- Lots of other martial arts.
- Windsurfing and sailing.
- Swimming.
- Chess.
- Bridge.
- Mathematics.
- Handball.

My current job is embedded programming, although I've done stints in computer security, mine site design & super computing.

Edited: 26 Mar 2009, 8:14 p.m.

Re: others interests of hp calc users

*Message #25 Posted by **reth** on 26 Mar 2009, 10:18 p.m.,*
in response to message #1 by Iqbal

1. Guitars 2. Bushwalking 3. Drinking :) 4. Picking-up chicks :)

Re: others interests of hp calc users

*Message #26 Posted by **JDonley** on 26 Mar 2009, 11:00 p.m.,*
in response to message #1 by Iqbal

Reading, especially financial and investing.

walking for health.

birding and binoculars.

hunting arrowheads.

football.

walking and spoiling our cocker spaniel.

cooking (specialty is bbq brisket).

geology.

In my younger days:

fishing.

tie flies.

stock building.

calf roping.

leather work.

Nothing very cerebral here.

Re: others interests of hp calc users

*Message #27 Posted by **Chuck** on 27 Mar 2009, 1:34 a.m.,*
in response to message #1 by Iqbal

I could copy almost everyone's hobbies. However, here's a short list off the top of my own head:

*music (I play trombone in several groups: the symphony, opera, community band, local playhouse, and other various small time gigs.)

*photography (nature, and fine arts)

*gardening

*sports (although age is making participating a little more difficult)

*math stuff...collecting math "junk", analytical excursions, and career (math puts food on the table.)

*you might say checking in on hpmuseum several times a day is also an enjoyable hobby.

CHUCK

Edited: 27 Mar 2009, 10:22 a.m. after one or more responses were posted

Re: others interests of hp calc users

*Message #28 Posted by **Nigel Bamber** on 27 Mar 2009, 3:12 a.m.,*
in response to message #27 by Chuck

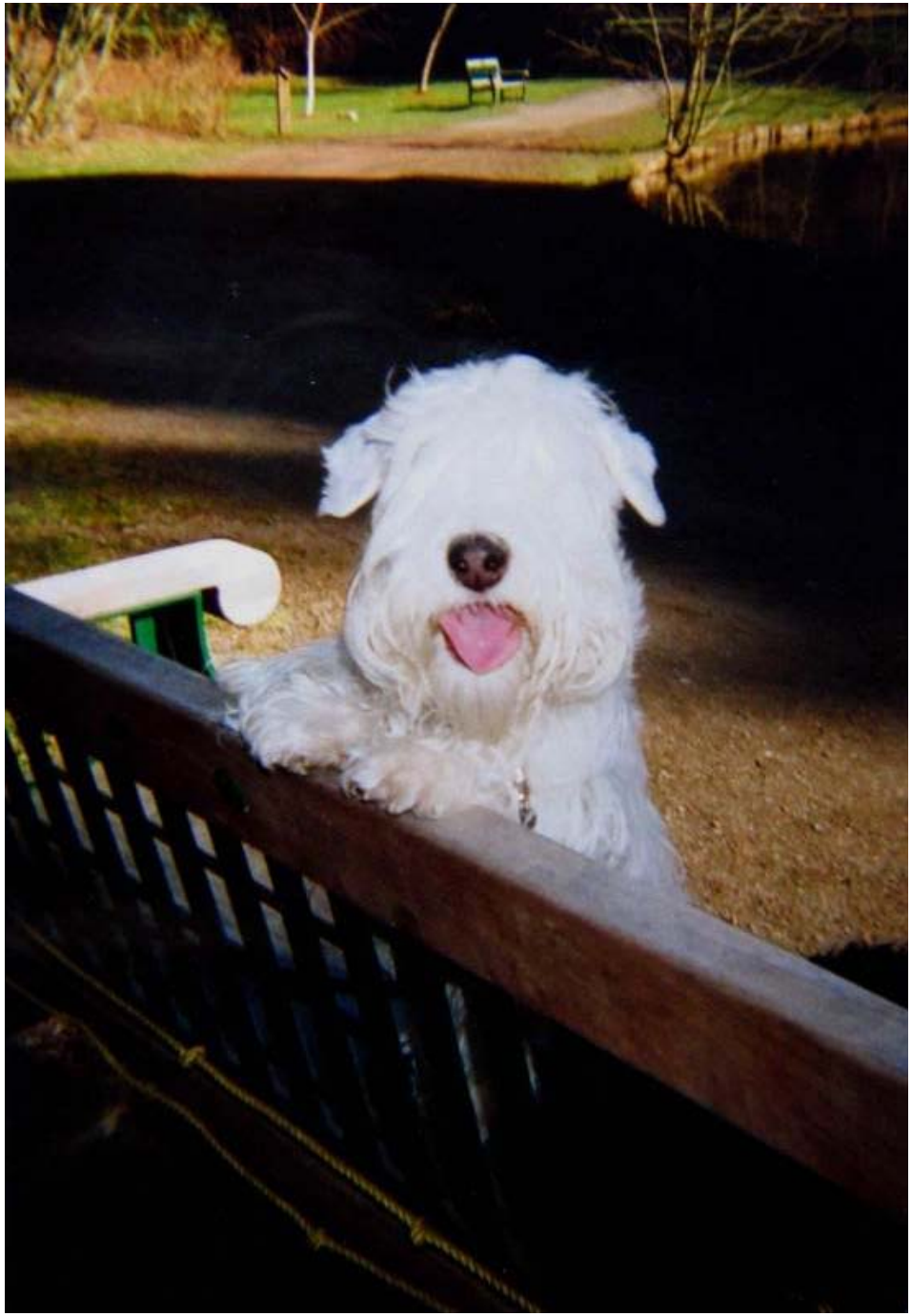
¤ Family ¤ Watching the children playing any sport in School teams and wishing I still could ¤ Watching, playing Cricket (yes I live in England) ¤ Progressive rock music ¤ Electronic Gadgets and hacking them ¤ Walking our dog in the countryside

Nigel

Dog? I forgot to add dog, but really, she's not a hobby, she's family

*Message #29 Posted by **Geoff Quickfall** on 27 Mar 2009, 11:44 a.m.,*
in response to message #28 by Nigel Bamber

What kind of dog is yours Nigel?



Yes she does have eyes!

Edited: 27 Mar 2009, 1:09 p.m.

Re: Dog? I forgot to add dog, but really, she's not a hobby, she's family

*Message #30 Posted by **Nigel Bamber** on 27 Mar 2009, 2:11 p.m.,*
in response to message #29 by Geoff Quickfall

Geoff

She is a Golden Retriever , happens to be Pedegree, but we don't show her, and she is just a member of the family !

With reference to the Landrover comments below I have a short wheelbase Defender, and she loves sitting next to me on the passenger seat in the front.

Nigel

Re: others interests of hp calc users

*Message #31 Posted by **Patrick Rendulic** on 27 Mar 2009, 6:05 a.m.,*
in response to message #1 by Iqbal

profession: physics teacher
interests (in a light order of preference):
- photography (film based, slides, black and white, darkroom, ...)
- hiking
- 4x4 landrover
- boating
- ham radio
- bass guitar
- target shooting (with fire arms)

Re: others interests of hp calc users

*Message #32 Posted by **John Mosand** on 27 Mar 2009, 12:00 p.m.,*
in response to message #31 by Patrick Rendulic

Norwegian retired architect and musician. Also studied art history.

Books: Wide range, favorites in shelf: Oxford English Dictionary (full edition), encyclopedias, lots of reference works. Otherwise, many fiction classics, humor (Runyon, Keillor, etc.). Music: Professional oboist for 12 years. Brahms, Mahler, Schoenberg, impressionists, etc. +swing and be-bop... Math: Read a lot, esp. interested in prime probs and complex numbers. Old cars: Have two Saabs, a 1959 and a 1965 Monte Carlo both in perfect cond. Slide rules: Have a large collection of Aristos and related literature. Photography: Leicas, 1935 Standard, 1957 M3 with f:1,4 Summilux, 1985 M6 with five lenses, Digilux. HP: 10C and 48SX (from introduction), both wonderful things! Otherwise: Philosophy, history, art, languages, biogs, natural history, geography, well, anything!

Re: Land Rover - what model?

*Message #33 Posted by **Joerg Woerner** on 27 Mar 2009, 12:33 p.m.,*
in response to message #31 by Patrick Rendulic

Patrick,

I had this one for 6 years in Germany:

Yours?

Regards,

Joerg

Re: Land Rover - what model?
Message #34 Posted by ***Patrick Rendulic*** *on 27 Mar 2009, 12:44 p.m.,*

in response to message #33 by Joerg Woerner

Hello Joerg

Here is mine:

6 years old ;)

This year it will see the North Cape. And I see that we both like camping.

Edited: 27 Mar 2009, 12:50 p.m.

Re: others interests of hp calc users

*Message #35 Posted by **Peter Klein** on 27 Mar 2009, 1:47 p.m.,*
in response to message #34 by Patrick Rendulic

Me:
- Classical music (playing it, listening to it, composing it)
- Photography
- Writing (mostly about the arts)
- Musical theatre
- Hiking
- Reading, especially biography these days

Re: others interests of hp calc users

*Message #36 Posted by **bill platt** on 27 Mar 2009, 2:52 p.m.,*
in response to message #35 by Peter Klein

I'm reading an interesting book on Sir Francis Walsingham. Also reading "Hell in a Very Small Place" about the French at Dien Bien Phu. Finally, reading a book about Chinese exploration in the 14th ct'y and possible profound influence on the course of European exploration.

Re: others interests of hp calc users

*Message #37 Posted by **Tony Duell** on 28 Mar 2009, 5:08 a.m.,*
in response to message #1 by Iqbal

Might as well post mine :

HP desktop calculators and computers (or is that 'hp calcs'?)

Old Computers in general. No, not 486 PCs, but things like PDP8s, PDP11s, PERQs, Philips P800s, anything I can understand at gate level.

Electronics. All electronics. Valves, transistors, ICs, etc. Building, repairing, tweaking, etc. I do have an amateur radio license, but I'm not active, and I'd rather not post the callsign.

Clocks/timekeeping. Everything from sundials to atomic clocks. One of my aims is to make a mechanical clock from scratch (and not just follow a published design, but design the thing too).

Film photography.

And related to that : Repairing cameras. Everything from sub-miniature to large format.

Home shop machining. There's not really a UK term for this, the closest is 'model engineering', but I don't really want to make models. I mean using machine tools at home to make stuff.

I hesistate to mention this one, but I love my cat :-)

Things I am NOT interested in :

Anything athletic/sporting. Neither taking part nor watching.

Pseudoscience/occult/related mumbo-jumbo.

Science fiction. Science fact is quite entertaining enough :-)

Making money. Sure I want to be able to enjoy my interests, but my aim is not to have a large bank balance

Religion. I don't want to get in a flame war, suffice it to say that your beliefs are your business, and I'll happily respect that. Just don't expect me to share them.

Re: others interests of hp calc users

*Message #38 Posted by **Geoff Quickfall** on 28 Mar 2009, 12:58 p.m.,*
in response to message #37 by Tony Duell

Hello Tony,

Yes, I agree about the home shop:

```
*  small shop lathe
*  CNC for metal as well as plastics
*  gear cutting wheel
*  good HP41c program for determining tooth count given the other
   main gear counts.
*  design a clock from scratch and then build.
```

I have a set of plans for a wooden clock based on the design of an 1820 American 30 hour clock. Most of the base plates are done and the only brass will be the anchor escapement.

Your correct, real science is exciting enough, no room for WOO WOO (aka mumbo jumbo)!

By the way, 486's are not old, even 8086 or 8088 based machine are not old to me, but then I think I am dating myself. I would rather step even further back, like you!

Speaking of which the 9825A project here is comming along nicely. Machine is almost finished and just looking for a QIC tape for testing the drives read/write capability. This one came with EXTENDED IO, SYSTEMS PROGRAMMING and STRING-ADV PROGRAMMING.

I know how you feel about film and agree, just not in my buget considering how many shots I take. I tend to throw out 50 negatives for every 1 I keep. I do use slide film for special occasions and the digital for backup.

Just finished restoring a Zenith transoceanic. Nice design on the transistor, they are plug in and easily swapped out without the mess of soldering.

Trans-Oceanic
ZENITH

ZENITH
SERVICE MANUAL
MODELS "ROYAL D7000, ROYAL D7000-1
AND ROYAL D7000-2"
"TRANSOCEANIC"
CHASSIS 500MDR70
SOLID STATE AC/BATTERY PORTABLE
LW/AM/FM/SW/WB RADIO
ZENITH RADIO CORPORATION
1900 N. AUSTIN AVENUE
CHICAGO, ILLINOIS 60639
OPERATING GUIDE TO HELP YOU ENJOY YOUR NEW
ZENITH
TRANSOCEANIC
ROYAL D7000

Hope to see you at some of the meetings in the future, miss my second Saturdays and I have a couple of projects that I need your help with, so I will let you know when you need to bring some fine tools and the logic tester.

Cheers, Geoff

Re: others interests of hp calc users

*Message #39 Posted by **Trent Moseley** on 30 Mar 2009, 2:45 p.m.,*
in response to message #38 by Geoff Quickfall

Hi Geoff,

Nice to see your Transoceanic. I got mine in 1969 and everything works just fine except the chart light. Is it fixable?

tm

Re: others interests of hp calc users

*Message #40 Posted by **Geoff Quickfall** on 31 Mar 2009, 7:23 p.m.,*
in response to message #39 by Trent Moseley

Hi Tony,

Google "Zenith, *your model number* and repairs.

ex "zenith d700y repairs"

and you will get a number of responses such as these:

Trans-Oceanic

resources

DY 3000 repair

Good luck with it but I know it is 100% replaceable!

Cheers, Geoff

Re: others interests of hp calc users

*Message #41 Posted by **Allen** on 28 Mar 2009, 2:26 p.m.,*
in response to message #1 by Iqbal

I like collecting (and solving) Puzzles made by Binary Arts / Think Fun. There are some really challenging ones.. My favorite is the Cherry Wood Hexadecimal Puzzle. Also camping and outdoors activities.

Edited: 28 Mar 2009, 2:29 p.m.

Re: others interests of hp calc users

*Message #42 Posted by **Stuart Sprott** on 29 Mar 2009, 7:17 a.m.,*
in response to message #41 by Allen

Hi,

My interests other than programming calculators are.

Maths, Physics, Surveying, Astromomy, Cosmology, running half Marathons, reading fiction and non fiction books, collecting old scientific books and during the last couple of years learning to play the Violin.

I must say that learning to play the Violin at my age (65) has been one of the most difficult tasks I have undertaken and also one of the most rewarding.

Re: others interests of hp calc users

Message #43 Posted by ***Keith Midson*** *on 6 Apr 2009, 11:28 p.m.,*
in response to message #1 by Iqbal

Hi from Australia,

I consider myself to be weird, not just for collecting HP's. My interests are:

- Windsurfing - Underwater hockey (5 time Australian representative, won 2 world titles) - Traffic engineering/ transport planning (University was my first encounter with HP's), run my own small consultancy. I did my first engineering degree with a 28S, then two Masters degrees with a 48G, now I have over 44 HP's (and growing every day it seems ...) - Photography - Swimming

Most of the above (apart from HP collecting and work of course) has taken a back seat now that i'm married with three children. Interesting that my two eldest boys love playing with my 95LX and 200LX!! I'm thinking of getting a couple of cheap 95LX's for them to keep them happy!

Cheers, Keith

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HP 67 Calculator emulator for PC.

*Message #1 Posted by **aranda1984** on 26 Mar 2009, 1:11 a.m.*

My first HP was the 25 in 1976! In 78 I got myself an HP 67 and from there on, it was love and respect for that beauty.

I still have both, but time and daily usage killed the 25 and cripled my beloved 67 also. (Not bad, eh? ... 30 years! The card reader is no longer functioning, the rubber is gone. You can no longer use the 67 with batteries, it must be plugged in all the time. New battery pack is no help! I have quite a few other HP RPN calculators, 28s; 42s; 35s; 50g etc. I use them, but I don't like any of these as much as I love the 67!

I can't describe how happy I was when I found and bought a program for my PC that actually works as my old HP 67 calculator.

However, my happiness was not quite complete.

...May I voice a couple of observations to all the 67 lovers...

Not having the tactile sensory feedback of the keys is a reason for my mistakes while putting in the new programs with the cursor. A click or any other sound would be a good solution to this problem.

Not being a computer programmer, I must ask any who could give me an answer, is there a reason why this emulator program stops at 224 program steps instead of taking advantage of the nearly unlimited program steps possible in the computer?

The simplicity of programming what made the 67 so great. We have gone full circle. The touch screen devices in use today, are practically the same as the 67 was!

... Am I a single lonely (and old) voice in the wilderness?

Fact! ...Wheneven I meet older engineers, we talk about the simplicity and the good old days of the HP67 (97)!

I would trade my 50g with a 1 Gig memory, in an instant for a decent and fully functional 67! Sorry, but I can't get used to it... and I won't even mention the manual!!!

With respect to all the HP50g lovers...

Stephen I. Molnar

Re: HP 67 Calculator emulator for PC.

*Message #2 Posted by **MikeO** on 26 Mar 2009, 3:14 a.m.,*
in response to message #1 by aranda1984

Hi Stephen, Are you referring to the emulator at www.limpidfox.com ?

If so, I'd be glad to discuss your ideas, and, if this is the one you're referring to, I'm happy to hear you like it!

My email is mike@limpidfox.com.

Thanks, Mike

Re: HP 67 Calculator emulator for PC.

*Message #3 Posted by **aranda1984** on 26 Mar 2009, 7:48 p.m.,*
in response to message #2 by MikeO

Hi MikeO.

Yes! I bought your emulator and I love it.

I wanted to send you an off forum email, but it bounced back. So, drop me a line at stephen@aranda4.com, and I will give you a couple of ideas from my wish list.

Regards,

Stephen I. Molnar

Re: HP 67 Calculator emulator for PC.

*Message #4 Posted by **Mike T.** on 26 Mar 2009, 7:55 p.m.,*
in response to message #1 by aranda1984

There is another (different) simulator on this website here along with a few others!

Since I know that there are a couple of places where my HP67 simulator does not behave *exactly* like the real thing I'd suggest that the other Mike's simulator is probably a better choice right now unless you are using an older version of Windows - however I'd welcome any feedback you care to provide.

Mike T.

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OT: Interesting Website

*Message #1 Posted by **Chuck** on 25 Mar 2009, 2:37 a.m.*

Ran across this tonight. It contains a lot of interesting things, but look especially at the history of computing link; things I never new existed. (Couldn't find an hp, but there is a piece on nixie tubes.)

link

Enjoy,

CHUCK

Edited: 25 Mar 2009, 1:54 p.m. after one or more responses were posted

Re: Interesting Website

*Message #2 Posted by **Walter B** on 25 Mar 2009, 3:17 a.m.,*
in response to message #1 by Chuck

Chuck,

Thanks for finding and sharing. To bring this thread off "off topic", IMHO at least the LCD example shown in said link comes from a Voyager :)

Re: OT: Interesting Website

*Message #3 Posted by **Martin Pinckney** on 26 Mar 2009, 11:15 a.m.,*
in response to message #1 by Chuck

What an enjoyable website. It never ceases to amaze me how much effort people are willing to put into some hobby that they love. If only we could get that much satisfaction out of our jobs...

Re: OT: Interesting Website

*Message #4 Posted by **Howard Owen** on 26 Mar 2009, 11:46 a.m.,*
in response to message #3 by Martin Pinckney

> Quote:
>
> If only we could get that much satisfaction out of our jobs...

I think that, beyond our love for our hobbies, the element of voluntary participation is crucial to our enjoyment of them. If I had a job as curator of a calculator museum (a physical museum, not an online version) I would enjoy my work immensely. But if I felt pressed for time, or ill, or just plain lazy, there would still be an obligation to perform my curatorial duties. The element of play is what makes hobbies relaxing, and big part of that is the greater ability to call it quits when fatigue sets in. Goodness knows, you can still choose to press beyond the ragged edge of fatigue pursuing your hobby. But the word "choose" is

crucial there.

Regards,
Howard

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Strange X-Functions Module

*Message #1 Posted by **Juergen Rodenkirchen** on 24 Mar 2009, 2:25 p.m.*

Hi all!

I've an HP-41 module that is labled XFUNCTIONS on the front-side and with HP-description HP 5061-5256 (instead of HP 82180 A) on the bottom. In my HP-41CX a CAT2 produces EXT FCN 1C and 2-times EXT FCN 2D (where one EXT FCN 2D is clearly CX-build-in). It seems that the module has no EXTENDED MEMORY build in. Does anyone has any information on this module?

Regards, Juergen

Edited: 24 Mar 2009, 2:26 p.m.

Re: Strange X-Functions Module

*Message #2 Posted by **Raymond Del Tondo** on 24 Mar 2009, 4:20 p.m.,*
in response to message #1 by Juergen Rodenkirchen

Hi,

it's better to check an X-Functions module with a C or CV, not a CX,
because you won't see more X-Memory for obvious reasons...

It's similar to trying to check a QUAD Memory module in a CV: It simply doesn't make sense;-)

At some point in production, HP seemed to have either renumbered the module itself not to carry the package name anymore,
at least I have seen many X-Functions modules which don't have the 82180A printed on their back,
while the whole product (module, manual, box) is still the HP 82180A.

HTH

Raymond

Re: Strange X-Functions Module

*Message #3 Posted by **Philippe Lasnier** on 24 Mar 2009, 4:56 p.m.,*
in response to message #1 by Juergen Rodenkirchen

Just like Raymond, I agree that the XFUNCTIONS module is not going to do anything in a HP-41CX (it may even conflict - although I haven't confirmed that). In particular, you're not going to get access to the X-MEMORY part of it, i.e. the 127 registers (I *have* tested that ;-).

All my XFUNCTIONS modules report -EXT FCN 1B. You obviously have a later version.

Philippe

Re: Strange X-Functions Module

*Message #4 Posted by **Juergen Rodenkirchen** on 25 Mar 2009, 5:04 p.m.,*
in response to message #3 by Philippe Lasnier

Raymond, Philippe, thanks for your input. And, yes, I know that it makes not much sense to have a XF in a CX ;-) it was just to see what the CAT2 would reveal due to the strange description that I couldn't interprete. Meanwhile, I got my hands on a CV and checked again: You're right, it's just an ordinary XF (Version 1C) with 124 regs. Thanks again!

Best Wishes, Jürgen

Re: Strange X-Functions Module

*Message #5 Posted by **Philippe Lasnier** on 25 Mar 2009, 7:20 p.m.,*
in response to message #4 by Juergen Rodenkirchen

You're welcome; I'm glad to see that you actually knew what you were doing :-)

I wonder how many of these 1C versions there are out there?

Philippe

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Another calculator with RPN (Corvus 500 RPN)

*Message #1 Posted by **Saile (Brazil)** on 24 Mar 2009, 7:12 a.m.*

```
I believe that it is very rare.
Does anybody have more information on this model?


Link Corvus 500 RPN
```

Edited: 24 Mar 2009, 7:13 a.m.

Re: Another calculator with RPN (Corvus 500 RPN)

*Message #2 Posted by **db (martinez, ca.)** on 24 Mar 2009, 11:27 a.m.,*
in response to message #1 by Saile (Brazil)

Try this

Re: Another calculator with RPN (TI-59 RPN)

*Message #3 Posted by **Joerg Woerner** on 25 Mar 2009, 10:39 p.m.,*
in response to message #2 by db (martinez, ca.)

Dennis,

I miss a TI59 with RPN Simulator Module in your collection!

Google for it or search in this unspeakable auction site...

Regards, Joerg

It's Christmas in March

*Message #4 Posted by **Michael de Estrada** on 26 Mar 2009, 11:59 p.m.,*
in response to message #2 by db (martinez, ca.)

Guess who just bagged a Corvus 500? Better than a moose. Yeeeehaaaaa!

Re: It's Christmas in March

*Message #5 Posted by **db (martinez, ca.)** on 30 Mar 2009, 1:08 a.m.,*
in response to message #4 by Michael de Estrada

Michael; I don't know what's in your non-hp RPN collection or what you're interested in but there's a Garrett 2000 and a TI RPN simulator for the 58/59 series on ebaby right now. Both are worth having.

Re: It's Christmas in March

*Message #6 Posted by **Michael de Estrada** on 30 Mar 2009, 9:02 a.m.,*
in response to message #5 by db (martinez, ca.)

Thanks Dennis. I was aware of the TI RPN simulator module, but did not know about the Garrett. What is the difference between the Garrett 2000 and 2002? Is it the wood?

Michael

Re: It's Christmas in March

*Message #7 Posted by **db (martinez, ca.)** on 30 Mar 2009, 11:27 p.m.,*
in response to message #6 by Michael de Estrada

the 2002 has a clock.

Re: It's Christmas in March

*Message #8 Posted by **Michael de Estrada** on 31 Mar 2009, 12:14 a.m.,*
in response to message #7 by db (martinez, ca.)

Dennis,

Just to let you know the Corvus 500 arrived today, and like you said, it's really solid and well made, much better than my HP-32E. It's in great like new condition with no wear on the gold legends above the keys and gold trim. I think the styling is really elegant, the keys work well and the display is clear. It seems to be very accurate but also very slow. Just computing the tangent of a number takes about 3 seconds! The ability to use any type of AA battery cells is really nice and it also works with my universal AC adapter (it didn't come with the OEM adapter). I'm really impressed with its 12 digit display, which is only rivaled by my HP-48SX and HP-50g, and also by its comparable forensic number. I already had an original manual for an APF mark 55, which is identical except for key arrangement, so I don't need to print out a bulky 8.5 x 11 PDF copy of the Corvus manual. So, thanks again for alerting me to the auction.

Michael

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New Release of HP9800E

*Message #1 Posted by **Achim (Germany)** on 23 Mar 2009, 4:25 p.m.*

Dear friends and collectors of vintage computers and calculators,

there is a new release 1.40 of HP9800E available from

http://sourceforge.net/projects/hp9800e

New features are integration of user instructions for each plug-in ROM, configuration and validation of allowed ROM slots, high-speed output mode for printers and plotters, and three levels of calculator configuration files.

Have fun, Achim

Re: New Release of HP9800E

*Message #2 Posted by **Egan Ford** on 23 Mar 2009, 8:39 p.m.,*
in response to message #1 by Achim (Germany)

Thanks. BTW, works great on my Mac. Nice sounds.

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Buzzer in HP-01 watch: how to get a replacement

*Message #1 Posted by **Ronald** on 23 Mar 2009, 9:30 a.m.*

Hello,

I aquired a HP-01 in bad shape and am trying to bring it back again. The piezo buzzer in the watch back cover is broken.

Do you have any idea were to get a spare part that would fit?

Thanks for your help

Ronald

Re: Buzzer in HP-01 watch: how to get a replacement

*Message #2 Posted by **Geoff Quickfall** on 23 Mar 2009, 2:08 p.m.,*
in response to message #1 by Ronald

Hello Roland,

I have yet to replace the buzzer, although I did have a completely loose one.

They should be available from a good electronics supply house. Find the correct size and reattach it. Check the old glue attachment point. That will be your target for the new glue. Excess glue or the wrong position for gluing will decrease or stop the peizo effect and therefore the 'buzz'.

Also, the watch is very finicky vis-a-vis the postion of the contact to the buzzer from the battery hatch. The hatch must be in perfect alignment to the circuit board buzzer contact point to battery hatch contact or you will get a reduced sound or no sound at all. Sometimes it takes only a minor tweak of the battery hatch position to get the loudest sound.

I had a buzzer that was missing a chunk from one edge but it still functioned perfectly. On another I made the mistake of gluing the rim of the buzzer into place which stopped it from buzzing! Had to remove it and still haven't figured out where to apply the glue correctly. Of course I may have a dead buzzer.

Let us know how it goes.

Cheers, Geoff

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Recommendations for storing calculators

*Message #1 Posted by **Michael Lopez** on 23 Mar 2009, 6:26 a.m.*

Hi all,

After having used a variety of HP calculators for the last 30 years I have just started collecting a few I really liked such as the 41CV & CX, 48GX etc. but as I mainly use my 50G in day to day I was wondering what your recommendations were for storage? I've read some conflicting comments about whether to take the batteries out or leave them :(but any comments/suggestions would be appreciated.

Thanks,

Michael

Re: Recommendations for storing calculators

*Message #2 Posted by **Marcus von Cube, Germany** on 23 Mar 2009, 6:43 a.m.,*
in response to message #1 by Michael Lopez

Just use them! :)

Re: Recommendations for storing calculators

*Message #3 Posted by **Michael Lopez** on 23 Mar 2009, 6:59 a.m.,*
in response to message #2 by Marcus von Cube, Germany

I do as much as I can but only 2 hands & eyes available ;).

Re: Recommendations for storing calculators

*Message #4 Posted by **Nigel J Dowrick** on 23 Mar 2009, 7:06 a.m.,*
in response to message #3 by Michael Lopez

I'm a school Physics teacher; I bring a different one to work each day! Today it's the 48G+, a late model with a high contrast screen. Tomorrow - who knows?

most important rule

*Message #5 Posted by **Frank Boehm (Germany)** on 23 Mar 2009, 8:22 a.m.,*
in response to message #1 by Michael Lopez

Remove the batteries, depending on the brand, they will start to leak sooner or later, probably sooner. Once they have leaked, take care of proper cleaning up the mess - the fluids are highly corrosive and will damage the calculator.

Re: Recommendations for storing calculators

*Message #6 Posted by **Phil K** on 23 Mar 2009, 12:23 p.m.,*
in response to message #1 by Michael Lopez

The recommendation to remove the batteries is completely correct. The reason they begin to leak has to do with each of the individual batteries never actually having exactly the electrochemical composition as the others, and so, never have exactly the same amount of stored power. They also all drain at different rates due to the same reason, as well as having been charged at the factory at different times and on different equipment, all which cause ever so slight variances, but enough to cause a problem.

The result is that one or more of the batteries connected in series will eventually drain completely before the others in series, and then that battery will begin to take a negative charge due to being in series with the others which still have some current left. The effect causes the chemicals to become imbalanced and begin to expand and eventually seep out of the vents built into the batteries at the top (+ terminal). Those vents are there to prevent the battery from bursting while being charged or discharged, but they normally only release a gas. Unfortunately when the battery is reverse charged, even ever so slightly, the gas comes off the opposite end of the battery instead, causing reverse pressure in the closed end battery can and forcing the liquid chemical out of the vents at the top. This chemical is usually an Alkaline composition (hence the name Alkaline batteries). It will be highly detrimental to the terminals and can also cause substantial, permanent damage to the circuit board.

The same effect can be caused by accidentally inserting one or more batteries in backwards. ALWAYS observe polarity (+ to - to + to -).

ALWAYS remove batteries if the unit is sitting for more than a few months.

Also, NEVER run on batteries from different appliances. ALWAYS use a BRAND NEW set of batteries from the SAME RETAIL PACKAGE. NEVER MIX USED AND NEW BATTERIES. Finally, when the low battery indicator appears, REPLACE ALL BATTERIES AT THE SAME TIME, AND PROMPTLY, don't wait until they are completely dead, or you may find corrosive chemicals have already leaked out.

Phil

Edited: 23 Mar 2009, 12:27 p.m.

Re: Recommendations for storing calculators

*Message #7 Posted by **Chuck Sommer** on 23 Mar 2009, 2:31 p.m.,*
in response to message #6 by Phil K

To this (leaky batteries) I say you cannot be too careful. I have an HP 49G (yes rubber buttons) that had a cell leak. These batteries were all on the new side and the interesting thing is that the unit still ran without any Lo-Bat indicator active. I believe I checked the stack and found all 3 cells operating within nominal voltage range.

Chuck

Re: Recommendations for storing calculators

*Message #8 Posted by **Iqbal** on 23 Mar 2009, 3:36 p.m.,*
in response to message #7 by Chuck Sommer

Randy Sloyer from www.fixthatcalc.com has developed a way to actually repair a calculator that has had leaking battery damage.

Lithium AA batteries ongoing experiment.....

*Message #9 Posted by **Michael Meyer** on 23 Mar 2009, 7:46 p.m.,*
in response to message #8 by Iqbal

There was a discussion on the forum 6 or 8 years ago about my use of AA lithium batteries to power my Classics and Woodstocks and other calculators.

Results to date: All of my calculators still appear to function perfectly when I take them out of the display cases to use them or show them off. To date, no cells have failed or leaked. To date, none of the calculators seemed to be bothered by the little extra voltage.

I will update this again in another 5 years or so...

Has anyone yet seen one of these AA cells leak?

Re: Lithium AA batteries ongoing experiment.....

*Message #10 Posted by **Katie Wasserman** on 23 Mar 2009, 8:04 p.m.,*
in response to message #9 by Michael Meyer

I too have replaced all the nicads in virtually all my HP and non-HP calculators with AAA or AA lithium cells several years ago For the HP calculators that use 3 AA nicad cells in a pack I used a modified 3xAAA plastic holder and loaded it with primary lithium cells. Similarly for those that have 4 sub-C nicad cells in a pack I used a modified 4xAAA plastic holder and loaded it with primary lithium cells. I have around 250 calculators that I've done this for using various AA and AAA cell holders with Energizer lithium cells. None and leaked and no calculator has been damaged (by the higher voltage).

Re: Lithium AA batteries ongoing experiment.....

*Message #11 Posted by **db (martinez, ca.)** on 24 Mar 2009, 12:56 a.m.,*
in response to message #9 by Michael Meyer

Dr Meyer; Your calculators might appear to function normally and may not seem to be bothered by the excess voltage. However; they could be sublimating their desires or repressing their emotions. How do they really feel?

But seriously: what a great idea. I looked them up and not only aa and aaa sizes are available but 9v and N cells too. That would take care of my 48 & 41 series, a couple of Novus/Nat Semis and their clones, the Corvus & it's clones, a few of the Ruskies and the Privilegs. Most of my toys really. The only problem is that i have already invested in rechargeables and the chargers for those - and i'm cheap. BTW: the charger and deep cycler for the N cells work because Katie told me how to build them.

Re: Lithium AA batteries ongoing experiment.....

*Message #12 Posted by **Eric Smith** on 25 Mar 2009, 11:09 p.m.,*
in response to message #11 by db (martinez, ca.)

Are you talking about 1.5V Lithium N cells? Where did you find them? I've only seen lithium iron disulfide (1.5V) in AA and AAA.

The lithium 9V batteries I've seen contained three 3V cells, most likely lithium manganese dioxide.

I'm tempted to make a rechargeable lithium-polymer battery pack for my 41. It would require either a boost regulator (for one cell) or a buck regulator (for two cells). A buck regulator with burst mode should be very efficient. Without a card reader, it should power the 41 for quite a long time between charges (much better than the 82120A).

Has anyone measured the peak current draw of the card reader?

Re: Lithium AA batteries ongoing experiment.....

*Message #13 Posted by **db (martinez, ca.)** on 26 Mar 2009, 1:38 a.m.,*
in response to message #12 by Eric Smith

Eric; These are all i found. http://www.shootnhunt.com/batteries/1604415.html

BTW:Since people were talking about historic lithium cells, here's my "golden age of batteries" memory. Back in about '78 a climbing buddy who we had nicknamed "REI" got a new toy. It was an MSR headlamp, with a twist. The designer, Larry Penburthy, supplied it with Lithium cells and 4 bulbs of increasing sensitivity that were easily changed. Since the batteries had such a flat discharge rate; when your lamp got dim you'd just pop in the next bulb in the series. One set of batteries would last an incredible (but now forgotten) amount of time and that weight one saved by not carrying multiple sets of cheap alkalins mattered when you were dragging it, and all your wet clothing & gear, up 8000 feet in the Seattle rain. That man had the best toys.
I still have my MSR G type stove, bivi sack, locking beaner and Thunderbird ice axe. They'll outlive me.

Re: Lithium AA batteries ongoing experiment.....

*Message #14 Posted by **Katie Wasserman** on 26 Mar 2009, 4:24 a.m.,*
in response to message #13 by db (martinez, ca.)

> Quote:
>
> http://www.shootnhunt.com/batteries/1604415.html

This ad is mistaken, they are alkaline N cells. Energizer doesn't make lithium N cells and as far as I know no one else does either.

Re: Lithium AA batteries ongoing experiment.....

*Message #15 Posted by **Michael Lopez** on 26 Mar 2009, 2:35 a.m.,*
in response to message #11 by db (martinez, ca.)

I've searched "high & low" but can't finf Lithium N size batteries for my HP41C's. Do any of you have a link or recommended supplier you have come across?

Thanks,

Michael

Re: Lithium AA batteries ongoing experiment.....

*Message #16 Posted by **Michael de Estrada** on 24 Mar 2009, 1:34 a.m.,*
in response to message #9 by Michael Meyer

What voltage rating AA's are you using? Certainly if you use the 1.5 V ones, you won't have any problems with potential harm to your calculators. The calculator voltage rating is a minimum value under load for proper functioning of the calculator and the maximum safe value is much higher. The no-load DC voltage output of a classic charger on the calculator adapter side is over 5 V, whereas a charged NiCad pack will be between 4 V and 4.5 V, and the rating on the calculator back label is only 3.75 V. So, assuming that a new AA Lithium will show maybe 1.7 V no load voltage, 3 x 1.7 = 5.1 V will not hurt your calculator. I've experimented with an old beat up HP-45 (I have 7 of these suckers so I can afford to torture one of them) by hooking it up to my DC power supply, and ran it for a week non-stop with all LEDs lit with a constant 6 Vdc input, and nothing burned up. I do like your idea of using Lithium AA's for calcs that normally would use alkalines, but still like to use traditional NiCad battery packs in my classics and other LED models that normally use them. I never leave the packs installed, except when I'm actively using them.

Michael

lifespan rating of lithium cells

*Message #17 Posted by **Frank Boehm (Germany)** on 24 Mar 2009, 4:54 a.m.,*
in response to message #9 by Michael Meyer

to my knowledge, these are usually marketed with "10 years lifetime", so one could assume they are built to last that long :) Btw. I have one calculator (Datamath), that still has the original NiCd-cells installed - they still look like new, no signs of leakage at all. I assume they have never been charged.

Re: lifespan rating of lithium cells

*Message #18 Posted by **Michael de Estrada** on 24 Mar 2009, 7:35 a.m.,*
in response to message #17 by Frank Boehm (Germany)

My own personal experience with NiCads is that the have an almost indefinite shelf life if they remain new and uncharged. I have several National Semiconductor LED caculators which I bought completely new and unused in the box with built-in NiCads, and I was able to initially charge all of them fully. However, they only lasted a very few charge cycles, and then went bad. Two of them then began to leak badly. It was at that point that I removed them and replaced them with new NiCads. Also, I have seen several very old (over 20 years) HP battery packs that seemed to work perfectly and were not leaking even after many charging cycles. So I think maybe not all NiCads are created equal.

Re: lifespan rating of lithium cells

*Message #19 Posted by **Martin Pinckney** on 24 Mar 2009, 11:19 p.m.,*
in response to message #18 by Michael de Estrada

> Quote:
>
> My own personal experience with NiCads is that the have an almost indefinite shelf life if they remain new and uncharged ... I think maybe not all NiCads are created equal.

I agree with the last statement, but my experience is not the same as indicated in the first. I have collected and used Nikon F2 series cameras for about 28 years. Nikon is arguably Japan's most respected camera manufacturer. In seeking out various pieces

years ago, I found that brand new NiCads that had been on the dealers shelves for 10+ years simply would not hold a charge. Once I figured this out, I just had my own new ones built up, or in some cases adapted cordless phone batteries myself. (Of course Nikon did not make their own NiCads, usually obtaining them from Yuasa).

I have also purchased NOS EverReady NiCad C cells that would not hold a charge.

OT: The author of XKCD must read this forum... Lithium Batteries

*Message #20 Posted by **Allen** on 25 Mar 2009, 5:20 p.m.,*
in response to message #17 by Frank Boehm (Germany)

Where would HP calcs fall on this timeline?? Just before RC Planes?

http://xkcd.com/560/

Re: OT: The author of XKCD must read this forum... Lithium Batteries

*Message #21 Posted by **db (martinez, ca.)** on 25 Mar 2009, 10:12 p.m.,*
in response to message #20 by Allen

XKCD is one of my guilty pleasures too. I don't know if the writer reads us but i found this on the KXCD forum:

> Quote:
>
> The HP50g is absolutely godlike and I take comfort in the complete superiority it represents. It is the pinnacle of engineering, art, Western thought and human kind. The engineers at HP plucked it and its included faux-leather carrying case from the realm of the gods, and in so doing gave physical form to the Platonic ideal of the calculator. Its 9.5 megabyte, 887 page user's guide was penned by monks and inspired by a choir of heavenly muses. All hail the glorious HP50g.

Imagine how he would gush if he used a 41.

Re: OT: The author of XKCD must read this forum... Lithium Batteries

*Message #22 Posted by **Allen** on 25 Mar 2009, 10:54 p.m.,*
in response to message #21 by db (martinez, ca.)

Surely Cyrille has also read this glowing (perhaps overly so) review of the 50g. Not that I disagree, but perhaps the XKCD author could humor us with a comic on HP calculators :-) (since as the XKCD Warning states: this *HP museum forum* occasionally contains strong language (which may be unsuitable for children), unusual humor (which may be unsuitable for adults), and advanced mathematics (which may be unsuitable for liberal-arts majors)

Re: Recommendations for storing calculators

*Message #23 Posted by **Phil K** on 24 Mar 2009, 12:21 p.m.,*
in response to message #7 by Chuck Sommer

Chuck, were all these batteries installed from a fresh pack and all at the same time? If not, even if all the batteries appear to be "in the normal range", if they are not nearly identical in voltage, the increased current through the on lowest voltage battery will cause it to heat up and if it does heat beyond the normal "gas leak" range, some of the Alkaline fluids can leak causing the problem you had.

As far as Lithium batteries, I have never seen one leak, nor heard of one leaking. I believe it is because they are essentially "dry cells", where the Lithium between the Anode and Cathode (Negative & Positive), is of a dry solid composition (actually a Lithium salt disolved in an organic solvent, but drier than an Alkaline battery). Also, if it did leak, I believe the PH of the solvent would not be Alkaline and so would not cause corrosion, but I could be wrong.

See below; "The latest non-rechargeable lithium batteries utilize an even newer chemistry, that delivers dramatically higher energy capacity than even the very best of alkaline batteries. The operating lives (run times) of lithium batteries will often be two to six times that of the same sizes of alkaline batteries, depending upon the drain rate and usage cycling of the application. And the disposable lithium batteries provide amazing typical initial shelf lives of ten years (and up to fifteen years for certain types), depending on quality.

Lithium batteries also weigh less and tolerate temperature extremes better than most other types, but they usually cost much more, and can become hazardous if damaged. Because of their extraordinary storage lifespans, and because most have a built-in vent to relieve any buildup of gasses, leakages of disposable lithium batteries are relatively rare, unless they are mishandled or improperly installed. So the remainder of this article will address the lower cost carbon and alkaline battery types, which will leak very readily.

When carbon or alkaline batteries have become discharged, the chemistry of the cells will degrade and some hydrogen gas will be generated. This out-gassing will result in increasing pressure within the battery. Eventually, the excess pressure will either rupture the insulating seals at the end of the battery, or bulge and rupture the outer metal canister, or both. When this happens, an acidic (for carbon cells) or caustic (for alkaline cells) electrolyte gel will ooze from the battery. In addition, as the battery ages, its zinc (for carbon cells) or steel (for alkaline cells) outer canister may gradually corrode or rust, and this can further contribute to leakage failure. Extremely high temperatures, such as those in the vehicle glove box during the summer, can also cause batteries to rupture and leak, even when they are relatively new.

The leaking electrolyte can corrode the metal housing and battery contacts of a simple flashlight, and it can damage or destroy the delicate circuitry of an expensive electronic flashlight. Furthermore, swelling of the battery canisters can render one or more of the batteries hopelessly jammed within the flashlight body. One leaking battery can cause a chain failure, when its leaking goo corrodes the adjacent ones so that they then leak. A five dollar set of dead batteries can and will destroy a five hundred dollar instrument if you let them. Countless numbers of otherwise perfectly fine flashlights are discarded every year due to battery leaks. Only you can prevent the tragedy of death by leakage.

The most important thing to remember is this: dead batteries will eventually leak. And all batteries will gradually self-discharge (even if they are not operating the device they are installed in, and even when they not installed at all but just sitting on a shelf or in a drawer, they will slowly lose energy capacity over the passing of time). So, no matter how good the brand name, your batteries will eventually go dead even if you don't use them, and when they go dead they will eventually leak. These simple facts lead to just three easy rules, which must be followed without exception to protect your investment in flashlights and other battery-operated equipment.

Always remove dead batteries immediately - All dead batteries are subject to very rapid leakage. When the batteries can no longer effectively power the device, remove them at once and take them to a recycling center. If the device has several batteries, always replace every one of them at the same time.

Remove batteries when equipment is stored - Whenever a given device will not be used for any extended period of time (one month or more), remove and properly store its batteries. In extreme conditions, such as the car glove box in the summer in hotter climates, install the batteries only when needed.

Properly store and dispose of your batteries - Store uninstalled batteries in resealable plastic bags or battery carrier boxes, so that if they leak they will not damage nearby items. Check them every month or so for any swelling or leakage. Do not throw away weak or aging batteries, and do not just toss them into a drawer, but instead take them to a nearby battery store or recycling center for proper disposal. Note that some states and municipalities now mandate recycling for all consumer battery types. Please help to reduce the environmental impact of the billions of batteries that expire each year, recycle them as if your future depends on it.

So what do you do if some batteries have already leaked and ruined your flashlight or other device? Some technicians will tell you that you can wet a toothbrush or a cotton swab with a solution of baking soda, and scrub away the acidic goo and crust from a leakage caused by carbon / zinc batteries. Or similarly, apply a solution of household vinegar to scrub away the residues from a leakage caused by alkaline batteries.

This may actually work in some instances, but the cleaning solution could damage the delicate electronics in sophisticated flashlights or items such as radios and tape players. And while you may be able to open both ends on some flashlights to push out swollen batteries, some flashlights can only be opened from one end such that you cannot dislodge batteries that have become jammed due to swelling."

Ref:http://knol.google.com/k/floyd-hacker/everything-you-need-to-know-about/2mvr73jms5ou5/2#

Re: Recommendations for storing calculators

*Message #24 Posted by **Dan Grelinger** on 24 Mar 2009, 1:32 p.m.,*
in response to message #23 by Phil K

I wanted to add a note to this fine post on energy cells.

Some suggest dissolving baking soda in, or adding vinegar to, water for the purpose of cleaning up spilled electrolyte. I have found that this is rarely, if ever, the best course of action.

Pure water, distilled if you have it handy, works best. Vinegar is an acid, and baking soda is alkaline, so the 'clean-up' that you do could further damage the device you are cleaning. Whereas 'a bit of the hair of the dog' might work for your Sunday morning hangover, it won't help your precious calculator.

All electrolyte spills I have cleaned up are readily dissolvable in pure water. A good cleaning with water will remove all acid and alkali from the device. And in the absence of an electric potential (i.e. batteries and power supply removed), pure water is not corrosive (unlike vinegar and baking soda). Just make sure it is completely dry before adding batteries or power to the device after cleaning.

Dan

Re: Recommendations for storing calculators

*Message #25 Posted by **Chuck Sommer** on 24 Mar 2009, 7:45 p.m.,*
in response to message #23 by Phil K

Thanks for the question, these batteries were all from the same pack, and as I said the unit was still operating. These batteries were all fairly new, I believe I had installed them a few months earlier and it is in a calculator I don't use on a regular basis.

Chuck

Re: Recommendations for storing calculators

*Message #26 Posted by **Michael Lopez** on 25 Mar 2009, 2:18 a.m.,*
in response to message #25 by Chuck Sommer

Hi all,

Thanks for the excellent responses. Simplest solution seems to be to switch over to Lithium batteries so I will try & locate the size N, AAA's etc. I need.

Cheers,

Michael

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Calculators STOLEN today...

*Message #1 Posted by **Phil K** on 21 Mar 2009, 9:45 p.m.*

Alas, I am sad today as I had three of my most prized calculators stolen.

My favorite calculator, a 27S, along with a 17BII and a 12C, were all in a backpack which I mistakenly left behind the driver's seat of my Durango due to my being frustrated and in a hurry. I parked at the corner of North 21st & Cuthbert Streets, between North 21st and North 22nd, in Philadelphia, PA this morning at about 10:25am. I had never parked in that lot before, but a co-worker told me the lot is free on the weekends, since there is no attendant. He has parked there many times before.

Today, I got a call from him at 11:43am to tell me the rear driver's side window in my truck had been smashed out. I was parked at the Northeast most parking spot right on the corner, parallel and right next to North 21st Street and directly opposite Cuthbert Street with the passenger side facing Cuthbert Street. This break-in happened within a time-frame of only 1 hour and 13 minutes.

I had been frustrated by the traffic this morning which made me over 1/2 hour late, due to some dim bulb for a brain that decided Saturday morning, on one of the first days in a while with bright sunshine and moderate temperatures, was a good day to shut down the right lane of a two-lane road (I-76 East from I-476 North to City Line Avenue for those who know the area) which is VERY heavily traveled, bringing traffic into Philadelphia. It was a good day for people to go to the Zoo, or the Art Museum, to take in some Theater, or to stroll the stores and shop.

The closing of that right lane turned what Google Maps says should have taken 10 minutes, into a 45 minute to 1 hour backlog on the road, no doubt costing many thousands of dollars in wasted fossil fuels for the tens of thousands of cars and trucks which were forced to crawl for over an 8 mile stretch of this 2-lane road. The estimated fuel cost for 4mpg (assuming an average of about 6 MPH) for this run is $4.08 in gasoline, multiplied by several thousand cars (not to mention the DIESEL FUEL COSTS), means it easily cost us all many thousands. What did it save in pay for the workers to do it at 10:00am instead of perhaps 2:00am? Maybe a few hundred dollars?

This frustration caused me to be off my game and I completely forgot to grab my backpack from the car before walking to the office.

Anyway, if anyone knows anything, PLEASE respond.

I lost many other electronic items in that same backpack, including headphones, 2 RIO Karmas, a portable notebook scanner, Compact Flash cards, telephone headsets, a digital dictation recorder...all told, probably several thousand dollars in "retail" pricing, though many of those items were 10+ years old. I will be submitting a claim to the insurance company, but I would rather have the items back.

Please be on the lookout for the calculators if they are coming from the Philadelphia area. The 17BII and 27S both have solver formulas in them that I could use to identify them.

Thanks. Phil

Re: Calculators STOLEN today...

*Message #2 Posted by **bill platt** on 21 Mar 2009, 10:10 p.m.,*
in response to message #1 by Phil K

I feel your pain. That part of Philly is always under siege.

Re: Calculators STOLEN today...

*Message #3 Posted by **Phil K** on 22 Mar 2009, 1:22 a.m.,*
in response to message #2 by bill platt

I have had my car broken into perhaps 6 times in my entire life, and some of that life I was living immediately off campus at the Widener College in Chester, PA (also not a real nice place to visit), but I have never had my car broken into anywhere else other than Philadelphia.

Each time, they destroy a side window and take things, but this time the perp. tried to break the laminated glass for the electric window on the rear door, left about a dozen nicks in the glass, and cracked it pretty well before giving up and punching out the non-laminated rear side glass.

I did a quick spreadsheet of items in the backpack and it is really depressing. I know I am to blame for leaving the bag in the car, but this was the one time I totally forgot to grab it. I have NEVER left it in the car before, and wouldn't you know, it happened today of all days.

The repairs will cost me $400 on Monday. Just what I need during such an economically unforgiving time. Here I am trying to help people save their homes and eek out a meager while I am struggling to pay my own, and this happens.

Re: Calculators STOLEN today...

*Message #4 Posted by **Mad Dog ebaycalcnut** on 22 Mar 2009, 9:28 a.m.,*
in response to message #3 by Phil K

My car has been broken into also a few times. What sucks too is when they don't end up taking anything and just leave damage. Police explain that they are looking for guns, which I don't have in my cars.

I am so sorry. I empathize.

Re: Calculators STOLEN today...

*Message #5 Posted by **Peter A. Gebhardt** on 22 Mar 2009, 7:39 a.m.,*
in response to message #1 by Phil K

Phil,

I feel sorry with you. Once you (an myself too) spent so much time in developing the basics of one's day-to-day formulas for these calculators, one becomes (say) paranoic at some point in time not to loose his precious work ;-)

I always keep formulas as a written copy (or now with the 200LX on CF Cards) as a secondary backup.

Although I doubt, that someone will return your belongings to you - given the circumstances of the theft - I hope for you, that you will be able to find proper replacements on auctions to come.

Best regards,

Peter A. Gebhardt

PS: Feel free to email me to get eventual support conc. rebuilding your required formulas.

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Mini challenge - coin toss

*Message #1 Posted by **MikeO** on 21 Mar 2009, 7:54 p.m.*

You want to play a game that requires a coin toss, but you have no coins to toss. Fortunately, you have your trusty HP-67 or (fill in your favorite classic HP programmable calculator.)

Create the shortest program you can that will provide a randomized coin toss result.

-Mike

Edited: 21 Mar 2009, 8:07 p.m.

Re: Mini challenge - coin toss

*Message #2 Posted by **Namir** on 22 Mar 2009, 9:35 a.m.,*
in response to message #1 by MikeO

Here is a **starting point** for the HP-67:

```
LBL A
PI
+
3
Y^X
FRAC
STO A
2
*
INT
R/S
RCL A
GTO A
```

To operate:

```
Set the display mode to DSP 0 and then perform the following steps:


1. Enter a seed value and press [A].
2. The program displays 1 for head and 0 for tail.
3. Press R/S to see the next head or tail value.
```

The program uses register A to maintain the current pseudo-random number.

I think you can shorten the program if you use a less-than-obvious steps to generate the random numbers.

Namir

Edited: 22 Mar 2009, 9:48 a.m.

Re: Mini challenge - coin toss

*Message #3 Posted by **Namir** on 22 Mar 2009, 9:52 a.m.,*
in response to message #1 by MikeO

Here is a shorter version for the HP-67:

```
LBL A
1/X
FRAC
STO A
2
*
INT
R/S
RCL A
GTO A
```

Using 1/X to generate a random number for a coin toss "might" be an acceptable trick. Initial seed should be 0.1 < seed < 0.9 AND 1/seed <> integer. Avoid "nice" fractions that lead to reciprocals that are integers.

Here is an HP-41C version (which is 1 step shorter than the HP-67 version shown above) that does not use any memory registers, except the stack:

```
LBL COIN
1/X
FRC
STO Y
ST+ X
INT
STOP
X<>Y
GTO COIN
```

To start the program, set FIX 0, enter a seed value (0.1 < seed < 0.9 AND 1/seed <> integer), and execute the command XEQ COIN. You get the first coin toss. Press the [R/S] key to view subsequent coin tosses.

Namir

Edited: 22 Mar 2009, 11:04 a.m.

Re: Mini challenge - coin toss

*Message #4 Posted by **Chris Dean** on 22 Mar 2009, 2:58 p.m.,*
in response to message #3 by Namir

Here is my solution for the 15c

```
g RAN#
.
5
+
g INT


0 represents Heads or Tails 1 the other. This of course assumes
the coin does not land on its side, it is evenly balanced and therefore a toss of the
coin may be represented by the Uniform distribution.


There is no need for a label just press R/S.
```

Edited: 22 Mar 2009, 3:01 p.m.

Re: Mini challenge - coin toss

*Message #5 Posted by **Paul Dale** on 22 Mar 2009, 5:13 p.m.,*
in response to message #4 by Chris Dean

And a step shorter is:

```
g RAN#
2
*
INT
```

And on a 41 with games module:

```
XEQ RNDM
ST+ X
INT
```

or even:

```
2
XEQ RNDMW
```

- Pauli

Re: Mini challenge - coin toss

*Message #6 Posted by **Namir** on 22 Mar 2009, 8:49 p.m.,*
in response to message #4 by Chris Dean

What would your code look like for an HP-67?

Re: Mini challenge - coin toss

*Message #7 Posted by **Gordon Strickland** on 23 Mar 2009, 7:16 p.m.,*
in response to message #4 by Chris Dean

Message #4 notes that one must exclude from the analysis the possibility that the coin lands and stays balanced on its edge. It is perhaps equally important to exclude the possibility of a passing magpie snatching the coin in mid-air and making off with it.

Re: Mini challenge - coin toss

*Message #8 Posted by **Palmer O. Hanson, Jr.** on 23 Mar 2009, 9:03 p.m.,*
in response to message #7 by Gordon Strickland

> Quote:
>
> Message #4 notes that one must exclude from the analysis the possibility that the coin lands and stays balanced on its edge.

Here's an old coin flip story from my college days. An engineer and his date were trying to decide whether to go dancing or to a movie. His date said "Heads we go to a movie; tails we go dancing." The engineer asked "What if the coin stands on its edge?" His date replied "Then, we'll take a hotel room for the night." The engineer flipped the coin, it rolled into a crack in the sidewalk and came to rest standing on its edge. His date suggested "Shouldn't we make it two out of three?"

Palmer

Re: Mini challenge - coin toss

*Message #9 Posted by **Jeff Kearns** on 23 Mar 2009, 9:18 p.m.,*
in response to message #8 by Palmer O. Hanson, Jr.

Palmer: Didn't you study engineering in university?

Jeff Kearns

Re: Mini challenge - coin toss

*Message #10 Posted by **Palmer O. Hanson, Jr.** on 23 Mar 2009, 10:17 p.m.,*
in response to message #9 by Jeff Kearns

> Quote:
>
> Palmer: Didn't you study engineering in university?

Yes. University of Minnesota graduating in 1950.

Re: Mini challenge - coin toss

*Message #11 Posted by **Chuck Sommer** on 22 Mar 2009, 3:05 p.m.,*
in response to message #1 by MikeO

My solution uses a TI-84 Plus silver edition. Take the calculator and toss it in the air to land on the floor with a randomizing rotational motion about it's long axis. Face up is heads, face down is tails. I would never suggest using one of our precious HPs for this task.

Chuck

Re: Mini challenge - coin toss

*Message #12 Posted by **Marcus von Cube, Germany** on 22 Mar 2009, 4:07 p.m.,*
in response to message #11 by Chuck Sommer

A voyager will allow a longer series of tosses than any TI.

Edited: 24 Mar 2009, 3:40 a.m.

Re: Mini challenge - coin toss

*Message #13 Posted by **Andrés C. Rodríguez (Argentina)** on 22 Mar 2009, 5:31 p.m.,*
in response to message #1 by MikeO

While it is possible to use the linear congruential method to create pseudorandom sequences of the form

x(i) = FRAC ((x(i-1) * a + b)

as some of the answers to this challenge suggested, not every value for "a" and "b" gives acceptable random behavior.

The matter is throughly discussed in Knuth's "Art of Computer Programming", Vol 2. There, you can find a nice example of a complex and apparently good random generator which, after a few cycles, begins to oscillate within a few answers that repeat themselves in an obviously non-random manner.

Knuth dixit: "Never use a random method to generate random numbers"

One of the better tests for randomness is the "Spectral test", also discussed in the same book.

HP took care, when creating pseudorandom generators, in the HP 25 Applications Manual, and in the HP 41 Standard Pac, to publish programs that pass the Spectral test. I have long memorized them, and used them from time to time. While they are not the shortest, they are short (and fast) enough for usual purposes.

For the HP 41:

```
RCL 00
9821
*
.211327
+
FRAC
STO oo
```

For the coin toss, simply add:

```
2
*
INT
```

(An answer of 0 is "heads", an answer of 1 is "tails")

Of course, the pseudorandom "seed" can be any number between 0 and 1, stored in Register 00

Re: Mini challenge - alternate PRNGs

*Message #14 Posted by **Mike T.** on 26 Mar 2009, 7:44 p.m.,*
in response to message #13 by Andrés C. Rodríguez (Argentina)

I long ago memorised the following short(ish) pseudo random number generator routine for use on my HP33C.

I *think* this uses a seed value (.5284163) copied from a similar routine somewhere in the HP97 manual - I can't check that anymore and it might not even be the first number in the sequence generated by the HP97 pseudo random number routine, as I used it at the time because I found it the easiest to remember.

```
01 -          73 .
02 -          5  5
03 -          2        2
04 -          8        8
05 -          4        4
06 -          1        1
07 -          6        6
08 -          3        3
09 -  14 74         PAUSE
10 -          9        9
11 -          9        9
12 -          7        7
13 -        61         x
14 -  15 33         g FRAC
15 -  13 09         GTO 09
```

On re-reading the HP33C manual a couple of years ago I found a similar routine on page 66 with the same multiplier, but using a different seed value (.2315478).

Obviously by the time I stopped borrowing my father's HP97 and actually owned my first HP calculator I'd already given up reading the manuals or I might have decided to memorise a different seed value!

I do remember that the seed value was an important factor in determining the number of random numbers that the routine above would generate before beginning to repeat itself. (I guess that one day I'll have to try to find out if the seed given in the HP33C manual is actually any 'better' than the one I used).

Interestingly the more complicated routine given above for the later HP41C that allows the user to use any number between zero and one as a seed, also appears on page 67 of the HP34C Applications Guide.

Mike T.

Re: Mini challenge - coin toss

*Message #15 Posted by **Michael de Estrada** on 22 Mar 2009, 7:07 p.m.,*
in response to message #1 by MikeO

Did this on my HP-50g using the built-in clock to generate the random number instead of the RAND function. It also works on my HP-48SX.

<< TIME 10000 * FP 2 * IP >>

where TIME yields the current clock time, FP and IP take the fractional and integer parts of the number.

Michael

Edited: 22 Mar 2009, 7:43 p.m.

Re: Mini challenge - coin toss

*Message #16 Posted by **Khanh-Dang Nguyen Thu-Lam** on 23 Mar 2009, 4:16 a.m.,*
in response to message #15 by Michael de Estrada

<< TICKS 1 R->B AND >>

This one is shorter but gives an integer. Append B->R if you really need a real.

I guess it also provides more randomness than your version, at least on Saturn-based models because the clock tick is 1/8192. I don't know how the TICKS and TIME commands are emulated on ARM-based calcs.

The program above assume nothing about the wordsize (see the STWS and RCWS commands). If you assume the wordsize is 1 bit (e.g. run the << 1 STWS >> before), you can hardly write something shorter than:

<< TICKS >>

Again, append B->R if you really need a real.

Re: Mini challenge - coin toss

*Message #17 Posted by **Michael de Estrada** on 23 Mar 2009, 2:51 p.m.,*
in response to message #16 by Khanh-Dang Nguyen Thu-Lam

I agree that your version is shorter, and it is also more elegant IMO. However, I don't think there is any difference in the "randomness" of the results from the two different approaches. If you are thinking that randomness somehow relates to precision, then there will be no difference between your method and mine. Your method requires the calculator to have slightly less than 4 significant digits for decimal fractions of a second. The internal precision is 12 decimal digits of which 6 are consumed for whole hours, minutes and seconds, leaving 6 digits for fractional seconds. Therefore, when a clock tick is converted to HMS format, there is no loss of accuracy.

As to what constitutes "randomness", perhaps one of the statistical mathematicians among us can propose a test.

Michael

Edited: 23 Mar 2009, 2:51 p.m.

Re: Mini challenge - coin toss

*Message #18 Posted by **Khanh-Dang Nguyen Thu-Lam** on 23 Mar 2009, 5:29 p.m.,*
in response to message #17 by Michael de Estrada

I just meant if you run your program in a loop, for example:

<< 1 100 START YOURPROGRAM NEXT >>

then, the sequence will be even more predictable than with my method.

Edited: 23 Mar 2009, 5:36 p.m.

Re: Mini challenge - coin toss

*Message #19 Posted by **Andrés C. Rodríguez (Argentina)** on 22 Mar 2009, 8:04 p.m.,*
in response to message #1 by MikeO

Youi can throw your calculator into the air, and see if it hits the floor with the keyboard facing up or down... :-)

Eventually, if this is too hard to consider, just throw the batteries into the air...

Re: Mini challenge - coin toss

*Message #20 Posted by **MikeO** on 23 Mar 2009, 12:39 a.m.,*
in response to message #1 by MikeO

Some creative answers so far.

Namir provides both HP67 and HP41 versions. Andrés provides both an algorithm and a practical alterative when batteries are low, or missing - simply toss the calculator. Hilarious. Michael de Estrada provides a quick RPL version.

Here's my contribution (RPN) for HP97 - 2 lines:

```
001 X<->Y     -41
002 GTO(i)  22 45
```

To run: store -1 in register I, then 0 Enter 1. Then press R/S to flip and R/S to view it. Repeat as often as needed.

Edited: 23 Mar 2009, 1:05 a.m.

Re: Mini challenge - coin toss

*Message #21 Posted by **Namir** on 23 Mar 2009, 2:59 a.m.,*
in response to message #20 by MikeO

Does the hp97 code simulate random coin tosses?

Re: Mini challenge - coin toss

*Message #22 Posted by **Howard Owen** on 23 Mar 2009, 4:29 a.m.,*
in response to message #21 by Namir

The randomness derives from the precise time you press R/S the second time. The coin toss will be as random as the choice of time interval between presses of r/s is. If you make that choice based on some physically random event like radioactive decay, this program will pass the spectral test with flying colors :)

Regards,
Howard

Re: Mini challenge - coin toss

*Message #23 Posted by **Namir** on 23 Mar 2009, 6:30 a.m.,*
in response to message #22 by Howard Owen

Ok, I see. The R/S simply interrupts the program execution showing either 0 or 1.

Interesting solution, making the user as part of the program!

Edited: 23 Mar 2009, 8:02 a.m.

Re: Mini challenge - coin toss

*Message #24 Posted by **Howard Owen** on 23 Mar 2009, 12:32 p.m.,*
in response to message #23 by Namir

I'd be tempted to say that this approach is cheating, except the author is the one that posed the challenge in the first place!

Regards,
Howard

Re: Mini challenge - coin toss

*Message #25 Posted by **Namir** on 23 Mar 2009, 12:51 p.m.,*
in response to message #24 by Howard Owen

I agree. Mike should have been a bit more specific about how to write the solution. Using machines with random number generators saves many steps. Also I coded my solution to run as a proper program.

Namir

Re: Mini challenge - coin toss

*Message #26 Posted by **Howard Owen** on 23 Mar 2009, 1:48 p.m.,*
in response to message #25 by Namir

I dunno, Namir.

> Quote:
>
> Create the shortest program you can that will provide a randomized coin toss result.

The 2 line program does fit the given criteria. Of course, like I implied, that's what you would expect from the poser of the challenge. :)

It appears to me that a solution of this kind is not possible on the 41C in two steps. The best you could do would be three lines:

```
LBL 01
X<>Y
GTO 01
```

Where we use a short form GTO for speed. But this program needs one less setup step - the preloading of the i register.

On the 35S, a similar program is:

```
R001 LBL R
R002 X<>Y
R003 GTO R002
```

Still 3 lines, but you could say the initial label isn't actually used, and that this is really a 2 line program. Except you probably couldn't since the label is mandatory. Let's say this is a 2.5 line program. :)

Regards,
Howard

Re: Mini challenge - coin toss

*Message #27 Posted by **MikeO** on 23 Mar 2009, 8:20 p.m.,*
in response to message #24 by Howard Owen

> Quote:
>
> I'd be tempted to say that this approach is cheating, except the author is the one that posed the challenge in the first place!
>
> Regards,
> Howard

Hey, hey! I resemble that remark! ;)

Re: Mini challenge - coin toss

*Message #28 Posted by **Howard Owen** on 24 Mar 2009, 3:44 a.m.,*
in response to message #27 by MikeO

> Quote:
>
> Hey, hey! I resemble that remark! ;)

Hee hee. But I stopped short of *actually* calling it cheating :)

Regards,
Howard

Re: Mini challenge - coin toss

*Message #29 Posted by **Namir** on 24 Mar 2009, 9:58 a.m.,*
in response to message #28 by Howard Owen

I think in future challenges, the author of the challenge should specify how the solution works (whether to write a program or a set of keystrokes)--what to input and what and HOW you get the output.

Namir

Edited: 24 Mar 2009, 10:00 a.m.

Re: Mini challenge - coin toss

*Message #30 Posted by **Walter B** on 24 Mar 2009, 2:12 p.m.,*
in response to message #29 by Namir

Come on, isn't it part of the fun to see the different approaches -- or using another word: to see the Ansatz ;)

I won't regulate too much. But that's strictly my personal opinion.

Re: Mini challenge - coin toss

*Message #31 Posted by **Namir** on 24 Mar 2009, 3:20 p.m.,*
in response to message #30 by Walter B

Had Mike described how the solution he is looking for works, we'd be more unified in our answers.

Re: Mini challenge - coin toss

*Message #32 Posted by **Howard Owen** on 24 Mar 2009, 3:59 p.m.,*
in response to message #31 by Namir

What's the point of being unified? A lot of the fun is seeing lots of different approaches and interpretations. I'm normally an observer on these challenges, but I love to read them because I usually learn something about the math *and* the calculators. Mike's solution made me think about the difference between random and pseudo random processes.

Obviously, we rely on pseudo random processes in computation because a reliable source of dynamic disorder isn't usually available. You can't have a geiger counter and radioactive source built in to every mobile and stationary computing device. And we also may need randomness at a rate far greater than nature can conveniently provide, such as in Physics simulations on a supercomputing cluster.

So Mike's solution won't work in those cases. But it could be useful in the case where all you need is a literal toss of a coin. It could even produce a better random series than any pseudo random algorithm, again depending on the method you use to choose the interval between key presses.

On the other hand, I found that I kept getting the same answer with my key presses because I had an unconscious rhythm going. On my HP41, the numbers were oscillating slowly enough that this rhythm would result in a long series of 1s or 0s before it drifted out of phase far enough to flip over to the other state. If I tried to consciously vary the frequency of my key presses, I got better results. But that made me think about how I was choosing my intervals. Was it truly random? Since it was based on a cognitive process, I'll bet not.

So that's an awful lot of thought generated by all the solutions presented here and especially by the attendant discussions. And that means *all* the solutions and *all* the discussion. None of the attempts to solve the more conventional (and useful) case of pseudo random number generation are invalidated by a clever solution addressing a different level of the problem.

Regards,
Howard

Edit: Another benefit to a pseudo random process is that it is repeatable. Physically random process by definition do not repeat indefinitely. (You could record and play back such a sequence, however.)

Edited: 24 Mar 2009, 4:04 p.m.

Re: Mini challenge - coin toss

*Message #33 Posted by **MikeO** on 23 Mar 2009, 8:33 p.m.,*
in response to message #23 by Namir

> Quote:
>
> Interesting solution, making the user as part of the program!

The solution occurred to me as a direct analogue of flipping a coin - with the program simulating the spinning coin, and hitting R/S simulating the toss and catching of the coin.

Although a bit tongue-in-cheek, I think the technique might be a good way to randomize a seed value in some way on machines that don't have built-in random number routines.

I noticed you had a couple different formulas for pseudo random number generators. These are interesting.

Thanks Namir!

Edited: 23 Mar 2009, 9:18 p.m.

Re: Mini challenge - coin toss

*Message #34 Posted by **htom trites jr** on 23 Mar 2009, 3:54 p.m.,*
in response to message #1 by MikeO

Random from a computer is beyond hard. You can get beyond some of the simple woes using a version of the Von Neumann Coin procedure.

```
Begin
Repeat
 R1 <-- random(head,tail);
 R2 <-- random(head,tail);
Until R1 <> R2;
Return R1
End
```

This strips out simple constant biases towards head or tail (actual coins are usually slightly biased to head.) The procedure is not perfect, however.

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Survey about convergence of iterations

*Message #1 Posted by **Namir** on 21 Mar 2009, 10:10 a.m.*

Hello All,

When performing iterative processes you often compare one of more values between the current and last iterations. This comparison involves a tolerance value used to determine whether or not the current iteration has generated good enough results.

My question to all out there is "Do you prefer comparing the absolute difference between iteration values or a **percentage** absolute difference with a tolerance value? Keep in mind that the tolerance value or % can be specified with the arguments to the procedure performing the iterations. Fixing the tolerance value or % is a bit more tricky since it may not be able to handle a wide variety of problems.

Thanks

Namir

Edited: 21 Mar 2009, 10:12 a.m.

Re: Survey about convergence of iterations

*Message #2 Posted by **Egan Ford** on 21 Mar 2009, 1:28 p.m.,*
in response to message #1 by Namir

> Quote:
>
> Do you prefer comparing the absolute difference between iteration values or a **percentage** absolute difference with a tolerance value?

The former. Usually something like:

```
if |diff| < 1E-desired precision then end loop
```

Re: Survey about convergence of iterations

*Message #3 Posted by **Mad Dog ebaycalcnut** on 22 Mar 2009, 3:25 p.m.,*
in response to message #1 by Namir

Actually, I concur. If you pick a reasonably small absolute value, and I do mean reasonable compared to the solution values, you should not need to mess with the headache-y percentage tolerance.

It would be interesting to try a coupled algorithm where you first try an absolute value tolerance, get a solution, then switch to a percentage tolerance using as initial values solutions from the absolute value tolerance problem. I guess this would essentially be a double convergence.

Re: Survey about convergence of iterations

*Message #4 Posted by **Karl Schneider** on 22 Mar 2009, 4:05 p.m.,*
in response to message #1 by Namir

Namir --

If the calculated value(s) that establish convergence are large in magnitude, they can be normalized by scaling.

One application is power-flow programs for complicated AC networks. Sums of calculated values of power establish network convergence when they match known injection values. These values are large -- typically in megawatts (MW) and megavars (MVAr) -- along with voltage in kilovolts (kV) and current in hundreds of amperes (A). The powerflow calculations are done utilizing normalized "per unit" values, typically ranging from zero to ten. Mismatches are then small in magnitude, so absolute tolerances are employed.

-- KS

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HP Forum Archive 19

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Searching for the HP-71B Zenwand manual

*Message #1 Posted by **Philippe Lasnier** on 19 Mar 2009, 5:24 p.m.*

Hi All,

I'm looking for the manual of the HP-71B Zenwand.

The only two references that I could find are in the forum, here, and here. So it looks at least like somebody may have it, or had it, or may know where to get it from (or a copy, maybe a file).

Any idea?

Philippe

Re: Searching for the HP-71B Zenwand manual

*Message #2 Posted by **Prabhu Bhooplapur** on 21 Mar 2009, 11:12 a.m.,*
in response to message #1 by Philippe Lasnier

Hi Philippe, Send me your email address.

Prabhu

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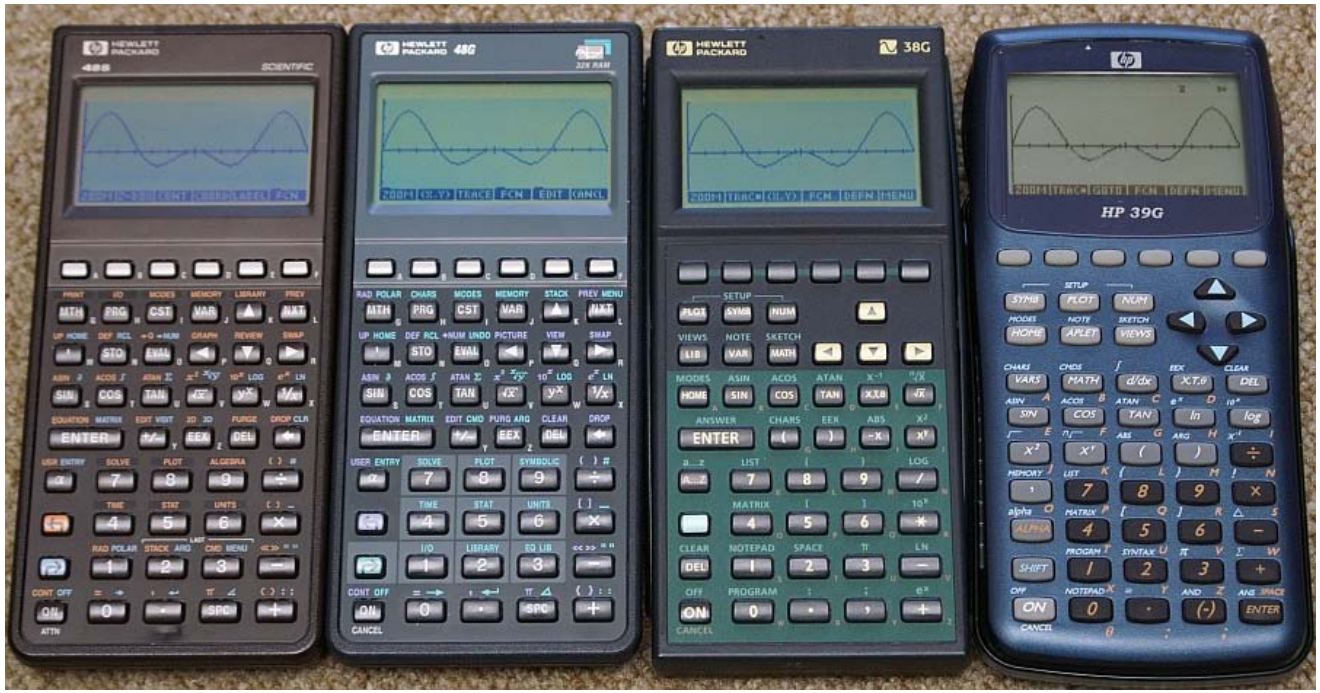
Screen comparison and annunciator question

*Message #1 Posted by **Marcus von Cube, Germany** on 19 Mar 2009, 8:38 a.m.*

I've put a photo of four graphing HPs on my website as a response to a discussion in the French MySilicium forum. Here is a translation of my original post:

> Quote:
>
> A picture tells more than a million words, as we say here:
>
> 
>
>
> The production dates of these machines (week/year):
>
> 48S : 14/1992
> 48G : 39/1996
> 38G : 25/1995
> 39G : 21/2000
>
> The screens of the 48G and 38G are equivalent.
>
> Who can explain how to get rid of the annunciators on the 39G screen?

As an additional info: Reset did not turn those annunciators off.

Re: Screen comparison and annunciator question

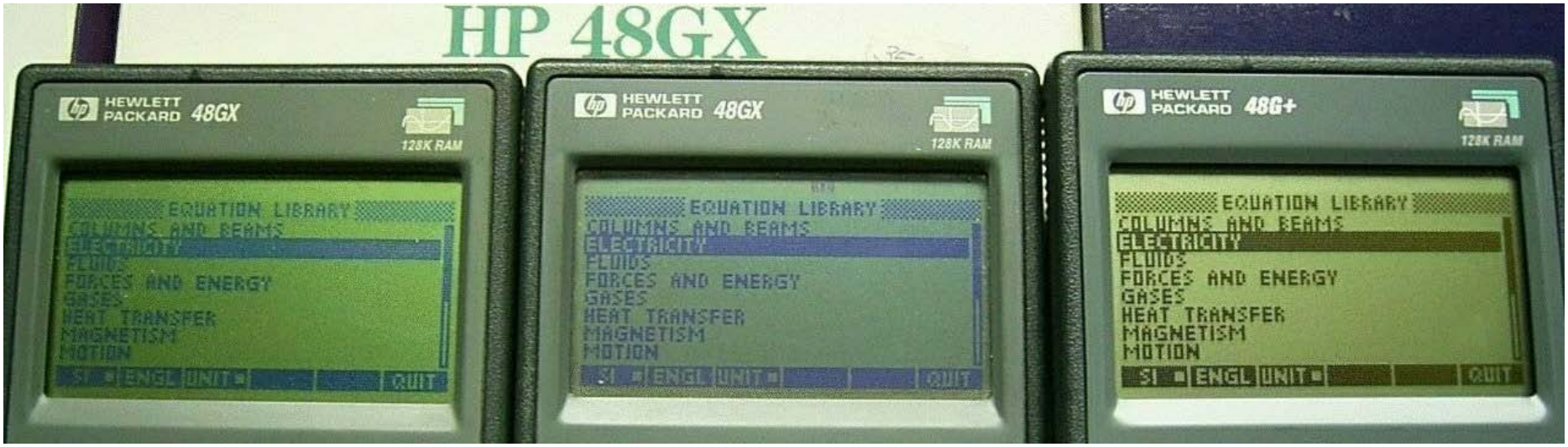
*Message #2 Posted by **Raymond Del Tondo** on 19 Mar 2009, 12:41 p.m.,*
in response to message #1 by Marcus von Cube, Germany

Hi,

I don't know how to put off the annunciators on your 39g,
maybe it has suffered from bleeding?
But your pic reminded me of a pic series I made some years ago.

HP-48G Series Screen comparison

The pic links of the original thread are dead,
but I just uploaded one of the pics to my guest account:



Short summary: All three LCD types have been used in the HP-48G series calcs.
Left calc: Typical GX LCD; Middle: GX with SX LCD; Right: G+ with high contrast LCD.
From today's perspective it's incredible that they used the left and middle LCD at all!

Cheers

Raymond

Re: Screen comparison and annunciator question

*Message #3 Posted by **Michael de Estrada** on 19 Mar 2009, 1:04 p.m.,*
in response to message #2 by Raymond Del Tondo

> Quote:
>
> From today's perspective it's incredible that they used the left and middle LCD at all!

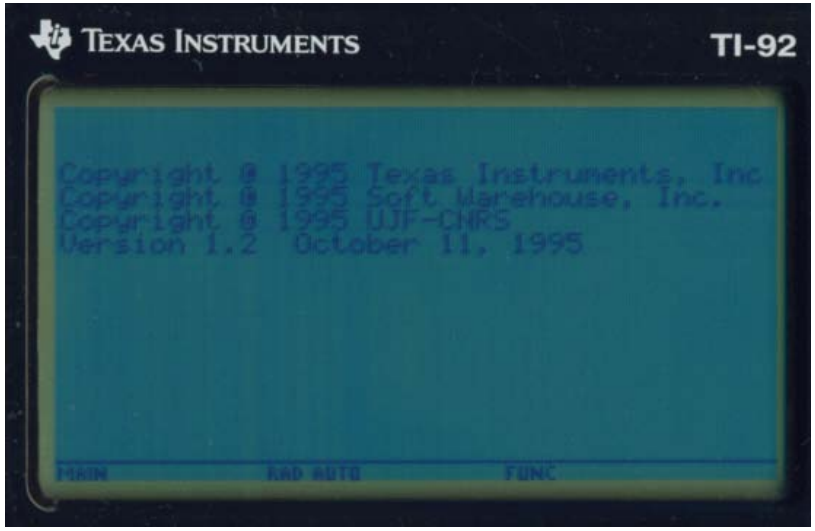
Amen! I recently purchased an HP-50g, and I now realize how absolutely terrible the display is on my 19 year old HP-48SX.

Re: Screen comparison and annunciator question

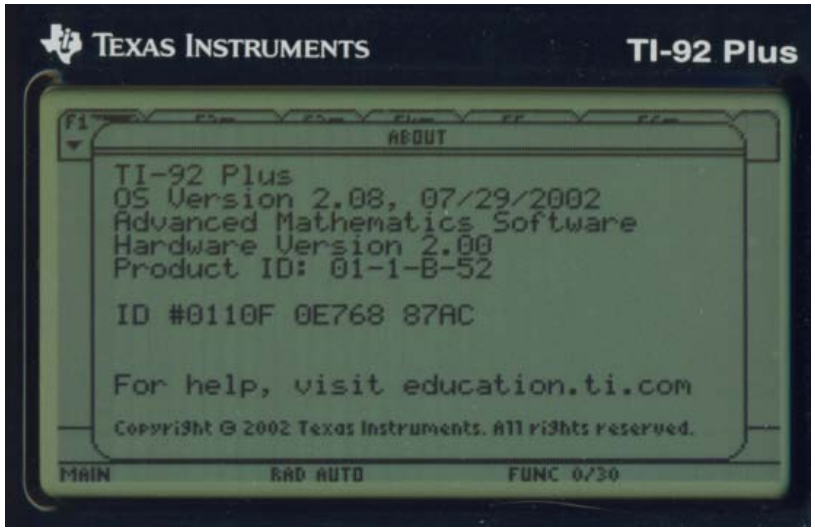
*Message #4 Posted by **Joerg Woerner** on 19 Mar 2009, 3:24 p.m.,*
in response to message #2 by Raymond Del Tondo

Not only Hewlett Packard...

June 1996:



October 1999:



Regards, Joerg

Annunciator problem still unsolved

*Message #5 Posted by **Marcus von Cube, Germany** on 20 Mar 2009, 4:52 a.m.,*
in response to message #1 by Marcus von Cube, Germany

Has anybody an idea, why the 39G lights the two rightmost annunciators? It's not bleeding, they are extinct while the machine is turned off. They've survived different reset attempts (I haven't tried a memory clear yet.)

Is this a hardware or a software problem?

Re: Annunciator problem still unsolved

*Message #6 Posted by **Martin Pinckney** on 20 Mar 2009, 9:34 a.m.,*
in response to message #5 by Marcus von Cube, Germany

Marcus,

The shot is not very distinct, but it looks to me like the two annunciators are the hourglass (busy) symbol and scroll right arrow. This may be a dumb question, but can it be as simple as the calculator is waiting for you to scroll right to see part of the graph that is off the screen? Or do these always appear no matter what mode?

Martin

Re: Annunciator problem still unsolved

*Message #7 Posted by **Marcus von Cube, Germany** on 20 Mar 2009, 10:26 a.m.,*
in response to message #6 by Martin Pinckney

The right arrow is the I/O annunciator. But the calculator is neither busy nor doing any I/O. As I've already mentioned, they appear even directly after a reset of the machine.

Still puzzled...

Re: Annunciator problem still unsolved

*Message #8 Posted by **Michael de Estrada** on 20 Mar 2009, 10:58 a.m.,*
in response to message #7 by Marcus von Cube, Germany

Well, so far has anyone else reported this behavior with a HP 49g? Perhaps, it is just a hardware/firmware fault with your particular unit. Did it always do this, or just recently?

Re: Annunciator problem still unsolved

*Message #9 Posted by **Marcus von Cube, Germany** on 20 Mar 2009, 1:02 p.m.,*
in response to message #8 by Michael de Estrada

I wish I knew. The device is on a shelf most of the time.

Re: Annunciator problem still unsolved

*Message #10 Posted by **Nigel J Dowrick** on 20 Mar 2009, 1:52 p.m.,*
in response to message #9 by Marcus von Cube, Germany

My 19-year-old (or so) HP-48SX has had some annunciators permanently visible whenever the machine is switched on for some years now. It also has a dead column of pixels. I have always assumed that the annunciator problem is simply to do with the age of the display.

Sorry I can't provide a picture; my HP-48SX is currently elsewhere!

Re: Annunciator problem still unsolved

*Message #11 Posted by **Thomas Radtke** on 20 Mar 2009, 2:35 p.m.,*
in response to message #7 by Marcus von Cube, Germany

> Quote:
>
> The right arrow is the I/O annunciator. But the calculator is neither busy nor doing any I/O.

Could you check if it is able to do any?

Re: Annunciator problem still unsolved

*Message #12 Posted by **Randy** on 20 Mar 2009, 3:11 p.m.,*

in response to message #11 by Thomas Radtke

All stuck annunciators I have seen to date are either a defective LCD or logic board, never a software issue.

It is a faulty LCD at least 95% of the time.

Re: Annunciator problem still unsolved

*Message #13 Posted by **Marcus von Cube, Germany** on 20 Mar 2009, 3:16 p.m.,*
in response to message #12 by Randy

Thanks Randy for the clarification. Its more of a cosmetic issue and does not affect the functionality of my 39G.

Re: Annunciator problem still unsolved

*Message #14 Posted by **Marcus von Cube, Germany** on 20 Mar 2009, 3:14 p.m.,*
in response to message #11 by Thomas Radtke

I just had success with printing via I/R. The annunciators are still lit.

Re: Annunciator problem still unsolved

*Message #15 Posted by **Raymond Del Tondo** on 21 Mar 2009, 9:20 a.m.,*
in response to message #5 by Marcus von Cube, Germany

Another idea:
The calc is busy trying to get out of that ugly housing.
It's crying: "Get me out of this depressing algebraic existence, and transform me into a real and exciting HP-48!"

SCNR;-)

Re: Annunciator problem still unsolved

*Message #16 Posted by **Marcus von Cube, Germany** on 21 Mar 2009, 4:46 p.m.,*
in response to message #15 by Raymond Del Tondo

I don't think that the case. An algebraic calc lacks the sense of it own deficiency. ;)

Someone mailed me with another idea: The voltage of the batteries might be a cause for the sticky annunciators. I'll have to check if his assumptions hold (by checking the batteries and their voltage.)

Re: Annunciator problem still unsolved

*Message #17 Posted by **Mike (Stgt)** on 23 Mar 2009, 1:49 p.m.,*
in response to message #16 by Marcus von Cube, Germany

Just use a good emulator (Emu48) and copy/paste a screen shot to Paint Shop Pro or what you prefere and get rid of your funny annunciators. What? You still use real HW? I go with George Clinton in that song (from Prince): "... and virtual is real."

Ciao.....Mike

Re: Annunciator problem still unsolved

*Message #18 Posted by **Marcus von Cube, Germany** on 23 Mar 2009, 2:03 p.m.,*
in response to message #17 by Mike (Stgt)

I just do not want to miss the 39's superb rubber keyboard. My iBook simply cannot compete...

;)

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Another Red Dot Auction - Very Bad Condition

*Message #1 Posted by **Michael de Estrada** on 19 Mar 2009, 12:01 a.m.*

Well, another HP-35 Red Dot is up for auction, and this one is in very poor condition. It is not working and has obviously been opened, so who knows what is going on inside. The only included accessory is the AC adapter, which is not original. It does appear to be authentic, however, so it will be interesting to see what the final price turns out to be.

(see here)

Re: Another Red Dot Auction - Very Bad Condition

*Message #2 Posted by **Don Shepherd** on 19 Mar 2009, 8:57 a.m.,*
in response to message #1 by Michael de Estrada

Personally, I wouldn't pay one cent for it. Maybe I'm weird, but I want a calculator that works.

Re: Another Red Dot Auction - Very Bad Condition

*Message #3 Posted by **Namir** on 19 Mar 2009, 8:21 p.m.,*
in response to message #2 by Don Shepherd

I am with you Don. A non-working calculator is no fun!!!

Namir

Re: Another Red Dot Auction - Very Bad Condition

*Message #4 Posted by **Don Shepherd** on 19 Mar 2009, 8:37 p.m.,*
in response to message #3 by Namir

I see Coburlin is in the running for it (his signature .88 bids). Let's hope he doesn't win and relist it for $12,000.

Re: Another Red Dot Auction - Very Bad Condition

*Message #5 Posted by **Michael de Estrada** on 19 Mar 2009, 8:56 p.m.,*
in response to message #4 by Don Shepherd

Nah. He's already overbid, and never re-bids. I know because he's bid on my auctions, which always start at a low initial price and are no-reserve. He'll put in a baby bid and then go away when the serious bidding starts. Don't you think $12,000 is kinda low? ;>)

Re: Another Red Dot Auction - Very Bad Condition

*Message #6 Posted by **Jeff O.** on 20 Mar 2009, 8:53 a.m.,*
in response to message #2 by Don Shepherd

> Quote:
>
> ...I want a calculator that works.

It might be trivially easy to fix. For example, classic chargers are notorious for developing open-circuits in the cord and plug, so perhaps the charger is all that does not work. Or it might be completely filled with corrosion from battery leakage. But if you want a red-dot, it might be worth the risk.

...

Re: Another Red Dot Auction - Very Bad Condition

*Message #7 Posted by **Michael de Estrada** on 20 Mar 2009, 9:06 a.m.,*
in response to message #6 by Jeff O.

I might be inclined to agree with you, except that I'm suspicious that the problem may be more serious because the calculator has clearly been opened. If battery acid leaked through the contact openings and onto the circuit board, serious damage could occur. And then there's the real possibility that the logic board is missing.

Edited: 20 Mar 2009, 9:07 a.m.

Re: Another Red Dot Auction - Very Bad Condition

*Message #8 Posted by **Jeff O.** on 20 Mar 2009, 12:17 p.m.,*
in response to message #7 by Michael de Estrada

Agreed. If I were going to bid on this unit, I would like to see a picture of the battery compartment or at least get a statement regarding its condition. I guess one could ask the seller - "is the logic board present?" Answer would likely be "I don't know, selling as-is." Caveat emptor.

...

Re: Another Red Dot Auction - Very Bad Condition

*Message #9 Posted by **Michael de Estrada** on 20 Mar 2009, 12:26 p.m.,*
in response to message #8 by Jeff O.

FWIW - I have sent a message to the seller requesting precisely that, not that I have any intent on bidding since I already own a very excellent and complete red dot. Just curious to see what the answer will be. No answer yet.

HP-35 problems

*Message #10 Posted by **Frank Boehm (Germany)** on 20 Mar 2009, 12:48 p.m.,*
in response to message #6 by Jeff O.

usually, the 35s have been opened to clean the on/off-contacts Btw. if this one doesn't have a PCB installed, you are mostly out of luck - the PCB connector is different from later versions (I think the early V2 still uses the red dot type, but you certainly don't want to rip that one apart...). It should be possible to replace the inner assembly though, if you want a red-dot-looking machine.

Re: HP-35 problems

*Message #11 Posted by **Michael de Estrada** on 20 Mar 2009, 1:29 p.m.,*
in response to message #10 by Frank Boehm (Germany)

I think the ON/OFF switch design is different on the early HP-35 versions like the red dot, than on later versions and other classics (HP-45, HP-80 etc.). I have opened many classics to clean and re-grease the ON/OFF contacts with silicone dielectric compound, but my red dot switch appears different and works perfectly. Needless to say, it has never been opened and I have no intention of doing so.

Re: HP-35 problems

*Message #12 Posted by **Randy** on 20 Mar 2009, 3:23 p.m.,*
in response to message #11 by Michael de Estrada

> Quote:
>
> I think the ON/OFF switch design is different on the early HP-35 versions like the red dot, than on later versions and other classics (HP-45, HP-80 etc.)...

Incorrect, red dots are identical to later 35's. The only obvious differences are that the red dot slides have a dot of florescent red paint on them and the calculator top has the small hole though which the paint shows when in the on position.

That is why there have been counterfeits - it's easy to duplicate to the untrained eye. There are several tells that reveal a fake but I really don't want to publish them... for fear of helping the unsavory.

Re: HP-35 problems

*Message #13 Posted by **Michael de Estrada** on 20 Mar 2009, 4:05 p.m.,*
in response to message #12 by Randy

I disagree as to the switches being identical. The ON/OFF slider switch on my red dot protrudes much less above the surface of the keyboard than my later HP 35 v3 or all my other classics with the single large slider switch. The red dot switch protrudes less than 2mm, whereas the HP 35 v3 switch protrudes 3mm. Also, the two switches have a very different and distinct feel to them. The later version switches all have a very noticeable detent at the full OFF and ON positions, whereas the red dot has none.

Nonetheless, you are correct about fakes, as there are other signs of this, which I too will not reveal here.

Re: HP-35 problems

*Message #14 Posted by **Randy** on 20 Mar 2009, 8:06 p.m.,*
in response to message #13 by Michael de Estrada

You are correct, the height of the slide is quite different. It was one of the things I originally had mentioned but then removed... when I realized I was writing a how-to guide on building a fake...

BTW, having looked at the mechanics of the slides and cases, the click and feel differences appear to best explained by the lack of or presence of lubrication on the two slide detents.

Edited: 20 Mar 2009, 8:08 p.m.

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HP50g beta ROM version 2.14

*Message #1 Posted by **Mike Morrow** on 18 Mar 2009, 7:49 a.m.*

There's been some postings recently on comp.sys.hp48 about the HP50g ROM firmware version 2.14 that's just been made available.

Apparently it has some port 2 bugs.

Edited: 18 Mar 2009, 7:53 a.m.

Re: HP50g beta ROM version 2.14

*Message #2 Posted by **Michael de Estrada** on 18 Mar 2009, 3:28 p.m.,*
in response to message #1 by Mike Morrow

Scary stuff. I just bought a HP-50g and was thinking of updating the ROM, but maybe I'll adopt the "if it ain't broke don't fix it" philosophy.

Re: HP50g beta ROM version 2.14

*Message #3 Posted by **Mike Morrow** on 18 Mar 2009, 10:11 p.m.,*
in response to message #2 by Michael de Estrada

Well, at least version 2.09 is a trouble-free update, especially if done using an SD card.

One hopes that a corrected version 2.14 comes soon available, even though there is no description of what version 2.14 corrects or improves.

Re: HP50g beta ROM version 2.14

*Message #4 Posted by **Juan J** on 18 Mar 2009, 11:36 p.m.,*
in response to message #3 by Mike Morrow

Newer is not necessarily better...

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OT: Fun use of maths in advertising

*Message #1 Posted by **bill platt** on 17 Mar 2009, 1:15 p.m.*

http://www.chondola.com/index.html

Edited: 17 Mar 2009, 1:16 p.m.

Re: OT: Fun use of maths in advertising

*Message #2 Posted by **Michael de Estrada** on 17 Mar 2009, 1:57 p.m.,*
in response to message #1 by bill platt

I don't understand the summation range (i=16 to i=1?). Perhaps I am taking this too seriously.

Re: OT: Fun use of maths in advertising

*Message #3 Posted by **Walter B** on 17 Mar 2009, 2:14 p.m.,*
in response to message #2 by Michael de Estrada

Well, it's a Ski Resort, not a university math department ;)

Re: OT: Fun use of maths in advertising

*Message #4 Posted by **Michael de Estrada** on 17 Mar 2009, 2:59 p.m.,*
in response to message #3 by Walter B

I thought it was one of AIG's affiliates!

Re: OT: Fun use of maths in advertising

*Message #5 Posted by **Mike Reed** on 17 Mar 2009, 3:35 p.m.,*
in response to message #4 by Michael de Estrada

Nope: Congress!

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OT: Does anyone own an APF mark 55?

*Message #1 Posted by **Michael de Estrada** on 17 Mar 2009, 11:22 a.m.*

In my never ending quest to find everything RPN, I have come across a very interesting non-HP RPN calculator, manufactured in the late 1970's by APF Electronics Inc. The company was headquartered in New York, USA, however, the calculators were manufactured in Japan. One of their calculators, the APF mark 55 used RPN, and what makes it interesting is that it introduced built-in hyperbolic functions before HP did on the HP-32E. AFAIK this is the only time that a non-HP RPN-based calculator introduced a feature or technology before HP did. I have been trying in vain to locate one of these unique calculators, and wondered if any of you forum participants were lucky enough to include one of them in your collection.

See this photo on Katie's website: APF mark 55

Re: OT: Does anyone own an APF mark 55?

*Message #2 Posted by **hpnut** on 17 Mar 2009, 8:53 p.m.,*
in response to message #1 by Michael de Estrada

It's a nice calculator. The buttons looks like they are Canon-OEM. I love the red LEDs.

Re: OT: Does anyone own an APF mark 55?

*Message #3 Posted by **Bruce Bergman** on 17 Mar 2009, 11:47 p.m.,*
in response to message #1 by Michael de Estrada

Interesting! They've actually packed quite a few features into that little thing. Very nice.

It LOOKS, to me, like a rebadged Commodore of that era. I wonder if there was some reciprocal agreement at the time?

thanks, bruce

Re: OT: Does anyone own an APF mark 55?

*Message #4 Posted by **Michael de Estrada** on 18 Mar 2009, 12:57 a.m.,*
in response to message #3 by Bruce Bergman

I don't think Commodore had anything like this.

Notice how the INV key serves to reverse just about every key function, such that only half as many explicit items are required. For example, e^x is obtained by typing INV ln. If you want to convert from rectangular (default) to polar coordinates, you type >pol and if you want to convert back from polar to rectangular coordinates, you type INV >pol. Also, you can take any root of a number by preceding the Y^X key with the INV key, e.g. the cube root of 86 is obtained by typing 86 ENT 3 INV Y^X. The INV key was even used to switch between normal and scientific notation and for reversing the direction of unit conversions. The HP-65 did something similar with its two shifted yellow keys, one for normal and one to do the inverse.

Pretty clever, I think.

Michael

Re: OT: Does anyone own an APF mark 55?

*Message #5 Posted by **Marcus von Cube, Germany** on 18 Mar 2009, 8:02 a.m.,*
in response to message #4 by Michael de Estrada

So clever, that even TIs use INV from their very beginning...

For me INV is very intuitive. I prefer it over (f) and (g) prefix keys. But I'm a former TI user, so don't take me too seriously. ;)

Re: OT: Does anyone own an APF mark 55?

*Message #6 Posted by **Michael de Estrada** on 18 Mar 2009, 9:58 a.m.,*
in response to message #5 by Marcus von Cube, Germany

Marcus,

No doubt the TI's also had an INV key, however, it was not used to the extent that the APF did. For example, the TI-55 used the INV key to invert trig and hyperbolic functions, but not for logarithmic functions. The APF mark 55 had 30 large key buttons, whereas the TI-55 had 40 small buttons, and I personally prefer fewer large buttons on any device than many small buttons.

Michael

SMART INV keys?

*Message #7 Posted by **Joerg Woerner** on 18 Mar 2009, 10:11 a.m.,*
in response to message #5 by Marcus von Cube, Germany

Marcus,

We both know TI calculators - the INV-key wasn't always the best choice.

INV SUM+ -> SUM- .... okay

INV EXC -> PI ... you really think that way ;-))

INV x! -> CSR (Clear stat registers) ... OOPS

To be honest, sometimes I receive customer emails asking "how do I access the 2nd functios of my TI-30 STAT!"

Regards,

Joerg

TI-30: SMART INV keys?

*Message #8 Posted by **Karl Schneider** on 19 Mar 2009, 12:32 a.m.,*
in response to message #7 by Joerg Woerner

> Quote:
>
> INV SUM+ -> SUM- .... okay
>
> INV EXC -> PI ... you really think that way ;-))
>
> INV x! -> CSR (Clear stat registers) ... OOPS

At least those are shown on the key faces; but really, they are 2nd functions.

Unfortunately, the original 1976 TI-30 -- and probably the TI-30 STAT -- do not perform the following perfectly-sensible inverse function:

INV 1/x = NOOP (No Operation)

;-)

-- KS

Edited: 19 Mar 2009, 12:38 a.m.

Re: TI-30: SMART INV keys?

*Message #9 Posted by **Andrés C. Rodríguez (Argentina)** on 19 Mar 2009, 2:30 p.m.,*
in response to message #8 by Karl Schneider

On the same vein, I would like a INV NOP (Inverse NoOperation), which will do... everything!! :-)

Re: TI-30: SMART INV keys?

*Message #10 Posted by **Marcus von Cube, Germany** on 19 Mar 2009, 5:16 p.m.,*
in response to message #9 by Andrés C. Rodríguez (Argentina)

What about INV CLR ? ;-)

Re: TI-30: SMART INV keys?

*Message #11 Posted by **Walter B** on 19 Mar 2009, 6:37 p.m.,*
in response to message #10 by Marcus von Cube, Germany

Isn't there an UNDO on a recent model? Reality is sometimes faster than satire ;-)

Re: TI-30: SMART INV keys?

*Message #12 Posted by **Palmer O. Hanson, Jr.** on 19 Mar 2009, 10:26 p.m.,*
in response to message #10 by Marcus von Cube, Germany

> Quote:
>
> What about INV CLR ? ;-)

On the TI-58/58C/59 2nd CLR does yield a clear command but with code 20 instead of code 25.

Re: OT: Does anyone own an APF mark 55?

*Message #13 Posted by **Walter B** on 18 Mar 2009, 11:52 a.m.,*
in response to message #4 by Michael de Estrada

> Quote:
>
> Notice how the INV key serves to reverse just about every key function, such that only half as many explicit items are required. For example, e^x is obtained by typing INV ln. If you want to convert from rectangular (default) to polar coordinates, you type >pol and if you want to convert back from polar to rectangular coordinates, you type INV >pol. Also, you can take any root of a number by preceding the Y^X key with the INV key, e.g. the cube root of 86 is obtained by typing 86 ENT 3 INV Y^X. The INV key was even used to switch between normal and scientific notation and for reversing the direction of unit conversions. The HP-65 did something similar with its two shifted yellow keys, one for normal and one to do the inverse.

The INV key cleans the keyboard, no doubt. It is, however, less versatile than a general shift key (or you get those effects as shown by Jörg). IMHO this was one of the reasons why HP used it on the HP-65 only.

Re: OT: Does anyone own an APF mark 55?

*Message #14 Posted by **Don Shepherd** on 18 Mar 2009, 12:10 p.m.,*
in response to message #13 by Walter B

The f^{-1} key on the HP 65 is interesting in that it assumes a level of math competency on the part of the user that few other calculator designs have required. The keyboard tells you that f ->OCT converts to octal; you have to know (or remember) that f^{-1} ->OCT means convert to decimal. Same with integer part and fractional part; same with sqrt(x) and x^2 and ten other functions. I think the designers assumed that, if you could afford the $795 to buy and use the calculator, you could probably remember the correct functions associated with the f^{-1} key.

Re: OT: Does anyone own an APF mark 55?

*Message #15 Posted by **Walter B** on 18 Mar 2009, 12:15 p.m.,*
in response to message #14 by Don Shepherd

> Quote:
>
> The f^{-1} key on the HP 65 is interesting in that it assumes a level of math competency on the part of the user that few other calculator designs have required. ... I think the designers assumed that, if you could afford the $795 to buy and use the calculator, you could probably remember the correct functions associated with the f^{-1} key.

Presumably a correct assumption at that time.

Re: OT: Does anyone own an APF mark 55?

*Message #16 Posted by **Michael de Estrada** on 18 Mar 2009, 12:42 p.m.,*
in response to message #15 by Walter B

I think the issue is not the cost, but the particular consumer that would buy such a highly-technical machine. Only a scientist or engineer would be the likely market for such a product.

OT: Commodore SR4921 RPN

*Message #17 Posted by **Michael de Estrada** on 21 Mar 2009, 11:59 a.m.,*
in response to message #3 by Bruce Bergman

Here is Commodore's RPN calculator: (see here)

Notice that it looks nothing like the APF, and is made in Hong Kong instead of Japan. However, it too uses an INV key, however not to the same extent as the APF, although it does one trick that the APF does not. Namely, if you precede the stack rotate key by INV, it reverses the direction of rotation (i.e. roll up instead of roll down). This capability is offered on certain HP calculators, such as the HP-15C, where roll up is a g(blue) shift function.

Credit should go to db, Katie W. and T. Spyropoulos for this information on non-HP RPN calculators.

Michael

Re: OT: Does anyone own an APF mark 55?

*Message #18 Posted by **db (martinez, ca.)** on 18 Mar 2009, 12:27 a.m.,*
in response to message #1 by Michael de Estrada

Michael;
I have one. It's ok but it's cousins-with-the-same-chip, the Corvus and Privileg, are better, and at least equal to the HPs they were marketed against (IMHO). HP didn't have All the firsts. Just most of them. Elektronika had an RPN with Eprom memory, National Semiconductor RPNs have a built in stat function that HP never did, The Robotron RPN combined built in functions that HP didn't. However; no one else even came close to the 41 series (and again IMHO, HP never did again). -db

Re: OT: Does anyone own an APF mark 55?

*Message #19 Posted by **Michael de Estrada** on 18 Mar 2009, 1:22 a.m.,*
in response to message #18 by db (martinez, ca.)

db,

I see what you mean. The Privileg SR 54 NC also has hyperbolics, and pretty much the same features as the APF. Which National Semiconductor model are you referring to with a stat function, and what function is it? I have the models 4640, 4525, 4615 and 4510, and from what I can tell they are quite mundane. These are all LED models. Did they make any RPN LCD models? I presume you are referring to the Elektronika MK-52 with the EEPROM, which was used for backup of programs and data. I have an Elektronika MK-61, which is programmable, but does not have EEPROM. I will soon be taking delivery of a mint NIB Sinclair Scientific, which is incrediby crude in comparison with the APF and Privileg.

Thanks for all the good info.

Michael

Re: OT: Does anyone own an APF mark 55?

*Message #20 Posted by **Palmer O. Hanson, Jr.** on 19 Mar 2009, 10:33 p.m.,*
in response to message #19 by Michael de Estrada

> Quote:
>
> Which National Semiconductor model are you referring to with a stat function, and what function is it?

The 4510 has an M + x^2 function which I discussed in Article 437.

Re: M + X squared

*Message #21 Posted by **db (martinez, ca.)** on 19 Mar 2009, 11:11 p.m.,*
in response to message #20 by Palmer O. Hanson, Jr.

....as does the Argentine Microcifra 10, and the Unitrex 90sc made in Hong Kong, and the Novus Mathematician from California.

There were a lot of RPN calcs in use back before 99% of math teachers let T.I. tell them how to teach, and before copying an equation verbatim onto a screen and pressing "=" replaced thinking.

BTW: 97.473% of all quoted statistics are made up on the spot.

Re: M + X squared

*Message #22 Posted by **Michael de Estrada** on 19 Mar 2009, 11:32 p.m.,*
in response to message #21 by db (martinez, ca.)

FYI, the National Semiconductor/Novus 4510 and Mathematician are one and the same. The National Semiconductor version has nice click buttons, whereas the Novus has crappy spongy buttons.

Re: M + X squared

*Message #23 Posted by **Palmer O. Hanson, Jr.** on 21 Mar 2009, 9:01 p.m.,*
in response to message #21 by db (martinez, ca.)

> Quote:
>
> There were a lot of RPN calcs in use back before 99% of math teachers let T.I. tell them how to teach, and before copying an equation verbatim onto a screen and pressing "=" replaced thinking.

You can believe that if you want to but that's not the way it happened. TI worked with the National Council of Teachers of Mathematics through workshops and conferences and financial support and **listened** to the teachers. That other company insisted that the teachers do it that conpany's way using a silly system which pretended that parentheses didn't exist in mathematics.

Re: M + X squared

*Message #24 Posted by **Michael de Estrada** on 21 Mar 2009, 9:40 p.m.,*
in response to message #23 by Palmer O. Hanson, Jr.

Ah, the great war between the algebraists and rpners erupts again! It's kind of like the constant battle between the conservatives and liberals, republicans and democrats, appleists and ibmers, DOS and Windows, Coke and Pepsi (my dad worked for Coke and told me that the people who worked for Pepsi were all a bunch of commies). One thing is for sure, nothing good ever comes from these contests and no untruth is left unturned. To quote Rodney King, "can't we all just get along?"

Peace, Michael

Re: M + X squared

*Message #25 Posted by **Marcus von Cube, Germany** on 23 Mar 2009, 6:38 a.m.,*
in response to message #24 by Michael de Estrada

You forgot the 6502 versus Z80 debate : Apple and Commodore against TRS-80 and others.

Re: OT: Does anyone own an APF mark 55?

*Message #26 Posted by **Michael de Estrada** on 19 Mar 2009, 11:20 p.m.,*
in response to message #20 by Palmer O. Hanson, Jr.

Yes, I was aware of the M+x^2 capability of the 4510 and 4615, but db had stated that the

NS/Novus calculators have a stat function that HP *never* did have. As you point out in your article, although the HP-45 did not have a M+x^2 key, it provided this automatically with the summation key, and also had the mean and standard deviation on the keyboard as well. Still, the NS 4510 was a direct competitor for the HP-35, and to that extent it was ahead of the game. Also, it has an x^2 key, M+ and M- keys, and can switch between degrees and radians, which are lacking on the HP-35.

The NS 4640 is a very strong competitor to the HP-45 with all its features, and true units conversions similar to the HP-55. Another neat feature is a "clear shifted function", so if you accidentally hit the shift (F) key, you can immediately follow it with the shifted function "CF" to cancel this action. It wasn't until much later that HP introduced toggling of the shift function keys. Unlike the 4510 and 4615, it has a 4-level stack, with cyclic roll down. It's only serious flaw is that it has only 3 storage registers, and these are all used by the summation function to store sum x, sum x^2 and n count. The HP-45 has 9 storage registers.

Edited: 20 Mar 2009, 12:43 a.m.

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managing director of Educalc.net talk about HP

*Message #1 Posted by **Michel Beaulieu** on 17 Mar 2009, 8:24 a.m.*

http://businessmirror.com.ph/home/marketing/7537-the-blue-ocean-strategy-day-with-dr-w-chan-kim-.html

Look down the page.

What are those small "rule" calculator she have in her right hand; are they HP?

managing director of Educalc.net talk about HP

*Message #2 Posted by **Hal Bitton in Boise** on 17 Mar 2009, 10:51 a.m.,*
in response to message #1 by Michel Beaulieu

Those are the HP quick calcs mentioned in the article.

From the article:

> Quote:
>
> Nobody would expect an HP calculator to be the same today as it was just two years ago

Yet she is holding the embodied contradiction to that assertion, a 12C.

> Quote:
>
> Nobody would expect an HP calculator to be the same today as it was just two years ago

..OK, how about 25 years ago. We can only hope.
Hal

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HP 50g users guide printed, spiral bound

*Message #1 Posted by **designnut** on 17 Mar 2009, 12:42 a.m.*

I found the two guides for the 50g available in print, each 2 volumes,spiral bound. Sam

Re: HP 50g users guide printed, spiral bound

*Message #2 Posted by **Frank Rottgardt** on 17 Mar 2009, 7:38 a.m.,*
in response to message #1 by designnut

for the german speaking folks:

you can get a printed manual for the HP-50g at Dynatech for 28 Euros. Where can one get a spiral bound (english?) version?

check out:

HP-50 manual at Dynatech

Re: HP 50g users guide printed, spiral bound

*Message #3 Posted by **Mike Morrow** on 17 Mar 2009, 8:39 a.m.,*
in response to message #1 by designnut

I didn't realize they were missing.

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RPN or algebraic

*Message #1 Posted by **designnut** on 16 Mar 2009, 6:14 p.m.*

Received from Kenneth Kuhn in an exchange. The good news is that this year I have the best batch of students I have had in a very long time. The bad news is that none of them use HP calculators and most seem to have an aversion to them. So the nice methods in your paper are lost to them. They spend a horrific amount of time doing calculations with their TI and Casios -- calculations you or I could do in seconds with an RPN HP. I just do not know what the world is coming to. How could we go backwards over the years. Last year I showed the few students who did have an HP some of the methods you and I use and they were impressed at how fast calculations could be done. Although they had an HP calculator they were not aware of how to make use of RPN Sam designnut@cox.net

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HP SmartCalc 300S - on its way!

*Message #1 Posted by **Joerg Woerner** on 16 Mar 2009, 4:03 p.m.*

I couldn't resist and just ordered:

HP EasyCalc 100 PN: F2239AA#ABA

1 $9.32 $9.32

HP SmartCalc 300s PN: F2240AA#ABA

1 $17.49 $17.49

Subtotal: $26.81

1(Estimated) Tax: $2.48

(Lowest-Cost Delivery Ground) Shipping and handling: $4.29

Grand total: $33.58

MOST IMPORTANT:

Estimated Ship Date: 3/21/2009

I'll keep you updated ;-))

Regards, Joerg

Edited: 16 Mar 2009, 4:09 p.m.

HP SmartCalc 300S - ARRIVED!

*Message #2 Posted by **Joerg Woerner** on 18 Mar 2009, 10:01 a.m.,*
in response to message #1 by Joerg Woerner

Citizen SR-270X CALCULATOR CHIP + MUCH BETTER KEYBOARD + STRANGE DESIGN = I LIKE IT!!!

Regards,

Joerg

Re: HP SmartCalc 300S - ARRIVED!

*Message #3 Posted by **Walter B** on 18 Mar 2009, 12:12 p.m.,*
in response to message #2 by Joerg Woerner

Hallo Jörg,

If the SmartCalc 300S would be customizable like the HP-20b, it will be a nicer platform than this, since its display is far more versatile. Alternatively, if this LCD could be driven by an advanced HP-20b (featuring also an improved keyboard), we'll be better off.

Ceterum censeo: HP, launch a 43s.

Walter

OOPS: HP SmartCalc 300S - INSIDE PICTURE

*Message #4 Posted by **Joerg Woerner** on 18 Mar 2009, 3:00 p.m.,*
in response to message #3 by Walter B

Oops - it's NOT identical with the Citizen SR-270X!

Three differences up to now:

1) Algorithm seem to be identical but display results are rounded to 14 internal digits instead 16 internal digits. Mike Sebastian's forensics reports the same result, rounded to two digits less.

2) Cursor logic is different, if you press a key long enough, it "auto-scrolls".

3) Display features better contrast, the indicators are smaller.

BUT: All key-functions, menu structures, display fonts, capacity of input buffer, limits in table mode etc are IDENTICAL.

And even the User Manual sports similiar typo's:

Page 1: "Use's Guide" instead User's Guide Page 29: "Calculator Memeory"....

By the way: It took just four screws (two hidden under the rubber feets):

Enjoy!

Regards, Joerg

Edited: 18 Mar 2009, 3:11 p.m.

Re: OOPS: HP SmartCalc 300S - INSIDE PICTURE

*Message #5 Posted by **DaveJ** on 18 Mar 2009, 5:04 p.m.,*
in response to message #4 by Joerg Woerner

Curious how all these cheap calcs use a through hole diode instead of surface mount. Very common in Casio's.

Dave.

Re: OOPS: HP SmartCalc 300S - INSIDE PICTURE

*Message #6 Posted by **Katie Wasserman** on 18 Mar 2009, 10:43 p.m.,*
in response to message #5 by DaveJ

Is this diode used for reverse battery installation protection? If so, are they using the larger thru-hole diode because it can handle a larger current and therefore offer real protection?

The LED is missing from this board, but they use one in the HP-6S solar apparently as a cheap way of voltage regulation from the solar cells. They also have a thru-hole diode for reverse battery protection. Does anyone know who actually manufactured the HP-6S solar, was it Casio?

Re: OOPS: HP SmartCalc 300S - INSIDE PICTURE

*Message #7 Posted by **DaveJ** on 19 Mar 2009, 3:06 a.m.,*
in response to message #6 by Katie Wasserman

> Quote:
>
> Is this diode used for reverse battery installation protection? If so, are they using the larger thru-hole diode because it can handle a larger current and therefore offer real protection?

No, it's in series, used to prevent charging from the solar cell. Nothing to do with power (FYI SMD ones can handle just as much anyway). So it's probably a cost/substitute thing, there would have to be a zillion surplus through hole diodes on the market that can do the job, just pick whichever one you can get for 0.00001 cents this week.

> Quote:
>
> The LED is missing from this board, but they use one in the HP-6S solar apparently as a cheap way of voltage regulation from the solar cells. They also have a thru-hole diode for reverse battery protection. Does anyone know who actually manufactured the HP-6S solar, was it Casio?

I suspect it's Kinpo like most of the others.

Dave.

Edited: 19 Mar 2009, 3:14 a.m.

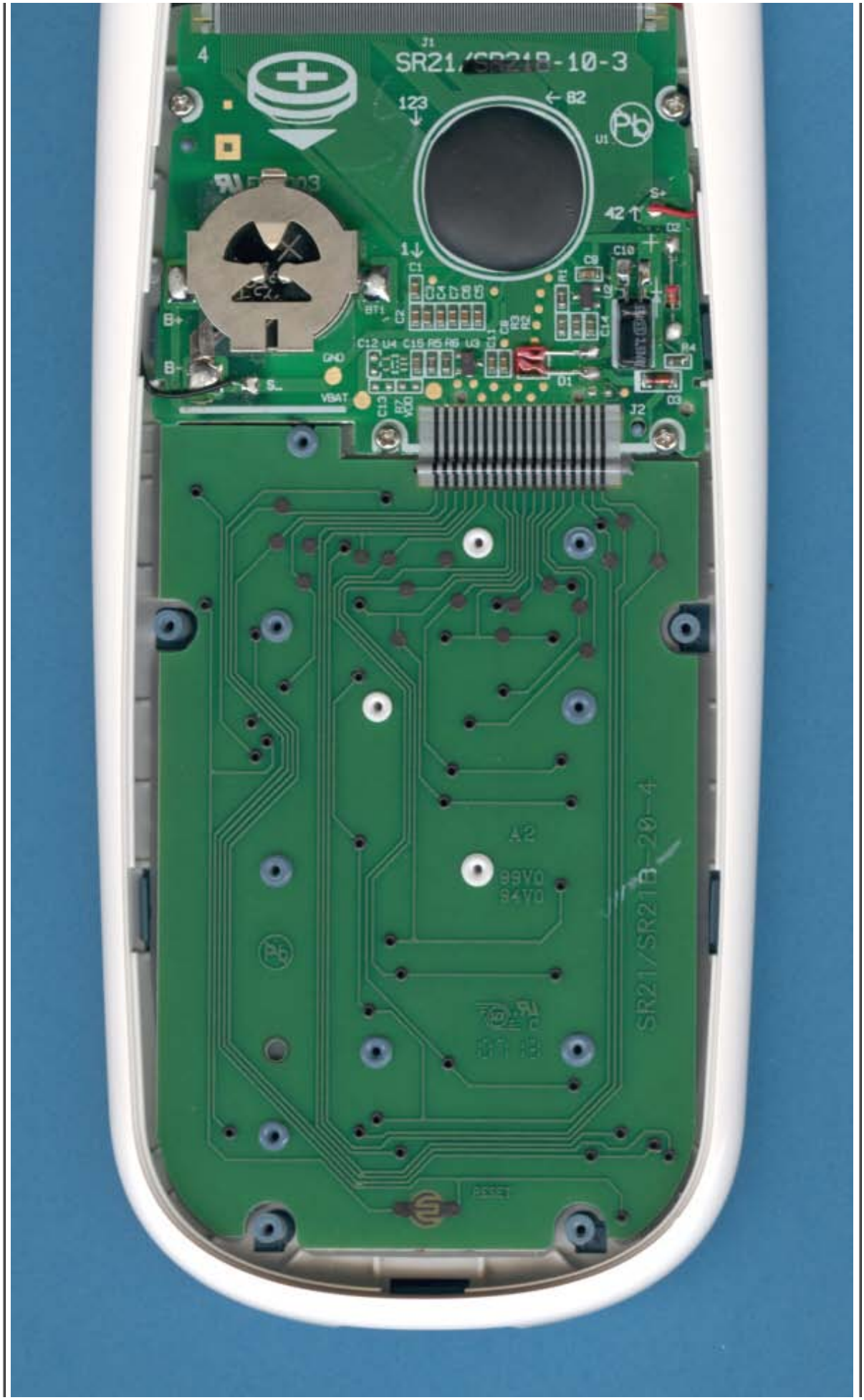
Re: OOPS: HP SmartCalc 300S - INSIDE PICTURE

*Message #8 Posted by **Joerg Woerner** on 19 Mar 2009, 10:35 a.m.,*
in response to message #7 by DaveJ

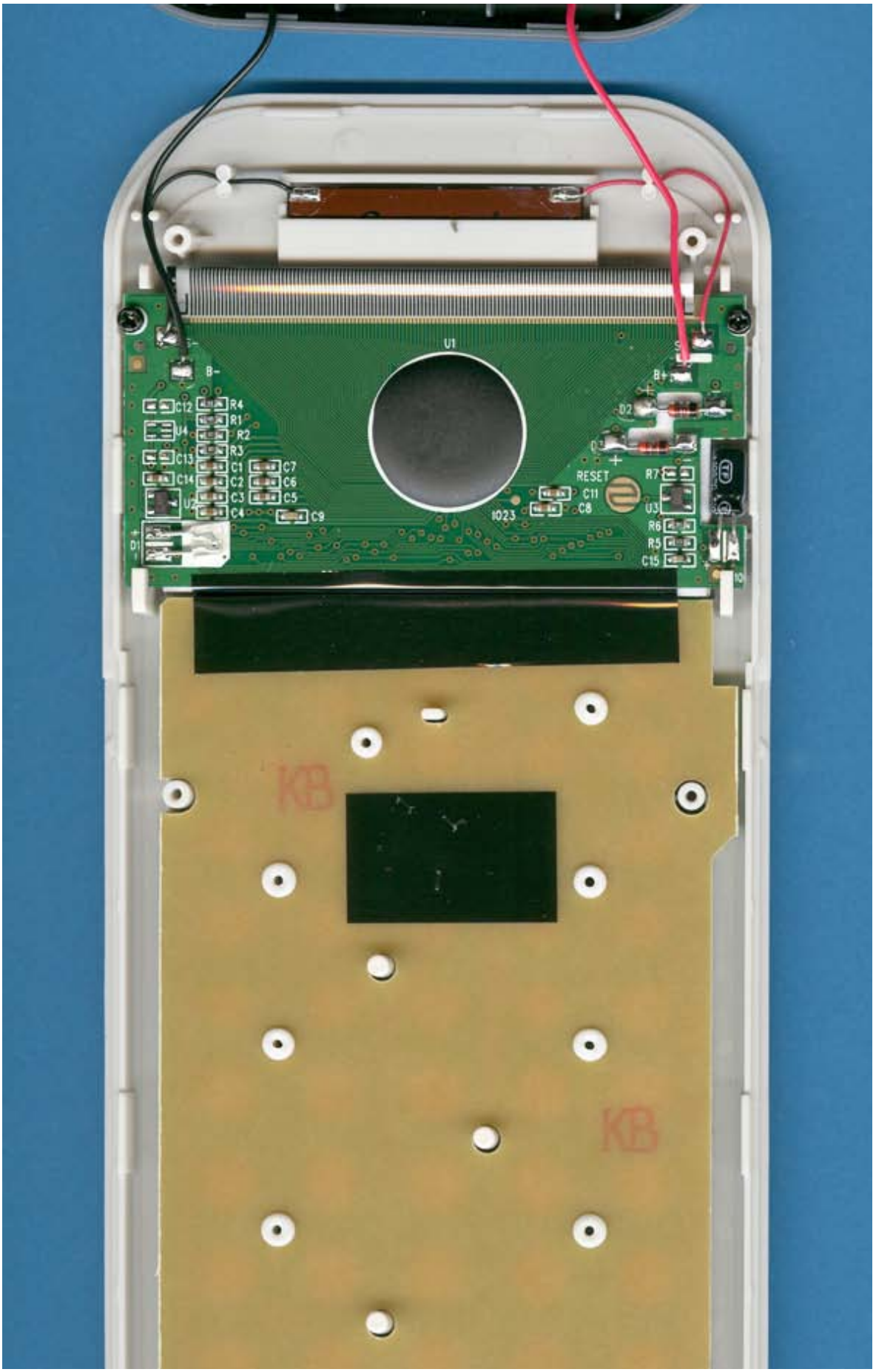
Dave,

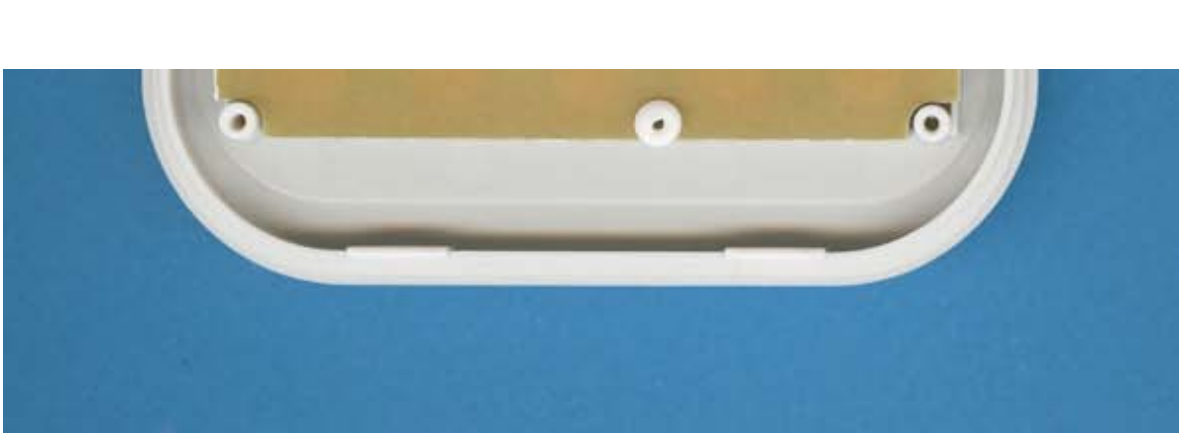
I disassembled dozens of Kinpo calculators (Canon, Citizen, TI) and they all have their "signature". This SmartCalc 300s doesn't look like a Kinpo product to me.

Please find here a "typical" Kinpo design:


J1
SR21/SR21B-10-3
123
B2
U1
Pb
42
S+
1
C1
C9
C10
C14
R1
R4
BT1
B+
B-
GND
VBAT
C12 U4 C15 R5 R6 U3
D1
D3
J2
A2
99V0
94V0
SR21/SR21B-20-4
RESET

In contrast a "typical" Nam Tai design:





And yes, both use Katie's LED, through-hole diodes and electr. capacitors.

Regards, Joerg

Re: HP SmartCalc 300S - on its way!

*Message #9 Posted by **Michael de Estrada** on 19 Mar 2009, 11:22 a.m.,*
in response to message #1 by Joerg Woerner

Joerg,

How does the $17.49 retail price of the HP SmartCalc 300s compare with similar products with other brand names? I realize that these low end calculators have the same manufacturer, and was wondering how much extra the HP name might bring to market pricing. Does the HP design bring any tangible improvement to the product?

Michael

Re: HP SmartCalc 300S - on its way!

*Message #10 Posted by **Joerg Woerner** on 19 Mar 2009, 11:52 a.m.,*
in response to message #9 by Michael de Estrada

Michael,

If we talk about brand names - they are all in the $15..$20 range. There is only one reason to buy the HP SmartCalc 300s - it looks damned cool!

I placed all MultiView calculators (TI-30XS, Casio fx-300ES, Citizen SR-270X, Sharp EL-W535 and the SmartCalc 300s) on my table and EVERYONE looked first at the HP!

Even with more than 2,500 TI calculators in the basement - I'll use it for some time in my Office.

The pros:

+++ It's styling

++ The keyboard is better than the average, stiff, good response, easy to read and (for me) a perfect layout. Sorry - no ENTER key.

+ Intuitive Casio menue structure, high-contrast display with the nice Casio Textbook fonts.

+ RUBBER feet - once again!

The cons:

--- The plastic material looks and feels very cheap, it is already full of finger prints.

-- You can't snap the protection cover on the backside of the calc - where to stow away?

- Don't try to replace the battery, I broke two finger nails to remove the battery cover ;-))

It's much better than these HP 6s, 9s, 10s, 30s junk.

Regards, Joerg

Re: HP SmartCalc 300S - on its way!

*Message #11 Posted by **Don Shepherd** on 19 Mar 2009, 2:51 p.m.,*
in response to message #10 by Joerg Woerner

Joerg, could you post a picture of the keyboard? HP's site does not show any details. Thanks.

Re: HP SmartCalc 300S - on its way!

*Message #12 Posted by **Don Shepherd** on 19 Mar 2009, 3:02 p.m.,*
in response to message #10 by Joerg Woerner

Never mind, Joerg. I found a pretty good pic here.

Re: HP SmartCalc 300S - on its way!

*Message #13 Posted by **Jake Schwartz** on 19 Mar 2009, 4:19 p.m.,*
in response to message #12 by Don Shepherd

> Quote:
>
> Never mind, Joerg. I found a pretty good pic here.

Hi Don,

I guess you didn't see Richard Nelson's January-23rd article on the HHC2008 website, announcing that we all have permission to access HP's "Channel Partners" web page which contains pretty high-res images of all the current products. The article is located at http://holyjoe.net/hhc2008/Quality%20Calculator%20Images.pdf and the direct link to HP's website is http://www.hp.com/united-states/calculators/toolkit/index.html where there is a prompt for a username and password. Everyone should use "hpcalc" for the username and "calc4hp" as the password to get in. Then click on "Images & Fact Tags" in the lefthand column, click on "HP SmartCalc 300s" in the middle and finally click on the leftmost thumnail image of the machine. It will then reveal a 1200-by-2265 resolution image of the keyboard. The other images of all the other machines are also very useful for reference.

Jake Schwartz

Re: HP SmartCalc 300S - on its way!

*Message #14 Posted by **Don Shepherd** on 19 Mar 2009, 8:44 p.m.,*
in response to message #13 by Jake Schwartz

Yes, Jake, I saw that article but I forgot about that link; thanks for reminding me. I checked it out, and that is one beautiful calculator! Thanks.

Re: HP SmartCalc 300S - on its way!

*Message #15 Posted by **Chuck** on 19 Mar 2009, 10:13 p.m.,*
in response to message #12 by Don Shepherd

I think that must be the first calculator I have seen with a general base logarithm button. My students would have liked that a few weeks ago.

Re: HP SmartCalc 300S - on its way!

*Message #16 Posted by **Michael de Estrada** on 19 Mar 2009, 10:32 p.m.,*
in response to message #15 by Chuck

I see that! Aside from being a mathematical curiosity, where would one use such a function? I'm an engineer, not a mathematician, so I only use mathematical relationships that are useful in solving problems.

Michael

Re: HP SmartCalc 300S - on its way!

*Message #17 Posted by **Paul Dale** on 19 Mar 2009, 10:45 p.m.,*
in response to message #16 by Michael de Estrada

I use log-base 2 quite a bit so I can see a use for this. Occasionally, I do logs to other (non 10 and e) bases.

The 20b rewrite has log-base 2 and arbitrary base logs :-)

- Pauli

Re: HP SmartCalc 300S - on its way!

*Message #18 Posted by **Michael de Estrada** on 19 Mar 2009, 11:45 p.m.,*
in response to message #17 by Paul Dale

Are you doing machine coding or something else with the binary math?

Re: HP SmartCalc 300S - on its way!

*Message #19 Posted by **Paul Dale** on 22 Mar 2009, 5:04 p.m.,*
in response to message #18 by Michael de Estrada

I use log-2 for size estimates mostly.

I do surprisingly little other binary maths given I'm an embedded programmer...

- Pauli

Re: HP SmartCalc 300S - on its way!

*Message #20 Posted by **Andrés C. Rodríguez (Argentina)** on 20 Mar 2009, 12:03 p.m.,*
in response to message #15 by Chuck

Log base 2 is useful in information theory, but is also easy to obtain as ln(x)/ln(2) or equivalent formulas.

RIP OFF - Price already lowered

*Message #21 Posted by **Joerg Woerner** on 19 Mar 2009, 11:57 a.m.,*
in response to message #1 by Joerg Woerner

I paid this Monday $17.49 - now it is just $14.99 on the HP website.

Regards, Joerg

Re: RIP OFF - Price already lowered

*Message #22 Posted by **Bruce Bergman** on 19 Mar 2009, 11:57 p.m.,*
in response to message #21 by Joerg Woerner

Welcome to the club! ;-)

I've noticed this too. It's almost as if the S&MB division sets a price THEY think it will go for, and after the first few go out, someone tells them the correct price.

When I first ordered the 20b, I paid $49 for it. A week later, it was $39.

I ordered my 300s the same day you did, and paid the same price you did. Now it's less.

I only have one word: (((***sigh***)))

:-)

thanks, bruce

Re: RIP OFF - Price already lowered

*Message #23 Posted by **Maximilian Hohmann** on 20 Mar 2009, 9:36 a.m.,*
in response to message #21 by Joerg Woerner

Hello!

> Quote:
>
> ... now it is just $14.99 on the HP website.

And "Out of stock" already ... now that you made me curious!

Greetings, Max

Re: RIP OFF - Price already lowered

*Message #24 Posted by **Joerg Woerner** on 20 Mar 2009, 11:04 a.m.,*
in response to message #23 by Maximilian Hohmann

You want mine? It was opened only twice, battery is still like-new. How do you think about EUR 45?

Just kidding - the EUR is very strong these days. But HP's pricing in Euro-zone is sometimes strange, too.

But even TI sells currently the TI-84 Plus Silver Edition for EUR 162.35 in Germany - that converts to USD 220! Here (Upstate NY) it is $139 plus 8% tax list but "usually" you get it for $119.98!

Regards, Joerg

Re: RIP OFF - Price already lowered

*Message #25 Posted by **Frank Balzer** on 20 Mar 2009, 4:21 p.m.,*
in response to message #24 by Joerg Woerner

Dynatech is selling it for 18.50 Euros. No delivery date, yet.

Re: RIP OFF - Price already lowered

*Message #26 Posted by **Walter B** on 22 Mar 2009, 4:32 a.m.,*
in response to message #24 by Joerg Woerner

Hallo Jörg,

HP's pricing policy for Europe makes me wonder whether they are linked to the tourist board ;) Easy calculation how many HP calcs you must buy in the USA and sell in western Europe to get your trip paid. Else it would be a bit far off fair trade :(

Edited: 22 Mar 2009, 4:32 a.m.

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Signed Logic PCB

*Message #1 Posted by **Ignazio Cara (Italy)** on 16 Mar 2009, 12:58 p.m.*

Have you never seen a classic series logic PCB signed with 'PCM' near the 1820-1189 ROM? Look at the picture linked at:

HP_70_logic_PCB

Regards from Italy

Ignazio

Re: Signed Logic PCB

*Message #2 Posted by **Randy** on 16 Mar 2009, 2:20 p.m.,*
in response to message #1 by Ignazio Cara (Italy)

I've seen initials and other notations on most classics, especially those with ceramic packages.

Most pre-1990'ish Voyagers have initials of the final assembler under one of the foot pads.

Re: Signed Logic PCB

*Message #3 Posted by **Ignazio Cara (Italy)** on 17 Mar 2009, 4:45 a.m.,*
in response to message #2 by Randy

Thanks Randy.

Regards

Ignazio

"signing"

*Message #4 Posted by **Frank Boehm (Germany)** on 17 Mar 2009, 8:47 a.m.,*
in response to message #1 by Ignazio Cara (Italy)

this is a manufacturer mark, added to the finalized layout by the PCB manufacturer (so you could track down faulty parts); it's nothing personal :)

Re: "signing"

*Message #5 Posted by **DaveJ** on 18 Mar 2009, 5:58 a.m.,*
in response to message #4 by Frank Boehm (Germany)

Quote:

> this is a manufacturer mark, added to the finalized layout by the PCB manufacturer (so you could track down faulty parts); it's nothing personal :)

It's either a PCB manufacturers mark, or a "signature" of the board designer. If it's not on all boards, then most likely a manufacturer mark.
But I've had cases where my own "signature" on my boards have been eye-balled by management and removed in subsequent runs. At my current company we aren't allowed to add signatures to our works of art :-(

Dave.

Edited: 18 Mar 2009, 5:58 a.m.

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Another RPN calculator program for the Casio FX-9860!

*Message #1 Posted by **Nigel J Dowrick** on 16 Mar 2009, 11:15 a.m.*

Here's **another** RPN scientific calculator for the Casio FX-9860G Slim (and related models). It's much simpler than Reckon (announced on this forum a few weeks ago); there's no graphing, no matrices and no high-precision arithmetic. The calculator has a twelve-level stack, with the lowest six levels displayed on the screen. All of its functions accept complex arguments.

The executable file, the source, and the documentation are all available for you to download freely from here:

http://www.mediafire.com/casiorpn

(The image file in this directory contains a screenshot.) This is the first program that I have written in C ; if you do look at the source code, don't judge me too harshly!

I have become very impressed with the FX-9860G Slim during the writing of this program. I have always liked the hardware; seeing my unoptimised code running on it has made me appreciate how fast this calculator really is. I am also impressed that Casio has provided such a helpful and powerful SDK.

Re: Another RPN calculator program for the Casio FX-9860!

*Message #2 Posted by **hugh steers** on 16 Mar 2009, 2:30 p.m.,*
in response to message #1 by Nigel J Dowrick

I like it!

Another great RPN calculator for the fx-9860g. You have the same motivation, i liked the physical calculator but wanted my own style of operation.

Also, I like your "tagged" value idea. I've always thought modes trip you up and instead, maybe the type of value should go with it rather than be subject to a pre-assumed mode. It's an idea im currently experimenting with. I'll probably end up with modes as well because different people see things differently.

Your formatting to 6 digits is nice for the display. i have the same problem, i just spit out the value to 16 digits which looks ok for real numbers, but rather messy for complex ones. neither is perfect i agree. I can understand you having the same problem with output formatting, because it needs to be tackled in conjunction with the general cases of fix, sci, eng and also complex and angular forms. An area i have to fix too.

the menu system works nicely and this is an improvement over Reckon. Im trying to resist putting in a menu system mainly because it starts to bind the implementation to this calculator. i always have in the back of my mind the idea of porting to different platforms. nevertheless, some customisation is important. eg the use of custom characters.

Actually, i spent some time investigating my own scalable font rendering on the calculator. scaling fonts in 128x64 mono is not fun. I have a demo if anyone wants to see it, but the appearance is never quite as good as the hand-drawn built-in versions. nevertheless, im thinking of using it a bit on the graph screen. The other idea was to try to draw formulae on the main screen using scaling fonts to draw fractions, superscript and subscript

nicely.

I agree the SDK is very good. through use of it, im no longer convinced the output code is unoptimised, although i wouldn't like to claim it's totally optimised either. whilst debugging, it's clear the compiler has already eliminated any dead code, inlined functions and removed anything bogus. This is good news as i think if it were totally unoptimised it would have generated a lot more code.

Also thanks for giving out the code and writing the excellent manual!

Re: Another RPN calculator program for the Casio FX-9860!

*Message #3 Posted by **Nigel J Dowrick** on 17 Mar 2009, 3:47 p.m.,*
in response to message #2 by hugh steers

Thank you for your kind words - particularly nice since they come from someone whose knowledge of calculators I have long admired! I never had any idea of porting my program to another machine (running my RPN calculator on the HP-50g would be pointless, although having Reckon there would be great!) so I didn't hesitate to implement menus.

The low-resolution display on the Casio is a problem, but I suppose that the 1k of video RAM it implies is part of the machine's charm and one reason for its speed. The limit is only really a problem for complex numbers, when I want both parts displayed on one line. If complex numbers are only used occasionally, then displaying them with the built-in minifonts might be bearable. I hadn't previously realised how complicated display formatting can be!

I like the angle tags in use too, but behind the scenes the code that currently supports them is ridiculously complicated. I suspect that this is due more to messy programming than anything else - I must review the code.

Anyway, thank you again for your comments. Writing my own calculator has certainly given me a lot to think about - I suspect it might become addictive! I think you'd probably agree.

Re: Another RPN calculator program for the Casio FX-9860!

*Message #4 Posted by **hugh steers** on 18 Mar 2009, 2:47 p.m.,*
in response to message #3 by Nigel J Dowrick

One of the good bits about writing your own calculator is, once it has reached the actually working stage, it's fairly easy to add stuff. I'm planning to add stuff that i find useful. On another calculator, this would have to be a program.

You are right about the display formatting. the C/C++ language does not have a lot of fine control over display of numbers. I have another such problem with matrices. Currently, Reckon formats each number as 6 figures when inside a matrix in the vague hope that it will fit on the screen - mostly not. To do this properly really requires a matrix "viewer" which can scroll. Also how do you peek at one entry to full precision. These things are significant work if done properly.

For complex number display, what i did on the uWatch (www.calcwatch.com) which has a 16 character screen is convert the real part and iparts to strings, then build the display string and see if it is too big. If so, i reduce the ipart a bit otherwise i reduce the real part a bit and try again. Furthermore, i try to trim away any unecessary chars in the numbers (leading zeros etc.). The whole thing is messy, but i was happy that it managed to get the most on the screen most of the time.

code snippets:

```
// tidy as many unnecessary chars as possible from a sci number
static void tidyNumber(char* p)
{
    if (*p == '-') ++p; // skip sign
    if (*p == '0' && p[1] == '.')
    {
        // 0.xxx
        strcpy(p, p+1);
    }


    p = strchr(p, 'e'); // exponent?
    if (p)
    {
        ++p;
        if (*p == '+')
            strcpy(p, p+1);


        if (*p == '-') ++p; // '-' allowed


        if (*p == '0') // leading zero in exponent
            strcpy(p, p+1);
    }
}


void FormatValue(char* dest,
                 double value, double ivalue,
                 int space, BOOL tidy)
{


   ....


           if (ivalue == 0)
            {
                // fit into `space's on screen
                int p = space-1;
                int l;
                if (value < 0) --p; // adjust for sign


                for (;;)
                {
                    sprintf(dest,"%.*g", p, value);
                    l = strlen(dest);


                    if (l <= space)
                        break;


                    if (tidy)
                    {
                        // try tidying
                        tidyNumber(dest);
                        if (strlen(dest) <= space)
                            break;
                    }


                    p -= (l - space);
                    if (p <= 0) break; // fail safe
                }
            }
            else
            {
                int l;
                char c = '+';
                int id = 6;
                int d = 7; // cooked guesses at rp, ip sizes


                if (ivalue < 0)
                {
                    ivalue = -ivalue;
                    c = '-';
```

```
                }

            again:

                // textify the real part
                sprintf(dest,"%.*g", d, value);

                // tidy to save precious chars
                tidyNumber(dest);

                l = strlen(dest);
                dest[l++] = c;
                dest[l++] = 'i';
                dest[l] = 0;

                if (ivalue != 1)
                {
                    int li;
                    // now fit as much of the ipart as we can
                    for (;;)
                    {
                        sprintf(dest + l,"%.*g", id, ivalue);
                        tidyNumber(dest+l);

                        li = strlen(dest);
                        if (li <= space) break; // done

                        id -= (li - space);
                        if (id <= 0)
                        {
                            // very rarely we cant fit ANY of the ipart
                            // on display. shorten the real part and
                            // try again.
                            d -= 2;
                            id = d-1;
                            if (d > 2) goto again;
                        }
                    }
                }
            }

            // ensure we dont overrun whatever.
            dest[space] = 0;


...
}
```

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OT: For the (oops!) AOS lovers among us

*Message #1 Posted by **Frank Rottgardt** on 16 Mar 2009, 7:34 a.m.*

For the AOS lovers among us:

in november 2008 the university bookstore in Saskatchewan still had some HP-20s on stock for a reasonable price? On request the send items also abroad. Don´t know how difficult it is nowadays to get hold of new unused HP-20s. Maybe all are sold by now.

Check out:

Price list university bookstore

Greetings from Sweden // Frank

The underrated hp-20s

*Message #2 Posted by **hugh steers** on 16 Mar 2009, 9:00 a.m.,*
in response to message #1 by Frank Rottgardt

I agree, the hp-20s is a great little calculator, if you can survive without RPN.

A while back, I acquired a new one thinking it wouldn't be long before you couldn't buy new anymore. It struck me as a great little scientific calculator for normal use – and it's programmable, which has become a rarity nowadays.

The screen is very clear (segments) and the keys work well. Mine had that hp quality build you don't get anymore and reasonably priced.

All in, I think the 20b has been mostly overlooked and is generally underrated. I think this is because it doesn't do anything particularly outstanding. However, in today's world, most things are afflicted with some problem or other that makes things worse. This calculator does what it says on the tin and it works.

The idea of pre-storing some ROM programs for problems like solve, integrate and matrices, although somewhat of a cop-out, are actually a welcome bonus on a machine that otherwise would not have this function at all.

Re: The underrated hp-20s

*Message #3 Posted by **Marcus von Cube, Germany** on 16 Mar 2009, 11:18 a.m.,*
in response to message #2 by hugh steers

I've picked one up some time ago in an auction. It's somewhat battered and it has an electrical instability that makes it crash to an extend where only shorting the battery terminals helps. Sometimes a software reset/keyboard test makes it work again; sometimes not. As a former AOS customer (my first full AOS machine was an SR-56, its predecessor in my possesion, the SR-51A had only multiply/divide/exponentiation before addition/subtraction and no parenthesis) it was just interesting to see

what HP did in that area. The chain mode only business models are somewhat disgusting in this respect.

The 20S is a nice little programmable calc. Today, looking at key codes instead of mnemonics isn't much fun but for a frequent user, this may become second nature (as it was for me back in my SR-56/TI-59 days.) Today an HP-21S has arrived. It seems to work flawlessly and will replace the 20S in most cases where I want to play around with a programmable AOS machine from HP.

I'm still looking for a 27S...

Re: The underrated hp-20s

*Message #4 Posted by **Walter B** on 17 Mar 2009, 2:41 a.m.,*
in response to message #3 by Marcus von Cube, Germany

> Quote:
>
> Today an HP-21S has arrived. It seems to work flawlessly and will replace the 20S in most cases where I want to play around with a programmable AOS machine from HP.

The 21S is a really unique little calc, replacing a lot of statistical tables in most compact and portable format. It sits on my office desk for that reason. If it only had a ALG/RPN switch, I'd avoid erasing results by putting in the next argument for calculation ... ;-)

Re: The underrated hp-20s

*Message #5 Posted by **DaveJ** on 16 Mar 2009, 5:27 p.m.,*
in response to message #2 by hugh steers

> Quote:
>
> I agree, the hp-20s is a great little calculator, if you can survive without RPN.
>
> A while back, I acquired a new one thinking it wouldn't be long before you couldn't buy new anymore. It struck me as a great little scientific calculator for normal use – and it's programmable, which has become a rarity nowadays.

Rare?
Casio have no less than 5 current programmable non-graphing models:
http://www.casio-intl.com/calc/programmable/

The old 50-F has just been discontinued, but still available in plenty of places:
http://www.casio-intl.com/calc/programmable/past.html

Dave.

Re: The underrated hp-20s

*Message #6 Posted by **bill platt** on 16 Mar 2009, 5:49 p.m.,*
in response to message #5 by DaveJ

I don't think they sell any of them in the U.S.

Re: The underrated hp-20s

*Message #7 Posted by **DaveJ** on 16 Mar 2009, 6:00 p.m.,*
in response to message #6 by bill platt

> Quote:
>
> I don't think they sell any of them in the U.S.

I believe that's correct, but when has that ever stopped anyone in todays global market?

You can't buy my uWatch in the US, but probably 80% of my customers are from the US.

Dave.

Re: The underrated hp-20s

*Message #8 Posted by **bill platt** on 16 Mar 2009, 8:23 p.m.,*
in response to message #7 by DaveJ

Um, no sizable number of people will go hunting for programmable calcs. They will simply buy what's on the shelf, assume there is no such thing and use their computers.

Uwatch etc are afficianados.

Re: The underrated hp-20s

*Message #9 Posted by **DaveJ** on 16 Mar 2009, 9:59 p.m.,*
in response to message #8 by bill platt

> Quote:
>
> Um, no sizable number of people will go hunting for programmable calcs. They will simply buy what's on the shelf, assume there is no such thing and use their computers.
>
> Uwatch etc are afficianados.

Of course, I wasn't talking about the general population, just pointing out there are no shortage of non-graphic programmables out there. The small number of people who really need or want a non-graphic programmable calc will have little trouble finding or buying a current model.

Joe Average would assume a programmable calc these days is one of the big graphics one, as that's all that is on the shelves in most places I suspect.

Dave.

Re: The underrated hp-20s

*Message #10 Posted by **bill platt** on 16 Mar 2009, 10:01 p.m.,*
in response to message #9 by DaveJ

But I do find it curious why the US is conspicuously absent from marketing plans. Why are Americans not interested, or perceived as not interested in programmables? Why is the rest of the world interested?

Re: The underrated hp-20s

*Message #11 Posted by **DaveJ** on 16 Mar 2009, 11:01 p.m.,*
in response to message #10 by bill platt

> Quote:
>
> But I do find it curious why the US is conspicuously absent from marketing plans. Why are Americans not interested, or perceived as not interested in programmables? Why is the rest of the world interested?

I remember someone on here saying some time back that it had to do with the US education policy(s) or something to effect, so there is effectively zero market in the US by way of some form of quasi-regulation?

Dave.

Re: The underrated hp-20s

*Message #12 Posted by **bill platt** on 17 Mar 2009, 12:12 a.m.,*
in response to message #11 by DaveJ

Schools are run at the local level in the US. There is no national policy except for bribery--and the overwhelming majority of money for public schools comes from local, followed by state. Of course almost no school district would eschew the federal handouts but it requires all sorts of stuff---the latest federal initiative is called "No Child Left Behind" and has to do with testing and school performance...

There is certainly no consistent calculator policy across the U.S. for schools.

There is a national policy (not government) regarding professional engineer license tests--it is a private testing company with national scope which forbids graphing calcs but allows programmables as long as they have no I/O and no QWERTY--which has evolved to a "permitted list" which included the 33s and 35s.

But no other programmables in wide circulation is interesting though I think the reason may be that other areas have an education market that uses them? Just a thought.

Re: The underrated hp-20s

*Message #13 Posted by **DaveJ** on 16 Mar 2009, 7:27 p.m.,*
in response to message #2 by hugh steers

> Quote:
>
> I agree, the hp-20s is a great little calculator, if you can survive without RPN.

I agree too, I like the 20S and used it as my daily work calc for some time.

Two annoying things got to me though, the exponent key being shifted was a huge mistake, makes it tedious to do engineering work. It should be were the backspace key is IMO.

The other thing was the annoying "E" display for the exponent, it is not obvious at a glance. Underscore or a space should have been used instead.

It's available in two colour schemes too, mine is the less appealing (IMO) green and purple.

Dave.

Re: The underrated hp-20s

*Message #14 Posted by **hugh steers** on 16 Mar 2009, 8:49 p.m.,*
in response to message #13 by DaveJ

Why did they do that - the shifted E? clearly a design error.

Also biggest thing that hacks me off with the 71b is the shifted delete key. shifted delete!! what were they thinking?

Re: The underrated hp-20s

*Message #15 Posted by **DaveJ** on 16 Mar 2009, 10:01 p.m.,*
in response to message #14 by hugh steers

> Quote:
>
> Why did they do that - the shifted E? clearly a design error.

I'm at a loss as to why any scientific calc would have a shifted E key. I can't imagine it ever getting past any sensible design review meeting... Oh, now I get it...

Dave.

Re: The underrated hp-20s

*Message #16 Posted by **Karl Schneider** on 16 Mar 2009, 11:53 p.m.,*
in response to message #13 by DaveJ

DaveJ stated,

> Quote:
>
> The other thing was the annoying "E" display for the exponent, it is not obvious at a glance. Underscore or a space should have been used instead.

I agree about the 'run-together' mantissa and exponent in the low-end Pioneers with 7-segment LCD's, but I suspect that the reason was to provide more uniformity of source code between Pioneer models. The other models displayed such numbers the same way, but the dot-matrix displays of the mid- and high-end Pioneers allowed a more distinct "E" to be displayed. Subtle detail: The HP-32S displayed a full-size "E", but the HP-32SII displayed a reduced-size "E".

Hugh Steers stated,

> Quote:
>
> The idea of pre-storing some ROM programs for problems like solve, integrate and

matrices, although somewhat of a cop-out, are actually a welcome bonus on a machine that otherwise would not have this function at all.

I suppose that having these functions as keystroke programs in ROM is better than not having them (especially for marketing!), but here are the fundamental problems with the HP-20S implementation:

1. Usage and protocol of the special functions is not at all intuitive, so the manual would generally be needed.

2. Suppose that the user has programmed a function, evaluates it at a few points, then wants to integrate or root-solve it. The user initiates the special function in PRGM mode through the LOAD function, and -- *poof!* -- the user's function in program memory is wiped out. That kind of impractical silliness would have been kept out of the HP-15C as an unwavering design objective.

-- KS

Edited: 16 Mar 2009, 11:55 p.m.

Re: OT: For the (oops!) AOS lovers among us

*Message #17 Posted by **Ron G.** on 16 Mar 2009, 11:49 a.m.,*
in response to message #1 by Frank Rottgardt

No need to call. I called 'em up, and was told they don't have any.

Re: OT: For the (oops!) AOS lovers among us

*Message #18 Posted by **nacho** on 16 Mar 2009, 7:53 p.m.,*
in response to message #17 by Ron G.

I love My 20S with RPN ;)

http://img10.imageshack.us/img10/6825/18012008134s.jpg

Edited: 16 Mar 2009, 7:55 p.m.

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OT: For the (oops!) AOS lovers among us

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OT: New national record

*Message #1 Posted by **Walter B** on 15 Mar 2009, 11:40 p.m.*

Please look at this and that. The shipping is confined, so you know where the bidders live.

Re: OT: New national record

*Message #2 Posted by **db (martinez, ca.)** on 15 Mar 2009, 11:51 p.m.,*
in response to message #1 by Walter B

It's a bargain. They are full of what that guy smokes in his TI-83.

Re: OT: New national record

*Message #3 Posted by **Gonzalo Fernandez (Spain)** on 16 Mar 2009, 7:56 a.m.,*
in response to message #2 by db (martinez, ca.)

See also this

This buyer have spent more than $300 in 3 HP41 cases. An HP41 case is worth $105?

Re: OT: New national record

*Message #4 Posted by **Maximilian Hohmann** on 16 Mar 2009, 8:04 a.m.,*
in response to message #3 by Gonzalo Fernandez (Spain)

Hi!

> Quote:
>
> An HP41 case is worth $105?

Much much more. I would say: $999. If this price settles, I will start selling my HP41 cases for dumping prices like $889 and finally be able to afford a decent summer holiday :-)

Greetings, Max

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GTO Go back to the main exhibit hall

HHC 2008 Programming Contest revisited

*Message #1 Posted by **David Hayden** on 15 Mar 2009, 11:32 p.m.*

While surfing around the other day, I came across the [link:http://home.comcast.net/~genela/HHC2008 Programming%20Contest.pdf]HHC 2008 Programming Contest[/link] and This thread discussing solutions.

I wrote my own solution before checking how others had done it. Mine turned out to be similar to Gjermund Skailand's: convert the points to (row,position) format, expressed as a complex number, and then see if the points match one of the required shapes. There's no point in showing that implementation since I think Gjermund's is better :).

This morning I thought of a slight modification which is shown below. After converting to row,column format, I normalize the shape so that the length of P2-P1 is 1.0 and P1 is at (0,0). Once the shape is thus normalized, I can compare it to the 6 normalized solutions. The main program is thus quite small. A trivial optimization would be to remove the first before comparing to the solution set since normalizing guarantees that the first point is (0,0)

This solves the test set as given in Egan's "PROBS" program and timed using TEVAL on my 50g in 2.75 seconds. It is still slower than Egan's final solution.

```
«
    @ Convert to row,column format
    «  n «
    n DUP
    1. -
    2. *
    0.25 +
    ƒ 0.5 -
    IP  @ That's the row number.
    @ Save it and get the starting value for the row
    SWAP
    OVER
    DUP 1. +
    *
    2. /
    1. +
    -
    RC
    » »


      RC «


                  @ MAIN PROGRAM STARTS HERE
    SORT          @ Sort points by position
    RC DOLIST     @ convert to (row,col) format
    DUP 2. GET
    OVER HEAD
    -             @ P2-P1
    ABS /         @ Normalize length
    DUP HEAD -    @ Normalize position


    @ List of the normalized shapes
    { { (0. 0.) (1. 0.) (1. 1.) }
      { (0. 0.) (0. 1.) (1. 1.) }
      { (0. 0.) (1. 0.) (1. 1.) (2. 1.) }
      { (0. 0.) (0. 1.) (1. 0.) (1. 1.) }
      { (0. 0.) (0. 1.) (1. 1.) (1. 2.) }
```

```
      { (0. 0.) (0. 1.) (1. 0.) (1. 2.) (2. 1.) (2. 2.) }
    }
    SWAP POS      @ Position of shape in the list
    IF DUP 0. ==
    THEN
      DROP
      "ERROR"
    ELSE
      {"TRIANGLE" "TRIANGLE"
       "PARALLELOGRAM" "PARALLELOGRAM"
       "PARALLELOGRAM"
       "HEXAGON"
      }
      SWAP GET
    END
  »
»
```

Re: HHC 2008 Programming Contest revisited

*Message #2 Posted by **Gene Wright** on 16 Mar 2009, 10:22 a.m.,*
in response to message #1 by David Hayden

Wonderful solution!

I have been very happy with the reception the contest received here at the forum.

My only real regret is that I fear this contest was way too involved to be done AT the conference.

Perhaps this year I'll have two contests... one for actual conference attendees and the other for our virtual attendees here.

Of course, that would mean I would have to have a "door prize" of some sort for the fastest / best solution within a period of time.

I think I can work that out. :-)

Re: HHC 2008 Programming Contest revisited

*Message #3 Posted by **David Hayden** on 16 Mar 2009, 10:33 p.m.,*
in response to message #2 by Gene Wright

> Quote:
>
> Wonderful solution!

Thanks. It's a wonderful little problem!

> Quote:
>
> I have been very happy with the reception the contest received here at the forum.
>
> My only real regret is that I fear this contest was way too involved to be done AT the conference.
>
> Perhaps this year I'll have two contests... one for actual conference attendees and the other for our virtual attendees here.

I think it's a double edged sword. The problem received a lot of attention here because it's fairly interesting

and difficult and can be attacked in several different ways. But those same qualities may have made it too hard to tackle during the limited time available at the conference.

I wasn't at the conference but as I recall from reading the schedule, attendees basically had Saturday night to write their code. So I'd think that the contest should aim to be solvable in about 3 hours (gotta let people get some sleep ya know!) :)

Here's something to consider: ask a few trusted people who wont' attend the conference to preview the problem and attempt to solve it in, say 3 to 6 hours. They could send you their solution, the time it took to solve and any comments on the problem. That might help you gauge the difficulty of the problem.

> Quote:
>
> Of course, that would mean I would have to have a "door prize" of some sort for the fastest / best solution within a period of time.
>
> I think I can work that out. :-)

Heck, I'd chip in $10 to help sweeten the pot. Anyone else?

Thanks Gene, Dave

Re: HHC 2008 Programming Contest revisited

*Message #4 Posted by **Egan Ford** on 17 Mar 2009, 7:24 a.m.,*
in response to message #2 by Gene Wright

> Quote:
>
> My only real regret is that I fear this contest was way too involved to be done AT the conference.

I see no reason why you could not have announced the contest 7 days before the conference and then have collected the results during the conference. That would allow more time for more people to work on more interesting puzzles. I would recommend not posting publicly however to avoid spoilers. I would announce, then privately send out a PDF to interested individuals. This will also work for a contest that may involve a free-bee given to conference attendees. At least the problem is in their minds. And, I believe that you'll get more participants.

> Quote:
>
> Perhaps this year I'll have two contests... one for actual conference attendees and the other for our virtual attendees here.

That sounds like a lot of work for you. I'd stick to one.

> Quote:
>
> Of course, that would mean I would have to have a "door prize" of some sort for the fastest / best solution within a period of time.

Wasn't that the case? Fastest solution in 24 hours? Personally I like days to think about a problem. It

allows me to explore many avenues and make multiple discoveries without the stress of having to produce my best in a short amount of time.

Re: HHC 2008 Programming Contest revisited

*Message #5 Posted by **Thomas Klemm** on 29 Mar 2009, 8:40 a.m.,*
in response to message #1 by David Hayden

Your solution is really beautiful! It made me have a closer look at the contest. Unfortunately I didn't have the time when it was posted. May I suggest some improvements?

1. To get the row number the quadratic equation doesn't have to be solved exactly since only the integer part is used. Therefore it's enough to use this formula:

   ```
   r = ip(sqrt(2n) - 0.5)
   ```

2. The absolute value of the column isn't important since only the difference to the head counts. Thus adding 1 can be eliminated.

3. Using n in the procedure RC saves a DUP and a SWAP. I assume this is faster but I might be wrong.

4. Since RC is used only once the procedure can be inlined. Here again it's just my assumption that this is faster than using a local variable. I wanted to remove the other local variable n as well since it wasn't really used. But DOLIST needs that.

5. Skip (0 0) as you suggested.

6. I've added "ERROR" to the list of messages. Don't know whether this makes it any faster. At least it's shorter.

Here's what I got:

```
%%HP: T(3)A(D)F(.);
\<<
  SORT           @ Sort points by position
  \<<  \-> n     @ Convert n to (row,col) format
    \<<
    n
    2 *
    \v/ 0.5 -
    IP  @ That's the row number.
    @ Save it and get the starting value for the row
    n
    OVER
    DUP 1 +
    *
    2 /
    -
    R\->C
    \>>
  \>> DOLIST     @ Convert points to (row,col) format
  DUP 2 GET
  OVER HEAD
  -              @ P2-P1
  ABS /          @ Normalize length
  DUP HEAD -     @ Normalize position
  TAIL           @ Skip (0 0)


  @ List of messages
  {
    "ERROR"
    "TRIANGLE"
    "TRIANGLE"
    "PARALLELOGRAM"
    "PARALLELOGRAM"
    "PARALLELOGRAM"
```

```
    "HEXAGON"
  }


  @ List of the normalized shapes
  {
    { (1 0) (1 1) }
    { (0 1) (1 1) }
    { (1 0) (1 1) (2 1) }
    { (0 1) (1 0) (1 1) }
    { (0 1) (1 1) (1 2) }
    { (0 1) (1 0) (1 2) (2 1) (2 2) }
  }
  ROT POS      @ Position of shape in the list
  1 + GET      @ Return message
\>>
```

And then I was thinking whether we could also get rid of the division by 2 when calculating the column. This changes the list of normalized shapes but my tests suggest that it makes it indeed a little faster:

```
%%HP: T(3)A(D)F(.);
\<<
  SORT          @ Sort points by position
  \<<  \-> n    @ Convert n to (row,col) format
    \<<
    n
    2 *
        DUP
    \v/ .5 -
    IP  @ That's the row number.
    @ Save it and get the starting value for the row
    SWAP
    OVER
    DUP 1 +
    *
    -
    R\->C
    \>>
  \>> DOLIST    @ Convert points to (row,col) format
  DUP 2 GET
  OVER HEAD
  -             @ P2-P1
  ABS /         @ Normalize length
  DUP HEAD -    @ Normalize position
  TAIL          @ Skip (0 0)


  @ List of messages
  {
    "ERROR"
    "TRIANGLE"
    "TRIANGLE"
    "PARALLELOGRAM"
    "PARALLELOGRAM"
    "PARALLELOGRAM"
    "HEXAGON"
  }


  @ List of the normalized shapes
  {
    { (1 0) (1  2) }
    { (0 1) (.5 1) }
    { (1 0) (1  2) (2  2) }
    { (0 1) (.5 0) (.5 1) }
    { (0 1) (.5 1) (.5 2) }
    { (0 1) (.5 0) (.5 2) (1 1) (1 2) }
  }
  ROT POS      @ Position of shape in the list
  1 + GET      @ Return message
\>>
```

I used a 48gx for timing (Egan's method):

```
Your original program:   4.45s - 4.77s
My first solution:       4.15s - 4.47s
My second solution:      4.09s - 4.38s
```

Though the intervalls are overlapping they suggest that the last solution is the fastest.

Edited: 29 Mar 2009, 8:45 a.m.

Re: HHC 2008 Programming Contest revisited

*Message #6 Posted by **David Hayden** on 30 Mar 2009, 1:10 p.m.,*
in response to message #5 by Thomas Klemm

> Quote:
>
> Your solution is really beautiful! It made me have a closer look at the contest. Unfortunately I didn't have the time when it was posted. May I suggest some improvements?

Please do! That's the great thing about this forum.

> Quote:
>
> To get the row number the quadratic equation doesn't have to be solved exactly since only the integer part is used. Therefore it's enough to use this formula:
>
> ```
> r = ip(sqrt(2n) - 0.5)
> ```

Good point. Thanks. In a later version, I used the fractional part of the result to quickly get the column number. I'll have to experiment with this to see which way is faster overall.

> Quote:
>
> - The absolute value of the column isn't important since only the difference to the head counts. Thus adding 1 can be eliminated.
>
> - Using n in the procedure RC saves a DUP and a SWAP. I assume this is faster but I might be wrong.
>
> - Since RC is used only once the procedure can be inlined. Here again it's just my assumption that this is faster than using a local variable. I wanted to remove the other local variable n as well since it wasn't really used. But DOLIST needs that.

Whoops! Thank you for pointing out these inefficiencies. It always amazes me how another set of eyeballs looking at some code can improve it.

Creating RC has a local variable came from my original solution which I didn't post here. I used it in a couple of places in that version and when I came up with the one that I posted, it never even occurred to me to check whether I was calling it multiple times.

On the other hand, I suspect that in-lining the function will make only a small difference in performance since accessing a local variable is very fast. Hmmm... Thinking about this more, it might be fastest to have the file put RC in a global. That way the time requires to skip over the function gets pushed to "file load time" instead of run time, and the goal is to reduce run time.

> Quote:
>
> - Skip (0 0) as you suggested.

> - I've added "ERROR" to the list of messages. Don't know whether this makes it any faster. At least it's shorter.

That last change is downright embarrassing :) I should have thought of that one myself. It's much cleaner.

Thanks again for the improvements.

Dave

Re: HHC 2008 Programming Contest revisited

*Message #7 Posted by **Thomas Klemm** on 30 Mar 2009, 3:50 p.m.,*
in response to message #6 by David Hayden

> Quote:
>
> That's the great thing about this forum.

I fully agree!

> Quote:
>
> In a later version, I used the fractional part of the result to quickly get the column number. I'll have to experiment with this to see which way is faster overall.

Sounds interesting. Let us know your results.

> Quote:
>
> it might be fastest to have the file put RC in a global.

Without knowing the details I still assume in-lining is faster since you don't need the time for the look-up of the variable.
However I agree that you won't gain much since it's done only once. Whatever is done in the DOLIST-loop weights much more.

> Quote:
>
> I should have thought of that one myself.

I was only inspired by your ideas.

Kind regards
Thomas

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HP Forum Archive 19

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HELP: Solver routine for original principal loan amount?

*Message #1 Posted by **Phil K** on 15 Mar 2009, 11:11 p.m.*

I have several model HP calculators, including the 12C, 17B-II, 19B, and 27S and love them all. Though the 27S is probably my favorite overall for its wide built-in functionality, I like the 17B-II for its simplicity and suitability for a specific purpose, and the 19B for its alphanumeric keyboard. I guess am somewhat of a junior collector, but not for collecting, so much as for business purposes. Like most who work in the mortgage or investment industries, I started out on a 12C, but although I like RPN, I felt the 12C was too complicated and too slow so I graduated to the 17B-II and that's what started the process. Once I discovered the Solver functionality, I was hooked. I have yet to discover the pleasure of working with the high-end graphing calculators and might be interested in a suggestion of which one I would want to try based on the information below.

I have written some fairly long custom solver routines using nested if-then statements in combination with algebraic equations, though I am not a mathematician by any stretch of the imagination. Most of the time I am flying by the seat of my pants by slicing and combining portions of known formulas, coupled with trial and error to work towards a functional formula for my specific purposes. Often times I create a short formula for one result, then repeat that process for other desired results until I have all the results I wish to obtain. Finally I compile all the formulas together into one solver routine. Not the best way to do things, but it works for me. Some things I have done are a moving average commission calculator formula for a commission versus draw compensation plan, and a pricing scheme for a very involved sales process of foundation repair which included many options, each with their own costs and with a graduated discount pricing structure. In that formula, I even incorporated a commission calculator so I could see how much I was earning real-time as I was pricing the job.

In one example several years ago, I was able to get almost all the correct results every time from a very complicated formula I created but it had one error. After speaking with a Tom Helm at HP technical support, he not only found the error for me, but he informed me my formula was about 4 times as long as needed and showed me a much shorter (and faster) solution using built-in USPV & USFV functions and rearranging the formula to find for 0.

He even taught me a layout technique where I could place all the variables at the beginning of the solver routine in the order I wished them to appear on the keys (A+B+C+D+E+V+W+X+Y+Z*0:), so I could enter the data on one screen, hit the "more" key, and in the second screen I would have all the keys to find the desired results. Pretty neat if you ask me. Unfortunately, I can't track him down now since tech support has all been outsourced to India (could be partly why we Americans are in this "recession" and are losing jobs and homes, but don't get me started on that soapbox). I know he would have had an answer for this present dilemma. So I decided to toss it out there and see if anyone can help me.

Which brings me to today's dilemma...I am evaluating clients with existing mortgages for possible modification of terms to reduce interest rate, possibly reduce principal amount, and even change terms to effectively reduce the monthly payment amount, thereby making it more affordable and preventing the need for foreclosure and Sheriff's sale. In order to do this properly, I need to know exactly what they have now.

This may not surprise most here, but it is shocking to me to see just how many people who purchase houses don't know what kind of loan they have or how it is calculated. As a result of economic downturn coupled with their lack of understanding of how the loans work, these people are now unable to pay and are at risk of losing their homes to foreclosure. For many, it's due to the aggressive predatory lending practices of the mid to late 2000s, being forced to borrow more than they should have.

Often times they were confronted with completely different terms than that which they had agreed to before. In those cases, they were forced to sign new "Truth in Lending" forms once they reached the closing table, basically absolving the mortgage broker of any "wrongdoing" such as a bait and switch. Some may say that's why they shouldn't own homes to begin with and that they deserve what they are getting (buyer beware), but I am not one to judge, I just want to help them keep their homes (and earn a fair income doing it).

I often have clients who not only don't know how much they originally borrowed, but many also don't know exactly what their interest rate is now or even what it may have started at. They may not even remember what month and year they took the loan out to determine how many payments have been made so far. Normally most, if not all of this information can be gleaned from a recent statement, but sometimes it only gives me a remaining loan balance and payment amount.

What makes this so difficult is that I am evaluating them mid-stream and often only have information about the exact position they are in now on the amortization cash flow stream (PMT & BAL), and a relatively rough estimate of when they started (i.e. "summer of 2005), and without the necessary 4 variables (N, I%, PMT, & FV), finding the 5th (PV) with the built-in TVM is impossible. Then there are the adjustable rate loans and of course, if it has adjusted one or more times, there is no way to actually back into the multiple rates it has adjusted through. There may also be an odd period payment at the end. Still there is a blended rate that can be solved for which yields essentially the same results.

In order to properly evaluate them, based on their known present monthly payment amount, and known number of years the loan was originally taken out for (i.e. $1,467.63 for 30 years), and using the remaining balance ($194,897.81), I have to come back to an original principal loan amount and an interest rate. Sometimes, I know the rate and can simply find for present value using the built-in TVM program, but I know that the solver can be programmed to use iterative solving to obtain a solution from less than the necessary known variables. In fact, I have found an online calculator that essentially does most of this (though it still needs 4 variables), but I can not extract the formula from that site to do the same thing. See http://www.webcalcsolutions.com/Mortgage-Calculators.asp and choose "Existing Mortgage Analysis". To see how the results for original loan amount are obtained, mouse over the result (Original Loan Amount). I have tried to recreate this formula on the 17B-II, but I can't figure it out.

This calculator works iteratively to solve for PV, but it does need both the interest rate and the original terms to accomplish this. I know the same can be done with the TVM built-in, using the known variables (N=360, I%=8, PMT=1,467.53, FV-0) to find PV=$200,000. Still, it seems likely that with ONLY the remaining balance (BAL), the original terms (N), the payment amount (PMT), and the ending balance (FV) that the rate (I%) AND original principal amount (PV) could be iteratively solved for, though it might need a seed and there could possibly be several solutions if the terms are not known. Still, if it gets me in the ballpark (i.e. PV=$200,000.12), the rest is obvious (PV=$200,000).

To still further complicate things, these mortgage payments often include an escrow for taxes, insurance, and PMI, and many times the portions are not disclosed on the statements. In those situations, I only have a balance and terms and an estimate of rate to work with. Using an approximate rate, the present balance and terms, it seems that again, an iterative solution could be found that would equal 0 at the end of 30 years, and work back to a balance at a guessed rate, and provide a payment amount accordingly. If again it gets me in the ballpark on the initial loan amount, that works.

Can anyone lend a hand in this project? I would be forever grateful if I could get a formula on the calculator that does this, and it would be used for a very good cause considering I am ultimately keeping people from losing their homes to the mortgage companies.

By the way, a plethora of very nice calculators for a myriad of purposes are free for demonstration use online here (http://www.webcalcsolutions.com/Calculators.asp). It would be one heck of a portfolio of solver routines for us if someone could intuitively extract them from the online versions. Perhaps someone or persons could create a database of solver routines that we could all share and work from to customize for our own purposes (hint)? Just a thought. ;-)

Edited: 15 Mar 2009, 11:32 p.m.

Re: HELP: Solver routine for original principal loan amount?

*Message #2 Posted by **Martin Pinckney** on 16 Mar 2009, 12:14 a.m.,*
in response to message #1 by Phil K

Phil,

Next time, could you not be so parsimonious with your words? ;-)

I'm afraid I can't help you with your dilemma, but I can suggest that, if you are using your 17BII so effectively, why consider a graphing model? I have both the 17B and 27S, and I share your love for the solvers on these. I also have a 48SX, and, at least for me, it is maddeningly difficult to use, and excruciatingly slow at that. As someone once said, I cannot do much more than some simple calculations without getting out the manual(s).

Many here sing the praises of the 50G as much faster and a better screen, but still it must be complicated to use. I am sure you will get many opinions.

Re: HELP: Solver routine for original principal loan amount?

*Message #3 Posted by **Phil K** on 16 Mar 2009, 1:35 a.m.,*
in response to message #2 by Martin Pinckney

Well, now you see why my solver routines were so long too! LOL!

Re: HELP: Solver routine for original principal loan amount?

*Message #4 Posted by **Phil K** on 16 Mar 2009, 1:40 a.m.,*
in response to message #2 by Martin Pinckney

By the way, thanks for the calculator suggestions. I have a co-worker who uses a 48g (I think?), and his TVM is all on one screen, multiple lines. He can change a variable and the rest update on screen (COOL!) I will have to do this eventually, but for now I want to learn more about Solver and build my math skills as well.

(Could I have said that in 20 words or less...yes...would it have been representative of me...well, no.)

LOL!

Re: HELP: Solver routine for original principal loan amount?

*Message #5 Posted by **Phil K** on 16 Mar 2009, 1:43 a.m.,*
in response to message #2 by Martin Pinckney

I will post the routines I wrote before, perhaps others can gain some insight as to how powerful Solver really is. I used to program in BASIC (never graduated to more powerful languages), and Solver is in many ways similar to BASIC, with respect to IF/Then/Else/Else. I really enjoyed seeing the fruits of my many hours of mental labor. Some will see it as pure overkill, but then...you already know me, so it won't surprise you.

Cheers!

Re: Other Solver routines (was "HELP: Solver routine for original principal loan amount?")

*Message #6 Posted by **Phil K** on 16 Mar 2009, 3:29 a.m.,*
in response to message #5 by Phil K

Here's the one I wrote to price out basement waterproofing, including many feature options, variations in pricing, and a full commission calculator based on several factors including tenure and commission scale, cost per foot discounting, three pricing schemes (residential, commercial, realty), and completely arbitrary profit padding. This tool allowed one to price on the spot, negotiate better pricing to get the sale, and all the while keep watch on how much commission he/she was gaining/losing based on the various features and pricing schemes (since it was 100% commission based compensation).

Disclosure: Those selling were only doing what they were hired to do and weren't breaking any laws. Negotiating the price for a particular job is completely legal and if the homeowner agrees to a specific price, it is their prerogative.

The basement waterproofing world is one of the most profitable construction trades there is, and it is a high-pressure, sell on the spot, "one-call close" world, where pricing is all across the spectrum, as is the type of work being done. The company this was written for was at the time, the largest company in the country, and in my opinion did the finest quality work of any, and provided the strongest warranty in the industry. It may very well still be, but I can not say for sure.

What I can tell you is, if you have a leaky basement, NEGOTIATE THE PRICE DOWN LIKE YOUR LIFE DEPENDS ON IT! NEVER settle for the first price, or the second, or even the third from the same company. Stick to your guns and the price will come down. They want your business and will only give up negotiating (usually days later) when it is no longer profitable. The price for a typical basement water management installation job can range from a couple thousand dollars for a shoddy installation, to well into the 5 digits (can be $20,000 or more for a 300 linear foot basement) for a top quality water management system.)

This one should cause a few questions... :-)

I apologize for not formatting (indenting) this out to show the nested if/then statements properly. I think it's supposed to be a new indentation for each set of parenthesis, but I don't know for sure. Since I don't know the proper way to show this, perhaps someone can clean it up for all.

(FEET+PUMP+ACE+C/OUT+PIN+POST+WTAP+OIL+STAIR+SPEED+RDON+STEPS+BOARD
+CORDS+EXTRA+TOTAL+JOB+REALT+$/FT+MIN+COMP+CONTR+PAR+PAR%+OVER+OVER%
+YEAR)*0= IF(S(TOTAL): TOTAL-(L(MIN:L(PAR:L(BASE:PUMP*800+800+ACEx995=C/OUT*150
+PIN*325+POST*600+WTAP*200=OIL*350+STAIR*500+SPEED*350+IF(RDON>0:
FEET*6:0)+STEPS*250+BOARD*9+CORDS*15+EXTRA)-
ACE*995=(FEET*L($/FT:50)))+ACE*995)=L(OVER:PUMP*100=5758)): IF(S(PAR):PAR-(TOTAL-
(OVER+ACE*995)): IF(S(CONTR):CONTR-(JOB-ACE*995): IF(S(MIN):MIN-PAR+ACE*995):
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L(OVER:OVER-((50-$/FT)*FEET)+L($/FT:50)-50): L(OVER:0)): JOB-(FEET*$/FT+BASE+OVER)):
COMP-IF(JOB>=MIN: L($/FT:50)-50+PAR*.1+ACE*300+L(OVER:JOB-MIN)* IF(YEAR>0:.33:.5):
JOB-(FEET*$/FT+BASE+OVER)+ IF($/FT>46:JOB*.09: IF($/FT>=42:JOB*.08: IF($/FT>=40:JOB*.07:
IF($/FT>=38:JOB*.06: IF($/FT>=35:JOB*.05: IF($/FT>=33:JOB*.04:
IF($/FT>=30:JOB*.03:0)))))))))))))))

Enjoy!

Edited: 16 Mar 2009, 3:37 a.m.

Re: HELP: Solver routine for original principal loan amount?

*Message #7 Posted by **Don Shepherd** on 16 Mar 2009, 12:38 a.m.,*
in response to message #1 by Phil K

I would refer you to John Tirone of Macomb MI. He wrote the book on using the solver for real estate problems.

Re: HELP: Solver routine for original principal loan amount?

*Message #8 Posted by **Phil K** on 16 Mar 2009, 1:36 a.m.,*
in response to message #7 by Don Shepherd

Thanks for the suggestion. Now where might I find this veritable resource to end all resources for my RE formula needs?

Re: HELP: Solver routine for original principal loan amount?

*Message #9 Posted by **Peter A. Gebhardt** on 16 Mar 2009, 7:08 a.m.,*
in response to message #8 by Phil K

Phil,

John Tirone's book is available at amazon. John is one of the most oustanding business men I met during my life - his service & willingness of support are 2nd to none!

http://www.amazon.com/Professional-Estate-Problem-Solving-Using/dp/0962423637/ref=sr_1_2?ie=UTF8&s=books&qid=1237201493&sr=8-2

Best regards,

Peter A. Gebhardt

Edited: 16 Mar 2009, 7:54 a.m.

Re: HELP: Solver routine for original principal loan amount?

*Message #10 Posted by **Phil K** on 17 Mar 2009, 12:13 a.m.,*
in response to message #9 by Peter A. Gebhardt

Thanks for the info. I didn't realize he was an author. I did try to contact him and he did respond today! I will likely talk to him tomorrow, but I didn't have time today.

Thanks.

I will have to buy one of his books, but I may also buy one other book I saw mentioned that is mentioned as another "bible" for the HP 17B-II.

Re: HELP: Solver routine for original principal loan amount?

*Message #11 Posted by **Marcus von Cube, Germany** on 16 Mar 2009, 11:41 a.m.,*
in response to message #1 by Phil K

Phil, even if I can't answer your question, a few things come into my mind:

1) Banks and mortgage brokers tend to be scrupulous; not all of them of course. ;)

2) People are stupid. For me it is unbelievable that someone buying a home has no idea of the details of the mortgage and no written records of past payments or a schedule of upcoming financial burdens.

3) The 17b and its relatives have one big problem: there is no way to save (and reload) your formulas to an external system or device. The HP-48 family (from 48SX to 50g) are much better equipped in that respect. A PC (or an SD card for the 49g+/50g) serves as a backup storage medium. Your complicated formulas deserve a safe place to live. Editing your formulas on a PC is an added benefit.

Marcus

Re: HELP: Solver routine for original principal loan amount?

*Message #12 Posted by **Michael de Estrada** on 16 Mar 2009, 12:10 p.m.,*
in response to message #11 by Marcus von Cube, Germany

1) Hmmmm, maybe in your country...

2) Caveat emptor.

3) The HP-50g also has the added benefit of a built-in TVM solver under the FINANCE key.

Still, I wonder if problems of this kind might not be easier to handle using a PC spreadsheet such as EXCEL. I've solved a lot of engineering "what if" problems this way.

Re: HELP: Solver routine for original principal loan amount?

*Message #13 Posted by **Jeff Kearns** on 16 Mar 2009, 1:19 p.m.,*
in response to message #12 by Michael de Estrada

> Quote:
>
> Still, I wonder if problems of this kind might not be easier to handle using a PC spreadsheet such as EXCEL. I've solved a lot of engineering "what if" problems this way.

Perhaps... but not nearly as much fun.

Jeff Kearns

Re: HELP: Solver routine for original principal loan amount? (correction)

*Message #14 Posted by **Phil K** on 20 Mar 2009, 1:26 a.m.,*
in response to message #13 by Jeff Kearns

Jeff,

You may very well be right. I would describe a spreadsheet as a geometric look at mathematics (or that's my take on it anyway), and by way of cell relationships it can be used to replicate calculations X# of times quite easily. I am just not sure of the relationships between the variables I often have to work with and therefore can't devise a working model.

It seems to me that there should be a way to find for the original loan amount using ONLY the balance, term of 360 months, and payment amount. I say this since from my perspective there should be only ONE point in an amortization at which any loan balance is exactly what is stated to the penny (and possibly even to the dollar), at a certain payment - call it an intersection if you wish (such as in a spreadsheet). This of course would be based on X number of times a known full payment amount has been made within a defined period of 360 payments, and where the future value of 0 is known, even without knowing the exact rate of interest.

Further, it seems that the narrower the interest rate range (i.e. 2% - 18%) and the fewer the possible variations of the rate straying from a whole number (i.e. 6.5%, 7.25% or 8.625%), the less likely there would be more than one possible intersection in the same 360 months payments. In a similar relationship, if the rate, the balance, and the term are known, then the payment should be solvable for the same reason as above. Once you know the so-called missing variable(s) in either example, then

the number of months paid versus how many are remaining to be paid should be obvious as well.

I mean, I might be going out on a very thin limb here, but if I were to throw a specific dollar amount for balance out, and tell you it could be anywhere within 48 to 60 payments into a loan of 360 months without divulging the interest rate, shouldn't there only be perhaps a very few possible solutions (or even only one) using the ranges of rates and limited fractions thereof above? I could even limit the range of rates to perhaps between 6 & 8%, and that should further eliminate possible other solutions to bring me to within the range of the desired solution.

I am imagining a massive spreadsheet or series of spreadsheets with 360 month amortizations for all the possible rate combinations eluded to above, to minimum fractional percentages of 32nds, and then search for the exact amount of that one known balance to see if there are any more cells than one in which that exact balance can be found. Since there are only 360 possible balances for each interest rate, and far fewer at any value near that balance, it should be extremely low odds that a number which is potentially in the hundred thousands and 2 decimal places is duplicated in different interest rates.

So, if we have 17 possible interest rate whole numbers (2% through 18%), times 6 possible fractional variations (whole number, 1/2, 1/4, 1/8, 1/16, 1/32), times the 360 possible monthly remaining balance values, the total possible number of amortized cells is 36,720, but each could be valued at everything from zero to the maximum value of the original loan amount that we are finding for, though only a relatively few could be within a range of the known balance value.

Right?

Perhaps an appropriate question to ask first is, can a formula be designed to allow you to enter "guesses" or "seed" values into certain variables registers and have the calculator use those estimates to start its iteration?

Forgive me if my logic is anything but...as I am no mathematician. I know enough to be dangerous, coupled with an analytical mind and an IQ to make it interesting. I am simply looking for a way to find these answers using fuzzy logic if it can be done.

Edited: 21 Mar 2009, 8:44 p.m. after one or more responses were posted

Re: HELP: Solver routine for original principal loan amount?

*Message #15 Posted by **Don Shepherd** on 20 Mar 2009, 8:59 a.m.,*
in response to message #14 by Phil K

Phil, I have been thinking about, and experimenting with, this problem for a few days now. The web site you referred to is able to calculate the original loan amount given the current balance, interest rate, length of loan, and monthly payment. I see what they are doing (iterating), I just don't know how they know to stop iterating at a certain point and call that the original loan amount. I admit that their method works, but I just don't quite know how. If I knew how, I might be able to implement that method on the 17bii+.

I admit that, theoretically, it should be possible to determine the original loan amount given the current balance, term, and payment amount. It would probably take an Excel VBA program and a PC to do it, however; I doubt that could be done using the solver on the 17bii+, but I would like to be proved wrong on that.

Did John Tirone give you any insights you can share with us regarding this problem?

Re: HELP: Solver routine for original principal loan amount?

*Message #16 Posted by **Phil K** on 21 Mar 2009, 12:19 a.m.,*
in response to message #15 by Don Shepherd

Don, I appreciate the fact that you took an interest and the analysis you did. Yes, it is an iteration, but just as you, I can't figure it out. The 17B-II and the other cousins are capable of iteration, but how to implement it is the issue.

Also, knowing you feel as though it should be possible to solve with only the 3 variables, makes me feel good that my analytical mind isn't so far from center (unless we're both out in left field)! if you or anyone else can come up with an answer, it would be very useful for my function.

As for Mr. Tyrone, I have received a couple calls from him but none that actually solve the problem. I haven't gotten a chance to actually speak with him, they were long voicemail messages, and one email response. I'll try to capsulize and post later.

Thanks.

Edited: 21 Mar 2009, 12:21 a.m.

Re: HELP: Solver routine for original principal loan amount?

*Message #17 Posted by **Peter A. Gebhardt** on 21 Mar 2009, 8:20 a.m.,*
in response to message #16 by Phil K

Phil, Don,

I doubt that there is a "one-and-only-one" single solution of Phil's problem.

As a crude verification one could put Phil's numbers into a 19bII or 200LX Cash-Flow program and use PLOT to verify.

For each an every other CF0 (CF-zero) Cashflow the PLOT function shows only one (different!) solution for I%YR.

So I suppose there is an unlimited combination of interest rates and loan amounts possible.

BUT, I'm open for any arguments proving me wrong ;-))

Best regards,

Peter A. Gebhardt

Edited: 21 Mar 2009, 8:21 a.m.

Re: HELP: Solver routine for original principal loan amount?

*Message #18 Posted by **Don Shepherd** on 21 Mar 2009, 11:47 a.m.,*
in response to message #16 by Phil K

Phil, see this link. I figured out how that website knew when they were at the iteration for the original loan amount. They just figured out what the monthly payment would be if that was the original loan amount, and if that payment was very close to the actual payment, Bingo!

This works on the 17bii+. It takes advantage of the fact you can exit a loop early (so you don't have to iterate all 360 times, for example) by dividing by 0 AFTER storing the values

you are interested in in some variables, and RCL'ing the variables after the execution stops. I learned this a couple of years ago from another member of this forum (Mike Ingle).

This equation essentially duplicates the functionality of the web site you referred to. If you know current loan balance, APR, term (months), and monthly payment, it will tell you how many payments have been made and the original loan amount.

I would have liked to use the solver functions USFV or USPV, but I couldn't make them work with loan balances, only savings account values. I'm sure there is a way, I just couldn't determine it.

This has been fun!

Re: HELP: Solver routine for original principal loan amount?

*Message #19 Posted by **Phil K** on 21 Mar 2009, 8:48 p.m.,*
in response to message #18 by Don Shepherd

Don,

Well done!

I typed that equation into my 19BII, and at first, it kept coming back not failing to find a solution, and with 0 for a value in PV & PTD. I tried several times until I went back and re-read your instructions and realized you had indicated (mos) for TERM. I was actually typing in 5 (years) instead of 60 (months) for the example and when I changed to 60, it worked like a charm.

Since I am so used to using the years rather than months on the 17BII (30, shift, N), and since that habit tripped me up, I changed the formula to add the blind variable "N", edited the menu selections to add "YEARS", and changed the variable "TERM" to "L(N:(YEARS*12)" in both locations. Now I can enter 30 for years and it converts to 360 months.

That was really neat. Next, it would be interesting to see if the USFV & USPV can be incorporated, since they are much faster at computations. Eventually, it would be neat to see whether it can figure out the same solution with only 3 variables, rather than 4.

Now, is there anyone up to the task of modifying that formula to include the ability to find with less variables? Again, it seems to me that there should only be one, or at most a couple solutions to the scenario I described before, where only 3 variables are known, or even more interesting, where only 1 or 2 are known, but others are within a range of guesses.

I may be pushing my luck here, so I will say THANK YOU FOR WHAT YOU DID! It was spectacular to see it come to fruition. Now I have to study it and understand what's happening internally.

This is a great education for me.

Edited: 21 Mar 2009, 8:50 p.m.

Re: HELP: Solver routine for original principal loan amount?

*Message #20 Posted by **Don Shepherd** on 21 Mar 2009, 9:01 p.m.,*

in response to message #19 by Phil K

Hey Phil, I figured part of USPV out:

```
PV=PMT*USPV(I%/12:TERM)
```

where I% is like 6 for 6% and TERM is in months. This gets reasonably close to the original loan amount without iterating and without requiring loan balance!

I'm still working on using USPV to determine payments-to-date.

Re: HELP: Solver routine for original principal loan amount?

*Message #21 Posted by **Don Shepherd** on 21 Mar 2009, 9:31 p.m.,*
in response to message #19 by Phil K

Phil, this much simpler formula seems to work, using USPV for both original loan amount and payments to date:

```
CALC=0*L(PV:PMT*USPV(I%/12:TERM))+0*SIGMA(I:1:TERM:1:
0*IF(ABS(PMT*USPV(I%/12:I)-BAL)<.2:L(PTD:TERM-I)+PV+PTD/0:0))
```

Re: HELP: Solver routine for original principal loan amount?

*Message #22 Posted by **Phil K** on 21 Mar 2009, 10:02 p.m.,*
in response to message #21 by Don Shepherd

Don, YES it DOES work seemingly identical. Excellent work. I didn't try the short formula above yet, but that's next.

I have played with USFV & USPV before, but today I lost 3 calculators (a 27S, a 17BII, and a 12C) along with my 17BII manual that had MANY solver routines I had written, added in as notes, and of course, it explains the USPV/USFV in the back. I guess it will be a while before I have another manual to refer to and am able to experiment with them, and I may never be able to recreate some of the formulas I had written in that book.

Fortunately I still have 2 of the 17BIIs and I had my 19BII in my coat pocket. I would have been totally smashed if I had lost the 19BII as well.

It makes me sick that someone would smash a car window to steal something. I can't imagine being so selfish and uncaring of others. This is a stark contrast to you and the others on this forum - you are all so giving and genuinely interested in the common good. Others need to take a lesson.

This country is in the mess it is in, due to a similar mentality as the one the person was operating under when he/she decided to destroy my day for their own personal gain. If I had caught someone in the act of similar aggression toward anyone, I would have detained them, called the police, and then applauded and cheered loudly while they were cuffed and taken away.

They ruined my entire mental state for probably weeks to come.

Re: HELP: Solver routine for original principal loan amount?

*Message #23 Posted by **Don Shepherd** on 21 Mar 2009, 10:35 p.m.,*

in response to message #22 by Phil K

Phil, this formula is not as exact as the others, but it will probably suffice for your purposes, and it lets the calculator iterate and find the solutions for PV and PTD, and it doesn't do the funky divide by zero thing. Enter values for: BAL, I%, TERM (months, you can adjust), PMT. Solve for PV (original loan amount) and PTD (payments to date):

```
0=IF(S(PV):PMT*USPV(I%/12:TERM)-PV:PMT*USPV(I%/12:TERM-PTD)-
BAL-PTD)
```

I think I've taken this about as far as it can go. Let me think about your other request (no APR neeeded).

Re: HELP: Solver routine for original principal loan amount?

*Message #24 Posted by **Phil K** on 22 Mar 2009, 12:49 a.m.,*
in response to message #23 by Don Shepherd

Don, I think perhaps the finding of the APR may relate to the IRR of the stream of payments, but I can't put my finger on it.

Perhaps if we know the payment amount, and know the balance, we could first apply the payment against the balance as the PV, to find the I%, using the full term of the loan. This would give us a false I% because we would both be shorting the PV (initial loan amount), and exceeding the remaining payments. Still, once that I% has been computed, perhaps it could be applied toward the payment amount using a close guess for the term remaining and allow it to iteratively find for the real rate. Or the inverse, where we would know the rate but would not know where in the exact amortization stream we are.

I don't know, I may be totally off base, but it seems to make sense somehow in my twisted way of thinking.

Re: HELP: Solver routine for original principal loan amount?

*Message #25 Posted by **Don Shepherd** on 22 Mar 2009, 9:53 a.m.,*
in response to message #24 by Phil K

Phil, I know IRR exists, but I don't really understand much about it. I'm not a financial guy, but I do enjoy finding solutions to problems using the 17bii+ solver. When I first saw the web site you referred to, I couldn't figure out how they knew when to stop iterating, so I thought about it and finally figured it out. And I had a feeling that I could use the USPV or USFV functions, but I couldn't relate them to loan balances until I actually took a simple loan ($1000/12 months/12%APR) and wrote down the loan balances after each payment, then I wrote down the USFV and USPV amounts for those same periods, and I noticed an inverse relationship between loan balance and USPV amount, and that led me to my final formula using USPV for both original loan amount and payments-to-date. This was a rewarding exercise!

If you eventually find a way to determine original loan amount and interest rate, please post it on this forum; I know that myself and many others would like to see it.

Re: HELP: Solver routine for original principal loan amount?

*Message #26 Posted by **Phil K** on 22 Mar 2009, 9:54 p.m.,*
in response to message #25 by Don Shepherd

Don, I will surely let everyone know if I do find a solution. This is alive and well in my mind at the moment, so I will be thinking about it even when I sleep. Strangely, some of my best results came right after a good night's sleep. I have woken up and realized a breakthrough several times before.

I will keep you all informed.

Thanks for all the help. Phil

Re: HELP: Solver routine for original principal loan amount?

*Message #27 Posted by **Dave Shaffer (Arizona)** on 20 Mar 2009, 3:55 p.m.,*
in response to message #14 by Phil K

> Quote:
>
> It seems to me that there should be a way to find for the original loan amount using ONLY the balance, term of 360 months, and payment amount.

I'm no financial formula expert, but I think the answer is yes. (I did once upon a time derive from scratch the formula for mortgage payment given loan amount, rate, and number of payments. I leave that as a challenge to the members of the forum.)

To see the answer for the payment amount, check out mortage formulas . That reference also has a time value of money equation. I think that if you take your current balance as the future value and the original loan balance as the beginning value and combine that with the payment formula, you can derive an equation with the original balance as the unknown. It may be a challenge for a SOLVER, though - it includes an Nth root, where N is the total number of payments.

TVM loan payment derivation

*Message #28 Posted by **Karl Schneider** on 21 Mar 2009, 2:43 p.m.,*
in response to message #27 by Dave Shaffer (Arizona)

Hi, Dave --

> Quote:
>
> (I did once upon a time derive from scratch the formula for mortgage payment given loan amount, rate, and number of payments. I leave that as a challenge to the members of the forum.)

I did, too -- during my high school years, after we had covered finite series and limits. I showed dad my work, and we verified the equation by calculating the mortgage payment.

The derivation is basically a straightforward, "grind it out" application of algebra.

-- KS

Edited: 21 Mar 2009, 4:29 p.m.

Re: TVM loan payment derivation

*Message #29 Posted by **Phil K** on 21 Mar 2009, 8:39 p.m.,*
in response to message #28 by Karl Schneider

Karl, wouldn't that be the same formula that's in the back of the manual?

Might you be so kind as to provide an explanation or formula? By the way, Don's solution DOES WORK. If we could build on that, and perhaps even bring in the USFV & USPV into the mix, it could be a very powerful formula for my purposes. I am working with people in many cases, who know nothing more than how much they are paying, and they often don't even know what their taxes or insurance payments are, but they do many times know APPROXIMATELY what the interest is, and MAY KNOW how long they have been there...

It's like trying to lead a whale out to sea, only to have them circle in the bay.

Phil

Edited: 21 Mar 2009, 8:56 p.m.

Re: TVM loan payment derivation

*Message #30 Posted by **Karl Schneider** on 21 Mar 2009, 10:11 p.m.,*
in response to message #29 by Phil K

> Quote:
>
> Karl, wouldn't that be the same formula that's in the back of the manual?
>
> Might you be so kind as to provide an explanation or formula? By the way, Don's solution DOES WORK. If we could build on that,

Manual? Dave and I didn't need no stinkin' manual!

;-)

Phil, I think that you're misunderstanding what Mr. Shaffer and I said. Long ago, we had each derived the standard Time Value of Money equation from scratch. I'd never even *heard* of "TVM"; I just wanted to determine what would be the level periodic repayment (PMT) for completely amortizing a loan (FV = 0), given the loan amount (PV), interest rate (I), and number of periodic payments (n).

-- KS

Edited: 21 Mar 2009, 10:19 p.m.

Re: TVM loan payment derivation

*Message #31 Posted by **Phil K** on 22 Mar 2009, 1:15 a.m.,*
in response to message #30 by Karl Schneider

LOL! I guess you are right, I didn't understand. So you two are (perhaps loosely said) pioneers in the TVM world?!

I just realized something as I looked to my right and saw my hardbound copy of Time & Money by Robert M. Crowe. He was a teacher at the college I went to, and I never knew it. I live in Pennsylvania, USA, near the American College in Bryn Mawr, and Robert M. Crowe Referenced himself at the American College in Bryn Mawr, Pennsylvania, which is not more than 15 minutes away from my home! Small world, I guess.

Re: HELP: Solver routine for original principal loan amount?

*Message #32 Posted by **Phil K** on 21 Mar 2009, 10:04 p.m.,*
in response to message #27 by Dave Shaffer (Arizona)

Dave, thanks for coming to the same hypothesis. I feel better knowing I am perhaps thinking like others here.

Re: HELP: Solver routine for original principal loan amount?

*Message #33 Posted by **Phil K** on 16 Mar 2009, 10:59 p.m.,*
in response to message #12 by Michael de Estrada

Michael,

The built-in TVM would make the 50G the likely choice, and I appreciate the suggestion. I would rather have one that combines most (if not all) of my needs into one neat (albeit not necessarily little) package.

Thanks.

Phil

Re: HELP: Solver routine for original principal loan amount?

*Message #34 Posted by **Peter A. Gebhardt** on 16 Mar 2009, 8:19 p.m.,*
in response to message #11 by Marcus von Cube, Germany

Marcus,

> Quote:
>
> 3) The 17b and its relatives have one big problem: there is no way to save (and reload) your formulas to an external system or device.

although your point is correct, I kindly reject your proposed solution:

1. I stopped using the 50G for finance calculations, because of its heritage lying mostly in egineering, calculus and analysis. It's one thing needing only the readily available programs of John H. Meyers or Mr. Mc Donald. Another one is to programm the 50G based on readily available finance routines - say for "wrap arounds" etc. similar to Phils problems.

2. There is still an alternative available (which also has more options and less physical footprint than the 50G) - the 200LX. This system (available mostly in good shape through auctions) offers Phil the stated

"Save/Reload" capability and also as an undisputed advantage the literal code compatibility of hundreds of dedicated finance equations ready to be typed in into the HP Solver.

Best regards,

Peter A. Gebhardt

Edited: 16 Mar 2009, 8:22 p.m.

Re: HELP: Solver routine for original principal loan amount?

*Message #35 Posted by **Phil K** on 16 Mar 2009, 10:55 p.m.,*
in response to message #34 by Peter A. Gebhardt

I would love to have a 200LX. I must look now and see if there are any being auctioned off. I will also do a search on Craigslist. I might also like to find and have a 50G or 48G (if nothing else, but for novelty).

Re: HELP: Solver routine for original principal loan amount?

*Message #36 Posted by **Sancerre (Phoenix)** on 17 Mar 2009, 2:13 a.m.,*
in response to message #34 by Peter A. Gebhardt

Why can't you enter the formulas using the 50g solver, rather than RPL? I don't see why the 50G can't be used for all formulas that a 17BII is capable of handling. --Tod

Edited: 17 Mar 2009, 2:23 a.m.

Re: HELP: Solver routine for original principal loan amount?

*Message #37 Posted by **Peter A. Gebhardt** on 17 Mar 2009, 6:31 a.m.,*
in response to message #36 by Sancerre (Phoenix)

Tod,

especially the L() and G() functionality is lacking on the 50G - that alone makes it time consuming to transfer (and later maintain/support) equations written for the 19bII/17bII family to (on) the 50G.

Believe me, I tried it. And yes: If you could come up with a functional replacement of the above mentioned functions, I will change sides ... ;-))

Best regards,

Peter A. Gebhardt

Re: HELP: Solver routine for original principal loan amount?

*Message #38 Posted by **Marcus von Cube, Germany** on 17 Mar 2009, 12:18 p.m.,*
in response to message #37 by Peter A. Gebhardt

Peter, the solver can solve programs too. Or you can create a simple wrapper function around an RPL program so that it accepts arguments in algebraic notation and can therefore be used in the solver with ease.

Re: HELP: Solver routine for original principal loan amount?

*Message #39 Posted by **Phil K** on 21 Mar 2009, 10:06 p.m.,*

in response to message #38 by Marcus von Cube, Germany

Interesting... I will have to explore that and see if perhaps the 50G is not after all, the better calculator.

Thanks

Re: HELP: Solver routine for original principal loan amount?

*Message #40 Posted by **Phil K** on 16 Mar 2009, 10:57 p.m.,*
in response to message #11 by Marcus von Cube, Germany

Marcus,

Thanks for the suggestions. I would definitely go with a unit that has TVM built-in, so the 50G would be a likely choice if I were to go with the 48 family calculators. I would also want one with an SD card slot, so again the 50G makes sense. Finally, being able to edit the formulas on a PC would be a HUGE +++++!

Still, the suggestion of the 200LX by Mr. Gerhardt makes sense as well. I would likely get both just to play around, but may settle on one or the other for personal reasons.

Thanks. Phil

Edited: 16 Mar 2009, 11:02 p.m.

Re: HELP: Solver routine for original principal loan amount?

*Message #41 Posted by **Peter A. Gebhardt** on 22 Mar 2009, 7:28 a.m.,*
in response to message #1 by Phil K

Gentlemen,

Phil's original question was:

> Quote:
>
> It seems to me that there should be a way to find for the original loan amount using ONLY the balance, term of 360 months, and payment amount.

Solving an equation of 5 unknowns with only 3 knowns (lacking I% and PV) was asked for. This is impossible - unless someone proves me wrong.

All other questions can (and could) already be solved with standard TVM solver routines available within the calculators mentioned.

Best regards,

Peter A. Gebhardt

Edited: 22 Mar 2009, 7:29 a.m.

Re: HELP: Solver routine for original principal loan amount?

*Message #42 Posted by **Don Shepherd** on 22 Mar 2009, 9:34 a.m.,*
in response to message #41 by Peter A. Gebhardt

Peter, I originally thought that a program could solve this problem, but upon reflection I don't think it can.

You would be asking which unique combination of principal/interest rate would produce a specified balance and payment amount, and I imagine there might be an infinite number of such combinations. I tend to agree with you, I don't think it is solvable.

Re: HELP: Solver routine for original principal loan amount?

*Message #43 Posted by **Phil K** on 24 Mar 2009, 2:40 a.m.,*
in response to message #42 by Don Shepherd

Gentlemen,

I have also been summoning the support from another forum, namely Google's Sci.Math forum, and more specifically this thread (http://groups.google.com/group/sci.math/browse_thread/thread/1a1f7c6552e53b1c/01d8091cca8db871?hl=en#01d8091cca8db871).

There are some helpful things there as well. I am still not totally convinced that finding both the original loan amount and interest rate from only a payment amount and mid-stream balance, assuming a standard 30/360 loan term and a guess for the rate is impossible. I agree that there may be an infinite number of solutions, but it seems to me that those infinite number of solutions would be at such varied interest rates (and carried out to so many decimal places) that most of those rate solutions would easily be ruled out from being a viable lending rate, considering lending rates are either whole numbers or fall no longer than 3 decimal places and they are often divisions of 8ths (i.e. 8 3/8 or 8.376), though rarely to 16ths or 32nds.

For instance, suppose that we use a simple $100,000 loan at 8% over 360 periods, 30 years. It works out to $733.76 per month. Now if someone gave me a payment of $733.76 (PMT) from their statement, and they could tell me that the balance on that statement is $93,608.47 (FV), and that they believe they bought the home about 6 years ago, I could guess 72 for the payments, and could also guess the term to be 30/360. Given that, I would use 72 as N. Now I need either an original loan amount or an interest rate. So again, I guess perhaps 7.5% (I%). Let's see what it produces for initial loan amount (PV).

The result for PV is $102,209.17. Now if I reverse the process using that as an initial loan amount and make it a full 360 month term, and with a future value of 0, what's the payment amount? Well, it falls off the charts at $714.66. So now I know that the original principal amount is too high, or the rate is too low (or both). So I adjust the rate up to get a higher payment...well, 7.625% gives me $723.43 (too low), and 7.75% gives me $732.24 (still too low), and 7.875% gives me $741.09 (too high).

So I suspect the original principal balance is wrong because it doesn't jibe with a standard % rate of 8ths, but I also know the closest rate was 7.75%. Let's look at the remaining balances around 72 payments...well, from 69 through 77 payments all result in remaining balances well above the known $93,608.47, in the $95,000 range. So I now suspect the original principal balance is considerably too high resulting in balances at around 72 payments well in excess of what the known balance is.

So I try to work with a standard rate of 7.75% which is my new best guess, and let's see what it gives me as a initial loan amount using the known payment amount. Well this time it results in an even higher original loan amount of $102,421.48, so I now know the rate is too low. So I push the rate up to 7.875 and let it bring the loan amount down. Now it results in $101,198.59. So let's see the payment stream's effect on the remaining balance at near 72 payments...at 70 payments, it's $95,035, so that's still too high, and at 74 payments, it is still $94,478.12. At 82 payments, it's $93,666.04, and at 83 payments, it's $93,546.96, so I know it is still too high of an original loan principal amount. So let's push up the interest rate another 1/8% to bump down the original loan amount and let's see what we get.

Now, at 8%, the result is $99,999.38. Let's see what 72 payments look like...$93,824.72, too high, but real close...how about 73 payments...now it's $93,716.46, almost there...at 74 payments, it's $93,607.48, only $0.99 away. I now know the rate is essentially dead on, and that the borrower has mad 74 payments, not

72. It's just the loan amount that's off, and by how much?, how about rounding the loan to $99,999.00? Well that would push the rate to a higher number by about 4/100,000 and that's obviously not a legitimate lending rate, and pushes the balance at 74 payments to a lower number, $93,607.18, 30 cents less and not what we want. SO if I round UP to $100,000 and push the rate back to 8% flat, what is the result for the payment amount? $733.76, and the balance at 74 payments? Well, you know the rest.

If it can be figured out mentally that way, why then can't the calculator do the same cross iteration calculations? It seems that a series of if/then/else statements with < & > tests should be able to come up with a solution, as long as you limit the interest rates to perhaps 3 decimal places.

If anyone can tell me where my logic is flawed, please do. I know I am chasing a difficult task, but I believe it is one even better suited for a computer than the human mind, and yet the human mind can accomplish it (with a standard formula, mind you).

So I come back to my claim that for a certain known remaining balance, and at a certain rate not to exceed 3 decimal places (within a range of perhaps 2% to 18%), and if kept to divisors of 8, there is only one possible solution for an initial loan amount that is not greater than 2 decimal places long, and only one possible solution for number of payments past.

Likewise, for a known interest rate (at 8ths max) and known number of payments, and at known balance, there is only one possible payment amount, again limited to 2 decimal places that results in an original loan amount also limited to 2 decimal places.

Finally, it is very rare that an original mortgage loan amount is carried beyond a whole dollar amount into pennies. So if we eliminate the 2 decimal places for the original loan amount, then we further narrow the possibilities to only 8ths in the rate, and 2 decimal places in the payment amount. I think at that point, again the numbers for balance, payment amount, rate, and original loan amount can only converge at one possible solution for all variables. Even more limiting is that in many cases the loan amount ends in even hundreds, such as $275,200.00, although the financing in of closing costs and other charges can squash that possibility.

Remember, these are all assuming P&I payments, and are also assuming 30/360 terms. There may even be enough data available from those converging numbers to nail down the term as 30/360, and eliminate other possibilities such as 20/240, or 40/480, etc. as well, but I don't know.

I would like to be proven wrong (and I know there are minds out there that if it is possible, they could do it), so I can put this exercise to rest. I will be posting this exercise on the Sci.Calc Google site as well. Let's see who can come up with a working model for the above. The closest I have now is Mr. Don Shepherd's two routines and the combined routine he sent via his link on the comment several posts above.

Phil

Edited: 24 Mar 2009, 2:56 a.m.

Re: HELP: Solver routine for original principal loan amount?

*Message #44 Posted by **Don Shepherd** on 24 Mar 2009, 8:15 a.m.,*
in response to message #43 by Phil K

Phil, it occurs to me that if you have a recent statement showing the loan balance and payment applied, perhaps the client also has the statement for the previous month laying around the house somewhere, and if that's true, couldn't you calculate the APR using those two statements? I don't know, as I said I'm not a financial guy, but if you had two statements wouldn't that solve your problem?

Re: HELP: Solver routine for original principal loan amount?

*Message #45 Posted by **Phil K** on 24 Mar 2009, 12:01 p.m.,*
in response to message #44 by Don Shepherd

Don,

That's an excellent point, and something I had completely overlooked. Even if they were more than 1 month apart, the number of periods is a known since the statements are dated, so the irr could be figured out, and from that, perhaps the information could be culled to determine the APR.

It is often that the statements don't show the APR, so we are often going on what the client "remembers", which is often close, but often also inaccurate. Thanks for that suggestion. Perhaps someone can help me to create a formula to use two balances and the payment amount to determine the APR...

...no, wait...

...if the two statements have the remaining balances, and also the payment amount, then the earlier balance would be the PV, and the newer balance would be the FV, and then the known number of periods (by statement dates), coupled with the payment amount (another known), would give me the APR!

Don, I think you've got it!

I have to go and test it now! I am excited by this new information. You may have pointed out an obvious solution to the problem for me.

I'll let you know how it goes.

Thank you.

Phil

Edited: 24 Mar 2009, 12:03 p.m.

Re: HELP: Solver routine for original principal loan amount?

*Message #46 Posted by **Phil K** on 24 Mar 2009, 5:46 p.m.,*
in response to message #44 by Don Shepherd

Don,

The solution you suggested works!

I did a quick analysis of a loan for $100,000 at 8% and for $733.76. I then took the 74th ($93,608.47) and 75th ($993.498.77) payment balances from the amortization and used them as PV & FV, for 1 month period, and solved for the interest rate, and it computed the right amount of 8%. That gives the calculator the right information to properly evaluate the loan.

Once that has been done, I simply replaced the FV with a ZERO and solved for PV, and it came back with $99,999.01. Close enough to assume $100,000.

It does solve one scenario for me, that is, where the client HAS at least 2 statements and can give me balances along with a payment amount. This gives me both their mortgage rate AND the principal balance, essentially finding for 2 variables (and they said it couldn't be done!) Truthfully,

it is really only finding for one variable, since the number of periods is known to be 1, but it is essentially a back door to the solution.

Now that this works, I am still not giving up on the idea that with the limited set of only 3 variables; payment amount, present balance, and term (number of periods), you can still solve for the other 2 unknowns; interest rate and original loan balance.

It should be interesting to see what comes of it.

Thanks. Phil

Edited: 25 Mar 2009, 7:12 p.m. after one or more responses were posted

Re: HELP: Solver routine for original principal loan amount?

*Message #47 Posted by **MikeO** on 25 Mar 2009, 12:34 a.m.,*
in response to message #46 by Phil K

I think the best you'll end up with is a set of infinite solutions. However, as you hinted at earlier, the two unknown values will likely fall into some reasonable intervals. You could treat them as random variables. Then, statistically, you'd have some reasonable subset of solutions centered around average values.

If you know two consecutive values over a known period of time, you should be able to use law of organic growth to determine the growth rate (interest rate). That will reduce your problem to one unknown.

-Mike

Re: HELP: Solver routine for original principal loan amount?

*Message #48 Posted by **Phil K** on 25 Mar 2009, 9:58 p.m.,*
in response to message #47 by MikeO

MikeO, "reasonable intervals"...that's exactly what I meant. I couldn't have put it any better than that. I believe that the word "reasonable" sums it up nicely. It is unreasonable to think that the interest rate on a mortgage could be beyond, say...20% (I've seen 16%!), and it is also unreasonable to be less than perhaps %1.5%, so the real question is "how many intervals are there between those two most reasonable of the unreasonable rates (those outside the two)?".

Then by using the most reasonable rate of the range of reasonable interest rates, the same holds true for the initial loan amount. Once you have reasonable rate, it should be even easier to nail down to a range of reasonable numbers for the PV. It is highly unlikely and therefor unreasonable to think there is more than one interval within a range of for example, between $0.00 and $200,000.00 for PV when the payment is 733.76 (PMT), and the current remaining balance is $93,666.04 (using it as FV), especially if I can guesstimate that the number of periods elapsed is approximately 7 years at 12 periods per year (N=84). For there to have been more than 50% of the principal paid down in such a short time with as low a payment as that would be unreasonable, unless the interest rate were a negative (bank pays you to borrow money), and that is again unreasonable.

It seems to me that a formula could be used that would land on an iterative solution that shows perhaps 2 results just slightly above $100,000 (or is it below $100,000?), indicating the result is likely near $100,000. Then if I plug in $0 into the formula as a known variable for FV and solve for periods (N), it should come back with a number near 360 and some

change. Since the number of periods has to be a whole number, and since we know that nearly all mortgages are in increments of 5 years (15, 20, 30, 40, etc.), the obvious answer would be 360 (30 yrs, 12 periods per year). At that point, I could solve for PV and it should result in almost exactly $100,000.00.

Again, my logic may be flawed, but then I am not a mathematician. I am waiting for those who can either confirm or deny my suspicions.

Edited: 25 Mar 2009, 10:16 p.m.

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HP Forum Archive 19

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Maybe the Recession is Affecting Old HP Calcs

*Message #1 Posted by **Dan Grelinger** on 15 Mar 2009, 6:43 p.m.*

If you look at actual sales on the auction site by coburlin over the past 2 weeks, you will see that he sold..... NOTHING.

Maybe he'll have to have a 2% off sale to drum up some more business.

Fair and complete disclosure: My ebay id is "kctongo", and I have never purchased anything from coburlin.

Dan Grelinger

Re: Maybe the Recession is Affecting Old HP Calcs

*Message #2 Posted by **Michael de Estrada** on 15 Mar 2009, 7:17 p.m.,*
in response to message #1 by Dan Grelinger

From what I can tell, he's been trying to sell the same classic items (HP55, HP65, HP67) for many years with no luck. My favorite was the boxed HP67 with a bad card reader for nearly $1000. He did have it on auction recently, but I don't see it now, so maybe he found a buyer. After all, there's a sucker born every minute.

Still you may have a point about the recession. It seems like classic calculators are selling for less than they did last year. I sold one of my working HP65's recently for much less than I paid for it. But, on the other hand, I bought an excellent working HP46 for only $255. So in times like this, it's truly a buyer's market.

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HP Forum Archive 19

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Dirty 31E

*Message #1 Posted by **Hal Bitton in Boise** on 15 Mar 2009, 10:31 a.m.*

Looks like this one has never seen the inside of a case. :0

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HP Forum Archive 19

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OT: slide rules still in use

*Message #1 Posted by **Frank Rottgardt** on 15 Mar 2009, 9:49 a.m.*

For the slide rule lovers among us: (Please don´t get that link wrong. It does not express my political orientation)

check between 2:23 to 2:30

You tube film

even nowadays slide rules have their niche. Russians always seem to rely on prooven technology as long as it fulfills their needs instead of developing fancy new electronics. During the early days of space flight the NASA put some effort on getting ball pens working at zero gravity while the russians solved the problem by using a pencil.....

I know that pilots around the world still get some training on mostly circular slide rules for basic in flight calculations. As I learned we have at least one professional pilot on this forum. Don´t know if he still uses slide rules on board. I think he was far more interessted in this famous HP-calculator watch :-)

Re: OT: slide rules still in use

*Message #2 Posted by **Katie Wasserman** on 15 Mar 2009, 10:48 a.m.,*
in response to message #1 by Frank Rottgardt

> Quote:
>
> During the early days of space flight the NASA put some effort on getting ball pens working at zero gravity while the russians solved the problem by using a pencil....

You say that so negatively, if it weren't for this we might not have the Fisher Space Pen. I love my space pens, they always work. It's an indirect spin-off of the space program that has down to earth benefits.

Edited.

Edited: 15 Mar 2009, 12:14 p.m.

Re: OT: slide rules still in use

*Message #3 Posted by **bill platt** on 15 Mar 2009, 8:50 p.m.,*
in response to message #2 by Katie Wasserman

My son discovered the space pen independently and got one from my wife (Santa) for Christmas a few years ago. Then I remembered that I had one somewhere from my youth...and I found it in a box with...slide rules!

Now he has lost both pens. Oh well :-(

Re: OT: slide rules still in use

*Message #4 Posted by **Charles Oxford** on 16 Mar 2009, 6:24 a.m.,*
in response to message #2 by Katie Wasserman

I'd like one of of each but my favorite is the contractor.

Re: OT: slide rules still in use

*Message #5 Posted by **Brent Hillebrenner** on 15 Mar 2009, 11:18 a.m.,*
in response to message #1 by Frank Rottgardt

> Quote:
>
> During the early days of space flight the NASA put some effort on getting ball pens working at zero gravity while the russians solved the problem by using a pencil....

Actually... The pen was developed independently of NASA and both space programs wound up using the Fisher pen. Apparently there is some danger associated with broken pieces of pencil lead floating around in a zero-g environment.

Cheers,

Brent

Re: OT: slide rules still in use

*Message #6 Posted by **Michael de Estrada** on 15 Mar 2009, 11:42 a.m.,*
in response to message #1 by Frank Rottgardt

I was still taking my slide rule into the field until the late 1970's when LEDs gave way to LCDs and I no longer had to lug around spare battery packs.

As far as the Russian philosophy regarding technology is concerned, I remember seeing a TV piece on a post-cold war exchange between US and Russian fighter pilots in which the US pilot flew a Mig and the Russion flew an F-15 (I think). They simulated a scramble situation in which the pilots ran to the plane, got in and took off as quickly as possible. It took less than a minute to scramble the Mig, but nearly 3 minutes to do so in the F-15. The Russian pilot bragged that he'd be ready for combat while the US pilot would still be stuck on the ground, fumbling around with all his fancy technology.

Re: OT: slide rules still in use

*Message #7 Posted by **Maximilian Hohmann** on 15 Mar 2009, 12:17 p.m.,*
in response to message #1 by Frank Rottgardt

Hello!

> Quote:
>
> As I learned we have at least one professional pilot on this forum. Don´t know if he still uses slide rules on board. I think he was far more interessted in this famous HP-calculator watch :-)

I know that you are talking about a different person... but as far as I am concerned: No, I do not use my circular slide rule at work. Never did, actually.

I was forced to buy one for the theoretical exam >20 years ago when electronic calculators were not yet

allowed. For practical purposes however, I always used an electronic calculator, mostly dedicated aviation calcualtors. But there is really nothing left to calculate now. All the flight planning is done with dedicated software on some desktop computer (in my case, I get it done by our operations staff), and in the air, the flight management system (so to say the "onboard computer") takes care of everything. It is connected to all sensors of the aeroplane so that error prone data entry is avoided.

But I take two calculators with me most of the time: A little Casio thingy in my bag that can calculate with hours and minutes for filling out the logbooks, and a Ti85 (that I got for 1 Euro from that auction site) for unit conversions when refuelling. I never dare to take my precious calculator watch to work...

Greetings, Max

Re: OT: slide rules still in use

*Message #8 Posted by **Geoff Quickfall** on 15 Mar 2009, 1:43 p.m.,*
in response to message #1 by Frank Rottgardt

Hello Frank,

I have two slide rules, one they still force me to carry due to air regs in Canada which still demand a non electronic back up. This is due to poor GPS coverage in Northern Canada combined with a lack of navigational facilities in sparsely settled areas. Also GPS units must be 'approved' for use and not necessarily attached to the aircraft systems (handheld). And we all know what batteries can do if they rundown!

They are:

```
1.   My jeppeson CR2 which does a wonderful graphic representation
     of point to point navigation.


point to point discussion


CR 2 flight computer


2.   My post 1461 for the heck of it.  Although it does monetary
     conversion rates faster than a calculator.  Line up the 1 of
     the C scale over the actual exchange rate on the D scale.
     Now any total can be converted to the 'exchange total' using
     the cursor alone.


3.   This also works for time remaining on fuel flows and any
     other calculation requiring ratios.  Once the ratio is input
     using the C and D scale one only has to move the cursor slide
     to determine the next answer.
```

Yes, I always use the HP 01 in the flight deck! The dynamic functions are wonderful.

-Insert the total time for the flight in the stop watch. Multiply the stopwatch by the average fuel flow for the flight and up comes the burn.

-At takeoff start the stopwatch and watch the time count down. The flight attendants want to know the time remaining for service.

-Hit the equals sign when you want to know the fuel burn remaining that is required for the remaining flight time. Watch the burn dynamically count down as each second passes.

I am with Katie on the Fisher Space Pen front. Bought my first one in 1977 and have used it at work and during my research in the field while doing my MSc. It worked in the rain, on wet papar, below zero (-30 centigrade) and on my plasticized field note book. The pencil smeared in the water and smudged in the field

book.

Cheers, Geoff

Re: OT: slide rules still in use

*Message #9 Posted by **Maximilian Hohmann** on 15 Mar 2009, 2:36 p.m.,*
in response to message #8 by Geoff Quickfall

Hi!

> Quote:
>
> I am with Katie on the Fisher Space Pen front. Bought my first one in 1977 and have used it at work and during my research in the field while doing my MSc.

Ah the Space Pen :-) I am still with my first one (a gift from my wife when I passed my ph.d. exam (aerospace) in a previous life). I always carry it at work - but for real writing, I prefer a PaperMate fountain pen that I have been using for something like 30 years now.

And regarding the watch: I am not allowed to use times from my own watch at work! The technicians download the data from the flight managemet computer for their records, and there must be no discrepancy between the technical records and the operational logs filled in by the flying crews. Therefore, we must use the times from the FMS display... On most days, I do not bother to carry a watch at all.

But our environment is quite different from Geoff's then: If our navigation system fails, we will have crossed two state borders here in central Europe by the time it takes to locate the backup-slide-rule in our cramped and packed bizjet cockpit... By then, two fighter jets will already be flying beside us, escorting us to a suitable landing field!

Greetings, Max

Re: OT: slide rules still in use

*Message #10 Posted by **Geoff Quickfall** on 15 Mar 2009, 5:29 p.m.,*
in response to message #9 by Maximilian Hohmann

Hello Max,

How is the HP 01 project going?

> Quote:
>
> By then, two fighter jets will already be flying beside us, escorting us to a suitable landing field!

Same here, if you miss a radio frequency change and ATC cannot communicate with you via your company or VHF, we too have fighters on our wing. It can happen even when you do not cross borders!

> Quote:
>
> And regarding the watch: I am not allowed to use times from my own watch at work!

Quite correct, FMC on the 777 is GPS synched, but I wear mine for cross checking. I have seen incorrect data in data bases which is why I still carry the HP 41CX and complete my own *independent* navigational checks as well as fuel management and etc..

In fact, the requirement for an on board *sweep second hand* timepiece is still in the air regulations and the HP 01 fails that definition miserably ;-)

Cheers, Geoff

P.S. I do alot of Europe flying crossing one country to the next. Tel Aviv comes to mind; leaving from Toronto you cross Greenland, Iceland, Scotland, Amsterdam, Germany, France, Italy, Greece and into Tel Aviv. So navigational accuracy and prompt communications are mandatory!

Cheers, Geoff

"Shiny side up"

Edited: 15 Mar 2009, 7:28 p.m. after one or more responses were posted

Re: OT: slide rules still in use

*Message #11 Posted by **Walter B** on 15 Mar 2009, 6:35 p.m.,*
in response to message #10 by Geoff Quickfall

> Quote:
>
> I do alot of Europe flying crossing one country to the next. Tel Aviv comes to mind; leaving from Toronto you cross Greenland, Iceland, Scotland, Amsterdam, Germany, France, Italy, Greece and into Tel Aviv.

Interesting country counting d;-) But as long as GPS works ... many happy landings!

Just for my curiosity: Do you have a stopover in Amsterdam (NL) and relatives in Scotland (GB)?

Edited: 15 Mar 2009, 11:22 p.m.

Re: OT: slide rules still in use

*Message #12 Posted by **Brent Hillebrenner** on 15 Mar 2009, 8:19 p.m.,*
in response to message #10 by Geoff Quickfall

> Quote:
>
> In fact, the requirement for an on board sweep second hand timepiece is still in the air regulations...

Why is there still a requirement for a sweep second hand?

Re: OT: slide rules still in use

*Message #13 Posted by **Geoff Quickfall** on 15 Mar 2009, 8:46 p.m.,*
in response to message #12 by Brent Hillebrenner

Simple answer, the regulation required an independent timepiece consisting of a sweep second hand.

It was written prior to the digital age. Even after the advent of digital watches, the digital technology was not 'proven' therefore sweep second hands were still required.

Even today, although the onboard clocks have digital components, we still have an analog display with a sweep second hand.

Cheers, Geoff

Re: OT: slide rules still in use

*Message #14 Posted by **Michael de Estrada** on 15 Mar 2009, 9:05 p.m.,*
in response to message #13 by Geoff Quickfall

They call it "human factors" in the nuclear power industry. Control rooms in nuclear power stations are required to have mostly analog indication for many processes and to indicate control positions. The idea is that human minds are basically analog, and we perceive quantities in terms of physical distance, rather than numbers. The sweep second hand lets your mind see how far it has to go in time to get to a certain milestone, such as the next whole minute.

Re: OT: slide rules still in use

*Message #15 Posted by **Brent Hillebrenner** on 15 Mar 2009, 9:17 p.m.,*
in response to message #14 by Michael de Estrada

> Quote:
>
> The sweep second hand lets your mind see how far it has to go in time to get to a certain milestone, such as the next whole minute.

Makes sense. A digital displayed number could easily be transposed in the mind and/or on paper.

Analog and airplanes

*Message #16 Posted by **Hal Bitton in Boise** on 17 Mar 2009, 10:19 a.m.,*
in response to message #14 by Michael de Estrada

Back when I worked avionics, if I needed to check a potentiometer for smooth output (such as the output of an AOA probe, which was 0-28vdc off of a precision potentiometer), I always reached for a Simpson analog multimeter. Any noise in the pot could easily be seen as a disruption in the smooth sweep of the wonderful, jeweled movement of the Simpson meter. In this application a digital multimeter was useless, except as a paperweight on a windy flight line.
I need to find an old HP analog multimeter for my collection...
Hal

Re: Analog and airplanes

*Message #17 Posted by **Palmer O. Hanson, Jr.** on 17 Mar 2009, 10:22 p.m.,*
in response to message #16 by Hal Bitton in Boise

> Quote:

> Back when I worked avionics, if I needed to check a potentiometer for smooth output (such as the output of an AOA probe, which was 0-28vdc off of a precision potentiometer), I always reached for a Simpson analog multimeter. Any noise in the pot could easily be seen as a disruption in the smooth sweep of the wonderful, jeweled movement of the Simpson meter. In this application a digital multimeter was useless, except as a paperweight on a windy flight line.

About ten years ago I did some consulting with a firm that was making instrumentation for fire trucks. The firemen needed to be able to read the displays from some distance away. Due to the extreme vibration when the pumps were running digital displays and standard meter displays were useless. We developed bar graph displays which were readable from a distance.

Palmer

Re: OT: slide rules still in use

*Message #18 Posted by **Charles Oxford** on 16 Mar 2009, 1:32 a.m.,*
in response to message #1 by Frank Rottgardt

I had 400 or so before my last burglary, now I'm down to probably 200 but I haven't made accurate count.

Charlie

Russian pencil story is a hoax

*Message #19 Posted by **Dave Mabry** on 17 Mar 2009, 8:33 a.m.,*
in response to message #1 by Frank Rottgardt

> Quote:
>
> even nowadays slide rules have their niche. Russians always seem to rely on prooven technology as long as it fulfills their needs instead of developing fancy new electronics. During the early days of space flight the NASA put some effort on getting ball pens working at zero gravity while the russians solved the problem by using a pencil.....

This pencil thing is an urban legend and false...

About half way down the page here... Space Pen on Wikipedia ...you can read about it.

Edited: 17 Mar 2009, 1:21 p.m.

Re: Russian pencil story is a hoax

*Message #20 Posted by **Frank Rottgardt** on 17 Mar 2009, 5:30 p.m.,*
in response to message #19 by Dave Mabry

Got me! Didn´t know about that.

Anyway, I wonder if USAF crews onboard a B52 still use slide rules as their russian counter parts do as we could see.

Last summer the swedish Army held a "open house" day in Karlsborg. Among other units there was a heavy mortar platoon with a lot of electronic survey instruments and computers for range finding etc. Since I have been working as surveyor years back I enjoyed talking to the guys.

To my surprise they also showed up a box filled with special artillery slide rules and table books with the proud remark that they still would be able to fire even if all the electronics should fail (scandinavian winters). When I started asking them questions about the use of this gear the soldier told me that he did not receive any training on it and walked away for an officer to show me. He came back with a higher rank and also he confessed that he wasn´t able to handle this equipment.

I guess we really entered the electronic age with no way back. Already old fashioned calculators with one row LCDs without "like in the text book" dot matrix seem to be a hurdle.

I guess I start growing old.

Re: Russian pencil story is a hoax

*Message #21 Posted by **Charles Oxford** on 17 Mar 2009, 5:48 p.m.,*
in response to message #20 by Frank Rottgardt

Quote:

> Anyway, I wonder if USAF crews onboard a B52 still use slide rules as their russian counter parts do as we could see.

The flicght compter/slide rule is still in use as far as I know. They also use a specialized calculator.

Re: Russian pencil story is a hoax

*Message #22 Posted by **Palmer O. Hanson, Jr.** on 17 Mar 2009, 10:17 p.m.,*
in response to message #20 by Frank Rottgardt

Quote:

> To my surprise they also showed up a box filled with special artillery slide rules and table books with the proud remark that they still would be able to fire even if all the electronics should fail (scandinavian winters).

This remminds me of the electromechanical Mk1A fire control computer that I studied in the Navy back in 1952. When fully operational it took the necessary information for the solution from synchro inputs from the Mk25 radar, gyroscopic systems, etc. and automaticallly delivered train, elevation and fuse settings to the guns. Every synchro input was backed up by a mechanical input capability with a hand crank. Input information could be received from the sound powered phone system and a degraded solution would be available to "fight the ship".

Re: Russian pencil story is a hoax

*Message #23 Posted by **George Bailey (Bedford Falls)** on 18 Mar 2009, 2:39 a.m.,*
in response to message #20 by Frank Rottgardt

Quote:

> ...he wasn´t able to handle this equipment...

Frank,

watch your back now! Swedish military intelligence might be after you for spilling these secrets to the enemy! ;-)

Re: Russian pencil story is a hoax

*Message #24 Posted by **Frank Rottgardt** on 18 Mar 2009, 7:19 a.m.,*
in response to message #23 by George Bailey (Bedford Falls)

Hi George,

I guess the bar fact that I am a foreigner living in Sweden put me on their list? Until some years ago there were still areas in Sweden foreigners were not allowed to enter, but where no limitations at all existed for swedes. For example outside Karlskrona, one of Swedens naval bases. But they took away these stupid rules as far as I know. Certainly the insight grew that these measures don´t really give more security.

Re: Russian pencil story is a hoax

*Message #25 Posted by **George Bailey (Bedford Falls)** on 18 Mar 2009, 2:46 a.m.,*
in response to message #19 by Dave Mabry

Wikipedia tells me, that a better-than-pencil-solution was needed, because of...

> Quote:
>
> the flammable nature of the wood present in pencils

Can I believe that? Couldn't they just have replaced the wood with non-flammable stuff? Wouldn't there be even more flammable material in the astronaut's hair?

Like Wikipedia, I also believe the pencil story is a hoax. But Wikipedia's reasoning is weak.

Re: Russian pencil story is a hoax

*Message #26 Posted by **bill platt** on 18 Mar 2009, 11:59 a.m.,*
in response to message #25 by George Bailey (Bedford Falls)

Wikipedia's "reasoning" is weak because Wikipedia doesn't have a brain!

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Basic questions about Clonix41 & Nov32/64?

*Message #1 Posted by **Michael Lopez** on 15 Mar 2009, 1:41 a.m.*

Hi all,

Have recently visited Diego's Clonix41 site as the product sounds interesting but am confused about it's purpose/range of functions & how it overlaps with the Nov-32/64 modules :(? . A simple explanation would be much appreciated as it sounds like a benficial add on to my HP41CX.

Cheers,

Michael

Re: Basic questions about Clonix41 & Nov32/64?

*Message #2 Posted by **Howard Owen** on 15 Mar 2009, 3:29 a.m.,*
in response to message #1 by Michael Lopez

Hi, Micheal,

Except for one word, the Clonix has only flash memory. With memory that requires a burner to be changed, you can use the vast majority of the modules out there that think the ROM address space on the 41C is - well - ROM. What the NoV32 and NoV64 give you is 32K and 64K respectively of static RAM. This allows you to run all of the modules the Clonix will run, but also the "MLDL" setups, which treat part of the 41C's ROM address space as RAM. These systems allowed development of mcode programs right on the calculator.

Regards,
Howard

Re: Basic questions about Clonix41 & Nov32/64?

*Message #3 Posted by **Dan Grelinger** on 15 Mar 2009, 6:25 p.m.,*
in response to message #2 by Howard Owen

Howard, I don't have a Clonix (only NoVRAM and NoV-32) but Diego's spec sheet says that Clonix has 512 words of RAM. At time of programming these 512 words can be addressed at F000. Not much, but enough to put in a few user code programs or M-Code functions. Those specs may be old, but when I communicated with Diego last year I thought they were still correct.

Re: Basic questions about Clonix41 & Nov32/64?

*Message #4 Posted by **Howard Owen** on 15 Mar 2009, 8:41 p.m.,*
in response to message #3 by Dan Grelinger

Reading the Clonix41 manual, I see that you are correct. I only own Nov-32 and NoV-64, so I have no direct experience with Clonix41. I thought the bank switch port at x4100 was the only writable memory

on a Clonix41. Of course, that's wrong in another way too: the Clonix41 doesn't have this memory mapped register, since there are no banks to switch.

Thanks for clearing that up.

Regards,
Howard

Re: Basic questions about Clonix41 & Nov32/64?

*Message #5 Posted by **Geir Isene** on 15 Mar 2009, 5:17 a.m.,*
in response to message #1 by Michael Lopez

CLONIX41: 24K ROM (6*4K HP-41 ROM images). You burn this with a burner from your PC.

NoVRAM: 8K ROM (2*4K ROM images) + 16K HEPAX RAM (you can save programs to this RAM and run them from this RAM space. You can also save XM-files and the whole calculator RAM. Or you can save ROM images into this RAM [rather useless as this would be the same as the Clonix41, only the Clonix is cheaper]. And, you can use the HEPAX RAM to create your own MCODE programs (!))

NoV-32: 8K ROM + 32K HEPAX RAM (divided into two blocks of 16K each where only one block is accessible at a time. You choose which block to access by writing the WORD "0" or "1" into the address 4100h [see the HEPAX manual for doing this via the function HEXEDIT or do it via the ICEBOX ROM which would then have to be one of the 4K ROM images]).

NoV-64: 2*8K ROM (two blocks, one accessible at a time) + 64K HEPAX RAM (four blocks of 16K, one accessible at a time). Use HEXEDIT or ICEBOX ROM to switch between the various ROM and RAM blocks: In address 4100h, write the WORD x0y where x is the ROM block to activate ["0" means no active block/no ROM, "1" means first 8K ROM block active, "2" means second block] - y means which RAM block to activate: "0", "1", "2" or "3".

CLONIX-D: 2*24K ROM images in two block. The active block depends on which port you plug the module into (really cool).

HTH,

Geir

Re: Basic questions about Clonix41 & Nov32/64?

*Message #6 Posted by **Michael Lopez** on 15 Mar 2009, 5:33 a.m.,*
in response to message #5 by Geir Isene

Thanks Howard & Geir, your explanations were very helpful. I take it the software for "burning" to Rom & setting RAM functions comes with the product?

Cheers,

Michael

Re: Basic questions about Clonix41 & Nov32/64?

*Message #7 Posted by **Geir Isene** on 15 Mar 2009, 11:43 a.m.,*
in response to message #6 by Michael Lopez

Yes indeed.

Go get it! It's the best add-on for your 41 ever.

Re: Basic questions about Clonix41 & Nov32/64?

*Message #8 Posted by **Juan J** on 15 Mar 2009, 12:03 p.m.,*
in response to message #6 by Michael Lopez

Hello,

One question: how much power do these modules use?

HEPAX can be power hungry, drainig betteries rather quickly, son I am curious.

JuanJ

Re: Basic questions about Clonix41 & Nov32/64?

*Message #9 Posted by **Geir Isene** on 15 Mar 2009, 1:57 p.m.,*
in response to message #8 by Juan J

From what I can see; just slightly more drain while in sleep or standby, but around 4x drain on actual run. In practice; Not a problem, use rechargeable batteries.

Re: Basic questions about Clonix41 & Nov32/64?

*Message #10 Posted by **Dan Grelinger** on 15 Mar 2009, 6:39 p.m.,*
in response to message #8 by Juan J

Diego has the power usage specs for Clonix on his web site. Based on the RAM that is used for the NoVram versions, there should not be any additional power consumed, except during writes into that memory.

Sleep (HP-41 turned off) 10 micro-Amps

Standby (HP-41 on, but just sitting there, doing nothing) 100 micro-Amps

Run (HP-41 running a program) 13.5 milli-Amps

Re: Basic questions about Clonix41 & Nov32/64?

*Message #11 Posted by **Dan Grelinger** on 15 Mar 2009, 6:34 p.m.,*
in response to message #5 by Geir Isene

Gier, some corrections are in order:

NoVRAM has 24K of Flash ROM, just like Clonix. In the standard configuration (HEPAX emulation) 16K is used for the HEPAX code, and the other 8K is avaiable to use as another ROM.

NoV-32 - Same 24K of Flash ROM.

NoV-64 - Has 48K of Flash ROM. 16K for HEPAX ROM, 16K in block 1 ROM, and 16K in block 2 ROM. (I really need to get one of those!)

Dan

Re: Basic questions about Clonix41 & Nov32/64?

*Message #12 Posted by **Geir Isene** on 15 Mar 2009, 6:50 p.m.,*
in response to message #11 by Dan Grelinger

Correct. I didn't include the HEPAX ROM in my post.

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HP 41CV gone nuts

*Message #1 Posted by **Richard Carter** on 14 Mar 2009, 1:03 p.m.*

My venerable HP 41CV seems to have gone crazy. It started by displaying ?.?.?.?.?.3 when I touched the "3" key. The same thing would happen with the "6" or "9" key. I tryed to reset it by touching the Enter, left arrow, and "On" at the same time. The more I messed with it the more keys that would not function. At time the only thing it will do is to display "10.0000 CC" for about 10 sec. and then off for about 1 sec and then repeating this cycle.

Any help in solving this would be greatly appreciated. I would love to get my old calculator working again.

Re: HP 41CV gone nuts

*Message #2 Posted by **db (martinez, ca.)** on 14 Mar 2009, 9:39 p.m.,*
in response to message #1 by Richard Carter

first, a question: did you unplug any peripheral or twist the body -with the calculator on- just before this started?

second, something that steve from austrailia posted on 24 Mar 2001,

Reseting an HP41

Quite often people post questions in the forum asking how they can reset their HP41 with or without losing the programs.

It seems that HP41's do tend to lock up more than we'd like to think they do, especially when turning them on the first time for a while, or when connecting some odd peripheral.

Perhaps it's static, perhaps it's the ghost of long forgotten TI calculators extracting revenge? I don't know.

Anyway, here is a list of things you can try to reset the calculator. Note that these are not my ideas they come from an excellent book "Extend Your HP41" by W Mier-Jedrzejowicz. I recommend you get a copy!

Following is a slightly updated copy of something I posted in the forum some time ago, and that I refer people to. However it's probably easier to find here.

In the book Extend your HP41, section 4.1, a number of methods are given to revive a calculator that won't turn on.

1) Press backarrow and/or shift to see if the blank display is caused by alpha blanks in the X register. To see how deceiving this is, turn on your HP41, press Alpha, then Shift STO . X, then alpha. Turning the HP41 on and off will appear to do nothing. Quite evil!

2) Press on then backarrow, then on, then backarrow a few times, pausing about 10 seconds between keystrokes

3) Remove all modules and try again (there's also mention of the use of an AM radio here too, as well as chacking for dirty battery terminals, flat batteries, and incorrectly inserted batteries). When the HP41 is active it radiates some RF and an AM radio (remember those?) not tuned to a station can often pick these up. The sound will change when the calculaor is doing different things, and thus you can tell (maybe) if the calculator is turning on, even in the absence of a display)

4) IF YOU HAVE A NEWER HP41, try pressing backarrow and enter then on, then releasing all three. The newer HP41's have a keystroke that does sort of a soft-reset invoked by this combination of keys. BEWARE this will cause a hard reset (losing memory) if tried on an older HP41

5) If you have a wand try reading some barcode. Reading barcode will turn on the calculator. It will also tell you if the batteries are supplying power by checking for the red light!

6) Try pressing R/S

7) Attach a card reader and run a card through it. This will also turn on the calculator, but be careful of the card you choose because it will be read. Actually on this point using the first card of a WALL set (if it reads) will allow you to hard reset the calculator by interrupting it. If your batteries are flat, the card may stop part way through -- change the batteries and reinsert the card reader.

8) Take out battery and reinsert. then press ON a few times. This also seems to reset the calculator, but this may have been the reason why you lost control in the first place! This will also clear the date and time if you have a CX or a Time Module.

9) Obscure Crashes due to errors in the buffer error (typically after synthetic programming mistakes) have equally obscure methods to recover from them.

10) memory lost (aaagh!) As per the manual, hold the backarrow, press and release the ON button then release the backarrow. This will alledgedly work if the calculator can be turned off, so strange crashes may be due to the calculator not being able to be turned off Hmmmmm.

11) take out batteries for a LONG time OR insert batteries the wrong way (using old batteries) (POOR ADVICE IN MY BOOKS), This discharges the internal capacitor that maintaind the HP41 battery. The HP41 is protected by reverse polarity by diodes, so this shouldn't damage the HP41 OR short the battery terminals (place wire or foil over the gold connectors. It's the outside two that you need to short, but you can connect all of them without any problems). I prefer this because there's no chance of killing the calculator. Either way -- 15 minutes is advised. I actually used the reverse battry approach on a CV in the early 80's and it worked (I only left the catteries in that way for a minute or two though)

12) Really nasty. The sugestion is that the battery may be dead or dying, or perhaps there's a bad connection. But you would have tried new batteries first, right? Apparantly in older HP41's low batteries can cause the display drivers to fail to synchronize. A recommendation is to take the calculator apart and leave it that way for a while! -- I told you it was nasty.

13) Even worse. Send to HP to get it repaired.

I used to have a card with an autoexecute program on it. The program was simply STO c. That worked for me once too. It is actually mentioned in step 10 in this book too.

Good luck.

Also mentioned (in step 12) is to put the calculator on a hard surface, lift up one end about an inch, and set it down fairly firmly. I hav also heard "drop one end about an inch" as an alternative. I'm not advocating this either.

I've found that it may also be worth squezing or gentley twisting the calculator. This is especially true if there are some intermittent faults. If this makes any difference, then it points to bad internal connections, a problem which is reasonably common.

If the calculator rattles and seems to hace some loose plastic inside of it, especially if it looks like it's been dropped or opened, then suspect the internal posts as being broken. This will eventually cause problems as the tension proveded by these posts holds internal contacts together

Re: HP 41CV gone nuts

*Message #3 Posted by **Karl Schneider** on 15 Mar 2009, 12:07 a.m.,*
in response to message #1 by Richard Carter

Richard --

Here's a story of getting my dysfunctional HP-41CX running again. To use my methods on an HP-41CV, you'll need to get an X-Functions module.

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=90348#90348

-- KS

Edited: 15 Mar 2009, 4:43 a.m.

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Happy Pi Day

*Message #1 Posted by **Egan Ford** on 14 Mar 2009, 12:09 p.m.*

For the last few weekends I have been exploring faster and faster ways to compute Pi to 1000 digits on the 71B. The 71B is an incredible machine. I am always amazed at what this little hand-held computer can do.

If you are more interested in newer calculators, then check out my 50g Pi programs:

- Example: Pi Shootout
- Sidebar: P2F
- Vieta Accelerated

NOTE: This is a subset of a larger article I will finish someday. I will have more results, hopefully before the next Pi day (22/7).

Draft

Subject: 1000 Digits of Pi on Pre-1990 Hand-Held Calculators and Computers

The genesis of this article originated with the following statement from Gene Wright, *"Looks like the race to 1000 digits on a machine prior to 1990 now belongs to TI? Can we beat the 5.81 hours on the TI95 with the HP71B?"* (http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=53988)

As of early 2009 this challenge has remained unanswered--until now...

I've spent the last few weekends exploring various ways to meet this challenge. The most amazing result is Ron Knapp's RPN code running on the 71B (entry 5). The quest to best 5.81 hours could have ended in 1985 with a HP-41 Translator Pac equipped 71B!

	Algorithm	Platform	Language	Memory	Digits	Time(s)		
1.	Atan Stormer[1]	HP-71B	Forth	3360 B	1002	3172	(0.88 hr)	(53.87 min)
2.	Atan Stormer	HP-71B	Forth	3360 B	1002	3434	(0.95 hr)	(57.23 min)
3.	Atan Machin[1]	HP-71B	Forth	3360 B	1003	3561	(0.99 hr)	(59.35 min)
4.	Atan Machin	HP-71B	Forth	3360 B	1003	3825	(1.06 hr)	(63.75 min)
5.	Atan Machin[2]	HP-71B	RPN	220 R?	1001	6034	(1.68 hr)	
6.	Spigot	HP-71B	Forth	17.1 K	1002	6720	(1.87 hr)	
7.	Atan Machin[3]	TI-95	AOS		1001	~20916	(5.81 hr)	
8.	Atan Machin[2]	HP-41CX	RPN	1540 B	1001	~30600	(8.50 hr)	

[1]*1000 decimal digits represented as base 2^{20}.* [2]*Ron Knapp implementation.* [3]*Bob Fruit implementation.*

Table 1 *Summary of Results < 9 Hours*

Entries 1 and 3 are the same as 2 and 4 respectively, just timed differently. All four were computed base 2^{20} to get the most out of the 20-bit Saturn architecture, however entries 1 and 3 stopped the clock after 168 base 2^{20} digits

were computed, whereas entries 2 and 4 stopped the clock after the number was converted to base 10. Since it takes ~3.5 minutes just to display the results and without any clear rules on the subject I opted to report both. I expect that most will agree that 1000 decimal digits of Pi must be represented as 1000 decimal digits making entry 2 the fasted pre-1990 hand-held leader.

Entries 5 and 8 are based on Ron Knapp's original program published in 1981 (V8N6P69 of the PPC Calculator Journal).

Output and Code

1. **HP-71B Arctan Forth**
2. **HP-71B Spigot Forth**
3. **HP-71B Arctan RPN**
4. **TI-95 Arctan AOS**
5. **HP-41CX Arctan RPN**

1. HP-71B Arctan Forth

Output of entries 2 and 4 (1 and 3 are the same but have different times reported. (see above)):

```
3.
14159265358979323846264338327950288419716939937510582097494459230781640628620
99862803482534211706798214808651328230664709384460955058223172535940812848111
74502841027019385211055596446229489549303819644288109756659334461284756482337
86
78316527120190914564856692346034861045432664821339360726024914127372458700660
63155881748815209209628292540917153643678925903600113305305488204665213841469
51941511609433057270365759591953092186117381932611793105118548074462379962749
56735188575272489122793818301194912983367336244065664308602139494639522473719
07017986094370277053921717629317675238467481846766940513200056812714526356082
77857713427577896091736371787214684409012249534301465495853710507922796892589
23541995611212902196086403441815981362977477130996051870721134999999837297804
99513597328160963185950244594553469083026425223082533446850352619311881710100
03137838752886587533208381420617177669147303598253490428755468731159562863882
35378759375195778185778053217122680661300192787661119590921642019893
```

```
TIME: 3824.81 SEC
```

```
3.
14159265358979323846264338327950288419716939937510582097494459230781640628620
99862803482534211706798214808651328230664709384460955058223172535940812848111
74502841027019385211055596446229489549303819644288109756659334461284756482337
86
78316527120190914564856692346034861045432664821339360726024914127372458700660
63155881748815209209628292540917153643678925903600113305305488204665213841469
51941511609433057270365759591953092186117381932611793105118548074462379962749
56735188575272489122793818301194912983367336244065664308602139494639522473719
07017986094370277053921717629317675238467481846766940513200056812714526356082
77857713427577896091736371787214684409012249534301465495853710507922796892589
23541995611212902196086403441815981362977477130996051870721134999999837297804
99513597328160963185950244594553469083026425223082533446850352619311881710100
03137838752886587533208381420617177669147303598253490428755468731159562863882
35378759375195778185778053217122680661300192787661119590921642019893
```

```
TIME: 3433.92 SEC
```

Code:

```
: PIATAN ;

79 6 / CONSTANT MAXL
1002 CONSTANT N
N 6 / 1 + CONSTANT M
5 CONSTANT S
M S * CONSTANT E
CREATE A E NALLOT
CREATE B E NALLOT
CREATE XX E NALLOT
CREATE YY E NALLOT
VARIABLE D
VARIABLE F
```

```
VARIABLE FF
VARIABLE G
VARIABLE H

: 1D. <# # #> TYPE ;
: 06D. <# # # # # # # #> TYPE ;
: MPSET OVER ! DUP E + SWAP S + DO 0 I ! S +LOOP ;
: MPCOPY 2DUP - SWAP DUP E + SWAP DO I @ OVER I + ! S +LOOP 2DROP ;
: UD+ ROT + ROT ROT + ;

: MPDIV
  D ! DUP DUP M 0 DO DUP @ 0= IF S + ELSE LEAVE THEN LOOP DUP E - ROT = IF 2DROP 0 ELSE
  0 SWAP ROT E + SWAP DO I @ SWAP D @ UM/MOD I ! S +LOOP DROP 1 THEN
;

: MPMULT
  D ! DUP DUP E + S - M 0 DO DUP @ 0= IF S - ELSE LEAVE THEN LOOP > IF DROP ELSE
  0 SWAP DUP E + S - DO I @ D @ UM* ROT 0 D+ SWAP I ! S NEGATE +LOOP DROP THEN
;

: MPSUB
  2DUP - D !
  0 SWAP DUP E + S - DO I D @ + DUP H ! @ 0 I @ 0 D- ROT 0 UD+ H @ !
  S NEGATE +LOOP
  2DROP
;

: MPADD
  2DUP - D !
  0 SWAP DUP E + S - DO I D @ + DUP H ! @ 0 I @ 0 D+ ROT 0 D+ SWAP H @ !
  S NEGATE +LOOP
  2DROP
;

: MPATAN
  F ! G ! 1 FF ! XX 1 MPSET XX F @ MPDIV DROP G @ XX MPCOPY
  F @ 1024 < IF F @ DUP * F ! 0 FF ! THEN
  1 BEGIN
    2 + XX F @ MPDIV DROP
    FF @ 1 = IF XX F @ MPDIV DROP THEN
    YY XX MPCOPY DUP YY SWAP MPDIV 1 =
  WHILE
    DUP 2 AND 0 > IF G @ YY MPSUB ELSE G @ YY MPADD THEN
  REPEAT
  DROP
;

: MPPRINT
  XX SWAP MPCOPY XX @ 0 1D. ." ." CR
  N 0 DO
    0 XX ! XX 1000000 MPMULT XX @ 0 06D.
    I 6 / 1 + MAXL MOD 0= IF CR THEN
  6 +LOOP
;

: MACHIN
  A 5 MPATAN A 16 MPMULT
  B 239 MPATAN B 4 MPMULT A B MPSUB
;

: STORMER
  A 57 MPATAN A 176 MPMULT
  B 239 MPATAN B 28 MPMULT A B MPADD
  B 682 MPATAN B 48 MPMULT A B MPSUB
  B 12943 MPATAN B 96 MPMULT A B MPADD
;

: DOIT
  CLOCK MACHIN A MPPRINT CR CLOCK
  CR ." TIME: " X<>Y F- STD F. ." SEC" CR CR

  CLOCK STORMER A MPPRINT CR CLOCK
  CR ." TIME: " X<>Y F- STD F. ." SEC" CR
;
```

2. HP-71B Spigot Forth

```
31415926535897932384626433832795028841971693993751058209749445923078164062862
```

```
899862803482534211706798214808651328230664709384460955058223172535940812848111
745028410270193852110555964462294895493038196442881097566593344612847564823378
678316527120190914564856692346034861045432664821339360726024914127372458700660
631558817488152092096282925409171536436789259036001133053054882046652138414695
194151160943305727036575959195309218611738193261179310511854807446237996274956
735188575272489122793818301194912983367336244065664308602139494639522473719070
217986094370277053921717629317675238467481846766940513200056812714526356082778
577134275778960917363717872146844090122495343014654958537105079227968925892354
201995611212902196086403441815981362977477130996051870721134999999837297804995
105973173281609631859502445945534690830264252230825334468503526193118817101000
313783875288658753320838142061717766914730359825349042875546873115956286388235
378759375195778185778053217122680661300192787661119590921642019893

TIME: 6720.22 SEC
```

Code:

```
: SPIGOT ;

: 06D. <# # # # # # # #> TYPE ;

79 6 / CONSTANT MAXL
1002 CONSTANT N
N 6 / 21 * CONSTANT M
5 CONSTANT S
CREATE A M S * NALLOT
1000000 CONSTANT F
VARIABLE E
VARIABLE K
VARIABLE P

: SPIGOTM
  1 K !
  0,

  1 M 1 - DO
    I SWAP OVER UM* SWAP 2SWAP UM* D+
    200000000000, D+
    I 2* 1 - M/MOD
    ROT A I S * + !
  -1 +LOOP
  F M/MOD 06D.
  DUP E ! 0

  0 M 22 - DO
    1 I DO
      I SWAP OVER UM* SWAP 2SWAP UM* D+
      A I S * + DUP P ! @ F UM* D+
      I 2* 1 - M/MOD
      ROT P @ !
    -1 +LOOP
    F M/MOD E @ 0 D+ 06D.
    DUP E ! 0
    1 K +! K @ MAXL MOD 0= IF CR THEN
  -21 +LOOP

  2DROP
;

: DOIT
  CLOCK SPIGOTM CLOCK
  CR CR ." TIME: " X<>Y F- STD F. ." SEC" CR
;
```

3. HP-71B Arctan RPN

This was originally written by Ron Knapp for the 41. Minor changes were made to address output formatting and timing.

Output:

```
3.141592653589793238462643383279502884197169399375105820974944592307816406286208
998628034825342117067982148086513282306647093844609550582231725359408128481117 45
028410270193852110555964462294895493038196442881097566593344612847564823378 67831
652712019091456485669234603486104543266482133936072602491412737245870066063155 88
```

```
1748815209209628292540917153643678925903600113305305488204665213841469519415116
0943305727036575959195309218611738193261179310511854807446237996274956735188575
2489122793818301194912983367336244065664308602139494639522473719070217986094370
7705392171762931767523846748184676694051320005681271452635608277857713427577896
0917363717872146844090122495343014654958537105079227968925892354201995611212902
6086403441815981362977477130996051870721134999999837297804995105973173281609631
8595024459455346908302642522308253344685035261931188171010003137838752886587533
8381420617177669147303598253490428755468731159562863882353787593751957781857780
3217122680661300192787661119590921642019 89

TIME: 6033.60 SEC
```

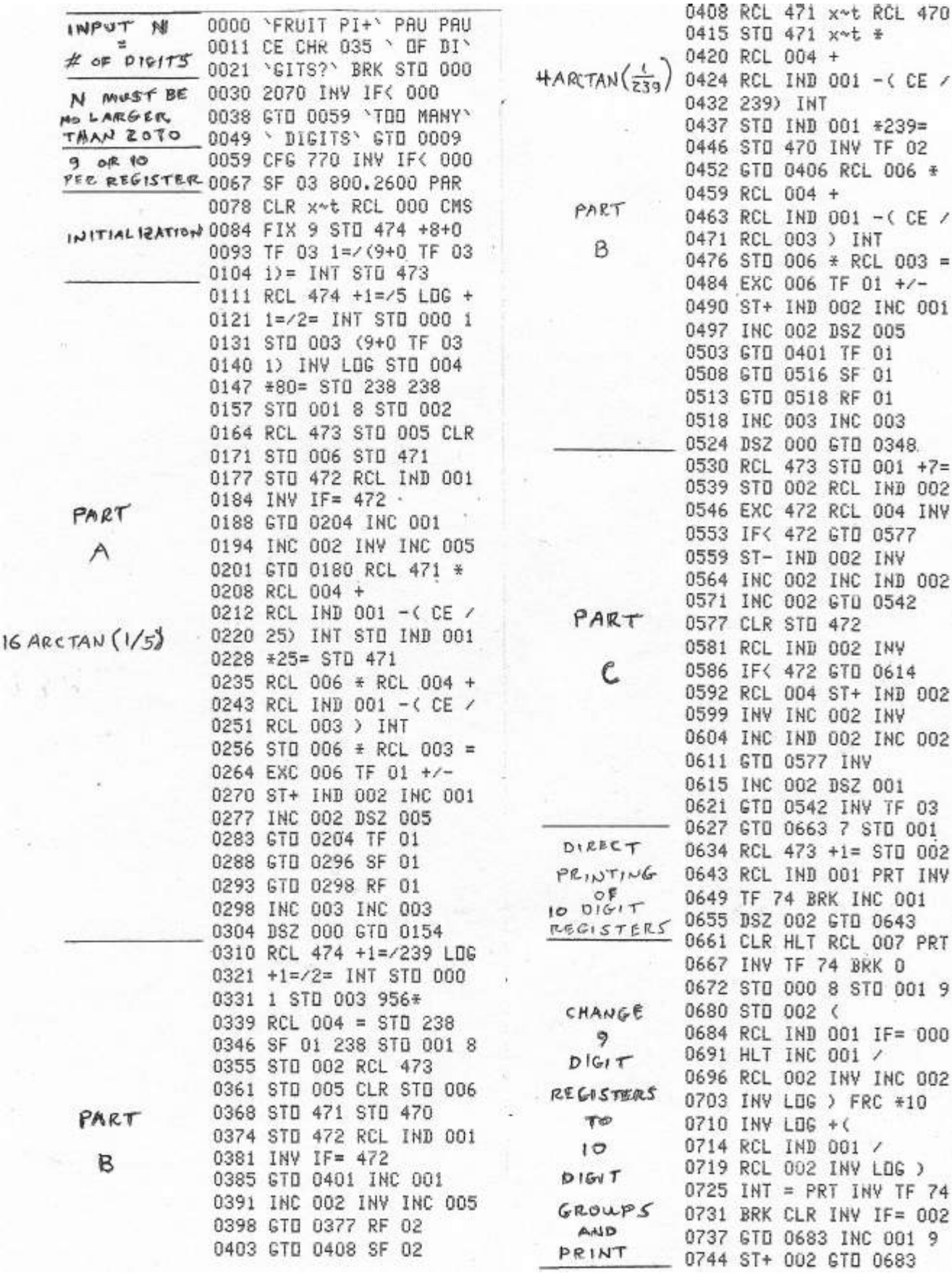
Code (use RUN TRANS41 to input):

```
LBL "CPI2"      X<0?            R^              ST* T           RCL 05
CLRG            +               ST+ T           ST* Z           +
219             RCL 01          X^2             *               DSE Y
STO 00          RCL 04          R^              RCL 08          LBL 14
TIME            ST/ Z           +               *               STO IND 00
HR              *               +               FRC             RDN
STO IND 00      ENTER^          FC? 00          X<>Y            DSE 03
FIX 03          LBL 99          GTO 04          LASTX           DSE 00
4               RCL 08          RCL 13          INT             GTO 13
STO 09          ST/ Z           *               R^              219
1E5             MOD             3               +               STO 00
ST/ Y           R^              DSE 02          RCL 05          TIME
STO 04          INT             GTO 05          -               HR
X^2             LASTX           LBL 04          +               RCL IND 00
STO 05          FRC             RCL 07          X>0?            -
X<>Y            RDN             *               ISG IND 00      STO IND 00
427             +               RCL 06          X>0?            LBL E
+               X<>Y            LBL 05          GTO 11          SF 21
STO 02          INT             X<>Y            RCL 05          CLA
239             RCL 04          RDN             +               FIX 00
X^2             ST* T           /               LBL 11          14.114
STO 07          ST* Z           STO 01          ISG 00          STO 00
LASTX           *               CLX             GTO 10          SF 29
1E2             STO IND 00      R^              GTO J           RCL IND 00
*               RDN             ENTER^          LBL 09          ACX
STO 13          ENTER^          GTO 06          RCL 03          STD
RDN             LBL 99          LBL 07          STO 00          CF 29
X^2             RCL 08          RCL 01          RCL 10          ISG 00
STO 08          ST/ Z           ST/ Z           X^2             LBL 15
94E-5           MOD             MOD             3               XEQ 16
STO 11          X<>Y            X<>Y            Y^X             ISG 00
14.0139         INT             INT             LASTX           FS? 00
STO 12          ST+ IND 00      X<>Y            *               GTO 17
25              RDN             RCL 04          STO 08          XEQ 16
STO 10          +               ST* Z           CLX             CLA
LBL 00          STO 01          *               LBL 12          ISG 00
RCL 11          RCL 03          ENTER^          RCL IND 00      GTO 15
ST+ 12          RCL 04          LBL 06          X<>Y            ACA
RCL 12          *               RCL 01          RCL 04          GTO 17
RND             ENTER^          ST/ Z           ST/ Z           LBL 16
STO 00          ISG 00          MOD             *               RCL IND 00
RCL 07          GTO 02          RDN             ENTER^          RCL 04
RCL 02          DSE 02          INT             LBL 99          /
INT             GTO 00          +               RCL 08          INT
ENTER^          4096E-7         RCL IND 00      ST/ Z           LASTX
ST* Z           STO 08          -               MOD             FRC
2               1439.00006      X>0?            R^              RCL 04
-               STO 02          GTO 08          INT             XEQ 18
ST- Z           837E-6          DSE 00          LASTX           XEQ 18
*               STO 11          LBL 99          FRC             RTN
RCL 10          115.115         DSE IND 00      RDN             LBL 18
*               STO 12          ISG 00          +               *
STO 06          80              RCL 05          X<>Y            RCL Y
CLX             STO 13          +               INT             X=0?
STO 01          5E6             LBL 08          RCL 04          GTO 19
X<>Y            STO 07          STO IND 00      ST* T           LOG
RCL 13          .75             R^              ST* Z           INT
*               STO 06          RCL 04          *               LBL 19
ENTER^          LBL J           *               STO IND 00      RCL 09
GTO 01          RCL 11          ENTER^          RDN             X<>Y
LBL 02          ST+ 12          ISG 00          ENTER^          X=Y?
RCL 06          RCL 12          GTO 07          LBL 99          GTO 20
ST/ Z           RND             RCL 03          RCL 08          -
MOD             STO 00          STO 00          ST/ Z           0
X<>Y            STO 03          FS?C 00         MOD             LBL 21
```

```
INT             SF 00           GTO 03          X<>Y            ARCL X
X<>Y            LBL 03          CLX             INT             DSE Y
RCL 04          RCL 02          ENTER^          ST+ IND 00      GTO 21
ST* Z           INT             DSE 02          RDN             LBL 20
*               ENTER^          FS? 00          +               ARCL T
ENTER^          ENTER^          GTO 09          ISG 00          ACA
LBL 01          LBL 99          LBL 10          GTO 12          CLA
RCL 06          2               X<> IND 00      114.013         RTN
ST/ Z           -               RCL 04          STO 00          LBL 17
MOD             ST* Z           /               215             ADV
STO 03          RCL 10          FRC             STO 03          ADV
RDN             ST* Z           LASTX           CLX             219
INT             X<>Y            INT             LBL 13          STO 00
+               *               RCL 08          RCL IND 03      RCL IND 00
RCL 05          2               *               +               3600
ST- Y           ST- L           FRC             RCL IND 00      *
X<>Y            CLX             LASTX           -               FIX 02
RCL IND 00      LASTX           INT             0               "TIME: "
+               ST* T           ST+ IND 00      X<>Y            ARCL X
X>0?            ST- Y           RDN             X<0?            "} SEC"
ISG 01          RDN             X<>Y            X>0?            PRA
LBL 99          *               RCL 05          GTO 14          END
```

4. TI-95 Arctan AOS

Code:



```
INPUT N
=
# OF DIGITS
N MUST BE
NO LARGER
THAN 2070
9 OR 10
PER REGISTER
INITIALIZATION
PART
A
16 ARCTAN (1/5)
PART
B
HARCTAN(1/239)
PART
B
DIRECT
PRINTING
OF
10 DIGIT
REGISTERS
CHANGE
9
DIGIT
REGISTERS
TO
10
DIGIT
GROUPS
AND
PRINT
PART
C

0000 `FRUIT PI+` PAU PAU
0011 CE CHR 035 ` OF DI`
0021 `GITS?` BRK STO 000
0030 2070 INV IF< 000
0038 GTO 0059 `TOO MANY`
0049 ` DIGITS` GTO 0009
0059 CFG 770 INV IF< 000
0067 SF 03 800.2600 PAR
0078 CLR x<>t RCL 000 CMS
0084 FIX 9 STO 474 +8+0
0093 TF 03 1=/(9+0 TF 03
0104 1)= INT STO 473
0111 RCL 474 +1=/5 LOG +
0121 1=/2= INT STO 000 1
0131 STO 003 (9+0 TF 03
0140 1) INV LOG STO 004
0147 *80= STO 238 238
0157 STO 001 8 STO 002
0164 RCL 473 STO 005 CLR
0171 STO 006 STO 471
0177 STO 472 RCL IND 001
0184 INV IF= 472
0188 GTO 0204 INC 001
0194 INC 002 INV INC 005
0201 GTO 0180 RCL 471 *
0208 RCL 004 +
0212 RCL IND 001 -( CE /
0220 25) INT STO IND 001
0228 *25= STO 471
0235 RCL 006 * RCL 004 +
0243 RCL IND 001 -( CE /
0251 RCL 003 ) INT
0256 STO 006 * RCL 003 =
0264 EXC 006 TF 01 +/-
0270 ST+ IND 002 INC 001
0277 INC 002 DSZ 005
0283 GTO 0204 TF 01
0288 GTO 0296 SF 01
0293 GTO 0298 RF 01
0298 INC 003 INC 003
0304 DSZ 000 GTO 0154
0310 RCL 474 +1=/239 LOG
0321 +1=/2= INT STO 000
0331 1 STO 003 956*
0339 RCL 004 = STO 238
0346 SF 01 238 STO 001 8
0355 STO 002 RCL 473
0361 STO 005 CLR STO 006
0368 STO 471 STO 470
0374 STO 472 RCL IND 001
0381 INV IF= 472
0385 GTO 0401 INC 001
0391 INC 002 INV INC 005
0398 GTO 0377 RF 02
0403 GTO 0408 SF 02
0408 RCL 471 x<>t RCL 470
0415 STO 471 x<>t *
0420 RCL 004 +
0424 RCL IND 001 -( CE /
0432 239) INT
0437 STO IND 001 *239=
0446 STO 470 INV TF 02
0452 GTO 0406 RCL 006 *
0459 RCL 004 +
0463 RCL IND 001 -( CE /
0471 RCL 003 ) INT
0476 STO 006 * RCL 003 =
0484 EXC 006 TF 01 +/-
0490 ST+ IND 002 INC 001
0497 INC 002 DSZ 005
0503 GTO 0401 TF 01
0508 GTO 0516 SF 01
0513 GTO 0518 RF 01
0518 INC 003 INC 003
0524 DSZ 000 GTO 0348
0530 RCL 473 STO 001 +7=
0539 STO 002 RCL IND 002
0546 EXC 472 RCL 004 INV
0553 IF< 472 GTO 0577
0559 ST- IND 002 INV
0564 INC 002 INC IND 002
0571 INC 002 GTO 0542
0577 CLR STO 472
0581 RCL IND 002 INV
0586 IF< 472 GTO 0614
0592 RCL 004 ST+ IND 002
0599 INV INC 002 INV
0604 INC IND 002 INC 002
0611 GTO 0577 INV
0615 INC 002 DSZ 001
0621 GTO 0542 INV TF 03
0627 GTO 0663 7 STO 001
0634 RCL 473 +1= STO 002
0643 RCL IND 001 PRT INV
0649 TF 74 BRK INC 001
0655 DSZ 002 GTO 0643
0661 CLR HLT RCL 007 PRT
0667 INV TF 74 BRK 0
0672 STO 000 8 STO 001 9
0680 STO 002 (
0684 RCL IND 001 IF= 000
0691 HLT INC 001 /
0696 RCL 002 INV INC 002
0703 INV LOG ) FRC *10
0710 INV LOG +(
0714 RCL IND 001 /
0719 RCL 002 INV LOG )
0725 INT = PRT INV TF 74
0731 BRK CLR INV IF= 002
0737 GTO 0683 INC 001 9
0744 ST+ 002 GTO 0683
```

5. HP-41CX Arctan RPN

This was originally written by Ron Knapp. Minor changes were made to address output formatting, timing, and duplicate labels (labels were changed to increase readability).

NOTE: The timing was from EMU41, the orginal time was ~8.5 hours. The final article will have a 41CX retiming.

Output:

```
3.
14159 26535 89793 23846
26433 83279 50288 41971
69399 37510 58209 74944
59230 78164 06286 20899
86280 34825 34211 70679
82148 08651 32823 06647
09384 46095 50582 23172
53594 08128 48111 74502
84102 70193 85211 05559
64462 29489 54930 38196
44288 10975 66593 34461
28475 64823 37867 83165
27120 19091 45648 56692
34603 48610 45432 66482
13393 60726 02491 41273
72458 70066 06315 58817
48815 20920 96282 92540
91715 36436 78925 90360
01133 05305 48820 46652
13841 46951 94151 16094
33057 27036 57595 91953
09218 61173 81932 61179
31051 18548 07446 23799
62749 56735 18857 52724
89122 79381 83011 94912
98336 73362 44065 66430
86021 39494 63952 24737
19070 21798 60943 70277
05392 17176 29317 67523
84674 81846 76694 05132
00056 81271 45263 56082
77857 71342 75778 96091
73637 17872 14684 40901
22495 34301 46549 58537
10507 92279 68925 89235
42019 95611 21290 21960
86403 44181 59813 62977
47713 09960 51870 72113
49999 99837 29780 49951
05973 17328 16096 31859
50244 59455 34690 83026
42522 30825 33446 85035
26193 11881 71010 00313
78387 52886 58753 32083
81420 61717 76691 47303
59825 34904 28755 46873
11595 62863 88235 37875
93751 95778 18577 80532
17122 68066 13001 92787
66111 95909 21642 01989

TIME: 32.51 SEC
```

Code:

```
 01 LBL "CPI2"      111 STO IND 00      221 X>0?            331 +
 02 CLRG            112 RDN             222 GTO 09          332 ISG 00
 03 219             113 ENTER           223 DSE 00          333 GTO 13
 04 STO 00          114 LBL 99          224 LBL 99          334 114.013
 05 TIME            115 RCL 08          225 DSE IND 00      335 STO 00
 06 HR              116 ST/ Z           226 ISG 00          336 215
 07 STO IND 00      117 MOD             227 RCL 05          337 STO 03
 08 FIX 03          118 X<>Y            228 +               338 CLX
 09 4               119 INT             229 LBL 09          339 LBL 14
 10 STO 09          120 ST+ IND 00      230 STO IND 00      340 RCL IND 03
 11  E5             121 RDN             231 R^              341 +
 12 ST/ Y           122 +               232 RCL 04          342 RCL IND 00
 13 STO 04          123 STO 01          233 *               343 -
 14 X^2             124 RCL 03          234 ENTER           344 0
 15 STO 05          125 RCL 04          235 ISG 00          345 X<>Y
 16 X<>Y            126 *               236 GTO 08          346 X<0?
 17 427             127 ENTER           237 RCL 03          347 X>0?
```

```
18 +              128 ISG 00          238 STO 00          348 GTO 15
19 STO 02         129 GTO 03          239 FS?C 00         349 RCL 05
20 239            130 DSE 02          240 GTO 04          350 +
21 X^2            131 GTO 01          241 CLX             351 DSE Y
22 STO 07         132 4096 E-7        242 ENTER           352 LBL 15
23 LASTX          133 STO 08          243 DSE 02          353 STO IND 00
24  E2            134 1439.00006      244 FS? 00          354 RDN
25 *              135 STO 02          245 GTO 10          355 DSE 03
26 STO 13         136 837 E-6         246 LBL 11          356 DSE 00
27 RDN            137 STO 11          247 X<> IND 00      357 GTO 14
28 X^2            138 115.115         248 RCL 04          358 219
29 STO 08         139 STO 12          249 /               359 STO 00
30 94 E-5         140 80              250 FRC             360 TIME
31 STO 11         141 STO 13          251 LASTX           361 HR
32 14.0139        142 5 E6            252 INT             362 RCL IND 00
33 STO 12         143 STO 07          253 RCL 08          363 -
34 25             144 .75             254 *               364 STO IND 00
35 STO 10         145 STO 06          255 FRC             365 RTN
36 LBL 01         146 LBL J           256 LASTX           366 LBL E
37 RCL 11         147 RCL 11          257 INT             367 SF 21
38 ST+ 12         148 ST+ 12          258 ST+ IND 00      368 CLA
39 RCL 12         149 RCL 12          259 RDN             369 FIX 00
40 RND            150 RND             260 X<>Y            370 14.114
41 STO 00         151 STO 00          261 RCL 05          371 STO 00
42 RCL 07         152 STO 03          262 ST* T           372 SF 29
43 RCL 02         153 SF 00           263 ST* Z           373 RCL IND 00
44 INT            154 LBL 04          264 *               374 ARCL X
45 ENTER          155 RCL 02          265 RCL 08          375 ACA
46 ST* Z          156 INT             266 *               376 CLA
47 2              157 ENTER           267 FRC             377 PRBUF
48 -              158 ENTER           268 X<>Y            378 CF 29
49 ST- Z          159 LBL 99          269 LASTX           379 ISG 00
50 *              160 2               270 INT             380 LBL 16
51 RCL 10         161 -               271 R^              381 XEQ 17
52 *              162 ST* Z           272 +               382 ISG 00
53 STO 06         163 RCL 10          273 RCL 05          383 FS? 00
54 CLX            164 ST* Z           274 -               384 GTO 18
55 STO 01         165 X<>Y            275 +               385 " "
56 X<>Y           166 *               276 X>0?            386 XEQ 17
57 RCL 13         167 2               277 ISG IND 00      387 PRBUF
58 *              168 ST- L           278 X>0?            388 CLA
59 ENTER          169 CLX             279 GTO 12          389 ISG 00
60 GTO 02         170 LASTX           280 RCL 05          390 GTO 16
61 LBL 03         171 ST* T           281 +               391 AVIEW
62 RCL 06         172 ST- Y           282 LBL 12          392 GTO 18
63 ST/ Z          173 RDN             283 ISG 00          393 LBL 17
64 MOD            174 *               284 GTO 11          394 RCL IND 00
65 X<>Y           175 R^              285 GTO J           395 RCL 04
66 INT            176 ST+ T           286 LBL 10          396 /
67 X<>Y           177 X^2             287 RCL 03          397 INT
68 RCL 04         178 R^              288 STO 00          398 LASTX
69 ST* Z          179 +               289 RCL 10          399 FRC
70 *              180 +               290 X^2             400 RCL 04
71 ENTER          181 FC? 00          291 3               401 XEQ 19
72 LBL 02         182 GTO 05          292 Y^X             402 " "
73 RCL 06         183 RCL 13          293 LASTX           403 XEQ 19
74 ST/ Z          184 *               294 *               404 RTN
75 MOD            185 3               295 STO 08          405 LBL 19
76 STO 03         186 DSE 02          296 CLX             406 *
77 RDN            187 GTO 06          297 LBL 13          407 RCL Y
78 INT            188 LBL 05          298 RCL IND 00      408 X=0?
79 +              189 RCL 07          299 X<>Y            409 GTO 20
80 RCL 05         190 *               300 RCL 04          410 LOG
81 ST- Y          191 RCL 06          301 ST/ Z           411 INT
82 X<>Y           192 LBL 06          302 *               412 LBL 20
83 RCL IND 00     193 X<>Y            303 ENTER           413 RCL 09
84 +              194 RDN             304 LBL 99          414 X<>Y
85 X>0?           195 /               305 RCL 08          415 X=Y?
86 ISG 01         196 STO 01          306 ST/ Z           416 GTO 21
87 LBL 99         197 CLX             307 MOD             417 -
88 X<0?           198 R^              308 R^              418 0
89 +              199 ENTER           309 INT             419 LBL 22
90 RCL 01         200 GTO 07          310 LASTX           420 ARCL X
91 RCL 04         201 LBL 08          311 FRC             421 DSE Y
92 ST/ Z          202 RCL 01          312 RDN             422 GTO 22
93 *              203 ST/ Z           313 +               423 LBL 21
94 ENTER          204 MOD             314 X<>Y            424 ARCL T
95 LBL 99         205 X<>Y            315 INT             425 ACA
96 RCL 08         206 INT             316 RCL 04          426 CLA
97 ST/ Z          207 X<>Y            317 ST* T           427 RTN
98 MOD            208 RCL 04          318 ST* Z           428 LBL 18
```

```
 99 R^              209 ST* Z          319 *              429 219
100 INT             210 *              320 STO IND 00     430 STO 00
101 LASTX           211 ENTER          321 RDN            431 RCL IND 00
102 FRC             212 LBL 07         322 ENTER          432 3600
103 RDN             213 RCL 01         323 LBL 99         433 *
104 +               214 ST/ Z          324 RCL 08         434 FIX 02
105 X<>Y            215 MOD            325 ST/ Z          435 "TIME: "
106 INT             216 RDN            326 MOD            436 ARCL X
107 RCL 04          217 INT            327 X<>Y           437 >" SEC"
108 ST* T           218 +              328 INT            438 PRA
109 ST* Z           219 RCL IND 00     329 ST+ IND 00     439 END
110 *               220 -              330 RDN
```

Edited: Minor bug in PIATAN Forth that may have left a value on the stack after run. Results and time unaffected, just clean up.

Edited: Removed TI-59 article.

Edited: 19 Mar 2009, 9:26 a.m. after one or more responses were posted

Re: Happy Pi Day

*Message #2 Posted by **Katie Wasserman** on 15 Mar 2009, 11:04 a.m.,*
in response to message #1 by Egan Ford

Egan,

Wow, you've been a busy guy! I need some time to digest all this, but thank you for all your work on Vieta Accelerated. I didn't know about Kreminski's formula, very interesting.

-Katie

Re: Happy Pi Day

*Message #3 Posted by **Palmer O. Hanson, Jr.** on 15 Mar 2009, 10:39 p.m.,*
in response to message #1 by Egan Ford

Egan:

The article that you included with the TI-95 program was originally published as part of the documentation of a TI-59 program on V7N4/5P27-29 of *TI PPC Notes* back in mid-1982. You can access that at Viktor Toth's site. The procedures described for running the TI-59 program do not apply to the TI-95 program. There is also an error in the article where it states "... There is a linear relationship between the number of decimal places and the running time of the program. ..." Actually, the relationship should be, and usually is very close to a squared relationship.

The material in *TI PPC Notes* includes the TI-59 program. Unfortunately, the program listing is incomplete in that the first forty steps of program II-B are missing. If anyone would like to run the TI-59 program I can provide a listing of the missing steps.

The TI-59 program is limited to 460 digits by memory limitations. There was a program published in the French magazine *Science et Vie* which was substatially slower but which would find 1287 digits of pi. That is particularly impressive since the TI-59's user memory is only 1300 digits.

Palmer

Re: Happy Pi Day

*Message #4 Posted by **Egan Ford** on 16 Mar 2009, 10:50 a.m.,*
in response to message #3 by Palmer O. Hanson, Jr.

Palmer,

I was a bit confused myself about the pairing of that article and the source. They were sent to me as a single 3 page PDF. I've removed the article to avoid any ambiguity.

Do you have any links, articles, etc... about the TI-95 Pi program and its 5.81 hour result? Any corroborating or anecdotal information would be great.

Thanks.

Re: Happy Pi Day

*Message #5 Posted by **Marcus von Cube, Germany** on 16 Mar 2009, 11:45 a.m.,*
in response to message #4 by Egan Ford

Could you please repost the link to the removed TI-59 article? My former printout of your post is incomplete and I'd like to read the document.

Marcus

Re: Happy Pi Day

*Message #6 Posted by **Egan Ford** on 16 Mar 2009, 12:16 p.m.,*
in response to message #5 by Marcus von Cube, Germany

Here is the original PDF that was sent to me. It is higher resolution than the images posted here (MoHPC size limitation).

http://sense.net/~egan/ti-95pi.pdf

Re: Happy Pi Day

*Message #7 Posted by **Marcus von Cube, Germany** on 17 Mar 2009, 4:08 a.m.,*
in response to message #6 by Egan Ford

Hi Egan,

thanks for the download. I might have caught the PI disease.

Marcus

Re: Happy Pi Day

*Message #8 Posted by **Egan Ford** on 17 Mar 2009, 7:44 a.m.,*
in response to message #7 by Marcus von Cube, Germany

I do not find the number Pi that interesting. A handful of digits can solve many practical problems. E.g. with less than 100 digits you can calculate the *circumference of the universe accurate to the radius of a hydrogen atom.*

What I find interesting is all the different math that can be applied to computing Pi.

And, what I find *most* interesting is the computational methods used to compute Pi, especially on machines with limited resources. As I explore this history I am truly amazed at the ingenuity and determination of the individual programmers. Especially the TI programmers. AFAIK, the 41 and 71 outclass the 59 and 95 in terms of I/O and memory

forcing the TI community to think smarter. Fascinating!

Re: Happy Pi Day

*Message #9 Posted by **Palmer O. Hanson, Jr.** on 16 Mar 2009, 11:25 p.m.,*
in response to message #4 by Egan Ford

Egan:

You wrote:

> Quote:
>
> Do you have any links, articles, etc... about the TI-95 Pi program and its 5.81 hour result? Any corroborating or anecdotal information would be great.

The following notes accompanied my transmission of the TI-95 program to Gene Wright:

> Quote:
>
> 1. A direct translation would yield bad results if the number of digits asked for was greater than 770. I "fixed" it by changing from using ten digit registers with only the three guard digits available for carries from one register to the next to using nine digit registers with four digits available for the carries. The completed program is a hybrid which uses ten digit registers for up to 770 digits and nine digits for more than 770 digits. This yields about a ten per cent increase in speed for requests for less than 770 digits. Flag 3 controls whether 9 or 10 digit registers are used.
>
> 2. It would have been possible to simply print out the nine digit registers, but that made it difficult to check the answers against my pi table which was printed in groups of ten digits so I added a routine at the end which will either print or display the nine digit registers in a ten digit format. I could have used the same routine in another way to simply rearrange the 9 digit information back into the registers as 10 digit information but I didn't.
>
> 3. The TI-59 proram used two HIR registers to save two data registers for the calculation. My conversion replaced HIR 07 with data register 470 and HIR 08 with data register 471.
>
> 4. The TI-95 does not permit comparisons with the t register without using assembly language techniques. My conversion used data register 472 as a comparison register. Where the t register was used only as a place to park a value for later recovery I used the TI-95 t register as at lines 0408 and 0415.
>
> 5. I also used data register 474 to store the number of places desired and data register 473 to store the number of data registers to be used for the number of places desired.
>
> 6. In Bob's discussion of his program he says that "There is a linear relationship between the number of decimal places and the running time of the programs." Actually, the relationship is essentially a square relationship with an upward tail at the low end driven by the initialization routines and by the initializations for each iteration. You can see that in the plots.

That is all the supporting documentation that there is other than my handwritten programming notes and some run time results where the run time results are included in the graph that accompanied the

transmission to Gene.

Some years ago I assembled a fairly thorough summary of the work with pi on the TI-59 including references to *TI PPC Notes* for details. It runs several pages. If you send an e-mail address I will send it to you.

Palmer

Re: Happy Pi Day

*Message #10 Posted by **Egan Ford** on 17 Mar 2009, 7:29 a.m.,*
in response to message #9 by Palmer O. Hanson, Jr.

Thank you very much. I find all of this history very interesting. You've got mail.

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HP41 Virtual Memory - Terabytes?

*Message #1 Posted by **Raymund Heuvel** on 13 Mar 2009, 9:56 p.m.*

Virtual memory architectures are based on swapping "external memory" into actual address space.
(I am not an expert on this so don't kill the amateur - a building engineer ...)

Owning just a HP41 and a HP71B, both with IL it seems not so easy but ...

Considering synthetic programming: Bringing the instruction pointer in the alpha registers (M,N,O,P) and executing an INA on the HP41 and OUTPUT :LOOP;X$ on the HP71 where X$ holds the program for the HP41 would modify the HP41 program on the fly.

I wrote a few small programs (not optimized, just to see if it is possible) and yes it works, but only in SST mode on the HP41. In RUN mode it simply won't work.. any hint from the synthetic specialists?

Here some experimental listings, goal of the miniproject: "Hello World" AVIEW.
Big leap target ... a WALL function ??

HP41 Listing:

```
 01LBL "V"              Just the label
 02 STOPIO              seems to clear all IO (IFC HP-IL msg)
 03 1                   Assumung the HP-71 is #1 (Could also be
                           anything else sending bytes
 04 SELECT
 05 SF 25               See HP71B listing ...
 06 XEQ 01              To bring the program from Alpha regs back via return
 07 RTN                 or STOP, GOTO 'END' or anything else
 08 GTO 02
 09LBL 01
 10 RCL b
 11 "`     "            96 7 0 0 0 0 0 Instruction pointer => Byte 6 of reg 7 (M)
 12 X<> [               X<>M
 13 "AAAAA"             append just 5 'A' (or anything else)
 14 STO [               STO M
 15 "AA"                append just 2 'A' (or anything else)
 16 RCL \               RCL N
 17 "  |"              167 29 145 124
                       The instruction code for REG M ... see below
                       167 29   => XROM 28,29  -> HP41-IL INA function
                       145 124  => STO b
 19 STOP                For convenience SST usage (see below)
 18 STO b               and jump into M (see line 12, falls through '0' bytes'
 19 END
```

The HP71B program:

```
10 CONTROL OFF
20 M$=CHR$(167)&CHR$(29)&CHR$(173)&CHR$(25)&CHR$(133)&CHR$(178)&CHR$(130)
40 O$=CHR$(240+11)&"HELLO "
50 N$=CHR$(206)&CHR$(119)&CHR$(113)&CHR$(0)&CHR$(0)&CHR$(0)&CHR$(0)
60 C$=O$&N$&M$
70 OUTPUT :LOOP ;C$
140 O$="WORLD"&CHR$(126)&CHR$(133)
150 N$=CHR$(206)&CHR$(119)&CHR$(206)&CHR$(113)&CHR$(0)&CHR$(178)&CHR$(4)
160 C$=O$&N$&M$
```

```
170 OUTPUT :LOOP ;C$


Comments per line:
10 Just to cooperate with the HP41
20 M$ (REG M) holds code equivalent to HP41:
        INA             167  29
        FC? 25          173 25
        RTN             133
        GTO 01          178 130 => a COMPILED GTO thus a jump to start of register N (needs
                        no label, restriction: do not PACK or anything else that destroys
                        the jump bytes
40 O$ (REG O) holds code equivalent to HP41:
        "Hello "        251 + "HELLO" xFB (length 11) as first part of the string
50 N$ (REG N) holds code equivalent to HP41:
        X<>O            206 119 And bring O (The "Hello ") to
        X<>Y            the Y Register
                        + 4 NOPS ('0' Bytes) => The Instruction pointer falls to M ...
60 Add the whole bunch for sending
65 Just to follow the 71
70 Send to the 41
140 O$ :
        "WORLD"         The rest of the "Hello " String (NO APPEND !)
        AVIEW           126 Display it
        RTN             133 and a normal return (To HP41 V Program line 8)
150 N$ :
        X<>O            206 119
        X<>Z            206 113 Put 'WORLD' in 'Z'
        NOP             0 => to make the compiled goto (next line) easier ...
        GTO 01          178 4 => a COMPILED Jump to REG Y, Byte 6 (Left Byte)
165
170     And send it to the HP41


What happens ... In abstract
In 'V' the bootstrap instructions are loaded for the initial INA function in Line 18
This could be improved with M$ code as in HP71 but I was to lazy ..


In Detail:
<IP> means instruction pointer, located at the byte to start with
Void fields means a '0'(Zero) Byte (<IP> falls through these as NOP)


       <IP>   falls through ...  <IP>
|Byte|   6    |   5    |    4   |    3   |   2    |   1    |   0    |
-------------------------------------------------------------------
| M  |        |        |        |        INA      |       STO b     |
-------------------------------------------------------------------



The first INA results in:


|Byte|   6    |   5    |    4   |    3   |   2    |   1    |   0    |
-------------------------------------------------------------------
| O  |251 (FB)|  'H"   |   'E'  |   'L'  |  'L'   |  'O'   |  ' '   |
-------------------------------------------------------------------


-------------------------------------------------------------------
| N  |      X<>O       | X<>Y   |        |        |        |        |
-------------------------------------------------------------------
                                                  <IP>
-------------------------------------------------------------------
| M  |      INA        |    FC? 25       | RTN    | GTO 01  (R:N,B6)|
-------------------------------------------------------------------


So a jump to N follows to the cuntional code, putting FB+Hello in Y and falls
in M with the next INA resulting in ...


|Byte|   6    |   5    |    4   |    3   |   2    |   1    |   0    |
-------------------------------------------------------------------
| O  |  'W"   |   'O'  |   'R'  |  'L'   |  'D'   |  AVIEW |  RTN   |
-------------------------------------------------------------------
```

```
-------------------------------------------------------------------
| N  |      X<>O       |       X<>Z      |        |GTO 01 (R:Y,B:6) |
-------------------------------------------------------------------
                                            <IP>
-------------------------------------------------------------------
| M  |      INA        |    FC? 25       | RTN    | GTO 01  (R:N,B6)|
-------------------------------------------------------------------
```

So assuming INA works fine, code jumps to N and then to Y:Byte 6 where it finds

```
      <IP>
|Byte|   6    |   5    |    4   |    3   |   2    |   1    |   0    |
-------------------------------------------------------------------
| Y  |251 (FB)|  'H"   |   'E'  |   'L'  |  'L'   |  'O'   |  ' '   |
-------------------------------------------------------------------
| Z  |  'W"   |   'O'  |   'R'  |  'L'   |  'D'   |  AVIEW |  RTN   |
-------------------------------------------------------------------
```

Loading "Hello World" in the ALPHA regs (therefore this code is in Y,Z), doing an AVIEW and return to "V" line 08 (subsequent the XEQ 01 => We preserved the return value in REG b).

Start as follows:
Run the HP71 Program (Output statements are buffered)
Run the HP41 Program, perform the extra R/S to continue after the STOP in 18 => Rubbish in Display

AND NOW ... This works when in SST mode on the HP41 (SST from line 18 onwards or from line 1 ...)
=> A nice "HELLO WORLD" is Aviewed ...
Step until you encounter RTN to return to the "V" program!!
Otherwise your program pointer remains in the status register.

Its a pain in the brain but I can't find the bug... Somebody has an idea??
It could open therabytes of virtual memory for the HP41 of this works

Something like this as boot-trap loading some bigger program doing bigger things doing ....

When it workes, Yes Yes I will, I'll make it an article ....

Best regards

Raymund

Re: HP41 Virtual Memory - Terabytes?

*Message #2 Posted by **Howard Owen** on 13 Mar 2009, 10:37 p.m.,*
in response to message #1 by Raymund Heuvel

This is wicked cool...

But the HP71 can't handle terabytes, so it would have to be talking to a PC using a HP 82973A. But a PC with an ISA slot probably can't handle terabytes either, so it in turn would have to be using a decent 64-bit server (running Linux, for speed) in order to manage the multi-gigabyte chess program someone will undoubtedly write once this capability is available.

Don't you love this hobby? :)

Regards,
Howard

Re: HP41 Virtual Memory - Terabytes?

*Message #3 Posted by **Raymund Heuvel** on 13 Mar 2009, 11:00 p.m.,*
in response to message #2 by Howard Owen

```
I got the same results with a HP82164A (RS232) with my humble PC
with 3TB disk.
The disk cost are about 50% of the price I paid for my HP41CV in
1980 so I'am looking forward to a "best value" upgrade for my
beloved buddy.


Concerning application future: A standard HP41 in the Shuttle
program =>  I assume NASA grabs the opportunity for Ares ...


BR


Raymund
```

Re: HP41 Virtual Memory - Terabytes?

*Message #4 Posted by **David Hayden** on 13 Mar 2009, 11:37 p.m.,*
in response to message #1 by Raymund Heuvel

> Quote:
>
> I wrote a few small programs (not optimized, just to see if it is possible) and yes it works, but only in SST mode on the HP41. In RUN mode it simply won't work.. any hint from the synthetic specialists?

Raymund,

I don't know anything about synthetic programming or details of the HP 41, but I know something about computer architectures. Modifying code is often tricky because the computer assumes just the opposite - that it won't be modified. This lets it do things like keep recently used instructions in cache, or soon-to-be-executed instructions in an internal pipeline.

The upshot is that if you modify the instruction stream, you have to flush the cache and the pipeline. I don't know if the HP41 has either of these things, but your symptom is pretty classic for the problem.

Good luck, and do keep up posted.

Re: HP41 Virtual Memory - Terabytes?

*Message #5 Posted by **Raymund Heuvel** on 14 Mar 2009, 4:49 p.m.,*
in response to message #4 by David Hayden

Maybe the MCode programmers can give a statement to this?

Re: HP41 Virtual Memory - Terabytes?

*Message #6 Posted by **PeterP** on 15 Mar 2009, 5:09 p.m.,*
in response to message #1 by Raymund Heuvel

Raymond,

Fabulous idea! No specialist here, but just a couple thoughts (don't have any HP with me currently but will try your set-up at home and share any further thoughts if I have any)

1. I think register M is number 5 and not number 7 (T=0,Z=1,Y=2,X=3, L=4, M=5, N=6, O=7). As your line 17 clears all alpha it does not create a problem. Maybe one can use 48/5/00000 in your line 11 for byte 3 of reg 5
2. very neat and clever separation of the first return address and program pointer and replacement with the wanted program pointer
3. INA behaves differently depending on Flag 17 on the HP41. If that Flag is cleared, it expects/wait a CR/LF to end the transmission. If it is set, it just accepts the whole string until either alpha is full (24 chars) or the full string has been submitted. Maybe in SST mode the INA gets completed even without the CR sent, but not in Run mode. Have you tried running your experiment with Flag 17 set?
4. Sorry for being slow, but can you explain the purpose of the Sto B after the INA that you place in Reg M? Doesn't INA wipe out Alpha and hence the StoB as well? As I said, I don't have any HP with me right now so I can't try it out myself, my apologies.
5. In run-mode, I believe AVIEW has some extra features (e.g. print-out, halt of program depending on some printer flags etc). The other thing I am not sure currently is the treatment of the Alpha-register itself with AVIEW. In Run-Mode the calc normally shows the goose which it does not in SST mode, so I'm not sure if there is something here as well. Have you tried instead of Hello World to e.g. fill some registers with say Pi?
6. I think there do exist WALL like functions that read/write the complete content of the calc (or subsections like EM, Status regs, user regs etc) to an HP-IL mass-storage device. To read(write) the whole memory of an HP41 to(from) the HP71 one could simply use on the many available Non-normalized sto(recalls) for each register, rcl M(sto M) and INA(OUTA) but I guess it might take a while.
7. If you want to use the 71 as a source of a loooong program for the 41, it might be tricky to write a meaningful program that can have no loops >20 bytes (the length of alpha)

Again, fascinating idea, do let us know how it goes!

Cheers

Peter

Re: HP41 Virtual Memory - Terabytes?

*Message #7 Posted by **Raymund Heuvel** on 15 Mar 2009, 9:49 p.m.,*
in response to message #6 by PeterP

```
Hi Peter
1)    Yes, you are correct. Legacy from previous experiments
3)    Yes, I did, no effect (same "rubbish")
4)    Legacy but it would bring IP back to main program where it does
      the stop (if inserted) in case INA fails. Better would be to
      use the M$ code of the HP71 in M (then 96/5/00000 in line 11 !)
5)    I did not try but soon I will -> Keep you informed
6/7)  My fantasy goes more in the direction of a small loader that
      loads (or writes) a number of registers, moves the curtain
      (or vice-versa) and then finalizes the whole thing by
      a "GTO ..". Then a WALL or READP, WRITEP look-a-likes could
      be possible.
      Yes the mass storage functions have these functions and I
      have a tape, but also a RS232. The latter would open my
      Terabytes disks for my HP41 environment in a total different
      way.
      e.g.: run a default bootloader on the HP41 (An extended
      version of the actual "V") and then the PC can step by step
      put the HP41 into a desired state.
      Why should we do this: because we can (I hope ..)
```

```
     Some actual observations:
     It looks as if the ALPHA register does not receive (all)
     data from the second INA / Output sequence.
     I have the feeling that maybe the INA uses some scratch in P.
     I'll create a programm that moves the INA into e.g. L
     (or ...) but not one of the ALPHA regs and do a
     CLA before the INA.


     But this next week. Some busy times ...


     Thanks for your remarks and help, to be continued

Raymund
```

Re: HP41 Virtual Memory - Terabytes?

*Message #8 Posted by **PeterP** on 16 Mar 2009, 10:16 p.m.,*
in response to message #7 by Raymund Heuvel

Raymond,

Thanks for the feedback. Seems that F17 did not help but based on your suspicion that the second INA does not receive all I feel more certain that one of two things are happening.

1. Either the 41 keeps on waiting for the string to finish but does not so in SST mode
2. Or the two INA's write consecutively into the Alpha reg. It then gets too full and hence the calc does not receive the full amount.

However, if a WALL with a loader-program is your desire, I'm not sure that this way is the easiest possible to achieve this (aside from the pure intellectual pleasure to have programs run in Alpha. In the heydays(?) of the 41, Valentin Albillo developped a whole series of articles which where based on obfuscating programs by running it in Alpha only. The program basically was a series of synthetic alpha strings with a STO b to start the whole program...)

What about the following pseudo HP-41 program to receive the data from the 71:

```
Lbl 'GetPGM'
'move curtain so that desired program location starts at STO 00
'place number of registers to read from 71 into L
CLA
CLST
LBL 01
  INA 'read in three registers worth to minimize HP-IL overhead
  CLX
  RCL M
  NNSTO IND Y (there are a number of non-normalized STO available
               they have slightly different syntax)
  ISG Y
  NOP
  CLX
  RCL N
  NNSTO IND Y (there are a number of non-normalized STO available
               they have slightly different syntax)
  ISG Y
  NOP
  CLX
  RCL O
  NNSTO IND Y (there are a number of non-normalized STO available
               they have slightly different syntax)
  ISG Y
  NOP
  CLX
DSE L
GTO 01
'move curtain to previous position and hence making the stored bytes available.
```

This is a basic principle that was used for various tricks IIRC.

One thought though: I'm not sure how INA works with non-display characters and if it can be always trusted. Also, I'm not sure if it does not add a '01' in front of each register M/N/O for each set of 6 strings. This would have to be tested. However, even if that fails, one could do a series of

```
INA (read in 14 characters representing 7 bytes in hex)
CODE (and one of the many available versions can work)
NNSTO IND Y
```

It would be twice as slow but would definitely work.

Still hope you can figure out what is going on with INA etc, its simply a very cool idea even though I think there might be better ways to achieve what you are aiming for.

HTH

Cheers

Peter

Edited: 16 Mar 2009, 10:19 p.m.

Re: HP41 Virtual Memory - Terabytes?

*Message #9 Posted by **Raymund Heuvel** on 17 Mar 2009, 10:54 p.m.,*
in response to message #8 by PeterP

```
Hi Peter & all


Moving the INA part of the code to L and performing CLA before INA helps.


I learned that compiled 2 byte GTO's do not work in Status Regs.
Compiled 3 Byte GTO's do!


My first "Hello World" is there, keep you posted after cleaning up
the code and having time for proper documentation.


BR


Ray
```

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Latest Version of EMU41

*Message #1 Posted by **Gerry Schultz** on 13 Mar 2009, 7:18 p.m.*

To All:

I'm looking for the latest version of EMU41. I have resurrected my old Win98 PC with ISA slots and installed an HP82973A HP-IL to PC I/F card. I have an older version of EMU41.exe dated 10/18/97 which appears to run properly (I do have the 41CV and CX binary image files). I also have a copy of EMU41.exe dated 2/22/04 which appears to support HP-IL but it crashes when I run it on my work PC. I also have Christoph Klug's latest book, "HP-41 Input/Output Board" which I am using to help set up the HP-IL to PC I/F card.

When I search using Google, I find lots of links to EMU41 but the ones that work are to the 1997 version of EMU41. The links on the version 6.2 of the HP Museum disks to EMU41 are dead so if anyone knows where to look, I would appreciate it.

As I remember, The full version of EMU41 has been released to the public. If that is true, then that's the version I'm looking for as I want to take files from my HP82161A cassette drive and HP9114B floppy drive and store them on my PC. I also want to use the LIF utilities to try formatting some double-density floppies that the 9114 reported as having bad media on my PC's 3 1/2" drive.

Thank you for the help.

Gerry

Re: Latest Version of EMU41

*Message #2 Posted by **ZOleg** on 13 Mar 2009, 8:30 p.m.,*
in response to message #1 by Gerry Schultz

Whats happen with JFC page at http://www.jeffcalc.hp41.eu?
Its possible use virtual Tape in Emu41/Emu71 for HP-41CX and HP-71B connected to PC via RS232/HP-IL 82164A adapter?

Edited: 13 Mar 2009, 8:46 p.m.

Re: Latest Version of EMU41

*Message #3 Posted by **Egan Ford** on 13 Mar 2009, 11:34 p.m.,*
in response to message #1 by Gerry Schultz

The latest version (2.45) of EMU41 works with the HP-IL ISA card. However, I cannot get to JFG's site (http://www.jeffcalc.hp41.eu/). I can send it to you if you cannot find it elsewhere.

The latest LIFUTIL for DOS can be had here:

http://www.home.agilent.com/agilent/faqDetail.jspx?cc=FR&lc=fre&ckey=1000002597:epsg:faq&nid=-536902437.536881997.02&id=1000002597:epsg:faq

Re: Latest Version of EMU41

*Message #4 Posted by **Gerry Schultz** on 14 Mar 2009, 8:30 p.m.,*
in response to message #3 by Egan Ford

Thank you all for all the responses.

Egan, yes, please email me version 2.45 of EMU41. You can send it to my work email address and if you could add my home email address g_schultz AT ca DOT rr DOT com I would appreciate it. Thank you for offering it. Also, thanks for the link to the LIF utilities. I'll follow up with that this weekend on my Win98 PC.

Gerry

Re: Latest Version of EMU41

*Message #5 Posted by **Howard Owen** on 14 Mar 2009, 11:41 p.m.,*
in response to message #1 by Gerry Schultz

JF's site at http://www.jeffcalc.hp41.eu was back online when I checked just now

Re: Latest Version of EMU41

*Message #6 Posted by **Gerry Schultz** on 16 Mar 2009, 3:21 p.m.,*
in response to message #5 by Howard Owen

Egan, Howard, everyone, thanks for all the information. JF's website is indeed up and I have downloaded the latest versions of EMU. Please note that EMU41 2.47 beta is now available. I also got Warren Furlow's latest HP-41Archive DVD just this morning. I only ordered it Friday so thanks to Warren for the fast shipping.

Egan, I got your emails and links. Thank you for all your help. Yesterday, after I got all the "honey-dos" done, I put in the HP-IL card in my Win98 machine and cranked up the latest version of EMU41 (2004) and it didn't crash. I was able to get the internal HP-IL loop to work with FDRIVE1. I put a floppy in my PC drive formatted and storing a 41 program from my 9114b and the EMU41 successfully did a DIR. With the fully implemented EMU41 I can try my HP-IL devices on my PC and see if they work. Then I can start playing with the LIF utilities. I have some floppies to test.

Finally, I just won an auction for a HP-71 on that unmentionable website. It includes the HP-IL loop so I can use my external devices with it. I guess I'll have to get the full version of EMU71 to link it to my PC.

Oh, where does it end???

Gerry

Re: Latest Version of EMU41

*Message #7 Posted by **Marcus von Cube, Germany** on 16 Mar 2009, 4:38 p.m.,*
in response to message #6 by Gerry Schultz

EMU41 should be fine for supporting the HP-71. AFAIK the real HP-41 is unable to give up control of the loop but the emulator does so if no I/O is under way or while it is idle.

Re: Latest Version of EMU41

*Message #8 Posted by **Egan Ford** on 16 Mar 2009, 5:59 p.m.,*
in response to message #6 by Gerry Schultz

> Quote:
>
> Oh, where does it end???

It doesn't. There are 32/80 column video adapters to be had, HP-IL to serial projects (e.g. see my X10 home automation hack: http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=763, and how to set your 71B clock with a GPS: http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=746), Plotters, etc...

Re: Latest Version of EMU41

*Message #9 Posted by **Howard Owen** on 16 Mar 2009, 7:03 p.m.,*
in response to message #8 by Egan Ford

And nobody has done HPIL/IP or a PCI version of the HP-IL PC card. A Linux driver for the HPIL card would be nice too.

I'm long on ideas and short on action, unfortunately. :)

Regards,
Howard

Re: Latest Version of EMU41

*Message #10 Posted by **Khanh-Dang Nguyen Thu-Lam** on 16 Mar 2009, 7:36 p.m.,*
in response to message #9 by Howard Owen

If someone gives me a HP-IL PC card, the first thing I would do is to write a Linux driver :-)

Re: Latest Version of EMU41

*Message #11 Posted by **Egan Ford** on 17 Mar 2009, 7:04 a.m.,*
in response to message #10 by Khanh-Dang Nguyen Thu-Lam

When this releases (http://www.jeffcalc.hp41.eu/hpil/index.html) I'll send you one in exchange for a Linux USB driver.

Re: Latest Version of EMU41

*Message #12 Posted by **Khanh-Dang Nguyen Thu-Lam** on 18 Mar 2009, 5:57 a.m.,*
in response to message #11 by Egan Ford

I guess there will be nothing to do if the PILBox uses protocols such as RS232 or serial USB. Under Linux, things would work just fine if you open the right device file (say /dev/ttyS0 for a RS232 serial port or /dev/ttyUSB0 for a USB port), then write data to or read data from this file. Actually, for the USB "driver", there would be just one single program line to add to the Linux sources saying "Hi serial USB driver, would you mind to bind to any device which USB ID is the one of PILBox?".

What would be more interesting is to write a HPIL library so that users wouldn't have to remember the codes for PIL commands. Who really cares about the Ready Send Data

PIL frame being 0x560?

Anyhow, thank you for your offer, that's nice!

Re: Latest Version of EMU41

*Message #13 Posted by **Egan Ford** on 17 Mar 2009, 7:02 a.m.,*
in response to message #9 by Howard Owen

PCI? Or PCI-E? Gen1 or Gen2? I think the safer bet would be JFG's PIL-Box: http://www.jeffcalc.hp41.eu/hpil/index.html.

I am holding out for that.

P.S. Welcome back.

Edited: 17 Mar 2009, 7:05 a.m.

Re: Latest Version of EMU41

*Message #14 Posted by **Gerry Schultz** on 17 Mar 2009, 1:53 p.m.,*
in response to message #13 by Egan Ford

Hi All. Just wanted to follow up with this thread. I put EMU41 version 2.45 on my Win98 machine last night and successfully loaded and ran a program from the 9114 on the external loop into the EMU41. So I now know that the HP-IL I/F card is functioning properly in my Win98 machine.

As I have been using EMU41, a couple of questions came up. First, is there any way to save the 41 machine state? I do some key assignments for HP-IL functions and when I quit to edit the EMU41.ini file, I have to re-do the assignments manually again. I need the "C" in 41C. In the ini file, I saw some bin files listed I didn't know what they are; like ccd_osx.bin and xiola.bin. What do these bin files represent? Is osx Apple's OS X? Is there any further documentation on EMU that goes into more detail about the bin files and the devices section of the ini file.

Thank you for your patience and help,

Gerry

Re: Latest Version of EMU41

*Message #15 Posted by **Egan Ford** on 17 Mar 2009, 2:43 p.m.,*
in response to message #14 by Gerry Schultz

> Quote:
>
> First, is there any way to save the 41 machine state?

IIRC, machine state is save in MEM41.DAT and XMEM41.DAT. Just back them up.

> Quote:
>
> In the ini file, I saw some bin files listed I didn't know what they are; like ccd_osx.bin and xiola.bin. What do these bin files represent? Is osx Apple's

> OS X?

CCD_OSX is another community created module. You have the docs on your HP-41 Archive DVD.

XIO, is the HP-IL Extended I/O module. Very nice to have. Documented in Klug's book as well as the MoHPC DVD.

> Quote:
>
> Is there any further documentation on EMU that goes into more detail about the bin files and the devices section of the ini file.

Google, e.g.: ccd osx site:hpmuseum.org, e.g.: emu41.ini site:hpmuseum.org.

Re: Latest Version of EMU41

*Message #16 Posted by **Gerry Schultz** on 17 Mar 2009, 8:24 p.m.,*
in response to message #15 by Egan Ford

Thanks, Egan. I'll check it out.

Re: Latest Version of EMU41

*Message #17 Posted by **Howard Owen** on 17 Mar 2009, 2:10 p.m.,*
in response to message #13 by Egan Ford

Oh, man, I just saw that JF will release the source to ILPer. That means that a Linux/Mac USB driver *is* the priority, so we can port the virtual loop too.

NutML -> DOS/C -> Windows/VB -> (Linux|OSX)(C|Python|??)
Quite a journey that knowledge will have taken.

If the implementation language is C, it would facilitate the writing of an HPIL/IP router. :)

Regards,
Howard

P.S Thanks :)

Re: Latest Version of EMU41

*Message #18 Posted by **Marcus von Cube, Germany** on 17 Mar 2009, 6:20 p.m.,*
in response to message #17 by Howard Owen

Why not create something in Java. As long as the USB is recognized as a serial port, the Java Comm API should be able to handle it.

What you get: portability, GUI, object oriented design, ... The compiled code should run an any platform with javax.comm installed. Makes it interesting!

:-)

Re: Latest Version of EMU41

*Message #19 Posted by **Howard Owen** on 17 Mar 2009, 7:19 p.m.,*
in response to message #18 by Marcus von Cube, Germany

Java ought to be fine for the simulator. But I'm thinking about routing IP frames to IL and back - that's probably a little too close to the real machine for Java.

Regards,
Howard

Re: Latest Version of EMU41

*Message #20 Posted by **Howard Owen** on 17 Mar 2009, 8:31 p.m.,*
in response to message #18 by Marcus von Cube, Germany

Having thought a little bit more about this, I can see that the implementation language of the loop is not so important. What is needed for an HPIL/IP router, or for any software using HP-IL is loop access to both the physical and the virtual loops. The driver interface should give access to the physical loop, but the virtual loop emulation could make this easier by providing loop architecture administration as well as emulation So Java, C, FORTRAN, whatever, the virtual loop implementation should define an interface to the emulated loop. Further, the emulation interface should allow selecting shared or standalone mode. That is, in shared mode, the loop emulation would put the frames it receives from external software onto the physical loop after running them through the emulated devices. In standalone mode, it would instead return the frames to the external software. There could also be an "invisible" mode where the emulation would simply transfer frames between the loop and external software, without performing any emulation beyond that. Switching modes on the fly would be cool, too, rewiring the virtual loop on an ad hoc basis.

What I'm obsessed with is the idea of using your 9114 drive from my HP41C, us being at arbitrary distance over the Internet. :) Also, and I think I mentioned this here several years ago, you could have a cluster of 41s working in parallel on a problem. What is the processing power of all our 41s put together? How far up the mips (never mind gips) scale could we go?

Regards,
Howard

Re: Latest Version of EMU41

*Message #21 Posted by **Egan Ford** on 17 Mar 2009, 9:02 p.m.,*
in response to message #20 by Howard Owen

Howard, check this out: http://pagesperso-orange.fr/kdntl/hp41/nonpareil-patch-doc.html.

It's a patch to nonpareil and it provides some very nice HP-IL capabilities, including a TCP interface. As soon as the PIL-Box releases and a driver created I image that this could also be linked in to act as your proxy. And it is in C.

Re: Latest Version of EMU41

*Message #22 Posted by **Howard Owen** on 17 Mar 2009, 11:59 p.m.,*
in response to message #21 by Egan Ford

That does indeed seem to be a big chunk of the solution. The patch must be GPL, since it doesn't change the license text in README. So now I wonder what license JF will use for his release. For the sake of arbitrary combination, derivation and downright happy hacking, it would be best if he used the GPL too.

Regards,
Howard

Re: Latest Version of EMU41

*Message #23 Posted by **Khanh-Dang Nguyen Thu-Lam** on 18 Mar 2009, 6:14 a.m.,*
in response to message #20 by Howard Owen

There is no need for a HPIL/IP router, just let your HP41 talk TCP/IP, directly :)

I am writing a ROM (written in MCODE) called NutIP which encodes/decodes TCP/IP frames. A web server is provided as a proof of concept. The work is nearly done, I just need to do a lot more testing and to implement the TCP retransmission part (not the hard part of NutIP, though).

I haven't released NutIP yet, but the documentation (kind of teaser) is available at: http://pagesperso-orange.fr/kdntl/hp41/nutip/.

BTW, I would like to see NutIP running on real hardware before releasing it. I still don't have a HP-41 + PIL ROM + (MLDL or Clonix or NoVRAM) + (the HP82164 HPIL/RS232 interface or PILBox or HPIL PC card). Is there anyone living near Paris who would like to do some tests and who is lucky enough to have all the hardware mentioned above?

Re: Latest Version of EMU41

*Message #24 Posted by **Howard Owen** on 19 Mar 2009, 6:08 p.m.,*
in response to message #23 by Khanh-Dang Nguyen Thu-Lam

Wow, SLIP! Why not PPP? Smaller I'll bet.

This is also way cool! Native TCP/IP would be great to have. Of course you'd need applications layered on top of the native IP. For example, wouldn't Something like SMB or NFS be required in order to share mass storage? Both the client and the server parts of the protocol would have to implement IP <-> HP/IL translation, and at multiple layers. You'd have to do that over for each service/application too. I can see this would be a great challenge for an ace mcode programmer. Fitting the application(s) into 8K or even 4K would be quite an acheivment. Of course, a more clever architecture than the simple-minded one I have in mind could make the whole thing more feasible

I'm more interested in doing a router because all those translations can be done in a high level language and with better resources. I would also like to accomodate/incorporate virtual HP-IL devices.

But the prospect of a native web server running on an HP-41C is just too tasty to pass up. I think both approaches have merit. :)

Regards,
Howard

Edited to correct typo resulting from posting from my iPod :)

Edited: 20 Mar 2009, 2:05 a.m.

The IP Loop

*Message #25 Posted by **Marcus von Cube, Germany** on 18 Mar 2009, 9:00 a.m.,*
in response to message #20 by Howard Owen

I've a possible scenario in mind which is independent of the implementation language. Not knowing very much detail about the HP loop, others might need to jump in if necessary.

Each device is an independent piece of software. These pieces may be implemented in any language and need not necessarily be independent processes, tasks will do, as long as they all talk the same language: UDP. This is the connectionless and thus simpler form of IP connectivity. Each device listens on a specific port and talks to its neighbor on the neighbor's port. For simplicity, lets assign port 50001 to device 1, 50002 to device 2, and so on. Configuration is per device: The port to listen to and the port to talk to. The IP address can be the broadcast address or a specific host. Devices can be spread across the network at will. Since the same UDP port can be listened to from several processes, even a kind of automatic loop arbitration and address assignment may be possible. (A device stopping service can brodcast a quit message that is honored by its left neighbor and causes its reconfiguration.)

How to connect the real HP-IL world to this? With the HP-IL card, you only need a small driver in your DOS PC under the table which talks to the card and translates the data to UDP for its neighbor in the virtual loop, or from UDP to HP-IL in the other direction. The USB-HP-IL bridge just needs the same functionality implemented for different hardware. An implementation may even be based on the Xport connected to some small micro controller. This can either act as an IP-HP-IL bridge or be a device by itself. Others may even consider a wireless implementation of the same idea.

Marcus

Re: The IP Loop

*Message #26 Posted by **Howard Owen** on 18 Mar 2009, 12:54 p.m.,*
in response to message #25 by Marcus von Cube, Germany

I think that a single device per software module ought to be possible, or multiple devices. Either way, the modules would take in HPIL frames and emit them. What happens to the frames in between should only concern the particular module. Other modules - or real IL devices - would learn about those internal events via loop messages.

It's very important to define a set of interfaces that everyone can code to.

There seem to be several of us interested in this idea. I'd also like to get JF involved in the conversation around the design of a distributed, IP based HPIL extension. I suggest we call it VL, for Virtual Loop. (It could be HP-VL, but HP might get annoyed.) I'm not able to put a great deal of time and/or effort into this, but for now, here's my first shot at a high level requirements list. These are completely ad-hoc and subject to revision. They also incorporate many ideas from many folks. I'm just aggregating them into a requirements list

- VL will be a generalized, software based extension of HP-IL accommodating both real and virtual HP-IL devices.
- VL will be an object oriented system, with virtual devices implementing VL standard messaging interfaces. Otherwise the internal state of such objects will be opaque.
- Communication transports should be completely transparent to virtual devices. (i.e. the network should be invisible)
- Virtual devices will communicate both in-band and out-of-band
    - In-band communication with loop messages should adhere to the HP-IL spec, modified by the requirements of real HP-IL devices.
    - Out-of-band mechanisms will allow extended communication between software modules for such things as loop reconfiguration.
- Source and target of in-band communication should be dynamically configurable via out-of-band mechanisms. (This will allow, for example, "captive" virtual loops under the control of a master virtual device. This could be one way to do extended loop addressing.)
- VL reconfiguration should be possible using in-band communication (via HP-IL frames) and out-of-band (so that one software module could replace another transparently.)

That's all I have time for at the moment. Comments?

Regards,
Howard

Re: The IP Loop

*Message #27 Posted by **Eric Smith** on 20 Mar 2009, 12:32 a.m.,*
in response to message #25 by Marcus von Cube, Germany

I was working on HP-IL support for Nonpareil back in October-November, though I haven't had time to finish it up, and since then Khanh-Dang Nguyen Thu Lam has published patches for Nonpareil to support HP-IL, along with emulation of some HP-IL peripherals. I have not had time to try his code.

My own plan was roughly what you describe, with datagrams over UDP (or Unix-domain sockets) to pass the frames between devices and a "loop manager" process. However, I didn't plan to assign port numbers to positions in the loop. I just planned that each device would send a "connect to loop" message to the single UDP port of the loop manager, and the loop manager would assign and track the device position within the loop and route the HP-IL messages appropriately.

The loop manager could provide some means for a user to order the devices within the loop, possibly by a GUI interface. The devices would have no knowledge of where they are within the loop (just as in a real loop).

My plan for supporting physical HP-IL was to allow for a "device" on the virtual loop to be a physical loop. In other words, there would be some process acting as a proxy, participating in the virtual loop by UDP, and in the physical loop. In principle there could be more than one physical loop particpating in a virtual loop, or even more than one virtual loop participating in a physical loop. There could be proxies for the 82973A card, JFG's PIL-Box, or other hardware.

I got as far as defining a basic datagram format for HP-IL messages and loop management messages, and writing code for two different HP-IL interfaces, one directly from the state machines defined in the HP-IL spec, and the other based on the 1LB3 chip spec. When I left off, these were feature-complete but only slightly tested.

Edited: 20 Mar 2009, 12:36 a.m.

Re: Latest Version of EMU41

*Message #28 Posted by **Eric Smith** on 20 Mar 2009, 12:41 a.m.,*
in response to message #18 by Marcus von Cube, Germany

Sun's JRE (and JDK) do not supply an implementation of the Java Comm API for Windows. So much for "write once, run everywhere". :-(

Re: Latest Version of EMU41

*Message #29 Posted by **Marcus von Cube, Germany** on 20 Mar 2009, 5:14 a.m.,*
in response to message #28 by Eric Smith

But the specification exists and code written against it should run on any implementation. It looks like RXTX is the way to go: RXTX Wiki. It replaces javax.comm with gnu.io but is otherwise identical.

Latest Version of EMU71

*Message #30 Posted by **ZOleg** on 15 Mar 2009, 8:34 p.m.,*
in response to message #1 by Gerry Schultz

Emu71 on JF site - its full version or need to be registered for full power?

Re: Latest Version of EMU71

*Message #31 Posted by **Egan Ford** on 15 Mar 2009, 9:32 p.m.,*
in response to message #30 by ZOleg

You'll need to register to get support for the HP-IL ISA adapter.

Re: Latest Version of EMU71

*Message #32 Posted by **ZOleg** on 16 Mar 2009, 8:10 a.m.,*
in response to message #31 by Egan Ford

To work through the HP-80164A RS232/HPIL require registration?

Re: Latest Version of EMU71

*Message #33 Posted by **Egan Ford** on 16 Mar 2009, 10:56 a.m.,*
in response to message #32 by ZOleg

If you want to connect the serial end of your 80164A to the serial port of a PC, then no registration is required. However, I am unsure what functionality you will get.

Re: Latest Version of EMU71

*Message #34 Posted by **ZOleg** on 16 Mar 2009, 7:53 p.m.,*
in response to message #33 by Egan Ford

Thank you!

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OT: Dude Puts a Pipe in a TI-83 Calculator; Calculator Still Works

*Message #1 Posted by **Egan Ford** on 13 Mar 2009, 6:50 p.m.*

http://i.gizmodo.com/5169392/dude-puts-a-pipe-in-a-ti+83-calculator-calculator-still-works

Re: OT: Dude Puts a Pipe in a TI-83 Calculator; Calculator Still Works

*Message #2 Posted by **db (martinez, ca.)** on 13 Mar 2009, 10:00 p.m.,*
in response to message #1 by Egan Ford

I remember reading about "smart drugs", chemicals and dietary supplements that increase brain function and memory. I guess you'd have to smoke *those* in an HP 48.

Randy, is there room?

Re: OT: Dude Puts a Pipe in a TI-83 Calculator; Calculator Still Works

*Message #3 Posted by **Howard Owen** on 13 Mar 2009, 10:17 p.m.,*
in response to message #1 by Egan Ford

It may *work* like a sort of calculator, but it sure won't *smell* like one!

Regards,
Howard

Re: OT: Dude Puts a Pipe in a TI-83 Calculator; Calculator Still Works

*Message #4 Posted by **Charles Oxford** on 14 Mar 2009, 12:15 p.m.,*
in response to message #3 by Howard Owen

The pipe looks unused. I wonder how long it will after the heat from smoking.

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HP OfficeCalc 200 selling for $97!!

*Message #1 Posted by **Bruce Bergman** on 13 Mar 2009, 6:12 p.m.*

This is not an auction site either...

NewEgg sells HP OfficeCalc at discount price

Kinda makes you wonder.

thanks, bruce

Re: HP OfficeCalc 200 selling for $97!!

*Message #2 Posted by **Don Shepherd** on 13 Mar 2009, 6:34 p.m.,*
in response to message #1 by Bruce Bergman

Bruce, congratulations! You have discovered that Coburlin has taken ownership of NewEgg!!

Re: HP OfficeCalc 200 selling for $97!!

*Message #3 Posted by **Katie Wasserman** on 13 Mar 2009, 9:38 p.m.,*
in response to message #1 by Bruce Bergman

There's another seller out there with a similar price but says that it's for a case of 8 calculators -- a lot more believable.

OR Re: HP QUICKCalc 3-Pack for for $359.99!!

*Message #4 Posted by **Allen** on 14 Mar 2009, 2:54 p.m.,*
in response to message #1 by Bruce Bergman

That's nothing compared to the $359 set of three Quick Calcs

http://www.newegg.com/Product/Product.aspx?Item=N82E16844104025

Edited: 14 Mar 2009, 2:55 p.m.

Re: OR Re: HP QUICKCalc 3-Pack for for $359.99!!

*Message #5 Posted by **Michael de Estrada** on 14 Mar 2009, 5:06 p.m.,*
in response to message #4 by Allen

There's a sucker born every minute.

Re: OR Re: HP QUICKCalc 3-Pack for for $359.99!!

*Message #6 Posted by **Chuck** on 14 Mar 2009, 9:44 p.m.,*
in response to message #4 by Allen

I just purchased five 3-packs. We all have to do our part to stimulate the economy.

Actually, that site is for Government purchases only. Civilians can get the 3-pack for under $18 elsewhere. :)

Re: OR Re: HP QUICKCalc 3-Pack for for $359.99!!

*Message #7 Posted by **Don Shepherd** on 15 Mar 2009, 2:04 a.m.,*
in response to message #6 by Chuck

Government use? Which is to say, our tax dollars! I thought we had moved beyone the old $10,000 toilet seat.

Re: OR Re: HP QUICKCalc 3-Pack for for $359.99!!

*Message #8 Posted by **Bruce Bergman** on 15 Mar 2009, 11:21 a.m.,*
in response to message #6 by Chuck

The sad part is that I almost truly believed you for a second there.

ouch.

thanks, bruce

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80 column HP-IL interface

*Message #1 Posted by **Egan Ford** on 13 Mar 2009, 6:09 p.m.*

After a long wait I finally obtained an 80-column HP-IL interface for my 71B. For analog video I use a video capture USB dongle on my Mac Book Pro. It works great with the 32-column interface and the 80-column in 40-column mode, but in 80-column mode it looks terrible. However on a CRT TV it 80-columns looks readable. It's been over 20 years since I've seen 80-column video on a TV (Apple][e, IIRC). IIRC, it never really looked that crisp.

What are you all using for your 80-column output device? Have any had luck with video capture devices?

Thanks.

P.S. I forgot to add, that is looks a bit better in PAL mode with video capture.

Edited: 13 Mar 2009, 6:11 p.m.

Re: 80 column HP-IL interface

*Message #2 Posted by **Garth Wilson** on 13 Mar 2009, 6:49 p.m.,*
in response to message #1 by Egan Ford

> Quote:
>
> What are you all using for your 80-column output device? Have any had luck with video capture devices?

HP92198 (made by Mountain Computer) in 80-column mode, and a Zenith monochrome monitor with composite video input (not RF). It's plenty sharp for 80-column.

Edit: I should add that there's no reason you can't do 80 columns (or more) on a 41. In an automated test equipment set-up I did in the late 80's, the 41cx fed data to the monitor or printer with the ACA (accumulate alpha) and ACX (accumulate X) instructions to form 80-character lines. And with synthetic programming, you can have quoted strings with any characters including lower case, inverse video, and control characters, far more efficiently than using XTOA.

Edited: 13 Mar 2009, 7:07 p.m.

Re: 80 column HP-IL interface

*Message #3 Posted by **Allen** on 14 Mar 2009, 7:32 a.m.,*
in response to message #1 by Egan Ford

I've been playing with connecting an HP-41CV and HP 82163A Video Interface to a small Polaroid BT-6025 DVD player. The Video is IN/OUT selectable, and reads nicely- small enough to put on a desktop with some other accessories and still work.

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Friday the 13th Challenge, "Make 13 on the 13th"

*Message #1 Posted by **Egan Ford** on 13 Mar 2009, 3:20 p.m.*

Using your favorite calculator find a future Friday the 13th where the sum of the digits that make up the date equals 13. E.g. if the date were MM/DD/YYYY (or DD.MM.YYYY) then M+M+D+D+Y+Y+Y+Y = 13. E.g. today is 13.03.2009, 1 + 3 + 3 + 2 + 9 <> 13.

Can you find the next one after that?

Hint: DD = 13 :-)

Re: Friday the 13th Challenge, "Make 13 on the 13th"

*Message #2 Posted by **Monte Dalrymple** on 13 Mar 2009, 4:23 p.m.,*
in response to message #1 by Egan Ford

Using my trusty 41cv with time module:

5-13-2011 4-13-2012

are the next two

Re: Friday the 13th Challenge, "Make 13 on the 13th"

*Message #3 Posted by **hugh steers** on 13 Mar 2009, 4:40 p.m.,*
in response to message #2 by Monte Dalrymple

only 4 digit years!

07/13/10001

;-)

Re: Friday the 13th Challenge, "Make 13 on the 13th"

*Message #4 Posted by **Egan Ford** on 20 Mar 2009, 12:24 a.m.,*
in response to message #3 by hugh steers

Perhaps a future challenge, "Find the next 13 Friday the 13ths with digit sums of 13 with *binary* years, i.e. years with only 0s and 1s."

Re: Friday the 13th Challenge, "Make 13 on the 13th"

*Message #5 Posted by **hugh steers** on 13 Mar 2009, 4:45 p.m.,*
in response to message #2 by Monte Dalrymple

but more seriously,

does anyone have a better way to screen the digit sum.

i'm doing (y + m) == 0 mod 9, as a first approx, then summing the year and month digits for 9?

Re: Friday the 13th Challenge, "Make 13 on the 13th"

*Message #6 Posted by **Gerson W. Barbosa** on 14 Mar 2009, 10:38 p.m.,*
in response to message #1 by Egan Ford

A straightforward approach on the HP 50g:

```
FR13:
<< { } RCLF -42 CF UNROT SWAP
130000 + 132009 SWAP
  FOR i i 1000000 / 1 12
    FOR j 1 + DUP 0 TSTR 1 1
SUB "F" ==
      IF
      THEN DUP 1000000 * SOD
13 ==
        IF
        THEN DUP ROT + SWAP
        END
      END
    NEXT DROP
  NEXT REVLIST SWAP STOF
>>
SOD:
<< 0 SWAP 1 8
   START 10 / DUP FP 10 * ROT +
SWAP IP
  NEXT DROP
>>
```

2040 FR13 returns {5.132011 4.132012 12.132013 2.132032}

Hopefully no typo (no connectivity kit installed on this computer).

Regards,

Gerson.

Re: Friday the 13th Challenge, "Make 13 on the 13th"

*Message #7 Posted by **Gerson W. Barbosa** on 14 Mar 2009, 11:33 p.m.,*
in response to message #6 by Gerson W. Barbosa

It's better to replace *FOR j* with *START* in the program above since the local variable *j* is never used.

Alternative SOD (sum of digits) routine:

```
SOD2:
<< DUP LN pi sqrt * SWAP 10 MOD + IP >>
```

It works for the following random examples:

7221961, 12345678, 41179453, 79, 9612 ;-)

It would be great if such a formula existed...

Just a curiosity. These are all ocurrences of those Fridays the 13th in the period from 1583 to 9999:

{ 1.132006 10.132006 5.132011 4.132012 12.132013 2.132032 1.132051 10.132051 5.132101 2.132122 11.132122 1.132141 10.132141 1.132204 4.13221 12.132211 11.132212 4.1323 12.132301 2.13232 6.133 3.133012 1.133032 11.13304 2.133103 11.133103 1.133122 10.133122 1.133212 11.13322 1.133302 10.133302 4.134001 12.134002 3.13402 1.13404 2.134111 11.134111 1.13413 10.13413 2.134201 11.134201 10.13422 10.1344 3.135001 1.135111 10.135111 10.138 }

Edited: 15 Mar 2009, 7:14 p.m.

Re: Friday the 13th Challenge, "Make 13 on the 13th"

*Message #8 Posted by **Egan Ford** on 20 Mar 2009, 12:33 a.m.,*
in response to message #7 by Gerson W. Barbosa

> Quote:
>
> It would be great if such a formula existed...

http://mathworld.wolfram.com/DigitSum.html

Clearly there is a pattern, but nothing to simply return a digit sum.

Re: Friday the 13th Challenge, "Make 13 on the 13th"

*Message #9 Posted by **Nigel Bamber** on 18 Mar 2009, 1:57 p.m.,*
in response to message #1 by Egan Ford

Thanks for the interesting and enjoyable challenge Egan, which I solved by writing my first proper 'program' for 25 years on my I41cx+ !

I am not sure it was the most elegant or efficient but it worked in the end , once I had worked out the differences in the effects of a XEQ and a GOTO jump.

Great fun.

Nigel

Re: Friday the 13th Challenge, "Make 13 on the 13th"

*Message #10 Posted by **Nigel Bamber** on 18 Mar 2009, 1:56 p.m.,*
in response to message #1 by Egan Ford

Thanks for the interesting and enjoyable challenge Egan, which I solved by writing my first proper 'program' for 25 years on my I41cx+ !

I am not sure it was the most elegant or efficient but it worked in the end , once I had worked out the differences in the effects of a XEQ and a GOTO jump.

Great fun.

Nigel

Re: Friday the 13th Challenge, "Make 13 on the 13th"

*Message #11 Posted by **Egan Ford** on 19 Mar 2009, 11:25 p.m.,*
in response to message #10 by Nigel Bamber

You are very welcome.

Re: Friday the 13th Challenge, "Make 13 on the 13th", My 3 solutions for the 12C

*Message #12 Posted by **Egan Ford** on 20 Mar 2009, 12:18 a.m.,*
in response to message #1 by Egan Ford

> Quote:
>
> Using your favorite calculator find a future Friday the 13th where the sum of the digits that make up the date equals 13. E.g. if the date were MM/DD/YYYY (or DD.MM.YYYY) then M+M+D+D+Y+Y+Y+Y = 13. E.g. today is 13.03.2009, 1 + 3 + 3 + 2 + 9 <> 13.
>
> Can you find the next one after that?

Thanks to all that participated and provided solutions.

As Monte quickly pointed out the first two are:

5-13-2011 and 4-13-2012

I created 3 solutions for the 12C. The 12C has two date functions:

1. DATE. Put a date in Y and a number in X and DATE will compute the future (or past) date and will also display the day-of-week, however the day-of-week is not stored, so it cannot be used in a program.
2. Delta Days. Put two dates on the stack and DDYS will return the difference in days.

My first program uses brute force to find the next and future Friday the 13ths with a digit sum of 13. To use, set the 12C in D.MY mode (cannot be programmed) and input any Friday date on the stack in D.MY format (e.g. 13.032009) and then press R/S. This program will test each Friday until another 13th is found, then a digit sum is used to check. After discovered you can press R/S again to get the next date.

NOTE: The DATE function includes a built-in PSE. Yup, its slow.

Time to first solution: 7 min 26 sec

Code:

```
01  f6          14  Rv          27  x=0
02  ENTER       15  STO 1       28  GTO 30
03  7           16  0           29  GTO 20
04  DATE        17  STO 0       30  RCL 0
05  ENTER       18  RCL 1       31  9
06  INTG        19  FRAC        32  -
07  1           20  1           33  x=0
08  3           21  0           34  GTO 37
09  -           22  x           35  RCL 1
10  x=0         23  INTG        36  GTO 02
11  GTO 14      24  STO+ 0      37  RCL 1
12  Rv          25  LSTx
13  GTO 02      26  FRAC
```

My 2nd program works like the first, but skips by month. To use, set the 12C in M.DY mode and input in any 2009 or later 13th (e.g. 3.132009) and press R/S. After discovered you can press R/S again to get the next date.

Clearly skipping by month instead of week *should* be ~4x faster. However, this code is a bit more complicated because there is no easy way to check that each 13th of each month is on a Friday. The constant 12.282008 is a Sunday and is used to calculate day-of-week.

Time to first solution: 2 min 5 sec

Code:

```
01  STO 1          22  -              43  x              64  0
02  f6             23  1              44  -              65  STO 0
03  1              24  EEX            45  5              66  x<>y
04  2              25  6              46  -              67  1
05  .              26  CHS            47  x=0            68  0
06  2              27  +              48  GTO 51         69  x
07  8              28  GTO 33         49  RCL 1          70  INTG
08  2              29  Rv             50  GTO 14         71  STO+ 0
09  0              30  Rv             51  RCL 1          72  LSTx
10  0              31  1              52  FRAC           73  FRAC
11  8              32  +              53  LSTx           74  x=0
12  STO 2          33  STO 1          54  INTG           75  GTO 77
13  Rv             34  RCL 2          55  EEX            76  GTO 67
14  ENTER          35  RCL 1          56  2              77  RCL 0
15  INTG           36  DELTA DAYS     57  /              78  9
16  1              37  ENTER          58  x<>y           79  -
17  1              38  ENTER          59  .              80  x=0
18  x<>y           39  7              60  1              81  GTO 84
19  x<=y           40  /              61  3              82  RCL 1
20  GTO 29         41  INTG           62  -              83  GTO 14
21  Rv             42  7              63  +              84  RCL 1
```

My final program takes a 4 digit year as the input and returns a "magic" number that represents all the months with Friday the 13ths. Unfortunately I ran out of steps (and time) and was unable to generalize this to produce exact solutions without a bit of aid.

Magic Number Table:

Magic Number	Months with Friday the 13ths
1	May
2	August
2	February, August (leap year)
3	February, March, November
3	March, November (leap year)
4	June
5	September, December
6	April, July
7	January, October
7	January, April, July (leap year)

E.g. 2011 will return 1, so 05-13-2011 is a Friday the 13th. Do the digit sum manually.

E.g. 2012 will return 6, so 04-13-2012 and 06-13-2012 are both Friday the 13ths. Again do the digit sum manually.

E.g. 2020 will return 3, but 2020 is a leap year, so only 03-13-2020 and 11-13-2020 are Friday the 13ths.

4046 is the largest year supported by the 12C.

Code:

```
01  STO 1          17  1              33  4              49  0
02  1              18  .              34  /              50  0
03  2              19  0              35  FRAC           51  /
04  .              20  1              36  x=0            52  FRAC
05  2              21  +              37  GTO 39         53  x=0
06  8              22  DELTA DAYS     38  GTO 56         54  GTO 56
07  2              23  ENTER          39  RCL 1          55  GTO 58
08  0              24  ENTER          40  4              56  1
09  0              25  7              41  0              57  STO- 2
10  8              26  /              42  0              58  ENTER
11  STO 0          27  INTG           43  /              59  5
12  RCL 1          28  7              44  FRAC           60  RCL 2
13  1              29  x              45  x=0            61  1
14  EEX            30  -              46  GTO 58         62  -
15  6              31  STO 2          47  RCL 1          63  -
```

```
16  /               32  RCL 1          48  1
```

Edited: 20 Mar 2009, 12:39 a.m.

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HP9100A back to

*Message #1 Posted by **paolo** on 13 Mar 2009, 1:56 p.m.*

I just got an old HP9100A that was in a dump together with other rubbish by a research lab. It was not working due to two short-circuited rectifier diodes in the main power supply assembly (which off-course also blown the 1A fuse on the trasfo primary side), now I fixed it and it seem to work, or at least the display is working and it can execute calculations input from the keyboard. Its magnetic core memory still retains the last program loaded maybe 25 years ago... It is a very nice piece of hardware and I would like to study it a little more in detail. What I would like to test is the magnetic card reader, the D-shaped rubber wheel seem to be in very good condition, but I have no original card available. I read somewhere that it should be possible to reconstruct a working card starting from plastic sheet and videotape, I'm not pretty sure it could actually work but I' would try anyway if I knew the card specifications. Could someone in possesion of a original card give me the exact dimensions of it (including thickness) and the dimension/position of the magnetic bands ?

Thank you

Re: HP9100A back to

*Message #2 Posted by **Etienne Victoria** on 14 Mar 2009, 5:52 a.m.,*
in response to message #1 by paolo

Hello Paolo,

I would not advise to test your reader with something else than an original magnetic card.

Alternatively, you have mail :-)

Best

Etienne

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HP-3468 HP-IL and HP questions

*Message #1 Posted by **Michel Beaulieu** on 13 Mar 2009, 1:46 p.m.*

Hi, i just receive a HP-3468A multimeter and i have a surprise to discover that there is a HP-IL interface on the back. Can i connect my HP-41 or 75C on it and what will they talk about?

Also, where can i find a manual for this multimeter? I search on HP site but no trace of multimeter.

Does HP still manufacture multimeter and oscilloscope; i can't see anything else than computer on their site. Is there another site for "industrial" products that HP still produce?

Thanks

Michel

Re: HP-3468 HP-IL and HP questions

*Message #2 Posted by **PeterP** on 13 Mar 2009, 2:13 p.m.,*
in response to message #1 by Michel Beaulieu

yes, indeed you can and it is indeed a very fun thing to do. As usually with all IL related things, having the XIO helps.

Manuals can be found here (first couple hits) including the service manual etc.

There also is a Osci with HP-IL and frequency counter with HP-IL. I have both but have not used the HP-41 to interface with them yet. They are a bit more expensive as well, but you can get them. Manuals can be found here (for the osci, can't find the frequency counter right now)

Next to MCODE, I find the HP-IL world the most fascinating subject of the HP-41 toys. Especially as this is anno 1985...

Cheers

Peter

Re: HP-3468 HP-IL and HP questions

*Message #3 Posted by **Garth Wilson** on 13 Mar 2009, 2:24 p.m.,*
in response to message #1 by Michel Beaulieu

> Quote:
>
> Does HP still manufacture multimeter and oscilloscope; i can't see anything else than computer on their site. Is there another site for "industrial" products that HP still produce?

HP split, and now what used to be the instrumentation portion of the company is called Agilent. Virtually all

the instrumentation they have with HPIB (IEEE-488) can be interfaced to an HP-41 if you have the HP82169A HPIL-to-HPIB interface converter.

Edited: 13 Mar 2009, 2:25 p.m.

Re: HP-3468 HP-IL and HP questions

*Message #4 Posted by **Christoph Klug** on 16 Mar 2009, 5:26 a.m.,*
in response to message #1 by Michel Beaulieu

Dear Michel,

my new 708 page book "HP-41 Input / Output Board & IL2000 Interface System" includes a special chapter describing Hp41 control software for HP41 and HP3468A IL-Multimeter...

Best regards - Christoph Klug

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hp42s owner manual PDF pleeeease .....

*Message #1 Posted by **manudo** on 13 Mar 2009, 12:30 p.m.*

Hello everybody,

i just buy a hp42s. this calculator is really great but i bought it without manual. I use for the moment the "alternate manual for the HP42s", but i 'd like to read the original one.

Can someone send me the HP42s owner manual (pdf) , it will be great ! i know there is a DVD existing, but i only need one file !!

thanks

Re: hp42s owner manual PDF pleeeease .....

*Message #2 Posted by **Walter B** on 13 Mar 2009, 1:15 p.m.,*
in response to message #1 by manudo

How about buying a single Museum-CD with the manual of your choice? It doesn't cost a fortune. This will show you appreciate this forum :-)

Re: hp42s owner manual PDF pleeeease .....

*Message #3 Posted by **Johnny Bjoern Rasmussen** on 14 Mar 2009, 3:15 p.m.,*
in response to message #2 by Walter B

Hi. On the Free42 website of Thomas Okken you can download a nice alternative to the original HP-42S manual both in english and spanish.

http://free42.sourceforge.net/

Good luck!

Johnny

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HP 48GX or HP 50G?

*Message #1 Posted by **Chris Foley** on 13 Mar 2009, 11:00 a.m.*

Hello,

I own an HP 48SX with a 128Kb memory card.

I've tried to download the Meta Kernel program, but it doesn't seem to be working. Does the MK need an HP 48GX to work properly? (although I didn't find anything saying that it wouldn't on an 48SX.)

Anyway, if I can't use the MK with my HP 48SX, I would like to know which is the best: buying an HP 48GX upgraded to MK or an HP 50G?

I'm also interested in ML programing, I think the HP 50G has everything installed in memory (MASD...).

Thanks for your answers.

Oh, I forgot to mention: I get this annoying message at start "Invalid card data". I'm supposed to use the 'PINIT' command but when I type it, nothing happens (it appears on the stack).

Chris.

Edited: 13 Mar 2009, 11:19 a.m.

Re: HP 48GX or HP 50G?

*Message #2 Posted by **Walter B** on 13 Mar 2009, 1:23 p.m.,*
in response to message #1 by Chris Foley

Hi Chris,

If you search the forum archives a bit, you'll find more than one discussion of hp48 vs. hp50. Sorry I can't help you with your other questions, but I'm strictly RP**N** so far d:-)

Re: HP 48GX or HP 50G?

*Message #3 Posted by **Chris Foley** on 14 Mar 2009, 6:19 a.m.,*
in response to message #2 by Walter B

> Quote:
>
> If you search the forum archives a bit, you'll find more than one discussion of hp48 vs. hp50.

Actualy no, even using the *several eons* option :-(.

Re: HP 48GX or HP 50G?

*Message #4 Posted by **Raymond Del Tondo** on 13 Mar 2009, 2:41 p.m.,*
in response to message #1 by Chris Foley

Hello,

my usual suggestion is to get an HP-48GX, and load the SpeedUI package into it.
That's a real and up-to-date alternative to the very outdated MK for the HP-48.
SpeedUI accelerates nearly every part of the UI,
adds new features to the UI, and is very modular.
And if you really want to develop SysRPL/ML on the machine,
you can use JAZZ as kinda plug-in for SpeedUI.

However, if you really want to use the quirky MASD syntax, get a 50g...

About the memory card error: IIRC the SX doesn't have the PINIT command,
but there's an easy way to initialize the card.
Just MERGE it, then free it again. But note that the FREE command takes a list parameter,
which holds the objects to be moved from Port 0 to the freed card.
Consult the User Manual for details.

HTH

Raymond

Re: HP 48GX or HP 50G?

*Message #5 Posted by **Chris Foley** on 14 Mar 2009, 6:29 a.m.,*
in response to message #4 by Raymond Del Tondo

> Quote:
>
> my usual suggestion is to get an HP-48GX, and load the SpeedUI package into it.
> That's a real and up-to-date alternative to the very outdated MK for the HP-48.

Outdated? I thought the MK was still used nowadays in the 50G? (Or is it a newer and much better version?)

> Quote:
>
> SpeedUI accelerates nearly every part of the UI,
> adds new features to the UI, and is very modular.
> And if you really want to develop SysRPL/ML on the machine,
> you can use JAZZ as kinda plug-in for SpeedUI.

Is *SpeedUI* compatble with the HP 48SX? I've never tried JAZZ; MASD has always been hepful when I begun ML.

> Quote:
>
> However, if you really want to use the quirky MASD syntax, get a 50g...

Hopefully, you could use both (JAZZ or MASD).

> Quote:

> About the memory card error: IIRC the SX doesn't have the PINIT command,
> but there's an easy way to initialize the card.
> Just MERGE it, then free it again. But note that the FREE command takes a list parameter,
> which holds the objects to be moved from Port 0 to the freed card.

Strange things happens sometimes: the error message disappeared this morning...

Re: HP 48GX or HP 50G?

*Message #6 Posted by **Raymond Del Tondo** on 14 Mar 2009, 9:32 a.m.,*
in response to message #5 by Chris Foley

Hi,

to answer your questions in short:

IIRC the latest MK version for the HP-48 dates from about fourteen years ago.
It was in beta stage at best, and there's no support of any kind for that version.

The 'MK' fiddled into the 49g/50g is a much newer beast...

I had thought about an SX version of SpeedUI,
but there were very few responses so far,
and after all the G+/GX offers much more in every respect:
More RAM, more ROM, more features, more speed, much better display, etc...

Someone ported JAZZ to the 49g/50g.

HTH

Re: HP 48GX or HP 50G?

*Message #7 Posted by **Egan Ford** on 13 Mar 2009, 3:31 p.m.,*
in response to message #1 by Chris Foley

Get both, but if you have to pick one then I'll have to weigh in on the side of the 50g. I have a 48GX and it's a great machine and it has served me well from 1993 until 2006 (and its as perfect as the day I got it). In 2006 I opted to give the 50g a try and I was not disappointed for the following reasons:

1. Faster.
2. Larger, easy to read display (if you get a 48GX, get the black/white display).
3. SD Card for file I/O. No more RAM cards.
4. Serial, USB, and IR I/O.
5. Has emulators (as does 48GX)
6. Can be programmed in C.
7. Is easily replaceable.
8. Cheaper than 48GX (~$100US).

The 50g keyboard is not as good as the 48GX. Key placement and feel could be improved. I also expect my 50g to fail before my 48GX. I'll simply get another or replace it with then next thing (if any good). There is more software for the 48GX.

Re: HP 48GX or HP 50G?

*Message #8 Posted by **bill platt** on 13 Mar 2009, 4:50 p.m.,*
in response to message #7 by Egan Ford

Doesn't most if not all USER RPL programming for the 48 work on the 50?

Re: HP 48GX or HP 50G?

*Message #9 Posted by **Egan Ford** on 13 Mar 2009, 6:06 p.m.,*
in response to message #8 by bill platt

Yes it does, but the 48GX still has more software if you count all the SysRPL and ASM code that does not work on the 50g. Code that I never run, so it was never an issue for me.

Re: HP 48GX or HP 50G?

*Message #10 Posted by **Mike Morrow** on 13 Mar 2009, 7:48 p.m.,*
in response to message #9 by Egan Ford

I was an original purchaser of an HP48SX in 1991, and of two HP48GX units in 1997. These were enough to convince me then that after more than 20 years as an HP calculator user, I wouldn't be buying any more. I found them rather disappointing. The LCDs must be the poorest quality (unless you find one of the very late black/white LCD units) that have ever been put on any graphing calculator. The display is rather easily damaged. The hardware is very slow. Accessories were (and are) very expensive for what you get. The color scheme of the body and the labeling is "left-coast artsy" crowd inspired, with very poor contrast.

Then, I bought a used HP49g+ for $20. I was amazed at the excellent LCD quality, speed, and CAS (MK) firmware. Sure, there were keyboard quality and a few cosmetic issues. But I liked it enough to buy a new HP50g when it came out. It is a far better performer, with outstanding built-in fuctions (including essential financial and enhanced MK functions) than the HP48GX could ever be. Very important too is the SD memory card support and the ability to easily upgrade the firmware (Try that with an HP48!). The only thing I like much better about the HP48GX is the display format of date and time.

I rank the HP50g and my HP42S as the finest calculators of their type ever made. I carry them both in my briefcase. All my many other HPs purchased in the last 32 years just satisfy my antique-collecting obsession.

Re: HP 48GX or HP 50G?

*Message #11 Posted by **Reth** on 14 Mar 2009, 12:35 a.m.,*
in response to message #10 by Mike Morrow

I have almost completely different views. First your taste about colours is for yourself, I for one like HP-48 ones more than the rest and I'm not colour blind. Secondly all accessories I ever bought were worth their money million times. I never bought HP-49 - it was non-HP calculator as I saw it, it looked and felt cheap. As a professional surveyor (and we press a lot of buttons) I find HP49 useless as well as HP49+ and HP50 - more of the same !@#$. The HP-42S is ok and can be made brilliant in the form of Thomas Okken's free42 with some enhancements as far as I'm concerned.
Regards,
Reth

Re: HP 48GX or HP 50G?

*Message #12 Posted by **Chris Foley** on 14 Mar 2009, 6:36 a.m.,*
in response to message #11 by Reth

I new the answer wouldn't be just black or white.

My only concern is not being able to use programs written for the HP 48GX on a 50G (RPL, SysRPL and ML).

I've heard of some issues with the keyboard on older versions of the 50G, I hope it's not the case anymore.

@Egan: thanks, I was expecting such an answer about the 50G. This is why I'm still wondering which is best: quality and compatibility vs speed and capacity.

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HP48 Series RAM Cards (potentially) available.

*Message #1 Posted by **Thomas Chrapkiewicz** on 13 Mar 2009, 9:37 a.m.*

Hello All:

I am considering producing HP48 RAM cards (128k or 512k).

Two questions:

1. Where can I obtain the engineering drawing of the mechanical specification of the original card (perhaps the original Epson spec?)? I do have a sample HP and other suppliers cards, but am interested in the original spec.

2. Please let me know (either here or via email) if you have any interest. Based on demand, I can determine a cost structure.

Thank you, TomC

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7470A Plotter Purchasing Assistance Required

*Message #1 Posted by **Egan Ford** on 12 Mar 2009, 5:40 p.m.*

I think I need a 7470A Plotter. I've noticed that they come in 3 different flavors: Serial/RS-232, HP-IB, and HP-IL.

Questions:

1. HP-IL models are rare, very rare, I've never seen one for sale. Since I want to use with my 41 and 71, can I use a HP-IL to Serial Interface (82164A) or a HP-IL to HP-IB Interface? I own the former, so that would be better. Has any done the former? I'd also prefer the former so that I can test PC-based 7470A emulators. NOTE: I have scanned the archives and a post indicated that using the 82164A would not work, but I thought I'd ask just in case.
2. Replacement pens suggestions.
3. Any thing I should look for ask when getting a used plotter? Never owned or used (or seen) one.

Thanks.

Re: 7470A Plotter Purchasing Assistance Required

*Message #2 Posted by **Garth Wilson** on 12 Mar 2009, 5:57 p.m.,*
in response to message #1 by Egan Ford

> Quote:
>
> NOTE: I have scanned the archives and a post indicated that using the 82164A would not work, but I thought I'd ask just in case.

I haven't tried it, but I can't think of any reason it wouldn't work, except that I have a 41cx with the XIO module integrated with the HPIL module, so I tend to forget which functions might not be there if you only had for example a 41cv with HPIL and no XIO or XFCN module. I have the plotter manual and the plotter language is pretty easy.

Re: 7470A Plotter Purchasing Assistance Required

*Message #3 Posted by **Dave Shaffer (Arizona)** on 12 Mar 2009, 11:20 p.m.,*
in response to message #1 by Egan Ford

> Quote:
>
> I think I need a 7470A Plotter.

Do you really "need" it, or want it?

I had one 20 years ago, and basically got rid of it when/because computer graphics and color printers far surpassed its capabilities. So, if you need to do computer graphics, there are other better ways.

Of course, if you want to play with it for old time's sake, which I suspect it the case, then go for it. In fact, just two days ago, I pulled out of a drawer an RS-232 adapter that I made for it. I think it is basically a pin 2/3 swapper. If you want/need it, I'd be glad to send it to you.

I got mine from an electronic leasing firm (it may have been Leasametric). I have seen them for sale in the last year or two from such outfits, but the prices were outrageous. The advantage of buying from such a firm, though, is that it will come in working condition, they will almost certainly warrant it for some time period, and it probably will come with a manual, whereas on e**y you never quite know. I'd ask any e**y sellers to show you a plot they have made recently.

Re: 7470A Plotter Purchasing Assistance Required

*Message #4 Posted by **Garth Wilson** on 13 Mar 2009, 2:28 p.m.,*
in response to message #3 by Dave Shaffer (Arizona)

> Quote:
>
> I had one 20 years ago, and basically got rid of it when/because computer graphics and color printers far surpassed its capabilities.

They definitely do not surpass a pen plotter in ease of programming though, and there will always be applications where the colors and typset-looking 2-point characters that a modern printer can do are of no value. There will always be that odd lab job for which there's no commercial software available but you could write your own HP-41 program for it in an hour, including graphing results on a pen plotter.

Re: 7470A Plotter Purchasing Assistance Required

*Message #5 Posted by **Egan Ford** on 13 Mar 2009, 3:33 p.m.,*
in response to message #3 by Dave Shaffer (Arizona)

> Quote:
>
> Do you really "need" it, or want it?

I "want" to create a 7470A emulator for Nonpareil, so I think I'll "need" one to do a proper job.

Re: 7470A Plotter Purchasing Assistance Required

*Message #6 Posted by **Juergen Keller** on 13 Mar 2009, 3:54 a.m.,*
in response to message #1 by Egan Ford

Buy one with an HP-IB interface, they are not so hard to find as those with HP-IL interface. Together with an HP-IL -> HP-IB interface they work fine. For the 41 you can use a plotter ROM, for the 71 you can directly send the appropriate plotter commands. Be warned: with the 41 plotting is sloooow; it's so slow that it's not too much fun. The 71 is faster, but I would suggest using a 75. Pens are not a problem; replacement pens are available at eBay or from Internet shops, Google will help you.
I did some drawings with the HP-85 and an 9872B, and my daughter (and of course me, too) was fascinated when she saw the pen moving around and drawing a nice rose curve. There are other calculators/pocket computers with plotters like the Sharp PC-1600 or the Casio PB-700. Not the good HP quality but nevertheless interesting and a lot of fun.
Best Regards from Switzerland,
Juergen

Re: 7470A Plotter Purchasing Assistance Required

*Message #7 Posted by **Thomas Chrapkiewicz** on 13 Mar 2009, 9:20 a.m.,*
in response to message #1 by Egan Ford

llo Egan:

While I cannot help you with your interface issues, I own and use several different types of HP plotters via RS232 interface on my HP48. Email me for details if you like. Regards, TomC

Re: 7470A Plotter Purchasing Assistance Required

*Message #8 Posted by **Dan Grelinger** on 13 Mar 2009, 3:50 p.m.,*
in response to message #1 by Egan Ford

Egan,

If you try a serial version of the 7470A with the 82164A interface, please let us know how it works. I have been looking for an HP-IL 7470A for awhile, but they are very difficult to find. I bet many of them have ended up in the trash when someone looks at the interface jacks and thinks "What is this? It can't interface to anything I know of." I found one about 10 years ago, but did not want to pay the price at the time.

Dan

Re: 7470A Plotter Purchasing Assistance Required

*Message #9 Posted by **Egan Ford** on 13 Mar 2009, 4:01 p.m.,*
in response to message #8 by Dan Grelinger

According to this it is not possible: http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv013.cgi?read=36100. I hope someone has actually tested to determine a definite yes or no.

Re: 7470A Plotter Purchasing Assistance Required

*Message #10 Posted by **Garth Wilson** on 13 Mar 2009, 4:20 p.m.,*
in response to message #9 by Egan Ford

> Quote:
>
> According to this it is not possible: http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv013.cgi?read=36100. I hope someone has actually tested to determine a definite yes or no.

That seems to refer only to printing bar code with it; but in the other thread referenced there, Emmanuel in Normandy, France says he has done it.

Re: 7470A Plotter Purchasing Assistance Required

*Message #11 Posted by **PeterP** on 17 Mar 2009, 12:38 a.m.,*
in response to message #1 by Egan Ford

BTW - if one has to go via HP-IB, any reason one should not go for the 7475 which has 6 pens? Can the 41 address all siz pens or only 2 pens? And the 71? They both seem to be equally hard to find...

Cheers

Peter

Re: 7470A Plotter Purchasing Assistance Required

*Message #12 Posted by **Garth Wilson** on 17 Mar 2009, 2:46 a.m.,*
in response to message #11 by PeterP

There's no reason you can't form the instructions to use more pens with the 41. Use the "SPx" ("select pen") instruction where "x" is the pen number. HPGL instructions are just text, with semicolons separating the instructions. If you can form and output text over the appropriate interface (HPIB, RS-232, etc.), you can feed the plotter. With a 41, you would form each instruction and send it with ACA. I have the manual in front of me. The plotter has quite a rich instruction set. Each instruction is two characters (like "PU" for "pen up") followed by one or more parameters when appropriate.

Besides the number of pens, another difference with the 7475 is that it can handle 11x17" paper, not just 8.5x11"

Edited: 17 Mar 2009, 2:47 a.m.

Re: 7470A Plotter Purchasing Assistance Required

*Message #13 Posted by **PeterP** on 17 Mar 2009, 10:26 a.m.,*
in response to message #12 by Garth Wilson

Thanks Garth!

Re: 7470A Plotter Purchasing Assistance Required

*Message #14 Posted by **PeterP** on 18 Mar 2009, 4:42 p.m.,*
in response to message #12 by Garth Wilson

One more question - I just spoke with a vendor of used 7470a's and 7475a's and he said the the true problem is to calibrate the plotters. For which one needs a calibration sheet from HP which they sell for the bargain price of $700. I searched the forum but could not find anything about this here. Any one has any experience in this?

Cheers

Peter

Re: 7470A Plotter Purchasing Assistance Required

*Message #15 Posted by **Garth Wilson** on 18 Mar 2009, 5:06 p.m.,*
in response to message #14 by PeterP

We used a 7475 at my last place of work to plot PC boards (back when we had to plot them ourselves instead of just Emailing files to the PC board manufacturers), and we were always amazed at how extremely accurate the 7475 was. As I remember, it has stepper motors, not servos, and the pen is moved by a notched belt, and the roller that moves the paper has something like carbide particles on it, so it won't wear down. I would say calibration is a non-issue. It's not an analog X-Y plotter.

Edited: 18 Mar 2009, 5:07 p.m.

Re: 7470A Plotter Purchasing Assistance Required

*Message #16 Posted by **PeterP** on 18 Mar 2009, 5:20 p.m.,*
in response to message #15 by Garth Wilson

Thanks Garth, you are a well of information! I think I'll give it a shot. Prices for 7470a and 7475a are almost the same so might as well go for 6 pens :-)

One last question, I did not find a place online with the manuals for the 7475a, do you know of a place? Or can I use the 7470 for starters?

Cheers

Peter

Re: 7470A Plotter Purchasing Assistance Required

*Message #17 Posted by **Garth Wilson** on 18 Mar 2009, 6:06 p.m.,*
in response to message #16 by PeterP

> Quote:
>
> One last question, I did not find a place online with the manuals for the 7475a, do you know of a place? Or can I use the 7470 for starters?

I don't know where to get one. The graphics language (HPGL) would be the same, although there might be limitations on one unit, for example not being able to select pen 5 if it only has two, or going for an X-Y coordinate that does not exist on the smaller paper.

Re: 7470A Plotter Purchasing Assistance Required

*Message #18 Posted by **Dan Grelinger** on 18 Mar 2009, 5:29 p.m.,*
in response to message #14 by PeterP

I used an HP plotter way back in my undergraduate days in engineering school 25 years ago. The precision those instruments provided was amazing to me. I was not involved in their calibration, but I would assume that the cost of the calibration sheet or fixture was related to the precision and linearity requirements for the plotter output. The specs were likely very stringent, but would not be required for anything but the most demanding applications.

Besides some basic data plots of the tested physical properties of materials, I also used the plotter to make custom Christmas cards! They were very unique! Although I doubt I was testing the limits of precision or linearity with either of my applications.

By the way, does this vendor of used 7470A's have any Opt. 3's available?

Dan

Re: 7470A Plotter Purchasing Assistance Required

*Message #19 Posted by **PeterP** on 18 Mar 2009, 5:44 p.m.,*
in response to message #18 by Dan Grelinger

Dan,

Good to hear from you.

I have never found an opt3 anywhere so far... Would love to, but no luck so far.

So this means I have to go via HP-IB anywhere which is why I thought why not use 6pens instead of 2. They both are about $110 inkl of shipping but I'm hoping to find something cheaper. Problem is that shipping is normally very expensive...

Cheers

Peter

Re: 7470A Plotter Purchasing Assistance Required

*Message #20 Posted by **John Peterson** on 31 Mar 2009, 8:53 p.m.,*
in response to message #19 by PeterP

Just joined today and caught this message thread.

Years ago I attended a talk given by an HP engineer that said that the rollers actually imprinted the paper with small indentations that effectively registered the paper with the plotter so that alignment is maintained extremely accurately. Such that even they were impressed with their achievement.

Reading my HP-41 Plotter Module Manual, though it gives examples with the 7470, it states that it will work with any HPGL device. When you initialize the plotter module it will read the X-Y limits (in mm) from the plotter. And the plotter determines what pen it uses when you do a pen select, the 7470 uses the left pen for any odd value and the right pen for any even value, so it should work just fine with the 7475.

(I have a 7470A with HP-IB and drive it from my HP-41 using a HP-IL/HP-IB interface)

Re: 7470A Plotter Purchasing Assistance Required

*Message #21 Posted by **PeterP** on 1 Apr 2009, 9:16 a.m.,*
in response to message #20 by John Peterson

Thanks John for the information, much appreciated!

Cheers

Peter

Re: 7470A Plotter Purchasing Assistance Required

*Message #22 Posted by **Dan Grelinger** on 2 Apr 2009, 10:21 p.m.,*
in response to message #20 by John Peterson

Hallelujah! I think I got one. I've got a tracking number, I'll let you know what shows up in the mail.

Dan

Re: 7470A Plotter Purchasing Assistance Required

*Message #23 Posted by **PeterP** on 3 Apr 2009, 12:05 p.m.,*
in response to message #22 by Dan Grelinger

awesome! HP-IL or HP-IB?

Re: 7470A Plotter Purchasing Assistance Required

*Message #24 Posted by **Dan Grelinger** on 3 Apr 2009, 2:34 p.m.,*
in response to message #23 by PeterP

HP-IB seem to be quite common.

No, I have snagged an HP-IL version, or so the vender said. "Refurbished with 90 day warranty, and some new pens". Have tracking number, UPS says to expect delivery on Monday.

I've had the HP-41 Plotter module (actually two of the, NOS) and have been dying to try them out. May finally get my chance.

I wasn't even this excited at Christmas time.

Dan

Re: 7470A Plotter Purchasing Assistance Required

*Message #25 Posted by **Dan Grelinger** on 6 Apr 2009, 10:17 p.m.,*
in response to message #23 by PeterP

Hooray, Hooray. I am finally the proud owner of a 7470A Opt. 3 Plotter. I received it today, it is in very good condition, and my HP-41CX talked to it nicely. It is a pretty cool peice of gear. I can't wait to dust off the Plotter module and run the equipment through some tricks.

Dan

Re: 7470A Plotter Purchasing Assistance Required

*Message #26 Posted by **PeterP** on 7 Apr 2009, 12:14 a.m.,*
in response to message #25 by Dan Grelinger

Awesome Dan, congratulations!

Let us know how it goes!

Cheers

Peter

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Restoration Help

*Message #1 Posted by **Egan Ford** on 12 Mar 2009, 1:07 p.m.*

I just read about this today. IIRC, there have been inquiries about how to clean old calcs in the past. Perhaps this will help a few of you: http://retr0bright.wikispaces.com/

Re: Restoration Help

*Message #2 Posted by **Steve (Australia)** on 25 Mar 2009, 6:11 a.m.,*
in response to message #1 by Egan Ford

A friend of mine used this on a junky HP21 of mine while he was doing his Vic-20 and I am impressed with the results.

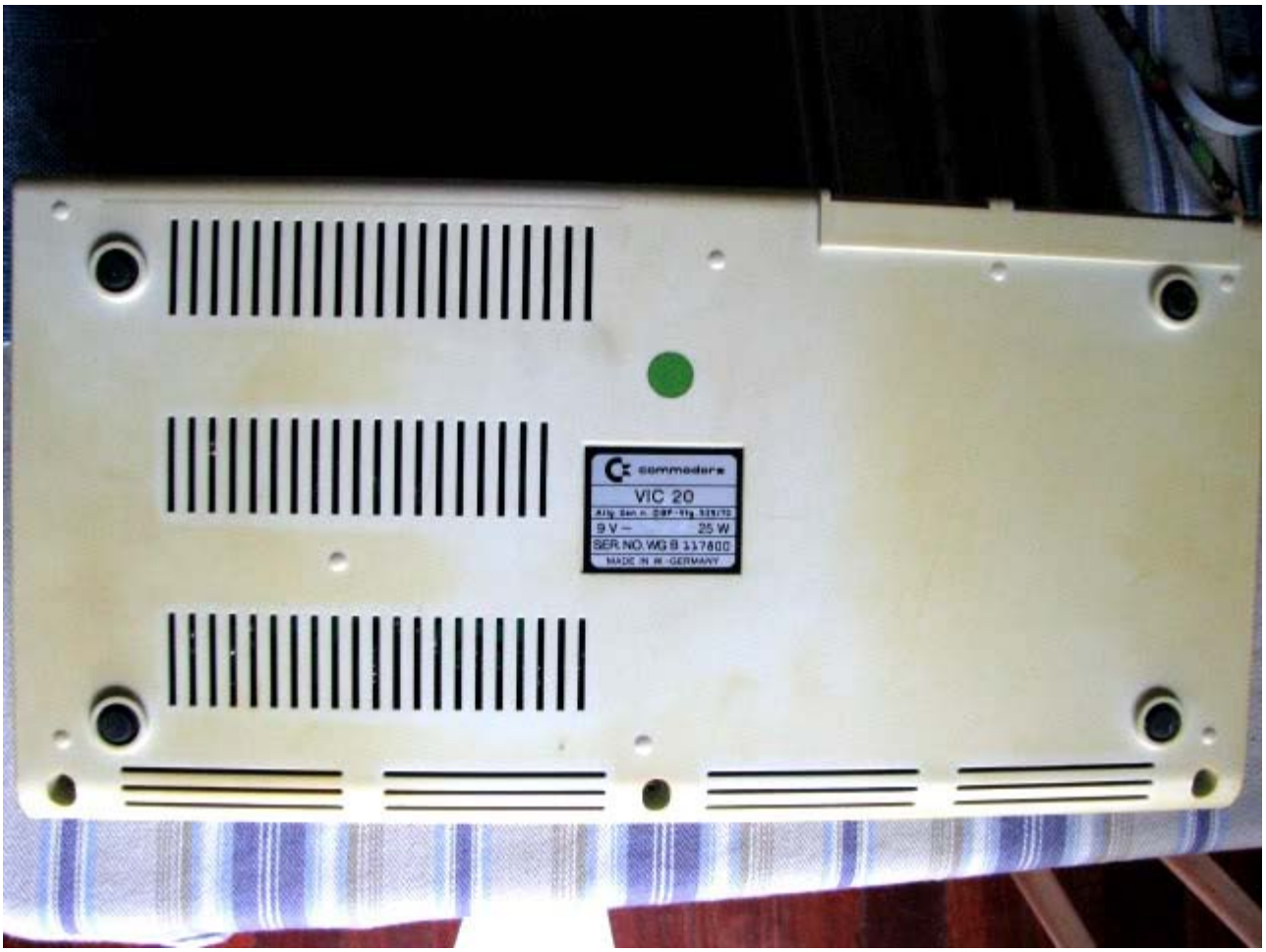
My HP21 was nowhere as discoloured as his Vic-20, but the difference is significant.

I have photos if anyone is interested.

Re: Restoration Help

*Message #3 Posted by **Steve (Australia)** on 25 Mar 2009, 11:20 p.m.,*
in response to message #2 by Steve (Australia)

Here are the images I have at present.



Tim's Vic-20 prior to Retr0brite. This had been stored by a previous owner inverted, on a desk in the sun with stuff piled on it. It looks dirty, but this is actually yellowing of the plastic.

I delivered the HP21 to Tim a couple of hours after he had started his Vic-20 case "cooking". His case is partially done here.

He tool a close-up of the HP21 to show the foam on it. We have a bloody great hole in our ozone layer here, so this probably works better/faster than for northern hemisphere people.

Tim only gave them 3 or 4 hours rather than the all day that is recommended. He used a 6% H2O2.

Here are 2 HP21s. They both looked pretty much the same colour previously. The one on the left is now almost completely un-yellow.

I might try a similar trick on the keys of this HP21. They're not that yellowed, but it would be valuable to know if the keys will be affected. This HP21 has a number of serious cosmetic problems already, so it won't be a huge loss for me if it goes pear shaped.

Re: Restoration Help

*Message #4 Posted by **Charles Oxford** on 25 Mar 2009, 11:38 p.m.,*
in response to message #3 by Steve (Australia)

What effect did it have on the feet?

Re: Restoration Help

*Message #5 Posted by **Steve (Australia)** on 26 Mar 2009, 10:44 a.m.,*
in response to message #4 by Charles Oxford

It wasn't put on the feet. The stuff is a gel or a foam and can be applied pretty much where you want to put it.

If this calculator were a good one I would have taken the other feet off, or masked them with something. (you may be able to see a masked label on the Vic-20)

Maybe I'll subject the feet (and other parts -- e.g. metal parts) to this stuff to see what happens.

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HP-75 HP-IL software/hardware needed - Trade?

*Message #1 Posted by **Walt Devaney** on 12 Mar 2009, 12:25 p.m.*

It has been a long time since I last posted..... I am using an HP-41 plus a HP82164A HP-IL/RS232C Interface to send data from a HP3421A to a laptop. The application is whole house monitoring using current transformers to profile the electrical usage. I have an HP-75D with the HP 82718A expansion pod that I would like to use instead of the 41. I have the HP-75 talking to the laptop using the pod built-in acoustic modem and a terminal program in the laptop. It makes a nice simple system, one less box than the HP-41 (or an HP-71) approach. But to make it work I need either the I/O ROM for the 75 (unlikely?, I am willing to pay or trade) or copies of the I/O utilities SENDIO & ENTIO$ on magnetic cards. I have various items I would be willing to trade for the utilities on cards: an HP 82176A tape cartridge still in its original plastic, or a new tube of 30(?) magnetic cards for the 75, or a 35/45 charger are possibilites. I have gone through the archives and found some leads, but none that worked out. I am open to other suggestions - downloading the LIF(?) files might be possible with what I have, but I would prefer to avoid that if possible. I can be contacted by e-mail through the museum. Any help would be appreciated. I would be happy to answer questions.

Re: HP-75 HP-IL software/hardware needed - Trade?

*Message #2 Posted by **Egan Ford** on 12 Mar 2009, 12:47 p.m.,*
in response to message #1 by Walt Devaney

So you use a 41 to collect data from a 3421A, then you walk that over to a laptop connected to an 82164A, then you attach your 41 to transfer the data?

Why not just put the 82164A on the 3421A and connect your laptop directly to the 82164A and get the data without a middleman?

Re: HP-75 HP-IL software/hardware needed - Trade?

*Message #3 Posted by **Walt Devaney** on 12 Mar 2009, 1:01 p.m.,*
in response to message #2 by Egan Ford

I was unclear. The HP-41 is the HP-IL controller. It requests readings from the HP3421A, reformats them as lines of Excel compatible CSV (comma seperated values) data and sends the lines through the HP 82164A HP-IL/RS232C interface to the waiting laptop running Hyperterminal. The data is stored on the laptop as a .txt file. No data is stored on the HP-41. The .txt file on the laptop is inputted later into Excel for analysis. If the computer crashes, the data already in the .txt file is not lost. The HP-41 (or something equivalent) is necessary as a controller in the HP-IL loop. It is also necessary to reformat the data into something Excel can accept.

Re: HP-75 HP-IL software/hardware needed - Trade?

*Message #4 Posted by **Egan Ford** on 12 Mar 2009, 1:09 p.m.,*
in response to message #3 by Walt Devaney

Ah, I see. I should have assumed that. Hopefully, when JFG releases the PIL-BOX, you'll have a 3rd option. I.e., Labtop USB to HP-IL directly.

Re: HP-75 HP-IL software/hardware needed - Trade?

*Message #5 Posted by **John Pierce** on 12 Mar 2009, 5:22 p.m.,*
in response to message #1 by Walt Devaney

You have mail. Regards John Pierce

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TDS 512k RAM CARD acting up

*Message #1 Posted by **Geoff Quickfall** on 12 Mar 2009, 8:14 a.m.*

I have resurected my HP 48GX. Haven't used it for a few years. Of course when selected on I got the 'Warning' about the invalid card.

I ran the PINIT command and then followed the TDS web site discussion on setting the alarm to charge the card. I then archived my programs. For the next few days all was well, until...

After leaving the calculator off for a few days (having charged the memory card) the Warning returned and of course the archive in port 2 disappeared. I did a few charge cycles to see if I could reset a bad NiCad memory cycle but to no avail. The card will not hold a charge and therefore the memory for more than a few days.

The card battery is obviously losing it's charge, and I suspect the internal rechargable battery is the cause, either due to a poor 'memory' or bad battery.

Has anyone open one of these up and replaced the NiCad cell? Or am I missing something?

Cheers, Geoff

After following the

Edited: 12 Mar 2009, 8:17 a.m.

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IL Cassette Drive

*Message #1 Posted by **Oscar Bowman** on 12 Mar 2009, 6:07 a.m.*

I have an HP41C with an IL Cassette Drive for program and data storage.

Does anyone know where one can purchase cassettes for the IL cassette drive?

Re: IL Cassette Drive

*Message #2 Posted by **Marcus von Cube, Germany** on 12 Mar 2009, 6:54 a.m.,*
in response to message #1 by Oscar Bowman

It has been discussed here.

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HP SmartCalc 300s

*Message #1 Posted by **Frank Rottgardt** on 11 Mar 2009, 6:47 p.m.*

Have I missed something? Found a picture of a new HP calculator on HPs calculator pages with a remark "coming soon"

HP SmartCalc 300s

Maybe this calculator has already discused here?

Re: HP SmartCalc 300s

*Message #2 Posted by **Katie Wasserman** on 11 Mar 2009, 6:59 p.m.,*
in response to message #1 by Frank Rottgardt

Yes, it was discussed some here

Re: HP SmartCalc 300s

*Message #3 Posted by **Bruce Bergman** on 12 Mar 2009, 12:25 a.m.,*
in response to message #1 by Frank Rottgardt

Yeah, what Katie said. ;-)

If you want one right now, you can get it here:

http://www.officedepot.com/a/products/404490/Ativa-AT-30SX-Scientific-Calculator/

Just scratch off the old logo, get a Sharpie and write "HP".

So, even though the above was written with sarcasm in mind, I did have to pause for a moment and reflect that I really probably *would* pick up a SmartCalc 300s if it had an HP logo on it, even though I probably wouldn't even consider picking up the Office Depot version.

Weird how that works (at least in MY psyche) -- slap an HP logo on it and I'm inclined to buy it. ;-)

thanks, bruce

Re: HP SmartCalc 300s

*Message #4 Posted by **Johnny Bjoern Rasmussen** on 12 Mar 2009, 1:44 p.m.,*
in response to message #3 by Bruce Bergman

Well. Here's another OEM-mess HP got us into.

Re: HP SmartCalc 300s

*Message #5 Posted by **Bruce Bergman** on 13 Mar 2009, 1:52 a.m.,*
in response to message #3 by Bruce Bergman

So, interesting fact here...

I had to go to Office Depot tonight to pick up some toner for my printer, and decided to check out the calculators. They had the 12cp, the non-silver 17bii+ (hmmm...) and the very sharp looking new 10b. They also had a QuickCalc for $4.99, so I bought one in each color.

The also had the Aptiva 30x, so I decided to check it out. Upon pulling the first one from the rack, I noticed its LCD display had leaked into the viewing area. Bummer. I grabbed the next one, and it had the SAME problem. In the rack of eight of them, three had some sort of bleeding issue with the LCD fluid. Not a good sign. This may be something related to the 30x model, as they had other Aptiva's there and none of the ones I saw had LCD issues.

FWIW.

thanks, bruce

Edited: 13 Mar 2009, 10:27 a.m.

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HP20b Log error

*Message #1 Posted by **Jeffrey Herrington** on 11 Mar 2009, 5:05 p.m.*

I have the same problem with my HP20b not getting the correct answers as reported in archive. Emailed HP and they have told me to press "On" "N" "Amort" to reset calculator. Done this but still does not give the correct answers. I will be sending my reply back tomorrow. They said in there email that there HP20b gives the correct answer.

I must say they have been very friendly and helpful via email an over the telephone.

Re: HP20b Log error

*Message #2 Posted by **Allen** on 11 Mar 2009, 6:51 p.m.,*
in response to message #1 by Jeffrey Herrington

Can you provide the input, output, and ROM version. To find the SW version, Press ON + PMT and press the DOWN arrow three times.

I have sw versions: 06/24/08 and 08/01/08. Both return the same values on a few nominal input cases {5,100}.

Re: HP20b Log error

*Message #3 Posted by **Michael Andersson** on 12 Mar 2009, 2:48 a.m.,*
in response to message #2 by Allen

I also have these problems with my HP20b as reported here before. The SW version of my unit is 06/24/08. Apart from the log-errors I've also found errors when calculating with the normal distribution.
/Michael

Re: HP20b Log error

*Message #4 Posted by **Tim Wessman** on 12 Mar 2009, 11:13 a.m.,*
in response to message #3 by Michael Andersson

You mean inverse normal calculation? Or something else?

TW

Re: HP20b Log error

*Message #5 Posted by **Michael Andersson** on 12 Mar 2009, 12:39 p.m.,*
in response to message #4 by Tim Wessman

I mean the functions concerning the normal probability distribution, LTND and inverse.

An example: LTND(0.5)=0.69146... on the 20b which is also in agreement with the table in Abramowitz & Stegun: Handbook of mathematical functions

now taking the inverse on the 20b: LTND-1(0.69146...)=0.5 which is the correct and expected answer.

Next, LTND(1.5)=0.93319... still a correct answer,

but: LTND-1(0.93319...)=1.5484... Wrong answer!

Also LTND-1(LTND(2))=2.0269... Also wrong.

I think the LTND function gives corrects answers but not LTND-1 for larger arguments.

/Michael

Re: HP20b Log error

*Message #6 Posted by **Jeffrey Herrington** on 12 Mar 2009, 1:14 p.m.,*
in response to message #1 by Jeffrey Herrington

The SW Version = 06-24-2008

HP emailed me this morning and said they would replace the calculator if I send the proof of purchase,serial number and address it was sent too.

Many thanks for all your advise.I like the site and my calculator.

Re: HP20b Log error

*Message #7 Posted by **Jeffrey Herrington** on 18 Mar 2009, 1:57 p.m.,*
in response to message #6 by Jeffrey Herrington

I received the replacement HP20B today in the post. Send back the duff one without the batteries as requested.Postmarked for HP in France. I have noticed that the replacement HP20B they have fixed the Shift button so it does not show the shift arrow on the screen when the calculator is in off mode. Thank you HP for some good customer service.

Re: HP20b Log error

*Message #8 Posted by **Jeffrey Herrington** on 19 Mar 2009, 1:09 p.m.,*
in response to message #7 by Jeffrey Herrington

Just too let you know that the replacement calculator has the same bug as the replaced calculator. HP assured me that there HP20b gave the correct answer and they would replace mine. I thought that meant it would have the bug fixed. Looks like I thought wrong. The only way to overcome this bug is for me too upgrade too another calculator. Any idea's or suggestions welcome.

I use calculator all day long working out weeks between dates and calculating how much should have been paid over each week. I can do it on a computer but its one program too input the dates to get how many whole weeks and then another to calculate how much money should have been allocated to each week etc.

Re: HP20b Log error

*Message #9 Posted by **Gene Wright** on 19 Mar 2009, 2:26 p.m.,*
in response to message #8 by Jeffrey Herrington

Tell us exactly how this bug affects how you use the calculator?

The Log bug is fairly esoteric. If memory serves correctly, you have to computer e^16 and then the natural log of that rather large number to have it show up.

Can you not use the days between dates functionality in the 20b and then divide by 7 to get the weeks?

How does a log function figure into what you're trying to do?

That might help us suggest an alternative.

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HP-67: The Red Dot Low Battery LED almost always lighting

*Message #1 Posted by **Albert Tocar Loseggs** on 11 Mar 2009, 3:57 p.m.*

After rebuilt the lateral PCB (totally new, between the card reader and the CPU main board), my HP-67 works fine. But a small malfunction happens. Even the battery pack (3 x Ni-Cd 1.2 V) is fully charged, after few minutes, the Red Dot Low Battery LED (RDLBL, right – bottom on the display) lighting. The only way to turn-off the RDLBL is moving the ON/OFF switch 1 mm left => normal function / right timing. I cleaned the ON / OFF switch in order to avoid undesirable electrical contacts, but no success. I don't know if a resistor / capacitor could be sick. Suggestions? Thanks.

Re: HP-67: The Red Dot Low Battery LED almost always lighting

*Message #2 Posted by **Michael de Estrada** on 11 Mar 2009, 4:31 p.m.,*
in response to message #1 by Albert Tocar Loseggs

It definitely sounds like a poor switch contact (high resistance) problem. First,clean both the switch contact as well as the gold contact points (traces) on the circuit board. Coat the contact and circuit board with silicone grease (dielectric compound). Finally, sometimes it helps to bend the contact out slightly to get more contact force on the circuit board.

Buena suerte,

Michael

Re: HP-67: The Red Dot Low Battery LED almost always lighting

*Message #3 Posted by **Charles** on 15 Mar 2009, 2:41 p.m.,*
in response to message #2 by Michael de Estrada

I had the same problem when I used cheap rechargeable batteries. The problem disappeared when I replaced them.

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MoHPC *The Museum of HP Calculators*

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Solving Exponential Equations

*Message #1 Posted by **Hal Bitton in Boise** on 11 Mar 2009, 2:38 p.m.*

Hi folks, Please consider the very simple exponential equation 3^x-9=0.
The obvious solution for x is 2, but there is an infinite series of complex solutions as well, as alluded to by the fact that when solving this equation symbolically on my 50G , I get as a solution:
(2*e^(ipi/2)*n1*pi + 2*ln3)/ln3. Indeed, this solution satisfies the original equation when any integer is substituted for n1. Quite an impressive feat of number crunching by the 50G, I must say.

When I solved this equation on my TI89 emulator, and noted that only the principle solution of 2 was returned, with no mention of the complex solutions. I was just wondering if there is a reason for this seemingly incomplete solution from the TI (perhaps the complex series is considered superfluous?), and is there a way to get it to deliver the complex solutions?

Any insights appreciated.
Best regards, Hal

Re: Solving Exponential Equations

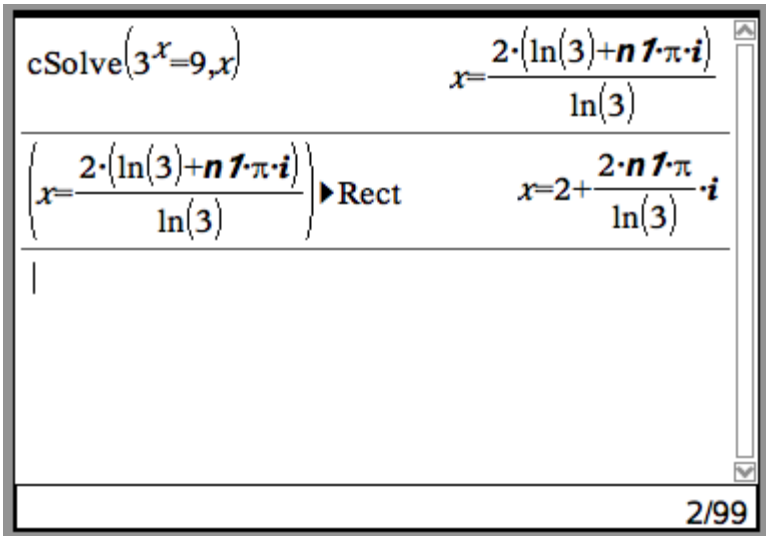
*Message #2 Posted by **MacDonald Phillips** on 11 Mar 2009, 4:11 p.m.,*
in response to message #1 by Hal Bitton in Boise

The TI-89 and TI-NSpire CAS use cSolve() to solve for complex (and real) roots.

Re: Solving Exponential Equations

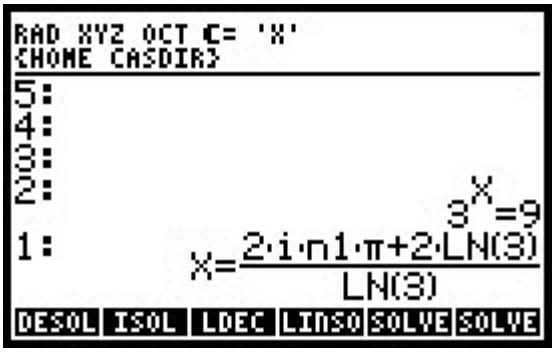
*Message #3 Posted by **Marcus von Cube, Germany** on 12 Mar 2009, 6:39 a.m.,*
in response to message #2 by MacDonald Phillips

Here is what the Nspire CAS Mac/PC Software returns:



The second line was created by just selecting >Rect from the menu, Ans has been replaced by the calculator in the history view.

BTW, the HP-50g returns essentially the same solution:



I used the SOLVEVX softkey (F5) after a DUP to have both expressions on the screen. I just couldn't find a simple way to split the solution.

I couldn't get it to work on my HP-40gs: SOLVEVX(3^X=9) returns an error: Non unary operator.

Edited: 12 Mar 2009, 6:48 a.m.

Re: Solving Exponential Equations

*Message #4 Posted by **Chuck** on 11 Mar 2009, 7:39 p.m.,*
in response to message #1 by Hal Bitton in Boise

What's odd is that the 50G doesn't make it a little simpler: x = (n 2 pi i)/ln(3) + 2 (for any integer n).

Edited: 11 Mar 2009, 7:40 p.m.

Re: Solving Exponential Equations

*Message #5 Posted by **Michael de Estrada** on 11 Mar 2009, 7:57 p.m.,*
in response to message #4 by Chuck

I think you're asking too much of it. It would take a pretty sophisticated simplification algorithm to figure out that:

e^(i pi/2) = i

Re: Solving Exponential Equations

*Message #6 Posted by **Steve Keeley** on 12 Mar 2009, 9:15 p.m.,*
in response to message #4 by Chuck

Chuck wrote:

> Quote:
>
> What's odd is that the 50G doesn't make it a little simpler: x = (n 2 pi i)/ln(3) + 2 (for any integer n).

If you delete the "X=" leaving

(2*LN(3)+2*i*n1*pi)/LN(3)

and then execute PARTFRAC, you will get

2+(2*i*n1*pi)/LN(3)

Re: Solving Exponential Equations

*Message #7 Posted by **Karl Schneider** on 13 Mar 2009, 12:15 a.m.,*
in response to message #6 by Steve Keeley

> Quote:
>
> If you delete the "X=" leaving
>
> (2*LN(3)+2*i*n1*pi)/LN(3)
>
> and then execute PARTFRAC, you will get
>
> 2+(2*i*n1*pi)/LN(3)

Hmm, this doesn't work on my HP-49G -- I'm still seeing

```
2*n1*pi     [    pi]
-------*EXP[i*---] + 2
 LN(3)      [    2 ]
```

[sarcasm]Maybe flag -279 isn't set set correctly...[/sarcasm]

Seriously, the question everyone ought to answer for themselves is... "Can I solve this on pen and paper?"

-- KS

Re: Solving Exponential Equations

*Message #8 Posted by **C.Ret** on 13 Mar 2009, 8:00 a.m.,*
in response to message #7 by Karl Schneider

May be du to the 'general solution' versus 'principal value' mode setting. On the HP-28C/S, this is drive by the flag 34:

```
34 SF '3^X=9' X ISOL  returns                          2.
```

which is the ‘principal value’ or obvious value.

```
34 CF '3^X=9' X ISOL  returns   (2.1972+2*pi*n1)/1.0986
```

which is the ‘general solution’ solution.

The ‘principal value domain’ is definite for each analytical function of your calculator and is give on any good user manual by a graph.
I am not sure that the ‘principal value domain’ definitions are exactly the same on any calculators, variations may exist between HP and TI, or between models from the same brand (due to technology evolution and mathematical choices).

As it can be seen there, the HP28S/C don't give a pure analytical solution with ISOL command such as HP49 or HP50. To get it the same form as HP-50g, a HP28C/S user have to follow the following method which is close to the 'by hand' resolution.

Principal(real) solution

To avoid resolution of an unknown *x* at power of a number *a*, one may use the logarithm to transform the equation from $a^x = b$ to $ln(a^x) = ln(b)$ assuming a^x is strictly positive (principal or obvious solution) and NOT complex (general solution).

Remember the logarithm property of transforming products into additions: $ln(a^x)$ is transformed into $x.ln(a)$.

Thus, the equation is now writen as:

$x.ln(a) = ln(b)$.

As far as *a* is not unity, $ln(a)$ is not zero, so we get:

$x = ln(b)/ln(a)$.

N.A.: '3^X=9' give principal solution 'X=2' since $ln\ 9 = 2.ln\ 3$.

We also have to verify that $3^2 > 0$ and 3=/=1, which is true, so 'X=2' is a valid 'principal' solution.

The general (complex) solution

As the principal one, the general solution is obtained by using logarithm, but considering X as a complex.

If *x* is complex, we know that it can be expressed as a function of its argument *t*and module (absolute value) *r*: $x = r.e^{i.t}$

The equation is now :

$a^{r.e^{i.t}} = b$ to

which may be transform into by using logarithm :

[italic]$ln(a^{r.e^{i.t}}) = ln(b)$

$r.e^{i.t}.\ ln(a) = ln(b)$

$r.e^{i.t} = ln(b)/ln(a)$

To found the general solution of $3^X=9$, we have to found all the possible value of (r,t) which satisfy the equation:

$r.e^{i.t} = 2$

Two complex are equal when their modules (absolute value) and arguments are both simultaneously equal.

Since $2 = 2+0.i = 2.e^{0i}$, we have to solve the system:

1. $r = 2$
2. $e^{i.t} = 1$

By definition, $e^{i.t}$ is $cos(t)+i.sin(t)$:

1. $r = 2$
2. $cos\ t + i.sin\ t = 1$

Equation 2 is true for any t = ... -6pi, -4pi, -2pi, 0, 2pi, 4pi, 6pi, ...

We can express that t have to be zero modulo 2pi or *t = 2.pi.n*

```
Thus x = [ ln(b) + 2pi.n.i ]/ln(a)
     x = [ 2.ln(3) + 2pi.n.i ]/ln(3)
     x = 2 +2pi.n.i/ln(3)
     x = (2, 5.7192n)
```

Conclusion, 'general solutions' are all complex number of module (absolute value) 2 and argument 0 modulo (2pi). This can be expresse as $3^x=9$ for any $x = 2 + 2pi*i*n/ln(3)$ where *n* is any integer.

The 'principal value' solution is found at $n = 0$ where $x = 2$

Re: Solving Exponential Equations

*Message #9 Posted by **Karl Schneider** on 14 Mar 2009, 3:00 a.m.,*
in response to message #8 by C.Ret

"C.Ret" --

Thank you for showing about flag 34 on the HP-28C/S, and its effect on ISOL.

Here is an old thread that suggests increasingly better performance of ISOL on the HP-28, HP-48, and HP-49 for a fairly straightforward problem:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=70012

Thanks also for writing your approach for obtaining the solution manually. The solution seems fairly obvious in retrospect, after it has been methodically derived by this or another method.

-- KS

Edited: 16 Mar 2009, 12:09 a.m.

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35s strangeness

*Message #1 Posted by **db (martinez, ca.)** on 11 Mar 2009, 1:02 a.m.*

I gave a 35s to my honey's daughter for her astrophysics class and she really likes it. So far she only uses it in algebraic but i'm not going to rush things. Anyway; she came home saying it was in some weird mode. It was. It was locked up in hex and when i tried to put it back into decimal it just gave me a "syntax error". It said that when i tried to put it into RPN too. I tried the paper clip method. No dice. It also wouldn't reset by shorting both the battery contacts. I finally got it back to newborn status, and able to change modes and logic systems, by reversing the batteries (so it just shorted the contacts - it won't reverse the power) while holding down the reset for 10 seconds. She didn't have any programs or data stored so this was acceptable.
Does this happen to anyone else or does the dam thing just miss me?

Re: 35s strangeness

*Message #2 Posted by **Jeff Kearns** on 11 Mar 2009, 4:59 a.m.,*
in response to message #1 by db (martinez, ca.)

I have not experienced that problem. But up until this past week, I was more or less satisfied with the unecessarily bulky but still portable 35s, despite its well-documented shortcomings (e.g. lack of straight-forward polar to rectangular conversion, useless checksums, shifted STO, and the list goes on...). What has ultimately changed my mind about the 35s is the 'missed keystroke' problem that others have experienced and from which I thought my unit was spared, being somehow of bettter quality!?! It misses the odd keystroke consistently for me when I enter multiple x,y data points for curve-fitting - and believe me I am not pressing buttons too quickly. It usually misses the first digit of one or more of the new data points when it exhibits this behaviour. That is unfortunate (especially when you get the wrong answer...). I now find myself not trusting the tactile feedback of the legendary oil-can HP buttons on this unit and have to look at the display after every number entered - just to be sure. My 30 year old HP 32E has a more reliable keyboard, as does each of my other older HP calcs (pre 1995).

Jeff Kearns

Re: 35s strangeness

*Message #3 Posted by **Patrick Rendulic** on 11 Mar 2009, 11:24 a.m.,*
in response to message #2 by Jeff Kearns

Welcome to the club!

There must be a design problem with those key issues. I still believe that the problem is firmware/software based. The problem only appears during certain operations.

A shame for HP. Still remember the 35 when they noticed a bug in the firmware ... . That's company evolution ... .

Edited: 11 Mar 2009, 11:27 a.m.

Re: 35s strangeness

*Message #4 Posted by **Michael de Estrada** on 11 Mar 2009, 12:25 p.m.,*
in response to message #3 by Patrick Rendulic

The HP of today is totally different from the HP of Bill Hewlett and Dave Packard. The old HP was founded on the concept of honor and integrity, which is totally lacking in the current company. This is reflected both in the quality and design of their current products as well as the poor service and documentation. It is a true shame, and I think it is reflective of the current state of the world in which greed and avarice are pervasive in all industries. Were it not for forums like this one, I think the situation would be totally hopeless.

Re: 35s strangeness

*Message #5 Posted by **bill platt** on 11 Mar 2009, 1:34 p.m.,*
in response to message #4 by Michael de Estrada

Don't worry. Everything is changing.

Re: 35s strangeness

*Message #6 Posted by **Jandro Kirkish** on 11 Mar 2009, 3:01 p.m.,*
in response to message #5 by bill platt

I certainly hope so. The 35s, for all its strangenesses and shortcomings, is exhibit A for me. The mere fact that HP *tried* to recreate the calculators of yore I find encouraging. Say what you will about it, it has a solid (dare I say well-built?) feel to it and is quite useful for me at work and at home. At the risk of sounding like an apologist for HP, I think their calculator division is conscious of the fact that they've "lost their way" over the past few years and are interested in reclaiming the HP signature of quality calculators for professionals. Now if only they will be kind enough to prove me right and bring back the 15C!

Re: 35s strangeness

*Message #7 Posted by **Michael de Estrada** on 11 Mar 2009, 4:17 p.m.,*
in response to message #6 by Jandro Kirkish

Well, the HP-15C (I still have mine) and other Voyagers were particularly important to HP in that they reversed a bad trend in declining quality of their small calculators. When HP first introduced the Classics (HP-35 et al), they represented the pinacle of quality, durability and good design. Although TI and others brought out less expensive competitors, HP maintained a loyal following due to the superiority of their products. Then, they started to lower their standards in a vain attempt to compete on price in order to increase their sales. Finally, they hit bottom with the Spices, which almost destroyed their calculator market. I became fed up with HP when both my HP-32E and HP-34C fell apart after only a year's worth of use, and might not have ever purchased another HP calculator had they not introduced the Voyagers. The Voyagers restored HP's reputation as the world's premium manufacturer of calculators, and they need to return to that mindset if they are to get on track again.

Re: 35s strangeness

*Message #8 Posted by **Jon S Canale** on 11 Mar 2009, 4:50 p.m.,*
in response to message #7 by Michael de Estrada

And not to stir things up, but they've got to put some product in stores! Months and

months have gone by, and you barely see a 12c, 50g, or 10bii and that's it. None in computer stores, office supply stores, or department stores. Have never seen a 35s hangin on a hook. How is the general public ever going to know something besides TI, Sharp, and Casio exist?

Sorry, but I've been wanting to say that for a while. It amazes me that there's nothing on the shelves! Maybe in college book stores, but I haven't been in one of those for ages. You don't even see the low end stuff in the stores. I just wonder about that.

Re: 35s strangeness

*Message #9 Posted by **Charles Oxford** on 11 Mar 2009, 9:45 p.m.,*
in response to message #8 by Jon S Canale

I was just in Fry's in north phoenix and they had 38g, 50g 12c, 12cp, 33s, 35s and maybe another. also several ti's and a few casio's.

Charlie

Re: 35s strangeness

*Message #10 Posted by **Bruce Bergman** on 12 Mar 2009, 12:27 a.m.,*
in response to message #9 by Charles Oxford

Fry's is a clear anomaly in the retail market. It's owned and operated by geeks.

thanks, bruce

Re: 35s strangeness

*Message #11 Posted by **Mike Morrow** on 11 Mar 2009, 6:36 p.m.,*
in response to message #4 by Michael de Estrada

Yes, I for one wish today's HP calculator was the same quality as those of 35 years ago. I'd love to be able to, say, buy a Woodstock with its wonderful AC charging system which was guaranteed to fry the expensive calculator if one did something as innocent as connect it with a missing or degraded battery pack. That was a hallmark of *real* quality.

I'd certainly be willing to pay today's inflation-adjusted equivalent of the cost of HP calculator of 35 years ago for this quality. The simplest HP calculator of 1975, the humble HP-21, was a mere $500, inflation adjusted to 2009. Yes, things were so much better 35 years ago.

But then, maybe yesterday wasn't all that great, and maybe a calculator with the characteristics of the HP-21 wouldn't sell well at $500 today. Maybe even an HP50g built with all the quality of the original HP-35 Classic series wouldn't sell well at $500 today.

Be careful what you wish for. I've been a follower and frequent purchaser of calculators since the HP-35 came out in 1972 (except I couldn't afford an HP calc until 1976). The capabilities and negligible cost of today's HP50g are extraordinary and were unimaginable 35 years ago.

I know yesterday...I'll take today and be very thankful for it.

Edited: 11 Mar 2009, 6:46 p.m.

Re: 35s strangeness

*Message #12 Posted by **Michael de Estrada** on 11 Mar 2009, 7:46 p.m.,*
in response to message #11 by Mike Morrow

I think your implication that the cost today of good quality would be the same as it was 35 years ago is faulty, because improvements in manufacturing methods have drastically reduced costs for all electronic devices. My first TV had expensive vacuum tubes and a lot of circuit board components that required manual assembly. Modern TV's cost much less, however, there is still significant variations in quality between premium brands and no-name discount brands. It would not cost HP that much to upgrade the quality of its current calculators to the same level as, say, the Voyagers. And, even if they had to increase pricing, we're talking maybe increasing the price of an HP-35S from $60 to $80, which would not be a deal-breaker. But making a "premium" calculator with a faulty keyboard is simply not an option if HP wants to distinguish itself from the el-cheapo competition. Also, I was not just talking about physical quality, but also quality of design, documentation and service.

Re: 35s strangeness

*Message #13 Posted by **Martin Pinckney** on 11 Mar 2009, 10:21 p.m.,*
in response to message #12 by Michael de Estrada

I detect:

> Quote:
>
> Don't worry. Everything is changing.

Tongue in cheek...

> Quote:
>
> Yes, I for one wish today's HP calculator was the same quality as those of 35 years ago.

Sarcasm...

> Quote:
>
> But making a "premium" calculator with a faulty keyboard is simply not an option if HP wants to distinguish itself from the el-cheapo competition. Also, ... quality of design, documentation and service.

Dead-on truth.

Re: 35s strangeness

*Message #14 Posted by **bill platt** on 12 Mar 2009, 1:43 a.m.,*
in response to message #13 by Martin Pinckney

Aw, I've been found out! ;-0

Re: 35s strangeness

*Message #15 Posted by **Nigel J Dowrick** on 12 Mar 2009, 8:01 a.m.,*
in response to message #12 by Michael de Estrada

It's clear that HP **can** make a quality calculator today - the HP-50g. People might complain that it's too big, or that the ENTER key is too small, or that they don't like RPL, but the build quality in my opinion is superb. I've used mine for a long time now: the keys continue to work perfectly and everything still feels really solid. I think it deserves a place amongst the classics - I can't understand people who go weak at the knees when talking about the HP-48SX but dismiss the HP-50g out of hand!

Re: 35s strangeness

*Message #16 Posted by **Michael de Estrada** on 12 Mar 2009, 9:39 a.m.,*
in response to message #15 by Nigel J Dowrick

I agree with you that the build quality of the HP-50g seems to be very good, so we'll just see how well it holds up after 30 years of heavy and hard use. My HP-48SX is nearly 30 years old, and still works perfectly. I find the keys on the HP-50g to be heavy and clunky in comparison with the HP-48SX, although the display is much clearer. My main complaint with the HP-50g is not with the hardware, but instead with the incompleteness of the documentation that was provided with it. Were it not for the help I've received from the good folks on this forum, I would probably still be floundering around trying to figure out how to use the I/O capabilities.

My comments above are in reply to the initial string dealing with the HP-35S, and its quality problems. I also own an HP-35S, and it does not appear to be as sturdy as the HP-50g, although I have not to date had any problems with it. Of course, the HP-50g costs three times as much as the HP-35S and is the HP calculator flagship, so perhaps these differences are deliberate.

FWIW - I have never gotten weak-kneed over a calculator; only once when I proposed to my wife.

Greetings from across the pond, Michael

Re: 35s strangeness

*Message #17 Posted by **Ken Shaw** on 12 Mar 2009, 10:22 a.m.,*
in response to message #16 by Michael de Estrada

Your HP48SX is a maximum of 19 years old.

Re: 35s strangeness

*Message #18 Posted by **Michael de Estrada** on 12 Mar 2009, 10:33 a.m.,*
in response to message #17 by Ken Shaw

Yes. I bought it in 1990, not 1980. Thanks for the correction.

Edited: 12 Mar 2009, 10:38 a.m.

Re: 35s strangeness

*Message #19 Posted by **Nigel J Dowrick** on 13 Mar 2009, 7:58 a.m.,*
in response to message #16 by Michael de Estrada

I agree with what you say. I certainly didn't want to criticize the HP-48SX; I bought

one in about 1992 and used it heavily for a long time. (The keyboard is still fine, but one line of pixels has gone.) The lack of documentation is definitely a real weakness with the HP-50g: why do HP produce such a calculator and provide no option for obtaining the documentation in printed form? It's not even as though this would involve them in much work; they could simply use one of the many print-on-demand services if they didn't want to print it themselves. The people who make such decisions probably do not really understand the true capabilities of the HP-50g; maybe that's why no fully adequate documentation has been prepared for it.

Of course, this trend away from printed manuals isn't confined either to HP or to calculators! Here in Europe consumer goods often come with inadequate printed instructions in a dozen languages. At least for calculators we can get support from groups like this!

Re: 35s strangeness

*Message #20 Posted by **Michael de Estrada** on 13 Mar 2009, 10:17 a.m.,*
in response to message #19 by Nigel J Dowrick

The documentation issue with the HP-50g is worse than simply not having printed manuals. Even the electronic documentation is incomplete or missing. The manual for the HP-48SX had a complete and very thorough section (Part 5) that dealt with the topics of printing, data transfer, and plug-ins. It even covered the use of the optional RS232 serial interface kit. In stark contrast, neither the HP-50g printed User's Manual or "more complete" electronic (CD) User's Guide cover these topics. One has to go to the HP site and look at the HP-49g+ Advanced User's Reference to find any detailed information, and it is not organized in a very friendly manner for novices. There is no one section that discusses the organization of all the menus on the HP-50g, which is more important than on the HP-48SX, because many items such as printing have been moved from dedicated keyboard entries to submenus. I needed assistance from a member on this forum to find printing under APPS > I/O Functions > Print. Also, the HP-48SX came with a Quick Reference Guide, which fit inside a front pocket in the soft case, so you didn't have to lug around the two volumes of the Owner's Manual.

Perhaps the eventual solution is to add a "help" capability to the next generation of this calculator, which is becoming more computer than simple programmable calculator. Such an advanced feature should be possible due to the increased processor power and larger ROM/RAM memory size that is now available. Oh, and while I'm asking for pie-in-the-sky, how about a color display to boot.

- Michael

Re: 35s strangeness

*Message #21 Posted by **Palmer O. Hanson, Jr.** on 11 Mar 2009, 10:13 p.m.,*
in response to message #11 by Mike Morrow

Quote:

Yes, I for one wish today's HP calculator was the same quality as those of 35 years ago. I'd love to be able to, say, buy a Woodstock with its wonderful AC charging system which was guaranteed to fry the expensive calculator if one did something as innocent as connect it with a missing or degraded battery pack. That was a

> hallmark of *real* quality.

Amen! I suppose that I could also wish for some of the "quality" from those days which required that the user twist the case to get the device to turn on or operate properly.

Palmer

Re: 35s strangeness

*Message #22 Posted by **Michael de Estrada** on 11 Mar 2009, 10:25 p.m.,*
in response to message #21 by Palmer O. Hanson, Jr.

Please elaborate. Which model had this problem?

Re: 35s strangeness

*Message #23 Posted by **bill platt** on 12 Mar 2009, 11:27 a.m.,*
in response to message #22 by Michael de Estrada

Um, 48 series for instance! Some of them get strange.

Nothing is perfect.

Re: 35s strangeness

*Message #24 Posted by **Michael de Estrada** on 12 Mar 2009, 3:42 p.m.,*
in response to message #23 by bill platt

So I guess I'm just lucky. I've had my HP-48SX since 1990 with no problems yet.

Re: 35s strangeness

*Message #25 Posted by **Palmer O. Hanson, Jr.** on 13 Mar 2009, 11:06 p.m.,*
in response to message #22 by Michael de Estrada

> Quote:
>
> Please elaborate. Which model had this problem?

My HP-27 has the twist problem. I can't really say how prevalent the problem was. I only have two other Woodstocks in my collection, an HP-22 and an HP-25, but both are inoperative due to the charger problem.

I think that there were also some curious problems with the early Spice units. Viktor Toth's site says "...Initially, the calculator's components were held together by pressure; electronic components were not soldered onto the machines flexible circuit boards. This led to numerous reliability complaints so eventually H-P returned to a more traditional design. ..." I have five Spice units in my collection. One has been damaged by the charger problem. Two have had the battery contacts destroyed by battery leakage. Two turn on but don't operate properly.

Even so, these kind of problems pale to insignificance when compared to the charger problem. It isn't as if HP didn't know how to do it properly. Page 31 of Wlodek's book notes "... Only the early models with a 3-pin charger and without a built-in card reader

can be used from an AC adapter without a battery pack. ..."`

Re: 35s strangeness

*Message #26 Posted by **Michael de Estrada** on 13 Mar 2009, 11:51 p.m.,*
in response to message #25 by Palmer O. Hanson, Jr.

Well, certainly the Spice models were a low water mark for HP in design quality. I had 2 of them, an HP-32E and HP-34C, and they both fell apart within a year. It was a time when HP made the near fatal attempt of trying to compete with TI and others on price, and drastically reduced the durability of their calculators. It almost cost them their market, which is why when they brought out the Voyagers, they increased their quality and allowed the prices to increase accordingly. I think most will agree that the Spices were the worst pieces of crappy junk than HP ever made, while the Voyagers are among the best. That's why today you see Voyagers in perfect working condition commanding regal prices at auction, while most of the Spices are being sold non-functional for parts or nostalgia. I bought my HP-15C in 1982, and used it heavily at work for 25 years without incident and only once replacing the batteries. So HP is capable of producing very high quality and durable products when they want to.

As to the Woodstock issue, I still have my HP-21, which still works fine today on a rebuilt battery pack with alkaline AA cells. Since I never removed the battery pack when using the charger as instructed on page 54 of the owner's handbook, I never damaged it. I'm sure that the reason HP went to the different charger design in the Woodstocks from the Classics was to reduce costs, since it was much simpler to have a single ac/ac transformer circuit, than the dual circuit rectifying ac/dc design. I currently also own an HP-25C, which works perfectly except for one hard key. Of course, none of this is pertinent today, since the days of NiCad batteries and chargers are long gone with the universal use of LCDs.

Edited: 13 Mar 2009, 11:52 p.m.

Spice (HP-34C) quality

*Message #27 Posted by **Karl Schneider** on 14 Mar 2009, 2:04 a.m.,*
in response to message #26 by Michael de Estrada

Hi, Michael --

> Quote:
>
> Well, certainly the Spice models were a low water mark for HP in design quality. I had 2 of them, an HP-32E and HP-34C, and they both fell apart within a year.

The HP-34C was partially redesigned in early 1982 to remedy the unsuccessful solderless construction and the stiff keyboard. (However, the flimsy battery contacts remained.) I have examples of each version.

Unique to the HP-34C at the time was built-in microcoded SOLVE and INTEG, so it still had a functional niche -- despite its LED display and limited-capacity rechargable batteries. It was commendable of HP to develop and release a reliable version of the HP-34C, because the HP-15C was to be released later that

year. That model provided the same SOLVE and INTEG, plus much more, eclipsing both the HP-34C and HP-11C.

> Quote:
>
> It was a time when HP made the near fatal attempt of trying to compete with TI and others on price, and drastically reduced the durability of their calculators. It almost cost them their market, which is why when they brought out the Voyagers, they increased their quality and allowed the prices to increase accordingly.

I suspect that the high inflation of the late 1970's might also have been a factor. "Cutting costs by cutting corners" was prevalent in many areas of manufacturing and service.

Also, the initial US$150 list price of the HP-34C was higher than the initial US$135 of the HP-11C and HP-15C -- an even greater difference when that dreaded inflation is taken into account.

-- KS

Edited: 14 Mar 2009, 11:35 p.m.

Re: 35s strangeness

*Message #28 Posted by **Ed Look** on 15 Mar 2009, 11:55 p.m.,*
in response to message #26 by Michael de Estrada

Eh, I'll have to disagree on one point, though I might just have been simply fortunate.

I bought the original solderless 34C as a college kid, used it through until way after graduate school, and the poor thing was dropped, opened (the case, that is; I'm not so brave now, though), and banged around... ... and it still worked for many, many years until it just wore out from use. I thought it was one of the hardiest (and fully featured) calculators ever. My TI (SR-40) from those days didn't last even a fraction of that time.

(Fortunately, the replacement for this beloved unit is a 32SII, which is still going well... maybe needs new batteries, but if that's all, I have no complaints!)

Re: 35s strangeness

*Message #29 Posted by **Michael de Estrada** on 16 Mar 2009, 12:23 a.m.,*
in response to message #28 by Ed Look

I think you were very lucky and the exception to the rule. I did not abuse mine, yet within a year several of the keys began repeating badly, the ON/OFF slider switch got funky, the LED assembly connections got loose (nothing is soldered inside the thing, just press fit) and I had to bitch slap it periodically to get all the LED segments to light up, and one of the battery contact rivets got loose so it was constantly flickering and showing the low battery charge dot. On my HP-32E, the circuit board traces for the charger connector corroded and separated, so I could no longer charge the battery inside it. In short, a very bad and cheap design that could not be repaired.

Anyway, I bought the HP-15C, which had all the capabilities of the HP-32E and HP-34C without all the crappy reliability and durability issues. I also have an HP-32SII, and agree that its a great little calculator. I particularly like its fractional arithmetic mode.

Spice quality (and several anecdotes)

*Message #30 Posted by **Karl Schneider** on 16 Mar 2009, 1:55 a.m.,*
in response to message #29 by Michael de Estrada

Michael --

> Quote:
>
> ...and I had to *bitch slap* it periodically to get all the LED segments to light up,

In the auction description, the seller of the first (old design) HP-34C I bought on eBay used the phrase "smack the sice out of it" to get the display to work properly. That might have been a bit better...

That calc didn't work very well, then I ruined the faceplate trying to restore its sheen and vibrancy of color. I suppose that it could be a parts donor. However, I got an excellent manual and working charger (which I wouldn't recommend using).

I bought my first old-design HP-34C from a local electronics reseller.

Later, from another eBay auction, I got a redesigned HP-34C with case and manual. It works great, but has broken battery contacts. The seller thought it was missing the battery cover, but it was present and intact in the case. On that one, I asked questions to ascertain whether it was a redesigned unit. The seller answered, then trumpeted the verdict in the auction. A knowledgeable bidder tried to snipe me with a series of incrementally-escalating last-second bids, but I foiled him with a last-minute rather high bid that wasn't even reached. (Heh, heh...) It goes to show that, if you really want something, the best strategy is simply to decide what you're willing to pay, bid that amount in the last partial minute of the auction, and hope for the best.

> Quote:
>
> ...the ON/OFF slider switch got funky...

It just needed some lubrication. Unfortunately, this entails removal of the back cover, which can cause breakage if that is done wrongly. Other models prior to the Spices had mechanical slide switches for ON/OFF and PRGM/RUN. H-P was wise to replace them with keystroke electronic switches.

> Quote:
>
> Anyway, I bought the HP-15C, which had all the capabilities

of the HP-32E and HP-34C without all the crappy reliability and durability issues.

Back in November 1983, I bought an HP-15C. I had intended to buy an HP-34C that I'd wanted for several years, but the knowledgeable sales clerk steered me to the new and improved offering. I still prefer the looks of the HP-34C, and I would have gotten a redesigned unit. However, the HP-15C was a far better product (despite its "dressy" appearance), as I grudgingly had to admit.

-- KS

Edited: 16 Mar 2009, 2:26 a.m.

Re: 35s strangeness

*Message #31 Posted by **Ed Look** on 16 Mar 2009, 12:08 p.m.,*
in response to message #29 by Michael de Estrada

You know, it *could* be that I got a soldered unit in return for the one I sent in for service... for one or two bad keys (I forget which, it's been a looooong time).

I noticed that the S/N and the faceplate were different on the one I received back after sending it in to HP (in Corvallis). Anyhow, if the one in my possession is actually a soldered unit, that would explain things.

But as to the ON/OFF switch, one temporary fix (oh, about several months to almost a year) was to open the cover (tough job which I no longer have the stomach for) and take a CLEAN pencil eraser and rub the contact strip of the switch. I found that it was either or both of oxidation or dirt buildup that kept the switch from working well.

But you know, considering it was designed in the '70s, released in the late '70s or early '80s, I think it was a fairly nice piece of functional technology for its size. I mean, you could have more reliable switches and keys or more memory, but I wonder how big it would have been, not even thinking about cost!

Re: 35s strangeness

*Message #32 Posted by **Michael de Estrada** on 16 Mar 2009, 9:48 p.m.,*
in response to message #31 by Ed Look

The keyboard problem was only one of the issues with the Spices. HP fixed that late in the production run, but there was still the issue with the other loose parts like the LED connection or even the IC's were press-fit against the PCB traces, and could cause malfunctions (and yes, I know this because I have completely dis-assembled several Spices). The battery/AC adapter contact design was terrible and guaranteed early failure of the unit. The battery contacts would break due to stress fatigue and the AC adapter traces would corrode (much the way edge connectors go bad on the old PC bus cards) and separate

from the board, so you could no longer recharge the battery. The Spices were HP's version of the infamous Chevy Vega, which had about a 30K mile engine life. By the time GM fixed the problem, the damage to their image was done, and even renaming the car to the Monza could not restore its sales. Fortunately, unlike GM that is now on the brink of bankruptcy, HP came out with the Voyagers, which have proven to be among the highest quality and most durable calculators they have ever made.

Re: 35s strangeness

*Message #33 Posted by **dbatiz** on 12 Mar 2009, 10:13 a.m.,*
in response to message #1 by db (martinez, ca.)

IMHO it is a matter of leadership. The genius of the 35 was the vision that a desktop machine could actually fit in a shirt pocket. The willingness to take a significant gamble by going against the recommendations of the marketing folks and commitment of company resources by leadership made the project possible.

I dare say the last such example of innovation through leadership was Steve Jobs at Apple and the Ipod. In essence, it's just an MP3 player. But Mr. Jobs pushed his engineers to new limits on the interface. I cannot find the article now, but I hear he repeatedly kicked the product back with a note saying, "Too many buttons."

I think the ingredients for a revolutionary new calculator include a leader with a vision and high standards who's willing to take a risk. With the advances in processing power, batteries and displays, the sky is literally the limit. When/if the ingredients line up, there will be a new and amazing thing to play with,

Very respectfully, David

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HP-41 I/O Circuit Strip

*Message #1 Posted by **Bob Pedigo** on 9 Mar 2009, 11:21 p.m.*

I am looking for a new i/o circuit strip (HP part number 80020) for a HP 41CX calculator. This is the flexible strip in the battery compartment that connects to the main circuit board and to the four i/o ports on the top end of the 41. I would also consider a used, non-working HP-41 for parts as long as the battery terminals are clean and show no signs of having corrosion. My old 41 had the batteries leak into the battery compartment and one of the flexible circuit runs was damaged by the corrosion. I was able to repair this by soldering a small jumper over the defective area, after a good cleaning with isopropyl alcohol. My calculator works now, but I'd like to restore it to like new condition if I can. I e-mailed a fellow in the Canary Islands who had a procedure posted with pictures on how to replace this flexible I/O strip, but I haven't yet heard back from him. Is there a source for old non-working calculators to be used for parts, or a source for this I/O strip that I need?

Re: HP-41 I/O Circuit Strip

*Message #2 Posted by **Randy** on 10 Mar 2009, 8:32 a.m.,*
in response to message #1 by Bob Pedigo

The only source for an original part is from another 41.

> Quote:
>
> Is there a source for old non-working calculators to be used for parts,

That would be eBay, the Wild West of eSales.

Diego's replacement circuit is the only after-market solution. He'll get back to you at some point, I believe he is semi or full time retired?

Re: HP-41 I/O Circuit Strip

*Message #3 Posted by **Bob Pedigo** on 10 Mar 2009, 8:40 a.m.,*
in response to message #2 by Randy

Thanks. I will wait for his reply before I jump in on e-Bay.

Re: HP-41 I/O Circuit Strip

*Message #4 Posted by **Gonzalo Fernandez (Spain)** on 10 Mar 2009, 1:39 p.m.,*
in response to message #3 by Bob Pedigo

He will be back to the end of this month, contact then.

Re: HP-41 I/O Circuit Strip

*Message #5 Posted by **Diego Diaz** on 11 Mar 2009, 2:27 a.m.,*

in response to message #1 by Bob Pedigo

Hi,

Yes I'll be back to the track by end March.

Currently I'm out of stock of Flex-PCB replacements. A waiting list is growing and chances are to get the next batch from the manufacturer by mid April.

I'll post an ad in the appropriate section of the MoHPC, as soon as I have the definitive pricing.

Sorry to be so imprecise but I'm almost out of the "civilized world" and have very litle access to the Internet as to get full control on this business (or even my own mail...)

Thank you all for your patience and enthusiasm... :-)

Diego

Re: HP-41 I/O Circuit Strip

*Message #6 Posted by **Bob Pedigo** on 11 Mar 2009, 6:24 p.m.,*
in response to message #5 by Diego Diaz

Please put me on your list for a new I/O strip when you get some more. I e-mailed to your Cloneix41 e-mail address, so when you get somewhere that you can check e-mail, you should have an e-mail from me waiting for you.

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Motorola NiMH Batteries

*Message #1 Posted by **Juan J** on 9 Mar 2009, 5:42 p.m.*

Hello,

I got a Motorola NiMH battery for a Talkabout radio. It is 3.6 V, 1400 mAh and very close in size to the Classics power pack.

I checked its size on my HP-65. Acouple pads in the sides (like tha batteries Mike Hoskins sells) and it fits in the battery compartment. But...

There is no indication on Classic calculators battery pack polarity, and I am afraid of any damage due to wrong installation.

Now the questions.

Is it safe to use this battery on a Classic calculator? Which terminal is positive and which is negative on the calculator?

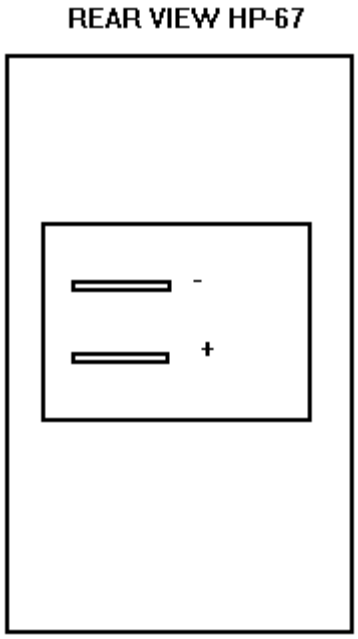
Thanks in advance.

Re: Motorola NiMH Batteries

*Message #2 Posted by **Randy** on 9 Mar 2009, 7:10 p.m.,*
in response to message #1 by Juan J

You can use the battery but I would not recommend charging it with the original HP charger - they are not suitable for NiMH cells as it is not voltage limited.

Terminal polarity of all classics is the same, here is a poor example but it is all I could find, the (-) is towards the top of the unit, the (+) terminal is toward the label.



Re: Motorola NiMH Batteries

*Message #3 Posted by **Michael de Estrada** on 9 Mar 2009, 7:13 p.m.,*
in response to message #1 by Juan J

Top terminal is negative (-) and bottom is positive (+). It is safe to use any battery, provided the voltage is correct, which in your case it is. However, the HP charger was not designed for NiMH batteries, so I can't say if charging might not damage it.

Re: Motorola NiMH Batteries

*Message #4 Posted by **Juan J** on 10 Mar 2009, 10:55 a.m.,*
in response to message #3 by Michael de Estrada

Hello,

Thank you so much.

Fortunately I have the HP Reserve Power Pack Charger, and I do not charge batteries within the calulator. Using it helps a lot, no worries about fried ICs.

I did try to use the charger with the Motorola battery but since it is smaller than HP packs (without pads) it simply does not fit.

Chargers for NiMH batteries are easy to get. That is the next step. Then I will put a couple pads on the battery to test it. I will post my progress on this.

Re: Motorola NiMH Batteries

*Message #5 Posted by **Randy** on 11 Mar 2009, 9:54 a.m.,*
in response to message #4 by Juan J

> Quote:
>
> Fortunately I have the HP Reserve Power Pack Charger, and I do not charge batteries

within the calulator. Using it helps a lot, no worries about fried ICs.

The "Reserve Power Charger" is a totally passive device, all the electronics are within the wall plug in so there is no difference if the batteries are in the calculator or reserve pack, it is not advisable to charge NiMH cells with either method. A proper, external NiMH specific charger is the only solution.

It is 100% safe to operate classics without card readers from the charger with no battery in place. Stated in the reverse, the 65 and 67 must have a battery in place to operate safely with the charger connected.

Hope that helps.

Re: Motorola NiMH Batteries

*Message #6 Posted by **Juan J** on 11 Mar 2009, 7:18 p.m.,*
in response to message #5 by Randy

Hello,

Thank you for the safety tip.

Since reading a similar warning on the HP-65/67 Owner's Manuals, I never charge batteries with the calculator.

I just got a Motorola charger for the NiMH batteries. I will add some padding and test them when I get back home in a few days.

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HP-49g+ and SD Cards

*Message #1 Posted by **Ed Look** on 8 Mar 2009, 6:20 p.m.*

I didn't want to hijack the existing thread on the use of SD and SDHC cards with a 50g, seeing as how they are fairly different. But this observation seems relevant to some of the things said there:

I had, at separate times starting several years back, a 128 MB and a 64 MB SD card in my 49g+ and in both cases, the calculator took so long to turn on, times reaching up to a minute, I began to suspect there was something wrong with it, or that the last ROM update killed it. And when it finally turned on, use of the card was not easy at all, as it took a long time to navigate as well.

Then I recently bought a new camera and it came with a 32 MB card. I switched that into the 49g+ and it powers on instantly! Searching the SD card in the calculator was also now actually fast enough to be of use. I wish I had been able to procure a smaller capacity SD card much earlier.

I suspect however, that 32, or 16 or even 8 MB for that matter, is really all a HP calculator user could ever need, even if he collected many of the user created programs out there in HP calc-fandom.

Now I fear that with my aging CPU (Athlon 64 skt 754), if I get a bigger hard drive, I'll need a week to find files... imagine if my old brain got more cells for memory; I'll remember everyone I meet, what I had for lunch each day for ten years, and remember to drop off the mail or pick up some milk... a month later.

Re: HP-49g+ and SD Cards

*Message #2 Posted by **Tim Wessman** on 8 Mar 2009, 6:59 p.m.,*
in response to message #1 by Ed Look

Format those other ones as FAT, not FAT32 and they will be just as speedy. Unfortunately, the implementation is such that the calculator scans all clusters on powerup. This means that since fat32 has millions more, it takes longer. :-(

TW

Re: HP-49g+ and SD Cards

*Message #3 Posted by **Egan Ford** on 8 Mar 2009, 7:46 p.m.,*
in response to message #1 by Ed Look

I'll also add that newer larger cards are generally faster than older smaller cards in the 50g/49g+. See: http://sense.net/~egan/hpgcc/#Sidebar:%20Memory%20Card%20Performance (all cards were FAT formatted).

Re: HP-49g+ and SD Cards

*Message #4 Posted by **Ed Look** on 9 Mar 2009, 11:54 a.m.,*
in response to message #3 by Egan Ford

Tim and Egan, thanks for the information. Just to satisfy my curiosity, I might try a 4 GB class 6 SDHC in

there and see what happens. I'll most likely stay with the smaller, older card, however, since the calculator requires the least memory space, out of all the uses I need SD cards for.

Re: HP-49g+ and SD Cards

*Message #5 Posted by **Tim Wessman** on 9 Mar 2009, 1:09 p.m.,*
in response to message #4 by Ed Look

It has to be a plain SD card. What will happen is the calculator won't power on with an SDHC in there. :-(

TW

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OT: TI-95 Manuals

*Message #1 Posted by **Egan Ford** on 8 Mar 2009, 6:11 p.m.*

I am looking for PDF scans of TI-95 user and programmer manuals for use with Hrastprogrammer's TI-95 emulator. All Google hits were dead links.

Thanks.

Re: OT: TI-95 Manuals

*Message #2 Posted by **Marcus von Cube, Germany** on 9 Mar 2009, 6:40 a.m.,*
in response to message #1 by Egan Ford

Hi Egan, I could salvage part of the users guide from the wayback machine (originally on reher.de):

http://www.mvcsys.de/temp/ti95_UsersGuide.zip

Re: OT: TI-95 Manuals

*Message #3 Posted by **Katie Wasserman** on 9 Mar 2009, 12:51 p.m.,*
in response to message #2 by Marcus von Cube, Germany

This users guide looks to be complete except for Appendix A. I've scanned it and put it here

The programmers guide is a pretty thick manual, I'll try to get around to scanning and posting that too.

Re: OT: TI-95 Manuals

*Message #4 Posted by **Egan Ford** on 9 Mar 2009, 12:53 p.m.,*
in response to message #3 by Katie Wasserman

Thanks all (Namir too). I now have the User's Guide. And Chp 1, 2, and 4 of the Programmers Guide. It was enough for me to get started using an emulator.

Thanks!

Re: OT: TI-95 Manuals

*Message #5 Posted by **Ken Shaw** on 9 Mar 2009, 3:18 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Appendix A is available here

http://www.schmeling-ol.de/ti99/manuals/ti95_UsersGuide_AppA.pdf

Oops, looks like others got it in the meantime.

Edited: 9 Mar 2009, 3:19 p.m.

Re: OT: TI-95 Manuals

Message #6 Posted by ***Palmer O. Hanson, Jr.*** *on 9 Mar 2009, 8:37 p.m.,*
in response to message #1 by Egan Ford

There is a ROM listing by Robert Prins at Viktor Toth's site.

I have a copy of the ROM listing for the Mathematics module by SeTIc.

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Daylight Savings Time

*Message #1 Posted by **Peter A. Gebhardt** on 8 Mar 2009, 1:25 p.m.*

Three cheers for the 200LX !!! It flawlessly changed the US timezones.

For the unaware readers (and also current & future 200LX users) reading this:

You should have updated your file C:_DAT\TIMEZONE.DAT with

```
Northern
3:8-14 6 1:00
11:1-7 6 0:00
```

http://isc.sans.org/diary.html?storyid=5971

Best regards,

Peter A. Gebhardt

Re: Daylight Savings Time

*Message #2 Posted by **bill platt** on 8 Mar 2009, 6:56 p.m.,*
in response to message #1 by Peter A. Gebhardt

I suppose it should be possible for me to write a program to do that in the 48GX, too.

Re: Daylight Savings Time

*Message #3 Posted by **Bob Patton** on 8 Mar 2009, 8:25 p.m.,*
in response to message #2 by bill platt

Here is my version of DST for a 48G. It's part of another program, but you can reformat the code to your needs.

Pgm 'EDST' sets DST global to 1 or 0 for Daylight Savings ---------- « -> m d y « y 100 / IP @century on stack y 100 MOD DUP @ yy on stack twice 4 / IP + SWAP 4 MOD 5 * + 7 MOD 30 SWAP - @ Last Sunday April DUP 22 - 7 MOD 1 + @ First Sunday April 10 + DUP 14 IF < THEN 7 - END @ Second Sunday March SWAP 5 + DUP 31 > «7 -» IFT @ Last Saturday October -> b e « m 100 * d + DUP 300 b + >= SWAP 1000 e + <= AND 'DST' STO » » »

In program EDST: Daylight Savings originally started on the last Sunday in April. Then it was moved to the first Sunday in April. Than it was moved again the second Sunday in March. It was easier for me each time to just adust the previously calculated date.

Re: Daylight Savings Time

*Message #4 Posted by **Bob Patton** on 8 Mar 2009, 8:27 p.m.,*
in response to message #3 by Bob Patton

Well, I should have previewed that. It didn't honor my new_lines, But, how do I force them?

Re: Daylight Savings Time

*Message #5 Posted by **bill platt** on 8 Mar 2009, 8:45 p.m.,*
in response to message #3 by Bob Patton

```
Pgm 'EDST' sets DST global to 1 or 0 for Daylight Savings ------------------------
------------------------------
« -> m d y
« y 100 / IP                                @century on stack
y 100 MOD DUP                               @ yy on stack twice
4 / IP + SWAP 4 MOD 5 * + 7 MOD 30 SWAP - @ Last Sunday April
DUP 22 - 7 MOD 1 +                          @ First Sunday April
10 + DUP 14 IF < THEN 7 - END               @ Second Sunday March
SWAP 5 + DUP 31 > «7 -» IFT                 @ Last Saturday October
-> b e « m 100 * d + DUP 300 b + >= SWAP 1000 e + <= AND 'DST' STO » » »
```

Thanks!

P.S. you use [pre] before, and [/pre] to end the line editor

Edited: 8 Mar 2009, 8:47 p.m.

Re: Daylight Saving Time: Clarification and commentary

*Message #6 Posted by **Karl Schneider** on 9 Mar 2009, 1:20 a.m.,*
in response to message #3 by Bob Patton

> Quote:
>
> In program EDST: Daylight Savings...

First, several clarifications:

1. In the US, the term is *Daylight Saving Time* (not "Savings").

2. DST in the Eastern Time Zone is abbreviated "EDT". "EDST" would cause ambiguity with Standard Time (EST), and looks like a typo, since "D" and "S" are adjacent to each other on the standard keyboard.

The calendar extension of Daylight Saving Time several years ago in the US was largely a gimmick, as far as I'm concerned -- a so-called "energy-saving" measure that doesn't require any real sacrifice or commitment to save energy.

From Winter 1940-July 1945 during WWII, Great Britain observed year-round "Summer Time" DST, and a 2-hour-advanced British Double Summer Time during the summers. This actually made sense, as a significant proportion of electrical load was incandescent lighting, and the advanced clock helped to better match daylight hours to people's waking hours. This also lessened the impact of summer blackouts intended to discourage nighttime air raids.

In the US, however, the average climate is considerably warmer. In this era, lighting typically is efficient fluorescent and a significant proportion of electrical load is air conditioning -- both at home and in the workplace or school. In the heart of summer, keeping people awake and active during the warmer evening hours, instead of the cooler morning hours, does not necessarily save energy. This is why hot-climate Arizona (outside of Navajo Nation) does not observe DST.

-- KS

Edited: 9 Mar 2009, 4:00 p.m. after one or more responses were posted

Re: Daylight Saving Time: Clarification and commentary

*Message #7 Posted by **Martin Pinckney** on 9 Mar 2009, 6:47 a.m.,*
in response to message #6 by Karl Schneider

It is my recollection that in the U.S., originally (1950's) it was not about energy saving, but rather recreation.

Supposedly the "blue collar" workers all got off work at 4:00 pm, and during the summer months they would all make use of the extra hour of daylight on a weekday afternoon to go fishing or play pick-up baseball.

Well, now, thanks to "free trade", and Sam Walton, we no longer have any blue collar workers, and since Karl has just proven that it really doesn't save any energy, maybe we can do away with the d**n thing.

Right.

Re: Daylight Saving Time: Clarification and commentary

*Message #8 Posted by **Palmer O. Hanson, Jr.** on 9 Mar 2009, 8:45 p.m.,*
in response to message #7 by Martin Pinckney

> Quote:
>
> ... it was not about energy saving, but rather recreation. ...

As I remember it from rural Minnesota in the 1940's and later the townspeople loved it for the recreation but the farmers hated it. The farmers talked about standard time as "God's time".

Palmer

Re: Daylight Saving Time: Clarification and commentary

*Message #9 Posted by **Jeff O.** on 10 Mar 2009, 7:42 a.m.,*
in response to message #8 by Palmer O. Hanson, Jr.

I never understood the "farmer argument." Can't a farmer can get up any time he wants to tend to his fields, and go to bed whenever he wants, regardless of what the clock says?

Re: Daylight Saving Time: Clarification and commentary

*Message #10 Posted by **Bill (Smithville, NJ)** on 10 Mar 2009, 10:06 a.m.,*
in response to message #9 by Jeff O.

A good friend of mine is a farmer. Your right in that he'll start work at daylight, regardless of what the clock says. He says the problem the farmer's have (or at least he has) with daylight savings time is that the farm machinery/repair/parts suppliers close earlier. So if he has problems with his equipment in the field and the parts house is closed, he may loose several hours of daylight work since he can't get the parts for repair.

I'm originally from Indiana, where over the years we have had several implementarions of daylight savings time. In high school, we lived right on the boarder between two time zones. At home, we were on daylight savings time, while the high school I atended was on standard time. So it was important to state which time reference whenever you set up a meeting time. We took to refering to daylight savings time as "Fast Time" and standard time as "Slow Time". So we'd say, I'll meet you on Wednesday morning at 9 Fast Time or 9 Slow Time. That way there never was a problem knowing which time a person was referring to.

I remember a period in the 70's, where the county I was living in decided to dictate the "Official" time for the county. They chose Standard Time. But the county was next to a large city in the neighboring State that was on daylight savings time. Since a large majority of the people in the county worked in the neighboring city, the county ended up placing an "Official Clock" in the courthouse that displayed the official time. But every one, including the court house emplyees use Daylight Savings Time as their standard clocks. Sounds confusing, but it's really not. As long as everyone uinderstands each other, then there's no confusion.

Bill

Re: Daylight Saving Time: Clarification and commentary

*Message #11 Posted by **Jeff O.** on 10 Mar 2009, 12:41 p.m.,*
in response to message #10 by Bill (Smithville, NJ)

Bill, Thanks for your comments.

> Quote:
>
> He says the problem the farmer's have (or at least he has) with daylight savings time is that the farm machinery/repair/parts suppliers close earlier. So if he has problems with his equipment in the field and the parts house is closed, he may loose several hours of daylight work since he can't get the parts for repair.

I can see that, but, I would expect that such businesses would adjust their operating hours to accommodate their customers and stay open an hour later as soon as DST kicks in. Of course, if everyone just adjusted when they did things relative to the clock instead of adjusting the clock relative to the sun, that would eliminate the need for DST in the first place.

> Quote:
>
> I'm originally from Indiana, where over the years we have had several implementarions of daylight savings time.

I live in a state that neighbors Indiana and have observed Indiana's DST trials over the years. They recently adopted DST on a more-or-less statewide basis. In my opinion, they should have then gone into the Central Time zone where they belong geographically. Since time zones should theoretically be 15 degrees wide, the US Eastern time zone (GMT-5) should extend from 67.5 to 82.5 degrees west longitude, with adjustments as needed for political and social boundaries. Those adjustments are of course not trivial, especially for a state that may span the mathematical border.

The Ohio/Indiana border is at 84.8 degrees West longitude, and all of Indiana is west of this line, so it would make a fine political and social boundary. I think they preferred the eastern time zone for social/financial/business reasons, i.e., to be aligned with the east coast.

Just my observations and opinions, no offense to any Hoosiers!

...

Re: Daylight Saving Time: Clarification and commentary

*Message #12 Posted by **Bill (Smithville, NJ)** on 10 Mar 2009, 2:14 p.m.,*
in response to message #11 by Jeff O.

Hi Jeff,

> Quote:
>
> In my opinion, they should have then gone into the Central Time zone where they belong geographically.
>
> Quote:
>
> I think they preferred the eastern time zone for social/financial/business reasons, i.e., to be aligned with the east coast.

Exactly - well actually more to be aligned with the neighboring large city in adjacent state. There's two main areas - the 60 mile region around Cincinnatti, Ohio; and the 60 mile region around Louisville, KY. A large percentage of people in each of those areas work/compute to the big city. So it makes sense for them to be on the same time zone as where they work and do most of their shopping. Over the years, I lived in both of those areas.

But I always get amused when people mention Indiana's time zones. As long as you remember "Fast Time" versus "Slow Time", you'll do okay. :)

Bill

Re: Daylight Saving Time: Clarification and commentary

*Message #13 Posted by **George Bailey (Bedford Falls)** on 10 Mar 2009, 5:10 p.m.,*
in response to message #12 by Bill (Smithville, NJ)

> Quote:
>
> people in each of those areas work/**compute** to the big city.

Wrong word, but correct for this forum ;-)

I just watched The West Wing episode "24 Hours in America". Josh, Tobey and Donna are left behind by the presidential motorcade in Indiana (!) and miss the train because they unknowingly crossed over to a different time

zone. They didn't know about slow and fast time...

Re: Daylight Saving Time: Clarification and commentary

*Message #14 Posted by **Palmer O. Hanson, Jr.** on 10 Mar 2009, 10:21 p.m.,*
in response to message #11 by Jeff O.

> Quote:
>
> I can see that, but, I would expect that such businesses would adjust their operating hours to accommodate their customers and stay open an hour later as soon as DST kicks in.

That sounds reasonable but as I remember it that wasn't always the way it happened.

Back in the olden days the primary problem occurred on Saturday night when the farm families came to town to do their weekly shopping and the stores stayed open until 9 PM. But with DST and a 9 PM closing a farmer who worked from sunup to sundown couldn't get his family to town in time to shop. The farmers asked for a 10 PM closing but the townspeople didn't always want to comply.

One year one town tried to stay with 9 PM closing when a nearby town changed to closing at 10 PM. Guess where the farmers shopped. In a short time the town with the 9 PM closing changed it to 10 PM. "The customer is always right!"

Palmer

Re: Daylight Saving Time: Clarification and commentary

*Message #15 Posted by **Peter A. Gebhardt** on 9 Mar 2009, 7:50 a.m.,*
in response to message #6 by Karl Schneider

Karl,

> Quote:
>
> 1. In the US, the term is Daylight Saving Time (not "Savings").

I'm in the finance business - you know ;-))

Best regards,

Peter A. Gebhardt

Re: Daylight Saving Time: Clarification and commentary

*Message #16 Posted by **Patrick Rendulic** on 9 Mar 2009, 10:15 a.m.,*
in response to message #6 by Karl Schneider

For me DST (living n Europe) is wonderful. Why? Easy: During DST, when coming home from work, I have one additional hour of light for my outdoor activities: walking, trekking and photography.

That's why I would like to have DST during the whole year, or, for ordinary people the ordinary working hours should be 6h to 16h instead of 8h to 18h.

Re: Daylight Saving Time: Clarification and commentary

*Message #17 Posted by **Martin Pinckney** on 9 Mar 2009, 3:04 p.m.,*
in response to message #16 by Patrick Rendulic

Bingo. See my post above.

Re: Daylight Saving Time: Clarification and commentary

*Message #18 Posted by **Walter B** on 9 Mar 2009, 3:35 p.m.,*
in response to message #17 by Martin Pinckney

For my understanding, Patrick was voting for having DST all year, and you, Martin, were voting for dropping it. Bingo?? I vote for Patrick ;-)

Re: Daylight Saving Time: Clarification and commentary

*Message #19 Posted by **Martin Pinckney** on 9 Mar 2009, 4:25 p.m.,*
in response to message #18 by Walter B

Perhaps my response was too terse. I was saying "bingo" to Patrick's verification of the reason for DST, i.e. recreation...

Re: Daylight Saving Time: Clarification and commentary

*Message #20 Posted by **Patrick Rendulic** on 10 Mar 2009, 2:31 p.m.,*
in response to message #19 by Martin Pinckney

Exactly: recreation.

Or we must get out of the bed at 4 am, do our recreations, then go to work at 8am and when being back from work some more recreations ...

But I prefer to do my recreations AFTER work ;).

That's why it would be nice if our work times could be adapted. But in my case the students would not be happy if school started at 4am ...

Edited: 10 Mar 2009, 2:32 p.m.

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41 RPN LBL GTO rules

*Message #1 Posted by **Egan Ford** on 7 Mar 2009, 6:05 p.m.*

Hello All,

I have a rather large 41CX program (not written by myself) that has a number of duplicate LBLs. I am trying to run this program using the 71B 41 Translator ROM, but it fails to run. I think it has to be an issue with the duplicate LBLs.

The manual states that when a GTO is encountered a scan is performed going down, then from top down, until found. But what if their are multiple local LBLs with the same name/number? It is the first or last? Furthermore the docs state that it is cached and not searched again. Is that only true for the original GTO or all GTOs to the LBL?

I'll admit I'm being a bit lazy and can setup an experiment to find the answer, but, well, I'm feeling lazy today. I am also looking for some insight as to why a person would code with duplicate LBLs. Is it a trick to be leveraged? Have others had issues with RPN code and duplicate LBLs on the 71B 41 Translator ROM?

Thanks.

Re: 41 RPN LBL GTO rules

*Message #2 Posted by **Thomas Okken** on 7 Mar 2009, 7:41 p.m.,*
in response to message #1 by Egan Ford

Local GTOs and XEQs jump to the first matching label following the instruction. This means that for non-overlapping forward jumps, you can reuse labels; in my HP-41 days, I usually reserved LBL 00-02 for forward jumps, and higher numbers for backward jumps.

Once the local label is found, the offset from the GTO or XEQ is stored *in that GTO or XEQ*, so subsequent executions of that same instruction don't have to perform the search again. The cached offset stays valid until you edit or PACK the program; editing causes all local GTO and XEQ offsets to be invalidated. Offsets in other programs are not affected.

Given that there are 115 local labels to work with in the 41, there may not seem to be much incentive for reusing them, but keep in mind that LBL 00-14 are "short form" labels, occupying one byte less than the regular variety. Likewise, GTOs to those LBLs are also one byte shorter (but they also have a smaller jump offset field, so you should avoid using LBL 00-14 as target for long-range jumps, where "long range" means more than 112 bytes.

Note that the rules for global labels (ALPHA) are different; those are searched for backwards, starting from the .END. You cannot use duplicate ALPHA labels; if you do, only the last one will ever be reached.

- Thomas

Re: 41 RPN LBL GTO rules

*Message #3 Posted by **Raymond Del Tondo** on 7 Mar 2009, 7:51 p.m.,*

in response to message #1 by Egan Ford

Hello Egan,

re-using local labels inside a FOCAL program is a common technique.
You can save bytes (or reduce program size) if you manage
to use the one-byte local labels 00-14 more than once,
instead of local labels like LBL 22, which take two bytes of memory.
Also, the associated GTO's use two bytes for label 00-14,
but three bytes for numeric labels above 14.

As you know, the primary search direction is forward,
so when a GTO <local> is encountered the first time the program is
run (or after an edit or GTO..), the OS will search for a suitable label,
from the current PC ot the end, and then from the start of the prog.
If found, the offset will be noted in the label opcode,
so the next time the program is run a jump to the label will be faster.

Also note that the two-byte GTO's have a restricted offset field,
so farther jumps will have to be computed each time.

IIRC, the translator ROM produces at least an intermediate file
before actually compiling the FOCAL program.
This processing stage would be a point to jump in.

But for FOCAL programs of which you plan to convert them to FORTH anyway,
I'd replace the duplicate local labels on the HP-41 beforehand.
Just take care to adjust the correct GTO/XEQ statements.

Also be aware of another potential obstacle:
Many HP FOCAL programs make use of indirect addressing.
This feature works for jumps, too!
Something like XEQ IND X will jump to the label whose name or number is in X.

There may be more tricks to be aware of, but I don't have them handy right now:-)

HTH

Edit: Thomas' response was earlier and more precise in less words;-)

Edited: 7 Mar 2009, 7:57 p.m.

Re: 41 RPN LBL GTO rules, LBL after ENTER?

*Message #4 Posted by **Egan Ford** on 7 Mar 2009, 11:44 p.m.,*
in response to message #3 by Raymond Del Tondo

Thomas, Raymond,

Thanks. This helps. I think I figured out this program and my confusion. LBLs were being used as NOPs. LBLs after ISG, DSE or conditionals make sense to me. But LBLs after ENTER do not and if I remove them I get incorrect results. What's up with that?

Thanks.

Re: 41 RPN LBL GTO rules, LBL after ENTER?

*Message #5 Posted by **Thomas Okken** on 8 Mar 2009, 1:27 a.m.,*
in response to message #4 by Egan Ford

The LBL after ENTER re-enables stack lift:

CLST 1 ENTER LBL 00 2 => T:0 Z:1 Y:1 X:2
CLST 1 ENTER 2 => T:0 Z:0 Y:1 X:2

Pretty obscure programming style IMHO. RCL X achieves the same result and is a lot more obvious... But maybe ENTER LBL 00 is faster?

- Thomas

Re: 41 RPN LBL GTO rules, LBL after ENTER?

*Message #6 Posted by **J-F Garnier** on 8 Mar 2009, 1:02 p.m.,*
in response to message #5 by Thomas Okken

It's amazing that after all these years I can still learn something about HP41 programming! I didn't know this trick.

In that particular case, I would just do "1 ENTER ENTER 2".

J-F

Re: 41 RPN LBL GTO rules, LBL after ENTER?

*Message #7 Posted by **Mike (Stgt)** on 8 Mar 2009, 4:04 p.m.,*
in response to message #6 by J-F Garnier

Hehe JF! Never asked why the ZENROM has a NOP? In contrast to the 0-length text string NOP (F0) it preserves the stack lift en/dis-able state.

Ciao.....Mike

Re: 41 RPN LBL GTO rules, LBL after ENTER?

*Message #8 Posted by **Namir** on 8 Mar 2009, 7:18 p.m.,*
in response to message #7 by Mike (Stgt)

I use the STO ST X as a NOP for the 41C.

Namir

Edited: 8 Mar 2009, 7:18 p.m.

Re: 41 RPN LBL GTO rules, LBL after ENTER?

*Message #9 Posted by **Egan Ford** on 8 Mar 2009, 6:12 p.m.,*
in response to message #5 by Thomas Okken

Thanks. Very obscure indeed.

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Credit Card Size RPN calculator?

*Message #1 Posted by **Elliott W Jackson** on 7 Mar 2009, 12:41 p.m.*

Any out there? With maybe just +, -, *, /, STO, RCL?

Re: Credit Card Size RPN calculator?

*Message #2 Posted by **DaveJ** on 8 Mar 2009, 7:57 p.m.,*
in response to message #1 by Elliott W Jackson

I'd be ecstatic with a scientific credit card size calculator, I don't care whether it's RPN or algebraic. I've only been waiting, oh 20 years or so...

TRULY SMALL pocket size calculators have sadly never existed.

Dave.

Re: Credit Card Size RPN calculator?

*Message #3 Posted by **bill platt** on 8 Mar 2009, 8:17 p.m.,*
in response to message #2 by DaveJ

There were a lot of little credit-card calcs back 20 years ago, I saw radio smack version just last week--glued to a clipboard!

Re: Credit Card Size RPN calculator?

*Message #4 Posted by **DaveJ** on 8 Mar 2009, 8:33 p.m.,*
in response to message #3 by bill platt

> Quote:
>
> There were a lot of little credit-card calcs back 20 years ago, I saw radio smack version just last week--glued to a clipboard!

Yeah, but I've never seen a scientific version, they always 4-Bangers.

Dave.

Re: Credit Card Size RPN calculator?

*Message #5 Posted by **Dave** on 8 Mar 2009, 10:48 p.m.,*
in response to message #4 by DaveJ

Not RPN, but he may be talking about this one. I still have a radio shack version of this (EC-4009) I got in the mid-80s and wouldn't part with it for the world.

Re: Credit Card Size RPN calculator?

*Message #6 Posted by **Michael de Estrada** on 8 Mar 2009, 11:08 p.m.,*
in response to message #5 by Dave

Wow! That is so cool!

Re: Credit Card Size RPN calculator?

*Message #7 Posted by **Mike Morrow** on 9 Mar 2009, 12:12 a.m.,*
in response to message #5 by Dave

The Radio Shack version of the Casio lacked, IIRC, combination and permutation functions. I have the Casio model that you show. These were sold new in 1985. I bought several to give as gifts.

There was an earlier credit card Casio scientific available in late 1978! It is the fx-48. It doesn't have quite as many functions, and it isn't solar powered. It is very slightly smaller. I bought the one I have in January 1979.

In 1983, Casio sold a scientific wrist watch calculator, the CFX-200. It was quite useful, and it isn't much larger than other digital watches. I've still got one, but the calender and DOW function does not work properly after 12-31-1999. Later, a more elegant model in the form of the CFX-400 came out.

So the era of popular, consumer-grade, readily available scientific credit card or smaller calculators arrived more than 30 years ago and vanished more than 20 years ago. I suppose the market didn't support them.

Edited: 9 Mar 2009, 12:59 a.m.

Re: Credit Card Size RPN calculator?

*Message #8 Posted by **Dave Shaffer (Arizona)** on 9 Mar 2009, 4:42 p.m.,*
in response to message #7 by Mike Morrow

> Quote:
>
> but the calender and DOW function does not work properly after 12-31-1999. Later, a more elegant model in the form of the CFX-400 came out.

Set your unit to 1998 and all will be fine (except for the year, of course).

See years matching 2009 if you want to pick a different year.

Re: Credit Card Size RPN calculator?

*Message #9 Posted by **Paul Dale** on 9 Mar 2009, 5:50 p.m.,*
in response to message #8 by Dave Shaffer (Arizona)

Or subtract 28 from the year and watch the cycle repeat.

- Pauli

Re: Credit Card Size RPN calculator?

*Message #10 Posted by **Dave** on 10 Mar 2009, 3:53 p.m.,*
in response to message #7 by Mike Morrow

> Quote:
>
> The Radio Shack version of the Casio lacked, IIRC, combination and permutation functions. I have the Casio model that you show. These were sold new in 1985. I bought several to give as gifts.

I checked my radio shack and it's actually the other way around. Mine has both of those as inv functions on parentheses keys, but I don't see them anywhere on the casio picture.

Got mine in high school before I discovered HP. Once my science classmates saw it, several went out and bought them for $12-$15 in '84 or '85, IIRC. Now they show up on ebay now and then for several hundred dollars (almost vintage HP territory). So there's at least some demand for a small scientific like this.

Anyway, thanks for the other info. These are great little calcs. Too bad they're extinct. The only thing I don't like is that dust easily gets in the display/solar panel.

Re: Credit Card Size RPN calculator?

*Message #11 Posted by **Chris McCormack** on 10 Mar 2009, 8:53 p.m.,*
in response to message #2 by DaveJ

I remember my Dad showing me his pocket Casio in response to my HP-15C when I was an undergrad. I didn't remember the exact details, so I asked.

> Quote:
>
> I still have it. It is labeled "Casio Scientific Calculator fx-88." It is the size of a credit card, 88x59x4 mm. It is light powered: solar, fluorescent or incandescent light. It's probably 20 years old or more. The paint on the cover is deeply scratched. It still works.
>
> Its functions are: x!, x(square) and squareroot; log and ln; 10 the x power; e to the x power; hyp, sin and arcsin; cos and arccos; tan and arc tan); x to the y power and x to the 1/y power; cube root; and statistical functions mean x; sigma n, sigma n-1, sum of x; sum of x squares; random number generator and pi.

I wouldn't trade it for my 15C, but he really liked it as a replacement for his shirt-pocket sized 6-inch slide rule!

I was surprised that neither Google nor *'the auction site that shall not be named'* seemed to know anything about that model Casio.

Re: Credit Card Size RPN calculator?

*Message #12 Posted by **Chuck** on 11 Mar 2009, 7:48 p.m.,*
in response to message #11 by Chris McCormack

[self Deleted]

I didn't see comment above concerning the fx-98 or radio shack ec-4009. oops.

Edited: 11 Mar 2009, 7:53 p.m.

Re: Credit Card Size RPN calculator?

*Message #13 Posted by **Silvio A. Bensi** on 13 Mar 2009, 12:28 p.m.,*
in response to message #2 by DaveJ

Five or six years ago I found a small chinese scientific calculator under the tradename KADIO. About a credit card size, +/- 6 mm thick, landscape form, silver painted plastic (black in the back). With P-R and base convertions capabilities. Despite the tiny keyboard, it was a pretty and cheap toy, so I could not resist and bought it.

It fit nicely and easily in my shirt pocket. In the first day I put it in the pocket, one of the independent silicon keys popped out from the body. It lasted not more than 2 hours of continuous usage before the display fails... Well, the important is that someone has recently produced a credit card size scientific calculator.

Re: Credit Card Size RPN calculator?

*Message #14 Posted by **db (martinez, ca.)** on 13 Mar 2009, 10:14 p.m.,*
in response to message #13 by Silvio A. Bensi

I found a Kadio at a kiosko in Chile a couple of years ago. It looked like a 4 banger voyager. I left it on the toy table at an HHC hoping that some genius would find a way to do what this thread is about but no dice. Maybe it fell apart on *him* after two hours.

Re: Credit Card Size RPN calculator?

*Message #15 Posted by **Alan** on 10 Mar 2009, 3:50 p.m.,*
in response to message #1 by Elliott W Jackson

If you carry a mobile phone, another option might be to find an RPN calculator for your phone.

Lygea do a few variations on the 12C, 10B, 10C, 15C etc. for Blackberry and Windows Mobile: http://lygea.com . I have the 12C and 10C on my BB Curve. They've moved the keys around to make better use of the Blackberry keyboard, and some features such as programmability are missing, so it's not truly 'emulated'. Still, it's great just to have an RPN calc with me whenever I need it.

Re: Credit Card Size RPN calculator?

*Message #16 Posted by **Dave** on 10 Mar 2009, 4:00 p.m.,*
in response to message #15 by Alan

Quote:

> If you carry a mobile phone, another option might be to find an RPN calculator for your phone.
>
> Lygea do a few variations on the 12C, 10B, 10C, 15C etc. for Blackberry and Windows Mobile: http://lygea.com . I have the 12C and 10C on my BB Curve. They've moved the keys around to make better use of the Blackberry keyboard, and some features such as programmability are missing, so it's not truly 'emulated'. Still, it's great just to have an RPN calc with me whenever I need it.

I love the lygea calcs as well. The Windows Mobile version of the 15C IS programmable just like the real thing. Simply brilliant. And of course you can have a 28/42/48/49/50g with emu48 for windows mobile. I run all of those on my windows mobile phone. I made a 49g KML that looks just like the lygea. Check it out HERE. And download it HERE.

Edited: 10 Mar 2009, 4:41 p.m.

Re: Credit Card Size RPN calculator?

*Message #17 Posted by **DaveJ** on 12 Mar 2009, 4:30 a.m.,*
in response to message #1 by Elliott W Jackson

Out of curiosity, I just got a volume price on this nice looking Kadio KD-1005 pocket scientific, almost certainly the smallest on the market today.

An amazing US$0.55ea in 8K volume.

Dave.

Re: Credit Card Size RPN calculator?

*Message #18 Posted by **Egan Ford** on 12 Mar 2009, 12:37 p.m.,*
in response to message #17 by DaveJ

But its 1cm think. The credit card calcs that I remember were thinner.

Re: Credit Card Size RPN calculator?

*Message #19 Posted by **DaveJ** on 12 Mar 2009, 5:01 p.m.,*
in response to message #18 by Egan Ford

> Quote:
>
> But its 1cm think. The credit card calcs that I remember were thinner.

Yes, this isn't a "credit card" calc. As far as I know there has never been a true "credit card" scientific calc. Those Casio's weren't credit card thin either.

A true credit card calculator is one you can slip into your wallet. Only available as 4-Bangers unfortunately.

Dave.

Re: Credit Card Size RPN calculator?

*Message #20 Posted by **Egan Ford** on 12 Mar 2009, 5:26 p.m.,*
in response to message #19 by DaveJ

The screen on the iPhone is just a bit smaller than a credit card. So any usable emulator form factor on the iPhone would also work as a credit card calculator. That means I could have a usable 15C or 41CX in a credit card form factor. To fit in your wallet it'd have to have a membrane keyboard. To avoid battery thickness solar would be a plus. Of course BT for I/O. With e-Ink the keyboard could be virtual.

Dave, I think I see your next great project.

Re: Credit Card Size RPN calculator?

*Message #21 Posted by **DaveJ** on 12 Mar 2009, 5:41 p.m.,*
in response to message #20 by Egan Ford

> Quote:
>
> The screen on the iPhone is just a bit smaller than a credit card. So any usable emulator form factor on the iPhone would also work as a credit card calculator. That means I could have a usable 15C or 41CX in a credit card form factor. To fit in your wallet it'd have to have a membrane keyboard. To avoid battery thickness solar would be a plus. Of course BT for I/O. With e-Ink the keyboard could be virtual.
>
> Dave, I think I see your next great project.

My next project is in next months Silicon Chip magazine :->
The uCurrent

Not a calculator, sorry. But guess where the name came from...

Dave.

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Ren, you asked for keystroke calculations

*Message #1 Posted by **designnut** on 7 Mar 2009, 12:24 p.m.*

There seems to be a general belief that all knowledge has been written in books. I found relations I never saw in texts, so it must not be true. I rewrote EE expressions so they were easy to remember and use with the HP RPN system. I would like to hear from you whether you were able to use any of the information. You may write directly using the above name @cox.net Thanks, Sam

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82176A Mini Data Cassette equivalent?

*Message #1 Posted by **jotne** on 6 Mar 2009, 4:45 p.m.*

Do any of you know about any other cassette that can be used instead of the HP 82176A

Re: 82176A Mini Data Cassette equivalent?

*Message #2 Posted by **Allen** on 6 Mar 2009, 9:01 p.m.,*
in response to message #1 by jotne

You could use the virtual Tape drive with EMU41 /EMU71 and store files on a PC.

I'm not aware of any Data Cassette replacement- I suggest some of the previous forum discussions on the topic.

Re: 82176A Mini Data Cassette equivalent?

*Message #3 Posted by **Prabhu Bhooplapur** on 7 Mar 2009, 7:55 a.m.,*
in response to message #2 by Allen

Hi Allen,

EMU41 is fine for storing programmes on pc but one would need a HPIL interface card for the PC and also a PC with ISA bus. Prabhu

Re: 82176A Mini Data Cassette equivalent?

*Message #4 Posted by **Steve (Australia)** on 7 Mar 2009, 6:23 p.m.,*
in response to message #3 by Prabhu Bhooplapur

I have 2 HP-IL ISA cards and still have an old computer or two with ISA sockets.

The problem is the software.

1) I thought the original software required a "slow" computer.

2) I don't actually have the old software anyway :-(

Re: 82176A Mini Data Cassette equivalent?

*Message #5 Posted by **Christoph Klug** on 9 Mar 2009, 9:58 a.m.,*
in response to message #4 by Steve (Australia)

Dear Steve,

Use EMU41 software from Jean-Francois Garnier for our existing PC equipment. Than you get a really powerfully system solution. More details about installation and unsig EMU41 you find in my actual 708 page book....

Regards - Christoph Klug

Re: 82176A Mini Data Cassette equivalent?

*Message #6 Posted by **Garth Wilson** on 6 Mar 2009, 9:35 p.m.,*
in response to message #1 by jotne

I have a couple of Verbatim brand ones I bought from EduCalc back in the day, and they worked fine. They're 100% compatible with my HP82161A cassette drives. The label on the front of the cassette itself is light blue with silver lettering that says to the left of the window:

```
MI
80
```

and underneath the window says, all in lower case,

```
mini data cassette
```

On the top edge are printed numbers in blue ink, possibly serial and lot numbers:

```
6029 6879
```

on one and

```
6035 6879
```

on the other. Here's what they look like:

front: (The silver lettering on the blue background is hard to read.)

back:

top edge:

Re: 82176A Mini Data Cassette equivalent?

*Message #7 Posted by **Allen** on 6 Mar 2009, 10:48 p.m.,*
in response to message #6 by Garth Wilson

I believe these tapes to be made by the same company that made the HP-label 82176A tapes.

The Date code/Contract number format is the same- I have a lengthy response on this issue somewhere in the archives of the forum, but can't seem to find it google or otherwise.

Re: 82176A Mini Data Cassette equivalent?

*Message #8 Posted by **Steve (Australia)** on 7 Mar 2009, 6:31 p.m.,*
in response to message #7 by Allen

A question I have concerns the life of these tapes.

As someone who tries to maintain a "working" collection, there are a number of time-related maintenance issues.

Some of those time-related issues are card-reader bearings and pinch rollers, and gummy lubricant on early disk drives.

Another one is the deterioration that may occur of the tape used by the tape drives (and of any pressure pads etc that might be inside the cassette).

Has anyone documented the *inside* of these tapes and looked at replacing the tape with something else?

Replacement could be either new tape (from a cassette, or a DAT or something???)

Re: 82176A Mini Data Cassette equivalent?

*Message #9 Posted by **db (martinez, ca.)** on 7 Mar 2009, 10:00 p.m.,*
in response to message #8 by Steve (Australia)

hi steve; one thing i have learned will be obvious to you: don't leave tapes sitting in the unit. you can always demagnetize the head but you can't put info back on the little directory area. any info is lost that the drive doesn't have a location for, even though the tape is fine.

Re: 82176A Mini Data Cassette equivalent?

*Message #10 Posted by **Diego Diaz** on 11 Mar 2009, 2:34 a.m.,*
in response to message #8 by Steve (Australia)

Hi Steve,

> Quote:
>
> Has anyone documented the *inside* of these tapes and looked at replacing the tape with something else?

I think you may found this interesting.

Cheers,

Diego

Re: 82176A Mini Data Cassette equivalent?

*Message #11 Posted by **Steve (Australia)** on 12 Mar 2009, 7:52 p.m.,*
in response to message #10 by Diego Diaz

Thanks. That was *exactly* what I was after.

My concern is that 60min tapes may have tape too thick to fit the required length into the space in the HP cassette. Do you recall if this was an issue?

Another poster in that thread noted that he had written something about replacing the foam pad inside the cassette. Do you know if that is available anywhere?

I am very pleased that the required materials are not terribly exotic :-)

Re: 82176A Mini Data Cassette equivalent?

*Message #12 Posted by **Dan Grelinger** on 20 Mar 2009, 10:25 a.m.,*
in response to message #11 by Steve (Australia)

I completed a repair of a faulty 82176A cassette on Wednesday night. The felt pad had fallen off, and the tape would not read. I would alternately get "Medm Error" or "Dev Error" before the repair.

Tony Duell graciously sent me his 82176A repair article from years past, and I used that as a basis for the repair.

I got the case apart, although it would not cleanly split along the seams; the separation departed from the seam on the side of the cassette opposite the tape head. I used a blade to try and split the seams, and realized that the full tape spool was dangerously close to the cassette edge. I may have nicked the clear tape leader that was wound on the outside of the spool when trying to open the tape, but I could not see any damage when I unspooled the leader.

I still had the felt pad, and I scraped the backside with a blade to remove most of the remants of the deteriorated foam, so that I could re-use it. I could not find the foam double stick tape that Tony recommended, but I did find its specifications, and it is 1 mm thick. I had some 3M permanent double stick tape that was 1 mm in thickness, so I used that and stuck the original felt pad to it.

I tried isopropyl to clean the metal spring strip, and had to scrap it with a blade to get it clean.

Once the pad was replaced, and I got the tape back together, it read fine.

I am going to try to repair another one, but this time I am going to try and do it without opening up the tape case.

Does anyone know the thickness of the tape? From what I've read about standard cassettes, the 45 minute and 60 minute tapes are the same thickness, the 90 minute tapes are thinner, and the 120 minute tapes are even a ittle thinner than that. I would like to replace the tape in one of my mini-cassettes to maximize its future life, and tape thickness will be important to match.

Dan

Re: 82176A Mini Data Cassette equivalent?

*Message #13 Posted by **Saile (Brazil)** on 8 Mar 2009, 12:33 p.m.,*
in response to message #1 by jotne

```
If somebody has money to pay the value request is an opportunity.


http://cgi.ebay.com/10-HP-82176A-CASSETTE-TAPE-FOR-hp-41c-41cv-41cx-71b_W0QQitemZ120387395165QQcmdZViewItemQQptZCalculators?
hash=item120387395165&_trksid=p3286.c0.m14&_trkparms=72%3A570%7C66%3A2%7C65%3A12%7C39%3A1%7C240%3A1318%7C301%3A0%7C293%3A1%7C294%3A50
```

Edited: 8 Mar 2009, 12:36 p.m.

Re: 82176A Mini Data Cassette equivalent?

*Message #14 Posted by **Michael de Estrada** on 8 Mar 2009, 12:57 p.m.,*
in response to message #13 by Saile (Brazil)

$650 for 10 old stock tapes, and who knows how they have been stored. They might not even be good any more. Looks like a rip-off to me.

Re: 82176A Mini Data Cassette equivalent?

*Message #15 Posted by **Rainer Wiedemann (Germany)** on 8 Mar 2009, 2:11 p.m.,*
in response to message #14 by Michael de Estrada

From the seller's feedback one can see, that some time ago he already tried to sell for $650, but he didn't find a buyer. Last time he succeeded, he offered the stuff for $250, still a lot if you don't know what you get, but still within the limits payed for single used tapes on ebay. Let's see whether patience pays ...

Re: 82176A Mini Data Cassette equivalent?

*Message #16 Posted by **Patrick Rendulic** on 11 Mar 2009, 7:21 a.m.,*
in response to message #13 by Saile (Brazil)

This is a good example of what happens when a manufacturer stops producing a dedicated media and remaining supplies are tending to virtually 0.

Why didn't HP use "standard cassettes" for this task? Was it a decision of miniaturisation or was it to earn supplementary $$$?

Re: 82176A Mini Data Cassette equivalent?

*Message #17 Posted by **Steve (Australia)** on 12 Mar 2009, 7:59 p.m.,*
in response to message #16 by Patrick Rendulic

or even a standard mini cassette, the sort that were used for dictating machines and which are still available.

They even *look* similar. http://en.wikipedia.org/wiki/Mini_Cassette

Interestingly they say that the lack of a capstan makes them "unsuited to any task other than voice recording".

I'm pretty sure the 82176A doesn't have a capstan, and I'm also pretty sure that this device performs a task other than voice recording.

EDIT: I *know* these are not equivalent. Don't try them -- they don't work.

EDIT2: An answer for your question. These days HP would do it for the money. In those days HP did it to ensure quality and to introduce technical features that made engineering sense.

Edited: 12 Mar 2009, 8:04 p.m.

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Is it possible to load documentation onto an sd card onto the hp 50g

*Message #1 Posted by **hpnewbie** on 6 Mar 2009, 5:23 p.m.*

Hi. I'm new here and to hp calculators. I'm considering purchasing a hp 50g in lieu of a ti 89 or ti-nspire CAS. One of the things I've read about the 50g is that it has a relatively steep learning curve. Another is that it does not have a good printed manual. Since it's relatively impractical to be constantly looking up functions of a calculator on a computer, I was wondering whether or not it was possible to load the documentation onto an sd card in a usable format and therefore access it from the calculator itself. It just seems so logical to me - since you have like a gigabyte of storage with the sd card, you could load the entire 800 page manual onto the calculator.

Also, is the 50g limited to using 1 gigabyte of storage on a sd card?

Thanks for helping.

Re: Is it possible to load documentation onto an sd card onto the hp 50g

*Message #2 Posted by **Don Shepherd** on 6 Mar 2009, 5:28 p.m.,*
in response to message #1 by hpnewbie

If you intend to use the calculator to solve all types of equations easily or program in a BASIC-type language, you will be happier with the NSpire CAS.

Re: Is it possible to load documentation onto an sd card onto the hp 50g

*Message #3 Posted by **Egan Ford** on 6 Mar 2009, 5:46 p.m.,*
in response to message #1 by hpnewbie

> Quote:
>
> I'm considering purchasing a hp 50g in lieu of a ti 89 or ti-nspire CAS. One of the things I've read about the 50g is that it has a relatively steep learning curve.

Try a 50g emulator. There are emulators for Win/Mac/Lin for the 50g.

Windows: http://www.debug4x.com/

Mac/Linux: http://x49gp.svn.sourceforge.net/viewvc/x49gp/README.QUICKSTART

As for learning curve, I started with HP RPN/RPL calculators, the 50g was easy. I still struggle to use my kids 83, I just do not get it. Learning curves are relative.

> Quote:
>
> Another is that it does not have a good printed manual. Since it's relatively impractical to be constantly looking up functions of a calculator on a computer, I was wondering whether or not it was possible to load the documentation onto an sd card in a usable format and therefore access it

> from the calculator itself. It just seems so logical to me - since you have like a gigabyte of storage with the sd card, you could load the entire 800 page manual onto the calculator.

You can printout the AUR. That is a great manual. You can also store it on the SD card, but the limited screen resolution would make for difficult reading and navigation.

The 50g CAS system has online help/reference. For the non-CAS commands install this: http://www.hpcalc.org/details.php?id=5973. This is a library + reference (to be stored on SD). It's not a manual, but a lifesaver as a reference.

> Quote:
>
> Also, is the 50g limited to using 1 gigabyte of storage on a sd card?

No, 2GB cards work just fine, but appear as 1GB to the filer. Just ignore.

IMHO, get an emulator, give it a try before you buy.

P.S. C programming on the 50g is easy.

Edited: 6 Mar 2009, 5:54 p.m.

Re: Is it possible to load documentation onto an sd card onto the hp 50g

*Message #4 Posted by **hpnewbie** on 6 Mar 2009, 7:02 p.m.,*
in response to message #3 by Egan Ford

Thanks all of you for your input. I'm installing the emulator now, and I'll definitely get the reference program if I get the hp.

Re: Is it possible to load documentation onto an sd card onto the hp 50g

*Message #5 Posted by **Tim Wessman** on 6 Mar 2009, 6:50 p.m.,*
in response to message #1 by hpnewbie

Yes. http://www.hpcalc.org/details.php?id=5973

No. Up to 2 GB works. Don't get an SDHC card as those aren't really SD cards. Poor decision on the SD alliances part.

TW

Re: Is it possible to load documentation onto an sd card onto the hp 50g

*Message #6 Posted by **Mike Reed** on 6 Mar 2009, 10:05 p.m.,*
in response to message #5 by Tim Wessman

Just a side note, Tim; I regularly use 2gb MINI-SD cards in an SD adapter in my HP-50g. Works just fine. The mini's are about the size of a postage stamp.

polarbear Mike

Re: Is it possible to load documentation onto an sd card onto the hp 50g

*Message #7 Posted by **Tim Wessman** on 6 Mar 2009, 10:59 p.m.,*

in response to message #6 by Mike Reed

Yup. They work fine. I just wish the stupid SD group hadn't made SDHC the exact same form factor. I know why they did it, but it causes a lot of consumer confusion. . .

I guess now that everything pretty much includes SDHC capable slots the issue will go away sooner rather than later. I have had to explain why my mom's fancy new memory card doesn't work at least twice now though. Got myself a few cards out of the bargin, so I guess it is ok. :-)

TW

Re: Is it possible to load documentation onto an sd card onto the hp 50g

*Message #8 Posted by **David Hayden** on 6 Mar 2009, 10:01 p.m.,*
in response to message #1 by hpnewbie

Having downloaded the Emulator, grab a copy of the Users' Guide from HP's web site: www.hp.com/calculators. Click on "graphing calculators" on the left, then click the 50G, then "HP Support and Drivers", then "Manuals" and finally "HP Users Guide"

The User's Guide is a greatly expanded version of the printed manual that comes with the calculator.

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OT: 4.1 Billion Mobile Phones and Counting.

*Message #1 Posted by **Egan Ford** on 6 Mar 2009, 3:44 p.m.*

What this means is that the device most people will likely use and rely on in the future will be the cell phone, above all else. -- http://blog.wired.com/gadgets/2009/03/report-60-of-wo.html

That's a lot of phones. And I'd wager that each has a primitive calculator (4 banger), possibly making the mobile phone the number one calculator in terms of volume.

My phone of choice is the iPhone.

My iPhone with i41CX+ has become my primary calculator (desktop and on the road). The overlay support, QWERTY entry, printer, I/O, speed, and size of the iPhone w/ i41CX+ outweighs the to-be-missed tactile keyboard of the original.

Free42 for the iPhone is a serious contender, but lacks a few critical features such as I/O and saved printer output. As they become available its going to be hard to pick (but, do I really have too?).

Of course there are Eric's lovely Voyagers. Still my favorite calculators of all time. If I had to rebuild civilization, I'd be with a real 15C and it's 20 year battery life. So, why is i41CX+ my favorite you ask? Because I can use it single handedly with one thumb. With the 15C, I'd have to take my other hand of the steering wheel. (just kidding :-)

I see a bright future for emulators and even original ideas for touch screen phones. E.g. the SpaceTime calculator. It's almost like Mathematica or Maple in your pocket.

Oh, I'll continue to collect and use the *real* thing, because I want to, because its my passion to make these *old things* do amazing things. I and suspect that this is true for many here as well.

Edited: 6 Mar 2009, 4:00 p.m.

Re: OT: 4.1 Billion Mobile Phones and Counting.

*Message #2 Posted by **Martin Pinckney** on 6 Mar 2009, 5:01 p.m.,*
in response to message #1 by Egan Ford

> Quote:
>
> I'd wager that each has a primitive calculator (4 banger)

I recently got a new phone, a Motorola, and was astonished to discover that the calculator observed correct algebraic precedence.

> Quote:
>
> My phone of choice is the iPhone.

To me a phone is a phone, a camera is a camera, and a calculator is a calculator. I deliberately avoid buying phones with excess features.

> Quote:
>
> Oh, I'll continue to collect and use the *real* thing, because I want to, because its my passion to make these *old things* do amazing things. I and suspect that this is true for many here as well.

As for me, I just buy them to use them. That's what they were made for, right?

Re: OT: 4.1 Billion Mobile Phones and Counting.

*Message #3 Posted by **Garth Wilson** on 6 Mar 2009, 6:06 p.m.,*
in response to message #2 by Martin Pinckney

> Quote:
>
> To me a phone is a phone, a camera is a camera, and a calculator is a calculator. I deliberately avoid buying phones with excess features.

+1. Some of the integration the consumer electronics industry tries to sell us is about as apetizing as combining the toilet and the food processor into one appliance. Like someone said here recently, "You'd be surprised how much of the product design is done my marketing and not engineering" (or something like that).

Re: OT: 4.1 Billion Mobile Phones and Counting.

*Message #4 Posted by **Howard Owen** on 6 Mar 2009, 7:01 p.m.,*
in response to message #3 by Garth Wilson

> Quote:
>
> Like someone said here recently, "You'd be surprised how much of the product design is done my marketing and not engineering."

Try close to 100%, In the big companies particularly. And since the big guys dominate in terms of volume, that means nearly 100% of available products are designed primarily by marketing departments. Naturally, the resulting design has to have some engineering input, but that doesn't mean engineering will drive the process. In my opinion the best we can hope for out of the big companies in this regard is enlightened self interest. Some may believe that engineering quality will translate to market success. But although that works in some segments, (think Apple vs Dell) as Walmart shows us, often the very opposite is the path to commercial success.

Walmart forces its suppliers to strip products to their essentials. The innovations that make the products cost less are often ones that also reduce quality in some respect. Or else the innovation is in packaging that makes the product cheaper to sell, and does nothing for quality. Walmart is doing very well during this downturn since low prices are more attractive than ever now. But I'm guessing their leverage with their suppliers will go down as more and more of them face tough choices in the struggle to survive.

I'd also like to think that if the consumer credit binge is slowed if not stopped by the current economic crisis, consumers will be more wary of manipulative marketing and more conscious of value beyond mere price. My mother and father were extremely frugal, both being children of the depression era.

Perhaps another generation of tough customers will emerge from this disaster. But betting on a change in consumerism might be foolish.

Microproduction may help as well. As others have noted, the new 12C, with flashable software, allows smaller markets to be addressed more economically. Yes, some production and marketing costs aren't affected by the common platform, but many are, and the overall effect is to reduce costs and allow more targeted design. Smaller markets may mean that more engineering attention will have to be paid to demands for quality. The postulated new 15C will be of higher quality for people like me when compared to the 12C on the same hardware, because its software will be superior for the targeted market segment.

Regards,
Howard

Re: OT: 4.1 Billion Mobile Phones and Counting.

*Message #5 Posted by **Egan Ford** on 6 Mar 2009, 7:23 p.m.,*
in response to message #2 by Martin Pinckney

> Quote:
>
> To me a phone is a phone, a camera is a camera, and a calculator is a calculator. I deliberately avoid buying phones with excess features.

But what about your PDA? I do not have a single colleague or acquaintance that still owns and uses a PDA (I was the last holdout). They have merged with the phone to create a better solution. Most people I know *used* a calculator in school, but just use the one on their phones or laptops. Convergence happens. The next generation expects and demands it. Good luck finding lotech phones, it gets harder and harder. E.g. my colleagues that work with the US Government. Finding phones without cameras is getting harder and harder. Of, course the same is true for laptops with embedded cameras.

I am happy that on my travels I no longer have a phone, PDA, and calculator. Having one device makes my life easier. But I draw the line at the camera. Phone cameras blow (at least for now).

> Quote:
>
> As for me, I just buy them to use them. That's what they were made for, right?

As did I when I used them more frequently. But many calculator functions have been replaced with more powerful alternatives. i.e. the computer. My 15C was my first "computer", I still have it, but often need to find reasons to use it. And given how rare good calculators are I try to avoid traveling with them.

Re: OT: 4.1 Billion Mobile Phones and Counting.

*Message #6 Posted by **Martin Pinckney** on 7 Mar 2009, 3:05 p.m.,*
in response to message #5 by Egan Ford

> Quote:
>
> But what about your PDA?

What's a PDA? (Seriously, I do know what one is, but I don't have any use for one. I do keep a small notebook in my truck, and I always have matching Zebra pen and mechanical pencil in my shirt

pocket).

> Quote:
>
> But many calculator functions have been replaced with more powerful alternatives. i.e. the computer.

For the calculations I use a calculator for, the computer would be extremely cumbersome. In other words, in these cases the calculator is not a poor substitute for a computer, rather it is superior. On the other hand, I do use a computer for most final design calculations. One exception was a particular design problem for which I found a freeware HP48 program, but could not find a computer program for!

Re: OT: 4.1 Billion Mobile Phones and Counting.

*Message #7 Posted by **Thomas Okken** on 7 Mar 2009, 7:27 p.m.,*
in response to message #6 by Martin Pinckney

> Quote:
>
> What's a PDA? (Seriously, I do know what one is, but I don't have any use for one. I do keep a small notebook in my truck, and I always have matching Zebra pen and mechanical pencil in my shirt pocket).

For making notes, a plain old paper notebook is indeed superior to a PDA, and for an appointment calendar and address book, the paper variety is also as good as ever. I do like my PDA for several other reasons, though: it can store passwords **securely**, and between my job and Internet shopping, I have dozens of those; I can set it to remind me of appointments, which is good because I tend to forget them otherwise; and it can do double duty as a fancy calculator and for playing games -- a few solitaire varieties can be nice if you have some time to kill while waiting at the airport or whatnot.

- Thomas

Re: OT: 4.1 Billion Mobile Phones and Counting.

*Message #8 Posted by **Garth Wilson** on 8 Mar 2009, 5:10 p.m.,*
in response to message #7 by Thomas Okken

> Quote:
>
> I can set it to remind me of appointments

I use my 41cx for that. Every time I turn it on, it checks the date and looks in the DAYTIMR text file to see if it's supposed to remind me of anything. If not, it will display how long 'til the next alarm is due, and if there are no alarms pending, it just displays time and date.

Re: OT: 4.1 Billion Mobile Phones and Counting.

*Message #9 Posted by **Thomas Okken** on 6 Mar 2009, 10:22 p.m.,*
in response to message #2 by Martin Pinckney

> Quote:

> To me a phone is a phone, a camera is a camera, and a calculator is a calculator. I deliberately avoid buying phones with excess features.

But sometimes the excess features are hard to avoid! I bought an iPod touch because it was the best hand-held web surfing device I could find (better than the Nokia tablets, as far as I'm concerned)... I didn't want the MP3 player, YouTube player, and general-purpose application platform functionalities, but now that I have them, I do find myself using them, rather a lot.

Be careful, the drug pushers are fiendishly clever. ;-)

- Thomas

Re: OT: 4.1 Billion Mobile Phones and Counting.

*Message #10 Posted by **Les Wright** on 8 Mar 2009, 11:44 a.m.,*
in response to message #9 by Thomas Okken

In my own smartphone debate I settled on the Blackberry Curve 8900, since the device and usage costs over time will be considerably cheaper than the iPhone for what I am looking for. I think it is a superior communications and organizational tool, but it is weak as a media player or web surfer. However, I still use the built in browser frequently, particularly for sites like Facebook that have faster loading mobile versions, and I have downsampled quite a few mp4 videos for easy playback on the smaller screen. My iPod touch has gathered dust for a few days now. Funny how that works out.

Re: OT: 4.1 Billion Mobile Phones and Counting.

*Message #11 Posted by **Jandro Kirkish** on 6 Mar 2009, 5:21 p.m.,*
in response to message #1 by Egan Ford

I fully agree. I use free 42 and the 15c emulator on my iPhone, but the 41cx emulator is almost uncanny with its actual key-click sounds and printer sound effects. And Spacetime has fulfilled my dream of having a CAS in my pocket. But the best part of these hp emulators is that they are cheaper than 810 bucks .

On a side note, rumors on this forum have it that HP may bring back the 15c this year, and one supporting piece of evidence is HP's apparent reclaiming of their rights to nonpareil's Voyager emulations. Yet the iPhone 15c is still available. Any ideas why HP would let this slide?

Even though I have the 15c emulator on my iPhone I would buy the real thing in a heartbeat (provided it costs considerably less than $810.00). These emulators are teasers for the real thing!

Re: OT: 4.1 Billion Mobile Phones and Counting.

*Message #12 Posted by **David Hayden** on 6 Mar 2009, 5:26 p.m.,*
in response to message #1 by Egan Ford

> Quote:
>
> So, why is i41CX+ my favorite you ask? Because I can use it single handedly with one thumb.

I loved my 29C because I could use it one-thumbed. It's a great feature that I haven't seen since from HP or anyone else (although I haven't paid nearly as much attention to calculators as most forum members have.

It would be hard to make a graphing calculator that could be used that way, but I think a scientific calculator like this would be great. It also means that it could fit in your pocket easily.

Dave

Re: OT: 4.1 Billion Mobile Phones and Counting.

*Message #13 Posted by **Michael de Estrada** on 6 Mar 2009, 8:27 p.m.,*
in response to message #12 by David Hayden

Indeed. The Woodstocks like your HP-29C were the best hand-held and shirt-pocket calculators HP ever made. Yes, the Voyagers like my HP-15C were thinner and lighter, but their sideways layout made one-handed use impossible and two-handed difficult. In fact, I've always thought of the Voyagers as the smallest desktop calculators HP ever made. So, what is my calculator of choice when I'm out shopping at the supermarket figuring out unit costs etc? Why, it's my trusty old HP-21, with its battery pack retrofitted with a pair of 2500 mAH AA NiMH cells, which last for a month's worth of shopping on a charge (I charge them outside the calculator to prevent damaging it). Another benefit is its LED display, which is visible in poor lighting conditions.

And sure, I also have a basic flip-up cell phone with the blasted camera that keeps turning on accidentally and running down the battery.

Michael

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Seriously; You are the best

*Message #1 Posted by **Geir Isene** on 6 Mar 2009, 2:20 p.m.*

Of all the forums and other internet arenas I engage in, this is by far the best.

This forum is friendly, informative, generous, including, tolerant and even witty.

Just had to get this out. So, thanks to all of you.

Re: Seriously; You are the best

*Message #2 Posted by **Jandro Kirkish** on 6 Mar 2009, 2:51 p.m.,*
in response to message #1 by Geir Isene

I'd like to second that. This forum rocks! No I'm not drunk.

Re: Seriously; You are the best

*Message #3 Posted by **Michael de Estrada** on 6 Mar 2009, 3:02 p.m.,*
in response to message #1 by Geir Isene

What I find most interesting about this forum is the incredible diversity of its participants. It's much more than just a few HP calculator buffs, spanning the whole spectrum of human professions and avocations. I also find tremendous creativity and intellectual curiosity here. Even though I am already in my 60's, I am more than ever interested in learning new things, and every day I learn something new on this forum.

BTW - I visited your neat website, and enjoyed your offerings.

Thanks,

Michael

Re: Seriously; You are the best

*Message #4 Posted by **George Bailey (Bedford Falls)** on 7 Mar 2009, 3:03 a.m.,*
in response to message #3 by Michael de Estrada

Yes, I also agree that this forum is a great place to be! With friendly and interesting people!

> Quote:
>
> What I find most interesting about this forum is the incredible diversity of its participants. It's much more than just a few HP calculator buffs, spanning the **whole spectrum of human professions and avocations**.

Not really. We only represent a **very narrow** cut from the spectrum of humankind: age wise (45ish), profession wise (mostly math and technical) and gender wise (very man'ish), I even suspect ethnic/race

wise (assumed from the conference photos) and religion wise (assumed from the seasons greetings). I still like us, though! ;-)

Edited: 7 Mar 2009, 3:05 a.m.

Re: Seriously; You are the best

*Message #5 Posted by **Katie Wasserman** on 7 Mar 2009, 10:54 a.m.,*
in response to message #4 by George Bailey (Bedford Falls)

> Quote:
>
> We only represent a very narrow cut from the spectrum of humankind: age wise (45ish), profession wise (mostly math and technical) and gender wise (very man'ish), I even suspect ethnic/race wise

Agree with all but the "very man'ish" part. While I'm probably the only regular woman on this forum I feel comfortable because it's very gender neutral in content. I suspect that without reading the name of the poster it would in most cases be difficult to tell the gender of the author.

Members are very supportive of each other, no one ever curses and it's free of guns, sports and monster truck talk!

Edited: 7 Mar 2009, 11:15 a.m.

Re: Seriously; You are the best

*Message #6 Posted by **bill platt** on 7 Mar 2009, 11:31 a.m.,*
in response to message #5 by Katie Wasserman

Heeeey, Race Fans! Vrooom rooom ;-)

Re: Seriously; You are the best

*Message #7 Posted by **Michael de Estrada** on 7 Mar 2009, 12:25 p.m.,*
in response to message #4 by George Bailey (Bedford Falls)

Well, I've never been to an HP conference, so perhaps everyone there is a WASP, but I see a lot more diversity in others on this forum. Certainly, I'm no WASP. As far as professions go, math is not so much a profession as it is an academic subject. Even if you teach mathematics for a living, your profession is educator, not mathematician. The term "technical" covers a very wide swath of related professions, such as engineering, education, information, medicine, applied sciences, social services, finance, etc. Among the forum members I've seen a psychiatrist, astro-physicist and financial planner. So I stand by my statement that there is diversity here. I have a personal friend who is a theologian and a real calculator nut. What could such a person possibly want with a calculator? He's trying to calculate the number of angels that can fit on the head of a pin.

Michael

Re: Seriously; You are the best

*Message #8 Posted by **Don Shepherd** on 7 Mar 2009, 1:26 p.m.,*
in response to message #7 by Michael de Estrada

> Quote:

> I have a personal friend who is a theologian and a real calculator nut. What could such a person possibly want with a calculator?

Let's see. The father, son, and holy ghost all in one person. So 3=1. That makes even imaginary numbers look simple!

Re: Seriously; You are the best

*Message #9 Posted by **Michael de Estrada** on 7 Mar 2009, 2:13 p.m.,*
in response to message #8 by Don Shepherd

I believe the proper functions will be available on the soon-to-be-released HP-99T "Theologian." In addition to the normal stack registers x,y,z and t, it will have an additional register h, which is only accessible after you die.

Michael

Re: Seriously; You are the best

*Message #10 Posted by **Walter B** on 7 Mar 2009, 4:35 p.m.,*
in response to message #9 by Michael de Estrada

Reminds me of a forum member who was up to create a 34R calculating Easter (R for religious) ;)

Re: Seriously; You are the best

*Message #11 Posted by **J-F Garnier** on 8 Mar 2009, 1:38 p.m.,*
in response to message #9 by Michael de Estrada

This also reminds me the THEOLOGY ROM for the HP-71B, with its powerful CREATE ALL statement (the regular HP-71b has DESTROY ALL, PURGE ALL and END ALL statements).

Below is an excerpt from HPX Echange, V1N3p17 May/June 1987 :

```
Titan File #12, by Joseph Horn


+--------------+
! THEOLOGY ROM !
+--------------+


As the astute noticed, the Quick Reference Guide in "HP-71 BASIC Made Easy"
(pg. 147) refers to the CREATE ALL statement in the THEOLOGY ROM.  This
is just one of the many keywords to be found in this huge lexfile.  It is
based
on a higher source code, which unfortunately this magazine is too small to
contain.  But I just have to tell you about CREATE ALL; you are sure to get
a
big bang out of it!


CREATE ALL, as the name implies, creates everything.  Since this is such an
immense task, it takes about six DAYS (!) to finish, after which the
configuration code works for another 24 hours making sure that what was
CREATEd
is indeed good, during which time the HP-71 will appear to have gone into
deep
sleep.  Of course, CREATE ALL only works if ALL does not already exist.  If
ALL
already exists, CREATE ALL gives the "File already exists" error.  If this
```

```
occurs, it isn't enough to PURGE ALL or even DESTROY ALL.  The THEOLOGY ROM
has an expanded version of END ALL that does the trick.  Proper use of END
ALL
is vital, since further action by users who have ENDed is impossible.  The
following is suggested: "END ALL @ CREATE ALL" on one line!


If interested in CREATE ALL and END ALL, please look for a subset lexfile
called GENESIS on a future swapdisc!  But PLEASE use it carefully!
```

OT: To be WASP or not to be WASP

*Message #12 Posted by **Thomas Okken** on 7 Mar 2009, 8:52 p.m.,*
in response to message #7 by Michael de Estrada

> Quote:
>
> Certainly, I'm no WASP.

Whenever I see the acronym "WASP", I think of Major Charles Emerson Winchester III.

(I'm guessing most of the MoHPC Forum regulars are probably **W**, but quite a few of them are not **AS** (I'm not, being from the Netherlands) nor **P** (I'm not, being, like most of my extended family, non-religious).)

Re: OT: To be WASP or not to be WASP

*Message #13 Posted by **Karl Schneider** on 8 Mar 2009, 12:54 a.m.,*
in response to message #12 by Thomas Okken

Hi, Thomas --

> Quote:
>
> ...**W**, but quite a few of them are not **AS** (I'm not, being from the Netherlands) nor **P**...

Hmm, I'd thought of The Netherlands as Anglo-Saxon, due to its location between England (Anglo) and Saxony (a region of Germany), as well as the extensive similarity of the Dutch language to English and German.

"Anglo-Saxon" is quite distinct in many ways from Romanic (Italian, French, Spanish, Portugese, and -- of course -- Romanian).

I also just learned that Holland is only a region of The Netherlands, and not a synonymous or obsolete term for it, as countless others have believed.

That's quite a Wikipedia article about Major Charles Winchester, with links to other M*A*S*H-related articles. The iconic American television series has dedicated fans.

-- KS

Edited: 8 Mar 2009, 1:14 a.m.

Re: OT: To be WASP or not to be WASP

*Message #14 Posted by **Thomas Okken** on 8 Mar 2009, 1:42 a.m.,*
in response to message #13 by Karl Schneider

> Quote:
>
> Hmm, I'd thought of The Netherlands as Anglo-Saxon, due to its location between England (Anglo) and Saxony (a region of Germany), as well as the extensive similarity of the Dutch language to English and German.

"Anglo" and "Saxon" actually *both* refer to regions in present-day Germany, the former being Angeln, now part of Schleswig-Holstein, on the Baltic coast.

Regarding language similarities, you could have fooled me, I grew up speaking German and Dutch, and I found learning English to be quite the chore. If the proto-WASPS had done a better job in 1066, the gap between English and the other Germanic languages would probably be a lot smaller now! ;-)

- Thomas

Re: OT: To be WASP or not to be WASP

*Message #15 Posted by **db (martinez, ca.)** on 8 Mar 2009, 12:18 p.m.,*
in response to message #13 by Karl Schneider

Karl; Extensive similarity is one way to put it. I've seldom heard my friend form Holland speak Dutch but when she has; i feel like i'm on the verge of understanding (kind of like programming in RPL). Written, it's even closer. I downloaded some Star Trek with Dutch subtitles and it made some sense w/o sound, all that "starfloaten" stuff... To me Dutch *looks* a little like English with almost all the Latin conjugates removed and a bunch of German nailed on in their place. They say that Frisian is even closer. - a Whitish Agnostic Sometime-Programmer

Re: OT: To be WASP or not to be WASP

*Message #16 Posted by **Marcus von Cube, Germany** on 8 Mar 2009, 1:29 p.m.,*
in response to message #15 by db (martinez, ca.)

For a German who lives not too far from the border in the Rhineland (my wife has grown up there) Dutch is kind of understandable. In written language it is even closer to German. Some words make us Germans smile. :)

Re: OT: To be WASP or not to be WASP

*Message #17 Posted by **Juan J** on 8 Mar 2009, 11:22 p.m.,*
in response to message #15 by db (martinez, ca.)

> Quote:
>
> To me Dutch looks a little like English with almost all the Latin conjugates removed and a bunch of German nailed on in their place

Hello,

Dennis hit the nail. Take out French and Latin structures from English and the remainder is very close to German.

The English language is a close relative to German, and both descend from a so-called Proto-German, which originated in India. Experts refer to both English and German as Indian languages.

The first to unravel this origins were the Grimm brothers. While compiling Germn folk stories that became fairy tales, they noted similarities of German and some Hindu languages and started work on a dictionary that was completed a century later. "Aschenputtel" may not seem related to Cinderella, but Asche and Ash are quite similar to each other.

After the defeat at Hastings in 1066, the English language received a heavy influence of Latin and French. Latin grammar and French terms were added, and over the years the language changed into its present form. File comes from Filum, Latin for origin (if I remember correctly,) and eventually became the term for archive, and so on.

Once Jorge Luis Borges referred to the English language as "Latin-embedded German." A short but elegant description.

My two cents.

Edited: 8 Mar 2009, 11:25 p.m.

Re: OT: To be WASP or not to be WASP

*Message #18 Posted by **Marcus von Cube, Germany** on 9 Mar 2009, 6:05 a.m.,*
in response to message #17 by Juan J

More about the Indo-European languages: http://en.wikipedia.org/wiki/Indo-European_languages

Re: OT: To be WASP or not to be WASP

*Message #19 Posted by **bill platt** on 9 Mar 2009, 10:10 a.m.,*
in response to message #17 by Juan J

Actually, proto german is not from India at all, nor is Indo-European. Rather. the people who settled India and creating Hindi and many other languages there come from a common ancestor to the north...

Re: OT: To be WASP or not to be WASP

*Message #20 Posted by **Andrés C. Rodríguez (Argentina)** on 9 Mar 2009, 2:30 p.m.,*
in response to message #17 by Juan J

Nice Borges quote. I like the fact of having him mentioned here! Thanks!!

Re: Seriously; You are the best

*Message #21 Posted by **bill platt** on 8 Mar 2009, 12:50 a.m.,*
in response to message #7 by Michael de Estrada

My mom took classes at college with the man who coined the term, WASP!

Digby Baltzell was his name.

Most of us WASPS are actually much more polyglot in actuality. After 10 generations you have 1024 grandparents after all. Who can keep track of where they all came from! I have a number of "WASP" friends who discovered that an ancestor was even black, or native American.

Re: Seriously; You are the best

*Message #22 Posted by **Egan Ford** on 6 Mar 2009, 3:58 p.m.,*
in response to message #1 by Geir Isene

I totally agree. I think a lot of it has to be the average age (i.e. more experience, more mature, more to share).

Some of the challenges here have given me hours and hours of joyful research. Many have kept me up for days (what else am I going to do? sleep? :-).

Thanks all.

Re: Seriously; You are the best

*Message #23 Posted by **Marcus von Cube, Germany** on 6 Mar 2009, 6:47 p.m.,*
in response to message #1 by Geir Isene

I agree wholeheartedly!

But there are more friendly places on the net and many friendly people. Just to cite a single story that is just happening while I write this:

I'm a frequent follower of the French MySilicium Forum (my French getting better with time :)). Another famous member of the pocket computer community, Piotr Piatek (http://www.pisi.com.pl/piotr433/index.htm) follows the "pocket" area of this forum, even if he cannot read French and asks Google to kindly translate it for him. He picked up a query of mine for a TI-67 Galaxy: As he had a backup sample of this type, he has not only kindly offered it to me for a reasonable price, he is giving it away for free, even covering the transport fee.

Those calculator people are a little crazy, aren't hey? ;)

Marcus

Re: Seriously; You are the best

*Message #24 Posted by **Ed Austin** on 6 Mar 2009, 7:26 p.m.,*
in response to message #23 by Marcus von Cube, Germany

Love the forum and the friendly people! HP Calculator enthusiasts are a special bunch... and always somebody ready to answer questions... love it. Ed

Shameless plug for HHC2009 Was: Seriously; You are the best!

*Message #25 Posted by **Allen** on 6 Mar 2009, 8:55 p.m.,*
in response to message #1 by Geir Isene

I generally agree. One thing that a truly enjoyed was meeting several of the forum members at HHC2008 last year. That really helped me put a face to many of the respected members here, and with infamous HP developers like Cyrille (Vive la France), and restoration experts like Geoff (Vive la Canada), and local

Algorithm experts like Namir (Vive la Solution)- and of course the expert curator Dave (Vive la DVD!). Hope I can go this year and meet more folks.

I also met some of the authors whose books I've been reading about in the Educalc Catalog ever since I was a kid: Joe Horn (and his brother), James Donnelly, and Wlodek J. (A Great presentation on Tensors!)

My wife is convinced that Calculator addiction is a solitary event, I disagree... we have a wonderful support group, and although I'm probably 1 (or more) sigma below the average forum age, I still have had a HP calculator more than half my life.

FWIW, I'm thinking of returning to graduate School sometime soon, and participating here in the forum (especially the challenges) has interested me in Algorithm development and Computer Science in General.

Re: Shameless plug for HHC2009 Was: Seriously; You are the best!

*Message #26 Posted by **Geoff Quickfall** on 6 Mar 2009, 9:56 p.m.,*
in response to message #25 by Allen

I could not have said it better Alan,

Putting faces to names and places was fantastic. I will see you next year in Vancouver, Washington.

The graduate school idea is wonderful and a great experience, especially if self directed towards a dissertation.

My connections here and the friends that I have made have also inspired me to return to grad school. Another chance to get the HP41CX and HPIL to aid in data crunching.

Cheers, Geoff

Edited: 6 Mar 2009, 10:03 p.m.

Re: Shameless plug for HHC2009 Was: Seriously; You are the best!

*Message #27 Posted by **David Hayden** on 6 Mar 2009, 10:10 p.m.,*
in response to message #25 by Allen

> Quote:
>
> FWIW, I'm thinking of returning to graduate School sometime soon, and participating here in the forum (especially the challenges) has interested me in Algorithm development and Computer Science in General.

Hi Allen!

I"m a professional computer programmer with nearly 25 years experience and I really love it (have ever since I was a young teen). If you'd like some input from the trenches, feel free to email me.

If you're interested in numerical algorithms, you can browse the 1992 version of Numerical Recipes in C here: http://www.nrbook.com/a/bookcpdf.php

In fact, I'll assign you a homework problem :) Browse the book and pose a challenge here on the forum!

Dave

Re: Shameless plug for HHC2009 Was: Seriously; You are the best!

*Message #28 Posted by **Les Bell** on 7 Mar 2009, 12:50 a.m.,*
in response to message #25 by Allen

> Quote:
>
> FWIW, I'm thinking of returning to graduate School sometime soon, and participating here in the forum (especially the challenges) has interested me in Algorithm development and Computer Science in General.

Do it, Allen! I went back at the age of 50, and am now well into my PhD. I wish I'd done it much, much sooner, but I'm hugely glad that I'm doing it in the end.

Best,

--- Les
[http://www.lesbell.com.au]

Re: Seriously; You are the best

*Message #29 Posted by **PeterP** on 6 Mar 2009, 11:00 p.m.,*
in response to message #1 by Geir Isene

I couldn't agree more with what is said. When I started getting into HP calcs a few years back I was the totally new kid on the block. This forum's member where and continue to be great teachers who's willingness to help is only outshine by their incredible knowledge and experience. It has given me hours and hours of pleasure in learning new things and it is next to my email probably the site I visit most often.

A very warm-felt thanks to David for making this forum available to us and keeping the hp spirit alive (can't wait for the next version of his DVD...)

Cheers

Peter

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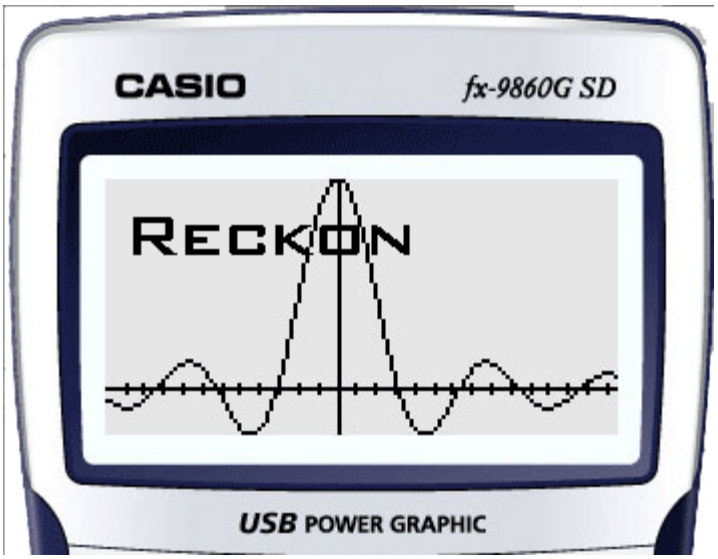
Reckon 1.0 beta released

*Message #1 Posted by **hugh steers** on 5 Mar 2009, 1:30 p.m.*

Hi, This is not about HP calculators, sorry, but it does have RPN!

As promised a while back, i've released Reckon, a free replacement calculator for the casio fx-9860g.



I've created a page where you can download the latest version and also the PDF manual. The manual explains how to operate it.

http://www.voidware.com/reckon

I'm quite pleased with the RPN mode. You can temporarily use ALG subexpessions from within RPN, just by opening a bracket "(". This is really handy for entering formulae.

Give it a go!

Re: Reckon 1.0 beta released

*Message #2 Posted by **Chuck** on 5 Mar 2009, 3:06 p.m.,*
in response to message #1 by hugh steers

Excellent Hugh. I was intrigued about this earlier. Now I have to track down an appropriate Casio.

CHUCK

Re: Reckon 1.0 beta released

*Message #3 Posted by **Paul Dale** on 5 Mar 2009, 5:29 p.m.,*
in response to message #2 by Chuck

Mine arrived yesterday. Just in time :-)

Now to figure out how to download the new software.

Still, it is a reasonable little calculator although the complex support seems a bit patchy.

- Pauli

Re: Reckon 1.0 beta released

*Message #4 Posted by **Marcus von Cube, Germany** on 6 Mar 2009, 10:33 a.m.,*
in response to message #3 by Paul Dale

Paul, the extension g1a is only honored when you click on the right most icon in the toolbar to switch to the mass storage view. Then, you can import the file in the "Computer" panel and do a cut&paste to the calculator panel.

Re: Reckon 1.0 beta released

*Message #5 Posted by **Paul Dale** on 8 Mar 2009, 8:35 p.m.,*
in response to message #4 by Marcus von Cube, Germany

My comment was more to do with the fact that I run Windows nowhere and that I'd have to find non-Casio software to allow a download.

I've done this and am playing with Reckon. Look for *xfer9860*.

- Pauli

Re: Reckon 1.0 beta released

*Message #6 Posted by **Katie Wasserman** on 5 Mar 2009, 7:00 p.m.,*
in response to message #1 by hugh steers

Hugh-

Fantastic! Great additional stack depth (in RPN) and super numeric precision and range. I love being about the compute 3000! then take the log of it and find out it's a 9131 digit number. There's a lot to try out in this calculator before I can comment on it.

Thank you so much for this wonderful alternative to the Casio calc and especially for RPN.

-Katie

Re: Reckon 1.0 beta released

*Message #7 Posted by **hugh steers** on 6 Mar 2009, 8:11 a.m.,*
in response to message #6 by Katie Wasserman

Thanks for your kind words,

Im trying some experimental ideas. For example the idea of using a notational operator to denote degrees rather than radians. This might seem a bit odd at first. It has been suggested already that, when i get around to the output format preferences, i implement a default rad/deg mode than can always be overridden by notation, but nevertheless allows for a default as is normally expected.

Whether to have modes and how many is something im experimenting in. Im planning to put output format preferences in the next release. FIX, SCI, ENG etc.

Re: Reckon 1.0 beta released

*Message #8 Posted by **Katie Wasserman** on 5 Mar 2009, 8:01 p.m.,*
in response to message #1 by hugh steers

Hugh,

Do you have some site set up for bug reports, etc., should we email directly to you? This is probably not the best place to post them given the OT nature of this app (even if it is RPN).

-Katie

Re: Reckon 1.0 beta released

*Message #9 Posted by **hugh steers** on 6 Mar 2009, 8:14 a.m.,*
in response to message #8 by Katie Wasserman

Good idea, i'll try to set up a forum that people can post bugs, suggestions and ideas.

A while back i had a forum, but very quickly it became overrun with spambot postings, so i disabled it. I'll have to find out which one people now use that's not going to get hijacked in 24 hours!

I Reckon I will go out and get another calculator ;-)

*Message #10 Posted by **Geoff Quickfall** on 5 Mar 2009, 11:25 p.m.,*
in response to message #1 by hugh steers

Thanks alot HUGH

Now I have to go out and purchase another calculator.....

I don't always get to London for Saturday anymore, usually during the week so how about a pint sometime.

I would need your phone number for that!

Cheers, Geoff

Re: I Reckon I will go out and get another calculator ;-)

*Message #11 Posted by **hugh steers** on 6 Mar 2009, 8:15 a.m.,*
in response to message #10 by Geoff Quickfall

Hi Geoff,

I'll send you some email. If you're in London, give me a call. Also i can upgrade your calcwatch to the latest bugs!

Next time I get to London I will call, thirsty work flying and computing I "reckon"

*Message #12 Posted by **Geoff Quickfall** on 6 Mar 2009, 10:05 p.m.,*
in response to message #11 by hugh steers

;-)

Cheers and say hello to everyone at next saturdays meeting for me. Who know, I might make it...

Geoff

Re: Reckon 1.0 beta released

*Message #13 Posted by **Antonio Maschio (Italy)** on 6 Mar 2009, 8:39 a.m.,*
in response to message #1 by hugh steers

Excuse me, Hugh,

may I ask a couple of (perhaps stupid) questions? I don't own an fx-9860g or an fx-9860g slim, but:

1) does Reckon run on both models?
2) Once you have uploaded Reckon, is the original OS lost forever, or Reckon runs upon it as a program, and thus it can be stopped anytime?

Thanks in advance.

-- Antonio

Re: Reckon 1.0 beta released

*Message #14 Posted by **Marcus von Cube, Germany** on 6 Mar 2009, 10:38 a.m.,*
in response to message #13 by Antonio Maschio (Italy)

Reckon appears as an additional application. If you exit it (by selecting another app via the menu) and return later, you're back where you left off. I didn't find a proper EXIT function yet. You loose nothing except some free space. ;)

Re: Reckon 1.0 beta released

*Message #15 Posted by **Antonio Maschio (Italy)** on 6 Mar 2009, 2:43 p.m.,*
in response to message #14 by Marcus von Cube, Germany

Thanks, very nice of you.

-- Antonio

Re: Reckon 1.0 beta released

*Message #16 Posted by **hugh steers** on 6 Mar 2009, 2:58 p.m.,*
in response to message #15 by Antonio Maschio (Italy)

Yes, marcus is correct. I quite like the fact that i can leave it running the app and power down and back again and im still there.

Re: Reckon 1.0 beta released

*Message #17 Posted by **Patrick Rendulic** on 6 Mar 2009, 12:54 p.m.,*
in response to message #1 by hugh steers

Hello. This seems to be interesting.

I suppose that it also works on the 9860 SLIM? I will get one to try it out.

HP, wake up !!! I started recommending the Casio fx-991ES to my high school students and most have bought one. Lost terrain for HP.

Re: Reckon 1.0 beta released

*Message #18 Posted by **hugh steers** on 6 Mar 2009, 3:01 p.m.,*
in response to message #17 by Patrick Rendulic

Absolutely it works on the "slim"!

Actually, i only have the slim so it's the only _real_ version i've tested. The SDK comes with a virtual version of the non-slim, so i was able to test it insofar as the emulator worked on the non-slim.

The keyboard matrix is different on the two machines. that is the only area that differs in the code. Also, the slim has the backlight and help button. if you push the HELP or F1 key. there is a popup with the current version. Unfortunately, i have to call the OS for this popup to appear and on the slim, you can "escape" into the help system for a while.

Good luck!

Re: Reckon 1.0 beta released

*Message #19 Posted by **Namir** on 8 Mar 2009, 4:52 p.m.,*
in response to message #1 by hugh steers

I installed your software on the Casio Graph 85 SD (the French version of the Fx-9860G SD). The RPN mode is beautiful!! I will install it on my other Casio Fx-9860G calculators.

Keep up the good work!

Namir

Re: Reckon 1.0 beta released

*Message #20 Posted by **hugh steers** on 8 Mar 2009, 6:23 p.m.,*
in response to message #19 by Namir

thanks for the comments. I've just posted a v1.01 BTW, it fixes a minor problem with DUP.

Re: Reckon 1.0 beta released

*Message #21 Posted by **Marcus von Cube, Germany** on 9 Mar 2009, 5:45 a.m.,*
in response to message #20 by hugh steers

It comes up with 1.02. And I know which bug must have been fixed. ;)

(Try 69! ENTER F-D)

Re: Reckon 1.0 beta released

*Message #22 Posted by **hugh steers** on 9 Mar 2009, 9:00 a.m.,*
in response to message #21 by Marcus von Cube, Germany

1.01 has the stack lift fixed, 1.02 there are no new features. but last night i was testing proot and

discovered a rare problem with input parsing of vectors. embarrassingly, it would sometimes read 1 character off the end of the input and go bad.

proot is looking quite good tho. I know it wasn't on my list, but i had some half-finished code that didn't make it to the original release.

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HP Forum Archive 19

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Is a HP-15C worth 810 bucks?

*Message #1 Posted by **Rainer Wiedemann (Germany)** on 4 Mar 2009, 5:18 p.m.*

A few minutes ago, a HP-15C auction ended at 810 bucks! If you don't believe, have look here: HP-15C auction

Is that little machine really worth that much?

If so, I should look for a safe instead of keeping my collection in a glass cupboard :-).

If the seller reads these lines - congratulations!

Rainer

P.S.: I didn't bid on this item, I only watched and wondered.

Re: Is a HP-15C worth 810 bucks?

*Message #2 Posted by **Paul Dale** on 4 Mar 2009, 5:22 p.m.,*
in response to message #1 by Rainer Wiedemann (Germany)

No.

Re: Is a HP-15C worth 810 bucks?

*Message #3 Posted by **bill platt** on 4 Mar 2009, 5:25 p.m.,*
in response to message #1 by Rainer Wiedemann (Germany)

Advertised as NIB. That is a special case.

Re: Is a HP-15C worth 810 bucks?

*Message #4 Posted by **Martin Pinckney** on 4 Mar 2009, 5:32 p.m.,*
in response to message #3 by bill platt

Not $810 special!!

Re: Is a HP-15C worth 810 bucks?

*Message #5 Posted by **Michael de Estrada** on 4 Mar 2009, 5:46 p.m.,*
in response to message #1 by Rainer Wiedemann (Germany)

A few weeks ago I asked the same question regarding a NIB HP-42S that sold in auction for $630. I guess it comes down to the perceived value. Is a Picasso worth $60M? See here

Edited: 4 Mar 2009, 8:10 p.m. after one or more responses were posted

Re: Is a HP-15C worth 810 bucks?

*Message #6 Posted by **Walter B** on 4 Mar 2009, 6:23 p.m.,*
in response to message #5 by Michael de Estrada

> Quote:
>
> I guess it comes down to the perceived value.

Exactly.

Re: Is a HP-15C worth 810 bucks?

*Message #7 Posted by **Rainer Wiedemann (Germany)** on 4 Mar 2009, 6:29 p.m.,*
in response to message #5 by Michael de Estrada

Michael,

regarding Picasso et al. you raise a difficult question. What is the value of art? I won't even dare an attempt of an answer, because it's impossible to answer. IMHO the difference between a Picasso (or in general an artwork) and a pocket calculator is the intellectual uniqueness of the artwork, an outstanding effort of the artist, whereas the calculator is an industrial mass product (I do not want to debase the effort of the engineers, I am one, too). So I don't think these can be compared to each other.

Following the link in your posting I noticed, that this HP-42S was the buyer's first auction. The HP-15C was the 33rd article of its new owner. So I conclude, that the extreme bids must also have to do with their buyer's little experience and lack of information. Maybe they had better visited this site before bidding.

Just my two cents.

Have a good night,

Rainer

Re: Is a HP-15C worth 810 bucks?

*Message #8 Posted by **Michael de Estrada** on 4 Mar 2009, 8:00 p.m.,*
in response to message #7 by Rainer Wiedemann (Germany)

Rainer,

I agree wholeheartedly that comparing a vintage calculator to a piece of art like a Picasso is absurd. The point I was attempting to make is that human valuations of collectable items, be they machines like calculators or paintings like a Picasso are often based more on human desire to possess than serious and educated analysis. Many times the purchasers are ignorant but wealthy enough to push selling prices up to ridiculous amounts. I am far from wealthy enough to own an original Picasso or Monet or Degas, so I am perfectly happy to have framed prints of them adorning my walls.

Michael

Re: Is a HP-15C worth 810 bucks?

*Message #9 Posted by **DaveJ** on 4 Mar 2009, 9:44 p.m.,*
in response to message #8 by Michael de Estrada

> Quote:

> I agree wholeheartedly that comparing a vintage calculator to a piece of art like a Picasso is absurd.

Not absurd, just different in the way they are viewed and valued. They can both equally be deemed to be works of art, it's merely a point of view.

The Picasso is a one-off work of art, where the collectible value is deemed to be in the original and not the mass produced copies. Mass produced copies are all but worthless due to their limitless ease of reproduction. Yet the mass produced copy can still be viewed as a work of art.

Calculators like the 15C on the other hand were mass produced in countless quantities, where the collectible value is deemed to be in the physical condition of the original unit. Once production is stopped, they are not easy to reproduce.

Hence if the new 15C comes out that faithfully emulates the look'n'feel of the original, the collectible market will more than likely plummet.

With a mass produced product like a calculator, the "work of art" is usually viewed as the mass produced version itself, and not the original prototype. Although the original prototype would have a collectible value in it's own right.

> Quote:
>
> The point I was attempting to make is that human valuations of collectable items, be they machines like calculators or paintings like a Picasso are often based more on human desire to possess than serious and educated analysis.

Indeed!
But to quote Seinfeld - "Not that there's anything wrong with that!"

Dave.

Re: Is a HP-15C worth 810 bucks?

*Message #10 Posted by **DaveJ** on 4 Mar 2009, 6:34 p.m.,*
in response to message #1 by Rainer Wiedemann (Germany)

It's obviously worth that much to someone.

And just like anything else, other people think it's worthless and would throw it out.

I'd love to see what happens to 15C prices if/when the new emulated 15C is released, it could be a very bad investment indeed!

Dave.

Re: Is a HP-15C worth 810 bucks?

*Message #11 Posted by **Michael de Estrada** on 4 Mar 2009, 8:45 p.m.,*
in response to message #10 by DaveJ

Anyone who buys vintage calculators as an "investment" is a fool. I would hope that most visitors and participants on this forum are collectors, and buy them for the simple joy of ownership and nothing more. I will occasionally sell one of my redundant HP models at auction, but do not expect to make any profit, just

hopefully break even.

As far as the impact of the introduction of a retro HP-15C, I agree that it would likely drastically reduce the prices of the original units at auction. Certainly, we have seen this with the HP-12C, as the original units do not command significantly higher prices than the new units, even though I believe the older units are better quality.

Re: Is a HP-15C worth 810 bucks?

*Message #12 Posted by **Chan Tran** on 4 Mar 2009, 9:47 p.m.,*
in response to message #11 by Michael de Estrada

It's worth that much to the person who bought it! It's not even worth the original price tag to me, otherwise I would have one.

Re: Is a HP-15C worth 810 bucks?

*Message #13 Posted by **George Bailey (Bedford Falls)** on 5 Mar 2009, 7:05 a.m.,*
in response to message #11 by Michael de Estrada

> Quote:
>
> joy of ownership

The what? ;-) Never experienced this.

Re: Is a HP-15C worth 810 bucks?

*Message #14 Posted by **Raymond Del Tondo** on 5 Mar 2009, 7:21 a.m.,*
in response to message #13 by George Bailey (Bedford Falls)

Maybe because you're collecting fictional items only?

SCNR;-)

Re: Is a HP-15C worth 810 bucks?

*Message #15 Posted by **MikeO** on 5 Mar 2009, 10:12 p.m.,*
in response to message #10 by DaveJ

I've heard this before. Is this merely a rumor, or is the new/emulated 15C really on the horizon anytime soon?

As far as Ebay goes, I've learned to just hope someone with more money than sense doesn't get interested in any auctions I'm on.

Re: Is a HP-15C worth 810 bucks?

*Message #16 Posted by **DaveJ** on 6 Mar 2009, 12:39 a.m.,*
in response to message #15 by MikeO

> Quote:
>
> I've heard this before. Is this merely a rumor, or is the new/emulated 15C really on the horizon anytime soon?

It's just a rumor, but it's based on a couple of recent events, namely:
- HP using Eric's nonpareil emulator in the new 12C model
- Nonpareil support has been removed for all other voyager models citing "licensing issues"
- HP recently did a customer survey (through a third party?) that (depending on how you interpreted it) was aimed at swaying the vote toward the 15C.

HP have the new 12C hardware platform in production and the emulator is working, so the only thing they have to do to produce a 15C again is plug in the existing 15C firmware and change the key legends. Bit of a no-brainer decision really...

Dave.

Re: Is a HP-15C worth 810 bucks?

*Message #17 Posted by **Didier Lachieze** on 6 Mar 2009, 3:00 a.m.,*
in response to message #16 by DaveJ

> Quote:
>
> HP have the new 12C hardware platform in production and the emulator is working, so the only thing they have to do to produce a 15C again is plug in the existing 15C firmware and change the key legends. Bit of a no-brainer decision really...
>
> Dave.

.. plus some other things easily overlooked but required for any new product introduction, adding cost that can influence the decision in those tough economic times:

- get appropriate regulatory certifications for the new 15C
- prepare user documentation and sales documentation in all languages needed for the targeted countries
- update hp.com web site for all targeted countries
- train service centers and stock service parts
- product launch communication, adds ...
- ...

Re: Is a HP-15C worth 810 bucks?

*Message #18 Posted by **DaveJ** on 6 Mar 2009, 3:39 a.m.,*
in response to message #17 by Didier Lachieze

> Quote:
>
> .. plus some other things easily overlooked but required for any new product introduction, adding cost that can influence the decision in those tough economic times:

Sure, but the 15C would probably represent a fraction of the cost of a totally new calc design. Calcs based on the new 12C and 20B platforms would I suspect get viewed more favorably due to the GFC. I greatly doubt they will stop working on or releasing calcs entirely.

Actually, during bad times it's well known that technology companies use this as a chance to ramp up their R&D and change direction. HP shaking up the market with a "retro" calc like the 15C may actually be viewed favorably by "the powers that be".

Quote:

- get appropriate regulatory certifications for the new 15C
- prepare user documentation and sales documentation in all languages needed for the targeted countries
- update hp.com web site for all targeted countries
- train service centers and stock service parts
- product launch communication, adds ...
- ...

Excellent, keeps people gainfully employed!
HP have so many new products being released all the time I suspect a few calcs will barely appear on the budget radar...

Dave.

Re: Is a HP-15C worth 810 bucks?

*Message #19 Posted by **Anthony L. Mach** on 4 Mar 2009, 10:28 p.m.,*
in response to message #1 by Rainer Wiedemann (Germany)

Perhaps one could save a few bucks on a slightly burnt HP-41 instead.

Tony

Re: Is a HP-15C worth 810 bucks?

*Message #20 Posted by **designnut** on 5 Mar 2009, 12:31 a.m.,*
in response to message #19 by Anthony L. Mach

My dad collected stamps, traded far and wide. He specialized in making complete sets from many sources, then improving the quality of the sets, I asked him, what can a used stamp be worth, he said, somebody wants it.

15C for $810

*Message #21 Posted by **Hal Bitton in Boise** on 5 Mar 2009, 1:20 a.m.,*
in response to message #1 by Rainer Wiedemann (Germany)

I've been watching this auction for a few days. I knew it would go high, as it was NIB.
At least it was new until the seller set it face down on that hard surface for the back photo...that sort of made me cringe.
hal

Re: Is a HP-15C worth 810 bucks?

*Message #22 Posted by **Randy** on 5 Mar 2009, 7:33 a.m.,*
in response to message #1 by Rainer Wiedemann (Germany)

Back on 06/11/2006, a new in box (still sealed) 15C from an HP employee sold for $1135.00.

Seems the market has weakened?

Re: Is a HP-15C worth 810 bucks?

*Message #23 Posted by **Michael de Estrada** on 5 Mar 2009, 8:55 a.m.,*
in response to message #22 by Randy

It's because of the world economic recession. ;>)

Edited: 5 Mar 2009, 8:56 a.m.

Re: Is a HP-15C worth 810 bucks?

*Message #24 Posted by **Gonzalo Fernandez (Spain)** on 6 Mar 2009, 7:18 a.m.,*
in response to message #23 by Michael de Estrada

These prices are fabulous, I doubt people pay such prices, there must be an arrangement between the seller and buyer to set a fair price after auction ends. I don´t have such sum on money to spend for a calculator, the maximum I have spent on a single calculator was $180 for a very well condition HP41CX with the case and manuals.

Re: Is a HP-15C worth 810 bucks?

*Message #25 Posted by **Dan Grelinger** on 6 Mar 2009, 11:27 a.m.,*
in response to message #24 by Gonzalo Fernandez (Spain)

Those are pretty outrageous suggestions. I have bought and sold stuff on ebay as a collector for almost 15 years, and never have I participated in such a transaction, or even been approached about one. It may be possible that the bidder backs out of the deal before paying (happens rarely, but happens), or tries to negotiate a lower price after receiving the item, due to it perceived to not be as described. Otherwise, there is no motivation for a seller to negotiate a lower 'fair price' after auction end.

Re: Is a HP-15C worth 810 bucks?

*Message #26 Posted by **Michael de Estrada** on 6 Mar 2009, 11:50 a.m.,*
in response to message #25 by Dan Grelinger

I agree. I have sold a dozen or so calculators over the years, and have yet to have a problem with payment or buyers approaching me with under-the-table deals. Of course, I am very detailed in my listings, such that the likelihood of any misunderstanding regarding the condition of the item is minimal. Also, I am very cautious regarding the bidders that I accept, and if someone were to email me with a proposed questionable transaction I would block him (e.g. the Brazilian who asks that I lie on the customs form).

Re: Is a HP-15C worth 810 bucks?

*Message #27 Posted by **Gonzalo Fernandez (Spain)** on 6 Mar 2009, 2:05 p.m.,*
in response to message #26 by Michael de Estrada

I could be wrong, I never have sold items in Ebay, but some time ago I commented to a local Ebay seller the high prices reached by vintage calculators, he was aware of this and told me that were arrangements if the final auction price was very high.

Re: Is a HP-15C worth 810 bucks?

*Message #28 Posted by **Michael de Estrada** on 6 Mar 2009, 2:43 p.m.,*
in response to message #27 by Gonzalo Fernandez (Spain)

Well, none of my items have sold for unreasonable amounts, and I have never bid stupidly high amounts that I was unwilling to pay. Yes, there are all kinds of people buying and selling on various sites, but generally the dishonest ones don't last very long.

Re: Is a HP-15C worth 810 bucks?

*Message #29 Posted by **Don Shepherd** on 6 Mar 2009, 3:30 p.m.,*
in response to message #27 by Gonzalo Fernandez (Spain)

I'd say that local Ebay seller was misinformed. If I were a seller (which I've only been a couple of times) and one of my items ended at a very higher than normal price, I would expect the buyer to pay that price, or I would report him/her to Ebay. I wouldn't "bargain."

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What's the place of a handheld calculator?

*Message #1 Posted by **David Hayden** on 3 Mar 2009, 9:02 p.m.*

When calculators were first developed, they had unquestionable value. Simple scientific calculators had much higher precision than slide rules or tables, and they were easier to use. But in today's world of PCs, laptops, cell phones and PDAs, what do you think is the place of a calculator?

Personally, I think calculators have the following useful qualities:

1. inexpensive
2. instant on
3. relatively long battery life
4. relatively durable
5. ease of use for what they do

I see two main uses for such an appliance. The first is education. Graphing calculators and symbolic solvers can help kids learn math concepts (although one can argue that they also make people lazy about applying the concepts too!). Basic scientific calculators are as useful in schools today as they were 30 years ago.

The other use is for special-purpose applications that are performed "in the field" where a PC or laptop may be cumbersome. A quick check of hpcalc.org will show lots of such applications. Just today I pondered using a calculator as an employee time clock.

I'm curious what others think is the place of our beloved calculators in today's world?

Dave

Re: What's the place of a handheld calculator?

*Message #2 Posted by **DaveJ** on 3 Mar 2009, 9:18 p.m.,*
in response to message #1 by David Hayden

I'd add to the list

- Ubiquitous

They are cheap enough to have one everywhere. On your desk at work or home, in the lab bench, in your toolbox, stuck on your fridge, in draws etc.

- Relatively consistent user experience

With some exceptions, most people can pick up ANY calculator and do basic math. The same can't be said of PC's or phones etc in which you have to *find* the calculator first and then struggle with whatever app they have.

I can't ever imagine not having a handheld calc on my desk at work or home, they are just so essentially convenient. I only use a phone or PC if a handheld calc is not readily available, and about the only place that

happens is when I'm mobile.

As an electronics engineer my handheld calc is essential simply because it's hand held. I can put in on my schematic or catalog when I calculate stuff, I can take it into a meeting, I can swing around to my colleagues desk with it in hand, it's right on the lab bench when I need it etc etc. I don't have to look up at some PC screen on the adjacent desk and struggle for the mouse etc. The PC isn't even close to that functionality, and phones are a pain, mine sits in the bag where it belongs when I'm at work or home.

As always, horses for courses.

Dave.

Re: What's the place of a handheld calculator?

*Message #3 Posted by **Michael de Estrada** on 3 Mar 2009, 9:42 p.m.,*
in response to message #1 by David Hayden

They are still indispensable for engineers engaged in basic design calculations, field work and testing. I was a practicing engineer for nearly 40 years, and used my pocket calculator as much at the end as I did at the beginning, despite the availablility of computers and other gizmos. My last calculator (which the company issued to me) was an HP-32SII, which I found uniquely useful because of its ability to do fractional arithmetic, since many civil/mechanical general arrangement and layout drawings show dimensions as fractions. I could take my tape measure out to the shop floor, obtain some dimensions, and then combine them so the draftsman could make a drawing. I am not aware of any cell phones or PDA's that can do this. Also, I just like the feel of mechanical click buttons.

Michael

What's the place of a handheld calculator?

*Message #4 Posted by **Reth** on 4 Mar 2009, 4:00 a.m.,*
in response to message #1 by David Hayden

Nostalgia is all it is these days. I've got about 10 around on my desk and use them for fun even though I can work without them (but I can't live without them :)) Cheers

Re: What's the place of a handheld calculator?

*Message #5 Posted by **Antonio Maschio (Italy)** on 4 Mar 2009, 12:17 p.m.,*
in response to message #4 by Reth

Ditto!

-- Antonio

Re: What's the place of a handheld calculator?

*Message #6 Posted by **designnut** on 4 Mar 2009, 12:42 p.m.,*
in response to message #5 by Antonio Maschio (Italy)

In my shirt pocket, save for the 41 which was a huge clunk. Useful at the desk or in conference. The 65 and later saved your work so you could take it home. There was no computer option so it sufficed for all. It was there where you were when you needed it. My boss used my 35 to win a spirited negotiation with a large company throwing new numbers at him, he threw numbers right back. You get handy with it so it speeds your work. Sam

Re: What's the place of a handheld calculator?

*Message #7 Posted by **JDonley** on 4 Mar 2009, 12:59 p.m.,*
in response to message #6 by designnut

For me, my shirt pocket. A minimum of a dozen times a day I take my calc out of my pocket to do some number crunching. Cannot imagine not having one available within hands reach, though I have four or 5 various HP's on my desks. Having always worked in a very dusty environment (farmer/rancher) I chose a clamshell RPN calc...the Aurora FN1000 (crummy key board and all). Knowing they were no longer manufactured I bought some extras. The pda's (have several TX's also) and cell phones have their place, but they will never replace a calc for me.

Re: What's the place of a handheld calculator?

*Message #8 Posted by **David Hayden** on 4 Mar 2009, 2:55 p.m.,*
in response to message #7 by JDonley

> Quote:
>
> Having always worked in a very dusty environment (farmer/rancher) I chose a clamshell RPN calc...

I find is strangely comforting that someone working in a profession that pre-dates writing, numbers and even civilization itself finds a handheld calculator indispensible.

Re: What's the place of a handheld calculator?

*Message #9 Posted by **Namir** on 4 Mar 2009, 1:14 p.m.,*
in response to message #5 by Antonio Maschio (Italy)

Reth,

I think you hit it on the head. In my opinion, it is the main reason why this web site exists, why we attend HHC conferences each year, and so on. I think we associate something special with these machine--a special time in our lives where we had so much promise and potentials.

The truth is, the least powered laptop today can run circles around the vintage programmable calculators. I have several power PCs that can do things that I could only have dreamed of in the seventies and eighties!!!

Namir

Edited: 4 Mar 2009, 1:15 p.m.

Re: What's the place of a handheld calculator?

*Message #10 Posted by **Michael de Estrada** on 4 Mar 2009, 1:51 p.m.,*
in response to message #9 by Namir

I disagree. PC's do not replace simple hand-held calculators (HHC), they complement them. I ported my Fortran engineering programs from mainframe computers to PC's when the latter developed the necessary capacity and speed, however, I still needed my HHC for many simple tasks and for its mobility. I also used it to check the results from canned engineering programs on my PC, because however sophisticated a program, it cannot think and is still vulnerable to the GIGO principle (garbage in garbage out). Performing calculations manually on a HHC forces you to

think, whereas, PC computer programs do not.

Just my 2 cents, Michael

Re: What's the place of a handheld calculator?

*Message #11 Posted by **Garth Wilson** on 4 Mar 2009, 5:07 p.m.,*
in response to message #10 by Michael de Estrada

It is irrelevant that a laptop has loads more power. My 71 with its modules has loads more power than my 41cx and its modules, yet I seldom use my 71, and I use my 41 every day, sometimes even starting the day with it (as my 41 and 71 are my only alarm clocks). A laptop is not nearly as portable, and I don't have room for one on the workbench. There's also the matter of stability that is so lacking in laptops, cell phones, and other consumer equipment. Some of the programs I've used on my 41 have been in it continuously for 20+ years. I don't have to think about moving them over to a new platform every couple of years.

Re: What's the place of a handheld calculator?

*Message #12 Posted by **bill platt** on 4 Mar 2009, 5:27 p.m.,*
in response to message #11 by Garth Wilson

I use my 48 and 49 calcs as alarms. I program my own "songs" that are in weird keys--going from consonance to dissonance.

Does the speaker get worn out?

The HP 20B direction?

*Message #13 Posted by **Geoff Quickfall** on 4 Mar 2009, 1:44 p.m.,*
in response to message #1 by David Hayden

The question:

That is a good question and should elicit as many differing responses as there are members! I think this is the quandary HP finds itself in today.

Can you make money on a stand alone calculator. Of course, if you can corner the high school and university market with an “approved” calculator, that would be lucrative. But calculator for the masses, we have them, ranging from the generic to the high end graphing systems.

My use today:

I still use my HP41CX system in the cockpit. The current cockpit is a state of the art Boeing 777, yet the on board system still does not correct altimeters for temperature differences below -10C. On legs greater than 9 hours we have extra crew which relieve the acting pilots to allow rest periods. Rest periods have been automated by my HP 41CX and the infrared printer. These rest periods are not simply equal time periods but are tailored to flight length, passenger meal service (noisy) and pilot preferences. My 41 program adapts to all possible choices I have encountered.

What I would like to do:

Now I realize I can do this all on my HP 210 with a 41-emulator, which I have. I chose the 41-emulator as the programs do not have to translated for use. Problem with the emulator is you require a $200 to $400 hand held system to use it (HP210, iphone, etc.,). I am examining the possibility of converting the HP 20b into a

dedicated, in house system that other pilots would desire (DUE TO THE LOW COST AND PILOTS BEING INHERENTLY CHEAP). The program set would be tailored to aircraft type, route structure and provide the suite of applications that the onboard system does not supply.

The suite of programs include:

```
1.      latitude/longitude keys for Great Circle/True Track
        computation.  This is not for flight planning but as an
        independent check of the onboard navigation system.  This
        would eliminate gross navigational errors due to vendor
        (data base supplier info) and input error (pilot).  That
        is, the old garbage in; garbage out


2.      altimeter temperature corrections which would apply to
        specific airport local altitudes used on approaches.
        Strictly a northern or cold weather specific application.


3.      altimeter error on days with barometric pressure greater
        the 31.00mb


4.      a break schedule program


5.      a gmt time/day/date program


6.      a data base for various static data; phone numbers, door
        codes…..
```

Conclusion:

The calculator (20B) provides an excellent cost versus the multi function platforms. A dedicated keyboard with preformatted silk screened keys or overlay would make the operation an ease. Programming language be it simple RPN, RPL, Basic need not be required for the operator.

I think that is the direction that calculators appear to heading. Preformatted, dedicated systems used by specific industries.

Cheers, Geoff

Edited: 4 Mar 2009, 1:44 p.m.

Re: The HP 20B direction?

*Message #14 Posted by **David Hayden** on 4 Mar 2009, 10:00 p.m.,*
in response to message #13 by Geoff Quickfall

> Quote:
>
> **The question:** I think [the original question] is the quandary HP finds itself in today.

I agree and I hope that HP is reading this thread. That's part of why I posted the question. If they can clearly define the purpose of an HHC then they can build better ones.

> Quote:
>
> I think that is the direction that calculators appear to heading. Preformatted, dedicated systems used by specific industries.

Yes, I think this is an important use for HHC's. Over the past few months I've made several posts in different forums advocating for keyboard overlays on a 50g successor. Without them, dedicated applications seem quite hard to me. And HP could make some money selling overpriced overlay templates. :)

Thanks for sharing your thoughts, Dave

Re: What's the place of a handheld calculator?

*Message #15 Posted by **Jandro Kirkish** on 4 Mar 2009, 2:16 p.m.,*
in response to message #1 by David Hayden

What everyone said. Especially speed, though. Often I reach for a handheld for a quick calculation, or to confirm what I've worked out in my head, and to wait while a computer or pda sim initializes sort of takes the spontenaeity out of it. And the UI of a real calc can't be beat--I could never use a calculator with a mouse for long. Too slow! (The iPhone/iPod Touch HP emulators come close, but they still take time to initialize.) I use my HP35s when I work with fractions or solving simple equations like calculating the magnification of a telescope eyepiece given its f ratio, aperture and focal length--or any permutation of the above. Solving a RPN program is a real timesaver and is very simple on the HP-3X series calcs. I've been reading a lot of astrophysics books for fun lately and find the built in units in the HP-28s indispensable when working the problems, once I organized them into submenus like length, time, mass etc. a la the 48-50g series. I can do more on my 50g but it fails the all-important pocket test. Moreover, while I like the CAS available on newer models, I more often need a number as opposed to a symbolic solution. Let's just say I haven't needed to calculate with Groebner bases in quite a while.

Re: What's the place of a handheld calculator?

*Message #16 Posted by **Michael Andersson** on 4 Mar 2009, 3:52 p.m.,*
in response to message #1 by David Hayden

Working as an engineer (with questions concerning materials and structrural integrity) I use my calulator a lot. Doing simple calculations on a PC (or a PDA for that matter) is much slower than using a calculator. Of course, for heavy number crunching the handheld calculator cannot compete and you need a PC, but far from all calculations are like that. Looking around at my colleagues desks I see calculators on all of them so I certainly think they still have their use.
/Michael

Re: What's the place of a handheld calculator?

*Message #17 Posted by **DaveJ** on 4 Mar 2009, 4:24 p.m.,*
in response to message #16 by Michael Andersson

> Quote:
>
> Working as an engineer (with questions concerning materials and structrural integrity) I use my calulator a lot. Doing simple calculations on a PC (or a PDA for that matter) is much slower than using a calculator. Of course, for heavy number crunching the handheld calculator cannot compete and you need a PC, but far from all calculations are like that. Looking around at my colleagues desks I see calculators on all of them so I certainly think they still have their use.
> /Michael

Indeed they do. The simplest tool will always win. For example, you don't see many people using those fancy interchangeable tip screwdrivers on a daily basis, as you just can't beat the simplicity of having a

basic #1 Philips driver on hand when you want to take out just one screw.

Same with calculators. And looking at my colleagues desks, the simpler the tool wins there as well. And being curious over the years I've asked lots of people about the calculator they have on their desk, and the response is almost always the same - they just want something simple to do basic calculations. Most of them had a fancier programmable calculator in school/uni, but now most of them have switched to a basic scientific or even a 4-Banger because that's all they need 99% of the time. And why don't they just use their PC or phone? - because they are a PITA to use, about as far from simple and effective as you could imagine.

I've also found HHC's even more appropriate for non-technical people, as they just find their PC or phone too fiddly to use when all they want to do is add up their credit card bill.

Dave.

Re: What's the place of a handheld calculator?

*Message #18 Posted by **Juan J** on 4 Mar 2009, 11:02 p.m.,*
in response to message #17 by DaveJ

> Quote:
>
> Indeed they do. The simplest tool will always win. For example, you don't see many people using those fancy interchangeable tip screwdrivers on a daily basis, as you just can't beat the simplicity of having a basic #1 Philips driver on hand when you want to take out just one screw.

Hello,

For some of us a Swiss Army knife with a Phillips screwdriver will do. It is not a one-size-fits-all thing, though, but it does the job.

It is the same thing with a calculator. Like paper and pencil and most tool, it is an extension of our brains, or so it seems to me.

This made me notice something.

Last week I had to check GPS data for a car trip. I used one of my HPs to do it, and left it in the car. It has been sitting there for about ten days now, and I am beginning to think of it as another tool to have aboard.

Geoff has told us about his 41 (and 67) and its applications onboard a sophisticated jet.

Dumb question: does anyone have an HP on his/her car?

Re: What's the place of a handheld calculator?

*Message #19 Posted by **DaveJ** on 5 Mar 2009, 12:37 a.m.,*
in response to message #18 by Juan J

> Quote:
>
> Hello,
>
> For some of us a Swiss Army knife with a Phillips screwdriver will do. It is not a one-

> size-fits-all thing, though, but it does the job.

Now this is an interesting example that again highlights my point that an optimised tool is often the preferred choice.

I *always* carry a SAK in my pocket, and it has a very nice philips screwdriver on it. Yet I will almost always go that little extra to reach into a draw and pull out a real screwdriver when I need to undo one screw - why? It's because the "user interface" on a real screwdriver is optimised for the job, it's just quicker and easier to use. I don't have to flip the SAK to the right side, then the right rotation, then open the blade, then twist it all around to get it into a comfortable position. The real screwdriver I just pickup and use.

The same goes for the ball-point pen on my SAK. Very useful when I don't have a proper pen with me, but I'll reach for a proper pen over the SAK any time. And I'll carry a proper pen with me when I go into a meeting for example.

There are countless other examples, like my new Nokia E71 phone for example. Great for surfing the web, email, GPS etc, but hopeless at just making a simple phone call. My old Nokia 6300 was MUCH better in that respect because it was a phone and not much more, and my older phone before that had even fewer features...

Dave.

Re: What's the place of a handheld calculator?

*Message #20 Posted by **Steve Keeley** on 5 Mar 2009, 8:13 p.m.,*
in response to message #18 by Juan J

Juan J asked:

> Quote:
>
> Dumb question: does anyone have an HP on his/her car?

I keep my HP 28C in the car (the 28S is in my apartment) along with a flashlight and one of those thick Swiss Army Knives with dozens of features. I chose the 28C for auto duty because it's otherwise the least used and the conversions come in handy.

Re: What's the place of a handheld calculator?

*Message #21 Posted by **Howard Lazerson** on 4 Mar 2009, 4:04 p.m.,*
in response to message #1 by David Hayden

For me, a hhc is used primarily for....SURPRISE...calulating and playing "what if" with numbers via a pgrm. I find it comforting to do it where I please; desk, easy chair or in " the field" something I cant do with a computer-The small size, the reassuring click of the keys and no noise. I think the pefect analogy would be reading a a real book vs an electronic box, no batteries,lighted screen, buttons to push etc. besides did you ever try to press a leaf with the electronic reader?!

Re: What's the place of a handheld calculator?

*Message #22 Posted by **Ed Look** on 5 Mar 2009, 11:43 a.m.,*
in response to message #21 by Howard Lazerson

I was about to post something similar- I can take my Spice (when it was still fully functional), Pioneers, even my HP graphing calcs (whatever their line is called) to do a quick and dirty calculation, full-blown-thought-out calculation, program, even play a game...

... in bed, or in front of a ballgame on the couch.

I don't like the idea of that with a laptop, and heh, imagine a desktop PC sitting on the covers over your belly, with the monitor on top... and then you want to get out of bed for a glass of water.

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Happy Square-Root Day

*Message #1 Posted by **Dave Shaffer (Arizona)** on 3 Mar 2009, 2:28 p.m.*

The newspaper today had an article pointing out that this is "square root" day: 3/3/09 where the two 3's (month/day or day/month - works for both the US and every-where else ordering) are the square root of the year.

Next one is not until 4/4/16, so celebrate while you can.

Re: Happy Square-Root Day

*Message #2 Posted by **Johnny Bjoern Rasmussen** on 4 Mar 2009, 3:01 a.m.,*
in response to message #1 by Dave Shaffer (Arizona)

Yep. And I just can't wait till add-day (04/05/09) and subtract-day (12/03/09)...

;-)

Best regards!

Johnny

Re: Happy Square-Root Day

*Message #3 Posted by **Didier Lachieze** on 4 Mar 2009, 10:40 a.m.,*
in response to message #2 by Johnny Bjoern Rasmussen

... and don't miss the multiply-minute which will occur this year 41 minutes past Midnight on July 7th !!

Re: Happy Square-Root Day

*Message #4 Posted by **George Bailey (Bedford Falls)** on 4 Mar 2009, 3:02 a.m.,*
in response to message #1 by Dave Shaffer (Arizona)

F***, here it's the 4th already! Had not realized that 3 was the square root of 2009... ;-)

Re: Happy Square-Root Day

*Message #5 Posted by **Walter B** on 4 Mar 2009, 10:08 a.m.,*
in response to message #4 by George Bailey (Bedford Falls)

You're right, true square root days were many centuries ago. Even square days ... d;-)

Re: Happy Square-Root Day

*Message #6 Posted by **Andrés C. Rodríguez (Argentina)** on 4 Mar 2009, 9:45 a.m.,*
in response to message #1 by Dave Shaffer (Arizona)

Well, I am old enough to state that 2/2/04, 9/9/81, and even 8/8/64 were not that special...

On the other hand, 1/1/01 was rather special, starting a new day, a new week, a new month, a new year, a new decade and a new century. I was near Fargo, ND, when it arrived.

Re: Happy Square-Root Day

*Message #7 Posted by **Gerson W. Barbosa** on 4 Mar 2009, 10:44 a.m.,*
in response to message #6 by Andrés C. Rodríguez (Argentina)

> Quote:
>
> ...1/1/01 was rather special, starting a new day, a new week, a new month, a new year, a new decade and a new century.

and a new millennium...

Re: Happy Square-Root Day

*Message #8 Posted by **Andrés C. Rodríguez (Argentina)** on 4 Mar 2009, 6:47 p.m.,*
in response to message #7 by Gerson W. Barbosa

Of course

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sigma function in solvers

*Message #1 Posted by **Don Shepherd** on 3 Mar 2009, 12:36 p.m.*

Yesterday a college student asked me if it was possible to use the solver in the 17bii+ to implement the following equation:

I created the following solver formula:

```
ERLANG=(R^M/FACT(M)) / (1+SIGMA(I:1:M:1:R^I/FACT(I)))
```

Since many formulae require the summation, or sigma, function, I was wondering why it was not included in the 33s and 35s. Did the designers assume that, since those models allow keystroke programming (so you could "roll your own" sigma function), it just was not necessary? I would think it would have been nice to include the sigma function in the solver without requiring the user to learn keystroke programming.

Re: sigma function in solvers

*Message #2 Posted by **Peter A. Gebhardt** on 3 Mar 2009, 4:18 p.m.,*
in response to message #1 by Don Shepherd

Don,

how do you solve for M (the # of servers in the ERLANG B formula, if given R "Erlangs")???

Just tried it on my 200LX - and get "Bad guesses".

Best regards,

Peter A. Gebhardt

Re: sigma function in solvers

*Message #3 Posted by **Don Shepherd** on 3 Mar 2009, 7:15 p.m.,*
in response to message #2 by Peter A. Gebhardt

Peter, the student that asked about this, he knows R and M, and he solves for ERLANG. I don't know enough about it to say more than that, but it seemed to be an easy formula for the 17bii+, given the sigma function.

Re: sigma function in solvers

*Message #4 Posted by **Peter A. Gebhardt** on 4 Mar 2009, 6:47 a.m.,*
in response to message #3 by Don Shepherd

Thx. Don.

So I repost my above question to the other readers:

What causes the HP200LX solver (and I guess the 17b/19b-family solvers too) to refuse to calculate M in Don's above implementation?

Is this a problem of the solver 'per se' or a mathematical 'impossibility'?

Best regards,

Peter A. Gebhardt

Re: sigma function in solvers

*Message #5 Posted by **Marcus von Cube, Germany** on 4 Mar 2009, 8:27 a.m.,*
in response to message #4 by Peter A. Gebhardt

My 19Bii fails early: It does not seem to allow the FACT function in a solver equation. :(

EDIT: That must have been a typing mistake, now the formula works. It looks like the problem does not have a solution for certain combinations of R end ERLANG.

What does the formula compute and what would be reasonable input?

Edited: 4 Mar 2009, 8:46 a.m.

ERLANG B Was: sigma function in solvers

*Message #6 Posted by **Peter A. Gebhardt** on 4 Mar 2009, 9:44 a.m.,*
in response to message #5 by Marcus von Cube, Germany

Marcus,

pls. take a look here:

http://www.abstractmicro.com/erlang/helppages/mod-about.htm

Best regards,

Peter A. Gebhardt

Re: ERLANG B Was: sigma function in solvers

*Message #7 Posted by **Marcus von Cube, Germany** on 4 Mar 2009, 3:08 p.m.,*
in response to message #6 by Peter A. Gebhardt

Thanks Peter!

Now I know that the function is Erlang B, just an intermediate step in calculating Erlang C which is the probability that a customer has to wait for a server. But the article doesn't help with the proper values for Erlang B so that I can test the formula for solvability? :(

Can somebody shed some more light on the subject?

Re: ERLANG B Was: sigma function in solvers

*Message #8 Posted by **Don Shepherd** on 4 Mar 2009, 9:05 p.m.,*
in response to message #7 by Marcus von Cube, Germany

Marcus, the student that asked me about this provided a copy of a page of his textbook which showed that, for r=0.67 and m=3, the probability is 0.0255 (from a lookup table in the textbook). My formula returned probability 0.0258. I can send that page to you if you want, because is does describe this function with a bit more detail.

Re: ERLANG B Was: sigma function in solvers

*Message #9 Posted by **Marcus von Cube, Germany** on 5 Mar 2009, 2:58 a.m.,*
in response to message #8 by Don Shepherd

Just offer a scan for download here. I'm hopefully not the only one who is entertaining his brain with some "new" math. :)

With the given values, the 19BII solves happily for M. If I change the value of ERLANG to the result given in the original paper, the solver approaches 3 but cannot reach the exact value for ERLANG, due to the fact that FACT returns an error for non integer arguments which makes the solver retry.

I've modified the equation slightly:

```
ERLANG=(R^M/FACT(IP(M)) / (1+SIGMA(I:1:M:1:R^I/FACT(I)))
```

Now I get 3,02707 for ERLANG. It's the continuous R^M part that makes this possible.

Edited: 5 Mar 2009, 3:15 a.m.

Re: ERLANG B Was: sigma function in solvers

*Message #10 Posted by **Don Shepherd** on 5 Mar 2009, 4:12 a.m.,*
in response to message #9 by Marcus von Cube, Germany

Here is that little textbook writeup on this function, along with the lookup table.

Re: ERLANG B Was: sigma function in solvers

*Message #11 Posted by **Marcus von Cube, Germany** on 5 Mar 2009, 9:51 a.m.,*
in response to message #10 by Don Shepherd

OK, I got it. Erlang B is the probability of loss (all servers busy) where R is the ratio of service time : average arrival rate and M is the number of servers.

Thanks for the link.

Re: ERLANG B Was: sigma function in solvers

*Message #12 Posted by **Peter A. Gebhardt** on 5 Mar 2009, 5:11 a.m.,*
in response to message #9 by Marcus von Cube, Germany

Marcus,

Thx. a lot! From your findings an advice given (independently of SIGMA) could be:

"One should check the usage of variables that are supposed to stay integers

during the whole calculation."

Best regards,

Peter A. Gebhardt

Re: sigma function in solvers

*Message #13 Posted by **Katie Wasserman** on 3 Mar 2009, 6:11 p.m.,*
in response to message #1 by Don Shepherd

Don,

We explored the possibilities of the 35S solver here and concluded the it needs a G() function to solve equations like this but has a functional L() and can iterate. I don't know why they allowed for STO in equations but not RCL, it make no sense at all.

-Katie

Edited: 3 Mar 2009, 6:16 p.m.

Re: sigma function in solvers

*Message #14 Posted by **Allen** on 3 Mar 2009, 8:29 p.m.,*
in response to message #1 by Don Shepherd

> Quote:
>
> Since many formulae require the summation, or sigma, function, I was wondering why it was not included in the 33s and 35s.

Don, Greetings! Excellent post! Two quick observations:

1. The sigma function can be implemented in loops if not explicitly accessible. This is often faster since many of the Calcs that have a SIGMA function also incorporate single/double/x^2/y^2 etc into the Sigma+ key (e.g. 42s). I think most of the time these are not needed, so it's faster to run a summation loop to sufficient accuracy.

2. For many (I think not all..) summations, there is a general closed-form solution. (e.g the Change for a Dollar solution that Egan Provided)

Re: sigma function in solvers

*Message #15 Posted by **David Hayden** on 3 Mar 2009, 8:47 p.m.,*
in response to message #1 by Don Shepherd

The hard part about calculating the Erlang formula is that it's easy to exceed the precision of the calculator if you do the calculations in the wrong order.

Dave

Re: Sigma function in equation editors

*Message #16 Posted by **Karl Schneider** on 4 Mar 2009, 3:05 a.m.,*
in response to message #1 by Don Shepherd

Hi, Don --

> Quote:
>
> Since many formulae require the summation, or sigma, function, I was wondering why it was not included in the 33s and 35s.

The crux of the matter is that the HP-33s/35s equation editor is fundamentally the one ported from the algebraic HP-22S into the RPN HP-32SII in 1991 and subsequently carried forward; it is not the more-advanced implementation of the HP-17B/27S.

The Sigma operator for the HP-17B/27S equation editor will, by looping, compute finite series using an expression that defines every term. (Sigma+, by contrast, only adds a single datum to a summation.) The HP-17B/27S does not use summation for statistics, so there is no Sigma+ function.

The HP-22S equation editor allowed only programmable calculating operations -- or most of them -- defined on its keyboard. Sigma+ is one that was not supported, because it is not very practical for an equation. Sigma as a construct used in equations, however, might have caused confusion with Sigma+.

-- KS

Edited: 4 Mar 2009, 3:19 a.m.

Re: Sigma function in equation editors

*Message #17 Posted by **Don Shepherd** on 4 Mar 2009, 6:35 a.m.,*
in response to message #16 by Karl Schneider

Thanks for the background, Karl. It makes me apprerciate the 17bii solver all the more. What a gem!

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A little survey among HP's calculator collectors.

*Message #1 Posted by **Ignazio Cara (Italy)** on 3 Mar 2009, 6:00 a.m.*

How many proud owner of an HP-95C (except Museum's curator) there are?

Many thanks

Ignazio

Re: A little survey among HP's calculator collectors.

*Message #2 Posted by **Michael de Estrada** on 3 Mar 2009, 9:56 a.m.,*
in response to message #1 by Ignazio Cara (Italy)

I have the same question regarding the HP-81.

Re: A little survey among HP's calculator collectors.

*Message #3 Posted by **Ronald P** on 3 Mar 2009, 10:56 a.m.,*
in response to message #2 by Michael de Estrada

I have an HP81.

Re: A little survey among HP's calculator collectors.

*Message #4 Posted by **Michael de Estrada** on 3 Mar 2009, 11:21 a.m.,*
in response to message #3 by Ronald P

How and when did you acquire it? Have you completed the trilogy (HP-80, HP-81, HP-92)?

Re: A little survey among HP's calculator collectors.

*Message #5 Posted by **Katie Wasserman** on 3 Mar 2009, 5:58 p.m.,*
in response to message #4 by Michael de Estrada

I've got all three. All came from from that website with the 4 brightly colored letters over the past several years.

I have most of the HP calculators, but alas no 95C :(

However, to make up for that collecting shortcoming I do have a 94d, 94e and 94f!

Re: A little survey among HP's calculator collectors.

*Message #6 Posted by **Richard J. Nelson** on 3 Mar 2009, 11:00 a.m.,*
in response to message #2 by Michael de Estrada

I have the two printed Manuals for the HP95C.

How many people have the TI-88. I have one.

X < > Y,

Richard

Re: A little survey among HP's calculator collectors.

*Message #7 Posted by **Marcus von Cube, Germany** on 3 Mar 2009, 12:38 p.m.,*
in response to message #6 by Richard J. Nelson

I think you are 50% of the total population. ;)

Re: A little survey among HP's calculator collectors.

*Message #8 Posted by **Joerg Woerner** on 3 Mar 2009, 1:36 p.m.,*
in response to message #6 by Richard J. Nelson

Okay, I have a TI-88, too!

What is your serial number and date code?

Who owns a TI-78?

Regards,

Joerg

Re: A little survey among HP's calculator collectors.

*Message #9 Posted by **Namir** on 3 Mar 2009, 4:33 p.m.,*
in response to message #8 by Joerg Woerner

Joerg,

You should attend HHC2009 AND bring the TI-88 to show it!!

:-)

Namir

Re: A little survey among HP's calculator collectors.

*Message #10 Posted by **Joerg Woerner** on 3 Mar 2009, 5:48 p.m.,*
in response to message #9 by Namir

Will do!

Joerg

Re: A little survey among HP's calculator collectors.

*Message #11 Posted by **db (martinez, ca.)** on 3 Mar 2009, 11:24 p.m.,*
in response to message #8 by Joerg Woerner

Hi Joerg;
I haven't crawled around Datamath for a while. This time i found the 68 / EC4044. It looked like a useful tool and judging form it's longevity, it was. Too bad about that non-functional enter key ;-)

Re: A little survey among HP's calculator collectors.

*Message #12 Posted by **Etienne Victoria** on 4 Mar 2009, 3:00 a.m.,*
in response to message #2 by Michael de Estrada

Hi!

I have the 80 (a couple of them), the 81, 92, 12C, 17BII+ and Casio BF-100 :-).

Best

Etienne

Edited: 4 Mar 2009, 3:01 a.m.

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Restoring the colour of ABS plastic

*Message #1 Posted by **Steve (Australia)** on 2 Mar 2009, 10:58 p.m.*

Seems like some people have been researching good ways to reverse the yellowing of ABS plastic with age.

This may be useful to somebody here too :-)

http://retr0bright.wikispaces.com/

Re: Restoring the colour of ABS plastic

*Message #2 Posted by **Walter B** on 3 Mar 2009, 1:23 a.m.,*
in response to message #1 by Steve (Australia)

Hmmh, I read this (the last picture made me suspicious) and checked the links a bit, and eventually that's looking like a hoax to me d:-)

Edited: 3 Mar 2009, 1:27 a.m.

Re: Restoring the colour of ABS plastic

*Message #3 Posted by **Steve (Australia)** on 3 Mar 2009, 6:14 p.m.,*
in response to message #2 by Walter B

What, you don't think there's be anyone who's collect stuff as weird as Commodore 64 computers? :-)

There's a lot of discussion about this on the web, and it seems there's some history too. I wouldn't be so quick to declare it a hoax.

However I do wonder if it will result in any long term issues.

I have a friend who is a Commodore 64 collector (wait, do they exist?) and he plans on trying this technique on a particularly badly affected unit. If he does so, I'll get back with the results.

Re: Restoring the colour of ABS plastic

*Message #4 Posted by **Ronald P** on 3 Mar 2009, 10:59 a.m.,*
in response to message #1 by Steve (Australia)

Hi,

I did put some yellowed casing in a mxture of +/- 25% Cloric and 75% water, that is chloor containing cleaner for the toilet and heated this to around 40 degrees. If you ensure the solution is stirred regularey you will also see it bleaches the yellow color away. Be carefull were you do it, the vapour is 200% sure not healthy to breath.

Re: Restoring the colour of ABS plastic

*Message #5 Posted by **Earl Kubaskie** on 3 Mar 2009, 10:01 p.m.,*
in response to message #4 by Ronald P

Take care with your eyes, too. I had a case of conjunctivitis once, triggered by fumes from the use of bleach to clean tile.

Waking up in the middle of the night, unable to open your eyes, is NOT fun!

Re: Restoring the colour of ABS plastic

*Message #6 Posted by **Steve (Australia)** on 4 Mar 2009, 4:16 a.m.,*
in response to message #4 by Ronald P

I'd be careful with that, Chlorine is reported to make ABS plastic brittle.

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Assistance for the new

*Message #1 Posted by **Bill Payze** on 2 Mar 2009, 8:35 p.m.*

Hello, I've just gotten an hp35s and a long list of programs to input. I've just hit a line and I can't find the input for it. I am required to enter ∑ x and later on ∑ y but I can't make out how. I can see ∑+ and ∑- but I can't edit out the + or -. Any guidance would be a godsend. Cheers.

Re: Assistance for the new

*Message #2 Posted by **Walter B** on 3 Mar 2009, 1:09 a.m.,*
in response to message #1 by Bill Payze

Hi Bill,

from the context I guess you were talking about [SIGMA]x and [SIGMA]y (your attempt to write proper [SIGMA]s was not acknowledged by the system in this forum). Please read pages 12-11 and 12-12 in the User's Guide about the statistics registers and your access to them.

HTH

Walter

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Still Looking for new scans

*Message #1 Posted by **Dave Hicks** on 2 Mar 2009, 11:36 a.m.*

I'm working on the 7th version of the DVD and CD sets so I'm looking for more document scans. If we can find enough new material, Version 7 should come out some time this year.

Here's what we have:

Documents already on DVD V6

Documents already promised for DVD V7

I'm looking for any manuals that are missing. There should be many more Non-English manuals than we have. There are probably still a few English manuals missing as well.

Also I'd like to get scans of individual User's Library Programs. I have the ones listed in the document above but I'm sure there are many more floating around...

Also HP-65 Key Notes. I have only Volume 1 numbers 4 and 5, and volume 2 number 1. Others are needed. - This is HP-65 Keynotes - published from 1974 to ... 1977? - not the later HP Key Notes which we already have on the DVDs.

Here's information on scanning and transmitting documents.

There are basically two standards for scanning: for new manuals, they just need to be readable, though as nice looking as possible is always nice. If you want to submit an improved color scan of an existing manual, my standards are higher. For replacements, I'm looking for really nice scans - fully illuminated from corner to corner, straight etc.

If you have some manuals you can scan, please contact me and I'll add you to the list.

Currently I have a big stack to scan myself, so I'm looking for scans rather than loans of more manuals to add to my stack. If you have a manual but not a scanner, please try to contact someone on the forum for scanning.

Re: Still Looking for new scans

*Message #2 Posted by **Didier Lachieze** on 2 Mar 2009, 12:09 p.m.,*
in response to message #1 by Dave Hicks

Hi Dave, first many thanks for the work your doing on the DVD set. It's amazing to see such a collection of valuable HP calculators related documents going even better!
Now a few points regarding the documents promised for the DVD V7 (my little contribution):
1) The HP-41C/CV Dutch Operating Manual I've sent to you is missing on the DVD V7 page.
2) I'm currently scanning the HP-32S French Owner's Manual (180 pages done already - high quality, as much as I can)
3) I've two others manuals you can add to the DVD V7 list: HP-41C Standard Applications (French) & HP-41C Stat Pac (French)

Re: Still Looking for new scans

*Message #3 Posted by **Dave Hicks** on 2 Mar 2009, 6:03 p.m.,*
in response to message #2 by Didier Lachieze

OK, I've added those to the list plus a couple that were emailed. Thank you!

Re: Still Looking for new scans

*Message #4 Posted by **Bob Patton** on 2 Mar 2009, 9:28 p.m.,*
in response to message #1 by Dave Hicks

Hi Dave, I have HP-65 Key Note V2N3, V2N2 and V2N3 I can scan for you.

Re: Still Looking for new scans

*Message #5 Posted by **Dave Hicks** on 3 Mar 2009, 12:16 a.m.,*
in response to message #4 by Bob Patton

Thank you Bob! Two of those numbers look the same to me. Are there 2 or 3 issues?

Does anyone have any other HP-65 Key Notes?

Re: Still Looking for new scans

*Message #6 Posted by **Bob Patton** on 3 Mar 2009, 9:47 a.m.,*
in response to message #5 by Dave Hicks

Sorry about that typo. It's V1N3.

Re: Still Looking for new scans

*Message #7 Posted by **Dave Hicks** on 4 Mar 2009, 1:10 a.m.,*
in response to message #6 by Bob Patton

Thank you Bob! I've added these to the list.

Re: Still Looking for new scans

*Message #8 Posted by **Philippe Lasnier** on 4 Mar 2009, 8:36 a.m.,*
in response to message #1 by Dave Hicks

Hi David,

Sorry to butt in, but in scanning your list to see if I could help (in my very modest way), I noticed that you mention "The HP 48 Handbook (James Donnelly)".

Would that be the first edition, or the second edition?

They are quite different (I noticed that while looking around - I am still looking for the 2nd edition).

Regards,

Philippe

Re: Still Looking for new scans

*Message #9 Posted by **Marcus von Cube, Germany** on 5 Mar 2009, 9:35 a.m.,*
in response to message #1 by Dave Hicks

Paul Tergeist, a member of the French MySilicium forum is searching for a French manual for the HP-16C: See his post.

It's on neither list, yet.

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HP-41 Rom 82500A-E13

*Message #1 Posted by **Rik Bos** on 2 Mar 2009, 8:29 a.m.*

Does anybody has a manual of this rom. It says 82500A-E13 Verkeerslawaai ID10 Signapore on the front it has printed Haskoning BV

-Rik

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HP65/67/41 card reader gears

*Message #1 Posted by **John Robinson** on 2 Mar 2009, 7:11 a.m.*

Hi All, I was just wondering if any know if the various card reader rollers are interchangeable ?. I have a roller with a black nylon gear, and one with a white nylon gear, and I am pretty sure that the black one is from a HP65, not sure about the white one, which looks to me to be the same size. Does anyone know more about these ?

Thanks John

Re: HP65/67/41 card reader gears

*Message #2 Posted by **Ignazio Cara (Italy)** on 3 Mar 2009, 5:26 a.m.,*
in response to message #1 by John Robinson

Hello John, the roller is the same for all HP handheld 65/67, Topcat 97 and for the HP 82104A card reader, regardless the color. You can use it on all readers.

Regards

Ignazio

Re: HP65/67/41 card reader gears

*Message #3 Posted by **John Robinson** on 3 Mar 2009, 6:54 a.m.,*
in response to message #2 by Ignazio Cara (Italy)

Hi Ignazio,

That's great, thanks for the information. I guess I should also ask, how interchangeable are the motors - any ideas ?

Thanks John

Re: HP65/67/41 card reader gears

*Message #4 Posted by **Ignazio Cara (Italy)** on 3 Mar 2009, 10:18 a.m.,*
in response to message #3 by John Robinson

Like the roller, the motors and the worm gears are the same. The magnetic head subassembly is the same for HP 65/67/97 as well.

Cheers

Ignazio

Edited: 3 Mar 2009, 10:21 a.m.

Re: HP65/67/41 card reader gears

*Message #5 Posted by **John Robinson** on 3 Mar 2009, 11:12 p.m.,*
in response to message #4 by Ignazio Cara (Italy)

Thanks Ignazio - much appreciated.

Cheers, John

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HP-42S ROM download to HP-48G?

*Message #1 Posted by **Thomas Okken** on 1 Mar 2009, 1:31 p.m.*

Hi all,

Some time ago, the hard drive where I used to keep Emu42 and my collection of Pioneer ROM images died, and it appears I don't have a back-up of it either. I would like to get at least the HP-42S ROM image back, since I need it for testing Free42 (occasionally I have to compare it to "the real thing" to make sure I've gotten the little details you can't find in the manual right)... For now I'm using my real HP-42S, but I feel a bit uneasy using that museum piece for testing. ;-)

I downloaded the latest Emu42 from Christoph's web site, and also his Pioneer ROM extraction package, but it turns out that you need at least an HP-48G+ to receive the ROM image, and I only have a humble HP-48G, which of course does not have enough RAM to hold the whole HP-42S ROM in once piece.

Is there a way to download the ROM in smaller pieces? Or would someone be willing to help me with this -- I could send them my 42S, or they could send me their 48G+, etc., I would of course pay for all costs incurred in the operation.

- Thomas

Re: HP-42S ROM download to HP-48G?

*Message #2 Posted by **Thomas Chrapkiewicz** on 1 Mar 2009, 2:06 p.m.,*
in response to message #1 by Thomas Okken

Thomas:

Let me know how I can help. Are you in the USA?

Please send email.

Regards, Thomas C.

Thanks!!!

*Message #3 Posted by **Thomas Okken** on 1 Mar 2009, 2:55 p.m.,*
in response to message #1 by Thomas Okken

I have received several responses already and I'm happy to say my problem is taken care of. Thanks to all who responded!

- Thomas

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Problem sending data via IR from HP48 to HP50g

*Message #1 Posted by **Michael de Estrada** on 1 Mar 2009, 12:30 p.m.*

I am having trouble sending data from my HP 48SX to my HP 50g via the IR ports. I have both calculators configured for I/O via IR, binary data, CKSM = 3, and 9600 baud (I don't think this matters). I have tried setting the HP 50g to be both an Xmodem server and manual receive. When I issue the send command on the HP 48sx, it goes through several retries, then times out with an error. Similarly, the HP 50g using manual receive tries unsuccessfully to communicate with the HP 48sx.

Any assistance will be appreciated.

Thanks, Michael

HP 48 cannot communicate with HP 49/50 via IR

*Message #2 Posted by **Michael de Estrada** on 1 Mar 2009, 11:11 p.m.,*
in response to message #1 by Michael de Estrada

I've done some more research, and it appears that the IR communication port in the HP 48 series calculators (except the HP 48gII) is not compatible with the later HP 49 and HP 50 series calculators. Although the protocols and commands are the same, the actual signals are not, so the two calculators cannot communicate. Therefore, the only way for me to transfer my equations and programs from my old HP 48SX to my new HP 50g will be the tedious process of 1) transfer files from HP 48SX to old DOS PC using serial cable 2) transfer files from DOS PC to floppy disk 3) transfer files from floppy disk to Windows XP PC 4) transfer files in Windows to HP 50g using USB cable.

Well, I guess this is the price of progress.

Re: HP 48 cannot communicate with HP 49/50 via IR

*Message #3 Posted by **reth** on 1 Mar 2009, 11:49 p.m.,*
in response to message #2 by Michael de Estrada

You can skip all tedious steps by buying >$5 serial to USB adapter

Re: HP 48 cannot communicate with HP 49/50 via IR

*Message #4 Posted by **Michael de Estrada** on 1 Mar 2009, 11:58 p.m.,*
in response to message #3 by reth

Please elaborate. What connects to what and how do they communicate?

Thanks, Michael

Re: HP 48 cannot communicate with HP 49/50 via IR

*Message #5 Posted by **Tim wessman** on 2 Mar 2009, 12:06 a.m.,*
in response to message #4 by Michael de Estrada

http://www.newegg.com/Product/ShowImage.aspx?Image=12-200-141-01.jpg&S7ImageFlag=0&WaterMark=1&Item=N82E16812200141&Depa=0&Description=StarTech%20ICUSB232%20USB%20to%20RS-232%20Serial%20DB9%20Adapter

I'm sure you can figure out how that works. :-)

You'll want to get one that uses the prolific chipset. The easiest way is to look for one that is tranparent blue on the case and has those two pointed nobs on the top and bottom. I have used almost all chipsets availalbe on the market and none of them have been problem free at less common baud rates, flow control, etc.

TW

(deleted post)

*Message #6 Posted by **deleted** on 2 Mar 2009, 12:32 a.m.,*
in response to message #4 by Michael de Estrada

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

(deleted post)
*Message #7 Posted by **deleted** on 2 Mar 2009, 12:35 a.m.,*
in response to message #6 by deleted

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: HP 48 cannot communicate with HP 49/50 via IR
*Message #8 Posted by **reth** on 2 Mar 2009, 12:41 a.m.,*
in response to message #7 by deleted

You send whatever from hp48 to your computer (win-xp) first and then from the computer to HP50. You can't connect HP48 to HP50 directly with those adapters

Edited: 2 Mar 2009, 12:43 a.m.

Re: HP 48 cannot communicate with HP 49/50 via IR
*Message #9 Posted by **Michael de Estrada** on 2 Mar 2009, 12:56 a.m.,*
in response to message #8 by reth

Aha! (Light bulb goes on inside aging DOS brain). I did not know that an RS232 serial port could be morphed into a USB port. So, the only thing I'm not sure of is will Windows recognize my HP 48SX calculator as the device attached to that port, given that the USB drivers are meant for the HP 50g. Anyway, it's worth a try for less than $10.

Thanks for your patience and help.

Michael

Re: HP 48 cannot communicate with HP 49/50 via IR
*Message #10 Posted by **reth** on 2 Mar 2009, 12:59 a.m.,*
in response to message #9 by Michael de Estrada

It will for sure, hey, that's the great HP48 after all ;)
Cheers

Re: HP 48 cannot communicate with HP 49/50 via IR
*Message #11 Posted by **Tim Wessman** on 2 Mar 2009, 9:57 a.m.,*
in response to message #9 by Michael de Estrada

Another posibility is that you can actually connect the calculators directly to transfer if you buy the 50g serial cable sold on hpcalc.org. The 50g serial cable will plug into the 48 serial cable and you can talk using kermit. The 50G has a non-standard serial that needs some power and circuitry to work its magic.

TW

Re: HP 48 cannot communicate with HP 49/50 via IR
*Message #12 Posted by **Michael de Estrada** on 2 Mar 2009, 11:21 a.m.,*
in response to message #11 by Tim Wessman

Now you're talking! This is what I really wanted to do in the first place. The price of this cable is about the same as one of those USB to RS232 serial adapters with the fancy Prolific chipset. I already have the RS232 serial cable for my HP 48SX, so I'm set, and there's no need to load new software on my computer. This reduces the 2-step procedure (HP48SX to PC to HP50g) down to a 1-step direct procedure (HP48SX to HP50g).

After checking out the hpcalc.org site, I learned something else about my HP 50g. I can save the batteries, by powering it from the PC with the USB cable. Apparently, the HP 50g has the smarts to do this, similar to other USB devices like my mpeg player.

Thanks for the help!

Michael

Re: HP 48 cannot communicate with HP 49/50 via IR
*Message #13 Posted by **Tim Wessman** on 2 Mar 2009, 11:59 a.m.,*
in response to message #12 by Michael de Estrada

Glad to know that will work best for you.

Those prolific ones tended to be on the cheap end of the scale when I was last looking for a supply a year ago. Wonder what happened since. . .

TW

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Can an HP 50g print via IR port?

*Message #1 Posted by **Michael de Estrada** on 1 Mar 2009, 10:19 a.m.*

I recently purchased an HP 50g after living for nearly 20 years with an HP 48SX. The HP 50g seems to have all the capabilities of the HP 48SX, except that it seems to lack the capability to print via the IR port to my HP 82240B IR thermal printer. I cannot find any printer keys or menus on the calculator, or any reference to printing in the documentation (user's guide and user's manual). Curiously, there appear to be some flags that relate to printing, such as flag 34, which toggles between "Print via IR" and "Print via wire". This is the same flag that is used in the HP 48SX, but I am thinking that this may just be vestigial for a feature (printing) that is no longer supported in the HP 50g. Anyway, if anyone can shed any light on this, I'd appreciate it.

Thanks, Michael

Edited: 1 Mar 2009, 3:45 p.m. after one or more responses were posted

Re: Can an HP 50g print via IR port?

*Message #2 Posted by **Mike Morrow** on 1 Mar 2009, 10:30 a.m.,*
in response to message #1 by Michael de Estrada

Yes. AFAIK, the HP82240 printer is the ONLY one supported by the HP50g for printing, even though it is no longer sold. The B version is default, but the older A version can be used with support of the OLDPRT command.

The CAT function will show you a lot of recognizable print commands starting with PRxxx (but most listed PRxxx commands are not printer related).

If you download the HP50g User Manual and the HP49g+ Advanced User Reference, then search the pdf file for "print", you'll see all that's available.

The IR output range of the HP50g is very very short, so try again with the IR ports aligned very closely.

Edited: 1 Mar 2009, 10:45 a.m.

Re: Can an HP 50g print via IR port?

*Message #3 Posted by **Michael de Estrada** on 1 Mar 2009, 12:04 p.m.,*
in response to message #2 by Mike Morrow

Thanks for your help. The HP 50g user's manual, which I already have, contains nothing on this subject, however, as you point out the HP 49g+ advanced reference manual does cover this subject. I just verified functionality with the PRST (print stack) command on my 82240B printer. I find it amazing that HP makes no mention of this in either the printed or CD documentation that is included with the calculator. This is in stark contrast with the excellent detailed documentation that HP provided with my HP 48SX.

Re: Can an HP 50g print via IR port?

*Message #4 Posted by **reth** on 1 Mar 2009, 10:52 p.m.,*
in response to message #2 by Mike Morrow

Sure you can buy one today:
http://commerce.hpcalc.org/82240b.php

Re: Can an HP 50g print via IR port?

*Message #5 Posted by **Michael de Estrada** on 1 Mar 2009, 11:36 p.m.,*
in response to message #4 by reth

Actually, the HP 82240B IR printer is a very common item on ebay, and costs a lot less than the source that you list. I paid about $50 for mine several years ago, including the ac adapter and a very nice HP soft leather case, and it was in mint condition. Right now as I write there is an ebay auction going on with less than 2 hours to go for a new one in the box and the price is still under $40.

Re: Can an HP 50g print via IR port?

*Message #6 Posted by **reth** on 1 Mar 2009, 11:43 p.m.,*
in response to message #5 by Michael de Estrada

I only pointed that they are still sold... I have one too, 18 years old now, with AC adapter and plenty of paper but haven't used it at all for the last 6-7 years. BTW Free42 does a lot better job as far as printing is concerned.
Cheers

Re: Can an HP 50g print via IR port?

*Message #7 Posted by **Graham Gibbs** on 2 Mar 2009, 3:48 p.m.,*
in response to message #1 by Michael de Estrada

Hi Michael - If you press the 'APPS' button on your 50g and select '2' from the list (I/O Functions, then options 3 (print display), or 4 (print..) should be what you need. The 50g needs to be very close to the IR printer to work. Hope this helps!!

Graham

Re: Can an HP 50g print via IR port?

*Message #8 Posted by **Michael de Estrada** on 2 Mar 2009, 5:32 p.m.,*
in response to message #7 by Graham Gibbs

Thanks Graham. Yes, I didn't expect to find it there under APPS > I/O. The HP 48SX has a dedicated PRINT key, which provides direct softkey access to all the print commands. The HP 50g manuals make no mention of this topic, whereas the HP 48SX manuals cover it in detail. In fact, The HP 50g documentation is woefully inadequate on the whole I/O communication subject. I did find detailed info on printing and I/O in the HP49g+ Advanced User's Manual, which I downloaded from the HP website. HP should have included this manual on the CD that came with the HP 50g. Anyway, I've now gotten the HP 82240B IR printer to work with the HP 50g.

Michael

Re: Can an HP 50g print via IR port?

*Message #9 Posted by **Graham Gibbs** on 3 Mar 2009, 12:03 p.m.,*

in response to message #8 by Michael de Estrada

I also struggled with the documentation. For a calculator with IR, USB and RS232 connectivity, not to have a chapter on this in the manual is scandalous!! I had to refer to a HP48 manual for help initially & keep this chapter handy for reference. Maybe one for the next update of the 50g manual? - Come on HP!! But glad you're up and running!!

Graham

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Some kudos for HP

*Message #1 Posted by **Palmer O. Hanson, Jr.** on 28 Feb 2009, 8:42 p.m.*

Pages 17 and 18 of "A special report on waste" in the February 28 issue of *The Economist* gives HP high marks for its implementation of "extended producer responsibility" with respect to computer related products. The article states in part that HP

> Quote:
>
> ...has always tried to design its products not just from cradle to grave, a spokesman explains, but from cradle to cradle -- meaning with recycling in mind. Its laptops are 90% recyclable and its printers at least 70%. By last year HP had recycled over 450,000 tonnes of used equipment....
>
> ... An engineer explains how a decade of such work has taught HP how to make the process simpler and cheaper. It now uses screws instead of glue wherever possible. ...
>
> ... But the firm would like to go further, designing computers so that they can be easily upgraded rather than replaced. ...

And a little bit of history from the olden days: The use of screws rather than glue reminded me of a situation that occurred with an airborne computer back in 1960. The manufacturer had replaced screws with epoxy to hold the joints in the construction of the case. The epoxy joints came apart during vibration testing. I suggested that we reinforce the epoxy joints with screws and the repaired devices passed with flying colors. .

Palmer

Re: Some kudos for HP

*Message #2 Posted by **Les Bell** on 28 Feb 2009, 9:51 p.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

> Quote:
>
> It now uses screws instead of glue wherever possible.

Now, if only it would use screws in place of heatstakes. . .

Best,

--- Les
[http://www.lesbell.com.au]

Re: Some kudos for HP

*Message #3 Posted by **John B. Smitherman** on 1 Mar 2009, 9:12 a.m.,*

in response to message #1 by Palmer O. Hanson, Jr.

Palmer, thanks for the post. It got me to thinking about how this cradle to grave thinking applies to HP's calculator line as well. As we've noted on this forum some of HP's calculators have provided a lifetime of use to help solve relevent problems daily. In some cases no battery changes are required for years. These aspects of HP's designs have helped to keep more material from being thrown in the waste bin.

Regards,

John

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Can we beat the 5.81 hours on the TI95 with the HP71B? Gene, Yes we can!

*Message #1 Posted by **Egan Ford** on 28 Feb 2009, 5:13 p.m.*

This question was originally ask by Gene in the following post: http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=53988:

> Quote:
>
> Gene: This is a write-up I just received from Palmer Hanson, who edited the TI PPC Notes for many years in the 1980s - early 1990s. Thought it might be interesting. Looks like the race to 1000 digits on a machine prior to 1990 now belongs to TI? Can we beat the 5.81 hours on the TI95 with the HP71B? :-)

I was not a member of this fine forum at the time of this post. But its never too late (just under 5 years late).

I wrote a spigot program in FORTH and ran it on my 71B this morning. I selected the spigot algorithm for the following reasons:

1. Spigot programs are very small. Mine is 2x larger because I unrolled the first outer loop. This avoids a conditional statement in the inner loop. Consider the initial loop a method to initialize the array A.
2. This spigot algorithm requires integers only. A benefit for FORTH.
3. Spigot programs allow you to watch the action. No need to wait for the final result.

Output:

```
31415926535897932384626433832795028841971693993751058209749445923078164062862
08998628034825342117067982148086513282306647093844609550582231725359408128481
11174502841027019385211055596446229489549303819644288109756659334461284756482
33786783165271201909145648566923460348610454326648213393607260249141273724587
00660631558817488152092096282925409171536436789259036001133053054882046652138
41469519415116094330572703657595919530921861173819326117931051185480744623799
62749567351885752724891227938183011949129833673362440656643086021394946395224
73719070217986094370277053921717629317675238467481846766940513200056812714526
35608277857713427577896091736371787214684409012249534301465495853710507922796
89258923542019956112129021960864034418159813629774771309960518707211349999983
72978049951059731732816096318595024459455346908302642522308253344685035261931
18817101000313783875288658753320838142061717766914730359825349042875546873115
95628638823537875937519577818577805321712268066130019278766111959092164201980
```

```
TIME: 11362.03 SEC
```

1000 digits in 3.16 hours. Almost 2x faster than the TI95. Over 2x faster than BASIC versions in the aforementioned thread.

Code (my first attempt, more optimization can be done):

```
: SPIGOT ;

: 04D. <# # # # # # #> TYPE ;
: DUM* DUP ROT ROT UM* SWAP 2SWAP UM* D+ ;

1000 CONSTANT N
N 4 / 14 * CONSTANT M
5 CONSTANT S
```

Can we beat the 5.81 hours on the TI95 with the HP71B? Gene, Yes we can!

```
CREATE A M S * NALLOT
VARIABLE B
VARIABLE C
VARIABLE E
10000 CONSTANT F
VARIABLE K
76 4 / CONSTANT MAXL

M DUP B ! C ! 1 K !

: SPIGOTM
  0,
  BEGIN B @ 1 - DUP B ! 0 > WHILE
    B @ DUM*
    20000000,
    D+
    B @ 2* 1 -
    M/MOD
    ROT
    A B @ S * + !
  REPEAT
  F M/MOD 04D.
  DUP E !  0

  BEGIN C @ 14 - DUP DUP C ! B ! 0 > WHILE
    BEGIN B @ 1 - DUP B ! 0 > WHILE
      B @ DUM*
      A B @ S * + @ F UM*
      D+
      B @ 2* 1 -
      M/MOD
      ROT
      A B @ S * + !
    REPEAT
    F M/MOD E @ 0 D+ 04D.
    DUP E ! 0

    1 K +! K @ MAXL = IF CR 0 K ! THEN
  REPEAT
;

: DOIT
  CLOCK
  SPIGOTM 2DROP CR CR
  ." TIME: " CLOCK X<>Y F- STD F. ." SEC" CR
;
```

Original C program:

```
#include <stdio.h>
#define NDIGITS 1000
#define LEN     (NDIGITS/4+1)*14

int main()
{
    int a[LEN];
    int b;
    int c = LEN;
    int d = 0;
    int e = 0;
    int f = 10000;
    int g;
    int h = 0;
    while ((b = c -= 14) > 0) {
        while (--b > 0) {
            d *= b;
            if (h == 0)
                d += 2000 * f;
            else
                d += a[b] * f;
            g = b + b - 1;
            a[b] = d % g;
            d /= g;
        }
        printf("%04d", e + d / f);
        d = e = d % f;
        h = 4;
    }
    return (0);
```

```
}
```

More spigot info: http://sense.net/~egan/hpgcc/#Spigot%20Algorithm.

Edited: 28 Feb 2009, 5:35 p.m.

Re: Can we beat the 5.81 hours on the TI95 with the HP71B? Gene, Yes we can!

*Message #2 Posted by **PeterP** on 28 Feb 2009, 6:53 p.m.,*
in response to message #1 by Egan Ford

Great job, Egan!!

Cheers,

Peter

Re: Can we beat the 5.81 hours on the TI95 with the HP71B? Gene, Yes we can!

*Message #3 Posted by **ZOleg** on 1 Mar 2009, 12:13 a.m.,*
in response to message #1 by Egan Ford

I compiled C source with HPGCC for HP-50g and run on it - ~10.5sec @12MHz without sys_slowOff() and ~1.5sec @75Mhz with sys_slowOff()

How to overcklock HP-50g with HP49G+ Clockspeed Adjustment Tools ? May be somebody have sources of this utilities and post it here to adapt them for 50g?

Edited: 1 Mar 2009, 12:27 a.m.

Re: Can we beat the 5.81 hours on the TI95 with the HP71B? Gene, Yes we can!

*Message #4 Posted by **Egan Ford** on 1 Mar 2009, 4:51 p.m.,*
in response to message #3 by ZOleg

> Quote:
>
> I compiled C source with HPGCC for HP-50g and run on it - ~10.5sec @12MHz without sys_slowOff() and ~1.5sec @75Mhz with sys_slowOff()

At 1.5 seconds it probably took longer to start the program than to run it. :-) Sadly the 50g was not available before 1990. Gene was looking for pre-1990 calculators.

> Quote:
>
> How to overcklock HP-50g with HP49G+ Clockspeed Adjustment Tools ? May be somebody have sources of this utilities and post it here to adapt them for 50g?

The 49G+ and 50G differ only by the number of ports and batteries, and cosmetically. The *49G+ Clockspeed Adjustment Tools* should work as-is with the 50G.

BTW, with HPGCC3 you can overclock to 192MHz.

Re: Can we beat the 5.81 hours on the TI95 with the HP71B? Gene, Yes we can!

*Message #5 Posted by **ZOleg** on 1 Mar 2009, 7:06 p.m.,*
in response to message #4 by Egan Ford

> Quote:
>
> The 49G+ and 50G differ only by the number of ports and batteries, and cosmetically. The 49G+ Clockspeed Adjustment Tools should work as-is with the 50G.

On my HP-50G dont work.
Page at http://www.alpage.ath.cx/ don't open anymore - just blank page.
Please help to find the information that was previously on this page and sources of HP49G+ Clockspeed Adjustment Tools (if posible)

> Quote:
>
> BTW, with HPGCC3 you can overclock to 192MHz.

Where download HPGCC3?

Edited: 1 Mar 2009, 7:24 p.m.

Re: Can we beat the 5.81 hours on the TI95 with the HP71B? Gene, Yes we can!

*Message #6 Posted by **Egan Ford** on 1 Mar 2009, 7:54 p.m.,*
in response to message #5 by ZOleg

> Quote:
>
> Please help to find the information that was previously on this page and sources of HP49G+ Clockspeed Adjustment Tools (if posible)

I'd post a message to comp.sys.hp48: http://groups.google.com/group/comp.sys.hp48/topics?lnk

> Quote:
>
> Where download HPGCC3?

You'll need to contact the developers directly. See http://sense.net/~egan/hpgcc3/qsosx.html, #4.

Re: Can we beat the 5.81 hours on the TI95 with the HP71B? Gene, Yes we can!

*Message #7 Posted by **Katie Wasserman** on 1 Mar 2009, 9:34 p.m.,*
in response to message #4 by Egan Ford

> Quote:
>
> Sadly the 50g was not available before 1990. Gene was looking for pre-1990 calculators.

Where do we draw the line between computers and calculators? If we go by machines listed on this forum, considering just hand-held devices, I'll bet that a 94d/e/f programmed in assembly will beat anything else from HP. The 94 BASIC is not terribly fast, but it might give Forth on 71b some

competition. I'll have to try it.

Re: Can we beat the 5.81 hours on the TI95 with the HP71B? Gene, Yes we can!

*Message #8 Posted by **Egan Ford** on 1 Mar 2009, 10:01 p.m.,*
in response to message #7 by Katie Wasserman

> Quote:
>
> Where do we draw the line between computers and calculators?

IMHO, GPS units, dive computers, battery-operated watches, and calculators are all computers, albeit fixed or limited purpose. A difference in generation may mean the difference between fixed/limited and general purpose.

I would consider the 71 and the 41 general purpose because they have bidirectional programmable I/O and an alphabet. The book *Control the World with HP-IL* illustrates how to use the 41 and 71 for many non-calculator specific tasks. Many other calculators, while programmable, lack programmable I/O and an alphabet, limiting it to a fixed or limited purpose.

I know little about any TI. I just downloaded and ran a TI95 emulator. It looks a lot like the 71B. I think Gene's request was fair. I'd like to know if TI95 ASM can best the 71B with the same algorithm.

Re: Can we beat the 5.81 hours on the TI95 with the HP71B? Gene, Yes we can!

*Message #9 Posted by **Garth Wilson** on 2 Mar 2009, 12:52 a.m.,*
in response to message #8 by Egan Ford

> Quote:
>
> The 94 BASIC is not terribly fast, but it might give Forth on 71b some competition. I'll have to try it.

Unfortunately the 71's Forth was a very poor implementation. Many Forth words could be sped up dramatically by just redefining them in Forth, without even using assembly language. For example, instead of using the built-in CHR$, doing this:

```
1 STRING CHR$$    "   " ( ie, 2 spaces) CHR$$ S!
CHR$$ DROP CONSTANT CHR$ADR
: CHR$ COMPILE CHR$ADR  COMPILE C!  COMPILE CHR$$ ; IMMEDIATE
```

takes more memory, but is fourteen times as fast without even resorting to assembly.

> Quote:
>
> The book *Control the World with HP-IL* illustrates how to use the 41 and 71 for many non-calculator specific tasks.

Nice book, but totally lacks the ambition of interfacing the huge array of available IEEE-488 lab instrumentation through the HP82169A HPIL-to-HPIB interface converter box.

Re: Can we beat the 5.81 hours on the TI95 with the HP71B? Gene, Yes we can!

*Message #10 Posted by **Egan Ford** on 2 Mar 2009, 4:58 p.m.,*
in response to message #9 by Garth Wilson

> Quote:
>
> Unfortunately the 71's Forth was a very poor implementation. Many Forth words could be sped up dramatically by just redefining them in Forth, without even using assembly language.

True, but I'm still happy its there.

BTW, can you speed this up for me:

```
SWAP OVER UM* SWAP 2SWAP UM* D+
```

It takes a double and a single and returns a double product. Something missing from 71B Forth.

An alternative I have tried:

```
SWAP OVER * >R UM* R> +
```

is actually a bit slower.

Thanks.

Re: Can we beat the 5.81 hours on the TI95 with the HP71B? Gene, Yes we can!

*Message #11 Posted by **Garth Wilson** on 2 Mar 2009, 5:18 p.m.,*
in response to message #10 by Egan Ford

> Quote:
>
> True, but I'm still happy its there.

So am I-- I was just airing my disappointment that it wasn't nearly as good as it could have been with the same hardware.

> Quote:
>
> BTW, can you speed this up for me:

I have the execution times for a lot of words, but definitely not all of them, and I expect that the multiplication here is the limiting factor. I never got into the assembly language. It would be interesting to know if it's using a BASIC routine (as too many words apparently do), possibly even converting to and from floating-point, instead of having a well-written primitive to do 20-bit fixed-point multiplication with 40-bit result.

Re: Can we beat the 5.81 hours on the TI95 with the HP71B? Gene, Yes we can!

*Message #12 Posted by **Egan Ford** on 1 Mar 2009, 2:30 p.m.,*

in response to message #1 by Egan Ford

Update. I took some time this AM to do a bit of optimization.

Output:

```
31415926535897932384626433832795028841971693993751058209749445923078164062862089986280348253421170679821480865132823066470938446095505822317253594081284811174502841027019385211055596446229489549303819644288109756659334461284756482337867831652712019091456485669234603486104543266482133936072602491412737245870066063155881748815209209628292540917153643678925903600113305305488204665213841469519415116094330572703657595919530921861173819326117931051185480744623799627495673518857527248912279381830119491298336733624406566430860213949463952247371907021798609437027705392171762931767523846748184676694051320005681271452635608277857713427577896091736371787214684409012249534301465495853710507922796892589235420199561121290219608640344181598136297747713099605187072113499999983729780499510597317328160963185950244594553469083026425223082533446850352619311881710100031378387528865875332083814206171776691473035982534904287554687311595628638823537875937519577818577805321712268066130019278766111959096216420198
```

```
TIME: 8935.49 SEC
```

That's just under 2.5 hours and more than 2x faster than the TI95.

Source:

```
: SPIGOT ;

: 04D. <# # # # # #> TYPE ;

76 4 / CONSTANT MAXL
1000 CONSTANT N
N 4 / 14 * CONSTANT M
5 CONSTANT S
CREATE A M S * NALLOT
10000 CONSTANT F
VARIABLE E
VARIABLE K
VARIABLE P

: SPIGOTM
  1 K !
  0,

  1 M 1 - DO
    I SWAP OVER UM* SWAP 2SWAP UM* D+
    20000000, D+
    I 2* 1 - M/MOD
    ROT A I S * + !
  -1 +LOOP
  F M/MOD 04D.
  DUP E ! 0

  0 M 15 - DO
    1 I DO
      I SWAP OVER UM* SWAP 2SWAP UM* D+
      A I S * + DUP P ! @ F UM* D+
      I 2* 1 - M/MOD
      ROT P @ !
    -1 +LOOP
    F M/MOD E @ 0 D+ 04D.
    DUP E ! 0
    1 K +! K @ MAXL MOD 0= IF CR THEN
  -14 +LOOP

  2DROP
;

: DOIT
  CLOCK SPIGOTM CLOCK
  CR CR ." TIME: " X<>Y F- STD F. ." SEC" CR
;
```

Re: Can we beat the 5.81 hours on the TI95 with the HP71B? 71B result in < 2 hours.

*Message #13 Posted by **Egan Ford** on 2 Mar 2009, 4:41 p.m.,*
in response to message #1 by Egan Ford

Ok, I think this will be my last optimization.

My original version was developed for 16-bit machines, but the 71B is 20 bits. Using 20 bits I can now calculate 6 digits/outer loop (was 4). This also reduces the overall iteration count by 1/3.

Output:

```
31415926535897932384626433832795028841971693993751058209749445923078164062862089986280348253421170679821480865132823066470938446095505822317253594081284811174502841027019385211055596446229489549303819644288109756659334461284756482337867831652712019091456485669234603486104543266482133936072602491412737245870066063155881748815209209628292540917153643678925903600113305305488204665213841469519411560943305727036575959195309218611738193261179310511854807446237996274956735188575272489122793818301194912983367336244065664308602139494639522473719070217986094370277053921717629317675238467481846766940513200056812714526356082778577134275778960917363717872146844090122495343014654958537105079227968925892354201995611212902196086403441815981362977477130996051870721134999999837297804995105973173281609631859502445945534690830264252230825334468503526193118817101000313783875288658753320838142061717766914730359825349042875546873115956286388235378759375195778185778053217122680661300192787661119590921642019893

TIME: 6720.22 SEC
```

1002 digits in 1.87 hours. That's over 3x faster than the TI95.

Source:

```
: SPIGOT ;

: 06D. <# # # # # # # #> TYPE ;

79 6 / CONSTANT MAXL
1002 CONSTANT N
N 6 / 21 * CONSTANT M
5 CONSTANT S
CREATE A M S * NALLOT
1000000 CONSTANT F
VARIABLE E
VARIABLE K
VARIABLE P

: SPIGOTM
  1 K !
  0,

  1 M 1 - DO
    I SWAP OVER UM* SWAP 2SWAP UM* D+
    200000000000, D+
    I 2* 1 - M/MOD
    ROT A I S * + !
  -1 +LOOP
  F M/MOD 06D.
  DUP E ! 0

  0 M 22 - DO
    1 I DO
      I SWAP OVER UM* SWAP 2SWAP UM* D+
      A I S * + DUP P ! @ F UM* D+
      I 2* 1 - M/MOD
      ROT P @ !
    -1 +LOOP
    F M/MOD E @ 0 D+ 06D.
    DUP E ! 0
    1 K +! K @ MAXL MOD 0= IF CR THEN
  -21 +LOOP

  2DROP
;
```

```
: DOIT
  CLOCK SPIGOTM CLOCK
  CR CR ." TIME: " X<>Y F- STD F. ." SEC" CR
;
```

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Next HP scientific calculator

*Message #1 Posted by **Elliott W Jackson** on 28 Feb 2009, 1:40 p.m.*

Hi folks - anyone want to gaze into their crystal ball and predict when the next HP scientific calculator might be released?

Re: Next HP scientific calculator

*Message #2 Posted by **DaveJ** on 28 Feb 2009, 5:17 p.m.,*
in response to message #1 by Elliott W Jackson

> Quote:
>
> Hi folks - anyone want to gaze into their crystal ball and predict when the next HP scientific calculator might be released?

Ok...
Eye spy with my little eye, a new HP15C using the new 12C ROM emulation scheme - by, oh, lets say mid year.

Caveat - I could be totally wrong. The next calc might be a Hello Kitty or My Little Pony branded algebraic, out next week.

Dave.

Re: Next HP scientific calculator

*Message #3 Posted by **Martin Pinckney** on 28 Feb 2009, 11:03 p.m.,*
in response to message #2 by DaveJ

> Quote:
>
> a new HP15C using the new 12C ROM emulation scheme - by, oh, lets say mid year.

Yes, I would agree this is much more likely than, say, a 45s or Walter's 43s...

Re: Next HP scientific calculator

*Message #4 Posted by **Walter B** on 1 Mar 2009, 4:31 a.m.,*
in response to message #3 by Martin Pinckney

> Quote:
>
> > Quote:

> > a new HP15C using the new 12C ROM emulation scheme - by, oh, lets say mid year.
>
> Yes, I would agree this is much more likely than, say, a 45s or Walter's 43s...

As usual, something conservative is more likely than something new. After more than 20 years :-/ But better than nothing.

Edited: 2 Mar 2009, 2:37 a.m.

Re: Next HP scientific calculator

*Message #5 Posted by **Didier Lachieze** on 1 Mar 2009, 9:28 a.m.,*
in response to message #3 by Martin Pinckney

I'm wondering if hp would provide new manuals for this new 15C or just provide scans of the old 15C excellent manuals ...

Re: Next HP scientific calculator

*Message #6 Posted by **Mike Morrow** on 1 Mar 2009, 11:51 a.m.,*
in response to message #3 by Martin Pinckney

First, I don't ever expect to see re-issues of the HP-15C or the HP42S, in any form. But...

A reincarnation of the HP42S (with a more attractive external color scheme) would be far better than wasting effort on the HP-15C. The HP42S has a two-line alphanumeric display, ten times the effective speed, 15 times the RAM, several orders of magnitude greater precision, audible beeps, IR printer output, alphanumeric program steps, more natural complex number handling (yea, I know you can't directly manually enter four complex numbers to the stack...big deal), much more natural matrix handling, a user accessible machine-level debugger, and other features that the HP-15C lacks or implements weakly. Overall, the increased capabilities and ease of use of the HP42S are an order of magnitude better. Plus, a "landscape" keyboard on a hand held calculator is cute (appeals to those business users of the HP-12C), but it is less effectively usable than the "portrait" arrangement when actually being used hand held!

Like many other calc nuts, I occasionally like to take a particular program I've written for a recent calculator, and implement it on older machines such as the HP-25, HP-34C, HP-41CX, HP-15C, and HP42S. Any time I use anything earlier than the HP42S, the advantages of the HP42S become immediately obvious.

I'm not knocking the HP-15C. IMHO, it's the second-best RPN calculator of all time. I've had one since 1986, using it daily at work for 11 years. But its HP42S replacement is simply stunning. Only the color scheme and display sharpness are inferior.

I believe that HP adapted the "Pioneer" HP17BII to Chinese technology (HP17BII+ ??), so the same could be done for the "Pioneer" HP42S. Even if Walter's HP43S could never be made, a re-issued HP42S would still be welcome.

The HP42S...I guess you could say I'm a fan. :-)

Edited: 1 Mar 2009, 12:05 p.m.

Re: Next HP scientific calculator

*Message #7 Posted by **Martin Pinckney** on 1 Mar 2009, 1:06 p.m.,*
in response to message #6 by Mike Morrow

Mike, I agree with everything you said; but I was responding to DaveJ's original answer, not what makes the most sense from a user's standpoint.

My opinion is based in part on HP's little poll they conducted a couple of months ago, which, IMO, was biased so that the 15c would come out on top. This suggests to me that HP has been considering just what DaveJ postulated.

It would seem that would be the easiest route for HP to take. The next easiest would be something based on the 20b platform.

Re: Next HP scientific calculator

*Message #8 Posted by **DaveJ** on 1 Mar 2009, 3:00 p.m.,*
in response to message #7 by Martin Pinckney

> Quote:
>
> Mike, I agree with everything you said; but I was responding to DaveJ's original answer, not what makes the most sense from a user's standpoint.
>
> My opinion is based in part on HP's little poll they conducted a couple of months ago, which, IMO, was biased so that the 15c would come out on top. This suggests to me that HP has been considering just what DaveJ postulated.

Yes, and add to the fact that HP have recently "reclaimed" rights to all the Voyager ROM's as such.

http://nonpareil.brouhaha.com/

From a development point of view, a ROM emulated 15C is essentially trivial. I'd be very surprised if the HP engineers don't already have a proto on their desks (if anything, just for fun).

A new 15C in the market would have to be marketed with clear vintage/retro and form factor appeal, otherwise it's limited display/user interface would be considered a joke in the modern market.

> Quote:
>
> It would seem that would be the easiest route for HP to take. The next easiest would be something based on the 20b platform.

20B is the new HP platform so it's almost inevitable that we'll eventually see a scientific calc based on that platform. Just add firmware and a front panel. But please HP, fix the silly high clock speed/battery life design issue.

Dave.

Re: Next HP scientific calculator

*Message #9 Posted by **Martin Pinckney** on 1 Mar 2009, 3:56 p.m.,*
in response to message #8 by DaveJ

> Quote:
>
> A new 15C in the market would have to be marketed with clear vintage/retro and form factor appeal...

Let us hope that HP will invest enough to produce it with keys that are at least close to the look and feel of the original ones, with rounded edges and true colors, not like the cheaper-looking ones on the 12c Platinum 25 anniv. ed., (red-orange shift which should be yellow).

Re: Next HP scientific calculator

*Message #10 Posted by **Walter B** on 1 Mar 2009, 5:19 p.m.,*
in response to message #8 by DaveJ

> Quote:
>
> A new 15C in the market would have to be marketed with clear vintage/retro and form factor appeal, otherwise it's limited display/user interface would be considered a joke in the modern market.

Also this second half of the quoted sentence had to be said once. Thanks, Dave!

Re: Next HP scientific calculator

*Message #11 Posted by **Brent Hillebrenner** on 1 Mar 2009, 8:12 p.m.,*
in response to message #8 by DaveJ

> Quote:
>
> From a development point of view, a ROM emulated 15C is essentially trivial.

I would think the form factor is essentially trivial too, since they already have it - more or less - in the 12c. I also think the 15c style calculator is still very useful in today's workplace... Easily carried, can be used at the desk or in the field to do simple or more complex calculations. And it's programmable!

I've never owned a 42s but I suspect most people today use its extended capabilities to exercise their mind and not necessarily for production. Of course exercising retro geeks minds is a worthy proposition, I don't think it's profitable for HP.

Cheers,

Brent

Edited: 1 Mar 2009, 8:13 p.m.

Re: Next HP scientific calculator

*Message #12 Posted by **DaveJ** on 1 Mar 2009, 8:47 p.m.,*
in response to message #11 by Brent Hillebrenner

> Quote:
>
> I would think the form factor is essentially trivial too, since they already have it - more or less - in the 12c.

Yep, the only thing they would have to change is the key legends and front plate. The electronics platform is already in place, they could even use the same PCB, just requires different firmware.

It would even be worth it to do as a premium cost low volume niche market product. And I believe HP even once indicated they were willing to discuss such low volume (1000's) custom products with the appropriate people.
i.e. if someone was entrepreneurial enough to approach HP and say they would buy say 5000 15C's HP might actually consider it.

Dave.

Re: Next HP scientific calculator

*Message #13 Posted by **Egan Ford** on 1 Mar 2009, 9:27 p.m.,*
in response to message #12 by DaveJ

> Quote:
>
> Yep, the only thing they would have to change is the key legends and front plate. The electronics platform is already in place, they could even use the same PCB, just requires different firmware.

Same can be said of the new 17BII+. No reason it cannot be a 42S as well. Number/position of keys and the display are the same. I say, do them both. If HrastProgrammer can emulate the 42S with the original 42S ROM on the 48GX, then anything is possible.

Re: Next HP scientific calculator

*Message #14 Posted by **Didier Lachieze** on 2 Mar 2009, 12:49 a.m.,*
in response to message #13 by Egan Ford

Does anyone knows which processor is used on the HP17BII+ silver?

Re: Next HP scientific calculator

*Message #15 Posted by **Walter B** on 2 Mar 2009, 2:22 a.m.,*
in response to message #14 by Didier Lachieze

Bonjour Didier,

you may find an answer here.

Re: Next HP scientific calculator

*Message #16 Posted by **reth** on 2 Mar 2009, 12:56 a.m.,*
in response to message #13 by Egan Ford

HP17BII+ has a lot better looking slanted keys and looks better than the HP42S overall, I hope the keys are as good mechanically as the ones on the original HP42S

Re: Next HP scientific calculator

*Message #17 Posted by **Walter B** on 2 Mar 2009, 1:31 a.m.,*
in response to message #16 by reth

> Quote:
>
> I hope the keys are as good mechanically as the ones on the original HP42S

Only time can tell. But the tactile feedback feels definitively good - big advantage over the 20b as is.

The advantage the 17bii+ silver platform has over the 12cpt+ is it replaces a 28 year old LCD by a 21 year old. Soft keys are featured on the 17bii+, but impossible on the 12cpt+. OTOH the 12cpt+ is more compact and less load for the shirt pocket.

What a difference soft keys make was told here repeatedly. For example, a scientific "17bii+ silver" may look like this. The display window would allow for better LCDs.

Edited: 2 Mar 2009, 2:24 a.m.

Re: Next HP scientific calculator

*Message #18 Posted by **reth** on 2 Mar 2009, 4:05 a.m.,*
in response to message #17 by Walter B

I love your designs but where is the "silver" part here? 17BII+ looks cool partly because of that. I assume () is there to serve the equation writer, isn't it? But where are P-R and R-P? I'd stay away from 35S shortcomings.
Always enjoying your ideas
Best regards,
Reth

BTW nice place for R/S - exactly where it should be ;)

Edited: 2 Mar 2009, 5:25 a.m.

Re: Next HP scientific calculator

*Message #19 Posted by **Walter B** on 2 Mar 2009, 6:12 a.m.,*
in response to message #18 by reth

Thanks, reth, for your friendly words. Of course, you can get this with a silver keyplate, too. Just the contrast of gold on silver is a bit low ;) but we'll find a solution for that.

> Quote:

> I assume ( ) is there to serve the equation writer, isn't it?

Correct. And it takes care of our algebraic friends.

> Quote:
>
> But where are P-R and R-P?

P>R and R>P are in the menu CONVERT. Keyboard space is limited.

After all, the 44s is just another second best solution - I prefer a 43s if I had a choice.

Best regards,

Walter

Re: Next HP scientific calculator

*Message #20 Posted by **Antonio Maschio (Italy)** on 3 Mar 2009, 6:03 a.m.,*
in response to message #19 by Walter B

Walter, a friendly advice:

go and do all you can to become a HP designer! Cheat, steal, lie, do anything you need: I want all real calculators of yours under my fingers! ;.)

-- Antonio

Re: Next HP scientific calculator

*Message #21 Posted by **DaveJ** on 4 Mar 2009, 2:07 a.m.,*
in response to message #20 by Antonio Maschio (Italy)

> Quote:
>
> Cheat, steal, lie, do anything you need

That's exactly what us design engineers need to do to get a useful product out the door, instead of one that was designed by marketing!

I think you'd actually be surprised, in general, how little say design engineers have in the final released product design in large companies like HP.

Coincidentally, I almost applied for a job in the HP calculator design group way back when they were in Melbourne Australia and they advertised for a hardware designer. I think they went belly-up not long after, so probably wouldn't have been a good move.

Dave.

Re: Next HP scientific calculator

*Message #22 Posted by **Garth Wilson** on 4 Mar 2009, 2:55 a.m.,*
in response to message #21 by DaveJ

> Quote:
>
> That's exactly what us design engineers need to do to get a useful product out the door, instead of one that was designed by marketing!
>
> I think you'd actually be surprised, in general, how little say design engineers have in the final released product design in large companies like HP.

Judging from what I've observed over the last 20 years, I am not surprised.

Re: Next HP scientific calculator

*Message #23 Posted by **David Hayden** on 2 Mar 2009, 11:23 a.m.,*
in response to message #1 by Elliott W Jackson

I think HP could greatly improve the 50g with two minor changes. Both changes make User-defined keys much easier to use.

1. Keyboard overlays similar to the 41 series. You could place these over the keyboard and a spring clip held them in place. You write the user-defined functions on the overlay to you knew which key did what. This would require some physical changes to the case and, of course, the overlays themselves. But they could charge for the overlays.

2. On the HP 41, if you pressed and held a key for a few moments, the display would show the function that they would perform. Continue holding the key for about 2 seconds and the display would change to "NULL" which meant you could release the key now and it wouldn't do anything. This was another handy way to know what user-defined keys did in case you'd forgotten (or lost your overlay :)).

With these changes, you could modify the keyboard to suit the problem at hand. Doing calculus today? Slap in your calculus overlay and load the calculus key definitions. No need now to hunt through the menus for the functions and you can use the soft keys for other things. Doing some programming this evening? Drop in the programming overlay and definitions.

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MoHPC Version 7 DVD release date?

*Message #1 Posted by **Michael de Estrada** on 28 Feb 2009, 8:31 a.m.*

Is there an estimated release date for Version 7 of the MoHPC CD/DVD sets?

Thanks, Michael

Re: MoHPC Version 7 DVD release date?

*Message #2 Posted by **Dave Hicks** on 2 Mar 2009, 11:38 a.m.,*
in response to message #1 by Michael de Estrada

Sorry, no date yet but there's a status update above.

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N cells revisited

*Message #1 Posted by **Palmer O. Hanson, Jr.** on 27 Feb 2009, 11:51 p.m.*

A recent thread indicated that N cells may be hard to find without going to specialty battery stores. I have been getting mine at Home Depot at about two for four dollars. I checked today and they are still 2 for $3.97 plus tax.

That means over eight dollars for a set for an HP-41 and explains why three of my four HP-41's don't have a working battery pack installed.

Re: N cells revisited

*Message #2 Posted by **Jandro Kirkish** on 28 Feb 2009, 12:39 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

I've found mine for 20 years at radio shack. Just bought some more 2 weeks ago for about $4.00...

Re: N cells revisited

*Message #3 Posted by **Philippe Lasnier** on 1 Mar 2009, 6:48 a.m.,*
in response to message #2 by Jandro Kirkish

There was a thread a few days ago about that.

Here (UK) I can get alkaline N cells in packs of two for £1.21 (approx. $1.70), and in packs of 20 for £8.96 (approx. $12.55). I can also get NiMH 500mAh N cells for £1.87 ($2.62) each. All these prices include VAT/Sales tax, but exclude posting/handling, although buying enough (or with other stuff) would make that negligible.

In other words, if you look around, you can still find them for reasonable prices.

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Printing on a 82143A with HP-75C

*Message #1 Posted by **Giovanni Jimenez** on 27 Feb 2009, 4:19 p.m.*

I am wondering if I could print on a HP-82143A printer from a HP-75C. The original printer (82162A)for the HP-75C looks identical to the 82143A, except of course for the connector. So how do I map the 7 pins of the 82143A to the 4 pins (2 IN and 2 OUT) of the 82162A? Can I even do that ? do the signals use the same voltage levels? I assume so as they are both HP-IL, right ?

Thank you!

Giovanni

Re: Printing on a 82143A with HP-75C

*Message #2 Posted by **Winfried Maschke** on 27 Feb 2009, 4:35 p.m.,*
in response to message #1 by Giovanni Jimenez

Hi Giovanni,

there is no way to connect the 82143A to the HP-75C. The signals are different. Inside the 82162A there is a special HP-IL chip which you will not find inside the 82143A. The first 82143A was built years before the 82162A and it will only work with the HP-41.

Regards Winfried

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Questions for the HP-01 restorers...

*Message #1 Posted by **Maximilian Hohmann** on 27 Feb 2009, 4:08 p.m.*

Hello!

There have been a few threads about restoration of HP-01 calculator watches in the past. Names like Geoff and Bryan come to mind, but there may have been others too. I just got my second HP-01. The first one is a near-mint complete-with-everything stainless steel model that cost me more than I will ever confess to my wife and that will probably spend the rest of it's days hidden away somewhere for fear of scratching it.

So I looked for another one, less expensive, preferably golden (for the sake of completing the collection) and in a state of use that will allow me to actually take it along from time to time without fear of damaging my pension money. So here it is.
And my dilemma starts: I really hate golden watches. Anything golden that is. Always did. I never had a golden watch because I knew I wouldn't like it. I tried to make an exception this time because it's an HP-01, but I don't think I want to wear this thing. Which means that:
a) I will have to look again for a well-worn stainless steel HP-01 to wear myself
b) I may have to restore this golden specimen to a collection-worthy state.
(or c) forget about completing the collection and trade the golden watch for a stainless one in similar, wearable shape?)

Anyways, I would kindly ask the experts to take a look at my photos below (caution - large images - do not download on your mobile phone...) to assess, wether or not a restoration attempt will be worth the effort. I think, the overall shape is not too bad - from a distance of half an armlength you won't notice most of the defects - but the chipped glass and the scratch across the keyboard are very prominet once you look closer. As is the damaged stripe of black paint around the housing and the worn gold plating in some spots.

So what do you think/suggest? Are there some easy fixes maybe, that will cover most of the defects without requiring total disassembly? Can this glass crystal be fixed somehow (expoxy resin maybe)? What paint to use for touching up the black stripe? How to polish out the scratches from the glass(plastic?) without removing the "Hewlett Packard" label in the process?

And yes, I found Bryans site on the web and will use this as guidline in case I have to disassemble the watch.
BTW: What has become of the project of getting replacent glass crystals mass-produced?

Many questions, I'm afraid... Greetings, Max

http://www.bombie.de/tmp/golden_HP01_details/golden_well_worn_HP01.html

Re: Questions for the HP-01 restorers...

*Message #2 Posted by **Geoff Quickfall** on 3 Mar 2009, 6:06 p.m.,*
in response to message #1 by Maximilian Hohmann

you have email!

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OT Weekend Challenge

*Message #1 Posted by **Chuck** on 27 Feb 2009, 2:43 p.m.*

Test your algebra skills on this one.

Given f(x)=b^x and g(x)=log(b,x) find all possible values for b so that f and g are tangent.

The HP's may be able to numerically find b, but it's more challenging on your own.

Have a good weekend. :)

CHUCK

Re: OT Weekend Challenge

*Message #2 Posted by **Allen** on 27 Feb 2009, 7:42 p.m.,*
in response to message #1 by Chuck

> Quote:
>
> Given f(x)=b^x and g(x)=log(b,x) find all possible values for b so that f and g are tangent.

Do you mean the Logarithm is tangent at some *particular* point, at *least one* point, or is there some other missing piece of information? Unless I'm mis-read something, it seems the problem statement is incomplete since f and g are functions of x but we are "finding b such that..."

Re: OT Weekend Challenge

*Message #3 Posted by **Chuck** on 27 Feb 2009, 8:32 p.m.,*
in response to message #2 by Allen

The challenge is to find the unique base b which makes the exponential function with that base b, and the logarithm function with that base tangent at a particular point. Finding the point the two functions are tangent at is most likely a necessity.

C

Re: OT Weekend Challenge

*Message #4 Posted by **Namir** on 27 Feb 2009, 11:10 p.m.,*
in response to message #1 by Chuck

This is not some homework you need help with?

:-)

Namir

Re: OT Weekend Challenge

*Message #5 Posted by **C.Ret** on 28 Feb 2009, 2:53 a.m.,*
in response to message #4 by Namir

> Quote:
>
> This is not some homework you need help with?

It's really like it is the case.

May I suggest to look at e and 1/e.

Re: OT Weekend Challenge

*Message #6 Posted by **Chuck** on 28 Feb 2009, 11:12 a.m.,*
in response to message #5 by C.Ret

They have something to with it, but those are not the answers. It's not a really challenging problem, but it does have an interesting solution.

Re: OT Weekend Challenge

*Message #7 Posted by **Chuck** on 28 Feb 2009, 11:08 a.m.,*
in response to message #4 by Namir

Heavens no. This is a problem I came across from a math archive two years ago. The "answer" was given, and it turned out to be an interesting problem in that I came up with two solutions instead of their one. I'm not teaching calculus this year so I think it would be a little too challenging for my algebra students. Cheers.

Re: OT Weekend Challenge

*Message #8 Posted by **Gerson W. Barbosa** on 28 Feb 2009, 9:54 p.m.,*
in response to message #1 by Chuck

I thought of trying to solve the following system:

ln(b)*b^x = 1/(x*ln(b)) ; the first derivatives of f(x) and g(x) must be the same at that point so they are tangent to each other

b^x = ln(x)/ln(b) ; both functions must have the same value at the tangent point

By replacing b^x with ln(x)/ln(b) in the first equation we get b = e^(1/(x*ln(x))). Well, at this point I got lost as solving for a particular x was not enough to find b such b and x were solutions to the system. Perhaps you might explain why deriving e^(1/(x*ln(x))) and equating it to zero gives x=1/e and allows us to compute b=e^(-e), which are solutions to the system.

Gerson.

Re: OT Weekend Challenge

*Message #9 Posted by **Namir** on 28 Feb 2009, 10:04 p.m.,*
in response to message #8 by Gerson W. Barbosa

Gerson,

I followed much the same steps in working with equating the functions and their derivatives. I look at them as two nonlinear equations with two variables.

Anyone can solve the system of 2 nonlinear equations?

Namir

Re: OT Weekend Challenge

*Message #10 Posted by **C.Ret** on 2 Mar 2009, 8:37 p.m.,*
in response to message #9 by Namir

Shall I propose to start over from start:

Given **f**(x) = b^x and **g**(x) = $\log_b(x)$, we have to found all possible value of *b* so that given function ***f*** and ***g*** are tangent.

Domain of definition:

As a first approach, I suggest to only consider the real space of definition of ***f*** and ***g***. The complex space may be investigating the same way and may lead to supplementary solutions, but a non-obvious graphical approach have to be explained.

The (real) natural logarithms *ln x* is only define for strictly positive real argument *x*.

Since $log_b\ x = ln(x)/ln(b)$, ***g*** is real only for *b>0* and *x>0* and undefined (division by zero) at *b=1*.

This greatly simplifies the domain of definition for ***f*** as a real function too. Since b^x is real for any (strictly) positive value of b and x. The study of this function is much more complex for negative b especially where $|\ x\ |<1$.

```
f:  |R+     . |R+    -------> |R+
   (    b    ,  x  )          bx

g:  |R*+-{1} . |R*+   -------> |R
   (    b    , x   )          ln x / ln b
```

More rigorously (or mathematically) we have to found any pair (b, x_0)

Rigorously, we have to consider only strictly positive value of the real *b* and *x* with b not equal to unity.

Real vs complex plan considerations

In the domain of real definition the two given function ***f*** and ***g*** are tangent is their graphs plotted as $y = \boldsymbol{f}(x)$ and $y = \boldsymbol{g}(x)$ cross each other only one time at an intersection point x_t and that the slope of the two curves is identical at this point so that a tangent line passing at this intersection point can be draw.

This graphical situation can be express as a system of two non-linear equations:

1. $y = \boldsymbol{f}(x_t)$ and $y = \boldsymbol{g}(x_t)$
2. $s = d/dx\ \boldsymbol{f}(x_t)$ and $s = d/dx\ \boldsymbol{g}(x_t)$

System of equation:

1. $f(x_t) = g(x_t)$
2. $f'(x_t) = g'(x_t)$

1. $b^{x_t} = ln(x_t)/ln(b)$
2. $ln(b).b^{x_t} = 1/(x_t.ln(b)$

1. $b^{x_t} = ln(x_t)/ln(b)$
2. $ln(b)^2.b^{x_t}.x_t = 1$

By substituing expression of given in 1) into equation 2),

(eq.) $ln(b).ln(x_t).x_t = 1$ where $b>0$, $x_t>0$, $b<>1$ and $x_t<>1$.

This last equation (eq.) give the relation between the slope of the tangent and the position on the curbe (through the abscisse *x*). More precisely the relation between the logarithm of the slope and the x position.

This equation is a product and, since $x > 0$, the both logarithms $ln(b)$ and $ln(x_t)$ must have the same sign.

As a consequence,

- if a tangent exist with b less than 1, it may only exist at x positions in interval] 0 ; 1 [
- if a tangent exist with b more than 1, it may only exist at x positions greater than 1 ( ] 1 ; oo [.
- no tangent point is possible at $x_t = 1$ or $b = 1$.

From (eq) : $ln(b) = 1 / (ln(x_t).x_t)$

Case 1 : $b > 1$ Supposing a tangent of correct slope exist with $b > 1$, we have to verify that an unique intersection also exist at a point $x_t > 1$.

In the case $b > 1$, we have $ln(b) > 0$, thus equation 1. of the initial system is:

1. $b^x = ln(x)/ln(b)$
2. $ln(b) = 1 / (ln(x).x)$

In order to avoid x^x terms we may use the logarithm of this first equation 1. Knowing sign of $ln(b)$, (since $ln(b)>0$ as $b > 1$) the system is transformed to :

1. $ln(b^x) = ln(ln(x)/ln(b))$
2. $ln(b) = 1 / (ln(x).x)$

1. $x.ln(b) = ln(ln(x)) - ln(ln(b))$
2. $ln(b) = 1 / (ln(x).x)$

Replacing any occurrence of $ln(b)$ in 1. :

1. $x / (ln(x).x) = ln(ln(x)) + ln(ln(x).x)$
2. $ln(b) = 1 / (ln(x).x)$

1. $x / ln(x) / x = ln(ln(x)) + ln(ln(x)) + ln(x)$
2. $ln(b) = 1 / (ln(x).x)$

1. $1 / ln(x) = 2.ln(ln(x)) + ln(x)$ where $x > 1$
2. $ln(b) = 1 / (ln(x).x)$

Posing $y = ln(x)$, we get :

1. $1 / y = 2.ln(y) + y$ where $y > 0$
2. $ln(b) = 1 / (ln(x).x)$

Again, we have to take care of the sign of ln(y) and define three domain :

- if $ln(y) = 0$ then the system accept a solution : $y = 1$ ---> $ln(y) = 0$ and the system admit an unique intersection $x_t = exp(1) = e$.
  1. $1 / 1 = 0 + 1$
  2. $ln(b) = 1 / (1.e^1)$

  Equation 1. is OK from $1 = \ln(x_t)$ we get intersection coordinate and b parameter :

  1. $x_t = e$ which is > 1
  2. $ln\ b = 1 / e$

  1. $x_t = 2.7183$
  2. $b = 1.4447$

  Intersection coordinate are (e,e) and slope of the tangent is 1 (i.e. 45°)

- if $ln(y) > 0$ then the system accept no solution :

  Since ln is a growing function, $ln(y) > 0$ imply that $y > 1$. In this case, the left side of equation (1.) $1/y$ is less than one and can never be equal to the right side $2.ln(y) + y$ which has two raisons to be greater than one.

  No solution can be found for any x greater than e (where y >1, x > 1, b >1).

- if $ln(y) < 0$ then the system accept no solution :

  Since ln is a growing function, $ln(y) < 0$ intimate that $y < 1$. In this case, the left side of equation 1. $1/y$ is more than one and can never be equal to the right side $2.ln(y) + y$ which has two raisons to be less than one.

  No solution can be found for any x in the interval $] 1 ; e [$ (where y <1, x>1, b>1).

The only solution in the x > 1 (and b > 1) range was found at $x = e$ where $y = ln\ e$ is exactly one and $ln\ b = 1/e$.

Case 2 : $b < 1$ Supposing a tangent of correct slope exist with $0 < b < 1$, we have to verify that an unique intersection also exist at a point $0 < x_t < 1$.

In the case $0 < b < 1$, we have $ln(b) < 0$, thus equation 1. of the initial system is :

1. $b^x = ln(x)/ln(b)$
2. $ln(b) = 1 / (ln(x).x)$

1. $ln(b^x) = ln(ln(x)/ln(b))$
2. $ln(b) = 1 / (ln(x).x)$

Since $ln\ x < 0$ and $ln\ b < 0$, we get :

1. $x.ln(b) = ln(-ln(x)) - ln(-ln(b))$
2. $ln(b) = 1 / (ln(x).x)$

Replacing any occurrence of $ln(b)$ in 1. :

1. $x / (ln(x).x) = ln(-ln(x)) + ln(-ln(x).x)$
2. $ln(b) = 1 / (ln(x).x)$

1. $x / ln(x) / x = ln(-ln(x)) + ln(-ln(x)) + ln(x)$
2. $ln(b) = 1 / (ln(x).x)$

1. $1 / ln(x) = 2.ln(-ln(x)) + ln(x)$ where $0 < x < 1$
2. $ln(b) = 1 / (ln(x).x)$

Posing $y = -ln(x)$, we get :

1. $1 / y = y - 2.ln(y)$ where $y > 0$
2. $ln(b) = 1 / (ln(x).x)$

- if $y = 1$ then $ln\ y = 0$ an acceptable solution exist at position $1/e$ where $1 = -ln(x_t)[\italic]$

    1. $[italic]\ x_t = 1/e = .3679$
    2. $b = 0.0660$

- if $0 < y < 1$ or $y > 1$, no solution can be found.

The only solution in the 0 < x < 1 (and 0 < b < 1) range was found at $x = 1/e$ where $y = -ln(1/e)$ is exactly one and $ln\ b = -e$.

Slope of the tangent is -1 (315°). Note that the two curve are tangent but still crossing.

Conclusion:

The only two values of b so that $\mathbf{f}(x) = b^x$ and $\mathbf{g}(x) = \log_b(x)$ are tangent, considering only real space graph, have been found at positions (x,y) = (e,e) and (x,y)=$(1/e,1/e)$ where $b = e^{1/e}$ and $b = e^{-e}$ respectively.

Edited: 3 Mar 2009, 9:00 a.m. after one or more responses were posted

Re: OT Weekend Challenge

*Message #11 Posted by **Gerson W. Barbosa** on 3 Mar 2009, 7:14 a.m.,*
in response to message #10 by C.Ret

Nice work!

> Quote:
>
> **Conclusion:**

> The only two values of *b* so that **f**(x) = b^x and **g**(x) = $\log_b(x)$ are tangent, considering only real space graph, have been found at positions (x,y) = (*e*,*e*) and (x,y)=(*1/e*,*1/e*) where *ln b = 1/e* and *ln b = -e* respectively.
>
> ---

That is, $b=1/e^e$ and $b=e^{1/e}$

Looking at your in-depth analysis of the problem, I wonder how I was able to find at least one of the solutions :-)

Gerson.

```
------------------


Graphmatica plots of y=ln(x)/ln(1/e^e), y=(1/e^e)^x, y=(e^(1/e))^x and
y=ln(x)/ln(e^(1/e)) :
```

Re: OT Weekend Challenge

*Message #12 Posted by **C.Ret** on 3 Mar 2009, 8:56 a.m.,*
in response to message #11 by Gerson W. Barbosa

Thank you, I correct my conclusion from this typo (it is hard not to be lost in the cut/paste composition due to the numerous [italic] and other formatting flags.

Re: OT Weekend Challenge

*Message #13 Posted by **Chuck** on 4 Mar 2009, 1:09 a.m.,*
in response to message #12 by C.Ret

Wow, excellent analysis C.Ret, and nice graph Gerson. Here was my solution when I came across the problem last week.

```
Since f(x)=b^x and g(x)=log(b,x) are inverse functions we know that they'll
be
tangent along with y=x for some number x=a.  This means,


a=b^a   and   a=ln(a)/ln(b)   (using a change of base for g(x))


Also, since they are tangent , their derivatives will also be equal at some
x=a, or


b^a ln(b) = 1/(a ln(b))


These three equations allow us to solve for a.  Using the first two
equations (into the
third) we get


   a ln(b) = 1/ln(a)
     ln(a) = 1/ln(a)
 (ln(a))^2 = 1
     ln(a) = +/- 1


so, a = e^(+/-1)
```

```
Therefore, since b=a^(1/a) we have b=e^(1/e) and b=1/(e^e), giving the two
solutions
and the nice graphs Gerson made.
```

The source I found the problem in incorrectly assumed that the function had to be tangent to y=x (because they are inverse functions) meaning they have to have a slope of 1, hence only one solution, and not the more interesting 1/e^e base.

Fun problem, and thanks to all who played along.

CHUCK

EDIT Addendum - - Why I find b=1/e^e more interesting is that the functions are not only tangent at x=e^-1 (look at Gerson's graph), but also intersect and have the same concavity (not equal to zero). This is amazing! Try to sketch two curves that are tangent, intersect, and have a concavity not equal to zero (or at least one with 0 concavity) . My limited artistic ability this quite challenging.

Edited: 4 Mar 2009, 1:59 a.m.

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HP Forum Archive 19

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Military 41C for auction

*Message #1 Posted by **Marcus von Cube, Germany** on 27 Feb 2009, 3:44 a.m.*

This is not about selling or buying, it's just a technical question about the 41C in this auction.

The seller states the machine needs to be reprogrammed because it's running a special software. What do you think how this is implemented? A replacement ROM or a soldered in module which autostarts?

For the records: my eBay name is mvcube.

I won't believe that

*Message #2 Posted by **Frank Boehm (Germany)** on 27 Feb 2009, 4:07 a.m.,*
in response to message #1 by Marcus von Cube, Germany

Using a module is the way to go, I don't believe HP ever made a calculator with a modified internal ROM. So either they are plain broken or the seller doesn't know how to use them (which is somewhat more likely in this case). Judging by the images, there seems to be remains of a water/dustproof overlay on top of the calculator, I'd certainly ask if these remains are removable or if they are glued onto the calculator.

Re: I won't believe that

*Message #3 Posted by **Martin Pinckney** on 27 Feb 2009, 10:02 a.m.,*
in response to message #2 by Frank Boehm (Germany)

Perhaps the seller just means that the calculators just have a "mortar fire" program in main memory, not that the ROM is different.

Re: I won't believe that

*Message #4 Posted by **Michael de Estrada** on 27 Feb 2009, 10:18 a.m.,*
in response to message #3 by Martin Pinckney

Assuming that either the batteries are dead or missing, how long would a program be retained in memory? These calculators may have been sitting idle for decades.

Re: I won't believe that

*Message #5 Posted by **Martin Pinckney** on 27 Feb 2009, 10:51 a.m.,*
in response to message #4 by Michael de Estrada

Well, he says "This item is in working condition", so they must have charged batteries in them. Perhaps they were only sold off by "the army" as surplus recently.

Re: I won't believe that

*Message #6 Posted by **Charles** on 1 Mar 2009, 4:04 p.m.,*

in response to message #5 by Martin Pinckney

This reference indicates that the HP41 was used in the British Army until 2003. I doubt the batteries would have lasted that long.

http://members.tripod.com/~nigelef/fc_computer.htm

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dot matrix in crayon

*Message #1 Posted by **db (martinez, ca.)** on 27 Feb 2009, 12:43 a.m.*

There is now a simple wikipedia (simple.wikipedia.org). It features simple words and grammar, and has a help page called simple talk. This Wiki has no section on RPN. We should create one.
Since they suggest writing “without technological jargon” and keeping it basic; i believe we will need to describe RPN by using AOS.

Re: dot matrix in crayon

*Message #2 Posted by **Walter B** on 27 Feb 2009, 2:48 a.m.,*
in response to message #1 by db (martinez, ca.)

What's the primary target group of this site? Kids? Housewives? Educated people with English as a second language? The article may vary ...

(Disclaimer, since this here is an US American site: no offence intended)

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HP Forum Archive 19

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An HP48GX that makes a buzzing sound. HELP!!

*Message #1 Posted by **Namir** on 26 Feb 2009, 6:00 p.m.*

I have an HP48GX that makes a buzzing sound when you turn it on!!! The sound is coming from the IR device area. Any opinion as to what is wrong with the machine. Is it very serious? Can it be fixed?

Thank you in advance for your reply.

Namir

Re: An HP48GX that makes a buzzing sound. HELP!!

*Message #2 Posted by **bill platt** on 26 Feb 2009, 6:30 p.m.,*
in response to message #1 by Namir

It is extremely serious. It is a nuclear effervescence incident. It will cause all the beer in the house to explode.

I can't wait for April to come...

Re: An HP48GX that makes a buzzing sound. HELP!!

*Message #3 Posted by **Namir** on 26 Feb 2009, 7:19 p.m.,*
in response to message #2 by bill platt

Why me????!!!!!!!!! What did I do to deserve this??

:-)

Namir

Re: An HP48GX that makes a buzzing sound. HELP!!

*Message #4 Posted by **Jonathan Purvis (New Zealand)** on 26 Feb 2009, 7:32 p.m.,*
in response to message #1 by Namir

It's one of two things:
http://www.hpcalc.org/hp48/docs/faq/48faq-6.html#ss6.1
http://groups.google.com/group/comp.sys.hp48/msg/38e1631ae84e73be

The first is more likely, but i like the second one better. :)

Re: An HP48GX that makes a buzzing sound. HELP!!

*Message #5 Posted by **Namir** on 26 Feb 2009, 9:07 p.m.,*
in response to message #4 by Jonathan Purvis (New Zealand)

I guess that noise will drain the batteries very quickly!!

Namir

Re: An HP48GX that makes a buzzing sound. HELP!!

*Message #6 Posted by **Marcus von Cube, Germany** on 27 Feb 2009, 5:13 a.m.,*
in response to message #5 by Namir

Are you feeding the bugs with battery power? ;)

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4915 digits of pi - MCODE 41 (19660 digits optional)

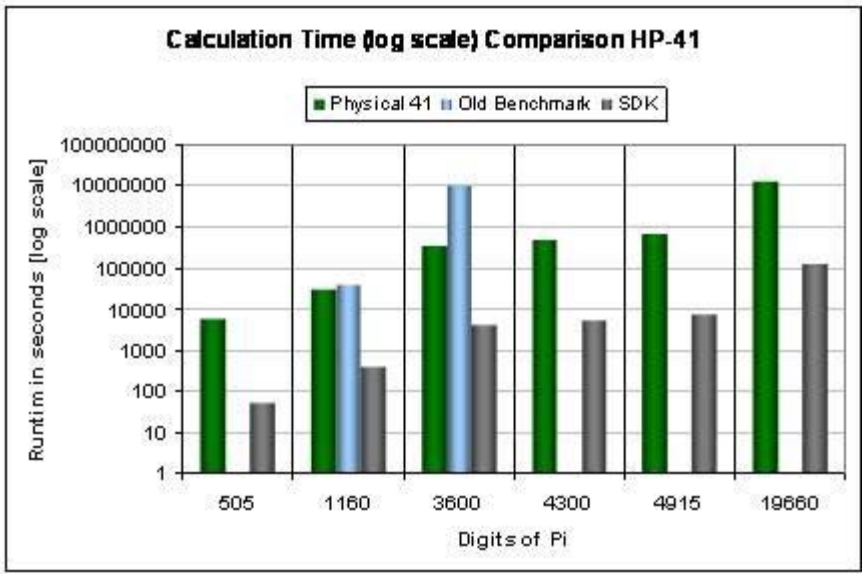
*Message #1 Posted by **PeterP** on 26 Feb 2009, 5:27 p.m.*

Hi,

A few months back Katie insidiously infected me with the Pi bug (see here), from which I had been save until then. She has created a series of deeply impressive programs for a variety of HP calculators:Katie's Pi article. Not knowing anything about the field I proceeded to read her programs as well as follow the kind explanations, links and book suggestions from her and Egan. Especially the Spigot algorithm was suggested as an interesting candidate.

Looking through the form I also found numerous threads for Pi calculations on the hp41. JFG had a program that calculated 560 digits in 22hours (see here). A program 'Deep Pi' is discussed here but seems to have extremely long run times. The first 6 digits take 38 minutes. And 625 digits take tens of days…
According to an old post from Gene Wright (see here) about a challenge between the TI-59 and HP-41 it would seem that with reasonable times, 1160 digits (15.5 hours) was the top mark. Allowing unreasonable run times, the incredible number of 3600 digits could be reached, albeit only in 4 month…

Please find below my own little contribution to the Many-Digits-of-Pi story on the HP-41 using MCODE. It is neither particularly elegant or ingenious (quite the opposite) but it does deliver 1160 digits in about 9 hours (instead of 15.5), 3600 digits in about 4 days (instead of 120 days), and 4915 digits in about 8 days. Using a RSU-2 unit with 128k (and a small extension of the code to switch banks, not implemented) one could calculate 19660 digits of pi in about 21.5 weeks. See a logarithmic comparison chart:



The code implements a straight forward Spigot mechanism (see Pi Unleashed, thanks Egan) using MLDL ram to store the intermediate results. Each intermediate result (the a(i)'s) are stored in 2 MLDL words (left and right Nybble). The right Nybble is converted to hex as each word can store at most 399d but can store 3ffh(=4096d). As the numbers don't grow larger than 399,999, we can leave the left nybble in dec format. Also, as there are no 5 or 6 9's consecutively in Pi in the first 20,000 digits, we don't have to worry about that either.

The code asks for three inputs: The page where the MLDL ram starts to use, the number of digits and the base b to use (max = 5 for 5 digits at a time). One can set Flag 0 and the calc will stop at each group of digits and wait for a key to be pressed, otherwise it just keeps calculating, calculating, calculating… Setting Flag 1 will store the found digits in the same compressed format – each group of up to 5 digits is stored in 2 words, with the right nybble converted to hex. They are stored in reversed order though.

Runtimes are quite accurately n^2 (see table 1 below). Actual run-times on physical HP's where done up to 505 digits and above I used the SDK emulator. Times marked with (*) are extrapolated from existing times using a power fit through the first 9 data-points up to 4915 digits with an R2 of 0.9992 so they should be quite accurate.

Digits	Note	Physical 41	SDK	Old Benchmark	Configuration
505		1h 32m 49s	54s		MDOP in page 9, Rambox using page A
1160	old top mark	9h 01m 00s(*)	06m 32s	11h 30m 00s	MDOP in page 9, Rambox using page A, B
3600	old abs max dig	4d 04h 00m 00s(*)	1h 07m 03s	120d 00h 00m 00s	MDOP in page 9, RAMBOX using page A,B,C,D,E,F
4300	max without Clonix/Zeprom	6d 00h 06m 48s(*)	1h 25m 42s		MDOP in page 8, RAMBOX using page 9,A,B,C,D,E,F
4915	max without bankswitching	1w 0d 23h 08m 32s(*)	2h 07m 06s		MDOP in page 6, RAMBOX using page 8,9,A,B,C,D,E,F
19660	max with RSU-128k	21w 01d 11h 01m 49s(*)	1d 12h 30m 50s(*)		MDOP in page 6, RAMBOX using page 8,9,A,B,C,D,E,F x4 banks

Cheers, Peter

```
* PI.SRC
* Assembled by A41
* Thu Feb 26 16:39:13 2009
                                .TITLE  "PI"
                                .JDA
                                .EQU    [PCTOC] 00D7
;*****************************************************************************************
;*  FAT for MANYDIGOFPI
;*****************************************************************************************
 0000 005                       XROM    5       ;XROM number.
 0001 002                       FCNS    2       ;Header + functions
 0002 000013                    DEFR4K  [Header] 0013   ;1 - first executable of header
 0004 000018                    DEFR4K  [MDOP] 0018     ;2 - Many Digits of Pi
 0006 000                       NOP
 0007 000                       NOP
;-----------------------------------------------------------------------------------------
                                .NAME   "MANYDIGOFPI"
*0008 089                       #089            ; "I"
*0009 010                       #010            ; "P"
*000A 006                       #006            ; "F"
*000B 00F                       #00F            ; "O"
*000C 007                       #007            ; "G"
*000D 009                       #009            ; "I"
*000E 004                       #004            ; "D"
*000F 019                       #019            ; "Y"
*0010 00E                       #00E            ; "N"
*0011 001                       #001            ; "A"
*0012 00D                       #00D            ; "M"
 0013 3E0       [Header]        RTN
;-----------------------------------------------------------------------------------------
; Many Digits of PI
; Spigot algorithm from Pi-book
; uses base b <= 5 to show 5 digits at a time
;Flag0 - wait for key press after each group is shown
;Flag1 - store result digits in reverse order from end (iStart)
;Input:
; X : base b in powers of 10
; Y : n - number of digits wanted
; Z : p - page number of start of MLDL ram to use
;-------------
; All Stack and Alpha is used for temp storage
; 3(X):  i in dec, 1step                5(M): orig iStart in hex and 2 step
; 2(Y):  tmp                            6(N): last addr in hex and 2 step
; 1(Z):  iBits in dec, 1 step           7(O): iBits in hex, 2 step
; 4(L):  iStart in dec, 1 step          8(P): b|iStart in hex and 2 step
; 9(Q): q - remainder                   0(T): page number in hex in C:[0]
;-------------
; All numbers are integers without exponent starting at C[0]
; User-Flag 0 -> wait for key press after each numbers shown. Stored in M-Flag 9
;-----------------------------------------------------------------------------------------
                                .NAME   "MDOP"
*0014 090                       #090            ; "P"
*0015 00F                       #00F            ; "O"
*0016 004                       #004            ; "D"
*0017 00D                       #00D            ; "M"
 0018 1A0       [MDOP]          A=B=C=0         ;
```

```
; set Flag 0 if we want to wait for key
 0019 244                       CLRF    9
 001A 3B8                       READ    14(d)
 001B 046                       C=0     S&X
 001C 2FC                       RCR     13      ;first nybble into C[0}
 001D 3D8                       C<>ST
 001E 00C                       ?FSET   3       ;is userflag 0 set?
 001F 023                       JNC     (sf0l1) +4 0023
 0020 3D8                       C<>ST
 0021 248                       SETF    9       ;
 0022 013                       JNC     (sf0l2) +2 0024
 0023 3D8       (sf0l1)         C<>ST
;calc and store page number to start MLDL-RAM
 0024 078       (sf0l2)         READ    1(Z)    ;read in number from user
 0025 05E                       C=0     MS      ;kill any sign
 0026 056                       C=0     XS      ;kill any sign on exponent
 0027 31C                       R=      1
 0028 042                       C=0     @R      ;make sure it is a reasonable number <100
 0029 38D008                    ?NCXQ   [BCDBIN] 02E3   ;convert to hex in C[S&X]
 002B 0AE                       A<>C    ALL
 002C 04E                       C=0     ALL
 002D 260                       SETHEX
 002E 130010                    LDIS&X  010
 0030 306                       ?A<C    S&X     ;max page is F
 0031 0B50A2                    ?NCGO   [ERRDE] 282D
 0033 04E                       C=0     ALL
 0034 270                       RAMSLCT
 0035 0AE                       A<>C    ALL
 0036 2F0                       WRITDATA                ;store into T(0)
;---------- Calc iStart = floor(10*n/3 + 1)
 0037 2A0                       SETDEC
 0038 0B8                       READ    2(Y)    ;read in n
 0039 226                       C=C+1   S&X     ;*10
 003A 0AE                       A<>C    ALL
 003B 04E                       C=0     ALL
 003C 130003                    LDIS&X  003
 003E 23C                       RCR     2       ;C:=3
 003F 261060                    ?NCXQ   [DV2_10] 1898   ;C = A/C
 0041 00E                       A=0     ALL
 0042 35C                       R=      12
 0043 162                       A=A+1   @R
 0044 01D060                    ?NCXQ   [AD2_10] 1807   ;(10*n/3 + 1)
 0046 088                       SETF    5       ;to get int function
 0047 0ED064                    ?NCXQ   [INTFRC] 193B   ;C= int(10*n/3 +1) = iStart in dec and
1 step
 0049 39C       [tmp1]          R=      0       ;get rid of exponent
 004A 2A2                       C=-C-1  @R      ;get 10-exp
 004B 262                       C=C-1   @R
 004C 3DA       (pil1)          RSHFC   M
 004D 262                       C=C-1   @R
 004E 3F3                       JNC     (pil1) -2 004C
 004F 046                       C=0     S&X     ;clear underflow
 0050 03C                       RCR     3       ;flush right
 0051 128                       WRIT    4(L)    ;iStart
 0052 1EE                       C=C+C   ALL     ;2nyb per i
 0053 0AE                       A<>C    ALL
 0054 260                       SETHEX
 0055 37903C187                 ?NCXQREL        [4DEC2HEX] 0187
 0058 0AE                       A<>C    ALL
 0059 149024                    ?NCXQ   [ENCP00] 0952   ;just in case
 005B 038                       READ    0(T)    ;page to use
 005C 1BC                       RCR     11      ;=-3
 005D 260                       SETHEX
 005E 20E                       C=A+C   ALL     ; istart in Hex and 2 steps per i
 005F 1BC                       RCR     11      ;to have it in right pos in C
 0060 168                       WRIT    5(M)    ;store iStart for usage in later MLDL RAM
Clean-up
 0061 03C                       RCR     3       ;shift back for P reg storage format
 0062 0AE                       A<>C    ALL
 0063 0F8                       READ    3(X)    ;b
 0064 2FC                       RCR     13      ;=-1
 0065 0BE                       A<>C    MS
 0066 0AE                       A<>C    ALL
 0067 228                       WRIT    8(P)    ;b|iStart in hex
 0068 138                       READ    4(L)    ;iStart in dec and 1 step
 0069 0E8                       WRIT    3(x)    ;i in dec and 1 step
 006A 238       [CalcInit]      READ    8(P)    ;b|iStart in hex
 006B 2A0                       SETDEC          ;calc 2*(b-1)!!!
 006C 0AE                       A<>C    ALL
 006D 1BE                       A=A-1   MS      ;b-1
 006E 04E                       C=0     ALL
```

```
 006F 130002                    LDIS&X  002
 0071 2FC       (pil2)          RCR     13
 0072 1BE                       A=A-1   MS
 0073 3F3                       JNC     (pil2) -2 0071
 0074 33C       [InitW2]        RCR     1       ;undo overflow shift
 0075 158                       M=C             ;save initvalue temporarily
 0076 00E                       A=0     ALL     ;prep A & B
 0077 02E                       B=0     ALL
 0078 0A6                       A<>C    S&X     ;right Nybble into A
 0079 260                       SETHEX
 007A 37903C185                 ?NCXQREL        [Do3rd_EP] 0185 ;convert A[S&X] into hex ->
C[S&X]
 007D 0A6                       A<>C    S&X     ;right Nybble into A[S&X]
 007E 198                       C=M             ;bring back full init value in dec
 007F 03C                       RCR     3
 0080 0E6                       B<>C    S&X     ;left nybble in B[S&X], right Nybble in A[S&X]
 0081 149024    [InitLoop]      ?NCXQ   [ENCP00] 0952   ;clear C and select chip 0
 0083 038                       READ    0(T)    ;page number to use, hex and right justified
 0084 13C                       RCR     8       ;=-6. C[3:6] = 8000
 0085 23A                       C=C+1   M       ;8001 -> we don't use address 8000. i starts
at 1 and not at 0
 0086 0BA                       A<>C    M       ; A[M] = 8001
 0087 238                       READ    8(P)    ;b|iStart in hex
 0088 05E                       C=0     MS
 0089 1BC                       RCR     11      ;=-3 to get iStart into C[M]
 008A 260                       SETHEX
 008B 0A6       [WR2L]          A<>C    S&X     ;right nybble
 008C 040                       WROM
 008D 000                       NOP
 008E 0A6                       A<>C    S&X
 008F 27A                       C=C-1   M       ;addre for left nybble
 0090 0C6                       C=B     S&X     ;left nybble
 0091 040                       WROM
 0092 000                       NOP
 0093 37A                       ?A#C    M       ;compare to 8000
 0094 01B                       JNC     [DoneInit] +3 0097
 0095 27A                       C=C-1   M
 0096 3AB                       JNC     [WR2L] -11 008B
 0097 2A0       [DoneInit]      SETDEC
 0098 1A0                       A=B=C=0         ;init other vars
 0099 149024                    ?NCXQ   [ENCP00] 0952
 009B 268                       WRIT    9(Q)    ;q:=0
 009C 238       [CalciBits]     READ    8(P)
 009D 05A                       C=0     M
 009E 046                       C=0     S&X
 009F 33C                       RCR     1
 00A0 130001                    LDIS&X  001     ;10*b
 00A2 00E                       A=0     ALL
 00A3 0AE                       A<>C    ALL
 00A4 130003                    LDIS&X  003
 00A6 23C                       RCR     2       ;C;= 3
 00A7 261060                    ?NCXQ   [DV2_10] 1898   ;c=a/c = 10*b/3
 00A9 00E                       A=0     ALL
 00AA 35C                       R=      12
 00AB 162                       A=A+1   @R
 00AC 01D060                    ?NCXQ   [AD2_10] 1807   ;C=A+C = 10*b/3 + 1
 00AE 088                       SETF    5
 00AF 0ED064                    ?NCXQ   [INTFRC] 193B
 00B1 39C                       R=      0
 00B2 2A2                       C=-C-1  @R
 00B3 262                       C=C-1   @R
 00B4 2E2       (pil3)          ?C#0    @R
 00B5 3DA                       RSHFC   M
 00B6 262                       C=C-1   @R
 00B7 3EB                       JNC     (pil3) -3 00B4
 00B8 046                       C=0     S&X     ;clear underflow
 00B9 03C                       RCR     3       ;C:= iBits in dec
 00BA 068       [tmp2]          WRIT    1(Z)    ;iBits in dec and 1 step in Z
 00BB 1EE                       C=C+C   ALL
 00BC 00E                       A=0     ALL     ;prep A&B
 00BD 02E                       B=0     ALL
 00BE 0A6                       A<>C    S&X     ;iBits in dec and 2 Steps into A[S&X] -> hex
 00BF 260                       SETHEX
 00C0 37903C185                 ?NCXQREL        [Do3rd_EP] 0185
 00C3 0A6                       A<>C    S&X     ;save result into A
 00C4 149024                    ?NCXQ   [ENCP00] 0952
 00C6 0A6                       A<>C    S&X     ;bring back iBits in hex and 2 step
 00C7 1E8                       WRIT    7(O)    ;iBits in hex and 2 step
;-----------------------------------------
; Start the loop
 00C8 238       [InitML]        READ    8(P)    ;
```

```
 00C9 05E                        C=0     MS
 00CA 1BC                        RCR     11      ;-3 ;iStart into C[M]
 00CB 260                        SETHEX
 00CC 23A                        C=C+1   M       ;GetA(i) expexts address of last nybble in
A(i)
 00CD 0AE                        C<>A    ALL     ;so that A is only the hex address and all
other stuff is clear
 00CE 260       [iLoop]          SETHEX          ;for later loops needed
 00CF 37903C1BA                  ?NCXQREL        [GetA(i)] 01BA
 00D2 0AE                        A<>C    ALL     ;A(i) into A[0:5]
 00D3 1A8                        WRIT    6(N)    ;last address into N in hex, 2 step
 00D4 260                        SETHEX
 00D5 37903C235                  ?NCXQREL        [Calc_bA+qi] 0235       ;res in C
 00D8 0AE                        A<>C    ALL     ;res into A
 00D9 0F8                        READ    3(x)    ;i in dec, 1 step
 00DA 2A0                        SETDEC
 00DB 1EE                        C=C+C   ALL
 00DC 26E                        C=C-1   ALL     ;2*i - 1
 00DD 0EE                        C<>B    ALL     ;into B
 00DE 260                        SETHEX
 00DF 37903C216                  ?NCXQREL        [CalcRnQ] 0216
 00E2 268                        WRIT    9(Q)    ;q in C, r in A
 00E3 06E                        A<>B    ALL     ;r into B. prep for SaveA(i)
 00E4 1B8                        READ    6(N)    ;last address in hex and 2 step
 00E5 260                        SETHEX
 00E6 23A                        C=C+1   M
 00E7 0AE                        C<>A    ALL
 00E8 37903C1E7                  ?NCXQREL        [SaveA(i)] 01E7
 00EB 149024    [Nxti]           ?NCXQ   [ENCP00] 0952
 00ED 0F8                        READ    3(x)    ;i in dec and 1 step
 00EE 2A0                        SETDEC
 00EF 26E                        C=C-1   ALL
 00F0 0E8                        WRIT    3(X)    ;next i in dec and 1 step
 00F1 1B8                        READ    6(N)    ;last addr in hex and 2 step
 00F2 0AE                        C<>A    ALL     ;prep for [GetA(i)]
 00F3 0F8                        READ    3(X)    ;check if we are done
 00F4 26E                        C=C-1   ALL     ;if this is 0 we are done and need to process
A(1)
 00F5 2EE                        ?C#0    ALL
 00F6 2C7                        JC      [iLoop] -40 00CE
 00F7 260       [DoA(1)]         SETHEX
 00F8 37903C1BA                  ?NCXQREL        [GetA(i)] 01BA
 00FB 0AE                        A<>C    ALL     ;A(i) into A
 00FC 1A8                        WRIT    6(N)    ;last address into N in hex, 2 step
 00FD 260                        SETHEX
 00FE 37903C235                  ?NCXQREL        [Calc_bA+qi] 0235       ;result in C
;right b digits = remainder = A(1)
 0101 158                        M=C             ;temp store result
 0102 149024                     ?NCXQ   [ENCP00] 0952
;---- Stepping stone ---
 0104 013                        JNC     (step1) +2 0106
 0105 21B       [StepML2]        JNC     [InitML] -61 00C8
;-----------------------
 0106 238       (step1)          READ    8(P)
 0107 0BE                        A<>C    MS      ;b into A[MS]
 0108 02E                        B=0     ALL
 0109 0E0                        SLCTQ
 010A 2DC                        R=      13
 010B 0A0                        SLCTP
 010C 2DC                        R=      13
 010D 2A0                        SETDEC
 010E 198                        C=M             ;bring back b*A(1) + q*i
 010F 3DC       (da1l1)          R=R+1
 0110 1BE                        A=A-1   MS
 0111 3F3                        JNC     (da1l1) -2 010F
 0112 0F2                        B<>C    P-Q     ;clean out digits and save result in B
 0113 0EE                        B<>C    ALL     ;remainder into B as prep for SaveA(i)
 0114 0A8                        WRIT    2(Y)    ;temp storage of result
 0115 1B8                        READ    6(N)    ;last address in hex and 2 step
 0116 260                        SETHEX
 0117 23A                        C=C+1   M
 0118 0AE                        C<>A    ALL
 0119 37903C1E7                  ?NCXQREL        [SaveA(i)] 01E7
 011C 149024    [ShowDigs]       ?NCXQ   [ENCP00] 0952
 011E 238                        READ    8(P)    ;
 011F 158                        M=C             ;save iStart
 0120 2A0                        SETDEC
 0121 1FE                        C=C+C   MS      ;calc extra shifts needed
 0122 29E                        C=0-C   MS      ;
 0123 0BE                        A<>C    MS
 0124 006                        A=0     S&X     ;counter for leading 0s
```

```
 0125 166                          A=A+1   S&X
 0126 0B8                          READ    2(Y)    ; bring back result digits
 0127 35C                          R=      12      ; shift to left (attention! This kills leading
0s!)
 0128 1BC                          RCR     11      ;min shift left is 3 (as res is right
justified)
 0129 35E       (sdl2)             ?A#0    MS
 012A 02B                          JNC     (sdl1ep) +5 012F
 012B 1BE                          A=A-1   MS
 012C 2FC                          RCR     13
 012D 3E3                          JNC     (sdl2) -4 0129
 012E 2FC       (sdl1)             RCR     13      ;shift left 1 step so that we always show
d.dddd or the like
 012F 1A6       (sdl1ep)           A=A-1   S&X     ;for leading zeros
 0130 2E2                          ?C#0    @R
 0131 3EB                          JNC     (sdl1) -3 012E
 0132 0A8                          WRIT    2(Y)    ;store for potential later save
;---- Stepping stone ---
 0133 013                          JNC     [DoneShift] +2 0135
 0134 28B       [StepML1]          JNC     [StepML2] -47 0105
;-----------------------
 0135 0A6       [DoneShift]        A<>C    S&X     ;bring in neg exp for leading zeros
 0136 09902C                       ?NCXQ   [DSPCRG] 0B26   ;shows full C-reg. uses all flags0-7
 0138 198                          C=M             ;bring back iStart & B
 0139 228                          WRIT    8(P)
 013A 24C                          ?FSET   9       ;do we wait for key press?
 013B 03B                          JNC     [NoWaitC] +7 0142       ;no -> just continue
 013C 261000                       ?NCXQ   [RSTKB] 0098    ;debounce & reset keyboard
 013E 3CC       [KeyWL]            ?KEY            ;is a key pressed
 013F 3FB                          JNC     [KeyWL] -1 013E ;no --> keep waiting
 0140 3C10B0    [CNewiSt]          ?NCXQ   [CLLCDE] 2CF0
 0142 149024    [NoWaitC]          ?NCXQ   [ENCP00] 0952
 0144 3B8                          READ    14(d)   ;check if we want to write the numbers out to
MLDL RAM
 0145 046                          C=0     S&X
 0146 2FC                          RCR     13      ;first nybble into C[0]
 0147 358                          ST=C            ;
 0148 20C                          ?FSET   2       ;is user flag 1 set
 0149 08B                          JNC     [NoSave] +17 015A
 014A 238                          READ    8(P)
 014B 0BE                          A<>C    MS      ;get base to A[MS]
 014C 0B8                          READ    2(Y)    ;get digits
 014D 2A0                          SETDEC
 014E 2FC       (wl1)              RCR     13      ;shift one left
 014F 1BE                          A=A-1   MS
 0150 3F3                          JNC     (wl1) -2 014E
 0151 0EE                          C<>B    ALL     ;prep for SaveA(i)
 0152 178                          READ    5(M)
 0153 10E                          A=C     ALL
 0154 260                          SETHEX          ;now calc new last address
 0155 27A                          C=C-1   M
 0156 27A                          C=C-1   M
 0157 168                          WRIT    5(M)
 0158 39D004                       ?NCXQ   [SaveA(i)] 01E7
 015A 149024    [NoSave]           ?NCXQ   [ENCP00] 0952
 015C 238                          READ    8(P)
 015D 05E                          C=0     MS
 015E 0AE                          A<>C    ALL
 015F 1F8                          READ    7(O)    ;2*iBits in hex
 0160 260                          SETHEX
 0161 1CE                          A=A-C   ALL     ;new iStart
 0162 238                          READ    8(P)
 0163 0BE                          A<>C    MS
 0164 0AE                          A<>C    ALL
 0165 228                          WRIT    8(P)
 0166 138                          READ    4(L)    ;iStart in Dec
 0167 0AE                          A<>C    ALL
 0168 078                          READ    1(Z)    ;iBits in dec
 0169 2A0                          SETDEC
 016A 24E                          C=A-C   ALL
 016B 057                          JC      [MDOP_Done] +10 0175    ;if underflow, we are
definitely done :-)
 016C 128                          WRIT    4(L)    ;new iStart in dec, 1 step
 016D 0E8                          WRIT    3(X)    ; i in dec, 1 step
 016E 0AE                          A<>C    ALL     ;check if we are done
 016F 238                          READ    8(P)
 0170 05A                          C=0     M
 0171 046                          C=0     S&X
 0172 2FC                          RCR     13      ;b into C[0]
 0173 1CE                          A=A-C   ALL     ;iStart - b > 0
 0174 203                          JNC     [StepML1] -64 0134      ;yes -> next loop
```

```
 0175 149024    [MDOP_Done]     ?NCXQ   [ENCP00] 0952   ;clear MLDL RAM
 0177 038                       READ    0(T)    ;read in page number
 0178 13C                       RCR     8       ;=-6
 0179 0AE                       A<>C    ALL
 017A 178                       READ    5(M)    ;read in orig iStart (-stored pi digits if
any)
 017B 0AE                       A<>C    ALL
 017C 040       (cl1)           WROM            ;loop to clear MLDL
 017D 000                       NOP
 017E 23A                       C=C+1   M
 017F 31A                       ?A<C    M
 0180 3E3                       JNC     (cl1) -4 017C
 0181 345040                    ?NCXQ   [CLA] 10D1      ;clear our junk
 0183 3E5042                    ?NCGO   [CLST] 10F9     ;clear out junk and return to OS
;-------------------------------------------------------------------------------------------
------------------------
;-------------------------------------------------------------------------------------------
------------------------
;MCODE Function 4DEC2HEX
; convert 4-digit dec into hex
;
;---------------
;Some entry ponts
 0185 04E       [Do3rd_EP]      C=0     ALL     ;Clear crap from NCXQREL
 0186 08B                       JNC     [Do3rd+1] +17 0197
;-----------------------------------------------
 0187 04E       [4DEC2HEX]      C=0     ALL     ;4-dig dec number in A
 0188 02E                       B=0     ALL
 0189 130004                    LDIS&X  004
 018B 1BC                       RCR     11      ;=-3
 018C 130096                    LDIS&X  096     ;C[0:3] = 4096
 018E 0EE                       B<>C    ALL
 018F 01C                       R=      3
 0190 2A0       [4dl]           SETDEC
 0191 18E                       A=A-B   ALL
 0192 027                       JC      [Do3rd] +4 0196
 0193 260                       SETHEX
 0194 222                       C=C+1   @R
 0195 3DB                       JNC     [4dl] -5 0190
 0196 12E       [Do3rd]         A=A+B   ALL
 0197 0EE       [Do3rd+1]       C<>B    ALL
 0198 04E                       C=0     ALL
 0199 130256                    LDIS&X  256
 019B 0EE                       C<>B    ALL
 019C 21C                       R=      2
 019D 2A0       [3dl]           SETDEC
 019E 18E                       A=A-B   ALL
 019F 027                       JC      [Do2nd] +4 01A3
 01A0 260                       SETHEX
 01A1 222                       C=C+1   @R
 01A2 3DB                       JNC     [3dl] -5 019D
 01A3 12E       [Do2nd]         A=A+B   ALL
 01A4 0EE       [Do2nd+1]       C<>B    ALL
 01A5 130016                    LDIS&X  016
 01A7 0EE                       C<>B    ALL
 01A8 31C                       R=      1
 01A9 2A0       [2dl]           SETDEC
 01AA 18E                       A=A-B   ALL
 01AB 027                       JC      [Do1st] +4 01AF
 01AC 260                       SETHEX
 01AD 222                       C=C+1   @R
 01AE 3DB                       JNC     [2dl] -5 01A9
 01AF 12E       [Do1st]         A=A+B   ALL
 01B0 342       [Do1d]          ?A#0    @R      ;do we have 10-15 left?
 01B1 033                       JNC     [DoLast] +6 01B7
 01B2 260                       SETHEX
 01B3 22E                       C=C+1   ALL
 01B4 2A0                       SETDEC
 01B5 1AE                       A=A-1   ALL
 01B6 3D3                       JNC     [Do1d] -6 01B0
 01B7 260       [DoLast]        SETHEX
 01B8 20E                       C=C+A   ALL
 01B9 3E0       [4DHDone]       RTN
;-------------------------------------------------------------------------------
;-------------------------------------------------------------------------------
;MCODE Function GetA(i)
; Get A(i) stored in 2 words in MLDL-RAM
; right nybble is in hex, left nybble is in dec
; Input
; Last left nybble address in A[M]
; Ouput
```

```
; A(i) in dec in C[ALL], left nybble address in A[M]
;SETHEX expected
;-------------------------------------------------------------------------------
 01BA 1BA       [GetA(i)]       A=A-1   M       ;next nybble
 01BB 0BA11A                    C=A     M
 01BD 330                       FETCHS&X                ;right nybble in C[S&X], still in hex
 01BE 006                       A=0     S&X
 01BF 0E6                       B<>C    S&X
 01C0 130256                    LDIS&X  256
 01C2 0E6                       B<>C    S&X
 01C3 21C                       R=      2       ;first digit
 01C4 260       [Do3_h2d]       SETHEX
 01C5 262                       C=C-1   @R
 01C6 027                       JC      [Prep2_h2d] +4 01CA
 01C7 2A0                       SETDEC
 01C8 126                       A=A+B   S&X
 01C9 3DB                       JNC     [Do3_h2d] -5 01C4
 01CA 222       [Prep2_h2d]     C=C+1   @R
 01CB 0E6                       B<>C    S&X
 01CC 130016                    LDIS&X  016
 01CE 0E6                       B<>C    S&X
 01CF 31C                       R=      1
 01D0 260       [Do2_h2d]       SETHEX
 01D1 262                       C=C-1   @R
 01D2 027                       JC      [Prep1_h2d] +4 01D6
 01D3 2A0                       SETDEC
 01D4 126                       A=A+B   S&X
 01D5 3DB                       JNC     [Do2_h2d] -5 01D0
 01D6 222       [Prep1_h2d]     C=C+1   @R
 01D7 39C                       R=      0
 01D8 260       [Do1_h2d]       SETHEX
 01D9 262                       C=C-1   @R
 01DA 027                       JC      [DoneH2D] +4 01DE
 01DB 2A0                       SETDEC
 01DC 166                       A=A+1   S&X
 01DD 3DB                       JNC     [Do1_h2d] -5 01D8
 01DE 1BA       [DoneH2D]       A=A-1   M       ;A[S&X] is right nybble in dec
 01DF 0BA11A                    C=A     M
 01E1 330                       FETCHS&X                ;left nybble
 01E2 05E                       C=0     MS
 01E3 05A                       C=0     M
 01E4 1BC                       RCR     11      ;=-3
 01E5 0A6                       A<>C    S&X     ;A(i) in C[0:5], last address in A[M]
 01E6 3E0                       RTN
;-------------------------------------------------------------------------------
;-------------------------------------------------------------------------------
;MCODE Function SaveA(i)
; Store A(i) in 2 words in MLDL-RAM
; right nybble is in hex, left nybble is in dec
; Input
; A[M]: i, right Nybble
; B[All] = A(i)
;
; Output
; i in C[M] for left Nybble
;-------------------------------------------------------------------------------
 01E7 04E       [SaveA(i)]      C=0     ALL     ;clear crap from NCXQREL
 01E8 066                       A<>B    S&X     ;dec->hex right Nybble from A(i)
 01E9 130256                    LDIS&X  256
 01EB 0E6                       B<>C    S&X
 01EC 046                       C=0     S&X
 01ED 21C                       R=      2
 01EE 260       (sail1)         SETHEX
 01EF 222                       C=C+1   @R
 01F0 2A0                       SETDEC
 01F1 186                       A=A-B   S&X
 01F2 3E3                       JNC     (sail1) -4 01EE
 01F3 126                       A=A+B   S&X
 01F4 260                       SETHEX
 01F5 262                       C=C-1   @R
 01F6 0E6       (saipl2)        C<>B    S&X
 01F7 130016                    LDIS&X  016
 01F9 0E6                       C<>B    S&X
 01FA 31C                       R=      1
 01FB 260       (sail2)         SETHEX
 01FC 222                       C=C+1   @R
 01FD 2A0                       SETDEC
 01FE 186                       A=A-B   S&X
 01FF 3E3                       JNC     (sail2) -4 01FB
 0200 126                       A=A+B   S&X
 0201 260                       SETHEX
```

```
 0202 262                        C=C-1   @R
 0203 342       (saipl3)         ?A#0    @R      ;doe we have 10,11,12,13,14 or 15?
 0204 033                        JNC     (saipd) +6 020A ;no -> just finish up
 0205 260                        SETHEX
 0206 226                        C=C+1   S&X
 0207 2A0                        SETDEC
 0208 1A6                        A=A-1   S&X
 0209 3D3                        JNC     (saipl3) -6 0203
 020A 260       (saipd)          SETHEX
 020B 206                        C=A+C   S&X
 020C 0BA                        C<>A    M       ;bring in address for right nybble
 020D 040                        WROM
 020E 000                        NOP
 020F 27A                        C=C-1   M       ;now get left nybble
 0210 0EE                        C<>B    ALL
 0211 03C                        RCR     3
 0212 0FA                        C<>B    M
 0213 040                        WROM
 0214 000                        NOP
 0215 3E0                        RTN             ;i in C[M]
;------------------------------------------------------------------------------
;------------------------------------------------------------------------------
;MCODE Function CalcR&Q
; Calculates the quotient q and the remainder r of A(i) / (2i-1)
;
; Input
; A: = A(i)
; B: 2i - 1 in decimal, 1 step
;
; Ouput
; C: q
; A: r
;------------------------------------------------------------------------------
 0216 04E       [CalcRnQ]        C=0     ALL     ;clear crap from >NCXQREL
 0217 2A0                        SETDEC
 0218 32E                        ?A<B    ALL     ;is A(i) < (2i-1) -> res = 0
 0219 360                        ?CRTN           ;just return. C=q=0, A=r=A(i)
 021A 0A0                        SLCTP           ;find start of A(i)
 021B 39C                        R=      0
 021C 3D4       (crql1)          R=R-1
 021D 342                        ?A#0    @R
 021E 3F3                        JNC     (crql1) -2 021C ;find first dig of A
 021F 0E0                        SLCTQ           ;use Q as counter to shift B
 0220 2DC                        R=      13
 0221 0EE                        C<>B    ALL
 0222 33C                        RCR     1
 0223 2FC       (crql2)          RCR     13      ;=-1
 0224 0E0                        SLCTQ
 0225 3DC                        R=R+1
 0226 0A0                        SLCTP
 0227 2E2                        ?C#0    @R
 0228 3DB                        JNC     (crql2) -5 0223
 0229 0EE                        B<>C    ALL
 022A 0E0                        SLCTQ
 022B 222       (crql3)          C=C+1   @R
 022C 18E                        A=A-B   ALL
 022D 3F3                        JNC     (crql3) -2 022B
 022E 12E                        A=A+B   ALL
 022F 262                        C=C-1   @R
 0230 3AE                        RSHFB   ALL
 0231 3D4                        R=R-1
 0232 2D4                        ?R=     13
 0233 3C3                        JNC     (crql3) -8 022B
 0234 3E0                        RTN             ;q in C, r in A
;------------------------------------------------------------------------------
;------------------------------------------------------------------------------
;MCODE Function Calc_bA(i)+qi
; Calculates the b*A(i) + q*i
;
; Input
; A(i) in A[0:5]
;
;
; Ouput
; C:= b*A(i) + q*i
;
;------------------------------------------------------------------------------
 0235 238       [Calc_bA+qi]     READ    8(P)
 0236 0AE                        A<>C    ALL
 0237 2FC       (cbal1)          RCR     13      ;=-1
 0238 1BE                        A=A-1   MS
```

```
 0239 3F3                       JNC     (cbal1) -2 0237
 023A 33C                       RCR     1       ;c=b*A(i)
 023B 158                       M=C             ;store b*A(i) in M
 023C 278                       READ    9(Q)
 023D 0EE                       B<>C    ALL
 023E 0F8                       READ    3(x)    ;i in dec
 023F 00E                       A=0     ALL
 0240 39C                       R=      0
 0241 2A0                       SETDEC
 0242 05B                       JNC     [Qi_St] +11 024D
 0243 262       [QiL2]          C=C-1   @R      ;counting down
 0244 12E       [QiL1]          A=A+B   ALL     ;running sum
 0245 262                       C=C-1   @R
 0246 3F3                       JNC     [QiL1] -2 0244
 0247 3CE       [QiNxt]         RSHFC   ALL
 0248 0EE                       B<>C    ALL
 0249 2FC                       RCR     13      ;=LSHFC = c*10
 024A 0EE                       B<>C    ALL
 024B 2EE                       ?C#0    ALL     ;done with all digits?
 024C 023                       JNC     [QiDone] +4 0250
 024D 2E2       [Qi_St]         ?C#0    @R      ;is this a 0 digit?
 024E 3CB                       JNC     [QiNxt] -7 0247 ;yes, next digit
 024F 3A3                       JNC     [QiL2] -12 0243 ;no -> do loop
 0250 198       [QiDone]        C=M             ;get back b*A(i)
 0251 20E                       C=C+A   ALL
 0252 3E0                       RTN
;------------------------------------------------------------------------------
*
* GLOBAL SYMBOLS
* SYMBOL         VALUE   TYPE    REFERENCES
* [2dl]          01A9    REL     01AE
* [3dl]          019D    REL     01A2
* [4DEC2HEX]     0187    REL     0055
* [4DHDone]      01B9    REL
* [4dl]          0190    REL     0195
* [CNewiSt]      0140    REL
* [CalcInit]     006A    REL
* [CalcRnQ]      0216    REL     00DF
* [Calc_bA+qi]   0235    REL     00D5 00FE
* [CalciBits]    009C    REL
* [Do1_h2d]      01D8    REL     01DD
* [Do1d]         01B0    REL     01B6
* [Do1st]        01AF    REL     01AB
* [Do2_h2d]      01D0    REL     01D5
* [Do2nd+1]      01A4    REL
* [Do2nd]        01A3    REL     019F
* [Do3_h2d]      01C4    REL     01C9
* [Do3rd+1]      0197    REL     0186
* [Do3rd]        0196    REL     0192
* [Do3rd_EP]     0185    REL     007A 00C0
* [DoA(1)]       00F7    REL
* [DoLast]       01B7    REL     01B1
* [DoneH2D]      01DE    REL     01DA
* [DoneInit]     0097    REL     0094
* [DoneShift]    0135    REL     0133
* [GetA(i)]      01BA    REL     00CF 00F8
* [Header]       0013    REL     0002
* [InitLoop]     0081    REL
* [InitML]       00C8    REL     0105
* [InitW2]       0074    REL
* [KeyWL]        013E    REL     013F
* [MDOP]         0018    REL     0004
* [MDOP_Done]    0175    REL     016B
* [NoSave]       015A    REL     0149
* [NoWaitC]      0142    REL     013B
* [Nxti]         00EB    REL
* [PCTOC]        00D7    ABS
* [Prep1_h2d]    01D6    REL     01D2
* [Prep2_h2d]    01CA    REL     01C6
* [QiDone]       0250    REL     024C
* [QiL1]         0244    REL     0246
* [QiL2]         0243    REL     024F
* [QiNxt]        0247    REL     024E
* [Qi_St]        024D    REL     0242
* [SaveA(i)]     01E7    REL     00E8 0119 0158
* [ShowDigs]     011C    REL
* [StepML1]      0134    REL     0174
* [StepML2]      0105    REL     0134
* [WR2L]         008B    REL     0096
* [iLoop]        00CE    REL     00F6
* [tmp1]         0049    REL
```

```
* [tmp2]         00BA    REL
*
* LOCAL SYMBOLS
* SYMBOL         VALUE   TYPE    REFERENCES
* (cbal1)        0237    REL     0239
* (cl1)          017C    REL     0180
* (crql1)        021C    REL     021E
* (crql2)        0223    REL     0228
* (crql3)        022B    REL     022D 0233
* (dal1)         010F    REL     0111
* (pil1)         004C    REL     004E
* (pil2)         0071    REL     0073
* (pil3)         00B4    REL     00B7
* (sail1)        01EE    REL     01F2
* (sail2)        01FB    REL     01FF
* (saipd)        020A    REL     0204
* (saipl2)       01F6    REL
* (saipl3)       0203    REL     0209
* (sdl1)         012E    REL     0131
* (sdl1ep)       012F    REL     012A
* (sdl2)         0129    REL     012D
* (sf0l1)        0023    REL     001F
* (sf0l2)        0024    REL     0022
* (step1)        0106    REL     0104
* (wl1)          014E    REL     0150
*
* EXTERNAL REFERENCES
* SYMBOL         REFERENCED AT
*
* MAINFRAME REFERENCES
* SYMBOL         VALUE   REFERENCES
* [AD2_10]       1807    0044 00AC
* [BCDBIN]       02E3    0029
* [CLA]          10D1    0181
* [CLLCDE]       2CF0    0140
* [CLST]         10F9    0183
* [DSPCRG]       0B26    0136
* [DV2_10]       1898    003F 00A7
* [ENCP00]       0952    0059 0081 0099 00C4 00EB 0102 011C 0142 015A 0175
* [ERRDE]        282D    0031
* [INTFRC]       193B    0047 00AF
* [RSTKB]        0098    013C
*
* A41:  0 WARNINGS(S)
* A41:  0 ERROR(S)
* END
```

Edited: 26 Feb 2009, 6:08 p.m.

Re: 4915 digits of pi - MCODE 41 (19660 digits optional)

*Message #2 Posted by **Xerxes** on 27 Feb 2009, 6:38 a.m.,*
in response to message #1 by PeterP

Impressive! Thanks for this further MCODE example.

Re: 4915 digits of pi - MCODE 41 (19660 digits optional)

*Message #3 Posted by **Antonio Maschio (Italy)** on 27 Feb 2009, 9:03 a.m.,*
in response to message #1 by PeterP

Make an article of it, or it will be buried under thousands of posts in a few months.

Anyway: Impressive!

-- Antonio

Re: 4915 digits of pi - MCODE 41 (19660 digits optional)

*Message #4 Posted by **Valentin Albillo** on 27 Feb 2009, 10:20 a.m.,*

in response to message #1 by PeterP

Hi, **PeterP**:

Impressive work. Just a quick note:

PeterP wrote:

"Also, as there are no 5 or 6 9's consecutively in Pi in the first 20,000 digits, we don't have to worry about that either."

That's not true. The string "999999" (6 9's) ***does*** occur at position **762** counting from the first digit after the decimal point (the 3. is not counted). Just as a visual check:

```
3.14159265358979323846264338327950288419716939937510
  58209749445923078164062862089986280348253421170679
  82148086513282306647093844609550582231725359408128
  48111745028410270193852110555964462294895493038196
  44288109756659334461284756482337867831652712019091
  45648566923460348610454326648213393607260249141273
  72458700660631558817488152092096282925409171536436
  78925903600113305305488204665213841469519415116094
  33057270365759591953092186117381932611793105118548
  07446237996274956735188575272489122793818301194912
  98336733624406566430860213949463952247371907021798
  60943702770539217176293176752384674818467669405132
  00056812714526356082778577134275778960917363717872
  14684409012249534301465495853710507922796892589235
  42019956112129021960864034418159813629774771309960
  51870721134999999837297804995105973078164062862089
                              ^^^^^^
                                |
```

Best regards from V.

Re: 4915 digits of pi - MCODE 41 (19660 digits optional)

*Message #5 Posted by **Katie Wasserman** on 28 Feb 2009, 12:28 p.m.,*
in response to message #1 by PeterP

This is very impressive piece of code, I don't know MCODE but it almost makes me want to learn it! I'm glad that my article helped inspire your obsession for pi calculations maybe you'll figure out a new algorithm for it.

One of the best places I've found to seriously indulge this obsession is Simon Plouffe's home page. Follow the links to the articles sections and dig it. Eventually I found this paper. Read the section on the Borweins (at the very end), there is an amazing, simple formula given relating pi, 10 and e with the very curious statement: "The following is not an identity but is correct to over 42 billion digits."

```
pi ~ ( 1/10^5 * SIGMA(n,exp(-(n^2/10^10)),-inf,+inf) ) ^ 2
```

Although I'm not a mathematician (although I started out that way) how could this not be an identity? Must there at least be a conjecture that this is an identity?

Edited: 28 Feb 2009, 12:31 p.m.

Re: 4915 digits of pi - MCODE 41 (19660 digits optional)

*Message #6 Posted by **Valentin Albillo** on 28 Feb 2009, 9:35 p.m.,*
in response to message #5 by Katie Wasserman

Hi, Katie:

Katie posted:

> *"there is an amazing, simple formula given relating pi, 10 and e with the very curious statement: "The following is not an identity but is correct to over 42 billion digits."*
> *pi ~ (1/10^5 * SIGMA(n,exp(-(n^2/10^10)),-inf,+inf)) ^ 2*
> *Although I'm not a mathematician (although I started out that way) how could this not be an identity? Must there at least be a conjecture that this is an identity? "*

It's **not** an identity and actually it's quite straightforward to demonstrate that it produces about 42.8631472996... { Pi^2*10/Ln(10) } billion correct digits of Pi, but no more.

The demonstration makes use a well-known transformation formula of a theta function. For similar **sums which give a large number of correct digits of some constant but nevertheless eventually differ**, have a look at sum #7 and sum #8 in my Short & Sweet Math Challenge #13: Adding up to infinity

Regards from V.

Edited: 28 Feb 2009, 10:12 p.m.

Re: 4915 digits of pi - MCODE 41 (19660 digits optional)

*Message #7 Posted by **Egan Ford** on 28 Feb 2009, 5:16 p.m.,*
in response to message #1 by PeterP

Awesome. Can you provide a MOD file? Your excellent SDK update doc ends short of documenting the process to create a MOD file. I'd like to give it a try on my 41.

Thanks.

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HP 95LX prototype PCB

*Message #1 Posted by **Frank Boehm (Germany)** on 26 Feb 2009, 11:52 a.m.*

Well, that 95LX was only semi complete and didn't power up - so I disassembled it. Look what I found:

No wonder it didn't boot: this one has 3 x 256kB RAM installed - but no ROM. It probably used a Flash card to boot.
Both ICs are prototypes: marked as "SAMPLE" and "ES" (aka "Engineering Sample").
(it came in a standard enclosure with standard SN, no hint of a prototype...)

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MathU RPN calc for iPhone

*Message #1 Posted by **Bruce Bergman** on 25 Feb 2009, 5:13 p.m.*

Disclaimer: I neither own, nor endorse, the iPhone platform. I have seen several of the HP clones for the iPhone, and wish I had one. ;-)

I do own the MathU RPN calculator (modeled after an HP-like calc) for the Palm Treo. They just sent me an email saying that their port of the MathU calc for the iPhone is available for a limited time for $0.99 from the iTunes store.

So all you iPhone geeks, go give it a try and let us know what you think! ;-)

thanks,

bruce

Re: MathU RPN calc for iPhone

*Message #2 Posted by **Steve Cote** on 27 Feb 2009, 12:48 p.m.,*
in response to message #1 by Bruce Bergman

The graphics on the app look good but it is setup more like a financial calculator than a scientific like it's name implies. Most of the functions I'd use are shifted. I didn't get it.

Re: MathU RPN calc for iPhone

*Message #3 Posted by **Walter B** on 27 Feb 2009, 5:32 p.m.,*
in response to message #2 by Steve Cote

FYI, you can customize the keyboard to a very large extent. So if you don't like the financial functions, replace them. If you want something unshifted, assign it this way.

BTW, my ideal virtual calc may be a blend of MathU and Free42. My MathU does not feature matrix functions, nor solve nor integrate. My Free42 does not allow customizing, at least AFAIK. And both are only virtual. Nothing comes close to a real keyboard.

Disclaimer (for the US): I'm in no way linked to Creative Creek. I'm just a happy user (on my PDA, no iPod).

Ceterum censeo: HP, launch a 43s.

Walter

Re: MathU RPN calc for iPhone

*Message #4 Posted by **Thomas Okken** on 4 Mar 2009, 9:09 p.m.,*
in response to message #3 by Walter B

> Quote:
>
> Free42 does not allow customizing, at least AFAIK.

Free42 does allow customizing to some extent, by creating custom skins. In the packages on the Free42 web page, there are a few skins that map the area just above the keys to the corresponding shifted keystrokes (SemiAuto*, Khor), that map the area just to the right of some keys to letters of the alphabet, allowing text to be entered a bit more easily (Khor), and that map Roll-up (42ck, 42ct, Sven320x240mini) and CLST (42ck, 42ct) to the keyboard.
Special-purpose skins that map, say, statistics or matrix functions to keys are also possible. I'll admit it's not really a substitute for a built-in skin customizer like MathU has, though.

- Thomas

Re: MathU RPN calc for iPhone

*Message #5 Posted by **Steve Simpkin** on 28 Feb 2009, 12:36 p.m.,*
in response to message #1 by Bruce Bergman

I recently bought an unusual RPN calculator for the iPhone (iPod Touch) called TouchRPN ($5.99). It has more to it than looks at first glance. It has an infinite stack, can use units within calculations, all keys are customizable and you can write programs for it in MP-FORTH (Multi-Precision FORTH). One feature it desperately needs is a way to import or export its configuration and programming. It appears to be very powerful and has potential but I am struggling to get a handle on its operation.

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512K Memory Card

*Message #1 Posted by **Farz** on 24 Feb 2009, 6:50 p.m.*

I have a 512K GX TDS Memory card. When I insert the Memory Card into HP48GX, It gives an Invalid Card Data eroor. Is there a formatting or initialization involved with a new card?

Thank you for your help

Farz

Re: 512K Memory Card

*Message #2 Posted by **Geoff Quickfall** on 24 Feb 2009, 7:49 p.m.,*
in response to message #1 by Farz

Normal, as you have no data in the ports.

check left shift library and then ports. you should have 5 showing; 4 from the card and one internal.

once you port over a programm or data to any of the ports the message will not appear.

you can reference the manual for this info.

cheers geoff

Re: 512K Memory Card

*Message #3 Posted by **Reth** on 24 Feb 2009, 11:05 p.m.,*
in response to message #1 by Farz

Did you use PINIT command ?

Re: 512K Memory Card

*Message #4 Posted by **Geoff Quickfall** on 25 Feb 2009, 6:48 p.m.,*
in response to message #3 by Reth

Reth is correct;

the PINIT command will remove the message at start up. This however is temporary unless you actually stick something in one of the card ports.

the manual says that the card, once installed is ready and to ignore the warning, or if you choose not to ignore the warning use the PINIT command which will not alter the contents of the card.

Cheers, Geoff

Let's see if we can get this back on track.

*Message #5 Posted by **Randy** on 25 Feb 2009, 8:44 p.m.,*
in response to message #4 by Geoff Quickfall

Because this thread is derailed. There is a lot of effort here but the content is from the wrong manuals.

The most common TDS 512k cards do not have replaceable batteries. They instead have a small rechargeable cell that charges when the GX is powered up. The most common problem is for the cards to loose their charge and therefore loose memory when the calculator is powered down. The HP 48 manual assumes you have the lithium battery backed HP cards. Therefore, the comments in the manual when discussing a non-removable battery TDS card are not in proper context. There are also some flat out wrong statements being made with respect to the GX.

> Quote:
>
> the PINIT command will remove the message at start up. This however is temporary unless you actually stick something in one of the card ports.

Doing a PINIT on a good card will clear the message, end of story. You do not need to write anything to a port once the PINIT has been done.

> Quote:
>
> the manual says that the card, once installed is ready and to ignore the warning, or if you choose not to ignore the warning use the PINIT command which will not alter the contents of the card.

Unfortunately, wrong again. This is from the SX manual. If you receive the message after a PINIT, the card either lost its contents or cannot be read correctly. Further, PINIT does indeed alter the contents of the card, as in destroying anything that may have been there...

The content that will help is on TDS website. Worth a read:

http://www.tdsway.com/support/knowledge_base/survey_pro/on_the_hp_48gx/general_tips/KB704
http://www.tdsway.com/support/knowledge_base/survey_pro/on_the_hp_48gx/general_tips/KB706

Re: Let's see if we can get this back on track.

*Message #6 Posted by **Farz** on 26 Feb 2009, 11:09 a.m.,*
in response to message #5 by Randy

Thank you all. Everything works fine.

Farz

Edited: 26 Feb 2009, 4:31 p.m.

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HP 17BII

*Message #1 Posted by **Peter Leyssens** on 24 Feb 2009, 12:13 p.m.*

Hi,

I just bought myself a brand new HP 17BII (without the +). That's right, I found a shop who found a couple of crates with old calculator stock that never got sold, so I'm now the proud owner of a 1987 Indonesia 17BII that never got used.

Except for the fact that the original batteries were flat, it works great ! I bought it as a tool to help me find the right loan for my house and as I flip the virtual pages of the manual I downloaded, I know it's going to be more help than I expected.

Aside from that, I know there's a separate buy/sell section, but would it make sense to buy all the shop's crates and sell them off on an auction site ? The 17BII I bought was a little expensive, but he also has 32BII's and 10B's and I might get a discount if I buy everything. He actually claims he already threw away hundreds of calculators because it was just too much. The heretic !

Thanks for the great forum & website,

Peter.

Re: HP 17BII

*Message #2 Posted by **Maximilian Hohmann** on 24 Feb 2009, 12:59 p.m.,*
in response to message #1 by Peter Leyssens

Hi!

> Quote:
>
> ... but would it make sense to buy all the shop's crates and sell them off on an auction site ?

These brand new 17BIIs have already appeared on _the_ auction site, at least on the german part of it, so obviously somebody had the same idea than you... I have not bothered to look how much they are selling for, because I paid one Euro for my 17BII and they won't be able to beat that!

Greetins, Max

Re: HP 17BII

*Message #3 Posted by **Don Shepherd** on 24 Feb 2009, 1:19 p.m.,*
in response to message #1 by Peter Leyssens

Peter, enjoy your original 17bii with the knowledge that:

1. it is much faster than the newer pluses, and

2. its solver is great and has none of the problems of the solver in the pluses

Re: HP 17BII

*Message #4 Posted by **Peter Leyssens** on 25 Feb 2009, 10:47 a.m.,*
in response to message #3 by Don Shepherd

> Quote:
>
> Peter, enjoy your original 17bii with the knowledge that:
>
> 1. it is much faster than the newer pluses, and
> 2. its solver is great and has none of the problems of the solver in the pluses

Hi Don,

The solver and what I read about iterative solutions + let/get, is exactly why I got myself a second-hand-new 17bii instead of a 17bii+ ! Talking about which, I will want the Technical Applications book. After googling, I found one link to a PDF file, but it was dead. I know it's on a Museum CD, but since I just need this one file, I wonder if somebody can mail it :-S (If that's not illegal, of course... if it is, I'll order the CD).

Peter.

Re: HP 17BII

*Message #5 Posted by **Karl-Ludwig Butte** on 25 Feb 2009, 3:26 p.m.,*
in response to message #4 by Peter Leyssens

Hello Peter,

there may be a better way to get the pdf-file: Please post the dead URL here in the forum and we may all try if the WayBackMachine has archieved it. WayBackMachine is an Internet-Archieve I often use when I come across a dead URL.

Kind regards

Karl

Re: HP 17BII

*Message #6 Posted by **Peter Leyssens** on 26 Feb 2009, 3:18 a.m.,*
in response to message #5 by Karl-Ludwig Butte

> Quote:
>
> there may be a better way to get the pdf-file: Please post the dead URL here in the forum and we may all try if the WayBackMachine has archieved it. WayBackMachine is an Internet-Archieve I often use when I come across a dead URL.

Karl,

Thanks for reminding me of the WayBackMachine (WBM). The page with the link is

http://www.thimet.de/calccollection/Calculators/HP-19BII/Contents.htm and the link itself is http://www.thimet.de/calccollection/Calculators/HP-27S/NC-2719TECH.PDF but unfortunately, the WBM doesn't recognise the latter. It probably was a file the author of the former page wanted to put online, but failed to.

Peter.

Re: HP 17BII

*Message #7 Posted by **Mike Morrow** on 24 Feb 2009, 6:30 p.m.,*
in response to message #1 by Peter Leyssens

> Quote:
>
> ...he also has 32BII's and 10B's and I might get a discount if I buy everything. He actually claims he already threw away hundreds of calculators because it was just too much. The heretic !

But no HP42S units??? Way too bad!

HP32SII units, for reasons not at all apparent, seem to have appreciated in value on the auction market. Maybe those could turn a profit, especially if they are new, old-stock, with the original manual and all the packaging.

HP-32SII desirability

*Message #8 Posted by **Karl Schneider** on 25 Feb 2009, 1:29 a.m.,*
in response to message #7 by Mike Morrow

> Quote:
>
> But no HP42S units??? Way too bad!
>
> HP32SII units, for reasons not at all apparent *(emphasis added)*, seem to have appreciated in value on the auction market.

Here, I'll point 'em out:

- LARGE AND LEGIBLE DISPLAY THAT IS NOT SENSITIVE TO VIEWING ANGLE
- Equations
- Fractions
- x-th root of y
- Population standard deviation
- Imperial <-> metric conversions
- Conversions clearly shown and accessible by two keystrokes, instead of from a menu
- Programming functions clearly shown and accessible by two keystrokes, instead of from a menu
- %CHG and Roll_up clearly shown and accessible by two keystrokes, instead of from the function catalog
- Hyperbolics clearly shown and accessible by three or four keystrokes, instead of from the function catalog

Of course, the HP-42S has numerous functions and capabilities that the HP-32SII doesn't. Many users don't really have a need for them, though.

I use an HP-32SII primarily, and an HP-42S only for calculations involving complex numbers and matrices.

-- KS

Edited: 27 Feb 2009, 3:17 a.m. after one or more responses were posted

Re: HP-32SII desirability

*Message #9 Posted by **Mike Morrow** on 25 Feb 2009, 1:57 p.m.,*
in response to message #8 by Karl Schneider

In 1997 I bought an HP32SII so I could "save" my cherished 11-year old HP-15C. I immediately found the complex number handling to be very poor and incomplete. There were other things I didn't like, but that was the major issue.

I then went looking for an HP42S as a worthy replacement for the HP-15C. HP discontinued it in 1995. Fortunately, the student bookstore at the University of Alabama (Huntsville) apparently did not believe in lowering prices to clear old stock. It had two crispy new HP42S units (with dead batteries) in the display case, unsold since 1993. They cost me $114 each.

The HP42S immediately became and remains my favorite RPN calculator of all time. IMHO, the HP32SII (which I still own) ranks way below the HP42S in capability and features except for being a little faster. It is inferior to the much older HP-15C in many aspects.

Re: HP-32SII desirability

*Message #10 Posted by **bill platt** on 25 Feb 2009, 2:08 p.m.,*
in response to message #9 by Mike Morrow

You are right. The reason for the inferiority is that the 32sii was a souped-up replacement for the 11c and the 42s was a souped-up replacement for the 15c--with 41c compatibility added as well (without the peripherals of course!).

I went from an 11c to a 32sii and it was basically all better than the previous--except for that voyager solid brick feeling etc.

Re: HP-32SII desirability

*Message #11 Posted by **allen** on 25 Feb 2009, 7:01 p.m.,*
in response to message #8 by Karl Schneider

I agree with Karl, As an RPN 4-banger, nothing is faster/easier than the 32s(ii). For programming I prefer the 42s/48gx/50g. There are 2 calculators within reach at all times: The 32sii and 17bii.

Away from the desk I grab a 20b and stuff it in a coat pocket, but generally don't use it's full features.

Re: HP-32SII desirability

*Message #12 Posted by **Michael de Estrada** on 25 Feb 2009, 7:40 p.m.,*
in response to message #11 by allen

I think the main point here is that we all use more than one calculator, because it is impossible for a single calculator to serve all purposes. In my case, the "4-banger" is the HP-15c, the programmable is the HP-48SX and the business/financial is the HP-12c. Each is brilliant at performing its intended function, but falls short of the mark when used otherwise.

Regarding the HP-32SII, I do own one, but prefer the arrangement of the shifted functions on the

HP-15c, which places one legend above the key and the other below on the sloped front of the key. HP has since reverted to this arrangement on the HP-35s. I only use the HP-32SII when I need to perform math with fractions.

Re: HP-32SII desirability

*Message #13 Posted by **Karl Schneider** on 26 Feb 2009, 1:06 a.m.,*
in response to message #11 by allen

> Quote:
>
> As an RPN 4-banger, nothing is faster/easier than the 32s(ii).

Hi, Allen --

"Four-banger"? "*Four*-banger"??

Ah, but it's so much more than that!

It is evident from the linked program that the HP-32SII's complex-number functions -- albeit awkward and incomplete, as Mike Morrow said -- are very nice to have for programming.

-- KS

Edited: 26 Feb 2009, 1:12 a.m.

Re: HP-32SII desirability

*Message #14 Posted by **Allen** on 26 Feb 2009, 7:15 a.m.,*
in response to message #13 by Karl Schneider

> Quote:
>
> "Four-banger"? "Four-banger"??

We forum readers probably program our calculators more than 99% of most users, self included, so I did not consider it an insult to use my favorite (and first!) RPN calculator mainly for the [/ * - +]. It is certainly much more than that. :-)

Re: HP 17BII

*Message #15 Posted by **Martin Pinckney** on 25 Feb 2009, 12:46 a.m.,*
in response to message #1 by Peter Leyssens

Yes, definitely flood the market with 32sii's, that will bring the price down to where we all can buy one!

Re: HP 17BII

*Message #16 Posted by **Karl Schneider** on 25 Feb 2009, 1:42 a.m.,*
in response to message #1 by Peter Leyssens

Peter --

Yes, NOS discoveries of desired older models always create a stir. A couple quibbles:

> Quote:
>
> I'm now the proud owner of a 1987 Indonesia 17BII that never got used.

The HP-17BII wasn't made until 1991, nor was any Pioneer-series model released until 1988 (US-made), to my knowledge. A serial number that begins with "ID7" is surely a 1997 model, after production switched from Singapore.

> Quote:
>
> but he also has 32BII's

I'm sure that you meant, "32SII".

-- KS

Re: HP 17BII

*Message #17 Posted by **Peter Leyssens** on 25 Feb 2009, 10:50 a.m.,*
in response to message #16 by Karl Schneider

> Quote:
>
> The HP-17BII wasn't made until 1991, nor was any Pioneer-series model released until 1988 (US-made), to my knowledge. A serial number that begins with "ID7" is surely a 1997 model, after production switched from Singapore. ... I'm sure that you meant, "32SII".

Hi,

Of course it was the 32SII, my bad. Funny about the 17BII. I'm very certain the plastic of the calculator itself says 1987 on the back. But I'll check the serial number, it's probably 1997 then. Shame, I thought I got myself a 20+ year old calculator.

Peter.

Re: HP 17BII

*Message #18 Posted by **Didier Lachieze** on 25 Feb 2009, 11:30 a.m.,*
in response to message #17 by Peter Leyssens

> Quote:
>
> I'm very certain the plastic of the calculator itself says 1987 on the back.

What you have on the back of the Pioneer models as the 17BII is a Copyright mention which is the same AFAIK for all units: "(c) Hewlett-Packard Compagny 1987"
This is not the manufacturing date which you can approximate from the serial number: Decoding Serial Numbers
Example of the back of a Pioneer made in Indonesia in 1997: 1997 HP-32S II

Re: HP 17BII

*Message #19 Posted by **Peter Leyssens** on 26 Feb 2009, 3:43 a.m.,*

in response to message #18 by Didier Lachieze

Hi,

My serno starts with 3610M, so it turns out it is a 1996 calculator made in Indonesia/Malaysia. I guess the others in the batch are similar in age.

Peter.

Re: HP 17BII

*Message #20 Posted by **Peter A. Gebhardt** on 25 Feb 2009, 6:29 p.m.,*
in response to message #1 by Peter Leyssens

Peter,

Could you pls. check & confirm if the 17bII shows "STAFF" in the finance menu as the sixth menu choice, after having set MODES to INTL & DEUT.

I suppose a yes, because they are French units - but one never knows ...

TIA

Peter A. Gebhardt

Re: HP 17BII

*Message #21 Posted by **Peter Leyssens** on 26 Feb 2009, 3:10 a.m.,*
in response to message #20 by Peter A. Gebhardt

> Quote:
>
> Could you pls. check & confirm if the 17bII shows "STAFF" in the finance menu as the sixth menu choice, after having set MODES to INTL & DEUT.
>
> I suppose a yes, because they are French units - but one never knows ...

Peter,

It does. What does it mean ? :)

Peter.

Re: HP 17BII

*Message #22 Posted by **Marcus von Cube, Germany** on 26 Feb 2009, 6:34 a.m.,*
in response to message #21 by Peter Leyssens

STAFF is a German method for annuities and annual effective rate calculation, called "Staffelzinsmethode". I found an explanation in the 17BII+ manual.

Re: HP 17BII

*Message #23 Posted by **Peter A. Gebhardt** on 26 Feb 2009, 6:33 a.m.,*
in response to message #21 by Peter Leyssens

Peter,

This special German extension to the "Annuity" (classic TVM) menu on the HP17bII International ROM is because of the different requirements within the classical accounting used by German banks (only?).

Differently to the e.g. US way of reckognizing compounded interest (the TVM way), German banks add up linear interest per day and account for compounding effects only once a year.

Therefore the TVM method does not represent the accounts balance within a year exactly! Think of a passbook (savings account)where the STAFF method makes sense, because taking care of interest on savings/withdrawals with simple multiplication was easier in the days before the calculator revolution.

The way interest was calculated then: 10% interst per year divided by 360 (accounting) days then multiplied by the number of days a balance was bearing interest on that account.

Best regards,

Peter A. Gebhardt

PS: Look up the term "capitalized simple interest" here

http://www.margill.com/Interest-calculation-White-paper.htm

Edited: 26 Feb 2009, 7:15 a.m.

Re: HP 17BII - Solver anomaly ?

*Message #24 Posted by **Marcus von Cube, Germany** on 27 Feb 2009, 3:18 a.m.,*
in response to message #1 by Peter Leyssens

In the french MySilicium forum we did some simple calculator benchmarking: Let the machine loop for a minute and check how far it gets. Here is my "loop" for the 17BII/17bII+:

B=A+SIGMA(N:1:1E99:1:L(A:N))

Solve for B and do a RCL A after the stop.

Whatever the initial values for A or B, the 17bII+ starts looping. This is different on the 17BII: After a CLR DATA, it returns B=0 as a direct result. The solver does not take the L(A:N) into account. To make it loop, store a nonzero guess in A before solving for B. In my opinion, this is a bug in the original solver implementation.

Re: HP 17BII - Solver anomaly ?

*Message #25 Posted by **Don Shepherd** on 27 Feb 2009, 9:25 a.m.,*
in response to message #24 by Marcus von Cube, Germany

Marcus, I have noticed this same behavior on the 17bii+'s before. If you press B twice, it will execute the loop, even after a Clear Data when A has nothing in it. Strange.

Re: HP 17BII - Solver anomaly ?

*Message #26 Posted by **Don Shepherd** on 27 Feb 2009, 9:26 a.m.,*
in response to message #25 by Don Shepherd

I'm sorry, on the 17bii's before. The plusses seem to process it as one would expect.

Re: HP 17BII - Solver anomaly ?

*Message #27 Posted by **Peter A. Gebhardt** on 27 Feb 2009, 10:11 a.m.,*
in response to message #26 by Don Shepherd

Marcus & Don,

So what should we take as a reference now?

The venerable 17BII, the 19BII (200LX HPCALC as well)???

Is the honorable John Tirone wrong in stating, that he could no longer recommend his own book wholeheartedly, because of changes in the L() & G() handling in the newer HP17BII+ - because (as it seems from Marcus post) he was misguided in "using" the eventual bug in the HP17BII to develop his fine solver solutions for real-estate practioneers?

Will the "HP-27S/19B Technical Applications" document be of some help?

Best regards

Peter A. Gebhardt

Re: HP 17BII - Solver anomaly ?

*Message #28 Posted by **Didier Lachieze** on 27 Feb 2009, 11:10 a.m.,*
in response to message #27 by Peter A. Gebhardt

I'm not sure if this is related to the chapter "How LET and GET Change an Equation" page 14 of the "HP-27S/19B Technical Applications" and when a direct solution may be found by the solver while it would not be "correct":

After the CLR DATA we have two formal variables unknown: A and B, each appearing once for the solver and we solve for B without initializing A ...

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HP-97 card reader woes

*Message #1 Posted by **GanjaTron** on 24 Feb 2009, 10:28 a.m.*

Hi folks,

after successfully reviving the card reader in an HP-65, I tried the same on an HP-97, but no luck.

I replaced the gooped up pinch roller with silicone tubing and glued the clutch. While I can consistenly read the preprogrammed cards, there's no way in hell I can write and subsequently read a blank card, no matter how I adjust the roller's eccentric shaft. Writing usually occurs without an error, but when a read error occurs, the card reader suddenly speeds up just as the card exits, as if it was trying to read beyond the end of the card.

I then resorted to fiddle with the leaf switch adjustment screws as a last ditch attempt, but no luck there either.

The motor warbles audibly and sounds like it fluctuates in speed. I've tried 3 different pieces of tubing for the roller, with the same results. I suspect the clutch itself is eccentric. Running the motor by itself from a bench supply also produces noticeable flutter.

Any hints before I give up?

Regards,

--Roland

Re: HP-97 card reader woes

*Message #2 Posted by **Michael de Estrada** on 24 Feb 2009, 11:23 a.m.,*
in response to message #1 by GanjaTron

Roland,

Having refurbished a HP-67 card reader myself, including the clutch, there are several things that come to mind:

1) Make sure all electrical wire connections are good (motor to PCB, AC adapter connector pins to motor and keyboard PCB). These are press-fit connections which use the tinned wire as the male pin, and sometimes are a loose fit. Also, make sure these connections don't come apart and the wires are not pinched when you re-assemble the case.

2) Make sure you have not bent any of the spring connector pins on the keyboard PCB or motor control PCB.

3) Make sure the motor shaft is fully inserted through the clutch into the center hole in the worm gear shaft, that the tip of the worm gear shaft is inserted into the hole in the frame and that the rebuilt clutch is not rubbing on the frame. If you have not already rebuilt the clutch, then you probably need to.

4) Lubricate the motor bearings. It is possible to inject some sewing machine motor oil past the shaft seal by orienting the motor upright with the shaft on top, and manually rotating the shaft. Afterwards clean off any

excess on the outside and shaft.

5) When you re-assemble the card reader, make sure the little white plastic roller is properly inserted in its slot. Also, I assume you have cleaned the card pathway on the read head side and that your cards themselves are clean.

Finally, a word of encouragement. I'm a total amateur in these matters, and if I can figure it out then I'm sure you can too. Just put it down for a few moments, have a beer, take a deep breath, then come back when your heart rate has returned to normal. You will eventually fix it, of this I am sure.

Bon chance, Michael

Re: HP-97 card reader woes

*Message #3 Posted by **Rainer Wiedemann (Germany)** on 24 Feb 2009, 3:45 p.m.,*
in response to message #1 by GanjaTron

Hi Roland,

from your description I suppose that you got two problems left over.

First I'm not sure whether your card reader is writing at all. Getting no error message after writing doesn't mean that the card was written at all. The reader does not verify while writing. If you also own a HP-41 with card reader, you can try to read the card written by your 97. If the 97 is writing, the 41 will read it (but your 65 won't). If not so, check all of the connections between r/w head and 97 pcb, check the wires for correct order and shorts or intermittent contact. If you have access to an oscilloscope, check the write signals to the head. Use a resistance meter and check the r/w head for broken windings.

I guess your second problem is indeed the kind of tubing you are using. Tygon tubing (outer diameter 6.4mm, inner diameter 3.2mm) has always worked for me, have a look at German ebay shop "gromotec.de", article number 350165752412 (no, that's not my shop :-)) !).

If the clutch is not properly centered you would have to fix this first, otherwise the worm gear will rapidly wear.

It's also not a bad idea to lubricate the motor bearings and worm gear but don't flood the pinch roller and card guide. Some axial clearance of the motor shaft is ok, but excessive radial clearance would indicate worn bearings and can cause the described flutter too.

Never give up, good luck.

Rainer

Re: HP-97 card reader woes

*Message #4 Posted by **GanjaTron** on 24 Feb 2009, 8:28 p.m.,*
in response to message #3 by Rainer Wiedemann (Germany)

Thanks for the hints, fellas.

I disassembled another (earlier) HP-97 here and applied the same procedure to the card reader's clutch and pinch roller. The motor screeches like a dentist's drill! Amazingly, it reads and writes flawlessly, despite the racket it makes. I was hesitant about lubricating the motor shaft, but I guess it's absolutely necessary here.

The other card reader still gives me agro. It definitely sounds slower and strained compared to the other

one (when it doesn't screech). I'll try a bit of lube on that motor too.

Other than that I've done pretty much all you mentioned except dragging out the o-scope to check the r/w signals. Might be a bit tough without the service manual.

Thanks for the hint with the Tygon tubing, Rainer. Right now I have to make up for the .4 mm difference with a layer of vinyl tape under the silicone tubing. Works, but certainly not as elegant as getting the proper diameter.

Oh, and I'll have that beer *after* I get it working. ;^)

Regards,

--Roland

Re: HP-97 card reader woes

*Message #5 Posted by **GanjaTron** on 26 Feb 2009, 7:46 a.m.,*
in response to message #4 by GanjaTron

Well, lubricating the motor shaft achieved nothing. I even swapped the pinch roller and axle with those from the "good" reader. No luck. I'm starting to wonder if it writes at all. Guess it's time for the scope. Should I measure directly at the head or the chip (and which pins)?

Anyone know how to adjust those leaf switches? How do I detect if they're misadjusted?

Boy, have I wasted a lot of time on this is a DOG of a card reader. I guess there's a reason this particular HP-97 is in such great cosmetic shape... ;^)

--Roland

Re: HP-97 card reader woes

*Message #6 Posted by **Randy** on 27 Feb 2009, 8:47 a.m.,*
in response to message #5 by GanjaTron

A scope will tell you nothing.

If you receive the "Error" message when writing, the switches are most likely out of adjustment. You said earlier you "fiddled" with the leaf switches. Do you know how to set them correctly? I ask because it is a black-and-white procedure, no "fiddling" involved.

If you do not have a copy of the 97 service manual from the MoHPc dvd set, it is time to invest in one. The service procedure is well documented and leaves nothing to chance or guesswork.

Yes, some readers take more effort than others but I suspect it is your lack of documentation that is root cause of your frustration.

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OT: uWatch's available again

*Message #1 Posted by **DaveJ** on 23 Feb 2009, 9:23 p.m.*

For those interested, uWatch's are now in stock again:

www.calcwatch.com

Dave.

Re: OT: uWatch's available again

*Message #2 Posted by **Johnny Bjoern Rasmussen** on 24 Feb 2009, 4:31 a.m.,*
in response to message #1 by DaveJ

Hi Dave. I have many times looked at yout uWatch, though I'll rather call it a calculator. It's really nice. Will there ever be a case for the watch/calculator as is looks a little fragile?

Regards!

Johnny

Re: OT: uWatch's available again

*Message #3 Posted by **DaveJ** on 24 Feb 2009, 4:58 a.m.,*
in response to message #2 by Johnny Bjoern Rasmussen

> Quote:
>
> Hi Dave. I have many times looked at yout uWatch, though I'll rather call it a calculator. It's really nice. Will there ever be a case for the watch/calculator as is looks a little fragile? Regards! Johnny

Hi Johnny

There has been talk about a case several times, but none of those avenues have worked out I'm afraid. Yes, it's not as rugged as a normal watch, but it does stand up to some abuse. The crux is the glued on band pin supports.

A case would also increase the size of the watch considerably over its already rather large-ish size.

Dave.

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OT: uWatch's available again

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Insufficient Memory

*Message #1 Posted by **Farz** on 23 Feb 2009, 1:34 p.m.*

My HP48 works and I am trying to use COGO GX/SX, After I enter COGO48 it shows the menu, but as soon I enter any function, it give me the "Insufficient Memory" message. I cleared memory by using AF and ON keys already.

I appreciate your help Farz

Insufficient Info...

*Message #2 Posted by **Raymond Del Tondo** on 23 Feb 2009, 4:06 p.m.,*
in response to message #1 by Farz

What does the associated documentation tell about memory requirements?
Maybe you're using an SX without an additional RAM card.
The SX only has 32K RAM built-in, whereas the GX has 128K onboard.

Does the manual provide any examples, and if yes, do they work?

Questions over questions;-)

HTH

Re: Insufficient Memory

*Message #3 Posted by **Randy** on 23 Feb 2009, 4:14 p.m.,*
in response to message #1 by Farz

Remove the cogo card from the calculator and clean the contacts of the card with isopropyl alcohol and a cotton swab. Let dry. Clear the memory of the calculator again with the three fingered salute and turn off. Reinsert card, restart with COGO48 and see what you get.

If that doesn't work, try the card in another GX. That way you'll know if it is the card or the calculator.

Re: Insufficient Memory

*Message #4 Posted by **Forrest Switzer** on 23 Feb 2009, 8:22 p.m.,*
in response to message #1 by Farz

Farz,

Depending upon the card and calculator you may be required to have a memory card. Also there is probably a proceedure described in the manual where you clear memory, enter the COGO card, turn on the calculator, turn off the calculator, insert the memory card and the COGO card and turn on the calculator.

Is this a TDS COGO card? Raymond is right - there is insufficient information given. There are a couple of

companies that make these cards and a number of different levels to the cards (basic COGO to Data Collector and on up into Road Works).

Didn't you get a manual with the card?

Forrest

It was sufficient for me...

*Message #5 Posted by **Randy** on 23 Feb 2009, 9:04 p.m.,*
in response to message #4 by Forrest Switzer

TDS COGO does not require additional memory, only SURVEY and SURVEY PRO need it.

SMI COGO is fine without a card as well.

> Quote:
>
> Didn't you get a manual with the card?

Sure they did. Threw it out years ago :^)

Re: It was sufficient for me...

*Message #6 Posted by **Forrest Switzer** on 24 Feb 2009, 8:02 a.m.,*
in response to message #5 by Randy

Me too. Actually I have a manual and no card. :)

Forrest

Re: It was sufficient for me...

*Message #7 Posted by **Farz** on 24 Feb 2009, 11:59 a.m.,*
in response to message #6 by Forrest Switzer

I have both 48SX and 48GX, and I don't have a Manual them. TDS COGO that I have worked on 48GX before, I exited the program to try on 48SX and it's no longer working. It show the menu for COGO and as soon as I enter any function, it kicks out and give the Error "Insufficient Memory".

Farz

Re: It was sufficient for me...

*Message #8 Posted by **Forrest Switzer** on 24 Feb 2009, 7:22 p.m.,*
in response to message #7 by Farz

Are you saying that it will not work on the GX now, or only that it wont work on the SX?

Forrest

Re: It was sufficient for me...

*Message #9 Posted by **Forrest Switzer** on 24 Feb 2009, 11:37 p.m.,*
in response to message #7 by Farz

Sorry about the formating, but this is about the best I can do.
It seems to reformat the numbering.
I have about 4 different TDS manuals for HP-48 and one TDS Manual for the HP200. The only card I have is for the HP200.

I think this manual is the most basic COGO.

From my TDS-COGO48 User's Manual (1990)

INSTALLING YOUR TDS-COGO48 CARD

Be certain tha you have three AAA alkaline battery cells properly installed in your HP-48SX before you begin the card installation process. If you have no cards plugged into your HP-48SX, you may go to step 3.

1) Turn your HP-48SX OFF
2) Remove any IC cards you may have plugged into your 48.
(This will cause a system memory loss if your plug-in RAM is configured as part of the main system RAM.)
3) Turn your HP-48SX ON
4) Turn your HP-48SX OFF
5) Insert your TDS-COGO48 Card into Port 1 of your HP-48SX.
(Port 1 may be identified by the graphic on the back of the unit.)
Cards are installed with the card graphics facing up when the 48 is inverted (keyboard down).
6) Turn your HP-48SX ON
7) Turn your HP-48SX OFF
9) Your HP-48SX is now properly configured

Yes the manual has omitted number 8

The numbers then continue with 10 regarding the installation of a RAM card.

Then the manual covers running the TDS-COGO48

To run the COGO Card Software, first press the alpha key twice

Now in alpha mode type "TDSCOGO" and [enter]

You should now see the main menu.

Installing a RAM Card

10) Install an HP-82214A or HP-82215A RAM Card in Port 2
(Port 2 may be identified by the graphic on the back of the unit.)
Cards are installed with the card graphics facing up when the 48 is inverted (keyboard down).
11) Turn your HP-48SX ON. When you turn on your TDS-COGO48 the first time, you will get and "invalid Card Data" error message. This is normal. Ignore this error message and proceed with running your TDS-COGO48. If you have installed the RAM card properly and you get a "No RAM card in port 2" error message, you probably have the write protect switch on your RAM card set. Try adjusting this switch which is located on the top edge of the card.
12) The first time that you attempt to use a RAM card which has not been used previously with the TDS-COGO48 or a TDS-48, the unit will prompt you with the message "Can I erase all data in port 2? Be certain that you do not want to save any information which may have been recorded by other applications before you press "Y".

Cant help more than that because I dont have the card.

```
Forrest
```

Edited: 26 Feb 2009, 8:31 a.m. after one or more responses were posted

Re: It was sufficient for me...

*Message #10 Posted by **bill platt** on 25 Feb 2009, 8:17 a.m.,*
in response to message #9 by Forrest Switzer

Hi Forrest,

If you use the [pre] [/pre] delimiters, you have to put the carriage returns in yourself...that's all.

For instance:

```
The quick brown fox
Jumps over the lazy dog
```

There is a manual carriage return after fox.

Edited: 25 Feb 2009, 8:20 a.m.

Re: It was sufficient for me...

*Message #11 Posted by **Forrest Switzer** on 25 Feb 2009, 8:06 p.m.,*
in response to message #10 by bill platt

Thanks Bill,

I kinda figured that out. I had typed it in word and converted to text, then previewed it and all the numbers had been stacked after each other. Then I selected preformatted, put the text where it needed to be and the preview looked ok, but of course it wasn't.

Forrest

Re: It was sufficient for me...

*Message #12 Posted by **bill platt** on 25 Feb 2009, 10:01 p.m.,*
in response to message #11 by Forrest Switzer

Almost every time I use [pre]\ with a substantial amount of text, I end up having to edit after I post--the proofreading in the edit window creates "gotchas" :-)

Re: It was sufficient for me...

*Message #13 Posted by **Marcus von Cube, Germany** on 26 Feb 2009, 4:43 a.m.,*
in response to message #11 by Forrest Switzer

Forrest, you can still edit your posts and correct the formatting. The PRE tags are useful for code listings but not for body text, because the word wrap is disabled in preformatted paragraphs. There is more formatting available: Advanced formatting options.

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A Replacement Calculator for Casio's with RPN!

*Message #1 Posted by **hugh steers** on 23 Feb 2009, 2:03 p.m.*

Hi,

I bought one of these Casio fx-9860g *slim* calculators - I like the shape.

It's a convenient form factor, folds up neat and fits in your pocket, with the screen protected so you don't need an outer case. Despite claiming to be *slim*, it's depth and height are about the same as a hp50g, but the length is significantly less. The screen is quite clear and the buttons work well. There's also a backlight and a USB connector.

However, i don't much care for Casio's actual calculator. So i've been developing my own "replacement" calculator called **Reckon**. It's not finished yet, but i made a sneak preview video if you want to have an early look.

It also does RPN!

VID (fuzzo-vision): http://www.youtube.com/watch?v=-uBY8kbyKEE

[NB: on the vid, the graphing is blurred. this is a framerate alias. it's not actually like this!]

I'm hoping to release a beta into the wild around the end of this month.

Re: A Replacement Calculator for Casio's with RPN!

*Message #2 Posted by **David Hayden** on 23 Feb 2009, 2:39 p.m.,*
in response to message #1 by hugh steers

Very nice and quite fast.

Re: A Replacement Calculator for Casio's with RPN!

*Message #3 Posted by **Katie Wasserman** on 23 Feb 2009, 2:43 p.m.,*
in response to message #1 by hugh steers

GREAT! I was just about to start in of my own app for this calculator, but I was thinking more along the lines of something programmable, a FORTH-like language.

Since you say that it's 25 decimal digits I assume that you wrote your own math routines. Did you figure out how to call any of Casio's built-in functions other than those provided in the SDK?

-Katie

Re: A Replacement Calculator for Casio's with RPN!

*Message #4 Posted by **hugh steers** on 23 Feb 2009, 5:11 p.m.,*
in response to message #3 by Katie Wasserman

It could do with a better program language. Casio has that weirdo basic-alike but not really language that they've had for years. It would be really easy to port another language. LUA would be very easy.

one thing tho': It's got a lot of flash memory for code but only 64k of ram. this puts the kibosh on anything too fancy.

I do use all my own math routines, although you do get the IEEE754 float/double library with the SDK. I used mine because, in any case, it's software emulation and mine are decimal floats.

There are a lot of undocumented syscalls out there. Various people are endeavouring to discover them and make them public. I have used a few already, such a nonblocking keyboard read and locating the screen RAM.

Its not a bad little machine to program.

Re: A Replacement Calculator for Casio's with RPN!

*Message #5 Posted by **Paul Dale** on 23 Feb 2009, 6:00 p.m.,*
in response to message #4 by hugh steers

> Quote:
>
> I do use all my own math routines, although you do get the IEEE754 float/double library with the SDK. I used mine because, in any case, it's software emulation and mine are decimal floats.

Why not the IBM decNumber library? Last time I looked it was way better at packing things for a low memory (RAM) devices.

8 byte reals gives you 16 digits. 16 byte reals are 33 digits long. Plus infinities, not numbers, sub-normals. I.e. IEEE 854 decimal floats.

- Pauli

Re: A Replacement Calculator for Casio's with RPN!

*Message #6 Posted by **hugh steers** on 24 Feb 2009, 2:53 p.m.,*
in response to message #5 by Paul Dale

Hi,

The decnumber library does not operate internally in the packed form, you have to unpack, operate

and then pack to use this form.

This would raise the question of whether i should always perform this triple - which would impact performance, or only to pack when i store in variables etc.

However the variable storage is on the heap, so usually this means sizes are a multiple of 4. Using your examples, this would mean i could use 8 bytes = 16 digits or 16 bytes = 33 digits. Maybe it could fit 24 in 12 bytes - which would be a good combination. That would save 4 bytes per variable. There would still be a hit when accessing variables.

Also, i already have infinities, but no denormalised floats.

Re: A Replacement Calculator for Casio's with RPN!

*Message #7 Posted by **Paul Dale** on 26 Feb 2009, 12:19 a.m.,*
in response to message #6 by hugh steers

> Quote:
>
> This would raise the question of whether i should always perform this triple - which would impact performance, or only to pack when i store in variables etc.

The 20b rewrite I'm working on does the latter. The stack and registers are 16 digit packed format and all computations are performed using 39 digits unpacked numbers. Entire computations are performed without packing. Only when the result is known does packing occur.

> Quote:
>
> However the variable storage is on the heap, so usually this means sizes are a multiple of 4. Using your examples, this would mean i could use 8 bytes = 16 digits or 16 bytes = 33 digits. Maybe it could fit 24 in 12 bytes - which would be a good combination. That would save 4 bytes per variable. There would still be a hit when accessing variables.

You'd get 25 digits in 12 bytes when packed. Digits are stored three per ten bits. I don't really see why you'd need 20+ digits except during internal computations though. Even the 16 I'm carrying seems like overkill :-)

- Pauli

Re: A Replacement Calculator for Casio's with RPN!

*Message #8 Posted by **Egan Ford** on 23 Feb 2009, 2:46 p.m.,*
in response to message #1 by hugh steers

Very nice. Now I have to get one.

Re: A Replacement Calculator for Casio's with RPN!

*Message #9 Posted by **hugh steers** on 23 Feb 2009, 5:16 p.m.,*
in response to message #8 by Egan Ford

Hi Egan,

Do you know if hpgcc works with c++ now? last time i looked, version 3 was by request only, so i've lost track of progress.

If so, i could easily make a hp50g port. the 50g is actually a lot more powerful, 2x CPU and a lot more RAM. Also more pixels!

However, i do recommend getting one of these, I find it nicer to carry.

Re: A Replacement Calculator for Casio's with RPN!

*Message #10 Posted by **Egan Ford** on 23 Feb 2009, 8:03 p.m.,*
in response to message #9 by hugh steers

> Quote:
>
> Do you know if hpgcc works with c++ now? last time i looked, version 3 was by request only, so i've lost track of progress.

Others have with version 2. The libraries are all C, but you should be able to use any GCC compiler language as long as you can bind to C.

Someone posted to comp.sys.hp48 a Sudoku solver written C++ for HPGCC 2. I think I still have it if you are interested.

Re: A Replacement Calculator for Casio's with RPN!

*Message #11 Posted by **David Hayden** on 24 Feb 2009, 10:50 a.m.,*
in response to message #9 by hugh steers

> Quote:
>
> Do you know if hpgcc works with c++ now? last time i looked, version 3 was by request only, so i've lost track of progress.

Hi Hugh,

I posted the sudoku solver in C++ that Egan referred to. You can get it here:
http://www.hpcalc.org/details.php?id=7062

This is a port of a windows program that I wrote.

See glue.cpp for the details of moving between C and C++. You need to implement "new" and "delete" in terms of malloc() and free() (it's easy) and any C++ file that includes the hpgcc header file will need to enclose the #include inside extern "C" { ... }. Finally, it appears that static variables inside functions aren't supported because the static initializer code isn't there.

Dave

Re: A Replacement Calculator for Casio's with RPN!

*Message #12 Posted by **hugh steers** on 25 Feb 2009, 9:16 a.m.,*
in response to message #11 by David Hayden

Thanks for the Sudoku program reference.

I notice the program has to resort to guesswork (brute force) for some of the hardest puzzles. I had the same problem in my own sudoku solver (which I wrote in lua for the hp50g). I used the methods suggested by Philip Belben from his HPCC datafile articles; “A General Method for Solving Sudoku” V24N6P23 and “More on Solving Sudoku” V25N1P4.

Philip was working on a set of canonical rules that would solve any puzzle. Unfortunately his rules didn’t quite get there, but were interesting nonetheless. To date, I still do not know if there is a (small) set of simple rules to defeat any puzzle.

His rule set was based on 5 increasingly involving rules derived from his experiences solving puzzles manually. When I coded them up I discovered that rule 5 (when generalised) dominated rules 3 & 4. Ie a program with rules 1,2 & 5 solves the same puzzle set as 1,2,3,4,5. So I removed rules 3 & 4 from the implementation. Of course, those rules are still handy for manual solving because they are easier mentally than rule 5.

Then there were the puzzles that were not solved by these rules. In these cases, I found that by guessing a number from a suitable (least unknown) square I would wind up with a solution, stalemate or contradiction. Latter almost always leading to full solution once the original rules are reapplied. Furthermore, I found the puzzle always solvable by one such guess. There were never cases when all guesses to minimum unknown squares failed to reach a solution or contradiction. That being the case meant my guess method did not have to be recursive – which was nice for the calculator memory!

good stuff.

Re: A Replacement Calculator for Casio's with RPN!

*Message #13 Posted by **David Hayden** on 25 Feb 2009, 10:51 a.m.,*
in response to message #12 by hugh steers

Hi Hugh,

You can find lots of information about solving and generating sudoku here:
http://www.setbb.com/phpbb/index.php?mforum=sudoku

Knuth's Dancing Links algorithm can solve any sudoku puzzle. There are lots of different algorithms that can be applied, but after the first half dozen or so, they all look suspiciously like "guess a value and see where it leads" to me.... :)

My solver applies successively more difficult methods to try to make progress on the puzzle, where progress means you can eliminate one or more possible values from a square. If any progress is made, it goes back to the easiest algorithms again. If none of the logical algorithms can solve the puzzle then it applies the one you mention: find a square with the fewest number of possibilities, assume one possibility is correct, and recursively repeat the whole process, starting with the logical algorithms first. Eventually you end up with a solution or an inconsistency, in which case the recursive call exits and you move on to the next possibility for a square. To me, the "guess and see where it leads" method is faster at that point, even for a human.

I haven't checked the number of recursive calls, needed, but doing it by hand with the windows version, I think I've seen a few puzzles that required two levels of recursion.

It was a fun exercise to port the C++ program to the calculator. The solver itself operates in just

a few microseconds. All the time needed to run the program comes from the User RPL wrappers that convert from an array to a string and back again.

I think the program is a nice example of the calculator's underlying speed and what can be done in C++.

Re: A Replacement Calculator for Casio's with RPN!

*Message #14 Posted by **Paul Guertin** on 26 Feb 2009, 4:03 a.m.,*
in response to message #13 by David Hayden

A few months ago, I wrote a sudoku solver using dumb backtracking (always starting with the entry having the fewest number of possibilities). It solves most newspaper-level sudoku problems in a few milliseconds on my slow computer, and the hardest problem I could find on the web, shown below, takes 0.15 second to solve.

My program reads a single sudoku problem from standard input, in the following format:

```
.......12
........3
..23..4..
..18....5
.6..7.8..
.....9...
..85.....
9...4.5..
47...6...
```

(A dot or the number 0 represents an empty space, and the newlines are optional, so the whole problem could also be entered on an 81-character line.)

Here is the program:

```
/* Sudoku solver by Paul Guertin <pg@sff.net>, August 2008 */


#include <stdio.h>
#include <string.h>


int neighbor[81][20];   /* lists of all 20 neighbors of each cell 0..80 */
int popcnt[512];        /* count of 1-bits in 0<=i<512 written in binary */
int nbsol, nbcalls;


void init_tables()
/* Initializes the neighbor[][] and popcnt[] tables. */
{
    int i, j, p, n[81];


    for( p=0; p<81; p++ ) {
        memset( n, 0, 81*sizeof(int) );
        for( i=0; i<9; i++ )
            n[p/9*9+i] = n[p%9+9*i] = n[p/27*27+p/3%3*3+i/3*9+i%3] = 1;
        for( i=j=0; i<81; i++ ) {
            if( (n[i] == 1) && (i != p) )
                neighbor[p][j++] = i;
        }
    }
    for( i=0; i<512; i++ ) {
        for( j=popcnt[i]=0; j<9; j++ )
            popcnt[i] += (i>>j) & 1;
    }
}


void set( int *board, int pos, int val )
/* Puts the value (1..9) in entry pos (0..80) and updates neighbors. */
{
```

```
    int i;


    board[pos] |= val<<9;
    for( i=0; i<20; i++ )
        board[neighbor[pos][i]] |= 1<<(val-1);
}


int input_board( int *board )
/* Reads a sudoku board from stdin.
   Returns 0 if OK, 1 if EOF, -(1..81) if invalid entry found. */
{
    int c, n;


    n = 0;
    memset( board, 0, 81*sizeof(int) );
    while( n<81 && (c=getchar()) != EOF ) {
        if( c>='1' && c<='9' ) {
            if( board[n] & 1 << (c-'1') )
                return -n-1;
            else
                set( board, n++, c-'0' );
        }
        else if( c == '.' || c == '0' )
            n++;
    }
    return n<81;
}


void print_board( int *board )
/* Pretty-prints a sudoku board to stdout. */
{
    int i;


    for( i=0; i<81; i++ ) {
        if( i==27 || i==54 )
            puts( "\n---------+---------+---------" );
        else if( !(i%3) )
            putchar( i%9 ? '|' : '\n');
        printf( " %c ", board[i]>0x200 ? '0'+(board[i]>>9) : '.' );
    }
    putchar( '\n' );
}


void solve( int *board )
/* Prints all solutions to a sudoku problem. */
{
    int i, maxblock, maxpos, keepboard[81];


    nbcalls++;
    for( i=maxblock=0; i<81; i++ ) {
        if( board[i] < 0x200 && popcnt[board[i]] > maxblock ) {
            maxpos = i;
            maxblock = popcnt[board[maxpos]];
        }
    }
    if( maxblock == 0 ) {
        print_board( board );
        nbsol++;
    }
    else if( maxblock < 9 ) {
        for( i=0; i<9; i++ ) {
            if( !(board[maxpos] & 1<<i) ) {
                memcpy( keepboard, board, 81*sizeof(int) );
                set( board, maxpos, i+1 );
                solve( board );
                memcpy( board, keepboard, 81*sizeof(int) );
            }
        }
    }
}


int main()
```

```
{
    int board[81], error;


    /* Each item in the board[] array represents an entry.
       The low 9 bits are used to keep track of impossible digits
       for that entry (low kth bit is 1 iff digit k+1 is impossible),
       and higher bits are used to write a digit in the entry (e.g.,
       to set the first entry to 5, use board[0] |= 5<<9). So this
       code assumes ints are at least 13 bits. */


    init_tables();
    if( error = input_board( board ) )
        printf( "Illegal input position %d.\n", -error );
    else {
        print_board( board );
        nbsol = nbcalls = 0;
        solve( board );
        printf( "\n%d solution%s found. ", nbsol, nbsol>1 ? "s" : "" );
        printf( "Difficulty level (number of calls): %d\n", nbcalls );
    }
    return error;
}
```

Re: A Replacement Calculator for Casio's with RPN!

*Message #15 Posted by **hugh steers** on 26 Feb 2009, 9:28 a.m.,*
in response to message #14 by Paul Guertin

Hi Paul,

Thanks for posting your sudoku program. I like it, it's very short and concise.

Also, your example puzzle is very tough! Has anyone had a go at solving it by hand? I put it into my program and made a discovery – it doesn't get solved by my, so called, one level guess. So this shows that there are puzzles that need a recursive solve approach.

Because your program is highly recursive, its not suitable for calculators in its current form, but could be adapted. For example, the max depth will be the same as the number of initial unknowns. Eg 64. So we need 63 boards on the stack ~ about 20k. This is a lot for a small stack machine, but not for the heap. Otherwise I think it would work quite well. I also like the fact that it will find all solutions, which is nice to know, in case the puzzle is ambiguous.

Your program demonstrates that trying to translate methods a person would use into a program aren't always any better than a program that solves by brute force, but in a very streamlined way.

Certainly for this scale of branching factor anyway.

Re: A Replacement Calculator for Casio's with RPN!

*Message #16 Posted by **Marcus von Cube, Germany** on 26 Feb 2009, 11:33 a.m.,*
in response to message #15 by hugh steers

I've tried it on my Casio Z-1GR (8088, C interpreter). Some modifications were (and still are) necessary because:

1) No ANSI prototypes.
2) memset, memcpy are missing.
3) sizeof works on variables only, not on types.

3) The output scrolls off the display.

I plugged in an external power supply and started the program with the hard to solve puzzle as input. I had to enter the numbers manually, there is no input redirection, but at least the solver started.

A few hours later, the solution was on the screen (scrolled off but obviously found). The program was still working, trying to find more solutions. I stopped it...

Memory wasn't a problem, at least on my system with some 40k free RAM, but execution times could be considerably improved by adding a few heuristics.

Here is the modified code:

```
/* Sudoku solver by Paul Guertin <pg@sff.net>, August 2008 */
/* Casio-C (non ANSI) MvC, Feb 2009 */


/*
#include <stdio.h>
#include <string.h>
*/


int neighbor[81][20];   /* lists of all 20 neighbors of each cell
0..80 */
int popcnt[512];        /* count of 1-bits in 0<=i<512 written in
binary */
int nbsol, nbcalls;


memset( buff, val, size )
char *buff;
int val, size;
{
    while( size-- ) *buff++ = (char) val;
}


memcpy( dest, src, size )
char *dest, *src;
int size;
{
    while( size-- ) *dest++ = *src++;
}


init_tables()
/* Initializes the neighbor[][] and popcnt[] tables. */
{
    int i, j, p, n[81];


    for( p=0; p<81; p++ ) {
        memset( n, 0, 81*sizeof(i) );
        for( i=0; i<9; i++ )
            n[p/9*9+i] = n[p%9+9*i] = n[p/27*27+p/3%3*3+i/3*9+i%3] =
1;
        for( i=j=0; i<81; i++ ) {
            if( (n[i] == 1) && (i != p) )
                neighbor[p][j++] = i;
        }
    }
    for( i=0; i<512; i++ ) {
        for( j=popcnt[i]=0; j<9; j++ )
            popcnt[i] += (i>>j) & 1;
    }
}


set( board, pos, val )
int *board, pos, val;
/* Puts the value (1..9) in entry pos (0..80) and updates neighbors.
*/
```

```
{
    int i;


    board[pos] |= val<<9;
    for( i=0; i<20; i++ )
        board[neighbor[pos][i]] |= 1<<(val-1);
}


int input_board( board )
int *board;
/* Reads a sudoku board from stdin.
   Returns 0 if OK, 1 if EOF, -(1..81) if invalid entry found. */
{
    int c, n;


    n = 0;
    memset( board, 0, 81*sizeof(n) );
    while( n<81 && (c=getchar()) != EOF ) {
        if( c>='1' && c<='9' ) {
            if( board[n] & 1 << (c-'1') )
                return -n-1;
            else
                set( board, n++, c-'0' );
        }
        else if( c == '.' || c == '0' )
            n++;
    }
    return n<81;
}


print_board( board )
int *board;
/* Pretty-prints a sudoku board to stdout. */
{
    int i;


    for( i=0; i<81; i++ ) {
        if( i==27 || i==54 )
            puts( "\n---------+---------+---------" );
        else if( !(i%3) )
            putchar( i%9 ? '|' : '\n');
        printf( " %c ", board[i]>0x200 ? '0'+(board[i]>>9) : '.' );
    }
    putchar( '\n' );
}


solve( board )
int *board;
/* Prints all solutions to a sudoku problem. */
{
    int i, maxblock, maxpos, keepboard[81];


    nbcalls++;
    for( i=maxblock=0; i<81; i++ ) {
        if( board[i] < 0x200 && popcnt[board[i]] > maxblock ) {
            maxpos = i;
            maxblock = popcnt[board[maxpos]];
        }
    }
    if( maxblock == 0 ) {
        print_board( board );
        nbsol++;
    }
    else if( maxblock < 9 ) {
        for( i=0; i<9; i++ ) {
            if( !(board[maxpos] & 1<<i) ) {
                memcpy( keepboard, board, 81*sizeof(i) );
                set( board, maxpos, i+1 );
                solve( board );
                memcpy( board, keepboard, 81*sizeof(i) );
            }
        }
    }
```

```
}


int main()
{
    int board[81], error;


    /* Each item in the board[] array represents an entry.
       The low 9 bits are used to keep track of impossible digits
       for that entry (low kth bit is 1 iff digit k+1 is impossible),
       and higher bits are used to write a digit in the entry (e.g.,
       to set the first entry to 5, use board[0] |= 5<<9). So this
       code assumes ints are at least 13 bits. */


    init_tables();
    if( error = input_board( board ) )
        printf( "Illegal input position %d.\n", -error );
    else {
        print_board( board );
        nbsol = nbcalls = 0;
        solve( board );
        printf( "\n%d solution%s found. ", nbsol, nbsol>1 ? "s" : ""
);
        printf( "Difficulty level (number of calls): %d\n", nbcalls );
    }
    return error;
}
```

Marcus

Re: A Replacement Calculator for Casio's with RPN!

*Message #17 Posted by **David Hayden** on 26 Feb 2009, 12:46 p.m.,*
in response to message #15 by hugh steers

> Quote:
>
> Because your program is highly recursive, its not suitable for calculators in its current form, but could be adapted. For example, the max depth will be the same as the number of initial unknowns. Eg 64. So we need 63 boards on the stack ~ about 20k. This is a lot for a small stack machine, but not for the heap. Otherwise I think it would work quite well. I also like the fact that it will find all solutions, which is nice to know, in case the puzzle is ambiguous.

One way to shrink the data required is to recognize that you don't need to store the entire board when you recurse. Instead you can store the value of the square that you're currently guessing, along with the values of it's 20 neighbors. That's because these are the only things that change when you set the value of the square.

A further optimization would be to recognize that you're only changing one bit of the neighbors, so you can store the previous value of the current square, plus a bit for each of the 20 neighbors.

Re: A Replacement Calculator for Casio's with RPN!

*Message #18 Posted by **Steve Keeley** on 26 Feb 2009, 8:23 p.m.,*
in response to message #15 by hugh steers

> Quote:

> Also, your example puzzle is very tough! Has anyone had a go at solving it by hand? I put it into my program and made a discovery – it doesn't get solved by my, so called, one level guess. So this shows that there are puzzles that need a recursive solve approach.

I entered it into Wayne Gould's Sudoku program and it said it was not a valid puzzle. The message included a note that about 1 in 700 puzzles printed in books and magazines are actaully impossible.

I then entered it into Angus Johnson's "Simple Sudoku" and it only got one step before it was stumped.

Both these programs use methods a human solver would go through. This puzzle may only be solvable by brute-force-trial-and-error.

Re: A Replacement Calculator for Casio's with RPN!

*Message #19 Posted by **Paul Guertin** on 27 Feb 2009, 10:08 a.m.,*
in response to message #15 by hugh steers

> Quote:
>
> > Because your program is highly recursive, its not suitable for calculators in its current form, but could be adapted.

David Hayden pointed out some possible optimizations that can save much memory. There is also an easy way to drastically cut the recursion depth:

For the sake of simplicity, the function solve() recurses even when there is only one possibility for a missing digit (i.e. when the variable maxblock is equal to 8). It is a simple matter to add a few lines of code so that it doesn't recurse until maxblock is less than 8. When I tried it, the maximum depth of recursive calls for the tough problem went from 63 to 24, and most newspaper-level problems seem to require a depth around 5.

Re: A Replacement Calculator for Casio's with RPN!

*Message #20 Posted by **Marcus von Cube, Germany** on 24 Feb 2009, 2:27 a.m.,*
in response to message #1 by hugh steers

Hi Hugh,

nice application. I've received my machine just yesterday, went to the edu.casio.com download site, logged in and tried to get the SDK. Somehow I do not qualify for the download. :(What are the steps to take for a developer to get the necessary tools?

Another question to the public: Would the Casio qualify as a free42 platform?

Re: A Replacement Calculator for Casio's with RPN!

*Message #21 Posted by **hugh steers** on 24 Feb 2009, 5:30 a.m.,*
in response to message #20 by Marcus von Cube, Germany

Hi Marcus,

You have to type in the numbers from the back of the unit to download the SDK. It's a bit silly i know.

I'm not really sure whether this is to validate you are a true owner or just some kind of data collection idea.

If it's not some kind of license restriction, it would be an excellent way for people here to try stuff out. The SDK comes with an emulator which can run apps under windows.

Re: A Replacement Calculator for Casio's with RPN!

*Message #22 Posted by **Marcus von Cube, Germany** on 24 Feb 2009, 6:25 p.m.,*
in response to message #21 by hugh steers

Thanks, that worked for me. Is your app downloadable ?

Re: A Replacement Calculator for Casio's with RPN!

*Message #23 Posted by **hugh steers** on 25 Feb 2009, 8:40 a.m.,*
in response to message #22 by Marcus von Cube, Germany

Soon will be. I'm going to release a public version in about a week or so. I have a list of minor wibbles to fix first.

Then i'll just try it out for a bit first, trying to head off that embarassing bug (that always gets out there) before the release.

:-)

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HP Forum Archive 19

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Got a 32s, musing about the 33s

*Message #1 Posted by **Peter Klein** on 23 Feb 2009, 2:54 a.m.*

I managed to snag a nice 32s off of "the auction site." It's got a couple of scratches on the bezel that kept the collectors from bidding it up too high, and everything works. So far I'm very pleased. I *love* the Pioneer form factor and keys.

I don't have a manual yet, so I downloaded HPs PDFs of the 32sii and 33s manuals to figure things out. I was fooling around with the RPN solver and the TVM equation Jeff Kearns posted last month (thanks, Jeff!). And something dawned on me.

The 33s has 32K of memory. People have balked because it has the same limited number of variables and labels as its ancestors. But then I realized what the memory is for--equations.

It takes a lot of equations to make much of a dent in that 32K, right? You can easily store variations of your most-used equations to solve for the variables you need, and run them directly, without ever having to use the Solver. Meanwhile, you've still got plenty of program space when you need it.

Now, if only we could retrofit a 32K memory chip in 32s and 32sii. And all the best calculators could benefit from a a USB port to plug in an SD card reader/writer for backup and restore. I know the latter will never fly on the current models due to the exam certification requirements. But hey,I can dream, can't I?

Re: Got a 32s, musing about the 33s

*Message #2 Posted by **Walter B** on 23 Feb 2009, 3:06 a.m.,*
in response to message #1 by Peter Klein

You're invited to a little roaming through the museum archives to see where dreaming may take you to.

Ceterum censeo: HP, launch a 43s.

Walter

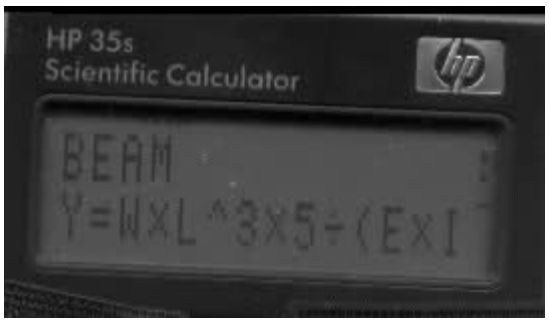
Re: Got a 32s, musing about the 33s

*Message #3 Posted by **bill platt** on 23 Feb 2009, 11:10 a.m.,*
in response to message #1 by Peter Klein

Haha, there was an enormous amount of unfounded griping about the lack of variables in the 33s (like, go get a 48GII or a 50G!). Like, the 32sii was so limited in memory, you could never use all the variables and labels, so with increased memory everyone's griping the other way!

Yes, the real bonus is the equations and simply the inexhaustible space for equations or programs. Even better, you can use equations as labels (that is also true in the 32sii which you don't have on the 32s). With essentially unlimited memory, you can put in long descriptive equations which actually make it possible to keep infrequently used equations or programs in memory with some chance to actually know what they are and how they work!

All of this also applies to the 35s except that it has a huge number of indirect memory addresses.



Edited: 23 Feb 2009, 11:31 a.m.

Re: Got a 32s, musing about the 33s

*Message #4 Posted by **Michael de Estrada** on 23 Feb 2009, 11:58 a.m.,*
in response to message #3 by bill platt

Let me guess. It's the maximum deflection at the center of a simply supported beam with a uniformly distributed load, where W=wL = total load and there should be a 384 in the denominator to the right of the ExI. Just asking out of idle curiosity; I'm a retired civil engineer.

As far as memory is concerned, the HP-32SII has a puny 384 bytes of memory, but the HP-42S has a reasonable 7K of memory, which has always been plenty for me. All my long programs are loaded onto my HP-48SX, which has 160K memory with an expansion card and serial communication with my DOS PC. I just bought a used HP-50g on "that auction site", and am looking forward to experimenting with it.

HP designs

*Message #5 Posted by **designnut** on 23 Feb 2009, 1:11 p.m.,*
in response to message #4 by Michael de Estrada

I find the solver in the 33S ideal in that it makes direct solutions where possible. It is sad that someone found it necessary to "style" it so it looked like a rocket ship and made it hard to repair due to the rubber side strips which rules out a slipcase like former calculators and led to the bulky horrid case. Sam

User RAM on the HP-32S and HP-32SII

*Message #6 Posted by **Karl Schneider** on 24 Feb 2009, 2:01 a.m.,*
in response to message #4 by Michael de Estrada

> Quote:
>
> As far as memory is concerned, the HP-32SII has a puny 384 bytes of memory, but the HP-42S has a reasonable 7K of memory,

The HP-32S had an already-miserly 390 bytes, then its successor HP-32SII lost six bytes even as the capability to store equations was ported from the HP-22S. This made the RAM even more inadequate.

The programming paradigm was good enough on both models to make it worthwhile to retain crafted user programs in permanent residence. Unfortunately, that can leave little room for other things -- very annoying.

I'd say that 2 kB would have been just right for the HP-32S/SII -- including 216 bytes reserved for 26 letter variables and the indirect register "i", so as not to illogically declare a variable nonexistent if its value happened to be zero.

Why couldn't the RAM from the HP-28C have been used?

The HP-32SII *does* offer a byte-saving trick: Non-negative integers not exceeding 254 can be stored in a program or equation using only 1.5 bytes, instead of the 9.5 bytes that all other numbers would require.

Here's an equation-based example for calculating balanced 3-phase apparent power [in MVA] from phase-to-phase rms voltage [in kV] and rms current [in A]:

```
M=K*A*SQRT(3)/1000      26 bytes

M=K*A*SQRT(3)/100/10    21 bytes
```

The latter runs a bit slower, but saves five bytes of RAM because "100/10" consists of three 1.5-byte objects, while "1000" is a 9.5-byte object.

Users really ought not to have to resort to tricks like that, though...

-- KS

Edited: 24 Feb 2009, 3:16 a.m.

Re: Got a 32s, musing about the 33s

*Message #7 Posted by **Steve Simpkin** on 23 Feb 2009, 2:34 p.m.,*
in response to message #3 by bill platt

> Quote:
>
> All of this also applies to the 35s except that it has a huge number of indirect memory addresses.

Also the HP35S has the direct GTO line number feature that can save scarce label resources.

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OT: Tee-shirt for the maths type

*Message #1 Posted by **bill platt** on 22 Feb 2009, 11:43 p.m.*

Re: OT: Tee-shirt for the maths type

*Message #2 Posted by **Walter B** on 23 Feb 2009, 1:28 a.m.,*
in response to message #1 by bill platt

d:D

Re: OT: Tee-shirt for the maths type

*Message #3 Posted by **Ren** on 23 Feb 2009, 11:05 a.m.,*
in response to message #1 by bill platt

Sad to say, my derivations probably would improve while under the influence...

Ren

dona nobis pacem

Re: OT: Tee-shirt for the maths type

*Message #4 Posted by **db (martinez, ca.)** on 23 Feb 2009, 11:35 a.m.,*
in response to message #1 by bill platt

A couple of these are pretty good. I like the one titled "useless".
The cheat shirt would be a good idea for some of those obscure extended and I/O module functions in the 41.
No reason for an RPN cheat skirt though; Katie has them all memorized.

Re: OT: Tee-shirt for the maths type

*Message #5 Posted by **Martin Pinckney** on 25 Feb 2009, 5:15 p.m.,*
in response to message #1 by bill platt

If I had known any derivers like that when I was in school...who needs booze?

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Interesting observation about Circuit City

*Message #1 Posted by **Martin Pinckney** on 22 Feb 2009, 6:15 p.m.*

As most U.S. members probably know, Circuit City is going out of business. They had a sidewalk placard guy at the local store yesterday, advertising "up to 60% off". (Ever notice how they never seem to get "up to" the advertised percentage on the items you are interested in)?

Anyway, out of curiosity, I went in. There was lots of "stuff" still on the shelves, but NO calculators left! (Save a couple of TI's). I got the impression the calcs have been gone for a while.

Curious, in this day when supposedly ordinary consumers are just not much interested in calculators anymore, they did not last long in the sale! (I bet the HP's went first). Did any members recently snag a 12c, 17bii+, or 35s at CC?

Re: Interesting observation about Circuit City

*Message #2 Posted by **Bill (Smithville, NJ)** on 23 Feb 2009, 8:35 a.m.,*
in response to message #1 by Martin Pinckney

I usually avoid all going out of business sales. Not sure what the rules are in other states, but in New Jersey you can "Go out of Business" for not more than 90 days in each calendar year. We have companies that have made a living out of going out of business. Following is NJ Staute:

> Quote:
>
> 56:8-2.8. "Going out of business sale" ; time limits It shall be an unlawful practice for any person to advertise merchandise for sale as a "going out of business sale" or in terms substantially similar to "going out of business sale" for a period in excess of 90 days or to advertise more than one such sale in 360 days. The 360-day period shall commence on the first day of such sale. For any person in violation of this act, each day in violation shall constitute an additional, separate and distinct violation.

What I really like about the Circuit City "going out of business" ads on TV is they state "New merchantdise arriving daily".

Bill

Re: Interesting observation about Circuit City

*Message #3 Posted by **Ren** on 23 Feb 2009, 11:10 a.m.,*
in response to message #1 by Martin Pinckney

Another possibility...

HP may not allow discounting on their calcs, so they may have been pulled (or at least, not restocked) before the big discounts.

We don't have a Circus Pity in our city, were any of the "premium" TI's (i.e. 84+++ or 89 Plutonium) discounted to 60%? I doubt it...

Ren

dona nobis pacem

Re: Interesting observation about Circuit City

*Message #4 Posted by **Tim wessman** on 23 Feb 2009, 11:23 a.m.,*
in response to message #3 by Ren

I ended up there on the first saturday to take care of some cell phone stuff and was curious. I wandered to the calculator area and someone was grabbing the last 50g. There were pegs for all the other HP calculators, so I expect the small stock sold out quickly. When I went back in about 2 weeks later to buy a better power strip there was still a nice selection of 84s and 89s.

Amazing how when stuff at circuit city was 40-60% off it finally started to get close to online prices. . . that is why they failed.

TW

Re: Interesting observation about Circuit City

*Message #5 Posted by **Michael de Estrada** on 23 Feb 2009, 12:47 p.m.,*
in response to message #4 by Tim wessman

Circuit City failed because they were a terrible operation in every imaginable way, be it customer service, product availability, technical knowledge and value. There is not sifficient space on this forum for me to chronicle all my horror stories with this outfit.

As an example, I purchased a laptop computer with Windows Vista Home Premium (another decision I have since regretted), which came with 1G memory. I had heard that 1G was inadequate, so I decided to have Circuit City install an additional 1G. When I started to use the laptop, I encountered sporadic problems with it locking up, so I took it back to the store for testing. After two weeks, they informed me that there was nothing wrong with the machine, so I took it back, but continued to have problems. Circuit City informed me that they would not warrant the machine or exchange it with another. I then took it to an independent shop, who told me that the problem was that the additional memory that Circuit City had installed was the wrong speed (it was too slow), and after replacing it with the correct memory, the laptop has performed flawlessly ever since (except for unrelated Vista issues). When I returned to Circuit City with the bill from the shop and the removed memory for credit, they just told me to take a hike.

So, I don't think deep discounting of product would have saved them. Brick and mortar stores survive on good service and technical support, and Circuit City had neither.

Circuit City

*Message #6 Posted by **Hal Bitton in Boise** on 23 Feb 2009, 9:07 p.m.,*
in response to message #5 by Michael de Estrada

> Quote:
>
> Circuit City failed because they were a terrible operation in every imaginable way, be it customer service, product availability, technical knowledge and value. There is not

> sifficient space on this forum for me to chronicle all my horror stories with this outfit.

Well put. I purchased a 50 inch plasma TV there last year. The employees I dealt with acted like they were put out to have to help me. A pathetic outfit.
Pres. Obama, don't bail these guys out!!
hal

Re: Interesting observation about Circuit City

*Message #7 Posted by **Palmer O. Hanson, Jr.** on 24 Feb 2009, 1:24 p.m.,*
in response to message #1 by Martin Pinckney

> Quote:
>
> I bet the HP's went first.

Not at the Circuit City in St. Petersburg on February 24 where the only remaining calculators are four 12C Platinum's priced at $60.89.

The next day I checked the Circuit City in Clearwater, Florida. There were no calculators of any kind for sale.

I also did a price comparison at Office Depot. They have the 12C Platinum listed at $89.99 with a ten dollar discount for a current price of $79.99.

Edited: 25 Feb 2009, 9:18 p.m.

Re: Interesting observation about Circuit City

*Message #8 Posted by **Don Shepherd** on 26 Feb 2009, 7:22 p.m.,*
in response to message #7 by Palmer O. Hanson, Jr.

My Circuit City in Louisville had one HP50g yesterday, but they wanted $120 for it and I was only prepared to pay about half that. Considering you can get one at Amazon for about $104, it would seem that Circuit City just doesn't get it. Even during a storewide clearance sale, there are no bargains.

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HP-35s Stat Pac Free to download!!

*Message #1 Posted by **Namir** on 22 Feb 2009, 5:17 p.m.*

Hi All,

I posted my HP-35S Stat Pac on my web site. You can access the software's web page by clicking here.. At the bottom of that web page you will find a link to download the ZIP file that contains the 440-page PDF file-formatted manual.

Enjoy!!

Namir

Re: HP-35s Stat Pac Free to download!!

*Message #2 Posted by **Walter B** on 22 Feb 2009, 5:36 p.m.,*
in response to message #1 by Namir

Namir,

that sounds like an awful lot of work. Thanks for sharing! Unfortunately, I'm not able to extract the file you zipped, but I'll try tomorrow on a more modern PC.

Re: HP-35s Stat Pac Free to download!!

*Message #3 Posted by **Paul Dale** on 22 Feb 2009, 5:53 p.m.,*
in response to message #1 by Namir

I'm unable to unpack it to:

```
Archive:  NCS35TB_Stat_Pac.zip
   skipping: NCS35TB Stat Pac.pdf    unsupported compression method 98
```

- Pauli

Re: HP-35s Stat Pac Free to download!!

*Message #4 Posted by **Katie Wasserman** on 22 Feb 2009, 6:08 p.m.,*
in response to message #3 by Paul Dale

I find the same problem. -Katie

Re: HP-35s Stat Pac Free to download!!

*Message #5 Posted by **Tom Mathes** on 22 Feb 2009, 6:29 p.m.,*
in response to message #3 by Paul Dale

Same problem here. I'm using 7-Zip v4.64.

Re: HP-35s Stat Pac Free to download!!

*Message #6 Posted by **Namir** on 22 Feb 2009, 6:30 p.m.,*
in response to message #5 by Tom Mathes

I replaced the zip file with the (bigger) PDF file. It takes a few seconds more to download and you get the pdf file.

Please let me know if you are getting teh pdf file and opening it correctly.

Namir

Edited: 22 Feb 2009, 6:44 p.m.

Re: HP-35s Stat Pac Free to download!!

*Message #7 Posted by **Sancerre (Phoenix)** on 22 Feb 2009, 8:53 p.m.,*
in response to message #6 by Namir

The pdf downloaded without a hitch. I can also open and view the contents. This was a major effort - thanks for the huge contribution to the community. --Tod

Re: HP-35s Stat Pac Free to download!!

*Message #8 Posted by **Namir** on 23 Feb 2009, 12:11 a.m.,*
in response to message #7 by Sancerre (Phoenix)

You are all welcome!

The Stat Pac combines many of the programs in the Stat Pac I and II of the HP-65 and add a few more programs that take advantage of the 35s' memory.

Namir

Re: HP-35s Stat Pac Free to download!!

*Message #9 Posted by **Walter B** on 23 Feb 2009, 1:23 a.m.,*
in response to message #6 by Namir

Works perfectly now. Thanks again!

Re: HP-35s Stat Pac Free to download!!

*Message #10 Posted by **Paul Dale** on 22 Feb 2009, 10:18 p.m.,*
in response to message #1 by Namir

Got it now. A huge undertaking. Nice.

Pity, I hardly do any statistics any more :-(

- Pauli

Re: HP-35s Stat Pac Free to download!!

*Message #11 Posted by **Bruce Bergman** on 23 Feb 2009, 10:38 a.m.,*
in response to message #1 by Namir

Namir --

I remember when you first put this out there, advertising on the auction site, if I recollect. It was an amazing feat back then, and I was very impressed. It's wonderful and very generous of you to offer to everyone now.

THANKS!

bruce

Re: HP-35s Stat Pac Free to download!!

*Message #12 Posted by **Namir** on 23 Feb 2009, 10:58 a.m.,*
in response to message #11 by Bruce Bergman

You are welcome bruce.

The manual serves two purposes (1) Offering the HP-35s programs, and (2) offering the equations for the various statistical calculations.

Namir

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In defence of a 4 stack

*Message #1 Posted by **designnut** on 22 Feb 2009, 3:44 p.m.*

I found the 4 stack no limitation in the real world. It makes possible the repeating t register which I really took advantage of. When you have 3 memories like the original 35 you have to squeeze what you can out of few resources. I used the t register to store Resistance in a divider ans solved for the divider fraction and the output resistance. My solution has no precedence but it works. I used 2(Pi)F repeatedly fo solve the resonance equation at a fixed frequency. 2(Pi)F multiplied twice by L or C and invert to see the resonant element. I used it similarly for 2(Pi)FRC-1 to solve RC corners for compensation of Op amps. I note a dearth of younger and older MOHPC members around the central cluster. TI in the classroom? Too bad HP abandoned the field. Sam

Re: In defence of a 4 stack

*Message #2 Posted by **Walter B** on 22 Feb 2009, 4:12 p.m.,*
in response to message #1 by designnut

Hello Sam,

for sake of clarity please note a repeating t register is not bonded to 4 level stacks, but may also be present with any other fixed stack depth. Having 6 stack registers, x y z 4 5 t for example, will allow you all the tricks you do with 4 levels PLUS straight forward computing of more complicated equations than a 4 level stack can take.

Best regards,

Walter

Re: In defence of a 4 stack

*Message #3 Posted by **Ángel Martin** on 23 Feb 2009, 12:57 p.m.,*
in response to message #2 by Walter B

True but I find it very difficult to keep tabs with more than 4 stack registers at a time... my brain isn't what it used to be, it seems. Four works like a champ.

Best, ÁM

Re: In defence of a 4 stack

*Message #4 Posted by **Walter B** on 24 Feb 2009, 1:31 a.m.,*
in response to message #3 by Ángel Martin

Buenas dias Ángel,

> Quote:
>
> True but I find it very difficult to keep tabs with more than 4 stack registers at a time

May I point you to another post?

Your preference may depend on the dominant use of your calculator: If it's stack gymnastics, I agree 4 levels are enough, but if it's number crunching, a few (!) more levels are beneficial. That was why I vote for a settable fixed stack depth. 4 levels in vintage mode and e.g. 6 or 8 levels in power mode.

Cordialmente,

Walter

Edited: 24 Feb 2009, 1:42 a.m.

Re: In defence of a 4 stack

*Message #5 Posted by **Palmer O. Hanson, Jr.** on 24 Feb 2009, 2:26 a.m.,*
in response to message #4 by Walter B

Walter:

You wrote:

> Quote:
>
> Your preference may depend on the dominant use of your calculator: If it's stack gymnastics, I agree 4 levels are enough, but if it's number crunching, a few (!) more levels are beneficial. That was why I vote for a settable fixed stack depth. 4 levels in vintage mode and e.g. 6 or 8 levels in power mode.

I would suggest different set of options for the stack:

1. An infinite stack such as on the 28 and 48.

2. A settable stack depth with the vintage type of t register replacement at the top, but not because I would personally use it.

How did HP choose the four level stack mechanization? Was there some sort of efficiency study at the time the 35 was designed, or was it mostly a matter of memory limitations?

Palmer

Re: In defence of a 4 stack

*Message #6 Posted by **Ren** on 23 Feb 2009, 11:14 a.m.,*
in response to message #1 by designnut

designnut,

Would you share with this mathophobe/mathoklutz (mathsophobe/mathsoklutzo) your keystrokes for those electronic formula?

Thanks,

Ren

dona nobis pacem

HP designs

*Message #7 Posted by **designnut** on 23 Feb 2009, 1:00 p.m.,*
in response to message #6 by Ren

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=701 Nobody responded to this. The resistive divider solution is novel. It was discovered by playing with numbers. Yes I amuse myself at times with calculator tricks. When I was faced with limited calculator resources I rewrote the classic EE equations to be amenable to the calculator. It gave me the horrors seeing people program solutions that were patently straightforward to me. With the HP65 I set out match many curves in books and succeeded. For thermistors I found if I added a large number to the temperature and used Ln with a few constants I found an easy match to the resistance VS temperature curve. I used repeated trials to correct my constants. I think we are needlessly hampered by packaged solutions, but they have their uses. http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=780 E. Samuel Levy (google it) designnut@cox.net

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HP-71B with a dead piezo speaker - repairable?

*Message #1 Posted by **Philippe Lasnier** on 22 Feb 2009, 2:55 p.m.*

Hi All,

I've got an HP-71B on which unfortunately the piezoelectric speaker doesn't work anymore. The best it does is emit a very faint "squeek" on a beep or tone command (and won't do it again until you wait for a few minutes).

I don't know if it is the speaker itself which doesn't work, or if it is the driving electronics.

Does anybody know something about this?

Also, where could I find some instructions on how to disassemble the HP-71B, or at least some pictures of the inside, as I'd rather know what to expect before I starting taking all the screws off :-)

Regards,

Philippe

Re: HP-71B with a dead piezo speaker - repairable?

*Message #2 Posted by **Allen** on 22 Feb 2009, 3:28 p.m.,*
in response to message #1 by Philippe Lasnier

I recommend buying a T6-size Torx screwdriver for your project. If you have the metal-backed 71b with the two very small brass screws on the back- use caution- they are small enough to obey Hisenberg's Uncertainty Principle if removed. - My $0.02 stimulus package

Re: HP-71B with a dead piezo speaker - repairable?

*Message #3 Posted by **Philippe Lasnier** on 22 Feb 2009, 4:14 p.m.,*
in response to message #2 by Allen

Ah wait <rumble><rumble>...damn! The smallest I've got is T9. I guess this can wait until I get the proper size. And yes, it's a 1984 model with the metal back, so I know I've got to be careful with these small screws.

Say, I wonder, assuming it's the piezo itself which is dead, if one from a dead HP-41 would do? (I've got one lying around) I guess I'll find out when I've disassembled the 71B.

Philippe

Re: HP-71B with a dead piezo speaker - repairable?

*Message #4 Posted by **Garth Wilson** on 22 Feb 2009, 9:28 p.m.,*
in response to message #3 by Philippe Lasnier

Piezo elements are very common and inexpensive. If you don't have a greeting card with one that you want to use, buy one or even a hundred from someplace like Mouser, from the lower part of the page http://www.mouser.com/catalog/637/1814.pdf , figure "S". One of about 20mm diameter should be fine. I've used this kind of thing for many projects, even cutting them down with scissors to fit narrower spots. They never fail by themselves, but you do have to be careful not to damage the plating on the center part when you solder to it.

Edited: 22 Feb 2009, 9:29 p.m.

Re: HP-71B with a dead piezo speaker - repairable?

*Message #5 Posted by **Ren** on 23 Feb 2009, 11:20 a.m.,*
in response to message #4 by Garth Wilson

> Quote:
>
> Piezo elements are very common and inexpensive. If you don't have a greeting card with one that you want to use,

I like the greeting card idea...

Piezo speakers are such a pain to solder. I suggest keeping the leads attached to the donor speaker/squeaker and either connect to the old leads or directly to the circuit board.

Ren

dona nobis pacem

Re: HP-71B with a dead piezo speaker - repairable?

*Message #6 Posted by **Rainer Wiedemann (Germany)** on 23 Feb 2009, 12:57 a.m.,*
in response to message #1 by Philippe Lasnier

I'd first try to solder the wires to the beeper, on both the pcb and the beeper itself. Maybe you only got cold solder joints. Since the beeper vibrates when making tones, this may be stress to the solder joints. I found this problem on several 71 and 41 calcs, the symptoms were similar to yours.

The following link is pointing to the 71B service manual, it gives detailed disassembly instructions and shows the beeper's driving circuit: 71B Service Manual

In case you lost the two tiny brass flat head screws, these are size 00-90 x 1/8". You might find them in a model railroad shop.

Good luck!

Re: HP-71B with a dead piezo speaker - repairable?

*Message #7 Posted by **Philippe Lasnier** on 23 Feb 2009, 9:24 a.m.,*
in response to message #6 by Rainer Wiedemann (Germany)

Thanks Rainer,

Ah! I **knew** I had seen this manual before. It's embarrassing because I remember now that it was at the exact place you pointed me to.

Thanks for the info. As indicated in Gareth's comments (thanks Gareth), and implied in yours, it's unlikely the piezo itself would have failed.

I'll check this out and let you know how I got on (I need to get the right screwdriver first though).

Philippe

Re: HP-71B with a dead piezo speaker - repairable?

*Message #8 Posted by **John Pierce** on 23 Feb 2009, 12:29 p.m.,*
in response to message #6 by Rainer Wiedemann (Germany)

Rainer, Thank you for the link to the HP-71B service manual, I had never seen the manual. Now I have a lot to read. Thanks!!

Re: HP-71B with a dead piezo speaker - repairable?

*Message #9 Posted by **Etienne Victoria** on 23 Feb 2009, 1:57 p.m.,*
in response to message #1 by Philippe Lasnier

Hi Philippe,

I second all the advice you have received from our fellow forum members.

As you requested a picture of the innards, you'll find one below, showing the speaker location.

Pretty easy to access and solder after opening the Titan.

And no, you won't have all those red wires all around. I've wired them to replace the zebra connector which also frequently fails in the 71B as it does in the 41C.

Best

Etienne

Edited: 23 Feb 2009, 4:22 p.m. after one or more responses were posted

Re: HP-71B with a dead piezo speaker - repairable?

*Message #10 Posted by **Rainer Wiedemann (Germany)** on 23 Feb 2009, 2:27 p.m.,*
in response to message #9 by Etienne Victoria

Looks almost like mine :-) Would be interesting to know, how many 71Bs are still in the original state using the zebra connector. I got both of mine defective, and both perfectly work after I replaced the zebra connector with wires.

@Philippe: Hope your little gem is soon back to healthy condition.

@John: the site I linked to above has a lot of more service manuals and other docs, it's a great complement to the museum dvd of this site although it's not solely dedicated to HP pocket calculators.

Re: HP-71B with a dead piezo speaker - repairable?

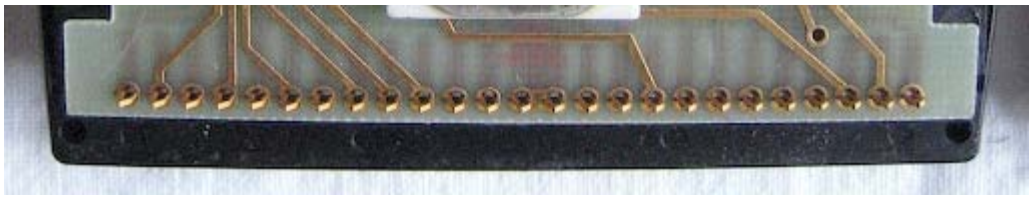
*Message #11 Posted by **Etienne Victoria** on 23 Feb 2009, 5:08 p.m.,*
in response to message #10 by Rainer Wiedemann (Germany)

Hallo Rainer,

Over the seven 71B, I have repaired, 3 had a severely damaged zebra strip, such as this one:

On the 41 fullnuts, also prone to this kind of failure, the zebra strip can be replaced from a parts machine but one day, will always end up like this:

These were the times when Hp quit the connectors they used on valuable former models such as the beloved, unmatchable, elegant Hp-80:



Or maybe was this earlier with the Spice series...

Anyway, I only recall seing these connectors in Classic & Woodstock series but I stand corrected if somebody has a better info.

Best

Etienne

Re: HP-71B with a dead piezo speaker - repairable?

*Message #12 Posted by **Philippe Lasnier** on 23 Feb 2009, 6:08 p.m.,*
in response to message #11 by Etienne Victoria

Hi Etienne,

Thanks for the picture of the HP-71 innards - and now I'm going to be even more careful opening it up in case I damage this zebra connector...

I should know very quickly what's wrong with the piezo speaker.

Merci et bonne soirée ;-)

Philippe

41C zebra

*Message #13 Posted by **bill platt** on 23 Feb 2009, 9:03 p.m.,*
in response to message #11 by Etienne Victoria

Well, maybe I should get my 41CV out of its box and repair it! I think the only problem I have is some corrosion to the zebra...maybe that is worse? Ultimately you have to wire it up? And how to prevent corrosion continuing...and what sort of soldering equipment is best?

Re: HP-71B with a dead piezo speaker - repairable?

*Message #14 Posted by **Garth Wilson** on 23 Feb 2009, 10:58 p.m.,*
in response to message #11 by Etienne Victoria

A zebra strip is an elastomeric compression-type connector with alternating conductive and non-conductive layers that go perpendicular to the PC board. It is not a flex-circuit-type ribbon. http://www.fujipoly.com/design/genDesignGuidelineArticle.asp?ContentItemID=dga_1010 shows the scheme.

Re: HP-71B with a dead piezo speaker - repairable?

*Message #15 Posted by **Philippe Lasnier** on 25 Feb 2009, 4:08 p.m.,*
in response to message #10 by Rainer Wiedemann (Germany)

Progress report: zilch.

I did try, but all the five TORX screws have basically seized up. By soaking with WD-40 I managed to free up one of them. The other four will have to wait because I've eroded all the teeth on the screwdriver (cheap).

Re: HP-71B with a dead piezo speaker - repairable?

*Message #16 Posted by **Marcus von Cube, Germany** on 26 Feb 2009, 4:45 a.m.,*
in response to message #15 by Philippe Lasnier

Cheap tools aren't an option.

Never!

Re: HP-71B with a dead piezo speaker - repairable?

*Message #17 Posted by **Philippe Lasnier** on 26 Feb 2009, 8:33 a.m.,*
in response to message #16 by Marcus von Cube, Germany

I agree, but I had just borrowed a set from the office which turned out to be a cheap one :-) I'll go and buy myself a **proper** T6 screwdriver...

Re: HP-71B with a dead piezo speaker - repairable?

*Message #18 Posted by **Philippe Lasnier** on 7 Mar 2009, 3:53 p.m.,*
in response to message #17 by Philippe Lasnier

I'd like to let you know how I got on. I've got partial success...read on...

We had left it with screws stuck, and no screwdrivers...

After a few days I managed to get some proper T6 screwdrivers, and the WD40 having done its magic in the meantime, I was able without effort to remove the remaining screws.

After opening up, it was easy to locate the beeper. By the way, my HP-71B being a 1BBBB version from 1984, with the metal back, it didn't quite look like the picture that Etienne posted on 23/Feb. For a start, there wasn't this zebra connector prone to failures - I had a flex cable joining the PCBs on short sides of the two halves of the shell. (I'd happily post a picture, but the only way I've read to do that is to ftp the file to the site's incoming directory, and wait for David to move the file manually. Isn't there a more automated way?)

The wires from the beeper to the PCB looked ok. Nevertheless I re-did the soldering on the PCB side, then tried. It worked, of sort; faint beeps. Then it stopped working. I jiggled the wires, resoldered on the beeper itself, tapped and prodded. Eventually it worked again, and I became suspicious that the beeper itself was simply "glued-up" from not being used in 10 (or 20) years, so I wrote a short program to exercise various frequencies and volumes, and let it run for 2 hours.

So far, so good. The next morning, it still worked loud and clear. The next day, it still worked loud and clear. I didn't check for about a week, and tonight it wasn't working again, just like when all this started. Just a faint 'pic' sound. A few BEEP commands later and the sound is quickly better and clearer. Over the last few minutes, it's been exactly like that: it works eventually, then I leave it for a few minutes and it's back to square one again.

I don't know if this is an electronic problem. From the symptoms, and especially from the fact that it initially worked for hours, and was ok the next two days, it feels like it's the beeper which is past its best-by-date (and I haven't got an oscilloscope to check the signals).

I'm reluctant to remove it until I've got a replacement, but what's its technical data (apart from "coming from a greeting card";-)?

Re: HP-71B with a dead piezo speaker - repairable?

*Message #19 Posted by **Garth Wilson** on 7 Mar 2009, 4:43 p.m.,*
in response to message #18 by Philippe Lasnier

Quote:

> I'm reluctant to remove it until I've got a replacement, but what's its technical data (apart from "coming from a greeting card";-)?

Different ones will have different resonant frequencies, but those will be changed by the surface it's taped onto or the enclosure you put it in anyway. They also have different capacitances, but it won't matter at all for this application. You could just get one that's about the same size and it will be ok.

But although one could get damaged in an accident, they do **not** go bad simply with time. You seem to have a different problem.

Re: HP-71B with a dead piezo speaker - repairable?

*Message #20 Posted by **Philippe Lasnier** on 8 Mar 2009, 8:50 a.m.,*
in response to message #19 by Garth Wilson

> Quote:
>
> You could just get one that's about the same size and it will be ok.

Pardon my ignorance, but besides frequency and capacitance, these things also have rated voltage, e.g. 12V, 15V, 30V. Does that really not matter?

> Quote:
>
> But although one could get damaged in an accident, they do not go bad simply with time. You seem to have a different problem.

Ok, but any idea what that could be?

Thanks for the help.

Re: HP-71B with a dead piezo speaker - repairable?

*Message #21 Posted by **Garth Wilson** on 8 Mar 2009, 9:43 a.m.,*
in response to message #20 by Philippe Lasnier

> Quote:
>
> Pardon my ignorance, but besides frequency and capacitance, these things also have rated voltage, e.g. 12V, 15V, 30V. Does that really not matter?

They're kind of like a speaker. More signal voltage makes them put out more volume. The 71 won't put out enough signal voltage to damage any of them though. If exact sensitivity or issues of sound quality (low distortion, good frequency response, etc.) were a consideration then yes, you'd be looking for details; but that's not the case. I've built countless workbench prototypes of our products over the last 20+ years using these piezoelectric elements so the beeps could be heard without always having to use headphones which will be used in the final product in the cockpit, and never seen a bad one, never seen one go bad, etc.. I just drive them with an AC signal coming from 5V CMOS logic.

These prototypes are usually to prove the software before the product is built, so all I need from the piezo element is the annunciator beeps, much like the 71 produces. I know I could take out any of the old breadboards and blow the dust off them and fire them up and the beepers would still be the same as I left them many years ago. In fact, sometimes I have re-used them from old things I didn't need anymore.

> Quote:
>
> > Quote:
> >
> > But although one could get damaged in an accident, they do not go bad simply with time. You seem to have a different problem.
>
> Ok, but any idea what that could be?

If it's the piezo element at all, it had to have been bad right out of the factory (which I doubt); but if that were the case, I think you'd see a crack, delamination, or something like that. I think you have a problem on the circuit board, but I don't have any info on what's in there. Has the unit experienced some sort of accidental abuse? I would suspect something like a cracked surface-mount solder connection (although those are more common in the newer products made with solder with no lead in it), or a cracked chip capacitor (which is something you don't need in series with a piezo element anyway). You might need to resort to fixthatcalc.com since you don't seem to have any test equipment.

Edited: 8 Mar 2009, 9:44 a.m.

Re: HP-71B with a dead piezo speaker - repairable?

*Message #22 Posted by **Philippe Lasnier** on 8 Mar 2009, 10:28 a.m.,*
in response to message #21 by Garth Wilson

Ok, thanks Garth.

There was nothing I could see in terms of cracked solder connection or anything else like damaged capacitor or the piezo itself, but of course, besides the obvious, I may not be looking in the right place.

Effectively, the conclusion is that without testing equipment, a full diagnosis is beyond me.

I've thought of fixthatcalc, although I think that they are still not accepting new orders. Because I'm in the UK though, this makes fixing this rather uneconomical.

The service manual gives the full instructions for diagnosing speaker problems, but I need an oscilloscope. Of course, I could get one, but unless I'm going to use it for other repairs, this is an expensive proposal. I'd also need a proper workbench, etc. (Sigh)

You asked about accidental abuse: I wouldn't say that there was any. There is

an indentation on the metal bezel above the display obviously from a knock, but it's minor; that's about it.

Oh well. I may carry on poking at it from time to time, but I think I will have to accept the problem.

Thanks for all the help.

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HP-41 broken plastic display - how to fix?

*Message #1 Posted by **Geir Isene** on 22 Feb 2009, 1:04 p.m.*

The calc is otherwise perfect (41CX halfnut), but the display plastic window is broken.

Can I remove it with a very sharp knife without opening up the calc (I believe it has never been opened before) and fasten a replacement from another broken calc?

Re: HP-41 broken plastic display - how to fix?

*Message #2 Posted by **Randy** on 22 Feb 2009, 2:31 p.m.,*
in response to message #1 by Geir Isene

> Quote:
>
> Can I remove it with a very sharp knife without opening up the calc (I believe it has never been opened before) and fasten a replacement from another broken calc?

In a word: No.

It is crystal polystyrene, very hard to cut with a knife, it is quite brittle which is why it broke. You'd also destroy the LCD in the attempt. Further, the window was installed from the rear of the assembly and ultrasonically welded into place. Any attempt to remove/replace from the front would be an absolute disaster.

The fact that it is a halfnut posses the major problem in that the keyboard/logic board would need to be removed from the unit to properly replace the window. Even after the board is out, there is a fair amount of just plain luck involved in getting both the broken window out and the replacement removed in usable condition.

It can be done but is not something I would agree to do without a complete understanding that it may not be a successful transplant :(

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Symbolic differentiation on HP35s

*Message #1 Posted by **Peter Niessen** on 22 Feb 2009, 9:42 a.m.*

Hi guys,

I don't know if Vincze reads here anymore. Coming back on how to do symbolic differentiation on the 35s (see this thread), here's a little C++ program which shows how to do symbolic diffrentiation on a RPN expression. You could use the HP35s's storage array as the equivalent of the deque in C++, I guess. Of course, the whole thing would be more academic, since the 16 (?) levels of subroutines won't allow too much of the necessary recursion.

Hoping it's ok to cut and paste here,

```
// deque.cc
// How to do symbolic differentiation on RPN expressions.
// PN Sat Feb 21 13:15:19 CET 2009


#include <deque>
#include <string>
#include <iostream>


// this is our stack.
// the push_front is equivalent to pressing ENTER
typedef std::deque<std::string> ds_type;


void print (ds_type &d);
ds_type pop_expr (ds_type &d);
ds_type diff_expr (ds_type &d);
ds_type smpl_expr (ds_type &d);


/*****************************************************************/


int main () {


  ds_type expression;
  ds_type diff;
  ds_type smpl;


  expression.push_front ("2");
  expression.push_front ("x");
  expression.push_front ("/");
  std::cout << "This is the orig expression" << std::endl;
  print (expression);


  diff = diff_expr (expression);
  std::cout << "This is the diff'd expression" << std::endl;
  print (diff);
  smpl = smpl_expr (diff);
  std::cout << "This is the smpl'd expression" << std::endl;
  print (smpl);


}
```

```
/*****************************************************************/


void print (ds_type &d) {


  std::cout << "************************************************"
            << std::endl;
  for (ds_type::const_reverse_iterator i = d.rbegin (); i != d.rend (); i++)
    std::cout << *i << std::endl;


  std::cout << "================================================"
            << std::endl;
}


/*****************************************************************/


// returns the next expression from the stack. Modifies the original
// stack! It does so by counting how many operators and operands
// there
// are. Once it finds that all operators have sufficient operands,
// it
// knows the expression is finished
ds_type pop_expr (ds_type &d) {


  int depth_count = 0;
  int operator_count = 0;


  ds_type result;


  do {


    std::string front = d.front ();
    result.push_back (front);
    d.pop_front ();


    if ("+" == front
        || "-" ==  front
        || "*" == front
        || "/" == front) { //
                           // binary op, increase by 2, and every
                           // level of operator gets an additional
                           // operator count of 1
      depth_count += 2;
      operator_count += 1;
      continue;
    }


    depth_count -= 1; // it's an operand, decrease by 1


  } while (depth_count - operator_count + 1 > 0);


  return result;


}


/*****************************************************************/


// this is the actual differentiation. It knows the following:
// (f+g)' = f' + g'
// (f-g)' = f' - g'
// (f*g)' = f'*g + f*g'
// (f/g)' = (f'*g-f*g')/g^2
// x' = 1
// (all other)' = 0
```

```
ds_type diff_expr (ds_type &d) {

  ds_type result;

  std::string front = d.front ();
  d.pop_front ();

  if ("+" == front || "-" == front) {

    ds_type expr1 = pop_expr (d);
    ds_type expr2 = pop_expr (d);

    ds_type diff1 = diff_expr (expr1);
    ds_type diff2 = diff_expr (expr2);

    // f' +/- g' -> result
    while (diff2.size () > 0) {

      result.push_front (diff2.back ());
      diff2.pop_back ();

    }

    while (diff1.size () > 0) {

      result.push_front (diff1.back ());
      diff1.pop_back ();

    }

    result.push_front (front);

    return result;

  } // f +/- g

  // (f*g)' = f' * g + f * g'
  if ("*" == front) {

    ds_type expr1 = pop_expr (d);
    ds_type expr2 = pop_expr (d);

    // need to make copies because diff_expr removes the thing from
    // the stack
    ds_type undiff1 = expr1;
    ds_type undiff2 = expr2;

    ds_type diff1 = diff_expr (expr1);
    ds_type diff2 = diff_expr (expr2);

    // f' * g -> result
    while (diff1.size () > 0) {

      result.push_front (diff1.back ());
      diff1.pop_back ();

    }
```

```
    while (undiff2.size () > 0) {

      result.push_front (undiff2.back ());
      undiff2.pop_back ();

    }

    result.push_front ("*");

    // f * g' -> result
    while (undiff1.size () > 0) {

      result.push_front (undiff1.back ());
      undiff1.pop_back ();

    }

    while (diff2.size () > 0) {

      result.push_front (diff2.back ());
      diff2.pop_back ();

    }

    result.push_front ("*");

    // f' * g + f * g'

    result.push_front ("+");

    return result;

  } // f * g

  // (f/g)' = (f'g - fg')/g^2
  if ("/" == front) {

    ds_type expr1 = pop_expr (d);
    ds_type expr2 = pop_expr (d);

    ds_type undiff1 = expr1;
    ds_type undiff11 = expr1;
    ds_type undiff12 = expr1;
    ds_type undiff2 = expr2;

    ds_type diff1 = diff_expr (expr1);
    ds_type diff2 = diff_expr (expr2);

    // f * g'
    while (diff2.size () > 0) {

      result.push_front (diff2.back ());
      diff2.pop_back ();

    }
```

```
    while (undiff1.size () > 0) {

      result.push_front (undiff1.back ());
      undiff1.pop_back ();

    }

    result.push_front ("*");

    // f' * g
    while (undiff2.size () > 0) {

      result.push_front (undiff2.back ());
      undiff2.pop_back ();

    }

    while (diff1.size () > 0) {

      result.push_front (diff1.back ());
      diff1.pop_back ();

    }

    result.push_front ("*");

    // f' * g - f * g'

    result.push_front ("-");


    while (undiff11.size () > 0) {

      result.push_front (undiff11.back ());
      undiff11.pop_back ();

    }

    while (undiff12.size () > 0) {

      result.push_front (undiff12.back ());
      undiff12.pop_back ();

    }

    result.push_front ("*");

    result.push_front ("/");

    return result;

  } // f/g


  // this one's easy
  if ("x" == front) {
```

```
    result.push_front ("1");
    return result;


  }


  // if we got here, it must be a constant
  result.push_front ("0");
  return result;



}


/*****************************************************************/


// simplify the expression by using rules:
// x + 0 = x
// x - 0 = x
// x * 1 = x
// x * 0 = 0
// x / 1 = x
// 0 / x = 0
ds_type smpl_expr (ds_type &d) {


  ds_type original = d;


  // check what type of expression it is
  std::string front = d.front ();
  d.pop_front ();


  if (front == "+") {


    ds_type expr1 = pop_expr (d);
    ds_type smpl1 = smpl_expr (expr1);
    ds_type expr2 = pop_expr (d);
    ds_type smpl2 = smpl_expr (expr2);


    // now simplify: if expr1 is 0, just return expr2
    if (smpl1.size () == 1 && smpl1.front () == "0")
      return smpl2;


    if (smpl2.size () == 1 && smpl2.front () == "0")
      return smpl1;


    // if the rules above don't apply, return the sum of the two
    // simplified operands
    ds_type result;
    while (smpl1.size () > 0) {
      result.push_front (smpl1.back ());
      smpl1.pop_back ();
    }


    while (smpl2.size () > 0) {
      result.push_front (smpl2.back ());
      smpl2.pop_back ();
    }


    result.push_front ("+");
    return result;



  }
```

```
if (front == "-") {


  ds_type expr1 = pop_expr (d);
  ds_type smpl1 = smpl_expr (expr1);
  ds_type expr2 = pop_expr (d);
  ds_type smpl2 = smpl_expr (expr2);


  if (smpl1.size () == 1 && smpl1.front () == "0")
    return smpl2;


  // if the rules above don't apply, return the difference of the two
  // simplified operands
  ds_type result;


  while (smpl2.size () > 0) {
    result.push_front (smpl2.back ());
    smpl2.pop_back ();
  }


  while (smpl1.size () > 0) {
    result.push_front (smpl1.back ());
    smpl1.pop_back ();
  }


  result.push_front ("-");
  return result;


}


if (front == "*") {


  ds_type expr1 = pop_expr (d);
  ds_type smpl1 = smpl_expr (expr1);
  ds_type expr2 = pop_expr (d);
  ds_type smpl2 = smpl_expr (expr2);


  // now simplify: if expr1 is 1, just return expr2
  if (smpl1.size () == 1 && smpl1.front () == "1")
    return smpl2;


  if (smpl2.size () == 1 && smpl2.front () == "1")
    return smpl1;


  // x * 0 = 0
  if (smpl1.size () == 1 && smpl1.front () == "0"
      || smpl2.size () == 1 && smpl2.front () == "0") {
    ds_type result;
    result.push_front ("0");
    return result;
  }


  // if the rules above don't apply, return the product of the two
  // simplified operands
  ds_type result;
  while (smpl1.size () > 0) {
    result.push_front (smpl1.back ());
    smpl1.pop_back ();
  }


  while (smpl2.size () > 0) {
    result.push_front (smpl2.back ());
    smpl2.pop_back ();
  }
```

```
    result.push_front ("*");
    return result;


  }


  if (front == "/") {


    ds_type expr1 = pop_expr (d);
    ds_type smpl1 = smpl_expr (expr1);


    ds_type expr2 = pop_expr (d);
    ds_type smpl2 = smpl_expr (expr2);


    if (smpl1.size () == 1 && smpl1.front () == "1")
      return smpl2;


    if (smpl2.size () == 1 && smpl2.front () == "0") {
      ds_type result;
      result.push_front ("0");
      return result;
    }


    // if the rules above don't apply, return the ratio of the two
    // simplified operands
    ds_type result;
    while (smpl2.size () > 0) {
      result.push_front (smpl2.back ());
      smpl2.pop_back ();
    }


    while (smpl1.size () > 0) {
      result.push_front (smpl1.back ());
      smpl1.pop_back ();
    }


    result.push_front ("/");


    return result;


  }


  // we got here, there was nothing so simplify. So just return the
  // original expression


  return original;


}
```

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New member - HP41 link

*Message #1 Posted by **Nigel Bamber** on 22 Feb 2009, 7:34 a.m.*

Hi

Just thought I would say hi as a new member. I have always had an interest in programmable calculators since I saw and purchased the Commodore PR100 back in the 1970s when I was 16, which I still have and which still works:-)

I have got myself re-interested in such 'beasts' by virture of a virtual HP 41 CX, (sorry its not the real thing),courtesy of the Itouch and the excellent ic41cx+. Have started reading about the history, the various user clubs and also started to delve into various books like Extend your HP41, synthetic progamming etc. All very satisfying.

I haven't quite understood the point of synthetic programming but assume it was an excuse for people to 'hack' into the HP41 , as well as the fact that it saved progamming memory and enabled additional functionality - but it does seems pretty complex to achieve all of that.

In trying to find a manual online for the CCD module, I came across this link to a manual for :Intelligence Aid for Evaluating Enemy Courses of Action (ENCOA): Guide for Manual and HP41-C/HP41-CV Calculator Procedures". Its a shame that the manual itself isnt available and but it shows the extent of the usage of the HP 41 in its heyday, which I thought might interest you.

Also came across a current add on Ebay with a proce of Euro 600 for new HP41 cassette tapes !! Now that does seem a bit over the top.

cheers

Nigel

Re: New member - HP41 link

*Message #2 Posted by **Nigel Bamber** on 22 Feb 2009, 7:40 a.m.,*
in response to message #1 by Nigel Bamber

Link attached : http://www.stormingmedia.us/62/6213/A621331.html

Re: New member - HP41 link

*Message #3 Posted by **Marcus von Cube, Germany** on 22 Feb 2009, 8:56 a.m.,*
in response to message #1 by Nigel Bamber

Nigel, there is a certain "Buy it Now" only seller who's nick shares some letters with my last name. His way of doing business isn't well acknowledged here. I must admit that the forum members are right in there opinion. His prices are totally off.

Re: New member - HP41 link

*Message #4 Posted by **Philippe Lasnier** on 22 Feb 2009, 1:15 p.m.,*
in response to message #1 by Nigel Bamber

Hi Nigel,

I'm new myself - having joined just a few days ago; however, probably like a lot of members, I've been reading the forum for a while before joining.

I actually rekindled my love of HPs barely a year ago, after wondering if I could able to find the HP-41CV of my youth. It's amazing what you can miss when you're not looking, and I hadn't been looking for about 24 years...I looked on eBay, and this has been the source of all my calculators since.

eBay is a big place, and you have a few sharks around. Like Marcus mentions, there's one guy in particular who sells at over-inflated prices. There's a directory of eBay HP calculators fans maintained in an eBay guide. It's far from exhaustive (I'm not on it ;-), but it has a few good [bad!] names. Look for "HP calculators directory" in the Guides section.

Regards,

Philippe

Re: New member - HP41 link

*Message #5 Posted by **Michael de Estrada** on 22 Feb 2009, 1:39 p.m.,*
in response to message #4 by Philippe Lasnier

Where is this ebay "Guides Section" Do you have a link? Thanks - Michael

Re: New member - HP41 link

*Message #6 Posted by **Philippe Lasnier** on 22 Feb 2009, 2:35 p.m.,*
in response to message #5 by Michael de Estrada

Sure,

I don't know if it's good manners in this forum to paste actual links (please let me know if I make a "faux pas"), but here we go:

The guides (and reviews) section is here:

<http://reviews.ebay.co.uk/>

And the particular guide I was talking about is here:

<http://reviews.ebay.co.uk/The-2008-eBay-community-HP-calculators-fans-directory_W0QQugidZ10000000002255358>

Philippe

Re: New member - HP41 link

*Message #7 Posted by **Michael de Estrada** on 22 Feb 2009, 3:19 p.m.,*
in response to message #6 by Philippe Lasnier

Philippe,

Rest assured that there is nothing faux about your pas. Providing and sharing useful information among members is what this forum is all about. I found the equivalent to this link on the USA ebay (ebay.com) as follows:

http://reviews.ebay.com/The-2008-eBay-community-HP-calculators-fans-directory_W0QQugidZ10000000001918599

I am quite familiar with some of the bad names on this list. Unfortunately, some of the good seller names like davehal2001 are no longer active, having become discouraged with ebay's ever increasing fees and lessening protection for sellers.

Thanks for your contribution,

Michael

Re: New member - HP41 link

*Message #8 Posted by **Philippe Lasnier** on 22 Feb 2009, 4:00 p.m.,*
in response to message #7 by Michael de Estrada

Thanks for the kind words Michael,

I'm still making my first gingerly steps in here. It's a bit like stepping into a room full of people sharing the same passion, and knowing some of them by reputation, but they don't know you, and being a bit awed by it - and not knowing exactly what's the best way to behave, or the full etiquette.

Oh well, I'll get better with time I guess ;-)

Philippe

Re: New member - HP41 link

*Message #9 Posted by **Howard Owen** on 23 Feb 2009, 2:20 a.m.,*
in response to message #6 by Philippe Lasnier

Adding links is encouraged. If you look at the bottom left of your edit window, you'll see a button marked "Link." Pressing that will give you a series of two popups, first for the address, and second for the text attached to the link. That makes the link clickable, with the attendant minor convenience to your readers of not having to cut and paste the address. :)

I also reawakened my love for HP calculators by using an emulator. For me, it was Nonpareil by Eric Smith. My subsequent collecting mania and time gobbling technical obsession can be laid at his door. (Hi, Eric :)

Regards,
Howard

Re: New member - HP41 link

*Message #10 Posted by **Philippe Lasnier** on 23 Feb 2009, 9:06 a.m.,*
in response to message #9 by Howard Owen

Thanks Howard, I had indeed missed the "Link" button. Oops. Still getting used to this :-)

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How to care for 9114 batteries?

*Message #1 Posted by **Steve (Australia)** on 22 Feb 2009, 1:15 a.m.*

I've recently had to replace my SLA battery for my 9114B and advised another person to do so too (it fixed their problems).

What is the best way to care for these batteries?

I know that lead acid batteries prefer to be kept topped up, but I am not sure if the 9114B's charger circuit is good enough not to over-charge them.

An idea that I had (which I tacked onto another post earlier) is to place the charger on a timer and allow it to charge for some short time every week.

Any better suggestions?

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OT: Binary marble adding machine

*Message #1 Posted by **DaveJ** on 21 Feb 2009, 5:15 p.m.*

This is neat:
http://woodgears.ca/marbleadd/index.html

Dave.

Re: OT: Binary marble adding machine

*Message #2 Posted by **Dave Shaffer (Arizona)** on 21 Feb 2009, 11:46 p.m.,*
in response to message #1 by DaveJ

This may be the origin of "lost your marbles"!

Re: OT: Binary marble adding machine

*Message #3 Posted by **Juergen Keller** on 22 Feb 2009, 5:00 a.m.,*
in response to message #1 by DaveJ

You'll find links to other strange calculators on strangecalc.ch. Have a look at the R500/7T relay computer built by a colleague; the machine is located in the office where I work.
Enjoy, Juergen

Re: OT: Binary marble adding machine

*Message #4 Posted by **Paul Dale** on 22 Feb 2009, 4:58 p.m.,*
in response to message #1 by DaveJ

My wife wants me to make such a machine out of Meccano (my other addiction/hobby). I've resisted so far...

- Pauli

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New method of typing numbers?

*Message #1 Posted by **Saile (Brazil)** on 21 Feb 2009, 2:55 p.m.*

I didn't know that method. I found very interesting

Link to xnumber site

Re: New method of typing numbers?

*Message #2 Posted by **Maximilian Hohmann** on 21 Feb 2009, 3:07 p.m.,*
in response to message #1 by Saile (Brazil)

Hello!

And what about decimal places? I never need billions, but decimal places a lot.

But this thing might save a few keystrokes to some insolvency managers of banks and car manufacturers...

Greetings, Max

Edited: 21 Feb 2009, 3:07 p.m.

Re: New method of typing numbers?

*Message #3 Posted by **Don Shepherd** on 21 Feb 2009, 3:36 p.m.,*
in response to message #1 by Saile (Brazil)

It is interesting, but I can't imagine that a market exists for such a thing. Most people enter numbers in spreadsheets like Excel, and I can't see Bill Gates adopting this as an add-on to Excel number entry. And a new keyboard with dedicated keys for a thousand or million would not seem to be very practical.

Re: New method of typing numbers?

*Message #4 Posted by **Dusan Zivkovic** on 21 Feb 2009, 4:02 p.m.,*
in response to message #1 by Saile (Brazil)

However, if the authorities decide that the preferred way out of the crunch is hyperinflation, there will be a nice market for such an intuitive number system pretty much everywhere (but only for a short while, though).

Re: New method of typing numbers?

*Message #5 Posted by **Michael de Estrada** on 21 Feb 2009, 4:27 p.m.,*
in response to message #1 by Saile (Brazil)

Personally, I prefer Roman numerals. This way, you can eliminate all the numbers on a keyboard. ;)

Re: New method of typing numbers?

*Message #6 Posted by **Donald Ingram** on 21 Feb 2009, 4:59 p.m.,*
in response to message #1 by Saile (Brazil)

Is it really that different from what has existed for many years on hp instruments ?

Re: New method of typing numbers?

*Message #7 Posted by **DaveJ** on 21 Feb 2009, 5:08 p.m.,*
in response to message #6 by Donald Ingram

Yet another example of a useless granted patent.

Finding prior art would be easy I'm sure, and it's obvious to any practitioner in the field.

Dave.

American vs. European version

*Message #8 Posted by **George Bailey (Bedford Falls)** on 22 Feb 2009, 2:49 a.m.,*
in response to message #1 by Saile (Brazil)

Can anyone explain what the difference is between the American and the European version of the full keyboard? At least they didn't consider that continental Europe doesn't use Billion for 10^9 but Milliard (France,

Germany, Italy, Spain).

Edited: 22 Feb 2009, 2:51 a.m.

Re: New method of typing numbers?

*Message #9 Posted by **Karl Schneider** on 22 Feb 2009, 3:04 p.m.,*
in response to message #1 by Saile (Brazil)

Saile --

I'd seen this before.

The keyboard is useful only as an enhanced version of a regular keyboard -- complete with decimal point *and base-ten exponent*. Keystrokes are saved only if the number contains multiple zeroes -- in particular, significant zeroes between non-zero digits. Otherwise, it's just as quick (or quicker) to enter numbers in the usual manner using "E".

For scientific calculators, the four positions needed for the unshifted 'hundreds', 'thousands', 'millions', and 'billions' keys are just too valuable to employ in this manner.

For applications in science and engineering, numbers with many digits are generally not entered from the keypad -- those would imply more significant digits than are justified. One exception to that, pi, invariably has a dedicated key for entry.

For many years, cash registers and calculators for accounting have had special keys for "00" and "000".

-- KS

Edited: 22 Feb 2009, 3:15 p.m.

Re: New method of typing numbers?

*Message #10 Posted by **Maximilian Hohmann** on 22 Feb 2009, 3:58 p.m.,*
in response to message #9 by Karl Schneider

Hello!

> Quote:
>
> For many years, cash registers and calculators for accounting have had special keys for "00" and "000".

Not just a thing of the past: Recently I got a new HP OfficeCalc 200 (just for completeness of the collection - but this thing is not really worth being collected) and it also has these double- and triple-zero keys.

Greetings, Max

Edited: 22 Feb 2009, 3:58 p.m.

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Elektronika MK-61 Russian Manual Translation?

*Message #1 Posted by **Michael de Estrada** on 21 Feb 2009, 11:09 a.m.*

Some time back I acquired a Soviet era Elektronika MK-61 RPN programmable calculator, which has a Russian cyrillic alphabet instruction manual. Although I have decifered the keyboard and am able to perform the basic key operations, programming this beast has eluded me. I was hoping that perhaps someone on this forum with a knowledge of Russian and familiarity with the Elektronika calculators might provide some assistance, so that I might enjoy playing with this interesting piece of calculator history.

Thanks - Michael de Estrada

Edited: 21 Feb 2009, 11:21 a.m.

Re: Elektronika MK-61 Russian Manual Translation?

*Message #2 Posted by **Katie Wasserman** on 21 Feb 2009, 11:31 a.m.,*
in response to message #1 by Michael de Estrada

Although not a full translation, this is a command reference in English.

Re: Elektronika MK-61 Russian Manual Translation?

*Message #3 Posted by **Walter B** on 21 Feb 2009, 11:54 a.m.,*
in response to message #2 by Katie Wasserman

Hi Katie,

thanks from my side, too. I acquired this calc some time ago without any manual, and ran into the same problem as Michael.

Re: Elektronika MK-61 Russian Manual Translation?

*Message #4 Posted by **Michael de Estrada** on 21 Feb 2009, 12:18 p.m.,*
in response to message #2 by Katie Wasserman

Thanks Katie! That was a big help. I thought the right slider key was used to change between program and run modes, when in fact it is just used to set angular mode (rad/grad/deg). I just wrote and executed my first program, area of a circle.....wooooohoooo!

Re: Elektronika MK-61 Russian Manual Translation?

*Message #5 Posted by **db (martinez, ca.)** on 21 Feb 2009, 11:56 a.m.,*
in response to message #1 by Michael de Estrada

This might help some. It's about the b3-34, but it's in English.
And this one contains two links to info and programming examples on your machine.

Re: Elektronika MK-61 Russian Manual Translation?

*Message #6 Posted by **Michael de Estrada** on 21 Feb 2009, 12:34 p.m.,*
in response to message #5 by db (martinez, ca.)

Very helpful. Thanks.

Re: Elektronika MK-61 Russian Manual Translation?

*Message #7 Posted by **Egan Ford** on 23 Feb 2009, 2:10 p.m.,*
in response to message #1 by Michael de Estrada

Sounds like a wonderful opportunity to learn a bit of Russian. Get a dictionary and try to translate yourself. :-)

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Synthetic Programming and the HP-41C

*Message #1 Posted by **Trent Moseley** on 20 Feb 2009, 10:44 p.m.*

Question-is synthetic programming available for only for the 41 Series?

tm

Re: Synthetic Programming and the HP-41C

*Message #2 Posted by **MikeO** on 21 Feb 2009, 12:41 a.m.,*
in response to message #1 by Trent Moseley

Yes, it's peculiar to that model and its variants. The technique depends on a command sequence that allows you to delete code bytes between successive instructions, causing the resulting concatenation of byte codes to form instruction codes that aren't programmable via the keyboard.

Re: Synthetic Programming and the HP-41C

*Message #3 Posted by **Howard Owen** on 21 Feb 2009, 12:48 a.m.,*
in response to message #1 by Trent Moseley

There was something on the 67/97 that was called "synthetic programming" -- here is an old discussion on the topic.

Synthetic programming on the HP41 was so called because instructions unavailable from the normal keyboard were put together from pieces of standard instructions. (I suppose it could also have been called "analytic programming," since you have to bust the instructions apart first.) As far as I know, the 41 is the only HP calc that hack was possible with.

Regards,
Howard

Re: Synthetic Programming and the HP-41C

*Message #4 Posted by **Garth Wilson** on 21 Feb 2009, 1:29 a.m.,*
in response to message #1 by Trent Moseley

Some synthetic programming was also possible on the TI-58/58c/59, but wasn't as useful.

Re: Synthetic Programming and the HP-41C

*Message #5 Posted by **ZOleg** on 21 Feb 2009, 7:21 p.m.,*
in response to message #4 by Garth Wilson

Where find info about synthetic programming on the TI-58/58c/59?

Re: Synthetic Programming and the HP-41C

*Message #6 Posted by **Gene Wright** on 21 Feb 2009, 8:41 p.m.,*
in response to message #5 by ZOleg

You'll find some articles here:

http://www.rskey.org/gene/hpgene/index.html

Specifically,

Extra memories on TI 58C

and things like the TI-59 fast mode, described in several other articles.

Fast Mode

Making the TI-57 have continuous memory

Fast Mode plotting program by Robert Prins

Re: Synthetic Programming and the HP-41C

*Message #7 Posted by **Bob Patton** on 21 Feb 2009, 9:03 p.m.,*
in response to message #5 by ZOleg

There was even synthetic programming for the TI-55! It was published in PPC Calculator Journal, Vol. 9 #6 and Vol. 10 #4. I believe this journal was edited by Palmer Hanson whose name I have seen in this forum.

Re: Synthetic Programming and the HP-41C

*Message #8 Posted by **Garth Wilson** on 21 Feb 2009, 9:55 p.m.,*
in response to message #5 by ZOleg

> Quote:
>
> Where find info about synthetic programming on the TI-58/58c/59?

There are a couple of pages about it, specifically accessing the HIR registers, at the end of the "book" (if you can call it that-- it's about 5/8" thick and stapled only in the corner) called "User Survival Guide for TI-58/59 Master Library" which I bought from EduCalc. It's by Fred Fish, who, at the time of printing (probably just photocopying or mimeographing), had a Tempe AZ address.

Re: Synthetic Programming and the HP-41C

*Message #9 Posted by **Howard Owen** on 22 Feb 2009, 1:47 a.m.,*
in response to message #8 by Garth Wilson

There was a Fred Fish in Arizona who compiled the largest collection of Amiga freeware ever seen. This was in '85, going forward for at least 10 years.

Regards,
Howard

Re: Synthetic Programming and the HP-41C

*Message #10 Posted by **Marcus von Cube, Germany** on 22 Feb 2009, 6:20 a.m.,*
in response to message #8 by Garth Wilson

Garth, would it be asking too much for a scan of this paper? The TI-59 replaced my SR-56 back in the seventies. (I had some money left after I had parted with my girl friend at the time.) It did a good job during my time in University of Bonn. (I have a math degree.)

Marcus, saying "Bitte, bitte, bitte!"

Re: Synthetic Programming and the HP-41C

*Message #11 Posted by **Etienne Victoria** on 22 Feb 2009, 6:28 a.m.,*
in response to message #10 by Marcus von Cube, Germany

Marcus,

It is available for download on Viktor Toth's website: here.

and more specifically an overview of the HIR intruction can be found HIR. (I mean "here" :-)

Best

Etienne

Re: Synthetic Programming and the HP-41C

*Message #12 Posted by **Marcus von Cube, Germany** on 22 Feb 2009, 9:03 a.m.,*
in response to message #11 by Etienne Victoria

Merci, Etienne! I should have checked my TI docs folder more thoroughly. The document was already on my disk, but deeply buried between all these graphic calculator guide books. Shame on me!

Re: Synthetic Programming and the HP-41C

*Message #13 Posted by **ZOleg** on 22 Feb 2009, 10:12 p.m.,*
in response to message #11 by Etienne Victoria

Thanks all for help!!!

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The HP Calculator Calendar for 2009 Still Available

*Message #1 Posted by **Jake Schwartz** on 20 Feb 2009, 4:14 p.m.*

Hi,

Just a note to say that we still have plenty copies available of the HP Calculator Calendar for the year 2009. This 8-1/2 by 11-inch glossy keepsake showcases every HP handheld calculator ever made in color photos and is useful throughout the year. It also includes images of the new low-cost machines (OfficeCalc 300, EasyCalc 100 and SmartCalc 300s) introduced just last month at the 2009 Consumer Electronics Show. Information for obtaining the calendar is available at http://www.pahhc.org/2009/Calendar.htm on the web. Also, if you are in Europe and an HPCC member, Wlodek Mier-Jedrzejowicz (HPCC chairman) has some copies of the calendar available for sale from London. For information, email Wlodek at chair <at> hpcc <dot> org.

Thanks,

Jake Schwartz

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HP48 compatible SRAM memory cards

*Message #1 Posted by **Andrés C. Rodríguez (Argentina)** on 20 Feb 2009, 3:38 p.m.*

It would be very helpful for me if someone could suggest where to buy one of these cards (used may be OK as long as it works). I know I can try an auction site; but perhaps some member of this Forum has a better or different idea.

Thank you in advance,

Andrés

PS: if you prefer not to answer via this Forum, please contact me at the following email address:

"a.rodriguez" (at) "ieee.org"

Re: HP48 compatible SRAM memory cards

*Message #2 Posted by **Martin Pinckney** on 20 Feb 2009, 5:17 p.m.,*
in response to message #1 by Andrés C. Rodríguez (Argentina)

Andrés,

If you are wanting a card for the 48SX, apparently HP used the 82215A (128KB) card for some products other than the calculators. There are some vendors out there that still stock these. I myself purchased one for $99 some time ago. Here are some websites that display a reference to this item, but it is hard to tell if they actually have them for sale!

http://www.ptltest.com/spectrum_analyzers.htm

http://www.xsequip.com/Product%20Photos.html

http://www.geocities.com/survcalc/access.html

On the other hand, if you are looking for the higher capacity cards for the 48GX, these were made by a number of 3rd party companies. I have not searched for these, since I cannot use them.

Hope this helps.

Re: HP48 compatible SRAM memory cards

*Message #3 Posted by **Garth Wilson** on 20 Feb 2009, 5:25 p.m.,*
in response to message #1 by Andrés C. Rodríguez (Argentina)

Aren't they just PCMCIA cards (PC cards)? How about the ones on the lower-right corner of Digi-Key's catalog page at http://dkc3.digikey.com/PDF/T091/P1165.pdf which go out to eight megabytes?

Re: HP48 compatible SRAM memory cards

*Message #4 Posted by **Eric Rechlin** on 20 Feb 2009, 5:38 p.m.,*
in response to message #3 by Garth Wilson

No. In fact, they might even pre-date PCMCIA cards.

HP 48 cards have contacts on the side that look a little like the contacts on an SD card, but they are covered by a protective metal shutter on HP-approved cards; PCMCIA cards have contacts on the end inside tiny holes.

Re: SRAM memory cards / Thank you !! (nt)

*Message #5 Posted by **Andrés C. Rodríguez (Argentina)** on 21 Feb 2009, 6:56 a.m.,*
in response to message #4 by Eric Rechlin

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What happened to William Wickes?

*Message #1 Posted by **David Hayden** on 19 Feb 2009, 2:13 p.m.*

As I learn to program in System RPL, I see William Wickes's name all over everything, but a google search doesn't show him. Does anyone know what happened to Dr. Wickes?

Dave

Re: What happened to William Wickes?

*Message #2 Posted by **Johnny Bjoern Rasmussen** on 19 Feb 2009, 3:07 p.m.,*
in response to message #1 by David Hayden

Hi Dave

William Wickes, also known as Bill Wickes, is fortunately AFAIK alive, well and still going strong.

Please correct me if I'm wrong: I have read in the HPCC magazine "Datafile" that William has been working for Hewlett Packard on a video conference system called HALO.

I don't know if Bill reads this. It could be interesting to have an update on what he is working on at the time. As you write he really is a key (!) person on HP calculator history indeed.

Regards from denmark

Johnny Bjoern Rasmussen

Edited: 19 Feb 2009, 3:14 p.m.

Re: What happened to William Wickes?

*Message #3 Posted by **Namir** on 19 Feb 2009, 7:08 p.m.,*
in response to message #2 by Johnny Bjoern Rasmussen

Hi,

I met Bill Wicks in 1980 when he was a professor of physics at the University of Maryland (College Park). I was well aware of his involvement in synthetic programming since the HP-41C came out. Jim De Arras and I would drive from Richmond, Virginia, to College Park to attend the Maryland chapter of the PPC. The meetings usually ended by midnight and we were home by 2 or 2:30 am! So I got to see Bill frequently. I am impressed that someone like Bill Wicks went from a customer of HP calculator to someone who influenced their design as a member of HP.

Namir

Re: What happened to William Wickes?

*Message #4 Posted by **Jake Schwartz** on 19 Feb 2009, 10:46 p.m.,*
in response to message #2 by Johnny Bjoern Rasmussen

Hi,

It was Bill who arranged for us to hold our HHC2008 HP Handhelds Conference in the HP Corvallis facility back in September. It also turned out that he would have attended the conference, had it not been that he had a family committment that weekend and had to be out of town. Bill has been in charge of the R&D for the HP Halo "telepresence" devices and in fact, 15 months ago, a few of us got to sneak away from the HHC2007 conference in San Diego and use the local Halo system to conference with Bill up in Corvallis for around 90 minutes. Here is an image of Bill in Corvallis from 2007 when we communicated with him from inside the San Diego Halo:

Perhaps we can convince Bill to participate in HHC2009 on October 3-4th at the HP facility in Vancouver, Washington when we commemorate the 30th anniversary of the HP41.

Jake Schwartz

Re: What happened to William Wickes?

*Message #5 Posted by **Richard J. Nelson** on 20 Feb 2009, 9:48 a.m.,*
in response to message #4 by Jake Schwartz

Hello,

Bill still works for HP and lives in Corvallis. His famous green book on HP-41 Synthetic Programming (self published in several languages) is probably one of the few books that actually made money. Bill

promised a trilogy of books covering the transition of 41 to 48, but he didn't finish the third volume, if memory serves. By that time, early 90's, the market for books was drying up and he wasn't sure it it would be worth the effort. If his son went away to college he would finish the manuscript, if he stayed home, he would not. His son stayed home. I discussed that with Bill as New product Manager at EduCALC at the time.

I remember when Bill called me at home one evening saying that he had been offered a job at HP. He was seriously debating making the move from Academia to Industry. Long after he accepted the HP offer he commented to me that he paid more in taxes working for HP than he earned as a physics professor.

As Halo R&D manager he has the claim of working on the smallest HP consumer product AND the largest HP consumer product.

X < > Y, Richard

Re: What happened to William Wickes?

*Message #6 Posted by **Steve Simpkin** on 20 Feb 2009, 6:49 p.m.,*
in response to message #5 by Richard J. Nelson

My brother-in-law works for HP in Corvallis (large format printer applications?). He has a few older HP calculators and a while ago he happened to mention there was an employee that worked near the office he was in that was involved with HP calculators in the past. I asked what his name was and he said Bill Wickes! Small world.

Thank you for the update Richard. And thank you for verifying that the ROM was the latest version before selling me my HP-48SX in 1991. I use it every day and it still works great.

Re: What happened to William Wickes?

*Message #7 Posted by **Steve Keeley** on 20 Feb 2009, 8:08 p.m.,*
in response to message #5 by Richard J. Nelson

There was "HP 41/HP 48 Transitions" published in 1990, "HP 48 Insights Part I: Principles and Programming" in 1991, and "HP 48 Insights Part II: Problem-Solving Resources" in 1992. I count that as three books. (One could argue that the "Insights" are two volumes of the same book.) I can't imagine there was much left to say after Part II (parts I and II total 718 pages).

Re: What happened to William Wickes?

*Message #8 Posted by **Jake Schwartz** on 20 Feb 2009, 11:20 p.m.,*
in response to message #7 by Steve Keeley

> Quote:
>
> There was "HP 41/HP 48 Transitions" published in 1990, "HP 48 Insights Part I: Principles and Programming" in 1991, and "HP 48 Insights Part II: Problem-Solving Resources" in 1992. I count that as three books. (One could argue that the "Insights" are two volumes of the same book.) I can't imagine there was much left to say after Part II (parts I and II total 718 pages).

However, when Bill began updating the Insights books for the G series, he only did the first volume and stopped before redoing the second one. I think that may be what Richard meant.

Jake

Re: HHC2009

*Message #9 Posted by **Namir** on 21 Feb 2009, 10:47 a.m.,*
in response to message #4 by Jake Schwartz

Thanks Jake about mentioning teh dates and location for HHC2009. I did not know that info, I will mark it down and plan to be there!

Merci beaucoup

Namir

Re: HHC2009

*Message #10 Posted by **David Hayden** on 23 Feb 2009, 12:36 p.m.,*
in response to message #9 by Namir

Thanks for the update everyone.

Dave

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How to HP-71B and HP-41CX via HP-IL?

*Message #1 Posted by **ZOleg** on 18 Feb 2009, 11:26 p.m.*

I connect HP-71B, HP-41CX and HP-82161A cassete to HP-IL loop.
When execute on HP-41CX:
2 XEQ SELECT - select HP-82161A drive
XEQ DIR
directory readed from tape and listed on screen
When execute on HP-71B:
CAT :TAPE
i receve error message: *HPIL ERR: Invalid mode*
How to read on HP-71B data from HP-82161A simultaneously connected to HP-41CX?

Re: How to HP-71B and HP-41CX via HP-IL?

*Message #2 Posted by **PeterP** on 19 Feb 2009, 12:04 a.m.,*
in response to message #1 by ZOleg

IIRC the HP41CX is always in Controller mode yet a HP-IL loop can have only one controller. So the HP71 is not a controller and hence can not get the directory.

Check if you can get the dir from the 71b if you turn off the 41cx. Also, check the HP-IL docu of the 71b and see if there is a command to make the 71b the controller and see if you can successfully execute that command.

However my HP-IL knowledge is very limited...

Cheers

Peter

Edited: 19 Feb 2009, 12:05 a.m.

Re: How to HP-71B and HP-41CX via HP-IL?

*Message #3 Posted by **ZOleg** on 19 Feb 2009, 12:22 a.m.,*
in response to message #2 by PeterP

I tried with HP-41CX power off - no luck.
On HP-71B i tried **CONTROL ON** - error: *HPIL ERR:Loop Broken*

Re: How to HP-71B and HP-41CX via HP-IL?

*Message #4 Posted by **Raymond Del Tondo** on 19 Feb 2009, 4:17 a.m.,*
in response to message #3 by ZOleg

To use an HP-41 and an HP-71B at the same time in the same HP Interface Loop,

the HP-71B has to be in device mode: CONTROL OFF.

To have the HP-71B to be the HP-IL controller again you have to remove the HP-41 from the loop. It's not sufficient to turn the HP-41 off, since the loop is broken, as you experienced...

To reset the HP-IL state after removal of the HP-41 from the loop,
perform RESET HPIL on the HP-71B. The loop must be closed, of course;-)

HTH

Re: How to HP-71B and HP-41CX via HP-IL?

*Message #5 Posted by **Marcus von Cube, Germany** on 19 Feb 2009, 4:19 a.m.,*
in response to message #4 by Raymond Del Tondo

Raymond, what is the difference between:

CONTROL ON
RESTORE IO
RESET HPIL ?

Can you explain these in some more detail?

Re: How to HP-71B and HP-41CX via HP-IL?

*Message #6 Posted by **ZOleg** on 19 Feb 2009, 5:13 a.m.,*
in response to message #4 by Raymond Del Tondo

I cannot remove HP-41 from loop bacause i have only one HP-IL cable.

Re: How to HP-71B and HP-41CX via HP-IL?

*Message #7 Posted by **Marcus von Cube, Germany** on 19 Feb 2009, 4:17 a.m.,*
in response to message #3 by ZOleg

You will have to take the 41 off the loop to allow the 71B to access the loop. The 71B can talk to the 41 when in CONTROL OFF mode thru ENTER or OUTPUT commands. It's some time ago that I've last played around with these but someone else might chime in here and provide a better explanation.

A question to the experts: Would it be possible to write an MCODE function to make the 41 give up control of the loop? Or is this hard coded into the HP-IL module and cannot be worked around?

Re: How to HP-71B and HP-41CX via HP-IL?

*Message #8 Posted by **Mike (Stgt)** on 19 Feb 2009, 4:42 a.m.,*
in response to message #7 by Marcus von Cube, Germany

This MCode exists in the HP-IL "Devil" (Developement Module), try function MONITOR. This is the only way I know to use the HP41 in an IL-Loop _not_ as controler.

Ciao.....Mike

Re: How to HP-71B and HP-41CX via HP-IL?

*Message #9 Posted by **ZOleg** on 19 Feb 2009, 7:47 a.m.,*
in response to message #8 by Mike (Stgt)

Thanks for the hint!
I flashed *HP-IL Devel*, *HP-IL Diagnostic*, *Extended IL*, *Extended IO* rom images to NoV64, inserted NoV64 to HP-41, **XEQ MONITOR** but **MONITOR** dont help.
SCOPE function helped, it switched HP-41 from controller to observer mode.
After execute **CONTROL ON** on HP-71B i readed directory from tape and saved my program on tape - all ok.
But there is one little trouble - all HP-IL commands are executed very slowly, as their intercepts and displays the HP-41.

Edited: 19 Feb 2009, 7:55 a.m.

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How do I glue the back label of an HP-16C back on? (or of most Voyagers, for that matter)

*Message #1 Posted by **Philippe Lasnier** on 18 Feb 2009, 5:10 p.m.*

Hi all,

I have an HP-16C which had its back metallic label/plate damaged and amateurishly repaired (before I got it). I managed to remove the plate (with lots of patience, Un-Du, and some string), but I will need to put it back at some point. I need to know what's a good glue or double-sided tape to use...

I am reasonably sure that this information must be somewhere on this forum already, but I can't find it. I ask for your indulgence, I'm probably not searching the right way...

I got the HP-16C a while back. The metal plate looked like it had been impacted off-centre, which had managed to lift off the bottom-right section of it. The previous owner apparently super-glued it back on (two "corners", one on either side of the rubber foot), but the plate was now slightly buckled of course. The end result, after many years, was one corner unglued, the other corner (by the contact spring) still holding, and both corners having had the black paint rubbed off from friction (there is so little clearance with these rubber feet).

What I managed to do was remove the plate, with minimal creasing (not easy!), and not lose the minute contact springs. However, the old glue is effectively wasted. The plate was held in place by what looks like pressure sensitive adhesive (PSA) double-sided tape. The tape itself is actually very thin, and I'm pretty sure that standard double-side adhesive tape uses a far thicker medium. The problem now (after I manage to roll the plate 100% flat again) is to glue the plate back on properly. The old tape is damaged somewhat (both from old, and from my "work") so it would be best to replace it completely. Hence my original questions...

Thanks in advance for all your help.

Re: How do I glue the back label of an HP-16C back on? (or of most Voyagers, for that matter)

*Message #2 Posted by **Adrian Godwin** on 19 Feb 2009, 2:39 p.m.,*
in response to message #1 by Philippe Lasnier

I used some double-sided sticky tape to fix the display bezel back on a Voyager. It worked very well, and I think the same stuff would work on the back plate.

Unfortunately, I don't know what it is : it's on an unnamed reel, so probably just generic stuff from an art shop.

However, it's thinner than some types : the tape is really just a backing carrier, and when it's peeled away the only thing left on the surface is a thin layer of glue. This is probably better than something that has a core that stays in place in the joint.

I also had to roll the bezel flat (or rather, indented in the proper way). This was fairly successful except for a small crease. Are replacement bezels still available ? Maybe the 12c platinum uses one ?

Re: How do I glue the back label of an HP-16C back on? (or of most Voyagers, for that matter)

*Message #3 Posted by **Philippe Lasnier** on 19 Feb 2009, 4:30 p.m.,*
in response to message #2 by Adrian Godwin

Thanks Adrian,

I guess the tape you used sounds right, but I'm just worried about the strength of the adhesive (and the fact that I don't want it to dry up and become brittle). I looked around a bit more, and the thinnest tape I could find was rated at 0.5mm. Somehow that still seems too thick to me...And of course the type/strength of the glue is another matter.

Asking at an art shop is a good tip. I hadn't thought about that (I was thinking electronics/DIY shops).

I've never heard of replacement Voyager bezels, but I'm no expert.

Re: How do I glue the back label of an HP-16C back on? (or of most Voyagers, for that matter)

*Message #4 Posted by **David Ramsey** on 21 Feb 2009, 11:40 a.m.,*
in response to message #3 by Philippe Lasnier

I wouldn't recommend double sided tape. As you noted, even the thinnest tape is quite thick.

Any auto supply store will carry spray-on trim adhesive. As you'd expect, it's a spray can that sprays glue; normally, it's used to apply things like headliners.

Lay your label face down on a newspaper in your garage and spritz the back side with a brief burst of adhesive. Slap the label on the calculator. Wonder what to do with the remaining 99% full can of adhesive...

Re: How do I glue the back label of an HP-16C back on? (or of most Voyagers, for that matter)

*Message #5 Posted by **Philippe Lasnier** on 22 Feb 2009, 12:59 p.m.,*
in response to message #4 by David Ramsey

Hi David,

Thanks for the tip. That sounds good, I hadn't thought about that. I'll look it up, but do you know if that type of spray-on would be as strong as the original glue? Would it also be semi-permanent, i.e. could it still be removed with e.g. UnDu? I mean, I wouldn't want it to act like super-glue...

As for the remaining 99%, well, I could always offer my services ;-)

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The history of my calculators

*Message #1 Posted by **SteveH** on 18 Feb 2009, 5:08 p.m.*

I thought I woud write down a brief history of how I cam to own six HP calculators, as much for my own interest but I also thought it might be of interest here and I would also be delighted to hear about other users' collections and how they use them. In some ways the story is similar to Peter Klein's *My calculator, my self?* article.

I still recall being awe struck when my father came home with a Rockwell Scientific Slide Rule he had bought to use at work. This was truly a thing of wonder - it had red LEDs and it could work out sums! My own first calculator was a Sinclair Cambridge which came in a case that resembled a Star Trek communicator and you could actually see the numbers flicker with the effort of calculating a sine. It was a great toy and I still have it and it still works (something of an achievement for a Sinclair product)

I got my first HP calculator in the summer of 1982 after my first year of studying engineering at the University of Dundee in scotland. My choice of calculator turned out to be prescient as I chose and HP-15C over the HP-11C and the next year's maths syllabus introduced me to matrix maths and the calculator was a God send. It didn't avoid having to do the calculations but it was useful to be able to check things. The 15C was equally useful all the way through university and the first couple of years of my working life.

At that point I made one of the strangest decisions ever and decided to sell the 15C because I had started working with digital designs and software and wanted to have base conversions available. This was not a daft move but I chose to buy a TI calculator and really couldn't get used to it after years of using RPN. It probably wasn't a bad calculator but I needed to get back to the one true faith . At that point I bought an HP-42S which I have now used for years very happily.

I do think the 42S is a great calculator but there is something fantastic about the form factor of the Voyager series calculators. They are small, pocketable, well laid out and run forever on a set of batteries. I was very lucky and had sold my 15C to a friend and he was quite happy to give it back to me as it was gathering dust at the time. I did highlight to him the silly prices that were being paid on eBay for HP-15C at that time but he very generously returned it to me.

This brings me into the 'backup' phase of my collection when I realised that I can only really use HP calculators but don't like any of the modern models so decided to stock up on a few older models from eBay when something reasonably priced came up. So over the next few years I picked up an HP-41CX (classic design but haven't ever adapted to the layout of the algebra keys), an HP-16C (niche product) and an HP-28S (let's just say we don't get on).

The most recent phase is that I thought I should 'retire' the two that I use all the time, the 15C and the 42S and all the backups. Given the amounts of money these things are going for on eBay it seems a little crazy to be using these things at work in an open plan office environment. At least at home I'm insured. The iPhone emulators for the 15C and the 42S are excellent and James Thomson's PCalc is an excellent all-rounder.

Still, it is nice to have a physical calculator in your desk. So I've just picked up an HP-48G off eBay...

Re: The history of my calculators

*Message #2 Posted by **Philippe Lasnier** on 18 Feb 2009, 5:24 p.m.,*
in response to message #1 by SteveH

Hi Steve,

Actually, what happened to you HP-15C rings a bell with me, although in my case it was with an HP-41CV, and I bought a Casio "computer", and I loved that too (still have it), and I never got the 41CV back...Ok, ok, so maybe not so much the same as you :-) I always regretted selling my 41CV, but there was no way I could afford the bits as a student. Still, forward 24/26 years, and I got an HP-41CX...and another. And another. And a HP-16C (my second purchase). I got a bit mad after that, catching up on many years in the wilderness. What I do is keep my "precious" mint machines at home, and take the slightly beat ones to work. Funny, I don't like the HP-28S so much either...

Re: The history of my calculators

*Message #3 Posted by **bill platt** on 18 Feb 2009, 6:42 p.m.,*
in response to message #1 by SteveH

```
Brief history:
1982: 11c
1985: factory replaced 11c from damage
1995: lost 11c on airplane somewhere over tennesee
1995: bought 32sii
1998: destroyed 32sii in fit of anger and bought another
2001: lost 32sii and bought a silver 32sii
2003 or so, thought I should get a backup--discovered HP was dropping
out entirely! Went crazy and started collecting. Now have too many
calculators! (Over 20....I've lost exact count)
```

To think it started out with an 11c, and that I made it 10 years without any replacement necessary...

Edited: 18 Feb 2009, 9:34 p.m. after one or more responses were posted

Re: The history of my calculators

*Message #4 Posted by **db (martinez, ca.)** on 18 Feb 2009, 7:15 p.m.,*
in response to message #3 by bill platt

Bill; RE: "1998: destroyed 32sii in fit of anger and bought another"
Were you doing your taxes? That's what i'm doing this rainy day, and i wish i had a casio to throw.

Re: The history of my calculators

*Message #5 Posted by **bill platt** on 18 Feb 2009, 9:33 p.m.,*
in response to message #4 by db (martinez, ca.)

:-D

Throw- Away!

Re: The history of my calculators

*Message #6 Posted by **Joerg Woerner** on 19 Feb 2009, 10:41 a.m.,*
in response to message #4 by db (martinez, ca.)

Throw this one:

and I catch it!

Regards, Joerg

BTW: How do you tax filing on a RPN calculator? You type the itemized deductions and hit [ENTER]. After 4 numbers the stack is full ;-))

Edited: 19 Feb 2009, 11:24 a.m.

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HP-41 HP-IL Issue

*Message #1 Posted by **Gerry Schultz** on 18 Feb 2009, 5:08 p.m.*

Hello everyone. I have now collected enough hardware, software and knowledge to start playing with HP-IL and my HP-41. Over time, I have collected two 82160A HP-IL Modules, two 82161A Tape Drives, an 82162A Printer, an 82163A Video I/F, an 82164A RS-232 I/F, an 82973A PC I/F and an 82183A Extended I/O Module. Last week I got the final piece I wanted, a 9114B 3 1/2" Disk Drive.

I've also been reading the HP-IL Introductory Guide as recommended in the Extended I/O manual which is a good read to learn more about how HP-IL works. Included in one of the tape drives is a tape that has the software for demonstrating the capabilities of the 41 system. I ran that over the weekend and successfully tested the tape drives, the printer, the video I/F and the Extended Function and Time modules built into the 41CX. So far so good.

I have about a dozen tapes (about half being new in their wrappers) and I want to make a backup of the demo tape. Since I just got the 9114 along with 10 disks, I thought I would use the Mcopy command in the Extended I/O module to copy the data from the tape to a 3 1/2" disk. Even though I reformatted the disk using Newm, I get hardware handshaking errors when I try copying the media on the 41CX.

I hooked just the two tape drives and had similar problems along with when trying to get a Dir from the tape drives and it reports invalid media even though they read fine before. So, I've broken the loop down and all peripherals appear to work when they are alone on the loop with the 41CX.

I suspect that some of the interconnecting loop cables are bad or perhaps one of the HP-IL connectors is intermittent. My question is, finally, can I use Mcopy (loop is set to 1=tape drive, 2=disk drive) to copy files from the tapee to disk? Also, are there any issues I need to be aware of to keep the HP-IL loop reliable? Finally, when using Nmda what number should I use for the directory size? 080?

Thanks for the feedback.

Gerry

Re: HP-41 HP-IL Issue

*Message #2 Posted by **christoph klug** on 19 Feb 2009, 3:01 a.m.,*
in response to message #1 by Gerry Schultz

Dear Gerry,

more helpfully tools for operating HP-IL with HP-41 are the CCD-Module (CAT 0 lists the devices) the EXT-IL or better the EXT-IL-Plus module and last not least my new 700 page book "HP-41 Input / Output Board & IL2000 Interface System" wich includes a great collection of knowldege about HP-41 & HP-IL. An alternatively solution for printing- and mass storage applications is EMU41 in combination with the HP-IL/PC Interface Card...

Best regards - Christoph Klug

Re: HP-41 HP-IL Issue

*Message #3 Posted by **Gerry Schultz** on 19 Feb 2009, 7:02 p.m.,*
in response to message #2 by christoph klug

Thanks Christoph. I looked into ordering your book, "HP-41 Input / Output Board & IL2000 Interface System" last December but the publisher's website was in German and I couldn't figure out how to order it. I went down to my local Borders and gave them the ISBN number but they couldn't find a listing for it. I also checked the classified ads on this web site but didn't see your book listed. How do I order a copy of your book? I live in Los Angeles, Ca.

Thanks,

Gerry

Re: HP-41 HP-IL Issue

*Message #4 Posted by **christoph klug** on 20 Feb 2009, 3:47 a.m.,*
in response to message #3 by Gerry Schultz

Dear Gerry,

inside Germany the transfer of the 708 page book is free, and you can order it from any local book shop or from ebay Germany (enter HP-41 for starting a search). For locations outside Germany you have to pay the transfer costs, I send out the book worldwide - for supporting HP-41 enthusiasts. Please get in email contact with me (christophdotklugaddgmxdotde)to arrange the order of the book.

Connect HP-41 & HP-IL to future - best regards - Christoph

Re: HP-41 HP-IL Issue

*Message #5 Posted by **Philippe Lasnier** on 20 Feb 2009, 9:17 a.m.,*
in response to message #4 by christoph klug

Hi Christoph,

I had noticed that book appearing regularly on my HP-41 searches on eBay recently, although I hadn't spotted that it was from you. The thing I couldn't figure out is if its content was in English or not. A search in the Forum archives reveals that you answered that question last November - English. Is it alright if I contact you by e-mail as well?

Regards,

Philippe

Re: HP-41 HP-IL Issue

*Message #6 Posted by **christoph klug** on 20 Feb 2009, 10:41 a.m.,*
in response to message #5 by Philippe Lasnier

Dear Philippe,

thanks for your interest about "HP-41 Input / Output Board & IL 2000 Interface System" book in English language. Yes - contact me via email...

Regards - Christoph

Re: HP-41 HP-IL Issue

*Message #7 Posted by **Gerry Schultz** on 23 Feb 2009, 1:52 p.m.,*
in response to message #6 by christoph klug

I wanted to add an ending on this post. Last night while my wife was watching the Oscars, I put my HP-IL loop back together to see if I could figure out what was going on. I put in the loop a tape drive, the floppy drive and the printer along with the 41CX. This time everything worked great. I was able to use Mcopy to make a floppy and tape copy of the 41 demo cassette. Looking back, the only thing I really did different was that I didn't plug the card reader to the 41. Are there any conflicts between HP-IL devices and the card reader?

Finally, I just found out that the '8' button on my 41CX isn't working. I had to finish my work using my 41CV. I was able to load a program into the CV on magnetic cards (11 sides) and save it to a floppy without any problems. Go figure.

Thanks, Gerry

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HP-35 x^y key

*Message #1 Posted by **Antonio Maschio (Italy)** on 18 Feb 2009, 10:22 a.m.*

Hi, just a curiosity...

In the HP-35 calculator page (the first pocket calculator), I read it had a x^y key instead of the modern y^x; my question is perhaps silly, but I have not a HP-35 to play with, so if one of you can explain me...

to get, say 2^5 on my HP-12C I type 2 ENTER 5 y^x; what have I to type on a HP-35 to perform the same operation? I believe that, according to the x^y symbols, I should type 5 ENTER 2 x^y: is it correct?

Thanks!

-- Antonio

Re: HP-35 x^y key

*Message #2 Posted by **Ignazio Cara (Italy)** on 18 Feb 2009, 11:13 a.m.,*
in response to message #1 by Antonio Maschio (Italy)

Oh yes Antonio, this is correct on every HP-35, with red-dot or without.

Regards from Sardinia.

Ciao

Ignazio

Re: HP-35 x^y key

*Message #3 Posted by **Arnaud Amiel** on 18 Feb 2009, 11:18 a.m.,*
in response to message #1 by Antonio Maschio (Italy)

The 35 does not have a 10^x key either so the x^y helped there. I still much prefer the 45 to the 35.

Arnaud

Re: HP-35 x^y key

*Message #4 Posted by **Karl Schneider** on 19 Feb 2009, 3:10 a.m.,*
in response to message #1 by Antonio Maschio (Italy)

Hi, Antonio --

The topic of the x^y key on the old HP-35 came up several years ago, but I didn't bookmark the thread. It's possible that "x raised to the y" with y residing above x in the stack was the rationale for the convention. However, I believe that the *real* reason for x^y instead of y^x is absence of a 10^x key, as Arnaud mentioned.

10 x^y will easily compute the antilogarithm of a result.

Especially when "-" computes y-x and "/" computes y/x, y^x is the natural definition.

-- KS

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INIT-Module for ERAMCO RSU-2 Rambox

*Message #1 Posted by **PeterP** on 17 Feb 2009, 3:41 p.m.*

Summary

Based on Diego Diaz's great article about the Softselect feature of the RSU-2 unit from Eramco, I set out to build a module that would greatly increase the easy of reviving a RSU-2 unit. The result is this INITRSU module. It comes with a set of functions that help the user to restore operation, clear parts or all of the RSU and load the operating system, all of this for all available banks and in a very convenient and save way. Last but not least, it also includes the original SETBANK, PORTON and PORTOFF functions from the RSU operating system. For the curious user, please also find the documented source code at the end of this document. Especially the documentation of the SETBANK instruction might be interesting to study.

Quick-Reference-Guide for functions of INITRSU

```
XROM 04
01      INIT-RSU        no function, module header
02      PORTON( )       the original function to turn on a port (-1 = 8, +3 = F)
03      PORTOFF(1)      the original function to turn off a port
04      SETBANK(1)      the original function to select a bank from 1-4
05      CLPOLLA         function that clears all polling points in all pages and banks
06      CLRSUA          function that clears all pages in all banks. CAREFUL!
07      CLPOLLB         function that clears the polling points in bank specified via X-reg
08      CLRSUB          function that clears all pages in bank specified via X-reg
09      CLBL( )         clear a block specified in X, can clear across page boundaries
10      COPYP(2)        copy page S to page D, SD in alpha
11      CODE(2)         code a NNN into X from Alpha
12      DECODE(2)       decode a NNN from X into Alpha
13      ROMSUM(2)       calculates and stores the correct checksum for a page
14      HEXIN( )        direct entry of a NNN
15      BLCAT(3)        Block-cat showing the content of each page
16      RAMWR(2)        MCODE Hexeditor to write directly into the RSU
17      SAVEROM(2)      Save a page from X to HP-IL with name from alpha
18      GETROM(2)       Get a page from HP-IL with name in alpha to page in X
19      LOCA(2)         Find a specific MCODE word starting at address AAAA in alpha
20      LROM(2)         Find last word in MLDL starting search backwards from AAAA in alpha
21      LDRSU           Load the original operating system into pages E&F from HP-IL for all
banks
```

Original functions come from the ERAMCO MLDL OS ,the Sandbox or the original RSU OS, though I did make certain changes here and there to the original code to fit the particular needs of this module.

In theory one would only need the functions CLRSUA (which clears all pages in all banks) and LDRSU (which loads the OS from HP-IL). However I find it useful to have some other tools at my disposal when trying to resurrect a dead Rambox.

File locations

You can find the complete manual here, and the actual files here.

Please let me know of any errors and suggestions.

Cheers

Peter

Re: INIT-Module for ERAMCO RSU-2 Rambox

*Message #2 Posted by **Marcus von Cube, Germany** on 17 Feb 2009, 7:04 p.m.,*
in response to message #1 by PeterP

Peter, you should post this in the articles section of the forum. It's worth being kept in the proper place.

Re: INIT-Module for ERAMCO RSU-2 Rambox - now in article section

*Message #3 Posted by **PeterP** on 18 Feb 2009, 6:37 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Thanks Markus for the kind words.

Cheers

Peter

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=909

Re: INIT-Module for ERAMCO RSU-2 Rambox - now in article section

*Message #4 Posted by **christoph klug** on 19 Feb 2009, 3:09 a.m.,*
in response to message #3 by PeterP

Dear Peter,

thanks a lot for offering your great software tool and mcode knowledge to the HP handheldcomputer comunity. Beside the init-solution from Raymond (for W&W RAM Box) now we get the possibility to restore ERAMCO RSU systems.

Long live HP-41 + RAM-Box - best regards - Christoph Klug

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Emu42 v1.11 is available now

*Message #1 Posted by **Christoph Giesselink** on 17 Feb 2009, 2:46 p.m.*

A new version of Emu42 is available is available at http://hp.giesselink.com/.

Sorry that I haven't published a new version for over a year now. The new Emu42 version got some improvements under the hood

- debugger disassembly with symbolic entries
- RPL object viewer inside debugger (UNRPL engine)
- GIF bitmap image support (Free42 decoder)
- some minor cosmetic changes
- all bugfixes of the last year

For the symbolic disassembly an entry point list is necessary. For further details how to enable this feature look into the Debugger.txt document please.

The new HP28S entry point list now contain over 2200! entries. I don't know further public entry point lists for the other emulated calculators.

When you want to go through the HP28S RPL objects, open the debugger and add the HP28S entry point list first. Call the RPL object viewer and also open the Find dialog in the context menu of the Memory section.

In the "Find what:" field type in "76C20", thats the RPL object prolog in reverse order, and press the "Find Next" button. With every "Find Next" you jump to the next object. You see, there're still many objects whithout a name. Finally enjoy your journey through the decoded HP28S RPL objects.

Cheers

Christoph

Re: Emu42 v1.11 is available now

*Message #2 Posted by **Mike (Stgt)** on 18 Feb 2009, 8:50 a.m.,*
in response to message #1 by Christoph Giesselink

Danke!

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Aristo M16 (HP parts)

*Message #1 Posted by **Stefan Hauschild** on 17 Feb 2009, 2:10 p.m.*

Recently I got an Aristo M16 from 1977. It is "Made in Germany" by a manufacturer of slide rules and drawing accessories. There are some interesting details in the actual design but maybe it varies from lot to lot.

First: The on-off-switch is made of "Aristopal". This is something like Astralon and a characteristic material of "Aristo"-slide rules. The other keys are made of the same PE as the cases of some newer Aristo slide rules. So far for the slide rule collectors.

The keys have the same haptic appearence as the old HP-keys and they are based on the same mechanic principle. Inside there is an original HP-Singapore display. In operation it is brilliant and offers much more contrast than the average cheap display used in simple calculators of that era. It looks like a smaller version of the HP97-display

The processor is a Rockwell B5000, hand-soldered with the unnessecary pins cut on the copper side of the PCB.

This calculator is genuine german (not from Taiwan or somewhere else) but maybe it was designed with some help from HP (to sell some parts they don´t need anymore)?

Re: Aristo M16 (HP parts)

*Message #2 Posted by **Walter B** on 18 Feb 2009, 2:37 a.m.,*
in response to message #1 by Stefan Hauschild

Sources in the net confirm HP display modules being used in ARISTO calcs, though not for the M16 being a rather late model (the last one "Made in Germany"?).

more HP displays

*Message #3 Posted by **Frank Boehm (Germany)** on 18 Feb 2009, 4:55 a.m.,*
in response to message #1 by Stefan Hauschild

ARISTO obviously used mainly HP displays (for their LED cals). I have found others too (only listed up to "I"): CASIO ROOT-8S Commodore 3101, Minuteman 2 Corvus 310, 322, 411, 415 DALTONE POCKET 80 Faber-Castell TR1 Interton PC4007, 4008, 4009

HP was "just another source" of LED displays, I assume the Bowmar, Litronix, TI and HP displays were compatible and exchangeable, so it was just a matter of pricing and availablity.

Re: more HP displays

*Message #4 Posted by **Stefan Hauschild** on 18 Feb 2009, 7:11 a.m.,*
in response to message #3 by Frank Boehm (Germany)

Interesting for me was the fact that the keyboard of the M16 is designed like an HP35-keyboard (with the keys molded to the frame on the lower edge). The older Aristos have the usual keyboard with the central spring. This led me to opening it and discovering the display - ok, maybe I would have opened it anyway,

like I do with all my old stuff. The display is a lot better than the one on my other cheaper calculators of that era but obviously HP has sold its display bars to all the main manufacturers.

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Calc Benchmark - HP41 MCODE - 11.05 seconds

*Message #1 Posted by **PeterP** on 16 Feb 2009, 8:42 p.m.*

Hi,

Inspired by another member here to write the 8-Queens problem for the HP41 in MCODE and add this to the Benchmark I used a sprained ankle to do just that. Below you find the MCODE which models as closely as possible the Basic code. Runn-time 11.05 seconds on my normal speed CX. For a reference, the RPN version runs 17+ minutes...

I used a very simple program and the 41cx internal clock to time this so the 11.05s have a tiny bit of RPN overhead for the timing program. If there is a better way to time the actual code, please let me know.

Would be great if that can be added to the great Benchmark article on calculator speed.

Cheers

Peter

```
;-------------------------------------------------------------------------------------------
--------------------------
; 8 queens problem - calc benchmark
; modelled after the BASIC version printed
; X = M
; Y = N
; A() is RAM-Regs 1-9 (Stack + Alpha)
;S = Q
;-------------------------------------------------------------------------------------------
--------------------------
                                .NAME   "CQ2"
*0078 0B2                       #0B2            ; "2"
*0079 011                       #011            ; "Q"
*007A 003                       #003            ; "C"
 007B 1A0       [CQ2]           A=B=C=0         ;
 007C 158                       M=C             ;initialize
 007D 070                       N=C             ;initialize
 007E 268                       WRIT    9(Q)    ;initialize
 007F 228                       WRIT    8(P)    ;initialize
 0080 1E8                       WRIT    7(O)    ;initialize
 0081 1A8                       WRIT    6(N)    ;initialize
 0082 168                       WRIT    5(M)    ;initialize
 0083 128                       WRIT    4(L)    ;initialize
 0084 0E8                       WRIT    3(X)    ;initialize
 0085 0A8                       WRIT    2(Y)    ;initialize
 0086 068                       WRIT    1(Z)    ;initialize
 0087 2A0                       SETDEC
 0088 198       [L40_2]         C=M
 0089 0A6                       A<>C    S&X
 008A 130008                    LDIS&X  008     ;
 008C 366                       ?A#C    S&X
 008D 093                       JNC     [SL180_2] +18 009F      ;If X=8 Then 180
;--------
 008E 198       [L50_2]         C=M             ;
 008F 226                       C=C+1   S&X
 0090 158                       M=C             ;X=X+1
;--------
 0091 198       [L60_2]         C=M
 0092 270                       RAMSLCT
 0093 130008                    LDIS&X  008
 0095 2F0                       WRITDATA                ;A(x) = 8
```

```
;--------
 0096 278       [L70_2]         READ    9(Q)
 0097 22E                       C=C+1   ALL
 0098 268                       WRIT    9(Q)    ;S=S+1
;--------
 0099 198       [L80_2]         C=M             ;
 009A 070                       N=C             ; Y=X
;--------
 009B 0B0       [L90_2]         C=N
 009C 266                       C=C-1   S&X
 009D 070                       N=C             ;Y=Y-1
;------------------------------ Stepping Stone
 009E 013                       JNC     [L100_2] +2 00A0
 009F 12B       [SL180_2]       JNC     [L180_2] +37 00C4
;------------------------------ Stepping Stone
 00A0 0B0       [L100_2]        C=N
 00A1 2E6                       ?C#0    S&X
 00A2 333                       JNC     [L40_2] -26 0088        ;if Y=0 then GOTO 40
;--------
 00A3 198       [L110_2]        C=M             ;get A(x)
 00A4 270                       RAMSLCT
 00A5 038                       READDATA                ;
 00A6 0A6                       A<>C    S&X     ;A(x)
 00A7 0B0                       C=N
 00A8 270                       RAMSLCT
 00A9 038                       READDATA                ;A(y)
 00AA 246                       C=A-C   S&X     ;T = A(x) - A(y)
 00AB 013                       JNC     (c6_2) +2 00AD
 00AC 286                       C=0-C   S&X     ;complement if underflow
 00AD 2E6       (c6_2)          ?C#0    S&X     ;if T=0
 00AE 04B                       JNC     [L140_2] +9 00B7        ;then goto 140
;--------
 00AF 0E6                       C<>B    S&X     ;save abs(T)
 00B0 198       [L130_2]        C=M
 00B1 0A6                       A<>C    S&X
 00B2 0B0                       C=N
 00B3 1C6                       A=A-C   S&X     ;X-Y
 00B4 0E6                       C<>B    S&X     ;get abs(T)
 00B5 366                       ?A#C    S&X     ;if X-Y <> abs(T)
 00B6 32F                       JC      [L90_2] -27 009B ;then goto 90
;--------
 00B7 198       [L140_2]        C=M
 00B8 270                       RAMSLCT
 00B9 038                       READDATA
 00BA 266                       C=C-1   S&X
 00BB 2F0                       WRITDATA                ;A(x) = A(X) -1
;--------
 00BC 2E6       [L150_2]        ?C#0    S&X     ;if A(x) <>0
 00BD 2CF                       JC      [L70_2] -39 0096        ;then goto 70
;--------
 00BE 198       [L160_2]        C=M
 00BF 266                       C=C-1   S&X
 00C0 158                       M=C             ;X=X-1
;--------
 00C1 198       [L170_2]        C=M
 00C2 2E6                       ?C#0    S&X     ;if x <>0
 00C3 3A7                       JC      [L140_2] -12 00B7       ;then goto 140
;--------
 00C4 35C       [L180_2]        R=      12
 00C5 278                       READ    9(Q)
 00C6 2FC       (c8_2)          RCR     13      ;=LSHFT 1
 00C7 2E2                       ?C#0    @R
 00C8 3F3                       JNC     (c8_2) -2 00C6
 00C9 0E8                       WRIT    3(x)
 00CA 3E0                       RTN
;--------
;-------------------------------------------------------------------------------------------
----------------------
```

Re: Calc Benchmark - HP41 MCODE - 11.05 seconds

*Message #2 Posted by **Egan Ford** on 16 Feb 2009, 10:36 p.m.,*
in response to message #1 by PeterP

Congrats! Impressive result. I need to learn MCODE. :-)

Re: Calc Benchmark - HP41 MCODE - 11.05 seconds

*Message #3 Posted by **Xerxes** on 17 Feb 2009, 7:19 a.m.,*
in response to message #1 by PeterP

Thanks for this impressing implementation of the test code. ;-)
I'm not sure about the correct CPU description and the CPU clock speed for adding into the benchmark. Is "Nut @ 0.355 MHz" right?

Re: Calc Benchmark - HP41 MCODE - 11.05 seconds

*Message #4 Posted by **Egan Ford** on 17 Feb 2009, 8:40 a.m.,*
in response to message #3 by Xerxes

The nonpareil source code has it at 375200 Hz. Another will have to confirm.

Re: Calc Benchmark - HP41 MCODE - 11.05 seconds

*Message #5 Posted by **PeterP** on 17 Feb 2009, 12:38 p.m.,*
in response to message #3 by Xerxes

Egan, Xerxes, thanks for the kind words, having the BASIC template available helped a great deal.

According to the 'Detailed Description of the CPU' document (p4, see TOS, Internal Documentation), the NUT processor runs at 340-360khz in the HP41 (and 200-230khz in the HP11C and 12C, which I did not know!)

Cheers

Peter

Edited: 17 Feb 2009, 12:41 p.m.

Re: Calc Benchmark - HP41 MCODE - 11.05 seconds

*Message #6 Posted by **Xerxes** on 17 Feb 2009, 8:05 p.m.,*
in response to message #5 by PeterP

I've updated the benchmark list with the rounded down value of 11.0 seconds due to your comment about the RPN overhead for timing.
Thanks for your nice contribution.

Re: Calc Benchmark - HP41 MCODE - 11.05 seconds

*Message #7 Posted by **Thomas Klemm** on 18 Feb 2009, 1:39 a.m.,*
in response to message #1 by PeterP

Very nice indeed! Did you already have a look at Raymond's contribution: HP-48GX / Saturn Assembly?
He uses the nibbles of a register for the array. You will find a documented listing at the end of this thread:
Calculator Benchmark 48GX/hp48xgcc and 50g/HPGCC3 results

Cheers
Thomas

Re: Calc Benchmark - HP41 MCODE - 11.05 seconds

*Message #8 Posted by **PeterP** on 18 Feb 2009, 10:23 a.m.,*
in response to message #7 by Thomas Klemm

Actually I had not. It is very neat indeed, a true 'RDT'!

My first version used apparently the same idea, that is storing the array in nybbles. However that version took 42.1 seconds as compared to this version due to some shortcomings of the nut instruction-set. \

Cheers

Peter

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HP-71B Math RAM Article

*Message #1 Posted by **Marcus von Cube, Germany** on 16 Feb 2009, 8:09 a.m.*

I've added an article to the articles section of this forum. I've managed to download the HP-71B Math Pac to a RAM port in my physical HP-71B.

Link to articles section.

Edited: 17 Feb 2009, 3:43 a.m.

Re: HP-71B Math RAM Article

*Message #2 Posted by **Roland Storz** on 17 Feb 2009, 12:08 p.m.,*
in response to message #1 by Marcus von Cube, Germany

...genial, pretty easy to perform, how long did it take you to find out?

Re: HP-71B Math RAM Article

*Message #3 Posted by **Marcus von Cube, Germany** on 17 Feb 2009, 12:30 p.m.,*
in response to message #2 by Roland Storz

I had the idea when I first saw that the ROM appears as a file in a CAT ALL listing. How to reset the protection bits is detailed in the internal design specification, vol. I.

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HP41 - fill HDRIVE1

*Message #1 Posted by **Roland Storz** on 16 Feb 2009, 6:15 a.m.*

Hi all,

exchanging files with my HP71 to/from PC incl. EMU71 and HDRIVE1 works absolutely great with u.m. specs.

However, since I'm new to the HP41 I simply did not get how to "fill" my HDRIVE1.dat with programs and data (from the software library or even from a DOS file) to transfer them to my physical HP41?

Sorry for asking such a basic question. Can anyone explain the steps required.

Many thanks in advance, Roland

my specs: HP41CV EMU41 HPIL Interface HP 82160A HP-IL/PC Interface ISA Card

Re: HP41 - fill HDRIVE1

*Message #2 Posted by **Marcus von Cube, Germany** on 16 Feb 2009, 8:12 a.m.,*
in response to message #1 by Roland Storz

Why not use EMU71 and its COPY command to transfer files from :DOSLINK to :HDRIVE1 ? The 71B should understand HP-41 files.

Re: HP41 - fill HDRIVE1

*Message #3 Posted by **Egan Ford** on 16 Feb 2009, 10:56 a.m.,*
in response to message #1 by Roland Storz

Here is one way:

1. Setup EMU41.INI with HDRIVE1.DAT and HDRIVE2.DAT (you can use any name you like, but internally to the 41 they will be HDRIVE1 and HDRIVE2).

2. From EMU41 use NEWM to format HDRIVE1:

```
[ALPHA]HDRIVE1[ALPHA]
FINDID
SELECT
NEWM
```

3. Then use HP41UC (http://www.hpmuseum.org/software/41uc.htm) to convert your code to LIF format, then copy that LIF to HDRIVE2.DAT, e.g.:

   Say you have the following program:

```
LBL "HELLO"
"HELLO"
AVIEW
END
```

To convert to LIF type:

```
HP41UC.EXE /t=HELLO.TXT /l=HELLO.LIF
```

Then to use with EMU41:

```
copy HELLO.LIF HDRIVE2.DAT
```

4. Then from EMU41 type:

```
[ALPHA]HDRIVE2[ALPHA]
FINDID
SELECT
[ALPHA]program name[ALPHA]
READP
[ALPHA]HDRIVE1[ALPHA]
FINDID
SELECT
WRTP
```

Once you know the IDs you can just type (assuming IDs of 3 and 4):

```
[ALPHA]prog name[ALPHA]
4
SELECT
READP
3
SELECT
WRTP
```

You could also use DOSLINK with .DAT files with INP/OUTP, IIRC.

Edited: 17 Feb 2009, 8:51 a.m. after one or more responses were posted

Re: HP41 - fill HDRIVE1

*Message #4 Posted by **Christoph Klug** on 17 Feb 2009, 2:26 a.m.,*
in response to message #3 by Egan Ford

Dear Egan,

Please describe step 3 of your explanation more in detail. Up to now I never worked with HP41UC....

Thanks a lot for your support :-)

Regards - Christoph Klug

Re: HP41 - fill HDRIVE1

*Message #5 Posted by **Egan Ford** on 17 Feb 2009, 8:50 a.m.,*
in response to message #4 by Christoph Klug

> Quote:
>
> Please describe step 3 of your explanation more in detail. Up to now I never worked with HP41UC....

Hello Christoph,

Done.

P.S. Thanks for your book.

Re: HP41 - fill HDRIVE1

*Message #6 Posted by **Roland Storz** on 17 Feb 2009, 9:32 a.m.,*
in response to message #5 by Egan Ford

...many thanks, this realy helps me, Roland

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OT: Siftables, the toy blocks that think

*Message #1 Posted by **George Bailey (Bedford Falls)** on 16 Feb 2009, 3:26 a.m.*

Enjoy!

Re: OT: Siftables, the toy blocks that think

*Message #2 Posted by **Garth Wilson** on 16 Feb 2009, 6:51 a.m.,*
in response to message #1 by George Bailey (Bedford Falls)

Impressive, but sure looks like another one of those things they do "just because we *can*," not because it has any value.

Re: OT: Siftables, the toy blocks that think

*Message #3 Posted by **David Hayden** on 16 Feb 2009, 2:40 p.m.,*
in response to message #2 by Garth Wilson

> Quote:
>
> Impressive, but sure looks like another one of those things they do "just because we *can*," not because it has any value.

Yeah, not like anything going on here at the HP Museum! Now if you'll excuse, I'm going to get back to my 25 year old calculator.... :)

Re: OT: Siftables, the toy blocks that think

*Message #4 Posted by **Walter B** on 17 Feb 2009, 1:58 a.m.,*
in response to message #2 by Garth Wilson

> Quote:
>
> Impressive, but sure looks like another one of those things they do "just because we can," not because it has any value.

That's all playing is about, isn't it? It may lead to something nevertheless.

Re: OT: Siftables, the toy blocks that think

*Message #5 Posted by **db (martinez, ca.)** on 16 Feb 2009, 11:47 a.m.,*
in response to message #1 by George Bailey (Bedford Falls)

There's already a musical machine that will repeat itself until someone throws a block at it. They're called banjo players.

Re: OT: Siftables, the toy blocks that think

*Message #6 Posted by **Maximilian Hohmann** on 17 Feb 2009, 3:00 a.m.,*
in response to message #5 by db (martinez, ca.)

Good morning!

> Quote:
>
> There's already a musical machine that will repeat itself until someone throws a block at it. They're called banjo players.

Hahaha - that's a real good one :-)

I think that it's important to experiment with new man/machine interfaces as much as possible (and how I would love to get paid for playing with these Siftable thingies ...)! I am convinced that long-time slide rule users initally made fun of electronic calculator users, and that investing money in the development of the HP35 was as brave from HP then as it is now MIT regarding these "toy block" computers.
And didn't we old time "punch-card-and-command-line" computer users laugh about the first workstations with GUI and mouse from Xerox, Atari and Apple?
At least I would like something like this "siftable" comcept to become reality!

Greetings, Max

Re: OT: Siftables, the toy blocks that think

*Message #7 Posted by **Garth Wilson** on 17 Feb 2009, 4:16 a.m.,*
in response to message #6 by Maximilian Hohmann

> Quote:
>
> I am convinced that long-time slide rule users initally made fun of electronic calculator users

I was a slide-rule user but went to calcs for the programmability.

> Quote:
>
> And didn't we old time "punch-card-and-command-line" computer users laugh about the first workstations with GUI and mouse from Xerox, Atari and Apple?

I'm still not too fond of GUI, and I keep all the stupid little pictures on mine turned off, since you can't tell what they are anyway without the words under them. You don't need GUI to have graphics, or to have point-and-click, or to have windows, all of which I have in my DOS software I still use although with a hi-res monitor. Our son is turning into somewhat of a Linux expert and he prefers the command line. I hate touch screens though, with their paralax and looking through that grime on the screen, the gizmos where you sign for a credit-card transaction or a delivery confirmation (I never can make it look like my signature on there) and I liked the ATM interfaces at the banks before they made them color and made them unusable when the sun is low and shining right on them. There are a lot of new technologies I like, and a lot of other ones I wish would quickly go extinct like the talking cars of the 80's.

I remember when the Apple Newton first came out and I was reading about the handwriting recognition that was supposed to replace the quaint keyboard. The technology was impressive, but I thought,

"Someone has forgotten that the reason we used to type letters before we had computers was that it was faster-- a *lot* faster!" I hope the keyboard never goes away in favor of voice recognition, because I can type a lot better than I can talk.

Edited: 17 Feb 2009, 4:21 a.m.

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Any love for the 28's?

*Message #1 Posted by **Steve Keeley** on 15 Feb 2009, 11:52 p.m.*

In the topic on the $600 42S, Jandro Kirkish wrote:

> Quote:
>
> ...and my favorite, my 28s -- a calc that I have really grown into

I was interested by this because, having lurked here for a long time, I've seen little love expressed for the 28C and 28S.

I know for my own part, my 28's are the least used of my calculators. They were so totally eclipsed by the 48S and X that they fell into disuse. The 15C and 42S were handier to grab for a quick calculation, and for more heavy-duty work the 48's were both more capable and easier to handle. (Nowadays the 50g does most of the hard work.)

But during their brief moment at the top of the heap, '87 - '90, they were indespensible to me. I can still remember how amazed I was by their algebraic capability. The unit conversion capability, while awkward compared to the 48 implementation, was extremely useful at the time. The solver let you store an eqation and then solve for any of the variables, a most impressive feature then even if we take it for granted now.

I bought my 28C several months before taking the FE exam and there were quite a few questions where I was grateful to have it; I could solve them almost instantly. I still have a wooden stand designed to hold it in the fully open position which I bought from EduCalc. (I didn't really get the hang of RPL programming until I got the 48, and still prefer the old keystroke method.)

But at the time, the 28's offered an amazing amount of capability that no other handheld I'm aware of could compare to. Does anybody else have any kind words for the 28s?

Re: Any love for the 28's?

*Message #2 Posted by **Chuck** on 16 Feb 2009, 12:27 a.m.,*
in response to message #1 by Steve Keeley

I remember taking a Math/Computer Science programming class during my Master's Degree in '88 or '89. One of the course projects was to create a program that would optimally solve a fairly nasty boundary value ODE problem. Since I had no computer access at the time I asked the prof if I could use my 28S instead. He said if I could provide printout of the program and results I could try, but he was more than positive it wasn't possible (I also had, and still have, the printer). After several days of programming and an all-nighter until 5:00AM I produced a program and output that rivaled the computer programs of the day. I still have that calculator (although the the thermal printout has faded), but must admit I feel REALLY clumsy using it today. I can't remember where 90% of the functions are. I should pull it out of the collection this summer and give it another go for posterity.

CHUCK

Re: Any love for the 28's?

*Message #3 Posted by **Eric Smith** on 16 Feb 2009, 1:45 a.m.,*
in response to message #1 by Steve Keeley

The 28S is one of my favorites. Although the 48 is more powerful, I like the user interface of the 28S better. The dedicated alpha keyboard has always seemed much better than the alpha shift of the 48. If only they'd had a clamshell with better I/O capabilities...

Re: Any love for the 28's?

*Message #4 Posted by **marais** on 16 Feb 2009, 2:56 a.m.,*
in response to message #3 by Eric Smith

I second that. I bought the 28C when it came out (at the time I had a friend working at HP who made me benefit from his company rebate) - i was an EE student at that time and the 28C helped me get through a number of exams. AFter about a year, its memory was entirely stuffed with programs I had written, and I immediately jumped on the 28S that came out just at the right time. As a student, these were huge investments for me, but well worth it. Today the 28C is my office calculator (my other HP calcs are too valuable). I bought the 48 later, but I never came to like it. The display is of lesser quality, but what is worse for me, I don't like the looks: It's ridiculously big and almost intimidating with all these buttons. The 28 has a certain elegance about it. Of course, I regret the missing input capability, and became a victim of it once when I lost 14k of valuable programs, but hey, looks matter too!

Re: Any love for the 28's?

*Message #5 Posted by **Karl Schneider** on 16 Feb 2009, 8:15 a.m.,*
in response to message #1 by Steve Keeley

> Quote:
>
> Does anybody else have any kind words for the 28s?

As Eric said, the dedicated alpha keyboard is a lot easier to use than the shifted alpha keys of the HP-49/49/50.

> Quote:
>
> The unit conversion capability, while awkward compared to the 48 implementation

For conversion of simple units (such as length), I agree. For compound units, the HP-28's capability is very useful, particularly when Imperial<->SI engineering conversions are needed. I also like the HP-28's units library with definitions.

> Quote:
>
> I bought my 28C several months before taking the FE exam

I found my HP-15C perfectly adequate for the EIT/FE exam in 1994.

Marias said,

> Quote:
>
> i was an EE student at that time and the 28C helped me get through a number of exams. AFter

> about a year, its memory was entirely stuffed with programs I had written,

I managed to fill the HP-28C's puny 2 kB of RAM just trying out solutions in symbolic algebra -- completely inadequate for its capabilities. I wish that the HP-32S/SII had that 2 kB, though...

> Quote:
>
> I regret the missing input capability, and became a victim of it once when I lost 14k of valuable programs

A few years ago, I made the argument that HP was wise not to release an HP-42S with the 32 kB of RAM it could support (instead of its built-in 7 kB), unless I/O were added. If users are given much RAM, they will use the calc as a repository of programs or as a data collector, then will inevitably get burned without electronic upload/download.

-- KS

Re: Any love for the 28's?

*Message #6 Posted by **Antonio Maschio (Italy)** on 16 Feb 2009, 8:36 a.m.,*
in response to message #5 by Karl Schneider

Karl wrote:

> Quote:
>
> If users are given much RAM, they will use the calc as a repository of programs or as a data collector, then will inevitably get burned without electronic upload/download.

I agree in all senses (and this started to thrill my brain since the HP-33S apparition).

-- Antonio

Re: Any love for the 28's?

*Message #7 Posted by **Martin Pinckney** on 16 Feb 2009, 9:11 p.m.,*
in response to message #5 by Karl Schneider

I, too, have been attracted to the 28s because of the dedicated alpha and less-cluttered keyboards. My main interest is in units conversion. I even went so far as to purchase some period HP literature (a 22-page 8.5x11 booklet) that compares the 28s and 48sx. Unfortunately, it just does not answer my questions!

> Quote:
>
> The unit conversion capability, while awkward compared to the 48 implementation
>
> For conversion of simple units (such as length), I agree. For compound units, the HP-28's capability is very useful, particularly when Imperial<->SI engineering conversions are needed. I also like the HP-28's units library with definitions.

Can someone elaborate on this?

Is the 28s units conversion capability equal to the 48sx (which I have)?

Can it append the unit to the numerical value like the 48sx?

Thanks.

Re: Any love for the 28's?

*Message #8 Posted by **Michael de Estrada** on 16 Feb 2009, 10:47 p.m.,*
in response to message #7 by Martin Pinckney

I have both a HP-28S and a HP-48SX, and IMHO the HP-48SX wins hands down over the HP-28S in the units department. The HP-48SX can create units objects, which associate (append) the unit type to the numerical value. You can perform arithmetic operations on two values, you can even combine two objects with different units, and it will automatically convert them to a common unit and perform the arithmetic operation, for example: 100 cm^2 ENTER 1 m^2 + yields 1.01 m^2. The HP-28S can't do any of this. Also units conversion is much simpler on the HP-48SX. Simply enter the value with its initial unit, then hit Left Shift and the final unit, and voila the conversion is made. The units are grouped by type on the HP-48SX (length, force, temperature etc), making them much easier to find than the alphabetized list on the HP-28S. Bottom line, the HP-48SX can do anything with units that the HP-28S can do, it can do more and it can do it better.

Edited: 16 Feb 2009, 10:51 p.m.

Re: Any love for the 28's?

*Message #9 Posted by **Steve Keeley** on 17 Feb 2009, 2:08 a.m.,*
in response to message #8 by Michael de Estrada

As Mike said, there is no comparison between the 28 and 48/49/50 units utility.

On the 28, you would enter the number you want to convert on one level, enter the "from" units as a string on the next level, then enter the "to" units string on the final level, and then hit "CONVERT." As such:

3: 25
2: "ft * lbf / s"
1: "Btu / h"

You'd be left with:

2: 115.656071711
1: "Btu / h"

You couldn't incorporate the units into the solver then enter mixed units for the variables and have the calculator automatically check for dimensional consistency and convert units.

At the time, it was very useful (it sure beat looking up all the unit conversions and doing them one at a time). But it wasn't a breakthrough; the HP 41 Thermal and Transport Science module added this capability to the 41, and unit checking/conversion was built into all the programs on it as well. If you opted for "Units" when running the program, then after prompting for the value, it would prompt for the units which you would enter as an alpha string. It gave instructions for incorporating this capability into your own programs. As a chemical engineering major, this ROM was worth more than its weight in gold to me.

Re: Any love for the 28's?

*Message #10 Posted by **Martin Pinckney** on 17 Feb 2009, 10:26 a.m.,*
in response to message #9 by Steve Keeley

Thanks Michael and Steve, this is the answer I needed.

Re: Any love for the 28's?

*Message #11 Posted by **Michael de Estrada** on 16 Feb 2009, 10:29 a.m.,*
in response to message #1 by Steve Keeley

Actually, the HP-28 series was revolutionary in many respects, not just RPL. They were the first HP's (to the best of my knowledge) to replace the fixed 4-level stack (x,y,z,t) with an unlimited stack. This was important when performing RPN calculations with more than three pending (parenthesis for algebraic notation) operations. It also introduced contextual and definable soft keys. I particularly like the simple layout with only one shifted key.

But my HP-28S also has unique problems due its design. When fully opened to use its alphabetic keyboard, it has a large footprint and ceases to be a hand-held device. I find it awkward to keep shifting my eyes (and head) from the alpha keyboard on the lower left to the display on the upper right. Unless the surface it is placed upon is completely flat, the alpha keyboard (which has no rubber feet) tends rattle around as I press the keys. And finally, the lack of calculator to PC I/O is a real killer, especially with the 32K HP-32S, which is why I later bought a HP-48SX. Not only do I save my HP programs and data on my DOS PC, I find it easier to write/edit my programs using a text editor on my PC and then port them to my HP.

I had been using my HP-28S occasionally until a few years ago when the battery door broke (another design flaw of the HP-28). So now it just sits in its pretty accessory soft leather case, sans batteries.

Edited: 16 Feb 2009, 1:23 p.m.

Re: Any love for the 28's?

*Message #12 Posted by **Jandro Kirkish** on 16 Feb 2009, 1:02 p.m.,*
in response to message #1 by Steve Keeley

Wow it's nice to have "inspired" a thread on one of my favorite topics-the 28s! This is really the only vintage hp I own but the longer I have it the more impressed with it I seem to get. I bought my 28s back in 1990 because I had come into some cash and had been lusting after it for years and was impressed by my friends 11c and RPN in general. I was in my early 20's and going through kind of a "loser" phase: college dropout etc (perhaps some of you fellow Gen-X-ers can relate). I hadn't even taken a calculus class yet. I loved the 28s from day one, but really didn't have the math background to fully appreciate it, save for solving and graphing equations. Long story short, I was back in school around ten years later getting a math degree ... It was only then that I fully appreciated that d/dx key--wow, my hp can do *that?* (It was around this time that I discovered this Museum, and my obsession with hp calcs blossomed) I saw my fellow math & engineering friends with their 48g's and I thought they were pretty cool but I felt I had the advantage with the dedicated alpha keyboard, just one shift key and a remarkably uncluttered keyboard for such a powerful machine. I got my math degree but physics and engineering are my real interests, plus my amateur astronomy hobby, and the hp 28s has served me well in all of these dabblings. (And in my day job too as a scientific programmer.) So 20 years later I find myself saying less often "Wow my 28s can do *that?*" and more often "*Of course* my 28s does that!" Recently I have found the ability to define custom units is very handy in astrophysics as but one example ...

I agree with the praise as well as the criticisms raised by the other posters: I just wrestled with the battery door last night putting in new batts, the thing creaks and crackles like it going to fall apart--and it did once; thanks superglue!--but it has always been that way. And its still working. Many of these flaws are related to the

clamshell design, which is paradoxically one of its strengths, as other commenters have noted - and if you can put it on a desk, it makes it a lot easier to key in programs and expressions. I am constantly hunting for functions on my 50g where most buttons have three or more function apiece, but on the 28s it is a snap. Also it fits nicely in a jacket pocket (it is in my pocket now as I write) whereas a larger RPL model would not. So Steve, you ask if there is any love for the 28s--well clearly there is plenty from my corner!

Cheers, Jandro

Re: Any love for the 28's?

*Message #13 Posted by **Paul Dale** on 16 Feb 2009, 9:15 p.m.,*
in response to message #1 by Steve Keeley

I like the 28 series too. Got my first at the end of my undergraduate degree and spent the vacation writing chess for it.

The dedicated keyboard wins it for me. When I enter programs or even call functions on either the 28, 48 or 49, I do so in alpha mode. I never remember where the function I want is located in the menus but I usually remember the name.

- Pauli

Re: Any love for the 28's?

*Message #14 Posted by **Rainer Wiedemann (Germany)** on 17 Feb 2009, 6:32 p.m.,*
in response to message #1 by Steve Keeley

Being a long time HP-41 addict (incurable since 27 years), some time ago I bought a mint HP-28S for my collection. It was love at first sight! What a machine! I also own a HP-48G. Comparing both units the 28S is miles ahead. Great user interface, well-arranged keyboard, excellent manuals (I own both HP-28S and HP-48G manuals), everything one expects from a good calculator, it allows almost an intuitional handling, everything on it gives me a feeling of quality . Now I'm looking for a second one for work, since I don't wanna wear the one from my collection. For today's calculator usage its memory is sufficient, the HP-35S I recently bought doesn't offer more. I'm doing more complicated calculations via PC (Octave, Scilab, Mathematica, Excel). In my opinion this calculator still represents everything HP stood for in the "good old days". Yes, I think it comes close to my all-time favorite HP-41. Hopefully my enthusiastic posting doesn't start a flaming war about the best calculator, it is purely my two cents.

Rainer

P.S.: I found a HP-42S for 15€ on a flea market, with manual, two books, pouch and box, 3 months ago. It looked like new, after replacing the batteries it works. IMHO paying more than 600 bucks for such a machine is crazy ...

Re: Any love for the 28's?

*Message #15 Posted by **Marcus von Cube, Germany** on 17 Feb 2009, 6:58 p.m.,*
in response to message #14 by Rainer Wiedemann (Germany)

German flea markets trading HPs? You're a lucky guy, aren't you?

Re: Any love for the 28's?

*Message #16 Posted by **Rainer Wiedemann (Germany)** on 17 Feb 2009, 7:30 p.m.,*
in response to message #15 by Marcus von Cube, Germany

Marcus,

I have many of my collection items from flea markets, but I admit, it's a time consuming hunt occupying many weekends. I found the 42S among a bunch of computer crap, the seller himself announced his sales as "Computerschrott" (=computer scrap). When I took a look at his offerings I was amazed seeing the HP-42S. He was convinced it would be defect, so I dealt for the books and the supposed to be dead calc as a give-away, and it worked :-). I was absolutely happy about ...

Unfortunately opportunities like this one are very rare.

IMHO the "Bay of Pigs" - or how you ever want to name it - became one of the most expensive ways to complete a collection of HPs, bargains are rare, though sometimes possible. I ask myself who is weird enough buying heavily worn Voyagers for almost 300$, or hp-il peripherals for irrational sums from the same seller.

OK, this was a little bit off topic, sorry.

So I'll close with a "Horrido!" to all hunters of vintage HP calcs, and beware of being ripped off.

Kind regards,

Rainer

Re: Any love for the 28's?

*Message #17 Posted by **Allen** on 17 Feb 2009, 8:42 p.m.,*
in response to message #16 by Rainer Wiedemann (Germany)

According to my age-predictive calculator model, Nearly everyone who hails the HP 28C/S was born from 1970 to 1974- a very narrow range of years. Any earlier and people tend to migrate to the Voyager, any later and they would migrate to the Pioneer or Charlemagne series.

I have both the 28s and 28c. While I find them adequate, the battery door and leaky N-cell batteries are enough to prevent their employment for all but special use, and for the size, I'd rather have a slightly smaller Pioneer (32s,32sii,42s) in an Astech Case, or a 48g series calculator.

I did not fully appreciate the RPL legacy of the 28 series until I read Chapter 1.1 of William Wickes' Book: "HP 48 insights". After learning the 3rd generation calculators started with the 28S series, I decided to add all the clamshells to an otherwise complete collection of Nut, Voyager, Pioneer, and Charlemagne Calculators. The former see the least use of any other family, for stated reasons.

Re: Any love for the 28's?

*Message #18 Posted by **Paul Dale** on 17 Feb 2009, 9:45 p.m.,*
in response to message #17 by Allen

I'm not in the 1970 - 1974 birth date range :-)

My first HP was a 34c which died.

- Pauli

Re: Any love for the 28's?

*Message #19 Posted by **marais** on 18 Feb 2009, 3:55 a.m.,*
in response to message #18 by Paul Dale

you're wrong. I was born in 1965 and yet hail the 28C/S. On the other hand, I already had an HP16C when i bought the 28C.

Re: Any love for the 28's?

*Message #20 Posted by **Rainer Wiedemann (Germany)** on 18 Feb 2009, 4:34 p.m.,*
in response to message #17 by Allen

Allen, I wish I'd conform to your age-predictive calculator model, but I was born in 1962. So I guess your predictor algorithm is running on a TI :-).

Re: Any love for the 28's?

*Message #21 Posted by **Steve Simpkin** on 18 Feb 2009, 6:13 p.m.,*
in response to message #17 by Allen

> Quote:
>
> I did not fully appreciate the RPL legacy of the 28 series until I read Chapter 1.1 of William Wickes' Book: "HP 48 insights". After learning the 3rd generation calculators started with the 28S series,

I was planning on quoting the same information. The HP-28C was the first calculator that could use equations as arguments (Wickes said this much more elegantly that I did). This (and other features) help justify its place in history as the first 3rd generation calculator.

Slightly OT: 28's RPL -> 50G RPL

*Message #22 Posted by **Peter A. Gebhardt** on 20 Feb 2009, 10:15 a.m.,*
in response to message #1 by Steve Keeley

Could somebody shed some light on the fact and reasons, that the representation of calculating a numerical integral (and possibly other function implementations & stack diagrams too) have changed in the course of development of the newer calculators:

```
As an example (28 Pocket Book)
------------------------------


3: 'X^3+4*X+8'
2: {X 1 3}
1: .00001


2: 52
1: 5.1992166102E-4
```

If entered on my HP50G - "Integral: Too Few Arguments"

Because that might have been discussed "ad nauseam" in the past, pls. point me to the relevant postings then.

Best regards,

Peter A. Gebhardt

Re: Slightly OT: 28's RPL -> 50G RPL

*Message #23 Posted by **Michael de Estrada** on 20 Feb 2009, 12:17 p.m.,*
in response to message #22 by Peter A. Gebhardt

Peter,

I do not own a HP-50g, however, I do own a HP-48SX, which I believe works the same way, and in order to perform integration you need 4 stack entries as follows:

Level 4 - Lower Limit (1)

Level 3 - Upper Limit (3)

Level 2 - Integrand ('X^3+4*X+8')

Level 1 - Variable of integration ('X')

The accuracy is specified by the display mode, i.e. in your case it would be FIX 5. To do numerical integration, as opposed to symbolic integration, you must set Numerical Results Mode (set flag -3). Also, on the HP-48SX it is much easier to do this using the EquationWriter application and I assume the HP-50g has something similar.

Hope this helps.

Michael

Edited: 20 Feb 2009, 3:55 p.m. after one or more responses were posted

Re: Slightly OT: 28's RPL -> 50G RPL

*Message #24 Posted by **Peter A. Gebhardt** on 20 Feb 2009, 1:34 p.m.,*
in response to message #23 by Michael de Estrada

Michael,

Thx. for your response.

Exactly the "reversed" usage of the stack in the newer models raised my question, why the change took place (in your case with the 48SX).

Best regards,

Peter A. Gebhardt

HP-28 INTEG -> HP-48/49/50 INTEG

*Message #25 Posted by **Karl Schneider** on 21 Feb 2009, 3:19 p.m.,*
in response to message #22 by Peter A. Gebhardt

Peter A. Gebhardt stated,

> Quote:
>
> ```
> As an example (28 Pocket Book)
> ------------------------------
> 3: 'X^3+4*X+8'
> 2: {X 1 3}
> ```

```
1: .00001


2: 52
1: 5.1992166102E-4
```

If entered on my HP50G - "Integral: Too Few Arguments"

Because that might have been discussed "ad nauseam" in the past, pls. point me to the relevant postings then.

Michael de Estrada responded:

Quote:

I do not own a HP-50g, however, I do own a HP-48SX, which I believe works the same way, and in order to perform integration you need 4 stack entries as follows:

Level 4 - Lower Limit (1)

Level 3 - Upper Limit (3)

Level 2 - Integrand ('X^3+4*X+8')

Level 1 - Variable of integration ('X')

The accuracy is specified by the display mode, i.e. in your case it would be FIX 5.

Yes indeed, the stack arguments for integration in the HP-28 differ from those in the HP-48/49/50.

I recall mentioning that in a thread from 2004 you might find interesting:

Quote:

"Arnaud's (HP-48) *program can't even be run on a 28C because its integration accepts arguments in a different format (dummy variable and limits enclosed in a list), which I don't know how to automate. It also didn't accept value-loaded variable names for the limits."*

It should be noted that the integrand-function uncertainty provided in stack level 1 in the HP-28 does not specify the same thing as the ACC parameter in the HP-42S and HP-71B Math ROM.

An excerpt from my post of 28 Nov 2005:

Quote:

28C, 28S:

(These models) specify uncertainty in a particular decimal digit as a numerical parameter to the INTEG function.

42S, 71B Math ROM:

(These models) specify a relative uncertainty as a per-unit fraction of the function-value magnitude, as a numerical parameter to the INTEG function.

Also, from a thread in 2006:

FIX for integrand-function uncertainty in the HP-48/49/50 works as in the HP-33s/35s, not as in the HP-15C, HP-34C, HP-32S/32SII, and HP-41 Advantage.

-- KS

Edited: 21 Feb 2009, 11:31 p.m.

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Yikes! $630 for a HP-42S

*Message #1 Posted by **Michael de Estrada** on 15 Feb 2009, 8:18 p.m.*

The world is falling into a deep economic recession, people are losing their jobs and homes, retail businesses are going bankrupt. But, never mind, someone just paid $630 for a new complete HP-42S in an ebay auction. According to this museum, finding an HP-42S is "fairly easy" and the highest reported price was $400, well at least until now. I've heard that the safest investment in these uncertain times is gold bullion, but now I'm thinking that my HP calculator collection may actually be even better.

Re: Yikes! $630 for a HP-42S

*Message #2 Posted by **Jandro Kirkish** on 15 Feb 2009, 9:22 p.m.,*
in response to message #1 by Michael de Estrada

Yeah I saw that too--that calc was in pretty cherry condition, with manuals and box and so on, but still! I could not believe that! It is a nice calculator, I especially like the complex number support, but I think I'll stick to my $4.99 iPhone 42s emulator! Likewise the 11c and 41cx emulators-complete with printer sound effects. My thanks to these dedicated emu developers. I simply cannot afford a real collection. Alas I'll have to stick to my 35s. And my 33s and my 49g and my 49g+ and my 50g and my favorite, my 28s -- a calc that I have really grown into ...

Re: Yikes! $630 for a HP-42S

*Message #3 Posted by **Martin Pinckney** on 15 Feb 2009, 11:21 p.m.,*
in response to message #2 by Jandro Kirkish

> Quote:
>
> ... my favorite, my 28s -- a calc that I have really grown into ...

I have become interested in this model as well, although I do not have one. I am curious what you find most appealing about it.

Re: Yikes! $630 for a HP-42S

*Message #4 Posted by **Jandro Kirkish** on 16 Feb 2009, 2:25 p.m.,*
in response to message #3 by Martin Pinckney

Please see my post on a separate thread for some of my thoughts (and possibly a little TMI as well.) It is quite a capable little machine--I am still finding new things it can do even after 20 years--but it boils down to ease-of-use compared to the other RPL's.

Re: Yikes! $630 for a HP-42S

*Message #5 Posted by **Reth** on 15 Feb 2009, 11:05 p.m.,*
in response to message #1 by Michael de Estrada

$630 is collector's item price; as a calculator the real thing has shortcomings that I couldn't live with and iPhone's emulator when ready will beat it hands down (it does even now - display visible, plenty of memory, looks pretty quick too, can someone compare?).
Cheers,
Reth

La crise financière oblige (NT)

*Message #6 Posted by **Mike (Stgt)** on 16 Feb 2009, 4:56 a.m.,*
in response to message #1 by Michael de Estrada

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HP-41 Software Package 'ZEWIDAT' by TU Sigmaringen

*Message #1 Posted by **Juergen Keller** on 15 Feb 2009, 3:24 p.m.*

Does anybody know this software package? And do you know if the programs are FOCAL or Microcode? The only thing I know is that it came as a module and was used for taskwork time tracking (not sure if taskwork is the proper translation of the German Akkordarbeit). Any hints are welcome :-) Thanks, Juergen

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LCD darkening

*Message #1 Posted by **Peter Klein** on 15 Feb 2009, 3:20 p.m.*

In scanning ads for HP calculators, I have noticed a couple of photos that show significant darkening of the pixels. It looks like every pixel and annunciator in the display is half-darkened even when they are not active. I'm wondering if this is real burn-in, or just an artifact of the camera flash going twice through layers of the LCD as it reflects back at some angles.

Here's an example: http://www.auctiva.com/hostedimages/showimage.aspx?gid=103745&image=229927191&images=229927173,229927191,229927213&formats=0,0,0&format=0

Edited: 15 Feb 2009, 3:23 p.m.

Re: LCD darkening

*Message #2 Posted by **Garth Wilson** on 15 Feb 2009, 3:24 p.m.,*
in response to message #1 by Peter Klein

The camera angle was just not what the LCD's viewing angle was set for. If you adjust one or the other so they match, the "off" pixels will be pretty much invisible.

Re: LCD darkening

*Message #3 Posted by **Juergen Keller** on 15 Feb 2009, 3:32 p.m.,*
in response to message #1 by Peter Klein

The contrast can be adjusted by pressing and holding the "C" key, then press "+" for darker and "-" for lighter display.
Never heard that LCD displays can burn-in (but unfortunately, they can leak). The effect on the picture you referenced is just a matter of viewing angle (and perhaps a high contrast setting).
Juergen

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Belated Valentine's Day Fun

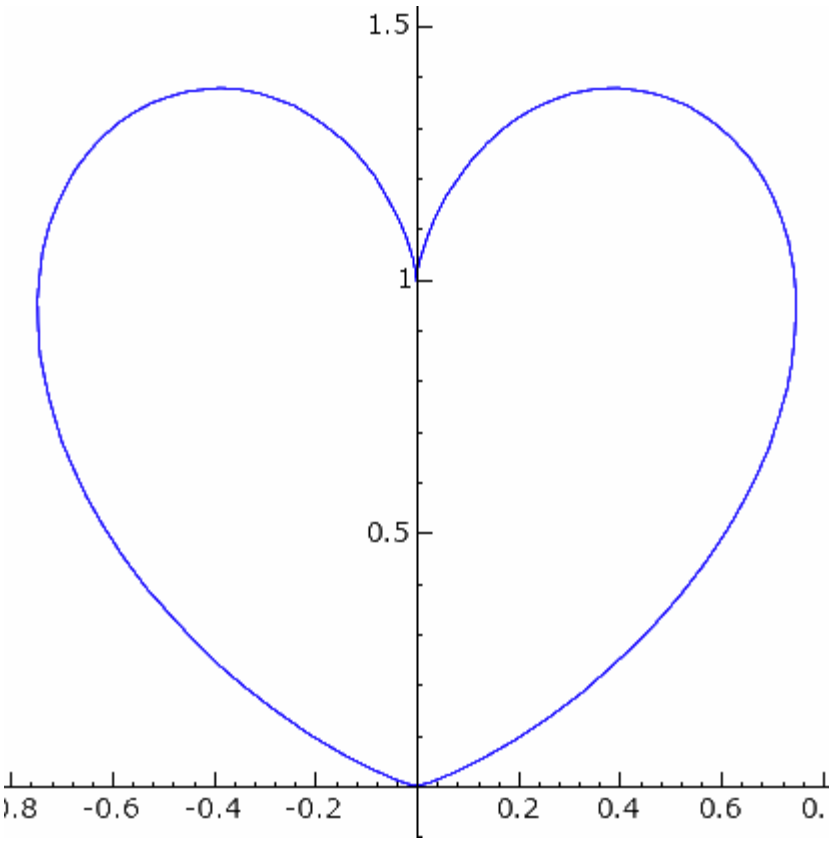
*Message #1 Posted by **Egan Ford** on 15 Feb 2009, 12:36 p.m.*

I do not recall where I found this, and I was too busy to post before Valentine's Day:

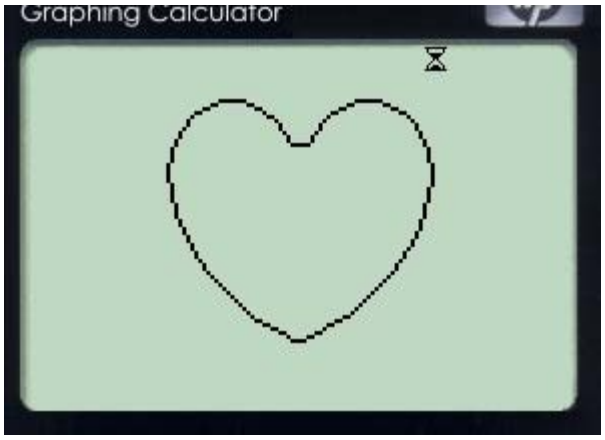
$r=|\tan(t)|^{1/|\tan(t)|}$

Sage output:

```
r=polar_plot(lambda t:abs(tan(t))^(1/abs(tan(t))),0,pi)
r.show(ymin=0,ymax=1.5,xmin=-0.75,xmax=0.75,figsize=[5,5])
```



50g output:



Edited: 15 Feb 2009, 4:01 p.m. after one or more responses were posted

Re: Belated V-day Fun

*Message #2 Posted by **Mike (Stgt)** on 15 Feb 2009, 2:30 p.m.,*
in response to message #1 by Egan Ford

V-day? It seems there are different meanings of V-day. Ciao.....Mike

Re: Belated Valentine's Day Fun

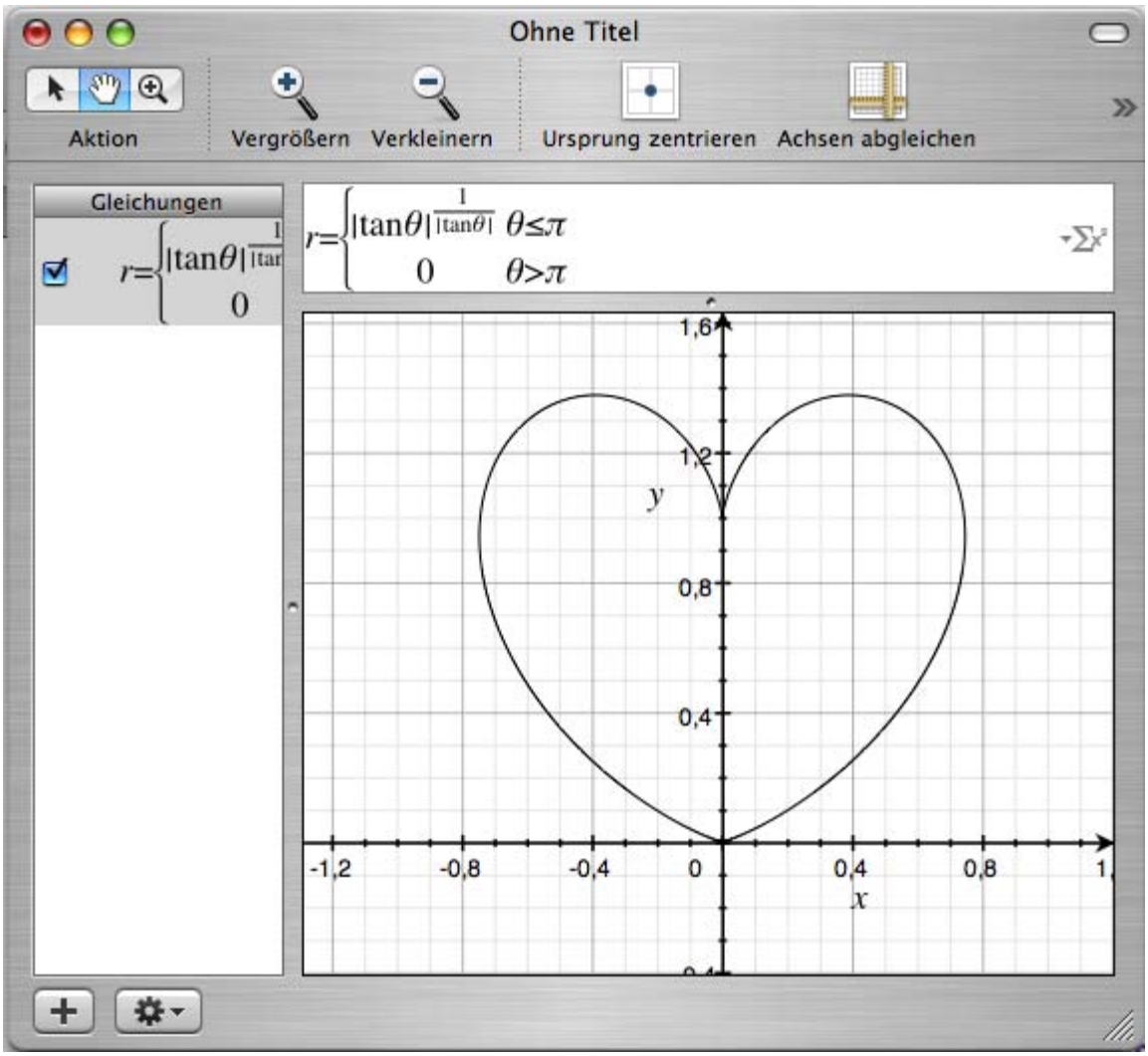
*Message #3 Posted by **Egan Ford** on 15 Feb 2009, 4:02 p.m.,*
in response to message #2 by Mike (Stgt)

Valentine's Day. Ambiguity removed (above).

Edited: 15 Feb 2009, 4:30 p.m.

Re: Belated V-day Fun

*Message #4 Posted by **Marcus von Cube, Germany** on 15 Feb 2009, 3:35 p.m.,*
in response to message #1 by Egan Ford



On my Mac... This is the built in Grapher app. I din't find an option to restrict the range for theta, therefore the two part formula.

Re: Belated V-day Fun

*Message #5 Posted by **Gerson W. Barbosa** on 18 Feb 2009, 11:32 a.m.,*
in response to message #4 by Marcus von Cube, Germany

> Quote:
>
> On my Mac...

On Apple II it would look like this:

AppleWin: free

Writing your own equation plotter program: priceless!

Not a competitor to Graphmatica though :-)

Regards,

Gerson.

```
-----------
10  REM  ** GRAFICOS BIDIMENSIONAIS **
20  REM  ** GERSON WASHISKI BARBOSA **
30  REM  **** CURITIBA,  28/12/86 ****
40  FOR I = 32768 TO 32845: READ P: POKE I,P: NEXT
50  TEXT : HOME : VTAB 8: PRINT "- PARA FUNCOES EM COORDENADAS CARTE-": PRINT "  SIANAS, DIGITE Y=F(X)
NA LINHA 260.": HTAB 1: VTAB 12: PRINT "- PARA FUNCOES EM COORDENADAS POLA-": PRINT "  RES, DIGITE
R=F(T) NA LINHA 350."
60  HTAB 7: VTAB 16: PRINT "EM SEGUIDA, DIGITE <RUN70>": HTAB 12: VTAB 17: PRINT "E TECLE <RETURN>.":
GOTO 740
70  HOME : HGR : HCOLOR= 3: GOSUB 6000
80  HPLOT 0,0 TO 278,0 TO 278,159 TO 0,159 TO 0,0
90  HOME : VTAB 23: INPUT "MX, DX, MY, DY: ";MX,DX,MY,DY
100  IF DX >  = 21 THEN NR = MX / 21: GOSUB 6500:DX = NR
120  GOSUB 3500
130 M = 765:N = MX: GOSUB 1000:N = DX: GOSUB 1000:N = MY: GOSUB 1000:N = DY: GOSUB 1000
140  IF F1 THEN 160
150 FY = 159 / MY
160 H = 0:V = 0: GOSUB 4000
170  VTAB 23: INPUT "CX, CY: ";H,V
180  IF V < 0 OR V > MY OR H < 0 OR H > MX THEN 170
190  GOSUB 4500: GOSUB 4000
200 N = H: GOSUB 1000:N = V: GOSUB 1000
210  IF LT$ = "P" OR LT$ = "p" THEN 310
220  HTAB 1: VTAB 23: PRINT  SPC( 40);: VTAB 23: INPUT "X1, X2: ";X1,X2
230  IF X1 <  - H OR X2 > MX - H THEN 220
250  FOR X = X1 TO X2 STEP 1 / FX
260 Y =  SIN (X)
270  IF FY * (V - Y) < 0 OR FY * (V - Y) > 170 THEN 290
280  HPLOT FX * (H + X),FY * (V - Y)
290  NEXT
300  GOTO 400
310 K =  ATN (1) / 45
320  HOME : VTAB 23: INPUT "A1, A2: ";A1,A2
330 A1 = K * A1:A2 = K * A2
340  FOR T = A1 TO A2 STEP .02
350 R =  ABS ( TAN (T)) ^ (1 /  ABS ( TAN (T)))
360 X = R *  COS (T):Y = R *  SIN (T)
370  IF FY * (V - Y) < 0 OR FY * (V - Y) > 159 OR FX * (H + X) > 278 THEN 390
380  HPLOT FX * (H + X),FY * (V - Y)
390  NEXT
400  POKE 32846,0
405  HOME : VTAB 22: PRINT "DH: ";DX; TAB( 18)"DV: ";DY
410  VTAB 23: PRINT "OUTRO GRAFICO? / QUADRICULAR? <S,N,Q> ";
420  GET OP$
430  IF OP$ = "N" OR OP$ = "n" THEN  TEXT : GOTO 740
440  IF (OP$ = "S" OR OP$ = "s") AND  PEEK (32846) = 255 THEN  CALL 32785: GOTO 490
450  IF (OP$ = "S" OR OP$ = "s") AND  PEEK (32846) = 0 THEN 490
460  IF (OP$ = "Q" OR OP$ = "q") AND  PEEK (32846) = 0 THEN  CALL 32768: GOSUB 5000: GOTO 480
470  IF (OP$ = "Q" OR OP$ = "q") AND  PEEK (32846) = 255 THEN  CALL 32785: FOR T = 1 TO 250: NEXT
480  GOTO 420
490  GOSUB 6000: HOME : VTAB 23
500  IF LT$ = "C" THEN  POKE 32847,0: GOTO 520
510  POKE 32847,1
520  PRINT "OUTRA FUNCAO? <S,N> ";
530  GET L$
540  IF L$ = "N" OR L$ = "n" THEN F2 = 1: GOTO 605
550  IF L$ <  > "S" AND L$ <  > "s" THEN 530
560 M$ = ")   <RUN600> <RETURN>"
570  HOME : VTAB 23
580  IF LT$ = "P" OR LT$ = "p" THEN  PRINT "350 R=F(T";M$: GOTO 740
590  PRINT " 260 Y=F(X";M$: GOTO 740
600  HTAB 1: VTAB 23: PRINT  SPC( 40)
605  IF  PEEK (32847) = 0 THEN LT$ = "C": GOTO 620
610 LT$ = "P"
620  HOME : VTAB 23: PRINT "MESMO QUADRO? <S,N> ";
630  GET L$
640  IF L$ = "N" OR L$ = "n" THEN  HGR : GOTO 80
650  IF L$ <  > "S" AND L$ <  > "       s" THEN 630
660  HOME : VTAB 23: PRINT "MESMAS COORDENADAS? <S,N> ";
670  GET L$
680  IF L$ = "N" OR L$ = "n" THEN 90
690  IF L$ <  > "S" AND L$ <  > "s" THEN 670
700  IF F2 THEN 210
710  HOME :M = 762: GOSUB 2500:MX = N: GOSUB 2500:DX = N: GOSUB 2500:MY = N: GOSUB 2500:DY = N: GOSUB
2500:H = N: GOSUB 2500:V = N: GOSUB 3500
720  IF F1 THEN 210
730 FY = 159 / MY: GOTO 210
740  END
1000 NI =  INT (N): GOSUB 1500
1010 NI = (N -  INT (N)) * 1E7: GOSUB 1500
1020  RETURN
1500 M = M + 3
1510  FOR I = 0 TO 2
1520 NI = NI / 256 ^ (2 - I): POKE M + I,NI:NI = (NI -  INT (NI)) * 256 ^ (2 - I)
1530  NEXT
1540  RETURN
2500 N = 0:M = M + 9: GOSUB 3000
2510 N = N / 1E7:M = M - 3: GOSUB 3000
2520  RETURN
3000  FOR I = 0 TO 2
3010 N = N +  PEEK (M + I) * 256 ^ (2 - I)
```

```
3020  NEXT
3040  RETURN
3500 F1 = 0:FX = 278 / MX
3510  IF MY = 0 THEN F1 = 1:MY = 159 / FX:FY = FX
3520  IF MY / DY > 13 THEN NR = MY / 13: GOSUB 6500:DY = NR
3530  HOME : VTAB 22: PRINT "DH: ";DX; TAB( 18)"DV: ";DY
3540  RETURN
4000  HPLOT FX * H,0 TO FX * H,159: HPLOT 0,FY * V TO 278,FY * V: GOSUB 5500
4010  RETURN
4500  HCOLOR= 0
4510  FOR I = DY TO MY STEP DY
4520  IF  INT (FY * I) = 0 OR  INT (FY * I) = 159 THEN 4540
4530  HPLOT 1,FY * I TO 3,FY * I
4540  NEXT
4550  FOR I = TX TO MX STEP DX
4560  IF  INT (FX * I) = 0 OR  INT (FX * I) = 278 THEN 4580
4570  HPLOT FX * I,1 TO FX * I,2
4580  NEXT
4590  HCOLOR= 3
4600  RETURN
5000  FOR I = DY TO MY STEP DY
5010  IF  INT (FY * I) = 0 OR  INT (FY * I) = 159 THEN 5030
5020  HPLOT 0,FY * I TO 278,FY * I
5030  NEXT
5040  FOR I = DX TO MX STEP DX
5050  IF  INT (FX * I) = 0 OR  INT (FX * I) = 278 THEN 5070
5060  HPLOT FX * I,0 TO FX * I,159
5070  NEXT
5090  RETURN
5500 D = 2
5510  IF H = 0 THEN D = 0
5520  FOR I = 0 TO MY STEP DY
5530  HPLOT FX * H - D,FY * I TO FX * H + 2,FY * I
5540  NEXT
5550 D = 2
5560  IF V = 0 THEN D = 0
5570  FOR I = 0 TO MX STEP DX
5580  HPLOT FX * I,FY * V - D TO FX * I,FY * V + 2
5590  NEXT
5600  RETURN
6000  HOME : VTAB 23: PRINT "COORDS. CARTESIANAS OU POLARES? <C,P> ";
6010  GET LT$
6020  IF LT$ <  > "C" AND LT$ <  > "c" AND LT$ <  > "P" AND LT$ <  > "p" THEN 6010
6030  RETURN
6500 F3 = 0
6510  IF  INT (NR) = 0 THEN F3 = 1:NR = NR * 1E7
6520 X =  INT ( LOG (NR) /  LOG (10))
6530 NR = NR / 10 ^ X
6540  IF NR -  INT (NR) >  = .5 THEN NR = NR + 1
6550 NR =  INT (NR) * 10 ^ X
6560  IF F3 THEN NR = NR / 1E7
6570  RETURN
7000  DATA  169,32,133,2,169,64,133,4,169,96,141,74,128
7010  DATA  32,34,128,96,169,64,133,2,169,32,133,4,169
7020  DATA  64,141,74,128,32,34,128,96,56,169,255,237,78
7030  DATA  128,141,78,128,169,0,133,1,133,3,160,0,177
7040  DATA  1,145,3,200,192,0,208,247,24,165,2,105,1,133
7050  DATA  2,165,4,105,1,133,4,201,96,208,228,96
```

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HP 35s Bubble Sort

*Message #1 Posted by **Elliott W Jackson** on 14 Feb 2009, 12:12 a.m.*

The Wiki site claims the Gnome Sort to be the simplest, but it turns out that converting the Bubble Sort to HP GTO-ese is actually simpler, and has faster run times too.

Pseudo code:

```
procedure bubbleSort( A : list of sortable items ) defined as:
  n := length( A )
  do
    swapped := false
    n := n - 1
    for each i in 0 to n - 1  inclusive do:
      if A[ i ] > A[ i + 1 ] then
        swap( A[ i ], A[ i + 1 ] )
        swapped := true
      end if
    end for
  while swapped
end procedure
```

Program listing:

```
S001    LBL S
S002    STO Z           bbb.eee
S003    CF 0            start of do-while
S004    0.001
S005    STO- Z          bbb.(eee - 1)
S006    RCL Z
S007    STO I           for (I = bbb; I <= eee - 1; i++)
S008    RCL I
S009    1
S010    +
S011    STO J
S012    RCL(J)          A[i+1]
S013    RCL(I)          A[i]
S014    x<=y?
S015    GTO S020
S016    STO(J)          A[i+1] = A[i]
S017    RDN
S018    STO(I)          A[i] = A[i+1]
S019    SF 0            swapped = true
S020    ISG I
S021    GTO S008
S022    FS? 0           swapped = true?
S023    GTO S003
S024    RTN


LN=78   CK=B7E4
```

And finally, some timings:

```
21 registers, 10.030:  23 seconds
21 registers, 10.030:  24 seconds
101 registers, 10.110:  ~10 minutes
```

So, even the much-detested Bubble Sort is superior to the cutesy Gnome Sort I started this project with.

Re: HP 35s Bubble Sort

*Message #2 Posted by **Marcus von Cube, Germany** on 14 Feb 2009, 4:36 a.m.,*
in response to message #1 by Elliott W Jackson

Bubble sort isn't bad, if the items are "in almost sort order" at the beginning of the algorithm. If all items are already sorted, a single pass is all to find that out. Bubble sort is stable, too, that is, it leaves the original sorting of items considered "equal" by the comparison algorithm intact.

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HP 35s Gnome Sort

*Message #1 Posted by **Elliott W Jackson** on 13 Feb 2009, 10:52 p.m.*

Well, I decided to try my hand at something a bit more ambitious than my last little project (linear interpolation, released here to stunning, and yet oddly silent fanfair. I'm sure everyone was just over-awed and unable to comment. Yeah, that's the ticket).

I thought maybe a simple sort routine would be a good project. I did a search, and found a nice page on Wiki with all sorts of algorimthms, with a nice summary of speed, complexity, storage requirements, etc.

I selected the Gnome Sort, since it seemed to be the smallest, simplest. Pseudo-code follows:

```
void gnomesort(int n, int ar[])
{
    int i = 0;


    while (i < n)
    {
        if (i == 0 || ar[i-1] <= ar[i])
            i++;
        else
        {
            int tmp = ar[i];
            ar[i] = ar[i-1];
            ar[--i] = tmp;
        }
    }
}
```

Couldn't be much simpler, right?

Well, as I set about transforming this simple, benign bit of C code into HP-calc-ese, with all it's GTO and lack of labelling capability glory, I quickly re-learned the lesson of why I haven't used a "goto" command in over two decades. Goto sucks.

I REALLY struggled to transform the if-then-else logic into goto-ese. It was made more complex because the operand of the if() statement is a compound statement with OR logic. I'm quite confident someone could turn that into something better than I came up with, I ended up kludging it together with several GTO statements and Flag 0.

For better or worse, here is the program. It is called assuming

bbb.eee

is in the X-stack, and will then gnome-Sort the contents of memory registers 'bbb' to 'eee', in ascending order. Note that it will not sort complex or vector contents.

Memory registers used: I, J, Y, Z Flags used: 0

```
S001    LBL S
S002    INTG
S003    STO I
```

```
S004    STO Y           first register to be sorted
S005    LASTX
S006    FP
S007    1000
S008    *
S009    STO Z           last register to be sorted
S010    CF 0            start of while (I < n) loop
S011    RCL Y           first register
S012    RCL I           current register
S013    x == y?         if(i==0)
S014    SF 0
S015    1
S016    -
S017    STO J
S018    RCL (I)         ar[i]
S019    RCL (J)         ar[i-1]
S020    x <= y?         if(ar[i-1] <= ar[i])
S021    SF 0
S022    FS? 0           if ( (i==0) || (ar[i-1] <= ar[i]) )
S023    GTO S030
S024    STO (I)         ar[i] = ar[i-1]
S025    RDN
S026    STO (J)         ar[i-1] = ar[i]
S027    1
S028    STO- I          i--;
S029    GTO S032
S030    1
S031    STO+ I          i++;
S032    RCL Z
S033    RCL I
S034    X <= Y?         while(i<n)
S035    GTO S010
S036    CF 0
S037    RTN


LN=118  CK=B393
```

A useful little program to load a bbb.eee range of memory registers with random numbers is as shown:

```
A001 LBL A
A002 STO I
A003 RANDOM
A004 STO(I)
A005 ISG I
A006 GTO A003
A007 RTN
```

Some timings:

```
21 registers, 10.030:  33 seconds
21 registers, 10.030:  37 seconds
101 registers, 10.110:  ~15 minutes
```

Clearly the advantage of this program is simplicity at the cost of run time, but given we are talking about a calculator without the ability to move software on/off electronically, simplicity becomes pretty important.

I may try a bubble sort, and if I get crazy, a heap sort.

Edited: 14 Feb 2009, 12:06 a.m.

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Can the HP 38G do Binary, Hexadecimal, or Octal base

*Message #1 Posted by **kmaciej** on 13 Feb 2009, 5:37 p.m.*

Hello,

I was wondering if the HP 38G graphing calculator will do binary, hexadecimal, or Octal base conversions??

You may email me at kevinmaciej@usfamily.net

Thanks,

Kevin

Re: Can the HP 38G do Binary, Hexadecimal, or Octal base

*Message #2 Posted by **Marcus von Cube, Germany** on 13 Feb 2009, 6:31 p.m.,*
in response to message #1 by kmaciej

I couldn't find anything in the manual. So at least it's not officially supported. I haven't checked whether the 39G or 40G can do binary, octal or hex, but I doubt it.

Re: Can the HP 38G do Binary, Hexadecimal, or Octal base

*Message #3 Posted by **BruceH** on 17 Feb 2009, 7:28 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Nope, none of them have it built-in. There is a library lurking around Colin Croft's site somewhere for the 38 and (possibly) the later models that does it but it is a bit clunky.

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HP-32s Engineering Applications Manual

*Message #1 Posted by **Hansel** on 13 Feb 2009, 2:03 p.m.*

Hi,

Does anyone know where I can get either the book or a downloadable copy of the book entitled "Engineering Applications" which was written for the HP-32s? ISBN 00032-90057 (or58?)

Thanks, Hansel

Re: HP-32s Engineering Applications Manual

*Message #2 Posted by **Jeff Kearns** on 13 Feb 2009, 3:04 p.m.,*
in response to message #1 by Hansel

Hansel - I have a copy of "Engineering Applications Step-by-Step Solutions for Your HP-32S Calculator", edition 1, dated June 1998 that I bought from HP in 1994 when I purchased my HP-32sii. The reorder number 00032-90057 is not an ISBN AFAIK.

I do not see this manual on the DVD nor have I seen it for sale elsewhere. If all else fails, maybe I can scan my copy for you (and for the museum at the same time). There are 108 pages plus front and back cover. It would go a bit faster if I did it at the office photocopier but it looks like it would take me a bit of time nonetheless. Let me know how you make out. Jeff Kearns

Re: HP-32s Engineering Applications Manual- Already planned for DVD V.7

*Message #3 Posted by **Allen** on 13 Feb 2009, 4:47 p.m.,*
in response to message #2 by Jeff Kearns

FYI, before you get too far. There is already a color copy included for the DVD Version 7 (not yet released).

Re: HP-32s Engineering Applications Manual

*Message #4 Posted by **Hansel** on 13 Feb 2009, 5:49 p.m.,*
in response to message #2 by Jeff Kearns

Thanks for your input. I guess from the email following your email, it looks like they will put this book on the next DVD. Do you have any other items of interested related to the 32s? It doesn't seem that the 32s is as popular as others. I have a 32s, a 41CV, and a 48GX, but I like the 32s the best because it is very handy for quick calculations and its small size. Since I am not in school anymore (BS and MS in Engineering) I don't have the need for the power found in the 41CV or the 48GX. I am keeping all of the HPs for my kids when they get into college and get away from the brainwashing of the school system with the TIs. One of my gripes about the 48GX is that it doesn't float the comma, like a 32s, 41CV and other HPs, unless someone has a download to fix this issue.

Re: HP-32s Engineering Applications Manual

*Message #5 Posted by **Don Shepherd** on 13 Feb 2009, 7:58 p.m.,*
in response to message #4 by Hansel

> Quote:
>
> get away from the brainwashing of the school system with the TIs

This reflects the perception of many members of this forum that our students would somehow be much better off if the schools were using HP RPN calculators rather than calculators from TI. As an educator, I would guess that maybe one-half of one percent "might" be better off. They would be the really bright kids who might embrace RPN as something different and they might gain some useful mathemtatical insights from using HP RPN calculators in school and at home. But for most kids, RPN would just be something else they would not understand at all in math class, and believe me there is plenty they don't understand today, and RPN would not fix that.

I agree that math instruction (actually all instruction) in the US is woefully inadequate, and I--like most teachers I know--try every day to make a positive difference in my students' lives. But RPN is not the answer. And TI calculators are actually pretty good.

Re: HP-32s Engineering Applications Manual

*Message #6 Posted by **Hansel** on 13 Feb 2009, 8:20 p.m.,*
in response to message #5 by Don Shepherd

Maybe I miss directed my disloyalty to TIs. Let me tell you my story of fate. When I was a junior in high school, in 1981, I had received a TI-59. It was a wonderful calculator, it even had a magnetic card reader for programs. Then one day during school, someone absconded with it. I never did recover the TI. Then a coworker of my dad showed me his HP-41. And I have been hooked on it ever since. RPN is not for the faint of heart. I would only recommend it to high school students with a high apptitude for math. Is is a godsend when you have many numbers in an equation to solve such as ((2x45)+(34+8))/(sqrt(65*898)*(45+999)). Try doing this once and only once with a TI and see if you don't mess up the stinking parenthesis! I race my fellow TI owners at work to do a similar problem and they just stair in awe when I am done and they are still trying to remember which parenthesis goes with which! For now, my kids will use the TIs that the school "recommends" for them to use. It is dispecable that they use any calculator at such an early age. And don't even get me start with the state of how mathematics is taught!

Re: HP-32s Engineering Applications Manual

*Message #7 Posted by **Don Shepherd** on 13 Feb 2009, 9:24 p.m.,*
in response to message #6 by Hansel

Hansel, I agree that some bright high school kids might find RPN worthwhile, and I would encourage that. Gosh knows they would appreciate a challenge!

I worked in the information technology field for 28 years, then decided to become a math teacher, thinking I would make a positive difference in my students' lives. When I got into the public school middle school classroom, however, reality hit me. While there are some bright spots, public school education is boring for the kids, stressful for the teachers, and a disappointment for almost everyone associated with it. It is a wonder that kids learn anything at all. And don't even get ME started on principals; I'm sure there are good ones out there, but unfortunately I worked under one who cared more about advancing her own career than the kids (or, by the way, my career). I am reminded of the Simon and Garfunkel lyric: "when I think

back to all the crap I learned in high school, it's a wonder I can think at all".

Unfortunately, there are no easy answers for making education better. I have just resigned myself to doing what I can do with my own little group of students (I currently volunteer teach in a very small private school with 11 students). The state curriculum guidelines in my state say that we have to teach middle school kids about box and whiskers plots, although I know from experience that they will never see these idiotic things in their life once they leave middle school. I wrote the education department in the state capital and some bureaucrat just said they think there is "some" value in them. Good grief.

OT: Paul Simon, Kodachrome, film photography, and "crap"

*Message #8 Posted by **Karl Schneider** on 14 Feb 2009, 2:50 a.m.,*
in response to message #7 by Don Shepherd

Hi, Don --

> Quote:
>
> Simon and Garfunkel lyric: "when I think back to all the crap I learned in high school, it's a wonder I can think at all".

Ah, but it was only a *Simon* lyric in the song "Kodachrome", which was part of his second solo album following the duo's breakup. At least one radio station bleeped out "crap" many years ago; today, anything goes... ;-)

Production of Kodachrome film by Eastman Kodak has all but ceased, largely a victim of digital photography. Apparently, only Kodachrome 64 (ISO 64 slide film) is still available.

Several years ago, I bought a handsome 1978 Olympus OM-2S 35-mm SLR camera from the same local used-electronics shop where I bought a few of my HP calc's -- mainly to own an example of fine vintage engineering. It even uses the same button cells as the Voyagers and Pioneers!

I soon took a few photos and had the prints developed. Film-developing services are getting scarcer, and I suspect that within a few short years, purchase, developing, and printing of film will be available only at specialized sites by mail or parcel service.

Digital photography is much more flexible, convenient, and less risky in so many ways, but I wonder how many people will fail to get their valuable and irreplaceable photos printed before losing the small SD card or thumb drive that carries them. Or copying them to a PC hard disk that later crashes. Or subsequently being unable to read an obsolete digital format or storage medium. Or...

And finally, back to Don's quote including "crap": This superb 2005 short comedy video from JibJab sprinkles the word liberally as a term for low-quality unessential goods. You-know-who is skewered for its role in the decay of the American economy. The critique is spot-on.

-- KS

Edited: 15 Feb 2009, 5:44 a.m. after one or more responses were posted

Re: OT: Paul Simon; Kodachrome; film photography

*Message #9 Posted by **George Bailey (Bedford Falls)** on 14 Feb 2009, 4:28 a.m.,*
in response to message #8 by Karl Schneider

As Paul Simon sings, I also got a Nikon camera. To tell the truth, I own several pro-sumer and high end analog as well as digital Nikons. And I use both systems. And both systems have their advantages and both systems can fail me: the digital files could become unreadable in the near future and the analog slides can burn or get lost. The latter of those two is one reason why I love digital: it's so much easier to copy and to store at different locations, hundreds of miles apart.

Re: OT: Paul Simon; Kodachrome; film photography

*Message #10 Posted by **Martin Pinckney** on 14 Feb 2009, 5:24 p.m.,*
in response to message #8 by Karl Schneider

> Quote:
>
> Production of Kodachrome film by Eastman Kodak has all but ceased, a victim of digital photography. Apparently, only Kodachrome 64 (ISO 64 slide film) is still available.

Alas...

I still have some in my freezer, but will the processing still be available when I shoot it?

I also have some 35mm Technical Pan in my freezer, but I can develop that myself.

Nikon itself has quit manufacturing nearly all film cameras...

Re: OT: Paul Simon, Kodachrome, film photography, and "crap"

*Message #11 Posted by **db (martinez, ca.)** on 15 Feb 2009, 1:53 p.m.,*
in response to message #8 by Karl Schneider

Karl; I too bought an OM2 in 78. What a great piece of equipment, light reliable and intuitive. The chosen camera for astronomers. With it's Vivitar rubber normal lens, mine's been down the Grand Canyon, to nearly 7000 meters in the Andes, and lots of points in between. I used to burn Kodachrome 25, and yes; it's gone. "They" say that today's 64 is equal to what 25 used to be in terms of grain. OK. The only bad thing is that last time i went to get some they wouldn't sell just two rolls. I had to buy a whole stick but it was worth it. Like they said on WKRP: "They're solid plastic, so don't settle for imitations". -db

Re: HP-32s Engineering Applications Manual

*Message #12 Posted by **Martin Pinckney** on 14 Feb 2009, 5:15 p.m.,*
in response to message #6 by Hansel

> Quote:
>
> Is is a godsend when you have many numbers in an equation to solve such as ((2x45)+(34+8))/(sqrt(65*898)*(45+999)). Try doing this once and only once with a TI and see if you don't mess up the stinking parenthesis!

Well, that may have been true during the early years, but now with textbook display (available on HP RPL machines as well), there are no problems with "messing up" parentheses. Even with some non-RPL models (e.g. 17b, 27s), you at least see all open parentheses.

Re: HP-32s Engineering Applications Manual

*Message #13 Posted by **Hansel** on 14 Feb 2009, 9:27 p.m.,*
in response to message #12 by Martin Pinckney

I remember my college roommates, who at the time were EE students, with their Casios with the full screen to show all of the parts of the equations including the paranthese. They were still punching in the numbers and paranthese while I had my answer and went on to solve the next problem.

Limitations of RPN (was: HP-32s Engineering Applications Manual)

*Message #14 Posted by **Thomas Klemm** on 16 Feb 2009, 12:51 p.m.,*
in response to message #6 by Hansel

The limitation of RPN is of course the restriction to 4 registers in the stack. This made me think about the simplest algebraic expression that can't be calculated with a typical HP-calculator:

```
((1 + 2)*(3 + 4) + (5 + 6)*(7 + 8))*((9 + 10)*(11 + 12) + (13 + 14)*(15 + 16))
= 236964
```

There might be different ways to do that in RPN but it will be something like:

```
1 2 + 3 4 + * 5 6 + 7 8 + * + 9 10 + 11 12 + * 13 14 + 15 16 + * + *
```

Whichever solution you might choose you will always run into a stack-overflow and what's worse you probably won't even notice. In the example above you will end up with: 556738.

Neither TI-57 nor TI-59 have problems with the expression above. Agreed, they have other limitations concerning the maximal number of open parenthesis.

Of course there are ways to circumvent the limitation using LASTx or other registers. But that's rather cumbersome.

Actually I never ran into this limitation myself but on the other hand this expression isn't that complicated neither. Compared to your example I'd even say it's not that far away.

Tools have their limitations. Best is to know them.

PS: Can anybody think of an even simpler expression that can't be calculated using RPN?

Re: Limitations of RPN (was: HP-32s Engineering Applications Manual)

*Message #15 Posted by **Michael de Estrada** on 16 Feb 2009, 1:36 p.m.,*
in response to message #14 by Thomas Klemm

You bring up a very important point regarding most HP RPN calculators, which have a fixed 4-level stack. However, several HP models do not have this limitation, notably the HP-28C, HP-28S, HP-48S and HP-48SX, which have a stack limited only by free memory. I don't own any of the more recent HP calculators, such as the HP-50g, so I don't know if they also have unlimited stacks. I use these calculators when performing long chained calculations with many levels of pending operations.

Edited: 16 Feb 2009, 3:08 p.m. after one or more responses were posted

Re: Limitations of RPN (was: HP-32s Engineering Applications Manual)

*Message #16 Posted by **bill platt** on 16 Feb 2009, 2:36 p.m.,*
in response to message #15 by Michael de Estrada

The 50G is based on the same 48G paradigm. Essentially any user program written for the 48 will run on the 50 but it needs to be recompiled from the high-level user RPL language.

Re: Limitations of RPN (was: HP-32s Engineering Applications Manual)

*Message #17 Posted by **bill platt** on 16 Feb 2009, 2:42 p.m.,*
in response to message #14 by Thomas Klemm

Yes, you can run out, if you aren't paying attention. RPN is not a "fire and forget" system. It was devised in the early 1970s and when it became clear that memory was cheap enough, and demand for more capability present, the 28 series was invented. That some of us choose to use the simple tool from the early 70s and know how to use it--paying attention to stack depth--really isn't that big a surprise. Many more people continue to use "4-bangers" with a ludicrous form of chain logic--which is also the product of memory-limitations and ease of machine programming from the 70s....

Of course you already know all of that :-)

Edited: 16 Feb 2009, 3:37 p.m.

Re: Limitations of RPN (was: HP-32s Engineering Applications Manual)

*Message #18 Posted by **Gene Wright** on 16 Feb 2009, 3:44 p.m.,*
in response to message #17 by bill platt

Yes, you can run out even if you ARE paying attention.

In circumstances like this, you'd have to store off an intermediate result to a register.

That said, it does not necessarily follow that a semi-infinite stack is the solution.

I remember articles from the PPC Journal proposing a 5-level stack. Would have been interesting.

Re: Limitations of RPN (was: HP-32s Engineering Applications Manual)

*Message #19 Posted by **Karl Schneider** on 16 Feb 2009, 5:23 p.m.,*
in response to message #14 by Thomas Klemm

> Quote:
>
> The limitation of RPN is of course the restriction to 4 registers in the stack.

Hi, Thomas --

Well, no, the 4-level fixed stack is not a chracteristic or RPN *per se*, but rather an effective compromise of what is useful, necessary, and practical. Three levels is inadequate (which, alas, did not stop National Semiconductor in the 1970's), but most people have difficulty keeping track of more than four values in the stack.

I've advocated a settable value for fixed RPN stack depth, with mimimum = default = 4; and maximum = 9 or 19, set respectively by a command on the HP-35s such as "STKD 9" or "STKD .9". (An HP-43s might require "STKD 09" to support indirection.)

> Quote:
>
> ```
> ((1 + 2)*(3 + 4) + (5 + 6)*(7 + 8))*((9 + 10)*(11 + 12) + (13 +
> 14)*(15 + 16)) = 236964
> ```
>
> Neither TI-57 nor TI-59 have problems with the expression above.

Sure, as long as all the required parentheses are properly placed in the expression, and meticulously entered during calculation.

> Quote:
>
> Of course there are ways to circumvent the limitation using LASTx or other registers. But that's rather cumbersome.
>
> ```
> 1 2 + 3 4 + * 5 6 + 7 8 + * + 9 10 + 11 12 + * 13 14 + 15 16 + *
> + *
> ```

If the blank spaces between numbers indicate use of the "SPACE/SPC" command, that's RPL, which handles this problem just fine.

> Quote:
>
> There might be different ways to do that in RPN but it will be something like

an expression that is not too cumbersome:

```
1 ENTER 2 + 3 ENTER 4 + * 5 ENTER 6 + 7 ENTER 8 + * +
STO 0
9 ENTER 10 + 11 ENTER 12 + * 13 ENTER 14 + 15 ENTER 16 + * +
RCL* 0 (or RCL 0 *)
```

> Quote:
>
> PS: Can anybody think of an even simpler expression that can't be calculated using RPN?

If the "gotcha" does not entail limited stack depth, I'm not sure what it would be. Entering inputs when usable and reversing with x< >y, instead of left-to-right, helps to avoid the problem.

-- KS

Edited: 16 Feb 2009, 5:26 p.m.

Re: Limitations of RPN (was: HP-32s Engineering Applications Manual)

*Message #20 Posted by **Walter B** on 16 Feb 2009, 6:03 p.m.,*
in response to message #19 by Karl Schneider

> Quote:
>
> I've advocated a settable value for fixed RPN stack depth, with mimimum = default = 4; and maximum = 9 or 19, set respectively by a command on the HP-35s such as "STKD 9" or "STKD .9". (An HP-43s might require "STKD 09" to support indirection.)

So did I in my draft of a 43S in 2007: fixed settable stack depth, 4 through 12 levels. Today I'd reduce it to the choice of 4, 6, and 8 levels. This shall be sufficient for all reasonable equations in real life ;) while 4 levels are a bit tight some times.

Re: Limitations of RPN (was: HP-32s Engineering Applications Manual)

*Message #21 Posted by **bill platt** on 16 Feb 2009, 6:15 p.m.,*
in response to message #20 by Walter B

I like the idea of RPL with RPN subset. Actually, 4 level, 8 level, and RPL would be everything. The value of a replicating "t" register would be available with 4 and 8 level stack; the infinite RPL will handle anything.

The interesting thing is that there are perfectly good ways to use RPL to take care of *everything* regular RPN guys like, but we find ourselves always reaching for our o9ld favorites. At least that's what I do.

It seems to me that a compact RPL machine, with a built-in RPN mode emulator would do everything. The likelihood of such a model is very remote as it would directly steal from the large graphing machines. Perhaps what really needs to be done is to start making the RPL graphing machines smaller. The cumbersome size is the only real downside. That's the only reason I really see to have a 32sii around any more...that and my familiarity and nostalgia...

I've used the 41cx emulator on the 48GXquite a lot. What I think wold be even better going forward would be a "native" sort of RPN emulator or shell for the 50G. Call it "quick-calc" or something...

Re: Limitations of RPN (was: HP-32s Engineering Applications Manual)

*Message #22 Posted by **Michael de Estrada** on 16 Feb 2009, 6:27 p.m.,*
in response to message #19 by Karl Schneider

Actually, not all National Semiconductor (aka Novus) calculators had a 3-level stack, such as the model 4510 Mathematician and 4615 programmable. The model 4640 featured a 4-level stack with x<>y exchange and stack roll down and was a virtual clone of the HP-45 in terms of features. It even attempted to mimic the appearance of the Hp's with a black pebble grain case with silver trim. Unfortunately, the simililarity ended there, as the keys were tiny with no feel and the internal NiCad batteries were not

replaceable.

Re: Limitations of RPN (was: HP-32s Engineering Applications Manual)

*Message #23 Posted by **Martin Pinckney** on 16 Feb 2009, 8:53 p.m.,*
in response to message #19 by Karl Schneider

> Quote:
>
> Quote:
>
> ((1 + 2)*(3 + 4) + (5 + 6)*(7 + 8))*((9 + 10)*(11 + 12) + (13 + 14)*(15 + 16)) = 236964
>
> Neither TI-57 nor TI-59 have problems with the expression above.
>
> Sure, as long as all the required parentheses are properly placed in the expression, and meticulously entered during calculation.

In other words, to get the correct answer, you have to enter the problem correctly.

Is RPN any different in this regard?

I just entered this expression into my 22s and got the answer above on one try. Why shouldn't I?

Re: Limitations of RPN (was: HP-32s Engineering Applications Manual)

*Message #24 Posted by **db (martinez, ca.)** on 16 Feb 2009, 9:21 p.m.,*
in response to message #19 by Karl Schneider

Gene, Karl, Michael;
There was one 5 level stack RPN scientific, marketed by Heathkit. It was very well designed and used the best parts available in America that were not already getting bolted onto an HP. The only improvement i can see would have been to paint or mold the functions onto the keytops, but that would have surly broken the bank for this specialized and limited production run.
This has links to Katie Wasserman's and Joerg Woerner's pages on it. - db

Re: Limitations of RPN (was: HP-32s Engineering Applications Manual)

*Message #25 Posted by **Thomas Klemm** on 16 Feb 2009, 9:39 p.m.,*
in response to message #19 by Karl Schneider

Hi Karl

> Quote:
>
> If the blank spaces between numbers indicate use of the "SPACE/SPC" command, that's RPL, which handles this problem just fine.

You might also think of an HP-41 program without line numbers. Actually I used the unix command *bc*:

```
echo "((1 + 2)*(3 + 4) + (5 + 6)*(7 + 8))*((9 + 10)*(11 + 12) + (13 +
14)*(15 + 16))" | bc -c

 1 2+ 3 4+* 5 6+ 7 8+*+ 9 10+ 11 12+* 13 14+ 15 16+*+*ps.
```

But you're right you could as well use ->*RPN* from the HP-48 examples to get the same result.

> Quote:
>
> an expression that is not too cumbersome:
>
> ```
> 1 ENTER 2 + 3 ENTER 4 + * 5 ENTER 6 + 7 ENTER 8 + * +
> STO 0
> 9 ENTER 10 + 11 ENTER 12 + * 13 ENTER 14 + 15 ENTER 16 + * +
> RCL* 0 (or RCL 0 *)
> ```

So how do we know at that point that we need to keep an intermediate result for later? That's all but trivial because you have to parse the whole tree in your mind. Just assume that one of the terms is shorter, say instead of (5 + 6) we have just 5. In this case you don't need an additional register but you could rearrange the calculation so that this term is the last one. But then you have to start calculating the right expression first.

What I meant with cumbersome is the following:
Let's assume I'm not so clever as to keep the intermediate result in register 0 until the last addition when all of a sudden I realize: Now I can't enter 16 or I'll loose register T. So what will I most probably do?

```
R^
STO 0
RDN
```

And later I can use register 0 as you suggested. But what's happening when the expression gets bigger and bigger using 32, 64, 128, ... numbers? Either you use different registers for each intermediate result at the risk of running out of registers or you try to use them cleverly as a stack. But then you have two stacks to synchronize. And that's definitely the moment where I'd quit and use a different tool without this limitation.

Personally I prefer a 4-level stack calculator to any other. I wouldn't need 5, 8 or more levels. I'd be completely lost with them since I can't remember more than three things at a time. I'd be scrolling up and down the stack all the time to find my intermediate results again.

Kind regards
Thomas

Re: Limitations of RPN (was: HP-32s Engineering Applications Manual)

*Message #26 Posted by **Walter B** on 17 Feb 2009, 1:46 a.m.,*
in response to message #25 by Thomas Klemm

Hallo Thomas,

> Quote:
>
> I wouldn't need 5, 8 or more levels. I'd be completely lost with them since I can't remember more than three things at a time. I'd be scrolling up and down the stack all the time to find my intermediate results again.

FYI, you don't need to remember all level contents. Nobody operating an RPL model is able to remember the infinite stack ;) You just push the intermediate results on it and know they will pop out when you need them.

The advantage of a finite stack - top level repetition - will remain for e.g. 8 levels, too. To ease calculations with constants, a FILL command shall copy x to all stack levels at once.

Viele Grüße,

Walter

Re: Limitations of RPN (was: HP-32s Engineering Applications Manual)

*Message #27 Posted by **Palmer O. Hanson, Jr.** on 18 Feb 2009, 11:39 p.m.,*
in response to message #14 by Thomas Klemm

> Quote:
>
> The limitation of RPN is of course the restriction to 4 registers in the stack. This made me think about the simplest algebraic expression that can't be calculated with a typical HP-calculator:
>
> ```
> ((1 + 2)*(3 + 4) + (5 + 6)*(7 + 8))*((9 + 10)*(11 + 12) + (13 +
> 14)*(15 + 16)) = 236964
> ```
>
> There might be different ways to do that in RPN but it will be something like:
>
> ```
> 1 2 + 3 4 + * 5 6 + 7 8 + * + 9 10 + 11 12 + * 13 14 + 15 16 + *
> + *
> ```
>
> Whichever solution you might choose you will always run into a stack-overflow and what's worse you probably won't even notice. In the example above you will end up with: 556738.
>
> PS: Can anybody think of an even simpler expression that can't be calculated using RPN?

A similar problem was proposed in this Forum back in 2006 where the only difference was that a divide was used in the middle instead of a multiply. You can read about it in my 3 November 2006 thread titled "It Can Be Done" I have reproduced the essentials of my solution below:

> Quote:
>
> Cuppo wrote:
>
> "I think the followig problem highlights pretty clearly some disadvantages of 4-level RPN:

> [(3+1)(4+3)+(2+6)(4+6)] / [(2+3)(2+1) + (3+5)(4+2)] = ?
>
> This problem is not possible using a 4-level stack without using STORE."
>
> Not so! Try this which doesn't even require the use of LAST X:
>
> Calculate the denominator first: 2 ENTER 3 + 2 ENTER 1 + X 3 ENTER 5 + 4 ENTER 2 + X + The denominator (63) is in the x register. Now calculate parts of the numerator divided by the denominator and add them together: 3 ENTER 1 + 4 ENTER 3 + X 2 ENTER 6 + Roll Down x<>y / Roll Down / x<>y Roll Down 4 ENTER 6 + X +
>
> and see 1.71428 ... = 108/63 in the display.

So I suggest that you try something similar on your slightly different problem. If you really can't get there after trying then let me know and I will give it a go. I admit that it took me a couple of hours and several false starts before I got the solution. So, a user really shouldn't try to do this instead of using a memory location for intermediate results. But it was an interesting programming challenge.

This whole issue of whether AOS or RPN is better has been an ongoing issue with the AOS people contending that RPN is limited and difficult and the RPN people contending that they just can't handle parentheses. On page 39 of his book *A Guide to HP Handheld Calculators and Computers - Fifth Edition* Wlodek wrote

> Quote:
>
> Many users - and not only those brought up on Friden calculators - prefer RPN. Others find it a total mystery - or at least profess to do so. I do not really believe it - ...

I am hoping to convince Wlodek to include a corollary in the next edition which would read something like this

> Quote:
>
> Many RPN afficianados profess that they simply can't cope with the parentheses inherent in AOS. I do not really believe that either.

Palmer

Re: Limitations of RPN (was: HP-32s Engineering Applications Manual)

*Message #28 Posted by **Michael de Estrada** on 19 Feb 2009, 12:18 p.m.,*
in response to message #27 by Palmer O. Hanson, Jr.

I am a total RPN afficionado, however, calculators for me as an engineer are practical tools, not toys. I want them to provide the simplest methodolology for providing fast and reliable results. As such, when confronted with a problen such as discussed above, the simplest methodology for me is to perform the operations from left to right, rather than

moving around the expression and playing with stack operations or changing division into multiplication. It is here than I run into problems with the fixed 4-level stack, and revert to my HP-48SX, which has an unlimited stack.

Re: Limitations of RPN (was: HP-32s Engineering Applications Manual)

*Message #29 Posted by **Thomas Klemm** on 19 Feb 2009, 6:03 p.m.,*
in response to message #27 by Palmer O. Hanson, Jr.

Hi Palmer
Very clever the trick to use distributive law. But then you can always use a function like *SQRT* or *LN* which is not distributive:

```
SQRT(LN(1 + 2)*SQRT(3 + 4) + LN(5 + 6)*SQRT(7 + 8))*SQRT(LN(9 +
10)*SQRT(11 + 12) + LN(13 + 14)*SQRT(15 + 16))
```

Actually I'm happy the expression has to be more complicated. I'm still wondering what the limitations of a 4-level stack are.

It seems there are other people disliking parentheses as well:

> Quote:
>
> Lisp has all the visual appeal of oatmeal with fingernail clippings mixed in.
> -- Larry Wall

Kind regards
Thomas

Edited: 19 Feb 2009, 6:06 p.m.

Re: Limitations of RPN (was: HP-32s Engineering Applications Manual)

*Message #30 Posted by **Palmer O. Hanson, Jr.** on 19 Feb 2009, 10:25 p.m.,*
in response to message #29 by Thomas Klemm

Thomas:

> Quote:
>
> I'm still wondering what the limitations of a 4-level stack are.

I'm not sure that I really care. I struggled writing RPN programs until I took the time to understand the stack. If I suspect that I may run into a problem then I take the time to carry forward a stack diagram.

> Quote:
>
> It seems there are other people disliking parentheses as well:

I suspect that most of the engineers who say that they just can't keep track of parentheses really could if they tried.

The problem that you proposed is one of those that has been around for some time and was generated by someone who wasn't really conversant with what can be done with RPN. The RPN folks have devised their own test problems which they say can't be solved with AOS -- the Mach Number problem is a classic case. But any self-respecting AOS guy can handle it with ease, and there is the Wozniak comment to consider.

I am a little bemused by all the back and forth talk about difficulty in programming because whether in RPN or AOS it is all so easy relative to the "good old days" (actuallly, not so good) with airborne computers where, for example, it took about ten word times to complete a multiply and the programmer needed to be doing other calculations in the interim, but be ready to read the result of the multiply when it was done. In those days programming was as much an art as a science.

Palmer

Re: Limitations of RPN (was: HP-32s Engineering Applications Manual)

*Message #31 Posted by **bill platt** on 20 Feb 2009, 9:03 a.m.,*
in response to message #30 by Palmer O. Hanson, Jr.

All of it is "trivial" in the world of physics...just different logical systems with advantages and disadvantages.

In ad-hoc manual solutions, you need to keep track of the stack in your head. This is a skill that an RPN user should develop. It prevents t-register drop-off. Yes, it is a potential weakness and as we have seen,the infinite stack eliminates the problem for manual problems.

In programming, the problem can get more complicated, depending on how the program works. If there is dynamic memory and stack use, you can end up with unanticipated t-register drop. But in AOS you can also have unanticipated things happen.

The real advantage of various improvements to AOS or EOS etc is that the user doesn't need to change his thinking as much. But the RPN defender will point out that most of us speak of taking the sin, taking the log (rather than log[x] or sin[x] we really think x sin), and of the pencil and paper write a number, write another, act on it...so I am afraid the argument will be perpetual. Gives us all something to do :-)

Re: Limitations of RPN (was: HP-32s Engineering Applications Manual)

*Message #32 Posted by **Hansel** on 20 Feb 2009, 12:01 p.m.,*
in response to message #31 by bill platt

Stack? What stack? You guys actually worry about what is in the stack? I have used an HP calculator for 8 years of college (BS and MS) and never once worried about what was in the stack. That is the simplicity of the RPN system!

Re: Limitations of RPN (was: HP-32s Engineering Applications Manual)

*Message #33 Posted by **bill platt** on 20 Feb 2009, 12:12 p.m.,*
in response to message #32 by Hansel

You must never have to do anything particularly long or any calculations that have deep parenthesis then...it is really a matter of what sort of calculations you end up doing.

If oyu use your 48 most of the time, then of course you don't worry.

These days I usually go to the computer for long things anyway...

Edited: 20 Feb 2009, 12:13 p.m.

Re: Limitations of RPN (was: HP-32s Engineering Applications Manual)

*Message #34 Posted by **Palmer O. Hanson, Jr.** on 20 Feb 2009, 11:20 p.m.,*
in response to message #29 by Thomas Klemm

Thomas:

You wrote:

> Quote:
>
> ... But then you can always use a function like *SQRT* or *LN* which is not distributive:
>
> ```
> SQRT(LN(1 + 2)*SQRT(3 + 4) + LN(5 + 6)*SQRT(7 +
> 8))*SQRT(LN(9 + 10)*SQRT(11 + 12) + LN(13 + 14)*SQRT(15 +
> 16))
> ```

It turns out that this problem is a very simple extension of the previous problem if the user only remembers that SQRT(A)*SQRT(B) = SQRT(A*B). Then the user doesn't do the SQRT before LN(1+2) or the SQRT before LN(9+10) as in the expression but rather does a single SQRT at the end.

The answer for the expression is 19.8983982... . I checked that by doing the problem as written in BASIC. I did run into a problem when trying to use the BASIC in the CC-40 or TI-74 because of the length of the expression. So I had to store some intermediate results to get the answer. The BASIC in my Radio Shack Model 100 handled the expression without difficulty.

I suspect that the problem would become significantly more difficult to solve if the first SQRT was changed to a LN. I wouldn't say that is couldn't be solved without storing an intermediate result since I hadn't needed to use LAST X in the solutions for the previous problems. What do you think?

Palmer

Re: Limitations of RPN (was: HP-32s Engineering Applications Manual)

*Message #35 Posted by **Thomas Klemm** on 24 Feb 2009, 11:02 p.m.,*
in response to message #34 by Palmer O. Hanson, Jr.

> Quote:
>
> I suspect that the problem would become significantly more difficult to solve if the first SQRT was changed to a LN.

That's exactly what I had in mind. Close, but no cigar.

> Quote:
>
> What do you think?

Obviously not enough before posting.

I'll try one last time:

```
sqrt(sqrt(sqrt(1 + 2) + sqrt(3 + 4)) + sqrt(sqrt(5 + 6) + sqrt(7 +
8))) + sqrt(sqrt(sqrt(9 + 10) + sqrt(11 + 12)) + sqrt(sqrt(13 +
14)  + sqrt(15 + 16)))
```

The same expression in postfix-notation (v ~ sqrt):

```
 1 2+v 3 4+v+v 5 6+v 7 8+v+v+v 9 10+v 11 12+v+v 13 14+v 15
16+v+v+v+
```

And here's the result:

```
4.696150115171
```

I doubt that *LASTx* might be useful here. But most probably you teach me something different ...

Thomas

The RPN solution is much easier than in my earlier response

*Message #36 Posted by **Palmer O. Hanson, Jr.** on 21 Feb 2009, 3:43 p.m.,*
in response to message #14 by Thomas Klemm

Thomas:

You wrote:

> Quote:
>
> The limitation of RPN is of course the restriction to 4 registers in the stack. This made me think about the simplest algebraic expression that can't be calculated with a typical HP-calculator:
>
> ```
> ((1 + 2)*(3 + 4) + (5 + 6)*(7 + 8))*((9 + 10)*(11 + 12) + (13 +
> 14)*(15 + 16)) = 236964
> ```
>
> There might be different ways to do that in RPN but it will be something like:
>
> ```
> 1 2 + 3 4 + * 5 6 + 7 8 + * + 9 10 + 11 12 + * 13 14 + 15 16 + *
> + *
> ```

> Whichever solution you might choose you will always run into a stack-overflow and what's worse you probably won't even notice. In the example above you will end up with: 556738.
>
> ---

I responded with a solution that does not run into stack overflow which was based on an earlier solution that I had developed for a similar problem back in 2006. That solution involves the use of three Roll Down commands and two x<>y commands. While it will yield a correct answer it is admittedly a cumbersome way to do the problem. It turns out that there is a much more straightforward way to do the problem which only requires the use of plus and multiply commands. All you need to do is multiply the left hand half of the expression by the right hand half of the expression which yields a modified form of the expression which looks like this

```
(1+2)*(3+4)*(9+10)*(11+12)+ ...      ... +(5+6)*(7+8)*(13+14)*(15*16)
```

and solve in the standard RPN manner. With just a small amount of attention you do not actually have to write out the modified expression but just enter the elements directly from you original expression.

Palmer

Re: HP-32s Engineering Applications Manual

*Message #37 Posted by **Didier Lachieze** on 16 Feb 2009, 7:32 a.m.,*
in response to message #4 by Hansel

Hansel, you have mail.

Regarding your second question, I'm aware of another book related to the HP-32s:

Tips and Programs for the HP-32s: A Handbook for Science and Engineering *by Wlodek Mier-Jedrzejowicz*

however I don't have it and I don't think it's on the museum DVD set. If someone could scan it for the next DVD version it would be great.

Edited: 16 Feb 2009, 9:07 a.m. after one or more responses were posted

Re: HP-32s Engineering Applications Manual

*Message #38 Posted by **Allen** on 16 Feb 2009, 8:02 a.m.,*
in response to message #37 by Didier Lachieze

As an American, I found the "Black Hole" Section of Wlodek's 32S book very useful approximating the length of impact of the Economic Stimulus Efforts. See p.35

Re: HP-32s Engineering Applications Manual

*Message #39 Posted by **Hansel** on 17 Feb 2009, 9:35 a.m.,*
in response to message #37 by Didier Lachieze

Yes, I just bought the book on ebay last week. I will find a good scanner and scan the book soon. Thanks again for your book.

Re: HP-32s Engineering Applications Manual

*Message #40 Posted by **BruceH** on 17 Feb 2009, 7:39 p.m.,*
in response to message #39 by Hansel

> Quote:
>
> Yes, I just bought the book on ebay last week. I will find a good scanner and scan the book soon. Thanks again for your book.

Before you do that, and we have to invoke the DMCA and have you carted off to Gitmo[1], why don't you ask Wlodek's permission first? He often posts to MoHPC.

And to the earlier poster who wanted a scan - why don't you first ask Wlodek if he has any left for sale?

[1] This is probably not true - the penalties for breaching the DCMA are far more severe than trying to overthrow the US. ;-)

Re: HP-32s Engineering Applications Manual

*Message #41 Posted by **Hansel** on 18 Feb 2009, 9:47 p.m.,*
in response to message #40 by BruceH

No problem. Actually I am surprised that you don't already have this manual on the DVD collection.

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Average Age in hpmuseum forum

*Message #1 Posted by **Nacho** on 13 Feb 2009, 1:57 p.m.*

Hi everyone,

I would like to know more or less the average age of this forum, it's just about curiosity and the profile of HP calcfans.

It's strange because as many here I like very much technology progression and evolution in every aspect but with HP calcs I have the opposite reaction...

I started with a 48GX 9 years ago (I'm 26) and now I'm more interested in older calcs than newer...

This is happening also with HP LX and with PSION...

Just feel that now everything is more standarized and less engineered it's just a feeling, probably I'm getting older than what my age shows...

HP should release 15C and 42S thanks Raymond.

Re: Average Age in hpmuseum forum

*Message #2 Posted by **Ignazio Cara (Italy)** on 13 Feb 2009, 2:29 p.m.,*
in response to message #1 by Nacho

Hi Nacho, I'm 52 (next monday) and with your 26(!) the average is 39. So far.

Cheers

Ignazio

Re: Average Age in hpmuseum forum

*Message #3 Posted by **Richard Garner** on 13 Feb 2009, 2:58 p.m.,*
in response to message #1 by Nacho

I am 45 years old

I had my first experience with an HP35 that my brother-in-law bought for my sister to use in her college classes in 1974. I bought my first HP, a 41CX, in 1983 while in college. I have owned various HP over the years, 41CX, 15C, 42S, 20S, 28S, 48SX, 48GX, 33S & 35S. The ones I return to the most for quick calculations and programing are the 41CX and the 42S. About all I use the 48GX for these days is to do unit conversions.

Re: Average Age in hpmuseum forum

*Message #4 Posted by **Bruce Bergman** on 13 Feb 2009, 3:19 p.m.,*

in response to message #1 by Nacho

45. First HP calc was the 25, in 1978.

thanks! bruce

Re: Average Age in hpmuseum forum

*Message #5 Posted by **JDonley** on 13 Feb 2009, 3:54 p.m.,*
in response to message #1 by Nacho

Turned 70 last month. 41C bought in 1979 and of course still in use daily. Have been a farmer/rancher all of my adult life and am Semi-retired.

Re: Average Age in hpmuseum forum

*Message #6 Posted by **htom trites jr** on 13 Feb 2009, 4:18 p.m.,*
in response to message #5 by JDonley

62. First was a 19c, now dead :(For years the most used was a 41cv, now it's probably Free42 on a PDA or laptop. The various 48 and 49 are just too bulky to fit in a pocket, and while I can do Lisp, it's overkill for a calculator. Now if someone was to port Icon to the 49 ... never mind.

Re: Average Age in hpmuseum forum

*Message #7 Posted by **Reth** on 13 Feb 2009, 4:25 p.m.,*
in response to message #1 by Nacho

52;
HP41C, CV, CX, 28S, 48SX, 48GX, 49G+, 50, 35S and now - 42S on iPhone
When I got my hands on my first HP-41C with 1 memory module I could not sleep for 3 days; I was so fascinated. I still have it - works as good as at the day I got it. Nothing compares to it.

At the moment I got familiar with RPN I loved it and I'm still in love with it, that love will die with me :)

Edited: 13 Feb 2009, 8:28 p.m.

Re: Average Age in hpmuseum forum

*Message #8 Posted by **dbatiz** on 13 Feb 2009, 4:30 p.m.,*
in response to message #1 by Nacho

40. My first HP was purchased for me by my high school for competition. Then, just after joining the military, one of my first paychecks (actually, it as about 40% of a paycheck) went to buying my very own 11C. It suffered a tragic laundry accident, and has been replaced with another 11C, 49g+, 50g, and most recently, a 35s.

Re: Average Age in hpmuseum forum

*Message #9 Posted by **Jandro Kirkish** on 13 Feb 2009, 4:55 p.m.,*
in response to message #8 by dbatiz

I am 40. Bought the 28s in 1989 and am still amazed at what it can do. Encouraged (enabled?) me to buy the 49g (eek), the 49g+ (better), the 50g (quite nice IMO). Then came the 12c, the 33s and finally the 35s, which is my "go-to" calc for quick conversions and equation solving. (The 35s has received mixed reviews

on this forum but I like it a lot.) But which do I take to a desert island? The 28s.

Re: Average Age in hpmuseum forum

*Message #10 Posted by **David Hayden** on 13 Feb 2009, 5:18 p.m.,*
in response to message #1 by Nacho

I'm 45. Bought a 29C my freshman or sophomore year in high school, then a 41C around 1980 and a 41CV a couple years later. Loaned the 29C to a girlfriend around 1986 and haven't seen it since. The 41CV is in my desk drawer and was my primary calculator until about a year ago when I had to buy a TI 83 plus for my daughter and I wondered what HP had done with calculators in the past 25 years. Bought a 50g and I've been goofing off learning about it, UserRPL, systemRPL, Saturn architecture, HPGCC etc. Just bought a 48gii for a paying gig.

The market for calculators has shrunk a lot and the price people are willing to pay is tiny, at least compared to what we paid 20 years ago. So the engineering suffers proportionately.

Re: Average Age in hpmuseum forum

*Message #11 Posted by **Egan Ford** on 13 Feb 2009, 5:24 p.m.,*
in response to message #1 by Nacho

41. And, since this is the year of the 41 (30th anniversary), I have decided to do most of my programming for the 41.

I started with the 15C in 1985 (still use it), then progressed to the 48GX (retired for a 50g, my 48GX was gift from father and I did not want to lose it on my travels).

I started to collect in 2006 when I discovered that the only way to get a good 'new' calc was to get a good 'used' calc.

I am most fascinated with models with I/O (41, 71, 48, 50). But if I had to rebuild civilization, it'd be the indestructible 15C with it's 20 year battery life. IMHO, a calc with bidirectional I/O and alphanumerics is a computer. The 15C is all calculator.

Edited: 13 Feb 2009, 5:27 p.m.

Re: Average Age in hpmuseum forum

*Message #12 Posted by **Steve Perkins** on 13 Feb 2009, 5:40 p.m.,*
in response to message #1 by Nacho

I'm 50.

A friend loaned me an HP-45 when they first came out. I was quite young, but was bitten by the bug.

I purchased my first HP in 1974 when I turned 16.

My HP-25. It served me well and started what turned out to be a career in computers.

Re: Average Age in hpmuseum forum

*Message #13 Posted by **Marcus von Cube, Germany** on 13 Feb 2009, 6:38 p.m.,*
in response to message #1 by Nacho

I'm 49.

My first HP encounter can be seen in the memories section of this site: The calc that always gave PI as the result.

Still looking for the HP-71B Math Pac at a reasonable price...

Re: Average Age in hpmuseum forum

*Message #14 Posted by **Seth Morabito** on 13 Feb 2009, 6:40 p.m.,*
in response to message #1 by Nacho

I am but a wee babe. I'll be 36 this year, meaning that I'm (embarrassingly) younger than the HP-35.

My first HP was a 48sx. I badgered my parents into buying it for me in high school, when a $250 calculator was a huge investment.

I used it until 2003, when I bought a 50G. A few weeks after that, I found a 48gx at a swap meet, and got suckered into the world of collecting HPs that I'd wanted as a kid, but could never afford.

Re: Average Age in hpmuseum forum

*Message #15 Posted by **Marcus von Cube, Germany** on 13 Feb 2009, 6:47 p.m.,*
in response to message #14 by Seth Morabito

Seth, if you edit your post to replace and with the word *italic* resp. */italic* in square brackets [..] italics will work. ;)

Re: Average Age in hpmuseum forum

*Message #16 Posted by **Michael de Estrada** on 13 Feb 2009, 7:27 p.m.,*
in response to message #1 by Nacho

62, retired engineer, my first calculator was the HP-35, my favorite calculator is the HP-15c, my first PC was the Sanyo MBC-555.

Re: Average Age in hpmuseum forum

*Message #17 Posted by **Michael Meyer** on 13 Feb 2009, 8:21 p.m.,*
in response to message #1 by Nacho

I'm 48. Psychiatrist.

I own... pretty much all of them now.

My favorites: 25, 19, 71, 67, ...

Re: Average Age in hpmuseum forum

*Message #18 Posted by **Frank Balzer** on 13 Feb 2009, 8:38 p.m.,*
in response to message #1 by Nacho

I'm 42. My first HP was a 15c (around 1990, still my favourite), and then a 42s (1992). Today I'm using a 35s or a 48gii.

Edited: 13 Feb 2009, 8:39 p.m.

Re: Average Age in hpmuseum forum

*Message #19 Posted by **Reth** on 13 Feb 2009, 8:44 p.m.,*
in response to message #1 by Nacho

I admire this subject. As if we all sort of introduced our selves at a fancy dinner party :)
Cheers all

Edited: 13 Feb 2009, 8:45 p.m.

Re: Average Age in hpmuseum forum

*Message #20 Posted by **Allen** on 13 Feb 2009, 9:30 p.m.,*
in response to message #19 by Reth

> Quote:
>
> ...[like] a fancy dinner party...

indeed! Can you please pass the HP Sauce? (also an excellent Stack Replacement util for the 48G series)

Re: Average Age in hpmuseum forum

*Message #21 Posted by **Chuck** on 13 Feb 2009, 10:29 p.m.,*
in response to message #1 by Nacho

Hi, my name's chuck, and I have an Hp addiction. :)

I'll be 46 in a few weeks. Bought my first 11c in 1981 with financial aid money my first year in college; still have it. From there, I acquired a 15c, 28s, 48sx, 50g+ and a host of others through out the years (20 - 30, but who's counting). Currently I use the 35s as my usual "physical" calculator, but am enjoying the i41cxp on the ipod touch.

Cheers to all.

Re: Average Age in hpmuseum forum

*Message #22 Posted by **Mike Reed** on 13 Feb 2009, 10:40 p.m.,*
in response to message #21 by Chuck

I'm Mike (polarbear, if you're a friend), i'm 60. My 1st HP was an 11c almost the week they came out! Since then there have been 41, 41cv, 3-41cx with card reader, printer, cassette drive, bar code wand, etc., 45, 67, 33, 32s, 4-42s's (wore 'em out - I'm a Land Surveyor PLS 6049, CA) 48sx, 3-48gx, 48g, 28c, and an HP 50g. i THINK thats all of them... Might have left one or two out. STILL have the 11c!

polarbear Mike

PS - just remembered a couple more: the 55, and a 200lx

Edited: 13 Feb 2009, 10:48 p.m.

Re: Average Age in hpmuseum forum

*Message #23 Posted by **Steve Simpkin** on 13 Feb 2009, 10:47 p.m.,*
in response to message #1 by Nacho

I am 47. I work as an electrical engineer. My first HP was my HP-25 I bought in 1977. I have also owned the following HP calculators: HP-11C, HP-28C, HP-28S, HP-48SX, HP-20S, HP-48G, HP-41C, HP-38G.

Re: Average Age in hpmuseum forum

*Message #24 Posted by **Dave Shaffer (Arizona)** on 13 Feb 2009, 11:04 p.m.,*
in response to message #1 by Nacho

I'm 62.99 (i.e. I'll be 63 next week).

First HP was a 35, which did all the calculations for my Ph.D. thesis in 1973. Since then, I've had (& still have) an 11C, 41C, 41CX, 32SII, 42S, a 33S, and a 35S.

For everyday use, I grab the 35S, which sits in my desk drawer atop the original 35.

Re: Average Age in hpmuseum forum

*Message #25 Posted by **Massimo Gnerucci (Italy)** on 14 Feb 2009, 12:01 a.m.,*
in response to message #1 by Nacho

Hi, I'll [hopefully] be 49 in a month.
My first HP was (and still is) a 41C bought in 1979. Since 1998 I started collecting its siblings and now own at least one of each.

Greetings,
Massimo

Re: Average Age in hpmuseum forum

*Message #26 Posted by **Charles Oxford** on 14 Feb 2009, 12:30 a.m.,*
in response to message #1 by Nacho

I'm 64, retired civil/structural designer/drafter. In 1972 a student employe brought in an HP 35 which was instant hit with the engineers and surveyors. My fist calc came shortly after thru a promotion by Chevron, a 4 function plus percent key. Our computer guy wrote some routines to do square roots and something else I forget what. My first hp was a 25c bought on clearance in Cheyenne, wy 1978. My needs and pay didn't warrant HP so I spent most of my working years with other calcs. 1995 I came to Phoenix and employer bought me a 32sii which is more than I need but it gota lot use doing trig and conversions.

Charlie O.

Re: Average Age in hpmuseum forum

*Message #27 Posted by **Virgilio Guillen** on 14 Feb 2009, 1:20 a.m.,*
in response to message #26 by Charles Oxford

Hi,

I'm 37, electronic engineer my first HP was a 41cv that took me through college, later on I got a 41cx then a 49g, 48gx and two more 41 cx's

Re: Average Age in hpmuseum forum

*Message #28 Posted by **Walter B** on 14 Feb 2009, 3:46 a.m.,*
in response to message #1 by Nacho

54.

First encountered a calculator (a 35) in 1973. My first own HP was a repaired 25C in 1977. Switched to 11C in 1982, to 32S in 1990. Started collecting in 2000 with a Portuguese 97.

Re: Average Age in hpmuseum forum

*Message #29 Posted by **Juergen Keller** on 14 Feb 2009, 4:36 a.m.,*
in response to message #1 by Nacho

43. And due to my age I'm desperately waiting for the launch of the 43S ;-) I'm a software engineer working in the fields of text-to-speech. My first HP calc was a 41C, and my last one is currently a 9100B (but this is changing continuously).

Re: Average Age in hpmuseum forum

*Message #30 Posted by **Chris Foley** on 14 Feb 2009, 4:44 a.m.,*
in response to message #1 by Nacho

Hi Nacho,

I'm 38, and had my firt HP (HP-11C) back in the 80's!

BTW, I'm a business process manager.

Cheers, Chris.

Edited: 14 Feb 2009, 4:46 a.m.

Re: Average Age in hpmuseum forum

*Message #31 Posted by **Geir Isene** on 14 Feb 2009, 5:09 a.m.,*
in response to message #1 by Nacho

/me = the random number (42, the sum of eyes on two 6-sided dice)

Re: Average Age in hpmuseum forum

*Message #32 Posted by **ZOleg** on 14 Feb 2009, 5:16 a.m.,*
in response to message #1 by Nacho

My age 35,9/12, my profession - sysadmin, working at several (big and small) companies.
My first calc is Soviet MK-61 in 87 or 88, now I have:
Soviet: MK-71, B3-34, MK-61, MK-52+BRP-3 rom+BRP-4 rom, MK-85M, MK-152+external flash ram for storage
TI: TI-30, TI-55, TI-59, TI-74, TI-81, TI-82, TI-83, TI-85, TI-86, TI-89 Titanium
HP: HP-97, HP-41CX+PPC rom+2 X-RAM+HP-IL+CardReader+HP-82242A IR module+NoV64, HP-82161A Digital Cassete Drive, HP-81162A printer, HP-82240B IR Printer, HP-71B+32kb ram+HP-IL module, HP-28S, HP-33s, HP-35s, HP-48GX, HP-50G+512k SD card
All calcs and peripherals in working condition and used by me.

Re: Average Age in hpmuseum forum

*Message #33 Posted by **George Bailey (Bedford Falls)** on 14 Feb 2009, 5:21 a.m.,*
in response to message #1 by Nacho

The answer to everything...42!

[1st guy in HP marketing dept., preparing his gun] Why are we stuck with these half dead guys? Where are all the f*****g teens and students?

[2nd guy in HP marketing dept., adjusting a knot on a rope] Don't know! Forgot to phone X at TI and Y at Casio! *sigh*

[1st guy]*shoots himself*

[2nd guy]*goes a-swinging*

Edited: 14 Feb 2009, 5:22 a.m.

Re: Average Age in hpmuseum forum

*Message #34 Posted by **Garth Wilson** on 14 Feb 2009, 2:48 p.m.,*
in response to message #33 by George Bailey (Bedford Falls)

Age: 49.

> Quote:
>
> [1st guy in HP marketing dept., preparing his gun] Why are we stuck with these half dead guys? Where are all the f*****g teens and students?
>
> [2nd guy in HP marketing dept., adjusting a knot on a rope] Don't know! Forgot to phone X at TI and Y at Casio! *sigh*
>
> [1st guy]shoots himself
>
> [2nd guy]goes a-swinging

I got into this in my early 20's. I would have gotten into it in my teens if I could have afforded it. Get kids interested in engineering again instead of video games and tagging, and they'll become customers.

I never went for "cool," and I didn't care what others had or wanted. If I could afford anything I wanted back then and the graphing "supercalculators" had been available at the time, I still would have chosen the 41 and/or 71 for HPIL's ability to control equipment on the workbench and take data.

Re: Average Age in hpmuseum forum

*Message #35 Posted by **Vladan Dugaric** on 14 Feb 2009, 6:39 a.m.,*
in response to message #1 by Nacho

My age is 43.

My first contact with a calculator was in 1975 when my father got an HP-35. In 1977 he got an HP-21. I was

using only RPN from 1975 to 1980.

In 1982 I got Casio FX-602P and FX-702P, then in 1986 I finally got an HP-71B with Forth ROM and Math ROM and a card reader. Later still, in 1991, I got an HP-48SX, then in 2007 an HP-50g and an HP-48GX, and finally in 2008 an HP-41CX (I wanted to have an HP-41CV since 1982 but could not afford it then) and an HP-12C.

I also use emulators on a PC, Windows Mobile phones and iPod Touch: nonpareil, Emu48, Emu71, V41, Free42.

Re: Average Age in hpmuseum forum

*Message #36 Posted by **Dusan Zivkovic** on 14 Feb 2009, 7:49 p.m.,*
in response to message #35 by Vladan Dugaric

Vladan, it appears that you were even more spoiled with gadgets than I remember. I couldn't afford more than a humble Sharp while you were flashing the 71B at the university. But all of these? Were you luckier wirh your financiers?
Or is it a generation gap? I am 41 (41CV, Calculator Veteran), starting with a Privileg of some sort, a 4-banger, no RPN, but as early as in 1974. To this day, I still have the same feeling about red LED displays. First programmable, TI 53 in 1982. First pocket computer, Sharp 1211 in 1984. First HP, HP 32E which my wife inherited from her sister. I neglected it and it died when its NiCd pack leaked. D'oh. (I let a red LED HP die. I thought it would be like my Sharps, indestructible. What was I thinking?!) HP for life, 12C. It is just so right. I wish I discovered how good and useful it was much much earlier than in this century.

Re: Average Age in hpmuseum forum

*Message #37 Posted by **Maximilian Hohmann** on 14 Feb 2009, 6:59 a.m.,*
in response to message #1 by Nacho

Hello!

I'm 46 - haven't kept track of the average so far, but intuitively I would say that I'm pretty close. Incidentally, this is also the average age of motorcyle drivers in my country - whatever this may tell us.

My first (own) HP calculator was a '97 that they wanted to throw away at the office arond 1990 and which more or less started me collecting these things. When I really would have needed them, they were much too expensive, so I had to rely on products of the competition to help me through my degrees.

Greetings, Max

NB: I got my latest HP calculator just yesterday, an "HP OfficeCalc 200". But I'm afraid this is just another mass produced Chinese throw-away-article and HP really should not need to stick it's logo on such things.

Re: Average Age in hpmuseum forum

*Message #38 Posted by **pascal** on 14 Feb 2009, 9:50 a.m.,*
in response to message #1 by Nacho

I'm 45 and my first hp was an hp-67, in 1978.

Re: Average Age in hpmuseum forum

*Message #39 Posted by **Patrick Rendulic** on 14 Feb 2009, 9:58 a.m.,*
in response to message #1 by Nacho

30, physics teacher.

First HP was an 32sii in 1997. I still use it together with 48GX, 49G, 41C and CV, 42s, and my oldest one, an HP97 with broken card reader, but who cares, the printer works ;). And HP12 and 17Bii, when dreaming about a house.

Almost forgot my like new 200LX running DOS derive.

Edited: 14 Feb 2009, 9:59 a.m.

Re: Average Age in hpmuseum forum

*Message #40 Posted by **Hubert Weikert** on 14 Feb 2009, 10:24 a.m.,*
in response to message #1 by Nacho

Hi, I am 52.

Started with the 67 in 1977, owned or still own 41cv, 28s, 48sx, 15c, 16c and some current models.

Hubert

Statistical Analysis

*Message #41 Posted by **Michael de Estrada** on 14 Feb 2009, 10:52 a.m.,*
in response to message #1 by Nacho

So far the number of age data values is 35 with the following results (rounded to the closest integer value):

Average age = 47

Standard deviation (s) = 10

Minimum age = 26

Maximum age = 70

Over half the respondents (18 of 35) were between 40 and 49.

I'll leave it to the philosophers and socialogists among you to determine the significance of these results. Personally, I find the varied professions more interesting than the age data.

Re: Statistical Analysis

*Message #42 Posted by **Steve Simpkin** on 14 Feb 2009, 11:49 a.m.,*
in response to message #41 by Michael de Estrada

Whoo Whoo!

I'm Average!

Re: Statistical Analysis

*Message #43 Posted by **Patrick Rendulic** on 14 Feb 2009, 12:10 p.m.,*
in response to message #41 by Michael de Estrada

It is indeed interesting to see, that the "younger" users of this forum seem to be rare. Maybe the problem is

"museum" ... ? ;)

Re: Statistical Analysis

*Message #44 Posted by **Katie Wasserman** on 15 Feb 2009, 11:45 a.m.,*
in response to message #41 by Michael de Estrada

52. I was geeky ahead of my time and bought the 35 when I saw the first ad for it in Scientific American in 1972. I missed getting a red-dot, but have made up for that in recent years by collecting almost all of the calculators HP made.

I do computer consultant stuff with wall street places.

-Katie

Edited: 15 Feb 2009, 11:46 a.m.

Re: Statistical Analysis

*Message #45 Posted by **Michael de Estrada** on 15 Feb 2009, 12:12 p.m.,*
in response to message #44 by Katie Wasserman

Wow Katie, I'm impressed! You were like only 16 when you bought your HP-35? Where did you find the $395 for it? I was already 27 in 1973 and working when I bought my HP-35 for $295. Even then it was a big deal for me, representing almost 2 weeks take-home salary.

Re: Statistical Analysis

*Message #46 Posted by **Katie Wasserman** on 15 Feb 2009, 12:35 p.m.,*
in response to message #45 by Michael de Estrada

$400 was a ton of money back then, but I worked as a teaching assistant at a media studies school in NYC. It was a lot of fun playing around with Panasonic Portapaks and early video stuff like that. I remember being quite upset when HP lowered the price and came out with the 45, my first introduction to the rapid depreciation of the value of consumer electronics.

Re: Statistical Analysis

*Message #47 Posted by **hpnut** on 16 Feb 2009, 8:52 a.m.,*
in response to message #41 by Michael de Estrada

Quote:

So far the number of age data values is 35 with the following results (rounded to the closest integer value):

Average age = 47

Standard deviation (s) = 10

Minimum age = 26

Maximum age = 70

Over half the respondents (18 of 35) were between 40 and 49.

> I'll leave it to the philosophers and socialogists among you to determine the significance of these results. Personally, I find the varied professions more interesting than the age data.
>
> ---
>
> Hah! I am just above average at 49. My friend designnut in this forum is 80years young, right, Sam?

Re: Average Age in hpmuseum forum

*Message #48 Posted by **Elliott W Jackson** on 14 Feb 2009, 12:00 p.m.,*
in response to message #1 by Nacho

I am 47.

I bought a 41CV as a freshman in college with financial aid money, added the card reader and printer to it, and later upgraded it to a 41CX. I had a few other ROM's and accessories for it, including the synthetic programming books/rom.

I bought a 15C soon after leaving college and joining the nuclear navy, since alpha-numeric-capable devices were not allowed in the classrooms (security reasons - makes me wonder what they do now, given the capabilities everyone has on phones, PDA's, etc).

...and those 2 calculators (41CX and 15C) have served me well for over 2 decades, until the "1" key on the 41CX began misbehaving several years ago. I finally added a 35s, and am having fun playing with it (see my review/rant about it elsewhere in this forum).

I'm still in the nuke industry.

Edited: 14 Feb 2009, 12:15 p.m.

Re: Average Age in hpmuseum forum

*Message #49 Posted by **Meursault** on 14 Feb 2009, 12:32 p.m.,*
in response to message #1 by Nacho

Here is a "younger user" of the forum ! I am 21 (will be turning 22 in 4 days), studying physics in college. My first HP calculator was 32sii which I got in 2004. My physics teacher showed me his 11C and I immediately got hooked. Since then, I acquired 11C, 15C, 33S, 48G, 50G, and Free42 on my Treo 700. My favorite is 32sii

Re: Average Age in hpmuseum forum

*Message #50 Posted by **jotne** on 14 Feb 2009, 10:43 a.m.,*
in response to message #1 by Nacho

43 Started my work in HP as an Calculator rep back in the 80' Hp 41CX, CV, ++ CCD, PPC, Zenrom Module +++

Re: Average Age in hpmuseum forum

*Message #51 Posted by **Jeff Kearns** on 14 Feb 2009, 12:58 p.m.,*
in response to message #1 by Nacho

43 - for another three months...

I am a mechanical engineer and part-time LeanSigma practitioner. I acquired my first HP in university in 1986 - a slightly used HP-15C. I have since added a dozen or so different models to my collection, not including a spare 15C that I got at a yard sale for $5. It is still my favourite 'pure' calculator (non I/O capable), but the

32sii is a close second. Rating these machines in terms of preference is a challenge. I have become sentimental about them (how embarrassing) and would have a hard time parting with any of them, as I am sure others on this forum can relate.

Do any of you rotate your calculators? I find myself bringing different models with me from time to time (e.g. 41C with Advantage Module, 42S) and I like the retro units like the 32E for number crunching and basic stats. The RPL models are kinda bulky so I leave them at home.

Jeff Kearns

Re: Average Age in hpmuseum forum

*Message #52 Posted by **Maximilian Hohmann** on 14 Feb 2009, 1:19 p.m.,*
in response to message #51 by Jeff Kearns

Hello!

> Quote:
>
> Do any of you rotate your calculators?

Yes, nearly every day, when I think of replacing the calculator in my bag before leaving. Unfortunately, on most days I bring it home with the batteries still full, because there was nothing to calculate all day. Well there was a lot to calculate, but more adequate equipment took care of it...

Greetings, Max

Re: Average Age in hpmuseum forum

*Message #53 Posted by **DK2ZA** on 14 Feb 2009, 2:31 p.m.,*
in response to message #1 by Nacho

I'm 65. Bought my HP35 in 1973 for 900 DM, sold it for much less because I couldn't resist a HP25 (programmable!). Then came a HP67, HP 41C, HP48SX (its mainboard hangs on the wall of my shack) and now that I am retired (maths physics teacher) I play with my HP50g.

Greetings, Helmut

Edited: 14 Feb 2009, 2:33 p.m.

Re: Average Age in hpmuseum forum

*Message #54 Posted by **Michael de Estrada** on 14 Feb 2009, 3:04 p.m.,*
in response to message #53 by DK2ZA

What would your HP-35 have cost you in 1973 dollars? I bought mine in June 1973 in the USA for $295, just after HP brought out the HP-45 and lowered the price of the HP-35 from $395. Even at "only" $295, this represented nearly two weeks take-home (after income tax) salary for me. It must have been an astronomical cost for you!

Re: Average Age in hpmuseum forum

*Message #55 Posted by **Peter Klein** on 14 Feb 2009, 3:40 p.m.,*
in response to message #54 by Michael de Estrada

I'm 55. I've been the composer/lyricist for a childrens' theatre company, a classical music radio announcer, a freelance writer on the arts, a technician in a chemical lab, a technical writer, and a network admin and IT support person.

Got my first calculator in 1976, a cheap, simple four-function. This was quickly replaced by a Novus Mathematician (a scientific RPN calculator). That led to an HP-25 in 1977. I learned a lot of math and programming playing with that HP-25. All through high school I thought I was lousy at math. Having the calculator showed me that I was reasonably good at math, I was just lousy at doing arithmetic on long strings of digits, especially in my head.

I got an HP-11C in about 1987. It's been my everyday calculator ever since. I'm currently lusting after an HP32S or HP32Sii for its nicely-spaced keys. Or maybe one of the current scientific models. Stay tuned.

--Peter

Re: Average Age in hpmuseum forum

*Message #56 Posted by **DK2ZA** on 15 Feb 2009, 3:10 a.m.,*
in response to message #54 by Michael de Estrada

A friend of mine, an engineer, bought his HP35 a few months earlier and paid more than 1800DM. That calculator still had the famous sine error, while mine was a later model.

Greetings, Helmut

Re: Average Age in hpmuseum forum

*Message #57 Posted by **Bob Patton** on 14 Feb 2009, 3:36 p.m.,*
in response to message #1 by Nacho

I'm 73, retired software engineer. I blew an unexpected windfall on the coveted HP-65 after earlier buying only the manual I could afford. I really felt guilty for spending such an enormous sum, but in the long run it was worth it.

I have collected several hundred new/used/discarded calculators in 45 years. Each seemingly has its own personality. I now use mostly 11C and 48G.

HP designs

*Message #58 Posted by **designnut** on 14 Feb 2009, 4:39 p.m.,*
in response to message #57 by Bob Patton

I'm a retired EE age 80.when I got a 35 I learned to squeeze the maximum out of it's limited resources. I was doing a lot of resistive dividers and developed a shortcut to get the divider fraction and Thevenin equivalent using RPN solutions, archived here at MOHPC. I immediately rewrote the RC frequency corner as 2(Pi)FRC=1, multiply the knowns and invert to get the unknown. LC frequency became {2(Pi)F}^2LC=1. can't stand algebraic as I seldom want a single answer. Run 2(Pi)F up the stack and you can simply multiply twice and invert to find resonant elements. I turned on a couple of 50g today and found I had to replace both the AAA and coin cells which exhausted my coin cell supply. Since I gift 33S calculators to young students I found 20 coin cells at auction for 4$05 inc. shipping. I want to support RPN addiction, plus it is a big preference and work horse for me. E. Samuel Levy designnut@cox.net

Re: Average Age in hpmuseum forum

*Message #59 Posted by **Martin Pinckney** on 14 Feb 2009, 4:21 p.m.,*
in response to message #1 by Nacho

Age 60, practicing civil engineer (own a small design firm). Started in the slide rule/pencil & paper era. Left the engineering profession soon after I started, just about the time electronic calculators first came out (1971). Returned to it just when they were really getting useful (1977). First purchase was a TI59. Loved it and used it until (you guessed it) the keyboard malfunctioned; bought a TI36 solar, which lasted only about three years. By then I was getting tired of TI quality (or rather lack thereof). So I went looking and was pleasantly surprised that HP was making algebraic models. Bought a 20s (1993), which I still have. Eventually obtained 38g, 48sx, 22s, 27s, and 32sii. Tried 35s and 12cp 25a, found both wanting.

Re: Average Age in hpmuseum forum

*Message #60 Posted by **Eric Smith** on 14 Feb 2009, 4:26 p.m.,*
in response to message #1 by Nacho

My age is now approximately 13.054×10^{18} periods of the radiation corresponding to the transition between the two hyperfine levels of the ground state of the cesium 133 atom. Or roughly 200×10^{-9} galactic years. But who's counting?

Re: Average Age in hpmuseum forum

*Message #61 Posted by **PeterP** on 15 Feb 2009, 2:23 a.m.,*
in response to message #60 by Eric Smith

as in all other things as well, you are approximately 1.53×10^{18} periods ahead of me...

Re: Average Age in hpmuseum forum

*Message #62 Posted by **Palmer O. Hanson, Jr.** on 14 Feb 2009, 4:50 p.m.,*
in response to message #1 by Nacho

I celebrated my 80th birthday on February 1.

Two days ago I received a letter from the AIAA (technical society for aerospace engineers) telling me:

> Quote:
>
> As an Emeritus Lifetime Member you are now part of an elite category of members who no longer have to pay any dues to AIAA.

Now I really feel old!

In the late 1970's I was doing statistics on a shared computer at Honeywell. My supervisor had obtained an HP-45 and suggested that I try it. When I found that it couldn't store the entries for later recall I told the supervisor that I had no use for it.

The first handheld which could do the statistics and matrix work that I needed was the TI-59.

The first HP that I purchased was an HP-11. I got one of the early ones which has the bug.

I have 42 HPs in my collection.

Re: Average Age in hpmuseum forum

*Message #63 Posted by **Nacho** on 14 Feb 2009, 5:18 p.m.,*
in response to message #62 by Palmer O. Hanson, Jr.

WOW!!!

I like how is going this thread, I ve been reading and posting (not too much) from 2002 and I ve seen some of your names lots of times.

Is great to know the story and interests of everyone.

I like so much this forum!!!

;)

Re: Average Age in hpmuseum forum

*Message #64 Posted by **David Dyte** on 14 Feb 2009, 6:03 p.m.,*
in response to message #63 by Nacho

39. Started with a 15C as a freshman in 1987, but it was later stolen. I have never fully recovered...

Now own two 15Cs, two 11Cs, 16C, 12C, 10C, 32SII, 41CV, 71B, 48GX, 48G, 48GII, 50G, 87XM, 35S.

- David

Edited: 15 Feb 2009, 8:18 a.m.

Re: Average Age in hpmuseum forum

*Message #65 Posted by **Brent Hillebrenner** on 14 Feb 2009, 7:15 p.m.,*
in response to message #62 by Palmer O. Hanson, Jr.

I'm 41.

My first exposure to an HP RPN calculator was in the early 90's in statistics class while earning my Civil Engineering degree. My TI ran out of batteries during a test and the professor provided me with his 11c or 15c. I can't remember which one but I definitely remember the form factor. I fumbled with it and was completely lost. Couldn't even add or subtract with the thing.

In the late 90's while doing survey crew work - all surveyors and engineers at my work had HP 41's - I finally realized the beauty of RPN and HP. We had some spare 32SII's and some 48G's and I got work learning how to program them both. I have had a blast with them ever since. And for the past 6 or 7 years I have immensely enjoyed reading the posts and participating in the mini-challenges posted on this site. Thanks to all of you.

Cheers, Brent

Re: Average Age in hpmuseum forum

*Message #66 Posted by **Les Bell** on 14 Feb 2009, 6:53 p.m.,*
in response to message #1 by Nacho

Quote:

> I would like to know more or less the average age of this forum

I can think of a number of calcs that will let you do that and more, if we provide the data. ;)

For the record, 53 here, Comp. Sci. PhD student (you'd think I would have more sense at my age). First calc was a 45 back in 1974.

Best,

--- Les
[http://www.lesbell.com.au]

Re: Average Age in hpmuseum forum

*Message #67 Posted by **John Keith** on 14 Feb 2009, 8:12 p.m.,*
in response to message #1 by Nacho

I am 50; my first HP was the 16c, followed shortly by the 15c. Currently, I mostly use (appropriately) the 50g.

John

Re: Average Age in hpmuseum forum

*Message #68 Posted by **Tim Wessman** on 14 Feb 2009, 9:02 p.m.,*
in response to message #1 by Nacho

26

Not involved much at all with HP calculators. . . really.

TW

Re: Average Age in hpmuseum forum

*Message #69 Posted by **Iqbal** on 14 Feb 2009, 9:57 p.m.,*
in response to message #68 by Tim Wessman

41 going on 42. My first HP was a 41CX that my dad bought on a trip to NY. Found it in a small out of the way store in Manhattan.

Re: Average Age in hpmuseum forum

*Message #70 Posted by **BruceH** on 17 Feb 2009, 8:00 p.m.,*
in response to message #68 by Tim Wessman

> Quote:
>
> Not involved much at all with HP calculators. . . really.

Let me guess - for the first six months you have to sweep the floor and make the tea until you can be trusted not to break anything?

:-)

Re: Average Age in hpmuseum forum

*Message #71 Posted by **Greg Swartz** on 14 Feb 2009, 10:47 p.m.,*
in response to message #1 by Nacho

Adding my .02

I'm 44. I have to admit I did use my parent's friend's TI datamath2500II while in junior high ('77-'78) but then discovered that my father had an HP35. I've been hooked on RPN ever since. It just seemed to... work... with my brain. It was how I think...

Got my father's (yes, he continued to upgrade) 41C for use in high school when he purchased a 41CX. Still remember my math teacher looking at the 41C during a test (took it out of the case) and looking at me like... WTF??? Then inserting it back into the case with that OMG! look on his face. Priceless!

I did purchase an HP 28S during college and an HP 32SII after that.

I collect them now, just to reminisce. And, yes, I still use them on a daily basis. I change-up every few days, just for fun. I love these devices!

Greg

Re: Average Age in hpmuseum forum

*Message #72 Posted by **DaveJ** on 14 Feb 2009, 11:43 p.m.,*
in response to message #1 by Nacho

36ish

Dave.

Re: Average Age in hpmuseum forum

*Message #73 Posted by **HrastProgrammer** on 14 Feb 2009, 11:55 p.m.,*
in response to message #1 by Nacho

Age 38, software developer.

Calculators: 3x HP-48GX (each with 128K and 2048K RAM cards), HP-48G (expanded to 768K), HP-48G+, HP-49G, HP-49G+, HP-41C, PC-1251, PC-1403, TI-57, TI-59.

Emulators: HP-41X, HP-42X, HP-71X, HP-11E, HP-12E, HP-15E, HP-15X, HP-16E, HP-41E, TI-57E.

Re: Average Age in hpmuseum forum

*Message #74 Posted by **Marcus von Cube, Germany** on 15 Feb 2009, 1:20 p.m.,*
in response to message #73 by HrastProgrammer

HrastProgrammer, you could have mentioned that you're the author of the emulators you mention. :)

BTW, I've just mentioned your site to members of the French MySilicium forum.

Re: Average Age in hpmuseum forum

*Message #75 Posted by **HrastProgrammer** on 16 Feb 2009, 1:17 a.m.,*
in response to message #74 by Marcus von Cube, Germany

HrastProgrammer, you could have mentioned that you're the author of the emulators you mention. :)

Well, I mentioned them here just as a user of them :-)

BTW, I've just mentioned your site to members of the French MySilicium forum.

Thanks. What was the thread about?

Re: Average Age in hpmuseum forum

*Message #76 Posted by **Marcus von Cube, Germany** on 16 Feb 2009, 2:55 a.m.,*
in response to message #75 by HrastProgrammer

They were talking about the TI-95, so I've mentioned TI95E.

Re: Average Age in hpmuseum forum

*Message #77 Posted by **Howard Lazerson** on 15 Feb 2009, 3:11 a.m.,*
in response to message #1 by Nacho

70, Started with Sharp 5813 [30 steps in prgrm mode]in the 80's for lens calculations in my practice,then got Casio FX 602P for astronomy hobby-great features but small keys and hard to program. One day I saw a nice looking calculator in a display case,[11C] clerk told me " forget it" it uses reverse polish notation!-I thought he was joking. REVERSE POLISH NOTATION-what the h..l is that! When I tried it out , the keys felt positive and the display was nice so I bought it not noticing lack of an equal key. After reading the manual and doing some simple math problems, I was hooked! Later got 41cx ,32ii and my favorite-42s and 35s.

Re: Average Age in hpmuseum forum

*Message #78 Posted by **Thomas Radtke** on 15 Feb 2009, 4:05 a.m.,*
in response to message #1 by Nacho

41.

My first prgrammable calculator was the amazing Casio fx-180p. Started my HP addiction with a 20S in 1991 and soon upgraded to a 32SII. Both calculators are still alive, but not used anymore. Recently, I gave up on physics and started a career in technical writing. For that, my 18C/19B calculators are way better suited ;-).

Thomas (Germany)

Re: Average Age in hpmuseum forum

*Message #79 Posted by **Stuart Sprott** on 15 Feb 2009, 6:13 a.m.,*
in response to message #78 by Thomas Radtke

Hi,

My present age is 65. I started in Surveying using a curta calculator and trig tables. The HP 35 was just revolutionary at the time. I was hooked. Since then I have had the following calcs.

HP25, HP25c, HP41, HP42, HP48 and currently a HP 50. I have always written my own programs and still continue to write them.

I am still active in Surveying.

Mr Sprott can you contact me please

*Message #80 Posted by **Iqbal** on 15 Feb 2009, 10:35 a.m.,*
in response to message #79 by Stuart Sprott

iqbal@tstt.net.tt

Re: Average Age in hpmuseum forum

*Message #81 Posted by **Matti Övermark** on 15 Feb 2009, 9:03 a.m.,*
in response to message #1 by Nacho

40. Purchased a 15C at high school (Christmas 1983) at age 15. Started at university in 1989 and did *not* purchase either the 42S nor the 28S - the first had to little memory, the 28 a too clumsu configuration (had used the 28C a friend of mine borrowed to me during his mil. service for a year). Instead I thought that "there is better to come..." - and there was. Bought the 48 SX in the summer of 1990 after 1 year at University. Later bought the Mac cable and also later a PC cable. One of these cables cost about a fourth of the price of the 48 SX.

Then after having completed my studies I have aquired some other models (in no particular order), such as a second 15C, 12C, 12C platina, 19Bii, 17Bii+, 71B, 41CX, 97C, 11C, 48GX, 48G+ with 2.3 MB RAM extension, 25, 25C and finally a HP-50G that is the best of them all in my opinion. Why? Because it bears the heritage from the 41->48->49Gxy->50 and does that with a fast processor. Second best is the HP-15C it fits in a pocket and runs many a click per set of batteries.

Matti (Sweden)

Re: Average Age in hpmuseum forum

*Message #82 Posted by **Steve Keeley** on 15 Feb 2009, 3:17 a.m.,*
in response to message #1 by Nacho

I'm 56.438065482395 years old.

My first scientific calculator was a TI-30 when I started college back in 1977. A year later I upgraded to a TI-58. In late 1980, I agonized over whether to get a TI-59 or an HP 41C. The TI-59 would have been cheaper, more powerful out-of-the-box (I'd have to get the 41's Math and Stat ROMs and card reader to have the same functionality), would be easy to adopt to after the 58, and didn't require me to learn how to use that silly RPN. But the 41C had more growth potential, and the alphanumeric capability made the difference. I bought the 41C, figured out RPN in 15 minutes, and it's been HPs ever since.

I no longer have the 41C; it got a fatal zap in the mid-80s.

Since then: 15C, 28C, 28S, 42S, 20S, 48SX, 48GX ...(14 year lull)... 35s and 50g. All of these are still working.

Re: Average Age in hpmuseum forum

*Message #83 Posted by **C.Ret** on 15 Feb 2009, 1:01 p.m.,*
in response to message #82 by Steve Keeley

HI,

I am 40 years old. Consultant in Material and Surfaces Sciences.

First (physical) contact with an HP was during high school pratical works in 1987 when the chef of the lab

let me use his HP-41C. Next HP I have used was an the boss's HP-15C during my first employment.

I own and use a HP-28S since 1991 (and 82240A thermal IR printer since 2006).

Re: Average Age in hpmuseum forum

*Message #84 Posted by **jotne** on 15 Feb 2009, 12:23 p.m.,*
in response to message #1 by Nacho

Average age up to now is 48 year.

Re: Average Age in hpmuseum forum

*Message #85 Posted by **db (martinez, ca.)** on 15 Feb 2009, 12:42 p.m.,*
in response to message #84 by jotne

According to my 12c; i am 19,561 days old. That'll age your statistical average a bit.

Re: Average Age in hpmuseum forum

*Message #86 Posted by **Trent Moseley** on 15 Feb 2009, 6:02 p.m.,*
in response to message #84 by jotne

I'll raise your average- I'm 82.

tm

Re: Average Age in hpmuseum forum

*Message #87 Posted by **Mad Dog ebaycalcnut** on 15 Feb 2009, 2:52 p.m.,*
in response to message #1 by Nacho

Chronological Age = 42

Some people here on the forum would say my mental age is closer to 4.2

Re: Average Age in hpmuseum forum

*Message #88 Posted by **Karl Schneider** on 15 Feb 2009, 6:38 p.m.,*
in response to message #1 by Nacho

Well, in the interest of disclosure, I ought to chime in...

45 -- bought my HP-15C new in 1983 after having coveted the HP-41 and HP-34C, but not being able to afford them.

I started collecting in 2002 after seeing and buying the "foregone" HP-34C and and HP-41CV in a local used-electronics store. My collection now includes at least one of each model in three series -- HP-41, Voyager, and Pioneer. My collection represents RPL with the HP-28C, HP-48G, and HP-49G. I also have the HP-71B.

For those who are compiling statistics of this data on an RPN-based HP calc, I'd recommend *not* the HP-21S Stat/Math, which utilizes the summation method for calculation of mean and standard deviation. Instead, I'd use the HP-17B/BII or HP-27S. These models save all input data for sorting, and the calculation of median, minimum, maximum, and range. I believe that all the RPL-based models will do the same.

So far --

```
responses: 85   (includes Eric Smith's, which is not as obscure as it might seem...)  ;-)


median:    46
minimum:   22
maximum:   82
mean:      48.0 (closer to 48.5, if reported ages were not rounded down)
std dev:   11.9 (sample)
```

I'll post final results and a makeshift histogram when the responses stop coming in...

The average ages are about what I expected, based on previous instances of this topic. The era in which scientific calculators debuted, and later became capable and affordable, coincides with the late youth and young adulthood of the majority of us.

-- KS

Edited: 19 Feb 2009, 3:18 a.m.

Re: Average Age in hpmuseum forum

*Message #89 Posted by **brianh** on 15 Feb 2009, 8:01 p.m.,*
in response to message #1 by Nacho

I was introduced to RPN on my brother's 25 back in the late 70's, but my first calculator was the 32C, purchased new in 1981. Since then I've been an HP-only fan, most recently keeping my classic 11C and 32S running at my deskside. Things have brightened up, though. The classic calculators have been lovingly retired and I now have a 35S and a 50g deskside and the amazing i41CX loaded on my iPhone

Oh, and I'm 52 and I've worked in the mapping, charting, survey and geodesy field most of my career.

Re: Average Age in hpmuseum forum

*Message #90 Posted by **Mark A. Taylor** on 16 Feb 2009, 1:35 a.m.,*
in response to message #89 by brianh

I'm 52, born June 23, 1956.

I got my first HP, a 41CV, rather late (1988). I used a TI-58 in college.

I learned to use a slide rule for high school chemistry and physics (1973-4).

Currently, I'm licensed as both a land surveyor and civil engineer in California. I use a 41CX with a survey pac almost daily at work.

I've collected a large amount of HP 41 items from the auction site over the past 8+ years.

I've enjoyed reading the responses on this thread.

Thanks, Mark A. Taylor

Re: Average Age in hpmuseum forum

*Message #91 Posted by **MikeO** on 16 Feb 2009, 1:49 a.m.,*
in response to message #1 by Nacho

Just turned 46.

Software developer, pilot.

Although I remember playing with an HP-35 briefly, my first real exposure to HP calculators (my father's) was the HP-65, and eventually the HP-97. The first HP calculator of my own was the HP-16C, acquired shortly after I started with Boeing as a software developer. Still have that these.

Wrote emulators for the HP-67 and HP-97 - which I use at least a few times a week. For example, calculating Eric Smith's age in Earth years - based on his given age in cesium beats... Eric, wow..

Loving the 50g now too.

-Mike

Edited: 16 Feb 2009, 1:51 a.m.

Re: Average Age in hpmuseum forum

*Message #92 Posted by **Antonio Maschio (Italy)** on 16 Feb 2009, 2:21 a.m.,*
in response to message #1 by Nacho

42, but close to 43 at the end of March (born in 1966).

Civil engineer (but don't count on this).

Italian (you can count on this).

HP calculators fan (you can bet on this).

-- Antonio

Re: Average Age in hpmuseum forum

*Message #93 Posted by **Arnaud Amiel** on 16 Feb 2009, 3:58 a.m.,*
in response to message #1 by Nacho

Like a few here, I do have hp's older than me as I am 33.

Arnaud

Re: Average Age in hpmuseum forum

*Message #94 Posted by **Tom Lianza** on 16 Feb 2009, 9:07 a.m.,*
in response to message #93 by Arnaud Amiel

56 years old (0x38) My first machine was a 35 red dot which was stolen. I owned a compucorp 326 machine after my 45 was stolen. I had a 28c, and I had a 41 which I still use today. Today I own most HP calculators in my collection with the exception of some of the machines in the 10c class. I still like the 41cx,32sII and 42s the best. I find the RPL machines a little baffling.

Re: Average Age in hpmuseum forum

*Message #95 Posted by **Pavel Nemec (CZ)** on 16 Feb 2009, 9:04 a.m.,*
in response to message #1 by Nacho

Halo,

I just turned 43, civil engineer.

First encountered HP calc was HP 9800 family dusted machine at the colleague in early 80s which I was only the one interested in and (probably) the only one who learned to use it. Around that time, the special „roadshow“ HP bus came to Prague mainly with measurement equipment and also one 41C. We were able to see and even touch it! Any HP was only a dream for me. The most I could afford (and buy in the special luxury western goods shop with special money-coupons obtained on the black market) was TI 58C for which – not to be able to reach to TI 59 - I made a paper punch card reader/programmer (just U shape trace out of the copper laminated board with the row of small springs making shortcut of the row and column keyboard matrix when twin openings in the punch card get under and simulated key presses) while I managed to solder external socket to the keyboard conduits into the machine.

I found this forum quite some time before I get my first RPN calculator (not counting kind of RPN simulator for TI) HP 35s. I am not brave enough to contribute to math discussions and astonishing solutions (I get sucked with Valentines' factorial Mini challenge for almost a year), but I enjoy to follow this forum.

Pavel

Edited: 16 Feb 2009, 9:23 a.m.

Re: Average Age in hpmuseum forum

*Message #96 Posted by **Joerg Woerner** on 16 Feb 2009, 11:51 a.m.,*
in response to message #1 by Nacho

Age: 48

First SR-50A in 1975 for DM 252.00 and TI-58 in 1977 for DM 298.00. First HP-20S in 1991 ;-))

Regards, Joerg

Re: Average Age in hpmuseum forum

*Message #97 Posted by **David Ramsey** on 16 Feb 2009, 11:58 a.m.,*
in response to message #96 by Joerg Woerner

Current age: 52 (53 in 3 weeks, though...)

Used TI calcs through late high school and most of college, because I couldn't afford HPs. My last year of college I did have a 19C that a friend of my father gave me. I bought my first HP, a 41C, after college when I had no earthly use for it.

The HP deprivation of my formative years warped my young brain and inculcated a lifelong passion. *Now I have them all.*

The scientifics, that is. A couple of financials have come through, but I donated my cherry HP-70 at the 2006 club meeting as a door prize.

Re: Average Age in hpmuseum forum

*Message #98 Posted by **Herbert Crepaz (UK)** on 16 Feb 2009, 8:37 p.m.,*
in response to message #1 by Nacho

Age 36, to lower the average a bit.

I started my addiction with a TI-30 Galaxy around 1985 which I bought mainly because it featured a Voyager

like form factor with large = key and I could not afford the HP offerings at that time.

When I entered mechanical engineering college I opted for the 11C. Moving on to University in 1992 I decided its time to splash out and get a 42S, the ultimate in shirt pocket sized excellence(..if it had only i/o, a simple equation editor...)

Now as a postdoc in experimental physics I do the daily number crunching with a new 35S or Free42 (some backup from Matlab/Mathematica included ;-)).

One thing is interesting. The best selling HP model is probably the 12C/P which you wouldn't guess reading through this thread/forum. Where are the business folks (and the woman)? Seems they are immune to this special kind of (in)affection.

Greetings Herbert

Re: Average Age in hpmuseum forum

*Message #99 Posted by **Don Shepherd** on 16 Feb 2009, 9:26 p.m.,*
in response to message #98 by Herbert Crepaz (UK)

I would guess that about 99.99% of the people who buy the 12c:

1. have never visited this forum
2. have never discovered (or needed) keystroke programming
3. couldn't care less about RPN, and use algebraic mode if they have a 12cp or use a desktop calculator for normal arithmetic if they have a 12c

I like the 12c for its simple programming model, and I look forward to getting the super-charged version later this year, hopefully.

Re: Average Age in hpmuseum forum

*Message #100 Posted by **Katie Wasserman** on 17 Feb 2009, 9:58 a.m.,*
in response to message #99 by Don Shepherd

Pretty much every person that works at every one of my wall street clients has a 12C on their desk. Based on that, I'd like make some comments on your comments.

> Quote:
>
> 1. have never visited this forum

True!

> Quote:
>
> 2. have never discovered (or needed) keystroke programming

They typically use some simple program that they plug when they get a new calculator, but they don't know how to program.

> Quote:
>
> 3. couldn't care less about RPN, and use algebraic mode if they have a 12cp or use a

> desktop calculator for normal arithmetic if they have a 12c

They don't care about RPN nor do they really understand it, but they are so set in their ways that changing to algebraic entry causes them to screw up. So they use RPN more even on the new 12C's.

Edited: 17 Feb 2009, 10:01 a.m.

Re: Average Age in hpmuseum forum

*Message #101 Posted by **Don Shepherd** on 17 Feb 2009, 12:23 p.m.,*
in response to message #100 by Katie Wasserman

Thanks Katie, that's interesting. So they have just learned over the years to use the ENTER key to separate their two numbers, and press the operation key last. But if we were to ask them about stack levels, they would say "what in the world are you talking about?". :)

Re: Average Age in hpmuseum forum

*Message #102 Posted by **Walter B** on 17 Feb 2009, 12:33 p.m.,*
in response to message #101 by Don Shepherd

Still looking for causes of the financial crisis? d;-)

Re: Average Age in hpmuseum forum

*Message #103 Posted by **Katie Wasserman** on 17 Feb 2009, 4:59 p.m.,*
in response to message #101 by Don Shepherd

Exactly! They have no idea what a stack is and have probably never used more than the X and Y registers. But they do use must of the financial functions, of course, and will probably appreciate the super fast speed in the next release, once they learn to trust it.

Which reminds me of a question I had.... If the next release is indeed running the original code in an emulator, how long will a PSE instruction last for? It seems to me that this is just a timing loop in the original 12C, if so it's going to go by in the blink of an eye.

Re: Average Age in hpmuseum forum

*Message #104 Posted by **Ken Shaw** on 17 Feb 2009, 12:49 p.m.,*
in response to message #100 by Katie Wasserman

I suspect the Wall Street types are all in banking and investments. I think the answers are (slightly) different for the actuarial community. I'm being presumptuous here, but I'd guess:

1. True.

2. Partly true. But most would never program a 12C. The programming capabilities of the 12c weren't really useful to actuaries. The IBM PC quickly appeared on desks in the early 1980s, where APL was the preferred programming paradigm. Interestingly, APL syntax is quite similar to RPN (it's largely postfix but reading from right to left). This all changed when Excel came on the scene.

3. True. Don't care and prefer algebraic calcs. Many use a 4-banger or adding-machine style business calc, and do anything more complex in Excel.

Edited: 17 Feb 2009, 12:52 p.m.

Re: Average Age in hpmuseum forum

*Message #105 Posted by **Palmer O. Hanson, Jr.** on 17 Feb 2009, 5:46 p.m.,*
in response to message #100 by Katie Wasserman

> Quote:
>
> They don't care about RPN nor do they really understand it, but they are so set in their ways that changing to algebraic entry causes them to screw up. So they use RPN more even on the new 12C's.

Many years ago, before all of the customer representatives at financial institutions had a computer terminal at their desk, I was doing a CD rollover. The representative did the various cases that I wanted done on her HP-12C. When I selected one option she entered some calculations on her old desktop calculator that had a printer. She had to do that because the paperwork that she had to assemble had to have a printout.

When she was doing the various cases I was checking her results with my TI-66. She had no idea how a customer could do that.

Even earlier than that I encountered a situation where I had reinvested a CD at a higher rate during the year but the accumulated interest at the end of the year was smaller than the previous year. I went to the customer rep with my trusty TI-59 in hand, prepared to explain what had happened. I hit a blank wall. After a long time I finally got to see the head of data processing who was able to understand what I was saying.

Banking has always been a scary endeavor!

Re: Average Age in hpmuseum forum

*Message #106 Posted by **Anthony L. Mach** on 17 Feb 2009, 10:06 p.m.,*
in response to message #105 by Palmer O. Hanson, Jr.

Hello All,

Well, I'm 32 (and a Ham as well).

Actually, I ended up getting my mortgage through a local bank because of the 12C (interesting story). I use one exclusively as my career rarely requires the use of trig functions (although I envy the fine functions as delivered by Valentin).

My wife and I got pre-qualified at two financial institutions. The first experience was unsatifying as the loan officer made a glaring error in the payment calculation (later rectifying it). Needless to say, he was using the computer to calculate the schedule. I was not impressed.

The experience at the second bank was one of pure enjoyment. I first met with the loan officer (who promptly broke out her 12C). She then brought her young assistant in (he brought his 12C). The branch manager (a friend of my father's) then brought his in. It was wonderful and refreshing to see people who know what's going on. We decided to do business with them. I later found out that the loan officer and her assistant both have two 12Cs (you know, just in case one needs batteries).

While this story may seem outrageous, it leads me to believe that HP users are professionals. That has value.

Now, when are the HP-HAMS going to get together at Dayton?

Best,

Tony (AB9IO)

Re: Average Age in hpmuseum forum

*Message #107 Posted by **bill platt** on 17 Feb 2009, 10:25 p.m.,*
in response to message #106 by Anthony L. Mach

Somewhere I have a slip of paper with all the hams I've met on this forum. It is pretty long.

Re: Average Age in hpmuseum forum

*Message #108 Posted by **Garth Wilson** on 18 Feb 2009, 1:36 a.m.,*
in response to message #107 by bill platt

> Quote:
>
> Somewhere I have a slip of paper with all the hams I've met on this forum. It is pretty long.

WB6NUY here.

Re: Average Age in hpmuseum forum

*Message #109 Posted by **Achim (Germany)** on 17 Feb 2009, 6:41 a.m.,*
in response to message #1 by Nacho

Hi everybody,

I am 51.

During the 70s and during studies (physics) I used TI calcs (SR56, TI59) because HPs where too expensive for me. Later I switched to Sharp (PC-1500 a really wonderfull machine I still use for aviation, I developed a bunch of assembler programs for it).

My first contact to HP was a HP9810A we had at school in 1973. I really loved this machine but it was completely unaffordable with $2500 (10000DM) at that time.

My real HP-time began after my doctorate when I worked in several IT projects as IT consultant and developer with HP workstations (400 and 700 series) and HP-UX servers. Today I'm working in the management of a media company.

I'm collecting pocket calcs since the late 70s (lots of TIs, e.g. the rare SR-60, later also HPs). Since 2001 I'm collecting and restoring the heavier machines (9810/20/30, 9825/31/35/45 and lots of peripherals).

Since 2006 I'm developing the HP9800 emulator for those machines (www.sourceforge.net/projects/hp9800e) in my leisure time.

Cheers, Achim

Re: Average Age in hpmuseum forum

*Message #110 Posted by **Ken Shaw** on 17 Feb 2009, 12:08 p.m.,*
in response to message #1 by Nacho

156 days older than Mark Taylor.

Graduated in Physics but ended up in the financial services industry, where I do reinsurance analysis and pricing work.

My university calc (1975) was the Radio Shack EC-425, a rebadged TI SR-10. My first HP was a 12C supplied to me when I was an actuarial student. My daily calc is a 17BII. It was on this forum that I first learned about the Solver in this calc. Prior to that I had simply used it as a 12C replacement. I kept lamenting the lack of programming on the 17 and never thought to check the manual! Like some others here, I think this is an underrated machine, and prefer the algebraic solver to the clunky implementation in the 42S. An RPN version of the 27S would be my ideal calc.

Re: Average Age in hpmuseum forum

*Message #111 Posted by **Joel Setton (France)** on 17 Feb 2009, 4:42 p.m.,*
in response to message #110 by Ken Shaw

I'm 55 and counting...

My first contact with HP calcs was a 1973 ad, but the price of the HP-35 was way beyond anything I could afford at that time.

The first HP I owned was an HP-25 in 1976, which made me part with my first paycheck. I've been an RPN addict since that day. Now my collection includes an HP-35, HP-45, HP-55, HP-67, HP-97, HP-32E, 33E, 34C, 32S, 20S.

And on a few rainy Sunday afternoons, I programmed a Motorola 68HC11 microprocessor to emulate an RPN calculator, just for the fun of it -- and it WORKED. Talk about an RPN addiction!

Joel Setton

Re: Average Age in hpmuseum forum

*Message #112 Posted by **Michael de Estrada** on 17 Feb 2009, 5:26 p.m.,*
in response to message #111 by Joel Setton (France)

Joel - I am sorry, but I must report you to the RPN police unless you immediately destroy the HP-20S. ;>)

Re: Average Age in hpmuseum forum

*Message #113 Posted by **Joel Setton (France)** on 18 Feb 2009, 3:36 p.m.,*
in response to message #112 by Michael de Estrada

Er - I didn't buy the 20S, it was given to me! And even though it's not RPN, it's an HP calculator... and an HP calculator should never go to waste!

Re: Average Age in hpmuseum forum

*Message #114 Posted by **Michael de Estrada** on 19 Feb 2009, 2:31 p.m.,*
in response to message #113 by Joel Setton (France)

Je pense que vous êtes trop sérieux. C'était juste une plaisanterie.

Re: Average Age in hpmuseum forum

*Message #115 Posted by **Walter B** on 19 Feb 2009, 7:32 p.m.,*
in response to message #114 by Michael de Estrada

Mais oui -- ils sont fous, les Romains ... emh, les collecteurs des calculatrices ;)

Re: Average Age in hpmuseum forum

*Message #116 Posted by **BruceH** on 17 Feb 2009, 8:10 p.m.,*
in response to message #1 by Nacho

42 (and a half) but still on my first set of batteries!

Re: Average Age in hpmuseum forum

*Message #117 Posted by **bill platt** on 17 Feb 2009, 8:37 p.m.,*
in response to message #116 by BruceH

I'm still on my first set of batteries, too ;-)

Re: Average Age in hpmuseum forum

*Message #118 Posted by **Eric Rechlin** on 17 Feb 2009, 11:35 p.m.,*
in response to message #1 by Nacho

I'm 27.

My first HP calculator was the 48G in 1995. Now I have several that are older than I am.

Re: Average Age in hpmuseum forum

*Message #119 Posted by **Fred Lusk** on 18 Feb 2009, 1:12 a.m.,*
in response to message #1 by Nacho

I'm 50. I was in 9th grade when my dad bought an HP-35, and the rest is history. I still use my 21-year-old HP-42S every day.

Re: Average Age in hpmuseum forum

*Message #120 Posted by **Philippe Lasnier** on 18 Feb 2009, 4:15 p.m.,*
in response to message #119 by Fred Lusk

I'm 44, and about 5 minutes old on the MoHPC; but I've been interested in HPs since the late 1970's, when I managed (can't remember how) to get an HP-41CV. I loved it! Sadly, I parted with it about 2 years afterwards, although I always regretted it. It's only recently, about a year ago, that I realised (finally) that surely I could afford another HP-41CV, if only they still existed...I must have been blind all these years :-) I've gone a bit collector-mad now...probably the over compensation from a good 24 years of privation.

Re: Average Age in hpmuseum forum

*Message #121 Posted by **Adrian Godwin** on 18 Feb 2009, 6:43 p.m.,*
in response to message #1 by Nacho

Wow! What a thread !

49.9, had a Canon, a Commodore and a Casio through school and bought my first HP, a 16c, in 1985 when I tried and failed to get a Casio pocket Basic machine to handle hex conveniently.

Always an HP instrument fan, I liked the calcs just as much but used the 16C almost exclusively until I started collecting them in about 1995, partly because I came across a cache of HP35s.

I now have all the 10C series, 10,35,45,65,70,41CV,71B,32SII,48SX. The 16C is still my favorite, the 15C is very popular and the 32SII is used when I don't want to risk taking a Voyager. The 16C is the only one I ever bought new and is still the most I paid, though the 10C came quite close.

Re: Average Age in hpmuseum forum

*Message #122 Posted by **Chris McCormack** on 20 Feb 2009, 2:33 p.m.,*
in response to message #1 by Nacho

My age (47) hits close to the mean, and I'm an electrical engineer.

My HP history was an HP-29C I bought using newspaper money in high school (late 70's). That was displaced by an HP-15C in college (1981?) and supplemented by an HP-48GX when they first came out in 1993 (special deal at ASEE conference) when I went back for a doctorate. My latest HP is the HP-50G.

I currently have the HP-15C in my briefcase, and the HP-50G in the desk drawer at work.

While I don't 'collect' HP calculators, things get more interesting when you add other family members. My wife is one of the few women (the only woman) I know who carries an HP-11C around in her purse. (She bought it while an undergrad in engineering.) My daughter (a sophmore ME student) uses an HP-49G+. (She 'likes' the color scheme better than the 50G - but she is having some keyboard issues.) My son in high school has an HP-48G. The junior high son is using an HP-33.

Missing in action are: the HP-29C (might have gone to my younger sister, then disappeared); the HP-48GX and two memory cards (possibly left in a hotel or on an airplane); and the HP-32SII my daughter used in junior high (stolen).

Killed in action: the HP-49G+ with the smashed screen, a victim in my daughter's backpack.

Waiting in the bullpen: two HP-49G+ calculators with the new keyboard (got a good deal on that auction site) - one to replace the flaky keyboard calculator my daughter has, and one to replace the 48G with faster/better capabilities (the 48G will trickle down to the HP33 user, and the 33 will go to the youngest, currently without any calculator); and a spare HP33.

Finally, there is the HP 6S, but that's in a dark drawer, and we don't talk about it much :)

Re: Average Age in hpmuseum forum

*Message #123 Posted by **Dave Shaffer (Arizona)** on 20 Feb 2009, 3:32 p.m.,*
in response to message #122 by Chris McCormack

> Quote:
>
> My wife is one of the few women (the only woman) I know who carries an HP-11C around in her purse.

Add my wife, another astronomer (like me) to your list - although it more likely is in her briefcase, along with one of her two 32S's.

Re: Average Age in hpmuseum forum

*Message #124 Posted by **Steve (Australia)** on 21 Feb 2009, 6:41 a.m.,*
in response to message #123 by Dave Shaffer (Arizona)

I'm 45. First calculator an HP41CV in 1981 (I think). At the time I was tossing up between HP and TI but the alpha capabilities did it for me.

My wife more recently completed a Medical Science degree and asked me "With all those calculators, surely there's one I can take to uni?" I asked her to pick the one she wanted to use and she picked an HP28S. She graduated and is now a Senior Diagnostic Medical Scientist, I'm sure in part because of the calculator ;-)

I started re-collecting HP stuff about 10 years ago, with my basic intent to get as much HP41 related material as possible. My collection is large enough that I make sure my wife never sees it all at once :-D

Re: Average Age in hpmuseum forum

*Message #125 Posted by **Ken Dodaro** on 21 Feb 2009, 5:08 a.m.,*
in response to message #1 by Nacho

I am 52. I'm new to posting here, but I've been coming to this site for many years now. My first HP was an HP-15C which I bought back new in early 1986. It is still working wonderfully. Since then, I've acquired an HP-28C, HP-28S, HP-48GX, HP-32SII, HP-48SX, HP-39G, HP-49G, HP-49G+, HP-50G, HP-6S Solar, HP-30S, HP-9G, HP-42S, HP-20S, HP-32S, HP-33S, and an HP-35S. I also have an HP-42S application on my iPhone. I still have all of the above calculators, with the exception of the HP-28C, and they are all in great working order. When I saw the change in the quality of some of the newer HP calculators, I worked hard to get my hands on some of the older models.

I know this is a small collection, compared to many of you. I'm proud of it. As a math teacher, I've had hands-on experience with many different types of calculators. However, I do prefer RPN/RPL over any other entry-system logic, bar none.

Updated final statistics: Average Age in HP Museum forum

*Message #126 Posted by **Karl Schneider** on 22 Feb 2009, 12:01 a.m.,*
in response to message #1 by Nacho

After eight-plus days, and responses dwindling to a trickle, maybe it's time to tabulate the results, using an HP-17B. I'd say that our sample is quite significant in a statistical sense:

```
responses: 92


median:    46
minimum:   22
maximum:   82
mean:      48.0
std dev:   11.5 (sample)
modes:     52(8), 45(7), 42(6)
```

A numerical histogram (with the help of the SORT function):

```
[age in years]
[number of respondents]


20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39
       1           2  1        1     1  1     1  3  1  2  1
```

```
40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59
 5  4  6  4  3  7  3  5  1  3  4  1  8  3  1  2  2

60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79
 3     2  1  1  2              2        1

80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 99 98 99
 2     1
```

Middle-aged people definitely characterize this group. I still believe that is attributable to the "genesis era" of the product being discussed. The average age of PPC members back in the 1980's might have been lower.

-- KS

Edited: 3 Mar 2009, 2:22 a.m. after one or more responses were posted

Re: Final statistics: Average Age in HP Museum forum

*Message #127 Posted by **Trent Moseley** on 22 Feb 2009, 10:08 p.m.,*
in response to message #126 by Karl Schneider

Karl,

I don't know if I am amazed or humbled, that I'm the oldest at 82. My first was an HP-25C in 1978. It is in perfect condition; my first love in HP calculators.

tm

Re: Final statistics: Average Age in HP Museum forum

*Message #128 Posted by **Ivan Nejgebauer** on 23 Feb 2009, 4:07 a.m.,*
in response to message #126 by Karl Schneider

Heh, seems I'm late to the party, but my data point won't change much.

Age: 40.

Calculators: first, an HP-35, bought second-secondhand cca 1982, introduced me to RPN. I've been a fan ever since. The calculator still works. Then, a 15C, 1986. It was a more than brilliant high school calc, passed on to my sister for college. (She managed to put it close to a space heater once, so it has an ugly molten gash on its case, but it still works.) Then, in 1990, 48SX. My college calculator, has helped me tremendously and still works. I can use it blindfolded.

i.

Re: Final statistics: Average Age in HP Museum forum

*Message #129 Posted by **Thomas Okken** on 1 Mar 2009, 1:57 p.m.,*
in response to message #126 by Karl Schneider

Age: 44. HP calculator user since 1977, an HP-25. I don't have it any more, since I had to sell it to help raise the money for the HP-19C that would replace it, but if you have one with a small dent made by the tip of a hot soldering iron on one of the sides, and a Brazil serial number 1706Bsomething, you could have my old high school calculator in your hands. Oh, yes, it is an HP-25C now; it broke once and I had to send it in for repair, and it came back as the fancier version. It was out of warranty but they only charged Dfl. 25. Now that's service you don't see every day. :-)

- Thomas

Re: Final statistics: Average Age in HP Museum forum

*Message #130 Posted by **Gerson W. Barbosa** on 1 Mar 2009, 2:17 p.m.,*
in response to message #126 by Karl Schneider

> Quote:
>
> ```
> mean:       48.0
> ```

47y 7m 7d

Regards,

Gerson.

Re: Final statistics: Average Age in HP Museum forum

*Message #131 Posted by **Steve Simpkin** on 1 Mar 2009, 6:29 p.m.,*
in response to message #130 by Gerson W. Barbosa

> Quote:
>
> 47y 7m 7d

47y 8m 24d So there, Kid! ;-)

Steve Simpkin

Re: Final statistics: Average Age in HP Museum forum

*Message #132 Posted by **Gerson W. Barbosa** on 1 Mar 2009, 7:25 p.m.,*
in response to message #131 by Steve Simpkin

Last year Giancarlo Mattioni compiled a table based on a similar survey (http://www.hpmuseum.org/guest/giancar/whererwe.pdf). Unlikely as it may seem the list includes a forumer who lives in the same city as I do. Only two other people born in 1961 though.

Regards,

Gerson.

Re: Final statistics: Average Age in HP Museum forum

*Message #133 Posted by **Karl Schneider** on 3 Mar 2009, 2:26 a.m.,*
in response to message #131 by Steve Simpkin

I counted you both as 47; not close enough to your 48th birthdays.

The four new "quadrogeneraians"(?) and young sextogenearian tightened the distribution, but did not alter the mean or median.

-- KS

Re: Final statistics: Average Age in HP Museum forum

*Message #134 Posted by **Peter A. Gebhardt** on 2 Mar 2009, 5:45 a.m.,*
in response to message #126 by Karl Schneider

Although hesitating not to spoil HP's marketing expectations any further - add another 60 years to the list ;-))

Best regards,

Peter A. Gebhardt

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My calculator, my self?

*Message #1 Posted by **Peter Klein** on 13 Feb 2009, 2:31 a.m.*

Is a calculator more than just a calculator?

I've been pondering this recently. My post the other day about my "RPN addiction" was actually spurred by a couple of old algebraic calculators.

My father, who was a theoretical physicist, died three years ago. My mother died a month ago. In her apartment was an old TI-30 SLR solar-powered calculator that my Dad had used.

http://www.datamath.org/Sci/Modern/TI-30SLR_2.htm

I took it home and started playing with it. Using it now and then somehow makes me feel more connected to my Dad, despite the fact that I much prefer HP RPN calculators.

My Dad retired in 1986. He was decidedly from the slide rule, pencil and paper era. In his later years, he used the TI to revisit some of the math he'd used in his career. Some years back, he gave me a Radio Shack EC-4014, basically a rebadged Casio

http://www.voidware.com/calcs/fx85m.htm

Dad said that he'd bought the EC-4014 because it did more than the TI-30 SLR. But he liked the TI better.

Now that old TI-30 SLR is actually a nice little machine. It seems well-made, better than many with the TI-30 moniker. The buttons, while not of HP quality, feel much better than the squishy-rubbery buttons of the EC-4014.

Dad was right--the TI is simple and elegant, and feels good to use. Every button has but one purpose, and the INV key makes appropriate functions do their opposite. It just feels... right. If only it had an ENTER key.

That "right" feeling made me think about how right the HP-25 felt when I first got it in 1977. And how it somehow influenced how I related to numbers, and what those numbers meant. I viewed math through the lens of that HP-25 just as surely as my Dad viewed it through his old wooden German slide rule in his heyday, and through the TI in his latter years.

My calculator, my self? Maybe that's why I'm so picky about which one I use. Even though I mostly use it to balance my checkbook. Many would suffice, but few will truly do.

Edited: 13 Feb 2009, 2:35 a.m.

Re: My calculator, my self?

*Message #2 Posted by **Steve Simpkin** on 13 Feb 2009, 2:55 a.m.,*
in response to message #1 by Peter Klein

As we get older, we remember the times when we were young and everything was new and exciting. We remember the joys of learning and discovery. We associate these memories with the toys or tools that allowed

us to discover new things. As these material items become part of these exciting memories, they take on a life of their own. We become attached to them as if they were alive. They help remind us of when we were young and the world an exciting place and also when our occupations were challenging and important (at least to us). I know I will never get rid of my HP-25.

Re: My calculator, my self?

*Message #3 Posted by **Michael de Estrada** on 13 Feb 2009, 8:42 a.m.,*
in response to message #2 by Steve Simpkin

I think there's more to it than just human nature. It is also generational. I'm 62, and when I was in school, much of our time was consumed simply learning how to solve problems manually. The affordable personal calculator was truly revolutionary to us, and had a drastic impact on our professional lives. I remember spending several days performing engineering calculations with my K&E slide rule (I still have it) and CRC Handbook of log and trig tables. When I purchased my HP-35 (I still have it) after the price had just been lowered from $395 to $295, days became hours. I would sit at my desk with my hands crossed, waiting for my supervisor to bring me more work. Young engineers and scientists today take all of this for granted, by for those of us from that generation it was nothing short of miraculous.

Re: My calculator, my self?

*Message #4 Posted by **Fred Lusk** on 13 Feb 2009, 12:38 p.m.,*
in response to message #1 by Peter Klein

I consider my first programmable calc (HP-55) to be my first personal computer. To me, a calculator has always been more personal than a computer, probably because calculators are much easier to learn, operate, and personalize, and they are pocketable. Even though I now use a computer a lot more than my calcs, I like to think that if my HP-42S ever dies I will have to retire.

Re: My calculator, my self?

*Message #5 Posted by **Juan J** on 13 Feb 2009, 5:18 p.m.,*
in response to message #4 by Fred Lusk

> Quote:
>
> As we get older, we remember the times when we were young and everything was new and exciting. We remember the joys of learning and discovery. We associate these memories with the toys or tools that allowed us to discover new things. As these material items become part of these exciting memories, they take on a life of their own. We become attached to them as if they were alive.

Hello,

Nicely put and true. Some would even say thay as time goes by, these items have a soul, at least for their owner.

Fond memories, attachment, nostalgia, you name it. But it feels good anyway.

My two cents.

Re: My calculator, my self?

*Message #6 Posted by **Michael Meyer** on 13 Feb 2009, 8:35 p.m.,*
in response to message #1 by Peter Klein

I'm so proud of all of you!! Passions help keep you mentally healthy.

Michael Meyer Forum Psychiatrist

Re: My calculator, my self?

*Message #7 Posted by **Maximilian Hohmann** on 14 Feb 2009, 8:27 a.m.,*
in response to message #1 by Peter Klein

Hello!

> Quote:
>
> Even though I mostly use it to balance my checkbook.

In my part of the world, checkbooks have disappeared together with the LED calculator... it must be over ten years ago when I last could talk someone into accepting a check. Since then I am in a desperate search of anything useful to do with my redundant calculators - luckily, I never adopted the "My calculator, my self" principle, otherwise I would have felt quite useless myself during that last decade ;-)

Greetings, Max

Edited: 14 Feb 2009, 8:29 a.m.

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HP-29c malfunction symptoms

*Message #1 Posted by **Xavier A. (Brazil)** on 12 Feb 2009, 4:09 p.m.*

Hello everybody,

Last time I posted in this previous thread, everything were OK with my HP-29c: After changing the conventionnal battery pack for a new NiMH one, I could make some calculations, even type a little routine in PRGM mode and make it run: I was satisfied, thanks to this Forum (I didn't thank Dick, but I think to do it another way one day, true), and those who took some time to answer me very friendly.

Well, I let two days ago the NiMH pack during a whole night in the Hp and, I was surprised the day after to find one more time the display:

000000000000

Bad news! could say Katie, as she said here (I'm really very impressed with her knowledge). Well, perhaps not so, since I could modify this display by pressing some keys or moving the switch ON/OFF a lot of times.

Here are some examples NOT IN SPECIFIC ORDER (unless for the beginning) of what I succeed to display:

```
1234567890AB (just a duodecimal grid)

           0 last digit (0) very very bright
     0     0  both digits (0) very bright
Er.........-
81.8-0000000
-           -
-0-         - then blank
-0-000000000 then blank
 -         -.
.  .........
999999999999
..6111111100 with dots after each digit, unless the last one
000000000006
Error0000000 with a display full of zeros (unable to represent here) at half intensity

Error....... then blank
```

290000000000 *a secret code of this HP? fuzzy & intermittent display and then blank*

f *and hexadecimal countdown (f, e, d ,c, etc.) at a frequence surely < 0.7 s (appr.), and then blank*

(another time, the HP displayed

999999999999 *, then began an HEX countdown which could have reached*

99977886fb99 *if I didn't stop it two hours later)*

This time, I finally obtained:

Error
0
0.....
0.
0.00
0.00..... *(fuzzy dots) and then blank; or*
0.00..... *(fuzzy dots) but stay on; at this point, pressing the '1' key, I obtained:*

98.. ..23.1. *or*
97.. ..23.1. *or*
0.00 . *(last dot was fuzzy)*

AND FINALLY

0.00

After that, I was (and I am usually) able to do some calculations:

sum, division, etc.
Log, sqr, etc.
Angle calc., etc.

Stack is working. First registers as well, indirect as well (I only checked R15 and R29). Operations on registers are OK as well.

At this stage, I still have two permanent problems:

1/ when I am typing some number keys, (4, 5, 6 most of the time), the HP sometime displays wrong signs (h, or a, or another number, 4 for 6 for example);

2/ It is impossible to program more than 10 instructions: at this time, the HP displays

000000000000 and stays frozen. The only way to 'debug' it is to put away the battery pack half an hour, or so, and begin again all the process.

I think it is not a RAM or ROM or ACT problem,

I think it is a dirty cicuitry problem, with this solution:

> Quote:
>
> Re: Have to agree with Katie on this... Message #9 Posted by Geoff Quickfall on 6 Dec 2008, 10:46 p.m., in response to message #8 by Stan McFarland
>
> Hi Stan,
>
> I think it sounds like the battery rivet. To answer your first post:
>
> 1. remove the case back 2. remove the top circuit board (this will allow access to the power tracings from the rivets.) 3. with one probe on the rivet work backwards from the rivet to identify the problem 4. reverse the board and test the second rivet and trace. 5. IF the problem is found clean the board (vinegar rinse followed by water rinse followed by alcohol and then a thorough drying. (I use a shoe box with a hair dryer on COLD setting) 6. apply silver conducting paint.
>
> On the second point,
>
> 1. clean the rivet with a fiberglass brush; fine wire brush; or sand paper. 2. If blue residue exist clean with vinegar. 3. rinse with 90% alcohol. 4. just stick a little solder flux on the rivet, 5. then apply the solder iron and heat until the existing solder flows, add some if required. 6. clean rivet with alcohol to remove acidic flux.
>
> There is enough spring action in the battery to force the contact between the rivet and battery terminal. I doubt the rivet is worn flush with the circuit board, if I interpret your question correctly. If it is then try filing some of the circuit board back to expose more of the rivet edge to the battery. OR, build up the rivet with solder.
>
> Hope this helps, Geoff

If so, thank you Geoff.

IDEAS AND COMMENTS ARE WELCOME. (sorry to have been so heavy).

Regards,

Xavier

IS THAT SAFE?

*Message #2 Posted by **Xavier A. (Brazil)** on 13 Feb 2009, 7:51 a.m.,*
in response to message #1 by Xavier A. (Brazil)

Just some additionnal informations:

I finally succeeded in typing a 30 steps program, but after running it two or three times, I had the same problem of mad and frozen display.

Well, I am going to do this:

1/ Disconnect the battery pack and let the HP without current during an half day or more;

2/ Disassemble the calc., and IMMERGE the whole parts into vinegar (UNLESS THE LED DISPLAY) during an hour;

3/ Immerge the same parts into water from tap during 15 minutes;

4/ Immerge into 90° alcohol during 5 minutes;

5/ Dry at 50°c in a black box exposed to sun during a week.(storage max. temp. is 55°c);

6/ Reassemble.

QUESTION: IS THAT SAFE?

Many Thanks for advices.

Zu spät

*Message #3 Posted by **Xavier A. (Brazil)** on 14 Feb 2009, 4:24 p.m.,*
in response to message #2 by Xavier A. (Brazil)

As my German boss used to say.

Re: Zu spät

*Message #4 Posted by **Walter B** on 15 Feb 2009, 6:04 p.m.,*
in response to message #3 by Xavier A. (Brazil)

Genau! (= precisely, exactly)

Nevertheless, good (better) luck with your next adventures.

Regards from Germany d:)

Re: Zu spät

*Message #5 Posted by **Xavier A. (Brazil)** on 15 Feb 2009, 6:24 p.m.,*
in response to message #4 by Walter B

ça fait plaisir, merci.

NO, IT IS NOT SAFE-> Hope this help

*Message #6 Posted by **Xavier A. (Brazil)** on 17 Feb 2009, 6:41 a.m.,*
in response to message #5 by Xavier A. (Brazil)

"No man is rich enough to buy his past" (O. Wilde)

I do NOT recommand AT ALL the use of pure alcohol to wash the plastic of the woodstock HP : my screen got some white stuff now I have to polish gently with cotton...

Edited: 25 Feb 2009, 8:07 a.m.

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HP 49g+

*Message #1 Posted by **Fernando** on 11 Feb 2009, 10:08 p.m.*

Hi all...

Can someone tell me please why when I enter:

DERVX(X^2)

I get 0 (zero)

I already set functions to symbolic and the arithmetic mode is set to exact, what am I doing wrong?

thanks in advanced

Re: HP 49g+

*Message #2 Posted by **Tim Wessman** on 12 Feb 2009, 10:07 a.m.,*
in response to message #1 by Fernando

http://forums11.itrc.hp.com/service/forums/bizsupport/questionanswer.do?threadId=1310990

TW

Re: HP 49g+

*Message #3 Posted by **Marcus von Cube, Germany** on 13 Feb 2009, 4:05 a.m.,*
in response to message #1 by Fernando

Check if variable X is defined and purge it. If X is defined, X^2 evaluates to a constant of which the derivative is zero.

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OT: TI-89 (Dumb Question)

*Message #1 Posted by **Juan J** on 11 Feb 2009, 9:25 p.m.*

Hello,

I have been "playing" with a TI-89 today. Interesting calculator, reminds me of Mathematica's user interface.

I understand there is an RPN emulator of some kind for this beast. Is this true? If so, where can I get it?

Thanks in advance.

Re: OT: TI-89 (Dumb Question)

*Message #2 Posted by **Bob Wang** on 12 Feb 2009, 12:09 a.m.,*
in response to message #1 by Juan J

http://home19.inet.tele.dk/ew/programs.htm

Re: OT: TI-89 (Dumb Question)

*Message #3 Posted by **Gordon Strickland** on 13 Feb 2009, 2:10 a.m.,*
in response to message #1 by Juan J

Another possibility is rpn89, available for download at

http://www.ticalc.org/pub/89/asm/math/

However, I have not personally tried this program.

Re: OT: TI-89 (Dumb Question)

*Message #4 Posted by **Juan J** on 13 Feb 2009, 5:06 p.m.,*
in response to message #3 by Gordon Strickland

Hello,

Thank you. I will give these a try.

Do these programs work on the TI-84?

Re: OT: TI-89 (Dumb Question)

*Message #5 Posted by **Marcus von Cube, Germany** on 13 Feb 2009, 6:19 p.m.,*
in response to message #4 by Juan J

I'm afraid they wont unless a specific version is available for that machine.

The 89 is technically close to the 92+ and the Voyage 200, driven by a 68000 Motorola processor. The

TI-84 (and its predecessors TI-80, 81, 82, 83 as well as another series: TI-85/86) are all driven by a Z80 processor architecture.

Re: OT: TI-89 (Dumb Question)

*Message #6 Posted by **Juan J** on 14 Feb 2009, 7:33 a.m.,*
in response to message #5 by Marcus von Cube, Germany

Hello Marcus,

Thank you for the info. Duly noted.

I can understand where HP got the ideas for the 49/50 design without the big ENTER key. Fortunaltely the 89 can run on RPN. And I thought the 50G's menu system was annoying... At least you can change it to the 48 series' style.

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UCODE programs in MCODE modules

*Message #1 Posted by **PeterP** on 11 Feb 2009, 5:24 p.m.*

Hi,

I had a few times the wish to combine normal usercode programs and MCODE functions in a custom module. The procedure below works yet I wonder if there is a more efficient way to accomplish this.

Building MCODE functions is most easily done via the SDK41 package from WF. It allows the use of a normal text-editor on a PC to write the code and comment it. Additionally it provides a rapid testing environment where the newly written code can be immediately checked for errors and tested (in single step mode if wanted). AFAIK there is no faster MCODE development environment around. However, sometimes the need arises to add a user-code program to the MCODE functions in the same module and there is no fast way to convert a user-code program into the correct MCODE bytes that have to be loaded that I know of. So I am using emu41 and then SDK41 or M2k to generate the dissasembled code that can then be easily meshed with the MCODE to create one annotated text-file for the whole module.

Prepare EMU41

Create a EMU41.ini file which includes the WWOS as well as a standard 8k MLDL RAM that is provided with EMU41. My .ini files looks like this

```
;-----------------------------------------------------------------
; emu41.ini        emu41 init file


[MODULES]
; page size filename
0  12 rom41cx.bin
3   4 cxfcn2d.bin
5   8 cxtime2c.bin
7   4 hpil1h.bin
; ------------
8  4 WWOSa.bin
10 8 mldlram.dat
15 4 CCD_osx.bin


[DEVICES]
DISPLAY
HDRIVE1
;-----------------------------------------------------------------
```

It has the W&W Rambox OS on page 8, the 2 pages of free MLDL Ram on pages A&B and the CCD-OSX for convenience on page 15 (Thank you Raymond…)
Save your .ini file in the same directory as you have your emu41.exe file and run emu41.exe.

Enter your PGM

Now you can enter your program that you want as part of your MCODE module. If it is just a short module, I suggest to just type it in with emu41. If it is longer and you do have a HP-IL card you can also load it in from another PC via the HDRIVE1. (In short: Load the program into a physical HP via finger, Wand, cards, etc – save it

to the HDRIVE1 via the HP-IL card – turn off the physical HP41 – load it into memory from HDRIVE1 with emu41).

Store the program in the MLDL Ram

Using the functions of the W&W OS we can easily prepare a page and store the program on it. The steps below assume you have the same emu41.ini file as above and the MLDL ram is at page 10 & 11 (A&B)

1. 10, xeq CLPG ------------------> this clears page 10
2. alpha UCODEMOD alpha --------> the name of the module
3. 8,enter,10 xew INITPG ------------> this initializes the module with XROM number 08
4. alpha NAME_OF_PGM alpha
5. 10; xeq LDPGM ---------------------> this compiles and stores your program in the MLDL
6. alpha UCODEMOD,RE-01 alpha ---> to add revision number and chksum at end of module
7. 10 xeq ENDPG, xeq PGSUM, xeq PGSUM, xeq ENDPG -----> this ensures that we have a valid module just in case

Convert MLDL Ram to .ROM

1. exit emu41
2. copy MLDLram.dat to MLDLRAM.bin
3. clbin41 MLDLRam.bin MLDLRAM.rom /b ;this converts the .bin file into a .rom file

Disassemble the .ROM file

There are two ways to disassemble the .rom file to get simple text that you can include into your other MCODE source text.

1. Use D41 from the SDK41 to get a .src file which has the exact hex codes needed to have the UCODE program in the MLDL-ram. The first two bytes are the header for the UCODE followed directly by the bytes for the global Label of your program.
2. Use M2K Manager's disassembly function to also generate a text file which has additionally the UCODE steps in it as well. However one needs to do some post-processing to use this file as an input in the SDK41. Alpha-strings and Alpha labels show their hex-codes to the right in the listing. This needs to be corrected by making them separate lines.

Personally I like the UCODE description from M2K and so I post-process them using the D41 assembly as a guideline. This gives me a nice code like the example below.

```
;------------------------------------------------------------------------
06BD 013                        #013            ;UserCode: 137 bytes (19 regs + 4 bytes)
NONPRIVATE
 06BE 240                       #240
 06BF 1CC       [LDRSU]         #1CC            ;*LBL  "LDRSU"         ; 4C 44 52 53 55
 06C0 000                       #000
 06C1 0F6                       #0F6
 06C2 000                       #000
 06C3 04C                       #04C
 06C4 044                       #044
 06C5 052                       #052
 06C6 053                       #053
 06C7 055                       #055
 06C8 1F9                       #1F9            ;... 002  "RSU1-FL:?"          ;
 06C9 052                       #52
 06CA 053                       #53
 06CB 055                       #55
 06CC 031                       #31
 06CD 02D                       #2D
 06CE 046                       #46
```

```
 06CF 04C                       #4C
 06D0 03A                       #3A
 06D1 03F                       #3F
 06D2 18C                       #18C            ;... 003  AON
 06D3 18E                       #18E            ;... 004  PROMPT
 06D4 18B                       #18B            ;... 005  AOFF
 06D5 111                       #111            ;... 006  1
 06D6 1A8                       #1A8
 06D7 000                       #000            ;... 007  SF   00
 06D8 1A1                       #1A1
 06D9 003                       #003            ;... 008  XROM 04,03 - SETBANK
 06DA 111                       #111            ;... 009  14
 06DB 1A1                       #1A1
 06DC 011                       #011            ;... 010  XROM 04,17 – GETROM
;-------------------------------------------------------------------
```

This code can now easily be combined with the rest of your MCODE source file that you can compile with A41 & L41. Just remember that with the M2K Manager you can easily convert .ROM files into .MOD files in case you need them (for your iPhone for example or V41)

Please let me know of any improvements to this process.

Cheers

Peter

Re: UCODE programs in MCODE modules

*Message #2 Posted by **Meindert Kuipers** on 12 Feb 2009, 8:15 a.m.,*
in response to message #1 by PeterP

Peter,

This is a good tutorial, thanks for that. I am (in the background) working on a disassembly mode for M2kM that allows direct assembly with D41 from a disassembled file, so that would remove the need for post processing the user code.

Meindert

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Worth of HP 41 Accessories?

*Message #1 Posted by **Howard Boardman** on 11 Feb 2009, 3:25 a.m.*

I have several accessories for an HP 41C Calculator. I have the original box, memory cards, manuals and a pamphlets (advertising HP items) as well as a synthetic programing book. What do you figure these are worth? These were my uncles and he has no interest in them, although he still has the HP 41C he no longer uses much. Is it worth ebaying these? Thanks

Re: Worth of HP 41 Accessories?

*Message #2 Posted by **Greg Swartz** on 11 Feb 2009, 12:11 p.m.,*
in response to message #1 by Howard Boardman

The 41C isn't going to fetch as much as a CX but if the whole package is in great shape, you might get $100-$200 for it (that is absolutely a guess). Too many variables to pick a value for certain. Tall keys, corrosion, which program modules, etc. can make quite a difference. Easy way to check if it's worth your time is to just search the "Completed Listings" on eBay and see what the items you currently have are selling for at the moment.

Re: Worth of HP 41 Accessories?

*Message #3 Posted by **Michael de Estrada** on 11 Feb 2009, 12:55 p.m.,*
in response to message #2 by Greg Swartz

It also depends on whether you ship worldwide or only to the USA. I've seen the very same item go for twice as much when shipped worldwide than when limited only to the USA. One thing I've learned about selling on ebay is that a good detailed description and lots of clear photos will get a lot more attention and a better price. You definitely need to show a good photo of the display with all segments and annunciators turned on.

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RPN is an addiction

*Message #1 Posted by **Peter Klein** on 11 Feb 2009, 3:01 a.m.*

Unlike most of you, I'm not an engineer or a programmer. I'm just a humanities guy cleverly disguised as a computer and network support person for economic purposes. And my mathematical needs are modest.

But I'm a confirmed RPN addict. I started back in 1976 with a simple National Semiconductor RPN calculator, soon replaced with an HP-25.

I taught myself some math and programming on the "25." I wrote a simple program using the HMS<->H functions to add up timings for classical music recordings when I worked in public radio. I wrote a program to calibrate the bandspread dial of an old Hallicrafters shortwave radio for the international broadcast bands, so I could find stations without hunting. Trivial stuff, but useful.

Eventually I got my beloved 11C, which I still use, albeit mostly to balance my checkbook. There are only two things I wish were different about the 11C:

- I wish it did hex/octal/binary math.

- I have big hands, so I wish the spaces between the number buttons were bigger. I need about 4mm or more of space between the left side of the "1" button and the right side of the "3" button to be comfortable "touch keying."

Recently, I pulled out my old HP-25, and discovered that the program memory, registers and Last X no longer hold any values. And I though, "Uh-oh, what if the 11C bites the dust?" So I began searching, and found out about the new 35s. But I read about the keyboard issues, the virtually unusable hex entry, and the shifted "STO" function, and I thought, "No, I probably wouldn't be happy with this."

So they don't make what I want. I'm kind of stuck. Algebraic calculators just don't cut it for me. The big graphing calculators are overkill for my needs. I wish HP still made something like the 32s or 42s, which would probably be fine for me. But even those are getting old these days, and cost plenty.

And here I am, longing for the proverbial Good Old Days. Those old HP calculators are an addiction, that's for sure.

Re: RPN is an addiction

*Message #2 Posted by **Nigel J Dowrick** on 11 Feb 2009, 7:10 a.m.,*
in response to message #1 by Peter Klein

I probably won't get too much support for the opinion I'm about to express, but I think that the HP-33S is worth considering if what you want is a scientific RPN machine. In many people's eyes it is not a thing of beauty, and it doesn't have that magic double-sized ENTER key. However, a lot of the negative opinions you'll find online refer to the first version which really did have major quality issues. I've used my later version heavily for several years. The keyboard is fine; the display is beautifully clear. It has unshifted STO, RCL, 1/x, x^2, and sqrt(x) keys. It's light and feels comfortable in use. I don't have a 35S to compare it to, but from the reviews I've read I like my HP 33S better! Then again, you shouldn't always believe reviews...

Re: RPN is an addiction

*Message #3 Posted by **Don Shepherd** on 11 Feb 2009, 7:25 a.m.,*
in response to message #2 by Nigel J Dowrick

I second that. I have an early 33s with the small decimal point, but it has never bothered me, and I don't mind the chevron layout either. Other things I like about it:

- the keys are spaced well to accomodate large fingers
- you can document your programs with comments, using EQN
- bases hex, oct, and bin work like they should
- the program execution speed is orders of magnitude faster than the 35s; it is FAST FAST FAST
- it has linear regression
- it is recent enough that you can buy it cheaply

Re: RPN is an addiction

*Message #4 Posted by **Jeff Kearns** on 11 Feb 2009, 9:54 a.m.,*
in response to message #2 by Nigel J Dowrick

I also agree with you, regrettably... The HP-33s, despite its non-traditional design, is what the 32sii should have been. My biggest gripe with the 32sii was the pitiful amount of memory it had - but it is such a great little machine!

The 33s is better than the 35s (I have one of those too) in so many ways, keyboard layout (ignore the chevron), polar to rectangular, checksums that mean something, and unshifted STO to name a few. It does lack the practical ability to use all that memory with the small number of storage registers for labels etc., but it is so much faster! Karl Schneider has commented elsewhere on why this is so.

Despite all the negative reviews that the 33s has received, I would recommend it over the 35s in your case. Good luck!

Jeff Kearns

Re: RPN is an addiction

*Message #5 Posted by **Karl Schneider** on 12 Feb 2009, 2:31 a.m.,*
in response to message #4 by Jeff Kearns

Hi, Jeff --

> Quote:
>
> ... it *(the HP-33s)* is so much faster *(than the HP-35s)* ! Karl Schneider has commented elsewhere on why this is so.

I believe that you're referring to this thread:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv017.cgi?read=124094#124094

I suspect that the HP-35s is slower than the HP-33s in order to provide respectable battery life. The thread comparing speeds to the HP-32SII was in reference to numerical integration, for which the HP-33s/35s used a different means of specifying uncertainty than did the HP-32SII. In some cases, the HP-33s/35s would be slower.

More about integration uncertainty:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=96784#96784

-- KS

Edited: 12 Feb 2009, 2:57 a.m.

Re: RPN is an addiction

*Message #6 Posted by **Ed Look** on 13 Feb 2009, 12:40 p.m.,*
in response to message #4 by Jeff Kearns

You know, initally, I truly believed the 35s was better than the 33s; in terms of cosmetics, as in the keyboard layout, overall color scheme of the machine, and the cute zipper case, I still do believe.

However, over the time I have owned and used the 35s, I find the 33s to be more user-friendly, even, I daresay, for scientists, engineers, surveyors, etc. The choice of functions on the unshifted keys are much more convenient.

> Quote:
>
> I also agree with you, regrettably... The HP-33s, despite its non-traditional design, is what the 32sii should have been. My biggest gripe with the 32sii was the pitiful amount of memory it had - but it is such a great little machine!
>
> The 33s is better than the 35s (I have one of those too) in so many ways, keyboard layout (ignore the chevron), polar to rectangular, checksums that mean something, and unshifted STO to name a few. It does lack the practical ability to use all that memory with the small number of storage registers for labels etc., but it is so much faster! Karl Schneider has commented elsewhere on why this is so.
>
> Despite all the negative reviews that the 33s has received, I would recommend it over the 35s in your case. Good luck!
>
> Jeff Kearns

Re: RPN is an addiction

*Message #7 Posted by **Allen** on 11 Feb 2009, 7:57 a.m.,*
in response to message #1 by Peter Klein

> Quote:
>
> Those old HP calculators are an addiction, that's for sure.

Fully agreed.

Re: RPN is an addiction

*Message #8 Posted by **Mike Reed** on 12 Feb 2009, 10:35 a.m.,*
in response to message #7 by Allen

```
Hello, My name is Mike, and I'm an RPN user... (hello, Mike)


It all started back in the 70's with an HP-11c, and that was SWEET!
It wasn't long though till I got into heavier stuff: the HP-41's
and synthetic programming, then HP-45's, HP-67's and worse to
follow. I kept it under control pretty much till HP-came out with
the HP-48sx; RPL pretty much took over my life and the HP-48GX only
made it worse. I used the HP-32s, Hp-33's and HP-42s for everyday,
and an HP-200 for fieldwork, but they couldn't match the high from
the HP-48's. I thought maybe I could get off RPN/RPL myself, but
then HP-introduced the 49 - a bad fix for sure. I ALMOST beat it
when the HP-50 came out and now I'm hooked even more! It's not just
RPN anymore, now it's HPGCC too! I can't even THINK about using a
standard algebraic anymore! My kids won't let me help them with
their math homework; they are afraid they might get my addiction.
Fellow workers don't ask to borrow my calculator, or help solve
their math problems. I don't know what to do. Please help. Thanks
for listening to me.
```

Re: RPN is an addiction

*Message #9 Posted by **Steve Simpkin** on 12 Feb 2009, 11:32 a.m.,*
in response to message #8 by Mike Reed

LOL

It's OK Mike.

The good news is that you are among friends that share your addiction and understand the profound satisfaction you get from seeing, touching and using your HP RPN calculator.

The bad news is that once infected, there is no know cure. In fact, most RPN addicts would not take a cure even if it was offered to them.

I don't know what would happen to my sanity if I stopped using RPN, but I'm not about to find out.

Steve

Re: RPN is an addiction and I am Cured

*Message #10 Posted by **bill platt** on 12 Feb 2009, 11:46 a.m.,*
in response to message #9 by Steve Simpkin

I am finally cured. I am far less RPN dependent now than I was when I discovered the museum years ago. Paradoxically my exposure to all of these RPN types opened my eyes to other solutions--because we have a wide ranging group of thinkers and communicators here, I learned about the 27s, the Sharp PC series, the Casio ideas, etc.

Today, I like my 27S a lot. And I find that the 48/49/50 series is great for algebraic, too--I often put in algebraic objects within '...' and then evaluate.

When I use my 35S, for larger problems I go into equation mode rather than the stack, and work out a problem algebraically. No worries about running out of memory, you get to correct the input if it doesn't work, etc. Far superior to the simple RPN interface. I found the same idea useful in the ill-fated hp 30S.

Edited: 12 Feb 2009, 11:48 a.m.

Re: RPN is an addiction and I am Cured

*Message #11 Posted by **Martin Pinckney** on 12 Feb 2009, 2:27 p.m.,*
in response to message #10 by bill platt

> Quote:
>
> Today, I like my 27S a lot. And I find that the 48/49/50 series is great for algebraic, too--I often put in algebraic objects within '...' and then evaluate... When I use my 35S, for larger problems I go into equation mode rather than the stack, and work out a problem algebraically... Far superior to the simple RPN interface.

At last! a former RPN nut has freely admitted that RPN does indeed have some shortcomings... :-)

Re: RPN is an addiction and I am Cured

*Message #12 Posted by **bill platt** on 12 Feb 2009, 4:27 p.m.,*
in response to message #11 by Martin Pinckney

Haha!

I can't take credit as the first though. That would be Valentin Albillo.

Or maybe even HP...I find this particular machine really interesting...

http://www.hpmuseum.org/hp9820.htm

"The calculator compiled each algebraic expression into an RPN style sequence. Such compilation of algebraic expressions was a common practice on larger computers of the time, however the HP 9820A went a step further by also providing an uncompiler that converted the internal RPN sequence back to algebraic. This allowed only the RPN version to be stored. All of this was automatic." -Dave Hicks (on this site)

Re: RPN is an addiction

*Message #13 Posted by **George Bailey (Bedford Falls)** on 11 Feb 2009, 8:30 a.m.,*
in response to message #1 by Peter Klein

Get the 35S. It's what we humanities guys need. It fully fulfills the needs you describe. Plus: it looks awfully good on your desk. And get a therapy for your addiction.

Re: RPN is an addiction

*Message #14 Posted by **Martin Pinckney** on 11 Feb 2009, 8:33 a.m.,*
in response to message #1 by Peter Klein

> Quote:
>
> So they don't make what I want. I'm kind of stuck. Algebraic calculators just don't cut it for me. The big graphing calculators are overkill for my needs. I wish HP still made something like the 32s or 42s, which would probably be fine for me. But even those are getting old these days, and cost plenty.

And here I am, longing for the proverbial Good Old Days. Those old HP calculators are an addiction, that's for sure.

Peter, I understand exactly where you are on this. But don't despair. I have solved my problem by buying used Pioneers off eBay. No, you cannot just decide to buy and order right away, like ordering from a retailer, but you can actually buy for reasonable prices, if you are patient. Although some 32sii go for $150, I have seen many in excellent condition go for around $80. Compared to $60 for 35s, and considering the quality difference, these are reasonable prices. There are other similar bargains to be had; the key is patience and perseverance.

Re: RPN is an addiction

*Message #15 Posted by **bill platt** on 11 Feb 2009, 9:26 a.m.,*
in response to message #1 by Peter Klein

Well, the way you feel is why the 32sii and the 11c get over $100 on ebay. Some of us are willing to pay what is effectively a very small token premium to get what we are accustomed to.

Best regards,

Bill

Re: RPN is an addiction

*Message #16 Posted by **Michael de Estrada** on 11 Feb 2009, 11:15 a.m.,*
in response to message #1 by Peter Klein

You stated,

"Uh-oh, what if the 11C bites the dust?"

It won't. In fact, it will probably outlive you. I bought my HP-15c brand new over 27 years ago, and have been using it nearly every day since then. It still works perfectly. I also gave my HP-11c to my boss, who is a real key-pounder, 20 years ago and it is also working to this day. The HP Voyagers are absolutely the highest quality and most durable calculators HP has ever made.

Also, your HP-25 may just need a new battery, so don't throw it away quite yet.

Re: RPN is an addiction

*Message #17 Posted by **Thomas Klemm** on 11 Feb 2009, 9:00 p.m.,*
in response to message #1 by Peter Klein

> Quote:
>
> I wish it did hex/octal/binary math.

You might find these two routines helpful to translate from decimal to binary and vice versa:

```
001 - 42,21,13   LBL C          024 - 42,21,14   LBL D
002 -    44  0   STO 0          025 -    44  0   STO 0
003 -        8   8              026 -        8   8
004 -       34   x<>y            027 -       16   CHS
005 - 42,21, 0   LBL 0          028 -       34   x<>y
006 -        1   1              029 - 42,21, 2   LBL 2
007 -        0   0              030 -        2   2
008 -       34   x<>y            031 -       34   x<>y
009 -        2   2              032 -        1   1
010 -       10   ÷              033 -        0   0
```

```
011 -   43  44   INT                 034 -       10   ÷
012 -   43  40   x=0                 035 -   43  44   INT
013 -    22   1   GTO 1               036 -   43  40   x=0
014 -       33   R-v                 037 -    22   3   GTO 3
015 -       20   ×                   038 -       33   R-v
016 -       33   R-v                 039 -       20   ×
017 -       20   ×                   040 -       33   R-v
018 - 44,40, 0   STO + 0             041 -       20   ×
019 -       33   R-v                 042 - 44,40, 0   STO + 0
020 -    22   0   GTO 0               043 -       33   R-v
021 - 42,21, 1   LBL 1               044 -    22   2   GTO 2
022 -    45   0   RCL 0               045 - 42,21, 3   LBL 3
023 -   43  32   RTN                 046 -    45   0   RCL 0
                                     047 -   43  32   RTN
```

Example:

```
45 GSB C          101101
10011 GSB D       19
```

Hint: Exchanging 2 and 8 in the program will result in a dec-oct converter.

Re: RPN is an addiction

*Message #18 Posted by **John B. Smitherman** on 11 Feb 2009, 10:03 p.m.,*
in response to message #1 by Peter Klein

Peter, you should consider a 12c or 12cp. Although it's weak on scientific functions a 12c would provide the same form factor and keystroke programming paradigm as your 11c. The 12c could serve as an RPN four banger while the 11c could be reserved for other uses.

Regards,

John

Re: RPN is an addiction

*Message #19 Posted by **bill platt** on 12 Feb 2009, 10:00 a.m.,*
in response to message #18 by John B. Smitherman

The keystroke programming on the 12c is not the same paradigm as the 11c. The 11c is much better--the 12c is crippled in this respect. No editing allowed. You have to use a GTO pair and append modifications to the end of the program.

Edited: 12 Feb 2009, 10:00 a.m.

Re: RPN is an addiction

*Message #20 Posted by **Steve Simpkin** on 12 Feb 2009, 2:58 a.m.,*
in response to message #1 by Peter Klein

> Quote:
>
> "But I'm a confirmed RPN addict. I started back in 1976 with a simple National Semiconductor RPN calculator, soon replaced with an HP-25."

Too too weird. My first RPN calculator was a National Semiconductor Mathematician that I bought used around 1976. http://spyropoulos.net/calcs-other/4510Mathematician.jpg

I had been lusting after the HP-25 since I saw one in a Canadian department store in 1975. I couldn't afford it

at the time so I ended up getting the Mathematician. I finally bought my HP-25 in 1977. I used it through high school, college and the first few years of work. After it started to malfunction in 1987, I replaced it with a HP-11C. I eventually moved onto a HP-28C, HP-28S, HP-48SX and HP-48G.

> Quote:
>
> "I wrote a program to calibrate the bandspread dial of an old Hallicrafters shortwave radio for the international broadcast bands, so I could find stations without hunting."

I still have my Hallicrafters tube shortwave radio!

> Quote:
>
> "Eventually I got my beloved 11C"

Me too.

> Quote:
>
> "Recently, I pulled out my old HP-25, and discovered that the program memory, registers and Last X no longer hold any values."

My HP-25 went through a year or two in the late 1980's where it would malfunction but it was just temporary and it works fine now! DO NOT CONNECT A CHARGER TO THE HP-25!!!! Use alkaline batteries instead.

> Quote:
>
> "Algebraic calculators just don't cut it for me."

I find I feel dirty after using an algebraic calculator. Is that wrong?

> Quote:
>
> "The big graphing calculators are overkill for my needs. I wish HP still made something like the 32s or 42s, which would probably be fine for me."

I have to agree with the other posters here about the HP-33S. I received a HP-33S as a joke gift from my wife (she heard me comment on how ugly it was). I was pleasantly surprised at how good a calculator it is (after you get over the looks of it). Got it refurbished for around $20 on eBay.

> Quote:
>
> "And here I am, longing for the proverbial Good Old Days. Those old HP calculators are an addiction, that's for sure."

I don't consider my obsession with HP calculators an addiction. I could stop if I wanted to. I just don't want to!

Re: RPN is an addiction

*Message #21 Posted by **Peter Klein** on 12 Feb 2009, 3:23 p.m.,*
in response to message #20 by Steve Simpkin

> Quote:
>
> Too too weird. My first RPN calculator was a National Semiconductor Mathematician that I bought used around 1976. http://spyropoulos.net/calcs-other/4510Mathematician.jpg ...I finally bought my HP-25 in 1977. I used it through high school, college and the first few years of work. After it started to malfunction in 1987, I replaced it with a HP-11C.

Steve: This is indeed too weird, I had the same National Semiconductor model. That and Hallicrafters, too. :-)

--Peter

Edited: 12 Feb 2009, 3:50 p.m.

Re: RPN is an addiction

*Message #22 Posted by **Peter Klein** on 12 Feb 2009, 3:48 p.m.,*
in response to message #20 by Steve Simpkin

Thanks to everyone who responded. You're a really friendly group of "enablers." :-)

I just rediscovered something very helpful. There is a great generic do-everything RPN calculator for Windows called Excalibur. It isn't specifically an HP emulator, but it was clearly inspired by the HP line. The usual freeware disclaimers apply, particularly with respect to floating point accuracy on a PC.

I'd used Excalibur before, but forgotten about it. The latest version is here:
http://www.geocities.com/dbergis/freeware.htm

Excalibur has good binary/hex support, so I can just use that at work when I occasionally need it. With that, I really don't *need* to do anything more immediately. My 11C is still going strong.

So I can sit back and watch ads and see if an affordable sample of the "big hands friendly" later models appears. Getting a 12C as a spare four-function is certainly possible (they're plentiful and cheap). As is picking up a 33s, if I can get past the fact that the Enter key isn't where God and Hewlett ordained it to be.

Thanks again, everyone! --Peter

Re: RPN is an addiction

*Message #23 Posted by **bill platt** on 12 Feb 2009, 4:29 p.m.,*
in response to message #20 by Steve Simpkin

I wish I still had that Hallicrafters, and the National we had, too. My father and I were fixing them back in 1994. Then he sold his house and I was busy working and all that old tube Ham radio stuff went.

My father bought me my first calculator--an HP 11c --in 1982.

Edited: 12 Feb 2009, 4:29 p.m.

Re: RPN is an addiction

*Message #24 Posted by **Howard Lazerson** on 12 Feb 2009, 4:50 p.m.,*
in response to message #23 by bill platt

Still using my 11c daily, no new batteries since 2007, nice feeling keys, nice display, more affection than addiction !

Re: RPN is an addiction

*Message #25 Posted by **Steve Simpkin** on 12 Feb 2009, 6:03 p.m.,*
in response to message #24 by Howard Lazerson

I bought my HP-11C in 1987. I used it for many years until I sold it on eBay around 2001. I paid $58 for it new and sold it for $110 and it still had the batteries that it came with! 14 years of use and continuous memory on one set of batteries. Amazing by any standard.

Antique Radios to go with your HP

*Message #26 Posted by **Bill Platt** on 12 Feb 2009, 6:54 p.m.,*
in response to message #20 by Steve Simpkin

http://www.antiqueradiomuseum.org/hallicraftersradios.htm

Re: Antique Radios to go with your HP

*Message #27 Posted by **Steve Simpkin** on 12 Feb 2009, 7:47 p.m.,*
in response to message #26 by Bill Platt

Mine was a Hallicrafters S40B.

Hallicrafters S40B Picture

And as a matter of fact it did go well with my HP-25!

Re: Antique Radios to go with your HP

*Message #28 Posted by **Dave Shaffer (Arizona)** on 12 Feb 2009, 8:55 p.m.,*
in response to message #26 by Bill Platt

I started my ham radio operations in 1960 (when a freshman in high school) with a Hallicrafters S20R which my Dad had purchased just after World War II in 1946 (about when I was born!). This model receiver is shown on the bottom level of the rack in the picture in Bill's reference. This predates my HP addiction by 13 years! A few years after that, I blew my budget on a used SX101 MkIII.

For the electrical engineering afficionados amongst us, the S20R used the speaker coil as the smoothing choke in the DC power supply!

Up until about 10 years ago, my Dad still had that S20R receiver, but it seems to have disappeared when he and my mom moved to their retirement community.

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HP48 gx Connectivity Tips

*Message #1 Posted by **JJB299** on 9 Feb 2009, 5:59 p.m.*

After battling with the hp48 for a couple days over connection problems, I wanted to share some of my findings with the community.

I am using the hp48 as data collector (with TDS surveying software) for my surveying business. I borrowed it from a friend, and didn't get the full story with how to download data from it to my PC. My current setup is using a Windows XP PC that has a COM port.

Wanting to connect to the hp48, I searched the web and found several programs that connect to the calculator: the original Kermit DOS program, hp48explorer, HPcomm Connectivity Kit, and Conn4x. After I connected the hp48, set up the transfer settings, and put it into server mode, nothing would work for me.

So here are a few pointers for those of you that have the same headaches as I have had:

1. Serial cable

I highly recommend finding the original serial cable that came with the calculator to hook it up to a PC. But if that is not an option, I have found a good set of instructions on how to build your own serial cable here (about 3 quarters down that page): http://www.faqs.org/faqs/hp/hp48-faq/part3/ I managed to find a serial mouse that was mentioned in the article at Radio Shack and I snagged a tiny connector that fits into the hp48 jack from an old CDROM. The connector that the author of the link is talking about isn't found in newer computers.

Note: for surveyors who use an "environmental case" with a serial connection, see surveyors' topic below.

2. Device Manager settings

Even after a good serial cable is hooked up to the computer's COM port, you still might have problems connecting to a PC. All the programs I mentioned above would still not recognize the calculator I was using. I found that the COM port might need to be freed up.

If your computer has a dial-up modem installed, you need to disable it (hopefully you are using a separate LAN card for your internet connection). The modem that is installed (mine is an old 56k) will usually be taking up the COM1 port. My setup had a modem that was taking up COM3 and a "communications cable" that was taking up COM1.

Go to the Properties menu of My Computer. Go to the Hardware tab. Click Device Manager. Under Modems, right click on any modems that are installed and choose Disable. Under Modems, right click any "connection cable between two computers" and choose Disable. Close all windows.

This should free up the COM port and allow you to connect to the PC. I was able to connect no problem after this.

3. Surveyor's environmental case

If you use an environmental case with your hp48, you may have problems connecting that case to your PC.

I am using the hp48 with an environmental case to connect to a TOPCON GPT3000 total station and using the TDS software for surveying commands. That environmental case (a plastic case to protect from the elements) has a serial port that connects to the hp48 serial jack. The serial port works great with the TOPCON instrument, but wouldn't allow me to connect to the computer.

I found out that the RX (receiving) pin and the TC (transmitting) pin on the case port was switched when it was soldered on. This naturally had something to do with the way the TOPCON instrument communicates with the hp48.

The proper pin arrangement is this: (see this website: http://www.faqs.org/faqs/hp/hp48-faq/part3/)

HP48 rs232-9 serial cable 1 shield, not needed 2 2 3 3 4 5

Where HP48 pin 1 is the pin closest to the upper right side of the calculator screen.

I found this out the hard way when I tried to connect the case to the computer with a female-female rs232 serial cable. I got errors like "unexpected packet received" and "could not open port".

If the female-female serial cable is the route you want to take, you need to cut the cable in half, find out which wires go to which pins (you only need pin 2, 3, and 5), and then switch the 2 and 3 pin wires. Keep the pin 5 wire where it is. And try to figure out which end belongs to which device.

Note: I had a radio shack RS-232C cable, part number 26-152B. Here is the procedure I took: Cut the wire so there is a short piece (hp48) and a long piece (computer). Keep the yellow wire together (pin 5). On the short side (hp48) connect the red wire to the brown wire on the long side (PC). On the short side (hp48) connect the brown wire to the red wire on the long side (PC). Connect the short side to the hp48 environmental case and the long side to the computer.

I do not recommend this option, try to connect directly to the hp48 and cut out the middleman. (see above for where find out how to make your own serial cable.)

4. Surveyor's software.

To get your data our of the calculator (the coordinate file and the RAW file), you need to use a surveying software program. The above mentioned programs (Kermit, hp48explorer ... etc) cannot retrieve these files. I recommend Carlson Survey or TDS Foresight. Both are available as free trials offers if you need them in a pinch.

The instructions for downloading from Carlson is found here: http://update.carlsonsw.com/kbase_main.php?action=display_topic&topic_id=465

That's all. Good luck.

Re: HP48 gx Connectivity Tips

*Message #2 Posted by **bill platt** on 9 Feb 2009, 9:01 p.m.,*
in response to message #1 by JJB299

I think you should copy that into the ARTICLES forum, which doesn't go way into Archive land. It is a very nice reference summary!

You might get some good feedback here that you can add to it, too.

Re: HP48 gx Connectivity Tips

*Message #3 Posted by **Ed Look** on 10 Feb 2009, 1:01 p.m.,*
in response to message #1 by JJB299

Someone here, I think (obviously I forget who) suggested I get a serial to USB converter and then plug my HP-48G and HP-48G+ into a USB port on my WinXP PC when I had connectivity issues.

That worked, but only if I use a particular one of the connectivity programs you mentioned with it. Again, I forget which one, though I just used it several weeks ago; I think it was Conn4x. I'll check and repost on this thread. The others couldn't see the calculator.

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ERAMCO MLDL OS - other version?

*Message #1 Posted by **PeterP** on 9 Feb 2009, 3:32 p.m.*

Hi,

the normally (e.g. on TOS) available Eramco MLDL OS manual describes a very handy RAMWR function which allows to directly write into the MLDL ram, similar to HEXEDIT from HEPAX or MCED from Zenrom.

I'd like to add such a function to a little tool-rom I am putting together for myself.

However, all the .MOD files I can find have a version 7b which does not have the RAMWR function (and in general has quite a different set of functions than described in the manual).

I was wondering if anyone either has a different Eramco MLDL OS version which has the RAMWR function or a standalone code for a RAMWR function that I could use. I don't want to try to dissassemble e.g. the HEAPAX and try to find all pieces that are needed for its HEXEDIT functions...

Thanks!

Peter

Re: ERAMCO MLDL OS - other version?

*Message #2 Posted by **Meindert Kuipers** on 10 Feb 2009, 9:28 a.m.,*
in response to message #1 by PeterP

Hi Peter,

I have searched as well, and I do not have the ROM image, but I do have the sources (and so do you ;)

BTW disassembly is much easier with M2kM ...

Meindert

Re: ERAMCO MLDL OS - other version?

*Message #3 Posted by **PeterP** on 10 Feb 2009, 10:10 a.m.,*
in response to message #2 by Meindert Kuipers

Thanks Meindert for looking, wanted to avoid typing things in. And yes, I love the disassemble feature of M2K!

Cheers

Peter

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HP-29c Power (?) problems

*Message #1 Posted by **Xavier A. (Brazil)** on 9 Feb 2009, 11:34 a.m.*

Hello everybody,

At first I really do apologize for my english (well, better than my school's english, but not perfect).

I have a problem with my oooold HP-29c that I would like to expose here :

I stored this little machine years ago, WITH the battery pack inside (approximately during 20 years). When I realized it was a mistake, I put it away (about 6 months ago); true, this makes 19.5 years of ignorance.

Well, I put a charger with the battery pack inside the HP, and observed some kabbalistic signs on the display, those who seem to indicate some corrosion problems. But in fact, the battery compartment was very clean. Pressing the keys just made the display a little more silly (or mad), so I decided to open the beast.

It was pretty clean inside: so I just cleaned the keyboard with white vinager (50% v, 50% water), letting it into this solution during 15 minutes, pressing the keys meanwhile. I changed the liquid, using only water, and rinsed the keyboard. Then I tried to use a (cold) hairdryer to dry it, but it had no effect since the keyboard is constituted of two very very close plastic panels. So I just let it in a black box, in the sun light (here it is summer, and the temperature in the box should have reach the 50 °celcius) during a whole week.

Finally, I reassembled the whole machine a week ago and it was OK! No more kabbalistic signs, keys were working for the best, and I even made a program to verify everything, and I was very, very happy (this machine belonged to my grandfather...).

Yesterday, I put away the battery pack to charge it in a HP-21. This is a pretty good battery pack for its age : while I am typing here, the machine is displaying Pi since two hours and a half without the charger.

But I just tried this morning to put it in the 29, just to use this machine a little more...

and then, after the usual 'error' message indicating the memory loss, the display and keyboard became one more time completely mad!

So what ?

- I can not believe this is a corrosion problem.

- I can not believe, (but I am not so sure) that the keyboard is so dirty that some dust has 'moved' in the machine last week.

But perhaps this is another thing that escaped to me. Perhaps battery requirements are different between an Hp-29c and an HP-21. Perhaps...

Well, if someone has an idea, or just want to suggest something... it would be a pleasure. Thank you for your attention.

Re: HP-29c Power (?) problems

*Message #2 Posted by **Marcus von Cube, Germany** on 9 Feb 2009, 2:21 p.m.,*
in response to message #1 by Xavier A. (Brazil)

If you didn't fry your 29C (charger with bad battery is a deadly combination), you should remove the NiCad cells and replace them with normal alkalines. Don't forget to put the charger in a safe place like the dust bin. ;)

Re: HP-29c Power (?) problems

*Message #3 Posted by **Xavier A. (Brazil)** on 9 Feb 2009, 3:14 p.m.,*
in response to message #2 by Marcus von Cube, Germany

One more time, thank's for your help, Marcus.

In fact, after having posted this, I let completely discharge the batteries. Then I put it back in the HP-29c, plug it to the adapter, and you know what? it works.

This means that the Hp-29c is NOT supporting the full charge of the pack (and this is the next question for me : why ?). I don't have any voltmeter yet, but I shall make some measurements next week-end. I'll let you know, thank you.

Re: HP-29c Power (?) problems

*Message #4 Posted by **Walter B** on 9 Feb 2009, 6:06 p.m.,*
in response to message #3 by Xavier A. (Brazil)

Boy, are you lucky!! But don't you ever do this again!!! Life will not let you get away with this a second time.

Re: HP-29c Power (?) problems

*Message #5 Posted by **Xavier A. (Brazil)** on 10 Feb 2009, 6:30 a.m.,*
in response to message #4 by Walter B

Thank you for this, too.

The charger is a 82041A. The HP-29c is from Singapore, serial 1903S...; maybe the electronic of this latest generation is better?

Math Curiousity...an old fashioned approach

*Message #6 Posted by **Hal Bitton in Boise** on 9 Feb 2009, 3:26 p.m.,*
in response to message #1 by Xavier A. (Brazil)

Hi Xavier,
Rest assured, your english is excellent.
Yes, all the Woodstock series machines use the same battery pack.

I have a 29c (which I purchased new in 1978) that exhibits the same behavior as yours from time to time. It will work one day, then "go mad" the next. What I have found to be the cause of this problem is bad electrical contact between the battery pack and the machine, and even within the battery pack itself. If I remove the battery pack and scrub the contacts, and the ends of the batteries lightly with a pencil eraser (or sometimes an alcohol swab) it fixes the problem. If you are using a rebuilt battery pack, there may no longer be the spot welded metal strip to form the internal connection between the cells (at the closed end of the battery pack). If so, then the connection is made only by the internal spring (which also supplies the preload to hold the battery

pack in place), and that interface must be kept clean and polished also. If the battery pack still has the center bridge, and shows no sign of being opened at the seam, it's probably factory original.

One more ***very important*** re-iteration I would make is that you never, ever connect the wall charger to your 29C. The battery pack also serves as the voltage regulator when the charger is connected, and if the battery pack has a bad contact, an over-voltage is applied to the machine, which can spell disaster. This would hold true even if you don't turn the 29C on while connected to the charger, as the CMOS circuitry (which implements the continuous memory) is exposed to battery voltage even when the machine is off. Using a 21 to charge the battery pack (as you mentioned) is OK as long as you don't turn the 21 on while connected to the charger.
I've cut the center bridge out of my battery pack, which lets me remove the cells and charge them externally (I use AA NiMH).
Hope this helps.
Best regards, Hal

Re: Math Curiousity...an old fashioned approach

*Message #7 Posted by **Xavier A. (Brazil)** on 9 Feb 2009, 3:49 p.m.,*
in response to message #6 by Hal Bitton in Boise

Well, my battery pack is not so new, batteries have the writing 'Hong-Kong' on their rose-red plastic dresses... a pretty sexy battery pack, indeed.

Thank you for this advice, Hal, I think I'll do as you said, will use AA NiMH (and try to find them in Brazil). Do you know how much time may a program work until discharge ? Regards, Xavier

HP 29C battery

*Message #8 Posted by **Hal Bitton in Boise** on 9 Feb 2009, 4:44 p.m.,*
in response to message #7 by Xavier A. (Brazil)

First of all, I must apologize for my whacky browser...I asked it to remember my password, and it also remembers the subject line at the time "Math Curiousity...an old fashioned approach" and inserts it every time. This must look absurd (thanks Google Chrome!)

If you are referring to how long will the calculator retain memory with the battery pack out, it's easily long enough for you to change the batteries (even if you have to remove them from the pack and re-insert charged cells). I recall I've had the battery out of my unit for an hour or so, with no loss of data. To be sure of data retention, you should have a spare pair of cells, ready to be exchanged with the discharged ones.
Hal

Re: HP 29C battery

*Message #9 Posted by **Xavier A. (Brazil)** on 9 Feb 2009, 5:43 p.m.,*
in response to message #8 by Hal Bitton in Boise

Thank you again, this advice will be very useful; I didn't know that, I used to know that the Hp-41 had this feature, but I'm very pleased to learn it for the 29.

Well, if I want to launch a BIG program (for ex., calculate Pi with 300 decimals), do you think one battery cells pair would be enough ? In other words, can this kind of power supply deliver a sufficient current during more than 24h, or better?

Best regards,

Xavier

P.-S.: I realize that my question is a little silly: actually I only need to stop the program, change the pack, and run again, isn't it ? By the way, the autonomy of your cells is interesting, and if you know it...

Re: HP 29C battery

*Message #10 Posted by **Hal Bitton in Boise** on 9 Feb 2009, 6:28 p.m.,*
in response to message #9 by Xavier A. (Brazil)

Well, the original battery pack would run the machine for about 4 hours or so. So I'm thinking that even high capacity Nimh cells would give at best 6 hours (but that's only a guess). I'm sure they wouldn't last 24 hrs.
hal

Re: HP 29C battery

*Message #11 Posted by **Xavier A. (Brazil)** on 10 Feb 2009, 6:15 a.m.,*
in response to message #10 by Hal Bitton in Boise

Thank you Hal. I had another questions about it (3v versus 2.5, or how to solder and charge the new pack), but I shall search it in the Forum, there are some threads about it. Have a nice day.

Xavier

Re: HP 29C battery

*Message #12 Posted by **Xavier A. (Brazil)** on 10 Feb 2009, 4:33 p.m.,*
in response to message #11 by Xavier A. (Brazil)

Just for closing this thread, finally I cut my battery pack and put new rechargeable NiMH cells in the HP.

IT WORKS FINE !

Thank you for all advices. I'll do my best to help this way. Regards.

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HP-29C

*Message #1 Posted by **Jorge Sanchez** on 8 Feb 2009, 11:10 p.m.*

Hey there,

I recently bought an HP-29C on eBay. When I turn it on the display show all 0´s (ceros) and they keyboard does not responde. The batteries are a reconstructed NiCd I use on a HP-25C where they work flawlessly.

Does anyone know what I could try to fix this issue? Or point me in the right direction?

Thanks in advance!

Re: HP-29C

*Message #2 Posted by **Xavier A. (Brazil)** on 9 Feb 2009, 4:43 p.m.,*
in response to message #1 by Jorge Sanchez

Well, take a look at my message, upstairs...

Regards,

Xavier

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HP-67 clutch rebuild problem

*Message #1 Posted by **Michael de Estrada** on 8 Feb 2009, 3:11 p.m.*

The clutch metal sleeve has separated from the worm gear shaft and all the hard filler material (glue or epoxy?) has clumbled and separated from the worm gear shaft. How do I re-attached the sleeve to the worm gear shaft so that it is tight and concentric?

Re: HP-67 clutch rebuild problem

*Message #2 Posted by **Rainer Wiedemann (Germany)** on 8 Feb 2009, 3:38 p.m.,*
in response to message #1 by Michael de Estrada

Michael,

maybe this article (http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=262) is helpful. There might be even more informations in the museum's article forum.

You could also consider have somebody turn a sleeve, which fits directly on the motor shaft with one end, the other end matching the worm gear diameter and glue the parts together thereby giving up the clutch at all. This would yield perfect centering of all parts.

Considering the size of the sleeve, this would have to be a skilled watchmaker.

Re: HP-67 clutch rebuild problem

*Message #3 Posted by **Michael de Estrada** on 8 Feb 2009, 7:54 p.m.,*
in response to message #2 by Rainer Wiedemann (Germany)

Rainer,

Thanks for your assistance. I decided to make a coupling using wire insulation and eliminated the clutch operation. I used wire insulation with an ID = motor spindle OD and OD = clutch sleeve ID. I then bored out the insulation piece at the worm gear end until it was a very tight fit and used a modeling knife to remove sufficient outside material so I could force the sleeve over it and secure it to the worm gear shaft. I applied a tiny drop of superglue to the motor spindle and pushed it though the captive insulation piece and into the end of the worm gear shaft. Of course by doing this I have eliminated the clutch function, but I have tested the card reader by applying 1.5V directly to the motor and pulling a card through repeately, and there was no sign of the motor laboring or the card jamming. Everything is now very smooth and quiet now, so hopefully this will prove a safe fix.

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My review, HP 35s

*Message #1 Posted by **Elliott W Jackson** on 8 Feb 2009, 10:53 a.m.*

I recently picked up the new HP 35s, and have spent a week or so playing with it, and thought I would post my thoughts.

Background: I went through college from '80 to '84 for my engineering degree, in the heyday of the HP 41 series, and lived and died by that thing. My first was the HP41CV, and later I replaced it with the HP41CX. I had the card reader, the printer, and a couple of the ROM pacs. I had the books on Synthetic Programming, and the ROM for it. I subscribed to the various HP journals of the day.

This was back in the day when my wife and I didn't have 2 dimes to rub together, so all those things represented a signficant investment, and I was COMMITTED to that thing, both fiscally and emotionally, heh. I was an advocate, exchanging programs with my other equally-demented HP friends, and other users across the campus. I wrote dozens of programs for it as I progressed through my courses.

In recent years my old HP41 has been used less and less, as PC's, cell phones, and Blackberries/PDA's have replaced some of the functionality we used to crowbar into the calculator. But I still use it for lots of things, and when the keyboard began to misbehave a few years ago (the "1" key would sometimes register a 1, and sometimes not, making using it a bit exciting), I began to look around for a replacement.

This was around the early 2000's, and the models at the time just left me cold, I had no desire to purchase one. I have just been limping along with my occasionally-"1"-key-challenged HP41CX and making the best of it. However, I recently ran across the new HP 35s, and thought "aaahh, finally, HP is going back in the right direction!" and bought one. After a week of playing with it, I have a few thoughts to offer:

Positives:

- Love the old-style tactile keyboard

- the Equation Editor, and how it integrates with the Solver and the Integrator, is just great.

- the Solver is a huge addition from the HP41 days, wow, nice

- the Integrator is nice too

- the ability to handle complex and vector types natively, as single entries in storage memory or on the stack, is great

- the Linear Regression functions are nice and well done

- Like the Base conversions, although I'm still a bit confused about how to use them. I'll figure it out though.

Opportunities to Improve (see, I'm being kind in my language):

- I'd like to know who decided that "STO" should be a shifted key, and that "MODE" needed to be unshifted. That one just boggles my mind. Did the design team who came up with that actually have anyone on the team who uses

these things? The MODE key allows you to switch between Degrees/Radians/Grads, and Algebraic/RPN modes. Here's a hint: I go between Degrees and Radians very infrequently, and when I do, it's a one-time thing I do at the beginning of a calculation sequence, not on the fly. I've never used Grads in my life, and I'll never use Algebraic mode. And even if I hated RPN and preferred Algebraic, my comment would be "I'll never use RPN mode", my point being, people are either one way or the other with ALG/RPN, they don't need to switch. The selector between ALG and RPN could be a toggle switch in the battery compartment, as frequently as it will ever be used. There is just nothing the MODE key does that merits it being a primary, unshifted key, particularly if it displaces some other function that should be unshifted, such as "STO". STO is a key I use constantly, on the fly, during calculation sequences, to stash some intermediate value for later recall and use, and the fact that it is shifted is just really irksome. If there is a glaring fault on the ergonomics of this calculator, this is it.

- Ok, I feel better now having gotten that out. But seriously...

- In this day and age, there really needs to be a USB connection capability, with the ability to move equations and programs back and forth between the PC. All my phones and PDA's have that, with robust connectivity options. Calculators have to step it up and make this a standard feature. Without some mechanism to store/retrieve programs, a programmable calculator is extremely hobbled - no "serious" software will ever be written for it.

- The "10^x" and "LOG" functions should probably go on one key, and likewise the "e^x" and "LN" functions. Right now those functions are actually on different keys (10^x / e^x are on one key, and LOG / LN are on another). I have no problem with them all being shifted, but since they are inverse functions they likely should go on the same key, like the trig functions. That one is not as big a deal as my STO/MODE rant above, but it does lead me back to the question of who was on the design team that thought that 10^x/e^x and LOG/LN went together, rather than e^x/LN and 10^x/LOG. Yes I understand that "textually" they look better the way they are, but mathematically it doesn't make sense. I don't use them that often, so when I need "LN" for example I go scanning and maybe I see "e^x" and think "ok, there's e^x so LN should be ... nope not there." Again, not that big a deal, more of an ergonomic zit.

- All the unit coversions built onto the keyboard really could have been in one of the menus. Every engineer will use some of them, but most won't use them all, and trying to guess which ones we'll all use is just a recipe for wasted keyboard real estate. Another ergonomic zit.

- the mechanism for indirect addressing is a bit clumsy, in that you have to use the I and/or J variables. I preferred the HP41 paradigm, where any register from 0-99 could be used as an indirect register.

- it would be really nice if you could both directly and indirectly access any register. The HP 35s allows you to indirectly access any register (A..Z, the statistics registers, and 0..800), but only allows direct access to the named A..Z registers.

Summary: While I've spent more time ranting about the negatives than the positives, I still like and recommend this calculator. It has some huge improvements over my old HP41's, and huge ergonomic improvements over the more recent HP calculators, in the keyboard if nothing else. My rant about the STO key is really more of a "but it could have been so much BETTER" comment, rather than a "this calculator is a step down" comment.

So, message to HP: You're doing the right things, you're going in the right direction again, and you've managed to stir the passions of this old calculator user at least. Now, get that STO key back on the unshifted keyboard, demote the MODE key to something shifted unless you have keyboard real estate to burn, and get a USB port in there. Fix the silly e^x/10^x LOG/LN layout if you get around to it, and consider demoting all those unit conversions to a menu somewhere.

Thanks, Elliott

Re: My review, HP 35s

*Message #2 Posted by **Walter B** on 8 Feb 2009, 11:28 a.m.,*

in response to message #1 by Elliott W Jackson

Hi Elliott,

Me for 100% and certainly the vast majority of the forum members will support your statement. Thanks for posting it!

Ceterum censeo: HP, launch a 43s.

Walter

P.S. Since you may not know it, you find a 43s here.

Re: My review, HP 35s

*Message #3 Posted by **Elliott W Jackson** on 8 Feb 2009, 11:48 a.m.,*
in response to message #2 by Walter B

Oh my, is that 43 you show a dreamed-up prototype or something? It certainly appears from the keyboard layout to match almost exactly my comments.

Re: My review, HP 35s

*Message #4 Posted by **Marcus von Cube, Germany** on 8 Feb 2009, 1:21 p.m.,*
in response to message #3 by Elliott W Jackson

I fear, its just a virtual dream. ;)

Re: My review, HP 35s

*Message #5 Posted by **Elliott W Jackson** on 8 Feb 2009, 1:31 p.m.,*
in response to message #4 by Marcus von Cube, Germany

Ah. I also see now, from digging through the archives, this topic has been discussed at length before - apparently I am late to the party!

I do see lots of other comments about the shifted-STO key and lack of USB connectivity.

Re: My review, HP 35s

*Message #6 Posted by **bill platt** on 8 Feb 2009, 1:43 p.m.,*
in response to message #5 by Elliott W Jackson

Late to the party, Hihi!

Some of us even deconstructed different ROM versions of the HP 33s that came a few years ago. We tracked every little change, ad absurdum. You have met the Holy Grail of Afficianado Calculatorum.

Best regards,

Bill

Re: My review, HP 35s

*Message #7 Posted by **Walter B** on 8 Feb 2009, 6:16 p.m.,*

in response to message #6 by bill platt

Yeah, late to the party :) That party lays siege to HP like a wolf pack, with the grey ones howling in chorus "Bring back..." -- then the chorus splits into single voices "... the 15C", "... the 41CX", "... the 42S", "... quality". Only very meddlesome, nosy wolflings rise their little voices "Launch a 43s!" d;-)

Re: My review, HP 35s

*Message #8 Posted by **Patrick Rendulic** on 9 Feb 2009, 5:26 a.m.,*
in response to message #7 by Walter B

It is never too late to "complain" about what you dislike. If complains get forgotten there won't be an improvement in future calculators.

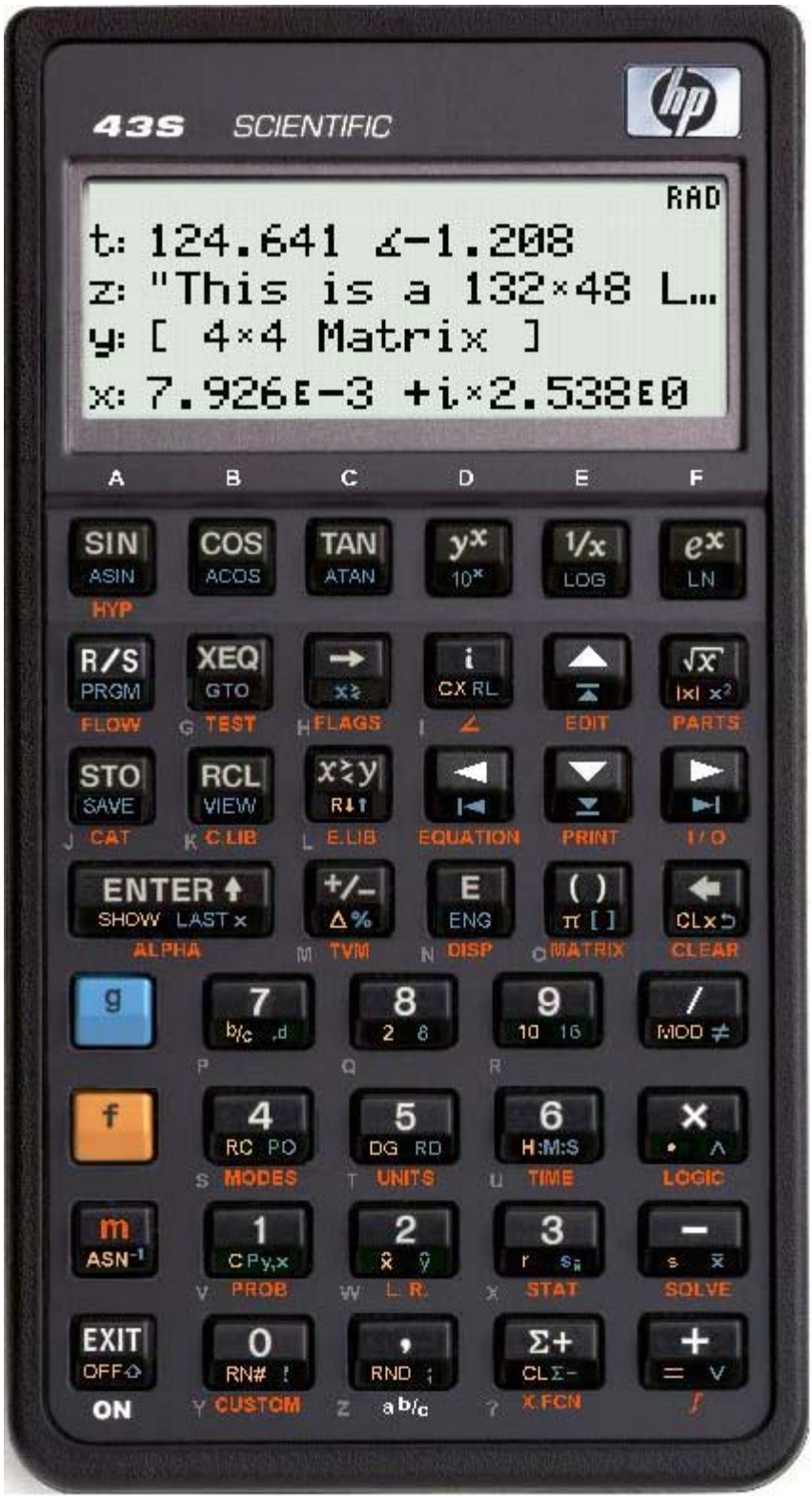
What about the keyboard problems? My 35s still misses keys when I do fast additions, that's also the reason why I stopped using it. The display scratches easily. That's not the case on the 32sii. Definetely not an improvement.

As for the 43s, ..., that would be really nice! I would just add one minor change, an alpha keyboard like the one of the 41c. There could even be a flag setting to switch between the 42 and 41 manner to enter text and commands so that everyone gets satisfied. For new "users" 42-like entering text is too frustrating.

Re: My review, HP 35s

*Message #9 Posted by **Walter B** on 9 Feb 2009, 4:45 p.m.,*
in response to message #8 by Patrick Rendulic

"Well spoken, Patrick", the fairy whispered, "your modest wish shall be fulfilled."



Ceterum censeo: HP, ...

Walter

P.S.: As long as the LCD allows for soft keys, I'd prefer the cleaner keyboard. YMMV.

Re: My review, HP 35s

*Message #10 Posted by **Patrick Rendulic** on 10 Feb 2009, 1:26 a.m.,*
in response to message #9 by Walter B

@ Walter. Thanks! When will you start producing this beast ;).

@ HP. Wake up! There are indeed people willing to buy this.

Re: My review, HP 35s

*Message #11 Posted by **Ángel Martin** on 10 Feb 2009, 3:50 a.m.,*
in response to message #9 by Walter B

Thumbs up to the direct alpha keyboard - I never liked the soft-alpha entry like in the 42S, the 41 spoiled me from the very beginning :-)

Oh such a machine... Will this dream ever become a reality? I doubt it, so we'd better enjoy the dreaming!

Best, ÁM

Re: My review, HP 35s

*Message #12 Posted by **ZOleg** on 10 Feb 2009, 7:53 p.m.,*
in response to message #11 by Ángel Martin

Best Alpha keyboard for me is HP-71B keyboard.

Re: My review, HP 35s

*Message #13 Posted by **Marcus von Cube, Germany** on 11 Feb 2009, 4:18 p.m.,*
in response to message #12 by ZOleg

> Quote:
>
> Best Alpha keyboard for me is HP-71B keyboard.

Closely followed by the HP-28C/S and the other foldables.

Re: My review, HP 35s

*Message #14 Posted by **Walter B** on 11 Feb 2009, 5:51 p.m.,*
in response to message #13 by Marcus von Cube, Germany

> Quote:
>
> > Quote:
> >
> > Best Alpha keyboard for me is HP-71B keyboard.
>
> Closely followed by the HP-28C/S and the other foldables.

I second statement 1, but not 2. The 28C features an ABCD keyboard,

a type which's only right of living is to cope with NCEES rules. This layout isn't reasonable for quick text input. OTOH a QWERT keyboard may even be done on a Voyager, as I showed years ago (more may be seen here and in further posts) -- it's a pity they have NCEES in the US of A. blocking such solutions.

Re: My review, HP 35s

*Message #15 Posted by **Jeff O.** on 9 Feb 2009, 7:38 a.m.,*
in response to message #5 by Elliott W Jackson

Elliott,
In case you did not discover the reason for the lack of USB or other means to upload and download data: if the 35s had such capability, it would not and could not be permitted for use when taking Professional Engineer and Professional Surveyor examinations sponsored by National Council of Examiners for Engineering and Surveying (NCEES) in the US. The NCEES prohibits any calculator with such capabilities, and produces a a list of approved calculators each year for use on the following year's examinations. The 35s is on that list, as is the 33s. These are the only rpn-capable calculators allowed on the test. Without the market driven by rpn-users taking the PE/PS examinations, the 35s might very well not exist.

The wisdom of the NCEES policy has been the subject of lively discussion here, search if you are interested.

Edited: 9 Feb 2009, 7:39 a.m.

Re: My review, HP 35s

*Message #16 Posted by **David Hayden** on 8 Feb 2009, 3:14 p.m.,*
in response to message #1 by Elliott W Jackson

Thanks for posting Elliot. I too was in college in the early 80's, had (and still have) a 41CV with printer and card reader.

For what it's worth, the nits that you mention are all addressed in the 50g, except perhaps for the STO problem. On the 50g, STO is unshifted, but variable names are arbitrary, so to STO something in variable "K", you have to press 4 keys (in RPN mode) ' ALPHA K STO. If the variable already exits and the soft keys are showing variables, you can store to K by pressing Left-shift <K soft key> so that helps.

I agree 200% about the USB port. By preventing the easy saving/loading of programs, they've severely limited the usefulness of the calculator.

Dave

Re: My review, HP 35s

*Message #17 Posted by **Elliott W Jackson** on 8 Feb 2009, 6:07 p.m.,*
in response to message #16 by David Hayden

Thanks for the note. I did download the manual for the HP50g, and it doesn't go into a lot of detail about the USB port. They talk a lot about the SD card.

Can someone briefly describe how the USB port works on the HP50g? What all information can be stored/retrieved, how difficult is it, where does the information show up on the PC, does it take proprietary PC software to send/receive, etc?

Re: My review, HP 35s

*Message #18 Posted by **Marcus von Cube, Germany** on 9 Feb 2009, 2:52 a.m.,*
in response to message #17 by Elliott W Jackson

You will need the software on the PC that came with the calc (or you find on the Net) or something similar in nature: An X-Modem or Kermit client that "sees" the USB connection as a serial device.

The Conn4x software package by HP works as a kind of file manager: You have read/write access to the directories on your calc and you can move the files on your PC where appropriate. The transfer format can be set to ASCII: This way, you can edit the RPL code on your PC and transfer it back to the calc. Import/export of lists, vectors or matrices into and out of a spreadsheet should be possible, too, probably after some fiddling with the file format.

Re: My review, HP 35s

*Message #19 Posted by **David Hayden** on 9 Feb 2009, 11:12 a.m.,*
in response to message #17 by Elliott W Jackson

Elliot,

For what it's worth, I hardly ever use the USB connection to my 50g, and instead transfer files via the SD card. I have a card reader on my desk, so it's quite easy to slap the card in the reader, drag & drop a file into it on the PC, and then yank the card out of the reader and drop it in the calculator.

Re: My review, HP 35s

*Message #20 Posted by **Elliott W Jackson** on 10 Feb 2009, 11:03 p.m.,*
in response to message #16 by David Hayden

After reading this note, I keep going back to the HP50g manuals and whatnot, and I just can't get past the look. It doesn't appear that the keyboard is any good (although I've read other folks talk about how deep and tactily the keys feel, almost to a fault according to some, but I sure can't see how that is true, given the pictures I'm looking at).

Also - am I confused, or is the RCL key shifted on the HP50g? It looks like STO is unshifted, but RCL is shifted? Ugh. See my rant that kicked off this thread, and replace every occurrence of STO with RCL and it's just as true. Ugh. And that Enter key...I can hear HP saying "hey, man, size doesn't matter!" While I will happily accept that delusion in regards to certain other topics, I am not willing to accept it here. Size matters.

I WANT to want a 50g, or any calculator really with a capability to store/retrieve info. But I can't make myself want it. I'm stuck waiting on the next generation 35.

It's ok I guess. I like my new 35s toy. I just can't get too fired up to write some crazy programs for it, given the inability to store/retrieve them.

Edited: 10 Feb 2009, 11:05 p.m.

Re: My review, HP 35s

*Message #21 Posted by **Tim Wessman** on 11 Feb 2009, 12:29 a.m.,*
in response to message #20 by Elliott W Jackson

>It looks like STO is unshifted, but RCL is shifted? Ugh

Have you ever used a 48 series calc before (just curious)? RCL doesn't really make sense as a direct key as almost all recalling will be done on a menu. Storing as well once the object exists. They are done using the menu keys. And if you don't like it. . . go ahead and redefine the whole keyboard to your desire. You have 10 built in key planes.

> While I will happily accept that delusion in regards to certain > other topics

Must . . . resist . . . joke . . .

:-)

TW

Re: My review, HP 35s

*Message #22 Posted by **Elliott W Jackson** on 11 Feb 2009, 10:14 p.m.,*
in response to message #21 by Tim Wessman

> Quote:
>
> >It looks like STO is unshifted, but RCL is shifted? Ugh
>
> Have you ever used a 48 series calc before (just curious)?

In fact I've not. I'm not sure I understand what you are describing - perhaps I should take the next poster's advice and get an emulator to play with and see.

Re: My review, HP 35s

*Message #23 Posted by **bill platt** on 12 Feb 2009, 10:02 a.m.,*
in response to message #22 by Elliott W Jackson

You should definitely try an emulator. Visit www.hpcalc.org

Edited: 12 Feb 2009, 10:03 a.m.

Re: My review, HP 35s

*Message #24 Posted by **Egan Ford** on 11 Feb 2009, 12:26 a.m.,*
in response to message #20 by Elliott W Jackson

> Quote:
>
> Also - am I confused, or is the RCL key shifted on the HP50g? It looks like STO is unshifted, but RCL is shifted?

You will not use STO/RCL on the 50g as much as you may expect. Most use the soft menu keys to recall/execute and left-shift-soft-key to STO and right-shift-soft-key to RCL (no execute). When programming STO is used, but variable recall is achieved by just stating the variable name. No need for RCL.

> Quote:
>
> Ugh. And that Enter key...I can hear HP saying "hey, man, size doesn't matter!" While I

> will happily accept that delusion in regards to certain other topics, I am not willing to accept it here. Size matters.

I have heard various rationals for the location and size of the ENTER key. What about the location of the arithmetic operators? No arguments there? They moved from left (with the ENTER) to right (without the ENTER) and the order (top to bottom) changed, then the ENTER moved right (50g/33s), then left again (35s).

I will share one observation about location. I find using the 41 with the operators and ENTER on the left with numbers and R/S on the right very natural. OTOH, I find the 50g with the operators and ENTER on the right also natural and easy to use. But, I have to admit, aesthetically the double-wide ENTER is missed.

> Quote:
>
> I WANT to want a 50g, or any calculator really with a capability to store/retrieve info.

Get a 50g. In every sense it is a superior device compared to the 35s. You'll adapt to the keyboard layout in no time.

Not only do I refuse to use calculators without I/O for production use, but I also refuse to use calculators without an emulator. I prefer to develop and test on my laptop then download to the real thing or iPhone emulators. I do make one exception and that is my 15C. The programming capacity is relatively limited and can be backuped to paper in minutes and restored in minutes.

Back to the 50g. There are two emulators (one for Windows and the other for Linux/Unix/OSX). Just about every other HP RPN model also has emulators for Windows/Linux/OSX. Absent is the 35s.

> Quote:
>
> I just can't get too fired up to write some crazy programs for it, given the inability to store/retrieve them.

Get a 50g emulator and give it a try.

Re: My review, HP 35s

*Message #25 Posted by **Martin Pinckney** on 9 Feb 2009, 10:37 a.m.,*
in response to message #1 by Elliott W Jackson

> Quote:
>
> - the Solver is a huge addition from the HP41 days, wow, nice

Elliot,

Ironic, because I had the 35s for a while, and got rid of it, one of the main reasons being the Solver.

Actually, the Solver IS great ... unless you have used the one on the 27s (17b, 17bii similar). With these you get full alpha capabilities, so that, for instance, you can name a variable "DISTANCE", instead of just "D". Imagine the huge difference this makes, if you have several equations with different "D's" in them. You can also name equations, so that when you scroll through the equation list, it is clear what they are, instead of having to figure it out by looking at the terms in it.

This illustrates my beef with the present-day HP. The calculator would make better use of all that memory if they had implemented the 27s type of Solver (and also if they incorporated some of your other comments). But (apparently), HP would rather put together a quickie, taking the easiest route (just upgrading the 33s firmware), than to spend the money and time to produce a truly great calculator.

Edited: 9 Feb 2009, 2:24 p.m. after one or more responses were posted

Re: My review, HP 35s

*Message #26 Posted by **bill platt** on 9 Feb 2009, 12:02 p.m.,*
in response to message #25 by Martin Pinckney

I agree on this solver aspect. It seemed to be an incremental step from the 32sii. The big enormous improvement over the 32sii and hte33s solver is the ability to edit the equations--previously you had to backspace over code to get to where you needed to change!

It would be a good idea, from a product sales aspect, to continually improve the 35S line. It should definitely have full alpha variable naming. It should also have the nifty softkey variables system of the 27S/17b.

Other upgrades that should be done is to bring back a real rectangular to polar conversion, the ability to decompose vectors and to build them from stack objects (with the latter, the former might be accomplished anyway),

improved Octal/Hex/Binary--more like previous models,

Ability to move equations in and out of the equation list and program memory--in other words a "copy/paste" capability,

Ability to integrate and solve in the same program, a la 15C.

Full indirection

Put store on a primary position and bury mode as a shifted function.

If they keep adding new features every two years, people will keep buying them--just like the old days! Maybe anyway....

HP 36S next year, retire the 35S, use the same tooling...

Edited: 9 Feb 2009, 12:07 p.m.

Re: My review, HP 35s

*Message #27 Posted by **Walter B** on 9 Feb 2009, 4:58 p.m.,*
in response to message #26 by bill platt

> Quote:
>
> HP 36S next year, retire the 35S, use the same tooling...

Please not exactly the same tooling, but move the cursor cross one row down to make way for a complete line of 6 soft keys. Jake suggested this several times here, too. See above in this thread for a design which can be projected easily on such a 36s as well.

Ceterum censeo: HP, launch a 43s (you may also call it 36s).

Walter

Re: My review, HP 35s

*Message #28 Posted by **Bruce Bergman** on 9 Feb 2009, 9:28 p.m.,*
in response to message #25 by Martin Pinckney

The Solver on the 17bii, 17biiS (Silver) and the rest of that family, FAR outpaces the 35s. It would be a dream if the 35s had this capability. I -- like many others -- underestimated the Solver on the 17bii for the longest time, and then once I had one, it was like "wait, where did THIS come from?!".

The 35s is a great machine. But go check out the other Solvers and you'll be even more impressed.

thanks, bruce

Re: My review, HP 35s

*Message #29 Posted by **Martin Pinckney** on 11 Feb 2009, 4:50 p.m.,*
in response to message #28 by Bruce Bergman

> Quote:
>
> The Solver on the 17bii, 17biiS (Silver) and the rest of that family, FAR outpaces the 35s... I -- like many others -- underestimated the Solver on the 17bii for the longest time, and then once I had one, it was like "wait, where did THIS come from?!"...
>
> go check out the other Solvers and you'll be even more impressed.

I keep finding nifty features that I hadn't noticed before.

For instance, did you know that you can STO and RCL the Solver variables, and therefore do operations with them? To do this you use the soft keys to access the variable name. So to use the results of several different equations you scroll the equation list and press CALC, STO or RCL the variable name, exit the equation to scroll and pick up the next variable you need... all the while your HP keeps track of your pending operations!

Maybe "everyone" already knows this, but it was a cool discovery for me.

Re: My review, HP 35s

*Message #30 Posted by **bill platt** on 11 Feb 2009, 5:47 p.m.,*
in response to message #29 by Martin Pinckney

Hi Martin:

Have you discovered the Let and Get functions yet? They will blow your mind.

See the L(...) and G(...) in the following:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=222

I love it when W.B. states, "Anyway, being an engineer, I break out in a rash if I don't have access to the trigonometric and inverse-trig. functions." :-D

Edited: 11 Feb 2009, 5:50 p.m.

Re: My review, HP 35s

*Message #31 Posted by **Martin Pinckney** on 11 Feb 2009, 10:01 p.m.,*
in response to message #30 by bill platt

> Quote:
>
> Hi Martin:
>
> Have you discovered the Let and Get functions yet? They will blow your mind.

Bill,

I had heard of them, but never investigated. Now you have tweaked my curiosity!

I have used SGN and nested IF's, though, which make for some powerful routines.

Re: My review, HP 35s

*Message #32 Posted by **Michael de Estrada** on 9 Feb 2009, 1:56 p.m.,*
in response to message #1 by Elliott W Jackson

I agree 100% with your comments as well as many made by others in reply to your post. I would add the following gripes I have with this model:

1) The decimal point is very hard to pick out in certain situations. Type in 22,222.222 and then try to find the decimal point. This is in stark contrast to my beloved HP-15C, which I believe had the best display ever (as well as the best keys). Still, it's a vast improvement over the HP-33s, where the decimal point was impossible to see.

2) Why even bother to have algebraic mode at all? As you point out, there are RPN people and there are algebraic people. If HP eliminated this unneeded option by making this a pure RPN calculator, this would free up a lot of key label space through the removal algebraic constructs such as = () [].

3) One of the few features I liked about the HP-33s were the soft rounded grippers on the sides of the case, which made it very comfortable and secure when holding the calculator in my hand. The HP-335s is hard slick plastic, and several times the calculator has squirted out of my hand. Well, at least it past the drop test.

Still, there's more to like than hate with the HP-35s, and it's a vast improvement over the HP-33s (except for the shifted STO), which had simply awful ergonomics, keys and display.

Re: My review, HP 35s

*Message #33 Posted by **Marcus von Cube, Germany** on 9 Feb 2009, 2:44 p.m.,*
in response to message #32 by Michael de Estrada

Equations in programs are a useful feature and you will not give up vectors or complex numbers: The parentheses are neccessary.

Re: My review, HP 35s

*Message #34 Posted by **Michael de Estrada** on 11 Feb 2009, 12:29 p.m.,*

in response to message #33 by Marcus von Cube, Germany

You bring up a very valid point, which occured to me after I made this posting. Due to the very limited capabilities of the HP-35s with only single letter variable names, no matrix capabilities, and no calculator to PC communication capability, I have never used mine for equation writing or programming. Instead, I use my beloved HP-48SX for these purposes, and just use the HP-35s as a fixed-function calculator. Not to split hairs here, but parentheses () are useful for equations, brackets [] are required for vectors, and neither are required for complex numbers. Also, the equal sign = is required to write an equation. So, maybe HP will bring forth the HP-43s and make us all happy? (when pigs fly)

Re: My review, HP 35s

*Message #35 Posted by **Didier Lachieze** on 11 Feb 2009, 12:38 p.m.,*
in response to message #34 by Michael de Estrada

> Quote:
>
> So, maybe HP will bring forth the HP-43s and make us all happy? (when pigs fly)

They used to fly long time ago during Pink Floyd live shows ... :-)

.. interestingly - if I remember correctly - it should have been at the same time as HP was building the models praised in this forum.

Edited: 11 Feb 2009, 12:45 p.m.

Re: My review, HP 35s

*Message #36 Posted by **Martin Pinckney** on 9 Feb 2009, 2:54 p.m.,*
in response to message #32 by Michael de Estrada

> Quote:
>
> 2) Why even bother to have algebraic mode at all?

To get a bigger market share, without having to produce two different calculators.

> Quote:
>
> As you point out, there are RPN people and there are algebraic people. If HP eliminated this unneeded option by making this a pure RPN calculator, this would free up a lot of key label space through the removal algebraic constructs such as = () [].

I am one of those algebraic people. But when I had my 35s, I would switch to RPN when doing repetitive unary functions. In fact, that's how the older algebraic calculators worked, so it is familiar to me. I can learn to live with SIN(X) [the 35s way], instead X SIN [the 27s way]. But MILE(X)? This is taking algebraic notation to an extreme. I could give other examples, but my point here is that there are user (not just marketing) benefits to having a dual-mode calculator.

Re: My review, HP 35s

*Message #37 Posted by **Michael de Estrada** on 9 Feb 2009, 10:15 p.m.,*
in response to message #36 by Martin Pinckney

I would be interested to know how much added market share HP has obtained though the addition of algebraic mode to the HP-35s. I suspect it is negligible, since there are numerous very competitive and more cost-effective purely algebraic alternatives from competitors such as TI, Sharp and Casio. I think HP's reputation in the area of high-end scientific calculators was built on RPN, and I think any attempt to corner the market by pleasing everyone is ineffective. I seem to remember a fable by Aesop with the moral that if you try to please everybody, you end up pleasing nobody.

Re: My review, HP 35s

*Message #38 Posted by **Patrick Rendulic** on 10 Feb 2009, 2:42 a.m.,*
in response to message #37 by Michael de Estrada

After the discussion was launched 2 days ago, I decided to give my 35s a second chance. I checked two things: ALG Mode, which I never used up tp date and I checked whether my machine still misses keystrokes.

As for ALG mode, well in comparision to a Casio with Natural Display, the ALG mode of the 35s is by far outdated. Some think that ALG mode gives HP better sales. For my part, I never saw a person use an 35s at my school. Take average people wanting a calculator. Do you really think that they buy a $60 HP when they can get a $20 Casio with a far better and intuitive user interface? My students have become more than enthousiastic after I showed them how to use their Casio to solve quadratic equations, linear systems, how to integrate numerically and how to do regression statistics. They would never have bought the HP for three times the money but with less obvious functions.

As for the keyboard issue, I did a full reset to have a clean calculator. I then did usual calculations, in my case additions of scores my students obtained at a test. And again, it was not possible to get the right answer at once. When doing additions I am quite fast and the 35s misses my keystrokes. This happens, when I key in numbers and when the "busy" annunciator is lit on. It seems that there is no buffer, or a bad buffer, for storing key inputs. All my other HPs DON'T show this behaviour, they are faster than I am. In my view this is simply a design fault (and a big shame). The 35s is UNUSABLE for my applications as I cannot rely on the results it displays.

So this evening the 35s will again disappear in its drawer and the felow 32sii will be the workhorse.

Re: My review, HP 35s

*Message #39 Posted by **Martin Pinckney** on 11 Feb 2009, 11:19 a.m.,*
in response to message #38 by Patrick Rendulic

> Quote:
>
> As for ALG mode, well in comparison to a Casio with Natural Display, the ALG mode of the 35s is by far outdated. Some think that ALG mode gives HP better sales. For my part, I never saw a person use an 35s at my school. Take average people wanting a calculator. Do you really think that they buy a $60 HP when they can get a $20 Casio with a far better and intuitive user interface?

The additional market share I was speaking of is among practicing engineers/engineering students, not "average people". Believe it or not, there are those of us who value both ALG mode and HP quality/look/feel.

Edited: 11 Feb 2009, 11:20 a.m.

Another HP35s bug

*Message #40 Posted by **Ian Stanley** on 13 Feb 2009, 9:38 a.m.,*
in response to message #1 by Elliott W Jackson

thanks for the review - just got mine yesterday and working through the manual.

I like to return to an old style keyb layout even if it is not quite the quality of the 42s or 10C... series

Even several months on HP still seems to be shipping buggy units and quite a few of the HPMuseum's bug list are still present

After working through the manual ... I'd like to add a new one ....

On page 14-6 we have an example of Combinations of People.

[2] [4] [enter] [6] [left shift] [nCr]

works fine

the second part of the example is slightly different :

[2] [4] [enter] [6] [left shift] [nCr] **[x<>y]** [divide]

Unfortunately after processing the nCr the 35s clears the stack **and does not return the TOTAL NUMBER OF COMBINATIONS into the Y register**

Re: Another HP35s bug--it isn't one

*Message #41 Posted by **bill platt** on 13 Feb 2009, 10:14 a.m.,*
in response to message #40 by Ian Stanley

Hi Ian,

That is not a bug. You are misinterpreting the manual.

First you should edit your message--it is page 4-16.

In the worked examples, first you calculate the number of combinations of 24 people, 6 a time. That result (134596) is in the x-register. The next worked example is 14 women grouped 6 at a time. You do this problem without doing any clearing or rolling etc of the stack. Once you have solved this problem, you will see (3003) in the x-register and (134596) in the y-register. X<>Y exchanges them, and / gives you the probability.

This works the same as the HP 32sii.

Edited: 13 Feb 2009, 10:44 a.m.

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HP-71B sunk key

*Message #1 Posted by **Marcus von Cube, Germany** on 8 Feb 2009, 9:52 a.m.*

My otherwise fully functional HP-71B has a sunk [=] key. It works and even clicks. It just sits a little deeper in its hole. Anything I could/should do about it?

Marcus

Re: HP-71B sunk key

*Message #2 Posted by **Vladan Dugaric** on 8 Feb 2009, 10:36 a.m.,*
in response to message #1 by Marcus von Cube, Germany

Marcus,

My HP-71B over time developed three sunk keys - gold f, blue g, and right arrow, and space and down arrow were getting softer. In addition, there was a bit of dirt under many keys and some of them were getting stuck or did not register unless pressed firmly.

After many years I decided to disassemble the keyboard by cutting the heat stakes, and found out that all the snap discs were fine, without any cracks or dents, but the rubber film that is between the key caps and the snap discs got punctured by plastic posts that project from the middle of each key and press the snap disc. My solution was to turn the rubber film over around the horizontal axis, so that bottom was now top, and front was now back. The holes in the film that correspond to the heat stakes are almost symmetric with respect to film, but slightly shifted up, so you either have to cut off a millimetre or so from the other end of the film, or just tuck it in (what I did). Then reassemble (after cleaning all snap discs and key caps and contacts as needed).

Beware: you only have one go at re-melting the heat stakes; check carefully that you did not misplace some key caps, since if you re-melt heat stakes and then realise you need to break them again, you will be left with too short heat stakes.

After that, the keyboard is nice again, without any sunk keys. Gold-f is still somewhat soft, but that is probably because it was used a lot and the hole in the rubber hole under that key is a little larger than other few holes that were punched through by the keys.

Vladan

Edited: 8 Feb 2009, 10:43 a.m.

Re: HP-71B sunk key

*Message #3 Posted by **Marcus von Cube, Germany** on 8 Feb 2009, 10:52 a.m.,*
in response to message #2 by Vladan Dugaric

Thanks for the tip. It's not a real problem so I will leave my HP-71B alone.

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Update on my 9114 repairs in 2000

*Message #1 Posted by **Steve (Australia)** on 8 Feb 2009, 9:41 a.m.*

In September of 2000 I wrote this article http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=78 describing my 9114A repair journey.

I've recently looked around and found some references to my article and I am very flattered that people have considered it useful. I would like to complement whoever suggested isopropyl alcohol, and PeterP who has written a very useful reference.

A couple of months ago I tested the disk mechanism again and found it was gummed up again. Without thinking I pulled the disk out and immediately thought I had probably just ripped a head off it :-(

Anyway, someone got in contact with me regarding a problem with their 9114 and I thought it best to dive back into mine again before I risked theirs :-)

I searched and found a reference to using isopropyl alcohol, and having a spray bottle of it I gave it a shot. Well, 2 small squirts later (it probably helped that I knew where to squirt) the drive is ejecting again.

I have lubricated the drive again and I expect I'll have to repeat the process in another 7 years or so.

The good news is that because the drive had been stored with no disk in it, the heads had stuck up and out of the way, so I didn't need to bend heads back into shape again (lucky because my eyes are a hell of a lot worse than they were).

I guess I'm going to advise a couple things at this point:

1) if you have a 9114A, expect to have to do some maintenance every 5 to 10 years :-)

2) it may be best to store it without a disk in the drive.

3) if you do have a problem ejecting a disk, *don't* just pull it out.

My 9114B is still operating beautifully with no signs of any sticking.

The problem with the drive that was sent to me seems to have been simply that the battery was partially dead. I could say terrible things about how people treat their batteries, but mine was far "deader".

Since I've just replaced mine again (albeit with a smaller 1.3AHr battery that happened to be available on a Sunday afternoon in Perth) I am now considering how best to maintain it.

I'm not fond of the idea of leaving it permanently on charge as the potential for overcharge is real.

What I'm thinking of doing is leaving a charger on a mechanical timer set to charge the battery for (say) 30 minutes a week. Other than the actual time required (that I would adjust so that the charge does not slowly drop) can anyone think of any counter arguments or better solutions?

I'm probably going to do the same for my HP110 after I get the cells in that replaced.

NiCads are another issue. I'm sure that keeping them topped up is not the appropriate answer. I'm torn between using primary cells and making up packs using newer battery technology (NiMH, LiIon, LiFe, LiPo etc.) Any suggestions here?

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HP 35s "Low footprint" Linear Interpolation

*Message #1 Posted by **Elliott W Jackson** on 8 Feb 2009, 8:55 a.m.*

Hello,

I went to college from '80-'84, and lived and died by my HP 41CV. I wrote dozens of programs for it as I progressed through my courses.

I recently picked up a new HP 35s, and decided to convert one of my oldest, most-used HP41 programs to the 35 as a learning exercise mainly.

The program just does simple linear interpolation. Suppose we have a table of data such as

```
...
X1    Y1
X2    Y2
...
```

Given any value X, it simply estimates Y using linear interpolation. The equation to do that is brutally simple, it is just such a frequent need that it is a great candidate for a quickie program.

As a further requirement however, I decided that I wanted to make it "low footprint," i.e. such that it only used the absolute minimum of the 26 A..Z named storage registers, and relied instead on the 800 indirect-addressed unnamed storage registers for any temporary storage requirements. I'm not sure how strong a need that is, frankly, but I thought it might be, to preserve the named registers for use as variables in equations, and allow those values to remain unmolested and untrampled-upon. That design decision did complicate things a bit, resulting in some muddy-looking code as the program plays games with the stack, but it's not too bad.

Program Name: "L" (it lived for years as "LIP" in my HP41 calculators)

Named storage registers used: I

Un-named indirect addressed storage registers used: "n" through "n+3", where the value of "n" is set early in the program and can be easily changed if needed. Default = 10.

```
L001    LBL L
L002    10      Base register 'N' for storage
L003    STO I   N stored in I
L004    SF 10
L005    X2,X1,X Prompt for X2 enter X1 enter X
L006    CF 10
L007    STO(I)  X stored in N
L008    1
L009    STO+ I  N+1 stored in I
L010    RDN
L011    RDN
L012    STO(I)  X1 stored in N+1
L013    1
L014    STO+ I  N+2 stored in I
L015    RDN
L016    RDN
L017    STO(I)  X2 stored in N+2
L018    1
L019    STO+ I  N+3 stored in I
L020    SF 10
```

```
L021    Y2,Y1   Prompt for Y2 enter Y1
L022    CF 10
L024    STO(I)  Y1 stored in N+3
L025    -       (Y2-Y1)
L026    1
L027    STO- I  N+2 stored in I
L028    RDN
L029    RCL(I)  X2
L030    1
L031    STO- I  N+1 stored in I
L032    RDN
L033    RCL(I)  X1
L034    -       (X2-X1)
L035    /       (Y2-Y1)/(X2-X1)
L036    RCL(I)  X1
L037    1
L038    STO- I  N stored in I
L039    RDN
L040    RCL(I)  X
L041    X<>Y
L042    -       (X-X1)
L043    *       (X-X1)*(Y2-Y1)/(X2-X1)
L044    3
L045    STO+ I  N+3 stored in I
L046    RDN
L047    RCL(I)  Y1
L048    +       (X-X1)*(Y2-Y1)/(X2-X1) + Y1
L049    RTN     Y is left in X-register


LN=166  CK=FC9A
```

As mentioned, the linear interpolation equation is trivial and straightforward and not really worthy of much discussion. The only thing possibly novel in this program is my attempt to make it "low footprint", and use the un-named storage registers as much as possible for temporary storage needs, rather than the named A..Z registers. That decision did complicate the code a bit, as I had to manipulate I in the middle of the "real math", which complicates the listing somewhat.

Best, Elliott

Re: HP 35s "Low footprint" Linear Interpolation

*Message #2 Posted by **Cliff V** on 15 Feb 2009, 8:04 a.m.,*
in response to message #1 by Elliott W Jackson

thanks for the program.

step 23 is missing.

Re: HP 35s "Low footprint" Linear Interpolation

*Message #3 Posted by **Elliott W Jackson** on 15 Feb 2009, 8:39 p.m.,*
in response to message #2 by Cliff V

Oops, thanks for noticing. It's actually not missing, my line numbers are just messed up. The LN and CK numbers are correct, and the program should end on line L048.

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HP 29c power requirements

*Message #1 Posted by **Todd Rockwell** on 7 Feb 2009, 12:02 a.m.*

does anyone have power requirement stats for a 29C?? specifically, can it be powered by AA or AAA batteries or is the rechargeable pack required. and if so, what are the specs of that pack??? i sold one on ebay that was in questionable condition (stated so in the ad) and now the guy that bought has informed me that it doesn't work. i just wanna make sure that he is using a battery with the correct voltage etc.

thank you for any help you can offer.

Todd

Re: HP 29c power requirements

*Message #2 Posted by **Randy** on 7 Feb 2009, 8:45 a.m.,*
in response to message #1 by Todd Rockwell

Two AA alkalines will power a 29C without issue and is by far the safest way to test and otherwise use it.

Never attach the charger of a twenty series unit to the calculator without a known good rechargeable battery in place. A bad battery, bad contact or doing so without a battery in place will destroy the unit.

Re: HP 29c power requirements

*Message #3 Posted by **Todd Rockwell** on 7 Feb 2009, 10:58 a.m.,*
in response to message #2 by Randy

thanks for your help. I am certain that the unit has been on AC power with a crappy battery in it, and is probably toasted. is the unit repairable??? i have sold it and did not mean to mislead the buyer. I want to make good on the deal whatever that means, whether that is a repair or refund.

thanks again... Todd

Re: HP 29c power requirements

*Message #4 Posted by **Randy** on 7 Feb 2009, 11:31 a.m.,*
in response to message #3 by Todd Rockwell

If it has internal damage, and it most likely does, repair isn't practical since the required parts must come from a good 29C.

You'd be ahead of the game by getting it back and giving a refund. Then resell it as a parts machine, not working, as-is, no returns. Somebody will buy it for the battery tray and the keyboard, especially if it is in decent cosmetic condition.

Re: HP 29c power requirements

*Message #5 Posted by **Todd Rockwell** on 7 Feb 2009, 4:14 p.m.,*
in response to message #4 by Randy

Thanks again Randy, the thing is in excellent cosmetic condition, the keyboard and display are perfect, and the battery comp is too except for a spec of corrosion on one of the contacts.....do you have any idea what a unit sold for parts is worth??

Re: HP 29c power requirements

*Message #6 Posted by **Randy** on 7 Feb 2009, 4:17 p.m.,*
in response to message #5 by Todd Rockwell

IMO, I'd say at least $50. Might go for double that, just no way to know. Good photos = better bids.

Re: HP 29c power requirements

*Message #7 Posted by **Todd Rockwell** on 7 Feb 2009, 4:22 p.m.,*
in response to message #6 by Randy

thanks for the info.... youve been a great help.

Todd

Re: HP 29c power requirements

*Message #8 Posted by **Michael de Estrada** on 7 Feb 2009, 10:38 a.m.,*
in response to message #1 by Todd Rockwell

The power requirements of all 20 series (Woodstock) calculators are stated on the label on the back of the unit, located between the 2 bottom rubber feet, and are 2.5V, 500 mW. The source of the power does not matter, provided it is applied at the battery terminals inside the calculator, it is DC, and proper polarity is observed (the positive terminal is on the left side of the calculator, same side as OFF/ON switch). As stated by Randy, NEVER operate the calculator with the AC battery charger, unless a good NiCad battery is installed. This also applies to the 30 series (Spice) calculators.

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How to get rid of the period on HP50G?

*Message #1 Posted by **Chan Tran** on 6 Feb 2009, 7:51 p.m.*

When the number in the stack is an integer my calculator display with the period at the end (i.e 2.). How can I get it to display 2 only?

Re: How to get rid of the period on HP50G?

*Message #2 Posted by **reth** on 7 Feb 2009, 12:35 a.m.,*
in response to message #1 by Chan Tran

turn it to exact mode so you see = on top of display

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IBM 360 is 45 years old!

*Message #1 Posted by **Don Shepherd** on 6 Feb 2009, 1:45 p.m.*

An article in my local newspaper from 2004, on the 40th anniversary of the IBM 360. In 1964, there were no PCs....

Re: IBM 360 is 45 years old!

*Message #2 Posted by **Garth Wilson** on 6 Feb 2009, 2:48 p.m.,*
in response to message #1 by Don Shepherd

So interesting: http://en.wikipedia.org/wiki/IBM_System/360

The 360 was the first computer I had real contact with in school. We had to write our Fortran programs out by hand on paper, then go to the punch-card machines and put one line of the program on each card, rubber-band the set together with our account number and so on, put it in a cubbyhole, and come back a couple of hours later to get a printout of all the reasons the program wouldn't run, then try to fix it, and try again. The people who could actually touch the computer seemed next to God. Running our simple programs got so much easier when I got myself a programmable calculator.

Edited: 6 Feb 2009, 2:49 p.m.

Re: IBM 360 is 45 years old!

*Message #3 Posted by **Michael de Estrada** on 6 Feb 2009, 3:32 p.m.,*
in response to message #2 by Garth Wilson

Which version of FORTRAN did you use? I used FORTRAN IV and it was at my second job doing engineering problems. I've since used FORTRAN 77 for DOS PC's and Lahey FORTRAN 90 which is Windows compatible, except not Vista. I remember putting statements in my programs directing the computer techs to mount tapes, and they would actually physically mount a tape on a tape drive. My first mainframe computer was an IBM 1130 using paper tape input and programming in pseudo assembly code as a graduate assistant at MIT. Output was binary LED on a console.

Re: IBM 360 is 45 years old!

*Message #4 Posted by **Namir** on 7 Feb 2009, 1:08 a.m.,*
in response to message #3 by Michael de Estrada

The University of Baghdad school of engineering had an IBM 360. I learned programming in FORTRAN IV on that baby!!! I used to use it to do design projects. My classmates hated me for that!!

Namir

Re: IBM 360 is 45 years old!

*Message #5 Posted by **Jon S Canale** on 6 Feb 2009, 3:33 p.m.,*
in response to message #2 by Garth Wilson

Fortran IV with WATFOR and WATFIV!

Boy, we're getting old.

Still have that dang book! Can't throw anything out!

Re: IBM 360 is 45 years old!

*Message #6 Posted by **Forrest Switzer** on 6 Feb 2009, 6:03 p.m.,*
in response to message #5 by Jon S Canale

Fortran II, in 1966 on a GE 225, I believe with probably 8K of memory and about 8 huge tape drives. Problem - just dump memory to paper and find it. Three years later - a different world. Probably I am a couple years older than you. Let's see in 1966 I was 23.

:|

Forrest

Re: IBM 360 is 45 years old!

*Message #7 Posted by **Palmer O. Hanson, Jr.** on 7 Feb 2009, 10:49 p.m.,*
in response to message #5 by Jon S Canale

> Quote:
>
> Fortran IV with WATFOR and WATFIV!
>
> Boy, we're getting old.
>
> Still have that dang book! Can't throw anything out!

I, too, can't throw anything out. I still have my copy of WATFIV that I used when I was introduced to FORTRAN on a Sigma 5 in the 1970's. I also have the FORTRAN AUTOTESTER, the pocket manual before there were pocket calculators.

My first digital computer was a RemRand (later UNIVAC) 1103 at the University of Minnesota in 1960. I still have my class notes including a "Repertoire of Instructions". My notes say the 1103 had a 1024 word fast memory (CRT storage) and a 16,384 word slow memory (magnetic drum). Input was paper tape, magnetic tape or IBM cards. Outtput was paper tape, IBM cards, or magnetic tapes. Other computers mentioned in the class were the IBM 701-704-709 which had 2048 words of electrostatic storage and 8192 words on a magnetic drum.

My second digital computer came in 1960 as an M-252 airborne machine manufactured by Hughes which was part of an inertial system by Honeywell installed in a drone by Fairchild. My third digital computer came in 1963 as an airborne machine manufactured by Honeywell which was part of an inertial system by Honeywell which was installed in the black birds. My fourth digital computer came in 1966 wih an airborne machine manufactured by Honeywell which was part of the first airborne inertial system using electrically suspended gyros. Programming on all of these machines was in ones and zeroes. We did our own scaling. I still have (I really can't throw anything out!) a set of "Numeric Conversion Tables from Octal to Decimal and Decimal to Octal" published by American Bosch Arma in 1959.

My fifth machine came in 1968 and was actually the Honeywell computer network based on a DDC

516 in Minneapolis. That was where I learned BASIC.

Then came the Sigma 5 and FORTRAN. A little story about my experience with the Sigma 5. We used IBM card input. For our first programs the instructor took my program cards, combined them with the program cards from other class members and submitted the batch to the machine. Later we were allowed to submit our own programs, but the insructor failed to mention the use of a couple of additional cards which would terminate our program, say in case we had an infinite loop in our program. One of my programs had a infinite loop and as luck would have it, it was the last program in the queue for the night which was run unattended. The machine ran all night and the accumulated charges would have been astronomical except that we hadn't been told about the additional cards which were needed.

Palmer

Edited: 8 Feb 2009, 9:46 p.m.

Re: IBM 360 is 45 years old!

*Message #8 Posted by **Marcus von Cube, Germany** on 8 Feb 2009, 5:27 a.m.,*
in response to message #5 by Jon S Canale

Memories arise! :)

I onced managed to stop our university /360 with a WATFIV program. WATFIV (at least for us students) was a manged environment with very strict rules what could be done and what could not. I tried to exercise a sort of some kind on a virtual file defined with a DD statement. There was something wrong with the statement but the error handler was buggy and so the system stalled. This could be seen easily on the outside of the machine room which was separated from the data entry room with the card reader and punchers by a glass wall. There was a red/green light on the outside that turned read. And there were some people looking stunned at the machine's console.

The problem was solved later by changing the DD card to use physical temporary storage and I could continue learning how to do a data sort in FORTRAN IV. I've never learned the successors of FORTRAN IV, I did some SIMULA programming for the Gesellschaft für Mathematik und Datenverarbeitung (GMD, now Fraunhofer Gesellschaft) in St. Augustin. After I left into the industry in 1985, I've never touched a mainframe terminal myself again.

Marcus, just four years older than the /360...

Edited: 8 Feb 2009, 5:28 a.m.

Re: IBM 360 is 45 years old!

*Message #9 Posted by **Ed Look** on 8 Feb 2009, 8:58 p.m.,*
in response to message #5 by Jon S Canale

> Quote:
>
> Fortran IV with WATFOR and WATFIV!
>
> Boy, we're getting old.
>
> Still have that dang book! Can't throw anything out!

Hey!!

That's what I learned it with. But, as late as just a few years ago, I taught FORTRAN 77 to p-chem students. (Yeah, the nice ones grinned and the bad ones challenged me as to why I was using archaic things. But they all finally, at least in my presence, and at least verbally said my line that it gave them the basic mental framework for learning ANY programming language from that point on.)

Re: IBM 360 is 45 years old!

*Message #10 Posted by **Martin Pinckney** on 6 Feb 2009, 3:50 p.m.,*
in response to message #2 by Garth Wilson

> Quote:
>
> The 360 was the first computer I had real contact with in school. We had to write our Fortran programs out by hand on paper, then go to the punch-card machines and put one line of the program on each card, rubber-band the set together with our account number and so on, put it in a cubbyhole, and come back a couple of hours later to get a printout of all the reasons the program wouldn't run, then try to fix it, and try again. The people who could actually touch the computer seemed next to God. Running our simple programs got so much easier when I got myself a programmable calculator.

Sounds so familiar I could have written this myself! So it seems that when I entered engineering school at USC (the **real** USC, not Southern Cal!) in 1967, the 360 system there was practically brand new. Used it for Computer Science and Advanced Structural Analysis.

Eleven years later in graduate school (this time at Louisiana Tech), they still had the same 360 (370?) set-up, except you could actually put your stack of cards in the card reader, and get your results right off the master printer yourself. They also had "dumb" terminals in the Civil Engineering department. However, having been away from the engineering profession and computers for years, I went with what I already knew, and made many trips to the computing center with my stack of punch cards. Because it was so busy during the day, I would go down there in the wee hours, when I could run my stack through the reader, and then in a few minutes (sometimes seconds) get my results right off the printer.

A story to tell on myself: one graduate project was to write a simplified user-manual for a complex FORTRAN program to do pipe network analysis. The professor gave me the source code on paper. I spent **many** hours coding and debugging until I finally got it working. Only then (after proudly informing my prof) did I learn that the program was already on disk, I only needed to write the manual!

Re: IBM 360 is 45 years old!

*Message #11 Posted by **PeterP** on 6 Feb 2009, 6:12 p.m.,*
in response to message #10 by Martin Pinckney

:-) makes me think of a similar goof I did during one of the first weeks of my -psst - MBA...

We had to analyze how bottlenecks in serial processes can hold up total through-put time and how to improve on through-put, cycle time etc by parallizing etc.

They assignment questions said something about using a simulation program and I naturally assumed that we had to write a program to simulate things. This sounded quite the logical thing to do for me.

So I wrote a - rudimentary but nevertheless quite functional - simulation program and answered all the questions. A class-mate had some trouble with the assignment so he asked me for help, which I did, showing him my little program and we went to class. He was a bit surprised that it needed a program

and mentioned something about 'who the hell here can write a program like this'. This did not make a whole lot of sense to me, it was not that difficult to write in the end, so I did not think much of it. Boy was I wrong...

When we went to class and started working through the assignement questions, it became apparent that our distinguished institution had purchased a simulation program for X k USD for the students to avoid overheating of grey matter.

Literally with pressing of a few buttons it would answer the assignment questions. No need for writing it yourself (or thinking for that matter)

Boy did they laugh about me (my friend could not help but tell 'only his best friends in the section' that I had written a program instead of reading the assignment carefully and downloading it...

Cheers

Peter

Re: IBM 360 is 45 years old!

*Message #12 Posted by **Sancerre (Phoenix)** on 6 Feb 2009, 6:52 p.m.,*
in response to message #11 by PeterP

That is classic. I'll remember your little story forever. Being a software developer at heart, I am pursuing my MBA and will finish in a few months. Your story is totally plausible, as hard as that might seem to be for the non-techies in your MBA. Naturally, I have no need to justify your response to the vast majority of the HP forum members.

By the way, I have to tell a confession --> one of the best parts of getting an MBA is utilizing my modest arsenal of HP calculators.

--Tod

Edited: 6 Feb 2009, 6:52 p.m.

Re: IBM 360 is 45 years old!

*Message #13 Posted by **Garth Wilson** on 6 Feb 2009, 10:15 p.m.,*
in response to message #11 by PeterP

> Quote:
>
> that I had written a program instead of reading the assignment carefully and downloading it

Maybe the professor's assignment-writing was as bad as modern manuals.

And for Michael de Estrada above, the answer was Fortran IV.

Edited: 6 Feb 2009, 10:17 p.m.

Re: IBM 360 is 45 years old!

*Message #14 Posted by **Mike Morrow** on 6 Feb 2009, 11:09 p.m.,*
in response to message #1 by Don Shepherd

At Georgia Tech in the late 1960s and early 1970s, the IBM System/360 was in an admin building and was restricted to university administrative (financial and academic records) services. The scientific and computer services were handeled by Univac 1108 and Burroughs B5500 systems in another building.

I spent many an enjoyable evening with the U1108, especially after I got ASR33 terminal priviledges. The B5500 stack machine, with Algol as its principal programming tool, remains to me the most intriguing system. I always considered the HP RPN stack machine calculator and the Burroughs RPN stack architechture to have much in common.

Following university graduation and naval service, I attended for short while (in 1980) the U. of Arkansas. There I got my first actual experience with the System/360 in the form of the later System/370. Does anyone here recall IBM's cryptic Job Control Language (JCL), and acronyms such as HASP (Houston Automatic Spooler Program)? There was a famous (but likely ficticious) bumper sticker of that era that read "Honk if you love JCL!" I will say one thing...I wrote IBM Corporation as an EE grad student for technical documentation for that System/370 and received without charge several hardware manuals totaling several thousand pages.

I wonder if there are any System/360 or /370 units still in operation in the world today. For that matter, are there any Univac 1108 or Burroughs B5500/6500 type systems still in operation? These are all great milestones in the history of computing.

Re: IBM 360 is 45 years old!

*Message #15 Posted by **Don Shepherd** on 6 Feb 2009, 11:31 p.m.,*
in response to message #14 by Mike Morrow

Yes, I too learned JCL for the 360. It was maddening! Like you, I later worked on Univac 1108's at the Census Bureau beginning in 1974, using EXEC-8 and FORTRAN-V, as I recall. One thing I remember from those days at Census was that they did not use the standard FORTRAN I/O; they claimed it was much too slow, and the Bureau's processing was much more I/O oriented than CPU crunching. So the Bureau systems guys wrote a custom I/O package that all of us programmers used. The systems guys also wrote a custom security sign-on system for the "demand" terminals, when they replaced the keypunchs and ASR-33 teletypes.

I doubt that many of these old systems exist anymore, outside of a few museums. The first commercial installation of a digital computer--Univac 1--was right here in my hometown at General Electric Appliance Park, around 1953 or 1954. I wrote them a few years ago to see if they still had that historic system in some warehouse somewhere, but it had vanished over the years, much like my Beatles record albums, unfortunately.

Re: IBM 360 is 45 years old!

*Message #16 Posted by **Herbert Crepaz (UK)** on 7 Feb 2009, 2:25 p.m.,*
in response to message #15 by Don Shepherd

For all of you who enjoy to timewarp back to those days of cryptic command line sessions download the excellent Hercules IBM mainframe emulator (http://www.hercules-390.org/) and try OS/360 or MVS on your laptop for some big iron nostalgia.

Hercules and more

*Message #17 Posted by **Mike (Stgt)** on 9 Feb 2009, 7:33 a.m.,*
in response to message #16 by Herbert Crepaz (UK)

Last month Hercules was updated to release 3.06, see here: http://www.hercules-390.org/hercnew.html With it I get about 10 MIPS on an Atom-CPU (MSI Wind-sized toy), not

overclocked.

For those interested in WATFIV, look for Sim390. A must-have for mainframe-dinos (like me).

Ciao.....Mike

Re: IBM 360 is 45 years old!

*Message #18 Posted by **Keith Gobeski** on 9 Feb 2009, 11:54 a.m.,*
in response to message #14 by Mike Morrow

The Burroughs B5000/B5500 descendants and the Sperry 1100 descendants are the current Unisys Libra and Dorado product lines. The high-end machines in the product lines still use proprietary processors, but the rest of the two product lines use Intel processors executing the same machine code as the high-end machines but in virtual environments.

Re: IBM 360 is 45 years old!

*Message #19 Posted by **Karl Schneider** on 8 Feb 2009, 3:38 a.m.,*
in response to message #1 by Don Shepherd

Hmm, lots of quotes in this thread to which I can relate...

Quote:

Does anyone here recall IBM's cryptic Job Control Language (JCL), and acronyms such as HASP (Houston Automatic Spooler Program...

Yes, I too learned JCL for the 360. It was maddening! Like you, I later worked on Univac 1108's at the Census Bureau beginning in 1974, using EXEC-8 and FORTRAN-V. One thing I remember from those days at Census was that they did not use the standard FORTRAN I/O; they claimed it was much too slow, and the Bureau's processing was much more I/O oriented than CPU crunching. So the Bureau systems guys wrote a custom I/O package that all of us programmers used.

In the latter 1980's, I programmed on Sperry/Univac 1170/1180/1190's. These had replaced IBM System/360 mainframes, I was told.

Sperry's Executive Control Language and unique terminology could also be arcane. Its command for printing was @SYM, for "symbiont". Executable files were called "absolutes", and compiled object-code files were called "relocatables".

Our organization also wrote custom I/O programs based on Sperry's I/O functions, because they were much faster than standard Fortran I/O. Later, a directive came down to make our software as ANSI-standard as possible.

Quote:

I used FORTRAN IV and it was at my second job doing engineering problems. I've since used FORTRAN 77...

Fortran 77 was the standard in the 1980's, but some of the earlier software had been written in Fortran IV.

Quote:

> *We had to write our Fortran programs out by hand on paper, then go to the punch-card machines and put one line of the program on each card, rubber-band the set together...*
>
> *...put your stack of cards in the card reader, and get your results right off the master printer yourself. They also had "dumb" terminals in the Civil Engineering department.*

The Sperry systems included an industrial-grade card-reader in case the "dumb-terminal"-based I/O failed.

> Quote:
>
> *Problem - just dump memory to paper and find it.*

Sperry's core-dump files were encoded in octal, to match the 36-bit words in RAM. I wrote a program on my HP-15C specifically to decode the floating-point numbers printed on a stack of fan-fold paper. Had I known about the HP-16C, I might have bought one and written a more-refined program. However, the HP-15C did the job.

Sperry merged with Burroughs to form Unisys in 1988.

-- KS

Edited: 8 Feb 2009, 3:42 a.m.

Re: IBM 360 is 45 years old!

*Message #20 Posted by **Forrest Switzer** on 8 Feb 2009, 4:37 p.m.,*
in response to message #19 by Karl Schneider

Yep, Octal dumps on fanfold paper, until memory got too large, then we had to set up a way of printing variables at different points through the program to make sure that everything was progressing properly.

We wrote card images on pads of paper - 25 lines (cards) per sheet and 132 columns per line. We then gave these sheets to card punch operators where each letter or number on each line, in each column, was typed and each line became a card. Then the cards were given to another card punch operator where each card was again verified. I thought at the time that this must be the worst job in the world. Eight hours per day, 5 days per week making sure you typed every character in the correct column. I figured I had it easy - writing flow charts and the Fortran commands on the sheets.

In 1966 I could walk in and talk to the computer operator while he ran my code. In 1969, the computer facility was in a building with wire mesh in the walls to prevent the possibility of monitoring the computer from the outside. There were two doors you had to be buzzed through to get into the computer. The punch card room and the computer room were classified secret, with special times where that was even more restricted.

When I left in 1970, we were running 24-7 and sending stuff to Befesda(sp?) Maryland, Slidell Louisana, Boulder Colorado, and Port Hueneme California. I still can't believe that I was involved in such an incredible growth period during those years.

My last day at that job, I drove out, stopped at the computer building, looked at what was run the night before, made some suggestions on the printout, and drove 1800 miles home for Christmas.

Too many years ago.

Forrest

The Early Days!!

*Message #21 Posted by **Stuart Goldberg** on 8 Feb 2009, 9:17 p.m.,*
in response to message #20 by Forrest Switzer

I started as a programmer trainee on a Univac 490 Real Time system at Bethlehem Steel in Bethlehem, PA, back in 1965. We wrote our programs in an assembly language called "SPURT" (Symbolic Programming for Univac Real Time) computers. We were just starting to play with COBOL. To create a COBOL executable, we ran our source code through a pre-compiler which created a SPURT program which then had to be assembled. I still remember proofreading a listing of a program punched card deck as opposed to "wasting" computer time compiling it right back from keypunch.

On one of my program tests of an assembly program, my instruction sheet to the operator requested a memory (core) dump of the program area after the program had ended as I had left several "breadcrumbs" in memory rather than printing them out. The operator forgot to perform the manual memory dump request and I therefor had to re-run the test. When I called the operator to complain the next morning, he innocently (and in all seriousness) asked "Where was your program loaded? I can print that memory area for you now!"

Today, almost 45 years later, I can still recite the major U-490 machine instructions and their octal op codes. I have several sheets of core memory from that old machine on my desk today and enjoy explaining to the young computer kids today how the destructive read-out worked. They believe me when I tell them it was invented by my cousin, "Rube Goldberg". :-)

Several years later, I was providing support to the U.S. Navy's Univac 494 systems at the Aviation Supply Office in Northeast Philadelphia. I remember helping programmers debug their COBOL programs by reading thru the octal memory dumps and reverse compiling the instructions by hand back into assembly language which I could logically link back to the original COBOL source to follow the internal flow of the program. Some of the programmers were astounded that the core dumps did not contain the literal text of the COBOL instructions (e.g. multiply ordered_quantity by unit_price giving ordered_cost.)

Stu

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HP-65 reads but does not write

*Message #1 Posted by **Michael de Estrada** on 6 Feb 2009, 11:05 a.m.*

I recently opened up an HP-65 which had previously worked fine with a gummy wheel fix both reading and writing without errors. I opened the card reader to clean the card guides and small parts (balls and pinch roller) and also the keyboard. I reassembled, and everything works except it won't write cards properly. No errors, just garbage on the cards. I tried several blank cards to no avail. Any thoughts? Thanks.

Re: HP-65 reads but does not write

*Message #2 Posted by **Geoff Quickfall** on 6 Feb 2009, 12:35 p.m.,*
in response to message #1 by Michael de Estrada

got to make this short [wifi] on a bus in toronto.

first check wire connections to reader board.

next clean connectors to main circuit board and card reader board.

Then try rotating the pinch roller axle a few degrees as this will raise or lower the pinch roller and thus the card with reference to the reader.

then if that does not work the capacitor for the read may be deteriorating.

Search google hpmuseum hp65 card reader for explanation of electronics

hope this helps

cheers geoff

Re: HP-65 reads but does not write

*Message #3 Posted by **Michael de Estrada** on 6 Feb 2009, 1:27 p.m.,*
in response to message #2 by Geoff Quickfall

Tried everything to no avail. Now its even worse, won't read or write. I noticed a significant increase in motor noise. Would a bad cap affect the motor? Do all those flat contacts below the nylon balls have to make contact with something? Anyway, thanks for the help.

Re: HP-65 reads but does not write

*Message #4 Posted by **Ignazio Cara (Italy)** on 6 Feb 2009, 3:52 p.m.,*
in response to message #3 by Michael de Estrada

Look at the clutch betwen motor shaft and worm-gear. Perhaps this could be your problem, if it does not writhe/read the cards and you hear bad sounds from the reader.

Try again.

regards

Ignazio

Re: HP-65 reads but does not write

*Message #5 Posted by **Michael de Estrada** on 6 Feb 2009, 10:11 p.m.,*
in response to message #4 by Ignazio Cara (Italy)

Actually, I think both the clutch and wheel were rebuilt previously by another owner, however the motor bearings were very dry so I relubed them. After re-assembly, it is now working properly and quietly again. The actual problem turned out to be a broken wire solder connection between the reader control board and the main LED/Keyboard. Thank you for your help.

Re: HP-65 reads but does not write

*Message #6 Posted by **Geoff Quickfall** on 6 Feb 2009, 4:14 p.m.,*
in response to message #1 by Michael de Estrada

Ignazio is correct:

typically the clutch is ignored when the pinch roller is replaced.

the noise is the clutch failing, as it is made of the same material as the roller.

oprn the case and remove the moter from it's housing via the two small screws. pull the clutch off and soak and clean with alcohol. Find a small diameter wire and remove the outer insulation.

the insulation should fit snugly into the clutch sleave. the motor spindle should fit into the hole in the insulation that carried the wire. this method alows the clutch to slip on a jammed card but provides enough friction to drive the card thru with minimal noise.

cheers geoff

I always replace the clutch at the same time as the roller as a new rollerwill stress the clutch.

Re: HP-65 reads but does not write

*Message #7 Posted by **Michael de Estrada** on 6 Feb 2009, 10:14 p.m.,*
in response to message #6 by Geoff Quickfall

Please see my reply to Ignazio, Thanks for your time and advice.

Re: HP-65 reads but does not write

*Message #8 Posted by **Michael de Estrada** on 7 Feb 2009, 4:33 p.m.,*
in response to message #6 by Geoff Quickfall

Postscript: I tried your clutch fix on another calculator, an HP-67, and it worked perfectly. This was a completely original clutch and when I pulled it off the motor shaft, the clutch material completely crumbled! I'm amazed that I found some wire insulation that fit perfectly. Again, thanks for your help.

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HP50g Problem with KEY, SAME

*Message #1 Posted by **DK2ZA** on 6 Feb 2009, 8:58 a.m.*

Hello,

this little program does not work on my HP50g as I expected:

DO UNTIL KEY END 95 SAME

It should wait for a keystroke and then put a 1 on the stack if the PLUS key is pressed or a 0 if any other key is pressed.

Instead it gives 0. for all keystrokes (that is a zero with a decimal point).

The reason seems to be that the KEY command does not return an integer (TYPE 28) but a real Number (TYPE 0) with no decimals. So for the PLUS key it returns 95. but not 95 which is not the SAME.

I found a workaround using R->I, but maybe I overlooked something and there is a simpler solution as this code had worked as expected on my former HP48SX (whose main board is hanging decoratively on the wall of my shack).

So, if somebody here can help me that would be fine.

Regards

Helmut

Re: HP50g Problem with KEY, SAME

*Message #2 Posted by **Massimo Gnerucci (Italy)** on 6 Feb 2009, 11:23 a.m.,*
in response to message #1 by DK2ZA

What about:

```
/<< DO UNTIL KEY END 95. SAME />>   ?
```

Works on a 49g...

Greetings,
Massimo

Edited: 6 Feb 2009, 11:24 a.m.

Re: HP50g Problem with KEY, SAME

*Message #3 Posted by **Tim Wessman** on 6 Feb 2009, 1:58 p.m.,*
in response to message #1 by DK2ZA

You seem to have answered your entire question yourself in the first post. Not sure what you are asking really. Like you said, it is a real vs integer thing. Why not just use == ?

TW

Re: HP50g Problem with KEY, SAME

*Message #4 Posted by **DK2ZA** on 7 Feb 2009, 2:03 a.m.,*
in response to message #3 by Tim Wessman

Thank you for your suggestions, Massimo and Tim.

What puzzles me is that in the advanced user's reference manual for the hp49g+ Edition 1.1 Printed Date: 2006/3/20 on page 1-46 there is exactly this program:

<< ... DO UNTIL KEY END 95 SAME ... >>

There is no decimal point after the 95 and it always gives the result 0. (zero with decimal point). After changing 95 to 95. it answers the +key with 1.

A discrepancy between the manual and the machine?

Regards

Helmut

Edited: 7 Feb 2009, 2:04 a.m.

Re: HP50g Problem with KEY, SAME

*Message #5 Posted by **Reth** on 7 Feb 2009, 4:32 a.m.,*
in response to message #4 by DK2ZA

SAME and various tests return type 0 result and not type 28 (integer) so what manual says is obviously wrong for the 49/50 series, but right for the 48 where it's been copied from. On the other hand using SAME in this case is not justified. As Tim suggested == should be used.

Interestingly == returns an integer value

Cheers, Reth

Edited: 7 Feb 2009, 5:15 a.m.

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Card reader pinch roller dimensions?

*Message #1 Posted by **GanjaTron** on 5 Feb 2009, 7:24 a.m.*

Hi folks,

still trying to fix my HP-65's card reader (and one from an HP-97, for that matter). I bought 6mm silicone tubing which seems to fit nicely, but it doesn't pull the card through. Looks like it's fractions of a milli too small!

Can anyone here give me the *exact* diameter of the original pinch roller wheel? While we're at it, anyone happen to have the same for the TI-59's card reader (also awaiting repair)?

Thanks for the info,

--Roland

Re: Card reader pinch roller dimensions?

*Message #2 Posted by **Rainer Wiedemann (Germany)** on 5 Feb 2009, 5:24 p.m.,*
in response to message #1 by GanjaTron

Hi Roland,

I never fixed a HP-65 card reader yet, but a bunch of HP-41 readers. IMHO considering the pinch roller the differences are not that big between HP-41 and HP-65 reader. The silicon tubing has always worked perfect for me, so I suppose a problem with either the motor clutch or it's simply a matter of adjustment.

Try to watch the worm gear and pinch roller gear. Do they continuously keep spinning or do they stop while the motor continues turning. This would point at the motor clutch as root cause. Remove the motor, apply some 2.5 volts to it and try to stop the worm gear with your fingers. If this is easily possible you should have gotten it. The clutch is attached to the motor side end of the worm gear. In the articles forum you'll find instructions how to fix it, some suggest a simple fix with magic glue.

If the clutch turns out to be ok and the card stops while pinch roller and worm gear keep spinning, then you will have to adjust the pinch roller pressure to the card.

The axle of the pinch roller is excentric. By turning it the pinch roller's distance and therefore its pressure towards the card can be altered. Do not make the pressure too high, the card should be pulled through without the motor getting throttled down much or making strange noises. The adjustment procedure is much easier operating the motor from an external 2.5 volts supply outside the calculator. So you don't depend on your batteries' state.

Would be nice to hear from you posting a message when you got it to work.

Regards,

Rainer

Re: Card reader pinch roller dimensions?

*Message #3 Posted by **GanjaTron** on 10 Feb 2009, 12:29 p.m.,*
in response to message #2 by Rainer Wiedemann (Germany)

Hi Rainer,

thanks for the hints, the clutch seemed to be the primary problem. I fixed it with superglue. One thing to watch out for is that you don't stick the shaft to the motor housing (I hooked the motor up to a lab power supply and let it spin slowly as the glue hardenend, just to make sure).

I got the pinch roller to work after applying a layer of vinyl tape on the roller's metal axle (cut to proper length to avoid over/underlap) before shoving the silicone tube over it while stretching it with a pair of tweezers. The extra 0.2mm (or whatever) was apparently enough to generate enough friction, and I didn't need any glue for the tube.

The eccentric slotted axle didn't even need any adjustment on my card reader (thank god, considering it's barely accessible on the HP-65). Remarkably, it could read & write straight away!

Now I hope this procedure's gonna work on the HP-97 too...

Regards,

--Roland

Edited: 10 Feb 2009, 12:31 p.m.

Re: Card reader pinch roller dimensions?

*Message #4 Posted by **Randy** on 7 Feb 2009, 4:16 p.m.,*
in response to message #1 by GanjaTron

Final diameter mounted on the gear should be 6.35mm. The tubing that works here in the US is 7/32" (5.5mm) with an 0.063" (1.6mm) wall thickness.

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HP-41C Card Reader

*Message #1 Posted by **Roy Welch** on 4 Feb 2009, 3:14 p.m.*

I have a question on something I see after removal of the drive assembly from my HP-41C card reader. I can send some photos to anyone, showing a red arrow pointing to the component in question here. I don't know how to attach the image to this posting. It looks like a clear cased LED. In my reader one of the two gold leads to the clear "LED" case has broken from the "LED" head. Is this really an LED and if so what does it do and can anyone give me the specifications for it if I need to replace it?

Also, if it does need to be replaced, how do I get the circuit board out that it is soldered to? Does that whole assembly just lift out of the case, circuit boards and all? It appears that it is just stuck in with some adhesive. Perhaps just cutting the two gold leads and soldering the new component to the old leads.

Thanks, Roy

Re: HP-41C Card Reader

*Message #2 Posted by **PeterP** on 4 Feb 2009, 3:36 p.m.,*
in response to message #1 by Roy Welch

if the image is somewhere on the internet, you can include it via: 'open square bracket' img:http://www.hpmuseum.org/gto.gif 'close square bracket'

see the advanced formatting features http://www.hpmuseum.org/artfmt.htm

Re: HP-41C Card Reader

*Message #3 Posted by **Roy Welch** on 4 Feb 2009, 8:16 p.m.,*
in response to message #2 by PeterP

Thanks Peter, but the image is a JPG image from my camera. However I have finally found that this must indeed be an LED that shines through a small hole to a detector above it on the small circuit board on top of the slot assembly. I suppose it is to detect the card insertion and start the motor since the card interrupts the light from hitting the detector when it is inserted. Now, all I need is to find what kind of LED it is so I can replace it. It looks like a small 3mm diameter LED but I don't know the voltage and current rating of it.

Roy

Re: HP-41C Card Reader

*Message #4 Posted by **John Bjornholt** on 5 Feb 2009, 12:21 a.m.,*
in response to message #1 by Roy Welch

The entire assembly does come out, but first you need to remove the top cover of the piece that plugs into the HP41. It is a little tricky, but it does come off. It is easier to snap it back into position than it is to get if off in the first place. However, once the cover is off, the entire circuit board assembly can be lifted out enmasse. This

will allow you to unsolder the old LED leads and replace it with a new one. I believe the LED is a standard IR diode, the same type used in TV remote controls. Should be able to get one from Radio Shack. Make sure you get the polarity right. Voltage and current ratings should be compatible. Regards, John B

Re: HP-41C Card Reader

*Message #5 Posted by **Roy Welch** on 5 Feb 2009, 12:26 a.m.,*
in response to message #4 by John Bjornholt

Great info John. Thanks a bunch.

Roy

Re: HP-41C Card Reader

*Message #6 Posted by **Rainer Wiedemann (Germany)** on 5 Feb 2009, 12:37 a.m.,*
in response to message #5 by Roy Welch

The LED is part of the write protection electronics, there's a photo transistor on the switch pcb (the little golden "nipple" pointing downward), driving the write protect switch signal WPS.

If this transistor receives IR, it drives WPS active and the card is protected. Unclipped cards block the IR from the transistor and the protection is off. So your reader should already work without the LED, at the cost of missing write protection.

Good luck!

Re: HP-41C Card Reader

*Message #7 Posted by **Roy Welch** on 5 Feb 2009, 12:12 p.m.,*
in response to message #6 by Rainer Wiedemann (Germany)

Thanks Rainer.

Which one is the IR emitter and which one is the detector? The clear LED is on the bottom PCB below the card slot assembly. The small photo transistor (?) is on the top of the card slot on the switch PCB as you described. I went to look at some parts this morning and the IR emitter units were in a dark package and the detectors were in a clear package. The part that is broken is the clear LED (?) on the bottom PCB and it looks to be a 3mm size. A larger size will not fit up beside the transport wheel to see the small hole that looks up toward the photo transistor(?)on the switch PCB. I hope this is not too confusing a description.

If all else fails I will just go ahead and use it without the write protection.

Re: HP-41C Card Reader

*Message #8 Posted by **Roy Welch** on 5 Feb 2009, 10:41 a.m.,*
in response to message #4 by John Bjornholt

John, regarding the polarity of the IR LED, it is usually shown by having one lead shorter than the other or by the LED lens having a flat shoulder on one side. Off hand do you know which of the two leads is the cathode? Looking at the reader from the front, the side next to the calculator, is the cathode the left lead, toward the five colored wire leads or the right pad, toward the motor? The LED lens is shattered here and of course the leads were trimmed when it was installed.

Roy

Re: HP-41C Card Reader

*Message #9 Posted by **Rainer Wiedemann (Germany)** on 5 Feb 2009, 4:58 p.m.,*
in response to message #8 by Roy Welch

If you have a brand new IR led without already clipped leads, the longer lead is the anode, the shorter one is the cathode.

The anode has to be installed into the card reader, that the anode points towards the five colored wires, the cathode has to point towards the motor side.

The IR led is the light transmitter, the photo transistor is the receiver, if it detects IR radiation, it will switch write protection on, preventing the card reader from overwriting a magnetic card. Please note, that the IR led is pulsed for a very short time just in the right moment when the card edge passes by. So you cannot measure a permanent voltage applied to the led.

Bend the top of the led in a 30-40° angle against the leads towards the calculator side of the reader, the highest point of the led lens should be about 0.8 inches (some 20mm) above the pcb, before you solder it.

Don't forget to insulate the lead wires with a strip of Scotch tape towards pins of the integrated circuit in front of it. Otherwise the led my be bended towards the ic pins during assembly, causing a short circuit and killing the whole thing.

A short test with a clipped card should be performed before completely assembling the card reader.

Don't worry, sounds much more complicated than it actually is.

Re: HP-41C Card Reader

*Message #10 Posted by **Roy Welch** on 5 Feb 2009, 5:21 p.m.,*
in response to message #9 by Rainer Wiedemann (Germany)

Hey, thanks Rainer! That's exactly what I needed. I have the IR LED, actually two of them, one for a spare. They are 3mm devices, a little bit smaller than the original but they should fit nicely. I was able to get the bottom PBC board assembly out all OK. I had identified the leads OK on the new LEDs but I could not on the old one since the case was broken. Now I can put it all back together with your very good information.

Thanks again, Roy

Re: HP-41C Card Reader

*Message #11 Posted by **Roy Welch** on 6 Feb 2009, 8:17 p.m.,*
in response to message #9 by Rainer Wiedemann (Germany)

Well, it is all back together again. I replaced the sticky wheel with two #60 O-rings, (1/8"ID and 1/4"OD). They work fine. The only problem is that it will not detect a write protected card. It writes on it anyway. I guess the small IR LED is not going to do the job. I installed it with the anode (long lead) toward the five wires and the cathode (short lead) toward the motor. Radio shack has IR LEDs but they are 5mm packages and are too large to fit the placement for the LED. It isn't really a problem though. I'll just be careful to not to insert a program card while in the program mode.

Roy

Re: HP-41C Card Reader

*Message #12 Posted by **Ignazio Cara (Italy)** on 7 Feb 2009, 7:11 a.m.,*
in response to message #11 by Roy Welch

Roy, you have mail.

Ignazio

Re: HP-41C Card Reader

*Message #13 Posted by **Roy Welch** on 11 Feb 2009, 7:24 p.m.,*
in response to message #12 by Ignazio Cara (Italy)

I have my card reader repaired now. I repaired the clutch without using super glue, at least for now. We shall see if it stays repaired. If not I can add the glue. I also found the plastic tubing for the replacement of the gooey roller at a hobby shop. I had temporarily repaired it with two O rings but the tubing is better I think. The LED, DS1, is not an IR LED. I tried replacing it with an IR LED and the write protect didn't work. I have now replaced it with a 3mm clear white light LED and it works fine. I can see the LED flash at the beginning of each card read and it protects clipped cards until Flag 14 is set, after which it will write OK on the clipped card. My thanks to all who have responded.

Roy

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HP 41CV card reader

*Message #1 Posted by **John Bjornholt** on 4 Feb 2009, 11:54 a.m.*

Does anyone have any technical info on the HP41CV card reader, such as schematics, block diagrams, trouble-shooting procedures, etc? I recently sucessfully repaired the drive wheel on mine, but now I get a "malfunction" display when it tries to read a card. I have an o-scope and other necessary test equipment to check for waveforms, voltages, etc.

Re: HP 41CV card reader

*Message #2 Posted by **PeterP** on 4 Feb 2009, 12:01 p.m.,*
in response to message #1 by John Bjornholt

IIRC, TOS has the Card Reader Repair Manual from HP. Also a Google on 'repair card reader site:www.hpmuseum.org' or something along these lines will bring up many threads with potentially useful information. There recently was one where a defect cap was the source of reading problems.

HTH

Cheers

Peter

Edited: 4 Feb 2009, 12:03 p.m.

Re: HP 41CV card reader

*Message #3 Posted by **Roy Welch** on 4 Feb 2009, 8:27 p.m.,*
in response to message #2 by PeterP

Peter, what is the IIRC and TOS? I also need to get the LED part I discussed with you. Maybe a schematic or parts list is available.

Roy

Re: HP 41CV card reader

*Message #4 Posted by **Jeff O.** on 5 Feb 2009, 7:28 a.m.,*
in response to message #3 by Roy Welch

IIRC - If I Recall Correctly

TOS - That Other Site. Another HP related web site. It is a long story, but suffice it to say that out of respect to the owner of this web site, links to and direct mention of the name of that other site is not done.

Re: HP 41CV card reader

*Message #5 Posted by **Roy Welch** on 5 Feb 2009, 10:32 a.m.,*
in response to message #4 by Jeff O.

OK, thanks. The LED is an IR type I'm told. The lens of the LED was shattered so I can't see the flat side showing the polarity indication. That's why I need the schematic.

Roy

Re: HP 41CV card reader

*Message #6 Posted by **Carl Vanden Bulcke** on 9 Feb 2009, 3:11 p.m.,*
in response to message #1 by John Bjornholt

Hi, I have a similar problem with the drive wheel where the friction wheel seems to have "dissolved". Could you let me know how this could be replaced/repaired? Are parts still available from hp? Thanks for your help!
Carl Vanden Bulcke _ Belgium

Re: HP 41CV card reader

*Message #7 Posted by **Michael de Estrada** on 9 Feb 2009, 3:48 p.m.,*
in response to message #6 by Carl Vanden Bulcke

This is commonly referred to as the "gummy wheel", and it can be repaired either with plastic tubing or O-rings. There are several articles under the "card reader repair" heading in the articles section of this forum. You can find suitable O-rings on ebay, and I have had success with this method on several card readers. Parts are not available from HP. Also, I don't know if the HP-41 series card reader has a motor clutch similar to the HP-65 or HP-67, but if it does, it may also need repair.

Re: HP 41CV card reader

*Message #8 Posted by **Ignazio Cara (Italy)** on 10 Feb 2009, 2:17 a.m.,*
in response to message #7 by Michael de Estrada

The coupling between motor shaft-worm gear is surely the same of 65, 67 and 97.

regards

Ignazio

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Cheap Batteries for HP41CX

*Message #1 Posted by **Prabhu Bhooplapur** on 4 Feb 2009, 1:36 a.m.*

In the articles section I found an interesting topic on an alternate battery solution for the HP41C. It will be very helpful if Michael Harwood would upload the pictures and the procedure of implementing this solution. Thanks Michael. Prabhu Bhooplapur

Re: Cheap Batteries for HP41CX

*Message #2 Posted by **Garth Wilson** on 4 Feb 2009, 3:34 a.m.,*
in response to message #1 by Prabhu Bhooplapur

A couple of weeks ago I went into a Radio Shack to get batteries for my 41cx. I think they were $5 for a pair, but they were giving away a free package for every one you buy. I don't know if the sale is still on. I got a few years' worth of batteries for ten dollars.

Re: Cheap Batteries for HP41CX

*Message #3 Posted by **Patrick Rendulic** on 4 Feb 2009, 6:24 a.m.,*
in response to message #2 by Garth Wilson

I think that you have to find a good supplier. Europeans might look here:

http://www.technikdirekt.de/main/en/foto/energie/batterien/386769/-/article-1-panasonic-lr-1-lady.html?t=1&language=en

1,61€ per piece. Is that OK?

Re: Cheap Batteries for HP41CX

*Message #4 Posted by **ZOleg** on 18 Feb 2009, 8:02 p.m.,*
in response to message #1 by Prabhu Bhooplapur

> Quote:
>
> I found that the J size battery is a flat 6V battery and will fit into your HP-41CX. It is only $3.00 (in Canada) and a lot easier to find. It took a bit of fiddling with wires to get the + and - to the HP contacts, but now it works. I can upload a photo if anyone is interested to see how I did it. * Note: I had an extra battery holder which I used after I removed the dividing sections for the N batteries.

To Michael Harwood
Please post photo, manufacturer name and model of this batteries.
May you sell one battery holder to me (i live in Russia)? How much cost with delivery?
Thanks!

Re: Cheap Batteries for HP41CX

*Message #5 Posted by **hpnut** on 21 Feb 2009, 10:12 p.m.,*
in response to message #4 by ZOleg

Yes, I am interested to find an alternative to "N" sized cells used in the HP 41. I find that N cells are more difficult to get as the years go by.

hpnut in Malaysia

Re: Cheap Batteries for HP41CX

*Message #6 Posted by **Steve (Australia)** on 22 Feb 2009, 1:07 a.m.,*
in response to message #5 by hpnut

Googling "6v J size battery" yielded this as the first hit:

http://www.amazon.com/Rayovac-Alkaline-Photo-Battery-Size/dp/B00099YM1U

It appears they may also be known as:

7k57, 539, 4018, KJ, or 4LR-61

As it says here: http://www.diversifiedbattery.com/4lr61panasonic.html

Looks like camera shops are the places to hit!

Thanks for the tip. I may try converting a battery holder to suit one of these.

Re: Cheap Batteries for HP41CX

*Message #7 Posted by **ZOleg** on 22 Feb 2009, 10:07 p.m.,*
in response to message #6 by Steve (Australia)

Thanks for help!!!

Re: Cheap Batteries for HP41CX

*Message #8 Posted by **Karl Schneider** on 23 Feb 2009, 4:47 a.m.,*
in response to message #5 by hpnut

> Quote:
>
> Yes, I am interested to find an alternative to "N" sized cells used in the HP 41. I find that N cells are more difficult to get as the years go by.

Perhaps it's different in Malaysia, but disposble alkaline "N" cells are not at all hard to find in the US for about $5 for a pack of 2. Rechargable "N" cells are not readily available in regular stores, but specialty stores and mail-order firms seem to have them, according to other posts.

It still seems pointless to me for people to use rechargable cells in an HP-41, unless accessories that don't have their own power source (e.g, card reader, IR transmitter, HP-IL) are being used very heavily. It also seems that the "BATT" low-voltage warning would occur sooner.

-- KS

Re: Cheap Batteries for HP41CX

*Message #9 Posted by **db (martinez, ca.)** on 22 Feb 2009, 3:15 p.m.,*
in response to message #4 by ZOleg

googling "nimh n cells" gives lots of mail/internet sources for n cells that will last for years at only 3 to 4 bucks each. why butcher a battery holder and mickey mouse the connectors when you can use what's intended?

Use N Cells!

*Message #10 Posted by **Randy** on 22 Feb 2009, 3:44 p.m.,*
in response to message #9 by db (martinez, ca.)

I second that DB, I really don't understand the "butcher" approach either.

Every major manufacturer of alkalines still makes N cells. Eveready, Rayovac, Varta, Panasonic and Kodak are the first that come to mind.

While they might be difficult to find in retail locations, they are certainly available through any good electronics/battery distribution channel.

Re: Use N Cells!

*Message #11 Posted by **Michael de Estrada** on 22 Feb 2009, 4:23 p.m.,*
in response to message #10 by Randy

Also Duracell makes them, which is a division of P&G Inc., a Canadian company. Curiously, I think the original poster was Canadian, and stated that N-cells were hard to find in Canada. The last time I checked, you could buy 4 N cells for an HP-41C for less than $10, including tax. I get over 5 years use in my 2 HP-41CV's, which admittedly I do not use very much anymore. Also, FWIW, the HP-28C/S use 3 N-cells. I buy mine at Batteries Plus Stores.

Re: Use N Cells!

*Message #12 Posted by **Randy** on 22 Feb 2009, 5:51 p.m.,*
in response to message #11 by Michael de Estrada

Some people seem to enjoy making simple things difficult... IMO it's one downside to having a creative mind :^)

Re: Use N Cells!

*Message #13 Posted by **Forrest Switzer** on 22 Feb 2009, 11:48 p.m.,*
in response to message #12 by Randy

This is just too good to pass up.

Oh, the stories I could tell about Architects.

(I am a Civil Engineer - licensed in California since the mid 70's)

I was told once that when there is a problem - look to the simplest and most common answer first, then proceed to the more difficult and uncommon. It seems to me that the opposite method is used by many.

Forrest

Re: Use N Cells!

*Message #14 Posted by **Dusan Zivkovic** on 23 Feb 2009, 2:55 a.m.,*
in response to message #11 by Michael de Estrada

I get Duracell N alkalines for my 41CV at local Waitrose supermarket here in London. They are a bit overpriced, just like everything else at Waitrose, but I would never imagine them to be hard to find...

NiMH N-Cells and Chargers

*Message #15 Posted by **Dallas Osborne** on 24 Feb 2009, 12:55 p.m.,*
in response to message #10 by Randy

Batteries:

http://www.antonline.com/antonline.php?op=inventory&st=n+cell+mimio

or

http://www.provantage.com/mimio-850-0050~7VRTU02L.htm

and

Chargers:

http://www.provantage.com/mimio-850-0047~7VRTU02N.htm

or

http://www.antonline.com/p_Virtual-Ink--850-0047--Mimio-Nimh-Battery-Charger-_474059.htm

Re: Cheap Batteries for HP41CX

*Message #16 Posted by **Kevin Schoedel** on 25 Feb 2009, 2:09 p.m.,*
in response to message #9 by db (martinez, ca.)

I bought a whole bunch of NiMH N cells, plus N-to-AA adaptors for charging, from the liquidation of Radio Shack's Canadian operations. Perhaps the US stores still carry them.

Cheap Batteries for anything in France

*Message #17 Posted by **Patrice** on 23 Feb 2009, 6:20 p.m.,*
in response to message #4 by ZOleg

Hello all,

In France, I know a very good supplier for batteries with digressive price depending on quantities. Their job is mainly to sell batteries.

It is called 'La boîte à piles' in Reims. http://www.laboiteapiles.com/

Re: Cheap Batteries for anything in France

*Message #18 Posted by **Stefan Hauschild** on 24 Feb 2009, 2:03 p.m.,*
in response to message #17 by Patrice

In Germany it is Reichelt Elektronik (www.reichelt.de).

One LR1 (also known as lady-cell or N-type battery) for 61 eurocents. That´s ok for me...

-Stefan

Re: Cheap Batteries for anything in France

*Message #19 Posted by **Peter A. Gebhardt** on 24 Feb 2009, 5:22 p.m.,*
in response to message #18 by Stefan Hauschild

Stefan,

How many LR1 do you order in one shipment? ;-)

Motivated by your post, I gave it a look and was somewhat repelled by their minimimum order & charges ...

(A problem which is inherent with most internet orders anyway).

Best regards & Thx. anyway,

Peter A. Gebhardt

Re: Cheap Batteries for anything in France

*Message #20 Posted by **Stefan Hauschild** on 25 Feb 2009, 2:36 a.m.,*
in response to message #19 by Peter A. Gebhardt

Peter,

it´s worth the shipping fees if you order some parts, cables, semiconductors or anything else there. If I need only one or two cells I go to my local flea markets on sundays. The "turkish-battery-wholesale-companies" there sell the n-cell (new, of course) for 1 eur and the button cells for 50cents.

-Stefan

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HP-27 Woodstock Thermal Problem

*Message #1 Posted by **Robert Hollyer** on 3 Feb 2009, 9:33 p.m.*

I have been attempting to repair an HP-27 that has the common thermal power on problem. The symptoms are as described in other threads. At power on the display is blank until the ACT eventually "warms up". The HP-27 can then be power cycled and it functions correctly.

I traced the problem to the ACT 1.6KHz clock output that is incorrectly doubled in frequency to 3.2KHz. I made an initial assumption that the ACT might have an internal hold time problem or a race condition. In order to slow the circuitry down, I decreased the VGG supply voltage. No effect on the thermal problem. I then swapped the DC-DC converter zener diode with sequentially lower value zener diodes to decrease all supply voltages. No effect. I individually varied each supply using an external lab power supply. No effect. I tried the suggested grounding solution, in the unlikely event that there was a ground bounce problem. No effect. The VGG supply is somewhat noisy, so I filtered that. No effect. At this point I am stumped by the problem. Other than an internal ACT pre-heater this issue seems unsolvable. The ACT temperature doesn't need to be raised much above ambient in order for the calculator to function correctly so it could be easily warmed up.

Just curious if anyone has identified other solutions to this problem? It would be interesting to have a schematic diagram of the internal ACT circuitry, to understand the source of the problem. I also searched the various retro IC databases in case any old stock of the ACT was still in existence. Couldn't find anything.

The performance of the HP-27 was impressive in that it functioned over an amazingly large voltage range. The lower limit was the point at which the LED display was no longer visible. Other than that, the HP-27 continued to function correctly.

Re: HP-27 Woodstock Thermal Problem

*Message #2 Posted by **Katie Wasserman** on 4 Feb 2009, 10:05 a.m.,*
in response to message #1 by Robert Hollyer

Robert,

You mentioned lots of things you tried to fix the double speed clocking problem but I don't see that you tried the solution mentioned here, resistively coupling the clock signal to the rest of the circuit.

This worked for me when all else failed that's why I wrote it up.

-Katie

Re: HP-27 Woodstock Thermal Problem

*Message #3 Posted by **Robert Hollyer** on 4 Feb 2009, 10:11 p.m.,*
in response to message #2 by Katie Wasserman

Katie,

Thanks for the suggestion. I tried modifying the circuit using a 20K resistor as your article recommends.

But the modification didn't solve the clock problem on this HP-27. I still have a 3.2KHz clock at cold start. Maybe I will try some other values of resistors and see if that has any effect. It's difficult for me to theorize why this clock problem occurs given the insensitivity to voltage. That's odd.

The NMOS ACT is marked with HP's logo. It's not marked with an AMI, Mostek, or other IC manufacturer's logo from that timeframe. I am curious if this was an internally designed HP IC.

Rob

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Custom menus

*Message #1 Posted by **Ian Stanley** on 3 Feb 2009, 6:33 p.m.*

Just ordered a HP35s to replace my dead 15c.

I have looked at the PDF manual which says I can use EQN to display text.

Has anybody managed to cobble together a working custom menu on the 35s (presumably using EQN to display the text followed by an input)?

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O.T. Gigaspan photo of Inauguration

*Message #1 Posted by **designnut** on 3 Feb 2009, 2:06 a.m.*

This photo can be expanded hundreds of times. I spotted the Bush family and Buses Sr. Clintons, Gore, the supreme court and Obamas relatives from Nigeria. I think I see Dan potatoe head Quayle. Sam See http://gigapan.org/viewGigapanFullscreen.php?auth=033ef14483ee899496648c2b4b06233c

Re: O.T. Gigaspan photo of Inauguration

*Message #2 Posted by **Raymond Del Tondo** on 3 Feb 2009, 3:17 a.m.,*
in response to message #1 by designnut

Hmm, I only see a black page with a blue bar on the top.
A quick Wikipedia check indicates Gigapan as a (amongst others) Google project,
so this could be reason enough to be careful...

Re: O.T. Gigaspan photo of Inauguration

*Message #3 Posted by **Maximilian Hohmann** on 3 Feb 2009, 4:23 a.m.,*
in response to message #2 by Raymond Del Tondo

Good morning!

Absolutely amazing ... you can almost read the script that he has in front of him. Dwarfs all my amateurish attempts towards panorama photgraphy by several orders of magnitude!

> Quote:
>
> ... Gigapan as a (amongst others) Google project, so this could be reason enough to be careful...

It looks as if some American university is the driving force behind it, Google provides financial support: http://gigapan.org/about.php And what's wrong with Google anyway???

Greetings, Max

Re: O.T. Gigaspan photo of Inauguration

*Message #4 Posted by **David Hayden** on 3 Feb 2009, 9:11 a.m.,*
in response to message #3 by Maximilian Hohmann

I saw this too. The really cool thing is that it was done with a fairly ordinary camera (Canon G10). The trick is the robotic mount that takes a mosaic of photos, and the software that stitches those photos together.

Re: O.T. Gigaspan photo of Inauguration

*Message #5 Posted by **Don Shepherd** on 3 Feb 2009, 3:48 p.m.,*
in response to message #4 by David Hayden

> Quote:
>
> the software that stitches those photos together

Given the man with 4 eyes and the mouthless woman, apparently they didn't quite get the software right!

Re: O.T. Gigaspan photo of Inauguration

*Message #6 Posted by **Dave Shaffer (Arizona)** on 3 Feb 2009, 4:20 p.m.,*
in response to message #5 by Don Shepherd

If somebody moves between images, it's hard for the software to fix things!!

All in all, it's pretty amazing. I have used much better cameras and (not so great) commercial stitching software with worse results.

Re: O.T. Gigaspan photo of Inauguration

*Message #7 Posted by **Renato Toi** on 3 Feb 2009, 5:58 p.m.,*
in response to message #6 by Dave Shaffer (Arizona)

I find it amazing too. On the "Wally" side, my favorite is Yo-Yo-Ma pictured taking a picture with a iPhone. Also you can see that the piano is almost certainly a Steinway.

Re: O.T. Gigaspan photo of Inauguration

*Message #8 Posted by **Howard Owen** on 3 Feb 2009, 10:46 a.m.,*
in response to message #1 by designnut

[humor]

I have discovered evidence that aliens are now in control of the US government! In the photo referenced, just above and to the left of the president in the second row is a man *with four eyes!* No, I'm not talking about eyeglasses, I mean *actually four eyes, sockets and all!!*

All of those rumors that the president was a crypto-buddhist, that he had consorted with 1960's pastry chefs and had trampled an apple pie underfoot, all of these pale before the revelation that he invited an alien to the inauguration. Or was he *forced* to include the abominable creature by virtue of the control exerted over him??

Check the next edition of the Weekly World News for more..

[/humor]

Regards, Howard

Re: O.T. Gigaspan photo of Inauguration

*Message #9 Posted by **Massimo Gnerucci (Italy)** on 3 Feb 2009, 12:27 p.m.,*
in response to message #8 by Howard Owen

A few pixels on the left there are a mouthless woman and a man with **three** eyes (or glass lenses, at least).
Greetings,
Massimo

Re: O.T. Gigaspan photo of Inauguration

*Message #10 Posted by **Katie Wasserman** on 3 Feb 2009, 4:05 p.m.,*
in response to message #9 by Massimo Gnerucci (Italy)

Check out Aretha Franklin (on the aisle several rows behind Obama). Her now famous hat is easy to spot but she appears to have a mysterious other hat floating in front of her as well as a serious double chin complete with beard.

Re: O.T. Gigaspan photo of Inauguration

*Message #11 Posted by **Don Shepherd** on 3 Feb 2009, 7:28 p.m.,*
in response to message #1 by designnut

Look at the poor man standing to the left of the platform where President Obama is speaking, by a light pole. It looks like a barracuda is about to eat his ear. I think the same man appears again a few feet to the left of him!

Just think, if this camera had been in Dallas on Nov. 22, 1963, the conspiracy theorists would have gone nuts!

Re: O.T. Gigaspan photo of Inauguration

*Message #12 Posted by **Martin Pinckney** on 5 Feb 2009, 5:23 p.m.,*
in response to message #11 by Don Shepherd

> Quote:
>
> I think the same man appears again a few feet to the left of him!

This is incontrovertible photographic evidence that the U.S. has begun cloning Secret Service agents!

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Re: OT: My favorite HP non-calculator toy: HP4500

*Message #1 Posted by **BruceH** on 2 Feb 2009, 9:28 p.m.*

I think these Bluetooth noise cancelling stereo headphones are my current favourite HP non-calculator toy. Shame they only seem to be available in the US.

They also strike me as the "product I would least expect from HP". Anyone found anything else equally unusual?

Re: OT: My favorite HP non-calculator toy: HP4500

*Message #2 Posted by **Michael Meyer** on 4 Feb 2009, 10:00 a.m.,*
in response to message #1 by BruceH

Bruce, do you use those with your computer or with a music playing phone?

Re: OT: My favorite HP non-calculator toy: HP4500

*Message #3 Posted by **BruceH** on 5 Feb 2009, 6:53 p.m.,*
in response to message #2 by Michael Meyer

Neither - I don't have a pair since HP don't seem to sell them in the UK according to their website. I'll try phoning - just need to remember to do it. :-)

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More Challenges

*Message #1 Posted by **Chuck** on 2 Feb 2009, 8:40 p.m.*

Since I didn't get to play with the latest challenges a whole lot, I thought I'd make one up. Here's a little problem I gave my students today...

Consider: f(x) = Floor[1/x]/x (or the greatest integer of 1/x, divided by x).

We were talking about the derivative of such a beast, and found some interesting things. Can you find if or where f'(x) = 1, 1.5, 2, or 3. We'll need to bend the rules of differentiation a bit and consider one sided limits on a few of the values (graph it and you'll see why).

I'd be curious if one could write/run a program on an Hp to solve f'(x)=3 to an accuracy enough to "guess" the exact value. So far, even Mathematica hasn't found the solution explicitly (bisection method yes, but no Solve), but it's more of a user error than a software limitation error.

My luck, someone here will get the answer(s) in 7 minutes or less. :)

Re: More Challenges

*Message #2 Posted by **Allen** on 2 Feb 2009, 9:08 p.m.,*
in response to message #1 by Chuck

not sure I understand the question.. Can you give an example of the "Floor" function, since it does not behave the same way I expect.

Here's they way Excel and HP calculators interpret this problem:

```
F(3) = Floor(1/3)/3 = Floor(.3333...)/3= 0/3= 0
Excel: FLOOR(1/3,1)=0
RPN: 3 [1/x] FLOOR -> 0
Wolfram:Floor(1/3)=0
```

Am I missing something?

Edited: 2 Feb 2009, 9:08 p.m.

Re: More Challenges

*Message #3 Posted by **David Hayden** on 2 Feb 2009, 9:12 p.m.,*
in response to message #2 by Allen

I think it gets interesting for 0 < x < 1. As you've discovered, for all x > 1, f(x) = 0

Dave

Re: More Challenges

*Message #4 Posted by **Allen** on 2 Feb 2009, 9:11 p.m.,*

in response to message #1 by Chuck

perhaps I am having a hard time reading the f'(x).. This looks almost exactly like f(x) in times new roman font.

Re: More Challenges

*Message #5 Posted by **Chuck** on 2 Feb 2009, 9:38 p.m.,*
in response to message #4 by Allen

Agree, the font is not great. Also, the "Floor" function is Mathematica's name for the greatest integer function. Here's another go at it...

```
let f(x)=Int[1/x]/x

find where f'(x)=3
```

David is correct, it's not very interesting for x>1, but is interesting for x<1. Our interest actually lies on the interval [-1,0].

CHUCK

Re: More Challenges

*Message #6 Posted by **David Hayden** on 2 Feb 2009, 11:09 p.m.,*
in response to message #5 by Chuck

Okay, my calculus is really rusty, but here's what I came up with. There's a good chance that I've gotten something horribly wrong, in which case, corrections will be cheerfully accepted.

To keep my head from hurting, I recast the problem:

```
Let u(x) = 1/x
Let g(u) = floor(u)*u
Then f(x) = floor(1/x)/x is the same as g(u(x))


If N is a negative integer then For u = ( N , N+1 ], floor(u) is the constant N+1
and g(u) = (N+1)*u.


Inside one of these intervals, the derivative of f(x) is:
f'(x) = g'(u) * u'(x) = (N+1) * -1/x^2
      = -(N+1) / x^2
      = -(N+1) * u^2


Now we can find where f'(x)=3:


    3 = -(N+1) * u^2
    u = sqrt(-3/(N+1)) or -sqrt(-3/(N+1))


Since we already said that N is a negative integer and u is in the interval (N,
N+1], that means u is a negative number also, so we can get rid of the positive
solution and we're left with:
    u = -sqrt(-3/(N+1))


Now lets try some solutions.  N=-1 won't work because -3/(N+1) causes division by
zero.


How about N=-2?
    u = -sqrt(-3/(-1))
      = -sqrt(3)
      = -1.732050...
```

```
Checking our assumption:
    N <? u <=? N+1
    -2 < -1.732050... <= -1
That works.


Last but not least, we solve for x:


u = 1/x
-sqrt(3) = 1/x
x = -1/sqrt(3)
```

Re: More Challenges

*Message #7 Posted by **Chuck** on 3 Feb 2009, 12:57 a.m.,*
in response to message #6 by David Hayden

Aha. Very close, but off by a small factor. I think there may be a slight error with the floor function on negative intervals with how you defined g. However, your method got me the answer analytically, or at least agrees with what I found earlier.

CHUCK

Re: More Challenges

*Message #8 Posted by **David Hayden** on 3 Feb 2009, 8:49 a.m.,*
in response to message #7 by Chuck

Thanks, Chuck. I suspect I've got the definition of floor() wrong. If floor(x) is "the largest integer that's less than x" rather than "the integer formed by lopping off the fractional part" then I get:

```
If N is a negative integer then For u = [ N , N+1 ), floor(u) is N and g(u) =
N*u.
So f'(x) = -N*u^2
And if f'(x)=3 then u = -sqrt(-3/N)
So for N=-1, we get u = -sqrt(3) which is outside the interval [-1,0).  But
for N=-2, we get u=-sqrt(3/2) which is within the interval [-2,-1].


So with u=1/x, that means the final answer is x=-1/sqrt(3/2)
```

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OT: Casio VX-4

*Message #1 Posted by **Saile (Brazil)** on 2 Feb 2009, 8:24 p.m.*

```
I would like to have information (site, manual in pdf) on Casio VX-4 in English

I thank for the attention
```

Re: OT: Casio VX-4

*Message #2 Posted by **Marcus von Cube, Germany** on 4 Feb 2009, 12:35 p.m.,*
in response to message #1 by Saile (Brazil)

The VX-4 was never released outside Japan. It's an educational model and therefore all the docs are in Japanese. You can get some useful information from studying the manual of a PB-1000 or FX-850P (the latter is closer to the VX-4). Since I have a VX-4 in my collection, its BASIC is part of my BASIC comparison sheet. You should find enough info there to make use of your VX-4.

http://www.mvcsys.de/doc/basic-compare.html

If you have questions, don't hesitate to ask here.

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Removing rubber feet from HP27S

*Message #1 Posted by **Strath Clarke (Sydney, Australia)** on 2 Feb 2009, 7:02 a.m.*

I have a HP42S which has the bottom pair of rubber feet on one side missing. I also have a HP27S. I would like to remove the feet from the 27S and install them on the 42S. Can it be done? Is there a recommended method? Any advice would be welcome. Thanks.

Noooooooooo!!!!

*Message #2 Posted by **BruceH** on 2 Feb 2009, 8:55 p.m.,*
in response to message #1 by Strath Clarke (Sydney, Australia)

Don't!

The 27S is every bit as much a classic calculator as the 42S and there is no good reason for ruining one, much less over something so trivial as rubber feet.

Just cut up a bicycle inner tube or something.

Edited: 2 Feb 2009, 8:55 p.m.

Re: Noooooooooo!!!!

*Message #3 Posted by **Stefan Hauschild** on 3 Feb 2009, 5:07 a.m.,*
in response to message #2 by BruceH

That would be vandalism !

But isn´t there this ebay seller who had new made rubber replacement sets for some of the voyagers?

-Stefan

Re: Removing rubber feet from HP27S

*Message #4 Posted by **Randy** on 3 Feb 2009, 8:41 a.m.,*
in response to message #1 by Strath Clarke (Sydney, Australia)

The better reason not to attempt it is because they (the feet) are integral to the case bottom, as in molded onto the case. Any attempt to remove them will result in unusable bits of rubber.

Edited: 3 Feb 2009, 8:42 a.m.

Re: Removing rubber feet from HP27S

*Message #5 Posted by **Strath Clarke (Sydney, Australia)** on 10 Feb 2009, 6:13 a.m.,*
in response to message #4 by Randy

Thanks for your comments. I have abandoned my idea of salvaging the feet from the HP-27s. I made the

feet for my HP-42s from some neoprene rubber, a sharp craft knife and steel ruler, and several attempts to get the dimensions just right. The HP-27s escaped unscathed and is now for sale on eBay.

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BASIC comparison sheet updated again

*Message #1 Posted by **Marcus von Cube, Germany** on 2 Feb 2009, 6:50 a.m.*

A some may have noticed I've removed the OT tag from the title. The sheet now contains enough information about the HP-71B and HP-75 to consider it on topic for this community. :)

Read more: http://www.mvcsys.de/doc/basic-compare.html

I don't have an HP-75 so some of my information may be incorrect or incomplete. I'd be glad to correct any mistakes that you find. The same is obviously true for any information in the sheet.

Marcus

Re: BASIC comparison sheet updated again

*Message #2 Posted by **Marcus von Cube, Germany** on 8 Feb 2009, 9:43 a.m.,*
in response to message #1 by Marcus von Cube, Germany

I've updated the sheet again. Now, it contains the Epson HX-80 and the Tandy Model 100. MS BASIC is not made for mathematicians or engineers: most functions on the Epson are single precision (the Tandy uses double precision as default!), trigs are RADIAN only, PI as a constant is missing, and even such functions as ASN or ACS are not implemented. The HP, TI, Sharp or Casio BASIC machines are much better calculators (and worse typewriters.)

HP-200LX owners could be tempted to run GW-BASIC on their machines. Numeric precision is as poor as on the Epson. :-(I'll include GW-BASIC in a later release of my document.

A question to HP-75 owners: Could you please check whether my findings are correct? They're all based on the manual because I don't own such a beast. What would have to corrected for a system with an additional HP-IL ROM?

Edited: 8 Feb 2009, 10:10 a.m.

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Re: HP-25 fails to store programming steps

*Message #1 Posted by **Alberto Fenini** on 2 Feb 2009, 4:35 a.m.*

ciao Katie,

thank you very much, that's very kind of you, and I have just sent you an email, take care, Alberto

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Scans of old french computer magazine !

*Message #1 Posted by **Pascal** on 1 Feb 2009, 2:42 p.m.*

For those who can read french, I came across a web site that contains the scans of hundreds of ancient french computer magazines from the 70's and the 80's. See Abandonware magazines.

For articles about Hp calculators, see magazines such as "L'ordinateur de poche" or "L'ordinateur individuel".

Happy reading !

Pascal

Re: Scans of old french computer magazine !

*Message #2 Posted by **Patrick Rendulic** on 2 Feb 2009, 5:22 a.m.,*
in response to message #1 by Pascal

Merci!

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HP 65 - top row of keys not working

*Message #1 Posted by **Frank Balzer** on 31 Jan 2009, 10:42 p.m.*

Just acquired a HP 65. Unfortunately the top row of keys (i.e. A - E) is not registering. All other keys are working. I opened it, but didn't find any obvious problems such as corrosion. Any ideas?

Frank.

Re: HP 65 - top row of keys not working

*Message #2 Posted by **Ignazio Cara (Italy)** on 1 Feb 2009, 5:11 a.m.,*
in response to message #1 by Frank Balzer

Look at the connection betwen logic PCB and Keyboard/display PCB, pin number 11 looking from the right side of the calculator up side down. Perhaps you could find some sign of corrosion or the pin could be broken.

I hope this could help you.

Regards

Ignazio

Re: HP 65 - top row of keys not working

*Message #3 Posted by **Frank Balzer** on 1 Feb 2009, 5:00 p.m.,*
in response to message #2 by Ignazio Cara (Italy)

Thanks for your suggestion. I'll try to clean it with isopropanol next week. However, optically all the pins look very nice. No corrosion, no bending, nothing.

Regards, Frank.

Re: HP 65 - top row of keys not working

*Message #4 Posted by **Jeff O.** on 2 Feb 2009, 7:28 a.m.,*
in response to message #1 by Frank Balzer

Individual keys that stop working can often be remedied by cleaning the contacts as described in this post. While fairly unlikley (I suppose, I am not a statistician) for five keys in the same row to suffer the same problem at the same time, it might be worth a try.

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MatLab, Maple, MathCAD

*Message #1 Posted by **Martin Pinckney** on 31 Jan 2009, 11:43 a.m.*

I see a lot of references to MatLab and Maple on this forum. MathCAD seems never to be mentioned. Am I the only one here that has it, and did I miss something along the way? How do these three stack up against each other?

Just curious.

Re: MatLab, Maple, MathCAD

*Message #2 Posted by **Ljad** on 31 Jan 2009, 1:25 p.m.,*
in response to message #1 by Martin Pinckney

Hallo,

Don't forget Mathematica! I used it some yars ago. I think it is partly a matter of preference.

Greetings, Ljad

Re: MatLab, Maple, MathCAD

*Message #3 Posted by **Namir** on 31 Jan 2009, 4:25 p.m.,*
in response to message #1 by Martin Pinckney

While all of these packages are very good to good, Matlab seems to have a large following (count the number of Matlab books!). It is easy to use and has found a niche with many users.

All these application run circles around our good old hp calculators. I sed to dream about carrying out the kind of calculations made possible by Matlab, Maple, Mathematica, and so on.

Namir

Re: MatLab, Maple, MathCAD

*Message #4 Posted by **Fred Lusk** on 1 Feb 2009, 8:27 p.m.,*
in response to message #1 by Martin Pinckney

Martin....

I am a civil engineer with 29 years of experience and I use Mathcad once in a while. When I need to document a calculation, it's far better than Excel or a calculator. I've never used Mathematica or MatLab.

I don't use Mathcad as much as I used to because I'm not doing that much design any more (unfortunately). That's why I haven't upgraded beyond version 8--Mathcad won't help me with project management. That being said, I am current working on a Mathcad calcuation related to some factory destructive testing I witnessed for a client.

None of the young engineers I supervise have any interest in Mathcad, and only one is a good spreadsheet writer. Another one is pretty good with her HP-48GX. Their computer expertise is oriented more towards Autocad and hydraulic modeling software (water, sewer, storm drainage). I have yet to see much aptitude for creating new and unique calcualtions from scratch, which is Mathcad's forte.

Edited: 1 Feb 2009, 8:28 p.m.

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challenge for a snowy day...

*Message #1 Posted by **Don Shepherd** on 31 Jan 2009, 9:36 a.m.*

OK, here's a simple challenge for a snowy day (in Louisville Kentucky USA). How many ways are there to use coins to make $1? Coins are: $1, .50, .25, .10, .05, and the lowly .01.

Re: challenge for a snowy day...

*Message #2 Posted by **Gene Wright** on 31 Jan 2009, 9:47 a.m.,*
in response to message #1 by Don Shepherd

How many of each coin are present?

One of each or ?

Re: challenge for a snowy day...

*Message #3 Posted by **Don Shepherd** on 31 Jan 2009, 9:50 a.m.,*
in response to message #2 by Gene Wright

As many as you need to make $1, like one way would be 10 dimes, another way would be 3 quarters + 2 dimes + 5 pennies.....

:)

Re: challenge for a snowy day...

*Message #4 Posted by **Allen** on 31 Jan 2009, 12:32 p.m.,*
in response to message #1 by Don Shepherd

Ironically, The answer is on the last page of the book I'm reading this weekend.

Re: challenge for a snowy day...

*Message #5 Posted by **David Hayden** on 31 Jan 2009, 12:39 p.m.,*
in response to message #1 by Don Shepherd

I get 293 using a recursive approach. I suspect that some of the members who remember their math better than I do will come up with much more clever solutions.

Below is my solution in RPL. To use it, store the program in 'COINS' (it must be called COINS because it's recursive). Put the list of possible coins, valued highest to lowest on level 2, put the number of cents you're trying to come up with on level 1 and run the program.

Example for the challenge given:

```
{ 100 50 25 10 5 1 } ENTER
100
```

COINS

It returns the answer on level 1.

Dave

```
@ This is a program to find the number of ways
@ to get a total from a set of coins.  For example,
@ how to get $1.00 from coins worth $1, $0.50,
@ $0.25, $0.10, $0.05 and $0.01


@ The program is recursive and assumes it is called
@ "COINS"


@ arguments:
@ Level 2: list containing the value of each coin
@          as an integer. The list must be sorted
@         (highest to lowest)
@ Level 1: the total that you're looking for.
@
@ Results: Total number of ways on level 1.
« 0. 0. 0. 0.  coinList
                total   @ list of coins
                result  @ # ways for this
                highCoin @ val of highest coin
                fewerCoins @ coin list without highCoin
                maxHighCoin «   @ max # of highCoin
                              @ coins that you can use
        IF total 0. >
           coinList SIZE 0. >
           AND
        THEN
            @ initialize local vars
            coinList HEAD
            'highCoin' STO
            coinList TAIL
            'fewerCoins' STO
            total highCoin / IP
            'maxHighCoin' STO


            @ 1 solution if you can do it with
            @ just the highest coin
            IF highCoin maxHighCoin * total ==
            THEN
                'result' INCR DROP
            END


            IF fewerCoins SIZE
            THEN
                @ Now add in the solutions with fewer
                @ coins.  For example, if your total is 75 cents
                @ and your highest coin is a quarter, then
                @ there's a solution of 75 cents in smaller coins,
                @ plus 1 quarter and 50 cents in smaller coins,
                @ plus 2 quarters and 25 cents in smaller coins.
                0 maxHighCoin
                FOR i
                    fewerCoins
                    total i highCoin * -
                    COINS
                    'result'
                    STO+
                NEXT
            END
        END
        result
    »
»
```

Edited: 31 Jan 2009, 12:41 p.m.

Re: challenge for a snowy day...

*Message #6 Posted by **Don Shepherd** on 31 Jan 2009, 4:21 p.m.,*
in response to message #5 by David Hayden

Hi David. I did the brute-force approach in VBScript. It executed in about 3 seconds, and found 293 also.

```
' find out the number of ways to combine coins to make a dollar (ans=293)
for i = 0 to 1  'dollar
  for j = 0 to 2  'half-dollar
    for k = 0 to 4  'quarter
      for l = 0 to 10  'dime
        for m = 0 to 20  'nickel
          for n = 0 to 100  'penny
            t=i*100+j*50+k*25+l*10+m*5+n
            if t=100 then
              p=p+1
            end if
          next
        next
      next
    next
  next
next
msgbox p
```

Re: challenge for a snowy day...

*Message #7 Posted by **Namir** on 31 Jan 2009, 4:27 p.m.,*
in response to message #6 by Don Shepherd

Good one Don!!!

:-)

Namir

Re: challenge for a snowy day...

*Message #8 Posted by **Egan Ford** on 31 Jan 2009, 4:57 p.m.,*
in response to message #6 by Don Shepherd

You can cut your iterations by almost 5x if you treat 5 pennies as a different type of nickle. I.e. 5 will always divide the number of pennies.

Change:

```
for n = 0 to 100  'penny
  t=i*100+j*50+k*25+l*10+m*5+n
```

To:

```
for n = 0 to 20  'penny
  t=i*100+j*50+k*25+l*10+(m+n)*5
```

Re: challenge for a snowy day...

*Message #9 Posted by **Egan Ford** on 31 Jan 2009, 4:51 p.m.,*
in response to message #5 by David Hayden

> Quote:
>
> more clever solutions.

This problem is discussed in detail in *Concrete Mathematics*, Ch 7, *Generating Functions*. Mathematically the answer is:

$$\binom{6}{4} + 45\binom{5}{4} + 52\binom{4}{4} + 1 = 293$$

50g:

```
6 4 COMB 5 4 COMB 45 * + 4 4 COMB 52 * + 1 +
```

I'll try to come up with a general solution for any type of coin and sum.

Re: challenge for a snowy day...

*Message #10 Posted by **Don Shepherd** on 31 Jan 2009, 7:12 p.m.,*
in response to message #9 by Egan Ford

Thanks for that reference, Egan, I'm going to check it out. And thanks also for the 5x speed improvement. I noticed that

```
for n = 0 to 100 step 5 'penny
```

has the same effect. I'm going to make that change and try it again on my NSpire. The original version was still running after about 5 minutes when I shut it off. I hate to waste batteries!

Re: challenge for a snowy day...

*Message #11 Posted by **Egan Ford** on 1 Feb 2009, 10:15 a.m.,*
in response to message #10 by Don Shepherd

> Quote:
>
> I'm going to make that change and try it again on my NSpire. The original version was still running after about 5 minutes when I shut it off. I hate to waste batteries!

There are other simple optimizations that you can also do to reduce your number of iterations. I do not know how do this in basic, but here is my Perl prototype:

```
$c = 1;

for($i = 0; $i <= 100; $i+=5) {
    for($j = 0; $j <= 100; $j+=5) {
        $A = $i + $j;
        if($A > 100) { last; }
        for($k = 0; $k <= 100; $k+=10) {
            $B = $A + $k;
            if($B > 100) { last; }
            for($l = 0; $l <= 100; $l+=25) {
                $C = $B + $l;
                if($C > 100) { last; }
                for($m = 0; $m <= 100; $m+=50) {
                    if($C + $m == 100) { $c++; }
                }
            }
        }
    }
}

print "$c\n";
```

IANS, since all of your loops increment, check for excess of 100 and skip rest of loop and inner loops.

Your original program iterated 349965 times. With the 'step 5' for your pennies it will iterate 72765 times. With the above checks only 4758 times. Of course David's recursive approach only iterates 337 times.

I should add that your dollar loop is costing you 2x your time, and if you do the above checks in your loops you will be better off with pennies as your outer loop, then nickels, etc...

Edited: 1 Feb 2009, 10:27 a.m.

Re: challenge for a snowy day...

*Message #12 Posted by **Don Shepherd** on 1 Feb 2009, 12:06 p.m.,*
in response to message #11 by Egan Ford

Hi Egan. I was responding when my electricity went out... :(

> Quote:
>
> IANS, since all of your loops increment, check for excess of 100 and skip rest of loop and inner loops. Your original program iterated 349965 times. With the 'step 5' for your pennies it will iterate 72765 times. With the above checks only 4758 times. Of course David's recursive approach only iterates 337 times.
>
> I should add that your dollar loop is costing you 2x your time, and if you do the above checks in your loops you will be better off with pennies as your outer loop, then nickels, etc...

IANS? Don't know that one.

OK, I see what you mean about checking for excess of 100 and exiting the loops at that point. Good idea. By my calculations, my original VBScript version iterated 2x3x5x11x21x101 = 699,930 times, and the "step 5" reduced it to 138,600 times, I think. That optimization had little effect on the PC, but it did let the NSpire get the answer in a couple of minutes.

Yes, the dollar loop takes twice as long. If we change the goal to "how many ways can you make change for a dollar" instead of "how many combinations of coins comprise a dollar, including the dollar coin," then we can get rid of the outer dollar loop.

It's an interesting problem. I am intrigued by the use of combinations to solve it. I don't have the book you mentioned; can you elaborate some on why those particular combination parameters work in this problem? Thanks.

Re: challenge for a snowy day...

*Message #13 Posted by **Egan Ford** on 1 Feb 2009, 1:48 p.m.,*
in response to message #12 by Don Shepherd

> Quote:
>
> IANS? Don't know that one.

In A Nut Shell

> Quote:

> Yes, the dollar loop takes twice as long. If we change the goal to "how many ways can you make change for a dollar" instead of "how many combinations of coins comprise a dollar, including the dollar coin," then we can get rid of the outer dollar loop.

Or just get rid of it and add one to your sum, or start with one. I do not think its necessary to calculate the obvious. That is why my iterative counts are 1/2 of yours.

> Quote:
>
> It's an interesting problem. I am intrigued by the use of combinations to solve it. I don't have the book you mentioned; can you elaborate some on why those particular combination parameters work in this problem? Thanks.

You've got mail.

Re: challenge for a snowy day...

*Message #14 Posted by **David Hayden** on 31 Jan 2009, 8:27 p.m.,*
in response to message #5 by David Hayden

Here's my recursive version again in C. On a PC, it gives the answer instantly. Takes one command line argument - the number of cents that you're trying to find (100 in the example)

```
#include <stdio.h>
#include <stdlib.h>


int
ways(int total, int *coins)
{
  int result = 0;
  int highest;                  // value of the highest coin
  int *withoutHighest;          // list of coins without highest
  int maxHighest;               // maximum number of "highest" coins
                                // that you can have in a group of "total"


  if (total == 0) return 0;
  if (*coins==0) return 0;      // coins list is empty


  highest = *coins;
  withoutHighest = coins+1;
  maxHighest = total/highest;


  if (maxHighest * coins[0] == total) {
    result += 1;
  }
  if (*withoutHighest == 0) {
    return result;              // no coins left
  }
  for (int i = 0; i <= maxHighest; ++i) {
    result += ways(total - i*highest, withoutHighest);
  }
  return result;
}



int main(int argc, char **argv)
{
  int coins[] = {100, 50, 25, 10, 5, 1, 0};
  int total = atoi(argv[1]);
```

```
  int result = ways(total, coins);
  printf("%d ways\n", result);
  return 0;
}
```

Re: challenge for a snowy day...

*Message #15 Posted by **Don Shepherd** on 31 Jan 2009, 8:44 p.m.,*
in response to message #14 by David Hayden

Thanks, David. Good work! I'm not conversant in C (or RPL, for that matter), but I respect people who are!

Re: challenge for a snowy day...

*Message #16 Posted by **Paul Dale** on 1 Feb 2009, 4:00 p.m.,*
in response to message #1 by Don Shepherd

Here is my little solution to the problem in C.

This should be small enough to convert over to a keystroke RPN and still have it finish.

```
#include <stdio.h>


int main() {
  int c100, c50, c25, c10, c5;
  int n = 0;


  for (c100=0; c100 <= 100; c100+=100)
    for (c50 = c100; c50 <= 100; c50 += 50)
      for (c25 = c50; c25 <= 100; c25 += 25)
        for (c10 = c25; c10 <= 100; c10 += 10)
          for (c5=c10; c5<=100; c5 += 5) {
            printf("%04d: $1 %d\t.50 %d\t.25 %d\t%10 %d\t.05 %d\t.01 %d\n",
                n++, c100, c50-c100, c25-c50, c10-c25, c5-c10, 100-c5);
          }
  return 0;
}
```

- Pauli

Re: challenge for a snowy day..., Fast 41CX version, Canadian Quarters, a 2nd Challenge, and more...

*Message #17 Posted by **Egan Ford** on 4 Feb 2009, 8:20 p.m.,*
in response to message #1 by Don Shepherd

> Quote:
>
> OK, here's a simple challenge for a snowy day (in Louisville Kentucky USA). How many ways are there to use coins to make $1? Coins are: $1, .50, .25, .10, .05, and the lowly .01.

I finally found some time yesterday to work on this. Below is my Perl prototype I developed with a 41 RPN version in mind. I took an iterative approach since a recursive approach using the same logic would have been more difficult to code for the 41.

```
my @c = (1,5,10,25,50,100);
my $n = 100;
my $z = 0;
my @b = (1);
```

- The array @c contains the coins (sorted).
- $n is one dollar.
- $z is the number if iterations.
- The array @b is initialized with one element, the first element is one.

```
for(my $i = @c - 1; $i >= 0; $i--) {
    $g[$i] = gcd($c[$i],$g[$i+1]);
}
```

This first loop caches the GCD from the largest coin to the smallest. The GCD is computed between the last GCD and the current coin.

```
for(my $i = 0; $i < @c; $i++) {
    for(my $j = $n % $c[$i]; $j <= $n; $j += $g[$i]) {
        if($j - $c[$i] >= 0) {
            $b[$j] = $b[$j - $c[$i]] + $b[$j];
        }
        $z++;
    }
    print $c[$i] . "\t" . $b[$n] . "\t" . $z . "\n";
}
```

The outer loop iterates through all the coins, while the inner loop counts up the permutations. The inner loop is accelerated by using a step of the cached GCD.

At the end of each coin a running total is printed, e.g.:

```
1       1       101
5       21      122
10      121     143
25      242     148
50      292     151
100     293     153
```

The first column is the coin, the 2nd is the number of ways the current and all previous coins can make 100 (one dollar). The last column is the number of iterations required. This is a lot less than the aforementioned 699,930 and 337. As the GCD between pairs of coins gets larger as does the acceleration. One way to cut the iterations in half (specific to this problem) is to use 2 different types of nickels and replace the pennies with one of them. This can only be done if the GCD of all of the coins, the target total ($n = 100), and the first coin are the same. In this case 1 or 5 is safe:

```
5       1       21
5       21      42
10      121     63
25      242     68
50      292     71
100     293     73
```

However in the case of the *Canadian Quarter* a penny must be a penny and not a special nickel:

Correct

```
N = 100

  c       n   gcd
---   ------  ---
  1       1     1
  5      21     1
 10     121     1
 17     310     1
 25     533    25
 50     607    50
100     608   100

TIME: 00:05:14.89
```

WRONG!

```
N = 100

  c       n   gcd
---   ------  ---
  5       1     1
  5      21     1
 10     121     1
 17     127     1
 25     248    25
 50     298    50
100     299   100

TIME: 00:05:12.84
```

Canadian Quarter: A while back an article was published about a mathematician that determined if the US had a 17-cent-piece then the average number of coins that a person carried would be reduced. A reader followed up with, "we do have a 17-cent-piece, it is a Canadian Quarter." Before the US economy started to head south, it was actually close to true. :-)

Larger denominations can also be quickly calculated. E.g. by changing @c and $n to:

```
my @c = (5,5,10,25,50,100,200,500,1000,2000,5000,10000);
my $n = $c[@c-1]; # $n = last value in array @c.
```

you can quickly calculate all the ways to make change for $100.00:

```
5       1               2001
5       2001            4002
10      1002001         6003
25      134235101       6404
50      6794128501      6605
100     139946140451    6706
200     1248652567476   6807
500     4292026472606   6828
1000    7980922016001   6839
2000    9764693427886   6850
5000    9823546661905   6853
10000   9823546661906   6855
```

Most of the work is with the smaller coins. Above, after the number of ways to change $100 with pennies, nickels, and dimes have been calculated the rest quickly add up. I'd be curious how the other posted solutions to this problem would fair. :-)

41CX Version

My 41 version is the same as my Perl version. However, most of the code is fluff (prompting for input, sorting the input, pretty print, etc...).

Limitations:

1. Because this algorithm requires one register for each penny $n must be <= 100. This can be optimized if the problem is known ahead of time.
2. I have also restricted the number of coins to <= 9.

Output:

Original Problem:

```
N = 100                         N = 100

  c       n   ncd               c       n   ncd
---   -----   ---             ---   -----   ---
  1       1     1               5       1     5
  5      21     5               5      21     5
 10     121     5              10     121     5
 25     242    25              25     242    25
 50     292    50              50     292    50
100     293   100             100     293   100

TIME: 00:02:08.26               TIME: 00:01:00.78
```

99 Cents:

```
N = 99                          N = 99

   c       n   gcd                c       n   gcd
 ---   ------   ---              ---   ------   ---
   1       1     1                5       0     5
   5      20     5                5       0     5
  10     110     5               10       0     5
  25     213    25               25       0    25
  50     252    50               50       0    50

 TIME: 00:01:58.00               TIME: 00:00:54.45
```

Barcode, source, binaries, etc...: http://www.hpmuseum.org/guest/eganford/coins.zip

i41CX: http://sense.net/~egan/41cx

Source:

```
 01 LBL "COINS"              55 PSE                     109 +                     163 6
 02 SIZE?                    56 GTO 04                  110 X<>Y                  164 RCL
IND 23
 03 130                      57 LBL 05                  111 STO IND Y             165 XEQ
16
 04 X=Y?                     58 STO 21                  112 DSE 25                166 ARCL
IND 23
 05 GTO 00                   59 RCL 00                  113 GTO 09                167 4
 06 "SIZE <> 130"            60 1000                    114 1                     168 RCL
24
 07 AVIEW                    61 /                       115 STO 27                169 XEQ
16
 08 GTO 20                   62 1                       116 RCL 00                170 ARCL
24
 09 LBL 00                   63 +                       117 1000                  171 PRA
 10 0                        64 SIGN                    118 /                     172 RUNSW
 11 SETSW                    65 LBL 06                  119 1                     173 ISG
25
 12 CLRG                     66 LASTX                   120 +                     174 GTO
10
 13 FIX 00                   67 LASTX                   121 STO 25                175
STOPSW
 14 CF 29                    68 RCL IND L               122 LBL 10                176 ADV
 15 LBL 01                   69 LBL 07                  123 RCL 25                177 FIX
06
 16 9                        70 X<=NN?                  124 10                    178 RCLSW
 17 "N COINS?"               71 GTO 08                  125 +                     179
"TIME: "
 18 PROMPT                   72 X<>Y                    126 RCL IND X             180
ATIME24
 19 INT                      73 STO Y                   127 STO 24                181 PRA
 20 X<=Y?                    74 RCL IND X               128 RCL 21                182 RCL
IND 23
 21 GTO 02                   75 LBL 08                  129 RCL IND 25            183 SF 29
 22 "COINS > 9"              76 ISG Y                   130 MOD                   184 FIX
09
 23 AVIEW                    77 GTO 07                  131 +                     185 GTO
20
 24 PSE                      78 X<> IND L               132 STO 26                186 LBL
15
 25 PSE                      79 STO IND Z               133 LBL 11                187 X<>Y
 26 PSE                      80 ISG L                   134 RCL 26                188 RCL Y
 27 GTO 01                   81 GTO 06                  135 RCL IND 25            189 MOD
 28 LBL 02                   82 "N = "                  136 -                     190 X#0?
 29 STO 00                   83 ARCL 21                 137 X<0?                  191 GTO
15
 30 1000                     84 PRA                     138 GTO 12                192 RDN
 31 /                        85 ADV                     139 27                    193 ABS
 32 1                        86 "  c      n  gcd"       140 +                     194 RTN
 33 +                        87 PRA                     141 RCL IND X             195 LBL
16
 34 STO 25                   88 "---  -----  ---"       142 RCL 26                196 X#0?
 35 LBL 03                   89 PRA                     143 27                    197 GTO
18
```

```
 36 "COIN "                 90 RUNSW                  144 +                      198 RDN
 37 ARCL 25                 91 RCL 00                 145 STO 23                 199 1
 38 >"?"                    92 10                     146 RDN                    200 LBL
18
 39 PROMPT                  93 +                      147 RCL IND 23             201 LOG
 40 INT                     94 RCL IND 00             148 +                      202 INT
 41 STO IND 25              95 STO IND Y              149 STO IND 23             203 -
 42 ISG 25                  96 RCL 00                 150 LBL 12                 204 X=0?
 43 GTO 03                  97 1                      151 RCL 24                 205 RTN
 44 LBL 04                  98 -                      152 ST+ 26                 206 STO
22
 45 100                     99 STO 25                 153 RCL 21                 207 LBL
17
 46 "N?"                   100 LBL 09                 154 RCL 26                 208 >" "
 47 PROMPT                 101 RCL 25                 155 X<=Y?                  209 DSE
22
 48 INT                    102 11                     156 GTO 11                 210 GTO
17
 49 X<=Y?                  103 +                      157 STOPSW                 211 RTN
 50 GTO 05                 104 RCL IND X              158 CLA                    212 LBL
20
 51 "N > 100"              105 RCL IND 25             159 2                      213 END
 52 AVIEW                  106 XEQ 15                 160 RCL IND 25
 53 PSE                    107 RCL 25                 161 XEQ 16
 54 PSE                    108 10                     162 ARCL IND 25
```

- Lines 01- 08 check for a SIZE of 130.
- Lines 09- 58 prompt for the number of coins and the value of each and the sum.
- Lines 59- 81 sort the input from low to high.
- Lines 82- 89 print header and setup $n and b_0$.
- Lines 90- 90 start timer.
- Lines 91-113 compute GCDs.
- Lines 114-121 setup for outer loop
- Lines 122-174 outer loop (see above).
- Lines 123-132 setup for inter loop, GCD calculation
- Lines 133-156 inner loop (all the magic happens here in 25 lines).
- Lines 175-185 stop the clock, report time, goto end.
- Lines 186-194 GCD subroutine.
- Lines 195-211 pretty padded print.

References

G. Polya, "On picture-writing," *American Mathematical Monthly* **63** (1956), 689-697.

2nd Challenge

When Polya wrote about this problem in 1956 the US did not have 50 state quarters (or 50 states :-). Answer the original question, but consider the value *and* type of each quarter.

Update: fixed GCD issues

Edited: 10 Feb 2009, 1:27 a.m. after one or more responses were posted

Re: challenge for a snowy day..., Fast 41CX version, Canadian Quarters, a 2nd Challenge, and more...

*Message #18 Posted by **Don Shepherd** on 4 Feb 2009, 9:17 p.m.,*
in response to message #17 by Egan Ford

Absolutely fascinating. Thanks to Egan and all who participated. Such elegant and insightful solutions to a simple problem! I showed the problem (and solution) to my middle school kids and they were fascinated as well.

Re: challenge for a snowy day..., Fast 41CX version, Canadian Quarters, a 2nd Challenge, and more...

*Message #19 Posted by **David Hayden** on 5 Feb 2009, 9:13 a.m.,*
in response to message #17 by Egan Ford

Thanks for the detailed description of your solution Egan. I particularly appreciate the explanation of the code.

Dave

Re: challenge for a snowy day..., Fast 41CX version, Canadian Quarters, a 2nd Challenge, and more...

*Message #20 Posted by **Paul Dale** on 5 Feb 2009, 4:49 p.m.,*
in response to message #17 by Egan Ford

Would this run faster if you treat the pennies like I did and compute them last up as the difference between the rest of the coins and the target value? I guess a possible slight loss of generality for a currency without a unit cent (like ours BTW).

The extended challenge is an interesting extension but shouldn't be a lot harder -- think combinations and permutations.

- Pauli

Re: challenge for a snowy day..., Fast 41CX version, Canadian Quarters, a 2nd Challenge, and more...

*Message #21 Posted by **Egan Ford** on 5 Feb 2009, 8:48 p.m.,*
in response to message #20 by Paul Dale

> Quote:
>
> Would this run faster if you treat the pennies like I did and compute them last up as the difference between the rest of the coins and the target value? I guess a possible slight loss of generality for a currency without a unit cent (like ours BTW).

Give it a go.

> Quote:
>
> The extended challenge is an interesting extension but shouldn't be a lot harder -- think combinations and permutations.

It is not that hard. A 10 digit model can find the answer.

Re: challenge for a snowy day..., Fast 41CX version, Canadian Quarters, a 2nd Challenge, and more...

*Message #22 Posted by **David Hayden** on 5 Feb 2009, 9:37 p.m.,*
in response to message #17 by Egan Ford

Quote:

> The inner loop is accelerated by using a step of the GCD of the current and the next coin (that is why the last coin is doubled, the alternative would be to check for last coin and then step that value, but then each outer loop would have an extra "if" statement--the goal was to optimize for the 41).

The gcd trick works for the original challenge, but not for the case of the Canadian quarter. For that case (adding a coin worth 17 cents), I get 608 combinations, not 152.

I believe the GCD trick only works when each coin is worth an even multiple of the next cheapest coin.

Re: challenge for a snowy day..., Fast 41CX version, Canadian Quarters, a 2nd Challenge, and more...

*Message #23 Posted by **Egan Ford** on 10 Feb 2009, 1:33 a.m.,*
in response to message #22 by David Hayden

My original (non accelerated) version got 608 as well. In my haste to post before vacation I did not verify all output (my bad).

I have updated my previous post with a different GCD calculation. This time it starts from the largest to the smallest. The GCD is computed from the previous GCD and the current coin. This allows the same acceleration with the original problem and some acceleration with the Canadian Quarter.

Edited: 10 Feb 2009, 1:38 a.m.

50 State Quarters Solution

*Message #24 Posted by **Egan Ford** on 10 Feb 2009, 10:27 a.m.,*
in response to message #17 by Egan Ford

Quote:

> OK, here's a simple challenge for a snowy day (in Louisville Kentucky USA). How many ways are there to use coins to make $1? Coins are: $1, .50, .25, .10, .05, and the lowly .01.

Quote:

> **2nd Challenge**
>
> When Polya wrote about this problem in 1956 the US did not have 50 state quarters (or 50 states :-). Answer the original question, but consider the value *and* type of each quarter.

No takers?

The answer is: 650868

Perl Prototype

```
#!/usr/bin/perl

my @c = (5,5,10,25,50,100,100);
my $n = 100;
my $z = 0;
```

```
my @b = (1);

for(my $i = 0; $i < @c - 1; $i++) {
    my $g = gcd($c[$i],$c[$i+1]);
    for(my $j = $n % $c[$i]; $j <= $n; $j += $g) {
        if($j - $c[$i] >= 0) {
            $b[$j/5] = $b[($j - $c[$i])/5] + $b[$j/5];
        }
        $z++;
    }
    print $c[$i] . "\t" . $b[$n/5] . "\t" . $z . "\n";

    if($c[$i] != 25) { next }
    $k++;
    if($k > 50) { next }
    $i--;
}
```

Previous version differences:

1. 5 pennies must be a special nickel to conserve memory.
2. GCD is not cached and is calculated up. This was required to conserve memory and will work in most cases where the GCD of the next larger coin matches the current or previous coin.
3. The addresses for the @b array are divided by 5 to reduce the number of registered required to 21 (that is why pennies must be grouped).
4. There is a hack at the bottom that continues through all 51 quarters (50 state and one regular).

Results:

```
  5       1   21       25    9526  123       25   77692  193       25  293691  263
  5      21   42       25   11613  128       25   86926  198       25  317912  268
 10     121   63       25   14009  133       25   96938  203       25  343576  273
 25     242   68       25   16741  138       25  107769  208       25  370738  278
 25     426   73       25   19837  143       25  119461  213       25  399454  283
 25     688   78       25   23326  148       25  132057  218       25  429781  288
 25    1044   83       25   27238  153       25  145601  223       25  461777  293
 25    1511   88       25   31604  158       25  160138  228       25  495501  298
 25    2107   93       25   36456  163       25  175714  233       25  531013  303
 25    2851   98       25   41827  168       25  192376  238       25  568374  308
 25    3763  103       25   47751  173       25  210172  243       25  607646  313
 25    4864  108       25   54263  178       25  229151  248       25  648892  318
 25    6176  113       25   61399  183       25  249363  253       50  650867  321
 25    7722  118       25   69196  188       25  270859  258      100  650868  323
```

The first column is the coin, the 2nd is the number of ways the current and all previous coins can make 100 (one dollar). The last column is the number of iterations required. In this case only 323 iterations where required to find the solution. On a PC this takes a second. A 41 takes a bit longer (~5.5 minutes).

To verify my results I wrote a program to generate a brute force program (see end of post).

41CX Version

In addition to the above the following differs from my previous version:

1. Hardcoded coins and sum.
2. No requirement for SIZE 130 (SIZE 40 will do).
3. No GCD printed.

Barcode, source, binaries, etc...: http://www.hpmuseum.org/guest/eganford/coins2.zip

i41CX: http://sense.net/~egan/41cx

Source:

```
 01 LBL "COINS2"         38 STO 10               75 ST+ 11               112 ATIME24
 02 0                    39 LBL 10               76 RCL 16               113 PRA
 03 SETSW                40 RCL 10               77 RCL 11               114 RCL IND 14
```

challenge for a snowy day...

```
 04 CLRG                41 1                   78 X<=Y?               115 SF 29
 05 FIX 00              42 +                   79 GTO 11              116 FIX 09
 06 CF 29               43 RCL IND X           80 STOPSW              117 GTO 99
 07 6                   44 RCL IND 10          81 CLA                 118 LBL 30
 08 STO 00              45 XEQ 30              82 2                   119 X<>Y
 09 5                   46 STO 13              83 RCL IND 10          120 RCL Y
 10 STO 01              47 RCL 16              84 XEQ 40              121 MOD
 11 STO 02              48 RCL IND 10          85 ARCL IND 10         122 X#0?
 12 10                  49 MOD                 86 8                   123 GTO 30
 13 STO 03              50 +                   87 RCL IND 14          124 RDN
 14 25                  51 STO 11              88 XEQ 40              125 ABS
 15 STO 04              52 LBL 11              89 ARCL IND 14         126 RTN
 16 50                  53 RCL 11              90 PRA                 127 LBL 40
 17 STO 05              54 RCL IND 10          91 RUNSW               128 X#0?
 18 100                 55 -                   92 RCL IND 10          129 GTO 42
 19 STO 06              56 X<0?                93 25                  130 RDN
 20 STO 07              57 GTO 12              94 X#Y?                131 1
 21 STO 16              58 5                   95 GTO 13              132 LBL 42
 22 "N = "              59 /                   96 1                   133 LOG
 23 ARCL 16             60 17                  97 ST+ 09              134 INT
 24 PRA                 61 +                   98 50                  135 -
 25 ADV                 62 RCL IND X           99 RCL 09              136 X=0?
 26 "  c        n"      63 RCL 11             100 X>Y?                137 RTN
 27 PRA                 64 5                  101 GTO 13              138 STO 15
 28 "---  -------"      65 /                  102 1                   139 LBL 41
 29 PRA                 66 17                 103 ST- 10              140 >" "
 30 RUNSW               67 +                  104 LBL 13              141 DSE 15
 31 1                   68 STO 14             105 ISG 10              142 GTO 41
 32 STO 17              69 RDN                106 GTO 10              143 RTN
 33 RCL 00              70 RCL IND 14         107 ADV                 144 LBL 99
 34 1000                71 +                  108 STOPSW              145 END
 35 /                   72 STO IND 14         109 FIX 06
 36 1                   73 LBL 12             110 RCLSW
 37 +                   74 RCL 13             111 "TIME: "
```

Output:

challenge for a snowy day...

```
N = 100

  c         n
---   -------
  5         1
  5        21
 10       121
 25       242
 25       426
 25       688
 25      1044
 25      1511
 25      2107
 25      2851
 25      3763
 25      4864
 25      6176
 25      7722
 25      9526
 25     11613
 25     14009
 25     16741
 25     19837
 25     23326
 25     27238
 25     31604
 25     36456
 25     41827
 25     47751
 25     54263
 25     61399
 25     69196
 25     77692
 25     86926
 25     96938
 25    107769
 25    119461
 25    132057
 25    145601
 25    160138
 25    175714
 25    192376
 25    210172
 25    229151
 25    249363
 25    270859
 25    293691
 25    317912
 25    343576
 25    370738
 25    399454
 25    429781
 25    461777
 25    495501
 25    531013
 25    568374
 25    607646
 25    648892
 50    650867
100    650868

TIME:  00:05:26.30
```

Brute Force (25 second run time on a modern computer):

```
#!/usr/bin/perl
$n=1;
for($v0 = 0; $v0 <= 100; $v0+=5) { $w0 = $v0;
for($v1 = 0; $v1 <= 100; $v1+=5) { $w1 = $v1 + $w0; if($w1 > 100) { last }
for($v2 = 0; $v2 <= 100; $v2+=10) { $w2 = $v2 + $w1; if($w2 > 100) { last }
for($v3 = 0; $v3 <= 100; $v3+=25) { $w3 = $v3 + $w2; if($w3 > 100) { last }
for($v4 = 0; $v4 <= 100; $v4+=25) { $w4 = $v4 + $w3; if($w4 > 100) { last }
for($v5 = 0; $v5 <= 100; $v5+=25) { $w5 = $v5 + $w4; if($w5 > 100) { last }
for($v6 = 0; $v6 <= 100; $v6+=25) { $w6 = $v6 + $w5; if($w6 > 100) { last }
for($v7 = 0; $v7 <= 100; $v7+=25) { $w7 = $v7 + $w6; if($w7 > 100) { last }
for($v8 = 0; $v8 <= 100; $v8+=25) { $w8 = $v8 + $w7; if($w8 > 100) { last }
for($v9 = 0; $v9 <= 100; $v9+=25) { $w9 = $v9 + $w8; if($w9 > 100) { last }
```

challenge for a snowy day...

```
for($v10 = 0; $v10 <= 100; $v10+=25) { $w10 = $v10 + $w9; if($w10 > 100) { last }
for($v11 = 0; $v11 <= 100; $v11+=25) { $w11 = $v11 + $w10; if($w11 > 100) { last }
for($v12 = 0; $v12 <= 100; $v12+=25) { $w12 = $v12 + $w11; if($w12 > 100) { last }
for($v13 = 0; $v13 <= 100; $v13+=25) { $w13 = $v13 + $w12; if($w13 > 100) { last }
for($v14 = 0; $v14 <= 100; $v14+=25) { $w14 = $v14 + $w13; if($w14 > 100) { last }
for($v15 = 0; $v15 <= 100; $v15+=25) { $w15 = $v15 + $w14; if($w15 > 100) { last }
for($v16 = 0; $v16 <= 100; $v16+=25) { $w16 = $v16 + $w15; if($w16 > 100) { last }
for($v17 = 0; $v17 <= 100; $v17+=25) { $w17 = $v17 + $w16; if($w17 > 100) { last }
for($v18 = 0; $v18 <= 100; $v18+=25) { $w18 = $v18 + $w17; if($w18 > 100) { last }
for($v19 = 0; $v19 <= 100; $v19+=25) { $w19 = $v19 + $w18; if($w19 > 100) { last }
for($v20 = 0; $v20 <= 100; $v20+=25) { $w20 = $v20 + $w19; if($w20 > 100) { last }
for($v21 = 0; $v21 <= 100; $v21+=25) { $w21 = $v21 + $w20; if($w21 > 100) { last }
for($v22 = 0; $v22 <= 100; $v22+=25) { $w22 = $v22 + $w21; if($w22 > 100) { last }
for($v23 = 0; $v23 <= 100; $v23+=25) { $w23 = $v23 + $w22; if($w23 > 100) { last }
for($v24 = 0; $v24 <= 100; $v24+=25) { $w24 = $v24 + $w23; if($w24 > 100) { last }
for($v25 = 0; $v25 <= 100; $v25+=25) { $w25 = $v25 + $w24; if($w25 > 100) { last }
for($v26 = 0; $v26 <= 100; $v26+=25) { $w26 = $v26 + $w25; if($w26 > 100) { last }
for($v27 = 0; $v27 <= 100; $v27+=25) { $w27 = $v27 + $w26; if($w27 > 100) { last }
for($v28 = 0; $v28 <= 100; $v28+=25) { $w28 = $v28 + $w27; if($w28 > 100) { last }
for($v29 = 0; $v29 <= 100; $v29+=25) { $w29 = $v29 + $w28; if($w29 > 100) { last }
for($v30 = 0; $v30 <= 100; $v30+=25) { $w30 = $v30 + $w29; if($w30 > 100) { last }
for($v31 = 0; $v31 <= 100; $v31+=25) { $w31 = $v31 + $w30; if($w31 > 100) { last }
for($v32 = 0; $v32 <= 100; $v32+=25) { $w32 = $v32 + $w31; if($w32 > 100) { last }
for($v33 = 0; $v33 <= 100; $v33+=25) { $w33 = $v33 + $w32; if($w33 > 100) { last }
for($v34 = 0; $v34 <= 100; $v34+=25) { $w34 = $v34 + $w33; if($w34 > 100) { last }
for($v35 = 0; $v35 <= 100; $v35+=25) { $w35 = $v35 + $w34; if($w35 > 100) { last }
for($v36 = 0; $v36 <= 100; $v36+=25) { $w36 = $v36 + $w35; if($w36 > 100) { last }
for($v37 = 0; $v37 <= 100; $v37+=25) { $w37 = $v37 + $w36; if($w37 > 100) { last }
for($v38 = 0; $v38 <= 100; $v38+=25) { $w38 = $v38 + $w37; if($w38 > 100) { last }
for($v39 = 0; $v39 <= 100; $v39+=25) { $w39 = $v39 + $w38; if($w39 > 100) { last }
for($v40 = 0; $v40 <= 100; $v40+=25) { $w40 = $v40 + $w39; if($w40 > 100) { last }
for($v41 = 0; $v41 <= 100; $v41+=25) { $w41 = $v41 + $w40; if($w41 > 100) { last }
for($v42 = 0; $v42 <= 100; $v42+=25) { $w42 = $v42 + $w41; if($w42 > 100) { last }
for($v43 = 0; $v43 <= 100; $v43+=25) { $w43 = $v43 + $w42; if($w43 > 100) { last }
for($v44 = 0; $v44 <= 100; $v44+=25) { $w44 = $v44 + $w43; if($w44 > 100) { last }
for($v45 = 0; $v45 <= 100; $v45+=25) { $w45 = $v45 + $w44; if($w45 > 100) { last }
for($v46 = 0; $v46 <= 100; $v46+=25) { $w46 = $v46 + $w45; if($w46 > 100) { last }
for($v47 = 0; $v47 <= 100; $v47+=25) { $w47 = $v47 + $w46; if($w47 > 100) { last }
for($v48 = 0; $v48 <= 100; $v48+=25) { $w48 = $v48 + $w47; if($w48 > 100) { last }
for($v49 = 0; $v49 <= 100; $v49+=25) { $w49 = $v49 + $w48; if($w49 > 100) { last }
for($v50 = 0; $v50 <= 100; $v50+=25) { $w50 = $v50 + $w49; if($w50 > 100) { last }
for($v51 = 0; $v51 <= 100; $v51+=25) { $w51 = $v51 + $w50; if($w51 > 100) { last }
for($v52 = 0; $v52 <= 100; $v52+=25) { $w52 = $v52 + $w51; if($w52 > 100) { last }
for($v53 = 0; $v53 <= 100; $v53+=25) { $w53 = $v53 + $w52; if($w53 > 100) { last }
for($v54 = 0; $v54 <= 100; $v54+=50) { $w54 = $v54 + $w53; if($w54 > 100) { last }
if($w54 == 100) {$n++}
}}}
```

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Casio FX-9860G Slim available again...

*Message #1 Posted by **Bruce Bergman** on 30 Jan 2009, 11:35 p.m.*

[Excuse the non-HP message, but I know there are some interested parties who were tracking this calc.]

There was a lot of discussion here a couple of months back about the awesomely powerful Casio FX-9860G, "Slim" version. Katie W. found an awesome deal on it at geeks.com and they sold out fast. I just got informed that they are back in stock, and still at the $54.95 price, which is a STEAL. I also found a 10% coupon that you can use with that, bringing it down to $49.95.

If you want one, I'd suggest you order soon. Here's the link:

Casio FX-9860G Slim version

http://www.geeks.com/details.asp?invtid=FX-9860G-SLIM

For the coupon code, use "DEALTAKER" when you go to checkout. Enjoy!

thanks, bruce

Re: Casio FX-9860G Slim available again...

*Message #2 Posted by **Walter B** on 31 Jan 2009, 5:07 a.m.,*
in response to message #1 by Bruce Bergman

Thanks for watching the market :)

Very nice features, but they want me to pay 43US$ at least for shipping :(Sorry, I'm not willing to pay that much for getting this to Europe. Will wait for the next international travel.

Re: Casio FX-9860G Slim available again...

*Message #3 Posted by **Nigel J Dowrick** on 31 Jan 2009, 6:05 a.m.,*
in response to message #2 by Walter B

If you're in Europe, have a look at www.studentcalculators.co.uk (in the UK, obviously!). They've got it in stock for £44.95. I don't know what delivery will cost (it depends where you are in Europe, I expect) but it would probably work out cheaper than delivery from the US.

Visiting the site gives me an "expired certificate" warning. If you'd rather not use their site because of this, their email address is info@oxford-educational.co.uk .

In case you are wondering I have no connections with this company, although I have dealt with them before with no problems.

Re: Casio FX-9860G Slim available again...

*Message #4 Posted by **Walter B** on 31 Jan 2009, 10:32 a.m.,*
in response to message #3 by Nigel J Dowrick

Thanks for the link. The real price the customer has to pay would be 68,94 Pounds incl. tax and shipping.

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A webserver running on a HP-41 and HPIL patch for nonpareil

*Message #1 Posted by **Khanh-Dang Nguyen Thu-Lam** on 30 Jan 2009, 9:05 p.m.*

Hi all,

I were looking for a HP-41 emulator that provided good support for HPIL and unfortunately, I found none that fitted my needs. (I need some HPIL debugging output, you'll understand why in the next paragraph.) So, I've been working for a few days on a patch for nonpareil (Eric Smith's microcode simulator). As Eric's program is free software under the GPL license, I could modify the code and so did I. My patch implements HPIL for a HP-41 emulated by nonpareil. It also provides support for a few HPIL devices, namely the HP82162 printer, the HP82163 and HP92198 video interfaces, and the HP82164 HPIL/RS232 interface. The patch also adds a few minor features for nonpareil (such as autoloading files on startup). You'll find more details there:

http://pagesperso-orange.fr/kdntl/hp41/nonpareil-patch-doc.html

I needed an emulator that could provide HPIL debugging tools because I had a project about programming a web server with minimal TCP/IP stack on a HP-41. I already wrote a FOCAL implementation of such a webserver. It's called WWWD and you can download it there:

http://pagesperso-orange.fr/kdntl/hp41/

You can already ping your HP-41 as you do with any host on Internet. You can also request a web page from your HP-41.

Well, this version is just a preview. It is slow. The emulated HP-41 takes approximately 155 seconds to answer a ICMP echo request (a so-called "ping" request). An HTTP request takes several long minutes, I can't even remember how many exactly.

I am planning to write a MCODE version of WWWD. Hopefully, it could answer a ping or an HTTP request in less than say 5 or 10 seconds.

Hope you enjoy,

Khanh-Dang

Re: A webserver running on a HP-41 and HPIL patch for nonpareil

*Message #2 Posted by **PeterP** on 30 Jan 2009, 10:04 p.m.,*
in response to message #1 by Khanh-Dang Nguyen Thu-Lam

Great project Khaan-Dang, I thought about the project once (for about 2 minutes or so...) thinking it would be really cool to hook up the 41 to the internet.

Doug Wilder wrote some pretty wicked MCODE stuff with HP-IL so he might be a good source for chatting about this project. Or just studying his code (all the MCODE source listings are on TOS) might help.

Anyway, looking forward to hearing more about it and then trying it!

Cheers

Peter

HP-IL on HP-41 questions

*Message #3 Posted by **Khanh-Dang Nguyen Thu-Lam** on 31 Jan 2009, 5:30 p.m.,*
in response to message #2 by PeterP

Glad you like it!

By the way, since I discovered the HP-41 and HP-IL world, I have been wondering about a few questions. I couldn't find a clear answer, although I had read all the specification documents and all the manuals I could have found; and unfortunately, I haven't got the corresponding hardware so I cannot even try to reverse-engineer it.

What does the so-called printer switch located on the HP-IL module exactly and how does it works? Is it connected to a CPU line or something?

Say I have a HP-41 with the HP-IL module and the video interface device (HP82163) on the HP-IL. In my emulation code, the HP-41 doesn't detect the HP82163 is actually not a printer. It acts instead as if the HP82163 is a thermal printer. The question is: is that behavior expected? (Actually, this question remains for any other HPIL devices other than the HP82163.)

Well, I know I could answer the latest question by decompiling the HP-IL and Printer2E ROMs, but I've found no decompiler* that could decompile the SELP opcodes correctly. Not that I am that lazy to decompile the ROM by myself, but if anyone has a kind of VASM listing of the HP-IL ROM, things would be a lot easier, I guess.

PeterP, I haven't found on TOS the HP-IL MCODE stuff by Doug Wilder you are talking about. Could you please give me some more precise references?

Cheers,

Khanh-Dang

Edit: *: I wrote compiler instead of decompiler.

Edited: 1 Feb 2009, 4:49 a.m. after one or more responses were posted

Re: HP-IL on HP-41 questions

*Message #4 Posted by **Patrice** on 31 Jan 2009, 6:31 p.m.,*
in response to message #3 by Khanh-Dang Nguyen Thu-Lam

```
>What does the so-called printer switch located on the HP-IL module
>exactly and how does it works? Is it connected to a CPU line or
>something?
```

The switch is to deactivate the HPIL Printer ROM because there was a thermal printer with direct connect to the HP41 witch embed a printer ROM too.

And you don't want 2 ROMs with same functions (same XROMs) in your 41.

Patrice

Re: HP-IL on HP-41 questions

*Message #5 Posted by **Khanh-Dang Nguyen Thu-Lam** on 1 Feb 2009, 6:29 a.m.,*
in response to message #4 by Patrice

OK.

I think I've just found how this printer switch works.

When the printer switch is enable, the HPIL Printer ROM is at page 6. Thus, you can use all its commands as expected. This printer also defines some interrupt vectors: both the so-called "Pause loop" interrupt vector and the "I/O service" interrupt vector are defined to the same subroutine. I'm not sure when these interrupt vectors are precisely executed by the system. They may check for a HPIL printer or so.

Now, the interesting part is when the printer switch is disable. This forces the HPIL Printer ROM to be at page 4. Page 4 is normally reserved for the service ROMS. ROMs at page 4 can take over the system. (See "ZENROM manual", page 97) I guess ROMs at page 4 have no FAT table and their first executable word is directly at address 000 of the ROM. Now, what happens when the Printer ROM is at page 4?

Here is the first bytes of this ROM (remember ROM bytes are 10-bit). Interpretation follows.

```
000:  01D
001:  01B
002:  007
003:  1BB
```

When the ROM is at page 6 (printer switch is on), the ROM is considered as a normal ROM, with a FAT table. So, these first bytes shall be interpreted as:

```
000:  01D     ; XROM 29 (This is the ROM ID)
001:  01B     ; FCNS 27 (There is 27 commands in this ROM)
002:  0071BB  ; DEFP4K 7BB (This is the first "command" of the ROM
              ; it points to the "-PRINTER 2E" message)
```

When the ROM is at page 4 (printer switch is off), the bytes remain the same, but they are to be interpreted as executable code:

```
000:  01D01B  ; GOLC 0607
003:  007     ; GOC +0
004:  1BB     ; GONC +55 403A
...
03A:  3E0     ; RTN
```

As the carry is not set when these bytes are executed, they basically do a RTN. So, I guess, when the system do a GSUB 4000 (question: when does this happen?), nothing happens.

I am not really sure about all I've just written but it seems to me quite convincing.

Re: HP-IL on HP-41 questions

*Message #6 Posted by **Eric Smith** on 3 Feb 2009, 1:33 a.m.,*
in response to message #5 by Khanh-Dang Nguyen Thu-Lam

Yes, your analysis is basically correct. The beginning of the FAT of the HP-IL printer ROM is very carefully crafted to do a return when addressed at page 4.

AFAICT, the reason for this is that the original 4Kx10 ROM chips used in the 41 family had inputs that could change bits 13 and 14 of their address, but no input that would disable them entirely. Moving the ROM between 6000 (required for printer ROMs) and 4000 is a clever hack

that avoided needing to change the design of the ROM chip.

Re: HP-IL on HP-41 questions

*Message #7 Posted by **HrastProgrammer** on 3 Feb 2009, 11:25 a.m.,*
in response to message #5 by Khanh-Dang Nguyen Thu-Lam

when the system do a GSUB 4000 (question: when does this happen?)

In mainframe ROM at address 0180 =LSWKUP (Light-Sleep Wake-Up):

```
0180 001 =LSWKUP GSUBNC 4000
0181 100          *
```

Re: A webserver running on a HP-41 and HPIL patch for nonpareil

*Message #8 Posted by **Egan Ford** on 1 Feb 2009, 11:28 a.m.,*
in response to message #1 by Khanh-Dang Nguyen Thu-Lam

> Quote:
>
> http://pagesperso-orange.fr/kdntl/hp41/nonpareil-patch-doc.html

Fantastic! After updating scons on my Mac it built just fine. The emulated video interfaces, serial, and tcp are welcome additions. If you can manage it, can you add 9114B emulation as well (to an image on the disk of course). Tony Duell's lifutils for Linux may help.

Thanks!

Re: A webserver running on a HP-41 and HPIL patch for nonpareil

*Message #9 Posted by **Khanh-Dang Nguyen Thu-Lam** on 1 Feb 2009, 1:08 p.m.,*
in response to message #8 by Egan Ford

Adding emulation code for a peripheral is not so hard. The only difficulties I had to face up to the fact the documentation is very poor.

I've just taken a look to the 9114B manuals, and there is even not a word about HP-IL operation! The difficult part will be to reverse-engineer the HPIL ROM. But now that nonpareil can act as a HPIL sniffer thanks to its debugging output, things are easier, I hope.

Re: A webserver running on a HP-41 and HPIL patch for nonpareil

*Message #10 Posted by **Geir Isene** on 1 Feb 2009, 11:45 a.m.,*
in response to message #1 by Khanh-Dang Nguyen Thu-Lam

Holy cow! This is great stuff. Just what we need for the HP-41's 30th birthday this summer: A birthday web page running off a 41.

Re: A webserver running on a HP-41 and HPIL patch for nonpareil

*Message #11 Posted by **Khanh-Dang Nguyen Thu-Lam** on 1 Feb 2009, 12:59 p.m.,*
in response to message #10 by Geir Isene

He he.

I've just discovered the HP-41 world two weeks ago, or so, because I've read a topic in this forum about HP-41's 30th birthday. Then I thought it could be a nice idea to bring TCP/IP on the HP-41. I was quite surprised nobody had done it before.

Well, I still have a few month left to write the finish the MCODE version of WWWD :-)

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HP-97 Card Reader NOT gummy wheel problem

*Message #1 Posted by **ZOleg** on 30 Jan 2009, 7:54 p.m.*

HP-97 card reader feeds cards OK, writes OK, but cannot read cards. HP displays "Error" each time I feed a card through.
I changed gummy wheel to new O-rings from Mark Hoskins, cleaned the head and still no luck.
Has anyone experienced a similar problem? What else can I check?

Re: HP-97 Card Reader NOT gummy wheel problem

*Message #2 Posted by **Ignazio Cara (Italy)** on 31 Jan 2009, 11:15 a.m.,*
in response to message #1 by ZOleg

You can read this post: old post

regards

Ignazio

Edited: 1 Feb 2009, 4:24 a.m.

Re: HP-97 Card Reader NOT gummy wheel problem

*Message #3 Posted by **Geoff Quickfall** on 31 Jan 2009, 11:21 a.m.,*
in response to message #1 by ZOleg

Hi there, check out this link:

card reader assymetric axle

Since you replaced the o rings you had to remove the white pinch roller axle. There are two physical possibilities;

```
the o-rings are not the same Outer Diameter (OD)


the o-rings have the correct OD but the axle was not installed
in the same position as it was removed from.
```

The axle is assymetric which when turned in position will raise or lower the pinch roller thus raising or lowering the magnetic strip away from or towards the reader head. I have seen this incorrect height of the pinch roller to cause Read errors but not write errors.

Cheers, Geoff

This assumes the electronics are not a fault as in this case: capacitor

Edited: 31 Jan 2009, 11:22 a.m.

Re: HP-97 Card Reader NOT gummy wheel problem

*Message #4 Posted by **ZOleg** on 3 Feb 2009, 7:12 p.m.,*
in response to message #1 by ZOleg

Problem was not in the capacitors and not in the roller, but in the damaged cable which connect the card reader board and the main board.
I replace it to self made cable (from IDE cable) and it work well - write and read.

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Gamma (and Factorial) for 12C/12CP

*Message #1 Posted by **Les Wright** on 30 Jan 2009, 2:31 a.m.*

Inspired by Egan Ford's work for the 12C and 12CP (and now his "new" 10C) I thought I would offer an admittedly leaner but less well appointed variation.

If you visit this page of Peter Luschny and scroll down to the section entitled "Which Approximation to Choose?", you find in blue pseudocode the following version of the Stieltjes continued fraction estimate of the Gamma function:

```
Sqrt[ 2*Pi/y ] Exp[ y (Log[y] - 1) + 1/(12*y + 2/(5 y + 53/(42y))) ]
```

Now I have played around with this at some length in Mathematica and am convinced that simplifying the innermost coefficient of 53/42 to 5/4 doesn't compromise overall accuracy too much. So on making the substitution and doing a little rearranging that is friendly to the 12C/12CP, I get this.

```
Exp[ y (Log[y] - 1) + 1/(12*y + 2/(5 (y + 1/(4y)))) ] Sqrt[ 2*Pi ] / Sqrt[y]
```

This gives the following 28 steps for the 12C/CP:

```
STO 0
4
*
1/x
RCL 0
+
5
*
2
x<>y
/
RCL 0
g 12x
+
1/x
RCL 0
g LN
1
-
RCL 0
*
+
g e^x
RCL 0
g sqrt
/
RCL 1
*
```

The setup is to first store the constant Sqrt [2 Pi] in register 1, which can be done manually or by program code if there are steps left. I like to take advantage of all 12 available digits on the 12CP so this is what I key in: 2.506628274 STO 1 63 EEX 11 CHS STO + 1.

That done, assuming the program is the top one in memory, in run mode I hit f CLEAR PRGM, enter my positive argument, hit R/S, voila. E.g., on my 12CP:

```
5.5 R/S gives 52.34277784 (actual is 52.34277778)
```

```
2.25 R/S gives 1.133003995 (actual 1.133003096)
.127 R/S gives 8.540153601 (actual 7.409558064)
10 R/S gives 362880.0000 (exact to 10 digits)
15.8 R/S gives 7.567994848E11 (exact to 10 digits)
```

I don't have a 12C "classic" to test, but I would not expect the full 10 digit accuracy for the larger input values since values on that calculator carry only 10 and not 12 digits on the stack and there would be more rounding error accumulation.

Folks interested in gamma/factorial approximations know that for most (the exceptions being things like the Lanczos and Spouge formulae) accuracy goes down for smaller values but can be improved by repeatedly applying a "shift and divide" trick based on the identity Gamma[x+1] == x Gamma[x]. Egan's routines for 12C/CP and 10C include this but as of yet mine does not. Also I do not yet handle negative arguments, since this requires a way to compute the sine function as required by reflection formula. Egan's 99 step 12C routine builds this in.

Also keep in mind that the little routine computes Gamma straight up, not x!. To get the same behaviour as f x! on the 15C, simply add 1 to the input argument before running this routine.

I hope this little offering is of interest. Keep in mind though it is very similar to Egan's work, it is not exactly the same, computing Gamma rather than x! and using a slightly different formula that, at least in my foolings, seems to be a little more accurate, especially with the user accessible 12-digit precision of the 12CP. I hope this inspires some discussion by special function lovers.

Les

Re: Gamma (and Factorial) for 12C/12CP

*Message #2 Posted by **Michael Andersson** on 30 Jan 2009, 11:14 a.m.,*
in response to message #1 by Les Wright

When it comes to implementing the gamma function on various calculators check http://www.rskey.org (for the HP12c: http://http://www.rskey.org/detail.asp?manufacturer=Hewlett-Packard&model=HP-12C.

/Michael

Re: Gamma (and Factorial) for 12C/12CP

*Message #3 Posted by **Namir** on 30 Jan 2009, 6:08 p.m.,*
in response to message #2 by Michael Andersson

Very true. Viktor uses the gamma function evaluation as his test case for all kinds of calculators. So check out his web site for gamma functions.

Namir

Re: Gamma (and Factorial) for 12C/12CP

*Message #4 Posted by **Les Wright** on 30 Jan 2009, 7:45 p.m.,*
in response to message #2 by Michael Andersson

The Lanczos approximation for the gamma function is ill-suited to the 12C or 12CP since every decimal constant needs to be pre-stored and this is labour intensive. The program itself is also somewhat longer. Going with an asymptotic series or continued fraction approximation with small constants is a lot "tighter". The drawback here is that a Pochhammer shift-and-divide is needed for the smaller arguments to improve accuracy there. Not necessary for Lanczos, which can have high accuracy for all nonnegative reals.

The Lanczos and similar Spouge approximations are actually better suited for high precision or arbitrary

precision environments where pre-storing the decimal coefficients poses no huge hardship. For example, Thomas Okken (courtesy of Hugh Steers' library) uses a Lanczos approximation to compute the built-in Gamma and Factorial functions of Free42 to high accuracy.

I expect that once I include some shift-and-divide steps, my little routine will provide as good or better performance as the Toth Lanczos routine, only with lower set up time. I also note that Viktor's treatment of Gamma provides excellent coverage of Lanczos, but I would recommend that one check out Peter Luschny's extensive list of other approximations when seeking options better suited to the step- and register- limited calculators like the 12C, 10C, and 33C/E. The modified Stieltjes CF that I use just happens to be my favourite.

Les

Enhanced version optimized for 12cp

*Message #5 Posted by **Les Wright** on 31 Jan 2009, 4:25 a.m.,*
in response to message #1 by Les Wright

Here is my enhanced routine, where the initial 12 steps carry out the the Pochhammer shift-and-divide correction. Basically, the argument is incremented until it exceeds the integer threshold stored in register 2 (I have been experimenting with 7 thru 10, and seem to like 9 so far), computes the gamma of the incremented argument, and divides out the accumulated Pochhammer product in register 3 at the end. If anyone is familar with Jean-Marc Baillard's routine GAM+ in the HP41 library, I have simply adapted his approach to the Pochhammer shift to the limitations of the 12CP, but, unlike him, I have stuck with the Stieltjes continued fraction for the main computation (whereas he uses a traditional Stirling series):

```
STO 0
1
STO 3
RCL 0
RCL 2
g x<=y?
GTO 013
x<>y
ST* 3
1
ST+ 0
GTO 004
RCL 0
4
*
1/x
RCL 0
+
5
*
2
x<>y
/
RCL 0
g 12x
+
1/x
RCL 0
g LN
1
-
RCL 0
*
+
g e^x
RCL 0
g sqrt
/
RCL 1
*
RCL 3
/
```

The usage is similar to that reported in my initial post. I store the 12-digit version of sqrt(2Pi) in register 1 and the desired threshold in register 2 (in my case, this means 9 STO 2). And then I compute gamma for positive values exactly as described earlier. Some examples, once I have stored sqrt(2Pi) in R1, 9 in R2, and reset the program pointer with f CLEAR PRGM (in run mode):

```
.25 R/S returns 3.625609908 (all 10 digits correct)
5 R/S returns 24.00000000 (all correct)
3.222 R/S returns 2.478039436 (actual is 2.478039437)
5.5 R/S returns 52.34277778 (all correct)
.5 R/S returns 1.772453851 (this is sqrt(Pi), all digits correct)
.0001 R/S returns 9999.422884 (actual is 9999.422883)
12.771 R/S returns 269174672.9 (actual is 269174673.0)
```

Speed is really good too, though the smaller arguments take a little longer since the Pochhammer shift loop takes a few more trips in its augmentation of the argument. Of course, larger arguments that don't need shift lead to quicker results.

The routine WILL handle negative arguments since the Pochhammer shift steps will move the argument into positive territory, but for negative arguments with larger absolute value this can be rather inefficient. For example, -65.126 R/S will return the correct result of 5.831779435E-91, but it is much slower than for positive values since the Pochhammer shift loop has to go around seventyish some odd times to get the argument above 9. (That said, we are talking only a dozen or so seconds as opposed to a couple.) Programming the sine function to use the reflection formula, as Egan did, is much more efficient.

Also, keep in mind that the impressive accuracy is an advantage of the 12CP over the 12C--stack and register computations use 12-digit numbers all the way through, even though only 10 are displayed. A 12C version of this would NOT give as impressive results since rounding errors affect visible digits, not "hidden" ones.

Folks who insist that the routine return the factorial just like the f x! key sequence on the 15C need only increase the argument by 1, either manually or right at the beginning of the program, since of course Gamma[x+1] = x!

I really love programming the oft maligned 12cp, since I find the 12-digit accuracy and speed of the calculator are strong advantages (though the stubborn keyboard is not). I hope folks enjoy this and will see it as a supplement or alternative to Egan's excellent contribution.

Les

Edited: 31 Jan 2009, 4:44 a.m.

Re: Enhanced version optimized for 12cp

*Message #6 Posted by **Rodger Rosenbaum** on 31 Jan 2009, 6:39 a.m.,*
in response to message #5 by Les Wright

Very nifty, Les.

When you get tired of this, I suggest as your next project to code some functions that just aren't available as built in functions on any calculator, AFAIK, such as Bessel functions and Jacobi Elliptic functions.

I did some work on the Jacobi Elliptic functions years ago, but I haven't looked at them lately.

Re: Enhanced version optimized for 12cp

*Message #7 Posted by **George Bailey (Bedford Falls)** on 31 Jan 2009, 7:51 a.m.,*
in response to message #6 by Rodger Rosenbaum

Quote:

Bessel functions and Jacobi Elliptic functions

For me: the Next-Lottery-Drawing-Function, pleeeeeease! ;-)

Re: Enhanced version optimized for 12cp

*Message #8 Posted by **Les Wright** on 2 Feb 2009, 1:06 a.m.,*
in response to message #6 by Rodger Rosenbaum

Programming Bessel functions and the like is really challenging on our calculators, but I think J-M Baillard has some routines in the HP41C software library.

Due to my interest in statistical distributions I have routines for the incomplete gamma and incomplete beta functions (from which one can derive the error function and the cumulative normal, t, chisquare, and F distributions) for the 41C, 42, and 35S, and with respect to the prolific M. Baillard I actually prefer them over his versions. I have simply adapted the Numerical Recipes routines and I particularly like using more modern techniques for computing the continued fractions, since the centuries old Wallis technique is prone to overflow errors that need to be trapped. Indeed, using the "left" and "right" incomplete gamma functions to compute the complete gamma is a theoretically feasible yet fairly inefficient strategy. But it does work. I have SysRPL versions of my incomplete gamma stuff, but haven't looked at the beta stuff, which is about three times as long.

All of this of course is for amusement. Anyone in their right mind who really needs any of these functions to high accuracy in real life is going to count on something like Maple or Mathematica. Indeed, I use the latter as my gold standard when testing my calculator programs.

Les

Some further comments

*Message #9 Posted by **Les Wright** on 2 Feb 2009, 12:51 a.m.,*
in response to message #5 by Les Wright

I did port this to the Crimson Research emulation of the 12C classic (I don't have a real one) and to a real 33C, and found the accuracy is not as impressive as on the 12cp, which by carrying those two extra digits off the display substantially mitigates rounding error. It still gives about 8 to 9 good digits fairly consistently on the 33C, and fits very well in the meagre 49 steps of the calculator. My gross experience is that it is not quite as good as with the Baillard 41C version, which requires 70 steps, uses the Stirling series taken out to several terms, and gives 9 digits usually and fully 10 digits often. Losing a digit of accuracy seems to be the trade off for a much simpler program that is almost half the size. I would like to see Egan try it out on his 10C and see if he is as happy with it as his own version.

Some time back Valentin posted a challenge asking how one would compute the sine function on a 15C with a missing or malfunctioning SIN key. This lead to a discussion of the very elegant and fascinating factorial (or Gamma) reflection formula. It turns out that if the angle x is in DEGREES (not radians),

```
sin(x) = Pi / Gamma(x/180) / Gamma(1-x/180) = Gamma(.5)^2 / Gamma(x/180) / Gamma(1-x/180)
```

Unfortunately, there is no subroutine return capability on the 12cp, so my gamma routine can't be programmatically called from another program. But it works pretty well when the formula is applied manually, except for angles close to multiples of 90 where rounding error starts creeping in. It also can't be used directly for angles that are multiples of 180, where Gamma(1-x/180) is a pole. But I thought it was cool to point out the relationship.

Re: Some further comments

*Message #10 Posted by **Egan Ford** on 2 Feb 2009, 6:18 p.m.,*
in response to message #9 by Les Wright

> Quote:
>
> Egan try it out on his 10C and see if he is as happy with it as his own version.

I only have one 10C and no emulator. Since my 10C and 12C (classic) gamma versions are the same I should get the same results. I put your version on my 10C and compared to my version on my 12C.

Results:

n	50g	10c Les	12c Egan (n - 1)
1.1010	.950948396	.950948404 (+.000000008)	.950948397 (+.000000001)
2.2020	1.103003815	1.103003818 (+.000000003)	1.103003815
5.5679	58.42037200	58.42037204 (+.00000004)	58.42037190 (-.00000010)
7.7777	3230.547120	3226.060157 (+.000037)	3226.060131 (+.000011)
8.8888	31802.28101	31802.28129 (+.00027)	31802.12908 (-.15193)
9.1234	52556.73243	52556.73292 (+.00049)	52556.73244 (+.00001)
10.0001	362961.7210	362961.7214 (+.0004)	362961.7209 (+.0001)

Both versions vary little except for the 8.8888 test (7.8888 for the 12C). This number is very close to my shift boundary of 8. Hmmm... I'll have to see if 7 or 9 do better.

10C code:

```
01  STO 0      14  RCL 0      27  2          40  SQRT
02  STO 2      15  4          28  *          41  /
03  1          16  *          29  +          42  2
04  STO 1      17  1/X        30  1/X        43  PI
05  RCL 0      18  RCL 0      31  RCL 0      44  *
06  9          19  +          32  LN         45  SQRT
07  X<=Y?      20  5          33  1          46  *
08  GTO 14     21  *          34  -          47  RCL 1
09  X<>Y       22  2          35  RCL 0      48  /
10  STO* 1     23  X<>Y       36  *          49  GTO 00
11  1          24  /          37  +
12  STO+ 0     25  RCL 0      38  E^X
13  GTO 05     26  1          39  RCL 0
```

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HP-41CX Zengrange: remove rubber fragments

*Message #1 Posted by **Rainer Wiedemann (Germany)** on 29 Jan 2009, 7:32 p.m.*

Hello all,

for quite some time now I'm reading the articles in this forum, and I am really enjoying the enthusiasm and dedication which can be experienced by reading your postings, and as a freshly registered user I hope I can make contributions, too.

Today I'm asking for help. Recently I bought a HP-41CX on the auction site not to be mentioned. Technically it's perfect, but it is a Zengrange model, which was previously wrapped in a rubber protection coating around the keyboard. The former owner has ripped off almost of that rubber, but a residual amount of it is still sticking to the keyboard panel and around the display window. This stuff refused any attempt of smoothly removing it. I'm afraid of scratching the calculator's surface causing irreversible damage by cleaning up.

Does anyone know how to remove this rubber stuff or has already done it without scratching the calculator? Any advice is highly appreciated.

Thanks in advance and best regards,

Rainer

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HP-46 find

*Message #1 Posted by **GanjaTron** on 29 Jan 2009, 5:48 p.m.*

Today I did a good deed: I rescued an HP-46 from the dumpster. No kidding, the lab was actually gonna toss it out!

I fired it up and it's perfect -- even the ribbon still prints. This thing is weird; apart from its hefty weight and size, it has the peculiarity of running a loud motor when you turn on the printer, almost giving the impression there's a hard disk lurking within! And man, is that printer clunky; reminds me of a telex machine!

Anyway, just thought I'd share that with you guys. Wonder what's gonna turn up next in the dumpster... ;^)

--Roland

Re: HP-46 find

*Message #2 Posted by **bill platt** on 29 Jan 2009, 7:08 p.m.,*
in response to message #1 by GanjaTron

I think I speak for many of us who spend time here when I say congratulations!

Re: HP-46 find

*Message #3 Posted by **Michael de Estrada** on 29 Jan 2009, 8:01 p.m.,*
in response to message #1 by GanjaTron

Does it have the optional LED display? I remember lusting over one of these in the display case of a store in 1974.

Re: HP-46 find

*Message #4 Posted by **George Bailey (Bedford Falls)** on 30 Jan 2009, 4:07 a.m.,*
in response to message #3 by Michael de Estrada

> Quote:
>
> Does it have the optional LED display?

I just read about this machine on this museum page. How was it operated without the LED option? Was every single keystroke directly printed?

Re: HP-46 find

*Message #5 Posted by **GanjaTron** on 30 Jan 2009, 6:42 a.m.,*
in response to message #3 by Michael de Estrada

Yep, it does have the LED option. The dinky display looks pretty out of place on such a large machine. The printer doesn't echo every keystroke, only when you enter operands or operators, so I suspect the

absent display is no fun. Amusingly, hitting CLEAR literally prints the same. Anyone know why it uses a black and *red* ribbon?

Regards,

--Roland

Re: HP-46 find

*Message #6 Posted by **Katie Wasserman** on 30 Jan 2009, 8:14 a.m.,*
in response to message #5 by GanjaTron

> Quote:
>
> Anyone know why it uses a black and *red* ribbon?

Negative numbers print in red.

Re: HP-46 find

*Message #7 Posted by **bill platt** on 30 Jan 2009, 10:35 a.m.,*
in response to message #6 by Katie Wasserman

I think that red ribbon will see a lot of use these days.

Re: HP-46 find

*Message #8 Posted by **GanjaTron** on 30 Jan 2009, 1:13 p.m.,*
in response to message #6 by Katie Wasserman

> Quote:
>
> Negative numbers print in red.

Thanks Katie, you're right. Wasn't in a "negative" mood to try it out until now. ;^)

The red's kinda faded tho. That grinding printer noise really freaks me out.

And yep, these calcs with their red negs might just come into fashion again these days...

Have a great weekend,

--Roland

Re: HP-46 find

*Message #9 Posted by **Katie Wasserman** on 30 Jan 2009, 5:14 p.m.,*
in response to message #8 by GanjaTron

New black/red ribbons are very easy to come by as this seems to be a standard size still in use in modern accountant's calculators. (I think I bought some of these: Porelon 483-B/R).

I might start selling red-only ribbons, there must be some money in that these days. They say

that many law firms have switched from doing real estate deals to doing bankruptcies.

Re: HP-46 find

*Message #10 Posted by **Walter B** on 30 Jan 2009, 5:23 p.m.,*
in response to message #9 by Katie Wasserman

> Quote:
>
> They say that many law firms have switched from doing real estate deals to doing bankruptcies.

If you meant what you wrote then that was a real good joke. But I guess you did mean something different ;-)

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Re: Graphing Calculators and education

*Message #1 Posted by **Martin Pinckney** on 29 Jan 2009, 11:06 a.m.*

> Quote:
>
> Being an rpn user primarily, I found that whenever I borrowed a machine I had to be very thoughtful about how to use it--always aproximating the answer in my head or on paper.

Please understand that exactly the same thing is true for us algebraic users when we pick up an RPN machine.

Many the time I have grabbed an employee's 32sii (or in years gone by an 11c) and started pecking away, expecting it to follow precedence rules, only to get garbage answers and then start over. Finally I learned to think first, then calculate...

> Quote:
>
> The other thing I tend to do with unfamiliar machines is to avoid any chain or parenthesis work--rather keep finding intermediate results and continuing on. This is the most sure-fire way to muddle through with even the most recalcitrant calculator logic!

Well, you **could** use the parenthesis keys (if available), just like you learned in algebra class, but for us there are none on the RPN machine!

Which is one reason why HP started making dual mode calculators.

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HPLink, DOSLink, Trans41 etc

*Message #1 Posted by **Roland Storz** on 29 Jan 2009, 6:19 a.m.*

Hi all, does anybody have a clou where to get or where to download one of the above mentioned DOS exe files? Which one would be your favorite? Many thanks in advance, Roland

Re: HPLink, DOSLink, Trans41 etc

*Message #2 Posted by **Egan Ford** on 29 Jan 2009, 10:58 a.m.,*
in response to message #1 by Roland Storz

The above are all DOS-based and will only with DOS or Windows on DOS (e.g. Windows 98) or Linux with DOSEMU. IIRC, some of them have problems with faster machines.

I sent you a TOS link with the above (sans the etc... :-)

etc...:

A better alternative is EMU41 and EMU71. Both support the HP-IL ISA adapter and provide a superset of functionality, with the possible exception of Link+. Link+ has the ability to emulate the HP and Mountain View HP-IL Video Interface. EMU71 has some type of video interface as well, but I am unsure if it emulates any or all the ESC codes (something that I have been meaning to test).

Another alternative primarily for the 41C is HPILCOM. It is a Windows-only (XP OK) program and requires a connection to your 41C via an RS-232 HP-IL Interface. It is not publicly available. You will have ask the author (Hans Brueggemann) to send it to you. BTW, EMU41/71 can also from XP, DOS, Linux/DOSEMU communicate via the RS-232 HP-IL Interface.

If you are a Linux user you can use Tony Duell's LIFUTIL. This provides CLI tools for 9114 formatted floppies (read and write), and tools to get and put 41/71 programs and data.

Lately I have been too lazy to setup all my HP-IL gear just to transfer programs to my 41CX. I find that using http://www.hpmuseum.org/software/41uc.htm to create barcodes and wanding them in is more convenient.

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Just ordered a 50G...now what?

*Message #1 Posted by **Ryan McLean** on 29 Jan 2009, 3:16 a.m.*

When I got my (Blue) 49G there were about 10 things that it seemed power-users liked to change right away, so I changed those right away so I could learn to be a power user. Now I'm wondering what need to happen to a new 50G.

The first thing that will happen out of the box is RPN will be turned on. What other settings/flags are popular to adjust? Do I need to adjust the keytime?

Can I just transfer my programs and things straight over from my 49G? WIll they 'just work' on the ARM processor?

Re: Just ordered a 50G...now what?

*Message #2 Posted by **Egan Ford** on 29 Jan 2009, 11:13 a.m.,*
in response to message #1 by Ryan McLean

1. Hang out here (too): http://groups.google.com/group/comp.sys.hp48/topics. There are more 50g users.
2. Get an SD card. 2GB or less.
3. Since you have a Mac get HPConnect to transfer programs and data (or you can just do SD card shuttle transfers): http://hpconnect.sourceforge.net/.
4. Get a 50g emulator for your Mac so that when you leave your 50g at home you are not stranded: http://x49gp.svn.sourceforge.net/viewvc/x49gp/README.QUICKSTART.
5. Create a STARTUP script with << 256 ->KEYTIME 256 ATTACH 257 ATTACH >>. This will fix keyboard issues and will give you access to some developer libraries. You may want to dump your flags in there as well.
6. Search comp.sys.hp48 for a good backup script that will get all programs and settings. Or write your own.
7. RTFM on how to adjust contrast.
8. Get the PDF of the 50g manual and the 49g+/50G AUR.
9. Shop for programs here: http://www.hpcalc.org.
10. Become a C programmer (HPGCC 2 and 3).

Re: Just ordered a 50G...now what?

*Message #3 Posted by **Sancerre (Phoenix)** on 29 Jan 2009, 5:28 p.m.,*
in response to message #2 by Egan Ford

Where do you place a startup script?

Re: Just ordered a 50G...now what?

*Message #4 Posted by **Egan Ford** on 29 Jan 2009, 7:42 p.m.,*
in response to message #3 by Sancerre (Phoenix)

Create a program call 'STARTUP' in your HOME directory on your 50g, then warm start (ON-C) your 50g.

Re: Just ordered a 50G...now what?

*Message #5 Posted by **Brent Hillebrenner** on 29 Jan 2009, 7:02 p.m.,*
in response to message #2 by Egan Ford

> Quote:
>
> 3. Since you have a Mac...

How can you tell that he has a Mac? Is it his name... McLean?

:)

Edited: 29 Jan 2009, 7:04 p.m.

Re: Just ordered a 50G...now what?

*Message #6 Posted by **Egan Ford** on 29 Jan 2009, 7:43 p.m.,*
in response to message #5 by Brent Hillebrenner

> Quote:
>
> How can you tell that he has a Mac? Is it his name... McLean?

From a previous thread or private email exchange (I forget).

Re: Just ordered a 50G...now what?

*Message #7 Posted by **Dave** on 29 Jan 2009, 4:47 p.m.,*
in response to message #1 by Ryan McLean

For a more 48-like experience, I also turn on approx mode and soft menus. Choose mini-font also looks better to me. I've never needed to change keytime.

I assign PURGE to a user key, as well as assign all the hyperbolic functions to user keys.

And I can't live without Bill Markwick's brilliant hlp49 on hpcalc.org, which I also assign to a user key.

Have fun with your new toy.

Re: Just ordered a 50G...now what?

*Message #8 Posted by **Egan Ford** on 29 Jan 2009, 7:47 p.m.,*
in response to message #7 by Dave

> Quote:
>
> soft menus, mini font

I completely forgot to mention soft menus and mini font. That is a must. Put -117 SF -90 SF in your STARTUP.

Re: Just ordered a 50G...now what?

*Message #9 Posted by **Ryan McLean** on 29 Jan 2009, 11:39 p.m.,*
in response to message #8 by Egan Ford

Ok, sounds basically like 49G stuff all over again -- no surprises there ;-)

Whilst I was just looking through the 49G flags I remembered another important one -- turn the BEEPs *OFF* (Maybe less-required for those of you not in academia, nothing more annoying than a beeping, clicking calculator)

Too bad there's not just a Migration Assistant for Calculators...kind of like the one that comes with a new...Mac.

Re: Just ordered a 50G...now what?

*Message #10 Posted by **Ryan McLean** on 31 Jan 2009, 1:15 a.m.,*
in response to message #8 by Egan Ford

Alright, it's here, I'm excited. This is one of those threads where it looks like I'm going to ramble on to myself ;-)

1 - I ordered from newegg. I LOVE NewEgg. It came quick and...

2 - It came in a bonus pack with a 1 Gb SD card. Score!

Got my flags set. The UI is /so much faster/...so much to do...

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Re: Saturday Night Live skit about some of us

*Message #1 Posted by **Karl Schneider** on 29 Jan 2009, 1:40 a.m.*

> Quote:
>
> I could be wrong, but I think many here may miss the point of the skit.
>
> ...
>
> IMHO, the point of the skit was show us all how stupid these (Wii) kids are.

Hi, Egan --

Thank you for the context and insight. However, if "Wii-mania" was the point, it was an easy one to miss. Note how the object of the geek twins' obsession is introduced well before the Wii is opened. The script -- such as it was -- dwelled on the twins, before and after the opening of the presents.

It seemed to me that the emphasis of the skit was ridicule; I'd describe the writing as sophomoric and unfunny. Many users and enthusiasts of TI models were likely as unamused as I was.

On a different note, readers can click a link to read about an infamously shameful example of Wii-mania.

-- KS

Edited: 29 Jan 2009, 2:41 a.m.

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Re: Mini Challenge

*Message #1 Posted by **Thomas Klemm** on 28 Jan 2009, 9:30 p.m.*

First I was looking for LBL B in your program for the HP 15C but then I realized that this is not the only problem. I tried to fix it leaving as much as possible unchanged with the hope it's what you had in mind:

```
001 - 42,21,11   LBL A
002 -    44  0   STO 0
003 -        1   1
004 -       26   EEX
005 -        6   6
006 -       16   CHS
007 -    44  1   STO 1
008 - 42,21,12   LBL B
009 -    45  0   RCL 0
010 -   43  11   x²
011 -        1   1
012 -       40   +
013 -        2   2
014 -       10   ÷
015 -    44  2   STO 2
016 -       11   SQRT x
017 -    45  1   RCL 1
018 -       40   +
019 -   43  44   INT
020 -   43  11   x²
021 -    45  2   RCL 2
022 - 43,30, 6   TEST 6
023 -   22  13   GTO C
024 -        1   1
025 -       30   -
026 -        2   2
027 -       20   ×
028 -       31   R/S
029 - 42,21,13   LBL C
030 -        2   2
031 - 44,40, 0   STO + 0
032 -   22  12   GTO B
```

It has to be started with:

```
1 GSB A
```

Since internally a digit by digit method is used to calculate the square root I'm confident that taking the root of a square-number won't show any rounding errors. That's different from using an iterative algorithm and might be even worse when a binary representation for the numbers is used.
Therefore you can confidently omit lines 003-007 and 017-018 from the program above.

Re: Mini Challenge

*Message #2 Posted by **Chris Dean** on 29 Jan 2009, 2:54 a.m.,*
in response to message #1 by Thomas Klemm

Thanks for pointing out the typos.

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Gamma and Factorial for 10C/12C/12CP (thread hijack)

*Message #1 Posted by **Les Wright** on 28 Jan 2009, 5:02 p.m.*

> Quote:
>
> Out of context (i.e. calculator nerd bashing), I found it quiet funny. Especially because I got a calculator for Christmas and then proceeded to write a Gamma function for it. Details here: http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv018.cgi?read=145337#145337.

Egan, in original 12C post you use the following to approximate the factorial:

```
x! = x^x*sqrt(2PIx)*e^(1/[12x + 2/(5x + 5/4x)] - x)
```

Very elegant, with simple constants, and seems to work pretty well--indeed for calculator use with limited steps it is hard to get much better, especially if you use the shift-divide correction for the smaller arguments.

But I notice that it is a slight variation of a Stieltjes continued fraction. (stieltjes3 at Peter Luschny's site is the analagous formula.) The only difference is that in the version I know and which I can find on on Viktor Toth's site, the innermost term is actually 53/(42x).

I am curious whether you made the choice to approximate 53/42 by 5/4 yourself, or did you see another version of the formula on an earlier version of Viktor's site? I have to admit that deciding on the slight modification of that term is very wise, especially on the 10C and 12C where every digit is a keystroke.

I am kind of preoccupied myself with computing gamma on calculators that don't have it for noninteger values, so I am curious on the provenance of the formula you chose. (Right now I am experimenting with a variation of the Windschitl formula, but I think it takes more steps without any huge improvement in accuracy. With a 10 or 12 digit calculator, rounding error becomes significant quickly and mitigates the benefit of adding too many correction terms!)

Les

Re: Gamma and Factorial for 10C/12C/12CP (thread hijack)

*Message #2 Posted by **Egan Ford** on 28 Jan 2009, 8:19 p.m.,*
in response to message #1 by Les Wright

> Quote:
>
> I am curious whether you made the choice to approximate 53/42 by 5/4 yourself, or did you see another version of the formula on an earlier version of Viktor's site?

IIRC, it was another version.

> Quote:

> I am kind of preoccupied myself with computing gamma on calculators that don't have it for noninteger values, so I am curious on the provenance of the formula you chose. (Right now I am experimenting with a variation of the Windschitl formula, but I think it takes more steps without any huge improvement in accuracy. With a 10 or 12 digit calculator, rounding error becomes significant quickly and mitigates the benefit of adding too many correction terms!)

I look forward to your discoveries.

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Re: HP-25 fails to store programming steps

*Message #1 Posted by **Mike Morrow** on 28 Jan 2009, 3:34 p.m.*

Your point is well taken, Randy.

I did not mean to endorse the extremely poor, incompetent, negligent HP design of the Woodstock battery charging system. I do like the mechanical aspects of the Woodstock battery pack, with its integrated compartment door.

The cheapest Woodstock, the HP-21, cost the equivalent of $494 2008 dollars. I can't imagine why HP thought it would be acceptable to market an expensive product that could be destroyed easily and innocently while connected to the charger if the battery pack was missing, poorly connected, or so degraded as to not provide the charging voltage clamp needed to prevent the spikes that kill the machine.

Whenever I hear fanatical declarations of HP design excellence, I think in response immediately of this Woodstock charging system, the HP magnetic card reader roller, the early Spice series press-fit circuit construction, and the flimsy case, poor battery compartment design, the needlessly complex charger connector plug of all the Spice series, the HP-28 battery door, etc.

I will admit that my 33-year old HP-21 and HP-25 Woodstocks are still going stong today, but likely more from luck than prudent usage. I didn't even know about the charger problems until a few years ago.

Re: HP-25 fails to store programming steps

*Message #2 Posted by **Michael de Estrada** on 28 Jan 2009, 4:24 p.m.,*
in response to message #1 by Mike Morrow

Actually, my original HP-21 failed not because of battery/charger issues, but because several keys began to malfunction, and I could not remove the keyboard for cleaning because it was heat-staked to the front half of the case. I could have broken the plastic staking posts, but there would be no way to re-secure the keyboard. Compare this to the HP-35 and other classics where everything was screwed together, and it could be completely disassembled for repair and then re-assembled. Still, I truly loved the very small size of my HP-21; it was the only truly pocket size LED calculator HP ever made.

On a side note related to the topic of the original post, I personally believe the Voyager series were the highest quality calculators ever made by HP, and the keyboard on my heavily used HP-15c still works perfectly to this day.

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Nicotine stains on Woodstock keyboard

*Message #1 Posted by **Xavier A. (Brazil)** on 28 Jan 2009, 10:17 a.m.*

Hello,

I searched the entire archives without finding any solution to this : I am trying to clean some simple nicotine (or cigarette stains) on a Woodstock calculator, particularly on the keyboard (the keys are almost yellow). I don't want to damage it, so I don't want to try anything. Does anybody have a... solution ? Regards.

P.-S.: searching the entire archives is pretty long, according to my method (searching through archives 1 to 18 one-by-one) ; is there another one? Yes I am a newbie!

Re: Nicotine stains on Woodstock keyboard

*Message #2 Posted by **Marcus von Cube, Germany** on 28 Jan 2009, 4:04 p.m.,*
in response to message #1 by Xavier A. (Brazil)

Google is your friend. Add "site:hpmuseum.org" to your search pattern.

Re: Nicotine stains on Woodstock keyboard

*Message #3 Posted by **Xavier A. (Brazil)** on 28 Jan 2009, 4:21 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Thank's a lot, it is a great idea, even if I don't know if Google is more my friend than my boss.

Finally I decided to wash the keyboard with some diluent for painting. It worked well. Regards.

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Which HP series are the best hardware built?

*Message #1 Posted by **Nacho** on 28 Jan 2009, 8:46 a.m.*

Hi everyone!

I'm asking that because when we start a collection (in my case) I think for how long will last my calcs working in good condition.

I see lot of people with theirs nearly 30 y/old HP41 as a daily use calc and think if my 48GX year 94 with heavy use will work perfectly in 15 years...

Regards!

Re: Which HP series are the best hardware built?

*Message #2 Posted by **David Hayden** on 28 Jan 2009, 9:04 a.m.,*
in response to message #1 by Nacho

Yes, my 41CV purchased in 1981 or 82 (I think) is still in perfect shape. On the other hand, the card reader and printer are not.

Re: Which HP series are the best hardware built?

*Message #3 Posted by **David Ramsey** on 28 Jan 2009, 9:49 a.m.,*
in response to message #1 by Nacho

Good question. How long a calculator will be usable depends on two things, in my view:

1. The initial quality of construction.

With a few notable exceptions (the Spice units, for example), the quality of design and construction of HP calcs is very good. My first 28S failed, but that's the only failure I can recall (from a new calculator that I bought myself).

There are some unknowables: is the keyboard in a 35s more or less durable than the keyboard in a 1972 HP-35? Does the higher reliability of an LCD (vs. LED display) overcome the inherently flawed nature of a rubber pressure-strip connector?

2. How easy it is to repair when something goes wrong.

This is the kicker. Once you get into the late 80s and onwards, HP calcs are simply not designed to be taken apart. You can still repair them, but it takes mad skilz and not a trivial amount of luck to do so.

I think the answer's probably that the first couple of generations of calcs are built to a quality level not seen any more in this class of device, simply because they cost a boatload of money. The $395 for a 1972 HP-35 equates to close to $2,000 today.

About the only thing that ever goes wrong with a first-generation HP is LED and keyboard failures, and even those are rare, and easy to fix albeit with donor parts from another unit.

3. How heavily the calculator is used.

A current HP-35s that's sitting on a shelf with no batteries would likely fire up with no problem a century from now, whereas the solderless connections in a Spice will virtually certainly have degraded by then, rendering the calculator useless. But a Spice in good working condition might hold up better over years of day to day use. This is another one of those "unknowable" things.

FWIW, I think some of the older desktop calcs would turn out to be the robustness and longevity champs, if only for their exceptional keyboards.

Re: Which HP series are the best hardware built?

*Message #4 Posted by **Jeff Kearns** on 28 Jan 2009, 11:22 a.m.,*
in response to message #3 by David Ramsey

> Quote:
>
> ... simply because they cost a boatload of money. The $395 for a 1972 HP-35 equates to close to $2,000 today.

Whenever I see statements like: "In today's dollars..." I get suspicious and wonder if the quoted figure makes any sense. Just trying to relate to someone spending the equivalent of $2,000.00 on a handheld calculator (in 2009 dollars, that is) is difficult for me. So I researched it. Here is what I found:

1. The average annual inflation rate for the quoted $2000 would have to be 5.3%. I initially found that to be unbelievably high, expecting something along the lines of 2% to 3% - on average. This would give a top end estimate of just under $900. More believable perhaps, but realistic? I do live in Canada but cannot imagine the inflation rates in our two countries to have differed significantly over that period.

2. The following site: http://www.measuringworth.com/calculators/inflation/result.php gives the US inflation rates for the period in question and averages it out to 4.68%. In today's dollars, a HP-35 would therefore cost about US$1600.

This is still a lot of money. I tend to compare the novelty of the HP-35 in 1972 with that of the iPhone in 2008. But the price tags don't compare so well.

Regards, Jeff Kearns

Re: Which HP series are the best hardware built?

*Message #5 Posted by **PeterP** on 28 Jan 2009, 11:59 a.m.,*
in response to message #4 by Jeff Kearns

great link Jeff!!!

BTW, you might know this already, but just in case - if you want to enter a clickable link into your post, you can use the 'Link' button (first button on the left at the bottom of the edit window where you type your post) and it will insert a clickable link.

Cheers

Peter

Re: Which HP series are the best hardware built?

*Message #6 Posted by **Egan Ford** on 28 Jan 2009, 12:31 p.m.,*
in response to message #4 by Jeff Kearns

> Quote:
>
> This is still a lot of money. I tend to compare the novelty of the HP-35 in 1972 with that of the iPhone in 2008. But the price tags don't compare so well.

Apples and oranges. :-).

The original 35 fulfilled a specific need for a specific audience (professional scientists and engineers). It was not a general purpose device like the iPhone, the computer, or today's calculators.

Compare the professional (non-student) price of Mathematica, MATLAB, or Maple with your inflated 35. I think you'll find a better comparison in both cost and use.

Re: Which HP series are the best hardware built?

*Message #7 Posted by **David Ramsey** on 28 Jan 2009, 12:57 p.m.,*
in response to message #4 by Jeff Kearns

> Quote:
>
> Whenever I see statements like: "In today's dollars..." I get suspicious and wonder if the quoted figure makes any sense. Just trying to relate to someone spending the equivalent of $2,000.00 on a handheld calculator (in 2009 dollars, that is) is difficult for me. So I researched it. Here is what I found:

Shrug. Comparing prices of items like this is always a "guesstimate"; inflation occurs are different rates for different things, and advances in technology make it hard to compare directly.

But I think the $400->$1600 comparison is reasonably accurate. I saved for months to buy my HP-45 (also $395), and it sure SEEMED like a lot of money at the time! This might be difficult for you to appreciate if, as I suspect, you grew up with inexpensive electronic calculators as common things.

Such price drops are even more pronounced today, over much shorter periods of time. I built what at the time (2005) was a very high end PC using an AMD Athlon X2 4800+ processor. It cost over $1,000. Last week I bought the very same processor at Fry's for $39.

Edited: 28 Jan 2009, 12:59 p.m.

Re: Which HP series are the best hardware built?

*Message #8 Posted by **Jeff Kearns** on 28 Jan 2009, 3:37 p.m.,*
in response to message #7 by David Ramsey

> Quote:
>
> Such price drops are even more pronounced today, over much shorter periods of time. I built what at the time (2005) was a very high end PC using an AMD Athlon X2 4800+ processor. It cost over $1,000. Last week I bought the very same processor at Fry's for $39.

> First of all, the intent of my post was to indicate that your estimate was in fact, accurate! Not the opposite. Secondly, using my HP15C delta% function, I calculate that the equivalent price drop for the referenced processor is: $1000 in 2005 = $1127 in 2009 down to $39 so a 96% drop in price!
>
> That's amazing!
>
> Jeff

Re: Which HP series are the best hardware built?

*Message #9 Posted by **Mike Morrow** on 28 Jan 2009, 2:57 p.m.,*
in response to message #4 by Jeff Kearns

You'd have a better appreciation of the $2000 estimate if you had been around to purchase such items in 1972. Inflation rates in the second half of the 1970s and early 1980s were as high as 14 percent per annum.

The $2000 estimated 2009 dollars is almost exactly what the US Bureau of Labor Statistics Inflation Calculator predicts ($2007.27). Unless one has a method of unquestionably better pedigree, any other estimate amounts to just being of "I feel that..." or "It seems to me..." quality.

While I was attending Ga. Tech. in 1973, a friend scraped together enough money to buy a $395 HP-45. That was to the rest of us an exorbitant amount of money. He was the envy of us all, but I kidded him (accurately) that he could had purchased a pretty decent used car (which none of us had) for that.

The four-function Bomar 901 was the only calculator I could almost afford, at $120 in late 1972. That corrects to $610 today. I have no doubts at all that the value of the $120 that I spent then equates well to the value of $600 today.

Re: Which HP series are the best hardware built?

*Message #10 Posted by **JDonley** on 29 Jan 2009, 1:10 p.m.,*
in response to message #9 by Mike Morrow

What cost $395 in 1972 would cost $1937.58 in 2007. This is from http://www.westegg.com/inflation/. Your $2000 is very close. Cannot believe I spent $350 for a 41C in 1979 (or 1980?). This calc has probably given me more satisfaction than almost anything I have ever bought. No regrets.

don

35s = 10 years

*Message #11 Posted by **DaveJ** on 28 Jan 2009, 7:00 p.m.,*
in response to message #3 by David Ramsey

> Quote:
>
> A current HP-35s that's sitting on a shelf with no batteries would likely fire up with no problem a century from now

Maybe not.

I forget the exact part number of the Amtel ARM processor used, but the internal FLASH memory on ATMEL ARM 7 devices is only rated for 10 years guaranteed data retention.

After that is anyones guess.

Dave.

Re: Which HP series are the best hardware built?

*Message #12 Posted by **Mike Morrow** on 28 Jan 2009, 3:56 p.m.,*
in response to message #1 by Nacho

I bought an HP-41C in 1980, followed by an HP-41CX in 1984. I still have the HP-41CX today, in almost the same condition as it was when new. It has the best keyboard feel of any calculator I've ever used, but it is slow and not very good for complex number handling.

I own a couple of HP48gx units. The keyboard is much inferior to the HP-41-series, but even more bothersome is the LCD display quality. IMHO, the HP48-series have the poorest quality LCDs of any HP calculator. It is fuzzy and indistinct. It was that way even on a brand new unit, seems to get worse with age. I've heard that very late HP-48 units had a clear black LCD such as the HP49g+ and HP50g possess, but I've never seen such an animal.

My favorite HP hardware is the HP42S for RPN (mine is still going strong and appears almost new, even after 16 years) and the HP50g for RPL.

Re: Which HP series are the best hardware built?

*Message #13 Posted by **David Ramsey** on 28 Jan 2009, 11:49 p.m.,*
in response to message #12 by Mike Morrow

> Quote:
>
> I've heard that very late HP-48 units had a clear black LCD such as the HP49g+ and HP50g possess, but I've never seen such an animal.

Oh, they do exist. The display on these 'late" units appears identical to the black display used on the 49/50 series.

I have two-- one slightly beat up, one very nice...

Re: Which HP series are the best hardware built?

*Message #14 Posted by **Peter Geiser** on 28 Jan 2009, 4:14 p.m.,*
in response to message #1 by Nacho

Hi everybody

The voyager series were very solidly built. They had extremely good keys and the display is well protected. No movable parts except the battery door.

Regards
Peter

Re: Which HP series are the best hardware built?

*Message #15 Posted by **Dusan Zivkovic** on 30 Jan 2009, 5:50 a.m.,*
in response to message #1 by Nacho

I haven't got them all to compare, but from what I've had in my hands (and had a chance to dismantle) - Voyagers.

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Re: HP-65 replacement labels?

*Message #1 Posted by **GanjaTron** on 28 Jan 2009, 7:40 a.m.*

Thanks Michael,

will get in touch with Ben. I'm not keen on keeping the original German label anyway. ;^)

Haven't seen any on That Big Auction Site[tm], btw.

--Roland

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Re: HP 49G+ stopped working. Please Help

*Message #1 Posted by **reth** on 28 Jan 2009, 3:59 a.m.*

Well this sounds like a hardware problem then. On the other hand 3+ years of usage for so badly built calculator is quite long time. I'd just dump it.

Re: HP 49G+ stopped working. Please Help

*Message #2 Posted by **Anthony** on 29 Jan 2009, 6:49 p.m.,*
in response to message #1 by reth

Yeah, the build quality wasn't great. And the screen drivers were wrong when I first got it.

But you have to admit the colour scheme was attractive and easy-to-read.

Any advice for convincing HP that it is in their interest to give me a discount on a 50 to replace the 49?

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MoHPC *The Museum of HP Calculators*

OLD HP Forum

Welcome back!
Your last visit began on 30 Oct 2014, 12:01 a.m.
Since then, no new messages have been posted.

This is the OLD HP forum. For newer discussions, please visit the New HP Forums.

How to register at the new forum:
Even if you had an account on the old forum, you'll need to create one for the new forum. In the upper left near "Hello There, Guest" you should see a register link.

Using the same name (or close) as as you used on the old forum is preferred. The new forum does not allow commas in names. If you had a comma before, please omit it from your new account name.

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Messages Posted or Modified Within the Last Archive

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(Reversed Threaded Listing)

Photo of my new Prime, Eric Smith - *15 Dec 2013, 2:10 a.m.*
Re: Photo of my new Prime, 'Angel Martin - *15 Dec 2013, 3:29 a.m.*
Re: Photo of my new Prime, Thomas Radtke - *15 Dec 2013, 3:42 a.m.*
Re: Photo of my new Prime, bhtooefr - *15 Dec 2013, 10:49 a.m.*
Re: Photo of my new Prime, Thomas Radtke - *15 Dec 2013, 11:52 a.m.*
Re: Photo of my new Prime, bhtooefr - *15 Dec 2013, 12:33 p.m.*
Re: Photo of my new Prime, Thomas Radtke - *15 Dec 2013, 1:13 p.m.*
Re: Photo of my new Prime, John B. Smitherman - *15 Dec 2013, 9:44 a.m.*
Re: Photo of my new Prime, Raymond Del Tondo - *15 Dec 2013, 11:04 a.m.*
Re: Photo of my new Prime, bhtooefr - *15 Dec 2013, 11:09 a.m.*
Re: Photo of my new Prime, Chris Smith - *15 Dec 2013, 11:15 a.m.*
Re: Photo of my new Prime, Egan Ford - *15 Dec 2013, 12:10 p.m.*

Re: Photo of my new Prime, bhtooefr - *15 Dec 2013, 12:48 p.m.*
Re: Photo of my new Prime, Mike (Stgt) - *16 Dec 2013, 5:24 a.m.*
Re: Photo of my new Prime, Eric Smith - *16 Dec 2013, 10:43 a.m.*
And the collection grows..., Les Koller - *14 Dec 2013, 11:29 p.m.*
Re: And the collection grows..., Xavier A. (Brazil) - *5 Feb 2014, 5:55 p.m.*
Prime Emulator Connection Problem , John Colvin - *14 Dec 2013, 7:18 p.m.*
Re: Prime Emulator Connection Problem , Tim Wessman - *14 Dec 2013, 7:20 p.m.*
Re: Prime Emulator Connection Problem , John Colvin - *15 Dec 2013, 7:13 p.m.*
Re: Prime Emulator Connection Problem , Han - *14 Dec 2013, 11:00 p.m.*
HP Prime Emulator download, John Colvin - *13 Dec 2013, 11:25 p.m.*
Re: HP Prime Emulator download, Damien - *14 Dec 2013, 1:19 a.m.*
Re: HP Prime Emulator download, John Colvin - *14 Dec 2013, 5:54 p.m.*
HP Prime: SVD, JeffG - *13 Dec 2013, 1:47 p.m.*
Re: HP Prime: SVD, Helge Gabert - *14 Dec 2013, 12:15 p.m.*
Re: HP Prime: SVD, Helge Gabert - *14 Dec 2013, 12:37 p.m.*
HP35s Program Four Slings Lift Calculation, Jean-Marc Biram (Australia) - *13 Dec 2013, 2:49 a.m.*
Re: HP35s Program Four Slings Lift Calculation, David Hayden - *16 Dec 2013, 8:17 a.m.*
Re: HP35s Program Four Slings Lift Calculation, Jean-Marc Biram (Australia) - *16 Dec 2013, 7:21 p.m.*
Does the HP Prime really compiles the user programs?, CompSystems - *13 Dec 2013, 7:22 a.m.*
Re: Does the HP Prime really compiles the user programs?, Tim Wessman - *13 Dec 2013, 10:20 a.m.*
Re: Does the HP Prime really compiles the user programs?, Kévin Ouellet (Canada) - *13 Dec 2013, 5:15 p.m.*
Re: Does the HP Prime really compiles the user programs?, Mike Morrow - *13 Dec 2013, 1:55 p.m.*
[HP-PIRME] BUG Pretty Print, Solution: abs => |...|, ABS => ||...||, CompSystems - *12 Dec 2013, 10:40 p.m.*
Re: [HP-PIRME] BUG Pretty print abs => ||...||, ABS => |...|, Han - *12 Dec 2013, 11:17 p.m.*
Re: [HP-PIRME] BUG Pretty Print, Solution: abs => |...|, ABS => ||...||, CompSystems - *13 Dec 2013, 9:36 a.m.*
An amazing day: Giving a talk at HP about their calculators, Geir Isene - *12 Dec 2013, 5:01 p.m.*
Re: An amazing day: Giving a talk at HP about their calculators, Mike Morrow - *12 Dec 2013, 7:58 p.m.*
Re: An amazing day: Giving a talk at HP about their calculators, Geir Isene - *12 Dec 2013, 8:03 p.m.*
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Re: An amazing day: Giving a talk at HP about their calculators, Arne Helme - *14 Dec 2013, 4:08 a.m.*
Re: An amazing day: Giving a talk at HP about their calculators, Mike Morrow - *14 Dec 2013, 7:22 p.m.*
Re: An amazing day: Giving a talk at HP about their calculators, aurelio - *15 Dec 2013, 9:31 a.m.*
Re: An amazing day: Giving a talk at HP about their calculators, Geir Isene - *15 Dec 2013, 6:53 p.m.*
Re: An amazing day: Giving a talk at HP about their calculators, aurelio - *16 Dec 2013, 6:14 p.m.*
Four-Level RPN and the Real World, Matt Agajanian - *12 Dec 2013, 4:46 p.m.*
Re: Four-Level RPN and the Real World, Walter B - *12 Dec 2013, 4:52 p.m.*
Re: Four-Level RPN and the Real World, Matt Agajanian - *12 Dec 2013, 4:57 p.m.*
Re: Four-Level RPN and the Real World, Geir Isene - *12 Dec 2013, 4:55 p.m.*
Re: Four-Level RPN and the Real World, Raymond Del Tondo - *12 Dec 2013, 5:46 p.m.*
Re: Four-Level RPN and the Real World, Geir Isene - *12 Dec 2013, 6:05 p.m.*
Re: Four-Level RPN and the Real World, Raymond Del Tondo - *12 Dec 2013, 7:33*

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Re: Four-Level RPN and the Real World, Geir Isene - *12 Dec 2013, 7:51 p.m.*
Re: Four-Level RPN and the Real World, Walter B - *13 Dec 2013, 1:23 a.m.*
Re: Four-Level RPN and the Real World, Gerson W. Barbosa - *13 Dec 2013, 5:55 a.m.*
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Re: Four-Level RPN and the Real World, gene wright - *13 Dec 2013, 8:43 a.m.*
Re: Four-Level RPN and the Real World, Nick_S - *13 Dec 2013, 6:09 a.m.*
Re: Four-Level RPN and the Real World, Marcel Samek - *13 Dec 2013, 2:29 p.m.*
Re: Four-Level RPN and the Real World, Manolo Sobrino - *13 Dec 2013, 3:57 p.m.*
Last call for 41Z/SandMath Overlays... plus new ones, Ángel Martin - *12 Dec 2013, 10:27 a.m.*
OT: National Semiconductors NSB-3881, Ignazio Cara (Italy) - *12 Dec 2013, 8:31 a.m.*
Re: OT: National Semiconductors NSB-3881, Thomas Chrapkiewicz - *12 Dec 2013, 10:09 a.m.*
Re: OT: National Semiconductors NSB-3881, Thomas Chrapkiewicz - *12 Dec 2013, 10:25 a.m.*
HP Prime: Baker's Game, Mark Power - *11 Dec 2013, 6:25 p.m.*
Reasonable price for a 41C, Quad Mem, Time, Navigation and Card reader module?, Eelco Rouw - *11 Dec 2013, 3:15 p.m.*
Re: Reasonable price for a 41C, Quad Mem, Time, Navigation and Card reader module?, aurelio - *11 Dec 2013, 3:33 p.m.*
Re: Reasonable price for a 41C, Quad Mem, Time, Navigation and Card reader module?, Eelco Rouw - *11 Dec 2013, 3:38 p.m.*
Re: Reasonable price for a 41C, Quad Mem, Time, Navigation and Card reader module?, Massimo Gnerucci (Italy) - *11 Dec 2013, 4:20 p.m.*
Re: Reasonable price for a 41C, Quad Mem, Time, Navigation and Card reader module?, Eelco Rouw - *11 Dec 2013, 4:23 p.m.*
Re: Reasonable price for a 41C, Quad Mem, Time, Navigation and Card reader module?, Les Bell - *11 Dec 2013, 4:35 p.m.*
Re: Reasonable price for a 41C, Quad Mem, Time, Navigation and Card reader module?, Sylvain Cote - *11 Dec 2013, 4:40 p.m.*
Re: Reasonable price for a 41C, Quad Mem, Time, Navigation and Card reader module?, Garth Wilson - *11 Dec 2013, 6:05 p.m.*
Re: Reasonable price for a 41C, Quad Mem, Time, Navigation and Card reader module?, Les Bell - *11 Dec 2013, 4:36 p.m.*
Re: Reasonable price for a 41C, Quad Mem, Time, Navigation and Card reader module?, Mike Morrow - *11 Dec 2013, 7:18 p.m.*
Re: Reasonable price for a 41C, Quad Mem, Time, Navigation and Card reader module?, Eelco Rouw - *12 Dec 2013, 1:52 a.m.*
How to copy files from 9114B to hard drive via PIL-box?, Joe Horn - *11 Dec 2013, 12:37 p.m.*
Re: How to copy files from 9114B to hard drive via PIL-box?, J-F Garnier - *11 Dec 2013, 1:00 p.m.*
Re: How to copy files from 9114B to hard drive via PIL-box?, Joe Horn - *11 Dec 2013, 7:29 p.m.*
Re: How to copy files from 9114B to hard drive via PIL-box?, J-F Garnier - *12 Dec 2013, 3:11 a.m.*
Re: How to copy files from 9114B to hard drive via PIL-box?, Joe Horn - *12 Dec 2013, 12:42 p.m.*
Re: How to copy files from 9114B to hard drive via PIL-box?, Dave Frederickson - *13 Dec 2013, 2:27 p.m.*
Re: How to copy files from 9114B to hard drive via PIL-box?, Joe Horn - *13 Dec 2013, 7:56 p.m.*
Re: How to copy files from 9114B to hard drive via PIL-box?, Dave Frederickson - *14 Dec 2013, 7:39 p.m.*

Re: How to copy files from 9114B to hard drive via PIL-box?, Michael Fehlhammer - *13 Dec 2013, 3:45 p.m.*
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Re: How to copy files from 9114B to hard drive via PIL-box?, Joe Horn - *14 Dec 2013, 4:55 a.m.*
Re: How to copy files from 9114B to hard drive via PIL-box?, Christoph Giesselink - *15 Dec 2013, 5:20 p.m.*
Re: How to copy files from 9114B to hard drive via PIL-box?, bhtooefr - *15 Dec 2013, 6:05 p.m.*
Re: How to copy files from 9114B to hard drive via PIL-box?, Dave Frederickson - *18 Dec 2013, 8:35 p.m.*
Re: How to copy files from 9114B to hard drive via PIL-box?, Joe Horn - *19 Dec 2013, 12:14 a.m.*
Re: How to copy files from 9114B to hard drive via PIL-box?, Michael Fehlhammer - *13 Dec 2013, 10:06 p.m.*
Re: How to copy files from 9114B to hard drive via PIL-box?, Joe Horn - *14 Dec 2013, 5:02 a.m.*
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[HP-PIRME] ^ OPERTOR // => SUPER BUG, CompSystems - *11 Dec 2013, 12:23 p.m.*
Re: [HP-PIRME] ^ OPERTOR // => SUPER BUG, Han - *11 Dec 2013, 12:31 p.m.*
Re: [HP-PIRME] ^ OPERTOR // => SUPER BUG, CompSystems - *11 Dec 2013, 12:54 p.m.*
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Re: [HP-PIRME] ^ OPERTOR // => SUPER BUG, Han - *12 Dec 2013, 8:45 p.m.*
Re: [HP-PIRME] ^ OPERTOR // => SUPER BUG, CompSystems - *12 Dec 2013, 9:00 p.m.*
Re: [HP-PIRME] ^ OPERTOR // => SUPER BUG, CompSystems - *12 Dec 2013, 9:26 p.m.*
The new HP forums, Dave Hicks - *11 Dec 2013, 12:12 p.m.*
Bug in New Forum Sign-Up Page!!!!, Namir - *11 Dec 2013, 12:26 p.m.*
Re: Bug in New Forum Sign-Up Page!!!!, Dave Hicks - *11 Dec 2013, 1:10 p.m.*
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Re: The new HP forums, Paul Berger (Canada) - *11 Dec 2013, 12:52 p.m.*
Re: The new HP forums, Dave Hicks - *11 Dec 2013, 1:07 p.m.*
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Re: The new HP forums, Alberto Candel - *11 Dec 2013, 2:13 p.m.*
Re: The new HP forums, Walter B - *11 Dec 2013, 2:51 p.m.*
Re: The new HP forums, Marcus von Cube, Germany - *11 Dec 2013, 3:41 p.m.*
Re: The new HP forums, BruceH - *11 Dec 2013, 3:51 p.m.*
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Re: The new HP forums, Bill (Smithville, NJ) - *11 Dec 2013, 6:58 p.m.*
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Re: The new HP forums, Dave Hicks - *11 Dec 2013, 9:12 p.m.*
Re: The new HP forums, svisvanatha - *11 Dec 2013, 10:27 p.m.*
Re: The new HP forums, Dave Hicks - *11 Dec 2013, 10:37 p.m.*
Re: The new HP forums, Patrice - *12 Dec 2013, 12:36 a.m.*
Re: The new HP forums, Adrien Bertrand - *12 Dec 2013, 12:53 p.m.*
Re: The new HP forums, Geoff Quickfall - *12 Dec 2013, 12:59 p.m.*
Re: The new HP forums, HrastProgrammer - *14 Dec 2013, 4:10 a.m.*
Re: The new HP forums, db (martinez, ca.) - *14 Dec 2013, 12:02 p.m.*
Re: The new HP forums, HrastProgrammer - *16 Dec 2013, 1:08 a.m.*
Re: The new HP forums, Walter B - *16 Dec 2013, 3:42 a.m.*
Re: The new HP forums, db (martinez, ca.) - *16 Dec 2013, 2:06 p.m.*
Re: The new HP forums, Mike (Stgt) - *14 Dec 2013, 11:40 a.m.*
Goodbye HP Museum forum, DeboT - *15 Jan 2014, 8:24 a.m.*
Re: Goodbye HP Museum forum, Thomas Radtke - *15 Jan 2014, 9:14 a.m.*
Re: Goodbye HP Museum forum, DeboT - *22 Jan 2014, 6:52 a.m.*
Re: Goodbye HP Museum forum, marais - *22 Jan 2014, 2:42 p.m.*
HP Prime: CAS taylor, Alberto Candel - *10 Dec 2013, 7:16 p.m.*
Re: HP Prime: CAS taylor, parisse - *11 Dec 2013, 4:42 a.m.*

Re: HP Prime: CAS taylor, Alberto Candel - *11 Dec 2013, 8:20 a.m.*
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Re: HP Prime: CAS taylor, Alberto Candel - *13 Dec 2013, 9:41 p.m.*
Re: HP Prime: CAS taylor, Alberto Candel - *13 Dec 2013, 9:45 p.m.*
HP50g: Writing a function that returns a function, Chris de Castro - *10 Dec 2013, 6:18 p.m.*
Re: HP50g: Writing a function that returns a function, Han - *10 Dec 2013, 6:48 p.m.*
Re: HP50g: Writing a function that returns a function, Han - *10 Dec 2013, 6:49 p.m.*
Broken keys on HP Prime?, Tarcisi C - *10 Dec 2013, 5:59 p.m.*
HP Prime - usbtool.exe, bluesun08 - *10 Dec 2013, 10:47 a.m.*
Re: HP Prime - usbtool.exe, Tim Wessman - *10 Dec 2013, 11:04 a.m.*
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Re: HP Prime - usbtool.exe, Tim Wessman - *10 Dec 2013, 1:56 p.m.*
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Re: HP Prime - usbtool.exe, Les Koller - *10 Dec 2013, 6:59 p.m.*
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Re: HP Prime - usbtool.exe, Namir - *10 Dec 2013, 4:35 p.m.*
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42S with nonvolatile RAM, Lyuka - *10 Dec 2013, 9:56 a.m.*
Re: 42S with nonvolatile RAM, Massimo Gnerucci (Italy) - *10 Dec 2013, 12:59 p.m.*
Re: 42S with nonvolatile RAM, aurelio - *10 Dec 2013, 2:13 p.m.*
Re: 42S with nonvolatile RAM, Geir Isene - *10 Dec 2013, 3:51 p.m.*
Re: 42S with nonvolatile RAM, Nacho - *12 Dec 2013, 8:31 a.m.*
Re: 42S with nonvolatile RAM, Lyuka - *13 Dec 2013, 8:52 a.m.*
Re: HP Prime: Quite Happy, Eddie W. Shore - *10 Dec 2013, 8:19 a.m.*
Re: F1227A as HP48 case: yes!, Paul Dale - *10 Dec 2013, 1:01 a.m.*
WP 34S and 43S cases (was: Re: F1227A as HP48 case: yes!), Walter B - *10 Dec 2013, 1:06 a.m.*
Re: WP 34S and 43S cases (was: Re: F1227A as HP48 case: yes!), Paul Dale - *10 Dec 2013, 1:27 a.m.*
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MINESWEEPER for the HP PRIME, Tony Gallo - *10 Dec 2013, 12:26 a.m.*
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Re: MINESWEEPER for the HP PRIME, Cristian Arezzini - *10 Dec 2013, 1:59 a.m.*
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Re: MINESWEEPER for the HP PRIME, toml_12953 - *10 Dec 2013, 9:19 a.m.*
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HP Prime Manual Revisions?, Craig Thomas - *9 Dec 2013, 11:08 p.m.*
Anyone here tinker with Arduino/Printbots/etc ?, Chris Pem10 - *9 Dec 2013, 8:59 p.m.*
Re: Anyone here tinker with Arduino/Printbots/etc ?, Mark Scheuern - *10 Dec 2013, 12:45 a.m.*
Re: Anyone here tinker with Arduino/Printbots/etc ?, Erwin Ried - *10 Dec 2013, 11:33 a.m.*
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Re: WTF? W-here T-o F-ind the original hpmuseum forum?, Garth Wilson - *9 Dec 2013, 8:53 p.m.*
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HP Prime finally updated!, Les Koller - *9 Dec 2013, 8:08 p.m.*
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Speaking of that Olympic Sales Catalog..., gene wright - *12 Dec 2013, 10:16 p.m.*
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